Appendix B-2
Laboratory Analytical Reports

(electronic only)

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE:	RAAP, RADFORD, VA
PROJECT #:	313010-001
SDG:	122845
FOLDERS:	(122845, 122887, 122907, & 122926)
PREPARED:	November 11, 2016
DOCUMENT PAGES:	2130

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP; Radford, VA
Sample Receipt Date(s): 10/12/2016, 10/13/2016, 10/14/2016, & 10/15/2016
SDG #: 122845 (Folders 122845, 122887, 122907, & 122926)

Twenty-one water samples were received for a variety of analyses, including: pH, COD, Anions, TOC, TIC, Metals, Dissolved Gases, and VOC's. Three trip blanks were included with the VOC analyses. The Chlorate and Chlorite analyses were subcontracted to Eurofins Eaton Analytical, South Bend, IN. The Explosives analyses (which included the RDX breakdown products: MNX/DNX/TNX) were subcontracted to Accutest Southeast, Orlando, FL. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method-specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be "flagged" on RF forms as a result.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target compounds within the calibration range of the instrument.

VOC (8260C) Water Analysis

Level 8 was not used for 4-methyl-2-pentanone, 2-hexanone, and acetone on the initial calibration curve (W101016) due to loss in linearity. 4-Methyl-2-pentanone, methylene chloride, and 2-hexanone were calibrated using quadratic regression (two ICV's were analyzed for these compounds). 1,4-Dioxane was detected in the Initial Calibration Blank (ICB).

Analytical Run # 131348

CCV1 had high recoveries outside specified criteria for 4-methyl-2-pentanone (>20% Drift.). This compound was qualified with a "Z" flag on all associated samples.

Chloromethane and 1,4-dioxane were detected in the Method Blank (MB). All detections of chloromethane in the associated samples were qualified with a "B" flag. 1,4-Dioxane was not detected in the associated samples and the data was not qualified.

Dissolved Gases (Methane, Ethene, Ethane) Analysis

Analytical Run # 131729

All analytical results for this run met the method/project specified quality control criteria.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 131471

Multiple elements exceeded the recovery limit in the CCV1 and CCV2 standards. The samples were reanalyzed using acceptable CCV1 and CCV2 standards. There was not enough sample volume remaining to reanalyze the sample QC.

Beryllium was detected in the Method Blank (MB) above the Method Detection Limit (MDL) and greater than ½ the Reporting Limit (RL). The samples were reported and not reanalyzed because the results were less than the MDL.

The Serial Dilution (L) for sample # 787719 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for aluminum, arsenic, iron, nickel, selenium, and antimony. The parent sample was reported and qualified with an "M" flag for the failing elements.

The L for sample # 787719 was not acceptable for calcium and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was unacceptable for calcium and magnesium. The parent sample was reported and qualified with an "M" flag for the failing elements.

The Duplicate (DUP) for sample # 787719 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 787719 was not acceptable for aluminum, barium, calcium, magnesium, and manganese because the results exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing elements.

The Matrix Spike (MS) and MSD for sample # 787719 exceeded the recovery limit for multiple elements. A PDS was analyzed and was unacceptable for aluminum, arsenic, calcium, magnesium, iron, nickel, selenium, and antimony. The parent sample was reported and qualified with an "M" flag for the failing elements.

ICP Sodium and Potassium (6010C) Analysis

Analytical Run # 131473

The L for sample # 787719 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 787719 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The MSD for sample # 787719 exceeded the recovery limit for potassium. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

CVAA Mercury (7470A) Analysis

Analytical Run # 131573

The DUP for sample # 788657 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC, TIC), 9040C (pH), 410.4 (COD) and 9056A (Anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Analysis

Analytical Run # 131270

The MS and the MSD for sample # 787283 had a high recovery for chloride. The parent sample result for this analyte was qualified with an “M” flag.

Analytical Run # 131328

The MS and the MSD for sample # 787721 had a low recovery for sulfate. The parent sample result for this analyte was qualified with an “M” flag.

Analytical Run # 131362

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 131448

The samples from this run were analyzed past hold time for nitrate. The reported data for this analyte was qualified with an “H” flag.

COD (410.4) Analysis

Analytical Run # 131726

The MS and MSD for sample # 788657 had high recoveries. The parent sample result was qualified with an “M” flag.

pH (9040C) Analysis

Analytical Run # 131510

All analytical results for this run met the method/project specified quality control criteria.

TOC & TIC (9060A) Analysis

Analytical Run #'s 131620 & 131621

All analytical results for this run met the method/project specified quality control criteria.

Sample Filtration

Analytical Run #'s 131395, 131396, 131397 & 131603

All samples were filtered prior to analysis.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

122845

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name: RADFORD AAP
Project #: 313010-001

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	787265	122845		54MW1	GROUND WATER	10/11/2016	10/12/2016
2	787283	122845		54MW12	GROUND WATER	10/11/2016	10/12/2016
3	787715	122887		54MW13	GROUND WATER	10/12/2016	10/13/2016
4	787716	122887		54TM12	GROUND WATER	10/12/2016	10/13/2016
5	787717	122887		54MW10	GROUND WATER	10/12/2016	10/13/2016
6	787718	122887		101216R1	GROUND WATER	10/12/2016	10/13/2016
7	787719	122887		54AOW01	GROUND WATER	10/12/2016	10/13/2016
8	787720	122887		13MW3	GROUND WATER	10/12/2016	10/13/2016
9	787721	122887		13MW4	GROUND WATER	10/12/2016	10/13/2016
10	787722	122887		13MW2	GROUND WATER	10/12/2016	10/13/2016
11	787723	122887		49MW04	GROUND WATER	10/12/2016	10/13/2016
12	787724	122887		101216T1	TRIP BLANK	10/12/2016	10/13/2016
13	788209	122907		50MW02	GROUND WATER	10/13/2016	10/14/2016
14	788210	122907		49MW02	GROUND WATER	10/13/2016	10/14/2016
15	788211	122907		48MW3	GROUND WATER	10/13/2016	10/14/2016
16	788212	122907		49TM01	GROUND WATER	10/13/2016	10/14/2016
17	788213	122907		48MW2	GROUND WATER	10/13/2016	10/14/2016
18	788214	122907		49MW01	GROUND WATER	10/13/2016	10/14/2016
19	788215	122907		101316T1	TRIP BLANK	10/13/2016	10/14/2016
20	788654	122926		48MW06	GROUND WATER	10/14/2016	10/15/2016
21	788655	122926		48MW1	GROUND WATER	10/14/2016	10/15/2016
22	788656	122926		101416R1	GROUND WATER	10/14/2016	10/15/2016
23	788657	122926		49AOW01	GROUND WATER	10/14/2016	10/15/2016
24	788658	122926		101416T1	TRIP BLANK	10/14/2016	10/15/2016

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
PAUL PHILEMONOFF
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	11/11/2016
Date Received:	10/13/2016
SDG #:	122845

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787719	pH	EPA 9040C	GROUND WATER		131510
788657	pH	EPA 9040C	GROUND WATER		131510

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787265	Sample Filtration	SOP #PR007	GROUND WATER		131397
787283	Sample Filtration	SOP #PR007	GROUND WATER		131397
787715	Sample Filtration	SOP #PR007	GROUND WATER		131395
787716	Sample Filtration	SOP #PR007	GROUND WATER		131395
787717	Sample Filtration	SOP #PR007	GROUND WATER		131395
787718	Sample Filtration	SOP #PR007	GROUND WATER		131395
787720	Sample Filtration	SOP #PR007	GROUND WATER		131395
787721	Sample Filtration	SOP #PR007	GROUND WATER		131395
787722	Sample Filtration	SOP #PR007	GROUND WATER		131395
787723	Sample Filtration	SOP #PR007	GROUND WATER		131395
788209	Sample Filtration	SOP #PR007	GROUND WATER		131396
788210	Sample Filtration	SOP #PR007	GROUND WATER		131396
788211	Sample Filtration	SOP #PR007	GROUND WATER		131396
788212	Sample Filtration	SOP #PR007	GROUND WATER		131396
788213	Sample Filtration	SOP #PR007	GROUND WATER		131396
788214	Sample Filtration	SOP #PR007	GROUND WATER		131396
788654	Sample Filtration	SOP #PR007	GROUND WATER		131603
788655	Sample Filtration	SOP #PR007	GROUND WATER		131603
788656	Sample Filtration	SOP #PR007	GROUND WATER		131603

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787265	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		131621
787283	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		131621
787715	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		131621

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 122845

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787716	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		131621
787717	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		131621
787718	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		131621

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787719	COD QSM	EPA 410.4	GROUND WATER	59729	131726
788657	COD QSM	EPA 410.4	GROUND WATER	59729	131726

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787265	Anions QSM 5.0	EPA 9056A	GROUND WATER		131270
787283	Anions QSM 5.0	EPA 9056A	GROUND WATER		131270
787715	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787716	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787717	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787718	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787720	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787721	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787722	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787723	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
788209	Anions QSM 5.0	EPA 9056A	GROUND WATER		131362
788210	Anions QSM 5.0	EPA 9056A	GROUND WATER		131362
788211	Anions QSM 5.0	EPA 9056A	GROUND WATER		131362
788212	Anions QSM 5.0	EPA 9056A	GROUND WATER		131362
788213	Anions QSM 5.0	EPA 9056A	GROUND WATER		131362
788214	Anions QSM 5.0	EPA 9056A	GROUND WATER		131362
788654	Anions QSM 5.0	EPA 9056A	GROUND WATER		131448
788655	Anions QSM 5.0	EPA 9056A	GROUND WATER		131448
788656	Anions QSM 5.0	EPA 9056A	GROUND WATER		131448
787717	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
787720	Anions QSM 5.0	EPA 9056A	GROUND WATER		131328
788654	Anions QSM 5.0	EPA 9056A	GROUND WATER		131448
788655	Anions QSM 5.0	EPA 9056A	GROUND WATER		131448
788655	Anions QSM 5.0	EPA 9056A	GROUND WATER		131448

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787265	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787283	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787715	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787716	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787717	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787718	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787720	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787721	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620

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Project Name: RADFORD AAP
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CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787722	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
787723	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788209	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788210	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788211	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788212	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788213	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788214	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788654	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788655	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620
788656	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		131620

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787719	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	59578	131473
788657	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	59578	131473

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787719	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	59578	131473
788657	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	59578	131473

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787719	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	59578	131471
788657	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	59578	131471

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787719	Mercury, Total QSM	EPA 7470A	GROUND WATER	59597	131573
788657	Mercury, Total QSM	EPA 7470A	GROUND WATER	59597	131573

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787720	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
787721	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
787722	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
787723	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
787724	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		131348
788209	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348

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Project Name: RADFORD AAP
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SDG #: 122845

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
788210	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788211	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788212	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788213	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788214	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788215	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		131348
788654	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788655	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788656	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		131348
788658	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		131348

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
787720	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
787721	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
787722	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
787723	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788209	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788210	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788211	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788212	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788213	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788214	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788654	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788655	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729
788656	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	59725	131729

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

101216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787724
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 10:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **101216T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787724
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 10:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.61	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

101216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787724
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 10:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **101316T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788215
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 11:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **101316T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788215
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 11:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.49	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

101316T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788215
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 11:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **101416R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788656
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:55	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
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VOLATILE ORGANICS ANALYSIS

Sample Description: **101416R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788656
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 18:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	5.5	J	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **101416R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788656
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 18:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.55	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

101416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788656
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 18:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

101416T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788658
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 11:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	6.3	J	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **101416T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788658
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 11:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.69	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

101416T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788658
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 11:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787722
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 13:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787722
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 13:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.52	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787722
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 13:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	787722
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787720
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 12:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.8	J	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787720
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 12:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	2.3		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.68		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.76	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787720
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 12:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.58	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	787720
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 13:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.42	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787721
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 12:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787721
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 12:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.72	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787721
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 12:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.1		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	787721
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.31	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788654
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788654
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 17:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	1.5		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788654
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 17:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.55	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	2.2		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788654
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 17:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.9		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788655
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788655
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 17:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.22	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.38	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788655
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 17:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.46	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.25	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788655
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 17:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.97	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788213
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:38	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788213
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788213
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	42		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	3.3		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.50	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788213
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.8		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788211
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788211
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 15:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788211
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 15:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	0.68	J	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	63		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	7.3		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.53	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788211
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 15:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	9.2		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788214
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788214
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788214
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	2.7		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.21	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.48	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	0.51	J	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788214
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788210
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788210
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 14:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788210
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 14:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.55	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788210
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 14:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787723
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 13:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787723
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 13:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.86	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.56	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	787723
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 13:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	787723
% Solids:		Date Received:	10/13/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788212
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788212
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788212
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	0.73	J	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	62		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	6.9		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.73	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788212
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	8.8		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788209
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 14:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.23	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.33	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Z	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788209
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 14:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	1.8		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.26	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.64	J B	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.48	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	788209
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	131348	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2016 / 14:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.7		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.21	J	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	788209
% Solids:		Date Received:	10/14/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2016 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	122845
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	792888
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/24/2016 / 10:15
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	59725
Analytical Run #:	131729	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	10/24/2016	13:02	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	10/24/2016	13:02	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	10/24/2016	13:02	0.3	U	0.3	0.7	***0.4***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	795594
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	131348	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	10/22/2016	10:14	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	10/22/2016	10:14	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	10/22/2016	10:14	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	10/22/2016	10:14	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	10/22/2016	10:14	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	10/22/2016	10:14	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	10/22/2016	10:14	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	10/22/2016	10:14	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	10/22/2016	10:14	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	10/22/2016	10:14	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	10/22/2016	10:14	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	10/22/2016	10:14	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	10/22/2016	10:14	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	10/22/2016	10:14	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	10/22/2016	10:14	22.9	B	5	25	***12.5***
78-93-3	2-Butanone	10/22/2016	10:14	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	10/22/2016	10:14	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	10/22/2016	10:14	3	U	3	10	***5***
67-64-1	Acetone	10/22/2016	10:14	5	U	5	20	***10***
71-43-2	Benzene	10/22/2016	10:14	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	10/22/2016	10:14	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	10/22/2016	10:14	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	10/22/2016	10:14	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	795594
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	131348	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	10/22/2016	10:14	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	10/22/2016	10:14	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	10/22/2016	10:14	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	10/22/2016	10:14	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	10/22/2016	10:14	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	10/22/2016	10:14	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	10/22/2016	10:14	0.516	B	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	10/22/2016	10:14	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	10/22/2016	10:14	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	10/22/2016	10:14	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	10/22/2016	10:14	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	10/22/2016	10:14	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	10/22/2016	10:14	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	10/22/2016	10:14	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	10/22/2016	10:14	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	10/22/2016	10:14	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	10/22/2016	10:14	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	10/22/2016	10:14	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	10/22/2016	10:14	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	10/22/2016	10:14	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	10/22/2016	10:14	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	10/22/2016	10:14	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	10/22/2016	10:14	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	122845
Sample wt/vol:	(g/mL)	CTL Sample ID:	795594
% Solids:		Date Received:	10/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	131348	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	10/22/2016	10:14	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	10/22/2016	10:14	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	10/22/2016	10:14	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	10/22/2016	10:14	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	10/22/2016	10:14	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	10/22/2016	10:14	0.18	U	0.18	1.00	***0.50***

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	122845
Analytical Run #:	131348	ICAL Calibration #:	W101016.

CTLab #	787720				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	94	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	787721				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	91	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	787722				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	92	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	787723				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	787724				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	91	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	97	80	119	

CTLab #	788209				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	122845
Analytical Run #:	131348	ICAL Calibration #:	W101016.

CTLab #	788210				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	788211				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	93	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	788212				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	91	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	788213				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	788214				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	94	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	97	80	119	

CTLab #	788215				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	91	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	104	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	122845
Analytical Run #:	131348	ICAL Calibration #:	W101016.

CTLab #	788654				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	89	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	788655				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	788656				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	788658				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	792708	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	81	118	
Bromofluorobenzene	100	88.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	792723	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	70	120	
Bromofluorobenzene	100	88.0	70	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	100	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	122845
Analytical Run #:	131348	ICAL Calibration #:	W101016.

CTLab #	792816	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	50	150	
Bromofluorobenzene	100	94.0	50	150	
d8-Toluene	100	100	50	150	
Dibromofluoromethane	100	104	50	150	
CTLab #	**795593**	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	88.0	85	114	
d8-Toluene	100	104	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**795594**	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	70	120	
Bromofluorobenzene	100	88.0	75	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	97.0	85	115	
CTLab #	**795689**	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	94.0	81	118	
Bromofluorobenzene	100	88.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW4**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 122845
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 131348
Sample No.: 795593
Parent Sample No.: 787721
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W101016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	10/22/2016	18:42	74-131	10.0	BDL	10.0	100
1,1,2,2-Tetrachloroethane	10/22/2016	18:42	71-121	8.16	BDL	10.0	82
1,1,2-Trichloroethane	10/22/2016	18:42	80-119	10.1	BDL	10.0	101
1,1-Dichloroethane	10/22/2016	18:42	77-125	10.2	BDL	10.0	102
1,1-Dichloroethene	10/22/2016	18:42	71-131	10.7	BDL	10.0	107
1,2,3-Trichlorobenzene	10/22/2016	18:42	69-129	8.90	BDL	10.0	89
1,2,4-Trichlorobenzene	10/22/2016	18:42	69-130	8.70	BDL	10.0	87
1,2-Dibromo-3-chloropropane	10/22/2016	18:42	62-128	7.13	BDL	10.0	71
1,2-Dibromoethane	10/22/2016	18:42	77-121	9.10	BDL	10.0	91
1,2-Dichlorobenzene	10/22/2016	18:42	80-119	9.22	BDL	10.0	92
1,2-Dichloroethane	10/22/2016	18:42	73-128	10.1	BDL	10.0	101
1,2-Dichloropropane	10/22/2016	18:42	78-122	9.27	BDL	10.0	93
1,3-Dichlorobenzene	10/22/2016	18:42	80-119	9.29	BDL	10.0	93
1,4-Dichlorobenzene	10/22/2016	18:42	79-118	9.64	BDL	10.0	96
1,4-Dioxane	10/22/2016	18:42	59-139	650	BDL	500	130
2-Butanone	10/22/2016	18:42	56-143	98.6	BDL	100	99
2-Hexanone	10/22/2016	18:42	57-139	99.3	BDL	100	99
4-Methyl-2-pentanone	10/22/2016	18:42	67-130	113	BDL	100	113
Acetone	10/22/2016	18:42	39-160	84.5	BDL	100	84
Benzene	10/22/2016	18:42	79-120	10.4	BDL	10.0	104
Bromochloromethane	10/22/2016	18:42	78-123	10.6	BDL	10.0	106
Bromodichloromethane	10/22/2016	18:42	79-125	9.54	BDL	10.0	95
Bromoform	10/22/2016	18:42	66-130	8.35	BDL	10.0	84
Bromomethane	10/22/2016	18:42	53-141	9.17	BDL	10.0	92
Carbon disulfide	10/22/2016	18:42	64-133	22.3	BDL	20.0	112
Carbon tetrachloride	10/22/2016	18:42	72-136	10.8	BDL	10.0	108
Chlorobenzene	10/22/2016	18:42	82-118	9.86	BDL	10.0	99
Chloroethane	10/22/2016	18:42	60-138	10.7	BDL	10.0	107
Chloroform	10/22/2016	18:42	79-124	9.78	BDL	10.0	98
Chloromethane	10/22/2016	18:42	50-139	7.99	0.72	10.0	73
cis-1,2-Dichloroethene	10/22/2016	18:42	78-123	10.3	BDL	10.0	103

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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW4**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 122845
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 131348
Sample No.: 795593
Parent Sample No.: 787721
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W101016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
cis-1,3-Dichloropropene	10/22/2016	18:42	75-124	9.01	BDL	10.0	90
Cyclohexane	10/22/2016	18:42	71-130	11.5	BDL	10.0	115
Dibromochloromethane	10/22/2016	18:42	74-126	8.45	BDL	10.0	84
Dichlorodifluoromethane	10/22/2016	18:42	32-152	10.7	BDL	10.0	107
Ethylbenzene	10/22/2016	18:42	79-121	9.77	BDL	10.0	98
Freon 113	10/22/2016	18:42	70-136	22.3	BDL	20.0	112
Isopropylbenzene	10/22/2016	18:42	72-131	9.92	BDL	10.0	99
m & p-Xylene	10/22/2016	18:42	80-121	20.0	BDL	20.0	100
Methyl Acetate	10/22/2016	18:42	56-136	9.66	BDL	10.0	97
Methyl tert-butyl ether	10/22/2016	18:42	71-124	9.31	BDL	10.0	93
Methylcyclohexane	10/22/2016	18:42	72-132	10.8	BDL	10.0	108
Methylene chloride	10/22/2016	18:42	74-124	9.49	BDL	10.0	95
o-Xylene	10/22/2016	18:42	78-122	9.66	BDL	10.0	97
Styrene	10/22/2016	18:42	78-123	9.34	BDL	10.0	93
Tetrachloroethene	10/22/2016	18:42	74-129	11.1	BDL	10.0	111
Toluene	10/22/2016	18:42	80-121	10.6	BDL	10.0	106
trans-1,2-Dichloroethene	10/22/2016	18:42	75-124	10.3	BDL	10.0	103
trans-1,3-Dichloropropene	10/22/2016	18:42	73-127	8.39	BDL	10.0	84
Trichloroethene	10/22/2016	18:42	79-123	12.3	2.1	10.0	102
Trichlorofluoromethane	10/22/2016	18:42	65-141	11.1	BDL	10.0	111
Vinyl chloride	10/22/2016	18:42	58-137	10.7	BDL	10.0	107

Spike Recovery: 0 out of 52 outside QC limits

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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW4**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 122845

Analytical Method: Mod RSK 175 | Concentration Units: ug/L

Analytical Run #: 131729 | Sample No.: 792921 | Parent Sample No.: 787721

Analytical Prep Batch #: 59725 | Analytical Preparation Date/Time: 10/24/2016 10:15

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	10/24/2016 14:01	74-131	4.27	BDL	4.77	90
Ethene	10/24/2016 14:01	72-133	6.05	BDL	6.79	89
Methane	10/24/2016 14:01	73-125	2.17	0.31	2.29	81

Spike Recovery: 0 out of 3 outside QC limits

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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **13MW4**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 122845

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 131348 | Sample No.: 795689 | Parent Sample No.: 795593

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W101016.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,1,1-Trichloroethane	10/22/2016	19:12	10.2	10.0	102	2	74-131	20
1,1,2,2-Tetrachloroethane	10/22/2016	19:12	8.31	10.0	83	2	71-121	20
1,1,2-Trichloroethane	10/22/2016	19:12	9.73	10.0	97	3	80-119	20
1,1-Dichloroethane	10/22/2016	19:12	10.6	10.0	106	4	77-125	20
1,1-Dichloroethene	10/22/2016	19:12	10.8	10.0	108	1	71-131	20
1,2,3-Trichlorobenzene	10/22/2016	19:12	9.90	10.0	99	11	69-129	20
1,2,4-Trichlorobenzene	10/22/2016	19:12	8.79	10.0	88	1	69-130	20
1,2-Dibromo-3-chloropropane	10/22/2016	19:12	7.52	10.0	75	5	62-128	20
1,2-Dibromoethane	10/22/2016	19:12	9.22	10.0	92	1	77-121	20
1,2-Dichlorobenzene	10/22/2016	19:12	9.29	10.0	93	1	80-119	20
1,2-Dichloroethane	10/22/2016	19:12	10.3	10.0	103	2	73-128	20
1,2-Dichloropropane	10/22/2016	19:12	9.79	10.0	98	6	78-122	20
1,3-Dichlorobenzene	10/22/2016	19:12	9.40	10.0	94	1	80-119	20
1,4-Dichlorobenzene	10/22/2016	19:12	9.54	10.0	95	1	79-118	20
1,4-Dioxane	10/22/2016	19:12	583	500	117	11	59-139	20
2-Butanone	10/22/2016	19:12	90.5	100	90	9	56-143	20
2-Hexanone	10/22/2016	19:12	94.6	100	95	5	57-139	20
4-Methyl-2-pentanone	10/22/2016	19:12	107	100	107	5	67-130	20
Acetone	10/22/2016	19:12	80.4	100	80	5	39-160	20
Benzene	10/22/2016	19:12	10.5	10.0	105	1	79-120	20
Bromochloromethane	10/22/2016	19:12	10.4	10.0	104	2	78-123	20
Bromodichloromethane	10/22/2016	19:12	9.25	10.0	92	3	79-125	20
Bromoform	10/22/2016	19:12	7.44	10.0	74	12	66-130	20
Bromomethane	10/22/2016	19:12	9.67	10.0	87	5	53-141	20
Carbon disulfide	10/22/2016	19:12	22.3	20.0	112	0	64-133	20
Carbon tetrachloride	10/22/2016	19:12	11.4	10.0	114	6	72-136	20
Chlorobenzene	10/22/2016	19:12	9.81	10.0	98	1	82-118	20
Chloroethane	10/22/2016	19:12	10.0	10.0	100	6	60-138	20
Chloroform	10/22/2016	19:12	9.48	10.0	95	3	79-124	20
Chloromethane	10/22/2016	19:12	8.06	10.0	73	1	50-139	20
cis-1,2-Dichloroethene	10/22/2016	19:12	9.86	10.0	99	4	78-123	20

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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW4

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 122845

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 131348 Sample No.: 795689 Parent Sample No.: 795593

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W101016.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
cis-1,3-Dichloropropene	10/22/2016	19:12	8.77	10.0	88	3	75-124	20
Cyclohexane	10/22/2016	19:12	11.0	10.0	110	4	71-130	20
Dibromochloromethane	10/22/2016	19:12	8.68	10.0	87	3	74-126	20
Dichlorodifluoromethane	10/22/2016	19:12	11.9	10.0	119	11	32-152	20
Ethylbenzene	10/22/2016	19:12	10.3	10.0	103	5	79-121	20
Freon 113	10/22/2016	19:12	23.0	20.0	115	3	70-136	20
Isopropylbenzene	10/22/2016	19:12	9.91	10.0	99	0	72-131	20
m & p-Xylene	10/22/2016	19:12	20.5	20.0	102	2	80-121	20
Methyl Acetate	10/22/2016	19:12	9.15	10.0	92	5	56-136	20
Methyl tert-butyl ether	10/22/2016	19:12	9.26	10.0	93	1	71-124	20
Methylcyclohexane	10/22/2016	19:12	11.2	10.0	112	3	72-132	20
Methylene chloride	10/22/2016	19:12	9.49	10.0	95	0	74-124	20
o-Xylene	10/22/2016	19:12	10.1	10.0	101	5	78-122	20
Styrene	10/22/2016	19:12	9.93	10.0	99	6	78-123	20
Tetrachloroethene	10/22/2016	19:12	11.2	10.0	112	2	74-129	20
Toluene	10/22/2016	19:12	10.4	10.0	104	2	80-121	20
trans-1,2-Dichloroethene	10/22/2016	19:12	10.7	10.0	107	4	75-124	20
trans-1,3-Dichloropropene	10/22/2016	19:12	8.39	10.0	84	0	73-127	20
Trichloroethene	10/22/2016	19:12	12.0	10.0	99	2	79-123	20
Trichlorofluoromethane	10/22/2016	19:12	11.1	10.0	111	0	65-141	20
Vinyl chloride	10/22/2016	19:12	11.1	10.0	111	4	58-137	20

RPD or Spike Recovery: 0 out of 52 outside QC limits

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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW4

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 122845

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 131729 Sample No.: 792922 Parent Sample No.: 792921

Analytical Prep Batch #: 59725 Analytical Preparation Date/Time: 10/24/2016 10:15

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	10/24/2016	14:05	4.29	4.77	90	0	74-131	30
Ethene	10/24/2016	14:05	6.07	6.79	89	0	72-133	30
Methane	10/24/2016	14:05	2.12	2.29	79	2	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

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Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 792708
SDG No.: 122845
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 792708
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131348
ICAL Calibration #: W101016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	10/22/2016	09:14	74-131	10.5		10.0	105
1,1,2,2-Tetrachloroethane	10/22/2016	09:14	71-121	9.65		10.0	96
1,1,2-Trichloroethane	10/22/2016	09:14	80-119	10.1		10.0	101
1,1-Dichloroethane	10/22/2016	09:14	77-125	11.0		10.0	110
1,1-Dichloroethene	10/22/2016	09:14	71-131	11.3		10.0	113
1,2,3-Trichlorobenzene	10/22/2016	09:14	69-129	11.3		10.0	113
1,2,4-Trichlorobenzene	10/22/2016	09:14	69-130	10.7		10.0	107
1,2-Dibromo-3-chloropropane	10/22/2016	09:14	62-128	8.64		10.0	86
1,2-Dibromoethane	10/22/2016	09:14	77-121	10.0		10.0	100
1,2-Dichlorobenzene	10/22/2016	09:14	80-119	10.8		10.0	108
1,2-Dichloroethane	10/22/2016	09:14	73-128	11.0		10.0	110
1,2-Dichloropropane	10/22/2016	09:14	78-122	10.8		10.0	108
1,3-Dichlorobenzene	10/22/2016	09:14	80-119	10.6		10.0	106
1,4-Dichlorobenzene	10/22/2016	09:14	79-118	10.8		10.0	108
1,4-Dioxane	10/22/2016	09:14	59-139	509		500	102
2-Butanone	10/22/2016	09:14	56-143	99.9		100	100
2-Hexanone	10/22/2016	09:14	57-139	108		100	108
4-Methyl-2-pentanone	10/22/2016	09:14	67-130	121		100	121
Acetone	10/22/2016	09:14	39-160	113		100	113
Benzene	10/22/2016	09:14	79-120	11.3		10.0	113
Bromochloromethane	10/22/2016	09:14	78-123	11.9		10.0	119
Bromodichloromethane	10/22/2016	09:14	79-125	11.0		10.0	110
Bromoform	10/22/2016	09:14	66-130	9.94		10.0	99
Bromomethane	10/22/2016	09:14	53-141	8.62		10.0	86
Carbon disulfide	10/22/2016	09:14	64-133	22.4		20.0	112
Carbon tetrachloride	10/22/2016	09:14	72-136	11.3		10.0	113
Chlorobenzene	10/22/2016	09:14	82-118	11.0		10.0	110
Chloroethane	10/22/2016	09:14	60-138	10.4		10.0	104

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Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 792708 | SDG No.: 122845

Analytical Method: EPA 8260C | Concentration Units: ug/L

Sample No.: 792708 | Parent Sample No.: 0

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

Analytical Run #: 131348 | ICAL Calibration #: W101016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	10/22/2016	09:14	79-124	10.4		10.0	104
Chloromethane	10/22/2016	09:14	50-139	8.40		10.0	84
cis-1,2-Dichloroethene	10/22/2016	09:14	78-123	10.5		10.0	105
cis-1,3-Dichloropropene	10/22/2016	09:14	75-124	10.7		10.0	107
Cyclohexane	10/22/2016	09:14	71-130	11.6		10.0	116
Dibromochloromethane	10/22/2016	09:14	74-126	9.77		10.0	98
Dichlorodifluoromethane	10/22/2016	09:14	32-152	11.3		10.0	113
Ethylbenzene	10/22/2016	09:14	79-121	11.0		10.0	110
Freon 113	10/22/2016	09:14	70-136	22.6		20.0	113
Isopropylbenzene	10/22/2016	09:14	72-131	11.0		10.0	110
m & p-Xylene	10/22/2016	09:14	80-121	21.9		20.0	110
Methyl Acetate	10/22/2016	09:14	56-136	10.5		10.0	105
Methyl tert-butyl ether	10/22/2016	09:14	71-124	10.3		10.0	103
Methylcyclohexane	10/22/2016	09:14	72-132	11.2		10.0	112
Methylene chloride	10/22/2016	09:14	74-124	10.0		10.0	100
o-Xylene	10/22/2016	09:14	78-122	10.7		10.0	107
Styrene	10/22/2016	09:14	78-123	10.9		10.0	109
Tetrachloroethene	10/22/2016	09:14	74-129	11.9		10.0	119
Toluene	10/22/2016	09:14	80-121	11.0		10.0	110
trans-1,2-Dichloroethene	10/22/2016	09:14	75-124	10.8		10.0	108
trans-1,3-Dichloropropene	10/22/2016	09:14	73-127	10.5		10.0	105
Trichloroethene	10/22/2016	09:14	79-123	10.5		10.0	105
Trichlorofluoromethane	10/22/2016	09:14	65-141	11.7		10.0	117
Vinyl chloride	10/22/2016	09:14	58-137	11.0		10.0	110

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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	792708	SDG No.:	122845
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 792889
SDG No.: 122845
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 792889
Parent Sample No.: 0
Analytical Prep Batch #: 59725
Analytical Preparation Date/Time: 10/24/2016 10:15
Analytical Run #: 131729
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	10/24/2016	12:59	74-131	4.41		4.77	92
Ethene	10/24/2016	12:59	72-133	6.25		6.79	92
Methane	10/24/2016	12:59	73-125	2.14		2.29	93

Spike Recovery: 0 out of 3 outside limits

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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	792888	SDG No.:	122845
Matrix:	LIQUID	Date Extracted:	10/24/2016
Date Analyzed:	10/24/2016	Time Analyzed:	13:02
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	131729	Extraction Batch #:	59725
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	794224	10/24/2016 12:49	P4DG020315
2	LCSW	792889	10/24/2016 12:59	P4DG020315
3	MBW	792888	10/24/2016 13:02	P4DG020315
4	13MW3	787720	10/24/2016 13:53	P4DG020315
5	13MW4	787721	10/24/2016 13:57	P4DG020315
6	13MW4MSW	792921	10/24/2016 14:01	P4DG020315
7	13MW4MSDW	792922	10/24/2016 14:05	P4DG020315
8	13MW2	787722	10/24/2016 14:08	P4DG020315
9	CCV	794225	10/24/2016 14:12	P4DG020315
10	49MW04	787723	10/24/2016 14:17	P4DG020315
11	50MW02	788209	10/24/2016 14:21	P4DG020315
12	49MW02	788210	10/24/2016 14:26	P4DG020315
13	48MW3	788211	10/24/2016 14:30	P4DG020315
14	49TM01	788212	10/24/2016 14:35	P4DG020315
15	48MW2	788213	10/24/2016 14:38	P4DG020315
16	49MW01	788214	10/24/2016 14:43	P4DG020315
17	48MW06	788654	10/24/2016 14:47	P4DG020315
18	48MW1	788655	10/24/2016 14:51	P4DG020315
19	101416R1	788656	10/24/2016 14:55	P4DG020315
20	CCV	794229	10/24/2016 14:58	P4DG020315

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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	795594	SDG No.:	122845
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	10/22/2016	Time Analyzed:	10:14
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	131348	Extraction Batch #:	0
		ICAL Calibration #:	W101016.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	795595	10/22/2016 08:58	
2	LCSW	792708	10/22/2016 09:14	W101016.
3	CCV	792723	10/22/2016 09:14	W101016.
4	MBW	795594	10/22/2016 10:14	W101016.
5	101216T1	787724	10/22/2016 10:44	W101016.
6	101316T1	788215	10/22/2016 11:14	W101016.
7	101416T1	788658	10/22/2016 11:43	W101016.
8	13MW3	787720	10/22/2016 12:13	W101016.
9	13MW4	787721	10/22/2016 12:43	W101016.
10	13MW2	787722	10/22/2016 13:13	W101016.
11	49MW04	787723	10/22/2016 13:43	W101016.
12	50MW02	788209	10/22/2016 14:12	W101016.
13	49MW02	788210	10/22/2016 14:42	W101016.
14	48MW3	788211	10/22/2016 15:12	W101016.
15	49TM01	788212	10/22/2016 15:43	W101016.
16	48MW2	788213	10/22/2016 16:13	W101016.
17	49MW01	788214	10/22/2016 16:43	W101016.
18	48MW06	788654	10/22/2016 17:12	W101016.
19	48MW1	788655	10/22/2016 17:42	W101016.
20	101416R1	788656	10/22/2016 18:13	W101016.
21	13MW4MSW	795593	10/22/2016 18:42	W101016.
22	13MW4MSDW	795689	10/22/2016 19:12	W101016.
23	CCVF	792816	10/23/2016 23:03	W101016.

Data File : C:\INSTARCH\Data\OCT1016\BFB1.D Vial: 1
Acq On : 10 Oct 2016 13:06 Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.411 to 4.435 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	28.4	30430	PASS
75	95	30	60	55.0	58908	PASS
95	95	100	100	100.0	107169	PASS
96	95	5	9	7.6	8165	PASS
173	174	0.00	2	0.5	416	PASS
174	95	50	100	75.9	81292	PASS
175	174	5	9	7.3	5946	PASS
176	174	95	101	98.1	79782	PASS
177	176	5	9	6.2	4961	PASS

W101016.M Wed Oct 19 12:32:35 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT1016\BFB1.D
Injection Date : 10 Oct 2016 Log Time Period (hrs) : ALL
Injection Time : 13:06 Total files within period : 15
Sample Directory : C:\INSTARCH\DATA\OCT1016\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	10 Oct 2016	14:23
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	10 Oct 2016	14:53
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	10 Oct 2016	15:23
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.00/100 ug/L, 5.0 mL Pu	10 Oct 2016	15:53
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.00/200 ug/L, 5.0 mL Pu	10 Oct 2016	16:23
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.00/300 ug/L, 5.0 mL Pu	10 Oct 2016	16:53
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.00/400 ug/L, 5.0 mL Pu	10 Oct 2016	17:23
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.00/800 ug/L, 5.0 mL Pu	10 Oct 2016	17:53
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	10 Oct 2016	18:52
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.00/300 ug/L, 5.0 mL Pu	10 Oct 2016	19:22
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	10 Oct 2016	20:22

BFB

Data File : C:\INSTARCH\Data\OCT2216\BFB.D Vial: 1
Acq On : 22 Oct 2016 8:58 Operator: AGK-RLD
Sample : 131348,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.404 to 4.429 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	36.3	15656	PASS
75	95	30	60	58.1	25104	PASS
95	95	100	100	100.0	43180	PASS
96	95	5	9	7.3	3149	PASS
173	174	0.00	2	1.0	355	PASS
174	95	50	100	86.0	37153	PASS
175	174	5	9	7.8	2911	PASS
176	174	95	101	95.3	35401	PASS
177	176	5	9	8.5	3006	PASS

W101016.M Thu Oct 27 15:31:06 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT2216\BFB.D
Injection Date : 22 Oct 2016 Log Time Period (hrs) : ALL
Injection Time : 08:58 Total files within period : 22
Sample Directory : C:\INSTARCH\DATA\OCT2216\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	131348,LCSW, 10.00/100 ug/L, 5.0 mL Pu	22 Oct 2016	09:14
MB1	1.00	1.00	1.00	131348,MBW, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	10:14
787724	1.00	1.00	1.00	131348,787724, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	10:44
788215	1.00	1.00	1.00	131348,788215, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	11:14
788658	1.00	1.00	1.00	131348,788658, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	11:43
787720	1.00	1.00	1.00	131348,787720, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	12:13
787721	1.00	1.00	1.00	131348,787721, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	12:43
787722	1.00	1.00	1.00	131348,787722, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	13:13
787723	1.00	1.00	1.00	131348,787723, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	13:43
788209	1.00	1.00	1.00	131348,788209, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	14:12
788210	1.00	1.00	1.00	131348,788210, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	14:42
788211	1.00	1.00	1.00	131348,788211, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	15:12
788212	1.00	1.00	1.00	131348,788212, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	15:43
788213	1.00	1.00	1.00	131348,788213, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	16:13
788214	1.00	1.00	1.00	131348,788214, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	16:43
788654	1.00	1.00	1.00	131348,788654, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	17:12
788655	1.00	1.00	1.00	131348,788655, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	17:42
788656	1.00	1.00	1.00	131348,788656, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	18:13
787721MS	1.00	1.00	1.00	131348,MSW787721, pH<2, 10.0/100 ug/L, 5.0	22 Oct 2016	18:42
787721SD	1.00	1.00	1.00	131348,MSDW787721, pH<2, 10.0/100 ug/L, 5.0	22 Oct 2016	19:12
CCVF1	1.00	1.00	1.00	131348,CCVF, 10.00/100 ug/L, 5.0 mL Pu	22 Oct 2016	19:42

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 10 Oct 2016
Instrument ID : VMS3 Time Analyzed : 15:53
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1319515	7.51	964442	11.41	474928	14.70
UPPER LIMIT	2639030	8.01	1928884	11.91	949856	15.20
LOWER LIMIT	659758	7.01	482221	10.91	237464	14.20
File ID Sample						
787720 131348,78	905159	7.51	680986	11.41	339510	14.70
787721 131348,78	884005	7.51	673690	11.41	349310	14.70
787721MS 131348,MS	893167	7.51	694283	11.41	365772	14.70
787721SD 131348,MS	923262	7.51	704118	11.41	373308	14.70
787722 131348,78	899994	7.51	671752	11.41	337918	14.70
787723 131348,78	897531	7.51	670258	11.41	349794	14.70
787724 131348,78	857502	7.51	644718	11.41	322389	14.70
788209 131348,78	910374	7.51	697584	11.41	347288	14.70
788210 131348,78	897165	7.51	675353	11.41	349702	14.70
788211 131348,78	897991	7.51	677832	11.41	337777	14.70
788212 131348,78	876627	7.51	649545	11.41	336420	14.70
788213 131348,78	862879	7.51	652030	11.41	340445	14.70
788214 131348,78	873741	7.51	657951	11.41	332341	14.70
788215 131348,78	897903	7.51	694821	11.41	341488	14.70
788654 131348,78	879830	7.51	678211	11.41	343204	14.70
788655 131348,78	879053	7.51	673772	11.41	339592	14.69
788656 131348,78	847432	7.51	652746	11.41	326306	14.70
788658 131348,78	874737	7.51	668610	11.41	337427	14.70
CCVF1 131348,CC	908926	7.51	713019	11.41	385249	14.70
CCV-LCS1 131348,LC	894934	7.51	681183	11.41	356448	14.70
MB1 131348,MB	852418	7.51	653415	11.41	331765	14.70

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787724.D Vial: 5
Acq On : 22 Oct 2016 10:44 Operator: AGK-RLD
Sample : 131348,787724, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:04:58 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	857502	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	644718	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	322389	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	202014	19.324	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.07	102	58044	20.330	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.50	98	840933	19.667	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.04	95	303544	18.294	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 91 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	15685	0.6077	ug/L	85
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3891	0.8975	ug/L	92
6) Chloroethane	2.62	64	3618	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.89	58	3868	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.90	43	14381	N.D.		
16) Iodomethane	4.00	142	12311	1.7830	ug/L #	85
17) Carbon Dislf	4.09	76	5267	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.65	59	6611	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787724.D Vial: 5
Acq On : 22 Oct 2016 10:44 Operator: AGK-RLD
Sample : 131348,787724, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:04:58 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.42	43	5376	Below Cal #	66
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787724.D Vial: 5
Acq On : 22 Oct 2016 10:44 Operator: AGK-RLD
Sample : 131348,787724, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:04:58 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

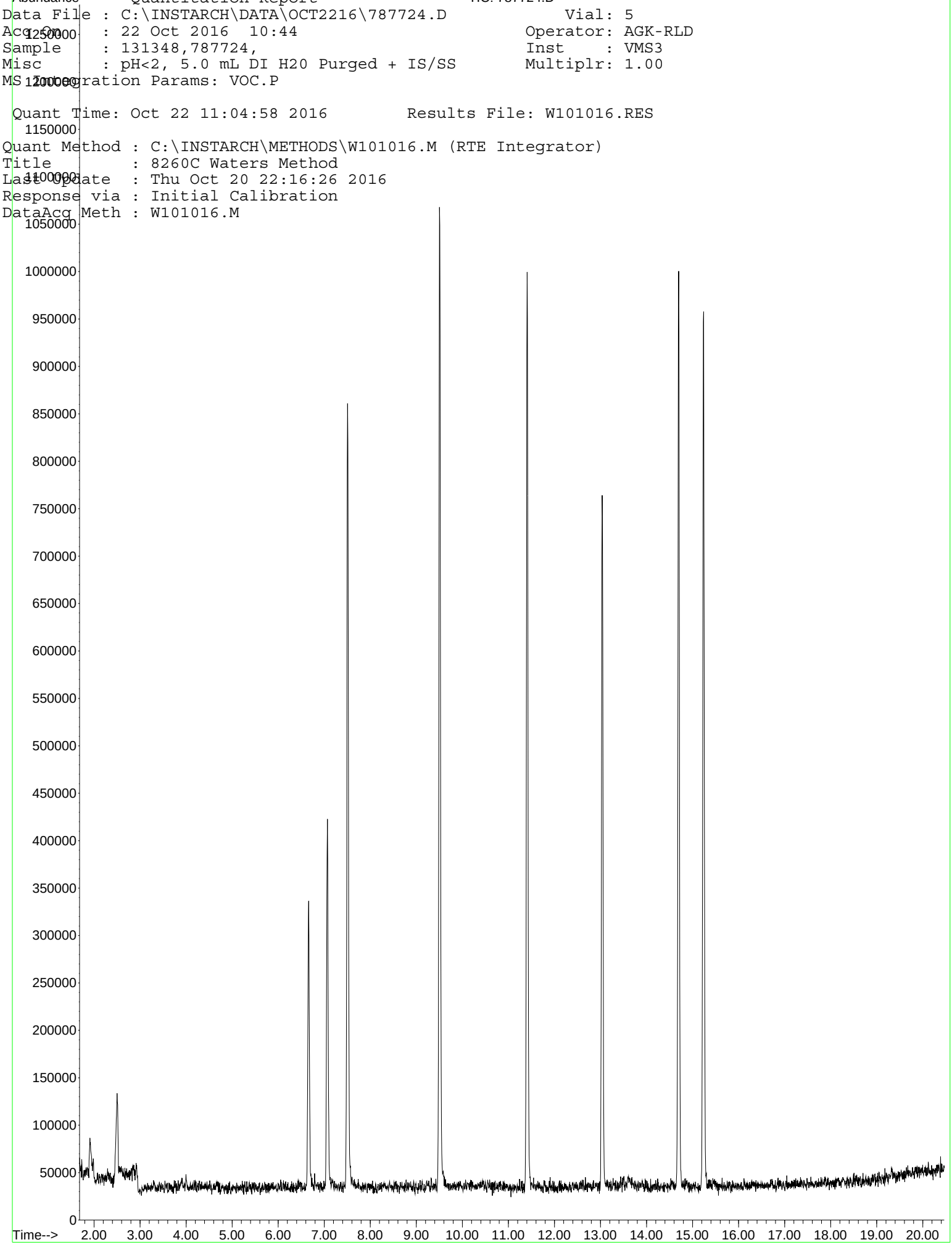
(#) = qualifier out of range (m) = manual integration

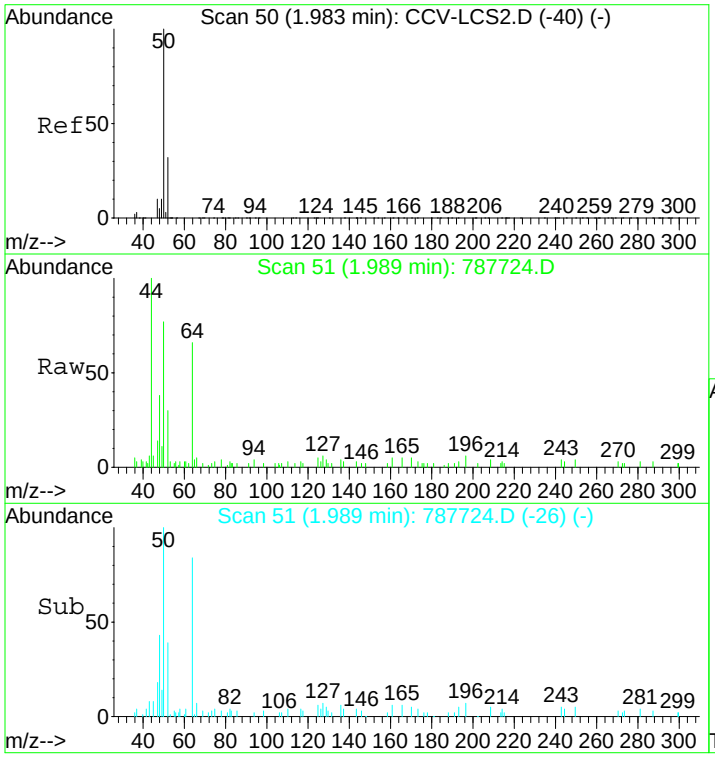
Abundance Quantitation Report TIC: 787724.D

Data File : C:\INSTARCH\DATA\OCT2216\787724.D Vial: 5
Acq On : 22 Oct 2016 10:44 Operator: AGK-RLD
Sample : 131348,787724, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:04:58 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

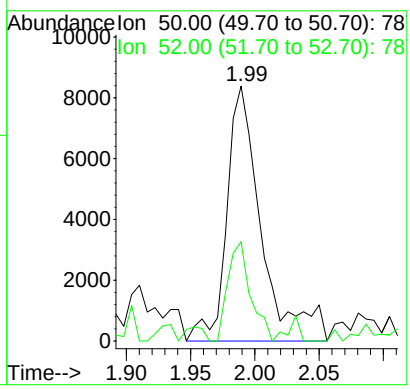


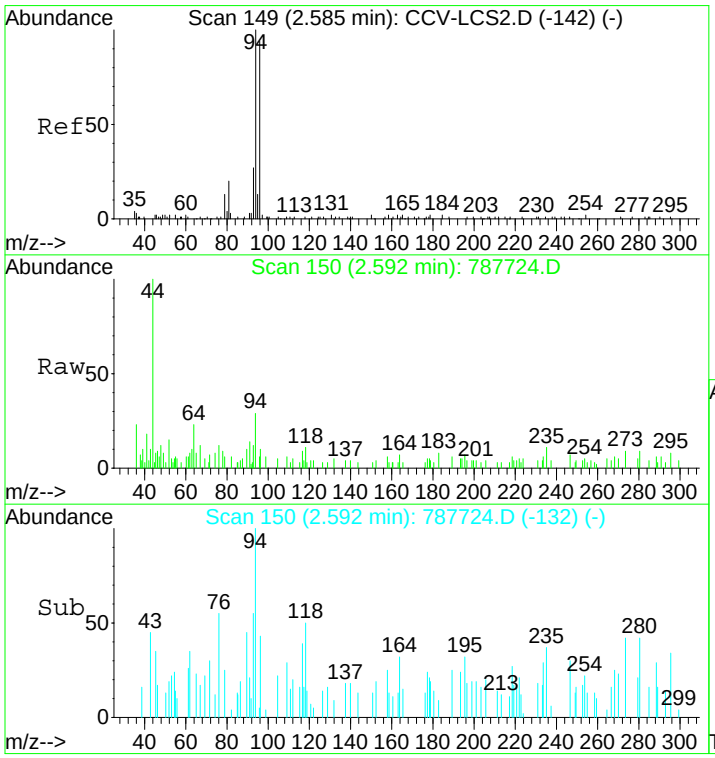


#3
Chloromethan
Concen: 0.61 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 787724.D
Acq: 22 Oct 2016 10:44

Tgt Ion: 50 Resp: 15685

Ion	Ratio	Lower	Upper
50	100		
52	25.6	14.1	54.1

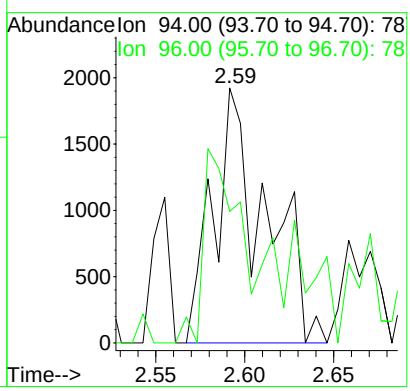




#5
Bromomethane
Concen: 0.90 ug/L
RT: 2.59 min Scan# 150
Delta R.T. 0.01 min
Lab File: 787724.D
Acq: 22 Oct 2016 10:44

Tgt Ion: 94 Resp: 3891

Ion	Ratio	Lower	Upper
94	100		
96	89.1	62.3	102.3



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788215.D Vial: 6
Acq On : 22 Oct 2016 11:14 Operator: AGK-RLD
Sample : 131348,788215, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:34:48 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	897903	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	694821	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	341488	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	226712	20.711	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.07	102	58896	19.700	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.51	98	895688	20.005	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.04	95	319667	18.188	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 91 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	13183	0.4878	ug/L	78
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	5845	1.2875	ug/L #	76
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	4214	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.89	43	15206	N.D.		
16) Iodomethane	4.00	142	14598	2.0244	ug/L #	77
17) Carbon Dislf	4.09	76	6634	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.67	59	7652	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.46	42	2874	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788215.D Vial: 6
Acq On : 22 Oct 2016 11:14 Operator: AGK-RLD
Sample : 131348,788215, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:34:48 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.34	43	2938	Below Cal #	38
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.45	43	5480	Below Cal #	30
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	12.91	55	3148	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788215.D Vial: 6
Acq On : 22 Oct 2016 11:14 Operator: AGK-RLD
Sample : 131348,788215, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:34:48 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

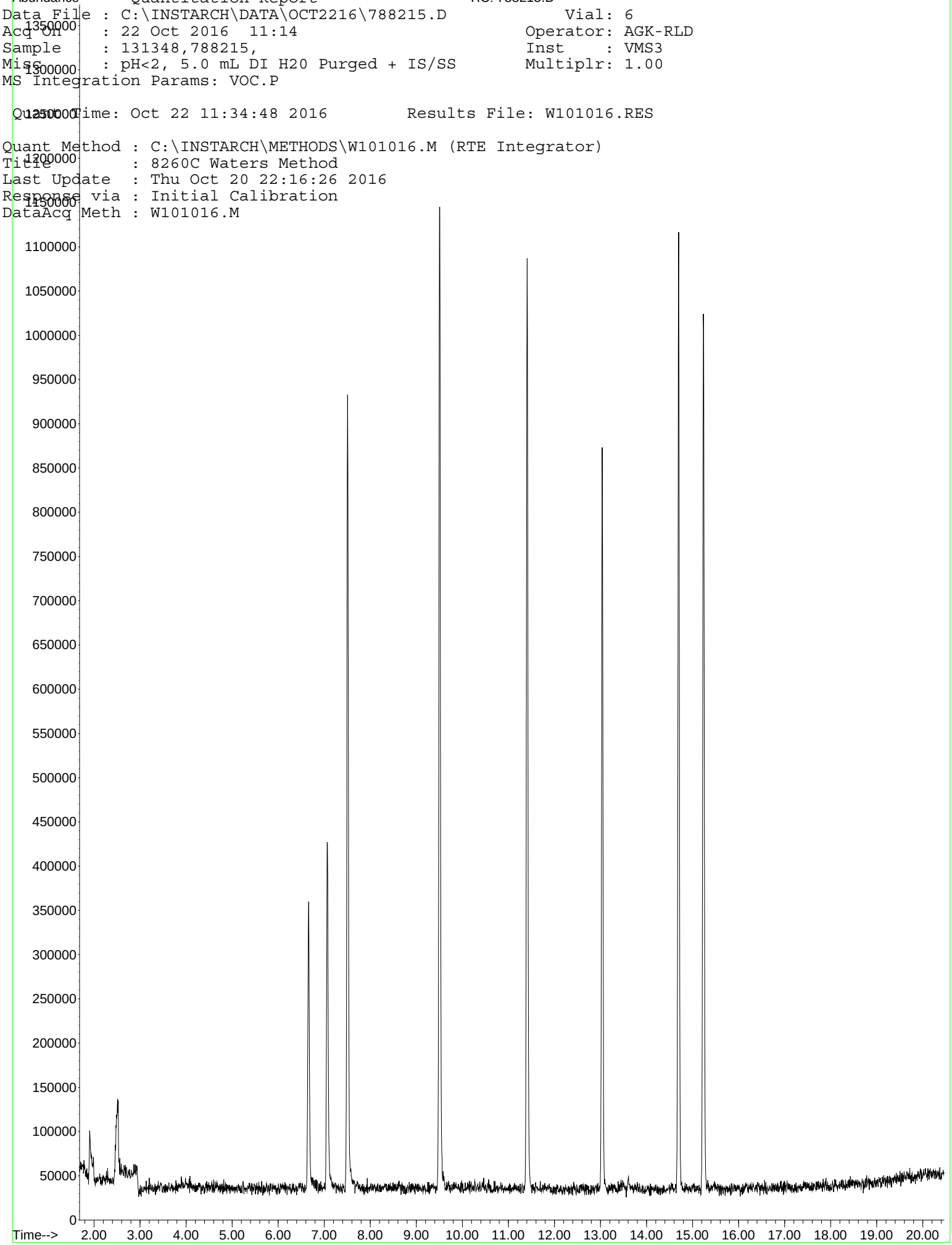
(#) = qualifier out of range (m) = manual integration

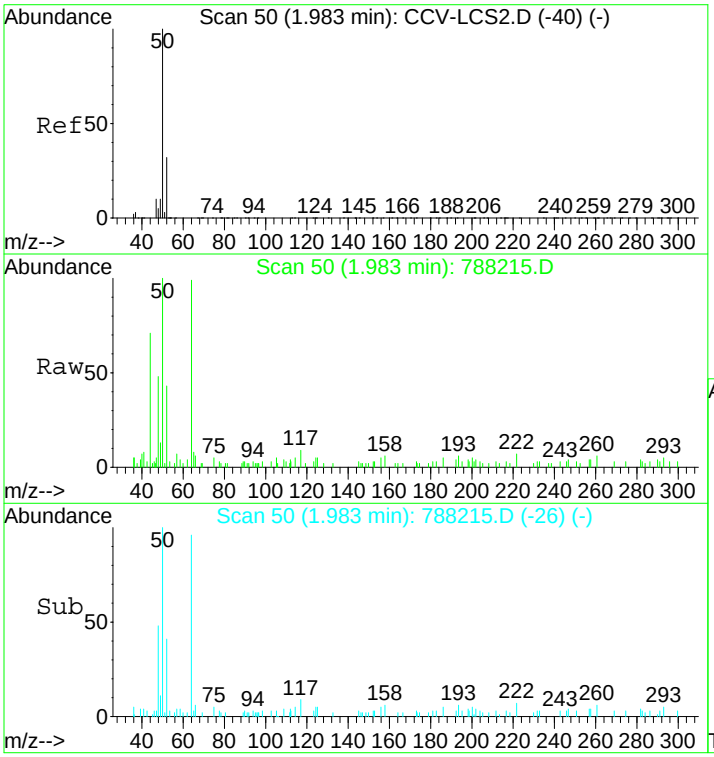
Abundance Quantitation Report TIC: 788215.D

Data File : C:\INSTARCH\DATA\OCT2216\788215.D Vial: 6
Acq On : 22 Oct 2016 11:14 Operator: AGK-RLD
Sample : 131348,788215, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 11:34:48 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

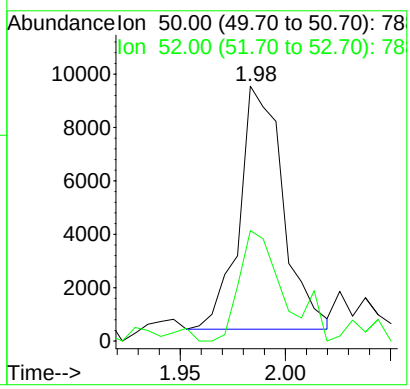


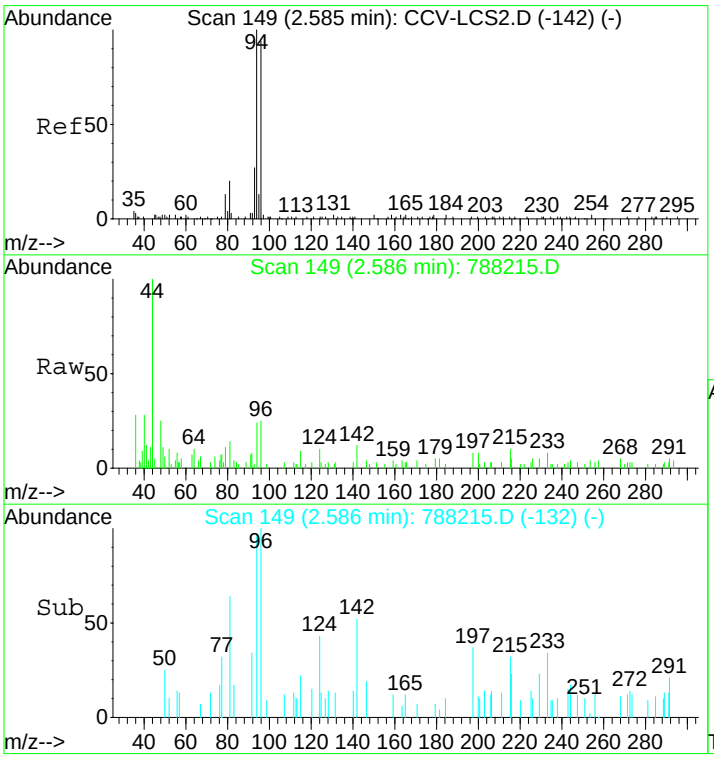


#3
Chloromethan
Concen: 0.49 ug/L
RT: 1.98 min Scan# 50
Delta R.T. -0.01 min
Lab File: 788215.D
Acq: 22 Oct 2016 11:14

Tgt Ion: 50 Resp: 13183

Ion	Ratio	Lower	Upper
50	100		
52	46.5	14.1	54.1

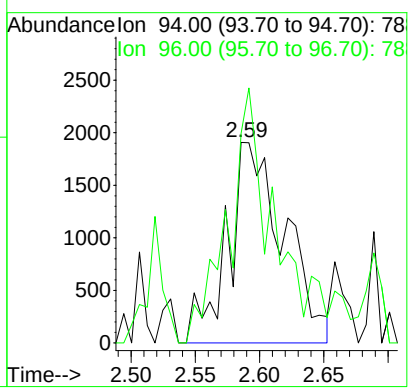




#5
Bromomethane
Concen: 1.29 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: 788215.D
Acq: 22 Oct 2016 11:14

Tgt Ion: 94 Resp: 5845

Ion	Ratio	Lower	Upper
94	100		
96	104.0	62.3	102.3#



[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788658.D Vial: 7
Acq On : 22 Oct 2016 11:43 Operator: AGK-RLD
Sample : 131348,788658, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:04:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	874737	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	668610	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	337427	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	215839	20.240	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.07	102	60985	20.939	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 105 %			
61) SURRd8Tolule	9.51	98	900596	20.647	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %			
83) SURR4BrFBenz	13.04	95	313635	18.059	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	18156	0.6896	ug/L	100
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.58	94	4324	0.9777	ug/L #	74
6) Chloroethane	2.63	64	3822	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.90	58	15655	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.89	43	61778	6.2510	ug/L	88
16) Iodomethane	4.00	142	16689	2.3826	ug/L #	87
17) Carbon Dislf	4.09	76	5367	N.D.		
18) allylchloride	4.25	41	4484	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.66	59	10857	Below Cal		59
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788658.D Vial: 7
Acq On : 22 Oct 2016 11:43 Operator: AGK-RLD
Sample : 131348,788658, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:04:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788658.D Vial: 7
Acq On : 22 Oct 2016 11:43 Operator: AGK-RLD
Sample : 131348,788658, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:04:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.82	128	6001	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

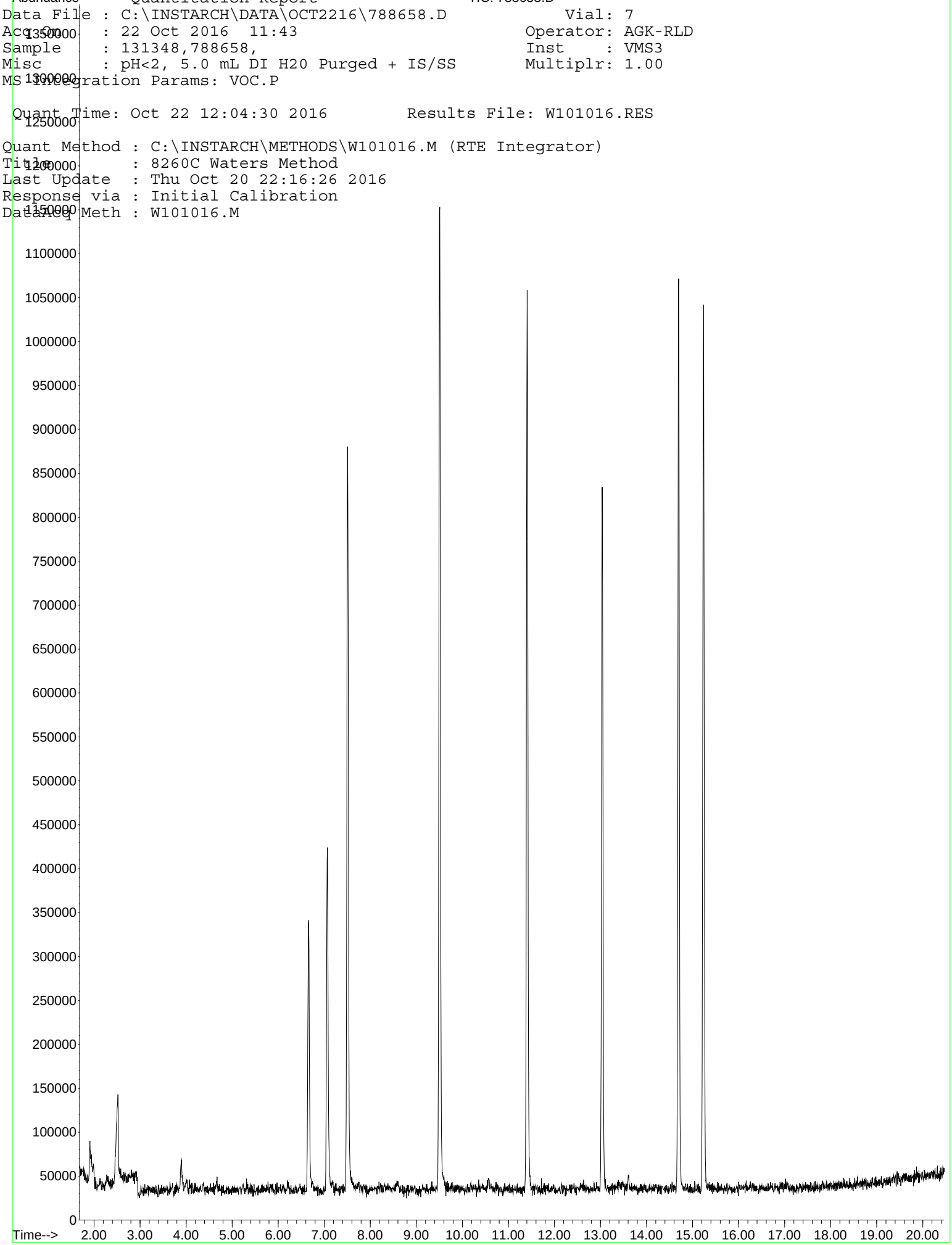
(#) = qualifier out of range (m) = manual integration

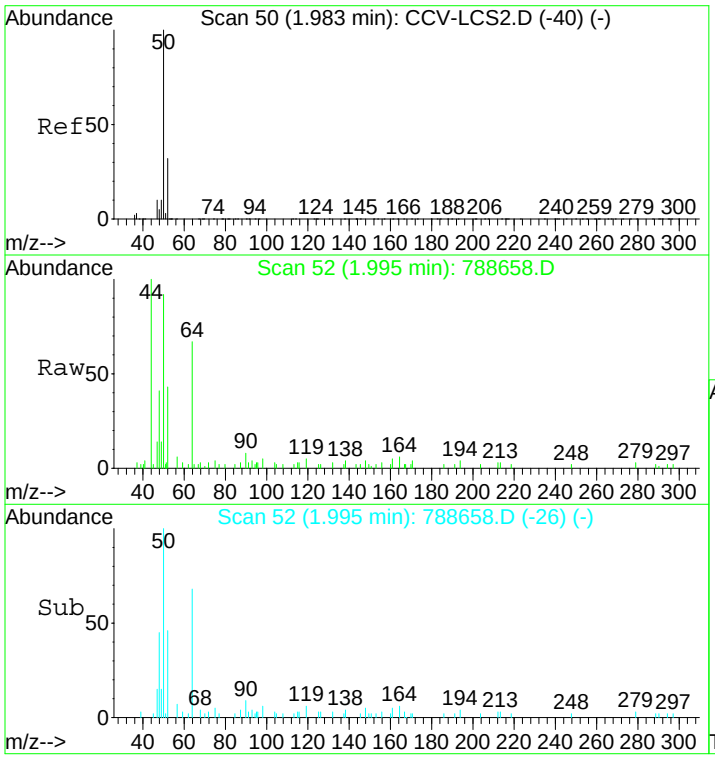
Abundance Quantitation Report TIC: 788658.D

Data File : C:\INSTARCH\DATA\OCT2216\788658.D Vial: 7
Acq On : 22 Oct 2016 11:43 Operator: AGK-RLD
Sample : 131348,788658, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:04:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

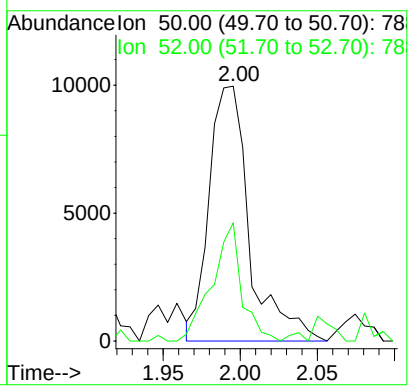


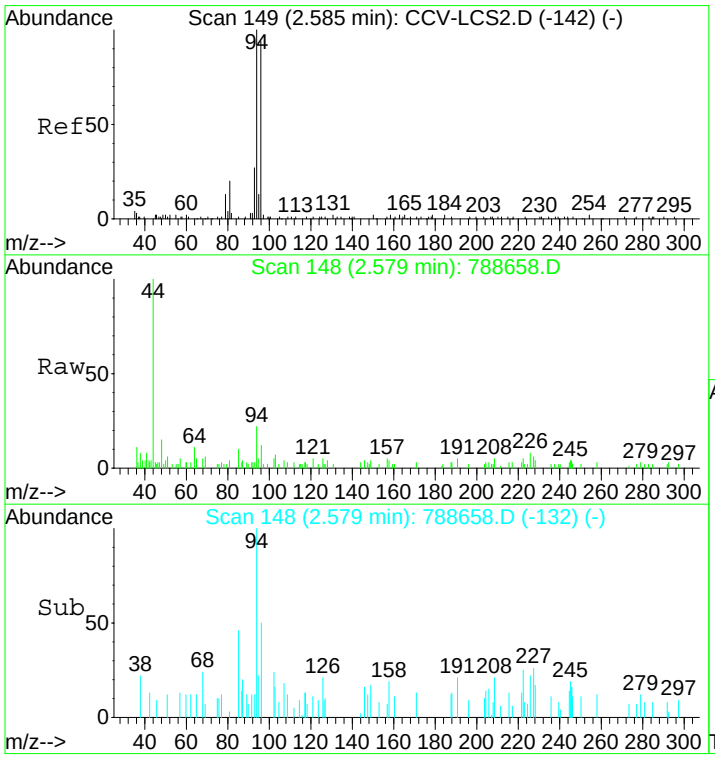


#3
Chloromethan
Concen: 0.69 ug/L
RT: 2.00 min Scan# 52
Delta R.T. 0.01 min
Lab File: 788658.D
Acq: 22 Oct 2016 11:43

Tgt Ion: 50 Resp: 18156

Ion	Ratio	Lower	Upper
50	100		
52	33.9	14.1	54.1

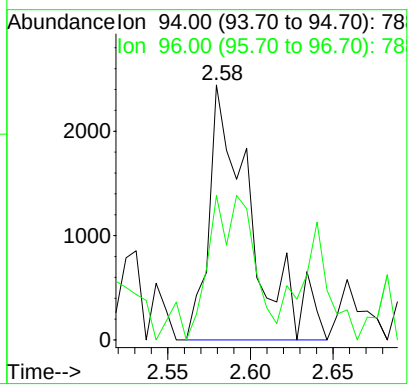




#5
Bromomethane
Concen: 0.98 ug/L
RT: 2.58 min Scan# 148
Delta R.T. -0.01 min
Lab File: 788658.D
Acq: 22 Oct 2016 11:43

Tgt Ion: 94 Resp: 4324

Ion	Ratio	Lower	Upper
94	100		
96	58.8	62.3	102.3#



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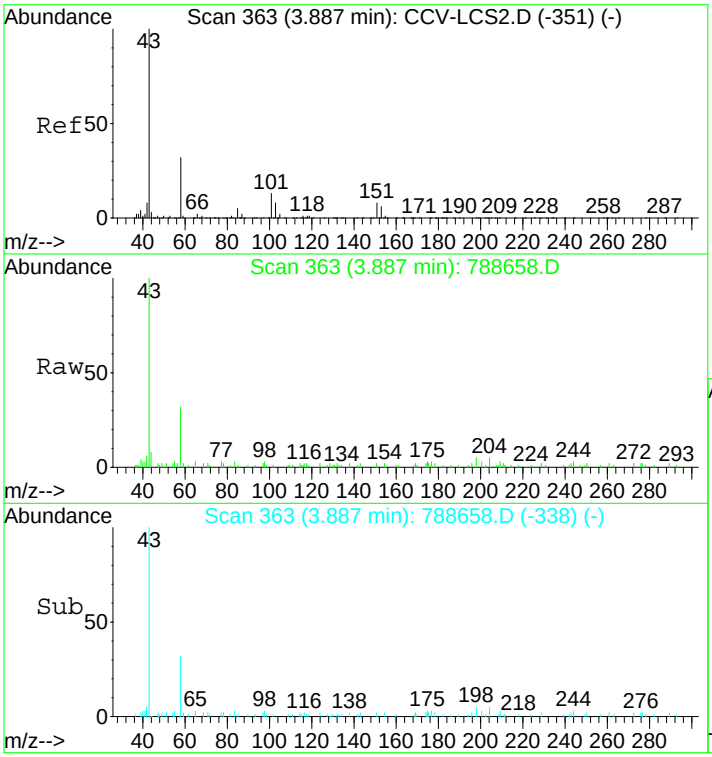
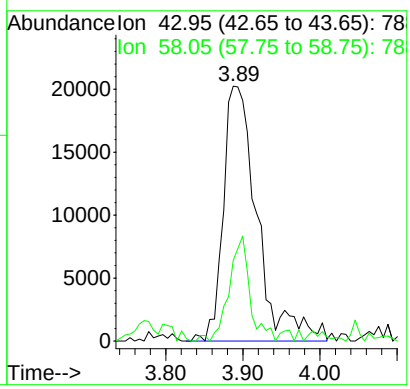


#15
Acetone
Concen: 6.25 ug/L
RT: 3.89 min Scan# 363
Delta R.T. 0.00 min
Lab File: 788658.D
Acq: 22 Oct 2016 11:43

Tgt Ion: 43 Resp: 61778

Ion	Ratio	Lower	Upper
43	100		
58	25.3	12.2	52.2



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787720.D Vial: 8
Acq On : 22 Oct 2016 12:13 Operator: AGK-RLD
Sample : 131348,787720, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:34:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	905159	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	680986	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	339510	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	218308	19.784	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.08	102	61516	20.411	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.51	98	887519	19.663	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.04	95	329081	18.833	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 94 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	20582	0.7555	ug/L	86
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.58	94	2720	0.5944	ug/L #	41
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.89	58	8762	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	25001	N.D.		
16) Iodomethane	4.00	142	18423	2.5444	ug/L	96
17) Carbon Dislf	4.10	76	5675	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.67	59	8167	Below Cal #		54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.10	72	17524	5.8121	ug/L	99
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787720.D Vial: 8
Acq On : 22 Oct 2016 12:13 Operator: AGK-RLD
Sample : 131348,787720, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:34:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.47	83	13579	0.6813 ug/L	96
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	6.94	119	28124	2.2693 ug/L	97
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	7.98	95	6631	0.5798 ug/L #	69
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.23	91	3154	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787720.D Vial: 8
Acq On : 22 Oct 2016 12:13 Operator: AGK-RLD
Sample : 131348,787720, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:34:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

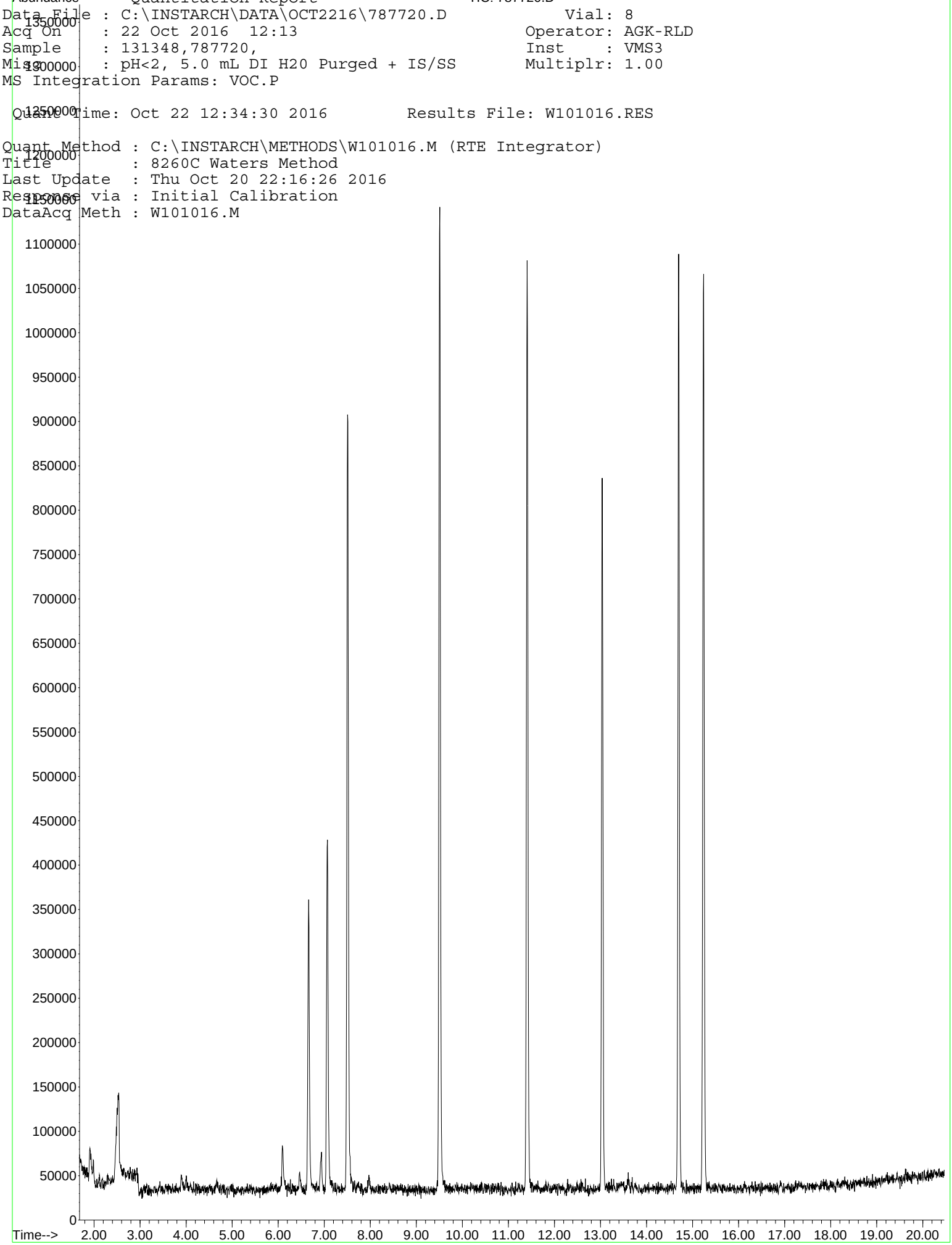
(#) = qualifier out of range (m) = manual integration

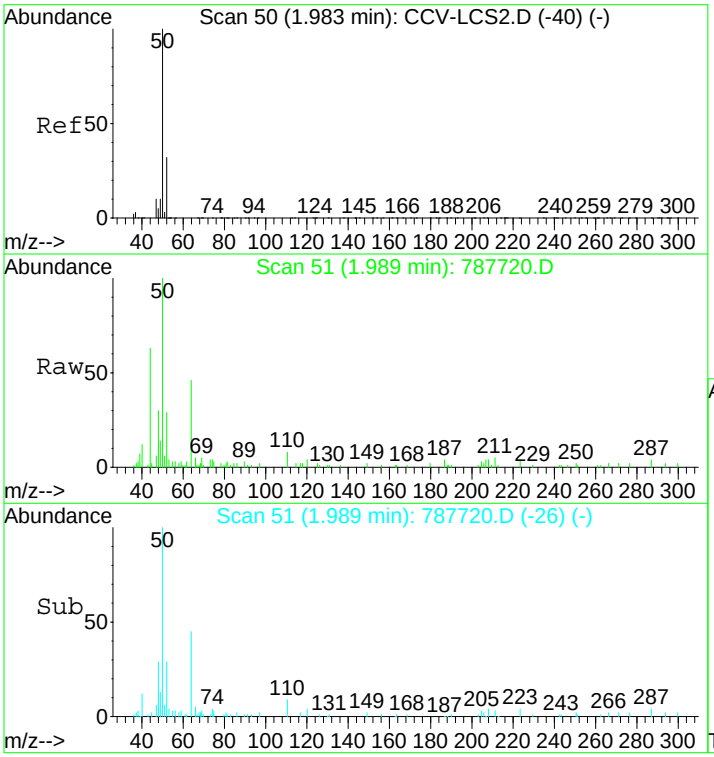
Abundance Quantitation Report TIC: 787720.D

Data File : C:\INSTARCH\DATA\OCT2216\787720.D Vial: 8
Acq On : 22 Oct 2016 12:13 Operator: AGK-RLD
Sample : 131348,787720, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 12:34:30 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

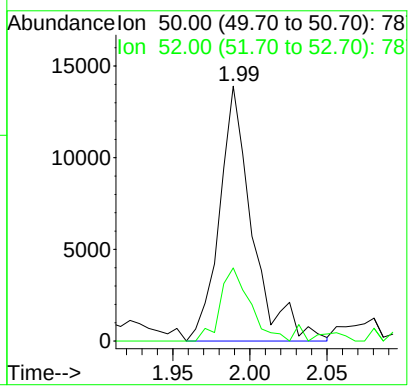


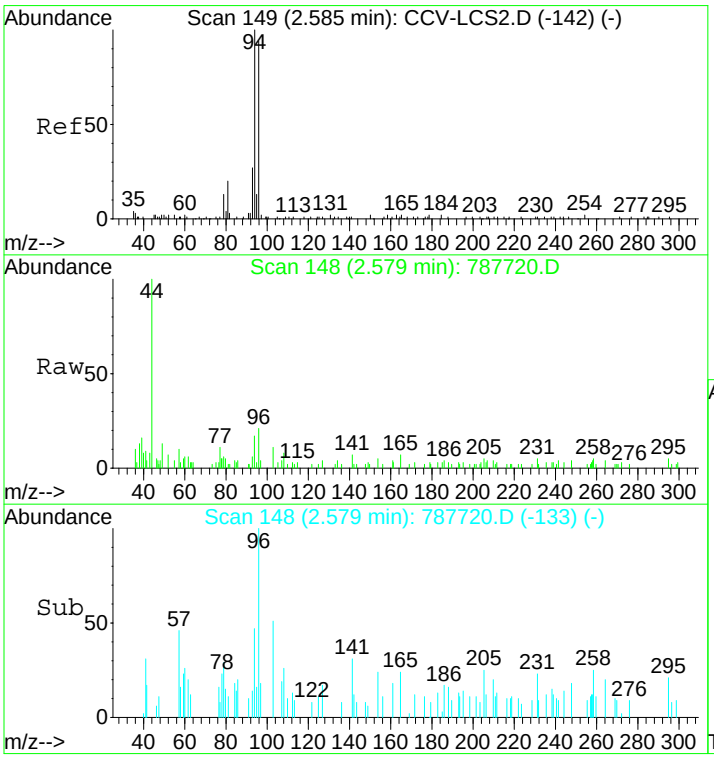


#3
Chloromethan
Concen: 0.76 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 787720.D
Acq: 22 Oct 2016 12:13

Tgt Ion: 50 Resp: 20582

Ion	Ratio	Lower	Upper
50	100		
52	25.9	14.1	54.1

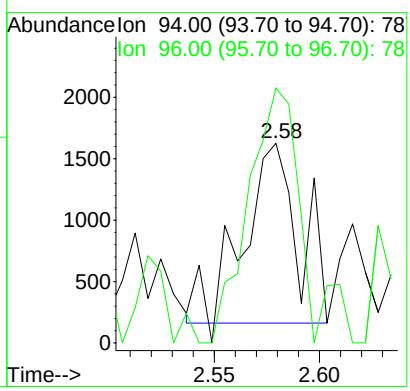


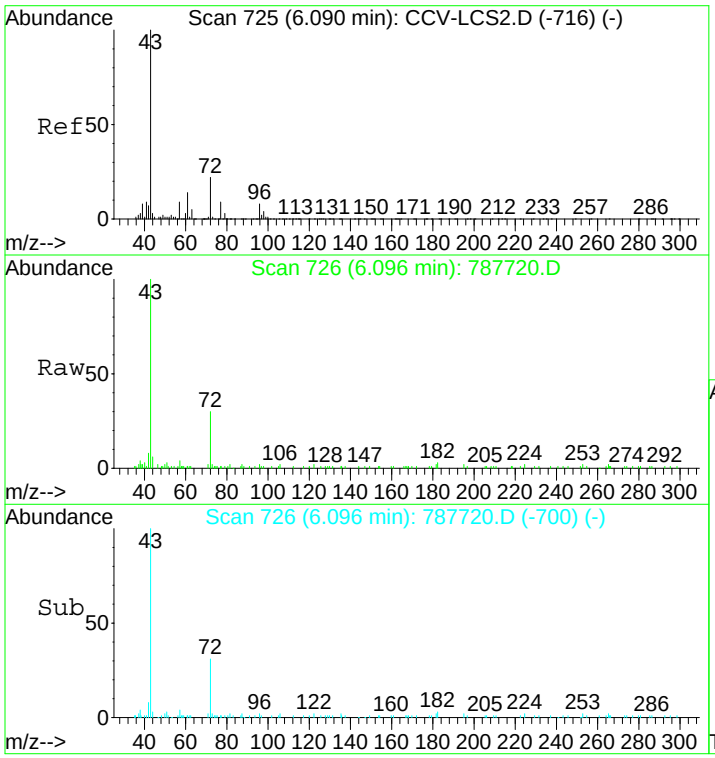


#5
Bromomethane
Concen: 0.59 ug/L
RT: 2.58 min Scan# 148
Delta R.T. -0.01 min
Lab File: 787720.D
Acq: 22 Oct 2016 12:13

Tgt Ion: 94 Resp: 2720

Ion	Ratio	Lower	Upper
94	100		
96	135.2	62.3	102.3#

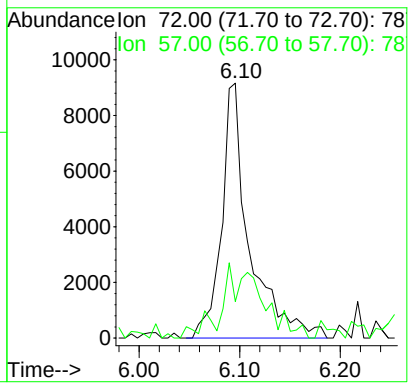


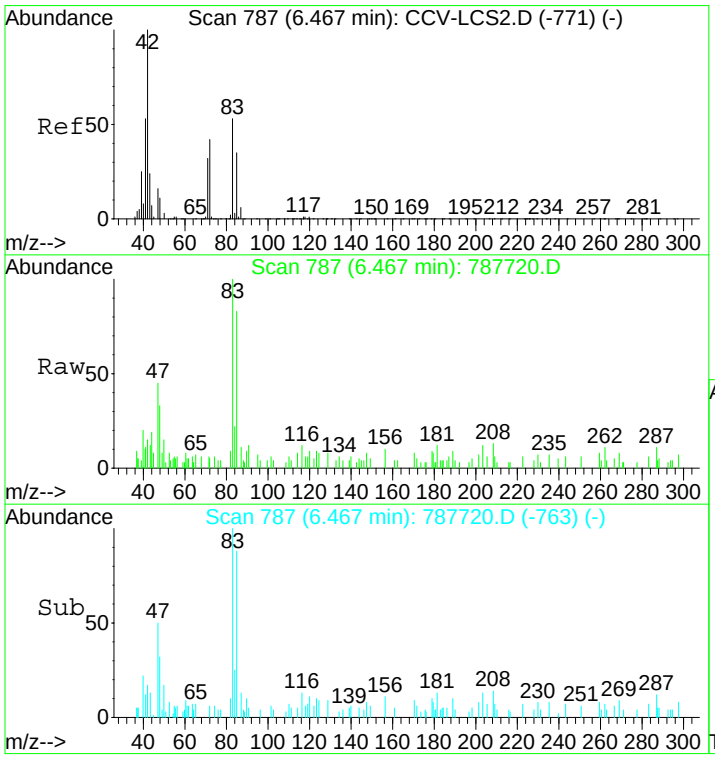


#33
2Butanone
Concen: 5.81 ug/L
RT: 6.10 min Scan# 726
Delta R.T. 0.01 min
Lab File: 787720.D
Acq: 22 Oct 2016 12:13

Tgt Ion: 72 Resp: 17524

Ion	Ratio	Lower	Upper
72	100		
57	36.9	16.3	56.3

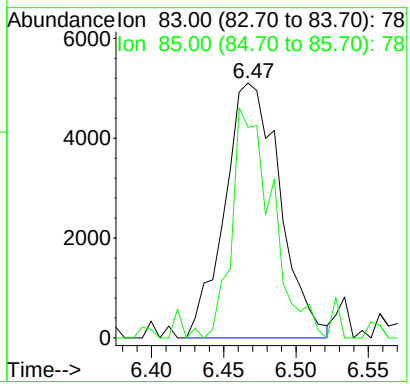


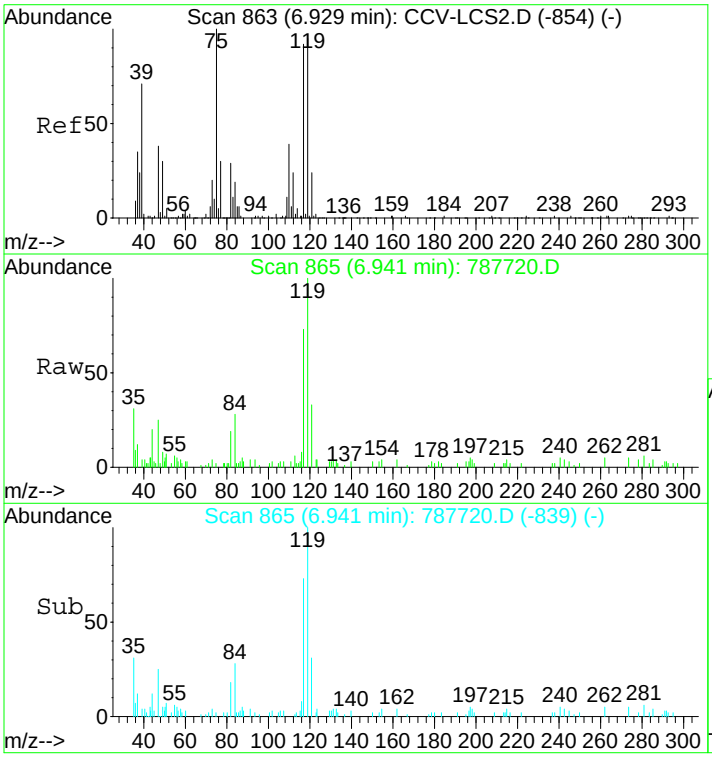


#39
Chloroform
Concen: 0.68 ug/L
RT: 6.47 min Scan# 787
Delta R.T. -0.01 min
Lab File: 787720.D
Acq: 22 Oct 2016 12:13

Tgt Ion: 83 Resp: 13579

Ion	Ratio	Lower	Upper
83	100		
85	66.0	43.2	83.2

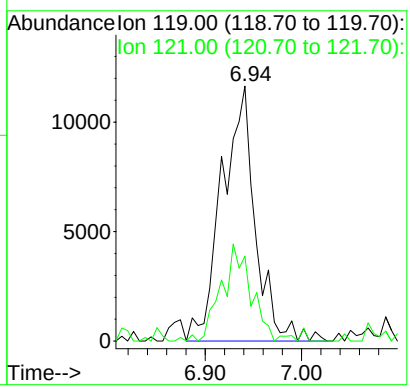


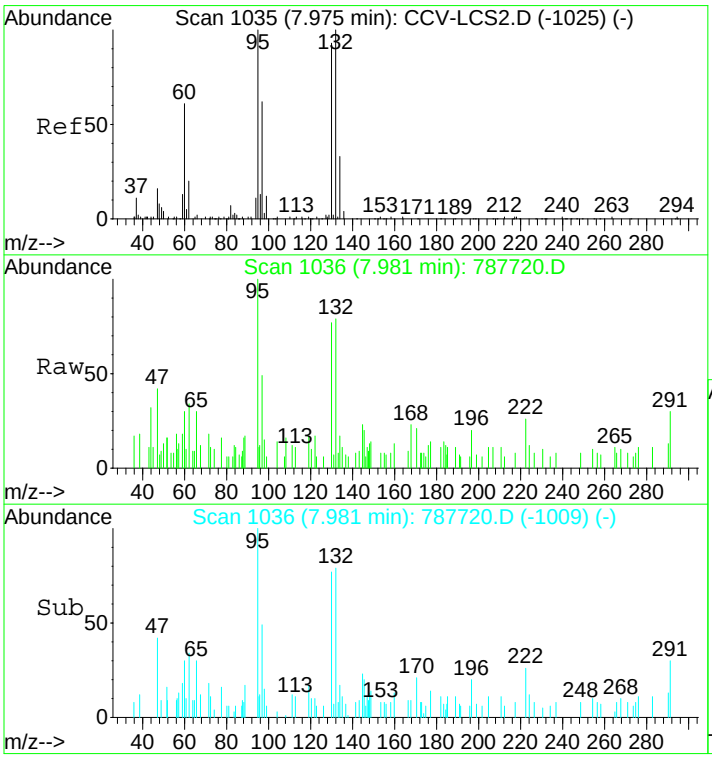


#43
Carbtetraclo
Concen: 2.27 ug/L
RT: 6.94 min Scan# 865
Delta R.T. 0.01 min
Lab File: 787720.D
Acq: 22 Oct 2016 12:13

Tgt Ion:119 Resp: 28124

Ion	Ratio	Lower	Upper
119	100		
121	34.4	12.8	52.8

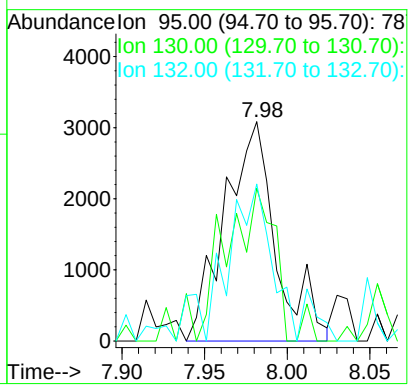




#49
trichloroete
Concen: 0.58 ug/L
RT: 7.98 min Scan# 1036
Delta R.T. 0.01 min
Lab File: 787720.D
Acq: 22 Oct 2016 12:13

Tgt Ion: 95 Resp: 6631

Ion	Ratio	Lower	Upper
95	100		
130	67.9	72.6	112.6#
132	58.5	74.1	114.1#



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721.D Vial: 9
Acq On : 22 Oct 2016 12:43 Operator: AGK-RLD
Sample : 131348,787721, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 13:04:18 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	884005	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	673690	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	349310	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	216291	20.070	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.06	102	53596	18.209	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 91 %			
61) SURRd8Tolule	9.51	98	877094	19.898	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.04	95	322300	17.927	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	19031	0.7152	ug/L	98
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	4196	0.9388	ug/L #	67
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	4768	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.90	43	10395	N.D.		
16) Iodomethane	4.00	142	14508	2.0440	ug/L #	71
17) Carbon Dislf	4.09	76	2851	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.66	59	3118	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.09	72	6768	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721.D Vial: 9
Acq On : 22 Oct 2016 12:43 Operator: AGK-RLD
Sample : 131348,787721, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 13:04:18 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.96	95	22986	2.0579	ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721.D Vial: 9
Acq On : 22 Oct 2016 12:43 Operator: AGK-RLD
Sample : 131348,787721, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 13:04:18 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

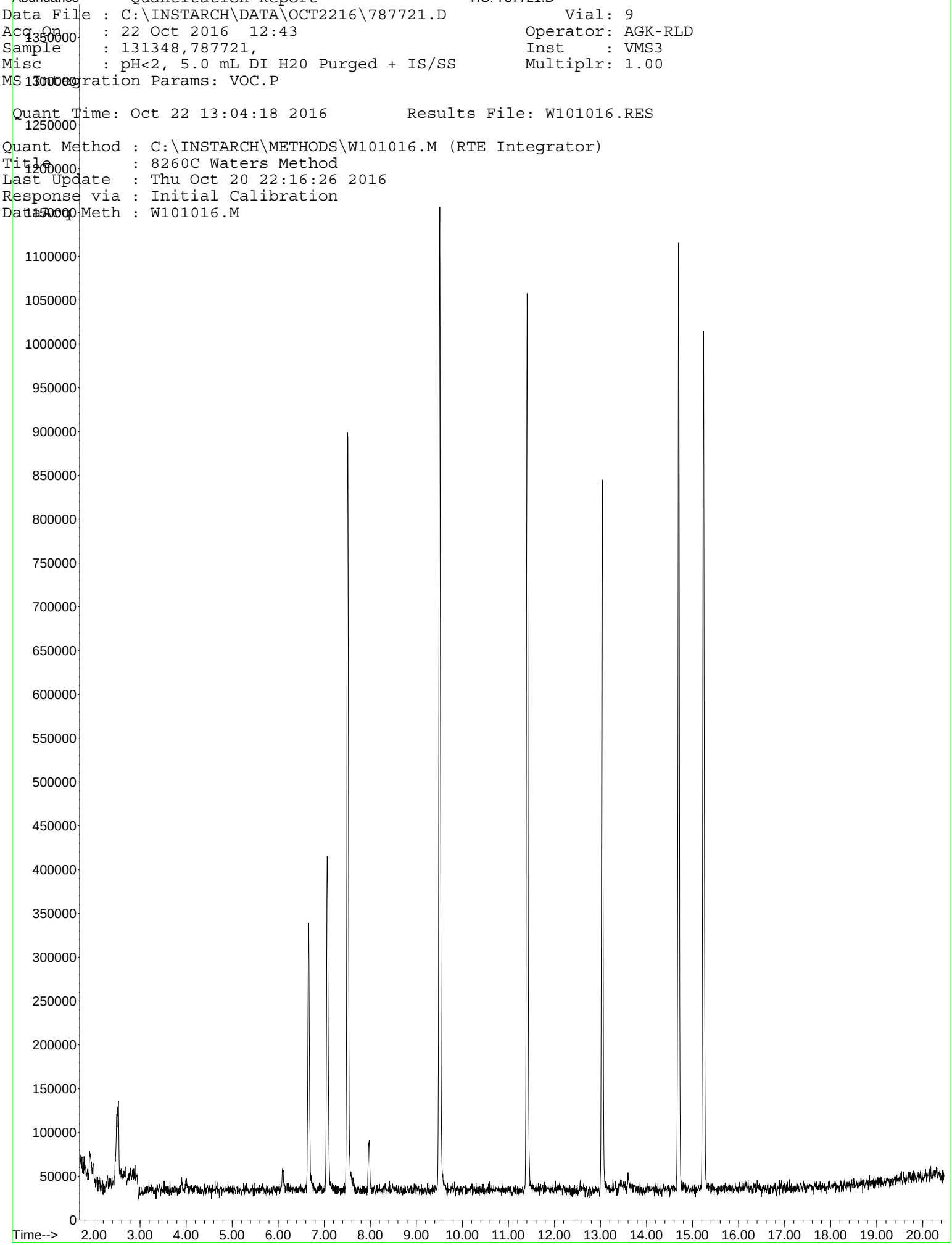
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

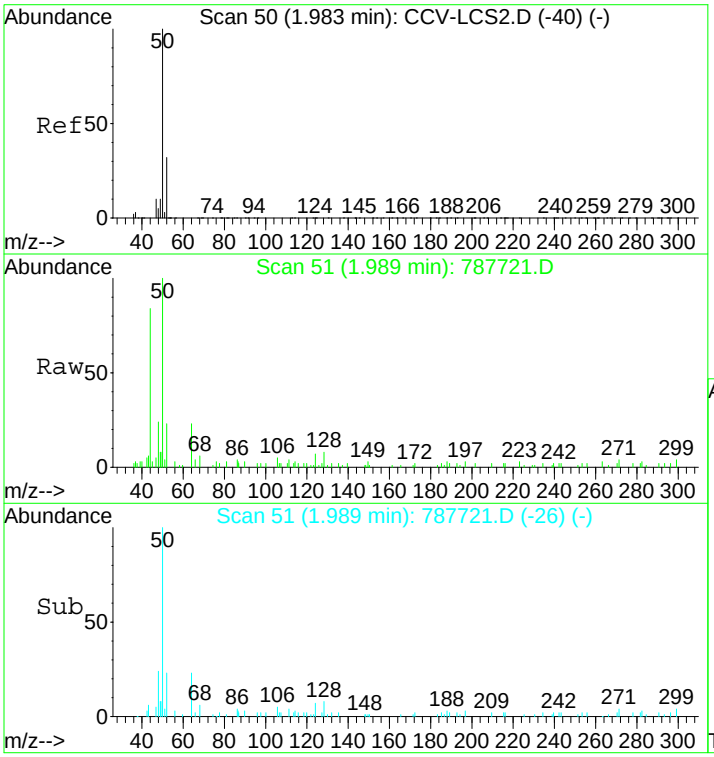
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2216\787721.D Vial: 9
Acq On : 22 Oct 2016 12:43 Operator: AGK-RLD
Sample : 131348,787721, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 13:04:18 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
Data Meth : W101016.M

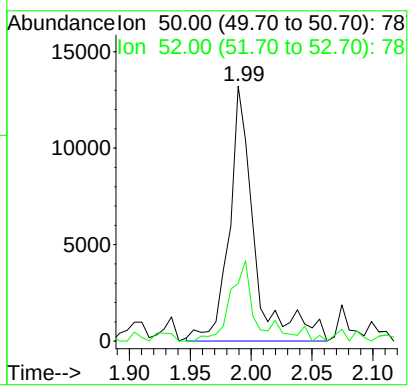


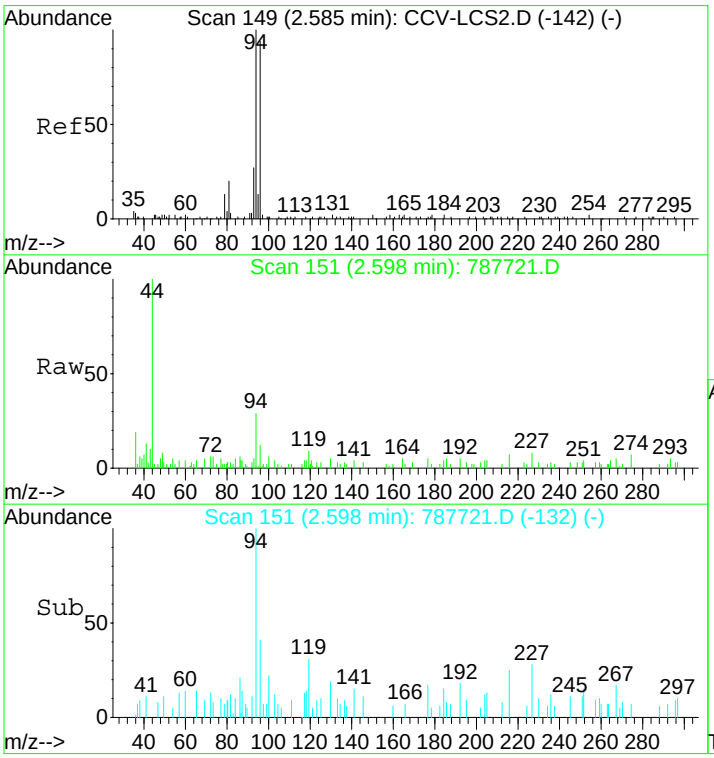


#3
Chloromethan
Concen: 0.72 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 787721.D
Acq: 22 Oct 2016 12:43

Tgt Ion: 50 Resp: 19031

Ion	Ratio	Lower	Upper
50	100		
52	32.7	14.1	54.1

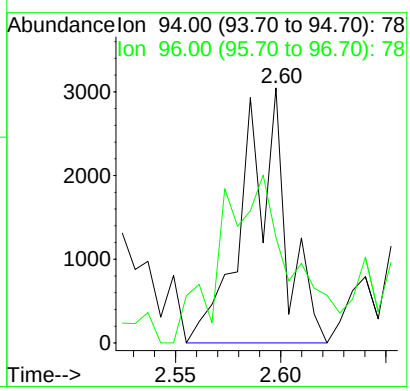




#5
Bromomethane
Concen: 0.94 ug/L
RT: 2.60 min Scan# 151
Delta R.T. 0.01 min
Lab File: 787721.D
Acq: 22 Oct 2016 12:43

Tgt Ion: 94 Resp: 4196

Ion	Ratio	Lower	Upper
94	100		
96	111.9	62.3	102.3#



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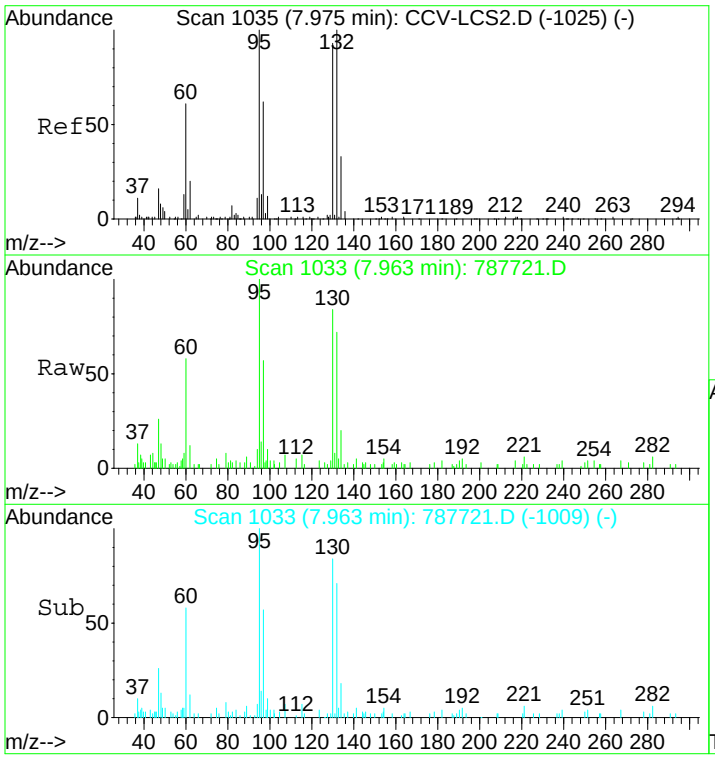
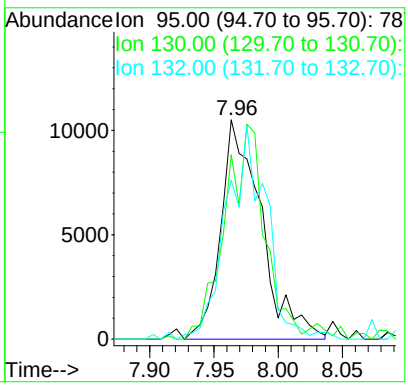


#49
trichloroete
Concen: 2.06 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. -0.01 min
Lab File: 787721.D
Acq: 22 Oct 2016 12:43

Tgt Ion: 95 Resp: 22986

Ion	Ratio	Lower	Upper
95	100		
130	101.0	72.6	112.6
132	95.7	74.1	114.1



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787722.D Vial: 10
Acq On : 22 Oct 2016 13:13 Operator: AGK-RLD
Sample : 131348,787722, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 13:34:06 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	899994	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	671752	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	337918	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	219610	20.016	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.06	102	57363	19.143	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96	%		
61) SURRd8Tolule	9.51	98	876158	19.523	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
83) SURR4BrFBenz	13.03	95	321593	18.491	ug/L	-0.01
Spiked Amount 20.000	Range 80 - 125		Recovery = 92	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	14051	0.5187	ug/L	95
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	4758	1.0457	ug/L	81
6) Chloroethane	2.73	64	2689	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.80	58	2703	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.90	43	9524	N.D.		
16) Iodomethane	4.00	142	12845	1.7723	ug/L #	78
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.67	59	3517	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787722.D Vial: 10
Acq On : 22 Oct 2016 13:13 Operator: AGK-RLD
Sample : 131348,787722, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 13:34:06 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

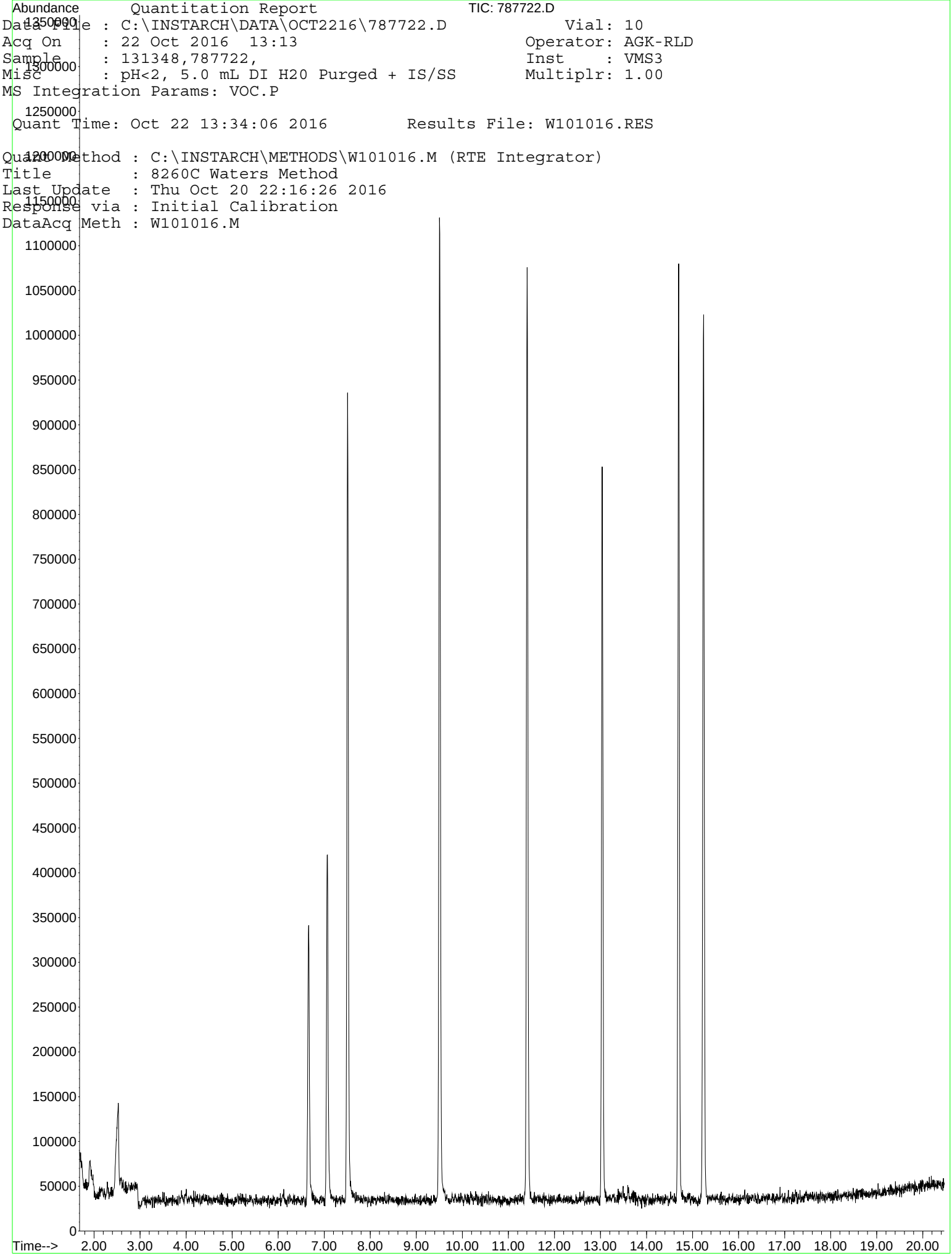
Data File : C:\INSTARCH\DATA\OCT2216\787722.D Vial: 10
Acq On : 22 Oct 2016 13:13 Operator: AGK-RLD
Sample : 131348,787722, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

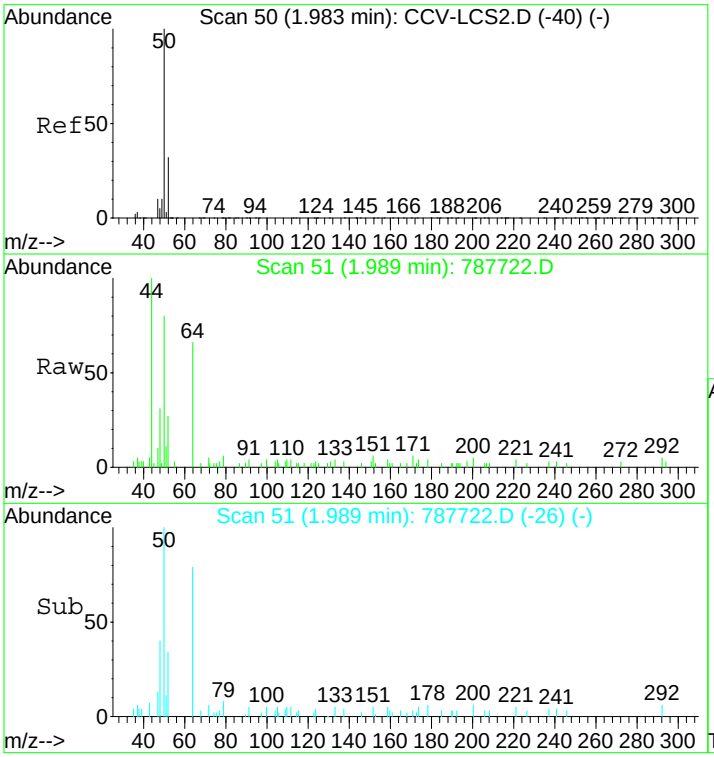
Quant Time: Oct 22 13:34:06 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

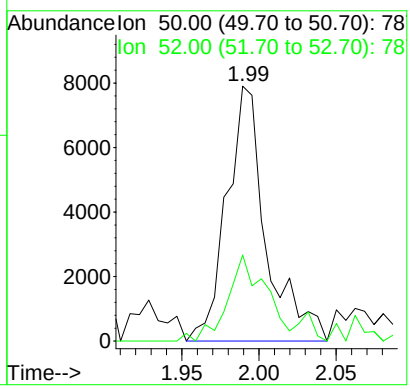

Abundance
Quantitation Report
TIC: 787722.D
Data File : C:\INSTARCH\DATA\OCT2216\787722.D Vial: 10
Acq On : 22 Oct 2016 13:13 Operator: AGK-RLD
Sample : 131348,787722, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Oct 22 13:34:06 2016 Results File: W101016.RES
Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
1350000
1300000
1250000
1200000
1150000
1100000
1050000
1000000
950000
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

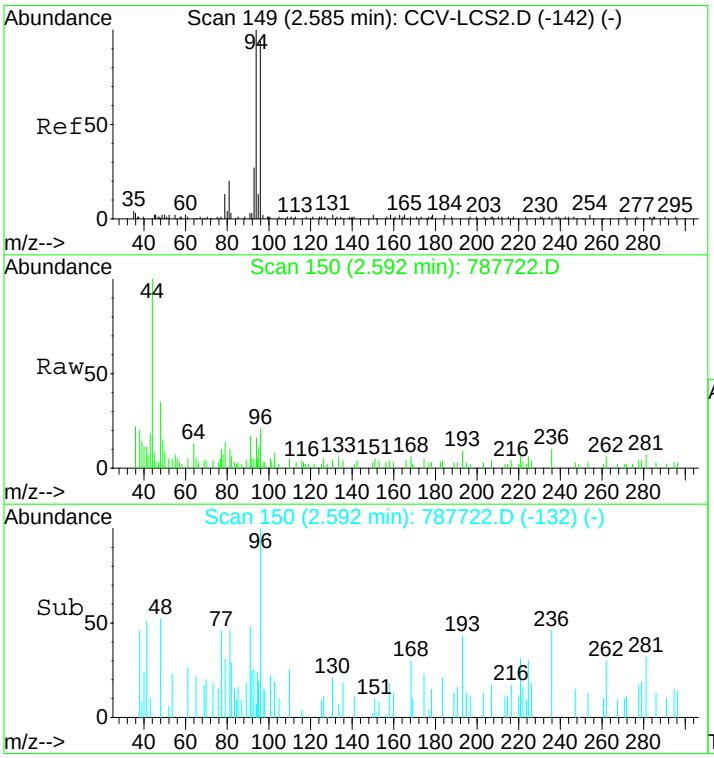


#3
Chloromethan
Concen: 0.52 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 787722.D
Acq: 22 Oct 2016 13:13

Tgt Ion: 50 Resp: 14051

Ion	Ratio	Lower	Upper
50	100		
52	37.0	14.1	54.1

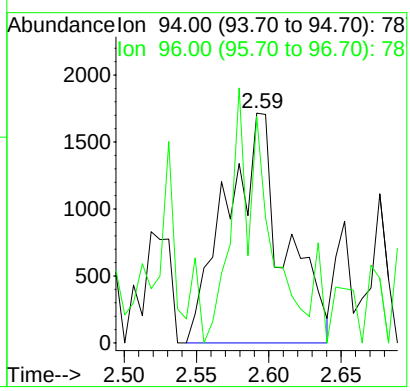




#5
Bromomethane
Concen: 1.05 ug/L
RT: 2.59 min Scan# 150
Delta R.T. 0.01 min
Lab File: 787722.D
Acq: 22 Oct 2016 13:13

Tgt Ion: 94 Resp: 4758

Ion	Ratio	Lower	Upper
94	100		
96	65.5	62.3	102.3



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787723.D Vial: 11
Acq On : 22 Oct 2016 13:43 Operator: AGK-RLD
Sample : 131348,787723, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:03:50 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	897531	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	670258	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	349794	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	226586	20.708	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.06	102	56994	19.072	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.51	98	883876	19.749	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.04	95	317649	17.644	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	15001	0.5553	ug/L	98
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.90	58	3168	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	14927	N.D.		
16) Iodomethane	4.00	142	10897	1.5016	ug/L #	39
17) Carbon Dislf	4.11	76	4194	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.67	59	3742	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787723.D Vial: 11
Acq On : 22 Oct 2016 13:43 Operator: AGK-RLD
Sample : 131348,787723, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:03:50 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.93	119	10558	0.8591	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787723.D Vial: 11
Acq On : 22 Oct 2016 13:43 Operator: AGK-RLD
Sample : 131348,787723, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:03:50 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

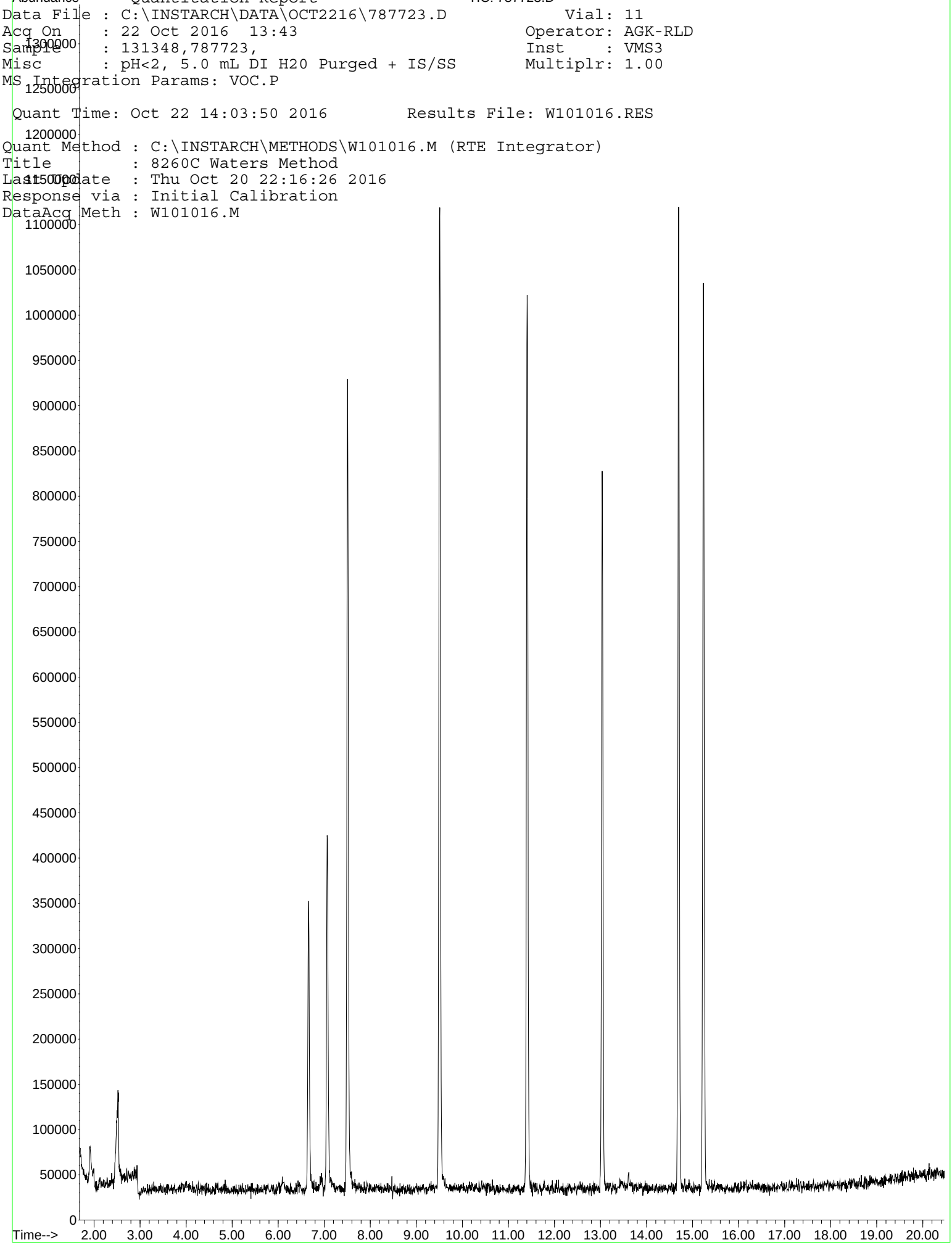
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

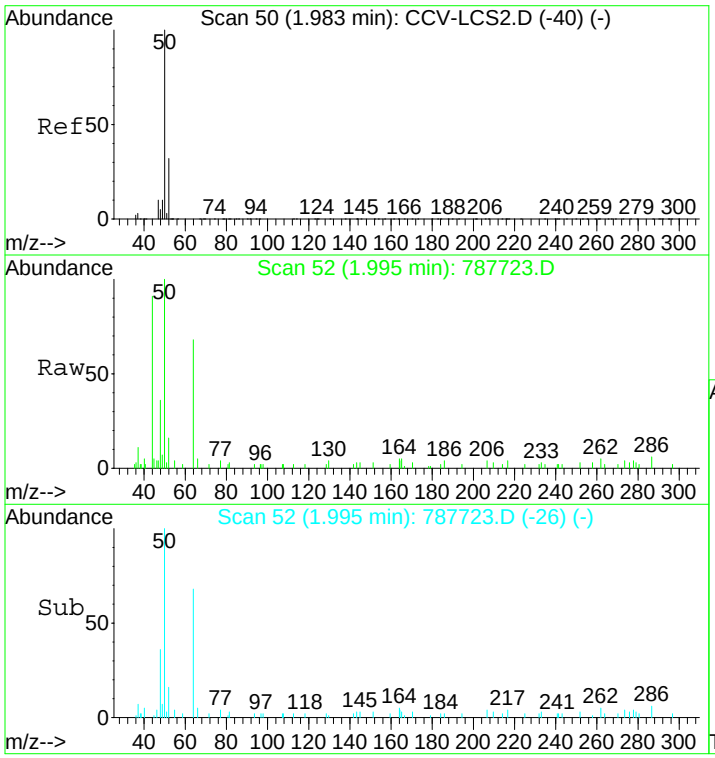
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2216\787723.D Vial: 11
Acq On : 22 Oct 2016 13:43 Operator: AGK-RLD
Sample : 131348,787723, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:03:50 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

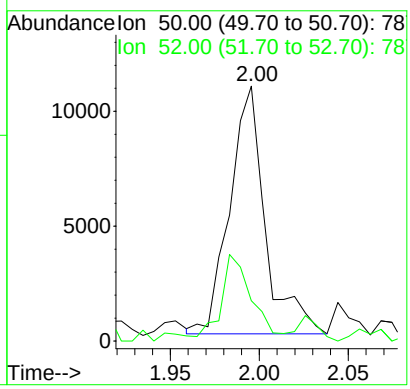


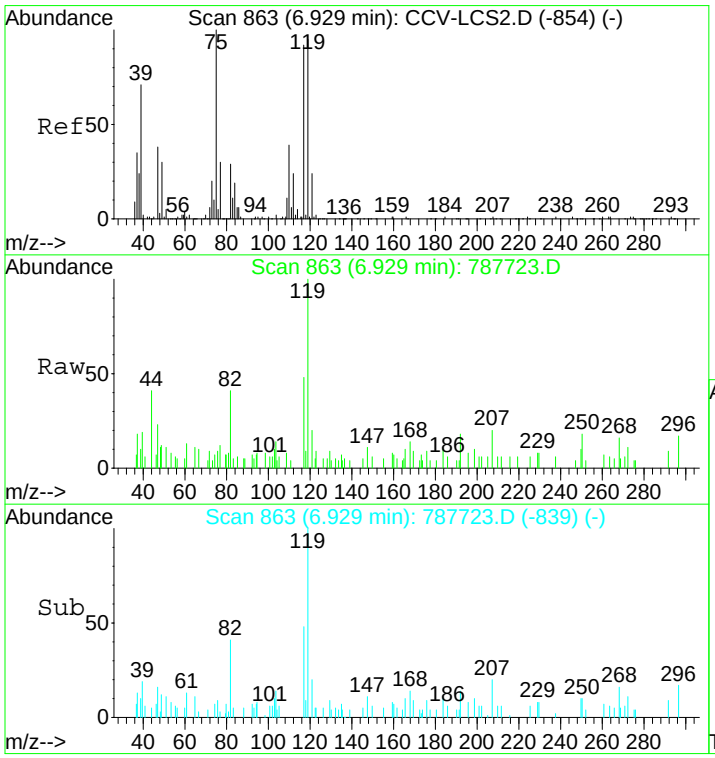


#3
Chloromethan
Concen: 0.56 ug/L
RT: 2.00 min Scan# 52
Delta R.T. 0.01 min
Lab File: 787723.D
Acq: 22 Oct 2016 13:43

Tgt Ion: 50 Resp: 15001

Ion	Ratio	Lower	Upper
50	100		
52	32.8	14.1	54.1

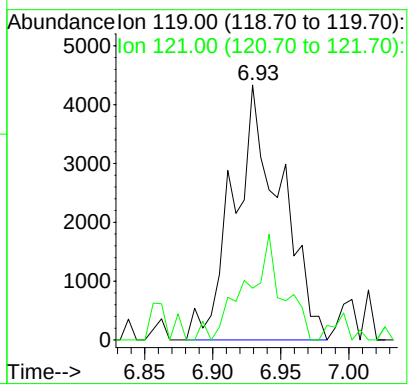




#43
Carbtetraclo
Concen: 0.86 ug/L
RT: 6.93 min Scan# 863
Delta R.T. -0.01 min
Lab File: 787723.D
Acq: 22 Oct 2016 13:43

Tgt Ion:119 Resp: 10558

Ion	Ratio	Lower	Upper
119	100		
121	32.1	12.8	52.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788209.D Vial: 12
Acq On : 22 Oct 2016 14:12 Operator: AGK-RLD
Sample : 131348,788209, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:33:31 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	910374	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	697584	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	347288	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	221229	19.933	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.07	102	58374	19.258	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.51	98	905221	19.941	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.03	95	321540	17.989	ug/L	-0.01
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	17609	0.6426	ug/L	94
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	4409	0.9579	ug/L #	74
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.13	101	2978	0.2097	ug/L #	28
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.89	58	7009	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.89	43	20831	N.D.		
16) Iodomethane	4.00	142	10882	1.4777	ug/L #	83
17) Carbon Dislf	4.09	76	4394	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.65	59	7394	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.35	63	7505	0.3290	ug/L #	84
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	5981	0.4807	ug/L #	32
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788209.D Vial: 12
Acq On : 22 Oct 2016 14:12 Operator: AGK-RLD
Sample : 131348,788209, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:33:31 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	5159	0.2574	ug/L		86
40)	111trichlota	6.73	97	3988	0.2308	ug/L	#	34
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	6.94	119	22350	1.7930	ug/L		84
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	7.96	95	19357	1.6828	ug/L		91
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	9.59	92	2803	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	11.78	106	3717	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.25	91	2697	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788209.D Vial: 12
Acq On : 22 Oct 2016 14:12 Operator: AGK-RLD
Sample : 131348,788209, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:33:31 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

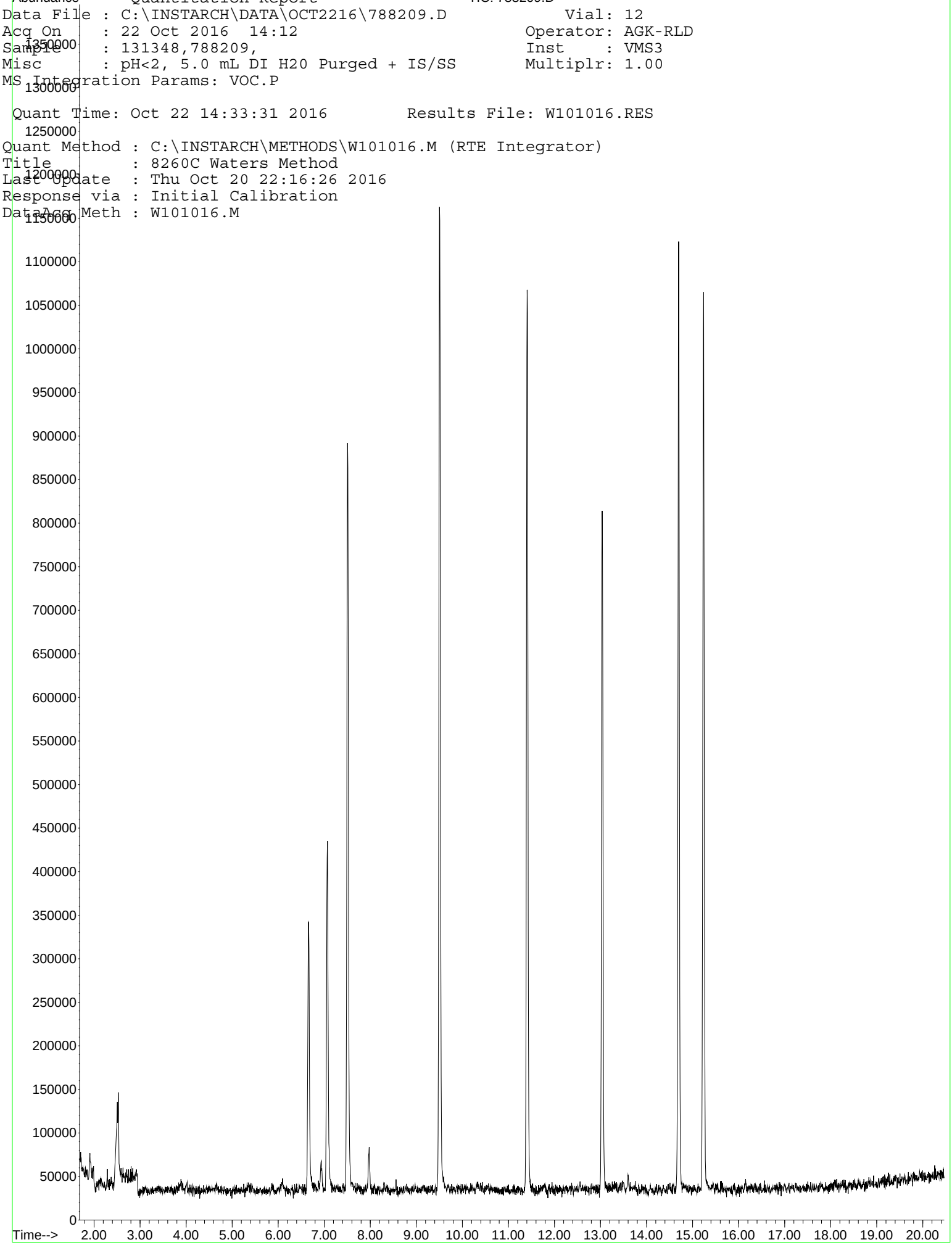
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

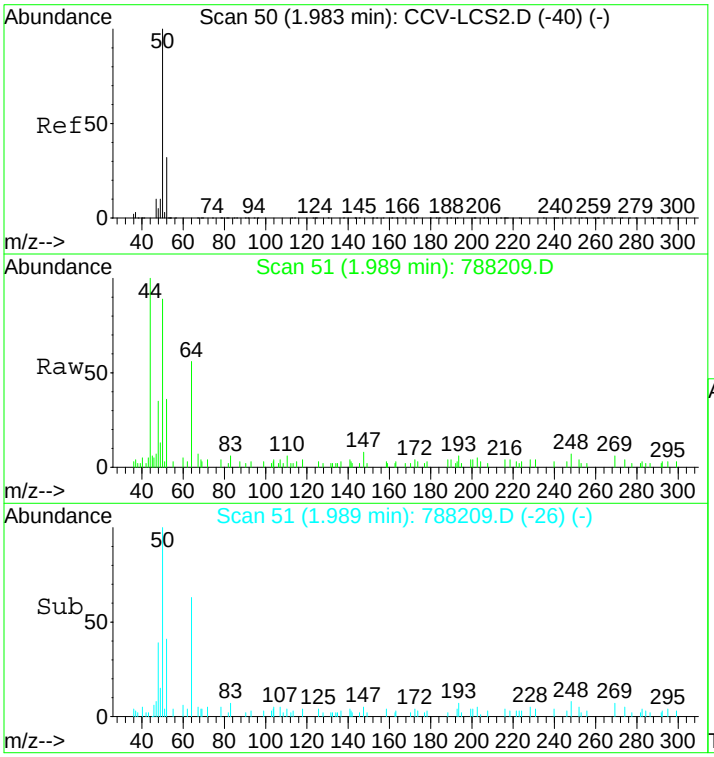
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2216\788209.D Vial: 12
Acq On : 22 Oct 2016 14:12 Operator: AGK-RLD
Sample : 131348,788209, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 14:33:31 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

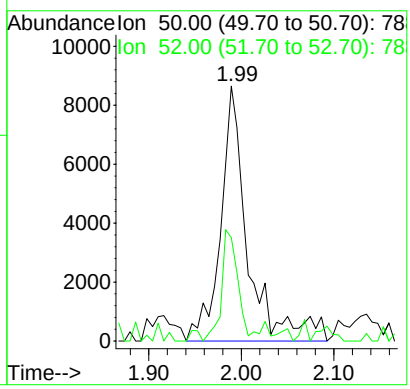


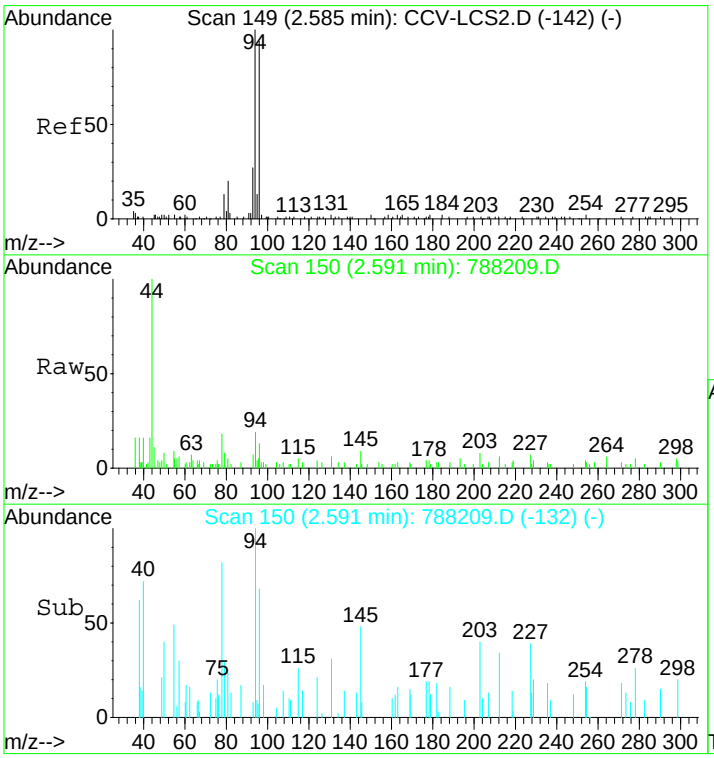


#3
Chloromethan
Concen: 0.64 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 50 Resp: 17609

Ion	Ratio	Lower	Upper
50	100		
52	30.4	14.1	54.1

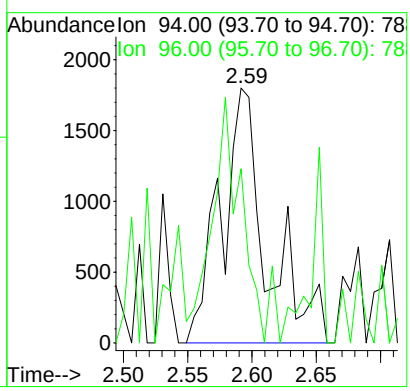


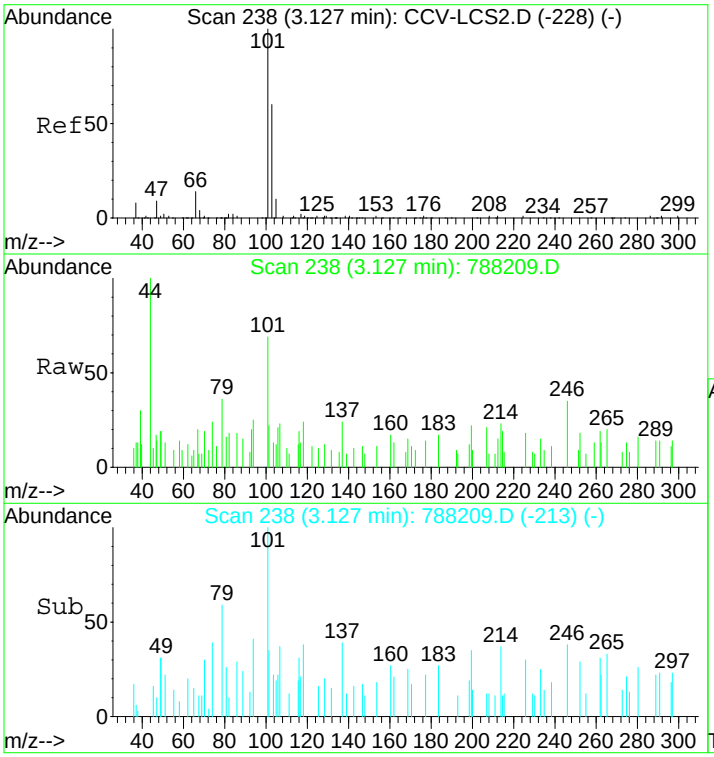


#5
Bromomethane
Concen: 0.96 ug/L
RT: 2.59 min Scan# 150
Delta R.T. 0.01 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 94 Resp: 4409

Ion	Ratio	Lower	Upper
94	100		
96	58.8	62.3	102.3#

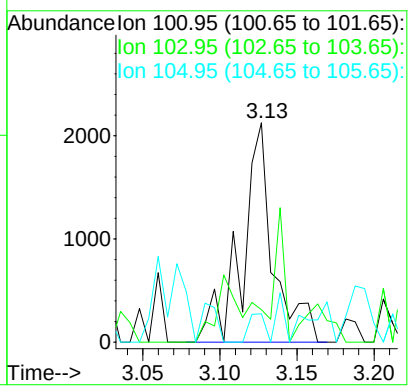


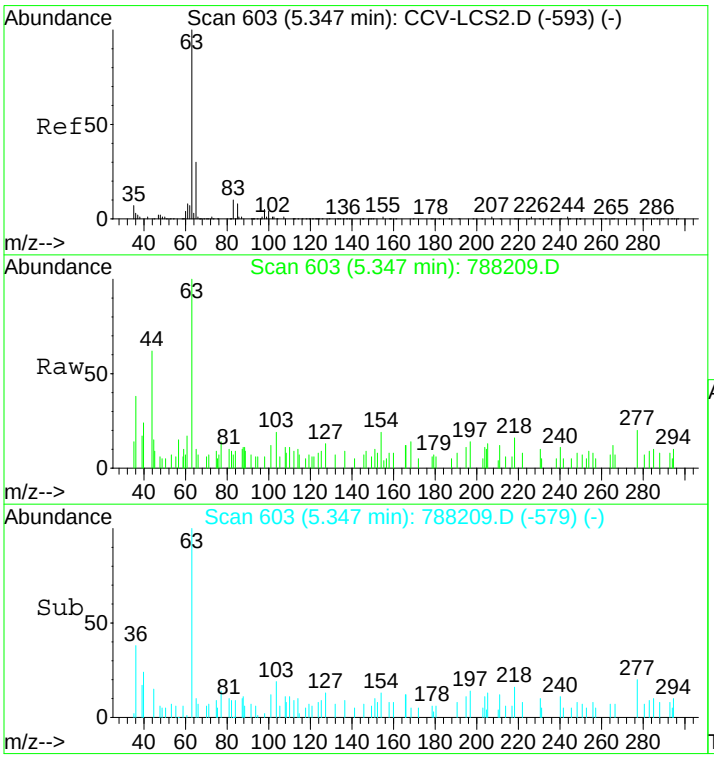


#8
Trichlorofma
Concen: 0.21 ug/L
RT: 3.13 min Scan# 238
Delta R.T. 0.00 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion:101 Resp: 2978

Ion	Ratio	Lower	Upper
101	100		
103	0.0	40.7	80.7#
105	0.0	0.0	30.6

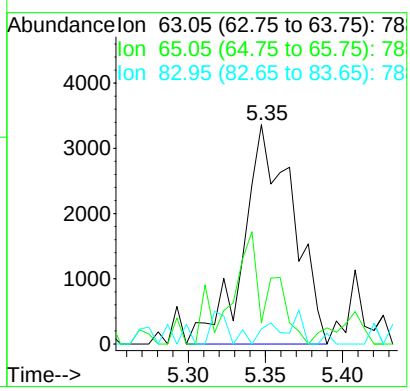


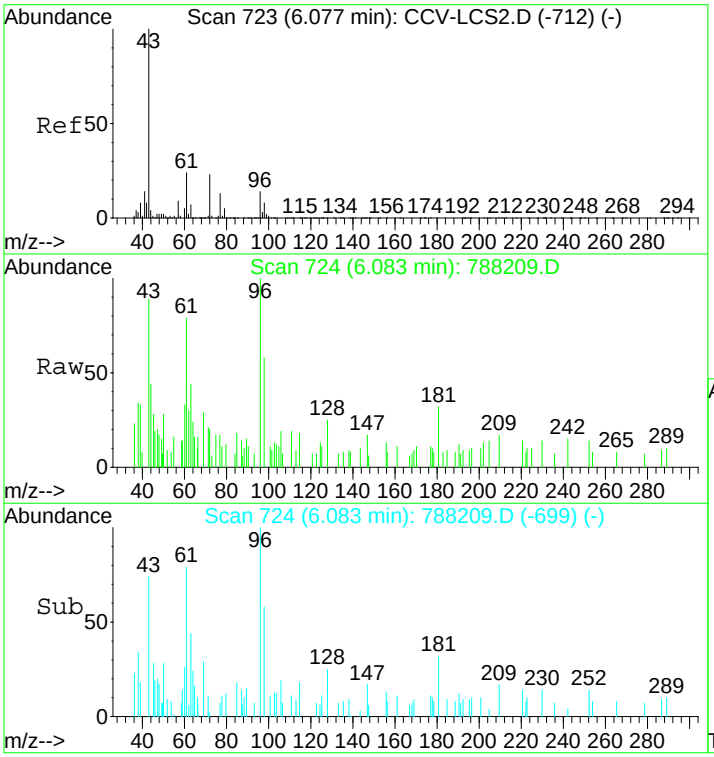


#26
11dichlorota
Concen: 0.33 ug/L
RT: 5.35 min Scan# 603
Delta R.T. -0.01 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 63 Resp: 7505

Ion	Ratio	Lower	Upper
63	100		
65	34.3	8.3	48.3
83	0.0	0.0	30.6

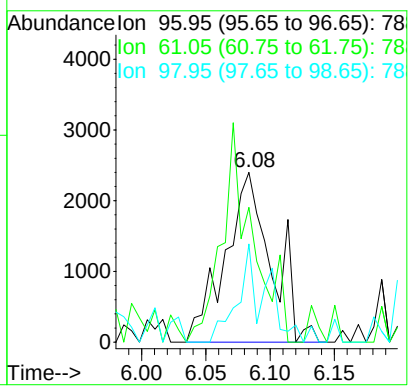


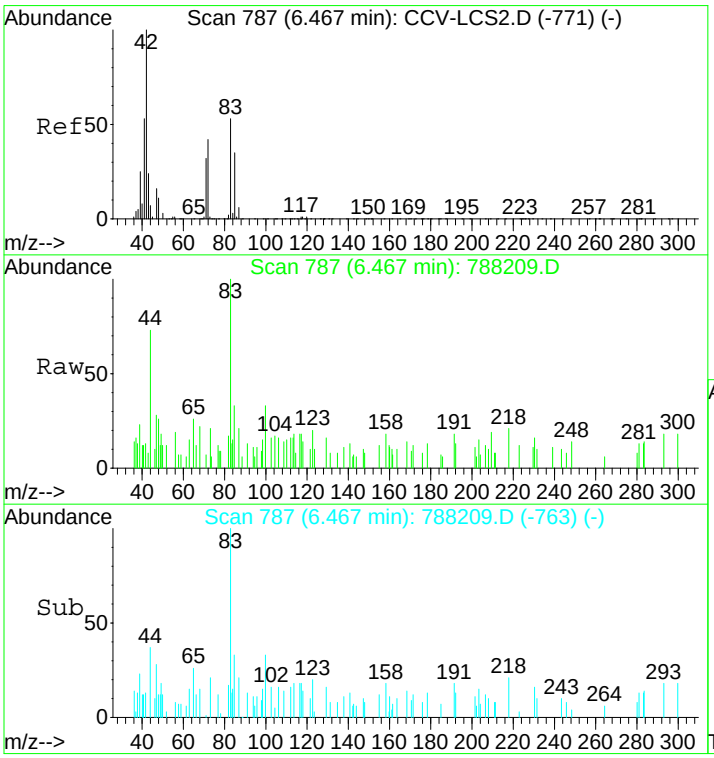


#32
c12dichlorte
Concen: 0.48 ug/L
RT: 6.08 min Scan# 724
Delta R.T. -0.00 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 96 Resp: 5981

Ion	Ratio	Lower	Upper
96	100		
61	86.4	155.3	195.3#
98	0.0	43.5	83.5#

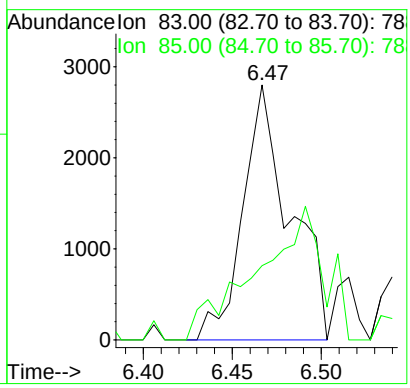


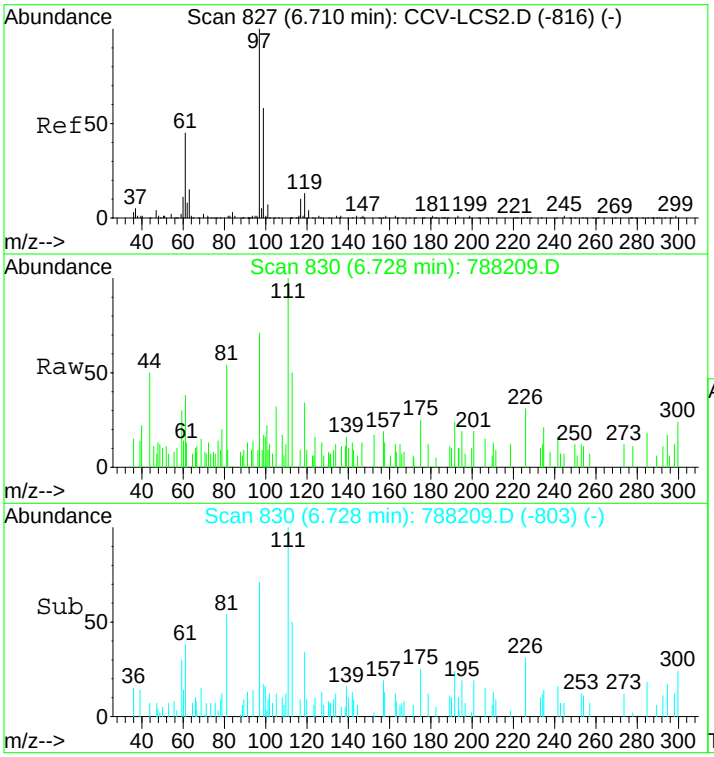


#39
Chloroform
Concen: 0.26 ug/L
RT: 6.47 min Scan# 787
Delta R.T. -0.01 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 83 Resp: 5159

Ion	Ratio	Lower	Upper
83	100		
85	74.4	43.2	83.2

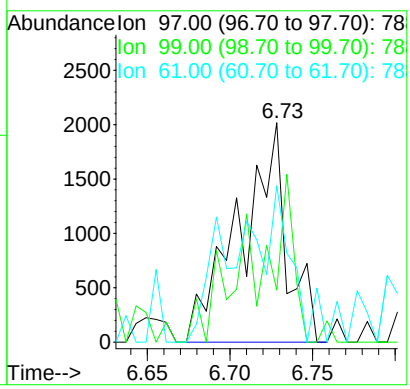


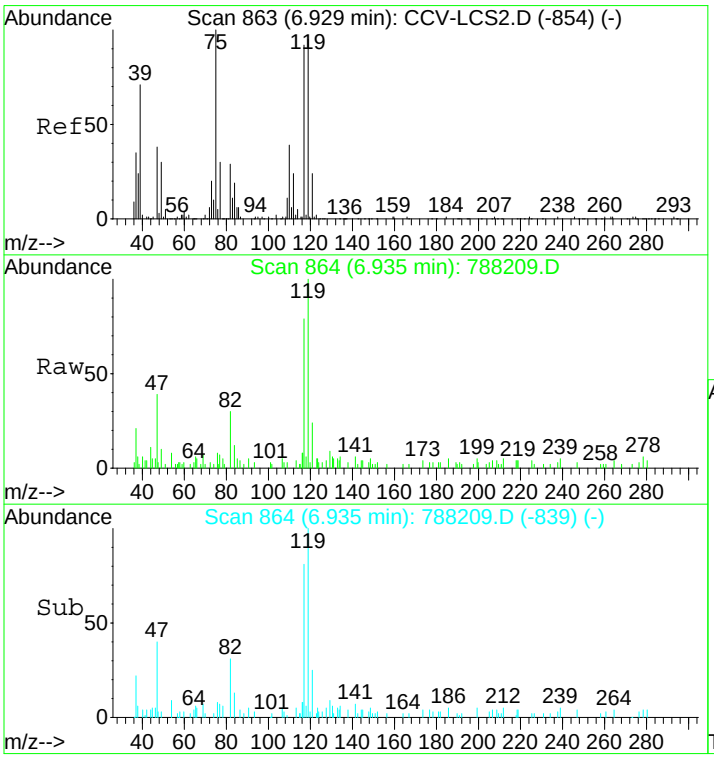


#40
111trichlota
Concen: 0.23 ug/L
RT: 6.73 min Scan# 830
Delta R.T. 0.01 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 97 Resp: 3988

Ion	Ratio	Lower	Upper
97	100		
99	0.0	42.9	82.9#
61	85.9	32.6	72.6#

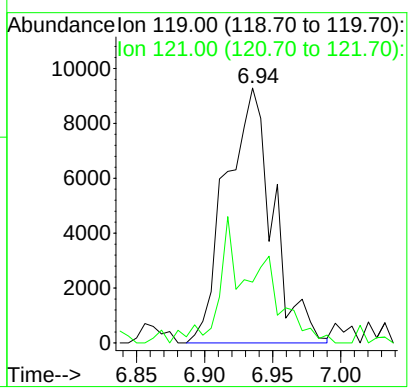


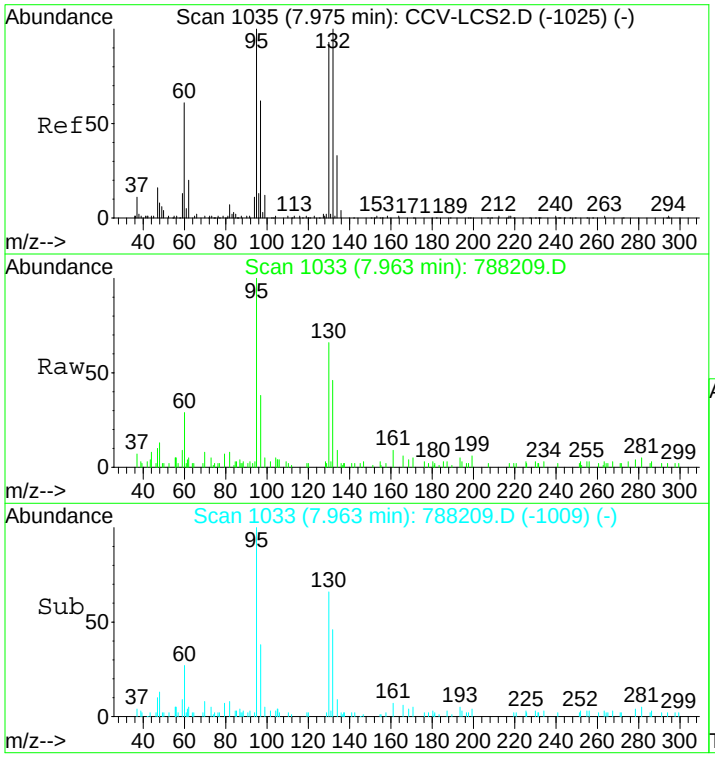


#43
Carbtetraclo
Concen: 1.79 ug/L
RT: 6.94 min Scan# 864
Delta R.T. -0.00 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion:119 Resp: 22350

Ion	Ratio	Lower	Upper
119	100		
121	42.0	12.8	52.8

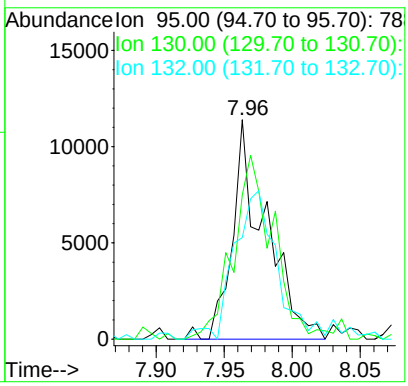




#49
trichloroete
Concen: 1.68 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. -0.01 min
Lab File: 788209.D
Acq: 22 Oct 2016 14:12

Tgt Ion: 95 Resp: 19357

Ion	Ratio	Lower	Upper
95	100		
130	103.0	72.6	112.6
132	87.0	74.1	114.1



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788210.D Vial: 13
Acq On : 22 Oct 2016 14:42 Operator: AGK-RLD
Sample : 131348,788210, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:03:23 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	897165	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	675353	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	349702	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	221194	20.224	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.06	102	56768	19.004	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.51	98	900859	20.137	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.04	95	325018	18.058	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	14801	0.5481	ug/L	80
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3514	0.7747	ug/L	83
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.90	58	2660	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	11954	N.D.		
16) Iodomethane	4.00	142	13602	1.8852	ug/L #	90
17) Carbon Dislf	4.10	76	5916	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.69	59	4434	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788210.D Vial: 13
Acq On : 22 Oct 2016 14:42 Operator: AGK-RLD
Sample : 131348,788210, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:03:23 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.41	91	2695	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788210.D Vial: 13
Acq On : 22 Oct 2016 14:42 Operator: AGK-RLD
Sample : 131348,788210, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:03:23 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

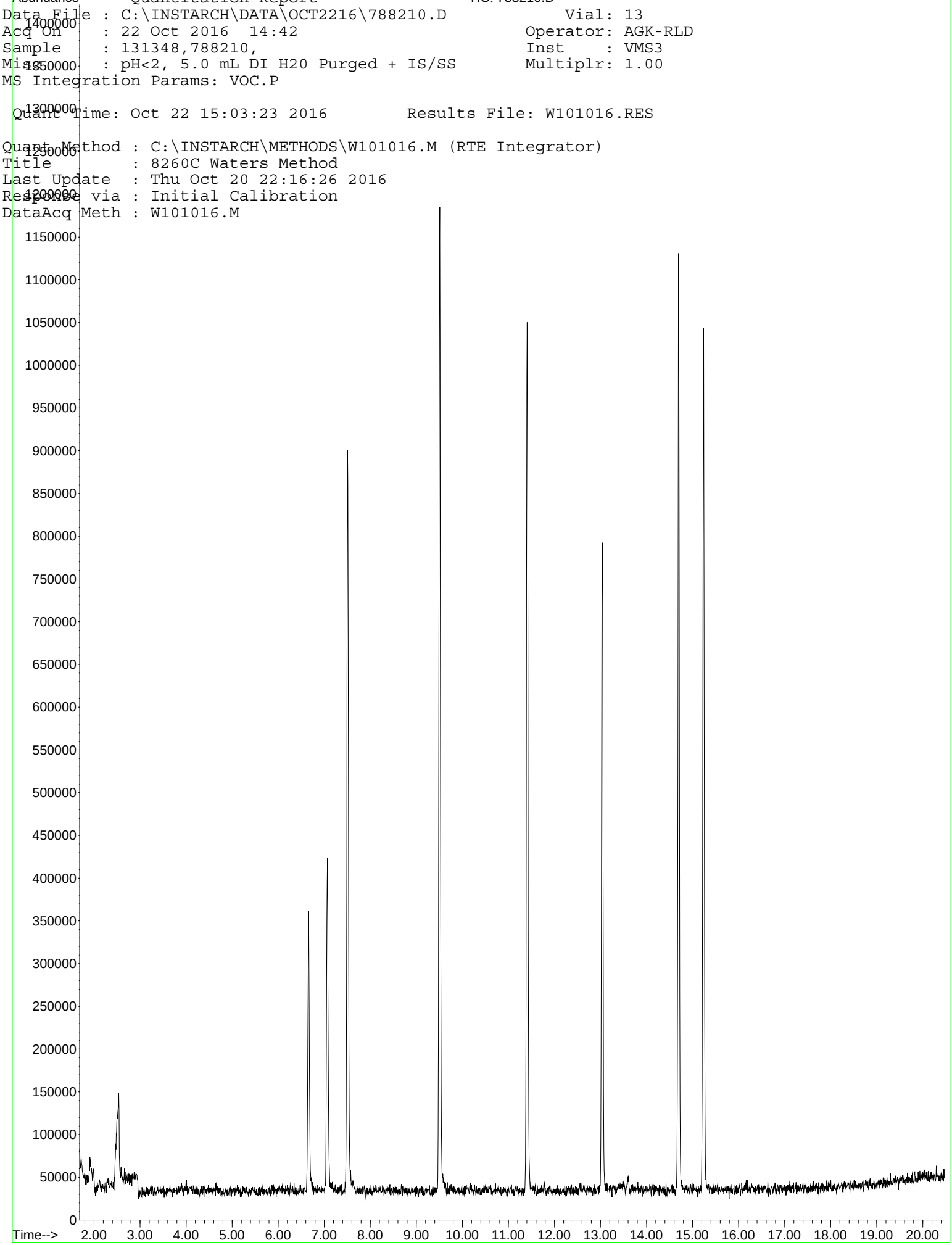
(#) = qualifier out of range (m) = manual integration

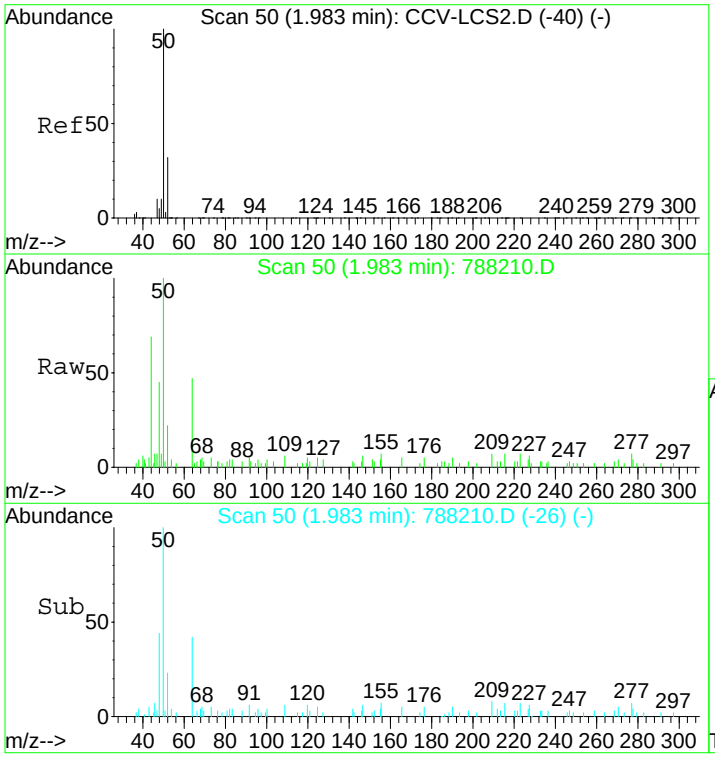
Abundance Quantitation Report TIC: 788210.D

Data File : C:\INSTARCH\DATA\OCT2216\788210.D Vial: 13
Acq On : 22 Oct 2016 14:42 Operator: AGK-RLD
Sample : 131348,788210, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:03:23 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

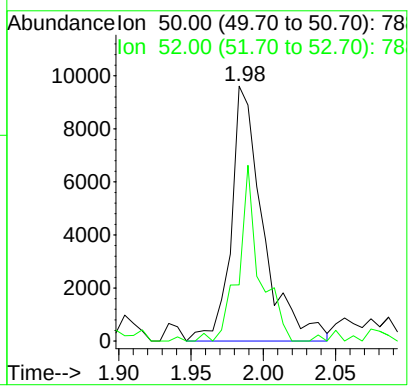


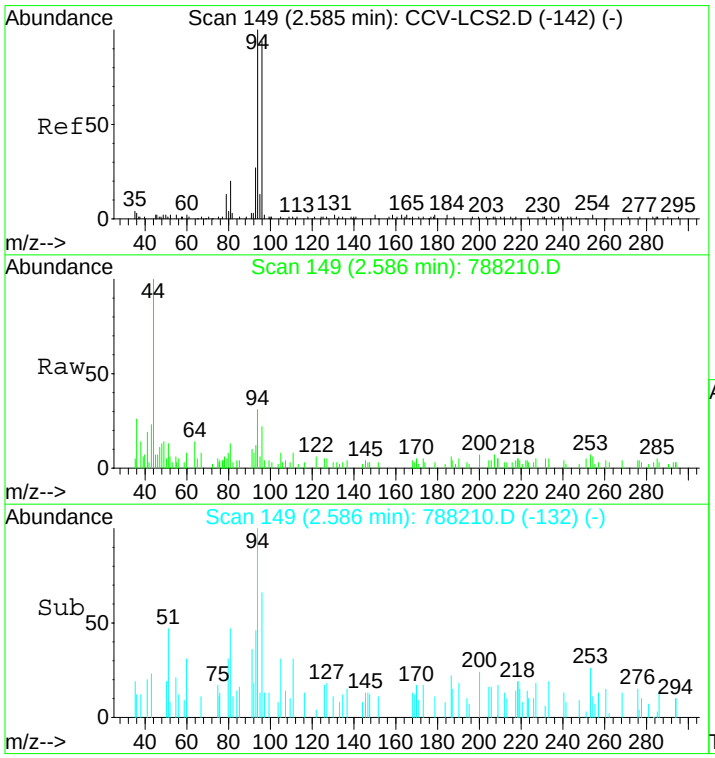


#3
Chloromethan
Concen: 0.55 ug/L
RT: 1.98 min Scan# 50
Delta R.T. -0.01 min
Lab File: 788210.D
Acq: 22 Oct 2016 14:42

Tgt Ion: 50 Resp: 14801

Ion	Ratio	Lower	Upper
50	100		
52	45.6	14.1	54.1

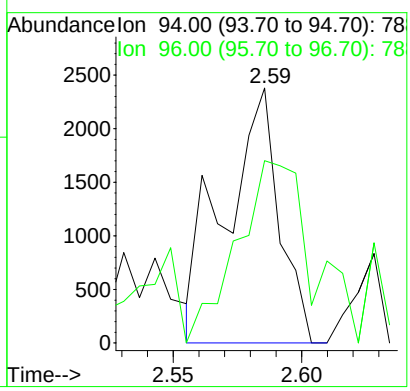




#5
Bromomethane
Concen: 0.77 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: 788210.D
Acq: 22 Oct 2016 14:42

Tgt Ion: 94 Resp: 3514

Ion	Ratio	Lower	Upper
94	100		
96	97.7	62.3	102.3



[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788211.D Vial: 14
Acq On : 22 Oct 2016 15:12 Operator: AGK-RLD
Sample : 131348,788211, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:33:00 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	897991	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	677832	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	337777	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	219320	20.034	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.06	102	59929	20.043	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.51	98	898811	20.073	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.04	95	323000	18.579	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 93	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	14212	0.5258	ug/L	93
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3887	0.8561	ug/L	83
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.89	58	2771	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.89	43	8030	N.D.		
16) Iodomethane	4.01	142	14332	1.9866	ug/L #	90
17) Carbon Dislf	4.09	76	17930	0.6776	ug/L #	73
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.66	59	6848	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.10	72	3437	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788211.D Vial: 14
Acq On : 22 Oct 2016 15:12 Operator: AGK-RLD
Sample : 131348,788211, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:33:00 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	144926	7.3299	ug/L	100
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.93	119	775295	63.0563	ug/L	100
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.97	95	104623	9.2207	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.59	92	2681	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.41	91	3169	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.21	105	3285	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788211.D Vial: 14
Acq On : 22 Oct 2016 15:12 Operator: AGK-RLD
Sample : 131348,788211, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:33:00 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.82	128	2750	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

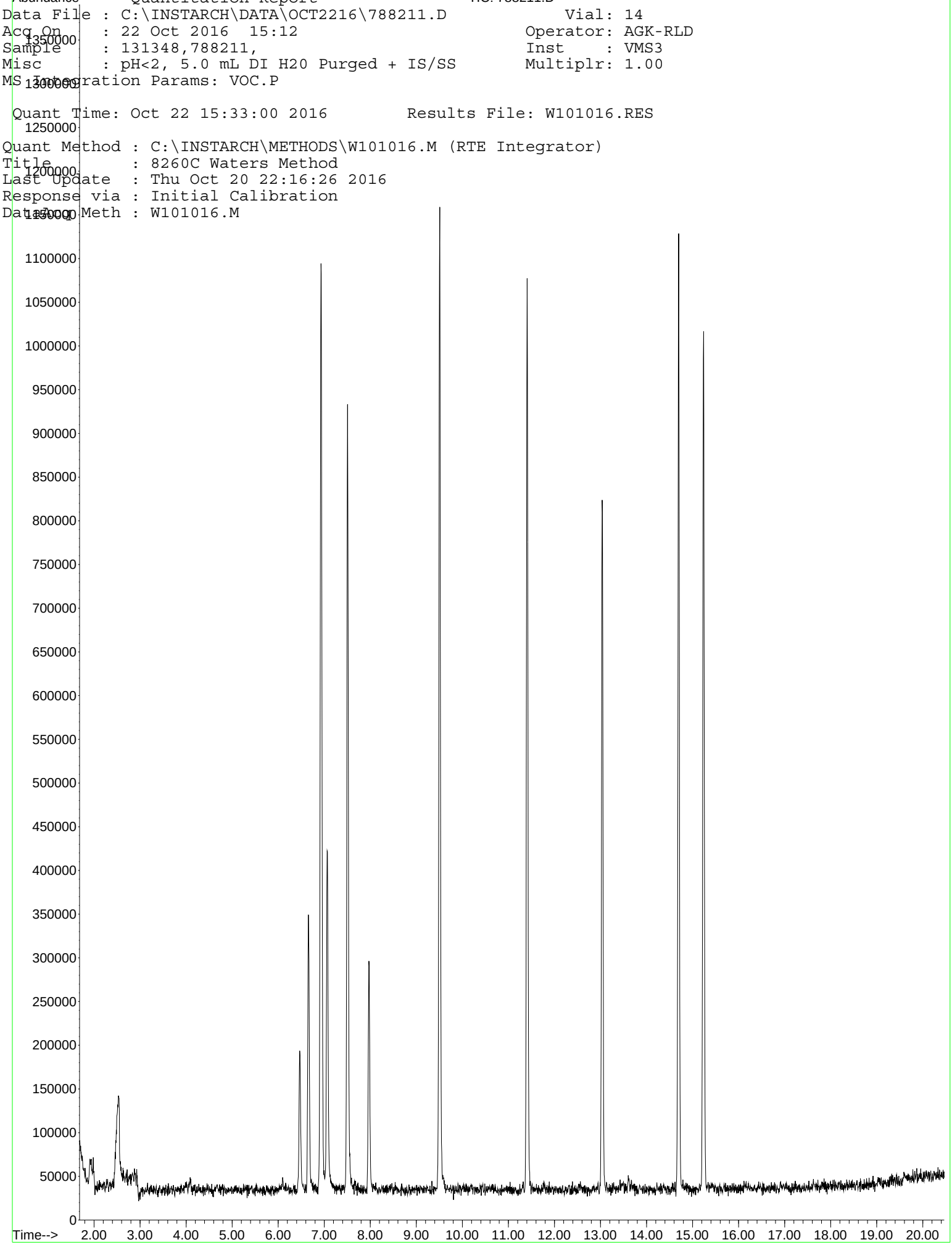
(#) = qualifier out of range (m) = manual integration

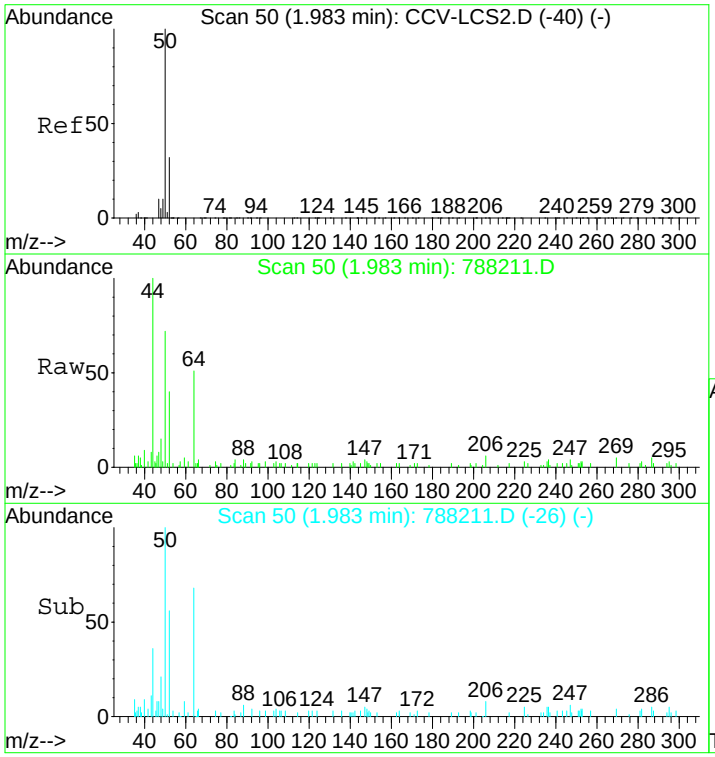
Abundance Quantitation Report TIC: 788211.D

Data File : C:\INSTARCH\DATA\OCT2216\788211.D Vial: 14
Acq On : 22 Oct 2016 15:12 Operator: AGK-RLD
Sample : 131348,788211, Inst : VMS3
Misc : pH<2, 5.0 mL DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 15:33:00 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
Data Acq Meth : W101016.M

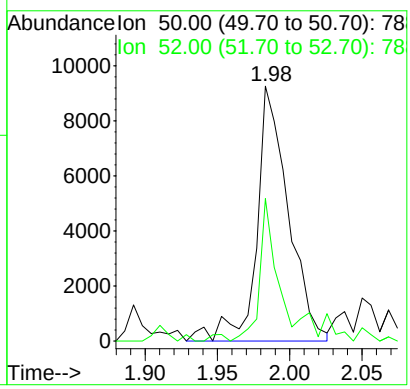


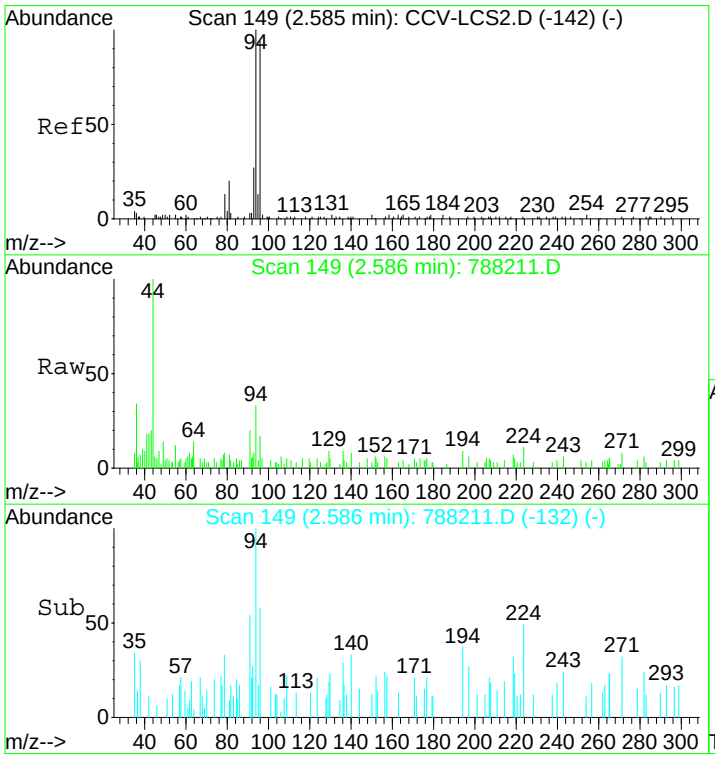


#3
Chloromethan
Concen: 0.53 ug/L
RT: 1.98 min Scan# 50
Delta R.T. -0.01 min
Lab File: 788211.D
Acq: 22 Oct 2016 15:12

Tgt Ion: 50 Resp: 14212

Ion	Ratio	Lower	Upper
50	100		
52	38.4	14.1	54.1

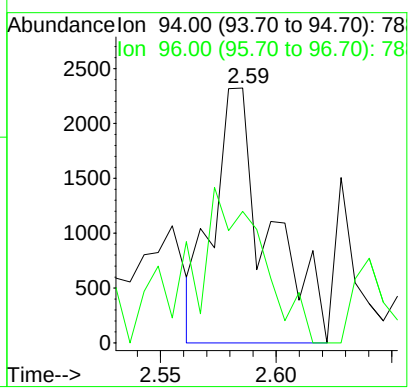


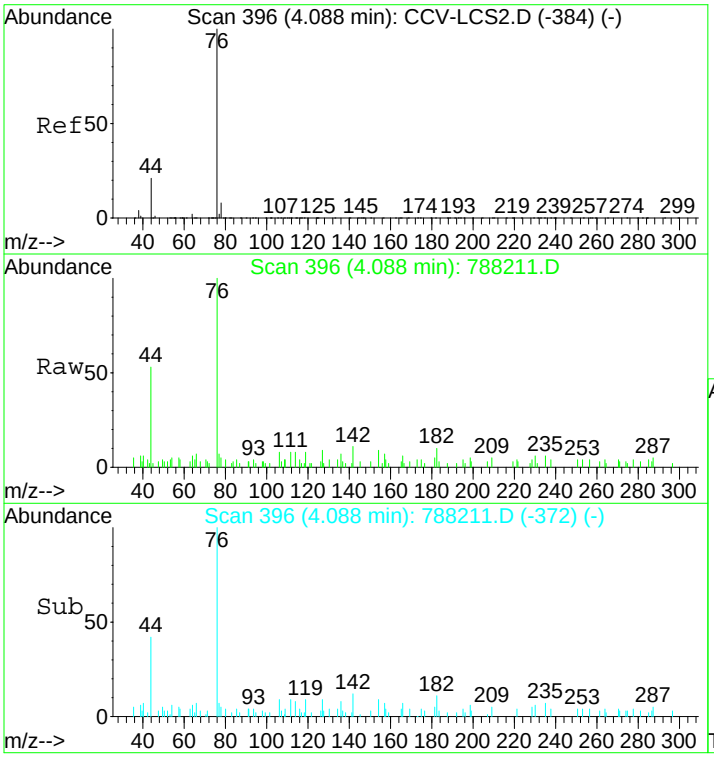


#5
Bromomethane
Concen: 0.86 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: 788211.D
Acq: 22 Oct 2016 15:12

Tgt Ion: 94 Resp: 3887

Ion	Ratio	Lower	Upper
94	100		
96	66.8	62.3	102.3

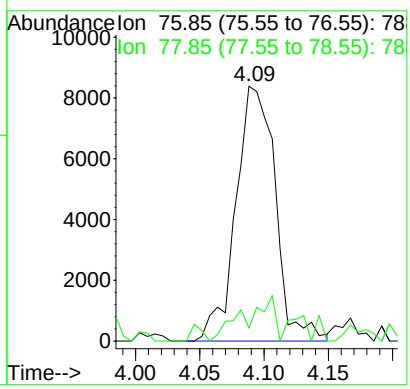


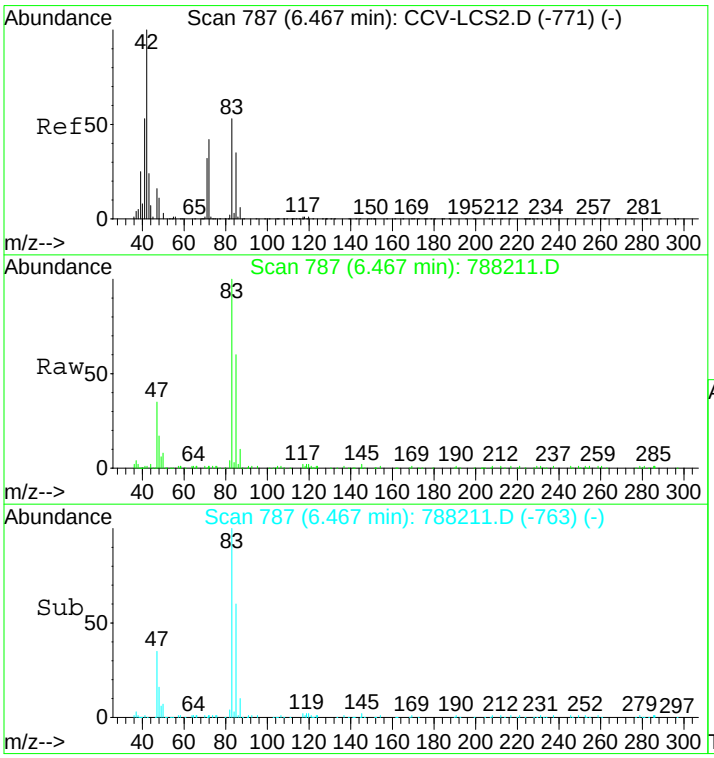


#17
Carbon Dislf
Concen: 0.68 ug/L
RT: 4.09 min Scan# 396
Delta R.T. -0.01 min
Lab File: 788211.D
Acq: 22 Oct 2016 15:12

Tgt Ion: 76 Resp: 17930

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	29.9

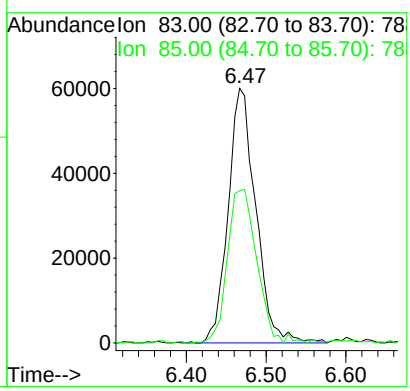


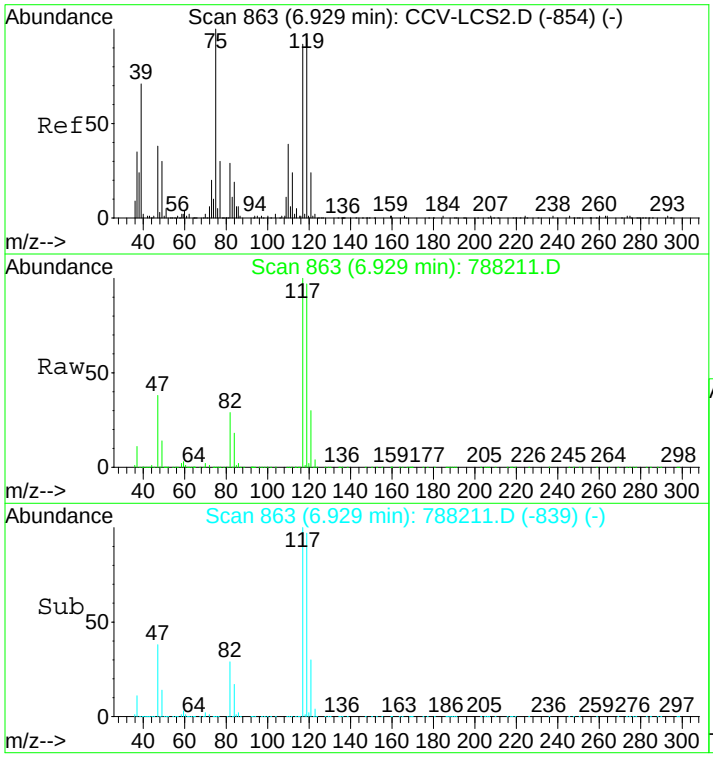


#39
Chloroform
Concen: 7.33 ug/L
RT: 6.47 min Scan# 787
Delta R.T. -0.01 min
Lab File: 788211.D
Acq: 22 Oct 2016 15:12

Tgt Ion: 83 Resp: 144926

Ion	Ratio	Lower	Upper
83	100		
85	63.0	43.2	83.2

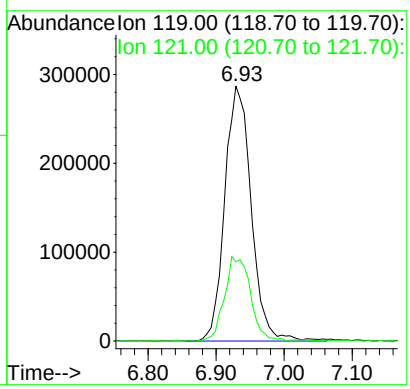


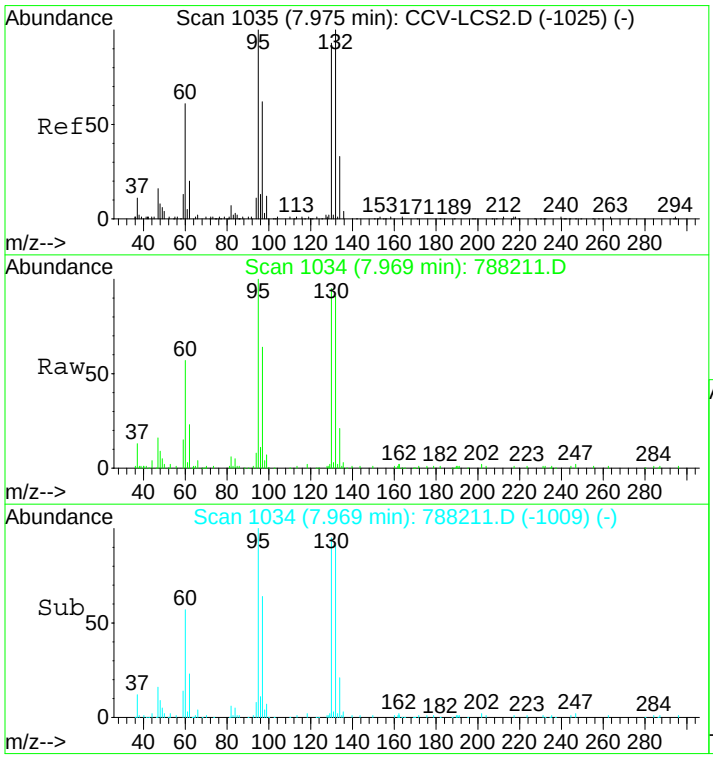


#43
Carbtetraclo
Concen: 63.06 ug/L
RT: 6.93 min Scan# 863
Delta R.T. -0.01 min
Lab File: 788211.D
Acq: 22 Oct 2016 15:12

Tgt Ion:119 Resp: 775295

Ion	Ratio	Lower	Upper
119	100		
121	32.7	12.8	52.8

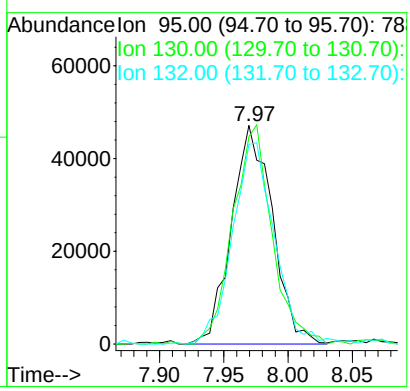




#49
trichloroete
Concen: 9.22 ug/L
RT: 7.97 min Scan# 1034
Delta R.T. 0.00 min
Lab File: 788211.D
Acq: 22 Oct 2016 15:12

Tgt Ion: 95 Resp: 104623

Ion	Ratio	Lower	Upper
95	100		
130	96.2	72.6	112.6
132	94.8	74.1	114.1



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788212.D Vial: 15
Acq On : 22 Oct 2016 15:43 Operator: AGK-RLD
Sample : 131348,788212, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 16:03:47 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	876627	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	649545	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	336420	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	214040	20.028	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.07	102	52952	18.142	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 91 %			
61) SURRd8Tolule	9.51	98	879611	20.123	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.03	95	300438	17.351	ug/L	-0.01
Spiked Amount 20.000	Range 80 - 125		Recovery = 87 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	19168	0.7265	ug/L	93
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	4471	1.0088	ug/L #	8
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	3407	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.90	43	9560	N.D.		
16) Iodomethane	4.01	142	13028	1.8471	ug/L #	77
17) Carbon Dislf	4.10	76	18846	0.7296	ug/L	88
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.67	59	6499	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788212.D Vial: 15
Acq On : 22 Oct 2016 15:43 Operator: AGK-RLD
Sample : 131348,788212, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 16:03:47 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	133572	6.9203	ug/L	99
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.94	119	749131	62.4132	ug/L	100
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.16	78	2713	N.D.		
47)	12dichlorota	7.18	62	3127	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.97	95	97579	8.8095	ug/L	91
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.60	92	3543	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	11.78	106	3520	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.21	105	2501	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

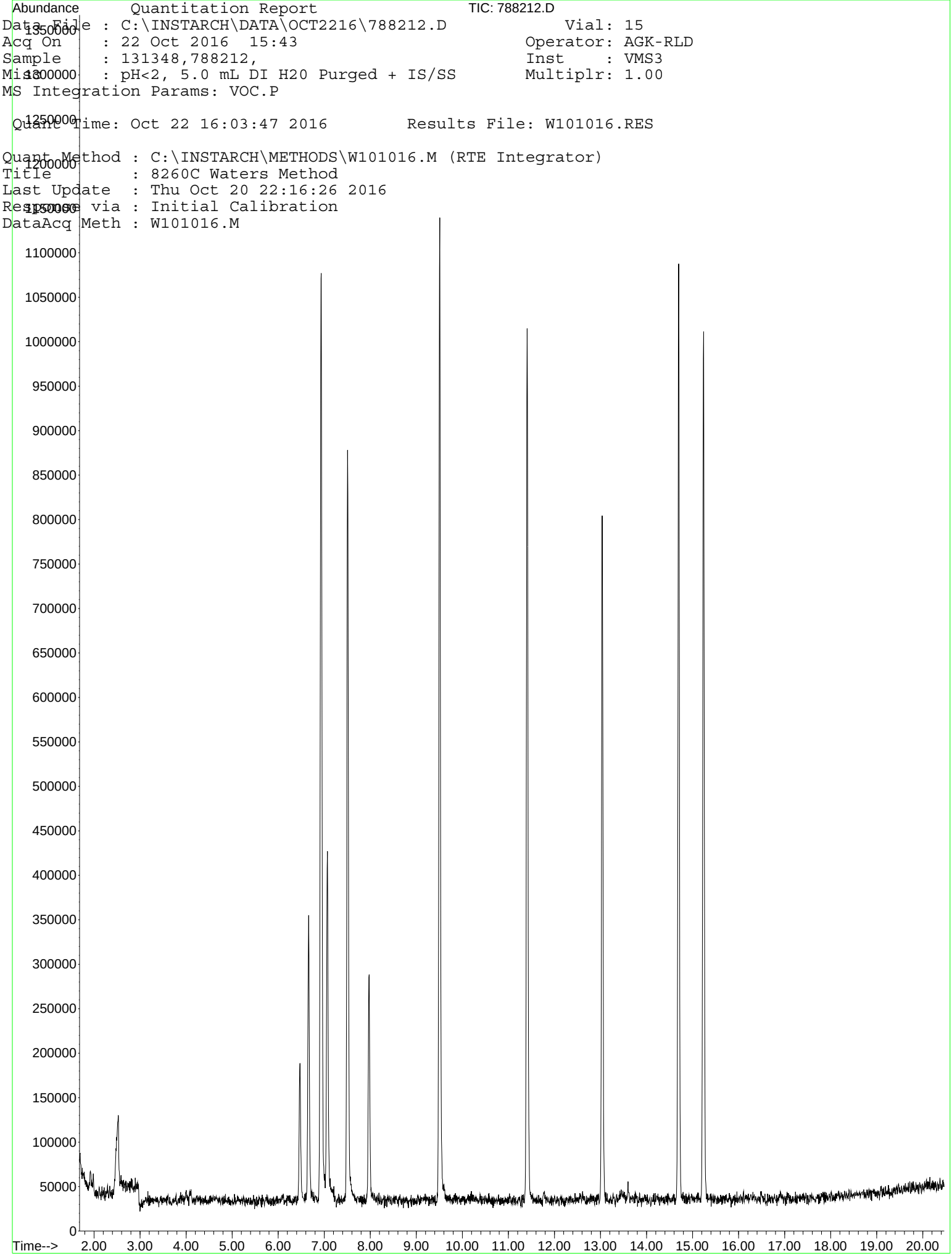
Data File : C:\INSTARCH\DATA\OCT2216\788212.D Vial: 15
Acq On : 22 Oct 2016 15:43 Operator: AGK-RLD
Sample : 131348,788212, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

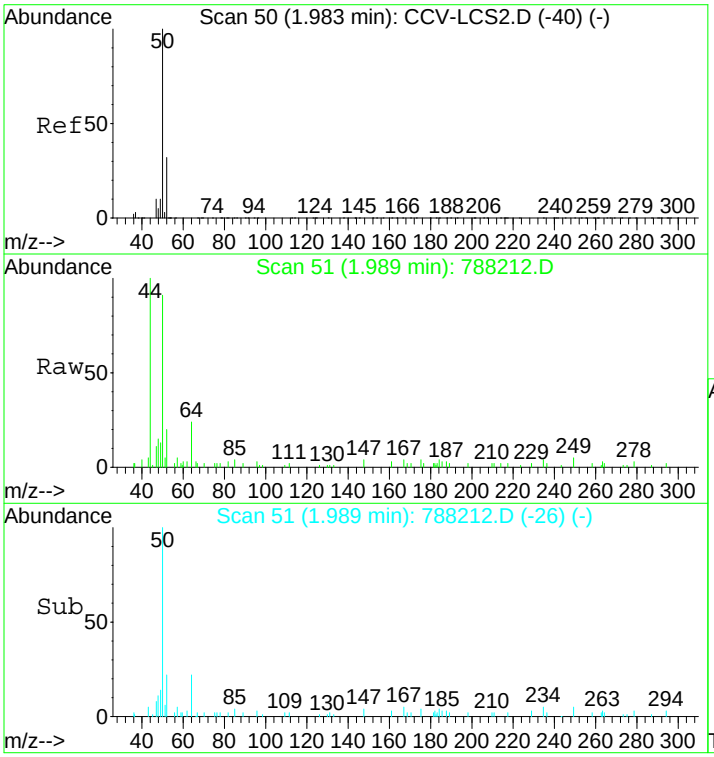
Quant Time: Oct 22 16:03:47 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

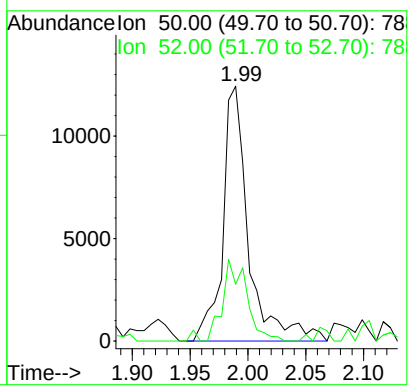

Abundance
Quantitation Report
TIC: 788212.D
Data File : C:\INSTARCH\DATA\OCT2216\788212.D
Vial: 15
Acq On : 22 Oct 2016 15:43
Operator: AGK-RLD
Sample : 131348,788212,
Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Oct 22 16:03:47 2016
Results File: W101016.RES
Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
1350000
1300000
1250000
1200000
1150000
1100000
1050000
1000000
950000
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

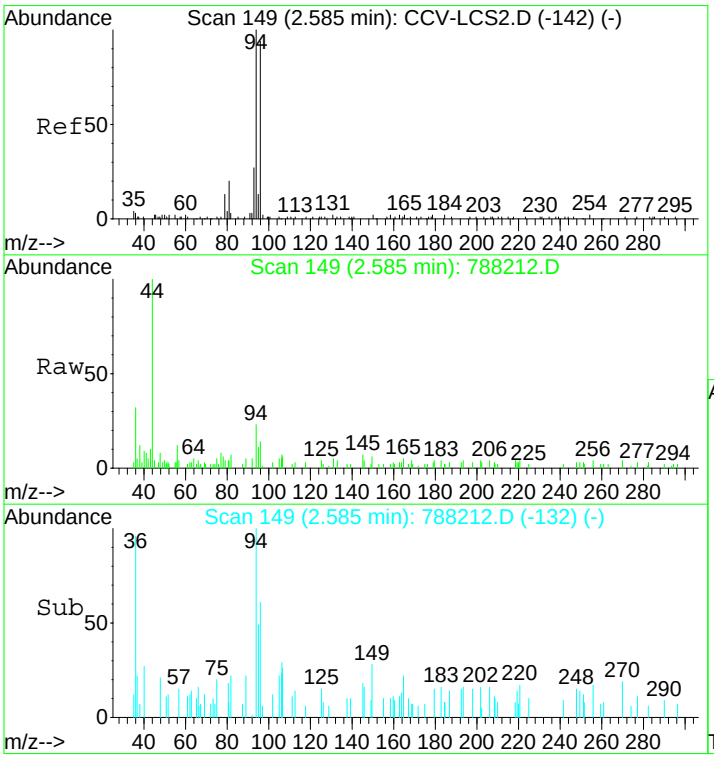


#3
Chloromethan
Concen: 0.73 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 788212.D
Acq: 22 Oct 2016 15:43

Tgt Ion: 50 Resp: 19168

Ion	Ratio	Lower	Upper
50	100		
52	29.9	14.1	54.1

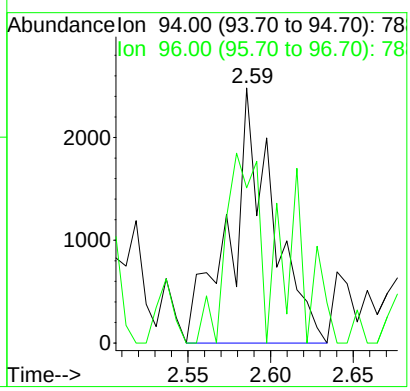


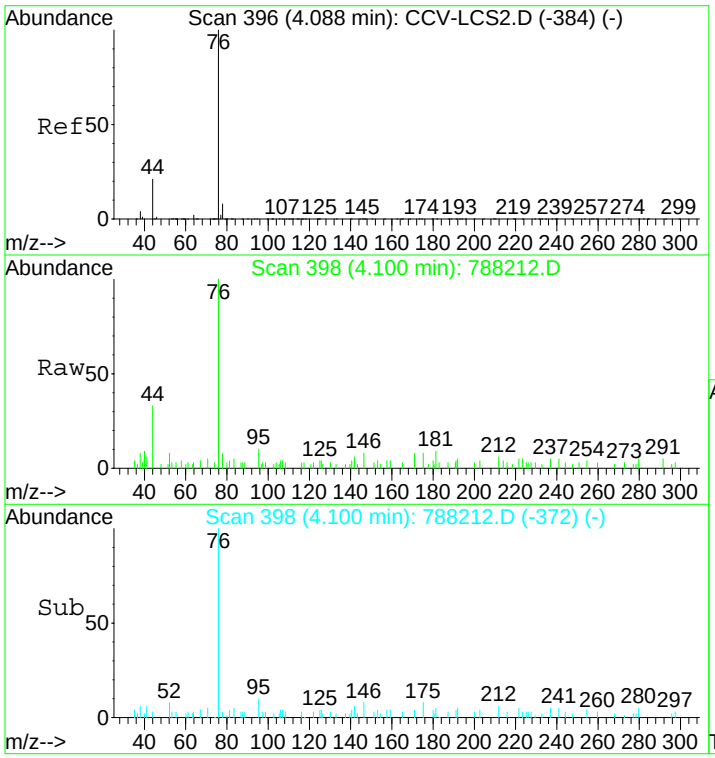


#5
Bromomethane
Concen: 1.01 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: 788212.D
Acq: 22 Oct 2016 15:43

Tgt Ion: 94 Resp: 4471

Ion	Ratio	Lower	Upper
94	100		
96	0.0	62.3	102.3#

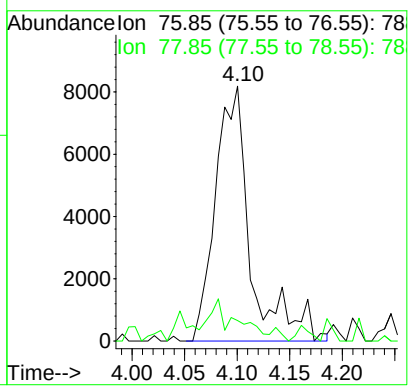


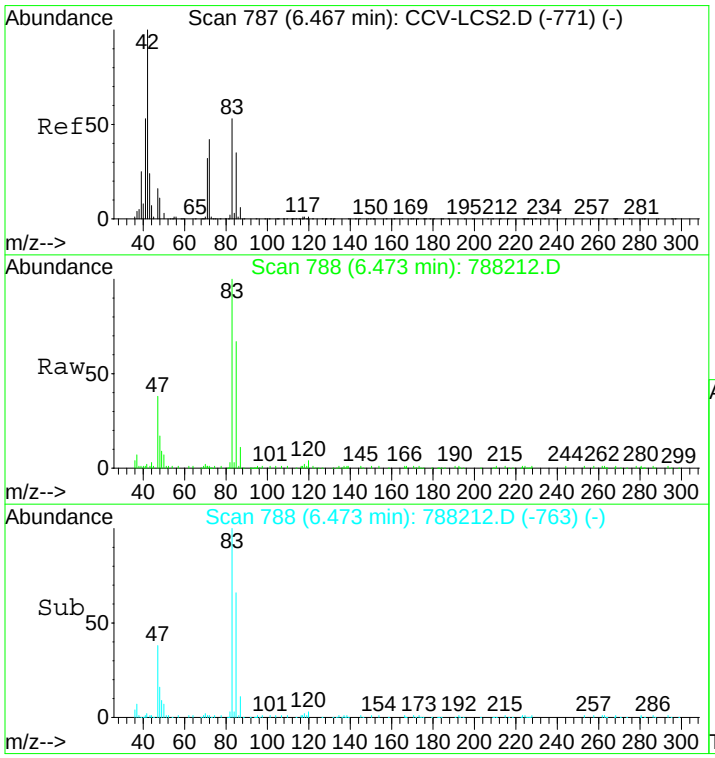


#17
Carbon Dislf
Concen: 0.73 ug/L
RT: 4.10 min Scan# 398
Delta R.T. 0.01 min
Lab File: 788212.D
Acq: 22 Oct 2016 15:43

Tgt Ion: 76 Resp: 18846

Ion	Ratio	Lower	Upper
76	100		
78	14.2	0.0	29.9

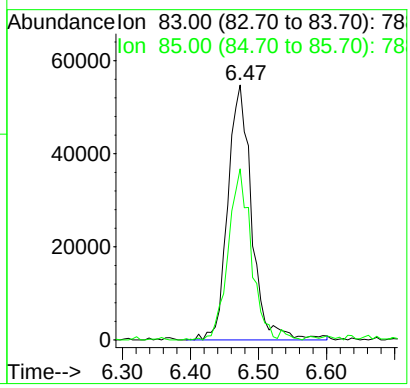


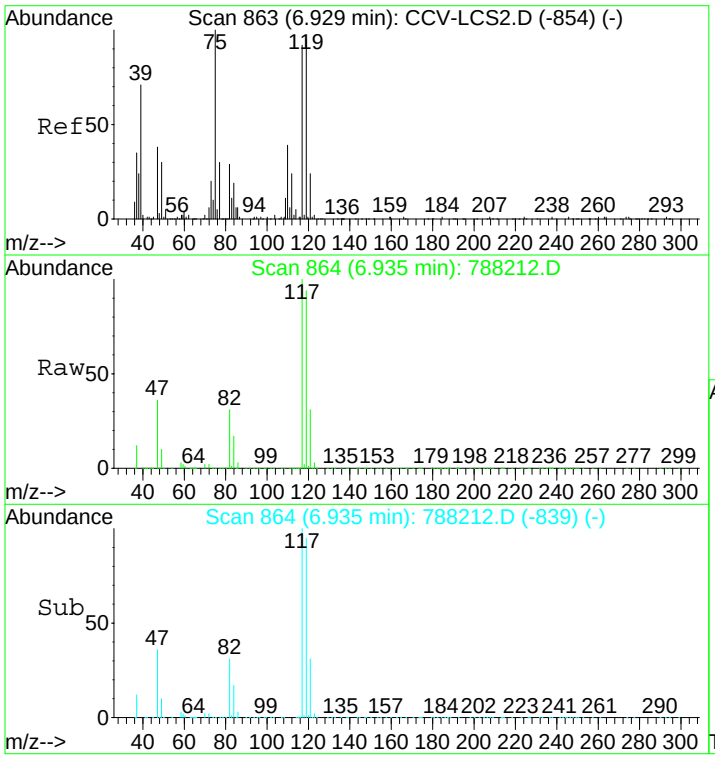


#39
Chloroform
Concen: 6.92 ug/L
RT: 6.47 min Scan# 788
Delta R.T. 0.00 min
Lab File: 788212.D
Acq: 22 Oct 2016 15:43

Tgt Ion: 83 Resp: 133572

Ion	Ratio	Lower	Upper
83	100		
85	64.2	43.2	83.2

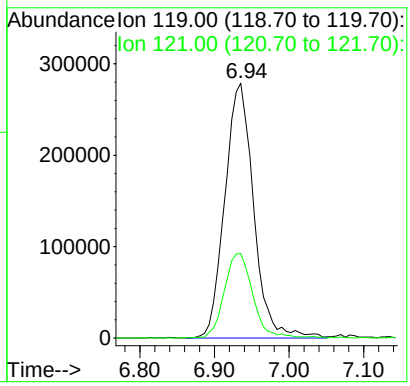


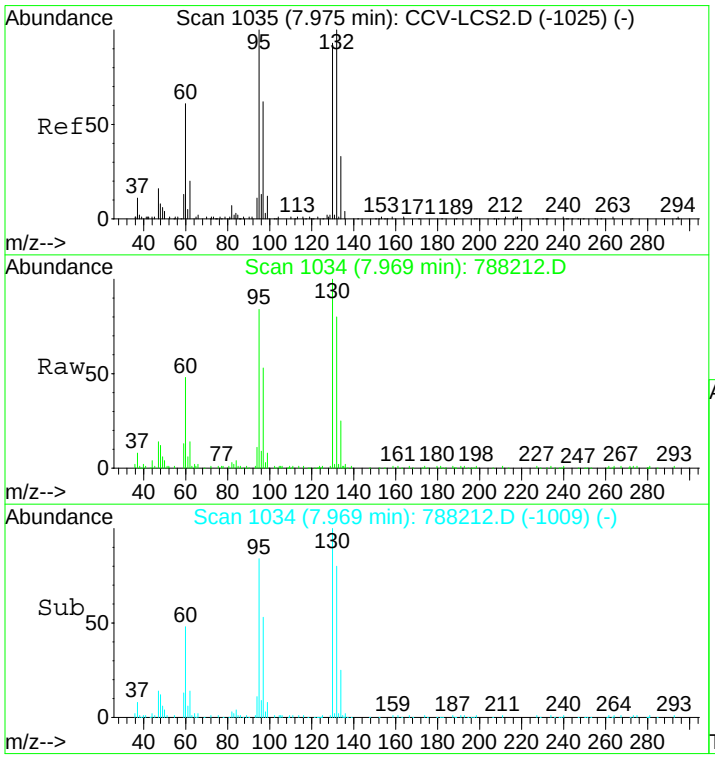


#43
Carbtetraclo
Concen: 62.41 ug/L
RT: 6.94 min Scan# 864
Delta R.T. 0.00 min
Lab File: 788212.D
Acq: 22 Oct 2016 15:43

Tgt Ion:119 Resp: 749131

Ion	Ratio	Lower	Upper
119	100		
121	32.9	12.8	52.8

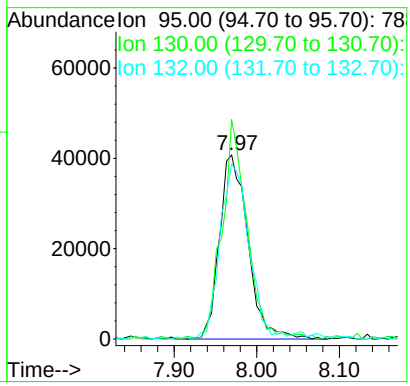




#49
trichloroete
Concen: 8.81 ug/L
RT: 7.97 min Scan# 1034
Delta R.T. 0.00 min
Lab File: 788212.D
Acq: 22 Oct 2016 15:43

Tgt Ion: 95 Resp: 97579

Ion	Ratio	Lower	Upper
95	100		
130	104.5	72.6	112.6
132	99.8	74.1	114.1



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788213.D Vial: 16
Acq On : 22 Oct 2016 16:13 Operator: AGK-RLD
Sample : 131348,788213, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 16:33:52 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	862879	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	652030	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	340445	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	214187	20.361	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.07	102	58843	20.481	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102	%		
61) SURRd8Tolule	9.50	98	872150	20.270	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.04	95	309448	17.660	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	13011	0.5010	ug/L	97
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.90	58	2597	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.86	101	2558	N.D.		
15) Acetone	3.89	43	6159	N.D.		
16) Iodomethane	3.99	142	12344	1.7765	ug/L #	86
17) Carbon Dislf	4.09	76	12580	0.4948	ug/L	71
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.65	59	6230	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788213.D Vial: 16
Acq On : 22 Oct 2016 16:13 Operator: AGK-RLD
Sample : 131348,788213, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 16:33:52 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	62823	3.3067	ug/L	87
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.93	119	492969	41.7257	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.98	95	30742	2.8196	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.41	91	4097	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.61	91	3019	N.D.		
76)	m p-Xylene	11.77	106	3303	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.21	105	3035	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788213.D Vial: 16
Acq On : 22 Oct 2016 16:13 Operator: AGK-RLD
Sample : 131348,788213, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 16:33:52 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

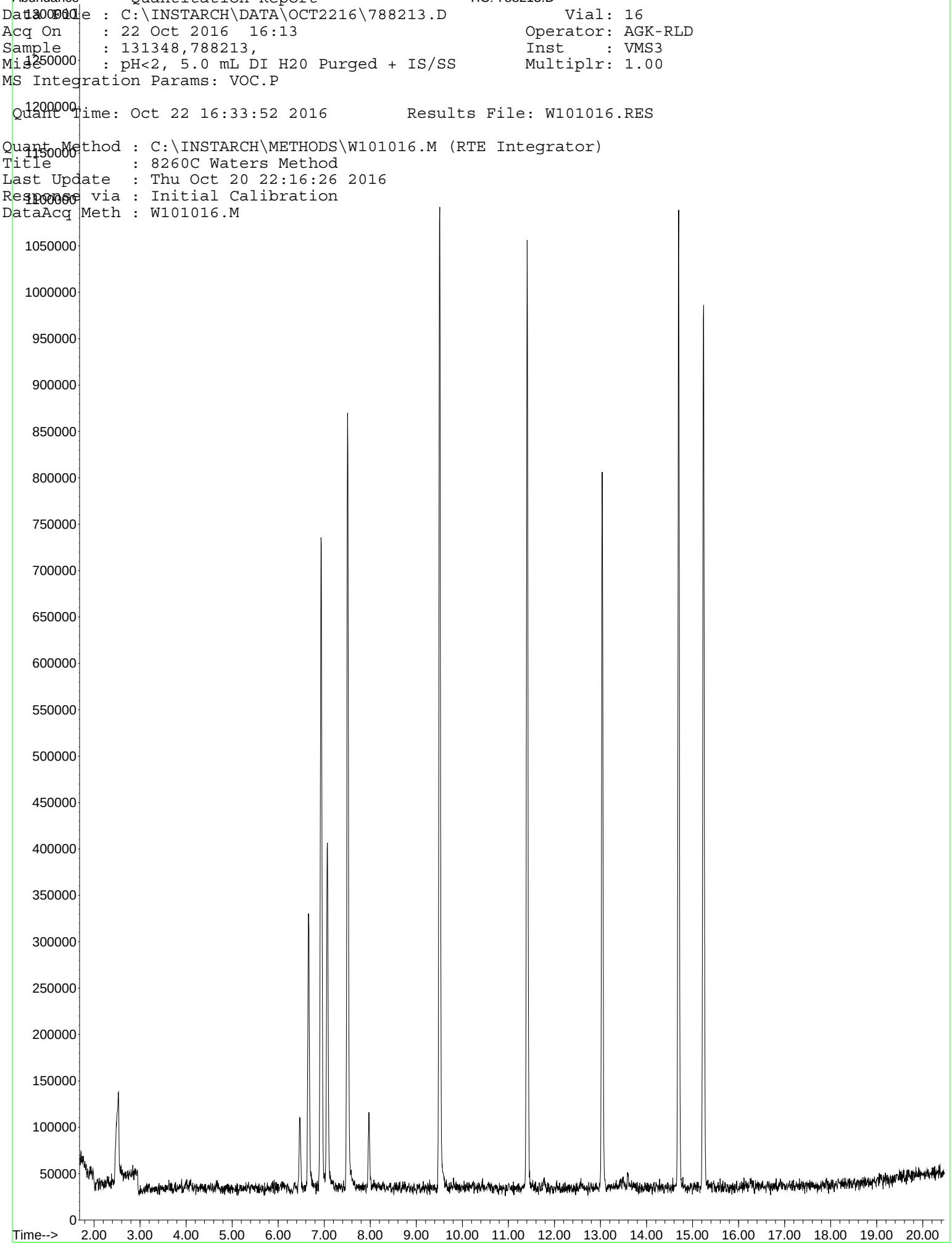
(#) = qualifier out of range (m) = manual integration

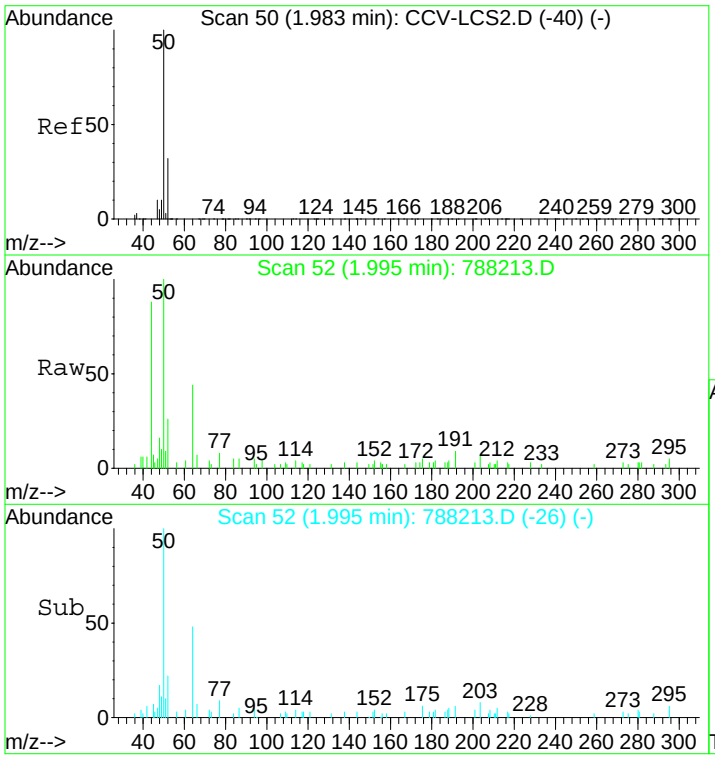
Abundance Quantitation Report TIC: 788213.D

Data File : C:\INSTARCH\DATA\OCT2216\788213.D Vial: 16
Acq On : 22 Oct 2016 16:13 Operator: AGK-RLD
Sample : 131348,788213, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 16:33:52 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

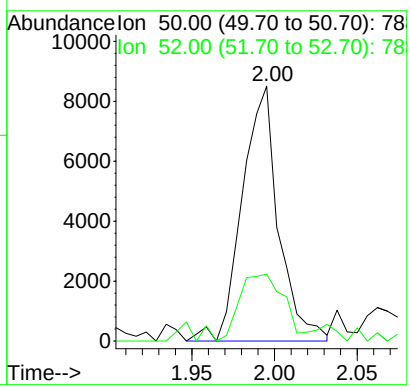


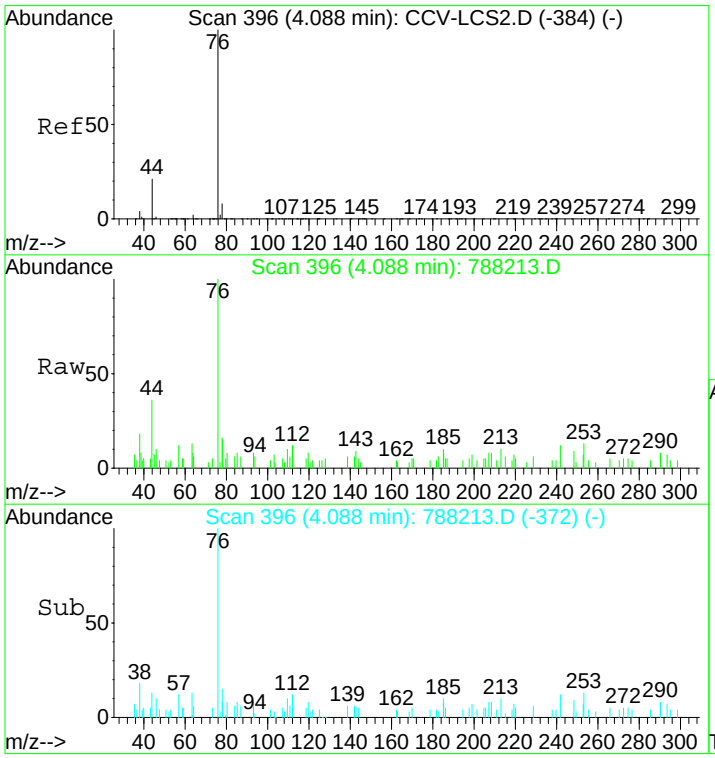


#3
Chloromethan
Concen: 0.50 ug/L
RT: 2.00 min Scan# 52
Delta R.T. 0.01 min
Lab File: 788213.D
Acq: 22 Oct 2016 16:13

Tgt Ion: 50 Resp: 13011

Ion	Ratio	Lower	Upper
50	100		
52	35.8	14.1	54.1

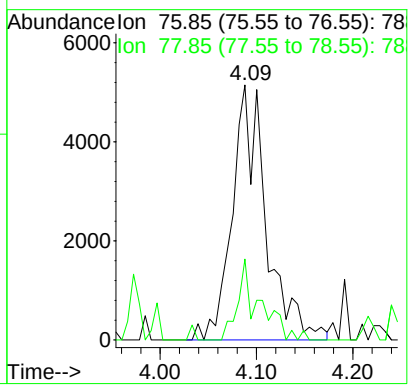


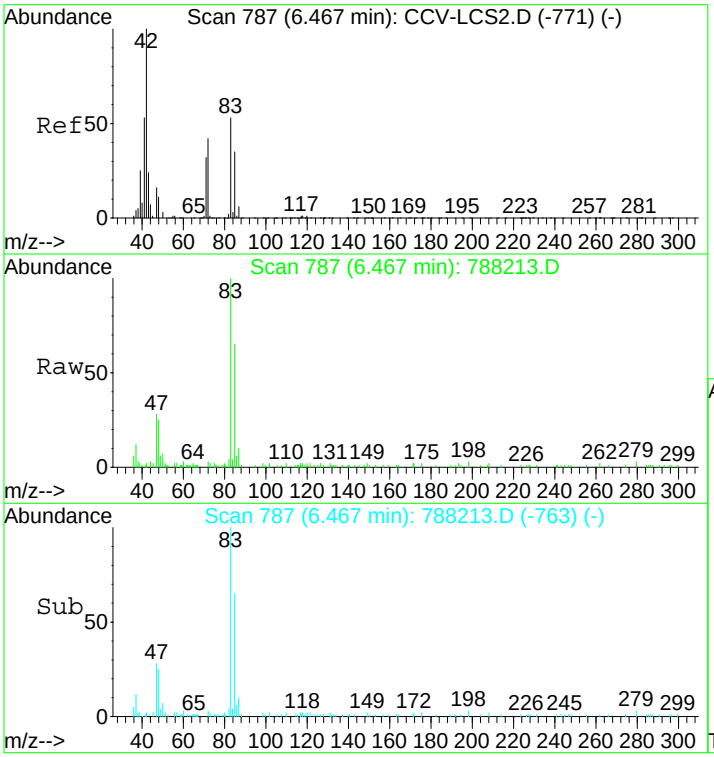


#17
Carbon Dislf
Concen: 0.49 ug/L
RT: 4.09 min Scan# 396
Delta R.T. -0.01 min
Lab File: 788213.D
Acq: 22 Oct 2016 16:13

Tgt Ion: 76 Resp: 12580

Ion	Ratio	Lower	Upper
76	100		
78	20.6	0.0	29.9

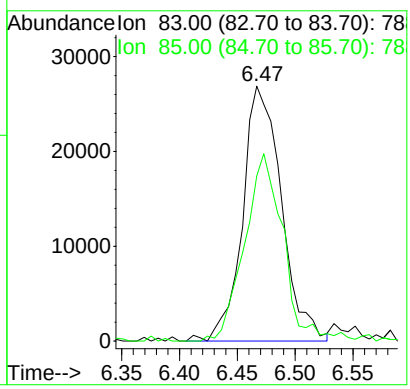


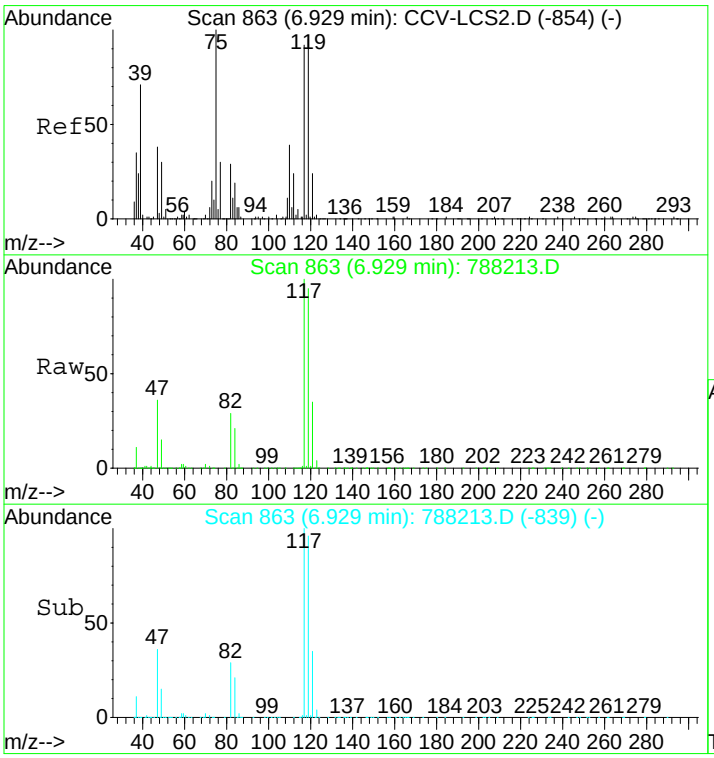


#39
Chloroform
Concen: 3.31 ug/L
RT: 6.47 min Scan# 787
Delta R.T. -0.01 min
Lab File: 788213.D
Acq: 22 Oct 2016 16:13

Tgt Ion: 83 Resp: 62823

Ion	Ratio	Lower	Upper
83	100		
85	73.1	43.2	83.2

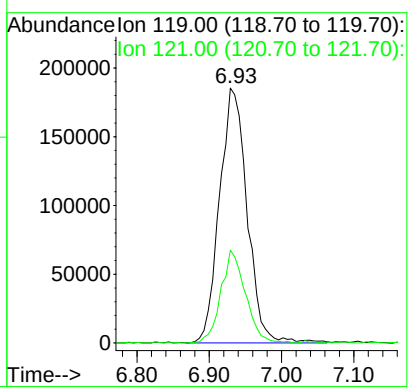


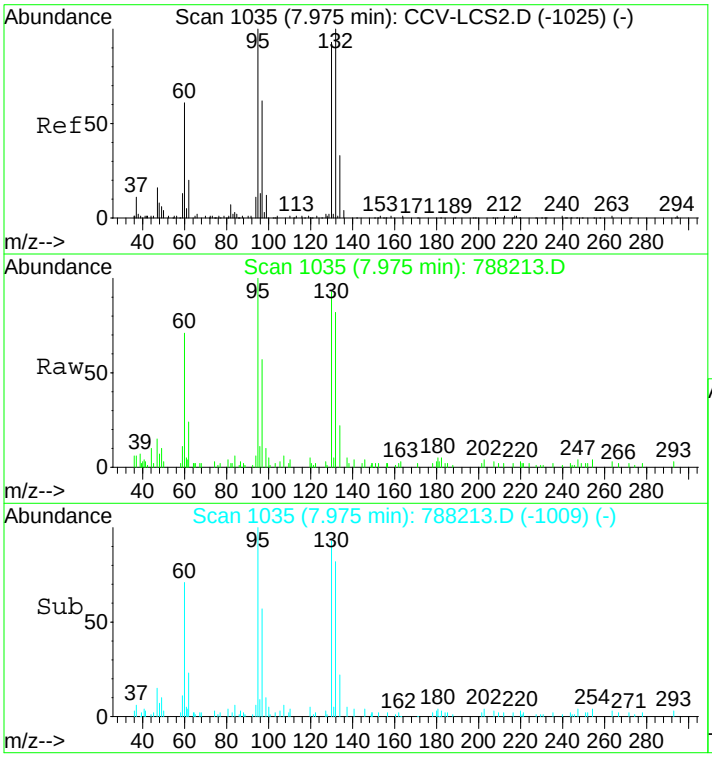


#43
Carbtetraclo
Concen: 41.73 ug/L
RT: 6.93 min Scan# 863
Delta R.T. -0.01 min
Lab File: 788213.D
Acq: 22 Oct 2016 16:13

Tgt Ion:119 Resp: 492969

Ion	Ratio	Lower	Upper
119	100		
121	32.4	12.8	52.8

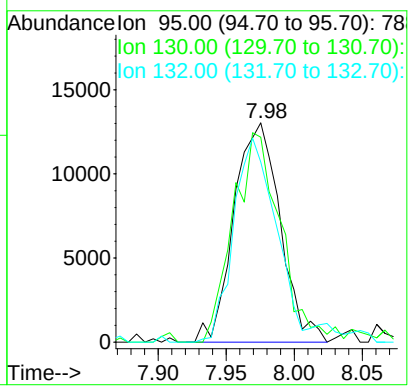




#49
trichloroete
Concen: 2.82 ug/L
RT: 7.98 min Scan# 1035
Delta R.T. 0.01 min
Lab File: 788213.D
Acq: 22 Oct 2016 16:13

Tgt Ion: 95 Resp: 30742

Ion	Ratio	Lower	Upper
95	100		
130	101.7	72.6	112.6
132	91.8	74.1	114.1



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788214.D Vial: 17
Acq On : 22 Oct 2016 16:43 Operator: AGK-RLD
Sample : 131348,788214, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:03:35 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	873741	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	657951	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	332341	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	205745	19.315	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.06	102	59770	20.545	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.50	98	890198	20.432	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.04	95	320113	18.714	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 94 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	12696	0.4828	ug/L	97
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.57	67	9369	0.7965	ug/L #	52
11) propyleneoxide	3.77	58	2517	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.86	101	4542	0.5144	ug/L #	62
15) Acetone	3.90	43	5979	N.D.		
16) Iodomethane	4.00	142	13147	1.8706	ug/L #	80
17) Carbon Dislf	4.09	76	4295	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.68	59	3654	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.12	72	3548	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788214.D Vial: 17
Acq On : 22 Oct 2016 16:43 Operator: AGK-RLD
Sample : 131348,788214, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:03:35 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.47	83	4119	0.2141 ug/L #	51
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	6.94	119	32752	2.7377 ug/L	95
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.58	92	3043	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.41	91	2923	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.77	106	2619	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.23	105	2963	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788214.D Vial: 17
Acq On : 22 Oct 2016 16:43 Operator: AGK-RLD
Sample : 131348,788214, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:03:35 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

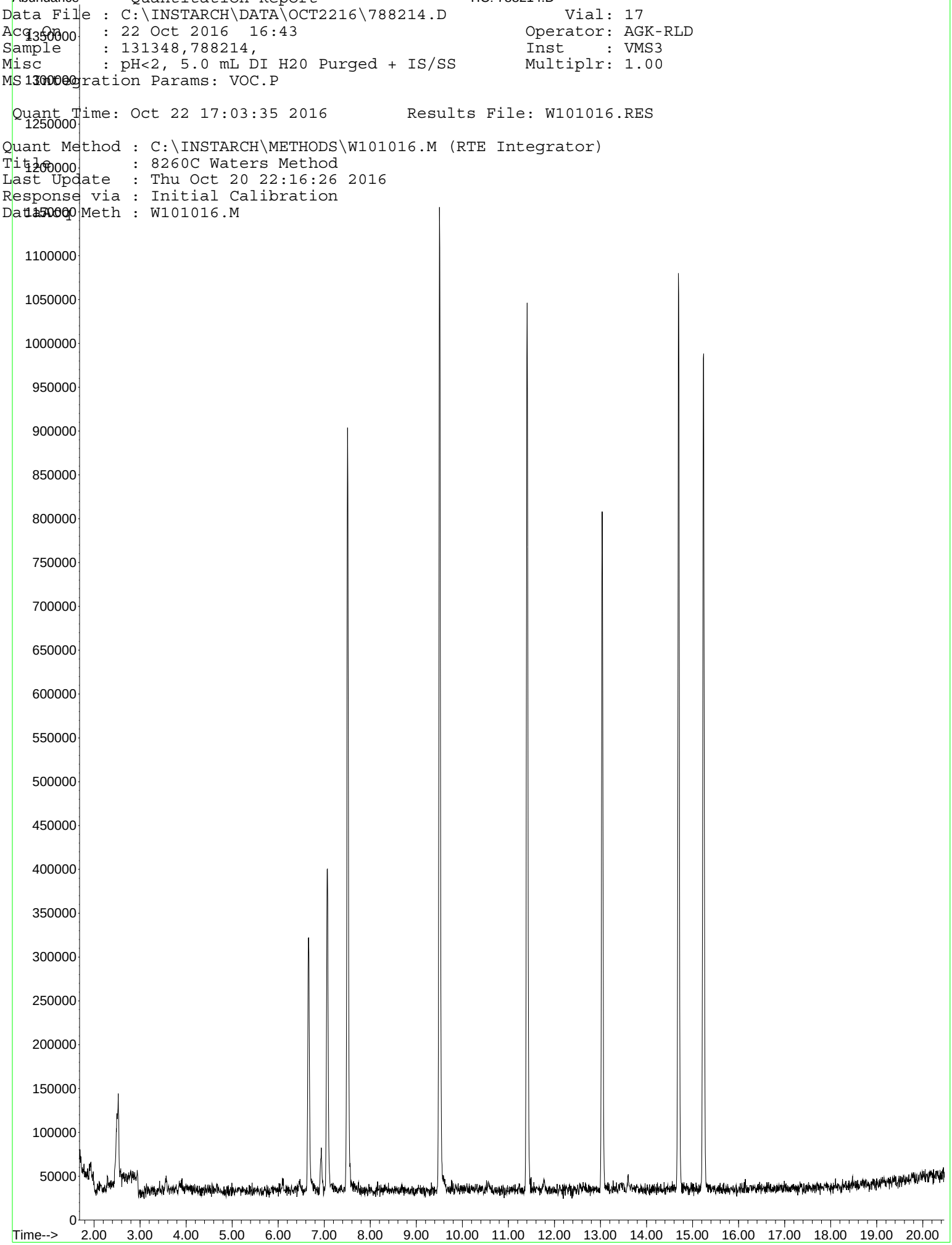
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

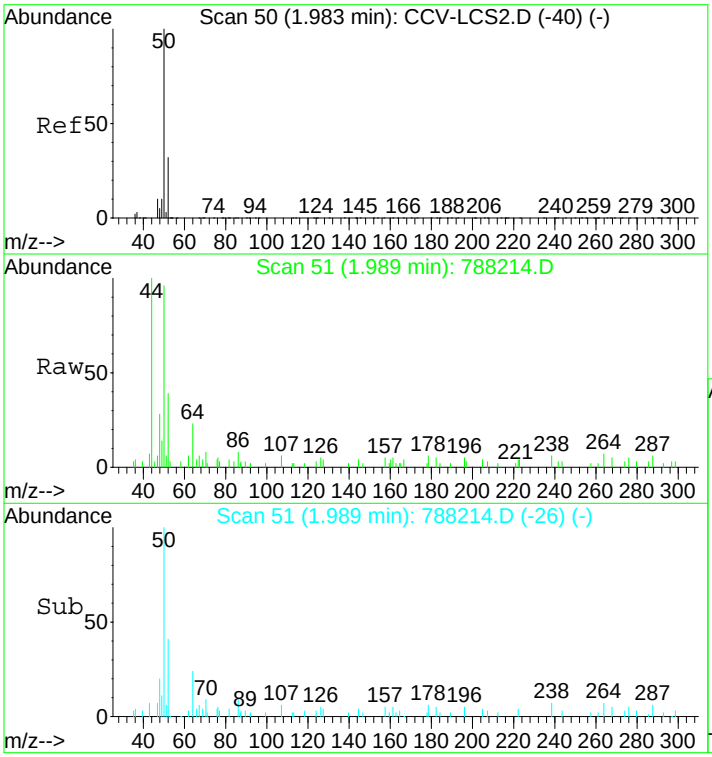
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2216\788214.D Vial: 17
Acq On : 22 Oct 2016 16:43 Operator: AGK-RLD
Sample : 131348,788214, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:03:35 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
Data Meth : W101016.M

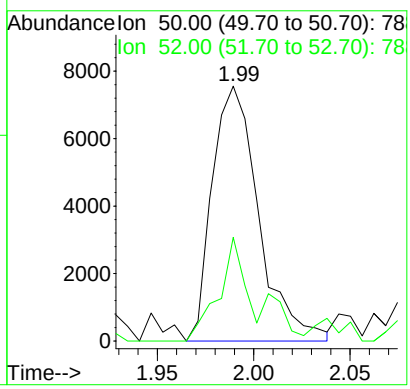


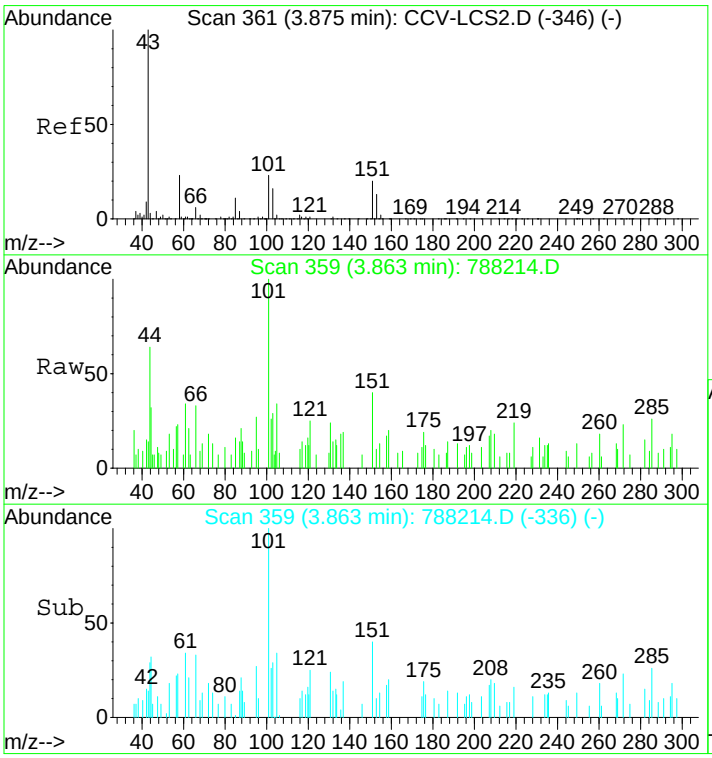


#3
Chloromethan
Concen: 0.48 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 788214.D
Acq: 22 Oct 2016 16:43

Tgt Ion: 50 Resp: 12696

Ion	Ratio	Lower	Upper
50	100		
52	32.2	14.1	54.1

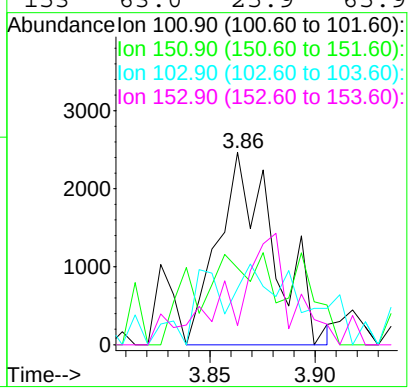


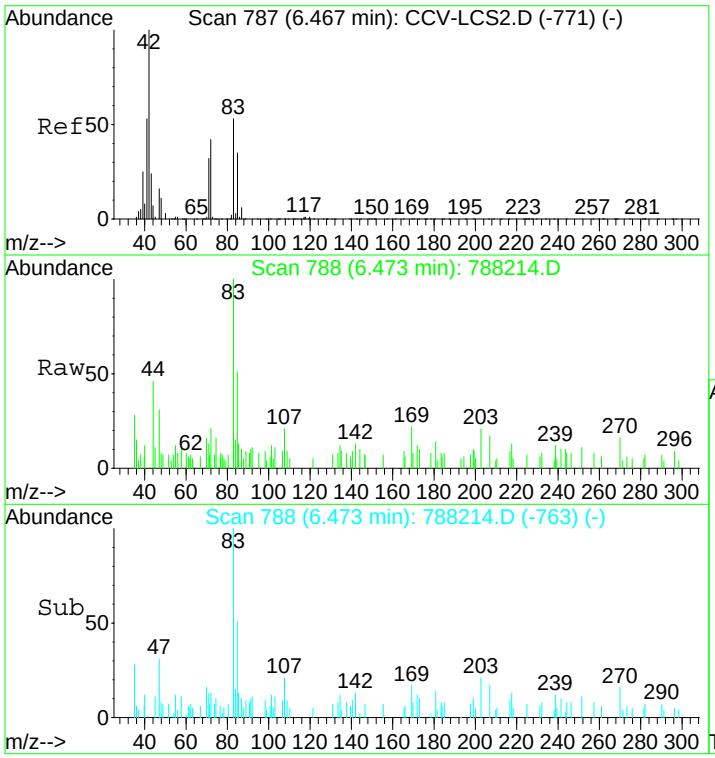


#14
Trichlorotfluoroeth
Concen: 0.51 ug/L
RT: 3.86 min Scan# 359
Delta R.T. -0.01 min
Lab File: 788214.D
Acq: 22 Oct 2016 16:43

Tgt Ion:101 Resp: 4542

Ion	Ratio	Lower	Upper
101	100		
151	66.6	52.9	92.9
103	0.0	43.6	83.6#
153	63.0	25.9	65.9

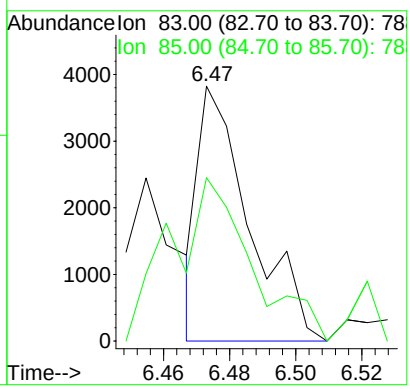


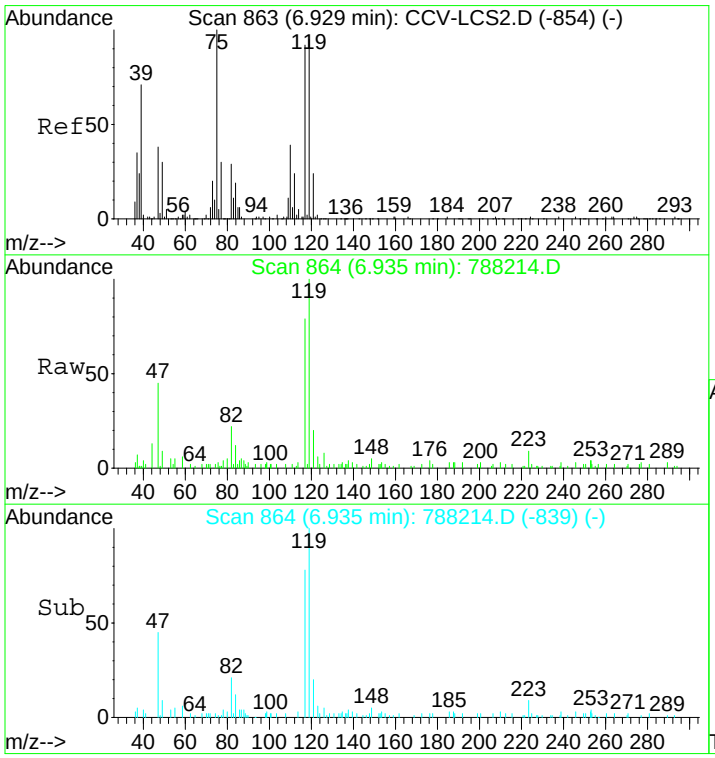


#39
Chloroform
Concen: 0.21 ug/L
RT: 6.47 min Scan# 788
Delta R.T. 0.00 min
Lab File: 788214.D
Acq: 22 Oct 2016 16:43

Tgt Ion: 83 Resp: 4119

Ion	Ratio	Lower	Upper
83	100		
85	100.9	43.2	83.2#

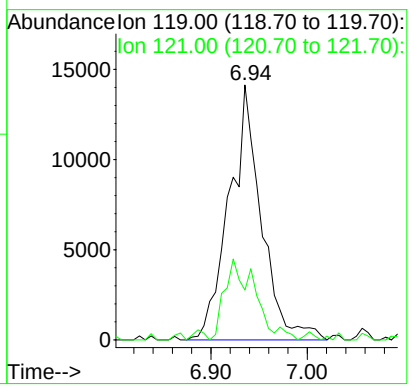




#43
Carbtetraclo
Concen: 2.74 ug/L
RT: 6.94 min Scan# 864
Delta R.T. 0.00 min
Lab File: 788214.D
Acq: 22 Oct 2016 16:43

Tgt Ion:119 Resp: 32752

Ion	Ratio	Lower	Upper
119	100		
121	30.0	12.8	52.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788654.D Vial: 18
Acq On : 22 Oct 2016 17:12 Operator: AGK-RLD
Sample : 131348,788654, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:33:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	879830	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	678211	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	343204	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	217101	20.241	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.07	102	57142	19.506	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.51	98	889997	20.286	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.04	95	313309	17.737	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 89 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	14628	0.5524	ug/L	100
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	2748	0.6178	ug/L	86
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.57	67	4412	0.3725	ug/L #	29
11) propyleneoxide	3.91	58	4165	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	11523	N.D.		
16) Iodomethane	4.00	142	10038	1.4086	ug/L #	91
17) Carbon Dislf	4.08	76	3551	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.65	59	7759	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.36	63	34002	1.5421	ug/L	83
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	26644	2.2159	ug/L	97
33) 2Butanone	6.08	72	3903	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788654.D Vial: 18
Acq On : 22 Oct 2016 17:12 Operator: AGK-RLD
Sample : 131348,788654, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:33:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.72	97	3414	N.D.	
42)	Cyclohexane	6.84	56	2513	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.17	78	4388	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	7.96	95	20942	1.8838 ug/L	89
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.32	166	2533	0.2501 ug/L #	18
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.60	91	3418	N.D.	
76)	m p-Xylene	11.77	106	3238	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788654.D Vial: 18
Acq On : 22 Oct 2016 17:12 Operator: AGK-RLD
Sample : 131348,788654, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:33:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

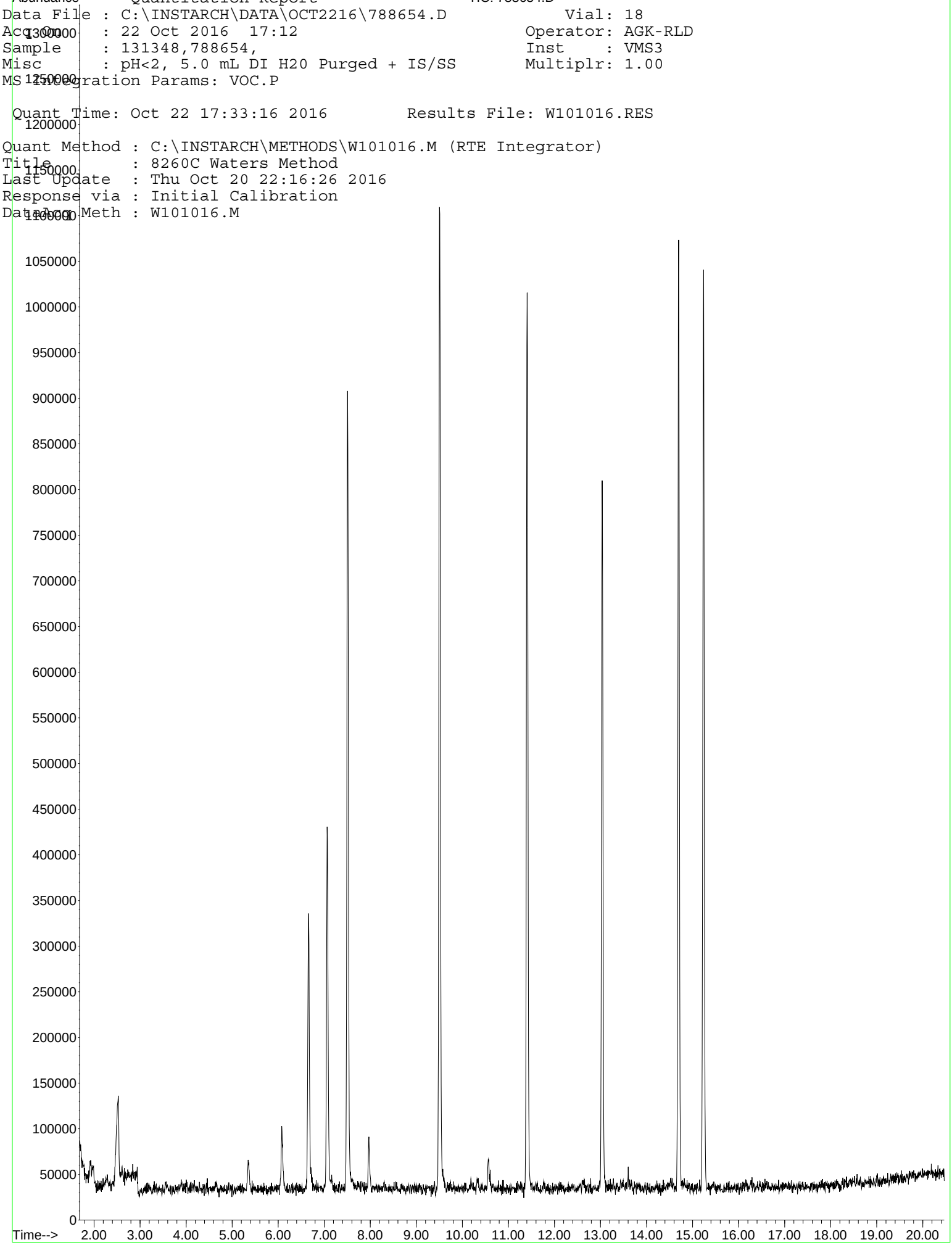
(#) = qualifier out of range (m) = manual integration

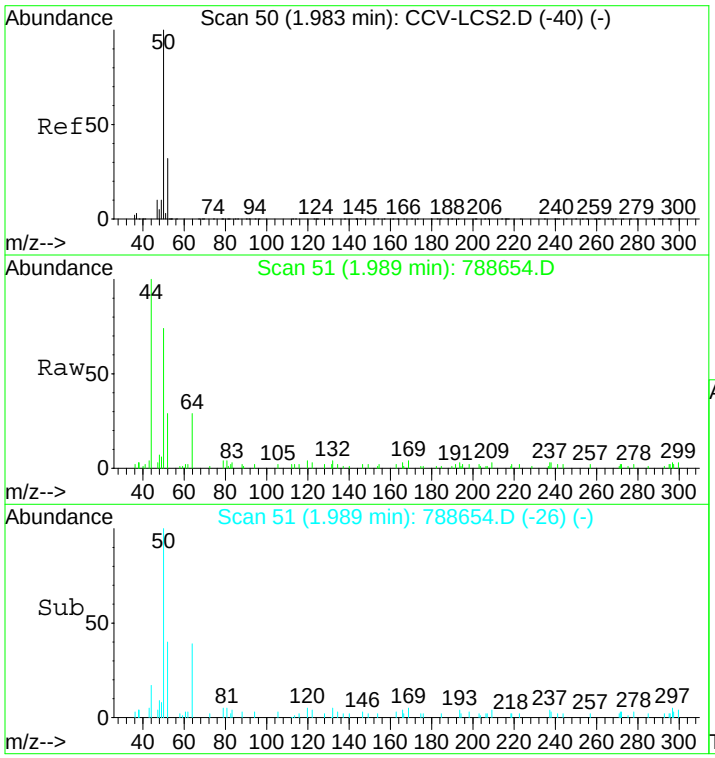
Abundance Quantitation Report TIC: 788654.D

Data File : C:\INSTARCH\DATA\OCT2216\788654.D Vial: 18
Acq On : 22 Oct 2016 17:12 Operator: AGK-RLD
Sample : 131348,788654, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 17:33:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
Data Acq Meth : W101016.M

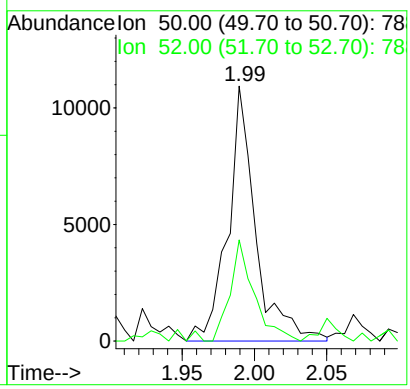


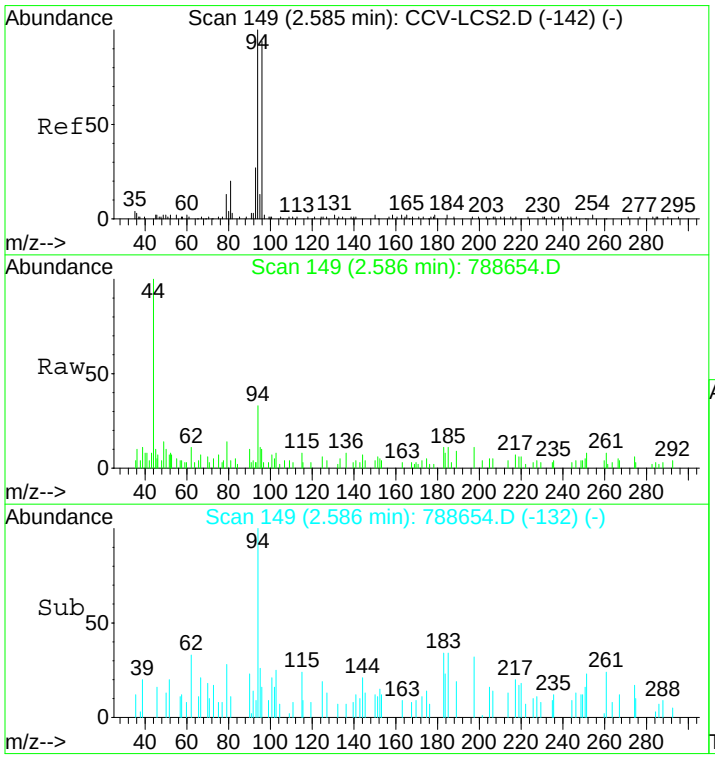


#3
Chloromethan
Concen: 0.55 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 788654.D
Acq: 22 Oct 2016 17:12

Tgt Ion: 50 Resp: 14628

Ion	Ratio	Lower	Upper
50	100		
52	34.2	14.1	54.1

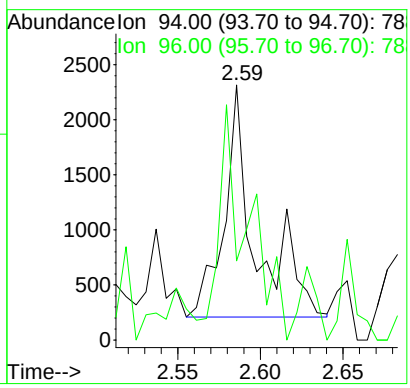




#5
Bromomethane
Concen: 0.62 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: 788654.D
Acq: 22 Oct 2016 17:12

Tgt Ion: 94 Resp: 2748

Ion	Ratio	Lower	Upper
94	100		
96	94.9	62.3	102.3



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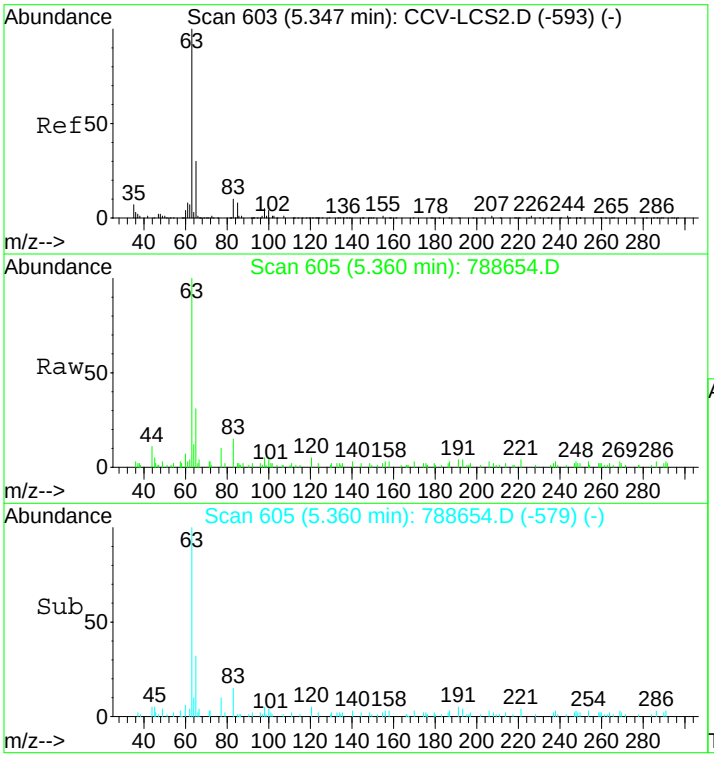
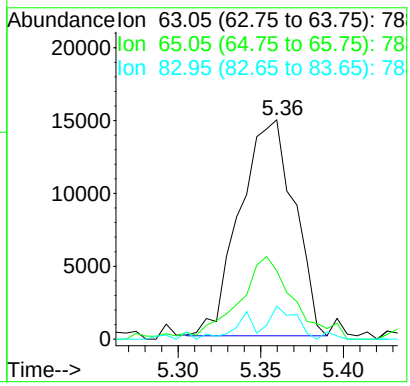
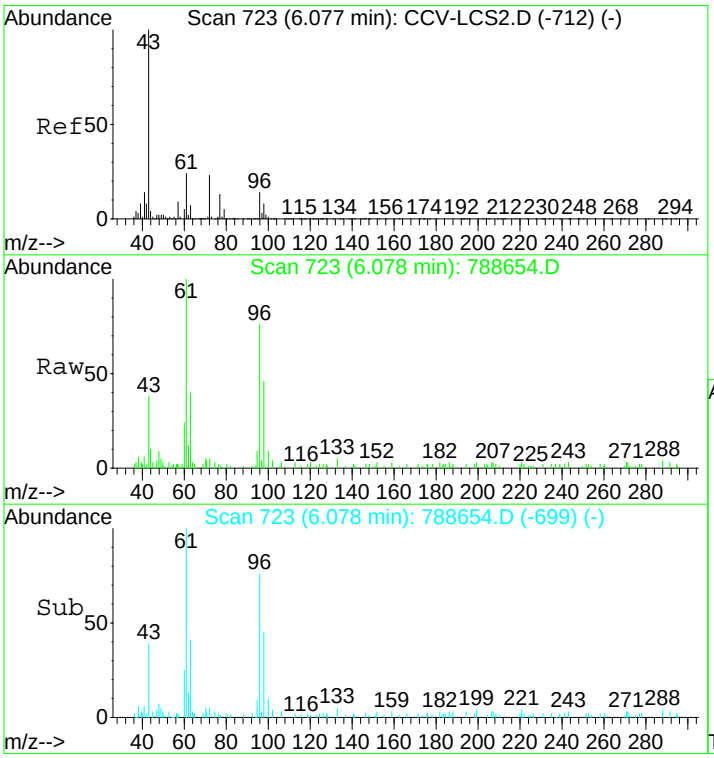


#26
11dichlorota
Concen: 1.54 ug/L
RT: 5.36 min Scan# 605
Delta R.T. 0.01 min
Lab File: 788654.D
Acq: 22 Oct 2016 17:12

Tgt Ion: 63 Resp: 34002

Ion	Ratio	Lower	Upper
63	100		
65	38.7	8.3	48.3
83	7.5	0.0	30.6

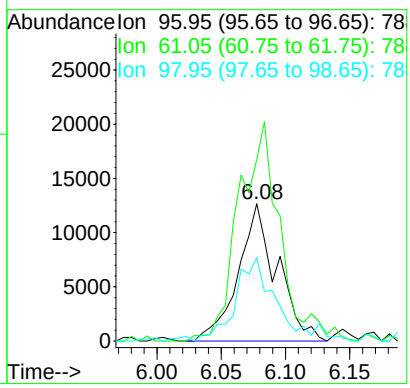


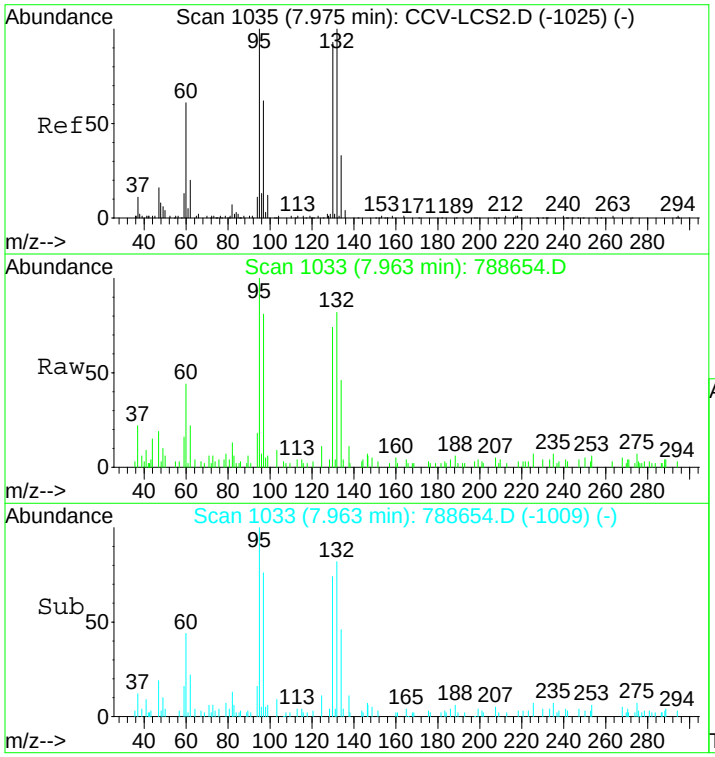


#32
c12dichlorte
Concen: 2.22 ug/L
RT: 6.08 min Scan# 723
Delta R.T. -0.01 min
Lab File: 788654.D
Acq: 22 Oct 2016 17:12

Tgt Ion: 96 Resp: 26644

Ion	Ratio	Lower	Upper
96	100		
61	169.9	155.3	195.3
98	64.3	43.5	83.5

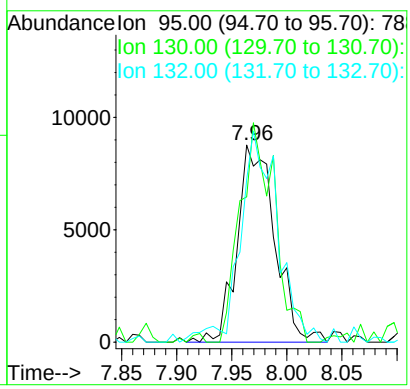


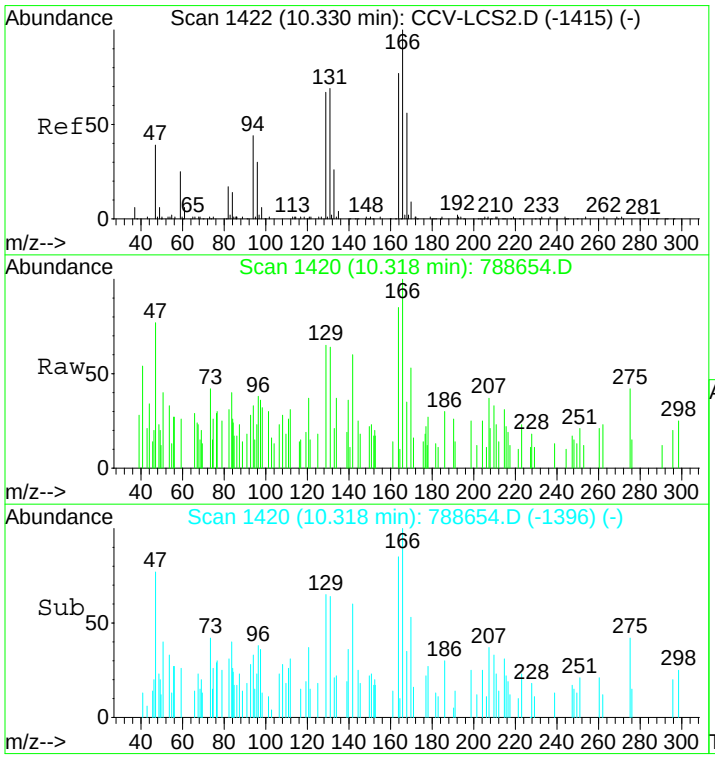


#49
trichloroete
Concen: 1.88 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. -0.01 min
Lab File: 788654.D
Acq: 22 Oct 2016 17:12

Tgt Ion: 95 Resp: 20942

Ion	Ratio	Lower	Upper
95	100		
130	102.0	72.6	112.6
132	106.2	74.1	114.1

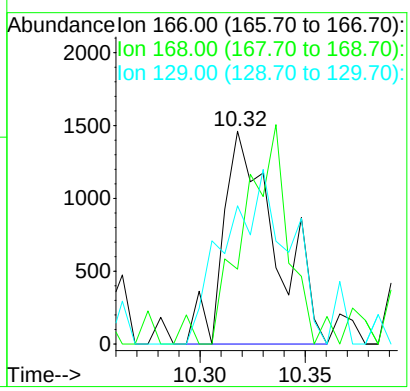




#66
Tetrachlorte
Concen: 0.25 ug/L
RT: 10.32 min Scan# 1420
Delta R.T. -0.01 min
Lab File: 788654.D
Acq: 22 Oct 2016 17:12

Tgt Ion:166 Resp: 2533

Ion	Ratio	Lower	Upper
166	100		
168	0.0	28.1	68.1#
129	0.0	57.2	97.2#



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788655.D Vial: 19
Acq On : 22 Oct 2016 17:42 Operator: AGK-RLD
Sample : 131348,788655, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	879053	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	673772	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	339592	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	213114	19.886	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.07	102	55610	19.000	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.51	98	878133	20.033	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.04	95	306603	17.542	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	12057	0.4557	ug/L	80
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.58	94	3892	0.8757	ug/L	82
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.89	58	2557	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.90	43	10202	N.D.		
16) Iodomethane	4.02	142	8793	1.2300	ug/L #	81
17) Carbon Dislf	4.10	76	2861	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.67	59	7906	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.35	63	8466	0.3843	ug/L #	73
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.07	96	2975	0.2476	ug/L #	62
33) 2Butanone	6.10	72	4251	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788655.D Vial: 19
Acq On : 22 Oct 2016 17:42 Operator: AGK-RLD
Sample : 131348,788655, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	6.72	97	3751	0.2248	ug/L	#	22
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	7.96	95	10813	0.9735	ug/L		92
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788655.D Vial: 19
Acq On : 22 Oct 2016 17:42 Operator: AGK-RLD
Sample : 131348,788655, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

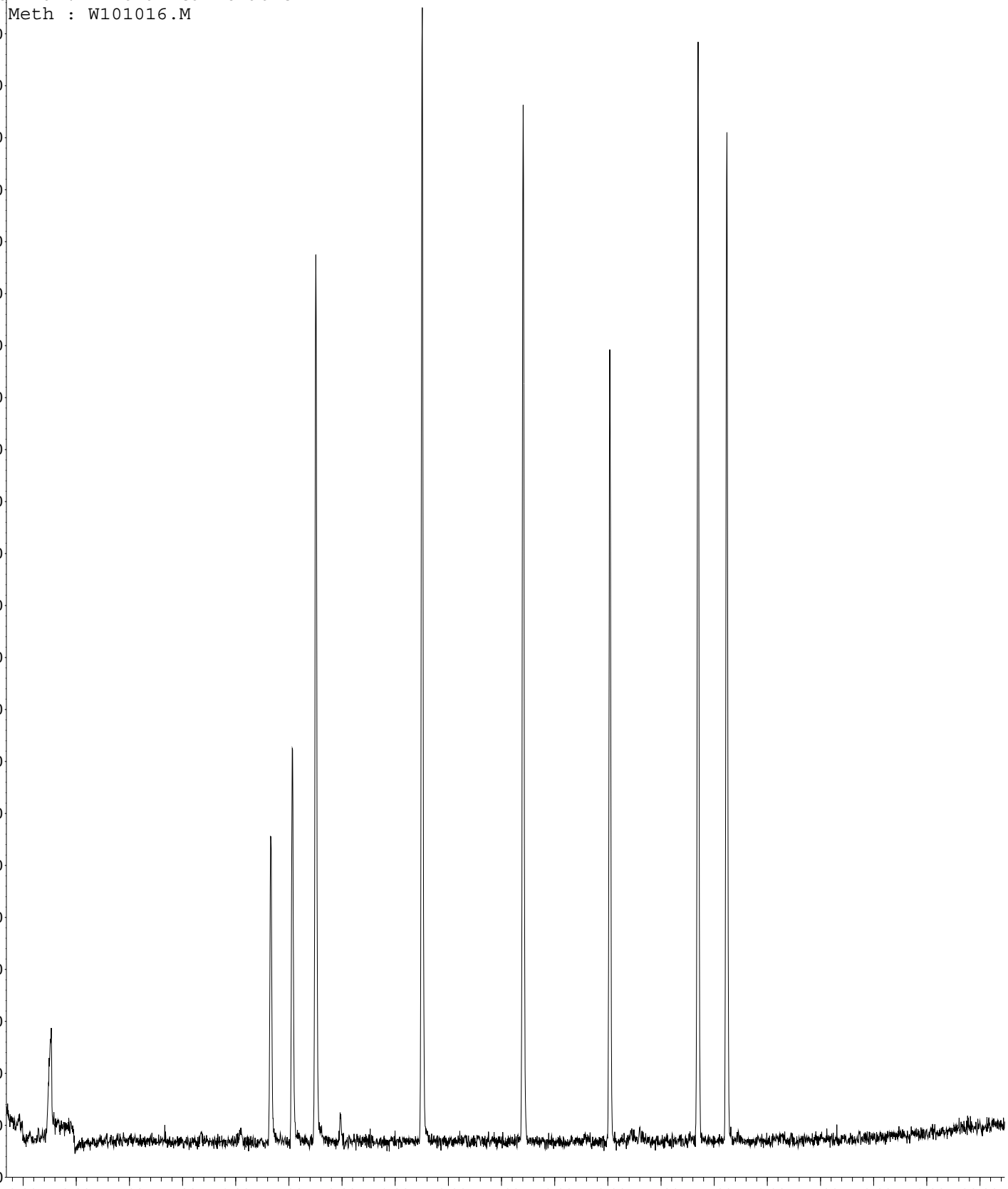
(#) = qualifier out of range (m) = manual integration

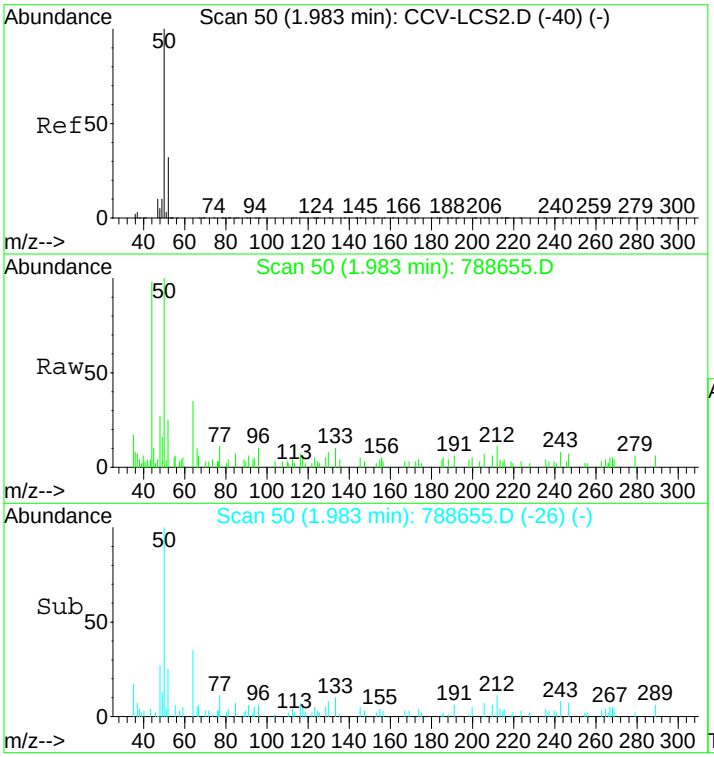
Abundance Quantitation Report TIC: 788655.D

Data File : C:\INSTARCH\DATA\OCT2216\788655.D Vial: 19
Acq On : 22 Oct 2016 17:42 Operator: AGK-RLD
Sample : 131348,788655, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

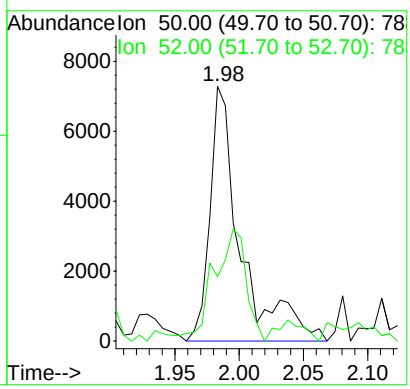


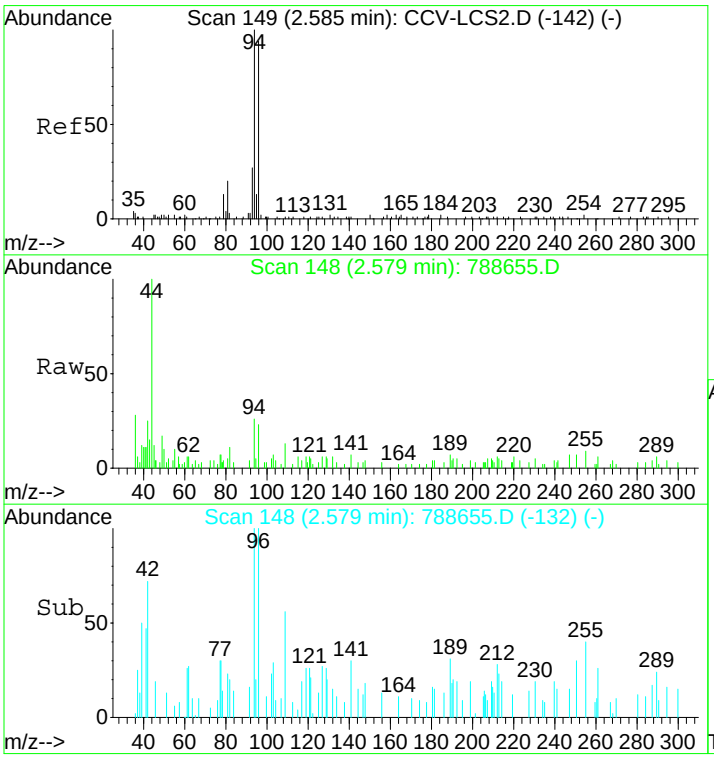


#3
Chloromethan
Concen: 0.46 ug/L
RT: 1.98 min Scan# 50
Delta R.T. -0.01 min
Lab File: 788655.D
Acq: 22 Oct 2016 17:42

Tgt Ion: 50 Resp: 12057

Ion	Ratio	Lower	Upper
50	100		
52	45.8	14.1	54.1

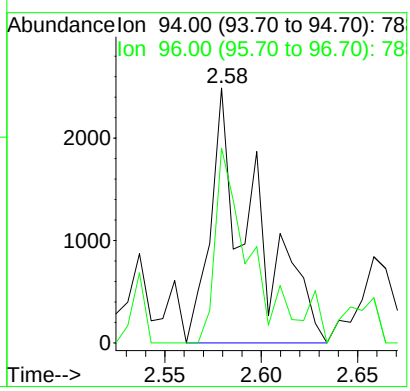


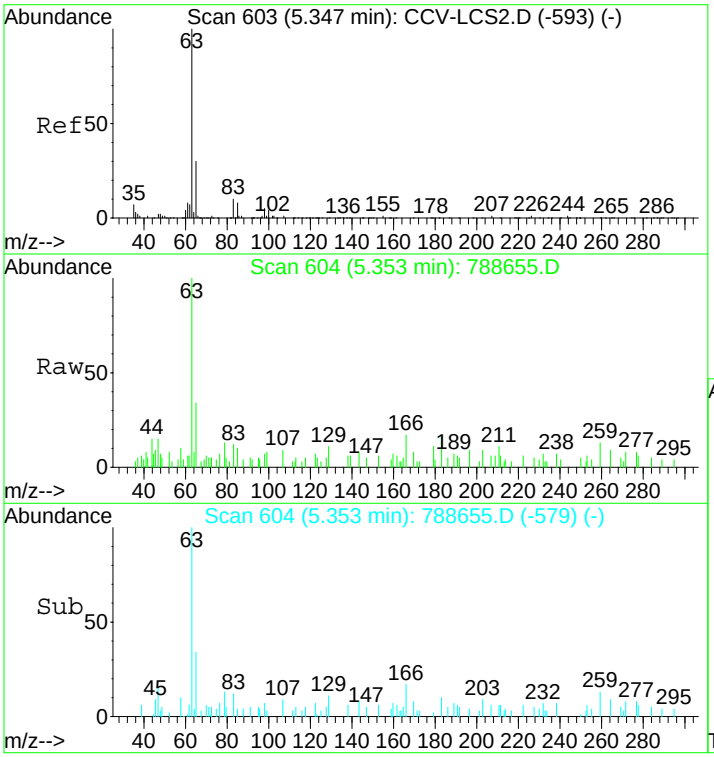


#5
Bromomethane
Concen: 0.88 ug/L
RT: 2.58 min Scan# 148
Delta R.T. -0.01 min
Lab File: 788655.D
Acq: 22 Oct 2016 17:42

Tgt Ion: 94 Resp: 3892

Ion	Ratio	Lower	Upper
94	100		
96	65.8	62.3	102.3

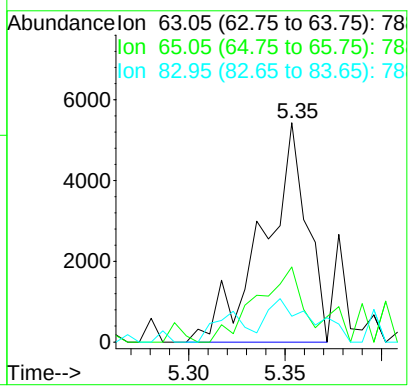


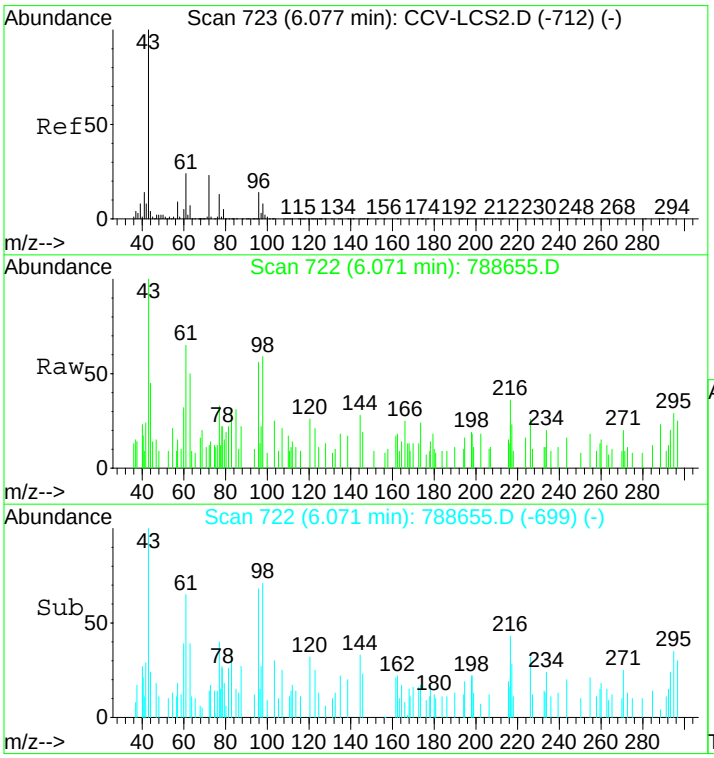


#26
11dichlorota
Concen: 0.38 ug/L
RT: 5.35 min Scan# 604
Delta R.T. 0.00 min
Lab File: 788655.D
Acq: 22 Oct 2016 17:42

Tgt Ion: 63 Resp: 8466

Ion	Ratio	Lower	Upper
63	100		
65	42.4	8.3	48.3
83	0.0	0.0	30.6

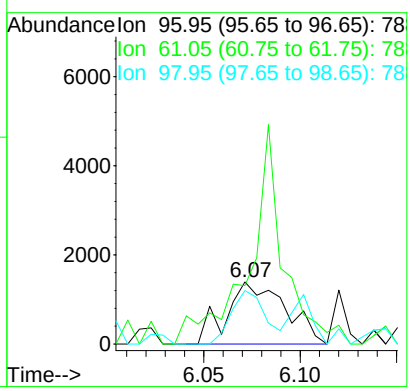


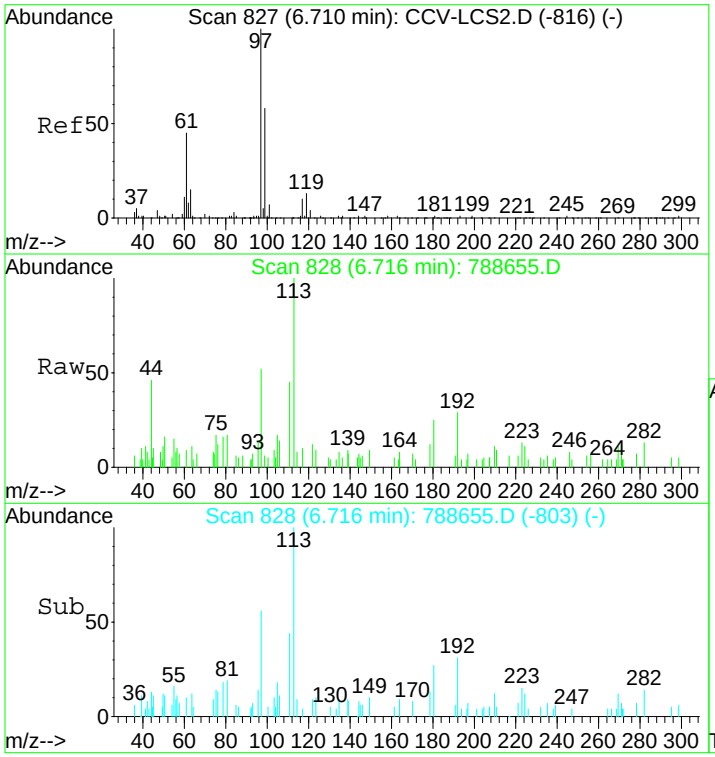


#32
c12dichlorte
Concen: 0.25 ug/L
RT: 6.07 min Scan# 722
Delta R.T. -0.01 min
Lab File: 788655.D
Acq: 22 Oct 2016 17:42

Tgt Ion: 96 Resp: 2975

Ion	Ratio	Lower	Upper
96	100		
61	207.0	155.3	195.3#
98	0.0	43.5	83.5#

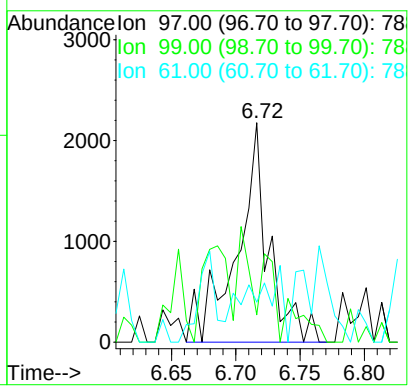


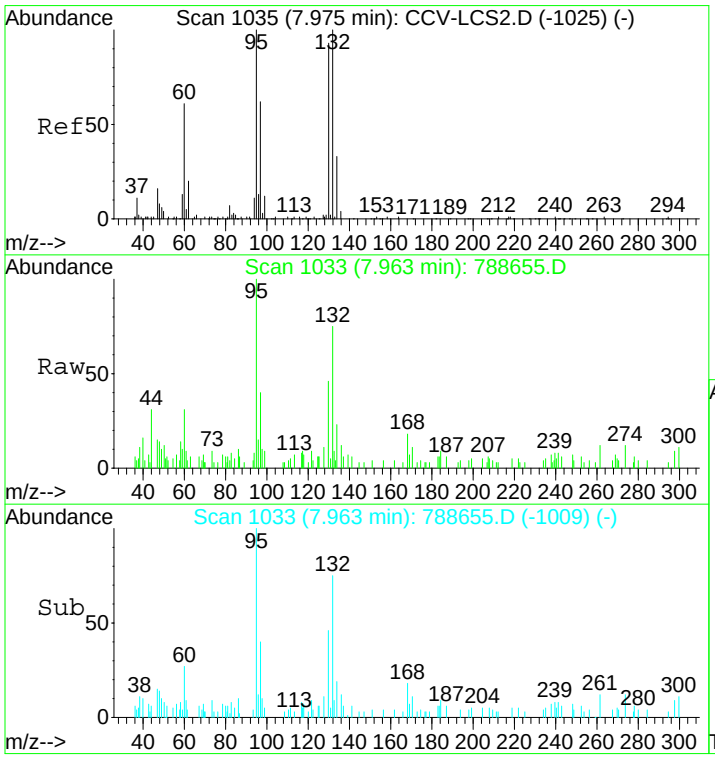


#40
111trichlota
Concen: 0.22 ug/L
RT: 6.72 min Scan# 828
Delta R.T. 0.00 min
Lab File: 788655.D
Acq: 22 Oct 2016 17:42

Tgt Ion: 97 Resp: 3751

Ion	Ratio	Lower	Upper
97	100		
99	0.0	42.9	82.9#
61	0.0	32.6	72.6#

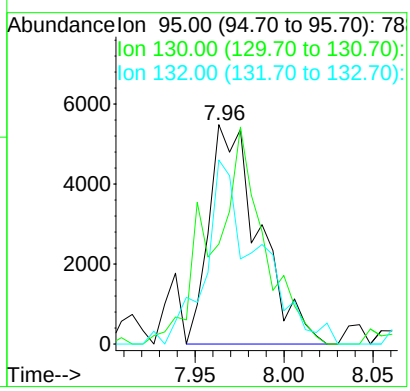




#49
trichloroete
Concen: 0.97 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. -0.01 min
Lab File: 788655.D
Acq: 22 Oct 2016 17:42

Tgt Ion: 95 Resp: 10813

Ion	Ratio	Lower	Upper
95	100		
130	101.3	72.6	112.6
132	87.3	74.1	114.1



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788656.D Vial: 20
Acq On : 22 Oct 2016 18:13 Operator: AGK-RLD
Sample : 131348,788656, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:33:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	847432	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	652746	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	326306	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	198576	19.221	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.07	102	56451	20.007	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.51	98	851328	20.146	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.04	95	303696	18.083	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	13984	0.5482	ug/L	94
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.89	58	17719	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.89	43	53030	5.5388	ug/L	98
16) Iodomethane	4.01	142	10588	1.5464	ug/L #	76
17) Carbon Dislf	4.12	76	2754	N.D.		
18) allylchloride	4.25	41	4162	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.66	59	11408	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788656.D Vial: 20
Acq On : 22 Oct 2016 18:13 Operator: AGK-RLD
Sample : 131348,788656, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:33:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.41	43	2917	Below Cal #	30
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\788656.D Vial: 20
Acq On : 22 Oct 2016 18:13 Operator: AGK-RLD
Sample : 131348,788656, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:33:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.84	128	2541	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

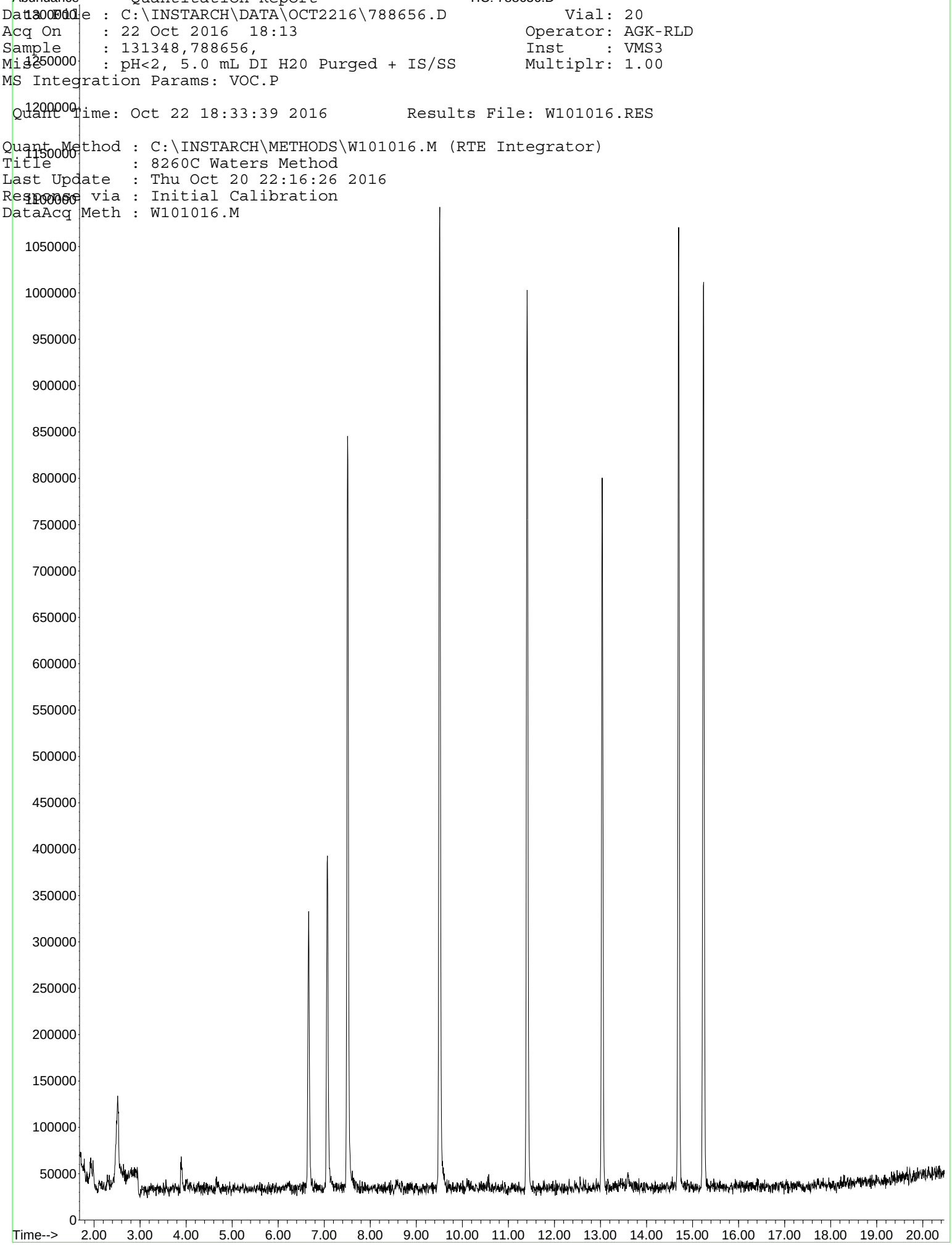
(#) = qualifier out of range (m) = manual integration

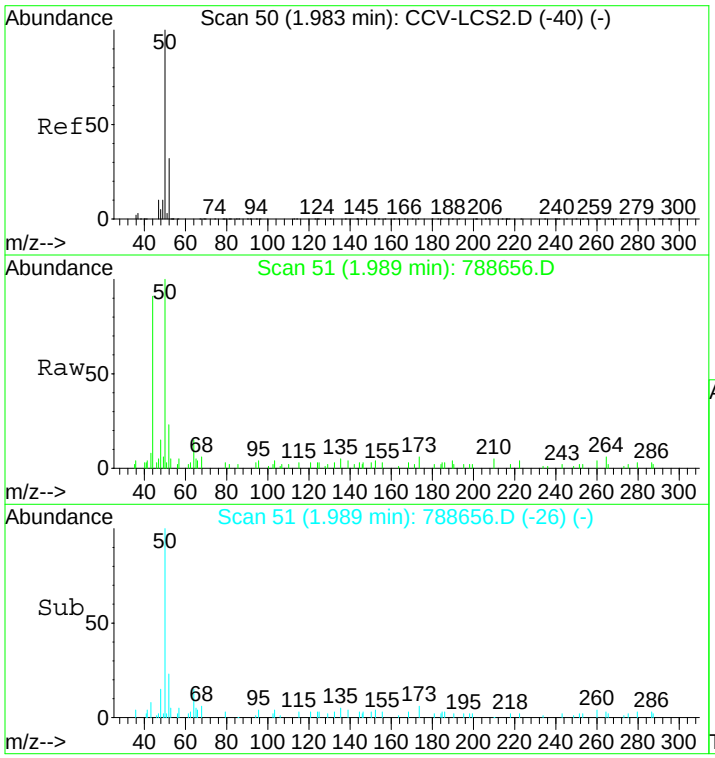
Abundance Quantitation Report TIC: 788656.D

Data File : C:\INSTARCH\DATA\OCT2216\788656.D Vial: 20
Acq On : 22 Oct 2016 18:13 Operator: AGK-RLD
Sample : 131348,788656, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:33:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

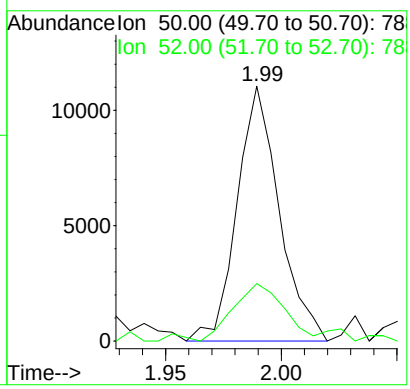


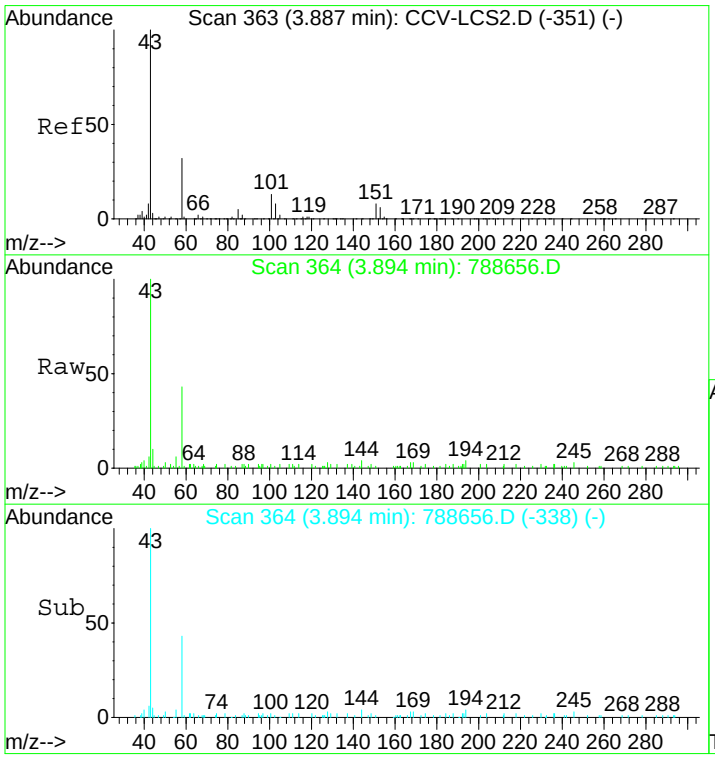


#3
Chloromethan
Concen: 0.55 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: 788656.D
Acq: 22 Oct 2016 18:13

Tgt Ion: 50 Resp: 13984

Ion	Ratio	Lower	Upper
50	100		
52	30.7	14.1	54.1

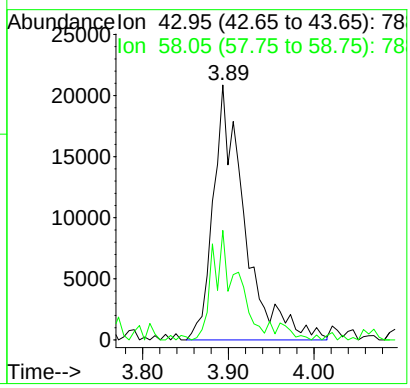




#15
Acetone
Concen: 5.54 ug/L
RT: 3.89 min Scan# 364
Delta R.T. 0.01 min
Lab File: 788656.D
Acq: 22 Oct 2016 18:13

Tgt Ion: 43 Resp: 53030

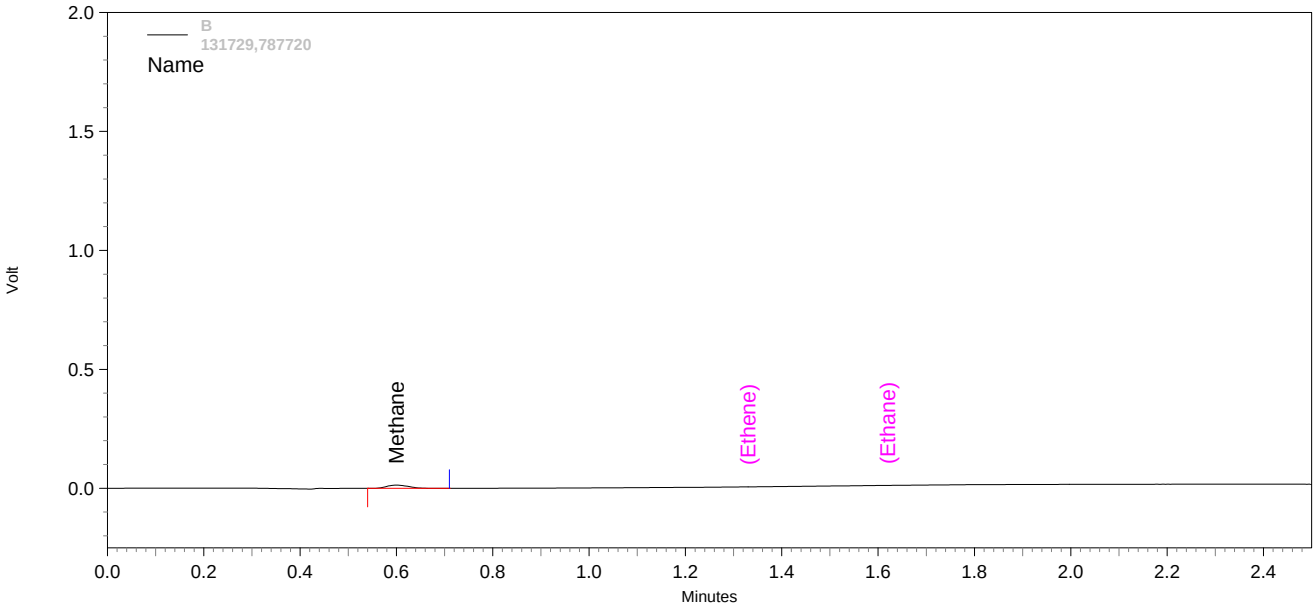
Ion	Ratio	Lower	Upper
43	100		
58	33.4	12.2	52.2



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,787720
Acquired: Oct 24, 2016 13:53:33
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

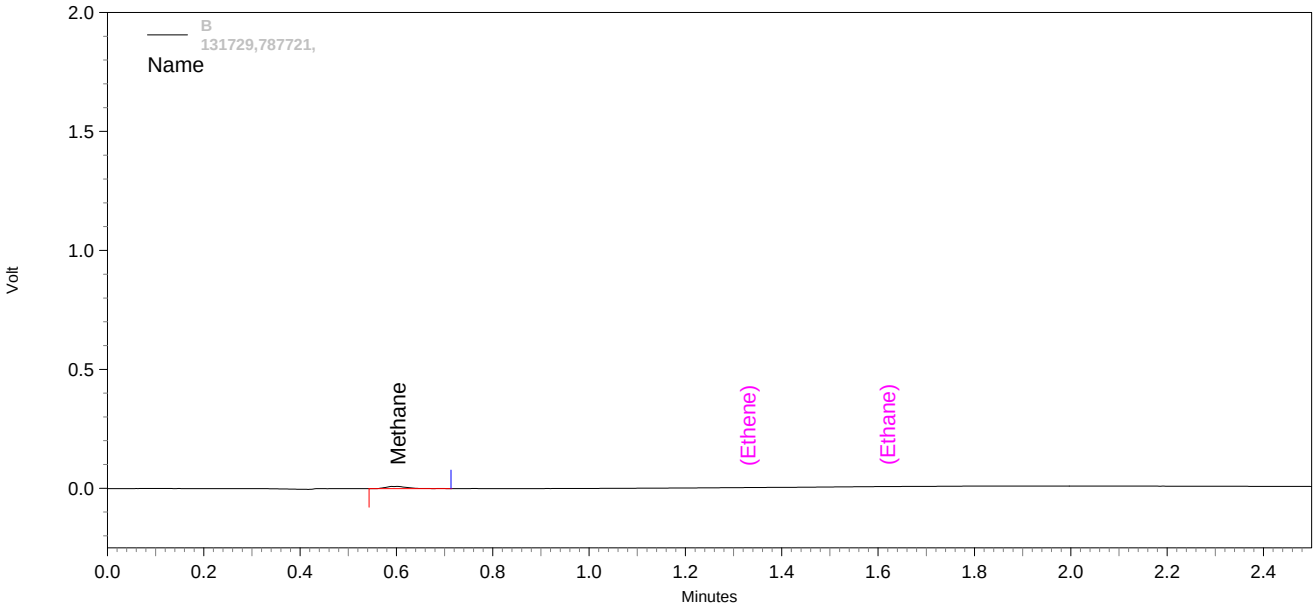
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	41822	**4.603**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			41822	**4.603**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,787721,
Acquired: Oct 24, 2016 13:57:20
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

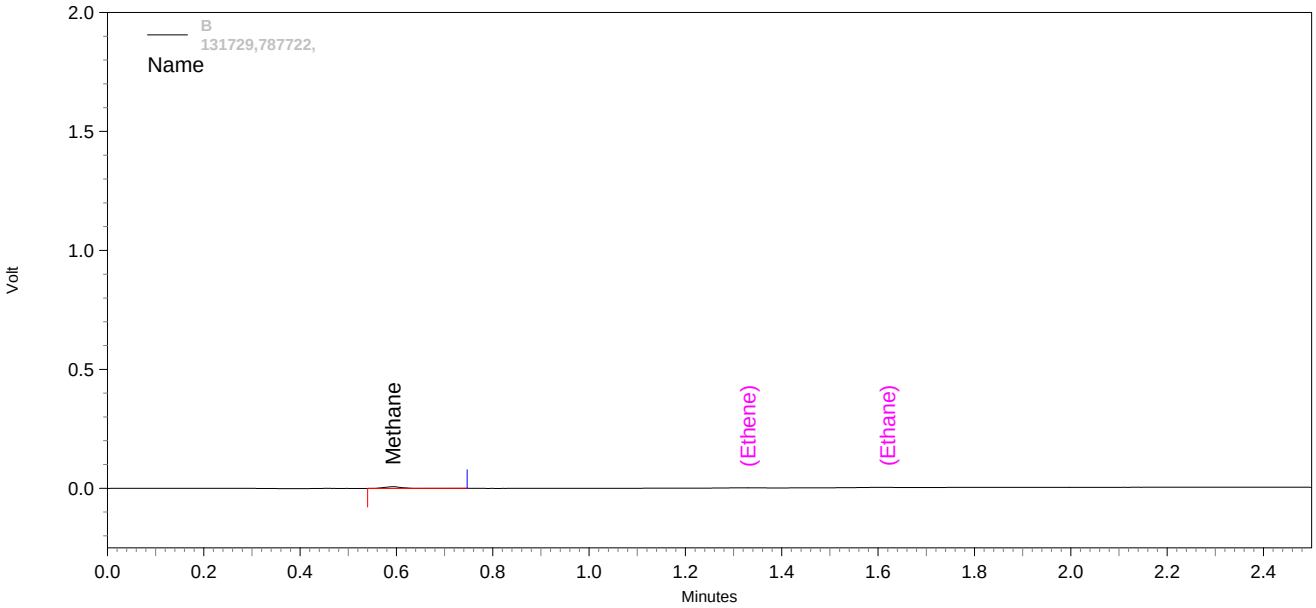
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	31274	**3.421**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			31274	**3.421**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,787722,
Acquired: Oct 24, 2016 14:08:47
File Desc. 1.0 mL injection (Methane, Et



B Results

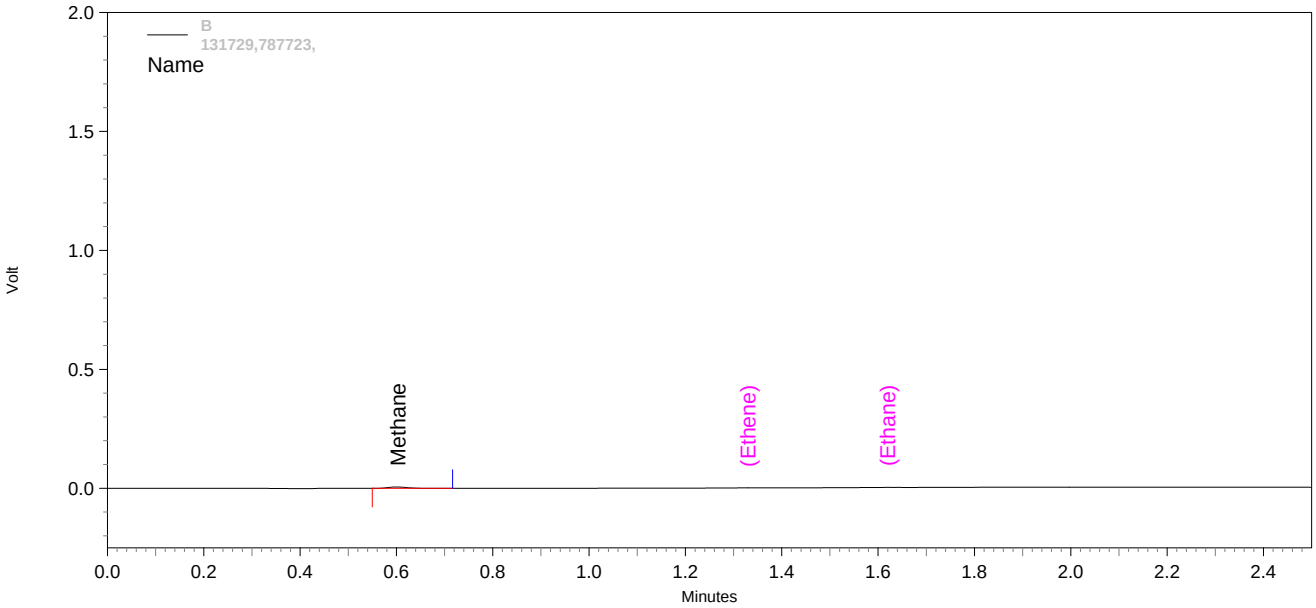
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	17737	**1.903**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			17737	**1.903**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,787723,
Acquired: Oct 24, 2016 14:17:55
File Desc. 1.0 mL injection (Methane, Et



B Results

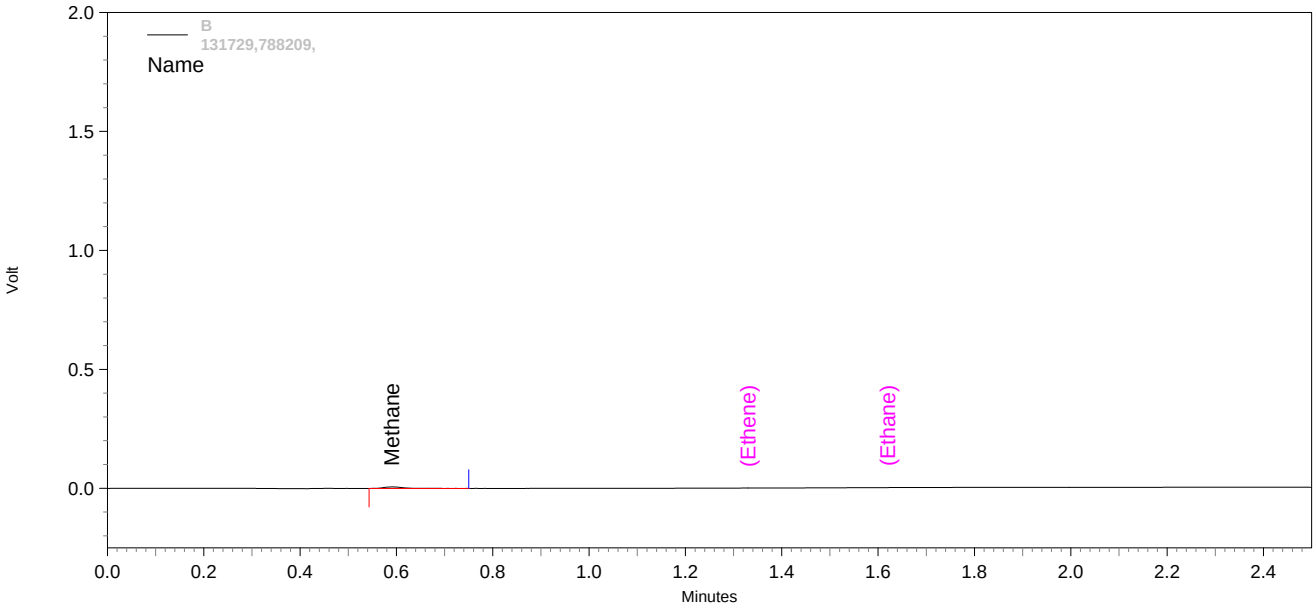
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	15244	**1.623**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			15244	**1.623**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788209,
Acquired: Oct 24, 2016 14:21:14
File Desc. 1.0 mL injection (Methane, Et



B Results

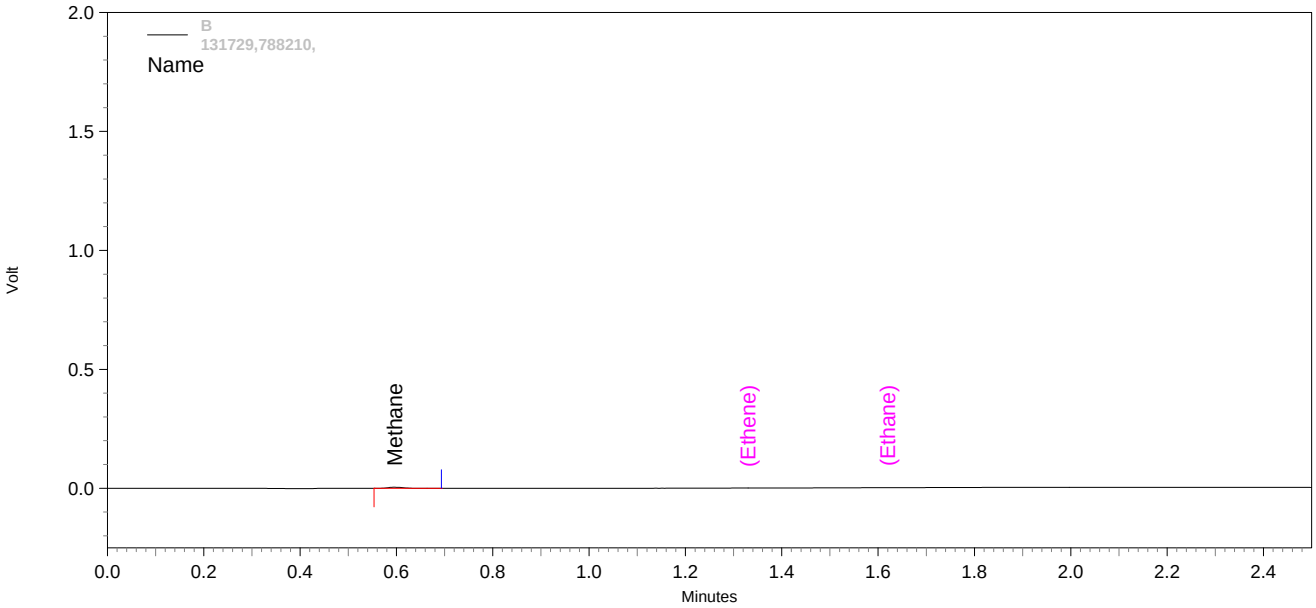
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	16150	**1.725**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			16150	**1.725**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788210,
Acquired: Oct 24, 2016 14:26:51
File Desc. 1.0 mL injection (Methane, Et



B Results

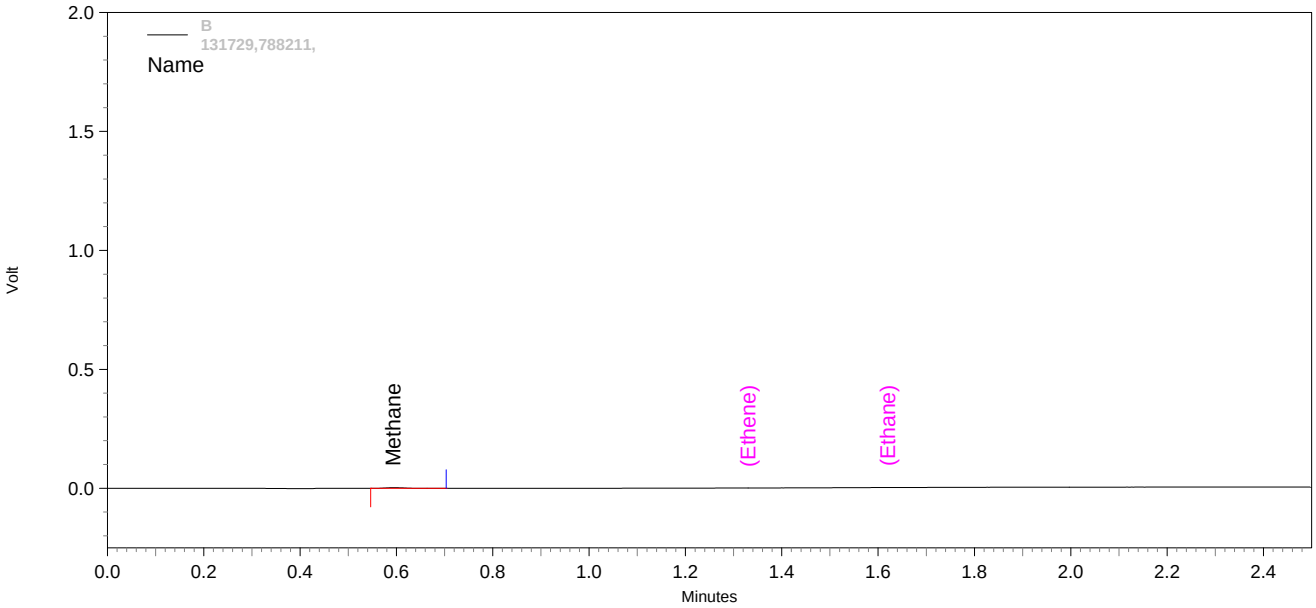
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	10609	**1.103**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10609	**1.103**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788211,
Acquired: Oct 24, 2016 14:30:33
File Desc. 1.0 mL injection (Methane, Et



B Results

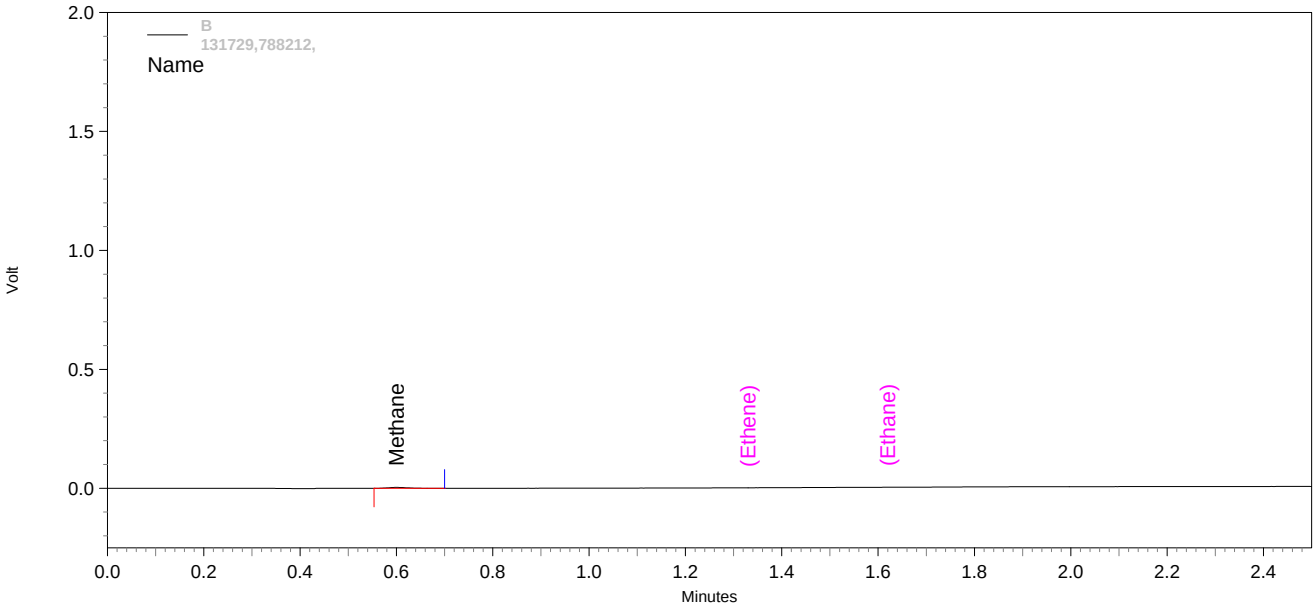
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	7497	**0.754**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			7497	**0.754**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788212,
Acquired: Oct 24, 2016 14:35:17
File Desc. 1.0 mL injection (Methane, Et



B Results

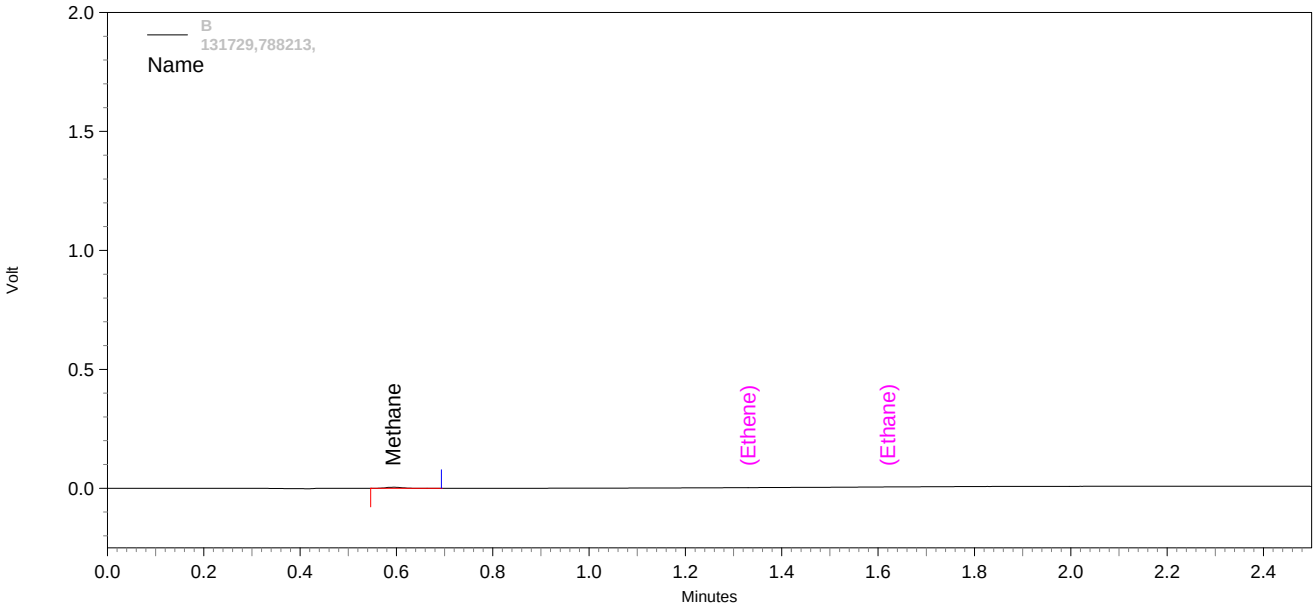
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	9545	**0.984**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			9545	**0.984**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788213,
Acquired: Oct 24, 2016 14:38:52
File Desc. 1.0 mL injection (Methane, Et



B Results

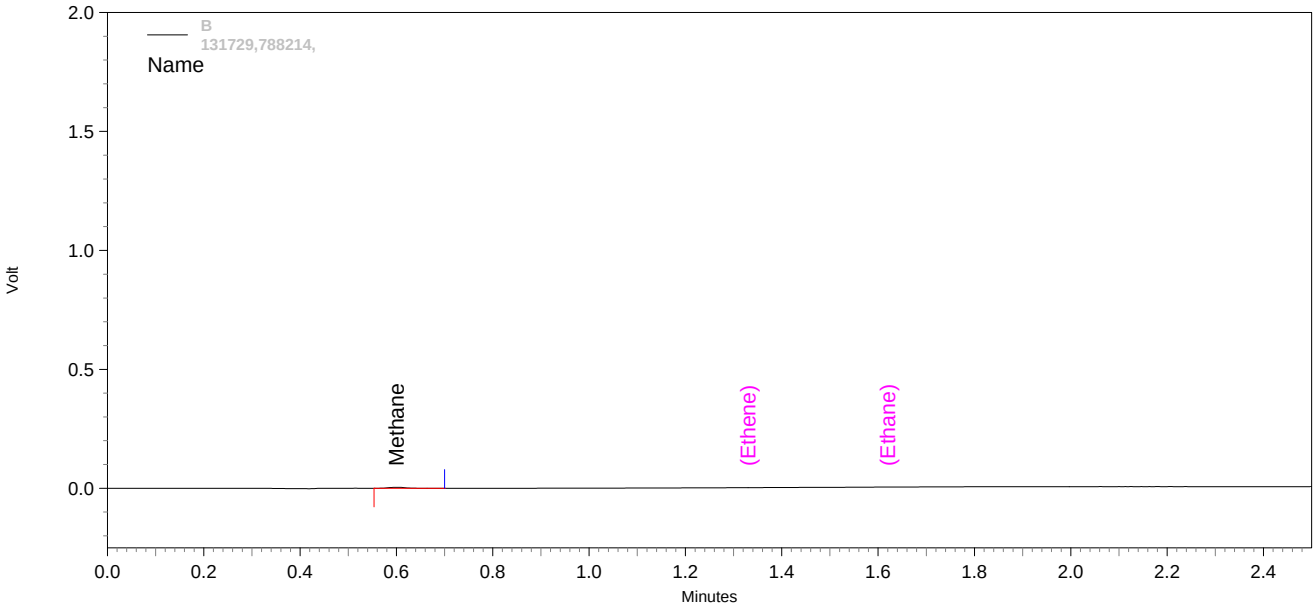
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	10699	**1.113**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10699	**1.113**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788214,
Acquired: Oct 24, 2016 14:43:56
File Desc. 1.0 mL injection (Methane, Et



B Results

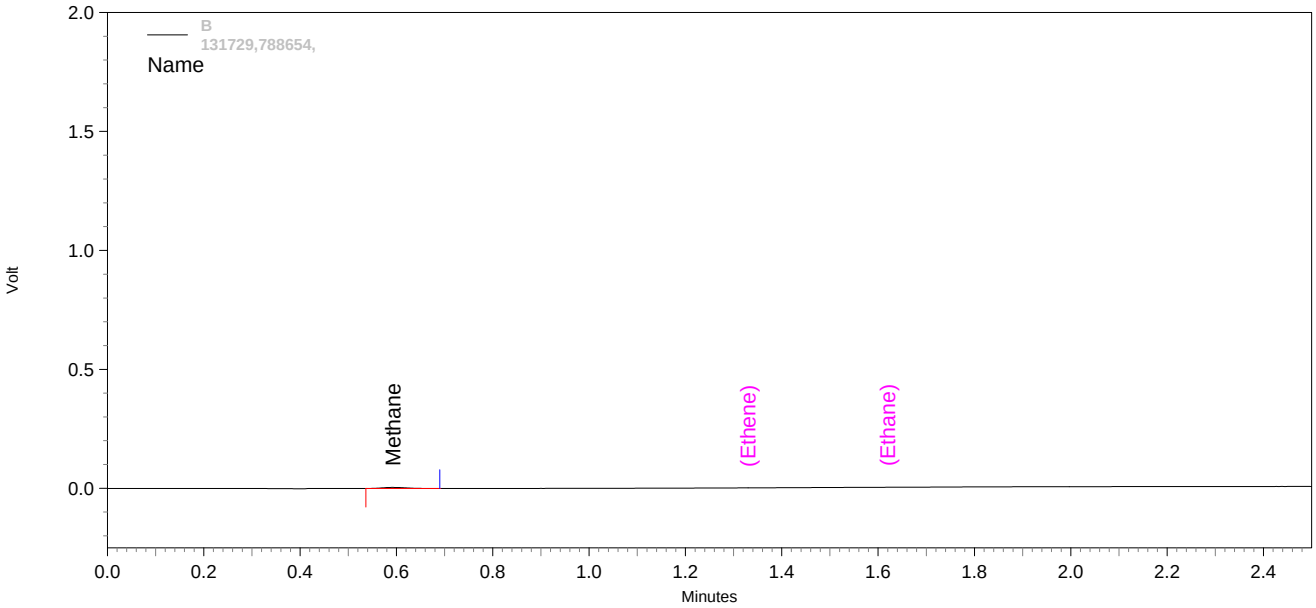
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	10175	**1.055**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10175	**1.055**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788654,
Acquired: Oct 24, 2016 14:47:47
File Desc. 1.0 mL injection (Methane, Et



B Results

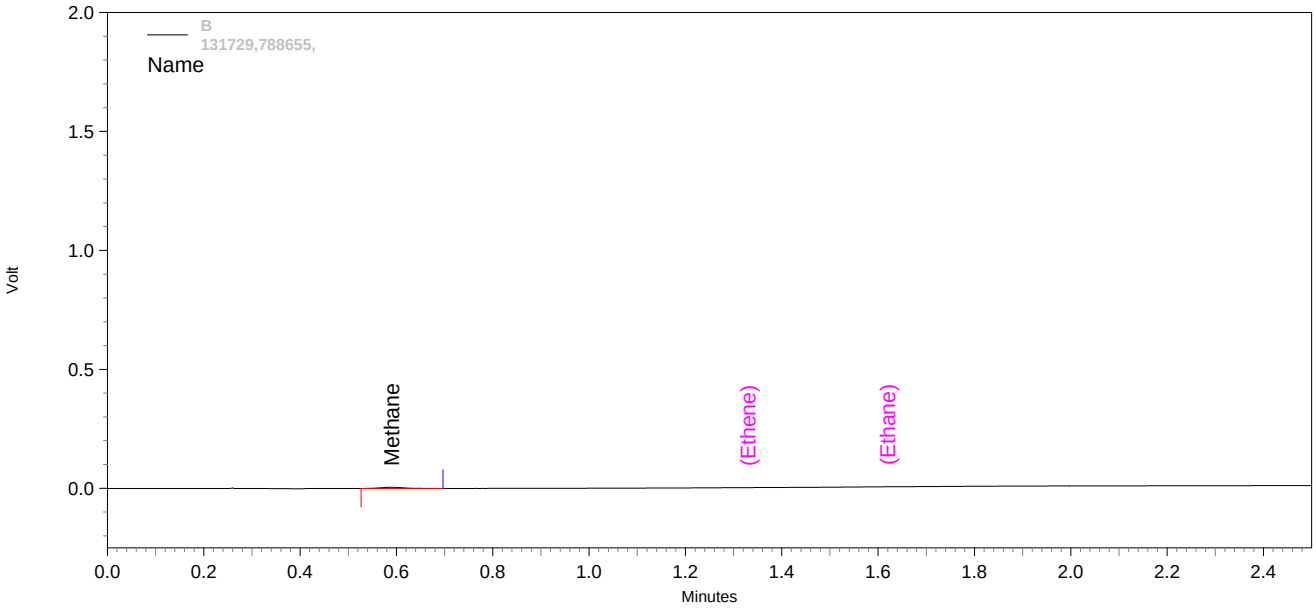
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	14099	**1.495**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			14099	**1.495**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788655,
Acquired: Oct 24, 2016 14:51:26
File Desc. 1.0 mL injection (Methane, Et



B Results

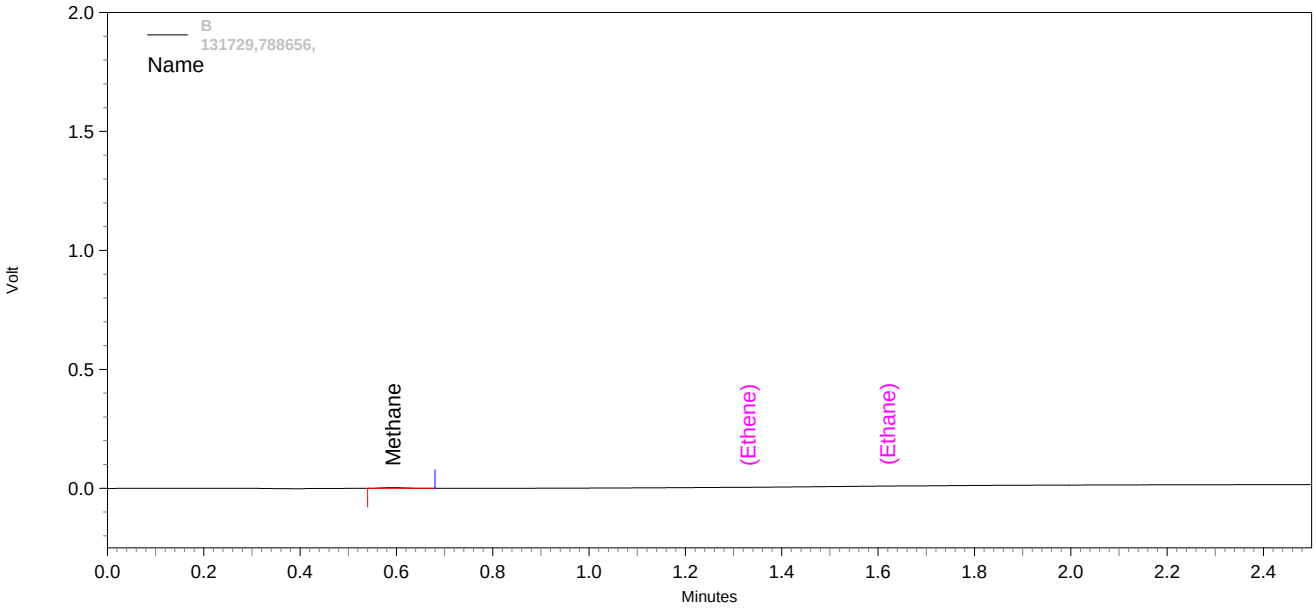
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	15008	**1.597**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			15008	**1.597**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,788656,
Acquired: Oct 24, 2016 14:55:12
File Desc. 1.0 mL injection (Methane, Et



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	10230	**1.061**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10230	**1.061**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W101016.M
Title : 8260C Waters Method
Last Update : Sat Oct 15 18:30:06 2016
Response Via : Initial Calibration

RJ 10/19/2016

Calibration Files ug/L
1 0.50/5.0 =WCAL1.D 2 2.0/20.0 =WCAL2.D 3 5.0/50.0 =WCAL3.D
4 10.0/100 =WCAL4.D 5 20.0/200 =WCAL5.D 6 30.0/300 =WCAL6.D
7 40.0/400 =WCAL7.D 8 80.0/800 =WCAL8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.214	0.189	0.229	0.227	0.222	0.214	0.213	0.212		6.94
3)	PT	Chloromethan	0.768	0.597	0.647	0.629	0.602	0.577	0.538	0.602		14.94
4)	PT	VinylChlorid	0.485	0.402	0.411	0.400	0.391	0.375	0.380	0.397		10.86
5)	PT	Bromomethane	0.129	0.096	0.107	0.101	0.097	0.089	0.097	0.101		12.53
6)	PT	Chloroethane	0.303	0.255	0.268	0.257	0.244	0.240	0.246	0.255		9.05
7)	T	Dichloroflmetha	0.481	0.471	0.480	0.454	0.447	0.425	0.425	0.446		7.40
8)	PT	Trichlorofma	0.317	0.304	0.317	0.343	0.315	0.315	0.303	0.312		5.46
9)	T	Ethylether	0.260	0.271	0.266	0.258	0.251	0.249	0.248	0.255		4.55
10)	T	dichlorotfluoro	0.330	0.277	0.273	0.263	0.261	0.254	0.255	0.269		10.00
11)	T	propyleneoxide	0.096	0.085	0.086	0.081	0.073	0.071	0.067	0.078		13.80
12)	T	Acrolein	0.125	0.124	0.142	0.125	0.121	0.118	0.115	0.122		8.78
13)	PT	11dichlorthe	0.223	0.205	0.213	0.214	0.216	0.215	0.212	0.213		2.80
14)	PT	Trichlorotfluor	0.198	0.193	0.214	0.213	0.209	0.205	0.199	0.202		4.84
15)	PT	Acetone	0.210	0.271	0.247	0.253	0.219	0.200	0.182	0.226		14.12
16)	T	Iodomethane	0.228	0.190	0.172	0.147	0.153	0.154	0.167	-----		
			0.163									
									Q	A= 0.001 R=0.999		
										B= 0.157		
										C= 0.000		
17)	PT	Carbon Dislf	0.634	0.633	0.648	0.627	0.595	0.573	0.552	0.589		10.92
			0.453									
18)	T	allylchloride	0.342	0.418	0.431	0.408	0.389	0.358	0.344	0.384		9.54
19)	PT	methylacetate	0.152	0.144	0.158	0.147	0.149	0.151	0.150	0.150		2.71
			0.148									
20)	PT	Methylchlorid	0.437	0.330	0.297	0.268	0.257	0.243	0.249	-----		
			0.231									
									Q	A= -0.006 R=1.000		
										B= 0.254		
										C= 0.008		
21)	T	tbutylalcohol	0.097	0.095	0.104	0.090	0.072	0.064	0.059	-----		
			0.040									
									Q	A= -0.000 R=0.997		
										B= 0.076		
										C= 0.219		
22)	T	Acrylonitrile	0.207	0.209	0.219	0.207	0.193	0.189	0.181	0.195		10.13
			0.157									

23)	PT	t12dichlorte	0.284	0.226	0.243	0.239	0.232	0.236	0.236	0.240	7.92
			0.222								
24)	PT	MtBE	0.753	0.760	0.804	0.725	0.718	0.708	0.705	0.725	7.10
			0.627								
25)	T	Hexane	0.446	0.438	0.462	0.460	0.453	0.434	0.415	0.434	7.50
			0.363								
26)	PT	11dichlorota	0.503	0.582	0.526	0.506	0.495	0.475	0.482	0.501	8.19
			0.442								
27)	T	Vinylacetate	0.731	0.741	0.705	0.534	0.506	0.435	0.382	-----	

Q A= -0.011 R=0.998
B= 0.596
C= 0.135

28)	T	chloroprene	0.524	0.533	0.560	0.537	0.534	0.503	0.487	0.511	9.06
			0.411								
29)	T	Diisopether	1.063	1.158	1.066	0.958	0.959	0.920	0.980	0.986	11.48
			0.782								
30)	T	ETBE	0.947	0.956	0.981	0.927	0.910	0.892	0.869	0.907	7.23
			0.771								
31)	T	22dichloropr	0.459	0.399	0.389	0.371	0.371	0.352	0.351	0.378	10.30
			0.333								
32)	PT	c12dichlorte	0.300	0.305	0.277	0.260	0.271	0.258	0.264	0.273	7.25
			0.251								
33)	PT	2Butanone	0.065	0.066	0.078	0.072	0.067	0.066	0.063	0.067#	8.99
			0.058								
34)	T	propionitrile	0.086	0.091	0.097	0.095	0.085	0.085	0.083	0.087	8.54
			0.074								
35)	T	Ethylacetate	0.017	0.017	0.019	0.017	0.018	0.017	0.017	0.017#	4.11
			0.017								
36)	T	methacrylonitri	0.179	0.176	0.204	0.183	0.180	0.181	0.181	0.182	5.33
			0.170								
37)	T	Bromochlorma	0.112	0.108	0.106	0.097	0.091	0.093	0.088	0.097	10.77
			0.082								
38)	T	Tetrahydofur	0.163	0.213	0.205	0.201	0.182	0.174	0.163	0.186	11.14
39)	PT	Chloroform	0.506	0.474	0.454	0.424	0.431	0.418	0.423	0.440	8.24
			0.392								
40)	PT	111trichlota	0.396	0.382	0.405	0.389	0.373	0.368	0.373	0.380	4.51
			0.351								
41)	S	SURRDibrflma	0.236	0.241	0.242	0.249	0.252	0.238	0.245	0.244	2.26
			0.247								
42)	PT	Cyclohexane	0.580	0.531	0.592	0.582	0.572	0.553	0.542	0.556	5.56
			0.500								
43)	PT	Carbtetraclo	0.230	0.276	0.295	0.289	0.277	0.279	0.276	0.274	7.12
			0.268								
44)	T	11dicloprope	0.107	0.129	0.112	0.118	0.114	0.120	0.120	0.117	5.65
			0.117								
45)	S	SURR12DCAd4	0.064	0.067	0.069	0.070	0.067	0.061	0.068	0.067	4.25
			0.066								
46)	PT	Benzene	1.098	1.077	1.070	1.019	0.995	0.955	0.949	0.996	9.50
			0.807								
47)	PT	12dichlorota	0.395	0.397	0.420	0.394	0.386	0.391	0.385	0.391	4.47
			0.357								
48)	T	TAME	0.759	0.813	0.777	0.751	0.753	0.722	0.725	0.744	6.35
			0.652								
49)	PT	trichloroete	0.219	0.287	0.256	0.264	0.253	0.249	0.253	0.253	7.65
			0.241								
50)	PT	methylcyclohexa	0.376	0.423	0.456	0.434	0.432	0.421	0.425	0.421	5.75
			0.398								
51)	PT	12dicloropra	0.396	0.339	0.308	0.312	0.314	0.314	0.313	0.324	9.64
			0.297								
52)	T	23Dicl1propene	0.428	0.441	0.406	0.394	0.394	0.381	0.390	0.400	6.18
			0.365								
53)	T	Dibromometha	0.171	0.168	0.169	0.157	0.162	0.161	0.163	0.164	2.92
			0.160								
54)	T	methylmethacryl	0.271	0.299	0.283	0.277	0.278	0.282	0.279	0.279	3.57
			0.264								
55)	T	14dioxane	0.004	0.003	0.003	0.003	0.003	0.002	0.003	0.003#	14.68
			0.003								
56)	PT	Bromodiclrma	0.291	0.323	0.344	0.334	0.328	0.320	0.324	0.322	5.01

			0.309								
57)	T	2Nitropropane	0.179	0.182	0.192	0.180	0.168	0.163	0.154	0.167	13.65
			0.119								
58)	T	2CLEVE	0.010	0.010	0.010	0.017	0.015	0.015	0.014	-----	#
			0.017								
								Q	A=	0.000	R=0.997
									B=	0.013	
									C=	0.001	
59)	PT	c13dicloproe	0.424	0.438	0.435	0.402	0.416	0.402	0.403	0.412	4.90
			0.377								
60)	PT	4Meth2Pentan	0.590	0.587	0.594	0.528	0.432	0.364	0.317	-----	
								Q	A=	-0.012	R=0.998
									B=	0.540	
									C=	0.106	
61)	S	SURRd8Tolule	0.969	0.988	0.989	1.016	1.002	1.004	1.019	0.997	1.64
			0.992								
62)	PT	Toluene	0.649	0.634	0.644	0.636	0.629	0.606	0.597	0.617	5.77
			0.541								
63)	PT	t13Dicloprop	0.352	0.378	0.374	0.365	0.380	0.360	0.374	0.367	3.04
			0.352								
64)	T	ethylmethacryla	0.430	0.429	0.444	0.424	0.428	0.410	0.413	0.417	6.36
			0.357								
65)	PT	112Triclotha	0.205	0.193	0.210	0.209	0.205	0.202	0.207	0.204	2.68
			0.200								
66)	PT	Tetrachlorte	0.174	0.252	0.245	0.244	0.243	0.232	0.227	0.230	10.71
			0.223								
67)	T	13Diclorpropa	0.491	0.455	0.448	0.415	0.429	0.411	0.419	0.432	7.25
			0.391								
68)	I	d5-CHLOROBENZENE**IST	----------ISTD----------								
69)	PT	2Hexanone	0.663	0.645	0.693	0.616	0.511	0.442	0.373	-----	
								Q	A=	-0.014	R=0.999
									B=	0.656	
									C=	0.067	
70)	PT	Clorodibrmta	0.309	0.329	0.301	0.301	0.317	0.318	0.314	0.312	2.96
			0.311								
71)	PT	12Dibrometha	0.331	0.367	0.339	0.335	0.339	0.344	0.336	0.340	3.42
			0.330								
72)	PT	Chlorobenzen	0.893	0.933	0.922	0.897	0.885	0.859	0.828	0.873	6.31
			0.764								
73)	T	1Clhexane	0.566	0.528	0.504	0.504	0.512	0.498	0.478	0.507	5.97
			0.468								
74)	T	1112Tetclota	0.301	0.288	0.306	0.282	0.295	0.300	0.294	0.295	2.57
			0.296								
75)	PT	Ethylbenzene	1.608	1.719	1.757	1.626	1.593	1.519	1.445	1.560	10.99
			1.215								
76)	PT	m p-Xylene	0.633	0.615	0.632	0.603	0.599	0.570	0.549	0.586	8.25
			0.491								
77)	PT	o-Xylene	0.575	0.621	0.584	0.588	0.598	0.577	0.565	0.580	4.29
			0.535								
78)	PT	Styrene	0.922	0.947	0.976	0.976	0.976	0.952	0.928	0.939	5.02
			0.835								
79)	PT	Bromoform	0.235	0.206	0.223	0.214	0.230	0.228	0.230	0.226	4.98
			0.240								
80)	PT	Isopropylben	1.563	1.385	1.424	1.386	1.365	1.314	1.263	1.348	10.25
			1.083								
81)	T	cyclohexanone	0.033	0.028	0.032	0.029	0.026	0.024	0.026	0.027#	12.07
			0.024								
82)	I	d4-1,4-DICHLOROBENZEN	----------ISTD----------								
83)	S	SURR4BrFBenz	1.004	1.030	1.063	1.044	0.979	1.032	1.052	1.029	2.60
			1.031								
84)	T	Bromobenzene	0.642	0.717	0.769	0.704	0.671	0.699	0.669	0.690	6.04
			0.647								
85)	PT	1122Tetrclta	1.388	1.254	1.191	1.152	1.086	1.144	1.074	1.164	9.90
			1.025								
86)	T	123Triclproa	1.479	1.359	1.554	1.457	1.380	1.458	1.370	1.426	5.11
			1.347								

87)	T	14dichloro2bute	0.472	0.417	0.399	0.407	0.382	0.404	0.394	0.410	6.63
			0.401								
88)	T	n-Propylbenz	3.751	3.780	3.972	3.722	3.464	3.464	3.170	3.488	12.66
			2.583								
89)	T	2chlorotolue	2.100	2.134	2.280	2.183	2.049	2.088	1.982	2.070	7.63
			1.747								
90)	T	4chlorotolue	2.495	2.596	2.617	2.509	2.276	2.383	2.237	2.383	9.30
			1.955								
91)	T	135Trimebenz	2.357	2.494	2.498	2.473	2.336	2.362	2.206	2.332	8.15
			1.930								
92)	T	tbutylbenzen	1.778	1.971	2.052	2.030	1.909	1.966	1.830	1.902	6.84
			1.678								
93)	T	124Trimetben	2.889	2.520	2.522	2.456	2.330	2.349	2.225	2.404	11.34
			1.941								
94)	T	sbutylbenzen	2.939	2.974	3.222	3.109	2.848	2.934	2.712	2.878	9.90
			2.284								
95)	PT	13Diclorbenz	1.136	1.251	1.287	1.235	1.168	1.207	1.162	1.193	5.35
			1.095								
96)	T	pIsopropylto	2.407	2.355	2.529	2.413	2.304	2.346	2.219	2.313	7.72
			1.931								
97)	PT	14dichlorobe	1.354	1.256	1.268	1.256	1.191	1.206	1.173	1.225	6.25
			1.097								
98)	PT	12dichlorobe	1.321	1.203	1.222	1.167	1.099	1.130	1.104	1.158	7.97
			1.017								
99)	T	nButylbenzen	2.382	2.357	2.435	2.448	2.304	2.392	2.221	2.307	7.55
			1.915								
100)	PT	12dibromo3cl	0.289	0.305	0.294	0.286	0.261	0.275	0.271	0.283	4.92
			0.280								
101)	T	135Trichloroben	0.765	0.863	0.906	0.859	0.795	0.841	0.794	0.823	6.42
			0.757								
102)	PT	124Trichlobe	0.732	0.772	0.762	0.744	0.707	0.751	0.712	0.734	3.93
			0.690								
103)	T	Hexachlorobu	0.249	0.281	0.326	0.331	0.310	0.344	0.312	0.305	10.14
			0.286								
104)	T	Naphthalene	2.415	2.724	2.717	2.730	2.512	2.592	2.405	2.515	9.45
			2.028								
105)	T	123Trichlben	0.523	0.675	0.720	0.682	0.643	0.695	0.662	0.653	9.23
			0.626								

Total Average %RSD 7.43

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W101016.M Wed Oct 19 12:19:50 2016

BFB

Data File : C:\INSTARCH\Data\OCT1016\BFB1.D Vial: 1
Acq On : 10 Oct 2016 13:06 Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.411 to 4.435 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	28.4	30430	PASS
75	95	30	60	55.0	58908	PASS
95	95	100	100	100.0	107169	PASS
96	95	5	9	7.6	8165	PASS
173	174	0.00	2	0.5	416	PASS
174	95	50	100	75.9	81292	PASS
175	174	5	9	7.3	5946	PASS
176	174	95	101	98.1	79782	PASS
177	176	5	9	6.2	4961	PASS

W101016.M Wed Oct 19 12:32:35 2016

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL1.D Vial: 4
Acq On : 10 Oct 2016 14:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:37:08 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1320047	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	948834	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	461284	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	310986	19.325	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.07	102	85078	19.357	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.51	98	1278698	19.426	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.04	95	462946	19.499	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	7057	0.5033	ug/L #	44
3) Chloromethan	1.99	50	25358m	0.5707	ug/L	93
4) VinylChlorid	2.15	62	16002	0.6107	ug/L	98
5) Bromomethane	2.59	94	4271m	0.6009	ug/L #	99
6) Chloroethane	2.75	64	10013	0.5948	ug/L	87
7) Dichloroflmethane	3.04	67	15863	0.5389	ug/L #	64
8) Trichlorofma	3.13	101	10467	0.5082	ug/L #	81
9) Ethylether	3.56	59	8582	0.5106	ug/L #	74
10) dichlorotfluoroethan	3.57	67	10878	0.6121	ug/L #	78
11) propyleneoxide	3.89	58	31526	6.1267	ug/L	94
12) Acrolein	3.69	56	20664	2.5640	ug/L #	69
13) 11dichlorthe	3.83	96	7361	0.5239	ug/L #	79
14) Trichlorotfluoroeth	3.86	101	13059	0.9789	ug/L #	31
15) Acetone	3.89	43	69159m	4.5383	ug/L	98
16) Iodomethane	4.01	142	15040m	1.2510	ug/L	85
17) Carbon Dislf	4.09	76	41815	1.0750	ug/L	94
18) allylchloride	4.31	41	22561m	0.8947	ug/L	96
19) methylacetate	4.36	74	5001	0.5055	ug/L #	33
20) Methylchlorid	4.46	84	14412m	0.7139	ug/L #	91
21) tbutylalcohol	4.66	59	159485	31.1593	ug/L	92
22) Acrylonitrile	4.76	53	34195	2.6545	ug/L	94
23) t12dichlorte	4.84	96	9364	0.5917	ug/L	98
24) MtBE	4.87	73	24848	0.5193	ug/L	94
25) Hexane	5.24	57	29411	1.0271	ug/L #	95
26) 11dichlorota	5.35	63	16588	0.5014	ug/L #	86
27) Vinylacetate	5.44	43	241385	6.8503	ug/L	98
28) chloroprene	5.49	53	34617	1.0260	ug/L	94
29) Diisopether	5.51	45	35067	0.5389	ug/L	93
30) ETBE	5.97	59	31255	0.5223	ug/L	97
31) 22dichloropr	6.08	77	15149	0.6069	ug/L	97
32) c12dichlorte	6.09	96	9905	0.5491	ug/L	93
33) 2Butanone	6.09	72	21471	4.8830	ug/L	84
34) propionitrile	6.14	54	28335	4.9305	ug/L #	77
35) Ethylacetate	6.21	88	2765	2.4286	ug/L #	90
36) methacrylonitrile	6.33	67	11819	0.9854	ug/L	96
37) Bromochlorma	6.36	128	3698	0.5764	ug/L	90
38) Tetrahydofur	6.45	42	53648m	4.3360	ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL1.D Vial: 4
Acq On : 10 Oct 2016 14:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:37:08 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.48	83	16712	0.5750	ug/L		89
40)	111trichlota	6.72	97	13075m	0.5561	ug/L		17
42)	Cyclohexane	6.81	56	19126	0.5209	ug/L		96
43)	Carbtetraclo	6.94	119	7595	0.4202	ug/L	#	42
44)	11dicloprope	6.90	110	3519	0.4555	ug/L	#	62
46)	Benzene	7.17	78	36231	0.5510	ug/L		87
47)	12dichlorota	7.16	62	13021	0.5051	ug/L	#	88
48)	TAME	7.34	73	25038	0.5098	ug/L		87
49)	trichloroete	7.98	95	7222	0.4330	ug/L	#	72
50)	methylcyclohexane	8.24	83	12408	0.4467	ug/L		92
51)	12dicloropra	8.22	63	13057	0.6105	ug/L	#	93
52)	23Dicl1propene	8.29	75	14125	0.5354	ug/L		92
53)	Dibromometha	8.37	93	5630	0.5205	ug/L	#	75
54)	methylmethacrylate	8.40	69	8950	0.4859	ug/L		86
55)	14dioxane	8.43	88	6047m	29.4610	ug/L	#	86
56)	Bromodiclrma	8.57	83	9594	0.4520	ug/L	#	76
57)	2Nitropropane	8.82	43	58942	5.3491	ug/L		97
58)	2CLEVE	8.97	63	1642m	1.8094	ug/L	#	0
59)	c13dicloproe	9.14	75	14006	0.5147	ug/L		86
60)	4Meth2Pentan	9.34	43	194771	6.5459	ug/L		93
62)	Toluene	9.59	92	21433	0.5263	ug/L		92
63)	t13Dicloprop	9.86	75	11628	0.4802	ug/L	#	62
64)	ethylmethacrylate	10.00	69	28410	1.0324	ug/L		86
65)	112Triclotha	10.09	83	6766	0.5027	ug/L	#	82
66)	Tetrachlorte	10.32	166	5749	0.3784	ug/L		87
67)	13Diclorpropa	10.31	76	16200	0.5676	ug/L		90
69)	2Hexanone	10.43	43	157153	6.3404	ug/L		95
70)	Clorodibrmta	10.61	129	7338	0.4950	ug/L	#	87
71)	12Dibrometha	10.76	107	7847	0.4864	ug/L		93
72)	Chlorobenzen	11.45	112	21182	0.5116	ug/L	#	31
73)	1Clhexane	11.43	91	13436	0.5581	ug/L	#	44
74)	1112Tetclota	11.55	131	7136	0.5095	ug/L	#	81
75)	Ethylbenzene	11.63	91	38145	0.5153	ug/L		91
76)	m p-Xylene	11.78	106	30043	1.0798	ug/L		97
77)	o-Xylene	12.32	106	13640	0.4954	ug/L		99
78)	Styrene	12.33	104	21872	0.4909	ug/L		99
79)	Bromoform	12.54	173	5568	0.5200	ug/L	#	49
80)	Isopropylben	12.84	105	37084	0.5799	ug/L		92
81)	cyclohexanone	12.92	55	15505	11.8920	ug/L	#	89
84)	Bromobenzene	13.25	156	7405	0.4654	ug/L	#	70
85)	1122Tetrclta	13.23	83	16005	0.5960	ug/L		90
86)	123Triclproa	13.30	75	17059	0.5188	ug/L		91
87)	14dichloro2butene	13.32	53	5443	0.5763	ug/L	#	30
88)	n-Propylbenz	13.43	91	43255	0.5376	ug/L		96
89)	2chlorotolue	13.54	91	24216	0.5071	ug/L		96
90)	4chlorotolue	13.70	91	28771	0.5234	ug/L		97
91)	135Trimebenz	13.68	105	27183	0.5054	ug/L		96
92)	tbutylbenzen	14.16	119	20505	0.4674	ug/L	#	75
93)	124Trimetben	14.22	105	33320	0.6009	ug/L		85
94)	sbutylbenzen	14.47	105	33895	0.5107	ug/L		97
95)	13Diclorbenz	14.61	146	13101	0.4763	ug/L		81
96)	pIsopropylto	14.69	119	27755	0.5203	ug/L	#	99
97)	14dichlorobe	14.73	146	15615	0.5527	ug/L	#	73
98)	12dichlorobe	15.26	146	15229	0.5703	ug/L	#	65
99)	nButylbenzen	15.28	91	27467	0.5162	ug/L		98
100)	12dibromo3cl	16.38	157	3336	0.5116	ug/L		88
101)	135Trichlorobenzene	16.69	180	8818	0.4648	ug/L	#	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL1.D Vial: 4
Acq On : 10 Oct 2016 14:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:37:08 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
102) 124Trichlobe	17.53	180	8443	0.4988	ug/L		94
103) Hexachlorobu	17.77	225	2877	0.4092	ug/L	#	28
104) Naphthalene	17.82	128	27852	0.4801	ug/L		98
105) 123Trichlben	18.14	180	6032	0.4003	ug/L	#	70

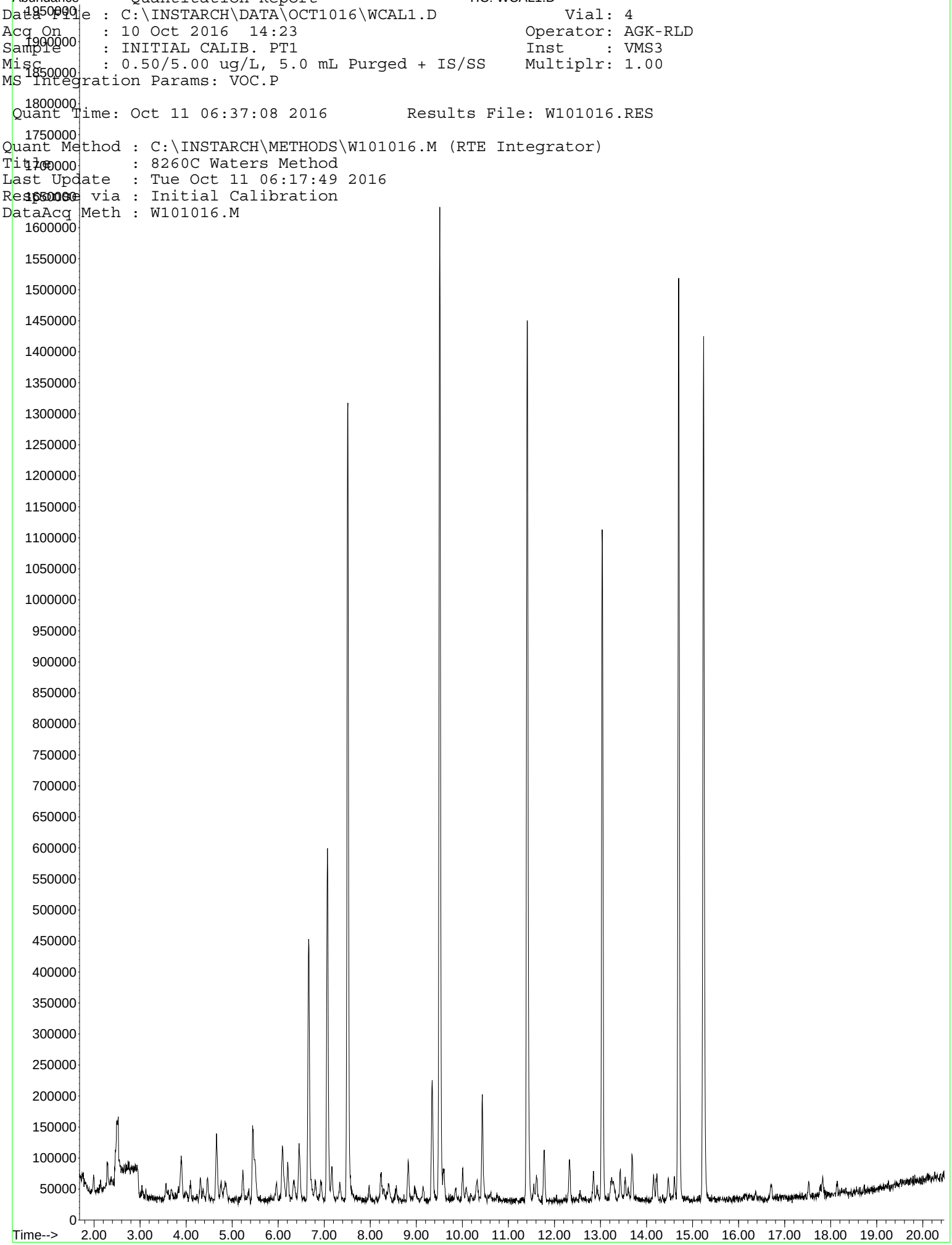
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\DATA\OCT1016\WCAL1.D Vial: 4
Acq On : 10 Oct 2016 14:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

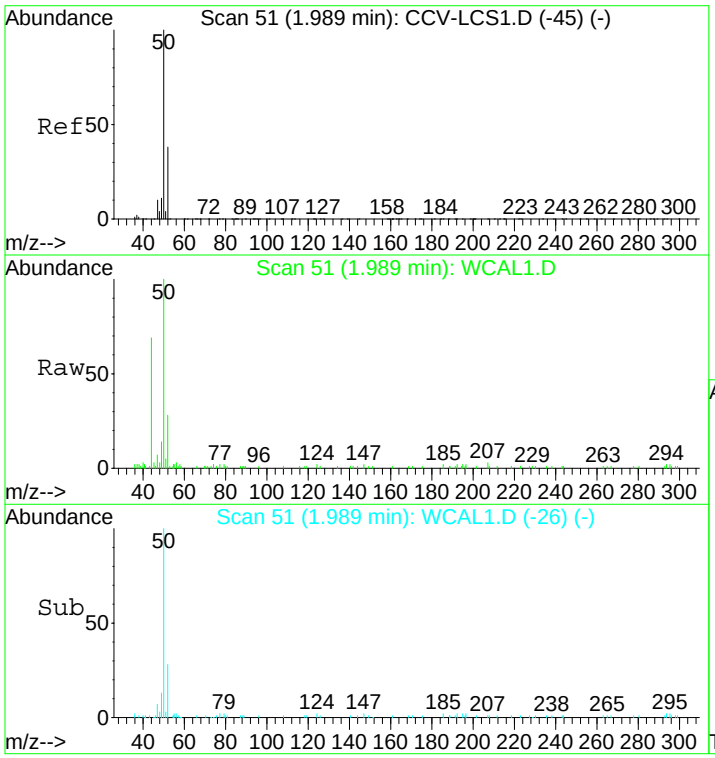
Quant Time: Oct 11 06:37:08 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



After Manual Integration

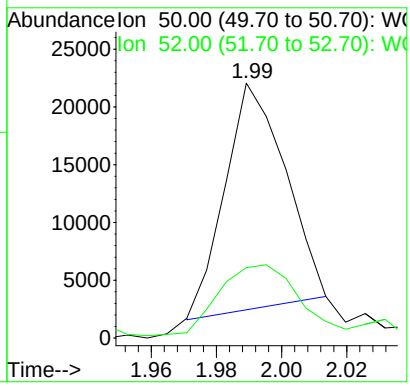
AgK 10/19/16

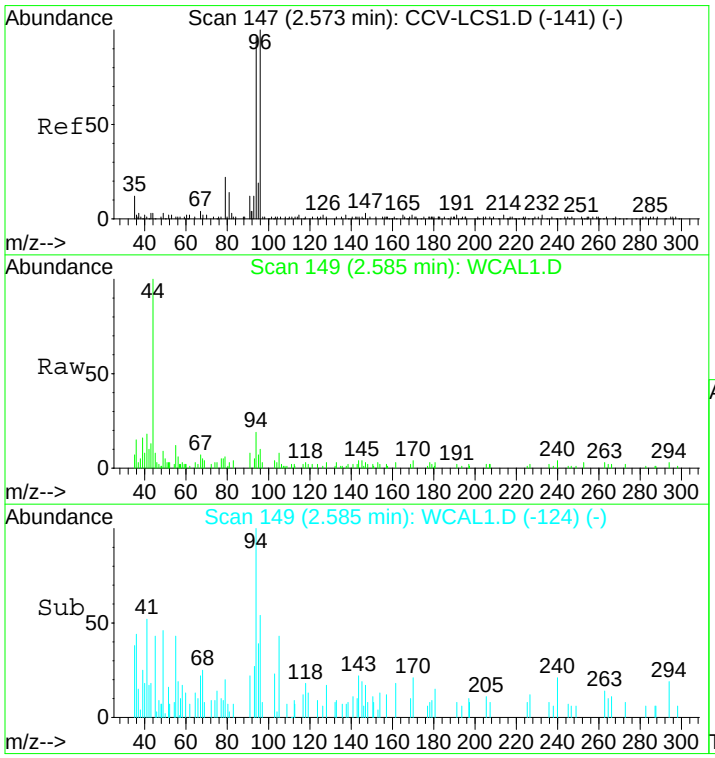


#3
Chloromethan
Concen: 0.57 ug/L m
RT: 1.99 min Scan# 51
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 50 Resp: 25358

Ion	Ratio	Lower	Upper
50	100		
52	46.3	14.1	54.1

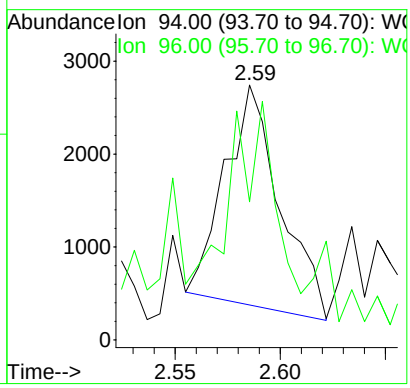




#5
Bromomethane
Concen: 0.60 ug/L m
RT: 2.59 min Scan# 149
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 94 Resp: 4271

Ion	Ratio	Lower	Upper
94	100		
96	103.1	62.3	102.3#



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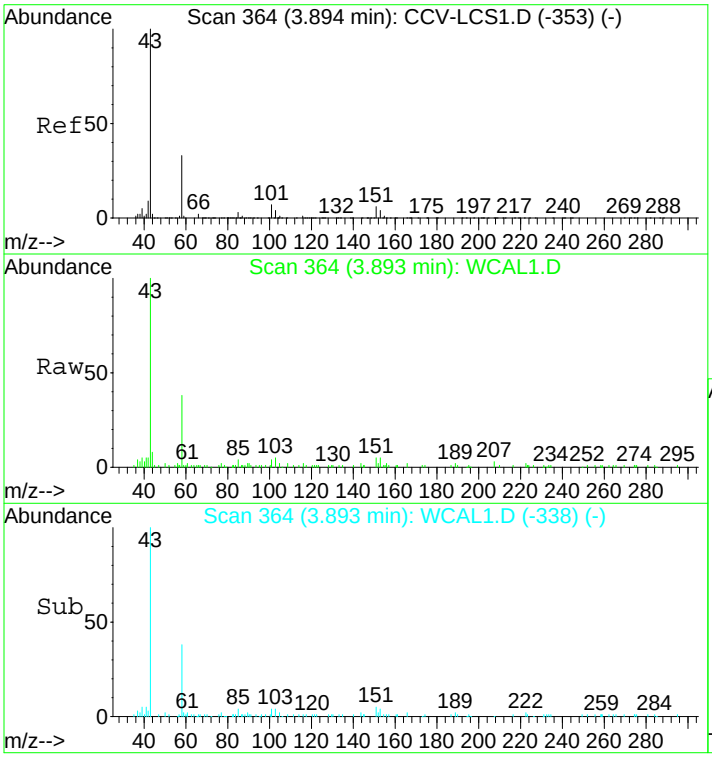
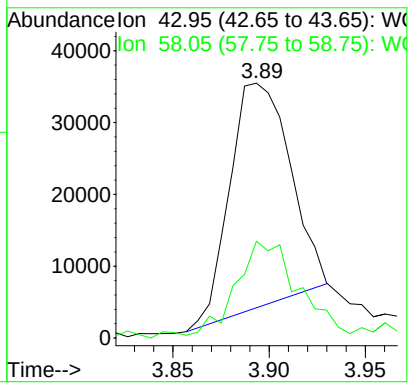
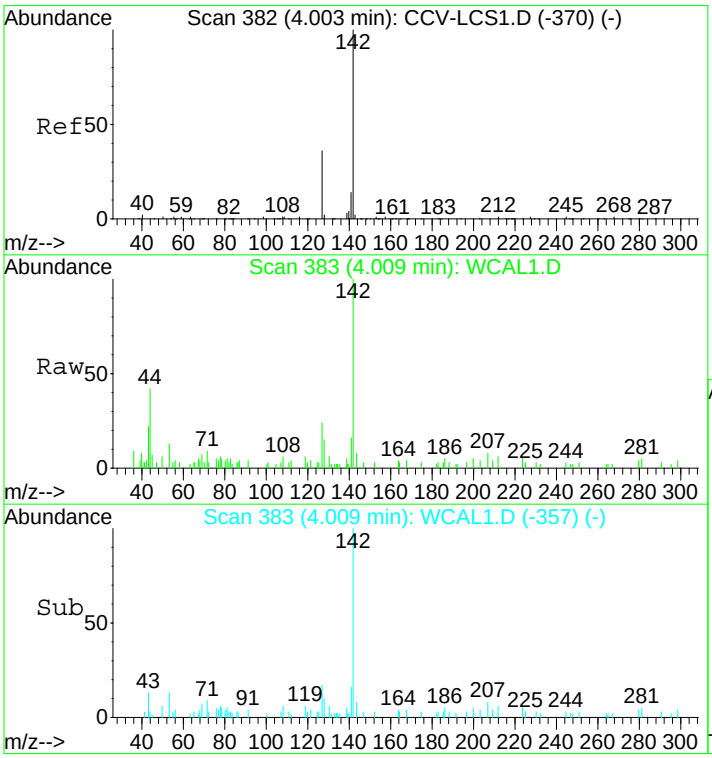


#15
Acetone
Concen: 4.54 ug/L m
RT: 3.89 min Scan# 364
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 43 Resp: 69159

Ion	Ratio	Lower	Upper
43	100		
58	45.6	12.5	52.5

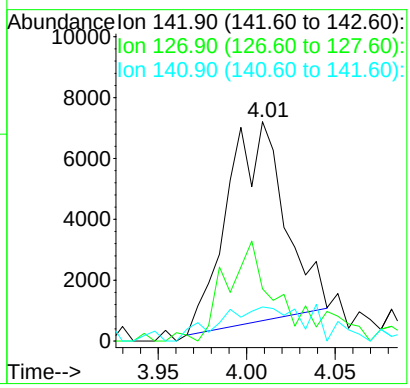




#16
Iodomethane
Concen: 1.25 ug/L m
RT: 4.01 min Scan# 383
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion:142 Resp: 15040

Ion	Ratio	Lower	Upper
142	100		
127	49.1	25.3	65.3
141	28.2	0.0	33.4



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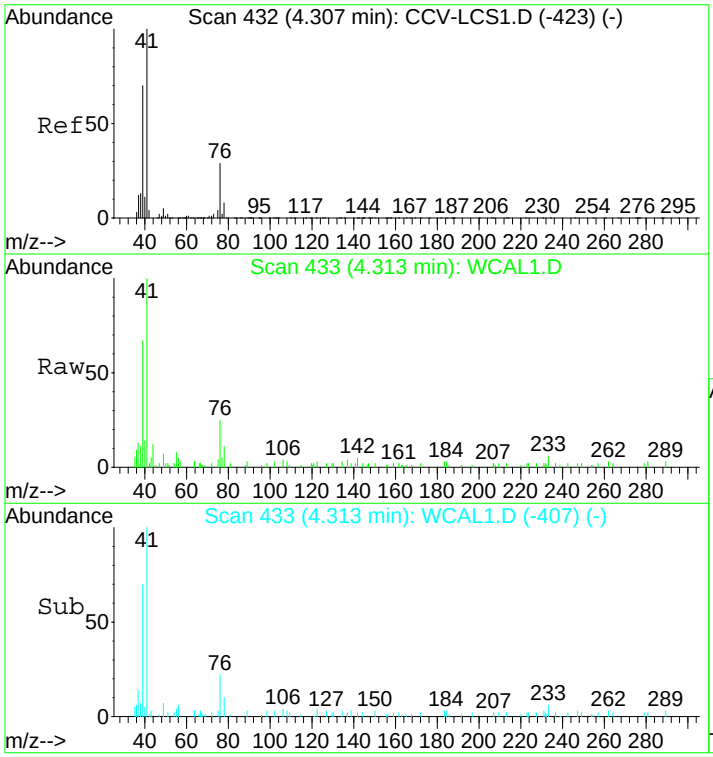
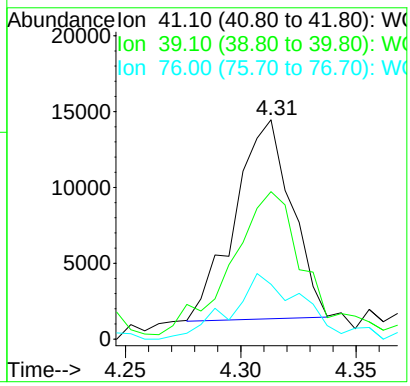
AgK 10/19/16

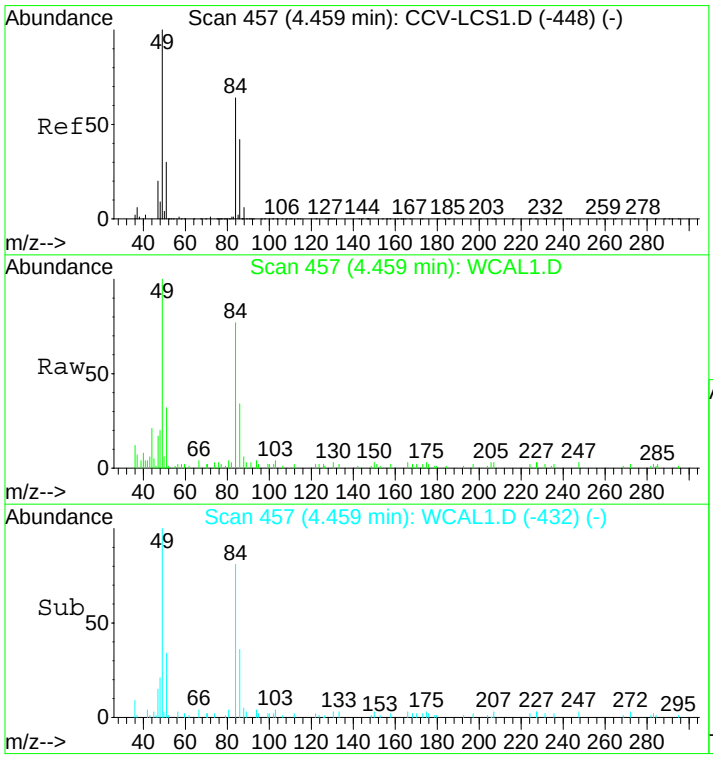


#18
allylchloride
Concen: 0.89 ug/L m
RT: 4.31 min Scan# 433
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 41 Resp: 22561

Ion	Ratio	Lower	Upper
41	100		
39	94.4	56.0	96.0
76	41.9	11.9	51.9

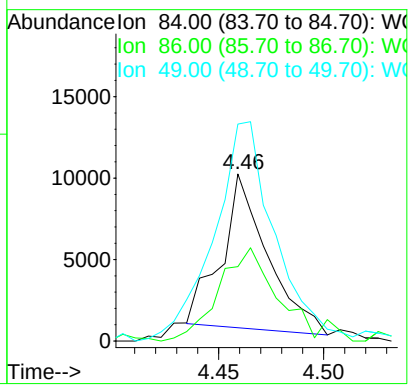




#20
Methylchlorid
Concen: 0.71 ug/L m
RT: 4.46 min Scan# 457
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 84 Resp: 14412

Ion	Ratio	Lower	Upper
84	100		
86	80.2	44.3	84.3
49	191.6	140.6	180.6#



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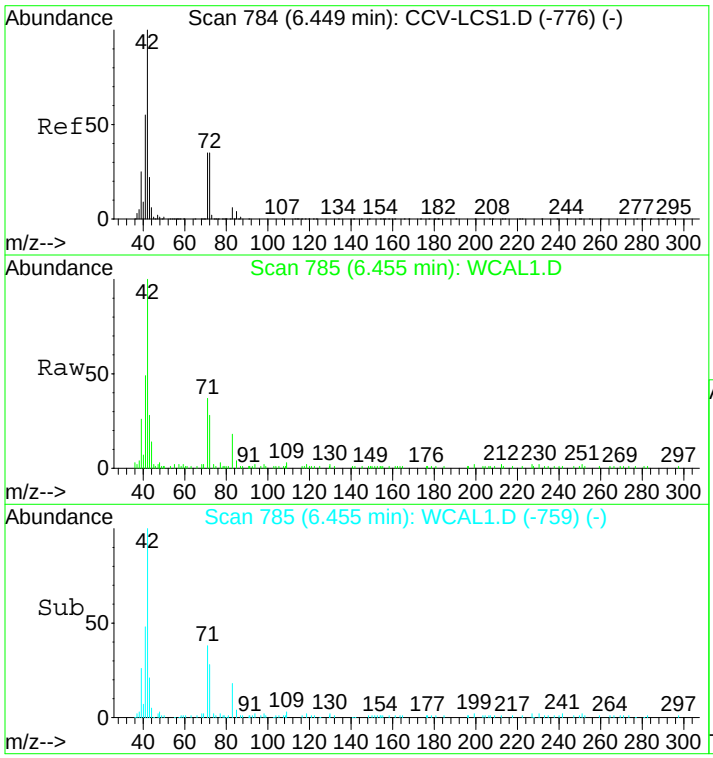
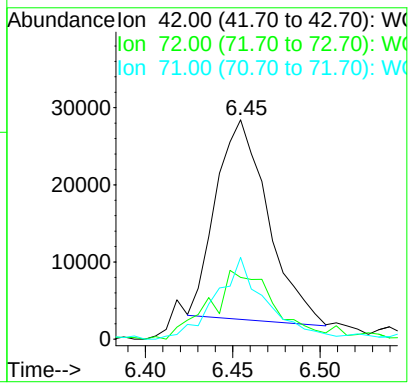
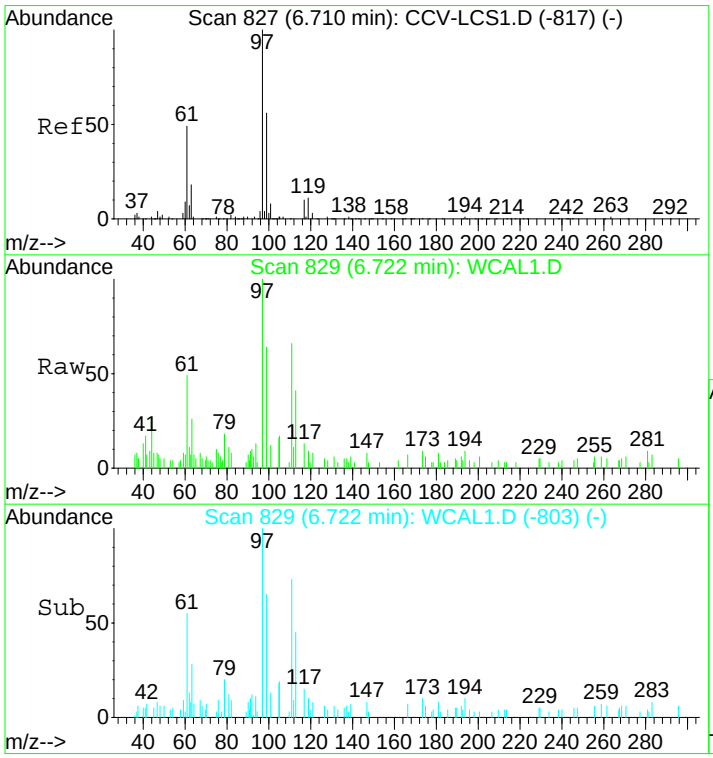


#38
Tetrahydofur
Concen: 4.34 ug/L m
RT: 6.45 min Scan# 785
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 42 Resp: 53648

Ion	Ratio	Lower	Upper
42	100		
72	45.2	19.0	59.0
71	40.8	16.0	56.0

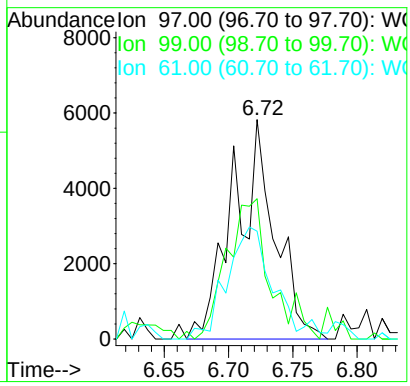




#40
111trichlota
Concen: 0.56 ug/L m
RT: 6.72 min Scan# 829
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 97 Resp: 13075

Ion	Ratio	Lower	Upper
97	100		
99	67.6	42.9	82.9
61	57.7	32.7	72.7



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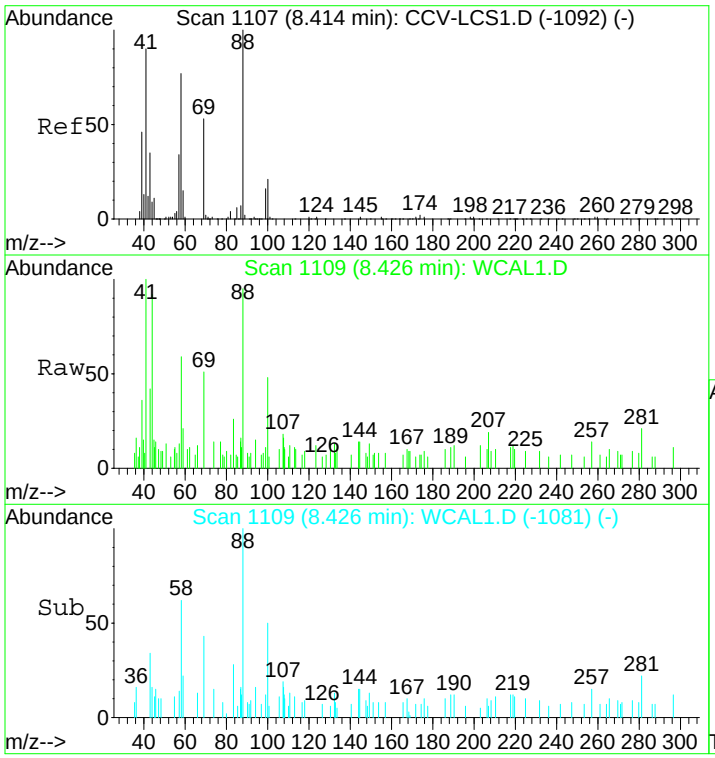
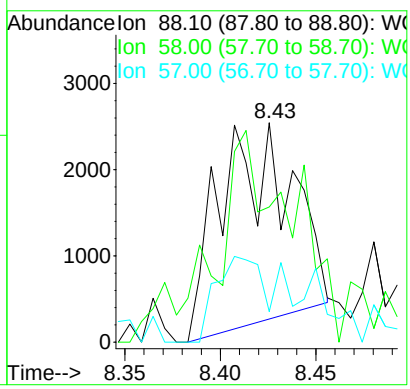
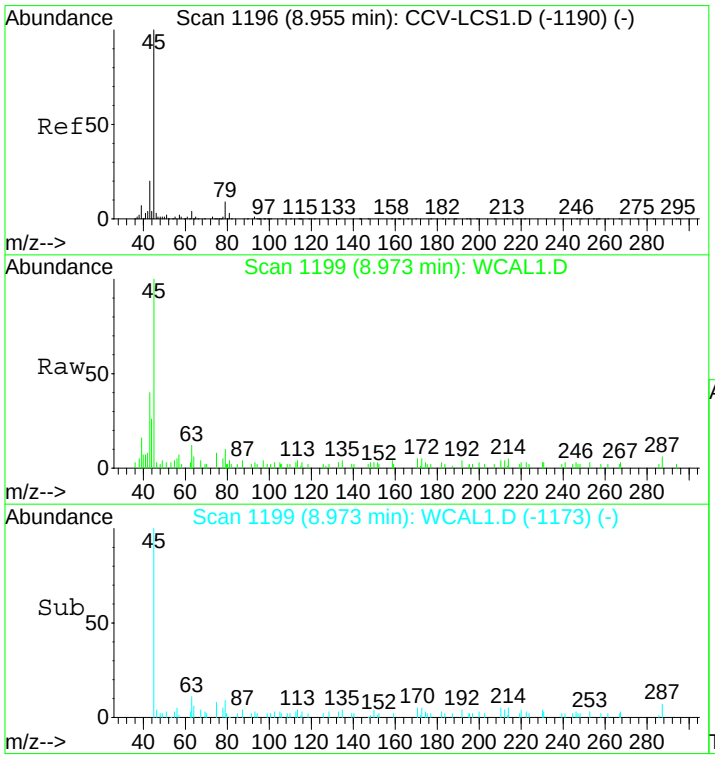


#55
14dioxane
Concen: 29.46 ug/L m
RT: 8.43 min Scan# 1109
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 88 Resp: 6047

Ion	Ratio	Lower	Upper
88	100		
58	116.2	64.7	104.7#
57	49.9	10.7	50.7

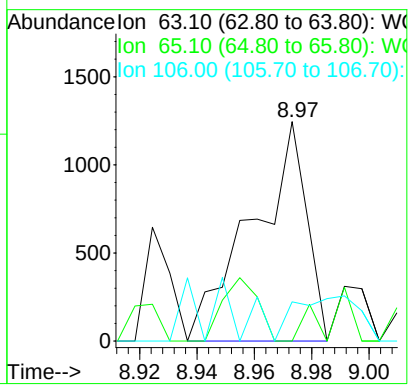




#58
2CLEVE
Concen: 1.81 ug/L m
RT: 8.97 min Scan# 1199
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 63 Resp: 1642

Ion	Ratio	Lower	Upper
63	100		
65	0.0	11.7	51.7#
106	0.0	0.5	40.5#



RJ 10/19/2016

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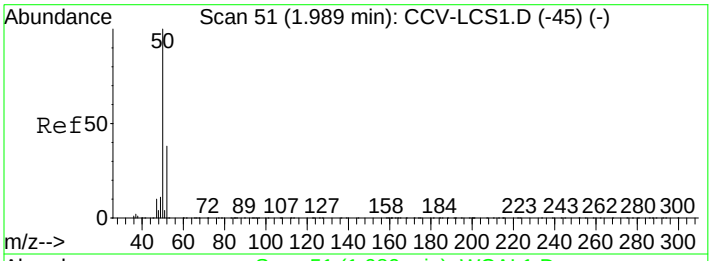
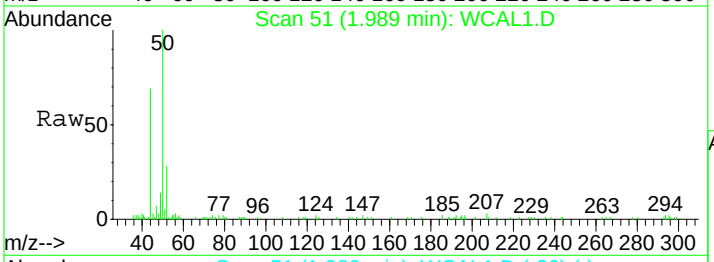
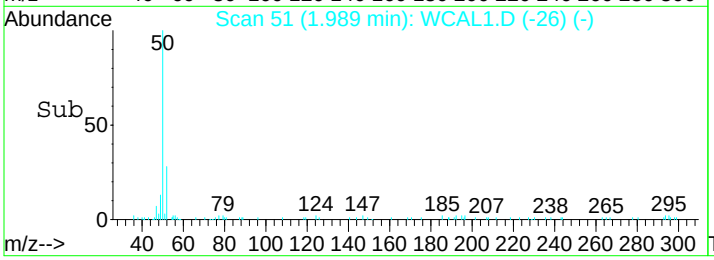


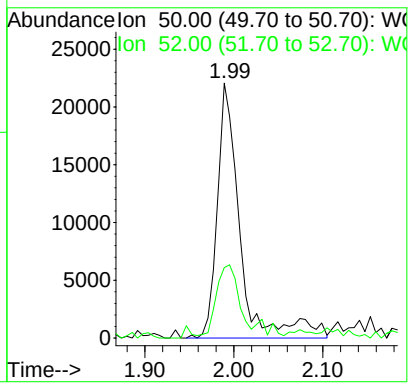




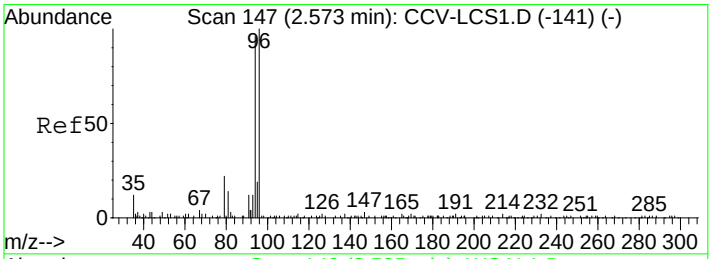
#3
Chloromethan
Concen: 0.99 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

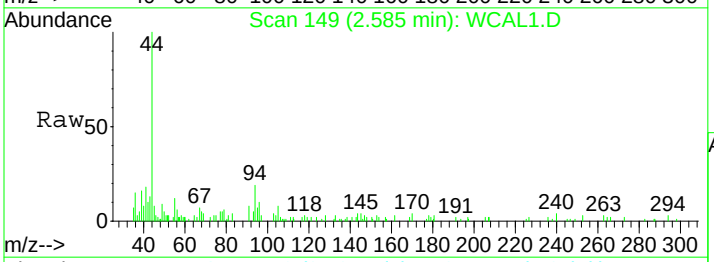
Tgt Ion: 50 Resp: 39155

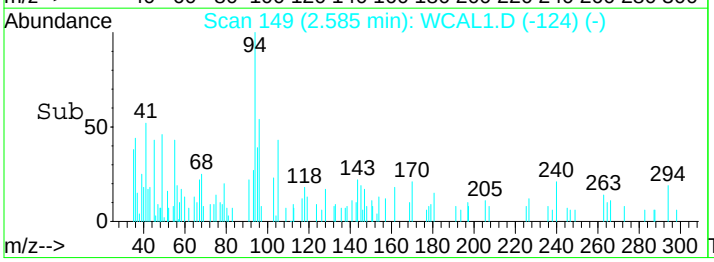
Ion	Ratio	Lower	Upper
50	100		
52	30.0	14.1	54.1



REASON # 2



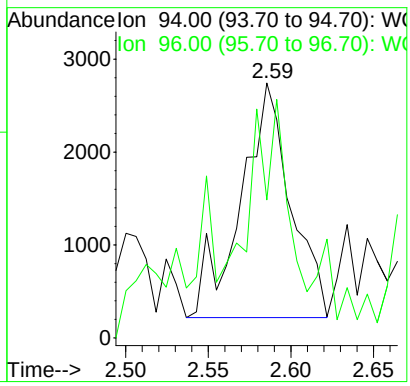




#5
Bromomethane
Concen: 0.80 ug/L
RT: 2.59 min Scan# 149
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 94 Resp: 5307

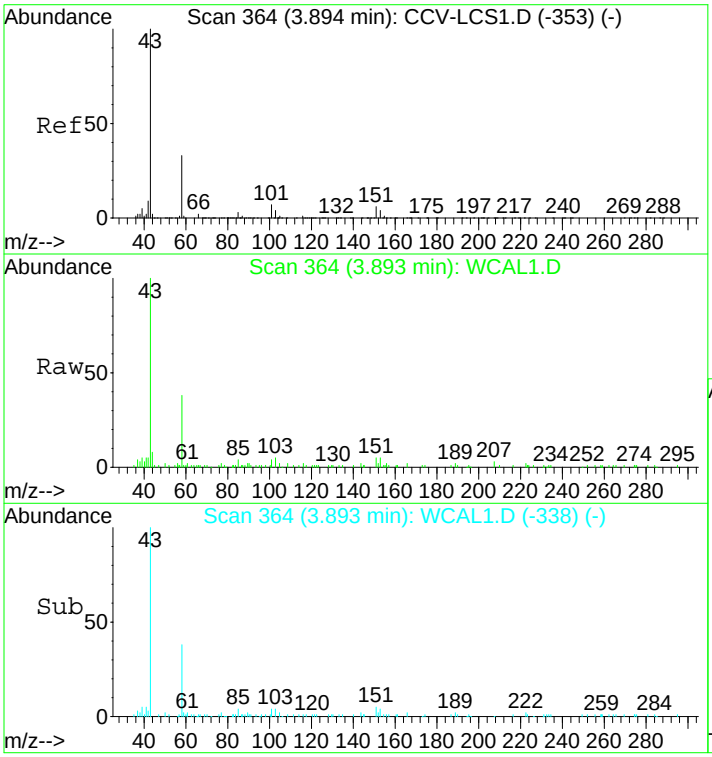
Ion	Ratio	Lower	Upper
94	100		
96	83.0	62.3	102.3



REASON # 2

Before Manual Integration

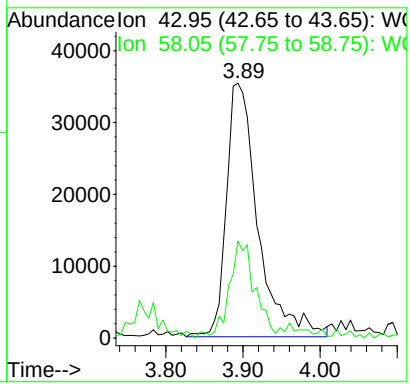
AGK 10/19/16



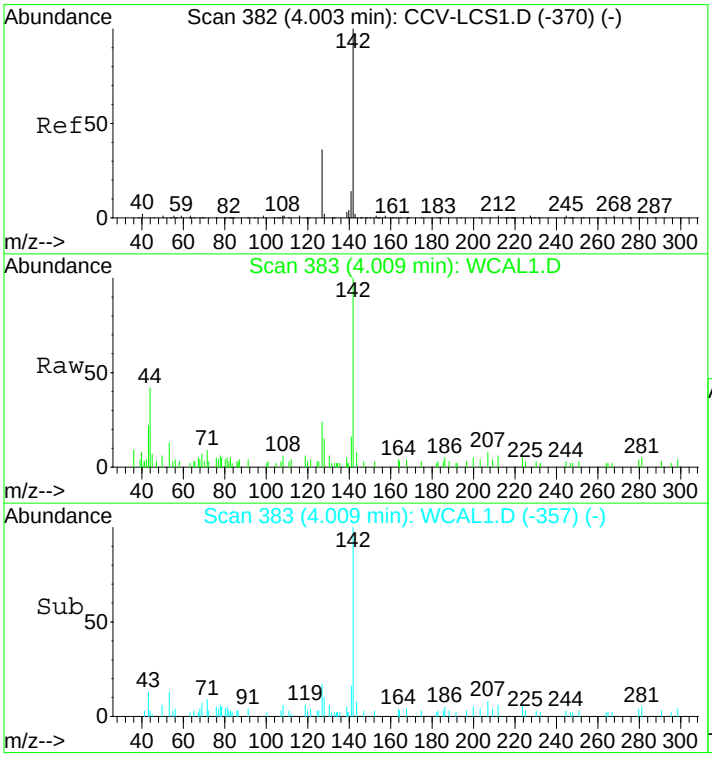
#15
Acetone
Concen: 6.74 ug/L
RT: 3.89 min Scan# 364
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 43 Resp: 100580

Ion	Ratio	Lower	Upper
43	100		
58	31.3	12.2	52.2



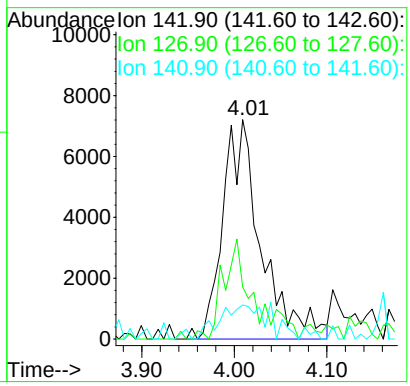
REASON # 2



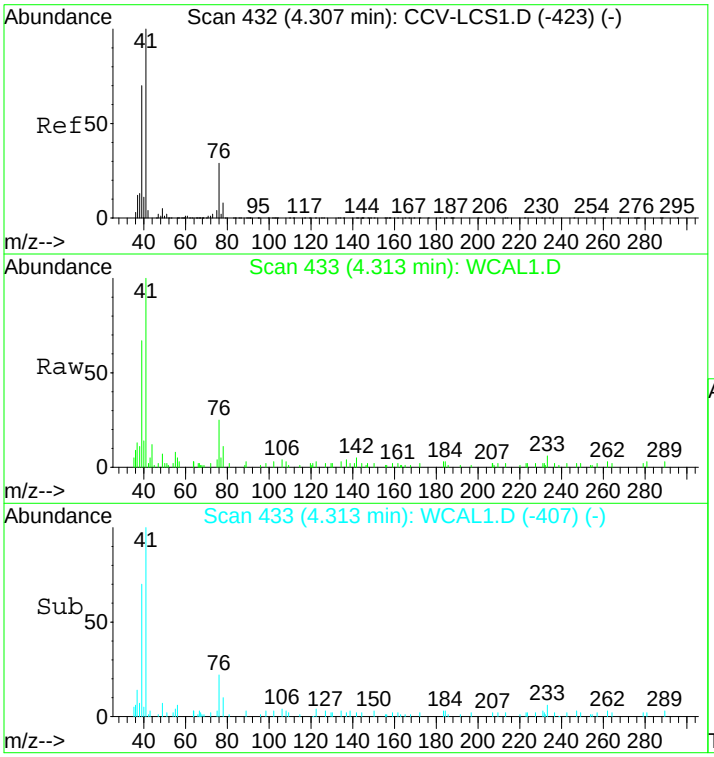
#16
Iodomethane
Concen: 1.94 ug/L
RT: 4.01 min Scan# 383
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion:142 Resp: 20580

Ion	Ratio	Lower	Upper
142	100		
127	35.9	25.3	65.3
141	20.6	0.0	33.4



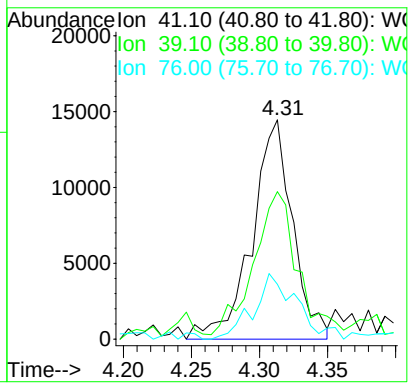
REASON # 2



#18
allylchloride
Concen: 1.18 ug/L
RT: 4.31 min Scan# 433
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 41 Resp: 30045

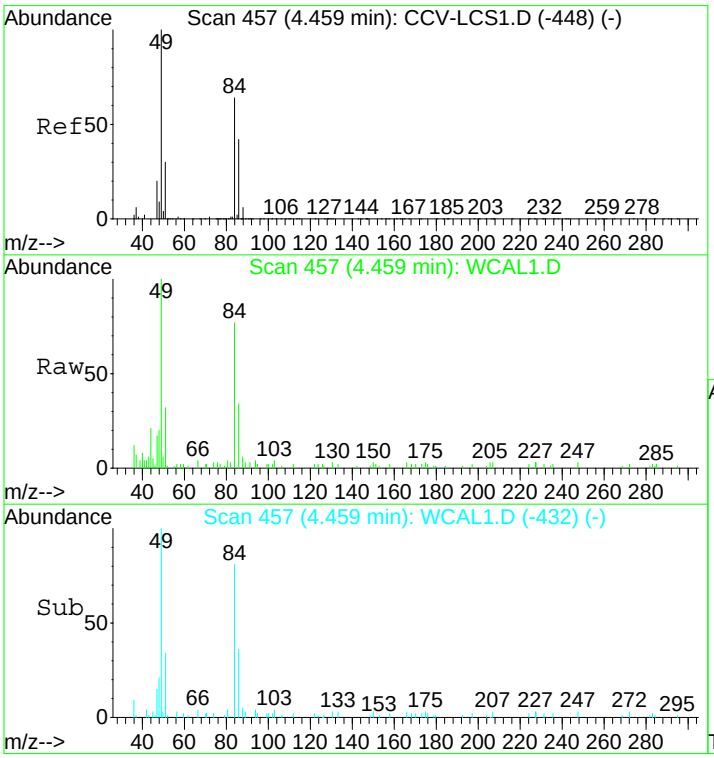
Ion	Ratio	Lower	Upper
41	100		
39	70.9	56.0	96.0
76	31.5	11.9	51.9



Before Manual Integration

AgK 10/19/16

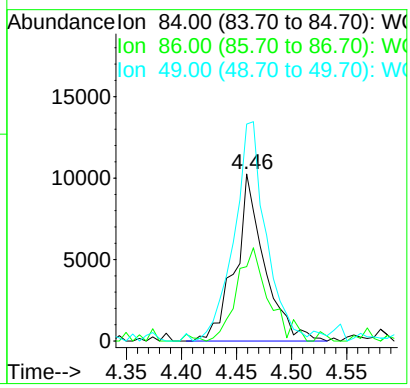
REASON # 2



#20
Methylchlorid
Concen: 0.53 ug/L
RT: 4.46 min Scan# 457
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 84 Resp: 18885

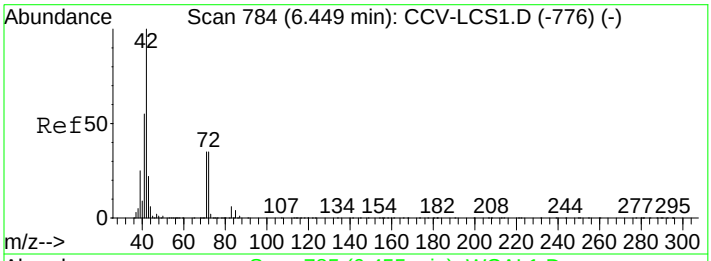
Ion	Ratio	Lower	Upper
84	100		
86	61.2	44.3	84.3
49	146.2	140.6	180.6

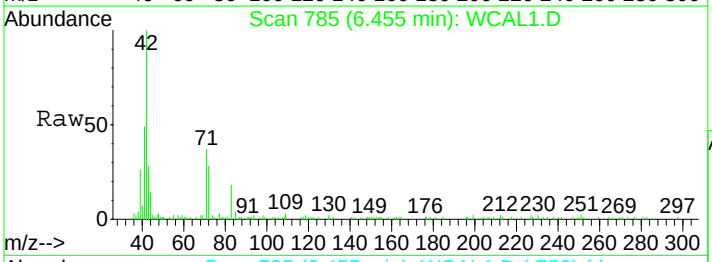


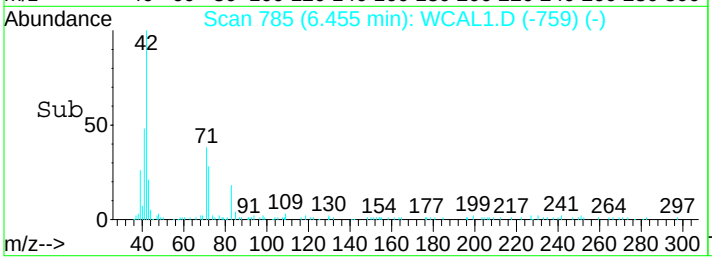
REASON # 2

Before Manual Integration

AGK 10/19/16



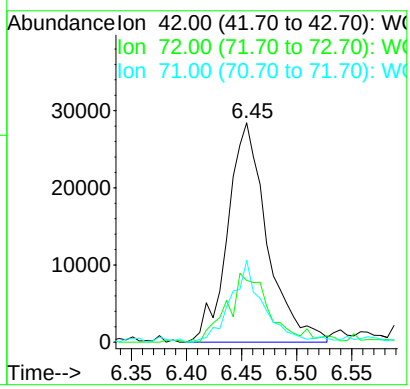




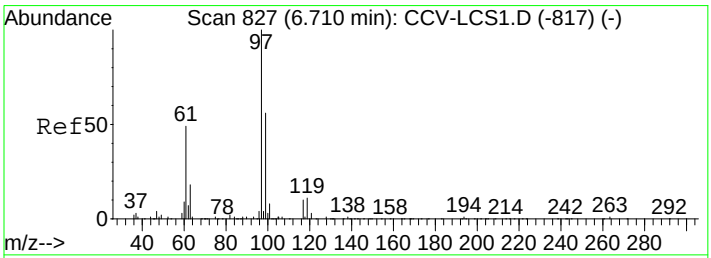
#38
Tetrahydofur
Concen: 5.77 ug/L
RT: 6.45 min Scan# 785
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

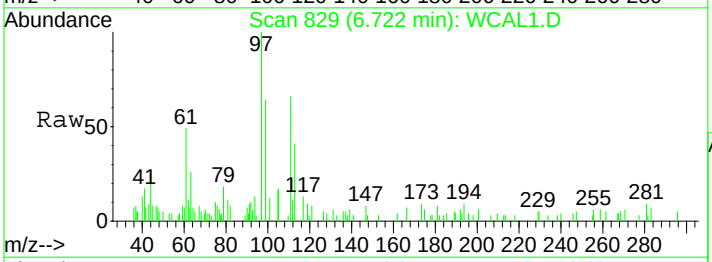
Tgt Ion: 42 Resp: 70753

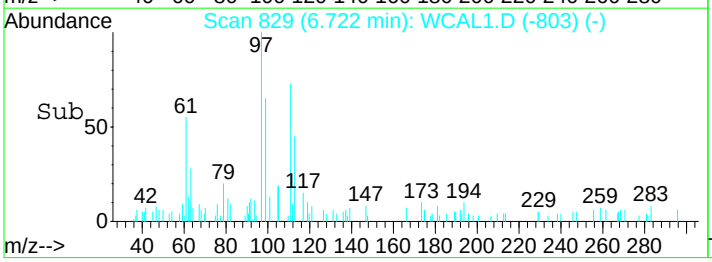
Ion	Ratio	Lower	Upper
42	100		
72	34.3	19.0	59.0
71	30.9	16.0	56.0



REASON # 2



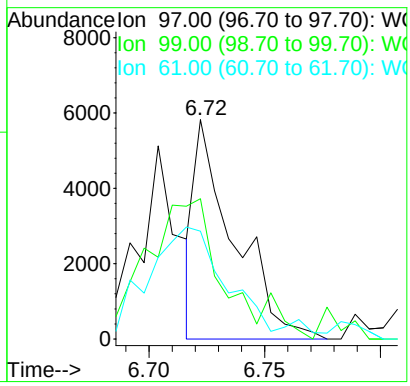




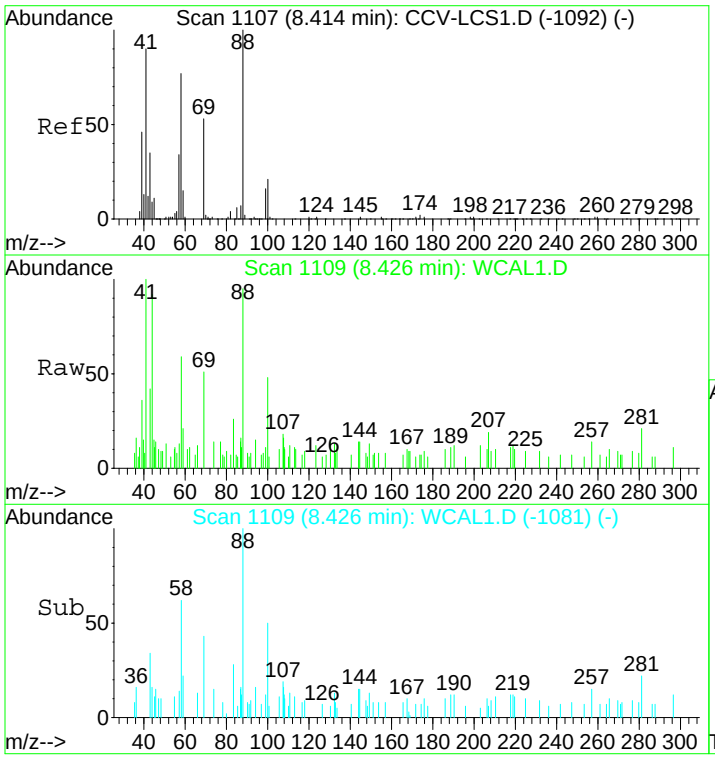
#40
111trichlota
Concen: 0.27 ug/L
RT: 6.72 min Scan# 829
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 97 Resp: 6889

Ion	Ratio	Lower	Upper
97	100		
99	128.2	42.9	82.9#
61	109.6	32.6	72.6#



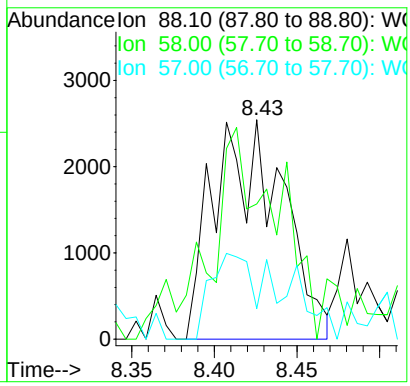
REASON # 2



#55
14dioxane
Concen: 36.82 ug/L
RT: 8.43 min Scan# 1109
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 88 Resp: 7323

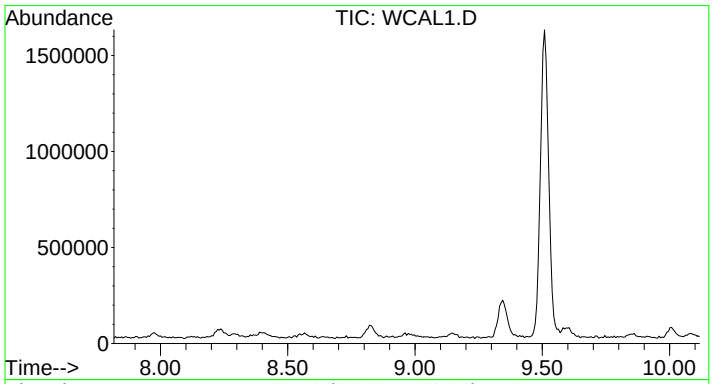
Ion	Ratio	Lower	Upper
88	100		
58	95.9	65.5	105.5
57	41.2	11.0	51.0



Before Manual Integration

AgK 10/19/16

REASON # 2

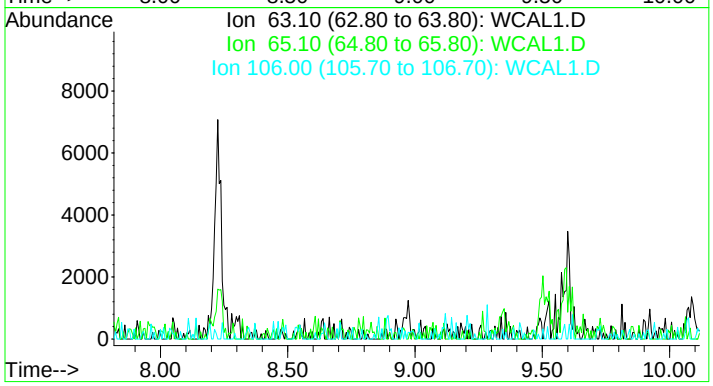


#58
2CLEVE
Concen: N.D.
Expected RT: 8.97 min

Lab File: WCAL1.D
Acq: 10 Oct 2016 14:23

Tgt Ion: 63

Sig	Exp Ratio
63	100
65	31.7
106	20.5



REASON # 1

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL2.D Vial: 5
Acq On : 10 Oct 2016 14:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:31:46 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:36 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1293987	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	948367	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	464880	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	312464	19.807	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.07	102	86318	20.034	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.51	98	1278728	19.818	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.04	95	478981	20.019	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	24520	1.7839	ug/L	85
3) Chloromethan	1.99	50	77267m	1.7739	ug/L	95
4) VinylChlorid	2.14	62	52005	2.0248	ug/L	97
5) Bromomethane	2.59	94	12387m	1.7778	ug/L #	79
6) Chloroethane	2.75	64	32952	1.9970	ug/L	84
7) Dichloroflmethane	3.05	67	60959	2.1126	ug/L	97
8) Trichlorofma	3.13	101	39278	1.9456	ug/L	90
9) Ethylether	3.56	59	35045	2.1272	ug/L	96
10) dichlorotfluoroethan	3.57	67	35899	2.0608	ug/L	91
11) propyleneoxide	3.90	58	109966	21.8010	ug/L	94
12) Acrolein	3.68	56	80504	10.1902	ug/L	96
13) 11dichlorthe	3.83	96	26554	1.9279	ug/L	97
14) Trichlorotfluoroeth	3.87	101	49977	3.8215	ug/L	98
15) Acetone	3.89	43	350445	23.4600	ug/L	98
16) Iodomethane	4.00	142	49184	4.1735	ug/L	94
17) Carbon Dislf	4.09	76	163728	4.2939	ug/L	96
18) allylchloride	4.30	41	108259	4.3795	ug/L	98
19) methylacetate	4.36	74	18670	1.9253	ug/L	89
20) Methylchlorid	4.46	84	42670	2.1562	ug/L	95
21) tbutylalcohol	4.65	59	611962	121.9697	ug/L	96
22) Acrylonitrile	4.76	53	135400	10.7227	ug/L	94
23) t12dichlorte	4.83	96	29228	1.8842	ug/L	91
24) MtBE	4.87	73	98338	2.0966	ug/L	94
25) Hexane	5.23	57	113277	4.0357	ug/L	100
26) 11dichlorota	5.35	63	75288	2.3217	ug/L	98
27) Vinylacetate	5.44	43	959076	27.7659	ug/L	97
28) chloroprene	5.49	53	137964	4.1715	ug/L	100
29) Diisopether	5.51	45	149902	2.3502	ug/L	100
30) ETBE	5.96	59	123737	2.1094	ug/L	99
31) 22dichloropr	6.08	77	51612	2.1095	ug/L	97
32) c12dichlorte	6.08	96	39476	2.2323	ug/L	93
33) 2Butanone	6.10	72	85488	19.8337	ug/L	97
34) propionitrile	6.13	54	117786	20.9082	ug/L	98
35) Ethylacetate	6.22	88	10767	9.6474	ug/L	96
36) methacrylonitrile	6.33	67	45591	3.8775	ug/L	95
37) Bromochlorma	6.36	128	14012	2.2281	ug/L	96
38) Tetrahydofur	6.45	42	275413	22.7079	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL2.D Vial: 5
Acq On : 10 Oct 2016 14:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:31:46 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:36 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	61392	2.1548	ug/L		93
40)	111trichlota	6.71	97	49368	2.1419	ug/L		97
42)	Cyclohexane	6.81	56	68712	1.9091	ug/L		94
43)	Carbtetraclo	6.93	119	35752	2.0179	ug/L		96
44)	11dicloprope	6.91	110	16681	2.2027	ug/L		94
46)	Benzene	7.17	78	139351	2.1621	ug/L		94
47)	12dichlorota	7.17	62	51410	2.0345	ug/L		95
48)	TAME	7.34	73	105258	2.1863	ug/L		97
49)	trichloroete	7.98	95	37158	2.2726	ug/L		91
50)	methylcyclohexane	8.24	83	54757	2.0112	ug/L		98
51)	12dicloropra	8.24	63	43866	2.0923	ug/L		87
52)	23Dicl1propene	8.29	75	57037	2.2053	ug/L		96
53)	Dibromometha	8.36	93	21798	2.0557	ug/L		98
54)	methylmethacrylate	8.40	69	38652	2.1408	ug/L		97
55)	14dioxane	8.41	88	20789	103.3239	ug/L		89
56)	Bromodiclrma	8.57	83	41832	2.0107	ug/L		93
57)	2Nitropropane	8.82	43	235905	21.8398	ug/L		99
58)	2CLEVE	8.96	63	6324	7.1089	ug/L	#	48
59)	c13dicloproe	9.15	75	56706	2.1258	ug/L		98
60)	4Meth2Pentan	9.34	43	759151	26.0276	ug/L		94
62)	Toluene	9.59	92	82017	2.0544	ug/L		94
63)	t13Dicloprop	9.86	75	48882	2.0592	ug/L		95
64)	ethylmethacrylate	10.01	69	111064	4.1172	ug/L		93
65)	112Triclotha	10.08	83	25005	1.8953	ug/L	#	78
66)	Tetrachlorte	10.33	166	32647	2.1921	ug/L		95
67)	13Diclorpropa	10.31	76	58931	2.1062	ug/L		95
69)	2Hexanone	10.43	43	611749	24.6935	ug/L		96
70)	Clorodibrmta	10.60	129	31184	2.1047	ug/L		90
71)	12Dibrometha	10.76	107	34760	2.1555	ug/L		88
72)	Chlorobenzen	11.45	112	88485	2.1384	ug/L		92
73)	1Clhexane	11.43	91	50097	2.0818	ug/L		84
74)	1112Tetclota	11.55	131	27337	1.9527	ug/L		97
75)	Ethylbenzene	11.61	91	163058	2.2038	ug/L		95
76)	m p-Xylene	11.78	106	116636	4.1943	ug/L		91
77)	o-Xylene	12.32	106	58902	2.1402	ug/L		96
78)	Styrene	12.34	104	89825	2.0170	ug/L		98
79)	Bromoform	12.55	173	19518	1.8236	ug/L		92
80)	Isopropylben	12.84	105	131337	2.0550	ug/L		98
81)	cyclohexanone	12.93	55	52482	40.2724	ug/L		99
84)	Bromobenzene	13.25	156	33319	2.0781	ug/L		97
85)	1122Tetrclta	13.21	83	58311	2.1546	ug/L		94
86)	123Triclproa	13.28	75	63175	1.9063	ug/L		91
87)	14dichloro2butene	13.30	53	19383	2.0363	ug/L		87
88)	n-Propylbenz	13.43	91	175724	2.1672	ug/L		99
89)	2chlorotolue	13.54	91	99220	2.0617	ug/L		94
90)	4chlorotolue	13.69	91	120677	2.1783	ug/L		94
91)	135Trimebenz	13.68	105	115944	2.1390	ug/L		98
92)	tbutylbenzen	14.15	119	91643	2.0729	ug/L		97
93)	124Trimetben	14.22	105	117157	2.0966	ug/L		99
94)	sbutylbenzen	14.47	105	138248	2.0668	ug/L		99
95)	13Diclorbenz	14.60	146	58152	2.0977	ug/L		99
96)	pIsopropylto	14.69	119	109475	2.0363	ug/L		94
97)	14dichlorobe	14.73	146	58367	2.0500	ug/L		92
98)	12dichlorobe	15.27	146	55944	2.0788	ug/L		90
99)	nButylbenzen	15.28	91	109587	2.0437	ug/L		99
100)	12dibromo3cl	16.37	157	14189	2.1589	ug/L		84
101)	135Trichlorobenzene	16.71	180	40141	2.0993	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL2.D Vial: 5
Acq On : 10 Oct 2016 14:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:31:46 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:36 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.52	180	35896	2.1042	ug/L	90
103) Hexachlorobu	17.78	225	13076	1.8453	ug/L	89
104) Naphthalene	17.82	128	126645	2.1661	ug/L	97
105) 123Trichlben	18.14	180	31386	2.0666	ug/L	98

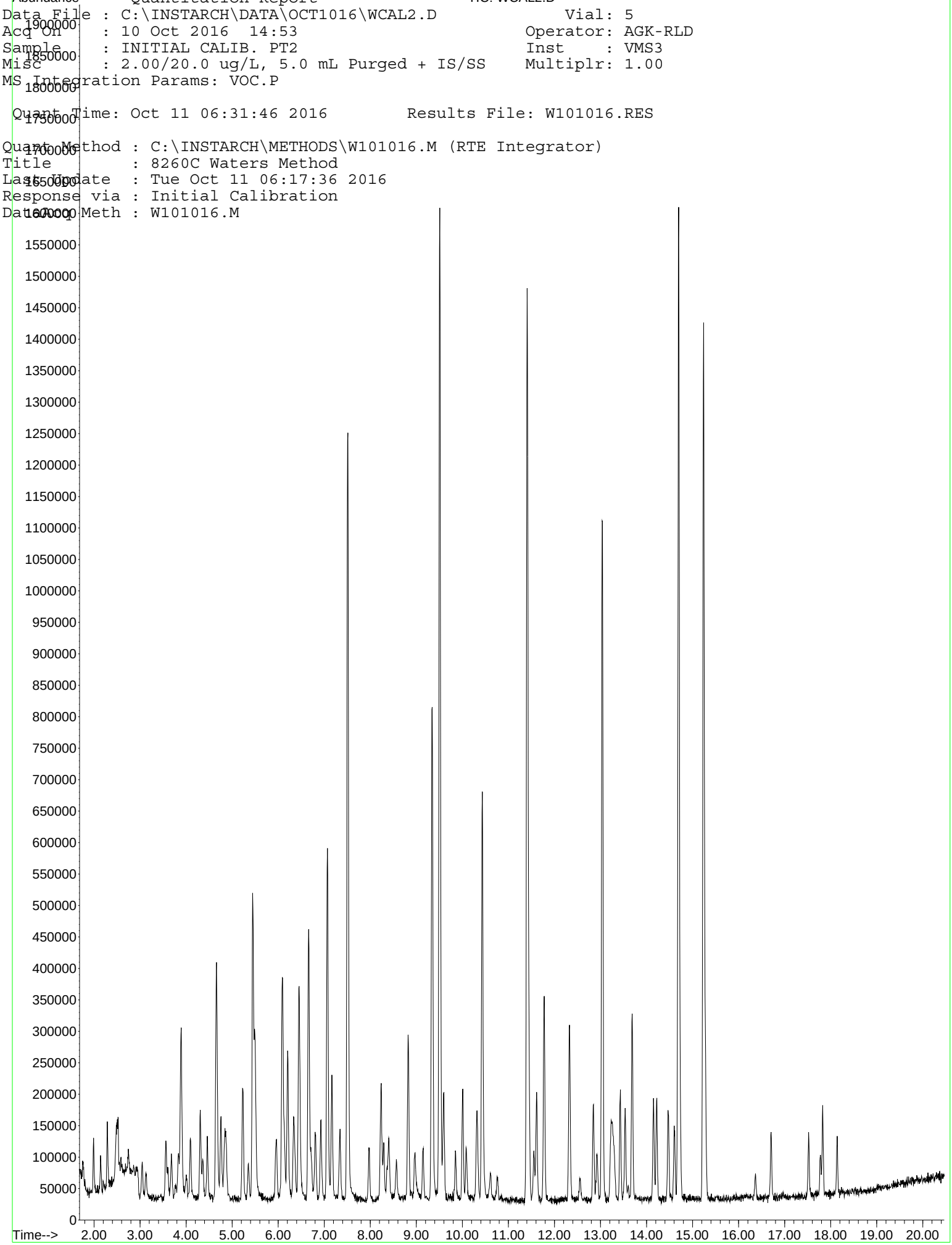
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL2.D

Data File : C:\INSTARCH\DATA\OCT1016\WCAL2.D Vial: 5
Acq On : 10 Oct 2016 14:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

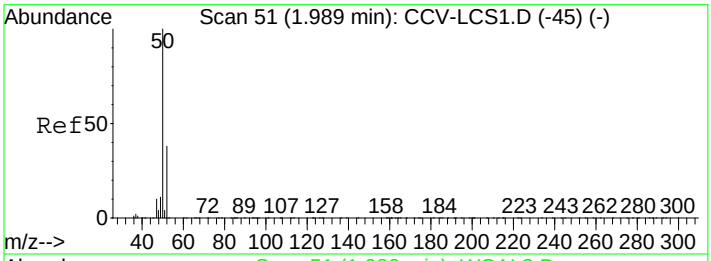
Quant Time: Oct 11 06:31:46 2016 Results File: W101016.RES

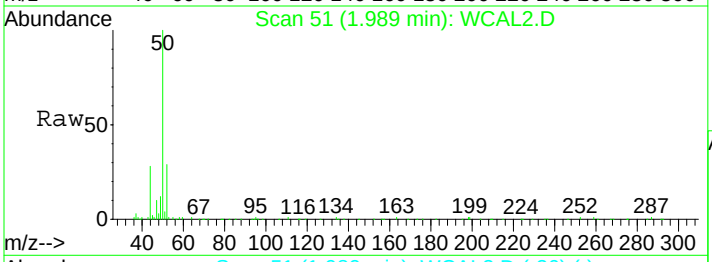
Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:36 2016
Response via : Initial Calibration
Data Path Meth : W101016.M

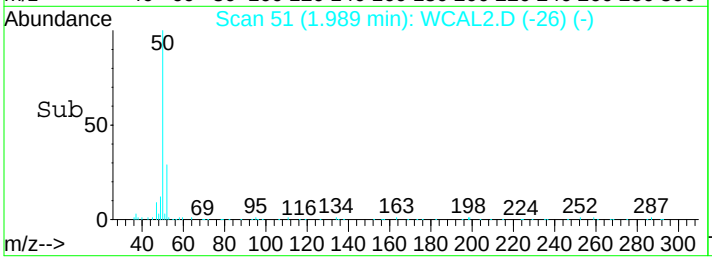


After Manual Integration

AgK 10/19/16



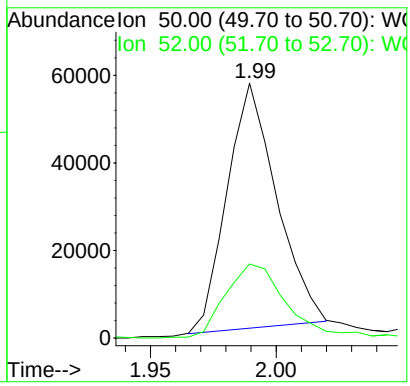


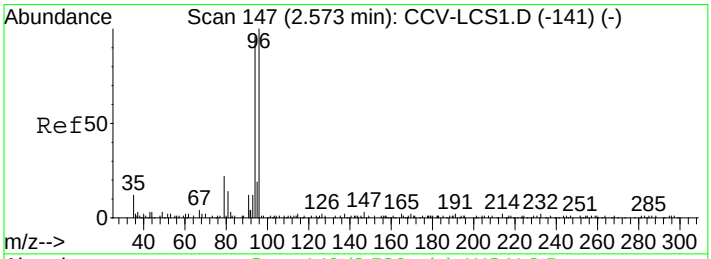


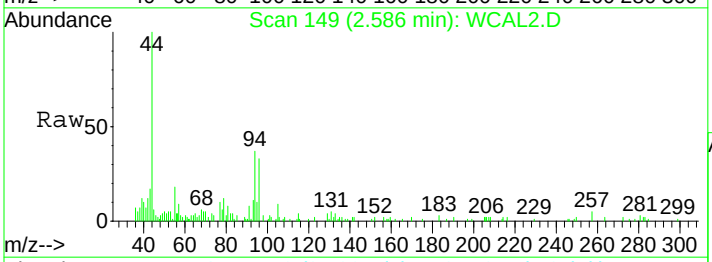
#3
Chloromethan
Concen: 1.77 ug/L m
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 10 Oct 2016 14:53

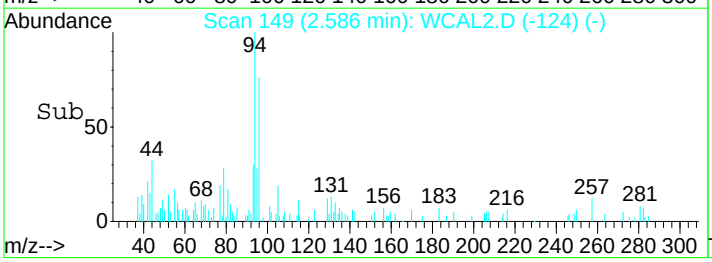
Tgt Ion: 50 Resp: 77267

Ion	Ratio	Lower	Upper
50	100		
52	37.5	14.1	54.1





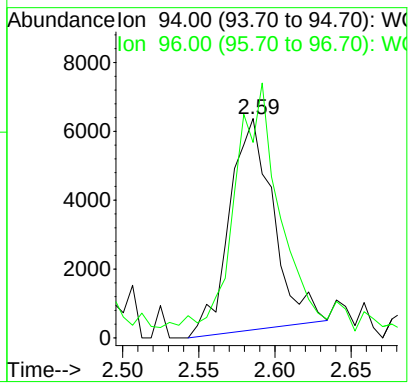




#5
Bromomethane
Concen: 1.78 ug/L m
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 10 Oct 2016 14:53

Tgt Ion: 94 Resp: 12387

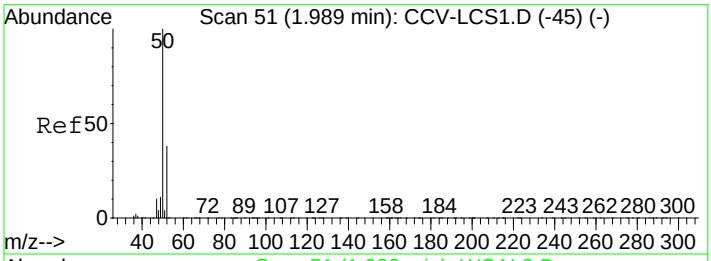
Ion	Ratio	Lower	Upper
94	100		
96	123.4	62.3	102.3#

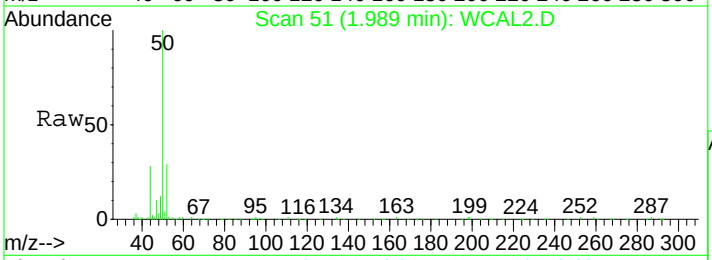


RJ 10/19/2016

Before Manual Integration

AgK 10/19/16

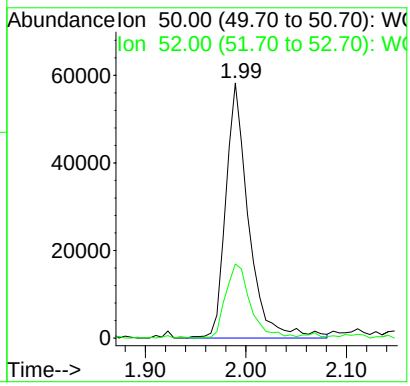




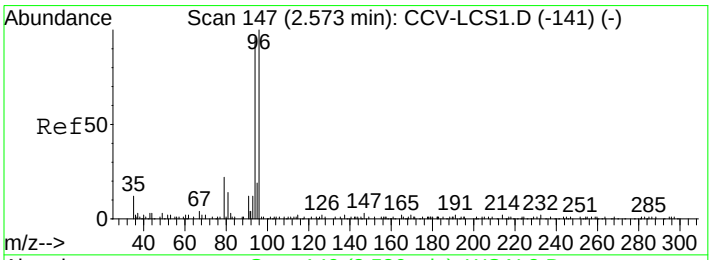
#3
Chloromethan
Concen: 2.37 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 10 Oct 2016 14:53

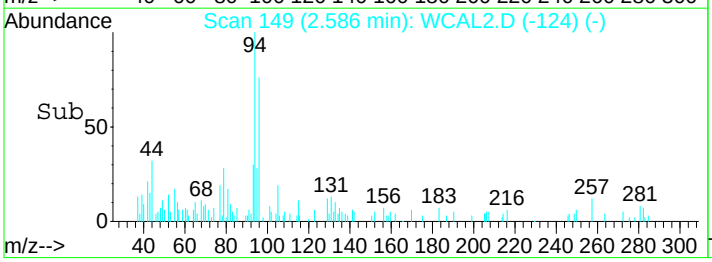
Tgt Ion: 50 Resp: 92127

Ion	Ratio	Lower	Upper
50	100		
52	31.5	14.1	54.1



REASON # 2

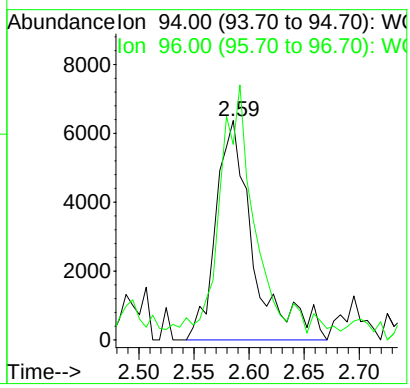




#5
Bromomethane
Concen: 2.31 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 10 Oct 2016 14:53

Tgt Ion: 94 Resp: 15131

Ion	Ratio	Lower	Upper
94	100		
96	101.0	62.3	102.3



REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL3.D Vial: 6
Acq On : 10 Oct 2016 15:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:34:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:34:32 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1323120	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	969111	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	462144	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	320850	19.891	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.07	102	91303	20.725	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %			
61) SURRd8Tolule	9.51	98	1309006	19.840	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.04	95	491139	20.648	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	75748	5.3894	ug/L	97
3) Chloromethan	1.99	50	214177	5.3369	ug/L	97
4) VinylChlorid	2.14	62	135951	5.1765	ug/L	99
5) Bromomethane	2.59	94	35451	5.2995	ug/L	90
6) Chloroethane	2.75	64	88623	5.2527	ug/L	99
7) Dichloroflmethane	3.04	67	158842	5.3836	ug/L	98
8) Trichlorofma	3.13	101	104912	5.0824	ug/L	93
9) Ethylether	3.55	59	87972	5.2224	ug/L	96
10) dichlorotfluoroethan	3.56	67	90347	5.0722	ug/L	97
11) propyleneoxide	3.89	58	285477	55.3502	ug/L	96
12) Acrolein	3.68	56	235609	29.1668	ug/L	95
13) 11dichlorthe	3.83	96	70371	4.9966	ug/L	98
14) Trichlorotfluoroeth	3.88	101	141664	10.5939	ug/L	97
15) Acetone	3.89	43	818515	57.4095	ug/L	100
16) Iodomethane	4.00	142	113516	9.9962	ug/L	92
17) Carbon Dislf	4.09	76	428552	10.9917	ug/L	97
18) allylchloride	4.31	41	285370	11.7250	ug/L	99
19) methylacetate	4.36	74	52272	5.2719	ug/L	90
20) Methylchlorid	4.47	84	98300	5.1429	ug/L	99
21) tbutylalcohol	4.65	59	1721300	335.5171	ug/L	97
22) Acrylonitrile	4.76	53	361977	28.0349	ug/L	99
23) t12dichlorte	4.84	96	80405	5.0691	ug/L	97
24) MtBE	4.86	73	266011	5.5465	ug/L	97
25) Hexane	5.23	57	305623	10.6488	ug/L	98
26) 11dichlorota	5.35	63	173992	5.2473	ug/L	97
27) Vinylacetate	5.44	43	2332514	66.0410	ug/L	99
28) chloroprene	5.48	53	370666	10.9607	ug/L	96
29) Diisopether	5.51	45	352709	5.4080	ug/L	99
30) ETBE	5.95	59	324487	5.4098	ug/L	98
31) 22dichloropr	6.08	77	128574	5.1393	ug/L	94
32) c12dichlorte	6.08	96	91725	5.0727	ug/L	93
33) 2Butanone	6.10	72	256718	58.2485	ug/L	99
34) propionitrile	6.13	54	321694	55.8466	ug/L	98
35) Ethylacetate	6.20	88	30882	27.0615	ug/L #	88
36) methacrylonitrile	6.33	67	134731	11.2066	ug/L	91
37) Bromochlorma	6.36	128	34928	5.4317	ug/L	95
38) Tetrahydofur	6.45	42	678225	57.4200	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL3.D Vial: 6
Acq On : 10 Oct 2016 15:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:34:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:34:32 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.47	83	150296	5.1591 ug/L	95
40)	111trichlota	6.72	97	133894	5.6813 ug/L	97
42)	Cyclohexane	6.80	56	195706	5.3178 ug/L	99
43)	Carbtetraclo	6.94	119	97427	5.3779 ug/L	96
44)	11dicloprope	6.92	110	36988	4.7767 ug/L	92
46)	Benzene	7.17	78	354047	5.3722 ug/L	97
47)	12dichlorota	7.16	62	138931	5.3770 ug/L	99
48)	TAME	7.34	73	257115	5.2230 ug/L	98
49)	trichloroete	7.97	95	84611	5.0610 ug/L	96
50)	methylcyclohexane	8.23	83	150881	5.4197 ug/L	96
51)	12dicloropra	8.22	63	101812	4.7492 ug/L	90
52)	23Dicl1propene	8.29	75	134296	5.0782 ug/L	98
53)	Dibromometha	8.36	93	55770	5.1437 ug/L	91
54)	methylmethacrylate	8.40	69	93457	5.0623 ug/L	96
55)	14dioxane	8.41	88	56799	284.9392 ug/L	94
56)	Bromodiclrma	8.57	83	113741	5.3467 ug/L	98
57)	2Nitropropane	8.82	43	634884	57.4827 ug/L	99
58)	2CLEVE	8.96	63	16352	18.6198 ug/L	86
59)	c13dicloproe	9.14	75	143882	5.2750 ug/L	98
60)	4Meth2Pentan	9.34	43	1966036	65.9217 ug/L	97
62)	Toluene	9.59	92	213137	5.2213 ug/L	93
63)	t13Dicloprop	9.85	75	123552	5.0902 ug/L	96
64)	ethylmethacrylate	10.01	69	293580	10.6436 ug/L	99
65)	112Triclotha	10.09	83	69592	5.1586 ug/L	97
66)	Tetrachlorte	10.33	166	81154	5.3292 ug/L	97
67)	13Diclorpropa	10.31	76	148331	5.1847 ug/L	99
69)	2Hexanone	10.43	43	1678746	66.3128 ug/L	97
70)	Clorodibrmta	10.62	129	72970	4.8195 ug/L	94
71)	12Dibrometha	10.76	107	82150	4.9853 ug/L	96
72)	Chlorobenzen	11.45	112	223331	5.2817 ug/L	96
73)	1Clhexane	11.43	91	122161	4.9677 ug/L	97
74)	1112Tetclota	11.56	131	74125	5.1814 ug/L	95
75)	Ethylbenzene	11.61	91	425743	5.6310 ug/L	97
76)	m p-Xylene	11.78	106	306395	10.7823 ug/L	100
77)	o-Xylene	12.33	106	141520	5.0321 ug/L	95
78)	Styrene	12.33	104	236562	5.1984 ug/L	100
79)	Bromoform	12.56	173	54112	4.9475 ug/L	97
80)	Isopropylben	12.85	105	344909	5.2811 ug/L	98
81)	cyclohexanone	12.92	55	153204	115.0457 ug/L	96
84)	Bromobenzene	13.24	156	88819	5.5724 ug/L	90
85)	1122Tetrclta	13.22	83	137655	5.1165 ug/L	97
86)	123Triclproa	13.28	75	179563	5.4505 ug/L	99
87)	14dichloro2butene	13.30	53	46145	4.8764 ug/L	96
88)	n-Propylbenz	13.43	91	458949	5.6938 ug/L	99
89)	2chlorotolue	13.54	91	263462	5.5068 ug/L	98
90)	4chlorotolue	13.69	91	302344	5.4898 ug/L	94
91)	135Trimebenz	13.69	105	288572	5.3551 ug/L	99
92)	tbutylbenzen	14.16	119	237121	5.3954 ug/L	99
93)	124Trimetben	14.22	105	291370	5.2450 ug/L	97
94)	sbutylbenzen	14.47	105	372200	5.5972 ug/L	99
95)	13Diclorbenz	14.61	146	148679	5.3950 ug/L	97
96)	pIsopropylto	14.69	119	292169	5.4666 ug/L	98
97)	14dichlorobe	14.73	146	146459	5.1746 ug/L	93
98)	12dichlorobe	15.27	146	141138	5.2755 ug/L	95
99)	nButylbenzen	15.28	91	281303	5.2772 ug/L	99
100)	12dibromo3cl	16.36	157	33971	5.1995 ug/L	95
101)	135Trichlorobenzene	16.71	180	104680	5.5071 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL3.D Vial: 6
Acq On : 10 Oct 2016 15:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:34:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:34:32 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.53	180	88068	5.1930	ug/L	99
103)	Hexachlorobu	17.78	225	37623	5.3409	ug/L	95
104)	Naphthalene	17.82	128	313857	5.4000	ug/L	97
105)	123Trichlben	18.14	180	83234	5.5128	ug/L	94

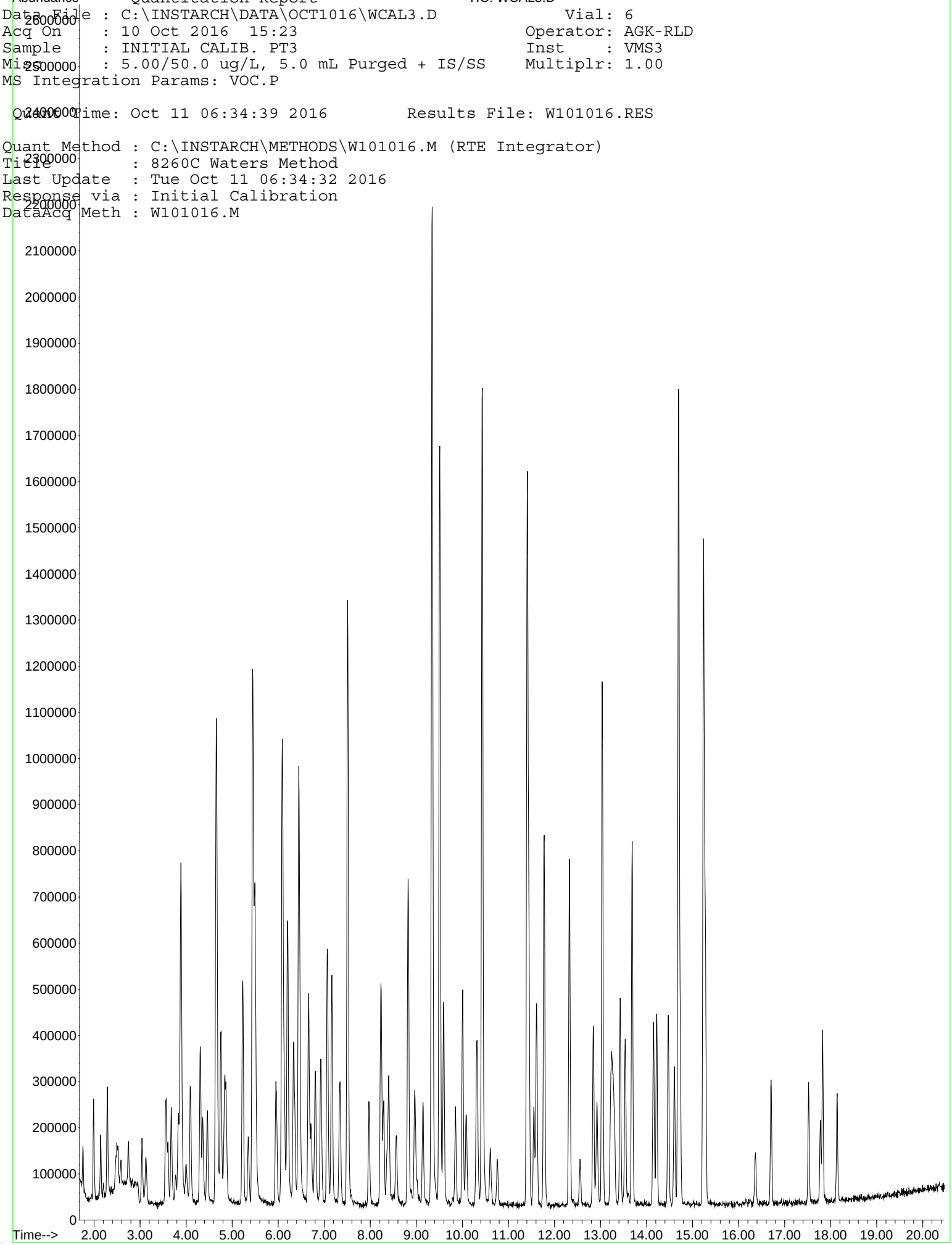
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL3.D

Data File : C:\INSTARCH\DATA\OCT1016\WCAL3.D Vial: 6
Acq On : 10 Oct 2016 15:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:34:39 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:34:32 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL4.D Vial: 7
Acq On : 10 Oct 2016 15:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:27 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:19 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1319515	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	964442	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	474928	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	328000	20.527	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
45) SURR12DCAd4	7.07	102	92844	20.808	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104	%		
61) SURRd8Tolule	9.51	98	1340777	20.515	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.04	95	495912	20.173	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	149599	10.5577	ug/L	100
3) Chloromethan	1.99	50	415093	7.8348	ug/L	100
4) VinylChlorid	2.14	62	264147	9.4307	ug/L	100
5) Bromomethane	2.59	94	66562	8.3069	ug/L	100
6) Chloroethane	2.75	64	169594	9.4938	ug/L	100
7) Dichloroflmethane	3.05	67	299477	9.6277	ug/L	100
8) Trichlorofma	3.13	101	226322	10.7123	ug/L	100
9) Ethylether	3.56	59	170054	9.7764	ug/L	100
10) dichlorotfluoroethan	3.56	67	173289	9.1931	ug/L	100
11) propyleneoxide	3.89	58	537227	93.3331	ug/L	99
12) Acrolein	3.68	56	413954	48.4876	ug/L	100
13) 11dichlorthe	3.83	96	140868	9.9946	ug/L	100
14) Trichlorotfluoroeth	3.88	101	280779	20.8177	ug/L	100
15) Acetone	3.89	43	1666818	91.5389	ug/L	100
16) Iodomethane	4.00	142	193571	14.3096	ug/L	100
17) Carbon Dislf	4.09	76	827914	19.7508	ug/L	100
18) allylchloride	4.31	41	537929	19.0439	ug/L	100
19) methylacetate	4.36	74	96887	9.7787	ug/L	100
20) Methylchlorid	4.46	84	176840	7.3074	ug/L	100
21) tbutylalcohol	4.66	59	2968018	467.2763	ug/L	100
22) Acrylonitrile	4.75	53	681567	49.0772	ug/L	100
23) t12dichlorte	4.83	96	157396	9.6267	ug/L	100
24) MtBE	4.87	73	478052	9.5288	ug/L	100
25) Hexane	5.23	57	607260	20.3917	ug/L	100
26) 11dichlorota	5.35	63	333920	9.5648	ug/L	100
27) Vinylacetate	5.44	43	3522847	78.7629	ug/L	100
28) chloroprene	5.48	53	708338	19.9311	ug/L	100
29) Diisopether	5.51	45	632213	9.0282	ug/L	100
30) ETBE	5.96	59	611547	9.7284	ug/L	100
31) 22dichloropr	6.08	77	244812	9.1631	ug/L	100
32) c12dichlorte	6.08	96	171661	9.1078	ug/L	100
33) 2Butanone	6.09	72	473926	102.3066	ug/L	100
34) propionitrile	6.13	54	627117	102.9845	ug/L	100
35) Ethylacetate	6.21	88	54472	48.2535	ug/L	98
36) methacrylonitrile	6.33	67	241335	19.7250	ug/L	100
37) Bromochlorma	6.36	128	63867	9.1597	ug/L	100
38) Tetrahydofur	6.45	42	1327993	94.3821	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL4.D Vial: 7
Acq On : 10 Oct 2016 15:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:27 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:19 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	279499	9.1161	ug/L	100
40)	111trichlota	6.72	97	256934	11.2531	ug/L	100
42)	Cyclohexane	6.80	56	383771	10.1876	ug/L	100
43)	Carbtetraclo	6.94	119	190780	10.6103	ug/L	100
44)	11dicloprope	6.93	110	78059	10.1628	ug/L	100
46)	Benzene	7.17	78	672342	9.5594	ug/L	100
47)	12dichlorota	7.17	62	259826	9.8106	ug/L	100
48)	TAME	7.34	73	495516	9.6895	ug/L	100
49)	trichloroete	7.97	95	173848	10.2801	ug/L	100
50)	methylcyclohexane	8.24	83	286453	10.2797	ug/L	100
51)	12dicloropra	8.22	63	206105	9.2231	ug/L	100
52)	23Dicl1propene	8.29	75	259624	9.4350	ug/L	100
53)	Dibromometha	8.36	93	103721	9.4582	ug/L	100
54)	methylmethacrylate	8.40	69	182553	9.8021	ug/L	100
55)	14dioxane	8.41	88	106796	451.1108	ug/L	99
56)	Bromodiclrma	8.57	83	220239	10.3376	ug/L	100
57)	2Nitropropane	8.82	43	1186381	98.1728	ug/L	100
58)	2CLEVE	8.97	63	57631	70.5745	ug/L	100
59)	c13dicloproe	9.15	75	265459	9.4674	ug/L	100
60)	4Meth2Pentan	9.34	43	3481578	91.7923	ug/L	100
62)	Toluene	9.59	92	419479	9.9211	ug/L	100
63)	t13Dicloprop	9.85	75	240955	9.9457	ug/L	100
64)	ethylmethacrylate	10.01	69	559508	19.6378	ug/L	100
65)	112Triclotha	10.08	83	137732	10.2125	ug/L	100
66)	Tetrachlorte	10.32	166	160694	10.6429	ug/L	100
67)	13Diclorpropa	10.31	76	274001	9.1778	ug/L	100
69)	2Hexanone	10.43	43	2968238	94.1184	ug/L	100
70)	Clorodibrmta	10.60	129	144928	9.6958	ug/L	100
71)	12Dibrometha	10.76	107	161678	9.7771	ug/L	100
72)	Chlorobenzen	11.45	112	432509	9.8434	ug/L	100
73)	1Clhexane	11.43	91	243240	9.5928	ug/L	100
74)	1112Tetclota	11.56	131	135946	9.5812	ug/L	100
75)	Ethylbenzene	11.61	91	783903	9.6902	ug/L	100
76)	m p-Xylene	11.78	106	581126	19.4131	ug/L	100
77)	o-Xylene	12.32	106	283581	9.9324	ug/L	100
78)	Styrene	12.33	104	470480	10.2129	ug/L	100
79)	Bromoform	12.55	173	103007	9.7373	ug/L	100
80)	Isopropylben	12.84	105	668227	9.6272	ug/L	100
81)	cyclohexanone	12.92	55	275647	189.6701	ug/L	100
84)	Bromobenzene	13.25	156	167253	9.9484	ug/L	100
85)	1122Tetrclta	13.22	83	273487	9.2407	ug/L	100
86)	123Triclproa	13.28	75	346066	9.9652	ug/L	100
87)	14dichloro2butene	13.30	53	96577	9.5975	ug/L	100
88)	n-Propylbenz	13.43	91	883814	9.7783	ug/L	100
89)	2chlorotolue	13.54	91	518370	10.0394	ug/L	100
90)	4chlorotolue	13.68	91	595712	9.8222	ug/L	100
91)	135Trimebenz	13.69	105	587298	10.0720	ug/L	100
92)	tbutylbenzen	14.15	119	482082	10.3685	ug/L	100
93)	124Trimetben	14.22	105	583245	9.4580	ug/L	100
94)	sbutylbenzen	14.47	105	738354	10.1580	ug/L	100
95)	13Diclorbenz	14.61	146	293279	10.0638	ug/L	100
96)	pIsopropylto	14.69	119	573114	9.9484	ug/L	100
97)	14dichlorobe	14.73	146	298179	9.7853	ug/L	100
98)	12dichlorobe	15.26	146	277029	9.4998	ug/L	100
99)	nButylbenzen	15.28	91	581377	10.1777	ug/L	100
100)	12dibromo3cl	16.36	157	67969	9.7460	ug/L	100
101)	135Trichlorobenzene	16.71	180	203999	10.1269	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

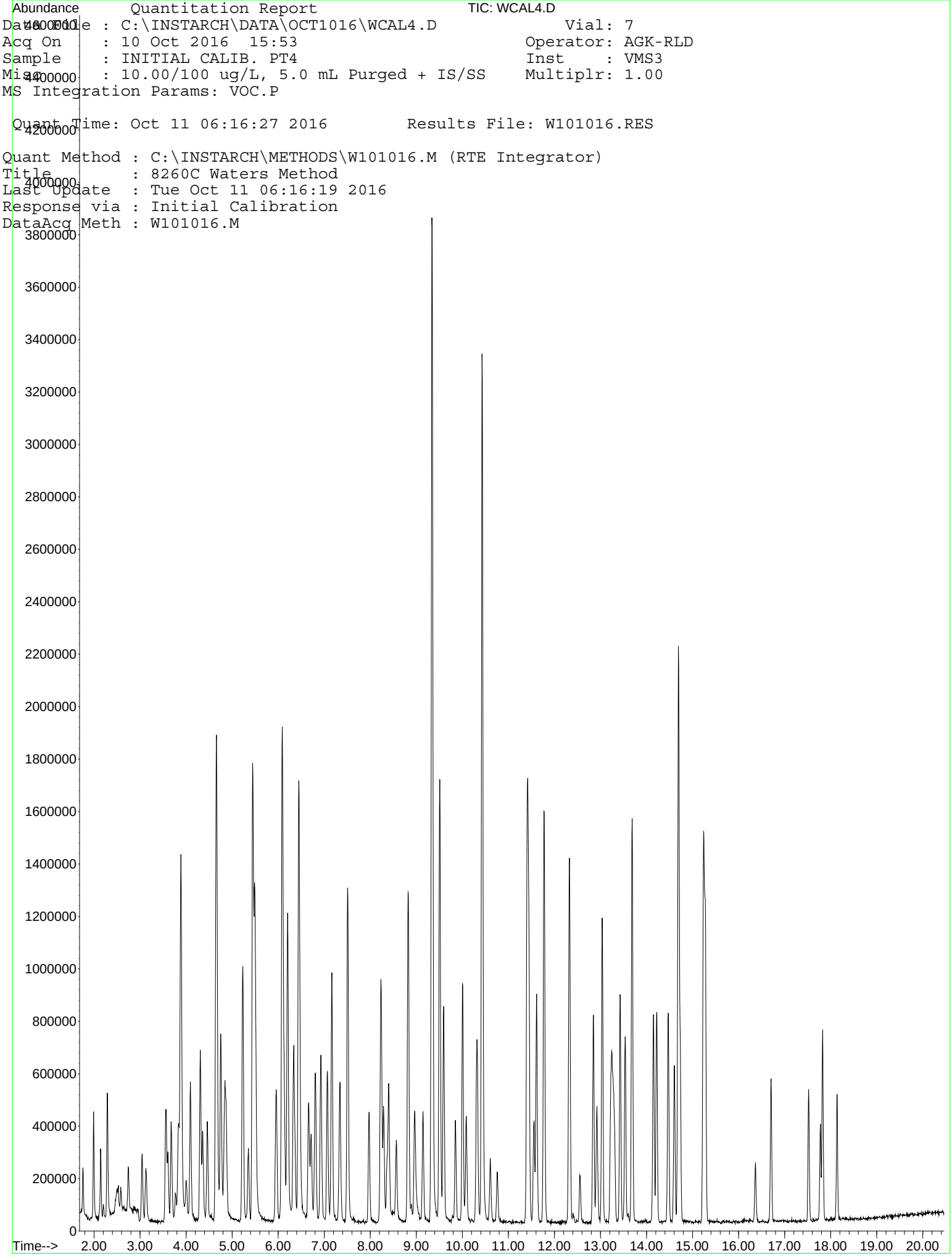
Data File : C:\INSTARCH\DATA\OCT1016\WCAL4.D Vial: 7
Acq On : 10 Oct 2016 15:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:27 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:19 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.52	180	176772	9.8894	ug/L	100
103)	Hexachlorobu	17.78	225	78617	11.1522	ug/L	100
104)	Naphthalene	17.82	128	648239	10.3151	ug/L	100
105)	123Trichlben	18.14	180	161880	10.4864	ug/L	100

(#) = qualifier out of range (m) = manual integration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Quantitation Report
TIC: WCAL4.D
Data File : C:\INSTARCH\DATA\OCT1016\WCAL4.D Vial: 7
Acq On : 10 Oct 2016 15:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Oct 11 06:16:27 2016 Results File: W101016.RES
Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:19 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
4600000
4400000
4200000
4000000
3800000
3600000
3400000
3200000
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400000
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Time-->
2.00
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9.00
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11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL5.D Vial: 8
Acq On : 10 Oct 2016 16:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:41 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:33 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1341548	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	980392	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	512441	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	338372	20.842	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.08	102	90252	19.894	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.51	98	1343602	20.221	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.04	95	501881	18.922	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 95 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	297929	20.6806	ug/L	99
3) Chloromethan	1.99	50	808144	15.0030	ug/L	99
4) VinylChlorid	2.15	62	525159	18.4415	ug/L	98
5) Bromomethane	2.59	94	130488	16.0173	ug/L	86
6) Chloroethane	2.75	64	327860	18.0520	ug/L	90
7) Dichloroflmethane	3.04	67	599467	18.9553	ug/L	97
8) Trichlorofma	3.13	101	421990	19.6456	ug/L	95
9) Ethylether	3.56	59	336807	19.0451	ug/L	97
10) dichlorotfluoroethan	3.56	67	350591	18.2936	ug/L	96
11) propyleneoxide	3.89	58	976409	167.1981	ug/L	97
12) Acrolein	3.68	56	813765	93.7532	ug/L	97
13) 11dichlorthe	3.83	96	290432	20.2678	ug/L	95
14) Trichlorotfluoroeth	3.88	101	561004	40.9027	ug/L	99
15) Acetone	3.89	43	2939150	158.8389	ug/L	99
16) Iodomethane	4.00	142	411626	29.9294	ug/L	98
17) Carbon Dislf	4.09	76	1597375	37.4813	ug/L	100
18) allylchloride	4.31	41	1043412	36.3324	ug/L	98
19) methylacetate	4.36	74	199990	19.8533	ug/L	99
20) Methylchlorid	4.47	84	344892	14.0175	ug/L	98
21) tbutylalcohol	4.66	59	4828640	747.3487	ug/L	97
22) Acrylonitrile	4.75	53	1291452	91.4656	ug/L	99
23) t12dichlorte	4.83	96	311533	18.7412	ug/L	97
24) MtBE	4.87	73	962602	18.8719	ug/L	98
25) Hexane	5.23	57	1215891	40.1589	ug/L	99
26) 11dichlorota	5.35	63	663524	18.6939	ug/L	97
27) Vinylacetate	5.44	43	6791171	149.3415	ug/L	94
28) chloroprene	5.49	53	1433429	39.6713	ug/L	99
29) Diisopether	5.51	45	1287006	18.0770	ug/L	99
30) ETBE	5.96	59	1220299	19.0934	ug/L	97
31) 22dichloropr	6.08	77	498078	18.3608	ug/L	97
32) c12dichlorte	6.08	96	364169	19.0044	ug/L	94
33) 2Butanone	6.10	72	895151	190.2561	ug/L	98
34) propionitrile	6.13	54	1146451	185.1770	ug/L	97
35) Ethylacetate	6.21	88	118687	103.1970	ug/L #	79
36) methacrylonitrile	6.34	67	482981	38.8270	ug/L	99
37) Bromochlorma	6.36	128	122284	17.2497	ug/L	96
38) Tetrahydofur	6.45	42	2442403	170.7338	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL5.D Vial: 8
Acq On : 10 Oct 2016 16:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:41 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:33 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	578470	18.5575	ug/L	97
40)	111trichlota	6.72	97	500576	21.5608	ug/L	96
42)	Cyclohexane	6.80	56	767096	20.0289	ug/L	98
43)	Carbtetraclo	6.94	119	372233	20.3618	ug/L	99
44)	11dicloprope	6.93	110	152772	19.5632	ug/L	91
46)	Benzene	7.17	78	1334477	18.6620	ug/L	99
47)	12dichlorota	7.16	62	517980	19.2369	ug/L	99
48)	TAME	7.34	73	1010723	19.4395	ug/L	98
49)	trichloroete	7.97	95	339920	19.7702	ug/L	97
50)	methylcyclohexane	8.24	83	580210	20.4795	ug/L	99
51)	12dicloropra	8.22	63	421634	18.5580	ug/L	98
52)	23Dicl1propene	8.29	75	528883	18.9045	ug/L	98
53)	Dibromometha	8.36	93	217237	19.4842	ug/L	96
54)	methylmethacrylate	8.40	69	372503	19.6728	ug/L	96
55)	14dioxane	8.41	88	187682	781.4052	ug/L	98
56)	Bromodiclrma	8.57	83	440108	20.3185	ug/L	97
57)	2Nitropropane	8.82	43	2247474	182.9236	ug/L	98
58)	2CLEVE	8.96	63	99734	120.1277	ug/L	96
59)	c13dicloproe	9.14	75	558513	19.5918	ug/L	99
60)	4Meth2Pentan	9.34	43	5797871	150.3920	ug/L	93
62)	Toluene	9.59	92	843376	19.6192	ug/L	98
63)	t13Dicloprop	9.85	75	510389	20.7209	ug/L	97
64)	ethylmethacrylate	10.01	69	1149356	39.6779	ug/L	99
65)	112Triclotha	10.09	83	274455	20.0223	ug/L	95
66)	Tetrachlorte	10.33	166	325938	21.2326	ug/L	99
67)	13Diclorpropa	10.31	76	575010	18.9439	ug/L	99
69)	2Hexanone	10.43	43	5012351	156.3485	ug/L	94
70)	Clorodibrmta	10.61	129	310586	20.4403	ug/L	98
71)	12Dibrometha	10.76	107	332293	19.7678	ug/L	99
72)	Chlorobenzen	11.45	112	868085	19.4353	ug/L	97
73)	1Clhexane	11.43	91	501851	19.4699	ug/L	96
74)	1112Tetclota	11.55	131	289109	20.0444	ug/L	95
75)	Ethylbenzene	11.61	91	1561993	18.9945	ug/L	99
76)	m p-Xylene	11.78	106	1173740	38.5722	ug/L	95
77)	o-Xylene	12.32	106	585867	20.1861	ug/L	95
78)	Styrene	12.33	104	957217	20.4405	ug/L	99
79)	Bromoform	12.55	173	225183	20.9403	ug/L	97
80)	Isopropylben	12.84	105	1338150	18.9652	ug/L	99
81)	cyclohexanone	12.92	55	506116	342.5879	ug/L	99
84)	Bromobenzene	13.24	156	344065	18.9672	ug/L	95
85)	1122Tetrclta	13.22	83	556677	17.4323	ug/L	99
86)	123Triclproa	13.28	75	707414	18.8792	ug/L	100
87)	14dichloro2butene	13.30	53	195935	18.0459	ug/L	98
88)	n-Propylbenz	13.43	91	1774890	18.1995	ug/L	98
89)	2chlorotolue	13.54	91	1049921	18.8456	ug/L	97
90)	4chlorotolue	13.69	91	1166418	17.8241	ug/L	100
91)	135Trimebenz	13.68	105	1197216	19.0289	ug/L	99
92)	tbutylbenzen	14.15	119	978458	19.5039	ug/L	99
93)	124Trimetben	14.22	105	1194070	17.9458	ug/L	99
94)	sbutylbenzen	14.47	105	1459502	18.6094	ug/L	97
95)	13Diclorbenz	14.61	146	598602	19.0372	ug/L	98
96)	pIsopropylto	14.69	119	1180442	18.9907	ug/L	100
97)	14dichlorobe	14.73	146	610136	18.5571	ug/L	97
98)	12dichlorobe	15.26	146	563103	17.8961	ug/L	97
99)	nButylbenzen	15.28	91	1180855	19.1589	ug/L	98
100)	12dibromo3cl	16.36	157	133837	17.7858	ug/L	95
101)	135Trichlorobenzene	16.71	180	407151	18.7322	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL5.D Vial: 8
Acq On : 10 Oct 2016 16:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:41 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:33 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.52	180	362473	18.7939	ug/L	98
103)	Hexachlorobu	17.78	225	158667	20.8599	ug/L	95
104)	Naphthalene	17.82	128	1287335	18.9852	ug/L	99
105)	123Trichlben	18.13	180	329423	19.7776	ug/L	95

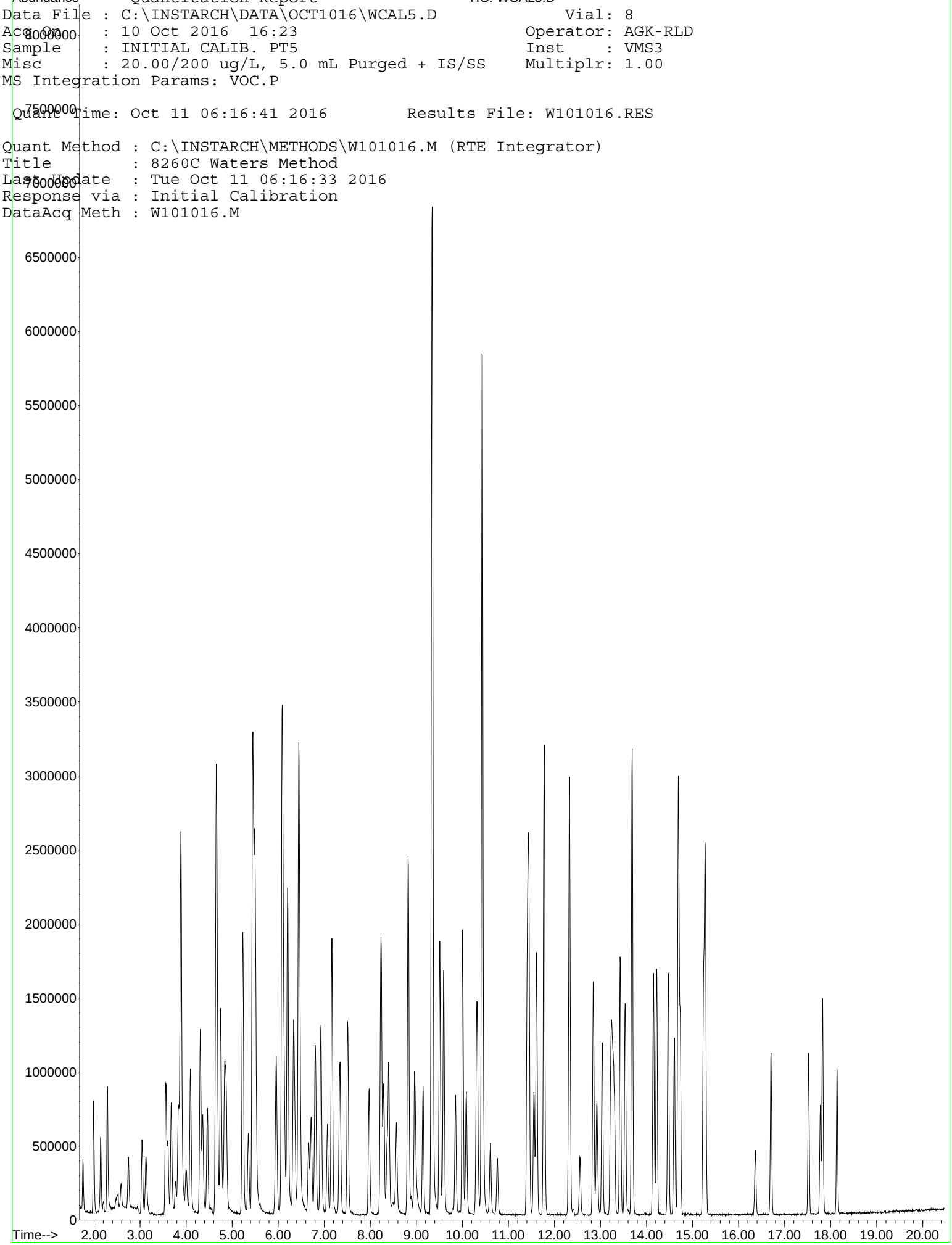
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\OCT1016\WCAL5.D Vial: 8
Acq On : 10 Oct 2016 16:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:41 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:33 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL6.D Vial: 9
Acq On : 10 Oct 2016 16:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:56 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1405007	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	1021865	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	504689	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	334502	19.509	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.07	102	85961	18.112	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 91 %			
61) SURRd8Tolule	9.51	98	1410558	20.225	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.04	95	520764	20.152	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	450310	29.6445	ug/L	95
3) Chloromethan	1.99	50	1216848	22.7047	ug/L	99
4) VinylChlorid	2.15	62	789308	26.8845	ug/L	99
5) Bromomethane	2.59	94	187637	22.9042	ug/L	84
6) Chloroethane	2.74	64	506129	27.1375	ug/L	97
7) Dichloroflmethane	3.04	67	894794	27.3009	ug/L	99
8) Trichlorofma	3.13	101	663350	29.5921	ug/L	95
9) Ethylether	3.56	59	525549	28.6490	ug/L	97
10) dichlorotfluoroethan	3.56	67	534987	27.1171	ug/L	99
11) propyleneoxide	3.89	58	1494373	252.6219	ug/L #	88
12) Acrolein	3.67	56	1244971	138.6864	ug/L	99
13) 11dichlorthe	3.83	96	453573	30.1422	ug/L	93
14) Trichlorotfluoroeth	3.87	101	862772	59.7935	ug/L	98
15) Acetone	3.89	43	4223731	227.3073	ug/L	95
16) Iodomethane	4.00	142	650066	47.5245	ug/L	95
17) Carbon Dislf	4.09	76	2414579	54.7875	ug/L	99
18) allylchloride	4.31	41	1509375	51.1212	ug/L	98
19) methylacetate	4.36	74	318094	30.1957	ug/L	97
20) Methylchlorid	4.46	84	512011	21.1342	ug/L	98
21) tbutylalcohol	4.65	59	6753726	1051.2076	ug/L	93
22) Acrylonitrile	4.75	53	1988511	136.8082	ug/L	98
23) t12dichlorte	4.84	96	497815	28.9595	ug/L	95
24) MtBE	4.87	73	1492133	28.2509	ug/L	100
25) Hexane	5.23	57	1831211	57.7043	ug/L	98
26) 11dichlorota	5.35	63	1001675	27.3028	ug/L	95
27) Vinylacetate	5.44	43	9171468	202.8523	ug/L	89
28) chloroprene	5.49	53	2118794	56.0829	ug/L	98
29) Diisopether	5.51	45	1939381	26.5197	ug/L	99
30) ETBE	5.96	59	1880801	28.3559	ug/L	97
31) 22dichloropr	6.08	77	742132	26.5571	ug/L	96
32) c12dichlorte	6.08	96	543600	27.3592	ug/L	98
33) 2Butanone	6.09	72	1382283	283.2823	ug/L	94
34) propionitrile	6.13	54	1798848	281.6044	ug/L	96
35) Ethylacetate	6.21	88	183536	151.4066	ug/L #	80
36) methacrylonitrile	6.33	67	763084	58.9195	ug/L	95
37) Bromochlorma	6.36	128	196049	27.1529	ug/L	98
38) Tetrahydofur	6.45	42	3668113	252.2159	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL6.D Vial: 9
Acq On : 10 Oct 2016 16:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:56 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	879926	27.3478	ug/L	98
40)	111trichlota	6.72	97	775788	31.4152	ug/L	95
42)	Cyclohexane	6.81	56	1164871	29.0327	ug/L	99
43)	Carbtetraclo	6.94	119	588708	30.6380	ug/L	100
44)	11dicloprope	6.93	110	252959	31.0653	ug/L	94
46)	Benzene	7.17	78	2013074	27.2448	ug/L	98
47)	12dichlorota	7.16	62	823410	29.4234	ug/L	99
48)	TAME	7.34	73	1522629	28.1200	ug/L	99
49)	trichloroete	7.98	95	525262	29.2373	ug/L	98
50)	methylcyclohexane	8.24	83	888211	29.7920	ug/L	99
51)	12dicloropra	8.22	63	661518	28.2081	ug/L	91
52)	23Dicl1propene	8.29	75	802462	27.6912	ug/L	99
53)	Dibromometha	8.36	93	339828	29.2537	ug/L	96
54)	methylmethacrylate	8.40	69	594636	30.0842	ug/L	97
55)	14dioxane	8.41	88	250684	1042.1314	ug/L	98
56)	Bromodiclrma	8.57	83	673950	29.6146	ug/L	98
57)	2Nitropropane	8.83	43	3425052	270.8009	ug/L	98
58)	2CLEVE	8.96	63	157000	171.9119	ug/L	97
59)	c13dicloproe	9.14	75	847327	28.4969	ug/L	99
60)	4Meth2Pentan	9.34	43	7678816	200.1131	ug/L	85
62)	Toluene	9.59	92	1278124	28.4982	ug/L	96
63)	t13Dicloprop	9.85	75	759529	29.2321	ug/L	98
64)	ethylmethacrylate	10.00	69	1728517	57.0683	ug/L	98
65)	112Triclotha	10.09	83	426234	29.6840	ug/L	95
66)	Tetrachlorte	10.32	166	489619	30.0839	ug/L	96
67)	13Diclorpropa	10.31	76	865772	27.5256	ug/L	99
69)	2Hexanone	10.43	43	6769371	211.8315	ug/L	88
70)	Clorodibrmta	10.61	129	487170	30.6256	ug/L	99
71)	12Dibrometha	10.76	107	527391	30.1707	ug/L	99
72)	Chlorobenzen	11.45	112	1316687	28.4431	ug/L	97
73)	1Clhexane	11.43	91	763718	28.5783	ug/L	97
74)	1112Tetclota	11.55	131	460400	30.6112	ug/L	95
75)	Ethylbenzene	11.61	91	2328351	27.4405	ug/L	98
76)	m p-Xylene	11.78	106	1747904	55.5057	ug/L	93
77)	o-Xylene	12.32	106	884827	29.1951	ug/L	96
78)	Styrene	12.33	104	1459927	29.7790	ug/L	99
79)	Bromoform	12.56	173	349853	30.9225	ug/L	100
80)	Isopropylben	12.84	105	2014160	27.6738	ug/L	99
81)	cyclohexanone	12.92	55	726638	485.8426	ug/L	99
84)	Bromobenzene	13.24	156	529395	29.9414	ug/L	96
85)	1122Tetrclta	13.22	83	866226	28.2683	ug/L	100
86)	123Triclproa	13.28	75	1103629	30.2446	ug/L	100
87)	14dichloro2butene	13.30	53	305832	29.1703	ug/L	100
88)	n-Propylbenz	13.43	91	2622632	27.8058	ug/L	96
89)	2chlorotolue	13.54	91	1580380	29.1392	ug/L	97
90)	4chlorotolue	13.69	91	1803785	28.6097	ug/L	100
91)	135Trimebenz	13.69	105	1788341	29.1440	ug/L	98
92)	tbutylbenzen	14.15	119	1488412	30.2749	ug/L	99
93)	124Trimetben	14.22	105	1778459	27.7084	ug/L	97
94)	sbutylbenzen	14.47	105	2221186	29.1618	ug/L	98
95)	13Diclorbenz	14.61	146	913975	29.8004	ug/L	98
96)	pIsopropylto	14.69	119	1776213	29.3101	ug/L	99
97)	14dichlorobe	14.73	146	912960	28.6066	ug/L	100
98)	12dichlorobe	15.26	146	855112	28.1870	ug/L	99
99)	nButylbenzen	15.28	91	1810659	30.0815	ug/L	99
100)	12dibromo3cl	16.36	157	208161	28.7238	ug/L	91
101)	135Trichlorobenzene	16.71	180	637028	30.1407	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL6.D Vial: 9
Acq On : 10 Oct 2016 16:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:56 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.52	180	568749	30.3076	ug/L	98
103)	Hexachlorobu	17.78	225	260269	34.4469	ug/L	95
104)	Naphthalene	17.82	128	1961960	29.6799	ug/L	99
105)	123Trichlben	18.14	180	526372	32.1587	ug/L	98

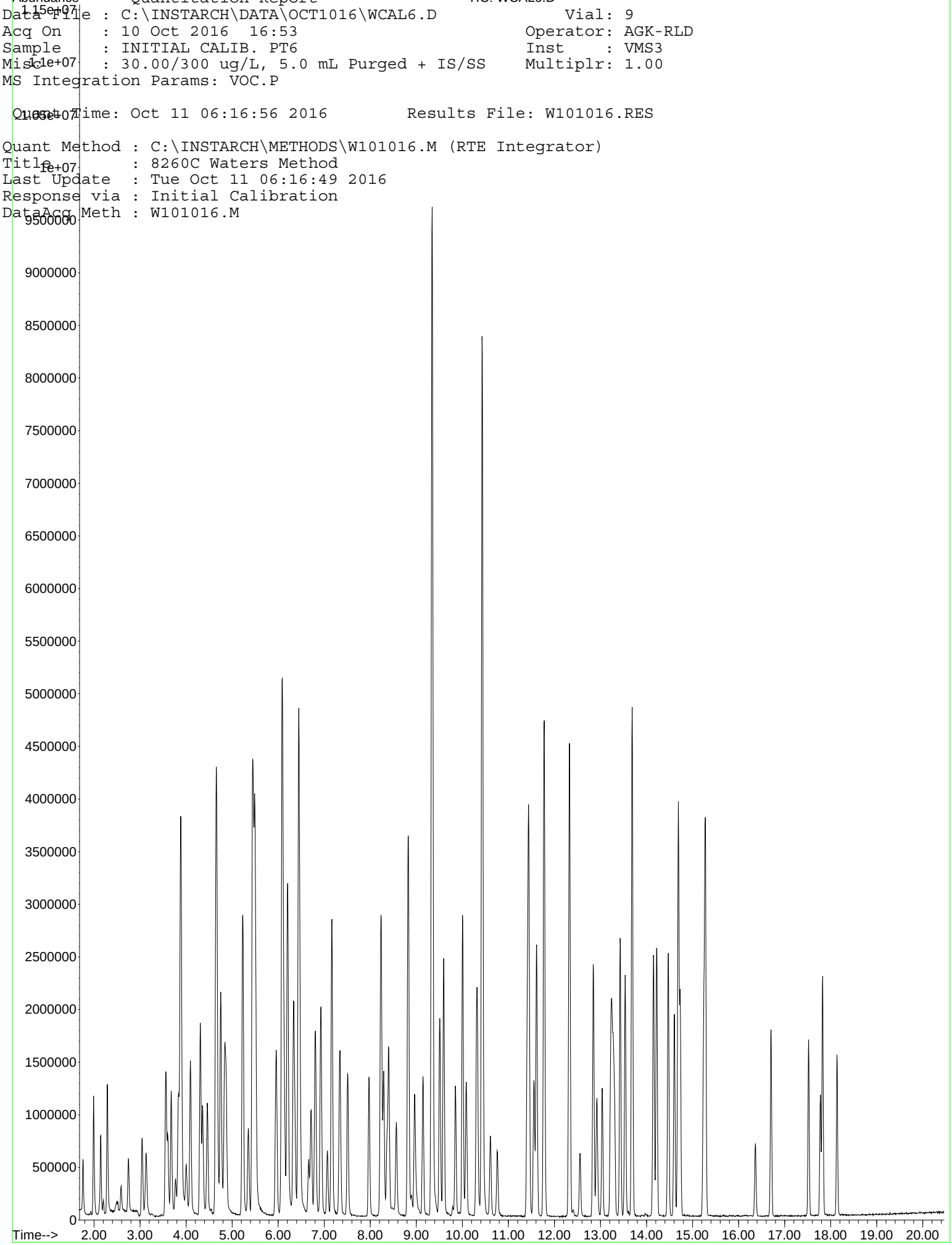
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\DATA\OCT1016\WCAL6.D Vial: 9
Acq On : 10 Oct 2016 16:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:16:56 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:16:49 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL7.D Vial: 10
Acq On : 10 Oct 2016 17:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:13 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:04 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1405123	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	1051087	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	534382	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	344662	20.182	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.06	102	95215	20.381	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.51	98	1431380	20.484	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.04	95	562111	20.518	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	597981	39.4405	ug/L	95
3) Chloromethan	1.99	50	1512185	29.4047	ug/L	97
4) VinylChlorid	2.15	62	1066881	36.9758	ug/L	96
5) Bromomethane	2.59	94	273622	34.7680	ug/L	90
6) Chloroethane	2.74	64	691232	37.6581	ug/L	97
7) Dichloroflmethane	3.04	67	1194469	36.9960	ug/L	100
8) Trichlorofma	3.13	101	851767	38.0805	ug/L	95
9) Ethylether	3.56	59	697086	38.2841	ug/L	97
10) dichlorotfluoroethan	3.56	67	716337	36.8972	ug/L	96
11) propyleneoxide	3.89	58	1880766	326.5090	ug/L #	82
12) Acrolein	3.67	56	1613068	181.9640	ug/L	99
13) 11dichlorthe	3.83	96	596294	39.5922	ug/L	93
14) Trichlorotfluoroeth	3.88	101	1118272	77.5388	ug/L	99
15) Acetone	3.89	43	5107577	286.4172	ug/L	92
16) Iodomethane	4.00	142	937445	70.9884	ug/L	96
17) Carbon Dislf	4.09	76	3104006	71.4596	ug/L	98
18) allylchloride	4.31	41	1932405	67.0984	ug/L	98
19) methylacetate	4.36	74	422409	40.0512	ug/L	99
20) Methylchlorid	4.46	84	699018	30.3455	ug/L	99
21) tbutylalcohol	4.66	59	8248726	1351.1736	ug/L	90
22) Acrylonitrile	4.75	53	2543576	177.5848	ug/L	97
23) t12dichlorte	4.84	96	663293	38.8070	ug/L	95
24) MtBE	4.87	73	1981434	37.8799	ug/L	99
25) Hexane	5.23	57	2330294	73.8963	ug/L	97
26) 11dichlorota	5.35	63	1353357	37.4467	ug/L	95
27) Vinylacetate	5.44	43	10722239	250.6607	ug/L	85
28) chloroprene	5.49	53	2738499	73.2774	ug/L	97
29) Diisopether	5.51	45	2753944	38.3976	ug/L	100
30) ETBE	5.96	59	2442296	37.1576	ug/L	96
31) 22dichloropr	6.08	77	986573	35.9899	ug/L	96
32) c12dichlorte	6.08	96	740593	37.8257	ug/L	95
33) 2Butanone	6.09	72	1757041	363.4301	ug/L	94
34) propionitrile	6.13	54	2329600	368.4272	ug/L	96
35) Ethylacetate	6.21	88	244057	201.0022	ug/L #	76
36) methacrylonitrile	6.33	67	1015814	78.6630	ug/L	94
37) Bromochlorma	6.36	128	248291	34.9382	ug/L	96
38) Tetrahydofur	6.45	42	4570785	322.8268	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL7.D Vial: 10
Acq On : 10 Oct 2016 17:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:13 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:04 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.47	83	1189096	37.5063 ug/L	98
40)	111trichlota	6.72	97	1049349	42.1579 ug/L	97
42)	Cyclohexane	6.81	56	1522898	38.1579 ug/L	100
43)	Carbtetraclo	6.94	119	775747	40.2261 ug/L	99
44)	11dicloprope	6.92	110	337305	41.1765 ug/L	95
46)	Benzene	7.17	78	2666024	36.6397 ug/L	98
47)	12dichlorota	7.16	62	1082680	38.8091 ug/L	98
48)	TAME	7.34	73	2036658	38.0070 ug/L	97
49)	trichloroete	7.97	95	710807	39.7303 ug/L	97
50)	methylcyclohexane	8.24	83	1193910	40.0887 ug/L	96
51)	12dicloropra	8.22	63	879010	37.8560 ug/L	89
52)	23Dicl1propene	8.29	75	1095221	38.2816 ug/L	100
53)	Dibromometha	8.36	93	458766	39.6535 ug/L	95
54)	methylmethacrylate	8.40	69	784604	39.6733 ug/L	97
55)	14dioxane	8.41	88	391630	1715.1899 ug/L	99
56)	Bromodiclrma	8.57	83	910967	40.1122 ug/L	95
57)	2Nitropropane	8.82	43	4318236	347.0214 ug/L	97
58)	2CLEVE	8.96	63	170264	181.1285 ug/L	98
59)	c13dicloproe	9.14	75	1131550	38.3730 ug/L	96
60)	4Meth2Pentan	9.34	43	8904118	245.6580 ug/L	78
62)	Toluene	9.59	92	1677393	37.7122 ug/L	97
63)	t13Dicloprop	9.85	75	1049883	40.5767 ug/L	98
64)	ethylmethacrylate	10.01	69	2320577	77.2383 ug/L	99
65)	112Triclotha	10.08	83	581995	40.5995 ug/L	96
66)	Tetrachlorte	10.33	166	638758	39.2260 ug/L	97
67)	13Diclorpropa	10.31	76	1178617	37.9910 ug/L	100
69)	2Hexanone	10.43	43	7840861	250.8259 ug/L	83
70)	Clorodibrmta	10.61	129	659769	40.1832 ug/L	98
71)	12Dibrometha	10.76	107	706329	39.2467 ug/L	100
72)	Chlorobenzen	11.45	112	1740305	36.8678 ug/L	97
73)	1Clhexane	11.43	91	1005673	36.8773 ug/L	97
74)	1112Tetclota	11.56	131	617339	39.7696 ug/L	98
75)	Ethylbenzene	11.61	91	3037832	35.3087 ug/L	96
76)	m p-Xylene	11.78	106	2308974	72.1855 ug/L	88
77)	o-Xylene	12.32	106	1187058	38.2494 ug/L	94
78)	Styrene	12.33	104	1950475	38.7265 ug/L	98
79)	Bromoform	12.56	173	483346	41.3220 ug/L	98
80)	Isopropylben	12.84	105	2655233	35.9320 ug/L	97
81)	cyclohexanone	12.92	55	1080199	725.1550 ug/L	98
84)	Bromobenzene	13.25	156	714591	38.1824 ug/L	98
85)	1122Tetrclta	13.22	83	1147397	35.7070 ug/L	97
86)	123Triclproa	13.28	75	1464609	37.8555 ug/L	100
87)	14dichloro2butene	13.30	53	420859	38.0867 ug/L	98
88)	n-Propylbenz	13.43	91	3388127	34.3444 ug/L	93
89)	2chlorotolue	13.54	91	2118622	37.0700 ug/L	95
90)	4chlorotolue	13.69	91	2390552	36.0883 ug/L	99
91)	135Trimebenz	13.69	105	2357450	36.4573 ug/L	97
92)	tbutylbenzen	14.15	119	1956044	37.5187 ug/L	97
93)	124Trimetben	14.22	105	2377690	35.4372 ug/L	96
94)	sbutylbenzen	14.47	105	2898120	36.1031 ug/L	95
95)	13Diclorbenz	14.61	146	1241605	38.2758 ug/L	98
96)	pIsopropylto	14.69	119	2371277	37.0975 ug/L	98
97)	14dichlorobe	14.73	146	1253342	37.3793 ug/L	99
98)	12dichlorobe	15.27	146	1180377	37.1206 ug/L	99
99)	nButylbenzen	15.28	91	2374217	37.2356 ug/L	98
100)	12dibromo3cl	16.37	157	289762	38.0317 ug/L	96
101)	135Trichlorobenzene	16.71	180	848852	37.9017 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL7.D Vial: 10
Acq On : 10 Oct 2016 17:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:13 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:04 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.52	180	761024	38.2349	ug/L	99
103) Hexachlorobu	17.78	225	333338	40.6617	ug/L	96
104) Naphthalene	17.82	128	2569865	36.7814	ug/L	98
105) 123Trichlben	18.13	180	708034	40.3696	ug/L	96

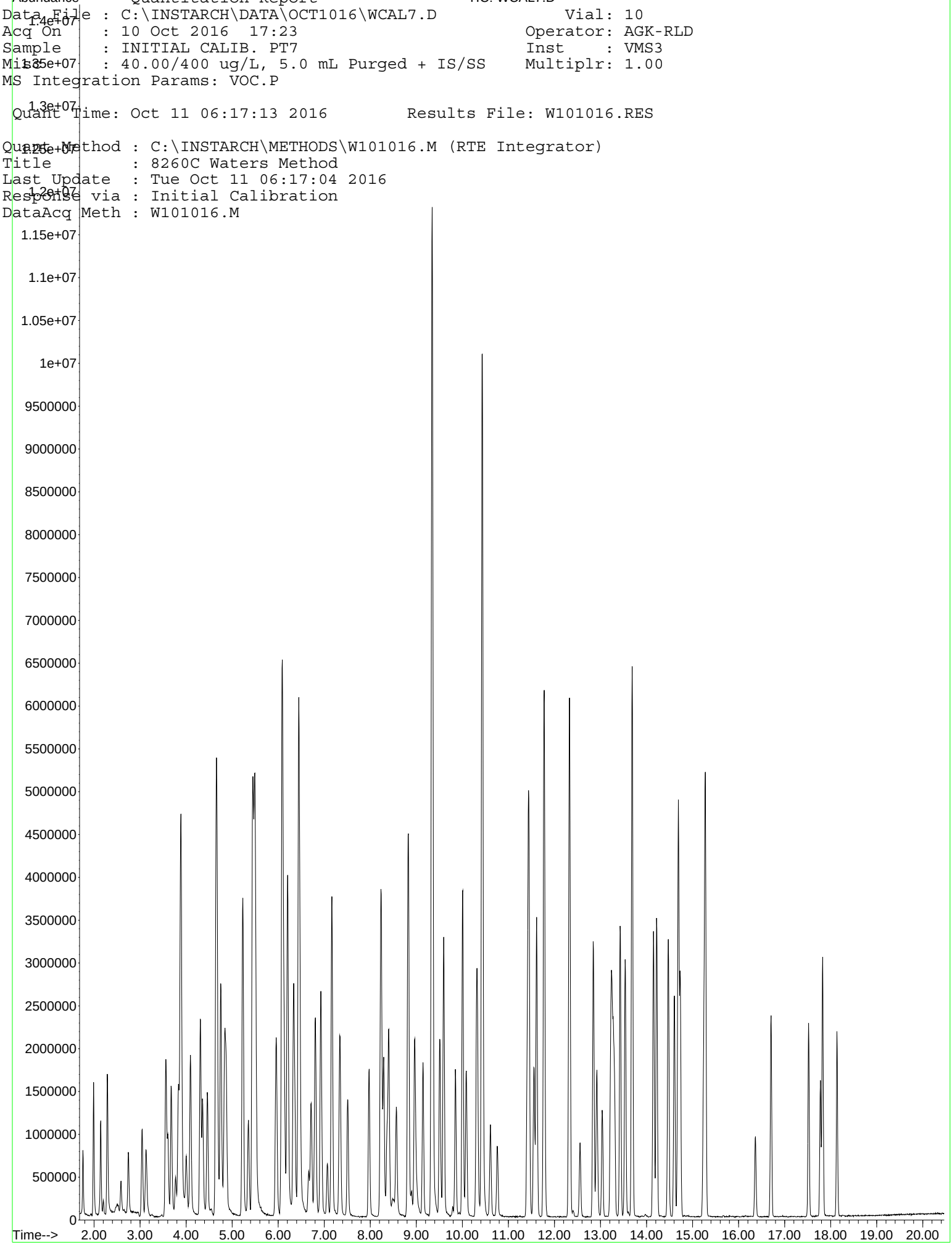
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL7.D

Data File : C:\INSTARCH\DATA\OCT1016\WCAL7.D Vial: 10
Acq On : 10 Oct 2016 17:23 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:13 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:04 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL8.D Vial: 11
Acq On : 10 Oct 2016 17:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:29 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:20 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1545485	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	1133651	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	574353	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	381493	20.284	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.07	102	101991	19.795	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.51	98	1532881	19.875	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.04	95	592141	20.036	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	1186893	71.3157	ug/L	93
3) Chloromethan	1.99	50	2817652	51.7727	ug/L	93
4) VinylChlorid	2.15	62	2052982	65.3962	ug/L	94
5) Bromomethane	2.59	94	569163	67.0049	ug/L	84
6) Chloroethane	2.74	64	1401546	70.0067	ug/L	95
7) Dichloroflmethane	3.04	67	2383596	67.8495	ug/L	97
8) Trichlorofma	3.13	101	1748691	71.5702	ug/L	92
9) Ethylether	3.55	59	1446390	72.6670	ug/L	97
10) dichlorotfluoroethan	3.56	67	1490154	70.5661	ug/L	98
11) propyleneoxide	3.89	58	4008164	649.6905	ug/L #	58
12) Acrolein	3.67	56	3244808	337.1341	ug/L	98
13) 11dichlorthe	3.83	96	1265368	76.4977	ug/L	91
14) Trichlorotfluoroeth	3.88	101	2304768	145.9356	ug/L	98
15) Acetone	3.89	43	8801544	467.7106	ug/L	77
16) Iodomethane	4.00	142	2010246	140.6649	ug/L	98
17) Carbon Dislf	4.09	76	5599211	119.0115	ug/L	93
18) allylchloride	4.31	41	3130671	101.1634	ug/L	97
19) methylacetate	4.36	74	914932	78.8572	ug/L	99
20) Methylchlorid	4.46	84	1427465	58.3526	ug/L	98
21) tbutylalcohol	4.66	59	12461647	1946.0673	ug/L	74
22) Acrylonitrile	4.75	53	4856338	313.2775	ug/L	95
23) t12dichlorte	4.84	96	1374663	73.4353	ug/L	94
24) MtBE	4.87	73	3878016	67.9187	ug/L	94
25) Hexane	5.23	57	4486912	130.7883	ug/L #	93
26) 11dichlorota	5.35	63	2730378	69.3190	ug/L	92
27) Vinylacetate	5.44	43	14610094	328.0252	ug/L	72
28) chloroprene	5.49	53	5076940	125.0127	ug/L	93
29) Diisopether	5.51	45	4832084	61.6064	ug/L	92
30) ETBE	5.96	59	4766208	66.6045	ug/L	92
31) 22dichloropr	6.08	77	2059717	69.3064	ug/L	96
32) c12dichlorte	6.08	96	1551448	72.6072	ug/L	94
33) 2Butanone	6.09	72	3557756	677.9135	ug/L	89
34) propionitrile	6.13	54	4554436	662.3376	ug/L	91
35) Ethylacetate	6.21	88	523441	391.6661	ug/L #	72
36) methacrylonitrile	6.33	67	2105144	148.5681	ug/L	90
37) Bromochlorma	6.36	128	508993	66.3169	ug/L	97
38) Tetrahydofur	6.44	42	7903949	521.9279	ug/L	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL8.D Vial: 11
Acq On : 10 Oct 2016 17:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:29 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:20 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.47	83	2424404	70.1499 ug/L		95
40)	111trichlota	6.71	97	2168510	78.6024 ug/L		96
42)	Cyclohexane	6.81	56	3091155	70.8844 ug/L		97
43)	Carbtetraclo	6.94	119	1655096	77.9669 ug/L		99
44)	11dicloprope	6.92	110	721902	79.7873 ug/L		92
46)	Benzene	7.17	78	4986956	63.0690 ug/L		92
47)	12dichlorota	7.16	62	2205334	72.1787 ug/L		95
48)	TAME	7.34	73	4029174	68.8515 ug/L		97
49)	trichloroete	7.98	95	1488846	75.7335 ug/L		97
50)	methylcyclohexane	8.24	83	2462122	75.1401 ug/L		97
51)	12dicloropra	8.22	63	1833575	72.3481 ug/L		86
52)	23Dicl1propene	8.29	75	2255824	72.1302 ug/L		97
53)	Dibromometha	8.36	93	988069	77.7437 ug/L		95
54)	methylmethacrylate	8.40	69	1633978	75.2057 ug/L		97
55)	14dioxane	8.41	88	801008	3255.7337 ug/L		97
56)	Bromodiclrma	8.57	83	1909080	76.3964 ug/L		93
57)	2Nitropropane	8.83	43	7370669	548.9115 ug/L		96
58)	2CLEVE	8.96	63	532582	523.3402 ug/L		98
59)	c13dicloproe	9.14	75	2333223	72.3584 ug/L		96
60)	4Meth2Pentan	9.34	43	12003312	318.6508 ug/L	#	57
62)	Toluene	9.59	92	3343717	68.9111 ug/L		87
63)	t13Dicloprop	9.85	75	2175536	76.2883 ug/L		97
64)	ethylmethacrylate	10.01	69	4410888	134.1404 ug/L		97
65)	112Triclotha	10.09	83	1236528	78.2575 ug/L		95
66)	Tetrachlorte	10.33	166	1381614	77.3527 ug/L		97
67)	13Diclorpropa	10.31	76	2415762	71.3082 ug/L		98
69)	2Hexanone	10.43	43	10779118	337.6976 ug/L	#	67
70)	Clorodibrmta	10.61	129	1411704	79.6657 ug/L		97
71)	12Dibrometha	10.76	107	1496057	77.2811 ug/L		100
72)	Chlorobenzen	11.45	112	3464867	68.8261 ug/L		96
73)	1Clhexane	11.43	91	2122804	72.9864 ug/L		96
74)	1112Tetclota	11.55	131	1342444	80.2492 ug/L		96
75)	Ethylbenzene	11.61	91	5509625	60.3862 ug/L		88
76)	m p-Xylene	11.78	106	4448775	130.7776 ug/L	#	73
77)	o-Xylene	12.32	106	2427602	72.9816 ug/L	#	83
78)	Styrene	12.33	104	3787566	70.0434 ug/L		91
79)	Bromoform	12.56	173	1089998	85.9929 ug/L		99
80)	Isopropylben	12.85	105	4911307	62.5305 ug/L		91
81)	cyclohexanone	12.92	55	2185894	1378.9834 ug/L		96
84)	Bromobenzene	13.25	156	1486605	74.3880 ug/L		95
85)	1122Tetrclta	13.22	83	2354958	69.2477 ug/L		97
86)	123Triclproa	13.28	75	3095271	75.0098 ug/L		98
87)	14dichloro2butene	13.30	53	921317	78.1082 ug/L		97
88)	n-Propylbenz	13.43	91	5934749	57.1260 ug/L		84
89)	2chlorotolue	13.54	91	4014624	66.0474 ug/L		90
90)	4chlorotolue	13.69	91	4492032	63.9873 ug/L		91
91)	135Trimebenz	13.69	105	4433646	64.6109 ug/L		92
92)	tbutylbenzen	14.16	119	3855270	69.4164 ug/L		95
93)	124Trimetben	14.22	105	4459563	62.8645 ug/L		91
94)	sbutylbenzen	14.47	105	5248153	61.6871 ug/L		88
95)	13Diclorbenz	14.61	146	2515988	72.6115 ug/L		97
96)	pIsopropylto	14.69	119	4436604	65.2546 ug/L		92
97)	14dichlorobe	14.73	146	2519818	70.5810 ug/L		96
98)	12dichlorobe	15.26	146	2337151	69.0944 ug/L		98
99)	nButylbenzen	15.28	91	4400332	64.8493 ug/L		90
100)	12dibromo3cl	16.36	157	643180	79.0995 ug/L		96
101)	135Trichlorobenzene	16.71	180	1740048	72.8329 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1016\WCAL8.D Vial: 11
Acq On : 10 Oct 2016 17:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:29 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:20 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

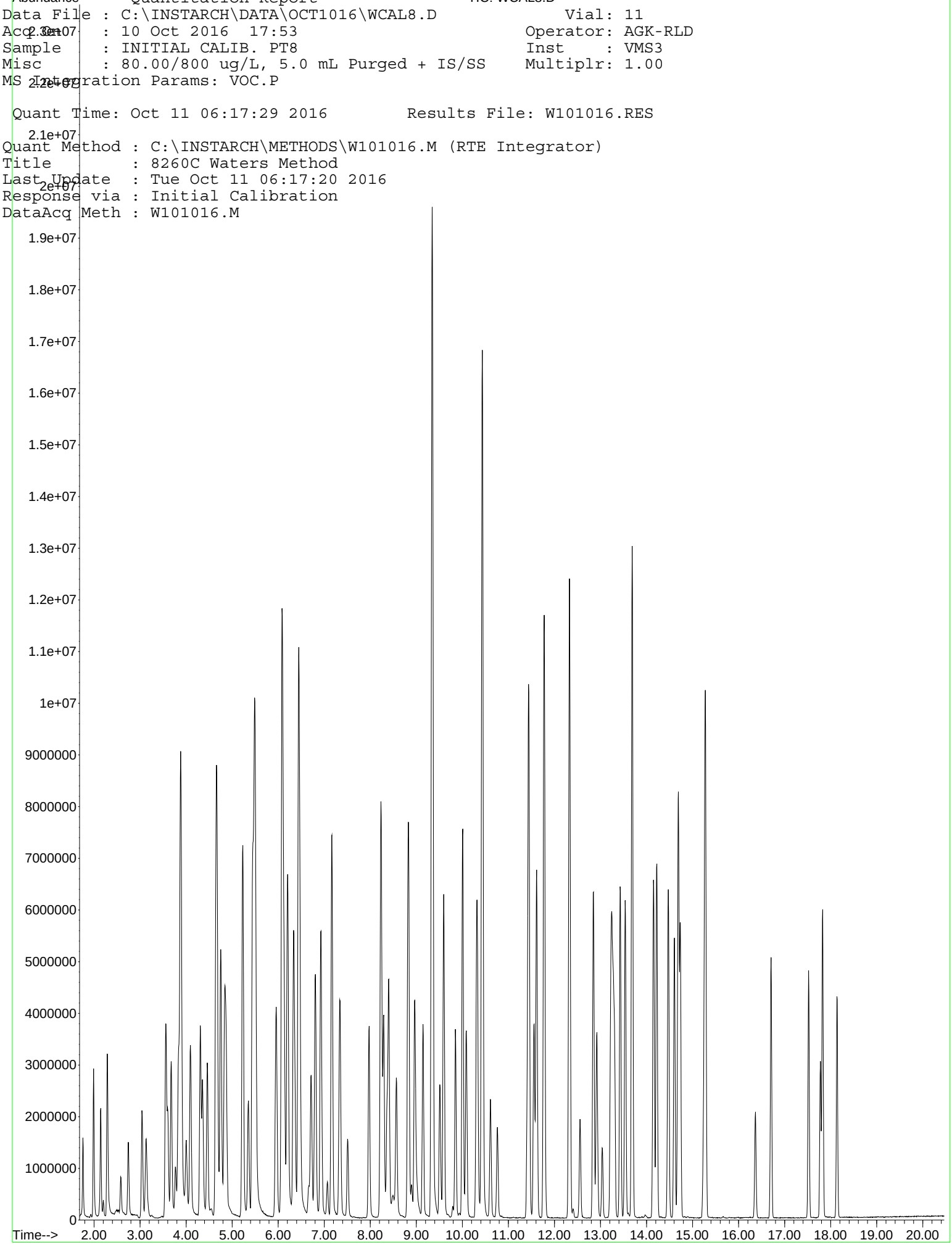
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.52	180	1584697	74.5465	ug/L	98
103)	Hexachlorobu	17.78	225	657120	74.4035	ug/L	95
104)	Naphthalene	17.82	128	4659741	62.7731	ug/L	91
105)	123Trichlben	18.14	180	1438709	76.2208	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT1016\WCAL8.D Vial: 11
Acq On : 10 Oct 2016 17:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:17:29 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:17:20 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT1016\ICV1.D Vial: 13
Acq On : 10 Oct 2016 18:52 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 06:39:15 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	109	0.00
2	PT	Dichlorodi	0.2125	0.2207	-3.86	106	0.00
3	PT	Chloromethan	0.6020	0.5738	4.68	99	0.00
4	PT	VinylChlorid	0.3970	0.3956	0.35	107	0.00
5	PT	Bromomethane	0.1011	0.1088	-7.62	117	0.00
6	PT	Chloroethane	0.2550	0.2456	3.69	104	0.00
7	T	Dichloroflmethane	0.4460	0.4654	-4.35	112	0.00
8	PT	Trichlorofma	0.3120	0.3297	-5.67	105	0.00
9	T	Ethylether	0.2546	0.2584	-1.49	109	0.00
10	T	dichlorotfluoroethan	0.2692	0.2764	-2.67	114	0.00
11	T	propyleneoxide	0.0780	0.0750	3.85	100	0.00
12	T	Acrolein	0.1221	0.1197	1.97	104	0.00
13	PT	11dichlorthe	0.2129	0.2127	0.09	108	0.00
14	PT	Trichlorotfluoroeth	0.2021	0.2141	-5.94	109	0.00
15	PT	Acetone	0.2260	0.2295	-1.55	99	0.00
16	T	Iodomethane	0.1717	0.1766	-2.85	131	0.00
17	PT	Carbon Dislf	0.5893	0.6330	-7.42	110	0.00
18	T	allylchloride	0.3843	0.4241	-10.36	113	0.00
19	PT	methylacetate	0.1499	0.1406	6.20	104	0.00
20	PT	Methylchlorid	0.2889	0.2634	8.83	107	0.00
21	T	tbutylalcohol	0.0775	0.0789	-1.81	95	0.00
22	T	Acrylonitrile	0.1952	0.1894	2.97	100	0.00
23	PT	t12dichlorte	0.2398	0.2416	-0.75	110	0.00
24	PT	MtBE	0.7250	0.7185	0.90	108	0.00
25	T	Hexane	0.4338	0.4667	-7.58	110	0.00
26	PT	11dichlorota	0.5012	0.4974	0.76	107	0.00
27	T	Vinylacetate	0.5764	0.5565	3.45	113	0.00
28	T	chloroprene	0.5112	0.5431	-6.24	110	0.00
29	T	Diisopether	0.9858	1.0555	-7.07	120	0.00
30	T	ETBE	0.9067	0.9367	-3.31	110	0.00
31	T	22dichloropr	0.3782	0.3611	4.52	106	0.00
32	PT	c12dichlorte	0.2733	0.2692	1.50	113	0.00
33	PT	2Butanone	0.0666	0.0666#	0.00	101	0.00
34	T	propionitrile	0.0871	0.0857	1.61	98	0.00
35	T	Ethylacetate	0.0172	0.0160#	6.98	105	0.00
36	T	methacrylonitrile	0.1817	0.1818	-0.06	108	0.00
37	T	Bromochlorma	0.0972	0.0987	-1.54	111	0.00
38	T	Tetrahydofur	0.1858	0.1850	0.43	100	0.00
39	PT	Chloroform	0.4404	0.4313	2.07	111	0.00
40	PT	111trichlota	0.3797	0.3765	0.84	105	0.00
41	S	SURRDibrflma	0.2438	0.2490	-2.13	109	0.00
42	PT	Cyclohexane	0.5563	0.5741	-3.20	107	0.01
43	PT	Carbtetraclo	0.2738	0.2805	-2.45	106	0.00
44	T	11dicloprope	0.1170	0.1128	3.59	104	0.00
45	S	SURR12DCAd4	0.0666	0.0663	0.45	103	0.00
46	PT	Benzene	0.9962	1.0075	-1.13	108	0.00
47	PT	12dichlorota	0.3906	0.3899	0.18	108	0.00
48	T	TAME	0.7441	0.7782	-4.58	113	0.00

49	PT	trichloroete	0.2527	0.2500	1.07	103	0.00
50	PT	methylcyclohexane	0.4208	0.4368	-3.80	109	0.00
51	PT	12dicloropra	0.3241	0.2975	8.21	104	0.00
52	T	23Dicl1propene	0.3997	0.3862	3.38	107	0.00
53	T	Dibromometha	0.1639	0.1617	1.34	112	0.00
54	T	methylmethacrylate	0.2791	0.2840	-1.76	112	0.00
55	T	14dioxane	0.0030	0.0026#	13.33	88	0.00
56	PT	Bromodiclrma	0.3216	0.3162	1.68	103	0.00
57	T	2Nitropropane	0.1670	0.1695	-1.50	103	0.00
58	T	2CLEVE	0.0135	0.0109#	19.26	68	-0.01
59	PT	c13dicloproe	0.4123	0.4064	1.43	110	0.00
60	PT	4Meth2Pentan	0.4875	0.4917	-0.86	101	0.00
61	S	SURRd8Tolule	0.9973	0.9835	1.38	105	0.00
62	PT	Toluene	0.6170	0.6157	0.21	105	0.00
63	PT	t13Dicloprop	0.3669	0.3570	2.70	106	0.00
64	T	ethylmethacrylate	0.4169	0.4392	-5.35	113	0.00
65	PT	112Triclotha	0.2039	0.2055	-0.78	107	0.00
66	PT	Tetrachlorte	0.2302	0.2312	-0.43	103	0.00
67	T	13Diclorpropa	0.4325	0.4294	0.72	112	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	107	0.00
69	PT	2Hexanone	0.5631	0.5786	-2.75	100	0.00
70	PT	Clorodibrmta	0.3125	0.3079	1.47	109	0.00
71	PT	12Dibrometha	0.3401	0.3474	-2.15	110	0.00
72	PT	Chlorobenzen	0.8726	0.9008	-3.23	107	0.00
73	T	1Clhexane	0.5075	0.5178	-2.03	109	0.00
74	T	1112Tetclota	0.2952	0.2971	-0.64	112	0.00
75	PT	Ethylbenzene	1.5603	1.6266	-4.25	107	0.00
76	PT	m p-Xylene	0.5864	0.6223	-6.12	110	0.00
77	PT	o-Xylene	0.5804	0.6016	-3.65	109	0.00
78	PT	Styrene	0.9391	0.9625	-2.49	105	0.00
79	PT	Bromoform	0.2257	0.2111	6.47	105	0.00
80	PT	Isopropylben	1.3478	1.3891	-3.06	107	0.00
81	T	cyclohexanone	0.0275	0.0253#	8.00	94	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	107	0.00
83	S	SURR4BrFBenz	1.0294	1.0495	-1.95	108	0.00
84	T	Bromobenzene	0.6898	0.6937	-0.57	105	0.00
85	PT	1122Tetrclta	1.1643	1.1201	3.80	104	0.00
86	T	123Triclproa	1.4257	1.4216	0.29	104	0.00
87	T	14dichloro2butene	0.4095	0.3621	11.58	95	0.00
88	T	n-Propylbenz	3.4883	3.6576	-4.85	105	0.00
89	T	2chlorotolue	2.0705	2.1130	-2.05	104	0.00
90	T	4chlorotolue	2.3834	2.4662	-3.47	105	0.00
91	T	135Trimebenz	2.3320	2.4749	-6.13	107	0.00
92	T	tbutylbenzen	1.9020	2.0428	-7.40	108	0.00
93	T	124Trimetben	2.4041	2.5142	-4.58	110	0.00
94	T	sbutylbenzen	2.8778	3.0013	-4.29	103	0.00
95	PT	13Diclorbenz	1.1926	1.1860	0.55	103	0.00
96	T	pIsopropylto	2.3130	2.3922	-3.42	106	0.00
97	PT	14dichlorobe	1.2249	1.2106	1.17	103	0.00
98	PT	12dichlorobe	1.1578	1.1597	-0.16	106	0.00
99	T	nButylbenzen	2.3069	2.4435	-5.92	107	0.00
100	PT	12dibromo3cl	0.2827	0.2564	9.30	96	0.00
101	T	135Trichlorobenzene	0.8226	0.8358	-1.60	104	0.00
102	PT	124Trichlobe	0.7339	0.7201	1.88	104	0.00
103	T	Hexachlorobu	0.3049	0.2911	4.53	94	0.00
104	T	Naphthalene	2.5153	2.5950	-3.17	102	0.00
105	T	123Trichlben	0.6534	0.6601	-1.03	104	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W101016.M Wed Oct 19 12:37:02 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT1016\ICV1.D Vial: 13
Acq On : 10 Oct 2016 18:52 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 06:39:15 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	109	0.00
2	PT	Dichlorodi	10.0000	10.3875	-3.87	106	0.00
3	PT	Chloromethan	10.0000	9.5321	4.68	99	0.00
4	PT	VinylChlorid	10.0000	9.9643	0.36	107	0.00
5	PT	Bromomethane	10.0000	10.7576	-7.58	117	0.00
6	PT	Chloroethane	10.0000	9.6305	3.70	104	0.00
7	T	Dichloroflmethane	10.0000	10.4354	-4.35	112	0.00
8	PT	Trichlorofma	10.0000	10.5660	-5.66	105	0.00
9	T	Ethylether	10.0000	10.1463	-1.46	109	0.00
10	T	dichlorotfluoroethan	10.0000	10.2669	-2.67	114	0.00
11	T	propyleneoxide	100.0000	96.2444	3.76	100	0.00
12	T	Acrolein	50.0000	49.0066	1.99	104	0.00
13	PT	11dichlorthe	10.0000	9.9922	0.08	108	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.1888	-5.94	109	0.00
15	PT	Acetone	100.0000	101.5755	-1.58	99	0.00
16	T	Iodomethane	20.0000	22.3001	-11.50	131	0.00
17	PT	Carbon Dislf	20.0000	21.4804	-7.40	110	0.00
18	T	allylchloride	20.0000	22.0703	-10.35	113	0.00
19	PT	methylacetate	10.0000	9.3787	6.21	104	0.00
20	PT	Methylchlorid	10.0000	9.8964	1.04	107	0.00
21	T	tbutylalcohol	500.0000	491.2601	1.75	95	0.00
22	T	Acrylonitrile	50.0000	48.5102	2.98	100	0.00
23	PT	t12dichlorte	10.0000	10.0759	-0.76	110	0.00
24	PT	MtBE	10.0000	9.9107	0.89	108	0.00
25	T	Hexane	20.0000	21.5153	-7.58	110	0.00
26	PT	11dichlorota	10.0000	9.9243	0.76	107	0.00
27	T	Vinylacetate	100.0000	97.6869	2.31	113	0.00
28	T	chloroprene	20.0000	21.2499	-6.25	110	0.00
29	T	Diisopether	10.0000	10.7068	-7.07	120	0.00
30	T	ETBE	10.0000	10.3311	-3.31	110	0.00
31	T	22dichloropr	10.0000	9.5479	4.52	106	0.00
32	PT	c12dichlorte	10.0000	9.8485	1.52	113	0.00
33	PT	2Butanone	100.0000	99.9403	0.06	101	0.00
34	T	propionitrile	100.0000	98.3710	1.63	98	0.00
35	T	Ethylacetate	50.0000	46.4096	7.18	105	0.00
36	T	methacrylonitrile	20.0000	20.0030	-0.02	108	0.00
37	T	Bromochlorma	10.0000	10.1504	-1.50	111	0.00
38	T	Tetrahydofur	100.0000	99.5972	0.40	100	0.00
39	PT	Chloroform	10.0000	9.7943	2.06	111	0.00
40	PT	111trichlota	10.0000	9.9173	0.83	105	0.00
41	S	SURRDibrflma	20.0000	20.4282	-2.14	109	0.00
42	PT	Cyclohexane	10.0000	10.3206	-3.21	107	0.01
43	PT	Carbtetraclo	10.0000	10.2435	-2.43	106	0.00
44	T	11dicloprope	10.0000	9.6345	3.66	104	0.00
45	S	SURR12DCAd4	20.0000	19.9263	0.37	103	0.00
46	PT	Benzene	10.0000	10.1134	-1.13	108	0.00
47	PT	12dichlorota	10.0000	9.9839	0.16	108	0.00
48	T	TAME	10.0000	10.4583	-4.58	113	0.00

49	PT	trichloroete	10.0000	9.8941	1.06	103	0.00
50	PT	methylcyclohexane	10.0000	10.3793	-3.79	109	0.00
51	PT	12dicloropra	10.0000	9.1822	8.18	104	0.00
52	T	23Dicl1propene	10.0000	9.6606	3.39	107	0.00
53	T	Dibromometha	10.0000	9.8693	1.31	112	0.00
54	T	methylmethacrylate	10.0000	10.1760	-1.76	112	0.00
55	T	14dioxane	500.0000	435.5638	12.89	88	0.00
56	PT	Bromodiclrma	10.0000	9.8323	1.68	103	0.00
57	T	2Nitropropane	100.0000	101.5249	-1.52	103	0.00
58	T	2CLEVE	50.0000	39.6501	20.70#	68	-0.01
59	PT	c13dicloproe	10.0000	9.8577	1.42	110	0.00
60	PT	4Meth2Pentan	100.0000	97.2899	2.71	101	0.00
61	S	SURRd8Tolule	20.0000	19.7232	1.38	105	0.00
62	PT	Toluene	10.0000	9.9788	0.21	105	0.00
63	PT	t13Dicloprop	10.0000	9.7310	2.69	106	0.00
64	T	ethylmethacrylate	20.0000	21.0682	-5.34	113	0.00
65	PT	112Triclotha	10.0000	10.0756	-0.76	107	0.00
66	PT	Tetrachlorte	10.0000	10.0458	-0.46	103	0.00
67	T	13Diclorpropa	10.0000	9.9282	0.72	112	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
69	PT	2Hexanone	100.0000	96.3769	3.62	100	0.00
70	PT	Clorodibrmta	10.0000	9.8538	1.46	109	0.00
71	PT	12Dibrometha	10.0000	10.2146	-2.15	110	0.00
72	PT	Chlorobenzen	10.0000	10.3229	-3.23	107	0.00
73	T	1Clhexane	10.0000	10.2029	-2.03	109	0.00
74	T	1112Tetclota	10.0000	10.0622	-0.62	112	0.00
75	PT	Ethylbenzene	10.0000	10.4247	-4.25	107	0.00
76	PT	m p-Xylene	20.0000	21.2224	-6.11	110	0.00
77	PT	o-Xylene	10.0000	10.3650	-3.65	109	0.00
78	PT	Styrene	10.0000	10.2485	-2.48	105	0.00
79	PT	Bromoform	10.0000	9.3529	6.47	105	0.00
80	PT	Isopropylben	10.0000	10.3062	-3.06	107	0.00
81	T	cyclohexanone	200.0000	184.1940	7.90	94	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	107	0.00
83	S	SURR4BrFBenz	20.0000	20.3917	-1.96	108	0.00
84	T	Bromobenzene	10.0000	10.0560	-0.56	105	0.00
85	PT	1122Tetrclta	10.0000	9.6203	3.80	104	0.00
86	T	123Triclproa	10.0000	9.9711	0.29	104	0.00
87	T	14dichloro2butene	10.0000	8.8426	11.57	95	0.00
88	T	n-Propylbenz	10.0000	10.4854	-4.85	105	0.00
89	T	2chlorotolue	10.0000	10.2054	-2.05	104	0.00
90	T	4chlorotolue	10.0000	10.3473	-3.47	105	0.00
91	T	135Trimebenz	10.0000	10.6124	-6.12	107	0.00
92	T	tbutylbenzen	10.0000	10.7406	-7.41	108	0.00
93	T	124Trimetben	10.0000	10.4579	-4.58	110	0.00
94	T	sbutylbenzen	10.0000	10.4293	-4.29	103	0.00
95	PT	13Diclorbenz	10.0000	9.9442	0.56	103	0.00
96	T	pIsopropylto	10.0000	10.3425	-3.42	106	0.00
97	PT	14dichlorobe	10.0000	9.8837	1.16	103	0.00
98	PT	12dichlorobe	10.0000	10.0169	-0.17	106	0.00
99	T	nButylbenzen	10.0000	10.5921	-5.92	107	0.00
100	PT	12dibromo3cl	10.0000	9.0673	9.33	96	0.00
101	T	135Trichlorobenzene	10.0000	10.1609	-1.61	104	0.00
102	PT	124Trichlobe	10.0000	9.8120	1.88	104	0.00
103	T	Hexachlorobu	10.0000	9.5486	4.51	94	0.00
104	T	Naphthalene	10.0000	10.3170	-3.17	102	0.00
105	T	123Trichlben	10.0000	10.1029	-1.03	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101016.M Wed Oct 19 12:36:46 2016

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICV1.D Vial: 13
Acq On : 10 Oct 2016 18:52 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:39:15 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:38:39 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1435202	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	1028476	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	508364	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	357425	20.428	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
45) SURR12DCAd4	7.07	102	95221	19.926	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.51	98	1411509	19.723	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.04	95	533543	20.392	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	158363	10.3875	ug/L	98
3) Chloromethan	2.00	50	411771	9.5321	ug/L	98
4) VinylChlorid	2.15	62	283859	9.9643	ug/L	99
5) Bromomethane	2.59	94	78060	10.7576	ug/L	85
6) Chloroethane	2.75	64	176251	9.6305	ug/L	95
7) Dichloroflmethane	3.05	67	333980	10.4354	ug/L	96
8) Trichlorofma	3.13	101	236582	10.5660	ug/L	94
9) Ethylether	3.56	59	185396	10.1463	ug/L	98
10) dichlorotfluoroethan	3.57	67	198368	10.2669	ug/L	98
11) propyleneoxide	3.89	58	538445	96.2444	ug/L	98
12) Acrolein	3.68	56	429410	49.0066	ug/L	98
13) 11dichlorthe	3.83	96	152650	9.9922	ug/L	100
14) Trichlorotfluoroeth	3.88	101	307342	21.1888	ug/L	99
15) Acetone	3.89	43	1647049	101.5755	ug/L	99
16) Iodomethane	4.00	142	253525	22.3001	ug/L	97
17) Carbon Dislf	4.09	76	908436	21.4804	ug/L	99
18) allylchloride	4.31	41	608609	22.0703	ug/L	97
19) methylacetate	4.36	74	100870	9.3787	ug/L	98
20) Methylchlorid	4.46	84	188981	9.8964	ug/L	98
21) tbutylalcohol	4.65	59	2830914	491.2601	ug/L	99
22) Acrylonitrile	4.76	53	679405	48.5102	ug/L	95
23) t12dichlorte	4.83	96	173359	10.0759	ug/L	96
24) MtBE	4.87	73	515581	9.9107	ug/L	99
25) Hexane	5.23	57	669804	21.5153	ug/L	98
26) 11dichlorota	5.35	63	356953	9.9243	ug/L	98
27) Vinylacetate	5.44	43	3993605	97.6869	ug/L	99
28) chloroprene	5.49	53	779502	21.2499	ug/L	97
29) Diisopether	5.51	45	757449	10.7068	ug/L	98
30) ETBE	5.96	59	672167	10.3311	ug/L	100
31) 22dichloropr	6.08	77	259104	9.5479	ug/L	98
32) c12dichlorte	6.08	96	193166	9.8485	ug/L	95
33) 2Butanone	6.10	72	477778	99.9403	ug/L	97
34) propionitrile	6.13	54	614649	98.3710	ug/L	99
35) Ethylacetate	6.20	88	57448	46.4096	ug/L #	95
36) methacrylonitrile	6.33	67	260858	20.0030	ug/L	95
37) Bromochlorma	6.36	128	70800	10.1504	ug/L	99
38) Tetrahydofur	6.44	42	1327812	99.5972	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICV1.D Vial: 13
Acq On : 10 Oct 2016 18:52 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:39:15 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:38:39 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	309502	9.7943	ug/L	97
40)	111trichlota	6.71	97	270197	9.9173	ug/L	97
42)	Cyclohexane	6.81	56	411995	10.3206	ug/L	99
43)	Carbtetraclo	6.94	119	201293	10.2435	ug/L	98
44)	11dicloprope	6.92	110	80924	9.6345	ug/L	95
46)	Benzene	7.17	78	722970	10.1134	ug/L	99
47)	12dichlorota	7.16	62	279818	9.9839	ug/L	99
48)	TAME	7.34	73	558445	10.4583	ug/L	96
49)	trichloroete	7.98	95	179424	9.8941	ug/L	94
50)	methylcyclohexane	8.24	83	313432	10.3793	ug/L	96
51)	12dicloropra	8.22	63	213522	9.1822	ug/L	94
52)	23Dicl1propene	8.29	75	277120	9.6606	ug/L	99
53)	Dibromometha	8.37	93	116071	9.8693	ug/L	95
54)	methylmethacrylate	8.40	69	203776	10.1760	ug/L	95
55)	14dioxane	8.41	88	94179	435.5638	ug/L	94
56)	Bromodiclrma	8.57	83	226884	9.8323	ug/L	93
57)	2Nitropropane	8.82	43	1216308	101.5249	ug/L	98
58)	2CLEVE	8.95	63	38989	39.6501	ug/L	98
59)	c13dicloproe	9.14	75	291659	9.8577	ug/L	99
60)	4Meth2Pentan	9.34	43	3528452	97.2899	ug/L	99
62)	Toluene	9.59	92	441850	9.9788	ug/L	98
63)	t13Dicloprop	9.86	75	256204	9.7310	ug/L	96
64)	ethylmethacrylate	10.01	69	630346	21.0682	ug/L	97
65)	112Triclotha	10.09	83	147440	10.0756	ug/L	97
66)	Tetrachlorte	10.33	166	165937	10.0458	ug/L	96
67)	13Diclorpropa	10.31	76	308102	9.9282	ug/L	96
69)	2Hexanone	10.43	43	2975347	96.3769	ug/L	99
70)	Clorodibrmta	10.61	129	158330	9.8538	ug/L	99
71)	12Dibrometha	10.76	107	178634	10.2146	ug/L	99
72)	Chlorobenzen	11.45	112	463236	10.3229	ug/L	96
73)	1Clhexane	11.44	91	266268	10.2029	ug/L	96
74)	1112Tetclota	11.56	131	152768	10.0622	ug/L	94
75)	Ethylbenzene	11.61	91	836459	10.4247	ug/L	98
76)	m p-Xylene	11.78	106	640010	21.2224	ug/L	95
77)	o-Xylene	12.32	106	309358	10.3650	ug/L	98
78)	Styrene	12.33	104	494948	10.2485	ug/L	99
79)	Bromoform	12.56	173	108560	9.3529	ug/L	99
80)	Isopropylben	12.84	105	714329	10.3062	ug/L	99
81)	cyclohexanone	12.92	55	260313	184.1940	ug/L	99
84)	Bromobenzene	13.25	156	176315	10.0560	ug/L	98
85)	1122Tetrclta	13.22	83	284711	9.6203	ug/L	98
86)	123Triclproa	13.28	75	361343	9.9711	ug/L	100
87)	14dichloro2butene	13.30	53	92046	8.8426	ug/L	95
88)	n-Propylbenz	13.43	91	929700	10.4854	ug/L	99
89)	2chlorotolue	13.54	91	537086	10.2054	ug/L	96
90)	4chlorotolue	13.69	91	626859	10.3473	ug/L	97
91)	135Trimebenz	13.69	105	629065	10.6124	ug/L	99
92)	tbutylbenzen	14.15	119	519246	10.7406	ug/L	100
93)	124Trimetben	14.22	105	639056	10.4579	ug/L	95
94)	sbutylbenzen	14.47	105	762880	10.4293	ug/L	99
95)	13Diclorbenz	14.61	146	301459	9.9442	ug/L	97
96)	pIsopropylto	14.69	119	608049	10.3425	ug/L	99
97)	14dichlorobe	14.73	146	307721	9.8837	ug/L	98
98)	12dichlorobe	15.26	146	294787	10.0169	ug/L	99
99)	nButylbenzen	15.28	91	621091	10.5921	ug/L	97
100)	12dibromo3cl	16.36	157	65166	9.0673	ug/L	90
101)	135Trichlorobenzene	16.71	180	212456	10.1609	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICV1.D Vial: 13
Acq On : 10 Oct 2016 18:52 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:39:15 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:38:39 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.53	180	183044	9.8120	ug/L	99
103) Hexachlorobu	17.78	225	73990	9.5486	ug/L	94
104) Naphthalene	17.82	128	659609	10.3170	ug/L	98
105) 123Trichlben	18.14	180	167791	10.1029	ug/L	98

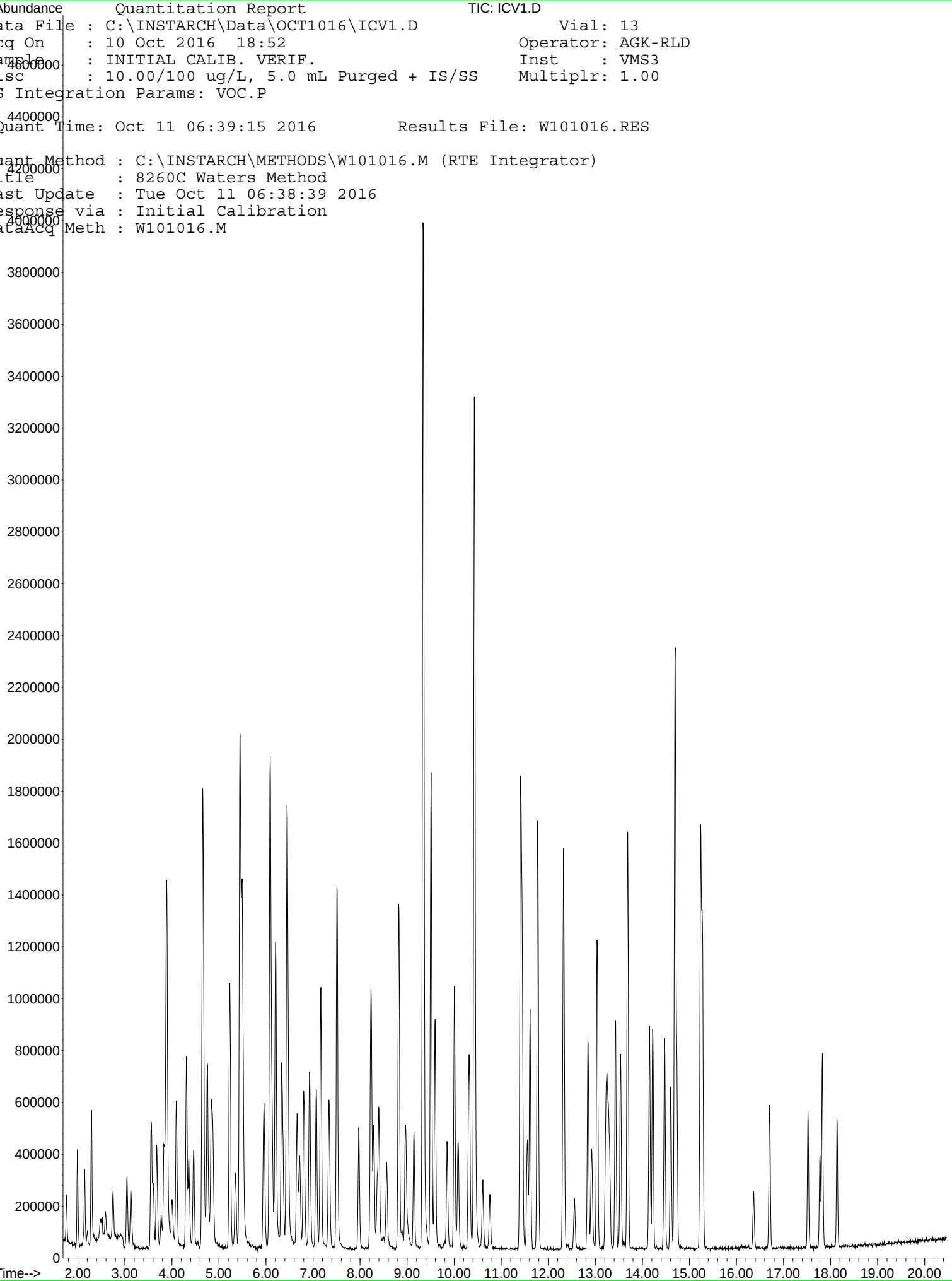
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\INSTARCH\Data\OCT1016\ICV1.D Vial: 13
Acq On : 10 Oct 2016 18:52 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:39:15 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:38:39 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT1016\ICV2.D Vial: 14
Acq On : 10 Oct 2016 19:22 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 11 06:40:14 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
2	PT	Dichlorodi	30.0000	29.5639	1.45	105	0.00
3	PT	Chloromethan	30.0000	25.6768	14.41	95	0.00
4	PT	VinylChlorid	30.0000	28.4114	5.30	107	0.00
5	PT	Bromomethane	30.0000	30.4310	-1.44	123	0.00
6	PT	Chloroethane	30.0000	28.2582	5.81	107	0.00
7	T	Dichloroflmethane	30.0000	28.8259	3.91	108	0.00
8	PT	Trichlorofma	30.0000	29.4994	1.67	104	0.00
9	T	Ethylether	30.0000	28.7546	4.15	105	0.00
10	T	dichlorotfluoroethan	30.0000	29.7600	0.80	113	0.00
11	T	propyleneoxide	300.0000	265.7397	11.42	104	0.00
12	T	Acrolein	150.0000	139.0607	7.29	102	0.00
13	PT	11dichlorthe	30.0000	29.3110	2.30	103	0.00
14	PT	Trichlorotfluoroeth	60.0000	59.7055	0.49	105	0.00
15	PT	Acetone	300.0000	258.5917	13.80	104	0.00
16	T	Iodomethane	60.0000	65.0637	-8.44	120	0.00
17	PT	Carbon Dislf	60.0000	57.9875	3.35	106	0.00
18	T	allylchloride	60.0000	56.2982	6.17	108	0.00
19	PT	methylacetate	30.0000	27.4439	8.52	97	0.00
20	PT	Methylchlorid	30.0000	28.2146	5.95	104	0.00
21	T	tbutylalcohol	1500.0000	1378.5557	8.10	102	0.00
22	T	Acrylonitrile	150.0000	137.5669	8.29	101	0.00
23	PT	t12dichlorte	30.0000	29.0192	3.27	105	0.00
24	PT	MtBE	30.0000	28.1523	6.16	103	0.00
25	T	Hexane	60.0000	58.8832	1.86	105	0.00
26	PT	11dichlorota	30.0000	28.1703	6.10	106	0.00
27	T	Vinylacetate	300.0000	246.2783	17.91	95	0.00
28	T	chloroprene	60.0000	58.8266	1.96	107	0.00
29	T	Diisopether	30.0000	27.6426	7.86	106	0.00
30	T	ETBE	30.0000	28.5238	4.92	103	0.00
31	T	22dichloropr	30.0000	26.4282	11.91	101	0.00
32	PT	c12dichlorte	30.0000	28.6052	4.65	108	0.00
33	PT	2Butanone	300.0000	276.7418	7.75	100	0.00
34	T	propionitrile	300.0000	273.3555	8.88	99	0.00
35	T	Ethylacetate	150.0000	146.6770	2.22	104	0.00
36	T	methacrylonitrile	60.0000	58.7961	2.01	105	0.00
37	T	Bromochlorma	30.0000	27.1342	9.55	101	0.00
38	T	Tetrahydofur	300.0000	256.4307	14.52	98	0.00
39	PT	Chloroform	30.0000	27.8528	7.16	105	0.00
40	PT	111trichlota	30.0000	29.0640	3.12	107	0.00
41	S	SURRDibrflma	20.0000	20.0377	-0.19	110	0.00
42	PT	Cyclohexane	30.0000	29.2043	2.65	105	0.00
43	PT	Carbtetraclo	30.0000	29.7813	0.73	104	0.00
44	T	11dicloprope	30.0000	29.9184	0.27	104	0.00
45	S	SURR12DCAd4	20.0000	20.4301	-2.15	119	0.00
46	PT	Benzene	30.0000	27.8590	7.14	104	0.00
47	PT	12dichlorota	30.0000	28.6645	4.45	102	0.00
48	T	TAME	30.0000	28.9183	3.61	106	0.00

49	PT	trichloroete	30.0000	29.7139	0.95	107	0.00	
50	PT	methylcyclohexane	30.0000	30.4785	-1.60	109	0.00	
51	PT	12dicloropra	30.0000	28.6976	4.34	106	0.00	
52	T	23Dicl1propene	30.0000	28.2021	5.99	106	0.00	
53	T	Dibromometha	30.0000	28.3691	5.44	103	0.00	
54	T	methylmethacrylate	30.0000	28.2950	5.68	100	0.00	
55	T	14dioxane	1500.0000	1364.3065	9.05	123	0.00	
56	PT	Bromodiclrma	30.0000	29.2307	2.56	105	0.00	
57	T	2Nitropropane	300.0000	269.4601	10.18	99	0.00	
58	T	2CLEVE	150.0000	183.9490	-22.63#	130	0.00	
59	PT	c13dicloproe	30.0000	29.0207	3.26	106	0.00	
60	PT	4Meth2Pentan	300.0000	258.3830	13.87	101	0.00	
61	S	SURRd8Tolule	20.0000	19.7536	1.23	105	0.00	
62	PT	Toluene	30.0000	28.4604	5.13	103	0.00	
63	PT	t13Dicloprop	30.0000	28.7633	4.12	104	0.00	
64	T	ethylmethacrylate	60.0000	58.5048	2.49	106	0.00	
65	PT	112Triclotha	30.0000	29.4545	1.82	106	0.00	
66	PT	Tetrachlorte	30.0000	29.5898	1.37	105	0.00	
67	T	13Diclorpropa	30.0000	27.8028	7.32	104	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	106	0.00	
69	PT	2Hexanone	300.0000	266.0779	11.31	99	0.00	
70	PT	Clorodibrmta	30.0000	30.0640	-0.21	104	0.00	
71	PT	12Dibrometha	30.0000	28.9055	3.65	100	0.00	
72	PT	Chlorobenzen	30.0000	29.0426	3.19	104	0.00	
73	T	1Clhexane	30.0000	30.0421	-0.14	108	0.00	
74	T	1112Tetclota	30.0000	29.8472	0.51	103	0.00	
75	PT	Ethylbenzene	30.0000	28.7285	4.24	104	0.00	
76	PT	m p-Xylene	60.0000	58.1192	3.13	105	0.00	
77	PT	o-Xylene	30.0000	29.4810	1.73	104	0.00	
78	PT	Styrene	30.0000	29.7549	0.82	103	0.00	
79	PT	Bromoform	30.0000	29.6481	1.17	103	0.00	
80	PT	Isopropylben	30.0000	28.5369	4.88	103	0.00	
81	T	cyclohexanone	600.0000	545.2035	9.13	111	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	108	0.00	
83	S	SURR4BrFBenz	20.0000	19.7140	1.43	106	0.00	
84	T	Bromobenzene	30.0000	28.2969	5.68	100	0.00	
85	PT	1122Tetrclta	30.0000	27.0368	9.88	99	0.00	
86	T	123Triclproa	30.0000	28.5280	4.91	100	0.00	
87	T	14dichloro2butene	30.0000	28.3813	5.40	104	0.00	
88	T	n-Propylbenz	30.0000	28.4220	5.26	103	0.00	
89	T	2chlorotolue	30.0000	28.8606	3.80	103	0.00	
90	T	4chlorotolue	30.0000	28.7108	4.30	103	0.00	
91	T	135Trimebenz	30.0000	28.9744	3.42	103	0.00	
92	T	tbutylbenzen	30.0000	29.9355	0.21	104	0.00	
93	T	124Trimetben	30.0000	28.2636	5.79	104	0.00	
94	T	sbutylbenzen	30.0000	29.2714	2.43	103	0.00	
95	PT	13Diclorbenz	30.0000	28.7740	4.09	102	0.00	
96	T	pIsopropylto	30.0000	28.8986	3.67	103	0.00	
97	PT	14dichlorobe	30.0000	28.2001	6.00	103	0.00	
98	PT	12dichlorobe	30.0000	27.7567	7.48	102	0.00	
99	T	nButylbenzen	30.0000	28.9949	3.35	101	0.00	
100	PT	12dibromo3cl	30.0000	28.0112	6.63	104	0.00	
101	T	135Trichlorobenzene	30.0000	28.5540	4.82	100	0.00	
102	PT	124Trichlobe	30.0000	28.1027	6.32	99	0.00	
103	T	Hexachlorobu	30.0000	29.6263	1.25	95	0.00	
104	T	Naphthalene	30.0000	28.3686	5.44	99	0.00	
105	T	123Trichlben	30.0000	28.7899	4.03	97	0.00	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101016.M Wed Oct 19 12:35:45 2016

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICV2.D Vial: 14
Acq On : 10 Oct 2016 19:22 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:40:14 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1502946	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	1078218	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	544926	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	367141	20.038	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.07	102	102237	20.430	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102	%		
61) SURRd8Tolule	9.51	98	1480410	19.754	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.04	95	552910	19.714	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	471990	29.5639	ug/L	96
3) Chloromethan	1.99	50	1161547	25.6768	ug/L	98
4) VinylChlorid	2.15	62	847577	28.4114	ug/L	99
5) Bromomethane	2.59	94	231237	30.4310	ug/L	87
6) Chloroethane	2.74	64	541572	28.2582	ug/L	96
7) Dichloroflmethane	3.04	67	966102	28.8259	ug/L	98
8) Trichlorofma	3.13	101	691695	29.4994	ug/L	95
9) Ethylether	3.55	59	550212	28.7546	ug/L	98
10) dichlorotfluoroethan	3.56	67	602139	29.7600	ug/L	97
11) propyleneoxide	3.89	58	1556871	265.7397	ug/L #	86
12) Acrolein	3.67	56	1276005	139.0607	ug/L	98
13) 11dichlorthe	3.83	96	468916	29.3110	ug/L	96
14) Trichlorotfluoroeth	3.88	101	906903	59.7055	ug/L	97
15) Acetone	3.89	43	4390988	258.5917	ug/L	94
16) Iodomethane	4.00	142	781032	65.0637	ug/L	97
17) Carbon Dislf	4.09	76	2568128	57.9875	ug/L	99
18) allylchloride	4.31	41	1625756	56.2982	ug/L	97
19) methylacetate	4.36	74	309098	27.4439	ug/L	97
20) Methylchlorid	4.46	84	531216	28.2146	ug/L	99
21) tbutylalcohol	4.65	59	6878229	1378.5557	ug/L	95
22) Acrylonitrile	4.75	53	2017623	137.5669	ug/L	99
23) t12dichlorte	4.84	96	522850	29.0192	ug/L	97
24) MtBE	4.87	73	1533686	28.1523	ug/L	98
25) Hexane	5.23	57	1919651	58.8832	ug/L	98
26) 11dichlorota	5.35	63	1061039	28.1703	ug/L	94
27) Vinylacetate	5.44	43	8705830	246.2783	ug/L	91
28) chloroprene	5.49	53	2259767	58.8266	ug/L	99
29) Diisopether	5.51	45	2047863	27.6426	ug/L	98
30) ETBE	5.96	59	1943432	28.5238	ug/L	97
31) 22dichloropr	6.08	77	751039	26.4282	ug/L	97
32) c12dichlorte	6.08	96	587536	28.6052	ug/L	95
33) 2Butanone	6.09	72	1385449	276.7418	ug/L	96
34) propionitrile	6.13	54	1788620	273.3555	ug/L	97
35) Ethylacetate	6.21	88	190134	146.6770	ug/L #	81
36) methacrylonitrile	6.33	67	802948	58.7961	ug/L	93
37) Bromochlorma	6.36	128	198197	27.1342	ug/L	99
38) Tetrahydofur	6.45	42	3580057	256.4307	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICV2.D Vial: 14
Acq On : 10 Oct 2016 19:22 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:40:14 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	921700	27.8528	ug/L	98
40)	111trichlota	6.72	97	829230	29.0640	ug/L	98
42)	Cyclohexane	6.80	56	1220857	29.2043	ug/L	99
43)	Carbtetraclo	6.93	119	612848	29.7813	ug/L	98
44)	11dicloprope	6.92	110	263158	29.9184	ug/L	93
46)	Benzene	7.17	78	2085544	27.8590	ug/L	99
47)	12dichlorota	7.16	62	841296	28.6645	ug/L	99
48)	TAME	7.34	73	1617047	28.9183	ug/L	98
49)	trichloroete	7.97	95	564281	29.7139	ug/L	97
50)	methylcyclohexane	8.24	83	963827	30.4785	ug/L	96
51)	12dicloropra	8.22	63	698831	28.6976	ug/L	91
52)	23Dicl1propene	8.29	75	847178	28.2021	ug/L	99
53)	Dibromometha	8.36	93	349392	28.3691	ug/L	98
54)	methylmethacrylate	8.40	69	593360	28.2950	ug/L	98
55)	14dioxane	8.41	88	308919	1364.3065	ug/L	98
56)	Bromodiclrma	8.57	83	706344	29.2307	ug/L	96
57)	2Nitropropane	8.82	43	3380616	269.4601	ug/L	98
58)	2CLEVE	8.96	63	204493	183.9490	ug/L	95
59)	c13dicloproe	9.14	75	899161	29.0207	ug/L	99
60)	4Meth2Pentan	9.34	43	7735254	258.3830	ug/L	84
62)	Toluene	9.59	92	1319683	28.4604	ug/L	96
63)	t13Dicloprop	9.85	75	793048	28.7633	ug/L	99
64)	ethylmethacrylate	10.01	69	1833044	58.5048	ug/L	99
65)	112Triclotha	10.08	83	451361	29.4545	ug/L	96
66)	Tetrachlorte	10.33	166	511837	29.5898	ug/L	98
67)	13Diclorpropa	10.31	76	903532	27.8028	ug/L	97
69)	2Hexanone	10.43	43	6732838	266.0779	ug/L	87
70)	Clorodibrmta	10.60	129	506430	30.0640	ug/L	99
71)	12Dibrometha	10.76	107	529949	28.9055	ug/L	98
72)	Chlorobenzen	11.45	112	1366303	29.0426	ug/L	96
73)	1Clhexane	11.43	91	821940	30.0421	ug/L	93
74)	1112Tetclota	11.56	131	475068	29.8472	ug/L	95
75)	Ethylbenzene	11.61	91	2416612	28.7285	ug/L	97
76)	m p-Xylene	11.78	106	1837484	58.1192	ug/L	90
77)	o-Xylene	12.32	106	922453	29.4810	ug/L	93
78)	Styrene	12.33	104	1506500	29.7549	ug/L	98
79)	Bromoform	12.55	173	360774	29.6481	ug/L	98
80)	Isopropylben	12.85	105	2073576	28.5369	ug/L	97
81)	cyclohexanone	12.92	55	807777	545.2035	ug/L	96
84)	Bromobenzene	13.25	156	531821	28.2969	ug/L	98
85)	1122Tetrclta	13.22	83	857696	27.0368	ug/L	100
86)	123Triclproa	13.28	75	1108182	28.5280	ug/L	100
87)	14dichloro2butene	13.30	53	316678	28.3813	ug/L	97
88)	n-Propylbenz	13.43	91	2701315	28.4220	ug/L	95
89)	2chlorotolue	13.54	91	1628099	28.8606	ug/L	97
90)	4chlorotolue	13.69	91	1864441	28.7108	ug/L	100
91)	135Trimebenz	13.69	105	1841017	28.9744	ug/L	99
92)	tbutylbenzen	14.16	119	1551298	29.9355	ug/L	99
93)	124Trimetben	14.22	105	1851342	28.2636	ug/L	99
94)	sbutylbenzen	14.47	105	2295123	29.2714	ug/L	99
95)	13Diclorbenz	14.61	146	935017	28.7740	ug/L	98
96)	pIsopropylto	14.69	119	1821175	28.8986	ug/L	99
97)	14dichlorobe	14.73	146	941134	28.2001	ug/L	97
98)	12dichlorobe	15.27	146	875601	27.7567	ug/L	98
99)	nButylbenzen	15.28	91	1822451	28.9949	ug/L	98
100)	12dibromo3cl	16.36	157	215793	28.0112	ug/L	99
101)	135Trichlorobenzene	16.71	180	639982	28.5540	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICV2.D Vial: 14
Acq On : 10 Oct 2016 19:22 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:40:14 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

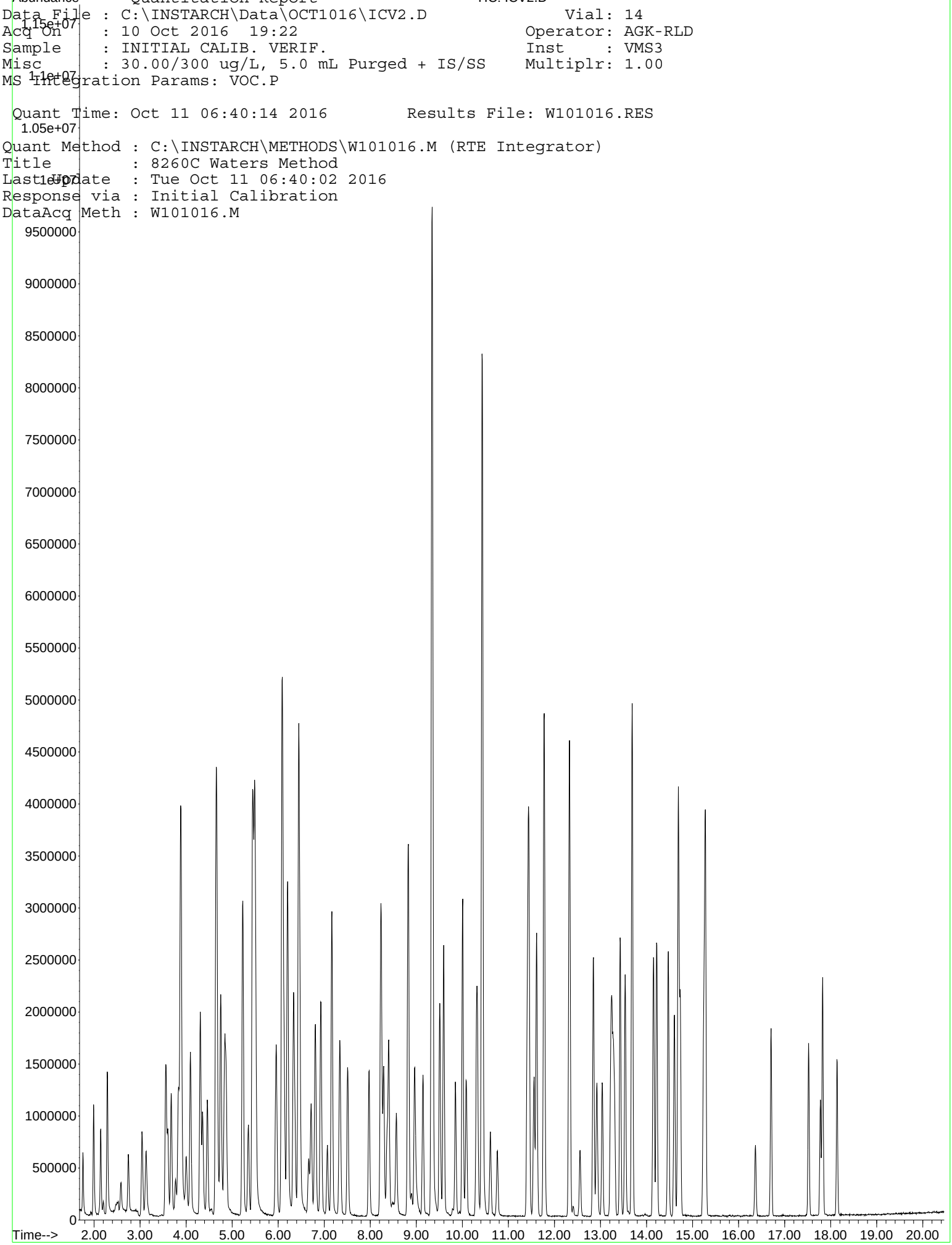
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.52	180	561964	28.1027	ug/L	97
103) Hexachlorobu	17.78	225	246078	29.6263	ug/L	96
104) Naphthalene	17.82	128	1944174	28.3686	ug/L	98
105) 123Trichlben	18.14	180	512538	28.7899	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\Data\OCT1016\ICV2.D Vial: 14
Acq On : 10 Oct 2016 19:22 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:40:14 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICB1.D Vial: 16
Acq On : 10 Oct 2016 20:22 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:41:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	1364533	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	968468	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	468405	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	325888	19.590	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.07	102	91174	20.068	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.51	98	1323833	19.456	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.04	95	479703	19.898	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	13586	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	13455	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	42395	N.D.		
16) Iodomethane	4.00	142	8644	0.7640	ug/L #	39
17) Carbon Dislf	4.09	76	8855	N.D.		
18) allylchloride	4.37	41	2950	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.68	59	29673	Below Cal		96
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.45	43	4911	Below Cal	#	76
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.11	72	2571	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.48	42	7299	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICB1.D Vial: 16
Acq On : 10 Oct 2016 20:22 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:41:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.17	78	4738	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.43	88	8477	41.2353 ug/L #	81
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.83	43	3682	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.35	43	12845	Below Cal #	62
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.44	43	21118	Below Cal #	68
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.42	91	3836	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.77	106	4563	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	12.92	55	16285	12.2370 ug/L #	82
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.44	91	2730	N.D.	
89)	2chlorotolue	13.44	91	2570	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.29	91	3044	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT1016\ICB1.D Vial: 16
Acq On : 10 Oct 2016 20:22 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:41:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.82	128	12419	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

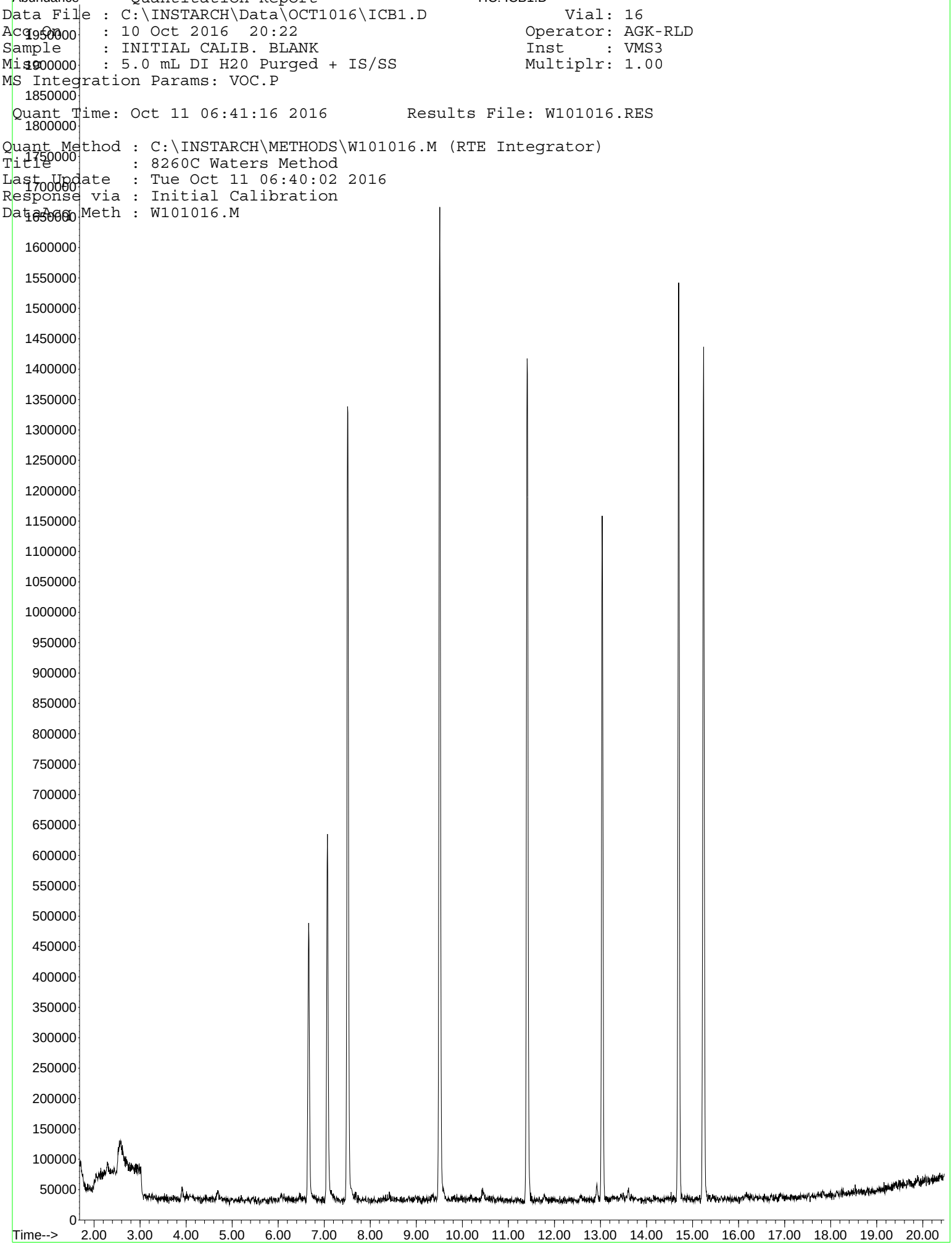
(#) = qualifier out of range (m) = manual integration

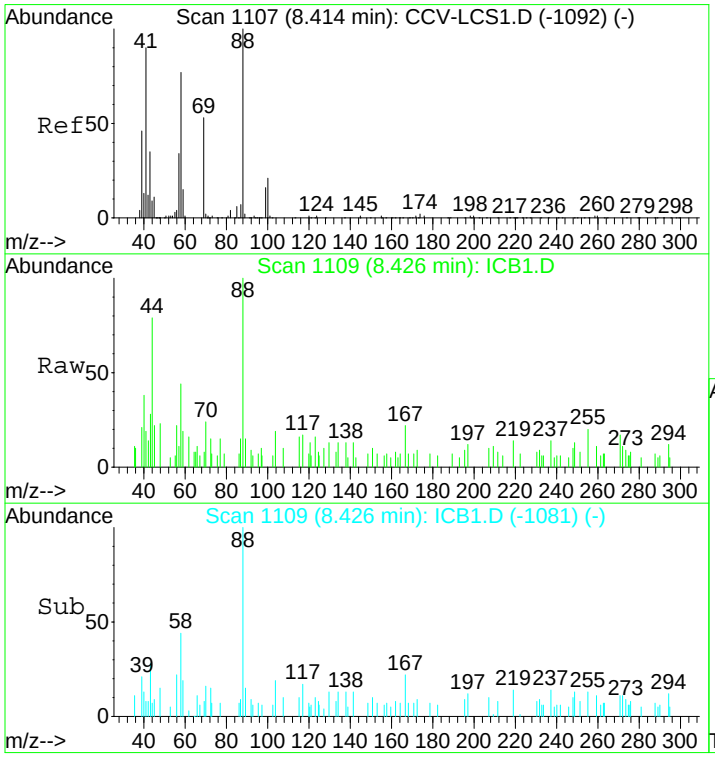
Abundance Quantitation Report TIC: ICB1.D

Data File : C:\INSTARCH\Data\OCT1016\ICB1.D Vial: 16
Acq On : 10 Oct 2016 20:22 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 11 06:41:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Tue Oct 11 06:40:02 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

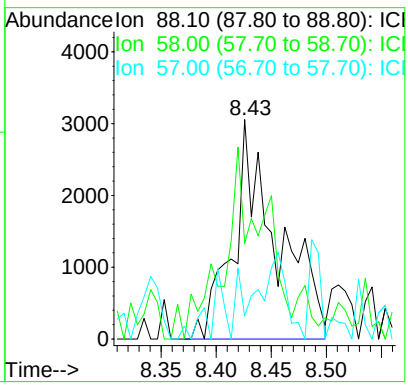


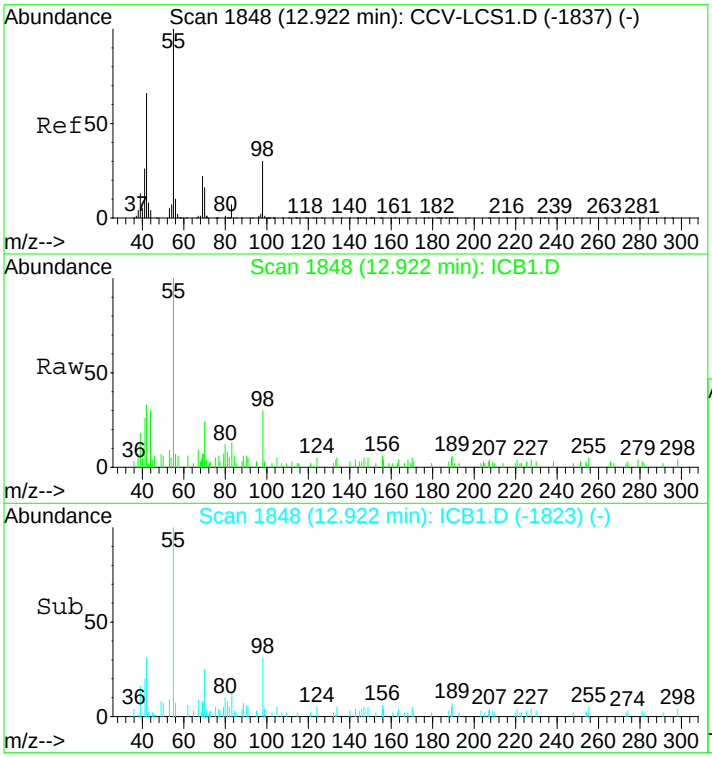


#55
14dioxane
Concen: 41.24 ug/L
RT: 8.43 min Scan# 1109
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 10 Oct 2016 20:22

Tgt Ion: 88 Resp: 8477

Ion	Ratio	Lower	Upper
88	100		
58	80.0	65.5	105.5
57	0.0	11.0	51.0#

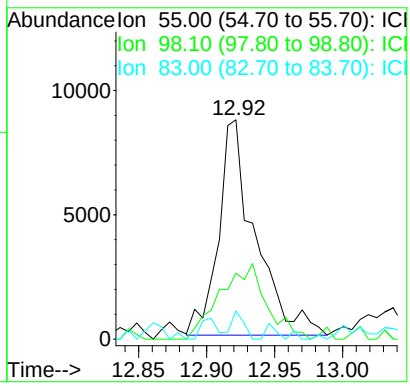




#81
cyclohexanone
Concen: 12.24 ug/L
RT: 12.92 min Scan# 1848
Delta R.T. 0.00 min
Lab File: ICB1.D
Acq: 10 Oct 2016 20:22

Tgt Ion: 55 Resp: 16285

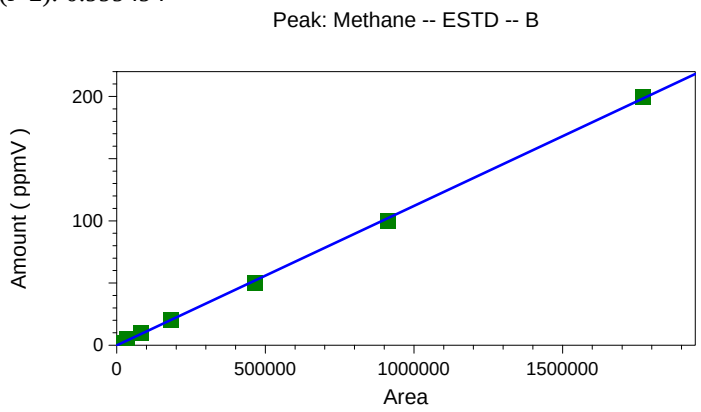
Ion	Ratio	Lower	Upper
55	100		
98	44.1	14.1	54.1
83	0.0	0.0	27.5



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000126758 RF StDev: 2.66182e-005 RF %RSD: 20.9992
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000112132x - 0.0862934
Goodness of fit (r^2): 0.999494



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	11158	34407	81596	181231	466265
RF	0.000179243	0.00014531926	0.000122555027	0.000110356395	0.0001072351
	592041585	6428343	207216	98082	55973534
Last Area					
Residual	0.835122	1.22816	0.936751	-0.235545	-2.19705
Rep StDev					
Rep %RSD					
Rep 1 Area	11158	34407	81596	181231	466265
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	912807	1769205

RJ 02/11/2015

Calibration Report

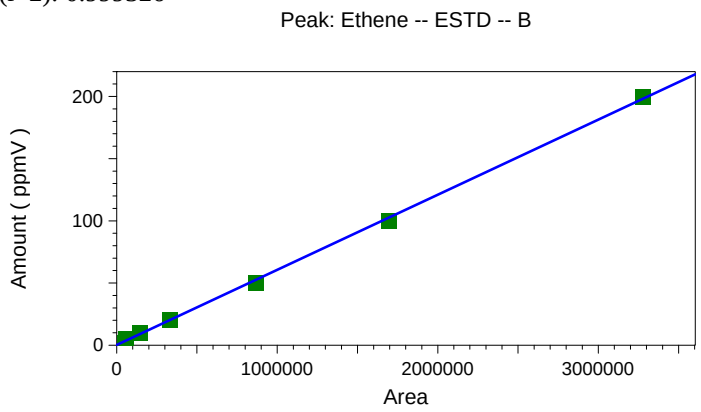
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

RF	0.000109552183539346	0.00011304512 4787687
Last Area Residual	-2.2688	1.70137
Rep StDev		
Rep %RSD		
Rep 1 Area	912807	1769205
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 7.34101e-005 RF StDev: 2.20333e-005 RF %RSD: 30.0140
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 6.03920e-005x + 0.196712
Goodness of fit (r^2): 0.999326



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17089	56566	142389	330410	867023
RF	0.000117034	8.83923204751	7.023014418248	6.053085560364	5.7668597026
	349581602	971e-005	6e-005	4e-005	8378e-005
Last Area					
Residual	0.77125	1.38716	1.20414	-0.150822	-2.55794
Rep StDev					
Rep %RSD					
Rep 1 Area	17089	56566	142389	330410	867023
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	1696051	3275808

RJ02/11/2015

Calibration Report

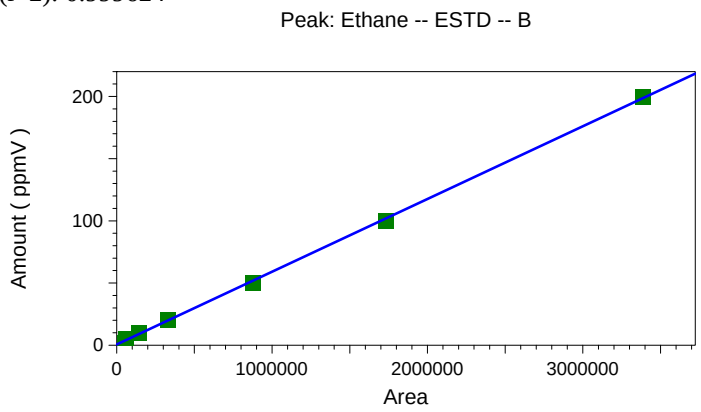
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

RF	5.896049116 44756e-005	6.10536392853 305e-005
Last Area Residual	-2.62457	1.97079
Rep StDev		
Rep %RSD		
Rep 1 Area	1696051	3275808
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 7.20208e-005 RF StDev: 2.08377e-005 RF %RSD: 28.9328
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 5.84964e-005x + 0.597310
Goodness of fit (r^2): 0.999624



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17853	56692	142896	332327	878485
RF	0.000112025 990029687	8.81958653778 311e-005	6.998096517747 17e-005	6.018168851763 47e-005	5.6916168175 8937e-005
Last Area Residual	0.358353	1.08641	1.04378	-0.0372589	-1.98556
Rep StDev					
Rep %RSD					
Rep 1 Area	17853	56692	142896	332327	878485
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1731517	3384539

RJ 02/11/2015

Calibration Report

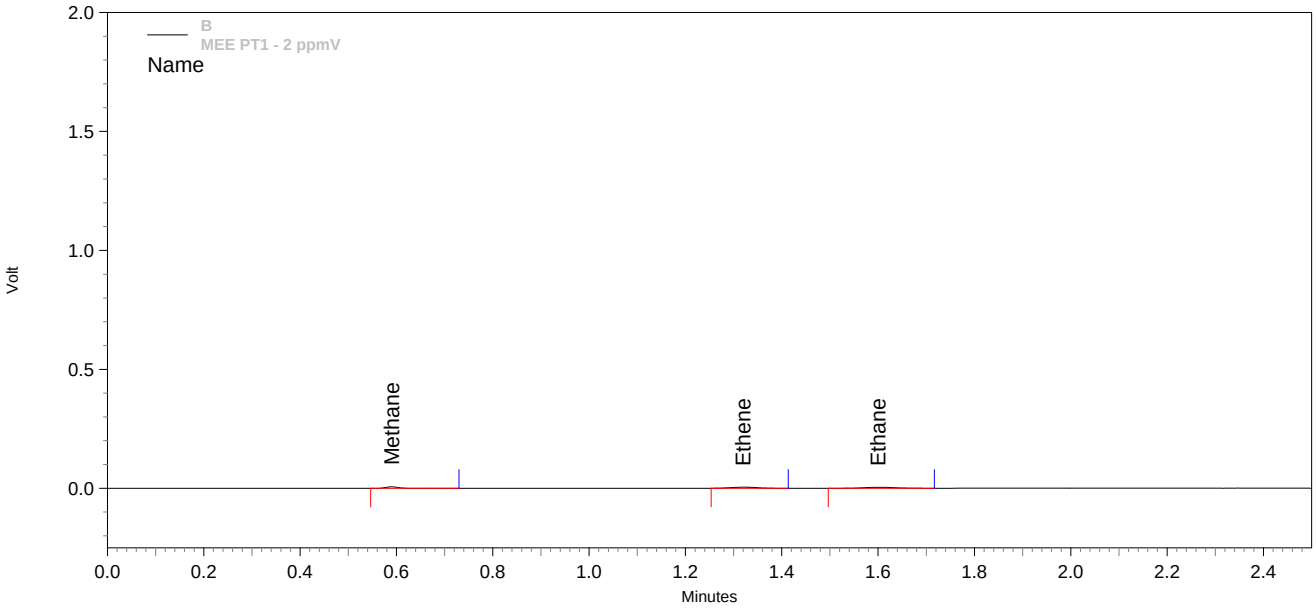
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

RF	5.77528259901578e-005	5.90922426953863e-005
Last Area Residual	-1.8849	1.41918
Rep StDev		
Rep %RSD		
Rep 1 Area	1731517	3384539
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Feb 03, 2015 10:27:30
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



B Results

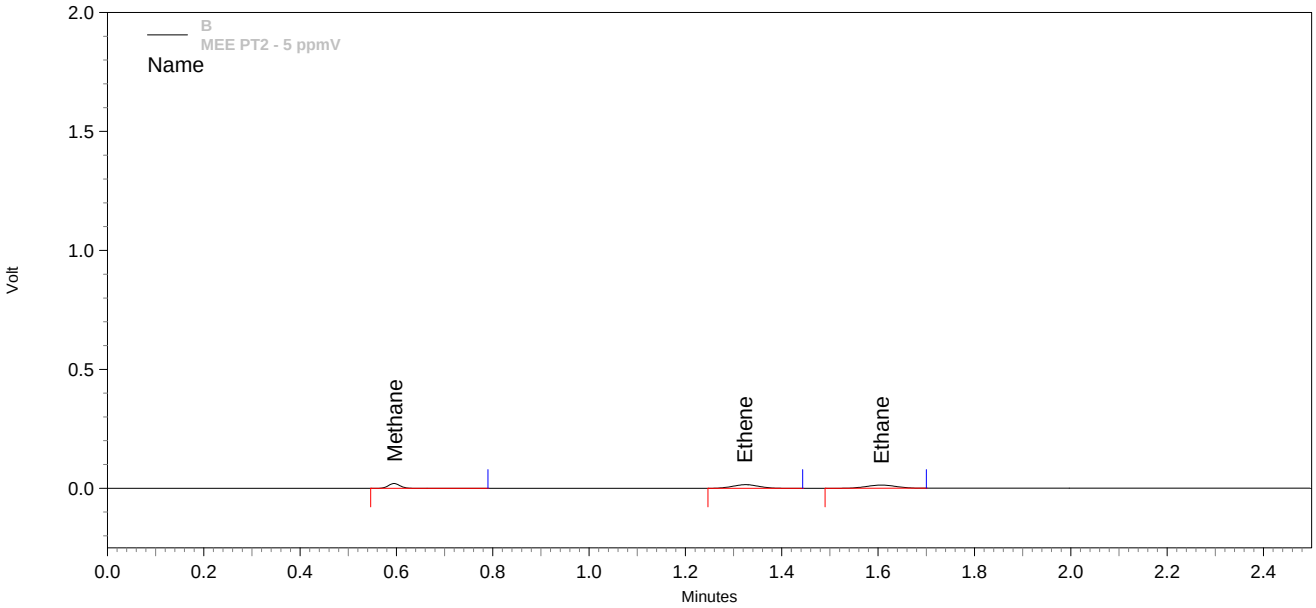
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	11158	**1.165**
2	Ethene	1.320	17089	**1.229**
3	Ethane	1.600	17853	**1.642**

Totals			46100	**4.035**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Feb 03, 2015 10:35:02
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



B Results

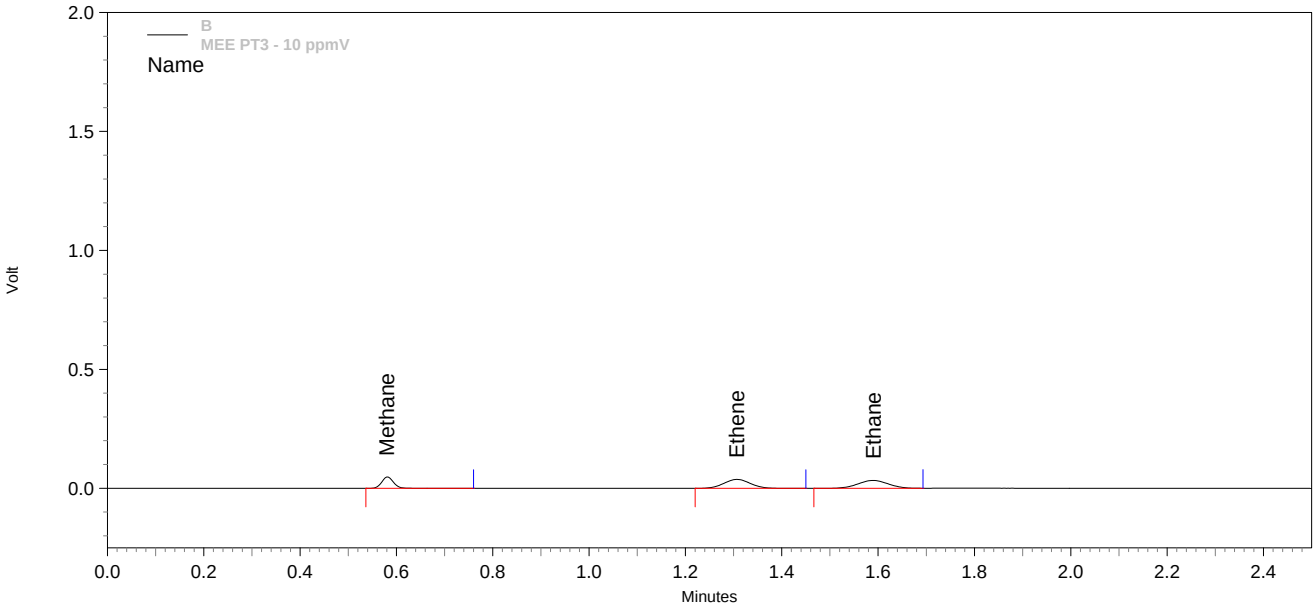
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	34407	**5.000 CAL**
2	Ethene	1.323	56566	**5.000 CAL**
3	Ethane	1.607	56692	**5.000 CAL**

Totals			147665	**15.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Feb 03, 2015 10:38:17
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



B Results

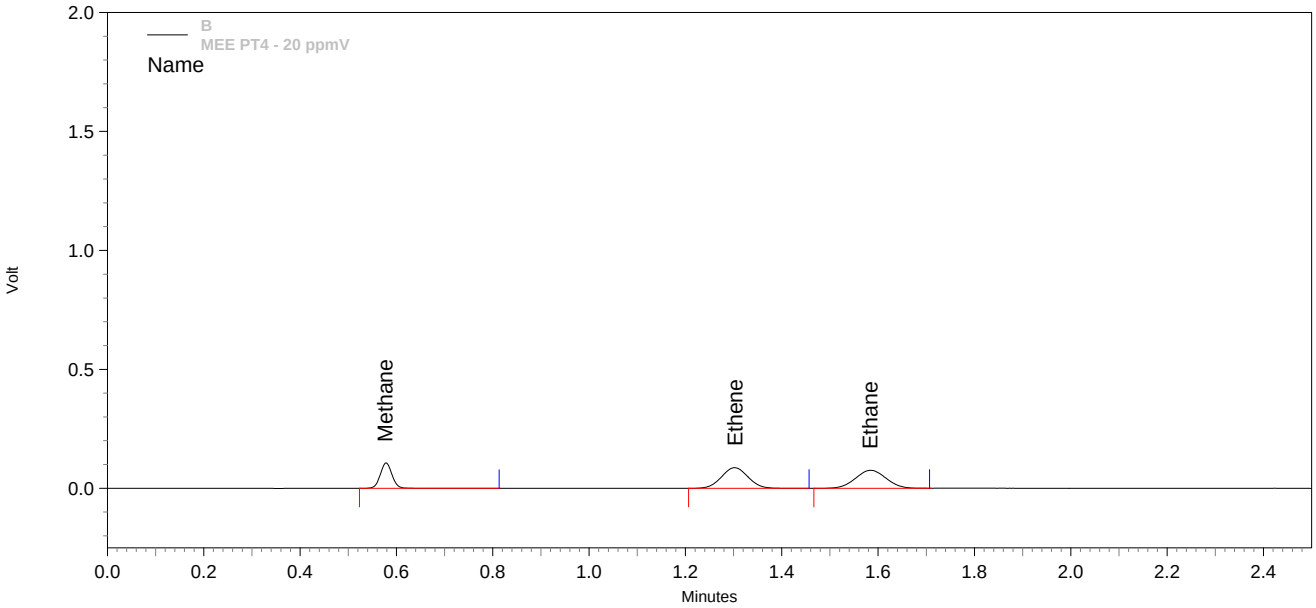
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	81596	**10.000 CAL**
2	Ethene	1.307	142389	**10.000 CAL**
3	Ethane	1.590	142896	**10.000 CAL**

Totals			366881	**30.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Feb 03, 2015 10:41:32
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



B Results

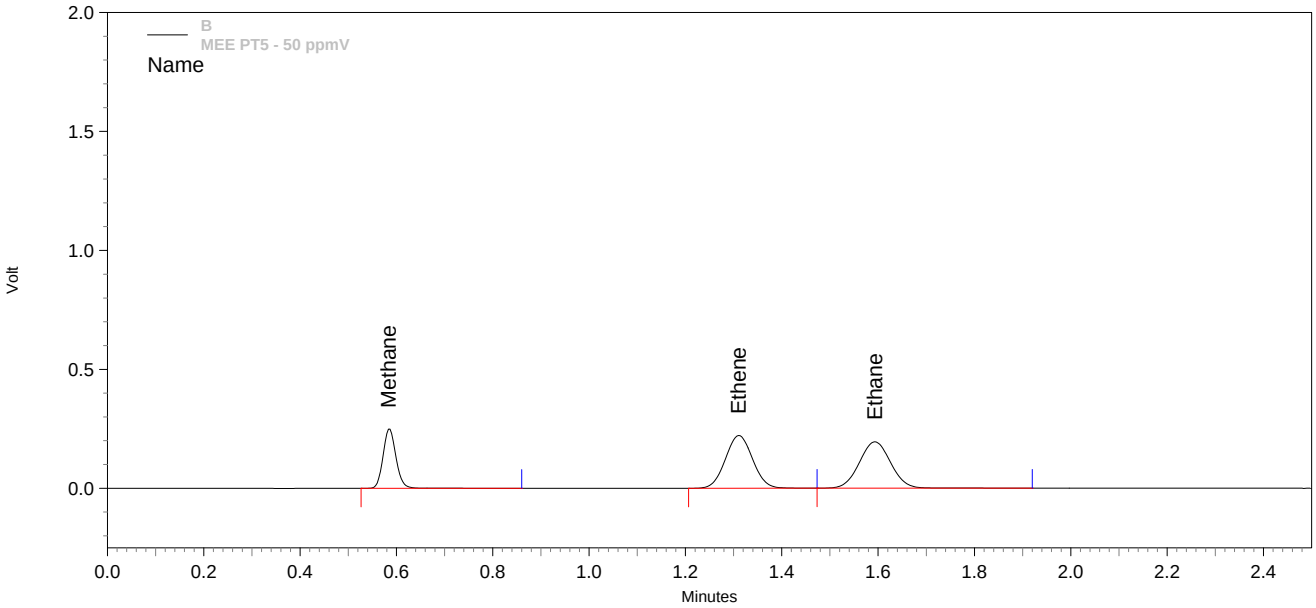
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	181231	**20.000 CAL**
2	Ethene	1.303	330410	**20.000 CAL**
3	Ethane	1.583	332327	**20.000 CAL**

Totals			843968	**60.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Feb 03, 2015 10:44:59
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



B Results

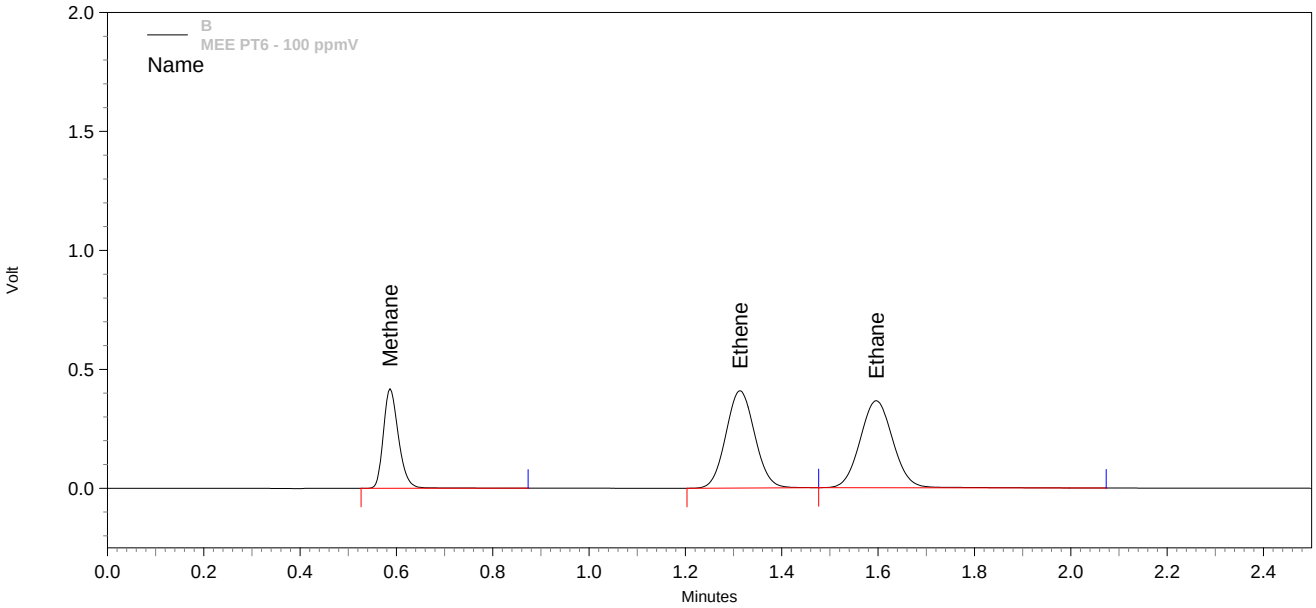
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	466265	**50.000 CAL**
2	Ethene	1.310	867023	**50.000 CAL**
3	Ethane	1.593	878485	**50.000 CAL**

Totals			2211773	**150.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Feb 03, 2015 10:48:29
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



B Results

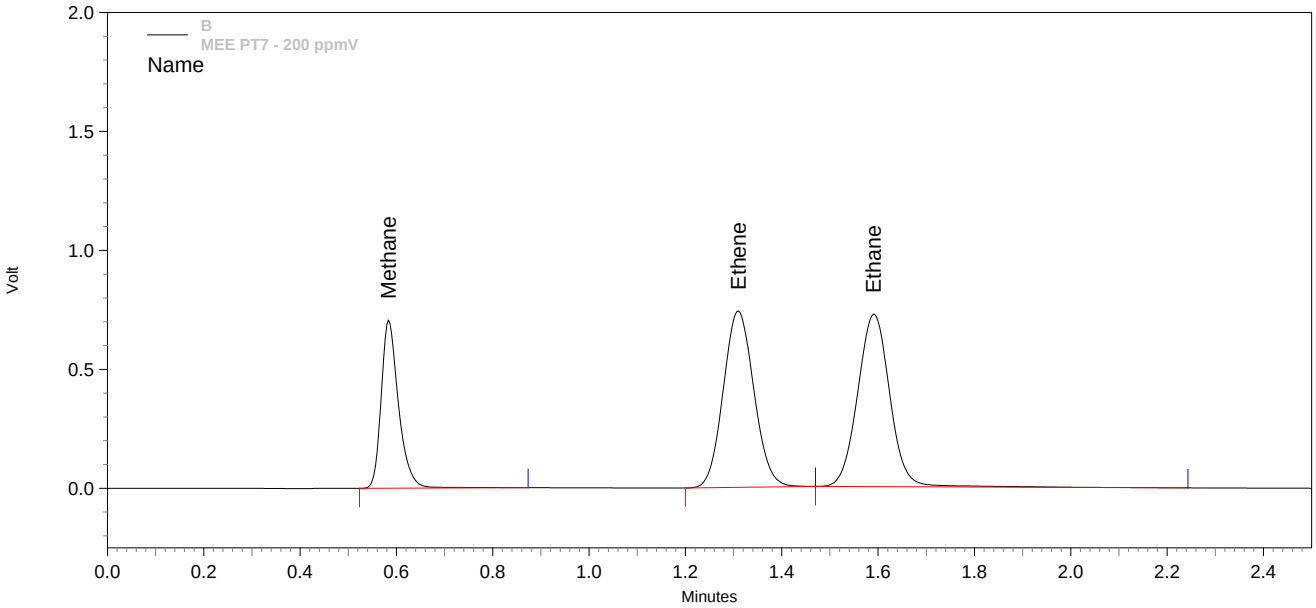
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	912807	**100.000 CAL**
2	Ethene	1.313	1696051	**100.000 CAL**
3	Ethane	1.597	1731517	**100.000 CAL**

Totals			4340375	**300.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Feb 03, 2015 10:52:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	1769205	**200.000 CAL**
2	Ethene	1.310	3275808	**200.000 CAL**
3	Ethane	1.590	3384539	**200.000 CAL**

Totals			8429552	**600.000 CAL**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020315DGIC.seq
User : AGK
Printed : Feb 11, 2015 14:43:24

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\020315icdg\008.dat	ICV - 50 ppmV	Feb 11, 2015 14:43:24

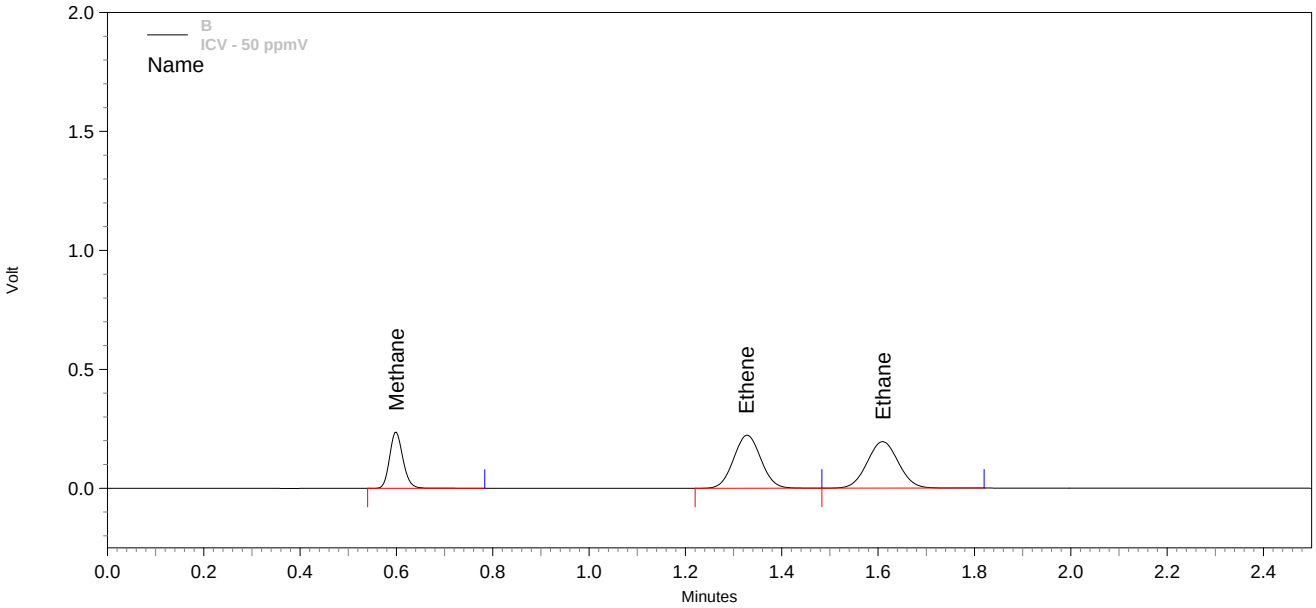
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.955	1.911	15.000	**Passed**
Ethene	50.000	53.018	6.036	15.000	**Passed**
Ethane	50.000	52.143	4.287	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICV - 50 ppmV
Acquired: Feb 03, 2015 11:02:07
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



B Results

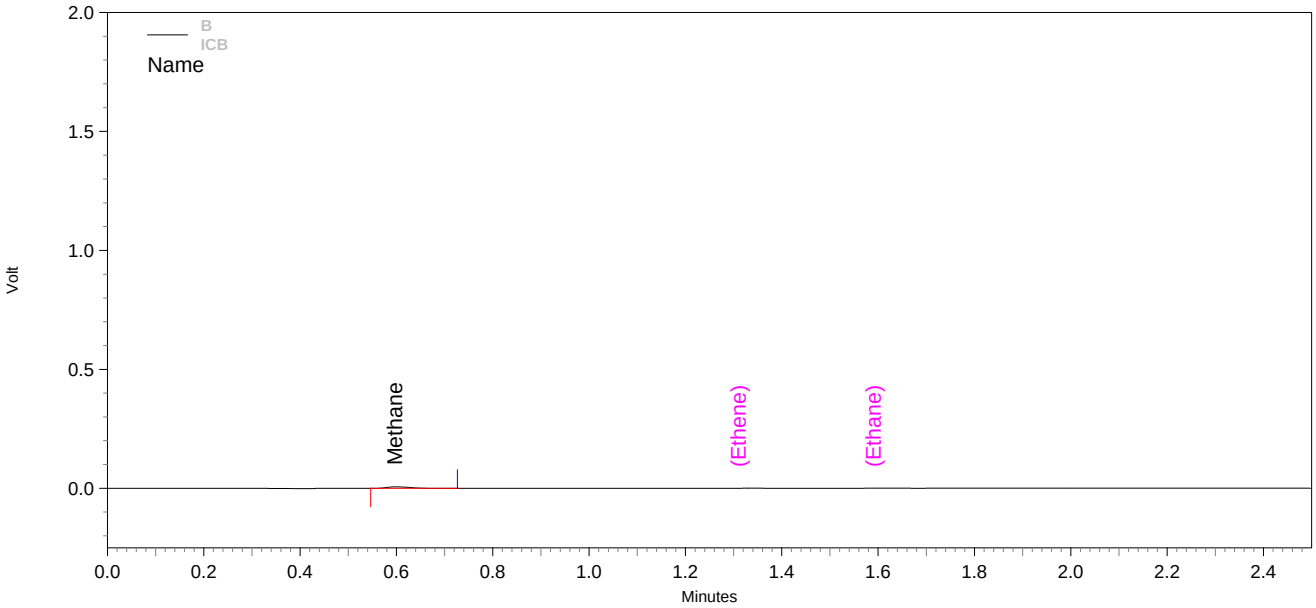
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	455191	**50.955**
2	Ethene	1.327	874641	**53.018**
3	Ethane	1.610	881181	**52.143**

Totals			2211013	**156.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICB
Acquired: Feb 03, 2015 11:19:15
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20063	**2.163**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20063	**2.163**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\INSTARCH\Data\OCT2216\BFB.D Vial: 1
Acq On : 22 Oct 2016 8:58 Operator: AGK-RLD
Sample : 131348,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.404 to 4.429 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	36.3	15656	PASS
75	95	30	60	58.1	25104	PASS
95	95	100	100	100.0	43180	PASS
96	95	5	9	7.3	3149	PASS
173	174	0.00	2	1.0	355	PASS
174	95	50	100	86.0	37153	PASS
175	174	5	9	7.8	2911	PASS
176	174	95	101	95.3	35401	PASS
177	176	5	9	8.5	3006	PASS

W101016.M Thu Oct 27 15:31:06 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 09:35:19 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	68	0.00
2	PT	Dichlorodi	0.2125	0.2398	-12.85	72	0.00
3	PT	Chloromethan	0.6020	0.5054	16.05	54	0.00
4	PT	VinylChlorid	0.3970	0.4371	-10.10	74	0.00
5	PT	Bromomethane	0.1011	0.0872#	13.75	59	0.00
6	PT	Chloroethane	0.2550	0.2646	-3.76	70	0.00
7	T	Dichloroflmethane	0.4460	0.4618	-3.54	69	0.00
8	PT	Trichlorofma	0.3120	0.3653	-17.08	72	0.00
9	T	Ethylether	0.2546	0.2646	-3.93	70	0.00
10	T	dichlorotfluoroethan	0.2692	0.2900	-7.73	75	0.00
11	T	propyleneoxide	0.0780	0.0819	-5.00	68	0.00
12	T	Acrolein	0.1221	0.1299	-6.39	70	0.00
13	PT	11dichlorthe	0.2129	0.2398	-12.64	76	0.00
14	PT	Trichlorotfluoroeth	0.2021	0.2282	-12.91	73	0.00
15	PT	Acetone	0.2260	0.2563	-13.41	69	0.00
16	T	Iodomethane	0.1717	0.1182	31.16#	55	0.00
17	PT	Carbon Dislf	0.5893	0.6614	-12.23	71	0.00
18	T	allylchloride	0.3843	0.4358	-13.40	73	0.00
19	PT	methylacetate	0.1499	0.1572	-4.87	73	0.00
20	PT	Methylchlorid	0.2889	0.2663	7.82	67	0.00
21	T	tbutylalcohol	0.0775	0.0862	-11.23	65	0.00
22	T	Acrylonitrile	0.1952	0.2214	-13.42	73	0.00
23	PT	t12dichlorte	0.2398	0.2592	-8.09	74	0.00
24	PT	MtBE	0.7250	0.7490	-3.31	70	0.00
25	T	Hexane	0.4338	0.5402	-24.53#	80	0.00
26	PT	11dichlorota	0.5012	0.5508	-9.90	74	0.00
27	T	Vinylacetate	0.5764	0.7335	-27.26#	93	0.00
28	T	chloroprene	0.5112	0.6050	-18.35	76	0.00
29	T	Diisopether	0.9858	1.1875	-20.46#	84	0.00
30	T	ETBE	0.9067	1.0283	-13.41	75	0.00
31	T	22dichloropr	0.3782	0.4258	-12.59	78	0.00
32	PT	c12dichlorte	0.2733	0.2863	-4.76	75	0.00
33	PT	2Butanone	0.0666	0.0665#	0.15	63	0.00
34	T	propionitrile	0.0871	0.0982	-12.74	70	0.00
35	T	Ethylacetate	0.0172	0.0182#	-5.81	75	0.00
36	T	methacrylonitrile	0.1817	0.1902	-4.68	71	0.00
37	T	Bromochlorma	0.0972	0.1160	-19.34	81	0.01
38	T	Tetrahydofur	0.1858	0.2148	-15.61	72	0.00
39	PT	Chloroform	0.4404	0.4598	-4.41	74	0.00
40	PT	111trichlota	0.3797	0.3986	-4.98	69	0.00
41	S	SURRDibrflma	0.2438	0.2437	0.04	66	0.00
42	PT	Cyclohexane	0.5563	0.6436	-15.69	75	0.00
43	PT	Carbtetraclo	0.2738	0.3107	-13.48	73	0.00
44	T	11dicloprope	0.1170	0.1193	-1.97	68	0.00
45	S	SURR12DCAd4	0.0666	0.0644	3.30	62	0.00
46	PT	Benzene	0.9962	1.1252	-12.95	75	0.00
47	PT	12dichlorota	0.3906	0.4283	-9.65	74	0.00
48	T	TAME	0.7441	0.7504	-0.85	68	0.00

49	PT	trichloroete	0.2527	0.2656	-5.10	68	0.00	
50	PT	methylcyclohexane	0.4208	0.4731	-12.43	74	0.00	
51	PT	12dicloropra	0.3241	0.3489	-7.65	76	0.00	
52	T	23Dicl1propene	0.3997	0.4302	-7.63	74	0.00	
53	T	Dibromometha	0.1639	0.1871	-14.15	81	0.00	
54	T	methylmethacrylate	0.2791	0.2643	5.30	65	0.00	
55	T	14dioxane	0.0030	0.0031#	-3.33	64	0.00	
56	PT	Bromodiclrma	0.3216	0.3532	-9.83	72	0.00	
57	T	2Nitropropane	0.1670	0.1735	-3.89	65	0.00	
58	T	2CLEVE	0.0135	0.0000#	100.00#	0#	-8.97#	
59	PT	c13dicloproe	0.4123	0.4395	-6.60	74	0.00	
60	PT	4Meth2Pentan	0.4875	0.5909	-21.21#	76	0.00	
61	S	SURRd8Tolule	0.9973	0.9972	0.01	67	0.00	
62	PT	Toluene	0.6170	0.6796	-10.15	72	0.00	
63	PT	t13Dicloprop	0.3669	0.3846	-4.82	71	0.00	
64	T	ethylmethacrylate	0.4169	0.4478	-7.41	72	0.00	
65	PT	112Triclotha	0.2039	0.2064	-1.23	67	0.00	
66	PT	Tetrachlorte	0.2302	0.2747	-19.33	76	0.00	
67	T	13Diclorpropa	0.4325	0.4551	-5.23	74	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	71	0.00	
69	PT	2Hexanone	0.5631	0.6382	-13.34	73	0.00	
70	PT	Clorodibrmta	0.3125	0.3053	2.30	72	0.00	
71	PT	12Dibrometha	0.3401	0.3415	-0.41	72	0.00	
72	PT	Chlorobenzen	0.8726	0.9633	-10.39	76	0.00	
73	T	1Clhexane	0.5075	0.5217	-2.80	73	0.00	
74	T	1112Tetclota	0.2952	0.3040	-2.98	76	0.00	
75	PT	Ethylbenzene	1.5603	1.7104	-9.62	74	0.00	
76	PT	m p-Xylene	0.5864	0.6408	-9.28	75	0.00	
77	PT	o-Xylene	0.5804	0.6198	-6.79	74	0.00	
78	PT	Styrene	0.9391	1.0259	-9.24	74	0.00	
79	PT	Bromoform	0.2257	0.2245	0.53	74	0.00	
80	PT	Isopropylben	1.3478	1.4890	-10.48	76	0.00	
81	T	cyclohexanone	0.0275	0.0263#	4.36	65	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	75	0.00	
83	S	SURR4BrFBenz	1.0294	0.9065	11.94	65	0.00	
84	T	Bromobenzene	0.6898	0.7428	-7.68	79	0.00	
85	PT	1122Tetrclta	1.1643	1.1235	3.50	73	0.00	
86	T	123Triclproa	1.4257	1.2966	9.06	67	0.00	
87	T	14dichloro2butene	0.4095	0.2577	37.07#	48#	0.00	
88	T	n-Propylbenz	3.4883	3.7769	-8.27	76	0.00	
89	T	2chlorotolue	2.0705	2.1352	-3.12	73	0.00	
90	T	4chlorotolue	2.3834	2.4710	-3.68	74	0.00	
91	T	135Trimebenz	2.3320	2.4886	-6.72	76	0.00	
92	T	tbutylbenzen	1.9020	2.0876	-9.76	77	0.00	
93	T	124Trimetben	2.4041	2.4739	-2.90	76	0.00	
94	T	sbutylbenzen	2.8778	3.1296	-8.75	76	0.00	
95	PT	13Diclorbenz	1.1926	1.2620	-5.82	77	0.00	
96	T	pIsopropylto	2.3130	2.4764	-7.06	77	0.00	
97	PT	14dichlorobe	1.2249	1.3183	-7.63	79	0.00	
98	PT	12dichlorobe	1.1578	1.2554	-8.43	81	0.00	
99	T	nButylbenzen	2.3069	2.5077	-8.70	77	0.00	
100	PT	12dibromo3cl	0.2827	0.2442	13.62	64	0.00	
101	T	135Trichlorobenzene	0.8226	0.9376	-13.98	82	0.00	
102	PT	124Trichlobe	0.7339	0.7840	-6.83	79	0.00	
103	T	Hexachlorobu	0.3049	0.3697	-21.25#	84	0.00	
104	T	Naphthalene	2.5153	2.7001	-7.35	74	0.00	
105	T	123Trichlben	0.6534	0.7414	-13.47	82	0.00	

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101016.M Thu Oct 27 15:31:58 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 09:35:19 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	68	0.00
2	PT	Dichlorodi	10.0000	11.2894	-12.89	72	0.00
3	PT	Chloromethan	10.0000	8.3956	16.04	54	0.00
4	PT	VinylChlorid	10.0000	11.0109	-10.11	74	0.00
5	PT	Bromomethane	10.0000	8.6229	13.77	59	0.00
6	PT	Chloroethane	10.0000	10.3743	-3.74	70	0.00
7	T	Dichloroflmethane	10.0000	10.3547	-3.55	69	0.00
8	PT	Trichlorofma	10.0000	11.7087	-17.09	72	0.00
9	T	Ethylether	10.0000	10.3898	-3.90	70	0.00
10	T	dichlorotfluoroethan	10.0000	10.7711	-7.71	75	0.00
11	T	propyleneoxide	100.0000	105.0055	-5.01	68	0.00
12	T	Acrolein	50.0000	53.2046	-6.41	70	0.00
13	PT	11dichlorthe	10.0000	11.2636	-12.64	76	0.00
14	PT	Trichlorotfluoroeth	20.0000	22.5830	-12.91	73	0.00
15	PT	Acetone	100.0000	113.4081	-13.41	69	0.00
16	T	Iodomethane	20.0000	14.9374	25.31#	55	0.00
17	PT	Carbon Dislf	20.0000	22.4467	-12.23	71	0.00
18	T	allylchloride	20.0000	22.6807	-13.40	73	0.00
19	PT	methylacetate	10.0000	10.4883	-4.88	73	0.00
20	PT	Methylchlorid	10.0000	10.0145	-0.14	67	0.00
21	T	tbutylalcohol	500.0000	546.0427	-9.21	65	0.00
22	T	Acrylonitrile	50.0000	56.7212	-13.44	73	0.00
23	PT	t12dichlorte	10.0000	10.8114	-8.11	74	0.00
24	PT	MtBE	10.0000	10.3321	-3.32	70	0.00
25	T	Hexane	20.0000	24.9053	-24.53#	80	0.00
26	PT	11dichlorota	10.0000	10.9902	-9.90	74	0.00
27	T	Vinylacetate	100.0000	135.6198	-35.62#	93	0.00
28	T	chloroprene	20.0000	23.6708	-18.35	76	0.00
29	T	Diisopether	10.0000	12.0451	-20.45#	84	0.00
30	T	ETBE	10.0000	11.3414	-13.41	75	0.00
31	T	22dichloropr	10.0000	11.2603	-12.60	78	0.00
32	PT	c12dichlorte	10.0000	10.4745	-4.75	75	0.00
33	PT	2Butanone	100.0000	99.8537	0.15	63	0.00
34	T	propionitrile	100.0000	112.8015	-12.80	70	0.00
35	T	Ethylacetate	50.0000	52.8520	-5.70	75	0.00
36	T	methacrylonitrile	20.0000	20.9328	-4.66	71	0.00
37	T	Bromochlorma	10.0000	11.9382	-19.38	81	0.01
38	T	Tetrahydofur	100.0000	115.6164	-15.62	72	0.00
39	PT	Chloroform	10.0000	10.4406	-4.41	74	0.00
40	PT	111trichlota	10.0000	10.4985	-4.98	69	0.00
41	S	SURRDibrflma	20.0000	19.9872	0.06	66	0.00
42	PT	Cyclohexane	10.0000	11.5688	-15.69	75	0.00
43	PT	Carbtetraclo	10.0000	11.3459	-13.46	73	0.00
44	T	11dicloprope	10.0000	10.1932	-1.93	68	0.00
45	S	SURR12DCAd4	20.0000	19.3424	3.29	62	0.00
46	PT	Benzene	10.0000	11.2951	-12.95	75	0.00
47	PT	12dichlorota	10.0000	10.9661	-9.66	74	0.00
48	T	TAME	10.0000	10.0844	-0.84	68	0.00

49	PT	trichloroete	10.0000	10.5084	-5.08	68	0.00
50	PT	methylcyclohexane	10.0000	11.2430	-12.43	74	0.00
51	PT	12dicloropra	10.0000	10.7680	-7.68	76	0.00
52	T	23Dicl1propene	10.0000	10.7610	-7.61	74	0.00
53	T	Dibromometha	10.0000	11.4182	-14.18	81	0.00
54	T	methylmethacrylate	10.0000	9.4721	5.28	65	0.00
55	T	14dioxane	500.0000	508.7220	-1.74	64	0.00
56	PT	Bromodiclrma	10.0000	10.9825	-9.82	72	0.00
57	T	2Nitropropane	100.0000	103.9160	-3.92	65	0.00
58	T	2CLEVE	50.0000	0.0000	100.00#	0	-8.97#
59	PT	c13dicloproe	10.0000	10.6586	-6.59	74	0.00
60	PT	4Meth2Pentan	100.0000	121.2885	-21.29#	76	0.00
61	S	SURRd8Tolule	20.0000	19.9981	0.01	67	0.00
62	PT	Toluene	10.0000	11.0137	-10.14	72	0.00
63	PT	t13Dicloprop	10.0000	10.4827	-4.83	71	0.00
64	T	ethylmethacrylate	20.0000	21.4801	-7.40	72	0.00
65	PT	112Triclotha	10.0000	10.1232	-1.23	67	0.00
66	PT	Tetrachlorte	10.0000	11.9320	-19.32	76	0.00
67	T	13Diclorpropa	10.0000	10.5236	-5.24	74	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	71	0.00
69	PT	2Hexanone	100.0000	108.0939	-8.09	73	0.00
70	PT	Clorodibrmta	10.0000	9.7695	2.30	72	0.00
71	PT	12Dibrometha	10.0000	10.0408	-0.41	72	0.00
72	PT	Chlorobenzen	10.0000	11.0387	-10.39	76	0.00
73	T	1Clhexane	10.0000	10.2793	-2.79	73	0.00
74	T	1112Tetclota	10.0000	10.2979	-2.98	76	0.00
75	PT	Ethylbenzene	10.0000	10.9617	-9.62	74	0.00
76	PT	m p-Xylene	20.0000	21.8547	-9.27	75	0.00
77	PT	o-Xylene	10.0000	10.6789	-6.79	74	0.00
78	PT	Styrene	10.0000	10.9234	-9.23	74	0.00
79	PT	Bromoform	10.0000	9.9445	0.56	74	0.00
80	PT	Isopropylben	10.0000	11.0472	-10.47	76	0.00
81	T	cyclohexanone	200.0000	191.6850	4.16	65	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	75	0.00
83	S	SURR4BrFBenz	20.0000	17.6121	11.94	65	0.00
84	T	Bromobenzene	10.0000	10.7688	-7.69	79	0.00
85	PT	1122Tetrclta	10.0000	9.6493	3.51	73	0.00
86	T	123Triclproa	10.0000	9.0947	9.05	67	0.00
87	T	14dichloro2butene	10.0000	6.2921	37.08#	48	0.00
88	T	n-Propylbenz	10.0000	10.8274	-8.27	76	0.00
89	T	2chlorotolue	10.0000	10.3128	-3.13	73	0.00
90	T	4chlorotolue	10.0000	10.3675	-3.67	74	0.00
91	T	135Trimebenz	10.0000	10.6715	-6.71	76	0.00
92	T	tbutylbenzen	10.0000	10.9762	-9.76	77	0.00
93	T	124Trimetben	10.0000	10.2904	-2.90	76	0.00
94	T	sbutylbenzen	10.0000	10.8753	-8.75	76	0.00
95	PT	13Diclorbenz	10.0000	10.5814	-5.81	77	0.00
96	T	pIsopropylto	10.0000	10.7066	-7.07	77	0.00
97	PT	14dichlorobe	10.0000	10.7629	-7.63	79	0.00
98	PT	12dichlorobe	10.0000	10.8429	-8.43	81	0.00
99	T	nButylbenzen	10.0000	10.8706	-8.71	77	0.00
100	PT	12dibromo3cl	10.0000	8.6360	13.64	64	0.00
101	T	135Trichlorobenzene	10.0000	11.3978	-13.98	82	0.00
102	PT	124Trichlobe	10.0000	10.6816	-6.82	79	0.00
103	T	Hexachlorobu	10.0000	12.1262	-21.26#	84	0.00
104	T	Naphthalene	10.0000	10.7348	-7.35	74	0.00
105	T	123Trichlben	10.0000	11.3469	-13.47	82	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101016.M Thu Oct 27 15:32:10 2016

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	894934	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	681183	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	356448	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.66	113	218064	19.987 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
45) SURR12DCAd4	7.06	102	57636	19.342 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %		
61) SURRd8Tolule	9.51	98	892427	19.998 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.04	95	323109	17.612 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %		
Target Compounds					Qvalue
2) Dichlorodi	1.76	85	107322	11.2894 ug/L	98
3) Chloromethan	2.00	50	226150	8.3956 ug/L	99
4) VinylChlorid	2.15	62	195595	11.0109 ug/L	95
5) Bromomethane	2.59	94	39016	8.6229 ug/L	86
6) Chloroethane	2.75	64	118391	10.3743 ug/L	100
7) Dichloroflmethane	3.05	67	206646	10.3547 ug/L	97
8) Trichlorofma	3.13	101	163477	11.7087 ug/L	98
9) Ethylether	3.56	59	118380	10.3898 ug/L	94
10) dichlorotfluoroethan	3.56	67	129769	10.7711 ug/L	97
11) propyleneoxide	3.89	58	366316	105.0055 ug/L	99
12) Acrolein	3.68	56	290700	53.2046 ug/L	100
13) 11dichlorthe	3.83	96	107297	11.2636 ug/L	97
14) Trichlorotfluoroeth	3.88	101	204256	22.5830 ug/L	95
15) Acetone	3.89	43	1146673	113.4081 ug/L	100
16) Iodomethane	4.00	142	105815	14.9374 ug/L	92
17) Carbon Dislf	4.09	76	591945	22.4467 ug/L	97
18) allylchloride	4.31	41	390001	22.6807 ug/L	97
19) methylacetate	4.36	74	70340	10.4883 ug/L	85
20) Methylchlorid	4.47	84	119150	10.0145 ug/L	90
21) tbutylalcohol	4.65	59	1927913	546.0427 ug/L	99
22) Acrylonitrile	4.75	53	495358	56.7212 ug/L	99
23) t12dichlorte	4.84	96	115990	10.8114 ug/L	99
24) MtBE	4.87	73	335166	10.3321 ug/L	96
25) Hexane	5.23	57	483471	24.9053 ug/L	99
26) 11dichlorota	5.36	63	246487	10.9902 ug/L	99
27) Vinylacetate	5.44	43	3282378	135.6198 ug/L	98
28) chloroprene	5.48	53	541440	23.6708 ug/L	97
29) Diisopether	5.51	45	531349	12.0451 ug/L	97
30) ETBE	5.96	59	460126	11.3414 ug/L	98
31) 22dichloropr	6.09	77	190542	11.2603 ug/L	99
32) c12dichlorte	6.08	96	128107	10.4745 ug/L	94
33) 2Butanone	6.09	72	297665	99.8537 ug/L	93
34) propionitrile	6.13	54	439494	112.8015 ug/L	98
35) Ethylacetate	6.21	88	40795	52.8520 ug/L #	89
36) methacrylonitrile	6.33	67	170221	20.9328 ug/L	94
37) Bromochlorma	6.37	128	51924	11.9382 ug/L	93
38) Tetrahydofur	6.45	42	961141	115.6164 ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	205728	10.4406	ug/L		98
40)	111trichlota	6.71	97	178359	10.4985	ug/L		94
42)	Cyclohexane	6.81	56	287975	11.5688	ug/L		97
43)	Carbtetraclo	6.93	119	139026	11.3459	ug/L		99
44)	11dicloprope	6.93	110	53387	10.1932	ug/L	#	86
46)	Benzene	7.17	78	503491	11.2951	ug/L		97
47)	12dichlorota	7.17	62	191647	10.9661	ug/L		97
48)	TAME	7.34	73	335774	10.0844	ug/L		96
49)	trichloroete	7.98	95	118828	10.5084	ug/L		97
50)	methylcyclohexane	8.24	83	211707	11.2430	ug/L		99
51)	12dicloropra	8.22	63	156138	10.7680	ug/L		95
52)	23Dicl1propene	8.29	75	192484	10.7610	ug/L		96
53)	Dibromometha	8.36	93	83736	11.4182	ug/L		94
54)	methylmethacrylate	8.40	69	118277	9.4721	ug/L		99
55)	14dioxane	8.40	88	68590	508.7220	ug/L		98
56)	Bromodiclrma	8.57	83	158025	10.9825	ug/L		96
57)	2Nitropropane	8.82	43	776303	103.9160	ug/L		98
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.14	75	196642	10.6586	ug/L		100
60)	4Meth2Pentan	9.34	43	2644031	121.2885	ug/L		96
62)	Toluene	9.59	92	304096	11.0137	ug/L		99
63)	t13Dicloprop	9.86	75	172100	10.4827	ug/L		97
64)	ethylmethacrylate	10.00	69	400743	21.4801	ug/L		95
65)	112Triclotha	10.09	83	92372	10.1232	ug/L		87
66)	Tetrachlorte	10.33	166	122900	11.9320	ug/L		95
67)	13Diclorpropa	10.31	76	203642	10.5236	ug/L		96
69)	2Hexanone	10.43	43	2173654	108.0939	ug/L		98
70)	Clorodibrmta	10.61	129	103969	9.7695	ug/L		97
71)	12Dibrometha	10.76	107	116300	10.0408	ug/L		94
72)	Chlorobenzen	11.45	112	328086	11.0387	ug/L		95
73)	1Clhexane	11.43	91	177677	10.2793	ug/L		92
74)	1112Tetclota	11.55	131	103552	10.2979	ug/L		97
75)	Ethylbenzene	11.61	91	582545	10.9617	ug/L		98
76)	m p-Xylene	11.78	106	436522	21.8547	ug/L		96
77)	o-Xylene	12.32	106	211100	10.6789	ug/L		96
78)	Styrene	12.33	104	349401	10.9234	ug/L		93
79)	Bromoform	12.56	173	76450	9.9445	ug/L		98
80)	Isopropylben	12.84	105	507135	11.0472	ug/L		98
81)	cyclohexanone	12.92	55	179423	191.6850	ug/L		100
84)	Bromobenzene	13.25	156	132389	10.7688	ug/L	#	84
85)	1122Tetrclta	13.22	83	200232	9.6493	ug/L		96
86)	123Triclproa	13.28	75	231093	9.0947	ug/L		88
87)	14dichloro2butene	13.30	53	45924	6.2921	ug/L		96
88)	n-Propylbenz	13.43	91	673138	10.8274	ug/L		98
89)	2chlorotolue	13.54	91	380548	10.3128	ug/L		96
90)	4chlorotolue	13.69	91	440387	10.3675	ug/L		99
91)	135Trimebenz	13.69	105	443533	10.6715	ug/L		99
92)	tbutylbenzen	14.15	119	372067	10.9762	ug/L		97
93)	124Trimetben	14.22	105	440911	10.2904	ug/L		98
94)	sbutylbenzen	14.47	105	557777	10.8753	ug/L		99
95)	13Diclorbenz	14.61	146	224917	10.5814	ug/L		99
96)	pIsopropylto	14.69	119	441354	10.7066	ug/L		98
97)	14dichlorobe	14.73	146	234957	10.7629	ug/L		98
98)	12dichlorobe	15.27	146	223740	10.8429	ug/L		96
99)	nButylbenzen	15.28	91	446935	10.8706	ug/L		98
100)	12dibromo3cl	16.36	157	43519	8.6360	ug/L		82
101)	135Trichlorobenzene	16.71	180	167102	11.3978	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.52	180	139719	10.6816	ug/L	95
103) Hexachlorobu	17.78	225	65884	12.1262	ug/L	91
104) Naphthalene	17.82	128	481227	10.7348	ug/L	98
105) 123Trichlben	18.14	180	132136	11.3469	ug/L	90

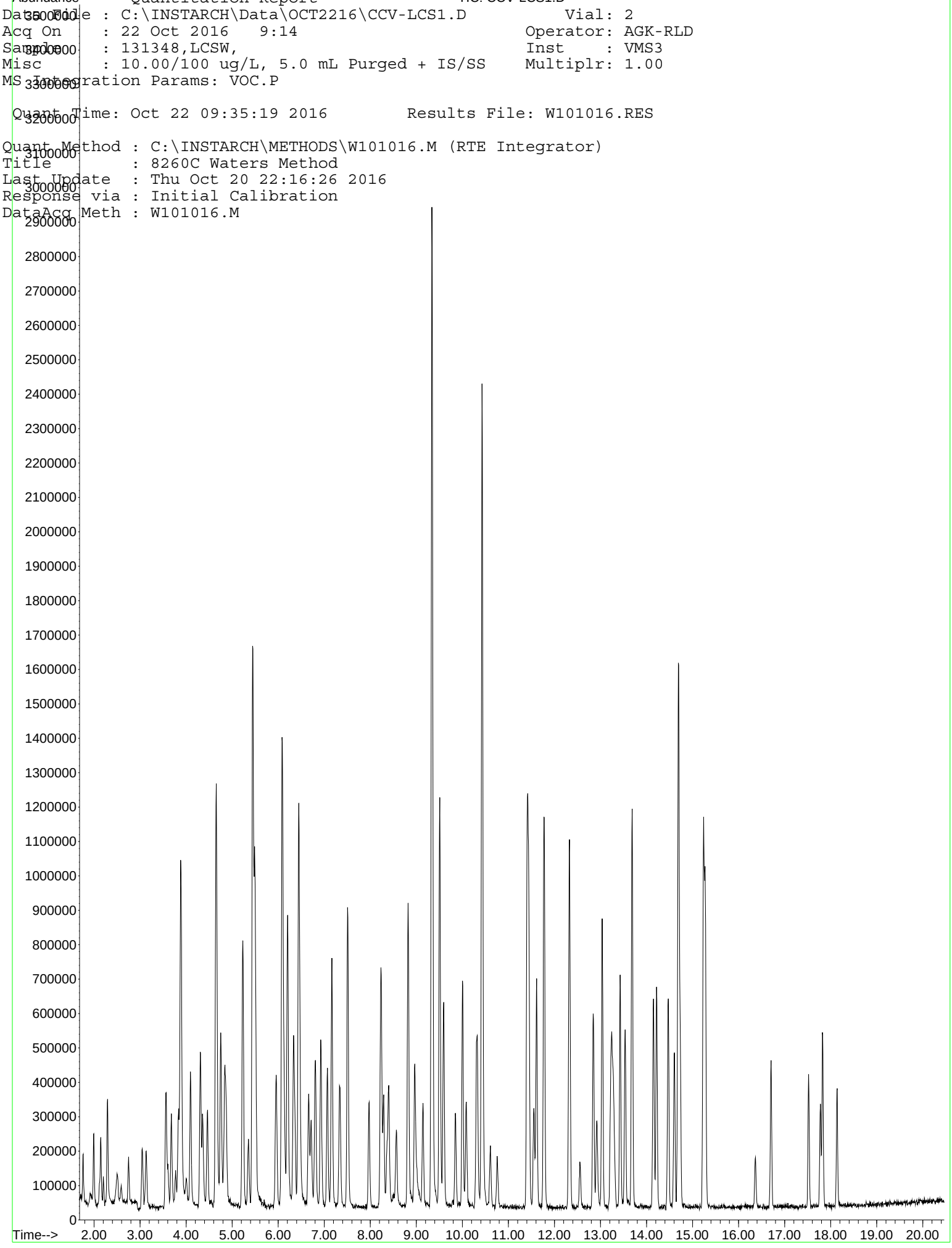
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT2216\CCVF1.D Vial: 23
Acq On : 22 Oct 2016 19:42 Operator: AGK-RLD
Sample : 131348,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 20:03:24 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	69	0.00
2	PT	Dichlorodi	0.2125	0.2072	2.49	63	0.00
3	PT	Chloromethan	0.6020	0.4830	19.77	53	0.00
4	PT	VinylChlorid	0.3970	0.4091	-3.05	70	0.00
5	PT	Bromomethane	0.1011	0.0829#	18.00	57	0.00
6	PT	Chloroethane	0.2550	0.2594	-1.73	70	0.00
7	T	Dichloroflmethane	0.4460	0.4352	2.42	66	0.00
8	PT	Trichlorofma	0.3120	0.3355	-7.53	67	0.00
9	T	Ethylether	0.2546	0.2512	1.34	67	0.00
10	T	dichlorotfluoroethan	0.2692	0.2826	-4.98	74	0.00
11	T	propyleneoxide	0.0780	0.0667	14.49	56	0.00
12	T	Acrolein	0.1221	0.0974	20.23	53	0.00
13	PT	11dichlorthe	0.2129	0.2287	-7.42	74	0.00
14	PT	Trichlorotfluoroeth	0.2021	0.2154	-6.58	70	0.00
15	PT	Acetone	0.2260	0.2126	5.93	58	0.00
16	T	Iodomethane	0.1717	0.1118	34.89	52	0.00
17	PT	Carbon Dislf	0.5893	0.6073	-3.05	67	0.00
18	T	allylchloride	0.3843	0.3959	-3.02	67	0.00
19	PT	methylacetate	0.1499	0.1555	-3.74	73	0.00
20	PT	Methylchlorid	0.2889	0.2366	18.10	61	0.00
21	T	tbutylalcohol	0.0775	0.0912	-17.68	70	0.00
22	T	Acrylonitrile	0.1952	0.2104	-7.79	70	0.00
23	PT	t12dichlorte	0.2398	0.2400	-0.08	69	0.00
24	PT	MtBE	0.7250	0.6840	5.66	65	0.00
25	T	Hexane	0.4338	0.4464	-2.90	67	0.00
26	PT	11dichlorota	0.5012	0.5100	-1.76	69	0.00
27	T	Vinylacetate	0.5764	0.6739	-16.92	87	0.00
28	T	chloroprene	0.5112	0.5625	-10.04	72	0.00
29	T	Diisopether	0.9858	1.1159	-13.20	80	0.00
30	T	ETBE	0.9067	0.9168	-1.11	68	0.00
31	T	22dichloropr	0.3782	0.3203	15.31	59	0.00
32	PT	c12dichlorte	0.2733	0.2711	0.80	72	-0.01
33	PT	2Butanone	0.0666	0.0645#	3.15	62	0.00
34	T	propionitrile	0.0871	0.0930	-6.77	67	0.00
35	T	Ethylacetate	0.0172	0.0152#	11.63	63	0.00
36	T	methacrylonitrile	0.1817	0.1760	3.14	66	0.00
37	T	Bromochlorma	0.0972	0.1002	-3.09	71	0.00
38	T	Tetrahydofur	0.1858	0.2102	-13.13	72	0.00
39	PT	Chloroform	0.4404	0.4364	0.91	71	0.00
40	PT	111trichlota	0.3797	0.3942	-3.82	70	0.00
41	S	SURRDibrflma	0.2438	0.2436	0.08	68	0.01
42	PT	Cyclohexane	0.5563	0.5887	-5.82	70	0.00
43	PT	Carbtetraclo	0.2738	0.2815	-2.81	67	0.00
44	T	11dicloprope	0.1170	0.1211	-3.50	70	0.00
45	S	SURR12DCAd4	0.0666	0.0655	1.65	64	0.00
46	PT	Benzene	0.9962	1.0307	-3.46	70	0.00
47	PT	12dichlorota	0.3906	0.4001	-2.43	70	0.00
48	T	TAME	0.7441	0.6751	9.27	62	0.00

49	PT	trichloroete	0.2527	0.2570	-1.70	67	0.00	
50	PT	methylcyclohexane	0.4208	0.4363	-3.68	69	0.00	
51	PT	12dicloropra	0.3241	0.3328	-2.68	73	0.00	
52	T	23Dicl1propene	0.3997	0.3932	1.63	69	0.00	
53	T	Dibromometha	0.1639	0.1599	2.44	70	0.00	
54	T	methylmethacrylate	0.2791	0.2577	7.67	64	0.00	
55	T	14dioxane	0.0030	0.0034#	-13.33	73	0.00	
56	PT	Bromodiclrma	0.3216	0.3026	5.91	62	0.00	
57	T	2Nitropropane	0.1670	0.1613	3.41	62	0.00	
58	T	2CLEVE	0.0135	0.0000#	100.00#	0#	-8.97#	
59	PT	c13dicloproe	0.4123	0.3761	8.78	64	0.00	
60	PT	4Meth2Pentan	0.4875	0.5640	-15.69	74	0.00	
61	S	SURRd8Tolule	0.9973	1.0422	-4.50	71	0.00	
62	PT	Toluene	0.6170	0.6365	-3.16	69	0.00	
63	PT	t13Dicloprop	0.3669	0.3250	11.42	61	0.00	
64	T	ethylmethacrylate	0.4169	0.4115	1.30	67	0.00	
65	PT	112Triclotha	0.2039	0.2070	-1.52	68	0.00	
66	PT	Tetrachlorte	0.2302	0.2473	-7.43	70	0.00	
67	T	13Diclorpropa	0.4325	0.4332	-0.16	72	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	74	0.00	
69	PT	2Hexanone	0.5631	0.5883	-4.48	71	0.00	
70	PT	Clorodibrmta	0.3125	0.2813	9.98	69	0.00	
71	PT	12Dibrometha	0.3401	0.3240	4.73	71	0.00	
72	PT	Chlorobenzen	0.8726	0.8770	-0.50	72	0.00	
73	T	1Clhexane	0.5075	0.4618	9.00	68	0.00	
74	T	1112Tetclota	0.2952	0.2678	9.28	70	0.00	
75	PT	Ethylbenzene	1.5603	1.5682	-0.51	71	0.00	
76	PT	m p-Xylene	0.5864	0.5836	0.48	72	0.00	
77	PT	o-Xylene	0.5804	0.5756	0.83	72	0.00	
78	PT	Styrene	0.9391	0.9325	0.70	71	0.00	
79	PT	Bromoform	0.2257	0.1877	16.84	65	0.00	
80	PT	Isopropylben	1.3478	1.3295	1.36	71	0.00	
81	T	cyclohexanone	0.0275	0.0270#	1.82	70	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	81	0.00	
83	S	SURR4BrFBenz	1.0294	0.8883	13.71	69	0.00	
84	T	Bromobenzene	0.6898	0.6698	2.90	77	0.00	
85	PT	1122Tetrclta	1.1643	1.0170	12.65	72	0.00	
86	T	123Triclproa	1.4257	1.0622	25.50	59	0.00	
87	T	14dichloro2butene	0.4095	0.1988	51.45#	40#	0.00	
88	T	n-Propylbenz	3.4883	3.2842	5.85	72	0.00	
89	T	2chlorotolue	2.0705	1.8674	9.81	69	0.00	
90	T	4chlorotolue	2.3834	2.1437	10.06	69	0.00	
91	T	135Trimebenz	2.3320	2.1549	7.59	71	0.00	
92	T	tbutylbenzen	1.9020	1.8335	3.60	73	0.00	
93	T	124Trimetben	2.4041	2.1681	9.82	72	0.00	
94	T	sbutylbenzen	2.8778	2.6914	6.48	70	0.00	
95	PT	13Diclorbenz	1.1926	1.1488	3.67	75	0.00	
96	T	pIsopropylto	2.3130	2.2412	3.10	75	0.00	
97	PT	14dichlorobe	1.2249	1.1348	7.36	73	0.00	
98	PT	12dichlorobe	1.1578	1.1096	4.16	77	0.00	
99	T	nButylbenzen	2.3069	2.1593	6.40	72	0.00	
100	PT	12dibromo3cl	0.2827	0.1949	31.06	55	0.00	
101	T	135Trichlorobenzene	0.8226	0.7483	9.03	71	0.00	
102	PT	124Trichlobe	0.7339	0.6848	6.69	75	0.00	
103	T	Hexachlorobu	0.3049	0.3193	-4.72	78	0.00	
104	T	Naphthalene	2.5153	2.2526	10.44	67	0.00	
105	T	123Trichlben	0.6534	0.6273	3.99	75	0.00	

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101016.M Thu Oct 27 15:32:44 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\OCT2216\CCVF1.D Vial: 23
Acq On : 22 Oct 2016 19:42 Operator: AGK-RLD
Sample : 131348,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 20:03:24 2016

Quant Method : C:\INSTARCH\METHODS\W101016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	69	0.00
2	PT	Dichlorodi	10.0000	9.7527	2.47	63	0.00
3	PT	Chloromethan	10.0000	8.0230	19.77	53	0.00
4	PT	VinylChlorid	10.0000	10.3061	-3.06	70	0.00
5	PT	Bromomethane	10.0000	8.1988	18.01	57	0.00
6	PT	Chloroethane	10.0000	10.1730	-1.73	70	0.00
7	T	Dichloroflmethane	10.0000	9.7591	2.41	66	0.00
8	PT	Trichlorofma	10.0000	10.7532	-7.53	67	0.00
9	T	Ethylether	10.0000	9.8640	1.36	67	0.00
10	T	dichlorotfluoroethan	10.0000	10.4953	-4.95	74	0.00
11	T	propyleneoxide	100.0000	85.5289	14.47	56	0.00
12	T	Acrolein	50.0000	39.8985	20.20	53	0.00
13	PT	11dichlorthe	10.0000	10.7446	-7.45	74	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.3095	-6.55	70	0.00
15	PT	Acetone	100.0000	94.0737	5.93	58	0.00
16	T	Iodomethane	20.0000	14.1184	29.41	52	0.00
17	PT	Carbon Dislf	20.0000	20.6096	-3.05	67	0.00
18	T	allylchloride	20.0000	20.6037	-3.02	67	0.00
19	PT	methylacetate	10.0000	10.3723	-3.72	73	0.00
20	PT	Methylchlorid	10.0000	8.8196	11.80	61	0.00
21	T	tbutylalcohol	500.0000	584.7350	-16.95	70	0.00
22	T	Acrylonitrile	50.0000	53.9060	-7.81	70	0.00
23	PT	t12dichlorte	10.0000	10.0104	-0.10	69	0.00
24	PT	MtBE	10.0000	9.4351	5.65	65	0.00
25	T	Hexane	20.0000	20.5781	-2.89	67	0.00
26	PT	11dichlorota	10.0000	10.1744	-1.74	69	0.00
27	T	Vinylacetate	100.0000	122.4405	-22.44	87	0.00
28	T	chloroprene	20.0000	22.0062	-10.03	72	0.00
29	T	Diisopether	10.0000	11.3188	-13.19	80	0.00
30	T	ETBE	10.0000	10.1120	-1.12	68	0.00
31	T	22dichloropr	10.0000	8.4706	15.29	59	0.00
32	PT	c12dichlorte	10.0000	9.9183	0.82	72	-0.01
33	PT	2Butanone	100.0000	96.7953	3.20	62	0.00
34	T	propionitrile	100.0000	106.8152	-6.82	67	0.00
35	T	Ethylacetate	50.0000	44.1156	11.77	63	0.00
36	T	methacrylonitrile	20.0000	19.3678	3.16	66	0.00
37	T	Bromochlorma	10.0000	10.3086	-3.09	71	0.00
38	T	Tetrahydofur	100.0000	113.1423	-13.14	72	0.00
39	PT	Chloroform	10.0000	9.9101	0.90	71	0.00
40	PT	111trichlota	10.0000	10.3819	-3.82	70	0.00
41	S	SURRDibrflma	20.0000	19.9821	0.09	68	0.01
42	PT	Cyclohexane	10.0000	10.5834	-5.83	70	0.00
43	PT	Carbtetraclo	10.0000	10.2800	-2.80	67	0.00
44	T	11dicloprope	10.0000	10.3427	-3.43	70	0.00
45	S	SURR12DCAd4	20.0000	19.6691	1.65	64	0.00
46	PT	Benzene	10.0000	10.3466	-3.47	70	0.00
47	PT	12dichlorota	10.0000	10.2449	-2.45	70	0.00
48	T	TAME	10.0000	9.0721	9.28	62	0.00

49	PT	trichloroete	10.0000	10.1703	-1.70	67	0.00
50	PT	methylcyclohexane	10.0000	10.3673	-3.67	69	0.00
51	PT	12dicloropra	10.0000	10.2707	-2.71	73	0.00
52	T	23Dicl1propene	10.0000	9.8373	1.63	69	0.00
53	T	Dibromometha	10.0000	9.7559	2.44	70	0.00
54	T	methylmethacrylate	10.0000	9.2342	7.66	64	0.00
55	T	14dioxane	500.0000	569.9959	-14.00	73	0.00
56	PT	Bromodiclrma	10.0000	9.4098	5.90	62	0.00
57	T	2Nitropropane	100.0000	96.6349	3.37	62	0.00
58	T	2CLEVE	50.0000	0.0000	100.00#	0	-8.97#
59	PT	c13dicloproe	10.0000	9.1212	8.79	64	0.00
60	PT	4Meth2Pentan	100.0000	114.6294	-14.63	74	0.00
61	S	SURRd8Tolule	20.0000	20.9011	-4.51	71	0.00
62	PT	Toluene	10.0000	10.3149	-3.15	69	0.00
63	PT	t13Dicloprop	10.0000	8.8575	11.43	61	0.00
64	T	ethylmethacrylate	20.0000	19.7390	1.30	67	0.00
65	PT	112Triclotha	10.0000	10.1516	-1.52	68	0.00
66	PT	Tetrachlorte	10.0000	10.7447	-7.45	70	0.00
67	T	13Diclorpropa	10.0000	10.0165	-0.17	72	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	74	0.00
69	PT	2Hexanone	100.0000	98.2565	1.74	71	0.00
70	PT	Clorodibrmta	10.0000	9.0026	9.97	69	0.00
71	PT	12Dibrometha	10.0000	9.5287	4.71	71	0.00
72	PT	Chlorobenzen	10.0000	10.0503	-0.50	72	0.00
73	T	1Clhexane	10.0000	9.0986	9.01	68	0.00
74	T	1112Tetclota	10.0000	9.0711	9.29	70	0.00
75	PT	Ethylbenzene	10.0000	10.0506	-0.51	71	0.00
76	PT	m p-Xylene	20.0000	19.9024	0.49	72	0.00
77	PT	o-Xylene	10.0000	9.9170	0.83	72	0.00
78	PT	Styrene	10.0000	9.9291	0.71	71	0.00
79	PT	Bromoform	10.0000	8.3154	16.85	65	0.00
80	PT	Isopropylben	10.0000	9.8639	1.36	71	0.00
81	T	cyclohexanone	200.0000	196.2885	1.86	70	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	81	0.00
83	S	SURR4BrFBenz	20.0000	17.2593	13.70	69	0.00
84	T	Bromobenzene	10.0000	9.7098	2.90	77	0.00
85	PT	1122Tetrclta	10.0000	8.7351	12.65	72	0.00
86	T	123Triclproa	10.0000	7.4501	25.50	59	0.00
87	T	14dichloro2butene	10.0000	4.8547	51.45#	40	0.00
88	T	n-Propylbenz	10.0000	9.4149	5.85	72	0.00
89	T	2chlorotolue	10.0000	9.0190	9.81	69	0.00
90	T	4chlorotolue	10.0000	8.9942	10.06	69	0.00
91	T	135Trimebenz	10.0000	9.2405	7.59	71	0.00
92	T	tbutylbenzen	10.0000	9.6400	3.60	73	0.00
93	T	124Trimetben	10.0000	9.0185	9.82	72	0.00
94	T	sbutylbenzen	10.0000	9.3522	6.48	70	0.00
95	PT	13Diclorbenz	10.0000	9.6324	3.68	75	0.00
96	T	pIsopropylto	10.0000	9.6898	3.10	75	0.00
97	PT	14dichlorobe	10.0000	9.2648	7.35	73	0.00
98	PT	12dichlorobe	10.0000	9.5838	4.16	77	0.00
99	T	nButylbenzen	10.0000	9.3604	6.40	72	0.00
100	PT	12dibromo3cl	10.0000	6.8945	31.06	55	0.00
101	T	135Trichlorobenzene	10.0000	9.0966	9.03	71	0.00
102	PT	124Trichlobe	10.0000	9.3305	6.69	75	0.00
103	T	Hexachlorobu	10.0000	10.4733	-4.73	78	0.00
104	T	Naphthalene	10.0000	8.9554	10.45	67	0.00
105	T	123Trichlben	10.0000	9.6006	3.99	75	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101016.M Thu Oct 27 15:32:32 2016

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCVF1.D Vial: 23
Acq On : 22 Oct 2016 19:42 Operator: AGK-RLD
Sample : 131348,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:03:24 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	908926	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	713019	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	385249	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.67	113	221417	19.982	ug/L	0.01
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.07	102	59526	19.669	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.51	98	947305	20.901	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105 %			
83) SURR4BrFBenz	13.04	95	342221	17.259	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 86 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	94163	9.7527	ug/L	93
3) Chloromethan	2.00	50	219490	8.0230	ug/L	96
4) VinylChlorid	2.15	62	185937	10.3061	ug/L	88
5) Bromomethane	2.59	94	37677	8.1988	ug/L	79
6) Chloroethane	2.75	64	117909	10.1730	ug/L	93
7) Dichloroflmethane	3.05	67	197804	9.7591	ug/L	98
8) Trichlorofma	3.13	101	152484	10.7532	ug/L	93
9) Ethylether	3.55	59	114146	9.8640	ug/L	93
10) dichlorotfluoroethan	3.57	67	128423	10.4953	ug/L	95
11) propyleneoxide	3.89	58	303036	85.5289	ug/L	96
12) Acrolein	3.68	56	221406	39.8985	ug/L	97
13) 11dichlorthe	3.83	96	103954	10.7446	ug/L	95
14) Trichlorotfluoroeth	3.87	101	195751	21.3095	ug/L	99
15) Acetone	3.89	43	966053	94.0737	ug/L	99
16) Iodomethane	4.00	142	101575	14.1184	ug/L	98
17) Carbon Dislf	4.09	76	551998	20.6096	ug/L	100
18) allylchloride	4.31	41	359826	20.6037	ug/L	97
19) methylacetate	4.36	74	70650	10.3723	ug/L	100
20) Methylchlorid	4.46	84	107540	8.8196	ug/L #	85
21) tbutylalcohol	4.65	59	2073230	584.7350	ug/L	100
22) Acrylonitrile	4.76	53	478133	53.9060	ug/L	99
23) t12dichlorte	4.84	96	109076	10.0104	ug/L	98
24) MtBE	4.86	73	310853	9.4351	ug/L	95
25) Hexane	5.23	57	405715	20.5781	ug/L	97
26) 11dichlorota	5.35	63	231757	10.1744	ug/L	95
27) Vinylacetate	5.44	43	3062427	122.4405	ug/L	99
28) chloroprene	5.48	53	511235	22.0062	ug/L	95
29) Diisopether	5.51	45	507115	11.3188	ug/L	93
30) ETBE	5.96	59	416660	10.1120	ug/L	97
31) 22dichloropr	6.08	77	145578	8.4706	ug/L	100
32) c12dichlorte	6.07	96	123200	9.9183	ug/L	100
33) 2Butanone	6.10	72	293059	96.7953	ug/L	94
34) propionitrile	6.13	54	422677	106.8152	ug/L	96
35) Ethylacetate	6.21	88	34584	44.1156	ug/L #	89
36) methacrylonitrile	6.33	67	159957	19.3678	ug/L	93
37) Bromochlorma	6.36	128	45537	10.3086	ug/L #	71
38) Tetrahydofur	6.45	42	955279	113.1423	ug/L	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCVF1.D Vial: 23
Acq On : 22 Oct 2016 19:42 Operator: AGK-RLD
Sample : 131348,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:03:24 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	198327	9.9101	ug/L		92
40)	111trichlota	6.71	97	179136	10.3819	ug/L		97
42)	Cyclohexane	6.81	56	267565	10.5834	ug/L		98
43)	Carbtetraclo	6.94	119	127934	10.2800	ug/L		97
44)	11dicloprope	6.92	110	55017	10.3427	ug/L		93
46)	Benzene	7.17	78	468420	10.3466	ug/L		95
47)	12dichlorota	7.17	62	181843	10.2449	ug/L		99
48)	TAME	7.34	73	306792	9.0721	ug/L		97
49)	trichloroete	7.98	95	116803	10.1703	ug/L		98
50)	methylcyclohexane	8.24	83	198270	10.3673	ug/L		98
51)	12dicloropra	8.23	63	151256	10.2707	ug/L		93
52)	23Dicl1propene	8.29	75	178712	9.8373	ug/L		96
53)	Dibromometha	8.36	93	72664	9.7559	ug/L		98
54)	methylmethacrylate	8.40	69	117110	9.2342	ug/L		95
55)	14dioxane	8.41	88	78053	569.9959	ug/L		97
56)	Bromodiclrma	8.57	83	137513	9.4098	ug/L		94
57)	2Nitropropane	8.82	43	733197	96.6349	ug/L		96
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.14	75	170910	9.1212	ug/L		98
60)	4Meth2Pentan	9.34	43	2563335	114.6294	ug/L		95
62)	Toluene	9.59	92	289254	10.3149	ug/L		100
63)	t13Dicloprop	9.85	75	147692	8.8575	ug/L		98
64)	ethylmethacrylate	10.00	69	374018	19.7390	ug/L		96
65)	112Triclotha	10.08	83	94079	10.1516	ug/L		96
66)	Tetrachlorte	10.32	166	112401	10.7447	ug/L		96
67)	13Diclorpropa	10.31	76	196860	10.0165	ug/L		95
69)	2Hexanone	10.43	43	2097305	98.2565	ug/L		97
70)	Clorodibrmta	10.60	129	100285	9.0026	ug/L		99
71)	12Dibrometha	10.76	107	115526	9.5287	ug/L		98
72)	Chlorobenzen	11.45	112	312668	10.0503	ug/L		93
73)	1Clhexane	11.43	91	164619	9.0986	ug/L		95
74)	1112Tetclota	11.55	131	95479	9.0711	ug/L		97
75)	Ethylbenzene	11.61	91	559087	10.0506	ug/L		98
76)	m p-Xylene	11.78	106	416107	19.9024	ug/L		95
77)	o-Xylene	12.31	106	205200	9.9170	ug/L		94
78)	Styrene	12.34	104	332442	9.9291	ug/L		93
79)	Bromoform	12.55	173	66914	8.3154	ug/L		96
80)	Isopropylben	12.84	105	473976	9.8639	ug/L		100
81)	cyclohexanone	12.92	55	192319	196.2885	ug/L		97
84)	Bromobenzene	13.25	156	129015	9.7098	ug/L	#	83
85)	1122Tetrclta	13.22	83	195906	8.7351	ug/L		98
86)	123Triclproa	13.27	75	204601	7.4501	ug/L		86
87)	14dichloro2butene	13.30	53	38296	4.8547	ug/L		85
88)	n-Propylbenz	13.43	91	632619	9.4149	ug/L		100
89)	2chlorotolue	13.54	91	359699	9.0190	ug/L		97
90)	4chlorotolue	13.69	91	412925	8.9942	ug/L		98
91)	135Trimebenz	13.69	105	415089	9.2405	ug/L		98
92)	tbutylbenzen	14.15	119	353177	9.6400	ug/L		99
93)	124Trimetben	14.22	105	417637	9.0185	ug/L		97
94)	sbutylbenzen	14.47	105	518421	9.3522	ug/L		98
95)	13Diclorbenz	14.61	146	221289	9.6324	ug/L		96
96)	pIsopropylto	14.69	119	431711	9.6898	ug/L		97
97)	14dichlorobe	14.73	146	218596	9.2648	ug/L		96
98)	12dichlorobe	15.26	146	213737	9.5838	ug/L		96
99)	nButylbenzen	15.28	91	415940	9.3604	ug/L		99
100)	12dibromo3cl	16.36	157	37550	6.8945	ug/L		79
101)	135Trichlorobenzene	16.71	180	144140	9.0966	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCVF1.D Vial: 23
Acq On : 22 Oct 2016 19:42 Operator: AGK-RLD
Sample : 131348,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:03:24 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

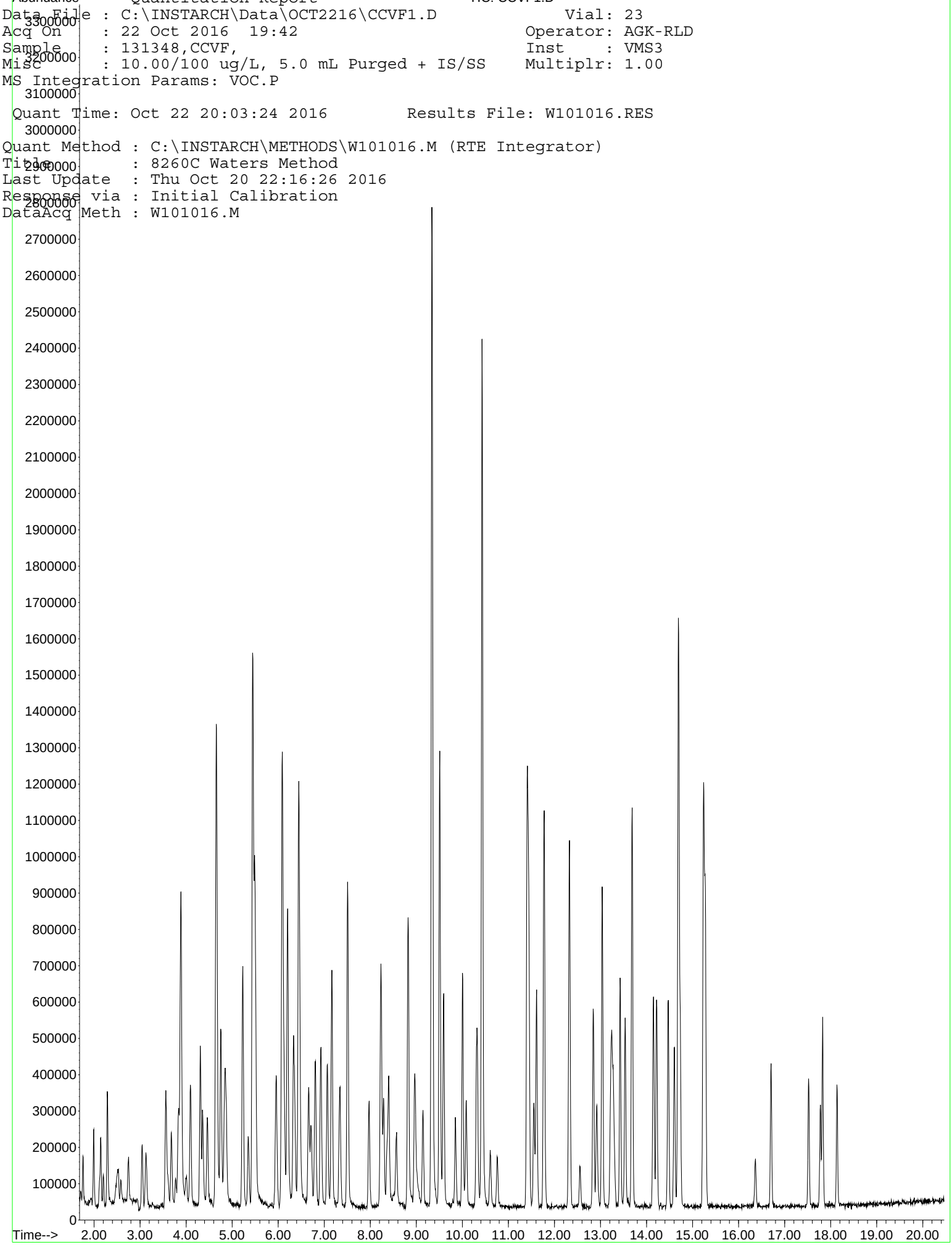
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.52	180	131907	9.3305	ug/L	98
103) Hexachlorobu	17.78	225	61501	10.4733	ug/L	97
104) Naphthalene	17.82	128	433898	8.9554	ug/L	100
105) 123Trichlben	18.14	180	120834	9.6006	ug/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\Data\OCT2216\CCVF1.D Vial: 23
Acq On : 22 Oct 2016 19:42 Operator: AGK-RLD
Sample : 131348,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:03:24 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\102416.seq
User : AMA
Printed : Oct 26, 2016 08:44:28

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\102416\001.dat	131728,CCV,	Oct 26, 2016 08:44:28

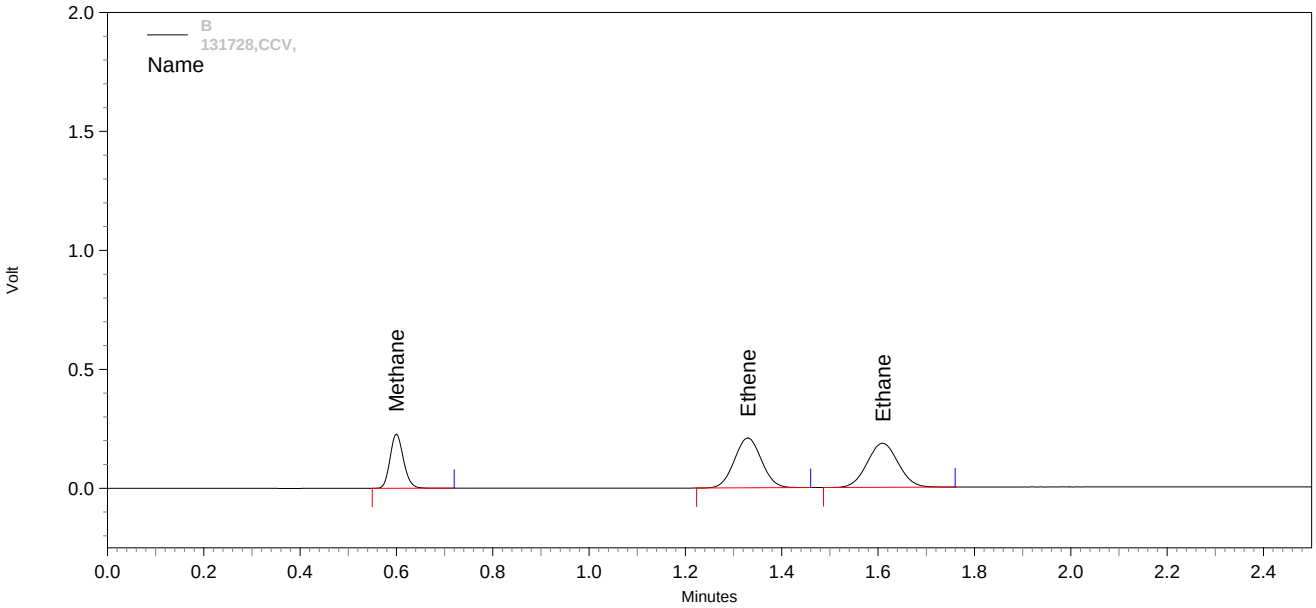
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	49.402	1.195	15.000	**Passed**
Ethene	50.000	49.739	0.521	15.000	**Passed**
Ethane	50.000	49.126	1.748	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131728,CCV,
Acquired: Oct 24, 2016 12:49:35
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	441342	**49.402**
2	Ethene	1.330	820350	**49.739**
3	Ethane	1.610	829597	**49.126**

Totals			2091289	**148.267**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\102416.seq
User : AMA
Printed : Oct 26, 2016 08:45:19

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\102416\016.dat	131728,CCV,	Oct 26, 2016 08:45:19

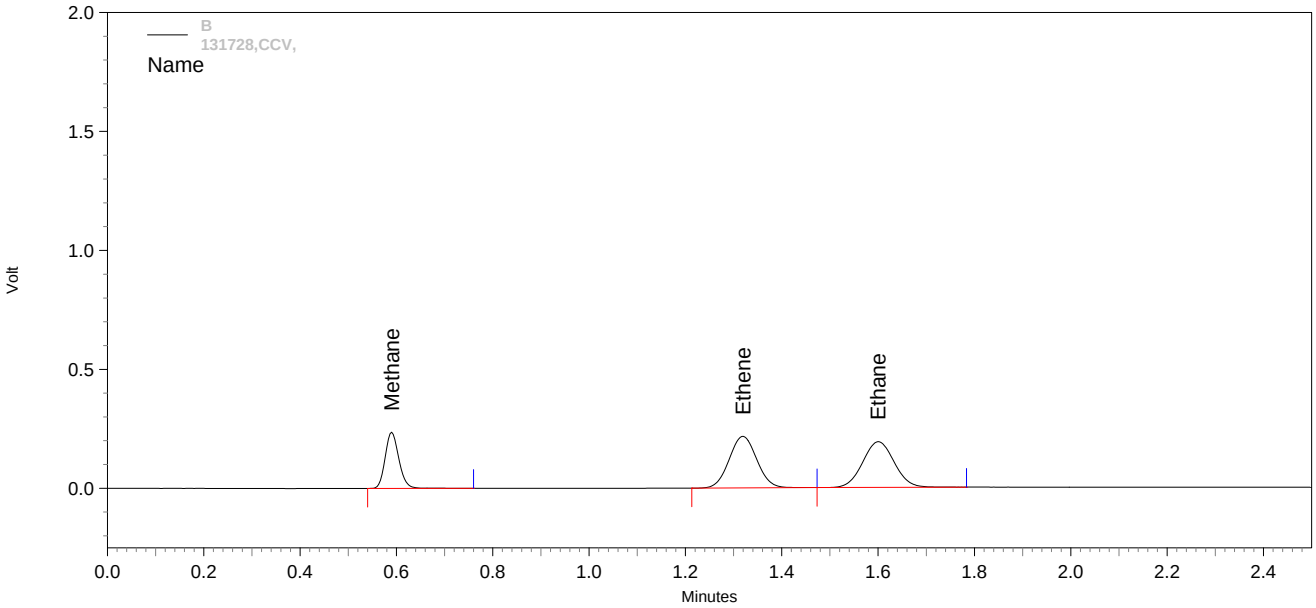
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	52.035	4.070	15.000	**Passed**
Ethene	50.000	52.230	4.460	15.000	**Passed**
Ethane	50.000	51.563	3.127	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131728,CCV,
Acquired: Oct 24, 2016 14:12:08
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	464818	**52.035**
2	Ethene	1.320	861592	**52.230**
3	Ethane	1.600	871267	**51.563**

Totals			2197677	**155.828**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\102416.seq
User : AMA
Printed : Oct 26, 2016 08:45:54

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\102416\027.dat	131729,CCV,	Oct 26, 2016 08:45:54

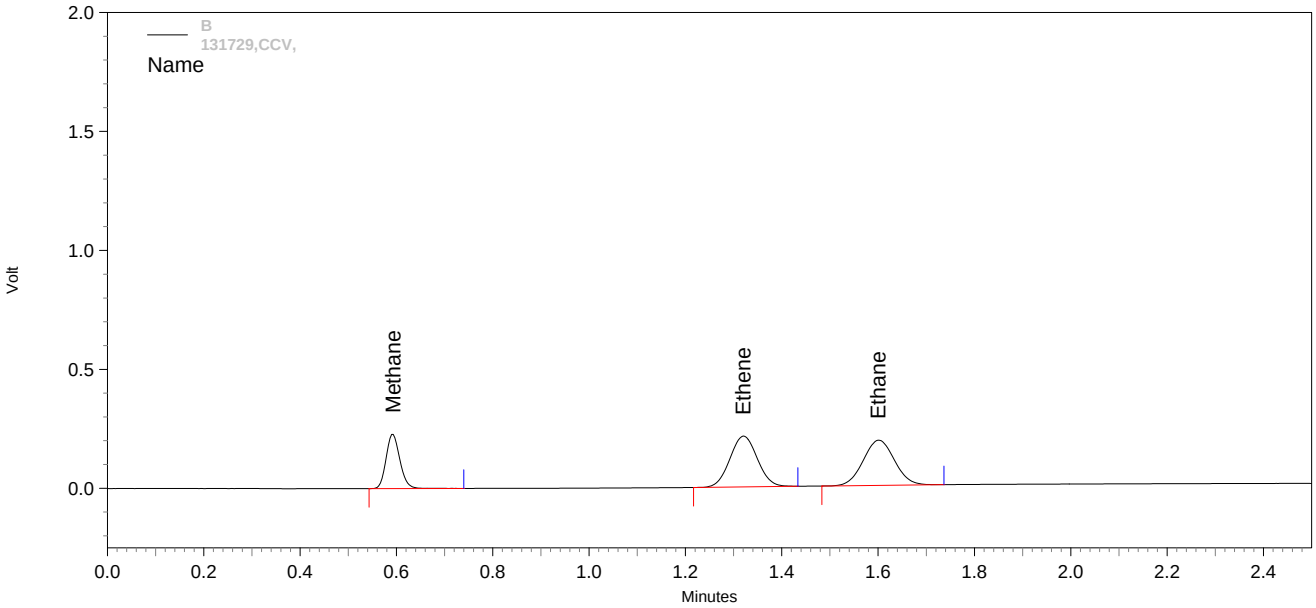
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.690	1.379	15.000	**Passed**
Ethene	50.000	51.154	2.307	15.000	**Passed**
Ethane	50.000	50.615	1.230	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\027.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,CCV,
Acquired: Oct 24, 2016 14:58:39
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	452821	**50.690**
2	Ethene	1.320	843770	**51.154**
3	Ethane	1.600	855059	**50.615**

Totals			2151650	**152.458**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	894934	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	681183	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	356448	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	218064	19.987	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.06	102	57636	19.342	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.51	98	892427	19.998	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.04	95	323109	17.612	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	107322	11.2894	ug/L	98
3) Chloromethan	2.00	50	226150	8.3956	ug/L	99
4) VinylChlorid	2.15	62	195595	11.0109	ug/L	95
5) Bromomethane	2.59	94	39016	8.6229	ug/L	86
6) Chloroethane	2.75	64	118391	10.3743	ug/L	100
7) Dichloroflmethane	3.05	67	206646	10.3547	ug/L	97
8) Trichlorofma	3.13	101	163477	11.7087	ug/L	98
9) Ethylether	3.56	59	118380	10.3898	ug/L	94
10) dichlorotfluoroethan	3.56	67	129769	10.7711	ug/L	97
11) propyleneoxide	3.89	58	366316	105.0055	ug/L	99
12) Acrolein	3.68	56	290700	53.2046	ug/L	100
13) 11dichlorthe	3.83	96	107297	11.2636	ug/L	97
14) Trichlorotfluoroeth	3.88	101	204256	22.5830	ug/L	95
15) Acetone	3.89	43	1146673	113.4081	ug/L	100
16) Iodomethane	4.00	142	105815	14.9374	ug/L	92
17) Carbon Dislf	4.09	76	591945	22.4467	ug/L	97
18) allylchloride	4.31	41	390001	22.6807	ug/L	97
19) methylacetate	4.36	74	70340	10.4883	ug/L	85
20) Methylchlorid	4.47	84	119150	10.0145	ug/L	90
21) tbutylalcohol	4.65	59	1927913	546.0427	ug/L	99
22) Acrylonitrile	4.75	53	495358	56.7212	ug/L	99
23) t12dichlorte	4.84	96	115990	10.8114	ug/L	99
24) MtBE	4.87	73	335166	10.3321	ug/L	96
25) Hexane	5.23	57	483471	24.9053	ug/L	99
26) 11dichlorota	5.36	63	246487	10.9902	ug/L	99
27) Vinylacetate	5.44	43	3282378	135.6198	ug/L	98
28) chloroprene	5.48	53	541440	23.6708	ug/L	97
29) Diisopether	5.51	45	531349	12.0451	ug/L	97
30) ETBE	5.96	59	460126	11.3414	ug/L	98
31) 22dichloropr	6.09	77	190542	11.2603	ug/L	99
32) c12dichlorte	6.08	96	128107	10.4745	ug/L	94
33) 2Butanone	6.09	72	297665	99.8537	ug/L	93
34) propionitrile	6.13	54	439494	112.8015	ug/L	98
35) Ethylacetate	6.21	88	40795	52.8520	ug/L #	89
36) methacrylonitrile	6.33	67	170221	20.9328	ug/L	94
37) Bromochlorma	6.37	128	51924	11.9382	ug/L	93
38) Tetrahydofur	6.45	42	961141	115.6164	ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	205728	10.4406	ug/L		98
40)	111trichlota	6.71	97	178359	10.4985	ug/L		94
42)	Cyclohexane	6.81	56	287975	11.5688	ug/L		97
43)	Carbtetraclo	6.93	119	139026	11.3459	ug/L		99
44)	11dicloprope	6.93	110	53387	10.1932	ug/L	#	86
46)	Benzene	7.17	78	503491	11.2951	ug/L		97
47)	12dichlorota	7.17	62	191647	10.9661	ug/L		97
48)	TAME	7.34	73	335774	10.0844	ug/L		96
49)	trichloroete	7.98	95	118828	10.5084	ug/L		97
50)	methylcyclohexane	8.24	83	211707	11.2430	ug/L		99
51)	12dicloropra	8.22	63	156138	10.7680	ug/L		95
52)	23Dicl1propene	8.29	75	192484	10.7610	ug/L		96
53)	Dibromometha	8.36	93	83736	11.4182	ug/L		94
54)	methylmethacrylate	8.40	69	118277	9.4721	ug/L		99
55)	14dioxane	8.40	88	68590	508.7220	ug/L		98
56)	Bromodiclrma	8.57	83	158025	10.9825	ug/L		96
57)	2Nitropropane	8.82	43	776303	103.9160	ug/L		98
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.14	75	196642	10.6586	ug/L		100
60)	4Meth2Pentan	9.34	43	2644031	121.2885	ug/L		96
62)	Toluene	9.59	92	304096	11.0137	ug/L		99
63)	t13Dicloprop	9.86	75	172100	10.4827	ug/L		97
64)	ethylmethacrylate	10.00	69	400743	21.4801	ug/L		95
65)	112Triclotha	10.09	83	92372	10.1232	ug/L		87
66)	Tetrachlorte	10.33	166	122900	11.9320	ug/L		95
67)	13Diclorpropa	10.31	76	203642	10.5236	ug/L		96
69)	2Hexanone	10.43	43	2173654	108.0939	ug/L		98
70)	Clorodibrmta	10.61	129	103969	9.7695	ug/L		97
71)	12Dibrometha	10.76	107	116300	10.0408	ug/L		94
72)	Chlorobenzen	11.45	112	328086	11.0387	ug/L		95
73)	1Clhexane	11.43	91	177677	10.2793	ug/L		92
74)	1112Tetclota	11.55	131	103552	10.2979	ug/L		97
75)	Ethylbenzene	11.61	91	582545	10.9617	ug/L		98
76)	m p-Xylene	11.78	106	436522	21.8547	ug/L		96
77)	o-Xylene	12.32	106	211100	10.6789	ug/L		96
78)	Styrene	12.33	104	349401	10.9234	ug/L		93
79)	Bromoform	12.56	173	76450	9.9445	ug/L		98
80)	Isopropylben	12.84	105	507135	11.0472	ug/L		98
81)	cyclohexanone	12.92	55	179423	191.6850	ug/L		100
84)	Bromobenzene	13.25	156	132389	10.7688	ug/L	#	84
85)	1122Tetrclta	13.22	83	200232	9.6493	ug/L		96
86)	123Triclproa	13.28	75	231093	9.0947	ug/L		88
87)	14dichloro2butene	13.30	53	45924	6.2921	ug/L		96
88)	n-Propylbenz	13.43	91	673138	10.8274	ug/L		98
89)	2chlorotolue	13.54	91	380548	10.3128	ug/L		96
90)	4chlorotolue	13.69	91	440387	10.3675	ug/L		99
91)	135Trimebenz	13.69	105	443533	10.6715	ug/L		99
92)	tbutylbenzen	14.15	119	372067	10.9762	ug/L		97
93)	124Trimetben	14.22	105	440911	10.2904	ug/L		98
94)	sbutylbenzen	14.47	105	557777	10.8753	ug/L		99
95)	13Diclorbenz	14.61	146	224917	10.5814	ug/L		99
96)	pIsopropylto	14.69	119	441354	10.7066	ug/L		98
97)	14dichlorobe	14.73	146	234957	10.7629	ug/L		98
98)	12dichlorobe	15.27	146	223740	10.8429	ug/L		96
99)	nButylbenzen	15.28	91	446935	10.8706	ug/L		98
100)	12dibromo3cl	16.36	157	43519	8.6360	ug/L		82
101)	135Trichlorobenzene	16.71	180	167102	11.3978	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.52	180	139719	10.6816	ug/L	95
103) Hexachlorobu	17.78	225	65884	12.1262	ug/L	91
104) Naphthalene	17.82	128	481227	10.7348	ug/L	98
105) 123Trichlben	18.14	180	132136	11.3469	ug/L	90

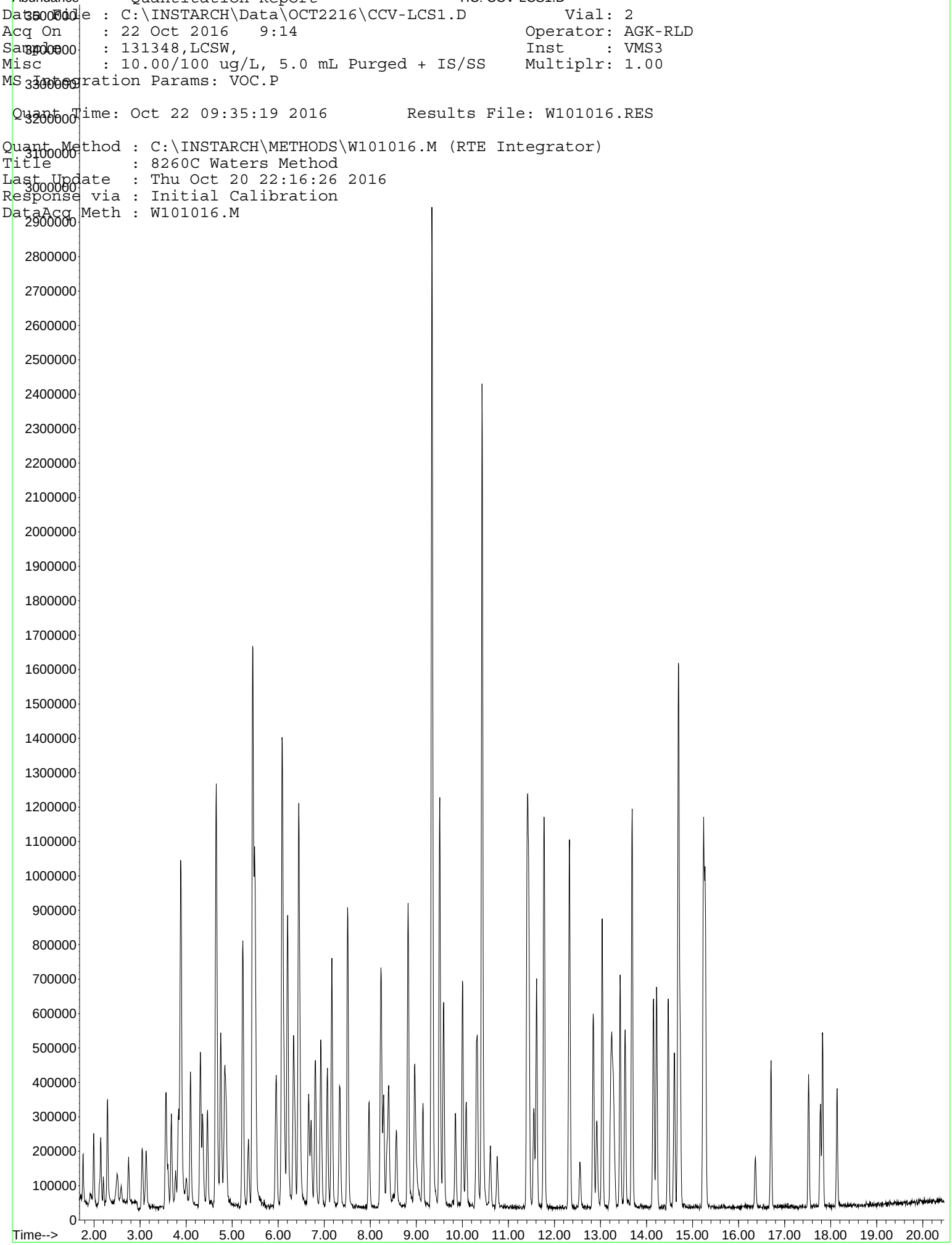
(#) = qualifier out of range (m) = manual integration

Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\OCT2216\CCV-LCS1.D Vial: 2
Acq On : 22 Oct 2016 9:14 Operator: AGK-RLD
Sample : 131348,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 09:35:19 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\MB1.D Vial: 4
Acq On : 22 Oct 2016 10:14 Operator: AGK-RLD
Sample : 131348,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 10:35:11 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	852418	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	653415	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	331765	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	201871	19.426	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.06	102	54722	19.280	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.51	98	849401	19.983	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.04	95	302194	17.698	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	13237	0.5159	ug/L	77
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	5765	1.3377	ug/L #	8
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.90	58	4255	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.89	43	15208	N.D.		
16) Iodomethane	4.00	142	13873	2.0266	ug/L #	90
17) Carbon Dislf	4.11	76	6675	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.65	59	12509	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.45	42	3503	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\MB1.D Vial: 4
Acq On : 22 Oct 2016 10:14 Operator: AGK-RLD
Sample : 131348,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 10:35:11 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.41	88	2947	22.9476 ug/L #	78
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.34	43	4735	Below Cal #	38
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.43	43	5237	Below Cal #	84
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	12.93	55	6284	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\OCT2216\MB1.D Vial: 4
Acq On : 22 Oct 2016 10:14 Operator: AGK-RLD
Sample : 131348,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 10:35:11 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.83	128	4578	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

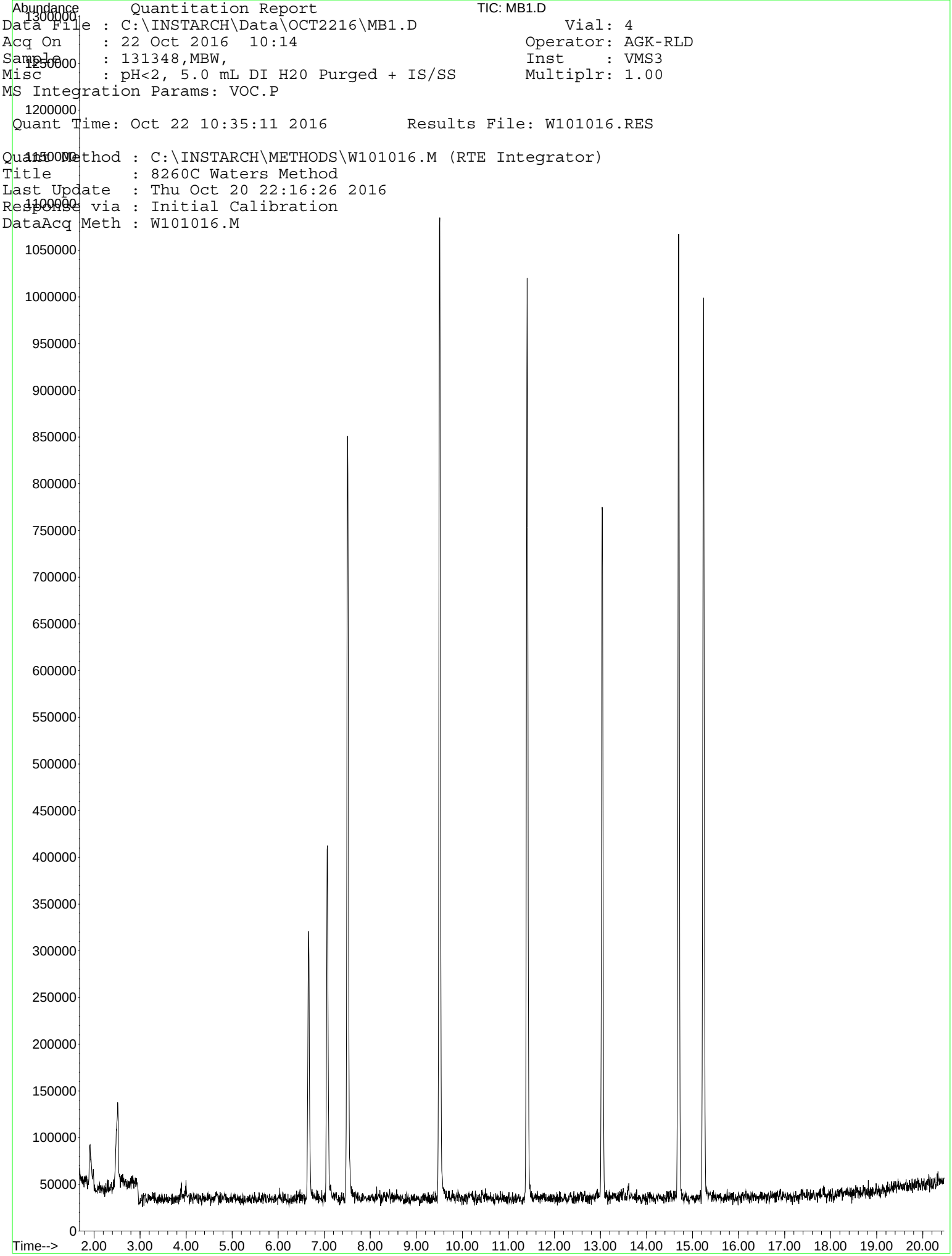
(#) = qualifier out of range (m) = manual integration

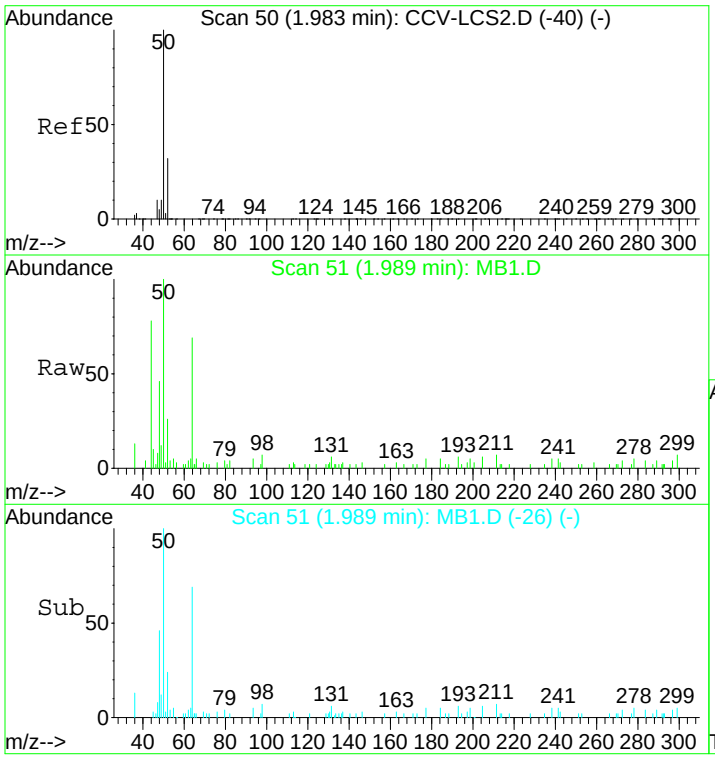
Quantitation Report (TIC: MB1.D)

Data File : C:\INSTARCH\Data\OCT2216\MB1.D Vial: 4
Acq On : 22 Oct 2016 10:14 Operator: AGK-RLD
Sample : 131348,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 10:35:11 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

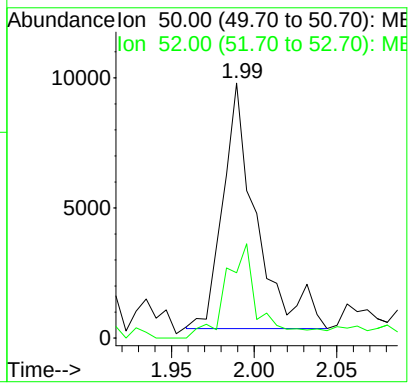


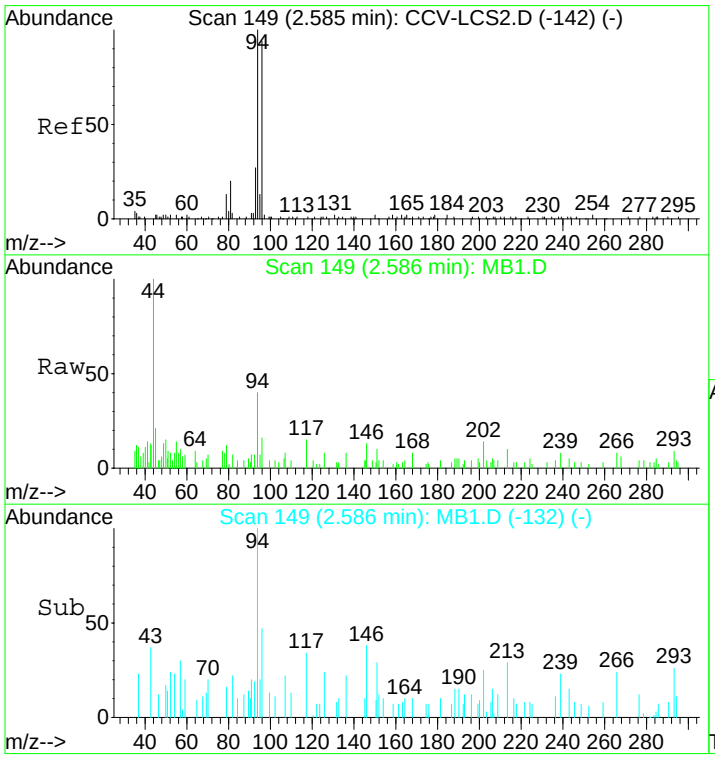


#3
Chloromethan
Concen: 0.52 ug/L
RT: 1.99 min Scan# 51
Delta R.T. 0.00 min
Lab File: MB1.D
Acq: 22 Oct 2016 10:14

Tgt Ion: 50 Resp: 13237

Ion	Ratio	Lower	Upper
50	100		
52	47.3	14.1	54.1

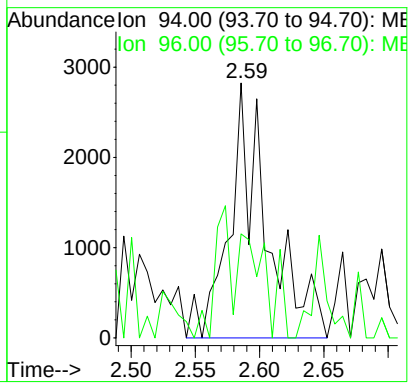


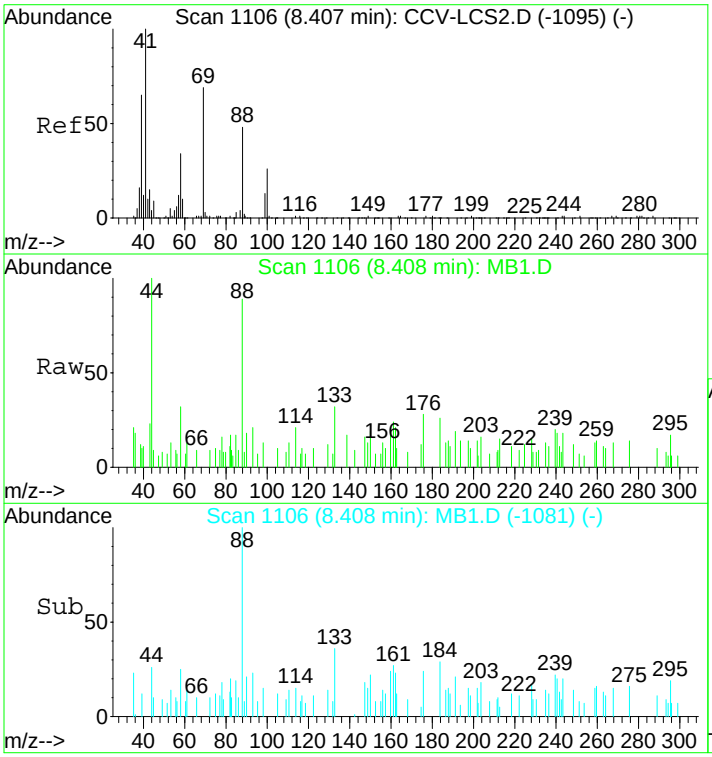


#5
Bromomethane
Concen: 1.34 ug/L
RT: 2.59 min Scan# 149
Delta R.T. 0.00 min
Lab File: MB1.D
Acq: 22 Oct 2016 10:14

Tgt Ion: 94 Resp: 5765

Ion	Ratio	Lower	Upper
94	100		
96	0.0	62.3	102.3#

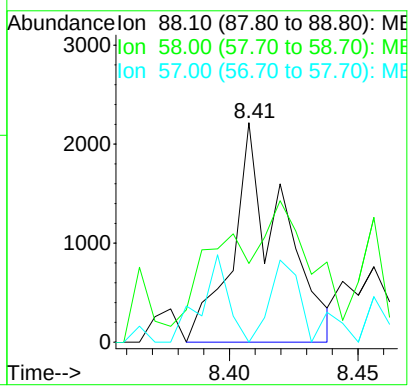




#55
14dioxane
Concen: 22.95 ug/L
RT: 8.41 min Scan# 1106
Delta R.T. 0.00 min
Lab File: MB1.D
Acq: 22 Oct 2016 10:14

Tgt Ion: 88 Resp: 2947

Ion	Ratio	Lower	Upper
88	100		
58	94.7	65.5	105.5
57	0.0	11.0	51.0#



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721MS.D Vial: 21
Acq On : 22 Oct 2016 18:42 Operator: AGK-RLD
Sample : 131348,MSW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	893167	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	694283	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	365772	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	220336	20.235	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.07	102	59840	20.122	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.51	98	922545	20.714	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
83) SURR4BrFBenz	13.04	95	330579	17.560	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	101850	10.7349	ug/L	92
3) Chloromethan	1.99	50	214678	7.9855	ug/L	96
4) VinylChlorid	2.15	62	189158	10.6696	ug/L	93
5) Bromomethane	2.58	94	41393	9.1663	ug/L	91
6) Chloroethane	2.74	64	121720	10.6871	ug/L	97
7) Dichloroflmethane	3.04	67	204289	10.2569	ug/L	98
8) Trichlorofma	3.13	101	154270	11.0711	ug/L	96
9) Ethylether	3.56	59	107990	9.4967	ug/L	94
10) dichlorotfluoroethan	3.56	67	130846	10.8820	ug/L	98
11) propyleneoxide	3.89	58	277660	79.7495	ug/L	98
12) Acrolein	3.67	56	206354	37.8421	ug/L	95
13) 11dichlorthe	3.83	96	102032	10.7321	ug/L	97
14) Trichlorotfluoroeth	3.87	101	201253	22.2950	ug/L	94
15) Acetone	3.89	43	853060	84.5362	ug/L	99
16) Iodomethane	4.00	142	85364	12.0741	ug/L	89
17) Carbon Dislf	4.09	76	586791	22.2952	ug/L	98
18) allylchloride	4.31	41	375640	21.8888	ug/L	95
19) methylacetate	4.36	74	64676	9.6628	ug/L	92
20) Methylchlorid	4.45	84	113100	9.4893	ug/L #	88
21) tbutylalcohol	4.65	59	2088464	602.3715	ug/L	98
22) Acrylonitrile	4.75	53	482135	55.3163	ug/L	98
23) t12dichlorte	4.83	96	109830	10.2574	ug/L	96
24) MtBE	4.87	73	301528	9.3136	ug/L	92
25) Hexane	5.23	57	428549	22.1197	ug/L	99
26) 11dichlorota	5.35	63	227734	10.1742	ug/L	97
27) Vinylacetate	5.44	43	2881679	116.2758	ug/L	97
28) chloroprene	5.48	53	543799	23.8209	ug/L	95
29) Diisopether	5.50	45	486321	11.0462	ug/L	92
30) ETBE	5.95	59	398730	9.8475	ug/L	98
31) 22dichloropr	6.08	77	148112	8.7701	ug/L	98
32) c12dichlorte	6.08	96	125786	10.3051	ug/L	93
33) 2Butanone	6.10	72	293345	98.5992	ug/L	90
34) propionitrile	6.12	54	427777	110.0114	ug/L	100
35) Ethylacetate	6.20	88	35448	46.0156	ug/L #	89
36) methacrylonitrile	6.33	67	160273	19.7484	ug/L	96
37) Bromochlorma	6.36	128	46159	10.6338	ug/L #	83
38) Tetrahydofur	6.44	42	945482	113.9578	ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721MS.D Vial: 21
Acq On : 22 Oct 2016 18:42 Operator: AGK-RLD
Sample : 131348,MSW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	192365	9.7817	ug/L		96
40)	111trichlota	6.71	97	170251	10.0411	ug/L		95
42)	Cyclohexane	6.80	56	284520	11.4526	ug/L		93
43)	Carbtetraclo	6.93	119	131529	10.7553	ug/L		98
44)	11dicloprope	6.92	110	56264	10.7637	ug/L		98
46)	Benzene	7.17	78	461867	10.3818	ug/L		96
47)	12dichlorota	7.17	62	176164	10.1001	ug/L		99
48)	TAME	7.34	73	298859	8.9935	ug/L		96
49)	trichloroete	7.98	95	138288	12.2535	ug/L		96
50)	methylcyclohexane	8.24	83	203589	10.8333	ug/L		96
51)	12dicloropra	8.22	63	134110	9.2671	ug/L		90
52)	23Dicl1propene	8.29	75	181345	10.1583	ug/L		97
53)	Dibromometha	8.36	93	72978	9.9709	ug/L		97
54)	methylmethacrylate	8.40	69	115236	9.2468	ug/L		98
55)	14dioxane	8.40	88	87408	649.5749	ug/L		99
56)	Bromodiclrma	8.57	83	136931	9.5353	ug/L		99
57)	2Nitropropane	8.82	43	737255	98.8842	ug/L		96
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.14	75	165947	9.0126	ug/L		98
60)	4Meth2Pentan	9.34	43	2487810	112.9239	ug/L		96
62)	Toluene	9.59	92	292653	10.6203	ug/L		94
63)	t13Dicloprop	9.85	75	137467	8.3897	ug/L		98
64)	ethylmethacrylate	10.00	69	344342	18.4935	ug/L		93
65)	112Triclotha	10.09	83	91734	10.0732	ug/L		99
66)	Tetrachlorte	10.33	166	113815	11.0719	ug/L		93
67)	13Diclorpropa	10.31	76	182980	9.4746	ug/L		97
69)	2Hexanone	10.43	43	2060328	99.2734	ug/L		96
70)	Clorodibrmta	10.62	129	91604	8.4452	ug/L		99
71)	12Dibrometha	10.76	107	107413	9.0986	ug/L		94
72)	Chlorobenzen	11.45	112	298804	9.8638	ug/L		96
73)	1Clhexane	11.44	91	164667	9.3469	ug/L		91
74)	1112Tetclota	11.55	131	93961	9.1678	ug/L		98
75)	Ethylbenzene	11.61	91	529416	9.7740	ug/L		97
76)	m p-Xylene	11.77	106	407759	20.0295	ug/L		99
77)	o-Xylene	12.32	106	194628	9.6599	ug/L		99
78)	Styrene	12.33	104	304653	9.3447	ug/L		98
79)	Bromoform	12.55	173	65444	8.3522	ug/L		93
80)	Isopropylben	12.84	105	464319	9.9237	ug/L		100
81)	cyclohexanone	12.93	55	194028	203.3769	ug/L		97
84)	Bromobenzene	13.24	156	120284	9.5347	ug/L	#	87
85)	1122Tetrclta	13.22	83	173692	8.1570	ug/L		92
86)	123Triclproa	13.28	75	184573	7.0787	ug/L		87
87)	14dichloro2butene	13.30	53	37498	5.0067	ug/L		92
88)	n-Propylbenz	13.43	91	618094	9.6886	ug/L		98
89)	2chlorotolue	13.54	91	347408	9.1747	ug/L		98
90)	4chlorotolue	13.69	91	389093	8.9264	ug/L		96
91)	135Trimebenz	13.69	105	415386	9.7395	ug/L		98
92)	tbutylbenzen	14.15	119	337101	9.6912	ug/L		96
93)	124Trimetben	14.22	105	395748	9.0009	ug/L		100
94)	sbutylbenzen	14.47	105	520078	9.8817	ug/L		99
95)	13Diclorbenz	14.61	146	202567	9.2870	ug/L		99
96)	pIsopropylto	14.69	119	420766	9.9470	ug/L		97
97)	14dichlorobe	14.73	146	215926	9.6390	ug/L		96
98)	12dichlorobe	15.26	146	195175	9.2175	ug/L		95
99)	nButylbenzen	15.28	91	399392	9.4666	ug/L		98
100)	12dibromo3cl	16.37	157	36890	7.1339	ug/L		79
101)	135Trichlorobenzene	16.71	180	141850	9.4288	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721MS.D Vial: 21
Acq On : 22 Oct 2016 18:42 Operator: AGK-RLD
Sample : 131348,MSW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.52	180	116732	8.6967	ug/L	97
103)	Hexachlorobu	17.78	225	65316	11.7152	ug/L	92
104)	Naphthalene	17.82	128	403072	8.7622	ug/L	98
105)	123Trichlben	18.13	180	106409	8.9047	ug/L	96

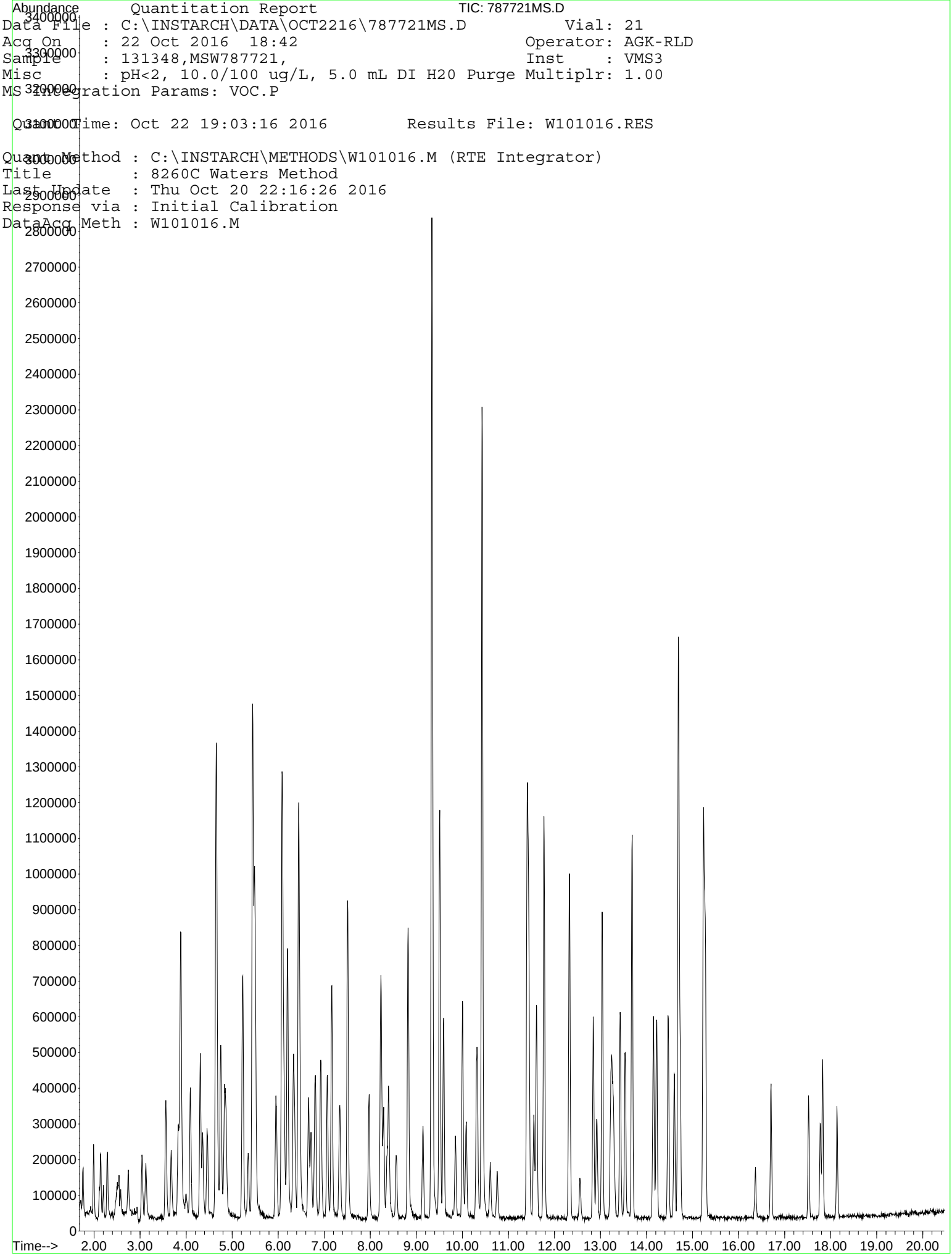
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 787721MS.D

Data File : C:\INSTARCH\DATA\OCT2216\787721MS.D Vial: 21
Acq On : 22 Oct 2016 18:42 Operator: AGK-RLD
Sample : 131348,MSW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:03:16 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721SD.D Vial: 22
Acq On : 22 Oct 2016 19:12 Operator: AGK-RLD
Sample : 131348,MSDW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:33:04 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.51	96	923262	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.41	117	704118	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.70	152	373308	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	226039	20.082	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.06	102	57802	18.803	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 94	%		
61) SURRd8Tolule	9.51	98	916612	19.910	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.04	95	339034	17.646	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	116986	11.9284	ug/L	98
3) Chloromethan	1.99	50	223964	8.0594	ug/L	100
4) VinylChlorid	2.14	62	204195	11.1424	ug/L	99
5) Bromomethane	2.58	94	45125	9.6671	ug/L	92
6) Chloroethane	2.74	64	118071	10.0288	ug/L	99
7) Dichloroflmethane	3.04	67	225974	10.9758	ug/L	93
8) Trichlorofma	3.12	101	159803	11.0944	ug/L	98
9) Ethylether	3.56	59	108695	9.2471	ug/L	90
10) dichlorotfluoroethan	3.57	67	129102	10.3869	ug/L	97
11) propyleneoxide	3.89	58	259134	72.0024	ug/L	93
12) Acrolein	3.68	56	196944	34.9392	ug/L	98
13) 11dichlorthe	3.83	96	106012	10.7872	ug/L	98
14) Trichlorotfluoroeth	3.87	101	215067	23.0487	ug/L	98
15) Acetone	3.89	43	838621	80.3964	ug/L	98
16) Iodomethane	4.00	142	101840	13.9355	ug/L	96
17) Carbon Dislf	4.09	76	607233	22.3199	ug/L	98
18) allylchloride	4.31	41	376537	21.2258	ug/L	97
19) methylacetate	4.36	74	63300	9.1490	ug/L	94
20) Methylchlorid	4.46	84	116885	9.4870	ug/L #	86
21) tbutylalcohol	4.65	59	1991477	546.8777	ug/L	100
22) Acrylonitrile	4.75	53	453727	50.3601	ug/L	97
23) t12dichlorte	4.84	96	117915	10.6536	ug/L	94
24) MtBE	4.86	73	309839	9.2583	ug/L	98
25) Hexane	5.23	57	442585	22.0996	ug/L	99
26) 11dichlorota	5.35	63	244722	10.5767	ug/L	98
27) Vinylacetate	5.44	43	2903795	112.8127	ug/L	99
28) chloroprene	5.48	53	560717	23.7614	ug/L	93
29) Diisopether	5.50	45	496932	10.9192	ug/L	93
30) ETBE	5.95	59	405255	9.6825	ug/L	99
31) 22dichloropr	6.08	77	153483	8.7919	ug/L	99
32) c12dichlorte	6.07	96	124422	9.8611	ug/L	95
33) 2Butanone	6.10	72	278434	90.5367	ug/L	89
34) propionitrile	6.13	54	408210	101.5574	ug/L	98
35) Ethylacetate	6.20	88	33214	41.7102	ug/L	98
36) methacrylonitrile	6.33	67	159442	19.0056	ug/L	97
37) Bromochlorma	6.36	128	46694	10.4064	ug/L #	90
38) Tetrahydofur	6.44	42	901329	105.0949	ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721SD.D Vial: 22
Acq On : 22 Oct 2016 19:12 Operator: AGK-RLD
Sample : 131348,MSDW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:33:04 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.46	83	192663	9.4776	ug/L		99
40)	111trichlota	6.72	97	179002	10.2131	ug/L		97
42)	Cyclohexane	6.80	56	281293	10.9536	ug/L		96
43)	Carbtetraclo	6.93	119	144180	11.4055	ug/L		90
44)	11dicloprope	6.92	110	55519	10.2750	ug/L		97
46)	Benzene	7.17	78	483672	10.5176	ug/L		93
47)	12dichlorota	7.16	62	185150	10.2692	ug/L		99
48)	TAME	7.33	73	306663	8.9275	ug/L		98
49)	trichloroete	7.97	95	139768	11.9809	ug/L		96
50)	methylcyclohexane	8.23	83	217452	11.1938	ug/L		96
51)	12dicloropra	8.22	63	146477	9.7918	ug/L		92
52)	23Dicl1propene	8.29	75	171289	9.2823	ug/L		98
53)	Dibromometha	8.36	93	77928	10.3002	ug/L		98
54)	methylmethacrylate	8.40	69	110766	8.5984	ug/L		97
55)	14dioxane	8.41	88	81080	582.9073	ug/L		97
56)	Bromodiclrma	8.56	83	137253	9.2462	ug/L		95
57)	2Nitropropane	8.82	43	699131	90.7143	ug/L		98
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.14	75	166897	8.7687	ug/L		97
60)	4Meth2Pentan	9.34	43	2466095	107.3788	ug/L		96
62)	Toluene	9.59	92	297186	10.4332	ug/L		97
63)	t13Dicloprop	9.85	75	142085	8.3889	ug/L		97
64)	ethylmethacrylate	10.00	69	357609	18.5800	ug/L		95
65)	112Triclotha	10.08	83	91602	9.7308	ug/L		94
66)	Tetrachlorte	10.32	166	119436	11.2399	ug/L		99
67)	13Diclorpropa	10.31	76	188239	9.4292	ug/L		97
69)	2Hexanone	10.43	43	2004790	94.6126	ug/L		97
70)	Clorodibrmta	10.60	129	95536	8.6847	ug/L		97
71)	12Dibrometha	10.76	107	110364	9.2180	ug/L		99
72)	Chlorobenzen	11.44	112	301495	9.8136	ug/L		97
73)	1Clhexane	11.43	91	176911	9.9016	ug/L		98
74)	1112Tetclota	11.55	131	94678	9.1087	ug/L		96
75)	Ethylbenzene	11.61	91	566598	10.3144	ug/L		98
76)	m p-Xylene	11.77	106	423785	20.5259	ug/L		96
77)	o-Xylene	12.32	106	206975	10.1292	ug/L		91
78)	Styrene	12.33	104	328235	9.9274	ug/L		96
79)	Bromoform	12.56	173	59137	7.4419	ug/L		93
80)	Isopropylben	12.84	105	470357	9.9123	ug/L		99
81)	cyclohexanone	12.92	55	174746	180.6074	ug/L		98
84)	Bromobenzene	13.24	156	126855	9.8526	ug/L	#	83
85)	1122Tetrclta	13.22	83	180641	8.3121	ug/L		98
86)	123Triclproa	13.27	75	192996	7.2524	ug/L		89
87)	14dichloro2butene	13.30	53	35778	4.6806	ug/L		87
88)	n-Propylbenz	13.43	91	628129	9.6471	ug/L		99
89)	2chlorotolue	13.54	91	370161	9.5782	ug/L		97
90)	4chlorotolue	13.69	91	419320	9.4257	ug/L		96
91)	135Trimebenz	13.68	105	416935	9.5784	ug/L		99
92)	tbutylbenzen	14.15	119	363150	10.2293	ug/L		95
93)	124Trimetben	14.22	105	414690	9.2413	ug/L		98
94)	sbutylbenzen	14.47	105	535339	9.9664	ug/L		100
95)	13Diclorbenz	14.61	146	209259	9.4002	ug/L		97
96)	pIsopropylto	14.69	119	425200	9.8489	ug/L		100
97)	14dichlorobe	14.73	146	218132	9.5409	ug/L		96
98)	12dichlorobe	15.26	146	200674	9.2859	ug/L		97
99)	nButylbenzen	15.28	91	400926	9.3111	ug/L		99
100)	12dibromo3cl	16.36	157	39703	7.5229	ug/L		100
101)	135Trichlorobenzene	16.71	180	148242	9.6547	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2216\787721SD.D Vial: 22
Acq On : 22 Oct 2016 19:12 Operator: AGK-RLD
Sample : 131348,MSDW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:33:04 2016 Results File: W101016.RES

Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
DataAcq Meth : W101016.M

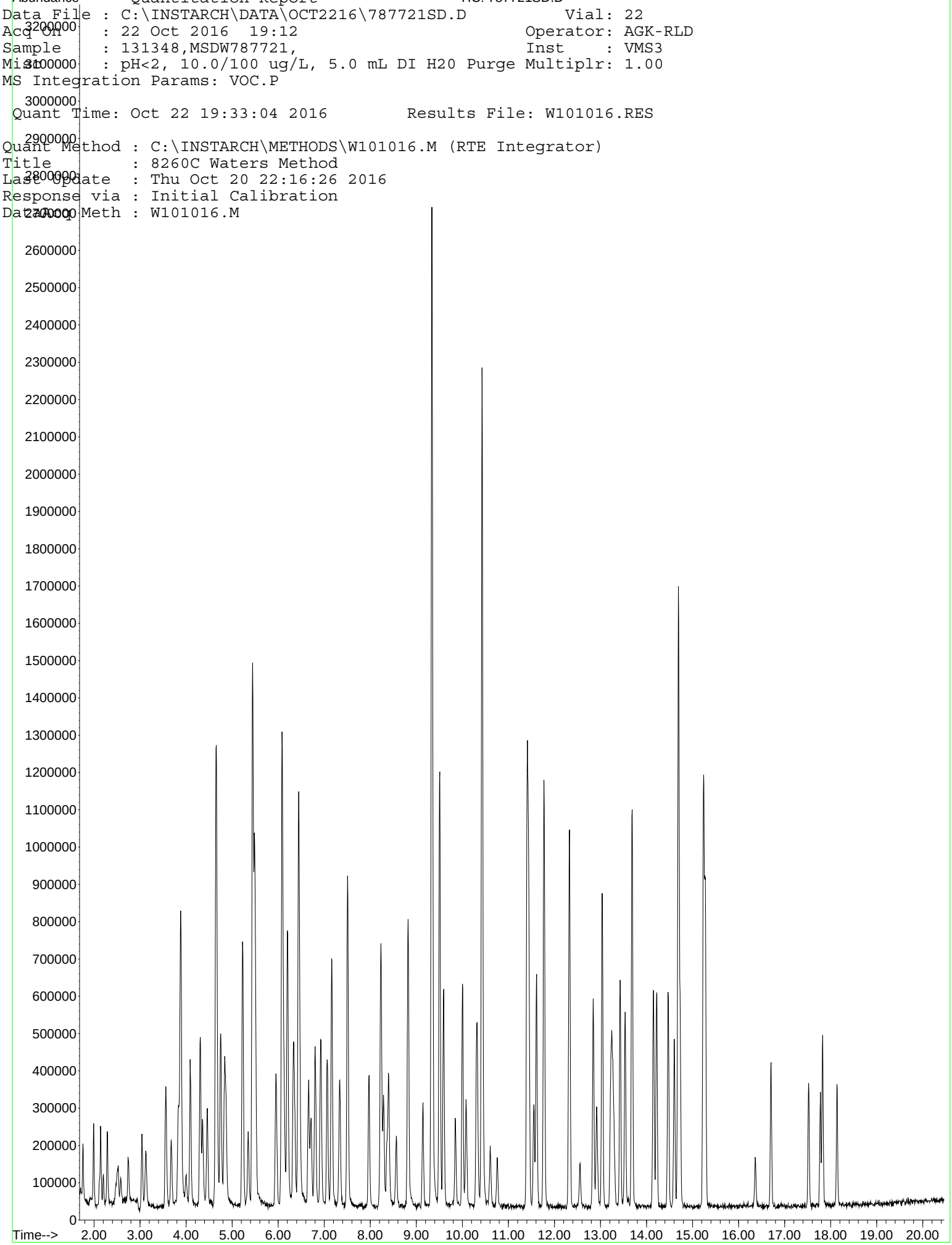
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.52	180	120397	8.7887	ug/L	97
103)	Hexachlorobu	17.78	225	63104	11.0900	ug/L	95
104)	Naphthalene	17.82	128	413764	8.8130	ug/L	99
105)	123Trichlben	18.14	180	120756	9.9013	ug/L	93

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2216\787721SD.D Vial: 22
Acq On : 22 Oct 2016 19:12 Operator: AGK-RLD
Sample : 131348,MSDW787721, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL DI H20 Purge Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:33:04 2016 Results File: W101016.RES

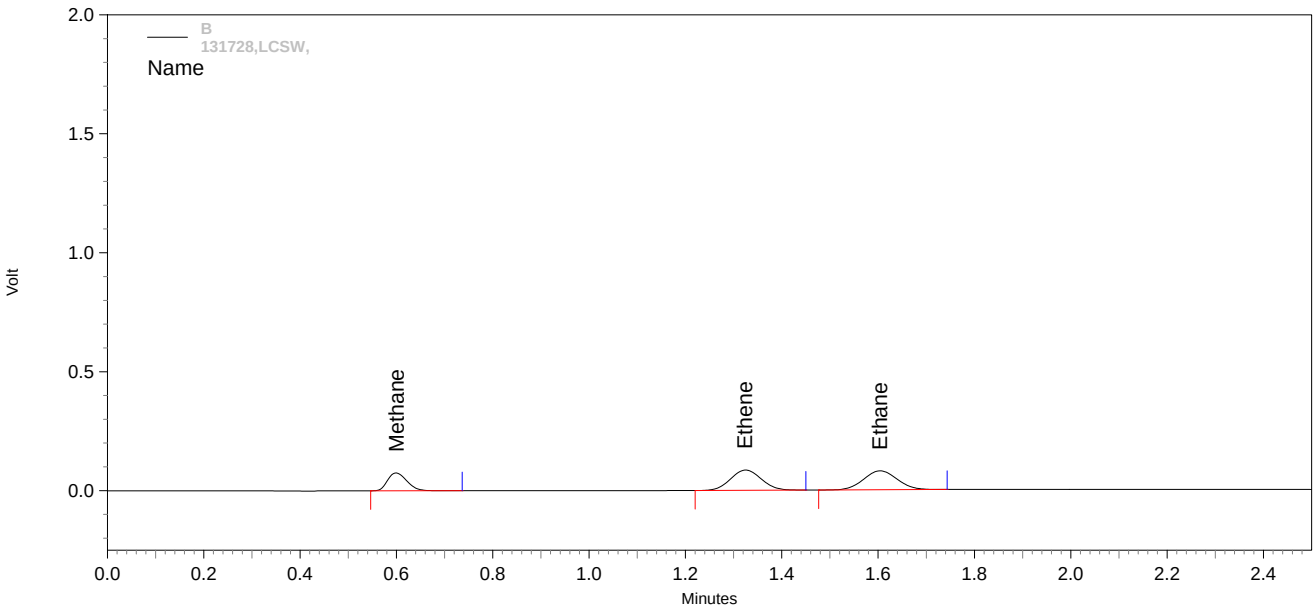
Quant Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Oct 20 22:16:26 2016
Response via : Initial Calibration
Data Path Meth : W101016.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131728,LCSW,
Acquired: Oct 24, 2016 12:59:09
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

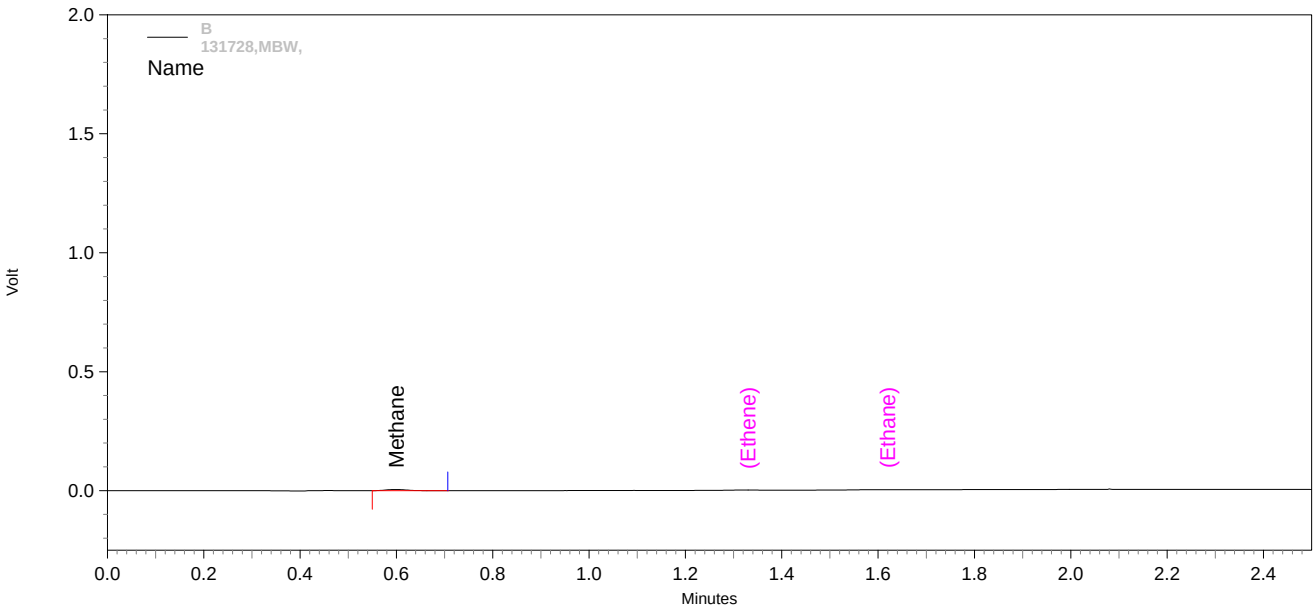
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	208599	**23.304**
2	Ethene	1.323	377731	**23.009**
3	Ethane	1.603	384446	**23.086**

Totals			970776	**69.399**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131728,MBW,
Acquired: Oct 24, 2016 13:02:57
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



B Results

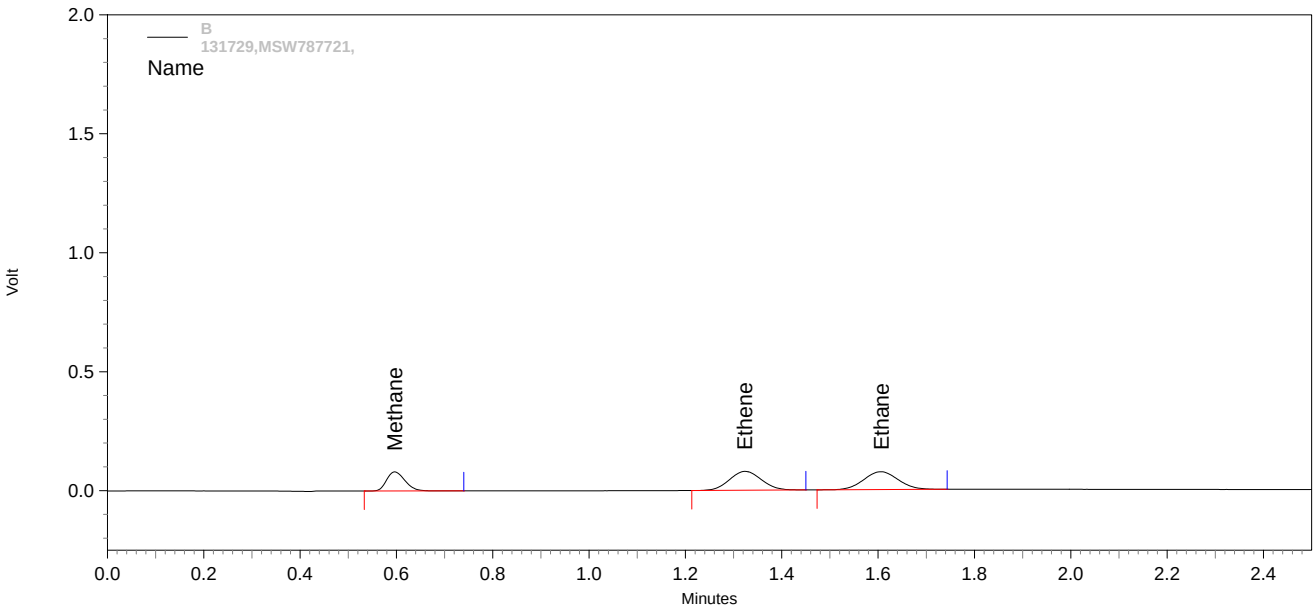
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	13903	**1.473**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			13903	**1.473**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,MSW787721,
Acquired: Oct 24, 2016 14:01:16
File Desc. Matrix Spike - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

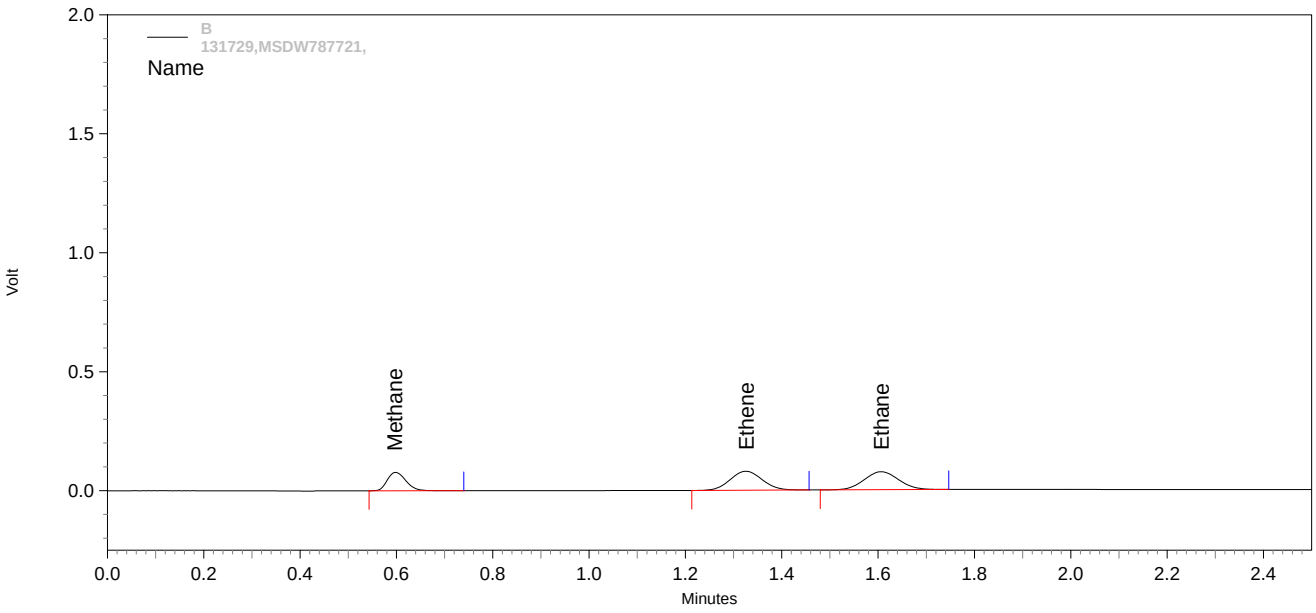
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	212112	**23.698**
2	Ethene	1.323	365538	**22.272**
3	Ethane	1.607	372084	**22.363**

Totals			949734	**68.333**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\102416\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 131729,MSDW787721,
Acquired: Oct 24, 2016 14:05:19
File Desc. Matrix Spike Duplicate- 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	207246	**23.153**
2	Ethene	1.327	366894	**22.354**
3	Ethane	1.607	373914	**22.470**

Totals			948054	**67.977**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
131348 on 10/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	795595							VOC 8260 QSM WATER 5.0				
					BFB				0			
	792708							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	792723							VOC 8260 QSM WATER 5.0				
					CCV				0			
	795594							VOC 8260 QSM WATER 5.0				
					MBW				0			
122887	787724	101216T1	10/12/2016	1600		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
122907	788215	101316T1	10/13/2016	1700		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
122926	788658	101416T1	10/14/2016	1110		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
122887	787720	13MW3	10/12/2016	1250		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122887	787721	13MW4	10/12/2016	1425	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122887	787722	13MW2	10/12/2016	1515		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122887	787723	49MW04	10/12/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122907	788209	50MW02	10/13/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122907	788210	49MW02	10/13/2016	1005		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122907	788211	48MW3	10/13/2016	1205		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122907	788212	49TM01	10/13/2016	1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122907	788213	48MW2	10/13/2016	1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122907	788214	49MW01	10/13/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122926	788654	48MW06	10/14/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
122926	788655	48MW1	10/14/2016	1020		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

VOC 8260 QSM WATER 5.0 Analytical Run
131348 on 10/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122926	788656		10/14/2016	1100			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		101416R1											
	795593		10/12/2016	1425					VOC 8260 QSM 5.0				
		13MW4			MSW	787721				0			
	795689		10/12/2016	1425					VOC 8260 QSM 5.0				
		13MW4			MSDW	795593				0			
	792816								VOC 8260 QSM WATER 5.0				
					CCVF					0			

23 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT2216\BFB.D
Injection Date : 22 Oct 2016 Log Time Period (hrs) : ALL
Injection Time : 08:58 Total files within period : 22
Sample Directory : C:\INSTARCH\DATA\OCT2216\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	131348,LCSW, 10.00/100 ug/L, 5.0 mL Pu	22 Oct 2016	09:14
MB1	1.00	1.00	1.00	131348,MBW, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	10:14
787724	1.00	1.00	1.00	131348,787724, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	10:44
788215	1.00	1.00	1.00	131348,788215, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	11:14
788658	1.00	1.00	1.00	131348,788658, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	11:43
787720	1.00	1.00	1.00	131348,787720, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	12:13
787721	1.00	1.00	1.00	131348,787721, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	12:43
787722	1.00	1.00	1.00	131348,787722, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	13:13
787723	1.00	1.00	1.00	131348,787723, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	13:43
788209	1.00	1.00	1.00	131348,788209, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	14:12
788210	1.00	1.00	1.00	131348,788210, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	14:42
788211	1.00	1.00	1.00	131348,788211, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	15:12
788212	1.00	1.00	1.00	131348,788212, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	15:43
788213	1.00	1.00	1.00	131348,788213, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	16:13
788214	1.00	1.00	1.00	131348,788214, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	16:43
788654	1.00	1.00	1.00	131348,788654, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	17:12
788655	1.00	1.00	1.00	131348,788655, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	17:42
788656	1.00	1.00	1.00	131348,788656, pH<2, 5.0 mL DI H20 Purge	22 Oct 2016	18:13
787721MS	1.00	1.00	1.00	131348,MSW787721, pH<2, 10.0/100 ug/L, 5.0	22 Oct 2016	18:42
787721SD	1.00	1.00	1.00	131348,MSDW787721, pH<2, 10.0/100 ug/L, 5.0	22 Oct 2016	19:12
CCVF1	1.00	1.00	1.00	131348,CCVF, 10.00/100 ug/L, 5.0 mL Pu	22 Oct 2016	19:42

8260 ISTD/SSTD 20ug/ml VOC0239
8260 BFB STD. 50ug/ml VOC0238
8260 ICV STD. 100ug/ml VOC0234
8260 CCV/CALIB. 100ug/ml VOC0235

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	No	Instrument
10/22/2016	131348	AGK	RLD	10/28/2016	Yes		VMS3
Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.							

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?		Yes		Yes		If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)		No		No	If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?		Yes		Yes		If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	generated limits, or client specific limits.	Yes		Yes		If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT1016\BFB1.D
Injection Date : 10 Oct 2016 Log Time Period (hrs) : ALL
Injection Time : 13:06 Total files within period : 15
Sample Directory : C:\INSTARCH\DATA\OCT1016\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	10 Oct 2016	14:23
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	10 Oct 2016	14:53
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	10 Oct 2016	15:23
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.00/100 ug/L, 5.0 mL Pu	10 Oct 2016	15:53
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.00/200 ug/L, 5.0 mL Pu	10 Oct 2016	16:23
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.00/300 ug/L, 5.0 mL Pu	10 Oct 2016	16:53
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.00/400 ug/L, 5.0 mL Pu	10 Oct 2016	17:23
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.00/800 ug/L, 5.0 mL Pu	10 Oct 2016	17:53
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	10 Oct 2016	18:52
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.00/300 ug/L, 5.0 mL Pu	10 Oct 2016	19:22
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	10 Oct 2016	20:22

8260 ISTD/SSTD 20ug/ml VOC0239
8260 BFB STD. 50ug/ml VOC0238
8260 ICV STD. 100ug/ml VOC0227
8260 CCV/CALIB. 100ug/ml VOC0228

LPVO1-01
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NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 100
Page is Locked
Author: rdigmann on: 12.10.2016 07:53:50
Page is not Witnessed
Project: Unassigned
Page Title: 101016

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0238	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V726 into 2925uL of MeOH.	MeOH / OSolv/55344	50 ug/mL	10/10/2016	11/10/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0239	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0799 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V756 into 25mL of MeOH.	MeOH / OSolv/55344	20 ug/mL	10/10/2016	11/10/2016	RLD

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LPVO1-01
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Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 98
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Author: AAnstett on: 07.10.2016 08:37:38
Witness: akurth on: 18.10.2016 11:45:28
Project: Unassigned
Page Title: 100416

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0234	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0780, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0792, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0802 into 2250uL of MeOH.	MeOH / OSolv/55344	100 ug/mL	10/04/2016	10/11/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0235	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0800, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0793, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0801 into 2250uL of MeOH.	MeOH / OSolv/55344	100 ug/mL	10/04/2016	10/11/2016	RLD

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LPVO1-01
Volatiles Standards Prep Logbook
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NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 94
Page is Locked
Author: rdigmann on: 26.09.2016 07:54:15
Witness: akurth on: 29.09.2016 13:27:47
Project: Unassigned
Page Title: 091616

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0227	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0780, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0792, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0788 into 2250uL of MeOH.	MeOH / OSolv/55344	100 ug/mL	09/16/2016	09/23/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0228	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0800, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0793, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0789 into 2250uL of MeOH.	MeOH / OSolv/55344	100 ug/mL	09/16/2016	09/23/2016	RLD

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LSVO1-01
Volatiles Standards Logbook
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Author: AAnstett on: 21.10.2016 13:51:38
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Project: Unassigned
Page Title: 101816

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0807	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW161011017
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	04/19/2017	10/18/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0808	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW161011018
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	04/09/2017	10/18/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard.	

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Author: AAnstett on: 07.10.2016 13:35:31
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Project: Unassigned
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Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0804	8260 VOC Mix	AccuStandard	M-502-10X-PAK	216071115
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/13/2019	09/26/2016	RLD
# of Ampules/Units:	5	Comments:	Used to prepare 8260 ICV/Spiking Std.	

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NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 25
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Author: rdigmann on: 06.09.2016 15:21:15
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Project: Unassigned
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Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0801	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160824021
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	11/22/2016	08/31/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0802	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160824022
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	11/22/2016	08/31/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0799	8260 ISTD/SSTD Mix	Ultra Scientific	STM-540	CM-1098
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,500 ug/mL	MeOH	04/30/2018	08/22/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ISTD/SSTD.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0800	8260 VOC Mix	Ultra Scientific	DWM-588-1	CP-2742
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	07/31/2019	08/22/2016	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. Std.	

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NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 24
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Author: rdigmann on: 25.08.2016 09:29:34
Witness: akurth on: 01.09.2016 14:28:27
Project: Unassigned
Page Title: 082216

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0797	Fluorobenzene	Ultra Scientific	STS-160	CL-3264
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	09/30/2018	08/22/2017	RLD
# of Ampules/Units:	1	Comments:	Used for PVOC/8021 ISTD.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0798	α,α,α-Trifluorotoluene	Ultra Scientific	STS-220N	CM-5040
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	10/31/2019	08/22/2016	RLD
# of Ampules/Units:	1	Comments:	Used for PVOC/8021/8015 SSTD.	

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NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 21
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Author: rdigmann on: 27.07.2016 07:54:19
Witness: AAnstett on: 03.08.2016 13:50:10
Project: Unassigned
Page Title: 072616

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0791	n-Nonane	SPEX- CertiPrep	S-2785	C1140929014
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1000 ug/mL	MeOH	09/28/2017	07/26/2016	AMA
# of Ampules/Units:	1	Comments:		

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0792	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160721004
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1,000 - 50,000 ug/mL	MeOH	01/17/2017	07/26/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calibration Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0793	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160720031
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1,000 - 50,000 ug/mL	MeOH	01/16/2017	07/26/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std.	

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Author: rdigmann on: 06.07.2016 10:03:23
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Project: Unassigned
Page Title: 062716

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0788	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160621021
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	09/19/16	06/27/16	AGK
# of Ampules/Units:	2 x 1mL	Comments:	Used for 8260 ICV/Spiking standard	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0789	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160621022
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	09/19/16	06/27/16	AGK
# of Ampules/Units:	2 x 1mL	Comments:	Used for 8260 CCV/Calib standard	

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Author: rdigmann on: 22.06.2016 15:10:13
Witness: AKURTH on: 24.06.2016 11:49:15
Project: Unassigned
Page Title: 051816

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0786	Acetylene	Airgas	X02HE99C33A0037	54-124550594-1
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
200 ppmV	Balance Helium	04/20/2019	05/09/2016	RLD
# of Ampules/Units:	1 Tank	Comments:	Used for Dissolved Gases (Acetylene) analysis.	

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Author: rdigmann on: 18.05.2016 10:13:16
Witness: AKURTH on: 24.06.2016 11:49:08
Project: Unassigned
Page Title: 051316

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0784	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160506010
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	11/02/2016	05/12/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0785	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160506011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	11/02/2016	05/12/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std.	

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Author: rdigmann on: 13.05.2016 13:59:06
Witness: AKURTH on: 24.06.2016 11:49:01
Project: Unassigned
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Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0783	Cellulose nitrate (Nitrocellulose)	Aldrich	435031-250G	01427PI
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
N/A	70% in PA	04/28/2021	04/28/2016 (relogged)	RLD
# of Ampules/Units:	1 container = 250g	Comments:	Used for making nitrocellulose Stock Standard. (must be dried in vaccum desicator prior to preparing Spiking Standards).	

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Author: rdigmann on: 04.05.2016 09:00:42
Witness: AKURTH on: 24.06.2016 11:48:54
Project: Unassigned
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Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0782	8260 VOC Mix	Ultra Scientific	DWM-588-1	CP-0691
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	03/31/2019	04/27/2016	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. Std.	

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Author: rdigmann on: 28.04.2016 07:59:36
Witness: AKURTH on: 02.05.2016 11:01:38
Project: Unassigned
Page Title: 042616

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0779	Silica Sand (Oven Dried)	Granusil	4030	0-163-14
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
N/A	N/A	N/A	04/26/2016	RLD
# of Ampules/Units:	1 Container	Comments:	Oven Dried, Used for VOC/PVOC/GRO LCS & Method Blanks.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0780	8260 VOC Mix	AccuStandard	M-502-10X-PAK	216031211
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	05/17/2019	04/26/2016	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Std. prep.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0781	Carbon Dioxide (1% or 10000ppmV) balance He.	Air Gas	X02HE99C33A1899	152-400685268-1
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
10000 ppmV	Helium	04/11/2019	04/11/2019	RLD
# of Ampules/Units:	1 cylinder (FF33602)	Comments:	Used for CO2 analysis (Dissolved Gases).	

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION and EXPIRATION DATE [1]	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V742	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/22/15	MeOH	6/2/15, RD	2x1mL
V743	8260 VOC Mix.	Accu Standard	M-502-10X-PAK	21501040	2000 ug/mL, 1/12/18	MeOH	6/9/15, RD	5x1mL
V744	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-1859	2000 ug/mL, 5/31/18	MeOH	6/18/15, RD	2x1mL
V745	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-50000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2x1mL
V746	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2x1mL
V747	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721007	1000-10000 ug/mL, 10/19/15	MeOH	7/23/15, RD	2x1mL
V748	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721008	1000-10000 ug/mL, 10/19/15	MeOH	7/23/15, RD	2x1mL
V749	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-3808	2000 ug/mL, 8/31/18	MeOH	8/6/15, RD	2x1mL
V750	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-50000 ug/mL, 11/30/15	MeOH	9/1/15, RD	2x1mL
V751	VOC Deleted 8260 Special Additions	SPEX	VO-CTWI-12	TS150904001	1000-50000 ug/mL, 12/3/15	MeOH	9/10/15, RD	2x1mL
V752	Fluorobenzene	Ultra Sci	STS-160-1	CL-3264	2000 ug/mL 9/30/18	MeOH	9/25/15 RD	4x1mL
V753	a,a,a-TFT	Ultra Sci	STS-220N-1	CM-5040	2000 ug/mL 10/31/19	MeOH	9/25/15 RD	4x1mL
V754	VOC 8360 Special Addition	SPEX	VO-CTWI-5	BW150925015	1,000-50,000 ug/mL 03/23/16	MeOH	10/02/15 Bms	2x1mL
V755	VOC 8260 Special Addition	SPEX	VO-CTWI-5	SM150925016	1,000-50,000 ug/mL 03/23/16	MeOH	10/02/15 Bms	2x1mL
V756	12-Dichlorobenzene-d4	Ultra Sci	STS-210-1	CG-1939Z	2000 ug/mL 9/30/18	MeOH	10/6/15 RD	4x1mL
V757	8260 VOC Mix	Ultra Sci	DWM-588-1	CM-3956	2000 ug/mL 8/31/18	MeOH	10/15/15 RD	4x1mL
V758	8260 VOC Mix.	Accustandard	M-502-10X-PAK	21508111	2000 ug/mL 8/25/18	MeOH	11/3/15 RD	5x1mL
V759	PVOC/GRO Mix	RESTEK	30095	A0112470	1,000/10,000 ug/mL 08/31/22	MeOH	11/10/15 Bms	2x1mL
V760	PVOC/GRO Mix	ULTRA	UST-100-1	CK-2547A	1,000/10,000 ug/mL 09/30/17	MeOH	11/10/15 Bms	4x1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 11/23/15

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Addition	SPEX	VO-CTWI-5	C114111900B	1000-50000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Addition	SPEX	VO-CTWI-5	C114111900G	1000-50000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-3248A	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X03HE99C33A0037	54-1244677791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C112121901Z	1000 ug/mL, 12/19/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 1/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C115020 2012	1000-10000 ug/mL, 5/3/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C115020 2013	1000-10000 ug/mL, 5/3/15	MeOH	RD 2/6/15	2 x 1mL
V733	8260 Special Additions	SPEX	VO-CTWI-5	C115030300.1	1000-50000 ug/mL, 8/30/15	MeOH	RD 3/11/15	2 x 1mL
V734	8260 Special Additions	SPEX	VO-CTWI-5	C115030 4006	1000-50000 ug/mL, 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V735	VOC Mix	Accu Std.	M-502-10X	214111094	2000 ug/mL 11/12/17	MeOH	RD 3/31/15	2 x 1mL
V736	VOC Mixture	ULTRA SCI.	DWM-588-1	CM-0137	2000 ug/mL 02/28/18	MeOH	Bms 04/09/15	2 x 1mL
V737	Unleaded Gasoline	ULTRA SCI.	RGO-601-1	CH-0979A	5000 ug/mL 05/31/17	MeOH	Bms 04/09/15	2 x 1mL
V738	Unleaded Gasoline	RESTEK	30205	A0101022	50,000 ug/mL 03/28/21	MeOH	Bms 04/10/15	2 x 1mL
V739	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506001	1000-10000 ug/mL, 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V740	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506002	1000-10000 ug/mL, 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V741	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-50000 ug/mL 11/22/15	MeOH	RD 6/2/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 6/2/15

V METH, ETH, ETHENE QSM 5.0 Analytical Run # 131729 on 10/26/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	794224						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	792889						METH,ETH,ETHE QSM 5.0				
				LCSW				59725			
	792888						METH,ETH,ETHE QSM 5.0				
				MBW				59725			
122887	787720		10/12/2016 1250		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3						59725			
122887	787721		10/12/2016 1425		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4		Designated MS/MSD				59725			
	792921		10/12/2016 1425				METH,ETH,ETHE QSM 5.0				
		13MW4		MSW 787721				59725			
	792922		10/12/2016 1425				METH,ETH,ETHE QSM 5.0				
		13MW4		MSDW 792921				59725			
122887	787722		10/12/2016 1515		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2						59725			
	794225						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
122887	787723		10/12/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04						59725			
122907	788209		10/13/2016 0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02						59725			
122907	788210		10/13/2016 1005		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02						59725			
122907	788211		10/13/2016 1205		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3						59725			
122907	788212		10/13/2016 1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM01						59725			
122907	788213		10/13/2016 1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2						59725			
122907	788214		10/13/2016 1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01						59725			
122926	788654		10/14/2016 0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06						59725			
122926	788655		10/14/2016 1020		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1						59725			
122926	788656		10/14/2016 1100		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		101416R1						59725			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
131729 on 10/26/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	794229						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

20 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 10/26/2016

Prep Batch **59,725** Date Prepped: 10/24/2016 Prepped By AMA

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	792888	MBW		METH,ETH,ETHE QSM	LIQUID	20.8				
	792889	LCSW		METH,ETH,ETHE QSM	LIQUID	20.8				
122887	787720			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	787721	*		METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	787722			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	787723			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
122907	788209			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788210			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788211			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788212			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788213			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788214			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
122926	788654			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788655			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	788656			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	792921	MSW	787721	METH,ETH,ETHE QSM	GROUND WATER	20.8				
	792922	MSDW	792921	METH,ETH,ETHE QSM	GROUND WATER	20.8				

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\102416.seq
Instrument: PVOC4
Processing Date: Oct 24, 2016 17:25:03

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	131728,CCV,	C:\Instarch\PVOC4\Data\102416\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 12:49:35
2	131728,LCSW,	C:\Instarch\PVOC4\Data\102416\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 12:59:09
3	131728,MBW,	C:\Instarch\PVOC4\Data\102416\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:02:57
4	131728,791231,	C:\Instarch\PVOC4\Data\102416\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:06:33
5	131728,791231,500	C:\Instarch\PVOC4\Data\102416\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:20:22
6	131728,MSW791231,	C:\Instarch\PVOC4\Data\102416\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:24:14
7	131728,MSDW7912...	C:\Instarch\PVOC4\Data\102416\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:28:15
8	131728,791237,	C:\Instarch\PVOC4\Data\102416\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:40:15
9	131728,791237,50	C:\Instarch\PVOC4\Data\102416\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:43:58
10	131728,792727,	C:\Instarch\PVOC4\Data\102416\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:48:26
11	131729,787720	C:\Instarch\PVOC4\Data\102416\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:53:33
12	131729,787721,	C:\Instarch\PVOC4\Data\102416\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 13:57:20
13	131729,MSW787721,	C:\Instarch\PVOC4\Data\102416\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:01:16
14	131729,MSDW7877...	C:\Instarch\PVOC4\Data\102416\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:05:19
15	131729,787722,	C:\Instarch\PVOC4\Data\102416\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:08:47
16	131728,CCV,	C:\Instarch\PVOC4\Data\102416\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:12:08
17	131729,787723,	C:\Instarch\PVOC4\Data\102416\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:17:55
18	131729,788209,	C:\Instarch\PVOC4\Data\102416\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:21:14
19	131729,788210,	C:\Instarch\PVOC4\Data\102416\019.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:26:51
20	131729,788211,	C:\Instarch\PVOC4\Data\102416\020.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:30:33
21	131729,788212,	C:\Instarch\PVOC4\Data\102416\021.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:35:17
22	131729,788213,	C:\Instarch\PVOC4\Data\102416\022.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:38:52
23	131729,788214,	C:\Instarch\PVOC4\Data\102416\023.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:43:56
24	131729,788654,	C:\Instarch\PVOC4\Data\102416\024.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:47:47
25	131729,788655,	C:\Instarch\PVOC4\Data\102416\025.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:51:26
26	131729,788656,	C:\Instarch\PVOC4\Data\102416\026.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:55:12
27	131729,CCV,	C:\Instarch\PVOC4\Data\102416\027.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 14:58:39
28	131730,LCSW,	C:\Instarch\PVOC4\Data\102416\028.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:04:00
29	131730,MBW,	C:\Instarch\PVOC4\Data\102416\029.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:08:28
30	131730,790854,	C:\Instarch\PVOC4\Data\102416\030.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:12:21
31	131730,790855,	C:\Instarch\PVOC4\Data\102416\031.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:15:43
32	131730,790856,	C:\Instarch\PVOC4\Data\102416\032.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:22:03
33	131730,790857,	C:\Instarch\PVOC4\Data\102416\033.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:26:08
34	131730,791724,	C:\Instarch\PVOC4\Data\102416\034.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:30:18
35	131730,791724,200	C:\Instarch\PVOC4\Data\102416\035.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:35:18
36	131730,791744,	C:\Instarch\PVOC4\Data\102416\036.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:39:19
37	131730,791746,	C:\Instarch\PVOC4\Data\102416\037.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:42:44
38	131730,791749,	C:\Instarch\PVOC4\Data\102416\038.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:46:49
39	131730,791749,500	C:\Instarch\PVOC4\Data\102416\039.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:51:13
40	131730,791749,200	C:\Instarch\PVOC4\Data\102416\040.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:54:27
41	131730,791749,	C:\Instarch\PVOC4\Data\102416\041.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 15:58:25
42	131730,791749,20	C:\Instarch\PVOC4\Data\102416\042.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:03:01
43	131730,791749,50	C:\Instarch\PVOC4\Data\102416\043.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:06:17
44	131730,791750,	C:\Instarch\PVOC4\Data\102416\044.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:10:13
45	131730,791750,1000	C:\Instarch\PVOC4\Data\102416\045.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:15:55
46	131730,791751,	C:\Instarch\PVOC4\Data\102416\046.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:19:26
47	131730,791751,1000	C:\Instarch\PVOC4\Data\102416\047.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:23:00
48	131730,CCV,	C:\Instarch\PVOC4\Data\102416\048.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:26:11
49	131730,791752,	C:\Instarch\PVOC4\Data\102416\049.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:29:27
50	131730,791752,1000	C:\Instarch\PVOC4\Data\102416\050.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:33:14
51	131730,791753,	C:\Instarch\PVOC4\Data\102416\051.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:37:00
52	131730,791753,500	C:\Instarch\PVOC4\Data\102416\052.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:40:21
53	131730,MSW791753,	C:\Instarch\PVOC4\Data\102416\053.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:43:57
54	131730,MSDW7917...	C:\Instarch\PVOC4\Data\102416\054.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:47:47
55	131730,792360,	C:\Instarch\PVOC4\Data\102416\055.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:51:07
56	131730,792360,200	C:\Instarch\PVOC4\Data\102416\056.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:54:25
57	131730,792362,	C:\Instarch\PVOC4\Data\102416\057.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 16:57:41
58	131730,792362,1000	C:\Instarch\PVOC4\Data\102416\058.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 17:01:48
59	131730,792363,	C:\Instarch\PVOC4\Data\102416\059.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 17:05:23
60	131730,792363,500	C:\Instarch\PVOC4\Data\102416\060.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 17:08:49
61	131730,792364,	C:\Instarch\PVOC4\Data\102416\061.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 17:12:36
62	131730,792364,1000	C:\Instarch\PVOC4\Data\102416\062.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 17:18:07
63	131730,CCV,	C:\Instarch\PVOC4\Data\102416\063.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 24, 2016 17:25:03

Over-range

Report

Dissolved Gases (Injection) (Methane/Ethene/Ethane)

(Sequence Log)

LIMS Run #(s): 131728, 131729, 131730 ~~131731~~ 10/24/16 AMA Instrument: Proc 4

Sequence Date: 10/24/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.8

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	pH
1	CCV	0.25	43	—
2	CCSW	1.0	43	—
3	MBW	1.0	43	—
4	791231	1.0	43	<2
5	791231	0.002	43	<2
6	MSW791231	1.0	43	<2
7	MSDW791231	1.0	43	<2
8	791237	1.0	43	<2
9	791237	0.02	43	<2
10	792727	1.0	43	<2
11	787720	1.0	43	<2
12	787721	1.0	43	<2
13	MSW787721	1.0	43	<2
14	MSDW787721	1.0	43	<2
15	787722	1.0	43	<2
16	CCV	0.25	43	—
17	787723	1.0	43	<2
18	788209	1.0	43	<2
19	788210	1.0	43	<2
20	788211	1.0	43	<2
21	788212	1.0	43	<2
22	788213	1.0	43	<2
23	788214	1.0	43	<2
24	788654	1.0	43	<2
25	788655	1.0	43	<2

Calibration Standard Ref. #: V681

Second Source Ref. #: V730

Dissolved Gases (Injection)

(Methane/Ethene/Ethane)

(Sequence Log)

LIMS Run #(s): 131728, 131729, 131730, ~~131731~~ 10/24/16 AMA Instrument: PVOC 4

Sequence Date: 10/24/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.8

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	pH
26	788656	1.0	43	< 2
27	CCV	0.25	43	—
28	LCSW	1.0	43	—
29	MBW	1.0	43	—
30	790854	1.0	43	< 2
31	790855	1.0	43	< 2
32	790856	1.0	43	< 2
33	790857	1.0	43	< 2
34	791724	1.0	43	< 2
35	791724	0.005	43	< 2
36	791744	1.0	43	< 2
37	791746	1.0	43	< 2
38	791749	1.0	43	4
39	791749	0.002	43	4
40	791749	0.005	43	4
41	791749	1.0	43	4
42	791749	0.05	43	4
43	791749	0.02	43	4
44	791750	1.0	43	< 2
45	791750	0.001	43	< 2
46	791751	1.0	43	< 2
47	791751	0.001	43	< 2
48	CCV	0.25	43	—
49	791752	1.0	43	< 2
50	791752	0.001	43	< 2

Calibration Standard Ref. #: V681

Second Source Ref. #: V730

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Dissolved Gases (Injection)

(Methane/Ethene/Ethane)

(Sequence Log)

LIMS Run #(s): 131728, 131729, 131730, ~~131731~~ 10/24/16 AMA Instrument: PURGE 4

Sequence Date: 10/24/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.8

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	pH
51	791753	1.0	43	<2
52	791753	0.002	43	<2
53	MSW791753	1.0	43	<2
54	MSDW791753	1.0	43	<2
55	792360	1.0	43	<2
56	792360	0.005	43	<2
57	792362	1.0	43	6
58	792362	0.001	43	6
59	792363	1.0	43	4
60	792363	0.002	43	4
61	792364	1.0	43	5
62	792364	0.001	43	5
63	CCV	0.25	43	—
64			43	
65			43	
66			43	
67			43	
68			43	
69			43	
70			43	
71			43	
72			43	
73			43	
74			43	
75			43	

AMA 10/24/16

Calibration Standard Ref. #: V681

Second Source Ref. #: V730

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FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
131728, 131729, 131730	10/24/2016	AMA	RLD	10/26/2016	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits		No		No	If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)		No		No	If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020315DGIC.seq
Instrument: PVOC4
Processing Date: Feb 03, 2015 11:19:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\020315icdg\001....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:27:30
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\020315icdg\002....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:35:02
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\020315icdg\003....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:38:17
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\020315icdg\004....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:41:32
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\005....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:44:59
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\020315icdg\006....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:48:29
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\020315icdg\007....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:52:17
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\008....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:02:07
9	ICB	C:\Instarch\PVOC4\Data\020315icdg\009....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:19:15

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): _____ Instrument: PVOC4

Sequence Date: 02/03/15 Analyst: AGK / BMS

Calibration Date: 02/03/15 Ambient Temp. (°C): 21.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	MEE PT 1	0.01 mL	42
2	MEE PT 2	0.025 mL	42
3	MEE PT 3	0.05 mL	42
4	MEE PT 4	0.10 mL	42
5	MEE PT 5	0.25 mL	42
6	MEE PT 6	0.50 mL	42
7	MEE PT 7	1.0 mL	42
8	ICV	.25 mL	42
9	ICB	1 mL	42
10	Re-Cert Rep 1	.25 mL	42
11	Re Cert Rep 2	.25 mL	42
12	Re Cert Rep 3	.25 mL	42
13	Re Cert Rep 4	.25 mL	42
14	Re Cert Rep 5	.25 mL	42
15			42
16			42
17			42
18			42
19	AGK		42
20	02/03/15		42
21			42
22			42
23			42
24			42
25			42

Calibration Standard Ref. #: V681

Second Source Ref. #: V619 / V730

Page 1

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Addition	SPEX	VO-CTWI-5	C114111900B	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Addition	SPEX	VO-CTWI-5	C114111900G	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-32YBA	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X02HE99C33A0087	54-1244K67791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7 CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C112121901Z	1000 ug/mL, 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 1/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C1150202012	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C1150202013	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V666	8260 Addition	SPEX	VO-CTWI-12	C1130701014	1000-10,000 ug/mL 09/29/13	MeOH	07/08/13 BmS	2 x 1mL
V667	VOC Mix	ULTRA	DWM-588	CK-1488	2000 ug/mL 06/30/16	MeOH	07/08/13 BmS	4 x 1mL
V668	8260 Istd./Sstd. Mix	ULTRA	STM-540	CK-3154	2500 ug/mL 07/31/16	MeOH	07/08/13 BmS	4 x 1mL
V669	Fluorobenzene	ULTRA	STS-160	CE-4128A	2000 ug/mL 01/31/15	MeOH	07/08/13 BmS	4 x 1mL
V670	Unleaded Gasoline	ULTRA	RGO-601	CH-0979	5000 ug/mL 04/30/15	MeOH	07/08/13 BmS	4 x 1mL
V671	8260 Special Addition	SPEX	VO-CTWI-5	C1130726021	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V672	8260 Special Addition	SPEX	VO-CTWI-5	C1130726023	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V673	Carbon Dioxide Std.	AIRGAS	X02HE99C33A1899	Cylinder#: FF7598 Lot: 136-400335836-1	10,000 ppmV 8/2016	1%CO2/He	08/26/13 BmS	1 cylinder @ 28.7 CF
V674	8260 VOC Mix.	AccuStd.	M-502-10X-PAK	213041330	2000 ug/mL 5/20/16	MeOH	9/16/13 RJ	5 x 1mL
V675	8260 Addition	SPEX	VO-CTWI-12	C1130919006	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V676	8260 Addition	SPEX	VO CTWI-12	C1130919007	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V677	8260 Special Addition	SPEX	VO-CTWI-5	C1130923019	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V678	8260 Special Addition	SPEX	VO-CTWI-5	C1130923020	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V679	124 TMB 2-methylpentane	SPEX	VO-CTWI-1	T1131004002	1000 ug/mL 10/03/16	MeOH	10/08/13 BmS	1mL
V680	α,α,α-Trifluorotoluene	ULTRA	STS-220N	CE-1903Z	3000 ug/mL 08/31/16	MeOH	10/08/13 BmS	4 x 1mL
V681	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-124397530-1	200 ppmV 10/2016	Helium	10/21/13 BmS	1 cylinder @ 31.6 CF

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V609	Fluorobenzene	ULTRA	STS-160	CE-4128	2000 ug/mL 12/31/12	MeOH	09/19/11 BmS	4x1
V610	α,α,α-Trifluorotoluene	ULTRA	STS-220N	CE-1903A	2000 ug/mL 07/21/14	MeOH	09/19/11 BmS	4x1
V611	8260 SPEX Add.	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 AP6	2x1
V612	8260 SPEX Add	SPEX	VO-CTWI-5	C1110914009	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 AP6	2x1
V613	PVOC/GRO Mix	RESTEK	30095	A072677	1000 ug/mL 3/17	MeOH	09/30/11 BmS	4x1
V614	Unleaded Gasoline	RESTEK	30205	A076842	50,000 ug/mL 10/17	MeOH	09/30/11 BmS	2x1
V615	SPEX SPE Add	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	11/23/11 AP6	1x1
V616	8260 SPE Add	SPEX	VO-CTWI-5	C1111123007	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 AP6	2x1
V617	8260 SPE Add	SPEX	VO-CTWI-5	C1111129018	1000-10,000 2000 ug/mL 5/27/12	meoH	12/6/11 AP6	2x1
V618	Carbon Dioxide	Air Gas	X02He99C337A1894	Cylinder # XE0016953	10,000 ppmV 12/2014	1% CO_2/He	RD 12/19/11	1 cylinder @ 28.7 CF
V619	Methane, Ethene, Ethane Std.	Airgas	X04HE99C353Q80	Cylinder # 4774237	200 ppmV 12/2014	Helium	BmS 12/27/11	1 cylinder @ 31.6 CF
V620	8260 IST0/SSTD mix	ULTRA	STM-540	CH-2681	2500 ug/mL 9/30/14	meoH	AP6 1/9/12	4x1
V621	Methane, Ethene, Ethane Std.	PRAXAIR	HE ET200EMIC-AQ	917830501	200 ppm 01/11/13	Helium	BmS 01/11/12	Re-Certified (V488)

me lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation
ee vials of DRO standard solution, CTI001A-C)
the concentrations vary, mark VARIES.

METALS
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788657
Analytical Method:	EPA 6010C	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131471	Analysis Date/Time	10/28/2016 02:22
Analytical Prep Batch #:	59578	Prep. Date/Time:	10/18/2016 15:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	294		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-39-3	Total Barium	89.1		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	43300		17	50	100	100
7440-47-3	Total Chromium	0.62	J	0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	1.4	J	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	452		16	50	100	100
7439-92-1	Total Lead	2.0	U	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	29400		6.0	20	40	40
7439-96-5	Total Manganese	66.8		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	1.1	J	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	2.5	U	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	3.3	J	1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788657
Analytical Method:	EPA 7470A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131573	Analysis Date/Time	10/20/2016 09:29
Analytical Prep Batch #:	59597	Prep. Date/Time:	10/19/2016 08:30
ICAL Calibration #:	10202016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.11	J	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788657
Analytical Method:	EPA 6010C	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131473	Analysis Date/Time	10/19/2016 10:17
Analytical Prep Batch #:	59578	Prep. Date/Time:	10/18/2016 15:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	2420		90	250	500	500
7440-23-5	Total Sodium	17000		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787719
Analytical Method:	EPA 6010C	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131471	Analysis Date/Time	10/28/2016 02:14
Analytical Prep Batch #:	59578	Prep. Date/Time:	10/18/2016 15:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	215		Y,M	6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	M	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	M	4.0	12	24	24
7440-39-3	Total Barium	31.6		Y	0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	43500		Y,M	17	50	100	100
7440-47-3	Total Chromium	1.0	J		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	266		M	16	50	100	100
7439-92-1	Total Lead	2.0	U		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	14400		Y,M	6.0	20	40	40
7439-96-5	Total Manganese	43.7		Y	0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.0	U	M	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	M	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U		2.5	7.5	15	15
7440-62-2	Total Vanadium	2.5	U		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	2.9	J		1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787719
Analytical Method:	EPA 7470A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131573	Analysis Date/Time	10/20/2016 09:27
Analytical Prep Batch #:	59597	Prep. Date/Time:	10/19/2016 08:30
ICAL Calibration #:	10202016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.097	J	0.030	0.060	0.12	0.12

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787719
Analytical Method:	EPA 6010C	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131473	Analysis Date/Time	10/19/2016 09:55
Analytical Prep Batch #:	59578	Prep. Date/Time:	10/18/2016 15:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	1480		90	250	500	500
7440-23-5	Total Sodium	20000		100	300	600	600

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 791835

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/20/16 08:35	3.00	2.96	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 790999

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/19/16	07:36	100000	102000	102	90	110
Sodium	10/19/16	07:36	100000	108000	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791000

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/19/16	07:39	3000	3050	102	80	120
Sodium	10/19/16	07:39	3000	3150	105	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798473

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/27/16	10:46	12000	12000	100	90	110
Antimony	10/27/16	10:46	500.0	510.0	102	90	110
Arsenic	10/27/16	10:46	2000	2040	102	90	110
Barium	10/27/16	10:46	2000	2060	103	90	110
Beryllium	10/27/16	10:46	50.00	48.40	97	90	110
Cadmium	10/27/16	10:46	50.00	48.90	98	90	110
Calcium	10/27/16	10:46	10000	10500	105	90	110
Chromium	10/27/16	10:46	200.0	200.0	100	90	110
Cobalt	10/27/16	10:46	500.0	500.0	100	90	110
Copper	10/27/16	10:46	250.0	246.0	98	90	110
Iron	10/27/16	10:46	5000	5170	103	90	110
Lead	10/27/16	10:46	500.0	518.0	104	90	110
Magnesium	10/27/16	10:46	10000	9990	100	90	110
Manganese	10/27/16	10:46	500.0	519.0	104	90	110
Nickel	10/27/16	10:46	500.0	514.0	103	90	110
Selenium	10/27/16	10:46	2000	1950	98	90	110
Silver	10/27/16	10:46	50.00	48.00	96	90	110
Thallium	10/27/16	10:46	2000	1990	100	90	110
Vanadium	10/27/16	10:46	500.0	513.0	103	90	110
Zinc	10/27/16	10:46	500.0	507.0	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798474

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/27/16	10:53	1200	1200	100	80	120
Antimony	10/27/16	10:53	60.00	61.50	102	80	120
Arsenic	10/27/16	10:53	60.00	61.70	103	80	120
Barium	10/27/16	10:53	30.00	30.30	101	80	120
Beryllium	10/27/16	10:53	12.00	12.80	107	80	120
Cadmium	10/27/16	10:53	15.00	16.00	107	80	120
Calcium	10/27/16	10:53	1500	1530	102	80	120
Chromium	10/27/16	10:53	30.00	30.10	100	80	120
Cobalt	10/27/16	10:53	30.00	29.70	99	80	120
Copper	10/27/16	10:53	30.00	30.00	100	80	120
Iron	10/27/16	10:53	900.0	942.0	105	80	120
Lead	10/27/16	10:53	30.00	31.70	106	80	120
Magnesium	10/27/16	10:53	1500	1490	99	80	120
Manganese	10/27/16	10:53	30.00	32.50	108	80	120
Nickel	10/27/16	10:53	30.00	31.80	106	80	120
Selenium	10/27/16	10:53	60.00	69.00	115	80	120
Thallium	10/27/16	10:53	60.00	56.60	94	80	120
Vanadium	10/27/16	10:53	30.00	30.90	103	80	120
Zinc	10/27/16	10:53	30.00	31.20	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471

Lab Sample ID: 798478

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	10/27/16 11:37	10.00	10.00	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800544

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/16	09:46	12000	12200	102	90	110
Antimony	10/19/16	09:46	500.0	506.0	101	90	110
Arsenic	10/19/16	09:46	2000	2060	103	90	110
Barium	10/19/16	09:46	2000	2040	102	90	110
Beryllium	10/19/16	09:46	50.00	47.00	94	90	110
Cadmium	10/19/16	09:46	50.00	49.00	98	90	110
Calcium	10/19/16	09:46	10000	10500	105	90	110
Chromium	10/19/16	09:46	200.0	199.0	100	90	110
Cobalt	10/19/16	09:46	500.0	508.0	102	90	110
Copper	10/19/16	09:46	250.0	247.0	99	90	110
Iron	10/19/16	09:46	5000	5250	105	90	110
Lead	10/19/16	09:46	500.0	511.0	102	90	110
Magnesium	10/19/16	09:46	10000	10200	102	90	110
Manganese	10/19/16	09:46	500.0	510.0	102	90	110
Nickel	10/19/16	09:46	500.0	498.0	100	90	110
Selenium	10/19/16	09:46	2000	2030	102	90	110
Silver	10/19/16	09:46	50.00	47.90	96	90	110
Thallium	10/19/16	09:46	2000	2020	101	90	110
Vanadium	10/19/16	09:46	500.0	528.0	106	90	110
Zinc	10/19/16	09:46	500.0	494.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800548

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/16	09:53	1200	1240	103	80	120
Antimony	10/19/16	09:53	60.00	64.50	108	80	120
Arsenic	10/19/16	09:53	60.00	57.50	96	80	120
Barium	10/19/16	09:53	30.00	31.30	104	80	120
Beryllium	10/19/16	09:53	12.00	13.50	112	80	120
Cadmium	10/19/16	09:53	15.00	16.30	109	80	120
Calcium	10/19/16	09:53	1500	1620	108	80	120
Chromium	10/19/16	09:53	30.00	32.90	110	80	120
Cobalt	10/19/16	09:53	30.00	31.50	105	80	120
Copper	10/19/16	09:53	30.00	31.30	104	80	120
Iron	10/19/16	09:53	900.0	959.0	107	80	120
Lead	10/19/16	09:53	30.00	29.90	100	80	120
Magnesium	10/19/16	09:53	1500	1560	104	80	120
Manganese	10/19/16	09:53	30.00	32.90	110	80	120
Nickel	10/19/16	09:53	30.00	32.70	109	80	120
Selenium	10/19/16	09:53	60.00	64.60	108	80	120
Thallium	10/19/16	09:53	60.00	57.70	96	80	120
Vanadium	10/19/16	09:53	30.00	33.20	111	80	120
Zinc	10/19/16	09:53	30.00	33.50	112	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471

Lab Sample ID: 800557

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	10/19/16 10:37	10.00	10.40	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791005

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/19/16	09:25	100000	103000	103	90	110
Sodium	10/19/16	09:25	100000	104000	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791007

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/19/16	09:58	100000	104000	104	90	110
Sodium	10/19/16	09:58	100000	105000	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791011

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/19/16	10:31	100000	106000	106	90	110
Sodium	10/19/16	10:31	100000	108000	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 791837

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/20/16 09:14	3.00	3.00	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 791839

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/20/16 09:40	3.00	3.04	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798479

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/28/16	01:05	5000	4820	96	90	110
Antimony	10/28/16	01:05	5000	4660	93	90	110
Arsenic	10/28/16	01:05	5000	4650	93	90	110
Barium	10/28/16	01:05	5000	4980	100	90	110
Beryllium	10/28/16	01:05	500.0	462.0	92	90	110
Cadmium	10/28/16	01:05	500.0	466.0	93	90	110
Calcium	10/28/16	01:05	5000	4780	96	90	110
Chromium	10/28/16	01:05	5000	4620	92	90	110
Cobalt	10/28/16	01:05	5000	4660	93	90	110
Copper	10/28/16	01:05	5000	4800	96	90	110
Iron	10/28/16	01:05	5000	4750	95	90	110
Lead	10/28/16	01:05	5000	4790	96	90	110
Magnesium	10/28/16	01:05	5000	4560	91	90	110
Manganese	10/28/16	01:05	5000	4590	92	90	110
Nickel	10/28/16	01:05	5000	4760	95	90	110
Selenium	10/28/16	01:05	5000	4560	91	90	110
Silver	10/28/16	01:05	500.0	458.0	92	90	110
Thallium	10/28/16	01:05	5000	4700	94	90	110
Vanadium	10/28/16	01:05	5000	4640	93	90	110
Zinc	10/28/16	01:05	5000	4710	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798480

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/28/16	01:11	500.0	480.0	96	90	110
Antimony	10/28/16	01:11	500.0	469.0	94	90	110
Arsenic	10/28/16	01:11	500.0	473.0	95	90	110
Barium	10/28/16	01:11	500.0	487.0	97	90	110
Beryllium	10/28/16	01:11	50.00	48.00	96	90	110
Cadmium	10/28/16	01:11	50.00	49.30	99	90	110
Calcium	10/28/16	01:11	500.0	475.0	95	90	110
Chromium	10/28/16	01:11	500.0	468.0	94	90	110
Cobalt	10/28/16	01:11	500.0	471.0	94	90	110
Copper	10/28/16	01:11	500.0	463.0	93	90	110
Iron	10/28/16	01:11	500.0	457.0	91	90	110
Lead	10/28/16	01:11	500.0	491.0	98	90	110
Magnesium	10/28/16	01:11	500.0	450.0	90	90	110
Manganese	10/28/16	01:11	500.0	458.0	92	90	110
Nickel	10/28/16	01:11	500.0	487.0	97	90	110
Selenium	10/28/16	01:11	500.0	489.0	98	90	110
Silver	10/28/16	01:11	50.00	47.80	96	90	110
Thallium	10/28/16	01:11	500.0	476.0	95	90	110
Vanadium	10/28/16	01:11	500.0	476.0	95	90	110
Zinc	10/28/16	01:11	500.0	467.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471

Lab Sample ID: 798482

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/28/16	02:36	5000	4840	97	90	110
Antimony	10/28/16	02:36	5000	4740	95	90	110
Arsenic	10/28/16	02:36	5000	4710	94	90	110
Barium	10/28/16	02:36	5000	5020	100	90	110
Beryllium	10/28/16	02:36	500.0	465.0	93	90	110
Cadmium	10/28/16	02:36	500.0	470.0	94	90	110
Calcium	10/28/16	02:36	5000	4780	96	90	110
Chromium	10/28/16	02:36	5000	4660	93	90	110
Cobalt	10/28/16	02:36	5000	4690	94	90	110
Copper	10/28/16	02:36	5000	4770	95	90	110
Iron	10/28/16	02:36	5000	4790	96	90	110
Lead	10/28/16	02:36	5000	4830	97	90	110
Magnesium	10/28/16	02:36	5000	4540	91	90	110
Manganese	10/28/16	02:36	5000	4550	91	90	110
Nickel	10/28/16	02:36	5000	4790	96	90	110
Selenium	10/28/16	02:36	5000	4690	94	90	110
Silver	10/28/16	02:36	500.0	462.0	92	90	110
Thallium	10/28/16	02:36	5000	4760	95	90	110
Vanadium	10/28/16	02:36	5000	4610	92	90	110
Zinc	10/28/16	02:36	5000	4660	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798483

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/28/16	02:43	500.0	484.0	97	90	110
Antimony	10/28/16	02:43	500.0	478.0	96	90	110
Arsenic	10/28/16	02:43	500.0	479.0	96	90	110
Barium	10/28/16	02:43	500.0	499.0	100	90	110
Beryllium	10/28/16	02:43	50.00	48.50	97	90	110
Cadmium	10/28/16	02:43	50.00	49.50	99	90	110
Calcium	10/28/16	02:43	500.0	483.0	97	90	110
Chromium	10/28/16	02:43	500.0	471.0	94	90	110
Cobalt	10/28/16	02:43	500.0	476.0	95	90	110
Copper	10/28/16	02:43	500.0	470.0	94	90	110
Iron	10/28/16	02:43	500.0	468.0	94	90	110
Lead	10/28/16	02:43	500.0	495.0	99	90	110
Magnesium	10/28/16	02:43	500.0	449.0	90	90	110
Manganese	10/28/16	02:43	500.0	454.0	91	90	110
Nickel	10/28/16	02:43	500.0	494.0	99	90	110
Selenium	10/28/16	02:43	500.0	519.0	104	90	110
Silver	10/28/16	02:43	50.00	49.10	98	90	110
Thallium	10/28/16	02:43	500.0	482.0	96	90	110
Vanadium	10/28/16	02:43	500.0	480.0	96	90	110
Zinc	10/28/16	02:43	500.0	474.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800549

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/16	16:24	5000	5190	104	90	110
Antimony	10/19/16	16:24	5000	5260	105	90	110
Arsenic	10/19/16	16:24	5000	5250	105	90	110
Barium	10/19/16	16:24	5000	5070	101	90	110
Beryllium	10/19/16	16:24	500.0	495.0	99	90	110
Cadmium	10/19/16	16:24	500.0	516.0	103	90	110
Calcium	10/19/16	16:24	5000	5220	104	90	110
Chromium	10/19/16	16:24	5000	5390	108	90	110
Cobalt	10/19/16	16:24	5000	5030	101	90	110
Copper	10/19/16	16:24	5000	5200	104	90	110
Iron	10/19/16	16:24	5000	5510	110	90	110
Lead	10/19/16	16:24	5000	5300	106	90	110
Magnesium	10/19/16	16:24	5000	5090	102	90	110
Manganese	10/19/16	16:24	5000	5230	105	90	110
Nickel	10/19/16	16:24	5000	5270	105	90	110
Selenium	10/19/16	16:24	5000	5250	105	90	110
Silver	10/19/16	16:24	500.0	498.0	100	90	110
Thallium	10/19/16	16:24	5000	5280	106	90	110
Vanadium	10/19/16	16:24	5000	5220	104	90	110
Zinc	10/19/16	16:24	5000	5460	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800550

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	10/19/16	18:00	500.0	555.0	111	90	110	FAIL
Antimony	10/19/16	18:00	500.0	564.0	113	90	110	FAIL
Arsenic	10/19/16	18:00	500.0	541.0	108	90	110	
Barium	10/19/16	18:00	500.0	551.0	110	90	110	
Beryllium	10/19/16	18:00	50.00	55.00	110	90	110	
Cadmium	10/19/16	18:00	50.00	57.40	115	90	110	FAIL
Calcium	10/19/16	18:00	500.0	575.0	115	90	110	FAIL
Chromium	10/19/16	18:00	500.0	550.0	110	90	110	
Cobalt	10/19/16	18:00	500.0	546.0	109	90	110	
Copper	10/19/16	18:00	500.0	550.0	110	90	110	
Iron	10/19/16	18:00	500.0	553.0	111	90	110	FAIL
Lead	10/19/16	18:00	500.0	550.0	110	90	110	
Magnesium	10/19/16	18:00	500.0	549.0	110	90	110	
Manganese	10/19/16	18:00	500.0	575.0	115	90	110	FAIL
Nickel	10/19/16	18:00	500.0	568.0	114	90	110	FAIL
Selenium	10/19/16	18:00	500.0	574.0	115	90	110	FAIL
Silver	10/19/16	18:00	50.00	56.80	114	90	110	FAIL
Thallium	10/19/16	18:00	500.0	569.0	114	90	110	FAIL
Vanadium	10/19/16	18:00	500.0	546.0	109	90	110	
Zinc	10/19/16	18:00	500.0	542.0	108	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800552

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	10/19/16	17:53	5000	5440	109	90	110	
Antimony	10/19/16	17:53	5000	5400	108	90	110	
Arsenic	10/19/16	17:53	5000	5400	108	90	110	
Barium	10/19/16	17:53	5000	5240	105	90	110	
Beryllium	10/19/16	17:53	500.0	523.0	105	90	110	
Cadmium	10/19/16	17:53	500.0	528.0	106	90	110	
Calcium	10/19/16	17:53	5000	5460	109	90	110	
Chromium	10/19/16	17:53	5000	5550	111	90	110	FAIL
Cobalt	10/19/16	17:53	5000	5340	107	90	110	
Copper	10/19/16	17:53	5000	5350	107	90	110	
Iron	10/19/16	17:53	5000	5480	110	90	110	
Lead	10/19/16	17:53	5000	5440	109	90	110	
Magnesium	10/19/16	17:53	5000	5290	106	90	110	
Manganese	10/19/16	17:53	5000	5930	119	90	110	FAIL
Nickel	10/19/16	17:53	5000	5620	112	90	110	FAIL
Selenium	10/19/16	17:53	5000	5420	108	90	110	
Silver	10/19/16	17:53	500.0	528.0	106	90	110	
Thallium	10/19/16	17:53	5000	5440	109	90	110	
Vanadium	10/19/16	17:53	5000	5620	112	90	110	FAIL
Zinc	10/19/16	17:53	5000	5600	112	90	110	FAIL

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800553

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	10/19/16	16:30	500.0	552.0	110	90	110	
Antimony	10/19/16	16:30	500.0	553.0	111	90	110	FAIL
Arsenic	10/19/16	16:30	500.0	534.0	107	90	110	
Barium	10/19/16	16:30	500.0	539.0	108	90	110	
Beryllium	10/19/16	16:30	50.00	53.40	107	90	110	
Cadmium	10/19/16	16:30	50.00	56.10	112	90	110	FAIL
Calcium	10/19/16	16:30	500.0	554.0	111	90	110	FAIL
Chromium	10/19/16	16:30	500.0	532.0	106	90	110	
Cobalt	10/19/16	16:30	500.0	558.0	112	90	110	FAIL
Copper	10/19/16	16:30	500.0	537.0	107	90	110	
Iron	10/19/16	16:30	500.0	541.0	108	90	110	
Lead	10/19/16	16:30	500.0	540.0	108	90	110	
Magnesium	10/19/16	16:30	500.0	529.0	106	90	110	
Manganese	10/19/16	16:30	500.0	552.0	110	90	110	
Nickel	10/19/16	16:30	500.0	555.0	111	90	110	FAIL
Selenium	10/19/16	16:30	500.0	553.0	111	90	110	FAIL
Silver	10/19/16	16:30	50.00	54.50	109	90	110	
Thallium	10/19/16	16:30	500.0	553.0	111	90	110	FAIL
Vanadium	10/19/16	16:30	500.0	540.0	108	90	110	
Zinc	10/19/16	16:30	500.0	526.0	105	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791002

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/19/16	07:44	1000	1020	102	70	130
Sodium	10/19/16	07:44	1000	1030	103	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 791836

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/20/2016 08:38	0.00800	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791001

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/19/2016 07:41	-43.0	U	90	250
Sodium	10/19/2016 07:41	8.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798475

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/27/2016 11:07	0.488	U	6	18
Antimony	10/27/2016 11:07	0.145	U	2.0	6.0
Arsenic	10/27/2016 11:07	2.97	U	4	12
Barium	10/27/2016 11:07	0.00600	U	0.29	0.90
Beryllium	10/27/2016 11:07	-0.127	U	0.10	0.30
Cadmium	10/27/2016 11:07	0.00200	U	0.3	1.0
Calcium	10/27/2016 11:07	-3.61	U	17	50
Chromium	10/27/2016 11:07	-0.288	U	0.6	2.0
Cobalt	10/27/2016 11:07	0.0320	U	0.7	2.0
Copper	10/27/2016 11:07	-0.510	U	1.2	3.5
Iron	10/27/2016 11:07	-15.3	U	16	50
Lead	10/27/2016 11:07	0.510	U	1.4	2.0
Magnesium	10/27/2016 11:07	1.64	U	6	20
Manganese	10/27/2016 11:07	0.138	U	0.7	2.0
Nickel	10/27/2016 11:07	0.665	U	1.0	3.0
Selenium	10/27/2016 11:07	2.32		2.2	6.5
Silver	10/27/2016 11:07	0.0930	U	0.7	2.0
Thallium	10/27/2016 11:07	-0.632	U	2.5	7.5
Vanadium	10/27/2016 11:07	0.0250	U	0.8	2.5
Zinc	10/27/2016 11:07	0.105	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800545

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/19/2016 10:07	1.27	U	6	18
Antimony	10/19/2016 10:07	0.493	U	2.0	6.0
Arsenic	10/19/2016 10:07	0	U	4	12
Barium	10/19/2016 10:07	0.0220	U	0.29	0.90
Beryllium	10/19/2016 10:07	0.0670	U	0.10	0.30
Cadmium	10/19/2016 10:07	0.0440	U	0.3	1.0
Calcium	10/19/2016 10:07	4.24	U	17	50
Chromium	10/19/2016 10:07	0	U	0.6	2.0
Cobalt	10/19/2016 10:07	0.222	U	0.7	2.0
Copper	10/19/2016 10:07	0	U	1.2	3.5
Iron	10/19/2016 10:07	0	U	16	50
Lead	10/19/2016 10:07	0	U	1.4	2.0
Magnesium	10/19/2016 10:07	2.30	U	6	20
Manganese	10/19/2016 10:07	0	U	0.7	2.0
Nickel	10/19/2016 10:07	0	U	1.0	3.0
Selenium	10/19/2016 10:07	0	U	2.2	6.5
Silver	10/19/2016 10:07	0.609	U	0.7	2.0
Thallium	10/19/2016 10:07	0	U	2.5	7.5
Vanadium	10/19/2016 10:07	0	U	0.8	2.5
Zinc	10/19/2016 10:07	0.00500	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 791838

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/20/2016 09:16	0.00500	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 791840

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/20/2016 09:42	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791006

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/19/2016 09:28	29.00	U	90	250
Sodium	10/19/2016 09:28	67.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 791008

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/19/2016 10:00	58.00	U	90	250
Sodium	10/19/2016 10:00	76.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473

Lab Sample ID: 791012

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/19/2016 10:34	134.0		90	250
Sodium	10/19/2016 10:34	96.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798481

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/28/2016 01:18	5.30	U	6	18
Antimony	10/28/2016 01:18	1.44	U	2.0	6.0
Arsenic	10/28/2016 01:18	-3.22	U	4	12
Barium	10/28/2016 01:18	0.0150	U	0.29	0.90
Beryllium	10/28/2016 01:18	-0.178	U	0.10	0.30
Cadmium	10/28/2016 01:18	-0.0120	U	0.3	1.0
Calcium	10/28/2016 01:18	-5.95	U	17	50
Chromium	10/28/2016 01:18	-0.677	U	0.6	2.0
Cobalt	10/28/2016 01:18	0.0390	U	0.7	2.0
Copper	10/28/2016 01:18	-0.215	U	1.2	3.5
Iron	10/28/2016 01:18	-17.8	U	16	50
Lead	10/28/2016 01:18	0.457	U	1.4	2.0
Magnesium	10/28/2016 01:18	0.0240	U	6	20
Manganese	10/28/2016 01:18	0.00500	U	0.7	2.0
Nickel	10/28/2016 01:18	0.662	U	1.0	3.0
Selenium	10/28/2016 01:18	-0.289	U	2.2	6.5
Silver	10/28/2016 01:18	0.755		0.7	2.0
Thallium	10/28/2016 01:18	-1.61	U	2.5	7.5
Vanadium	10/28/2016 01:18	-0.188	U	0.8	2.5
Zinc	10/28/2016 01:18	-0.162	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 798484

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/28/2016 02:49	3.27	U	6	18
Antimony	10/28/2016 02:49	0.361	U	2.0	6.0
Arsenic	10/28/2016 02:49	-0.971	U	4	12
Barium	10/28/2016 02:49	-0.0270	U	0.29	0.90
Beryllium	10/28/2016 02:49	-0.151	U	0.10	0.30
Cadmium	10/28/2016 02:49	-0.0100	U	0.3	1.0
Calcium	10/28/2016 02:49	-6.06	U	17	50
Chromium	10/28/2016 02:49	-0.544	U	0.6	2.0
Cobalt	10/28/2016 02:49	0.149	U	0.7	2.0
Copper	10/28/2016 02:49	0.242	U	1.2	3.5
Iron	10/28/2016 02:49	-19.3	U	16	50
Lead	10/28/2016 02:49	-0.0540	U	1.4	2.0
Magnesium	10/28/2016 02:49	0.0670	U	6	20
Manganese	10/28/2016 02:49	0.108	U	0.7	2.0
Nickel	10/28/2016 02:49	0.877	U	1.0	3.0
Selenium	10/28/2016 02:49	1.60	U	2.2	6.5
Silver	10/28/2016 02:49	-0.422	U	0.7	2.0
Thallium	10/28/2016 02:49	-1.46	U	2.5	7.5
Vanadium	10/28/2016 02:49	0.0590	U	0.8	2.5
Zinc	10/28/2016 02:49	-0.200	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800551

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/19/2016 16:37	4.50	U	6	18
Antimony	10/19/2016 16:37	0	U	2.0	6.0
Arsenic	10/19/2016 16:37	0	U	4	12
Barium	10/19/2016 16:37	0.114	U	0.29	0.90
Beryllium	10/19/2016 16:37	0.0480	U	0.10	0.30
Cadmium	10/19/2016 16:37	0	U	0.3	1.0
Calcium	10/19/2016 16:37	1.37	U	17	50
Chromium	10/19/2016 16:37	0	U	0.6	2.0
Cobalt	10/19/2016 16:37	0.101	U	0.7	2.0
Copper	10/19/2016 16:37	0	U	1.2	3.5
Iron	10/19/2016 16:37	0	U	16	50
Lead	10/19/2016 16:37	0	U	1.4	2.0
Magnesium	10/19/2016 16:37	1.06	U	6	20
Manganese	10/19/2016 16:37	0.0530	U	0.7	2.0
Nickel	10/19/2016 16:37	0.298	U	1.0	3.0
Selenium	10/19/2016 16:37	0	U	2.2	6.5
Silver	10/19/2016 16:37	0.824		0.7	2.0
Thallium	10/19/2016 16:37	0	U	2.5	7.5
Vanadium	10/19/2016 16:37	0	U	0.8	2.5
Zinc	10/19/2016 16:37	0	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 800554

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/19/2016 18:07	0.671	U	6	18
Antimony	10/19/2016 18:07	0	U	2.0	6.0
Arsenic	10/19/2016 18:07	0	U	4	12
Barium	10/19/2016 18:07	0.154	U	0.29	0.90
Beryllium	10/19/2016 18:07	0.0610	U	0.10	0.30
Cadmium	10/19/2016 18:07	-0.0520	U	0.3	1.0
Calcium	10/19/2016 18:07	1.53	U	17	50
Chromium	10/19/2016 18:07	0.149	U	0.6	2.0
Cobalt	10/19/2016 18:07	0.247	U	0.7	2.0
Copper	10/19/2016 18:07	0.222	U	1.2	3.5
Iron	10/19/2016 18:07	-1.83	U	16	50
Lead	10/19/2016 18:07	0	U	1.4	2.0
Magnesium	10/19/2016 18:07	1.12	U	6	20
Manganese	10/19/2016 18:07	0	U	0.7	2.0
Nickel	10/19/2016 18:07	0.336	U	1.0	3.0
Selenium	10/19/2016 18:07	0	U	2.2	6.5
Silver	10/19/2016 18:07	1.07		0.7	2.0
Thallium	10/19/2016 18:07	0	U	2.5	7.5
Vanadium	10/19/2016 18:07	0	U	0.8	2.5
Zinc	10/19/2016 18:07	0	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131573 Lab Sample ID: 790608

Analytical Prep Batch # 59597 Preparation Date/Time: 10/19/2016 08:30

ICAL Calibration #: 10202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	10/20/2016 09:25	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131471 Lab Sample ID: 789905

Analytical Prep Batch # 59578 Preparation Date/Time: 10/18/2016 15:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	10/28/2016 02:07	5.01	U	6	18	
Total Antimony	10/28/2016 02:07	0	U	2.0	6.0	
Total Arsenic	10/28/2016 02:07	0	U	4	12	
Total Barium	10/28/2016 02:07	0	U	0.29	0.90	
Total Beryllium	10/28/2016 02:07	0.350		0.10	0.30	FAIL
Total Cadmium	10/28/2016 02:07	0.0700	U	0.3	1.0	
Total Calcium	10/28/2016 02:07	0	U	17	50	
Total Chromium	10/28/2016 02:07	0	U	0.6	2.0	
Total Cobalt	10/28/2016 02:07	0.408	U	0.7	2.0	
Total Copper	10/28/2016 02:07	0.0420	U	1.2	3.5	
Total Iron	10/28/2016 02:07	0	U	16	50	
Total Lead	10/28/2016 02:07	1.05	U	1.4	2.0	
Total Magnesium	10/28/2016 02:07	0.571	U	6	20	
Total Manganese	10/28/2016 02:07	0	U	0.7	2.0	
Total Nickel	10/28/2016 02:07	0.799	U	1.0	3.0	
Total Selenium	10/28/2016 02:07	0	U	2.2	6.5	
Total Silver	10/28/2016 02:07	0.266	U	0.7	2.0	
Total Thallium	10/28/2016 02:07	0	U	2.5	7.5	
Total Vanadium	10/28/2016 02:07	0	U	0.8	2.5	
Total Zinc	10/28/2016 02:07	0	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 789905

Analytical Prep Batch # 59578 Preparation Date/Time: 10/18/2016 15:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	10/19/2016 09:52	29.00	U	90	250
Total Sodium	10/19/2016 09:52	17.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131473 Lab Sample ID: 789905

Analytical Prep Batch # 59578 Preparation Date/Time: 10/18/2016 15:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	10/19/2016 09:52	29.00	U	90	250
Total Sodium	10/19/2016 09:52	17.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 122845
ICS Source: SPEX

Analytical Run #: 131473
Lab Sample ID: 791003
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/2016 07:47	500000	505000	101	80	120
Calcium	10/19/2016 07:47	500000	498000	100	80	120
Iron	10/19/2016 07:47	500000	499000	100	80	120
Magnesium	10/19/2016 07:47	500000	509000	102	80	120
Potassium	10/19/2016 07:47	0	28.00		-170	170
Sodium	10/19/2016 07:47	0	0		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 122845
ICS Source: SPEX

Analytical Run #: 131471
Lab Sample ID: 798476
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/27/2016 11:21	500000	488000	98	80	120
Antimony	10/27/2016 11:21	0	0.00100		-5	5
Arsenic	10/27/2016 11:21	0	0.0340		-6	6
Barium	10/27/2016 11:21	0	0		-0.7	0.7
Beryllium	10/27/2016 11:21	0	-0.181		-0.29	0.29
Cadmium	10/27/2016 11:21	0	-0.00200		-0.26	0.26
Calcium	10/27/2016 11:21	500000	487000	97	80	120
Chromium	10/27/2016 11:21	0	0		-1.9	1.9
Cobalt	10/27/2016 11:21	0	-0.184		-1.2	1.2
Copper	10/27/2016 11:21	0	-0.0550		-4	4
Iron	10/27/2016 11:21	500000	446000	89	80	120
Lead	10/27/2016 11:21	0	0		-1.5	1.5
Magnesium	10/27/2016 11:21	500000	500000	100	80	120
Manganese	10/27/2016 11:21	0	0		-1.6	1.6
Nickel	10/27/2016 11:21	0	0.00100		-2.3	2.3
Selenium	10/27/2016 11:21	0	-0.0180		-12	12
Silver	10/27/2016 11:21	0	0		-2.0	2.0
Thallium	10/27/2016 11:21	0	-0.00300		-5	5
Vanadium	10/27/2016 11:21	0	0		-1.7	1.7
Zinc	10/27/2016 11:21	0	-0.00100		-2.4	2.4

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 122845
ICS Source: SPEX

Analytical Run #: 131471
Lab Sample ID: 800546
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/2016 10:21	500000	502000	100	80	120
Antimony	10/19/2016 10:21	0	0		-5	5
Arsenic	10/19/2016 10:21	0	-0.0190		-6	6
Barium	10/19/2016 10:21	0	-0.0190		-0.7	0.7
Beryllium	10/19/2016 10:21	0	0.0460		-0.29	0.29
Cadmium	10/19/2016 10:21	0	-0.00100		-0.26	0.26
Calcium	10/19/2016 10:21	500000	492000	98	80	120
Chromium	10/19/2016 10:21	0	0.602		-1.9	1.9
Cobalt	10/19/2016 10:21	0	0		-1.2	1.2
Copper	10/19/2016 10:21	0	-0.0600		-4	4
Iron	10/19/2016 10:21	500000	460000	92	80	120
Lead	10/19/2016 10:21	0	0.271		-1.5	1.5
Magnesium	10/19/2016 10:21	500000	520000	104	80	120
Manganese	10/19/2016 10:21	0	0		-1.6	1.6
Nickel	10/19/2016 10:21	0	0		-2.3	2.3
Selenium	10/19/2016 10:21	0	-0.00200		-12	12
Silver	10/19/2016 10:21	0	0		-2.0	2.0
Thallium	10/19/2016 10:21	0	0.489		-5	5
Vanadium	10/19/2016 10:21	0	-0.177		-1.7	1.7
Zinc	10/19/2016 10:21	0	0.00100		-2.4	2.4

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 122845
ICS Source: SPEX, Ultra

Analytical Run #: 131473
Lab Sample ID: 791004
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/2016 07:50	500000	507000	101	80	120
Calcium	10/19/2016 07:50	500000	498000	100	80	120
Iron	10/19/2016 07:50	500000	506000	101	80	120
Magnesium	10/19/2016 07:50	500000	508000	102	80	120
Potassium	10/19/2016 07:50	100000	112000	112	80	120
Sodium	10/19/2016 07:50	100000	117000	117	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 122845
ICS Source: SPEX, Ultra

Analytical Run #: 131471
Lab Sample ID: 798477
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/27/2016 11:29	500000	503000	101	80	120
Antimony	10/27/2016 11:29	500.0	493.0	99	80	120
Arsenic	10/27/2016 11:29	500.0	487.0	97	80	120
Barium	10/27/2016 11:29	500.0	427.0	85	80	120
Beryllium	10/27/2016 11:29	500.0	508.0	102	80	120
Cadmium	10/27/2016 11:29	500.0	468.0	94	80	120
Calcium	10/27/2016 11:29	500000	500000	100	80	120
Chromium	10/27/2016 11:29	500.0	454.0	91	80	120
Cobalt	10/27/2016 11:29	500.0	415.0	83	80	120
Copper	10/27/2016 11:29	500.0	425.0	85	80	120
Iron	10/27/2016 11:29	500000	454000	91	80	120
Lead	10/27/2016 11:29	500.0	437.0	87	80	120
Magnesium	10/27/2016 11:29	500000	515000	103	80	120
Manganese	10/27/2016 11:29	500.0	459.0	92	80	120
Nickel	10/27/2016 11:29	500.0	436.0	87	80	120
Selenium	10/27/2016 11:29	500.0	464.0	93	80	120
Silver	10/27/2016 11:29	500.0	532.0	106	80	120
Thallium	10/27/2016 11:29	500.0	482.0	96	80	120
Vanadium	10/27/2016 11:29	500.0	479.0	96	80	120
Zinc	10/27/2016 11:29	500.0	474.0	95	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 122845
ICS Source: SPEX, Ultra

Analytical Run #: 131471
Lab Sample ID: 800547
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/19/2016 10:29	500000	503000	101	80	120
Antimony	10/19/2016 10:29	500.0	522.0	104	80	120
Arsenic	10/19/2016 10:29	500.0	533.0	107	80	120
Barium	10/19/2016 10:29	500.0	462.0	92	80	120
Beryllium	10/19/2016 10:29	500.0	500.0	100	80	120
Cadmium	10/19/2016 10:29	500.0	469.0	94	80	120
Calcium	10/19/2016 10:29	500000	486000	97	80	120
Chromium	10/19/2016 10:29	500.0	476.0	95	80	120
Cobalt	10/19/2016 10:29	500.0	443.0	89	80	120
Copper	10/19/2016 10:29	500.0	433.0	87	80	120
Iron	10/19/2016 10:29	500000	482000	96	80	120
Lead	10/19/2016 10:29	500.0	428.0	86	80	120
Magnesium	10/19/2016 10:29	500000	519000	104	80	120
Manganese	10/19/2016 10:29	500.0	465.0	93	80	120
Nickel	10/19/2016 10:29	500.0	452.0	90	80	120
Selenium	10/19/2016 10:29	500.0	493.0	99	80	120
Silver	10/19/2016 10:29	500.0	557.0	111	80	120
Thallium	10/19/2016 10:29	500.0	400.0	80	80	120
Vanadium	10/19/2016 10:29	500.0	443.0	89	80	120
Zinc	10/19/2016 10:29	500.0	438.0	88	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	ug/L
Sample No	790611	Parent Sample No.:	788657
Analytical Prep Batch #	59597	Analytical Preparation Date/Time:	10/19/2016 08:30
Analytical Run #:	131573	ICAL Calibration #:	10202016

Analysis Type *Initial Analysis* Analysis Date: ----- 10/20/2016 Analysis Time: -------- 09:33

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.0		0.11	J	2.0	94		CV

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description: **54AOW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solids for Sample:
Concentration Units: ug/L
Sample No: 789908
Parent Sample No.: 787719
Analytical Prep Batch #: 59578
Analytical Preparation Date/Time: 10/18/2016 15:00
Analytical Run #: 131471
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/19/2016 Analysis Time: -------- 17:05

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	895		215		800	85		P	*FAIL*
Total Antimony	88-113	125		BDL	U	200	62		P	*FAIL*
Total Arsenic	87-113	483		BDL	U	800	60		P	*FAIL*
Total Barium	88-113	498		31.6		800	58		P	*FAIL*
Total Beryllium	89-112	11.7		BDL	U	20.0	58		P	*FAIL*
Total Cadmium	88-113	11.4		BDL	U	20.0	57		P	*FAIL*
Total Calcium	87-113	171000		43500		200000	64		P	*FAIL*
Total Chromium	90-113	49.6		1.0	J	80.0	61		P	*FAIL*
Total Cobalt	89-114	113		BDL	U	200	56		P	*FAIL*
Total Copper	86-114	58.8		BDL	U	100	59		P	*FAIL*
Total Iron	87-115	633		266		400	92		P	
Total Lead	86-113	110		BDL	U	200	55		P	*FAIL*
Total Magnesium	85-113	77000		14400		100000	63		P	*FAIL*
Total Manganese	90-114	179		43.7		200	68		P	*FAIL*
Total Nickel	88-113	117		BDL	U	200	58		P	*FAIL*
Total Selenium	83-114	509		BDL	U	800	64		P	*FAIL*
Total Silver	84-115	12.7		BDL	U	20.0	64		P	*FAIL*
Total Thallium	85-114	439		BDL	U	800	55		P	*FAIL*
Total Vanadium	90-111	113		BDL	U	200	56		P	*FAIL*
Total Zinc	87-115	127		2.9	J	200	62		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	ug/L
Sample No	789908	Parent Sample No.:	787719
Analytical Prep Batch #	59578	Analytical Preparation Date/Time:	10/18/2016 15:00
Analytical Run #:	131473	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 10/19/2016 Analysis Time: -------- 10:09

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	115000		1480		100000	114		P
Total Sodium	87-115	130000		20000		100000	110		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54AOW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	ug/L
Sample No	791010	Parent Sample No.:	787719
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131473	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 10/19/2016 Analysis Time: -------- 10:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	105000		1480		100000	104		P
Sodium	80-120.	128000		20000		100000	108		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54AOW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solids for Sample:
Concentration Units: ug/L
Sample No: 800556
Parent Sample No.: 787719
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 131471
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/19/2016 Analysis Time: -------- 17:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	5420		215		4000	130		P	*FAIL*
Antimony	80-120	1240		BDL	U	1000	124		P	*FAIL*
Arsenic	80-120	5010		BDL	U	4000	125		P	*FAIL*
Barium	80-120	4820		31.6		4000	120		P	
Beryllium	80-120	106		BDL	U	100	106		P	
Cadmium	80-120	104		BDL	U	100	104		P	
Calcium	80-120	551000		43500		400000	127		P	*FAIL*
Chromium	80-120	472		1.0	J	400	118		P	
Cobalt	80-120	1050		BDL	U	1000	105		P	
Copper	80-120	439		BDL	U	500	88		P	
Iron	80-120	3100		266		2000	142		P	*FAIL*
Lead	80-120	1060		BDL	U	1000	106		P	
Magnesium	80-120	271000		14400		200000	128		P	*FAIL*
Manganese	80-120	1100		43.7		1000	106		P	
Nickel	80-120	2270		BDL	U	1000	227		P	*FAIL*
Selenium	80-120	4930		BDL	U	4000	123		P	*FAIL*
Silver	80-120	114		BDL	U	100	114		P	
Thallium	80-120	4040		BDL	U	4000	101		P	
Vanadium	80-120	981		BDL	U	1000	98		P	

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49AOW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	ug/L
Sample No	790612	Parent Sample No.:	790611
Analytical Prep Batch #	59597	Analytical Preparation Date/Time:	10/19/2016 08:30
Analytical Run #:	131573	ICAL Calibration #:	10202016

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/20/2016 Analysis Time: -------- 09:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.0		0.11	J	2.0	94		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54AOW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	ug/L
Sample No	789909	Parent Sample No.:	789908
Analytical Prep Batch #	59578	Analytical Preparation Date/Time:	10/18/2016 15:00
Analytical Run #:	131471	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/19/2016 Analysis Time: -------- 17:12

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	861		215		800	81		P	*FAIL*
Total Antimony	88-113	131		BDL	U	200	66		P	*FAIL*
Total Arsenic	87-113	508		BDL	U	800	64		P	*FAIL*
Total Barium	88-113	517		31.6		800	61		P	*FAIL*
Total Beryllium	89-112	11.6		BDL	U	20.0	58		P	*FAIL*
Total Cadmium	88-113	11.7		BDL	U	20.0	58		P	*FAIL*
Total Calcium	87-113	164000		43500		200000	60		P	*FAIL*
Total Chromium	90-113	49.6		1.0	J	80.0	61		P	*FAIL*
Total Cobalt	89-114	118		BDL	U	200	59		P	*FAIL*
Total Copper	86-114	61.2		BDL	U	100	61		P	*FAIL*
Total Iron	87-115	632		266		400	92		P	
Total Lead	86-113	116		BDL	U	200	58		P	*FAIL*
Total Magnesium	85-113	73900		14400		100000	60		P	*FAIL*
Total Manganese	90-114	185		43.7		200	71		P	*FAIL*
Total Nickel	88-113	119		BDL	U	200	60		P	*FAIL*
Total Selenium	83-114	530		BDL	U	800	66		P	*FAIL*
Total Silver	84-115	12.0		BDL	U	20.0	60		P	*FAIL*
Total Thallium	85-114	454		BDL	U	800	57		P	*FAIL*
Total Vanadium	90-111	114		BDL	U	200	57		P	*FAIL*
Total Zinc	87-115	127		2.9	J	200	62		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54AOW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	ug/L
Sample No	789909	Parent Sample No.:	789908
Analytical Prep Batch #	59578	Analytical Preparation Date/Time:	10/18/2016 15:00
Analytical Run #:	131473	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 10/19/2016 Analysis Time: -------- 10:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Potassium	86-114	116000		1480		100000	115		P	*FAIL*
Total Sodium	87-115	130000		20000		100000	110		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49AOW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 122845

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 59597

Analytical Run #: 131573

ICAL Calibration #: 10202016

Sample #: 790610

Parent Sample #: 788657

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	10/20/2016	09:31	20	0.11	J	0.11	J	0		CV

CT LABORATORIES
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6

DUPLICATES

Sample Description

54AOW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 122845

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 59578

Analytical Run #: 131471

ICAL Calibration #:

Sample #: 789907

Parent Sample #: 787719

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	10/19/2016	16:58	20	215		583		92		P	*FAIL*
Total Antimony	10/19/2016	16:58	20	2.0	U	2.0	U	0		P	
Total Arsenic	10/19/2016	16:58	20	4.0	U	4.0	U	0		P	
Total Barium	10/19/2016	16:58	20	31.6		95.4		100		P	*FAIL*
Total Beryllium	10/19/2016	16:58	20	0.10	U	0.10	U	0		P	
Total Cadmium	10/19/2016	16:58	20	0.30	U	0.30	U	0		P	
Total Calcium	10/19/2016	16:58	20	43500		108000		85		P	*FAIL*
Total Chromium	10/19/2016	16:58	20	1.0	J	4.0	J	120		P	*FAIL*
Total Cobalt	10/19/2016	16:58	20	0.70	U	0.70	U	0		P	
Total Copper	10/19/2016	16:58	20	1.2	U	1.2	U	0		P	
Total Iron	10/19/2016	16:58	20	266		764		97		P	*FAIL*
Total Lead	10/19/2016	16:58	20	1.4	U	1.4	U	0		P	
Total Magnesium	10/19/2016	16:58	20	14400		37400		89		P	*FAIL*
Total Manganese	10/19/2016	16:58	20	43.7		122		95		P	*FAIL*
Total Nickel	10/19/2016	16:58	20	1.0	U	1.6	J	200		P	*FAIL*
Total Selenium	10/19/2016	16:58	20	2.2	U	2.3	J	200		P	*FAIL*
Total Silver	10/19/2016	16:58	20	0.70	U	1.0	J	200		P	*FAIL*
Total Thallium	10/19/2016	16:58	20	2.5	U	2.5	U	0		P	
Total Vanadium	10/19/2016	16:58	20	0.80	U	0.87	J	200		P	*FAIL*
Total Zinc	10/19/2016	16:58	20	2.9	J	8.4	J	97		P	*FAIL*

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6

DUPLICATES

Sample Description

54AOW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 122845

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 59578

Analytical Run #: 131473

ICAL Calibration #:

Sample #: 789907

Parent Sample #: 787719

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	10/19/2016	10:06	20	1480		1400		6		P
Total Sodium	10/19/2016	10:06	20	20000		19100		5		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49AOW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 59597
Analytical Preparation Date/Time: 10/19/2016 08:30
Analytical Run #: 131573
ICAL Calibration #: 10202016
Sample #: 790612
Parent Sample #: 790611

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	10/20/2016	09:36	20	2.0		2.0		2		CV

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54AOW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 122845

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 59578 | Analytical Preparation Date/Time: 10/18/2016 15:00

Analytical Run #: 131471 | ICAL Calibration #:

Sample #: 789909 | Parent Sample #: 789908

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	10/19/2016	17:12	20	895		861		4		P
Total Antimony	10/19/2016	17:12	20	125		131		5		P
Total Arsenic	10/19/2016	17:12	20	483		508		5		P
Total Barium	10/19/2016	17:12	20	498		517		4		P
Total Beryllium	10/19/2016	17:12	20	11.7		11.6		1		P
Total Cadmium	10/19/2016	17:12	20	11.4		11.7		3		P
Total Calcium	10/19/2016	17:12	20	171000		164000		4		P
Total Chromium	10/19/2016	17:12	20	49.6		49.6		0		P
Total Cobalt	10/19/2016	17:12	20	113		118		4		P
Total Copper	10/19/2016	17:12	20	58.8		61.2		4		P
Total Iron	10/19/2016	17:12	20	633		632		0		P
Total Lead	10/19/2016	17:12	20	110		116		5		P
Total Magnesium	10/19/2016	17:12	20	77000		73900		4		P
Total Manganese	10/19/2016	17:12	20	179		185		3		P
Total Nickel	10/19/2016	17:12	20	117		119		2		P
Total Selenium	10/19/2016	17:12	20	509		530		4		P
Total Silver	10/19/2016	17:12	20	12.7		12.0		6		P
Total Thallium	10/19/2016	17:12	20	439		454		3		P
Total Vanadium	10/19/2016	17:12	20	113		114		1		P
Total Zinc	10/19/2016	17:12	20	127		127		0		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54AOW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 59578
Analytical Preparation Date/Time: 10/18/2016 15:00
Analytical Run #: 131473
ICAL Calibration #:
Sample #: 789909
Parent Sample #: 789908

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	10/19/2016	10:11	20	115000		116000		1		P
Total Sodium	10/19/2016	10:11	20	130000		130000		0		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: ug/L

Analytical Run #: 131573 Sample No.:#: 790609

Analytical Prep Batch #: 59597 Preparation Date/Time: 10/19/2016 08:30

ICAL Calibration #: 10202016

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	10/20/2016 09:23	82-119	2.98		3.00	99		CV

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: ug/L

Analytical Run #: 131471 Sample No.:#: 789906

Analytical Prep Batch #: 59578 Preparation Date/Time: 10/18/2016 15:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	10/28/2016 02:00	86-115	876.0		800.0	110		P
Total Antimony	10/28/2016 02:00	88-113	209.0		200.0	104		P
Total Arsenic	10/28/2016 02:00	87-113	851.0		800.0	106		P
Total Barium	10/28/2016 02:00	88-113	791.0		800.0	99		P
Total Beryllium	10/28/2016 02:00	89-112	19.30		20.00	96		P
Total Cadmium	10/28/2016 02:00	88-113	19.40		20.00	97		P
Total Calcium	10/28/2016 02:00	87-113	185000		200000	92		P
Total Chromium	10/28/2016 02:00	90-113	78.10		80.00	98		P
Total Cobalt	10/28/2016 02:00	89-114	194.0		200.0	97		P
Total Copper	10/28/2016 02:00	86-114	98.40		100.0	98		P
Total Iron	10/28/2016 02:00	87-115	374.0		400.0	94		P
Total Lead	10/28/2016 02:00	86-113	191.0		200.0	96		P
Total Magnesium	10/28/2016 02:00	85-113	88600		100000	89		P
Total Manganese	10/28/2016 02:00	90-114	211.0		200.0	106		P
Total Nickel	10/28/2016 02:00	88-113	192.0		200.0	96		P
Total Selenium	10/28/2016 02:00	83-114	836.0		800.0	104		P
Total Silver	10/28/2016 02:00	84-115	18.30		20.00	92		P
Total Thallium	10/28/2016 02:00	85-114	745.0		800.0	93		P
Total Vanadium	10/28/2016 02:00	90-111	206.0		200.0	103		P
Total Zinc	10/28/2016 02:00	87-115	205.0		200.0	102		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: ug/L

Analytical Run #: 131473 Sample No.:#: 789906

Analytical Prep Batch #: 59578 Preparation Date/Time: 10/18/2016 15:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	10/19/2016 09:49	86-114	108000		100000	108		P
Total Sodium	10/19/2016 09:49	87-115	107000		100000	107		P

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9

ICP SERIAL DILUTION

Sample Description

54AOW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 122845

Concentration Units: ug/L

Sample No.: 791009 Parent Sample No.: 787719

LIMS Run #: 131473 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	10/19/2016 10:03	1.48	U	450	U	100		P	*INVALID*
Sodium	10/19/2016 10:03	20.0	U	500	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

54AOW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 122845

Concentration Units: ug/L

Sample No.: 800555 Parent Sample No.: 787719

LIMS Run #: 131471 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	10/19/2016 16:51	215		695		223		P	*INVALID*
Antimony	10/19/2016 16:51	BDL	U	10	U	0		P	*INVALID*
Arsenic	10/19/2016 16:51	BDL	U	20	U	0		P	*INVALID*
Barium	10/19/2016 16:51	31.6		92		191		P	*INVALID*
Beryllium	10/19/2016 16:51	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	10/19/2016 16:51	BDL	U	1.5	U	0		P	*INVALID*
Calcium	10/19/2016 16:51	43500		164000		277		P	*FAIL*
Chromium	10/19/2016 16:51	1.02	U	3	U	100		P	*INVALID*
Cobalt	10/19/2016 16:51	BDL	U	3.5	U	0		P	*INVALID*
Copper	10/19/2016 16:51	BDL	U	6	U	0		P	*INVALID*
Iron	10/19/2016 16:51	266	J	1045		293		P	*INVALID*
Lead	10/19/2016 16:51	BDL	U	7	U	0		P	*INVALID*
Magnesium	10/19/2016 16:51	14400		56500		292		P	*FAIL*
Manganese	10/19/2016 16:51	43.7		148.5		240		P	*INVALID*
Nickel	10/19/2016 16:51	BDL	U	5	U	0		P	*INVALID*
Selenium	10/19/2016 16:51	BDL	U	11	U	0		P	*INVALID*
Silver	10/19/2016 16:51	BDL	U	3.5	U	0		P	*INVALID*
Thallium	10/19/2016 16:51	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	10/19/2016 16:51	BDL	U	4	U	0		P	*INVALID*
Zinc	10/19/2016 16:51	2.85	U	34.5	J	1111		P	*INVALID*

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 122845

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	-0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 {452}	☒	1	Ca	0.000022
Ni 231.604 {445}	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 {455}	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 {153}	☒	1	Fe	0.000024
Pb 220.353 {453}	☒	9	Fe	0.000071
			Si	0.000940
			Tl	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 {463}	☒	1	Fe	0.000032
Sb 217.581 {455}	☒	1	Fe	-0.000048
Se 196.090 {172}	☒	1	Fe	-0.000205
Se 196.090 {472}	☒	1	Fe	0.000022
Se 206.279 {463}	☒	1	Fe	0.001119
Tl 276.787 {122}	☒	1	Mg	0.006492
Tl 190.856 {477}	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 {116}	☒	1	Fe	0.000170
V 292.402 {115}	☒	1	Fe	0.000041
Zn 206.200 {463}	☒	1	Fe	0.000173
Zn 213.856 {458}	☒	1	Fe	0.000380
Y 360.073 { 94}*	☒	None		
Na 330.298 {102}	☒	1	Fe	0.000991
Si 251.611 {134}	☒	1	Fe	-0.000042
Ti 334.941 {101}	☒	1	Fe	0.000050
Ti 337.280 {100}	☒	1	Fe	0.000006
Sr 407.771 { 83}	☒	1	Fe	0.000039
Sr 421.552 { 80}	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 350.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 122845

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 122845

Preparation Batch #: 59578

Preparation Date/Time: 10/18/2016 / 15:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
787719	Normal Sample	54AOW01	GROUND WATER	50.0
788657	Normal Sample	49AOW01	GROUND WATER	50.0
789905	Method Blank		LIQUID	50.0
789906	Lab Control Spike		LIQUID	50.0
789907	Lab Duplicate	54AOW01	GROUND WATER	50.0
789908	Matrix Spike	54AOW01	GROUND WATER	50.0
789909	Matrix Spike Duplicate	54AOW01	GROUND WATER	50.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A

SDG No.: 122845

Preparation Batch #: 59597

Preparation Date/Time: 10/19/2016 / 08:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
787719	Normal Sample	54AOW01	GROUND WATER	25.0
788657	Normal Sample	49AOW01	GROUND WATER	25.0
790608	Method Blank		LIQUID	25.0
790609	Lab Control Spike		LIQUID	25.0
790610	Lab Duplicate	49AOW01	GROUND WATER	25.0
790611	Matrix Spike	49AOW01	GROUND WATER	25.0
790612	Matrix Spike Duplicate	49AOW01	GROUND WATER	25.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 122845

Instrument ID Number: CETAC
Method Number: CV

Start & End Date: 10/20/2016 to 10/20/2016
Analytical Run #: 131573

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
791835	ICV	1.00	10/2(08:35																X													
791836	ICB	1.00	10/2(08:38																X													
791837	CCV	1.00	10/2(09:14																X													
791838	CCB	1.00	10/2(09:16																X													
790609	LCSW	1.00	10/2(09:23																X													
790608	MBW	1.00	10/2(09:25																X													
787719	Initial	1.00	10/2(09:27																X													
788657	Initial	1.00	10/2(09:29																X													
790610	DUP	1.00	10/2(09:31																X													
790611	MSW	1.00	10/2(09:33																X													
790612	MSDW	1.00	10/2(09:36																X													
791839	CCV	1.00	10/2(09:40																X													
791840	CCB	1.00	10/2(09:42																X													

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 122845

Instrument ID Number: TJA
Method Number: P

Start & End Date: 10/19/2016 to 10/28/2016
Analytical Run #: 131471

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
800544	ICV	1.00	10/19 09:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800548	ICVLL	1.00	10/19 09:53	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
800545	ICB	1.00	10/19 10:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800546	ICSA	1.00	10/19 10:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800547	ICSAB	1.00	10/19 10:29	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800557	ICVLL	1.00	10/19 10:37																							X							
800549	CCV1	1.00	10/19 16:24	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800553	CCV2	1.00	10/19 16:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800551	CCB	1.00	10/19 16:37	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800555	L	5	10/19 16:51	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
789907	DUP	1.00	10/19 16:58	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
789908	MSW	1.00	10/19 17:05	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
789909	MSDW	1.00	10/19 17:12	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800556	PDSW	1.00	10/19 17:19	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800552	CCV1	1.00	10/19 17:53	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800550	CCV2	1.00	10/19 18:00	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
800554	CCB	1.00	10/19 18:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798473	ICV	1.00	10/27 10:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798474	ICVLL	1.00	10/27 10:53	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
798475	ICB	1.00	10/27 11:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798476	ICSA	1.00	10/27 11:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798477	ICSAB	1.00	10/27 11:29	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798478	ICVLL	1.00	10/27 11:37																							X							
798479	CCV1	1.00	10/28 01:05	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798480	CCV2	1.00	10/28 01:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798481	CCB	1.00	10/28 01:18	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
789906	LCSW	1.00	10/28 02:00	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 122845

Instrument ID Number: TJA

Method Number: P

Start & End Date: 10/19/2016 to 10/28/2016

Analytical Run #: 131471

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
789905	MBW	1.00	10/28 02:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
787719	Initial	1.00	10/28 02:14	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
788657	Initial	1.00	10/28 02:22	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798482	CCV1	1.00	10/28 02:36	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798483	CCV2	1.00	10/28 02:43	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
798484	CCB	1.00	10/28 02:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL | SDG No.: 122845

Instrument ID Number: TJA | Method Number: P

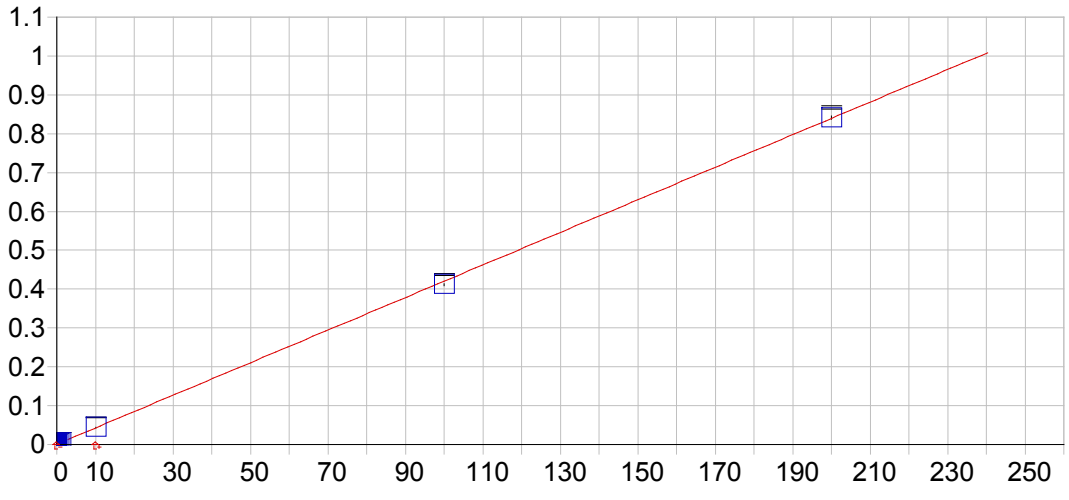
Start & End Date: 10/19/2016 to 10/19/2016 | Analytical Run #: 131473

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
790999	ICV	1.00	10/19 07:36																				X				X					
791000	ICVLL	1.00	10/19 07:39																				X				X					
791001	ICB	1.00	10/19 07:41																				X				X					
791002	MRL	1.00	10/19 07:44																				X				X					
791003	ICSA	1.00	10/19 07:47	X							X				X		X						X				X					
791004	ICSAB	1.00	10/19 07:50	X							X				X		X						X				X					
791005	CCV	1.00	10/19 09:25																				X				X					
791006	CCB	1.00	10/19 09:28																				X				X					
789906	LCSW	1.00	10/19 09:49																				X				X					
789905	MBW	1.00	10/19 09:52																				X				X					
787719	Initial	1.00	10/19 09:55																				X				X					
791007	CCV	1.00	10/19 09:58																				X				X					
791008	CCB	1.00	10/19 10:00																				X				X					
791009	L	5	10/19 10:03																				X				X					
789907	DUP	1.00	10/19 10:06																				X				X					
789908	MSW	1.00	10/19 10:09																				X				X					
789909	MSDW	1.00	10/19 10:11																				X				X					
791010	PDSW	1.00	10/19 10:14																				X				X					
788657	Initial	1.00	10/19 10:17																				X				X					
791011	CCV	1.00	10/19 10:31																				X				X					
791012	CCB	1.00	10/19 10:34																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	10/19/2016 12:09:52	10/19/2016 07:33:19	Linear	1/Var	0.001028	0.004192	0.000000	1.000000	0.999907	0.000539	0.057807	0.192691
	Na 330.237 {102}	10/19/2016 12:09:52	10/19/2016 07:33:19	Curvilin	1/Conc	0.000163	0.000077	0.000000	1.000000	0.999992	0.000001	1.741330	5.804433
	Na 589.592 { 57}	10/19/2016 12:09:52	10/19/2016 07:33:19	Linear	1/Var	0.000873	0.052485	0.000000	1.000000	0.999881	0.001335	0.008678	0.028926
	Y 360.073 { 94}	10/19/2016 12:09:52	10/19/2016 07:13:59	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	10/19/2016 12:09:52	10/19/2016 07:13:59	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	10/19/2016 12:09:52	10/19/2016 07:36:12	Linear	1/Conc	0.002492	0.000013	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	10/19/2016 12:09:52	10/19/2016 07:36:12	Linear	1/Conc	-0.000165	0.009699	0.000000	1.000000	1.000000	0.000000	0.017751	0.059171
	Mg 285.213 {118}	10/19/2016 12:09:52	10/19/2016 07:36:12	Linear	None	-0.000031	0.030041	0.000000	1.000000	1.000000	0.000000	0.002626	0.008755
	Ca 317.933 {106}	10/19/2016 12:09:52	10/19/2016 07:36:12	Linear	None	0.029412	0.007682	0.000000	1.000000	1.000000	0.000000	0.010399	0.034665
	Fe 234.349 {144}	10/19/2016 12:09:52	10/19/2016 07:36:12	Linear	None	0.000068	0.001498	0.000000	1.000000	1.000000	0.000000	0.020275	0.067582

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	Warnin	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

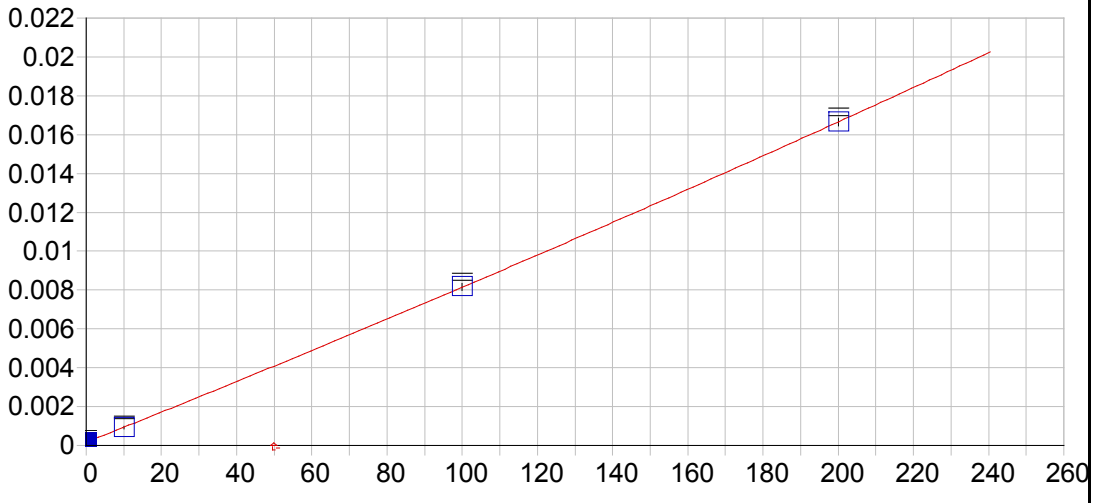


K 766.490 { 44}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.001028	Re-Slope:	1.000000
A1 (Gain):	0.004192	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999907	Status:	OK.
Std Error of Est:	0.000539		
Predicted MDL:	0.057807		
Predicted MQL:	0.192691		

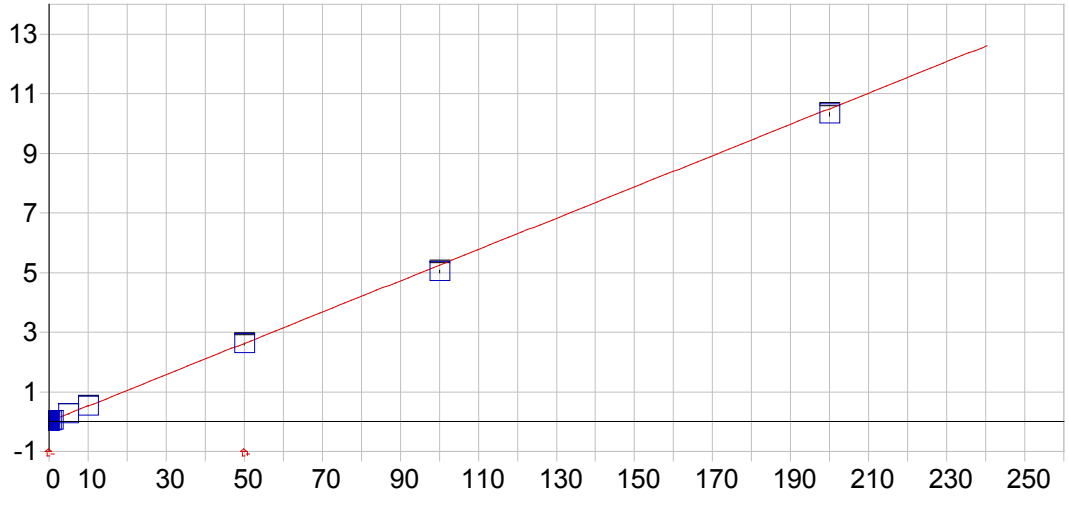
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01469	.015	.000	.00109	.000	1
CalibStd-1.0	1.0000	.96690	-.033	-3.31	.00508	.000	1
CalibStd-10.0	10.000	10.171	.171	1.71	.04366	.000	1
CalibStd-0.5	.50000	.47338	-.027	-5.32	.00301	.000	1
CalibStd-200	200.00	200.45	.447	.224	.84132	.004	1
CalibStd-100	100.00	97.905	-2.09	-2.09	.41145	.003	1



Na 330.237 {102}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Curvilinear	Weighting:	1/Conc
A0 (Offset):	0.000163		Re-Slope:	1.000000	
A1 (Gain):	0.000077		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999992		Status:	Warning	Positive Curvature
Std Error of Est:	0.000001				
Predicted MDL:	1.741330				
Predicted MQL:	5.804433				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00017	.000	.000	.00016	.000	1
CalibStd-200	200.00	199.85	-.153	-.076	.01664	.000	1
CalibStd-10.0	10.000	9.8081	-.192	-1.92	.00092	.000	1
CalibStd-100	100.00	100.34	.343	.343	.00817	.000	1

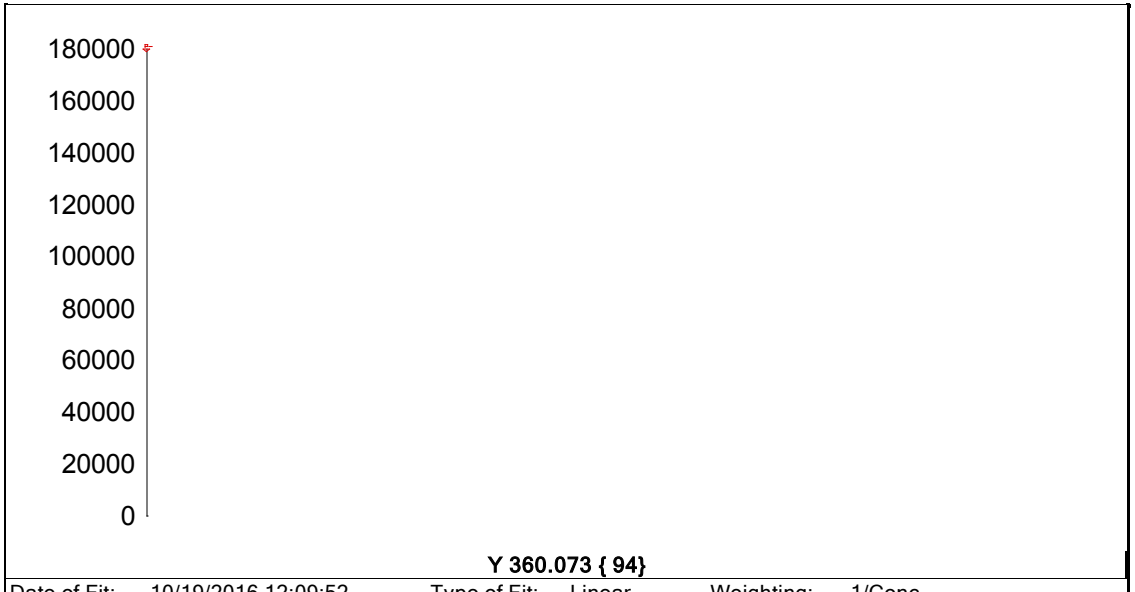


Na 589.592 { 57}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	1/Var

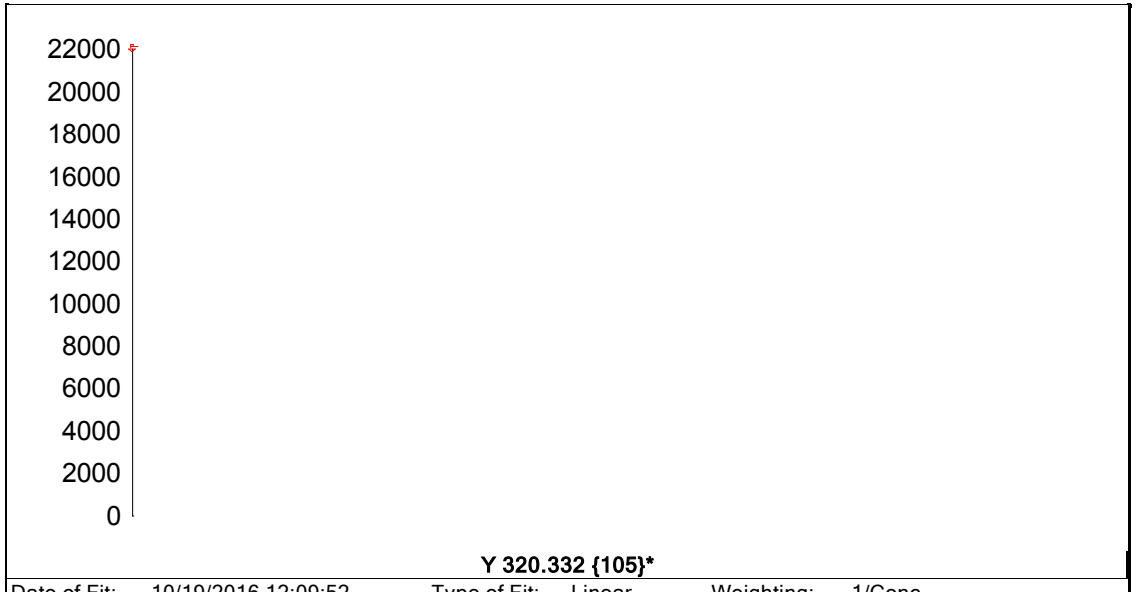
A0 (Offset):	0.000873	Re-Slope:	1.000000
A1 (Gain):	0.052485	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999881	Status:	OK.
Std Error of Est:	0.001335		
Predicted MDL:	0.008678		
Predicted MQL:	0.028926		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01303	-.013	.000	.00019	.001	1
CalibStd-0.5	.50000	.49679	-.003	-.641	.02695	.000	1
CalibStd-1.0	1.0000	1.0069	.007	.689	.05372	.000	1
CalibStd-5.0	5.0000	5.0337	.034	.673	.26506	.001	1
CalibStd-10.0	10.000	9.9935	-.007	-.065	.52538	.006	1
CalibStd-50	50.000	49.729	-.271	-.541	2.6109	.036	1
CalibStd-100	100.00	95.781	-4.22	-4.22	5.0279	.042	1
CalibStd-200	200.00	196.40	-3.60	-1.80	10.309	.058	1



Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

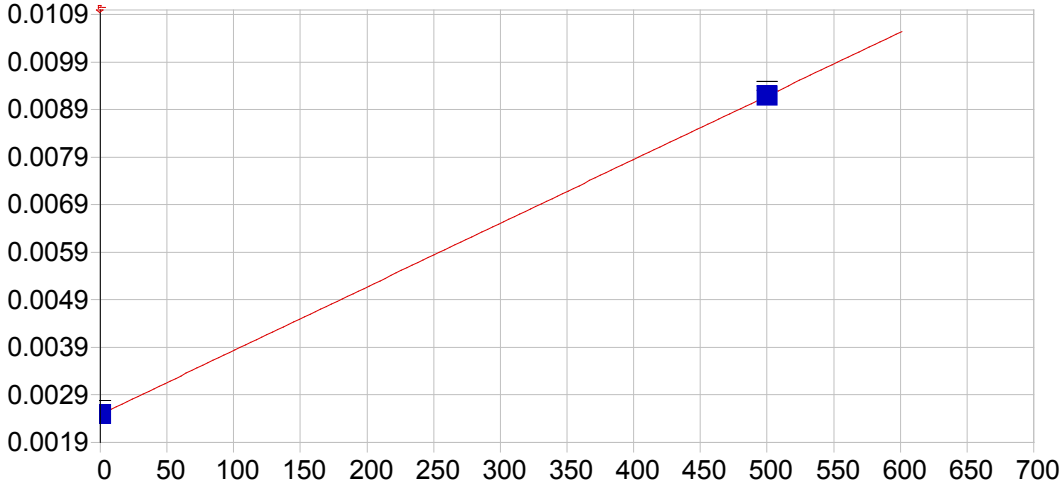
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	168090.	1080.	1



Y 320.332 {105}*

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	20509.	122.	1

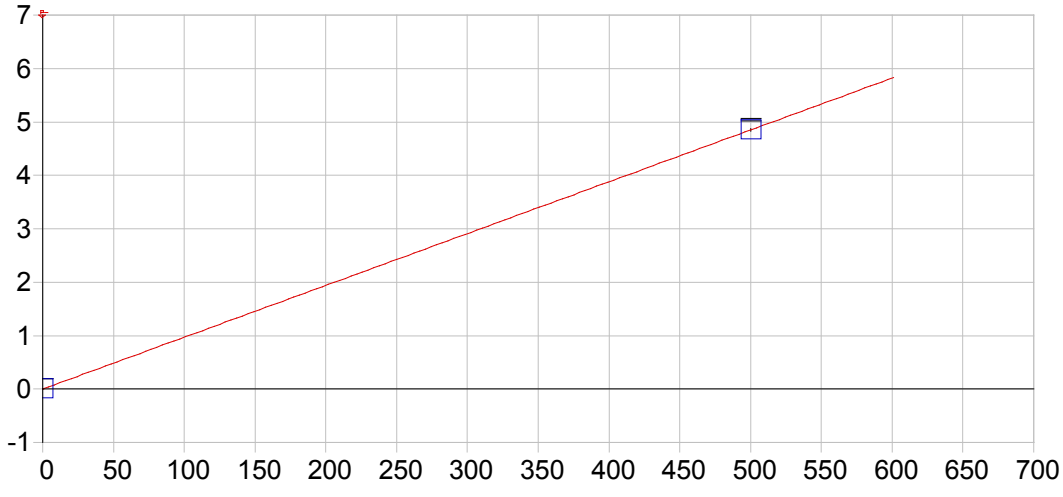


Al 308.215 {109}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002492	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00249	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00919	.000	1

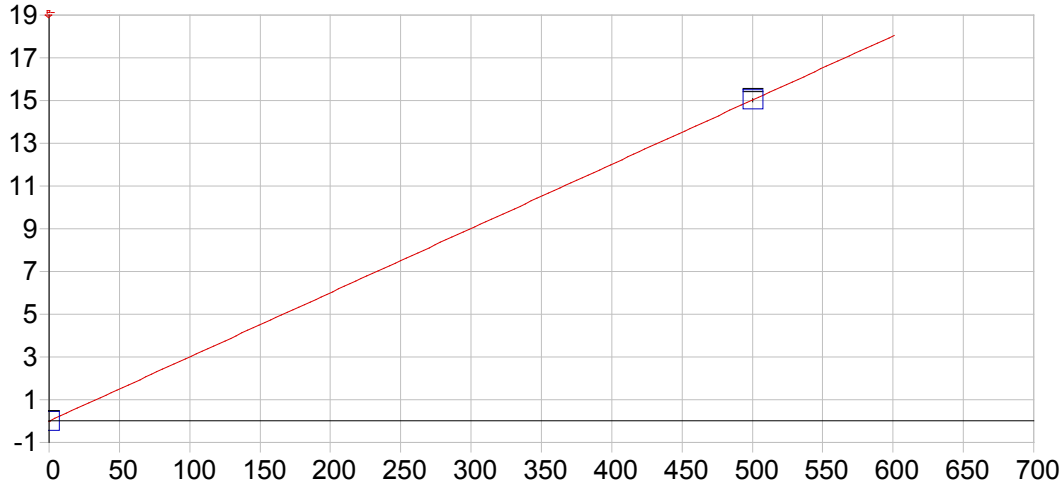


Al 396.152 { 85}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000165	Re-Slope:	1.000000
A1 (Gain):	0.009699	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.017751		
Predicted MQL:	0.059171		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00017	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.8495	.022	1

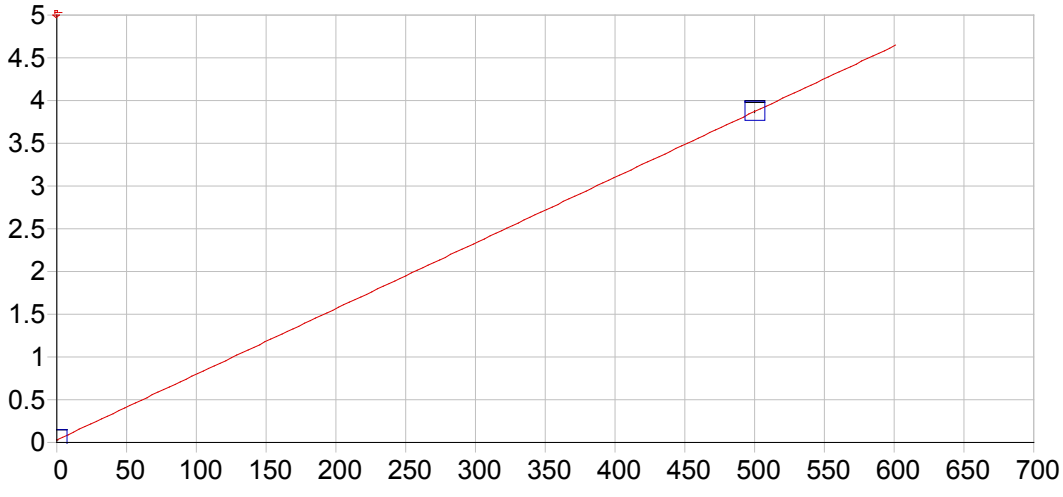


Mg 285.213 {118}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000031	Re-Slope:	1.000000
A1 (Gain):	0.030041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002626		
Predicted MQL:	0.008755		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00003	.000	1
CalibStd-500	500.00	500.00	.000	.000	15.021	.083	1

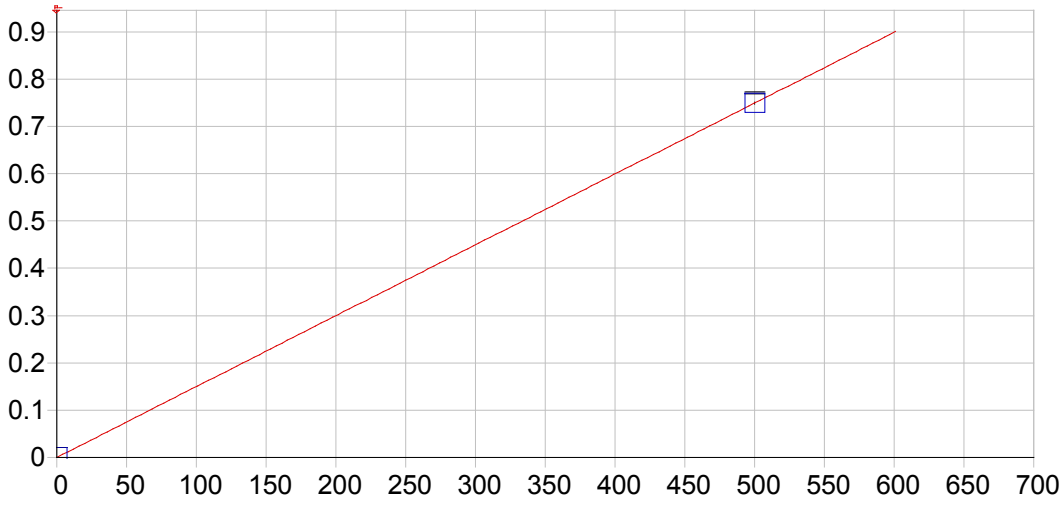


Ca 317.933 {106}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.029412	Re-Slope:	1.000000
A1 (Gain):	0.007682	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.010399		
Predicted MQL:	0.034665		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02941	.000	1
CalibStd-500	500.00	500.00	.000	.000	3.8703	.014	1



Fe 234.349 {144}

Date of Fit:	10/19/2016 12:09:52	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000068	Re-Slope:	1.000000
A1 (Gain):	0.001498	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.020275		
Predicted MQL:	0.067582		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00007	.000	1
CalibStd-500	500.00	500.00	.000	.000	.74908	.003	1

Sample Name: Blank Acquired: 10/19/2016 07:11:05 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.000**	**.029**	**.000**
Stddev	.000	.000	.001	.00	.00	.000	.000
%RSD	26.9	54.1	339.	59.1	283.	.325	20.7

Int. Std.	Y_3203
Units	Cts/S
Avg	**20509.**
Stddev	122.
%RSD	.59690

Sample Name: CalibStd-0.5 Acquired: 10/19/2016 07:14:02 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.003**	**.027**
Stddev	.000	.000
%RSD	7.40	.708

Int. Std.	Y_3203
Units	Cts/S
Avg	**20570.**
Stddev	71.
%RSD	.34706

Sample Name: CalibStd-1.0 Acquired: 10/19/2016 07:16:47 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.005**	**.054**
Stddev	.000	.000
%RSD	2.98	.913

Int. Std.	Y_3203
Units	Cts/S
Avg	**20599.**
Stddev	58.
%RSD	.28294

Sample Name: CalibStd-5.0 Acquired: 10/19/2016 07:19:32 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**.265**
Stddev	.001
%RSD	.224

Int. Std.	Y_3203
Units	Cts/S
Avg	**20498.**
Stddev	49.
%RSD	.23953

Sample Name: CalibStd-10.0 Acquired: 10/19/2016 07:22:17 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.044**	**.001**	**.525**
Stddev	.000	.000	.006
%RSD	.664	8.38	1.09

Int. Std.	Y_3203
Units	Cts/S
Avg	**20611.**
Stddev	83.
%RSD	.40248

Sample Name: CalibStd-50 Acquired: 10/19/2016 07:25:04 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.61**
Stddev	.04
%RSD	1.38

Int. Std.	Y_3203
Units	Cts/S
Avg	**20491.**
Stddev	140.
%RSD	.68138

Sample Name: CalibStd-100 Acquired: 10/19/2016 07:27:51 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.411**	**.008**	**5.03**
Stddev	.003	.000	.04
%RSD	.694	2.26	.841

Int. Std.	Y_3203
Units	Cts/S
Avg	**20411.**
Stddev	65.
%RSD	.32009

Sample Name: CalibStd-200 Acquired: 10/19/2016 07:30:37 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.841**	**.017**	**10.3**
Stddev	.004	.000	.1
%RSD	.421	1.19	.565

Int. Std.	Y_3203
Units	Cts/S
Avg	**20297.**
Stddev	69.
%RSD	.33987

Sample Name: CalibStd-500 Acquired: 10/19/2016 07:33:22 Type: Cal
Method: Sodium and Potassium 1(v797) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.85**	**15.0**	**3.87**	**.749**
Stddev	.02	.1	.01	.003
%RSD	.462	.556	.358	.342

Int. Std.	Y_3203
Units	Cts/S
Avg	**19226.**
Stddev	67.
%RSD	.34830

Sample Name: icv Acquired: 10/19/2016 07:36:16 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**108.**	**.130**	**.132**	**.153**	**.265**
Stddev	1.	1.	.012	.003	.027	.059
%RSD	.551	1.03	9.62	2.07	17.8	22.4
#1	102.	108.	.144	.131	.133	.350
#2	101.	110.	.131	.132	.127	.259
#3	102.	108.	.129	.135	.172	.233
#4	102.	108.	.114	.128	.181	.216
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**20363.**
Stddev	34.
%RSD	.16819
#1	20337.
#2	20379.
#3	20404.
#4	20333.

Sample Name: ICVLL Acquired: 10/19/2016 07:39:02 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.05**	**3.15**	**.016**	**.031**	**.040**	**.044**
Stddev	.05	.02	.010	.002	.043	.018
%RSD	1.54	.597	60.8	5.80	109.	40.7
#1	3.05	3.13	.008	.029	-.006	.063
#2	2.99	3.16	.025	.033	.014	.055
#3	3.06	3.14	.008	.031	.063	.030
#4	3.11	3.18	.024	.033	.087	.027
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**20601.**
Stddev	141.
%RSD	.68463
#1	20732.
#2	20701.
#3	20537.
#4	20433.

Sample Name: icb Acquired: 10/19/2016 07:41:49 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.043**	**.008**	**.016**	**.012**	**.062**	**.018**
Stddev	.028	.003	.005	.000	.030	.010
%RSD	65.1	37.6	33.1	2.73	48.0	58.0
#1	-.051	.006	.023	.012	.034	.028
#2	-.047	.012	.014	.012	.038	.024
#3	-.004	.008	.011	.012	.091	.017
#4	-.069	.005	.016	.012	.084	.004
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**20399.**
Stddev	119.
%RSD	.58331
#1	20484.
#2	20485.
#3	20232.
#4	20396.

Sample Name: mrl Acquired: 10/19/2016 07:44:34 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.02**	**1.03**	**.016**	**.010**	**.050**	**-.008**
Stddev	.06	.00	.010	.001	.004	.026
%RSD	5.71	.405	61.5	10.4	7.59	336.
#1	1.09	1.03	.007	.010	.046	-.031
#2	.992	1.03	.008	.009	.048	-.030
#3	1.04	1.04	.025	.012	.055	.020
#4	.954	1.03	.022	.010	.050	.009
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**20422.**
Stddev	28.
%RSD	.13517
#1	20449.
#2	20426.
#3	20430.
#4	20384.

Sample Name: icsa Acquired: 10/19/2016 07:47:19 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.028**	**.000**	**505.**	**509.**	**498.**	**499.**
Stddev	.064	.01	2.	3.	4.	5.
%RSD	229.	65e15	.449	.559	.782	.936
#1	.007	.001	507.	507.	492.	492.
#2	.114	-.002	502.	509.	500.	499.
#3	-.039	-.006	507.	507.	501.	502.
#4	.030	.006	505.	513.	499.	502.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19111.**
Stddev	125.
%RSD	.65436
#1	19293.
#2	19094.
#3	19020.
#4	19039.

Sample Name: icsab Acquired: 10/19/2016 07:50:15 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**112.**	**117.**	**507.**	**508.**	**498.**	**506.**
Stddev	1.	2.	2.	3.	4.	4.
%RSD	.566	1.30	.450	.526	.759	.785
#1	112.	118.	507.	509.	501.	508.
#2	111.	119.	505.	505.	494.	502.
#3	113.	116.	510.	511.	502.	511.
#4	112.	116.	506.	508.	496.	504.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**18818.**
Stddev	129.
%RSD	.68695
#1	18708.
#2	18952.
#3	18706.
#4	18906.

Sample Name: ccv Acquired: 10/19/2016 09:25:17 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**104.**	**.049**	**.030**	**.288**	**.242**
Stddev	1.	3.	.021	.001	.026	.058
%RSD	.790	2.62	41.7	3.03	9.07	24.1
#1	102.	103.	.045	.031	.267	.327
#2	104.	107.	.028	.031	.312	.216
#3	102.	101.	.077	.030	.264	.231
#4	103.	105.	.048	.030	.310	.196
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19725.**
Stddev	64.
%RSD	.32368
#1	19787.
#2	19688.
#3	19771.
#4	19655.

Sample Name: ccb Acquired: 10/19/2016 09:28:04 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.029**	**.067**	**.005**	**.007**	**.231**	**.213**
Stddev	.030	.001	.005	.001	.030	.039
%RSD	101.	2.19	105.	17.8	13.0	18.2
#1	-.008	.064	.009	.006	.262	.246
#2	.050	.068	.000	.009	.244	.248
#3	.056	.067	.001	.007	.192	.179
#4	.020	.067	.010	.007	.227	.180
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19830.**
Stddev	72.
%RSD	.36147
#1	19775.
#2	19778.
#3	19928.
#4	19839.

Sample Name: lcsw59578 Acquired: 10/19/2016 09:49:45 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**108.**	**107.**	**.927**	**105.**	**195.**	**.496**
Stddev	.	2.	.017	.	1.	.029
%RSD	.201	1.80	1.87	.386	.400	5.91
#1	108.	107.	.945	104.	194.	.519
#2	108.	110.	.909	105.	195.	.523
#3	108.	107.	.938	104.	196.	.475
#4	108.	105.	.915	105.	195.	.466

Int. Std.	Y_3203
Units	Cts/S
Avg	**18954.**
Stddev	34.
%RSD	.17904
#1	18967.
#2	18992.
#3	18944.
#4	18913.

Sample Name: mbw59578 Acquired: 10/19/2016 09:52:29 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.029**	**.017**	**-.010**	**.006**	**.286**	**-.035**
Stddev	.035	.008	.005	.001	.018	.016
%RSD	121.	44.0	52.8	18.9	6.28	46.7
#1	.074	.027	-.010	.006	.290	-.043
#2	.007	.008	-.006	.007	.300	-.025
#3	-.004	.017	-.017	.005	.294	-.054
#4	.039	.017	-.007	.007	.259	-.018

Int. Std.	Y_3203
Units	Cts/S
Avg	**19624.**
Stddev	53.
%RSD	.27256
#1	19623.
#2	19552.
#3	19641.
#4	19680.

Sample Name: 787719 Acquired: 10/19/2016 09:55:18 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.48**	**20.0**	**.613**	**39.7**	**101.**	**.710**
Stddev	.04	.1	.015	.1	1.	.027
%RSD	2.85	.730	2.49	.160	.908	3.83
#1	1.53	19.9	.594	39.7	101.	.701
#2	1.44	20.2	.629	39.7	99.3	.679
#3	1.45	20.0	.622	39.8	101.	.743
#4	1.49	19.9	.608	39.6	101.	.718

Int. Std.	Y_3203
Units	Cts/S
Avg	**19255.**
Stddev	76.
%RSD	.39351
#1	19207.
#2	19368.
#3	19223.
#4	19223.

Sample Name: ccv Acquired: 10/19/2016 09:58:04 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**105.**	**.034**	**.033**	**.347**	**.164**
Stddev	.	1.	.010	.002	.011	.010
%RSD	.136	1.39	30.4	6.92	3.06	6.40
#1	104.	103.	.024	.033	.333	.166
#2	104.	105.	.029	.030	.344	.165
#3	104.	106.	.048	.036	.354	.149
#4	104.	107.	.035	.035	.357	.174
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19366.**
Stddev	98.
%RSD	.50353
#1	19422.
#2	19472.
#3	19312.
#4	19259.

Sample Name: ccb Acquired: 10/19/2016 10:00:51 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.058**	**.076**	**-.004**	**.006**	**.263**	**.181**
Stddev	.048	.007	.007	.001	.010	.004
%RSD	83.0	9.21	163.	19.3	3.70	2.43
#1	.042	.078	.004	.006	.255	.184
#2	.039	.066	-.014	.007	.261	.176
#3	.130	.081	-.004	.007	.258	.180
#4	.023	.080	-.004	.005	.277	.186
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19611.**
Stddev	70.
%RSD	.35859
#1	19600.
#2	19638.
#3	19519.
#4	19685.

Sample Name: I787719 Acquired: 10/19/2016 10:03:40 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.273**	**4.03**	**.098**	**8.24**	**21.6**	**.143**
Stddev	.039	.03	.028	.03	.2	.030
%RSD	14.4	.802	28.4	.407	.829	20.7
#1	.235	4.02	.105	8.24	21.8	.124
#2	.284	4.04	.099	8.26	21.6	.150
#3	.249	4.07	.129	8.27	21.5	.116
#4	.323	4.00	.061	8.19	21.4	.182

Int. Std.	Y_3203
Units	Cts/S
Avg	**19686.**
Stddev	32.
%RSD	.16158
#1	19668.
#2	19680.
#3	19733.
#4	19664.

Sample Name: dup787719 Acquired: 10/19/2016 10:06:25 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.40**	**19.1**	**.582**	**37.6**	**94.7**	**.701**
Stddev	.06	.1	.014	.1	.7	.011
%RSD	3.97	.333	2.44	.239	.769	1.60
#1	1.40	19.1	.603	37.7	95.1	.716
#2	1.32	19.1	.577	37.6	94.4	.699
#3	1.41	19.1	.576	37.6	93.8	.689
#4	1.45	19.2	.571	37.8	95.5	.700

Int. Std.	Y_3203
Units	Cts/S
Avg	**19157.**
Stddev	127.
%RSD	.66369
#1	19227.
#2	19156.
#3	19266.
#4	18979.

Sample Name: msw787719 Acquired: 10/19/2016 10:09:11 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**115.**	**130.**	**1.59**	**145.**	**284.**	**1.11**
Stddev	1.	1.	.02	1.	2.	.02
%RSD	.780	.657	1.24	.528	.567	2.21
#1	116.	129.	1.61	145.	283.	1.09
#2	116.	129.	1.60	145.	283.	1.12
#3	114.	130.	1.57	144.	286.	1.13
#4	116.	130.	1.58	145.	283.	1.08

Int. Std.	Y_3203
Units	Cts/S
Avg	**18650.**
Stddev	35.
%RSD	.18841
#1	18681.
#2	18650.
#3	18601.
#4	18669.

Sample Name: msdw787719 Acquired: 10/19/2016 10:11:56 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**116.**	**130.**	**1.59**	**146.**	**284.**	**1.10**
Stddev	1.	2.	.01	1.	1.	.02
%RSD	1.02	1.21	.550	.675	.454	2.21
#1	116.	131.	1.60	146.	283.	1.12
#2	117.	130.	1.60	147.	285.	1.12
#3	115.	128.	1.59	146.	286.	1.10
#4	115.	131.	1.58	145.	284.	1.07

Int. Std.	Y_3203
Units	Cts/S
Avg	**18655.**
Stddev	80.
%RSD	.42777
#1	18694.
#2	18617.
#3	18566.
#4	18745.

Sample Name: pdsw787719 Acquired: 10/19/2016 10:14:40 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**105.**	**128.**	**.541**	**38.8**	**98.2**	**.693**
Stddev	1.	1.	.015	.3	.4	.012
%RSD	.644	.907	2.87	.676	.384	1.75
#1	105.	128.	.550	38.8	97.9	.685
#2	104.	126.	.524	38.5	98.4	.680
#3	105.	129.	.531	39.1	98.6	.707
#4	105.	127.	.557	38.8	97.8	.699

Int. Std.	Y_3203
Units	Cts/S
Avg	**19068.**
Stddev	54.
%RSD	.28267
#1	19057.
#2	19110.
#3	18996.
#4	19109.

Sample Name: 788657 Acquired: 10/19/2016 10:17:26 Type: Unk
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**2.42**	**17.0**	**.412**	**34.6**	**44.3**	**.518**
Stddev	.12	.1	.027	.1	.2	.026
%RSD	4.94	.763	6.61	.307	.440	5.09
#1	2.57	17.2	.452	34.6	44.1	.513
#2	2.28	16.9	.408	34.5	44.6	.535
#3	2.44	17.1	.391	34.7	44.3	.541
#4	2.38	16.9	.399	34.6	44.3	.483

Int. Std.	Y_3203
Units	Cts/S
Avg	**19131.**
Stddev	79.
%RSD	.41535
#1	19090.
#2	19128.
#3	19063.
#4	19243.

Sample Name: ccv Acquired: 10/19/2016 10:31:30 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**108.**	**.041**	**.037**	**.368**	**.195**
Stddev	1.	1.	.017	.002	.022	.008
%RSD	.505	1.000	41.0	4.47	6.09	4.16
#1	107.	107.	.034	.038	.400	.188
#2	107.	108.	.061	.038	.366	.204
#3	106.	107.	.022	.035	.349	.200
#4	107.	109.	.048	.035	.357	.189
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19319.**
Stddev	96.
%RSD	.49856
#1	19340.
#2	19401.
#3	19180.
#4	19356.

Sample Name: ccb Acquired: 10/19/2016 10:34:17 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.134**	**.096**	**.001**	**.005**	**.279**	**.228**
Stddev	.072	.011	.007	.002	.014	.017
%RSD	54.0	11.0	525.	38.7	5.09	7.50
#1	.224	.104	.008	.008	.281	.213
#2	.146	.091	-.004	.005	.266	.252
#3	.118	.084	-.005	.003	.298	.229
#4	.049	.106	.006	.004	.271	.218
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19629.**
Stddev	59.
%RSD	.30147
#1	19667.
#2	19637.
#3	19543.
#4	19668.

Sample Name: mrl Acquired: 10/19/2016 12:00:27 Type: QC
Method: Sodium and Potassium 1(v797) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.15**	**1.05**	**.007**	**.010**	**.227**	**.013**
Stddev	.06	.02	.018	.003	.033	.017
%RSD	5.57	1.61	253.	25.1	14.5	134.
#1	1.24	1.07	-.016	.012	.274	.018
#2	1.09	1.03	.002	.013	.199	-.009
#3	1.13	1.06	.025	.007	.213	.010
#4	1.12	1.04	.017	.009	.222	.031
Check ?	None	None	None	None	None	None
Value						
Range						

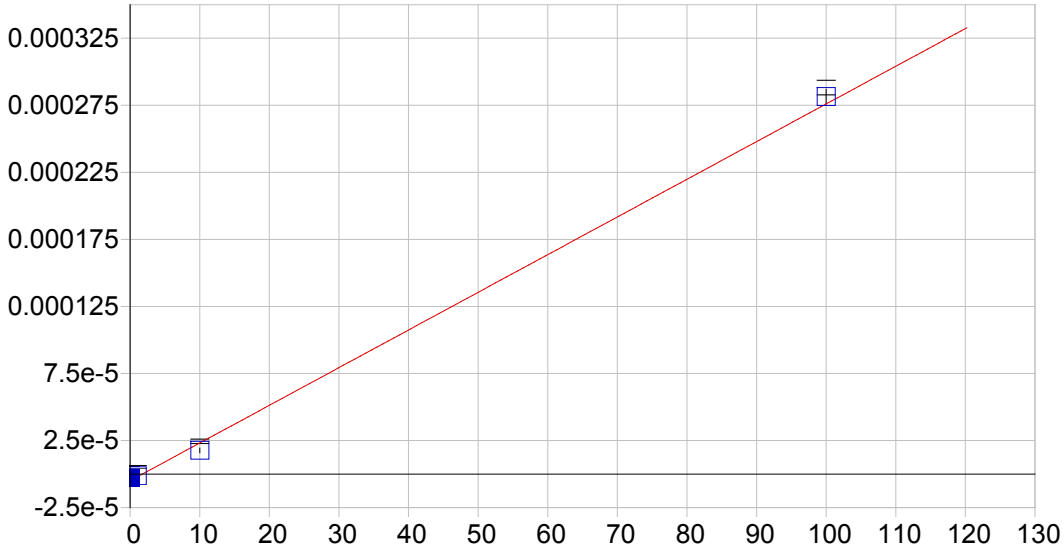
Int. Std.	Y_3203
Units	Cts/S
Avg	**19812.**
Stddev	171.
%RSD	.86503
#1	19575.
#2	19975.
#3	19886.
#4	19812.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	10/20/2016 14:29:22	10/19/2016 08:56:41	Linear	1/Var	-0.000079	0.000027	0.000000	1.000000	0.992250	0.000040	0.649654	2.165512	OK.	1.000000
Al 309.271 {109}	10/20/2016 14:29:22	10/19/2016 09:24:09	Curvilin	None	0.000251	0.000001	0.000000	1.000000	1.000000	0.000014	9.030760	30.102535	OK.	1.000000
Al 396.152 { 85}	10/20/2016 14:29:22	10/19/2016 09:39:59	Curvilin	1/Conc	-0.000017	0.000002	0.000000	1.000000	0.999995	0.000013	4.806155	16.020518	OK.	1.000000
Al 167.079 {502}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Var	0.007157	0.000607	0.000000	1.000000	0.992752	0.004101	0.839885	2.799618	OK.	1.000000
As 193.759 {474}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Var	-0.000772	0.000287	0.000000	1.000000	0.999562	0.000652	4.239503	14.131678	OK.	1.000000
As 189.042 {479}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Conc	0.001020	0.000090	0.000000	1.000000	0.999989	0.000004	8.719147	29.063823	OK.	1.000000
Ba 233.527 {445}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Conc	0.001347	0.003907	0.000000	1.000000	0.999544	0.000148	0.222348	0.741159	OK.	1.000000
Ba 455.403 { 74}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	None	-0.000748	0.000114	0.000000	1.000000	0.999977	0.002732	0.151712	0.505707	OK.	1.000000
Ba 493.409 { 68}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Var	0.007047	0.000067	0.000000	1.000000	0.999963	0.000117	0.464067	1.546891	OK.	1.000000
Be 313.042 {108}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Conc	-0.000274	0.000488	0.000000	1.000000	0.999844	0.000005	0.027494	0.091647	OK.	1.000000
Be 234.861 {144}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Conc	-0.000002	0.000016	0.000000	1.000000	0.999934	0.000003	0.217671	0.725570	OK.	1.000000
Ca 315.887 {107}	10/20/2016 14:29:22	10/19/2016 09:39:59	Linear	1/Var	0.000065	0.000001	0.000000	1.000000	0.998240	0.000024	6.526798	21.755994	OK.	1.000000
Ca 317.933 {106}	10/20/2016 14:29:22	10/19/2016 09:39:59	Curvilin	1/Conc	0.003053	0.000002	0.000000	1.000000	0.999929	0.000039	2.119174	7.063915	OK.	1.000000
Ca 393.366 { 86}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Conc	0.001170	0.000393	0.000000	1.000000	0.997833	0.000471	0.032881	0.109602	OK.	1.000000
Ca 396.847 { 85}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Conc	0.000454	0.000140	0.000000	1.000000	0.999432	0.000223	0.059331	0.197769	OK.	1.000000
Cd 226.502 {449}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Conc	-0.000276	0.010656	0.000000	1.000000	0.999600	0.000266	0.142800	0.476000	OK.	1.000000
Cd 228.802 {447}	10/20/2016 14:29:22	10/19/2016 09:02:44	Linear	1/Conc	0.005025	0.014657	0.000000	1.000000	0.999840	0.000239	0.131001	0.436669	OK.	1.000000
Co 228.616 {447}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Conc	-0.006705	0.005875	0.000000	1.000000	0.999861	0.000377	0.268360	0.894534	OK.	1.000000
Co 238.892 {141}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Var	0.000004	0.000016	0.000000	1.000000	0.999814	0.000012	0.710358	2.367860	OK.	1.000000
Cr 205.560 {464}	10/20/2016 14:29:22	10/19/2016 09:17:00	Linear	1/Var	-0.001153	0.005937	0.000000	1.000000	0.999389	0.003246	0.178059	0.593530	OK.	1.000000
Cr 267.716 {126}	10/20/2016 14:29:22	10/19/2016 09:09:55	Linear	1/Var	-0.000003	0.000031	0.000000	1.000000	0.999422	0.000010	0.491793	1.639311	OK.	1.000000
Cu 224.700 {450}	10/20/2016 14:29:22	10/19/2016 09:09:55	Curvilin	1/Conc	-0.003134	0.003372	-0.000000	1.000000	0.999957	0.000119	0.457368	1.524560	OK.	1.000000
Cu 324.754 {104}	10/20/2016 14:29:22	10/19/2016 09:17:00	Linear	None	-0.000537	0.000005	0.000000	1.000000	0.999979	0.001587	1.295002	4.316675	OK.	1.000000
Cu 327.396 {103}	10/20/2016 14:29:22	10/19/2016 09:17:00	Curvilin	1/Conc	-0.000036	0.000003	0.000000	1.000000	0.999991	0.000001	2.385115	7.950382	Warnin	1.000000
Fe 234.349 {144}	10/20/2016 14:29:22	10/19/2016 09:39:59	Curvilin	1/Var	0.000059	0.000003	-0.000000	1.000000	0.997882	0.000044	1.855283	6.184276	OK.	1.000000
Fe 239.562 {140}	10/20/2016 14:29:22	10/19/2016 09:39:59	Curvilin	1/Conc	0.000020	0.000003	0.000000	1.000000	0.999954	0.000039	1.998772	6.662573	OK.	1.000000
Fe 259.940 {129}	10/20/2016 14:29:22	10/19/2016 09:39:59	Linear	1/Var	0.000015	0.000002	0.000000	1.000000	0.994090	0.000024	1.758408	5.861359	OK.	1.000000
Mg 202.582 {466}	10/20/2016 14:29:22	10/19/2016 09:39:59	Curvilin	1/Conc	-0.005429	0.000414	-0.000000	1.000000	0.999878	0.010438	2.777465	9.258216	OK.	1.000000
Mg 279.079 {121}	10/20/2016 14:29:22	10/19/2016 09:39:59	Full Fit	1/Var	0.000001	0.000000	0.000000	0.990000	0.999911	0.000002	15.153387	50.511290	OK.	1.000000
Mg 280.270 {120}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Var	0.000599	0.000314	0.000000	1.000000	0.999004	0.000026	0.025258	0.084193	OK.	1.000000
Mn 257.610 {131}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.002547	0.025102	0.000000	1.000000	0.999548	0.006514	0.118086	0.393620	OK.	1.000000
Mn 259.373 {130}	10/20/2016 14:29:22	10/19/2016 09:17:00	Linear	1/Var	0.000004	0.000014	0.000000	1.000000	0.999073	0.000013	0.407650	1.358833	OK.	1.000000
Mo 202.030 {466}	10/20/2016 14:29:22	10/19/2016 09:02:45	Linear	1/Conc	-0.000795	0.002646	0.000000	1.000000	0.999631	0.000207	0.366418	1.221393	OK.	1.000000
Mo 204.598 {464}	10/20/2016 14:29:22	10/19/2016 09:09:56	Curvilin	1/Conc	0.000005	0.000004	0.000000	1.000000	0.999974	0.000000	0.658901	2.196338	Warnin	1.000000
Mo 204.598 {465}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000000	0.000004	0.000000	1.000000	0.999758	0.000002	0.712131	2.373772	OK.	1.000000
Ni 221.647 {452}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	None	-0.000156	0.000014	0.000000	1.000000	0.999994	0.000289	0.352819	1.176063	OK.	1.000000
Ni 231.604 {445}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	-0.000002	0.000013	0.000000	1.000000	0.999931	0.000001	0.376449	1.254831	OK.	1.000000
Pb 216.999 {455}	10/20/2016 14:29:22	10/19/2016 09:17:00	Linear	1/Var	0.003764	0.000446	0.000000	1.000000	0.996388	0.007004	3.567792	11.892641	OK.	1.000000
Pb 220.353 {453}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.002401	0.000966	0.000000	1.000000	0.999769	0.000189	2.108616	7.028721	OK.	1.000000
Pb 220.353 {153}	10/20/2016 14:29:22	10/19/2016 09:17:00	Linear	1/Conc	0.006585	0.000430	0.000000	1.000000	0.998831	0.002833	6.080811	20.269369	OK.	1.000000
Sb 206.833 {463}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	-0.001871	0.000734	0.000000	1.000000	0.999976	0.000069	1.684960	5.616533	OK.	1.000000
Sb 217.581 {455}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	-0.000510	0.000796	0.000000	1.000000	0.999959	0.000064	1.774010	5.913366	OK.	1.000000
Se 196.090 {472}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000894	0.000220	0.000000	1.000000	0.999964	0.000024	4.109273	13.697576	OK.	1.000000
Se 206.279 {463}	10/20/2016 14:29:22	10/19/2016 09:09:56	Curvilin	1/Conc	-0.000753	0.000079	-0.000000	1.000000	0.999888	0.000076	17.075498	56.918328	OK.	1.000000
Se 196.090 {471}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000996	0.000219	0.000000	1.000000	0.999926	0.000035	4.395689	14.652298	OK.	1.000000
Tl 190.856 {476}	10/20/2016 14:29:22	10/19/2016 09:09:56	Curvilin	1/Conc	-0.000817	0.000486	-0.000000	1.000000	0.999971	0.000058	2.379264	7.930882	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	10/20/2016 14:29:22	10/19/2016 09:09:56	Curvilin	1/Var	0.000099	0.000373	-0.000000	1.000000	0.999977	0.000955	2.629087	8.763624	OK.	1.000000
V 290.882 {116}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000044	0.000005	0.000000	1.000000	0.999607	0.000006	1.730189	5.767295	OK.	1.000000
V 292.402 {115}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	11.349938	7.925522	0.000000	1.000000	0.999850	1.716226	0.445175	1.483918	OK.	1.000000
Zn 206.200 {463}	10/20/2016 14:29:22	10/19/2016 09:17:00	Linear	1/Var	-0.001978	0.004150	0.000000	1.000000	0.999845	0.002478	0.295151	0.983838	OK.	1.000000
Zn 213.856 {458}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Var	0.000004	0.000016	0.000000	1.000000	0.999347	0.000003	0.168408	0.561360	OK.	1.000000
Y 324.228 {104}*	10/20/2016 14:29:22	10/19/2016 08:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	10/20/2016 14:29:22	10/19/2016 08:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	10/20/2016 14:29:22	10/19/2016 08:01:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	10/20/2016 14:29:22	10/19/2016 09:24:09	Linear	1/Conc	0.004835	0.000014	0.000000	1.000000	0.962225	0.007369	3.026346	10.087820	OK.	1.000000
Si 251.611 {134}	10/20/2016 14:29:22	10/19/2016 09:24:09	Linear	1/Conc	0.000042	0.000000	0.000000	1.000000	0.307192	0.000065	34.174099	113.913662	OK.	1.000000
Ti 334.941 {101}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000005	0.000008	0.000000	1.000000	0.999963	0.000001	0.681141	2.270469	OK.	1.000000
Sr 407.771 { 83}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	-0.000063	0.000146	0.000000	1.000000	0.999902	0.000008	0.057536	0.191786	OK.	1.000000
Sn 189.989 {478}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Var	0.001098	0.000259	0.000000	1.000000	0.999884	0.001147	2.686323	8.954408	OK.	1.000000
B 249.678 {135}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000025	0.000012	0.000000	1.000000	0.999575	0.000005	1.191189	3.970630	OK.	1.000000
B 249.773 {135}	10/20/2016 14:29:22	10/19/2016 09:09:56	Linear	1/Conc	0.000104	0.000031	0.000000	1.000000	0.999729	0.000010	0.524477	1.748255	OK.	1.000000
Li 670.784 { 50}	10/20/2016 14:29:22	10/19/2016 09:09:57	Linear	1/Var	0.000055	0.000029	0.000000	1.000000	0.999736	0.000048	0.834284	2.780947	OK.	1.000000
K 766.490 { 44}	10/20/2016 14:29:22	10/19/2016 09:24:09	Linear	1/Conc	-0.000023	0.000001	0.000000	1.000000	0.963039	0.000474	24.262350	80.874498	OK.	1.000000
P 213.618 {457}	10/20/2016 14:29:22	10/19/2016 09:24:09	Linear	1/Conc	-0.000007	0.000000	0.000000	1.000000	0.999761	0.000004	34.253793	114.179310	OK.	1.000000
S 182.034 {485}	10/20/2016 14:29:22	10/19/2016 09:24:09	Linear	1/Var	0.002009	0.000195	0.000000	1.000000	0.999979	0.001504	4.582077	15.273589	OK.	1.000000
W 239.709 {140}	10/20/2016 14:29:22	10/19/2016 09:24:09	Linear	1/Conc	0.000003	0.000000	0.000000	1.000000	0.407307	0.000018	153.545229	511.817431	OK.	1.000000
Hg 184.950 {482}	10/20/2016 14:29:22	10/19/2016 09:02:46	Linear	1/Conc	0.002585	0.001268	0.000000	1.000000	0.999901	0.000323	0.784280	2.614266	OK.	1.000000
Hg 194.227 {473}	10/20/2016 14:29:22	10/19/2016 09:02:46	Linear	1/Conc	0.000116	0.001018	0.000000	1.000000	0.999922	0.000231	0.908471	3.028236	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0
Hg 184.950 {482}	0.000000	1	0
Hg 194.227 {473}	0.000000	1	0

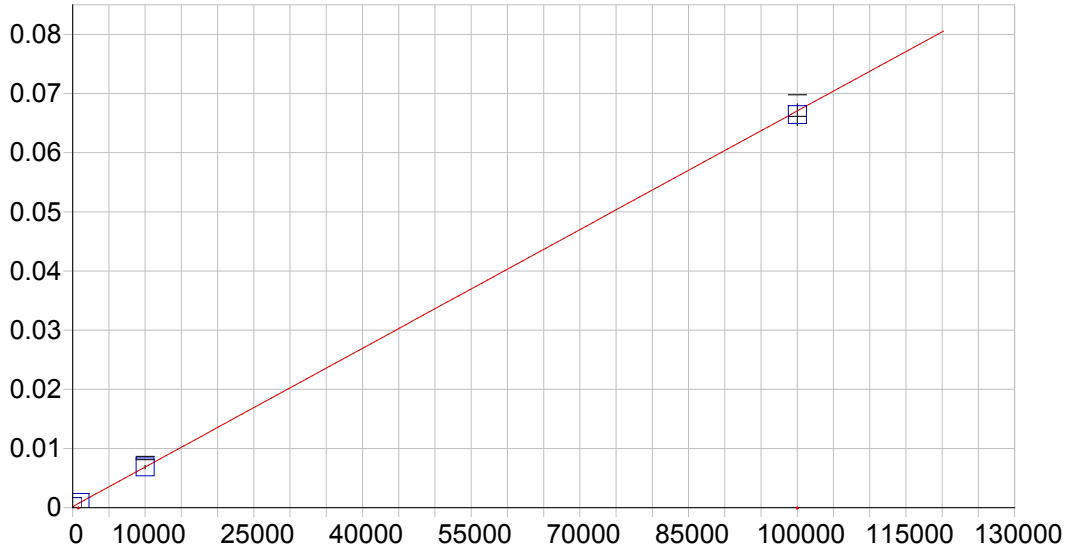


Ag 328.068 {103}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997394	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.742902		
Predicted MQL:	2.476341		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.74703	.747	.000	.00000	.000	1
CalStd5=10	10.000	8.0470	-1.95	-19.5	.00002	.000	1
CalStd8=100	100.00	101.95	1.95	1.95	.00028	.000	1
CalStd3=1	1.0000	1.2726	.273	27.3	.00000	.000	1

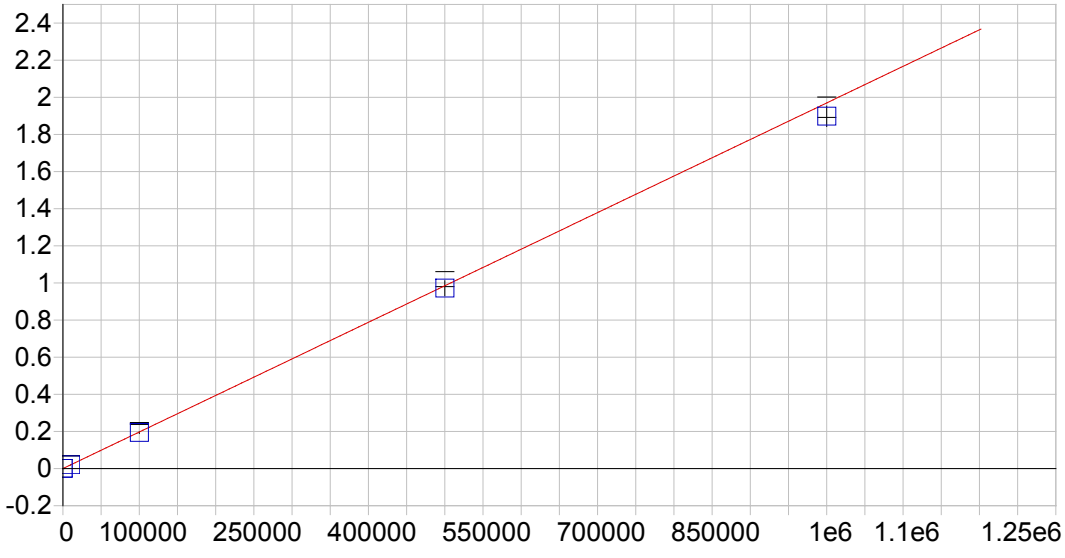


Al 309.271 {109}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000182	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	8.169253		
Predicted MQL:	27.230843		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-18.804	-18.8	.000	.00017	.000	1
CalStd10=10	10000.	9988.2	-11.8	-.118	.00686	.000	1
CalStd9=100	1000.0	1021.0	21.0	2.10	.00087	.000	1
CalStd12-100	100000.	99054.	-946.	-.946	.06643	.002	1

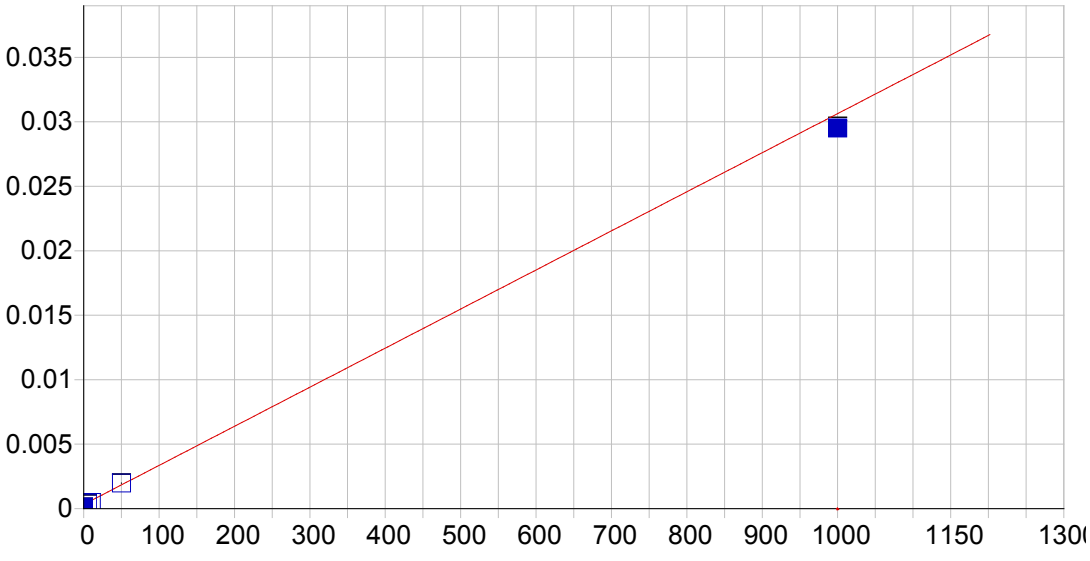


Al 396.152 { 85}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	4.278262		
Predicted MQL:	14.260872		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00074	-.001	.000	-.00001	.000	1
CalStd14-100	1000000.	963340.	-36700.	-3.67	1.8973	.055	1
CalStd13=50	500000.	493270.	-6730.	-1.35	.97149	.040	1
CalStd10=10	10000.	10087.	86.8	.868	.01985	.001	1
CalStd12-100	100000.	98324.	-1680.	-1.68	.19364	.005	1
CalStd9=100	1000.0	1001.4	1.43	.143	.00196	.000	1

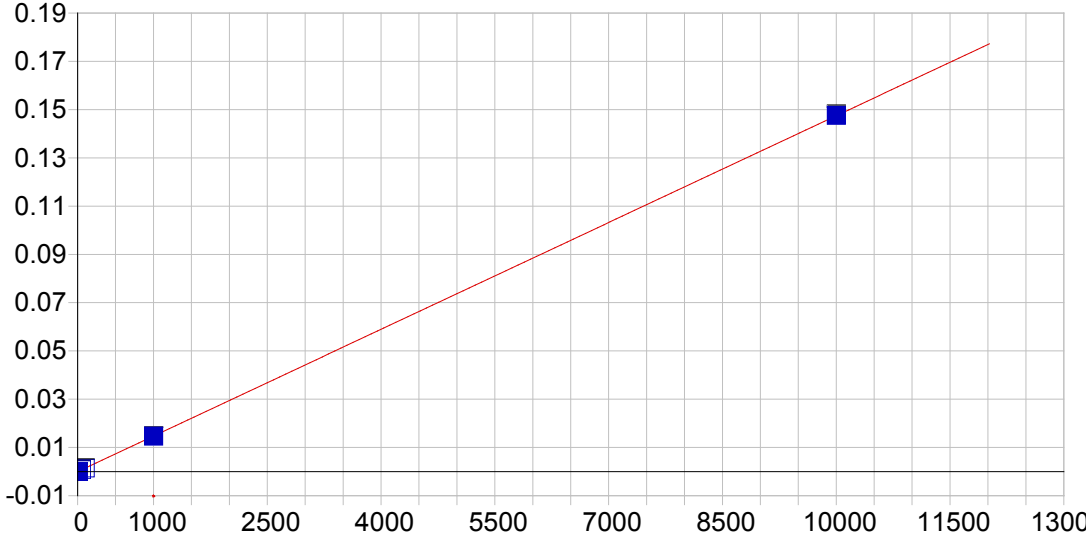


Al 167.079 {502}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000322	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995859	Status:	OK.
Std Error of Est:	0.000211		
Predicted MDL:	0.843339		
Predicted MQL:	2.811131		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.4357	-6.44	.000	.00013	.000	1
CalStd9=100	1000.0	962.78	-37.2	-3.72	.02953	.000	1
CalStd5=10	10.000	4.9695	-5.03	-50.3	.00047	.000	1
CalStd4=5	5.0000	1.4007	-3.60	-72.0	.00036	.000	1
CalStd7=50	50.000	54.587	4.59	9.17	.00198	.000	1

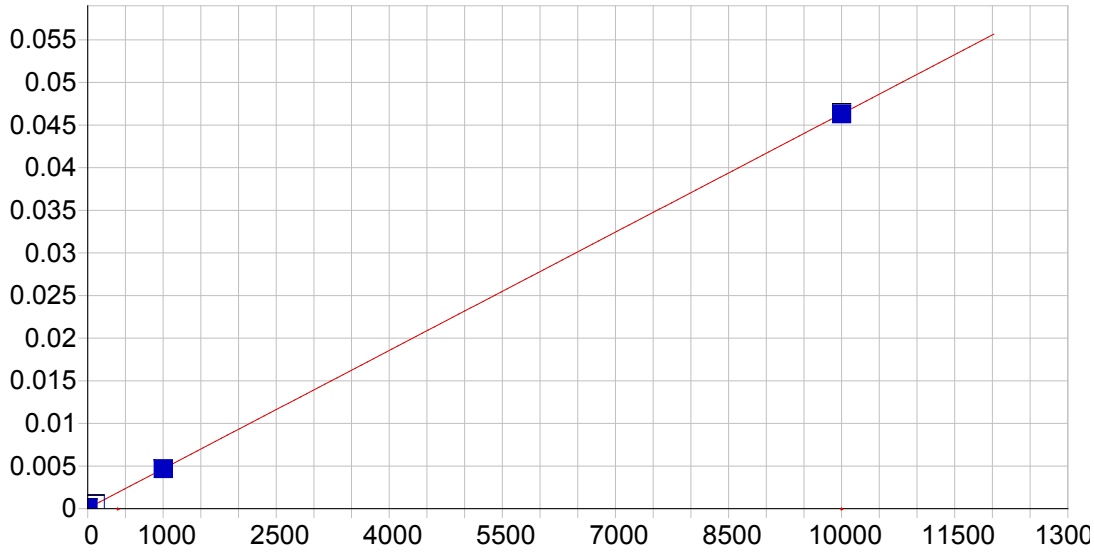


As 193.759 {474}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	4.133834		
Predicted MQL:	13.779447		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.1712	-5.17	.000	-.00013	.000	1
CalStd9=100	1000.0	996.53	-3.47	-.347	.01466	.000	1
CalStd7=50	50.000	50.232	.232	.464	.00069	.000	1
CalStd5=10	10.000	.64709	-9.35	-93.5	-.00005	.000	1
CalStd8=100	100.00	100.09	.089	.089	.00142	.000	1
CalStd10=10	10000.	10004.	4.27	.043	.14766	.000	1

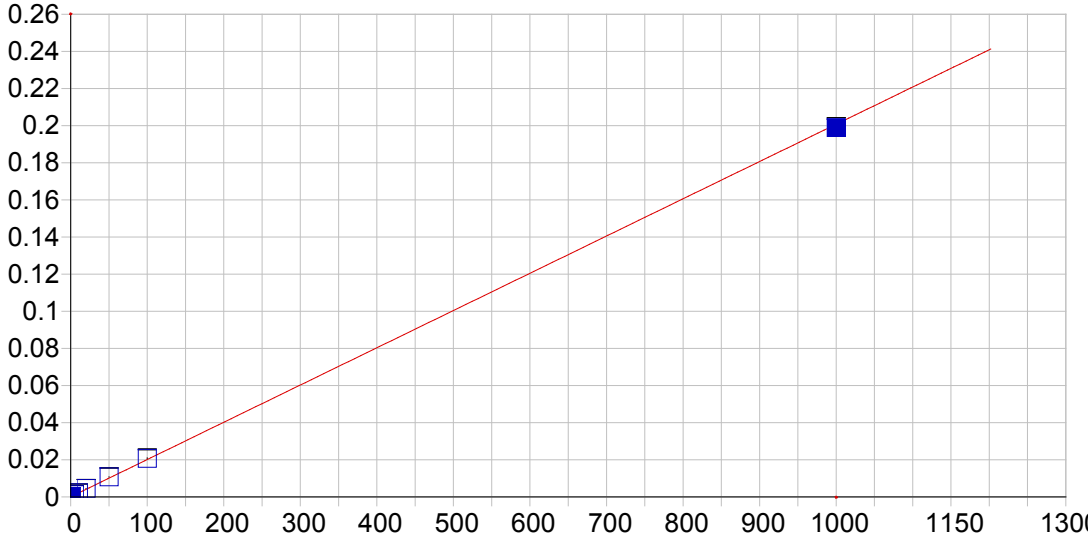


As 189.042 {479}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000047	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	8.478890		
Predicted MQL:	28.262968		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00008	.000	.000	.00005	.000	1
CalStd9=100	1000.0	1000.2	.213	.021	.00468	.000	1
CalStd10=10	10000.	9996.4	-3.64	-.036	.04631	.000	1
CalStd8=100	100.00	103.52	3.52	3.52	.00053	.000	1
CalStd4=5	5.0000	4.9020	-.098	-1.96	.00007	.000	1

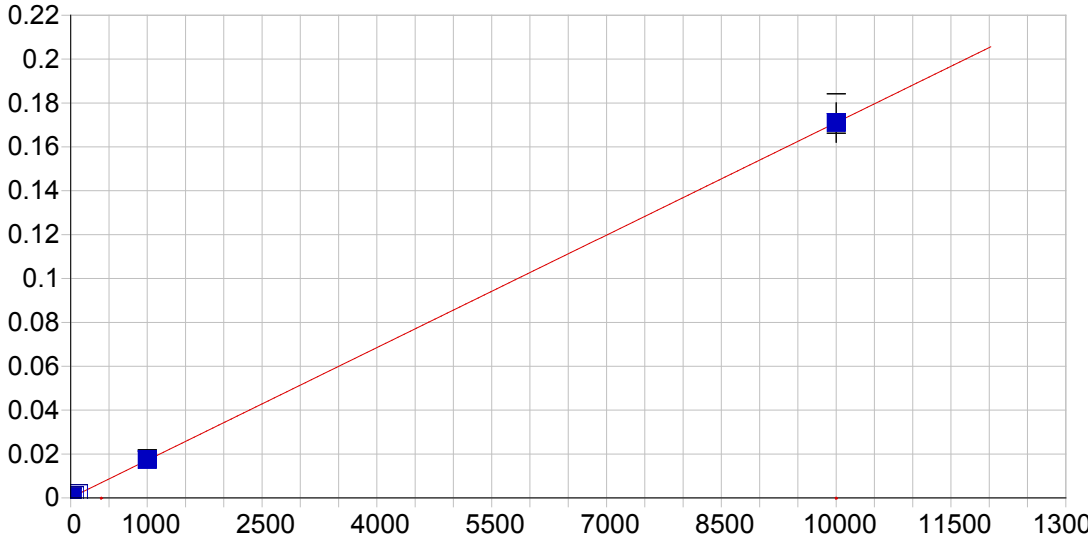


Ba 233.527 {445}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000063	Re-Slope:	1.000000
A1 (Gain):	0.000201	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999713	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.216984		
Predicted MQL:	0.723279		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00043	.000	.000	.00006	.000	1
CalStd7=50	50.000	53.169	3.17	6.34	.01073	.000	1
CalStd5=10	10.000	10.249	.249	2.49	.00212	.000	1
CalStd6=20	20.000	22.289	2.29	11.4	.00454	.000	1
CalStd8=100	100.00	102.96	2.96	2.96	.02073	.000	1
CalStd4=5	5.0000	5.3166	.317	6.33	.00113	.000	1
CalStd9=100	1000.0	990.87	-9.13	-.913	.19891	.000	1
CalStd3=1	1.0000	1.1458	.146	14.6	.00029	.000	1

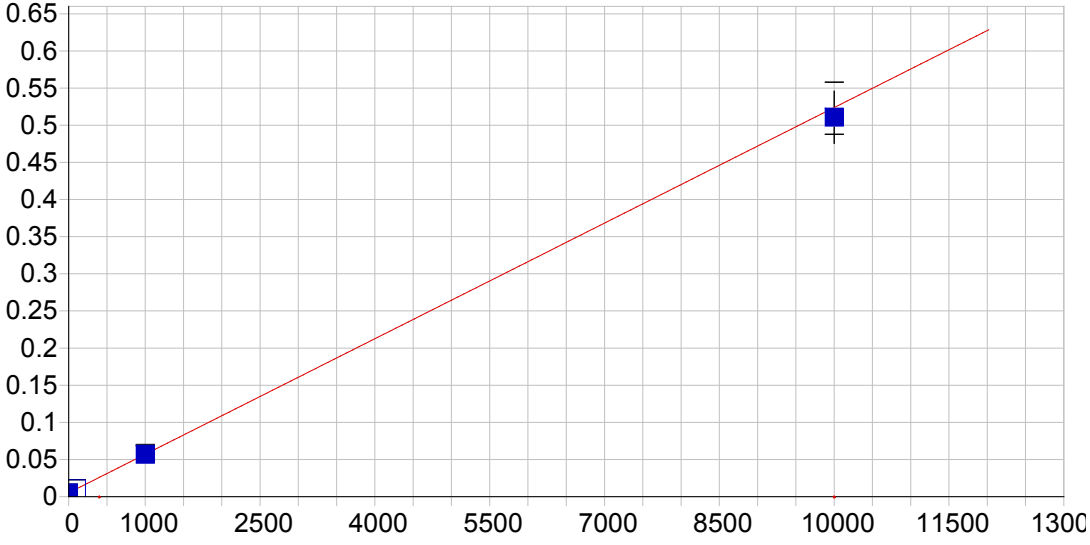


Ba 455.403 { 74}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000102		
Predicted MDL:	0.141045		
Predicted MQL:	0.470151		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.4214	-3.42	.000	.00002	.000	1
CalStd7=50	50.000	50.275	.275	.551	.00094	.000	1
CalStd5=10	10.000	6.7816	-3.22	-32.2	.00020	.000	1
CalStd6=20	20.000	18.859	-1.14	-5.70	.00040	.000	1
CalStd8=100	100.00	101.46	1.46	1.46	.00182	.000	1
CalStd4=5	5.0000	1.7410	-3.26	-65.2	.00011	.000	1
CalStd9=100	1000.0	1014.1	14.1	1.41	.01742	.000	1
CalStd3=1	1.0000	-2.3505	-3.35	-335.	.00004	.000	1
CalStd10=10	10000.	9998.6	-1.42	-.014	.17107	.009	1

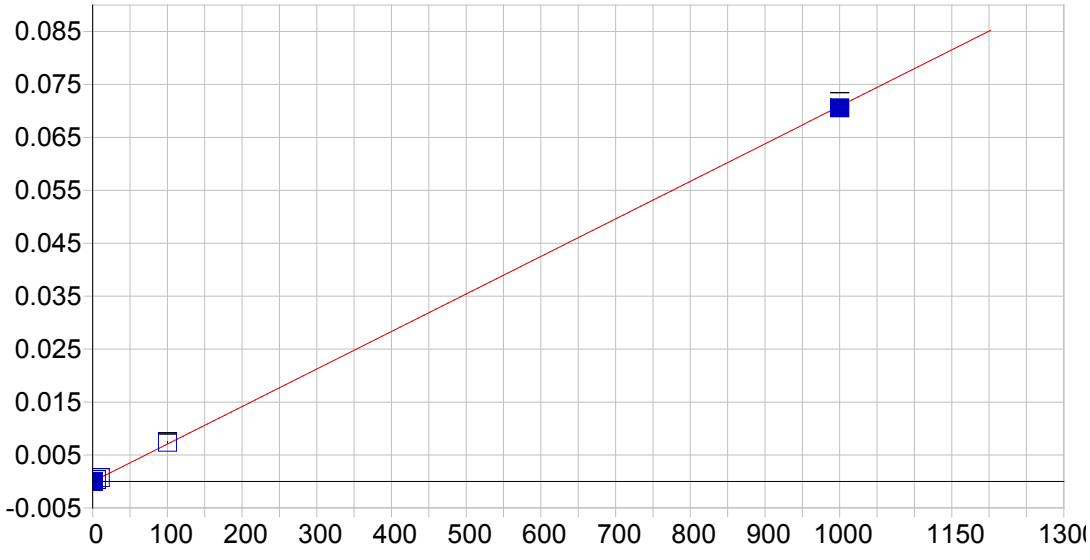


Ba 493.409 { 68}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.005199	Re-Slope:	1.000000
A1 (Gain):	0.000052	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999702	Status:	OK.
Std Error of Est:	0.000250		
Predicted MDL:	0.419352		
Predicted MQL:	1.397841		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.8666	-6.87	.000	.00484	.000	1
CalStd9=100	1000.0	996.47	-3.53	-.353	.05688	.001	1
CalStd8=100	100.00	101.54	1.54	1.54	.01046	.000	1
CalStd10=10	10000.	9746.8	-253.	-2.53	.51076	.035	1

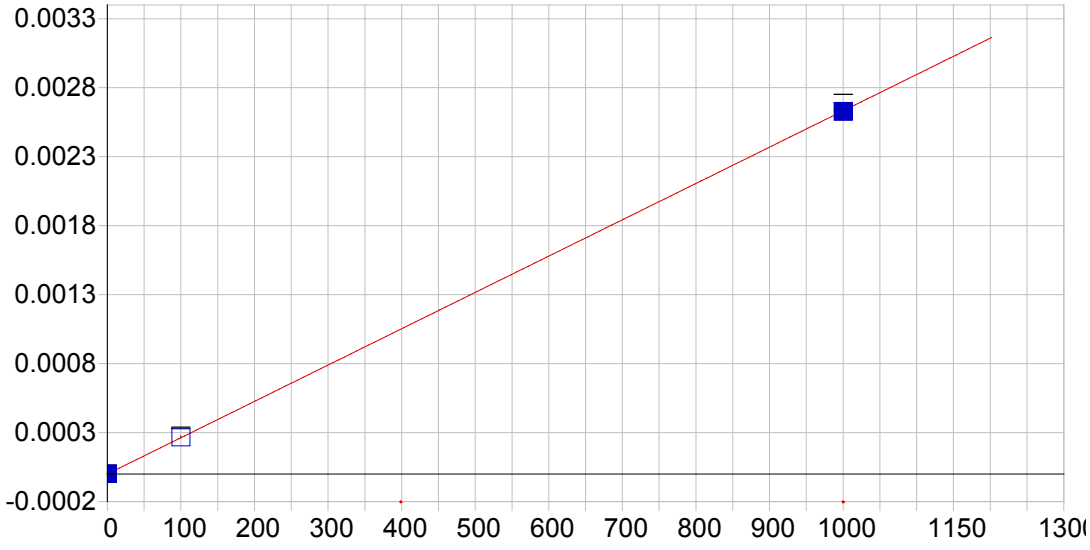


Be 313.042 {108}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000033	Re-Slope:	1.000000
A1 (Gain):	0.000071	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.032005		
Predicted MQL:	0.106683		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00002	.000	.000	-.00003	.000	1
CalStd5=10	10.000	10.123	.123	1.23	.00069	.000	1
CalStd8=100	100.00	104.30	4.30	4.30	.00736	.000	1
CalStd2=0.5	.50000	.50961	.010	1.92	.00000	.000	1
CalStd4=5	5.0000	5.0754	.075	1.51	.00033	.000	1
CalStd1=0.25	.25000	.24020	-.010	-3.92	-.00002	.000	1
CalStd9=100	1000.0	995.47	-4.53	-.453	.07056	.001	1
CalStd3=1	1.0000	1.0326	.033	3.26	.00004	.000	1

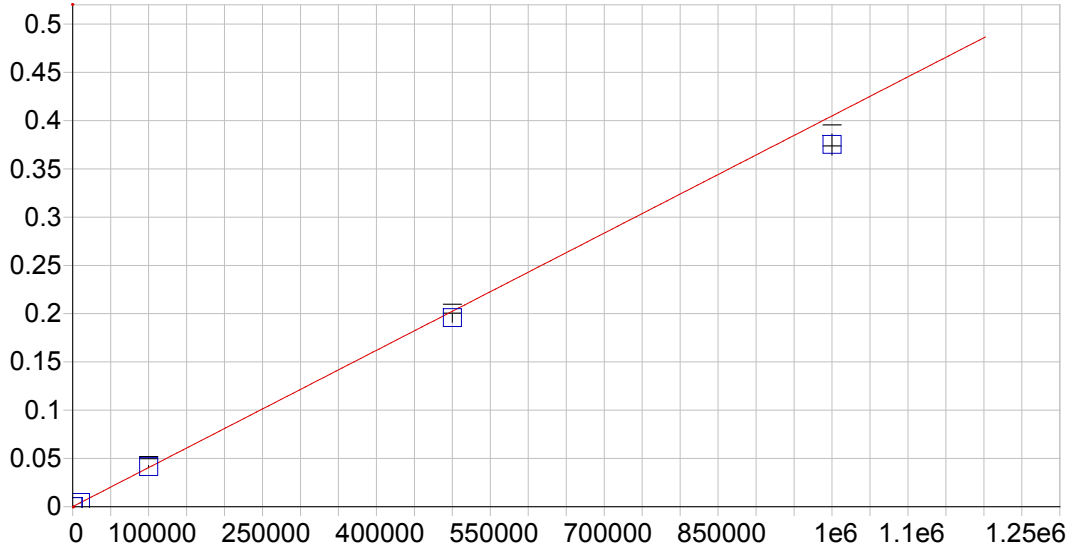


Be 234.861 {144}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.185737		
Predicted MQL:	0.619123		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00173	-.002	.000	.00000	.000	1
CalStd9=100	1000.0	998.08	-1.92	-.192	.00263	.000	1
CalStd8=100	100.00	101.92	1.92	1.92	.00027	.000	1

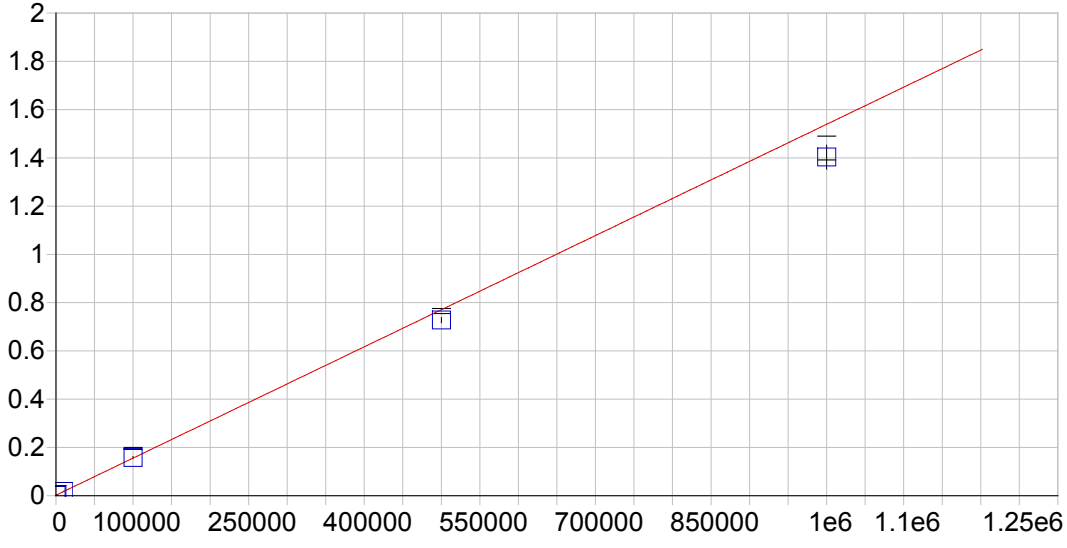


Ca 315.887 {107}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998777	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	5.882109		
Predicted MQL:	19.607029		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.6519	-7.65	.000	.00004	.000	1
CalStd10=10	10000.	10335.	335.	3.35	.00423	.000	1
CalStd13=50	500000.	483430.	-16600.	-3.31	.19576	.005	1
CalStd14-100	1000000.	926800.	-73200.	-7.32	.37526	.011	1
CalStd9=100	1000.0	1049.0	49.0	4.90	.00047	.000	1
CalStd12-100	100000.	102260.	2260.	2.26	.04144	.001	1

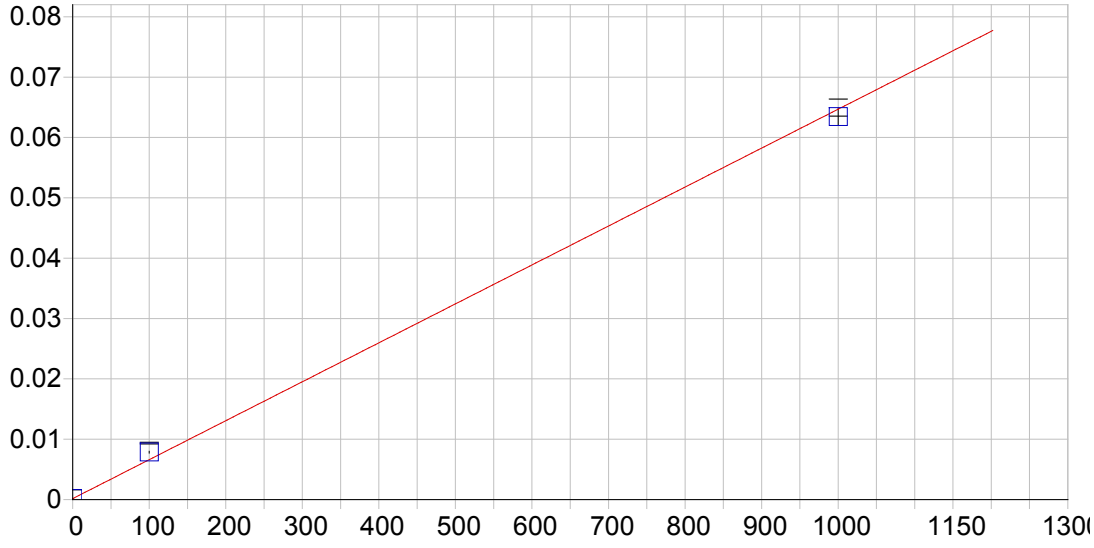


Ca 317.933 {106}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.002148	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	1.882411		
Predicted MQL:	6.274702		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.26751	-.268	.000	.00215	.000	1
CalStd10=10	10000.	10353.	353.	3.53	.01806	.001	1
CalStd13=50	500000.	472040.	-28000.	-5.59	.72769	.011	1
CalStd14-100	1000000.	911550.	-88500.	-8.85	1.4032	.050	1
CalStd9=100	1000.0	1216.6	217.	21.7	.00402	.000	1
CalStd12-100	100000.	101370.	1370.	1.37	.15795	.004	1

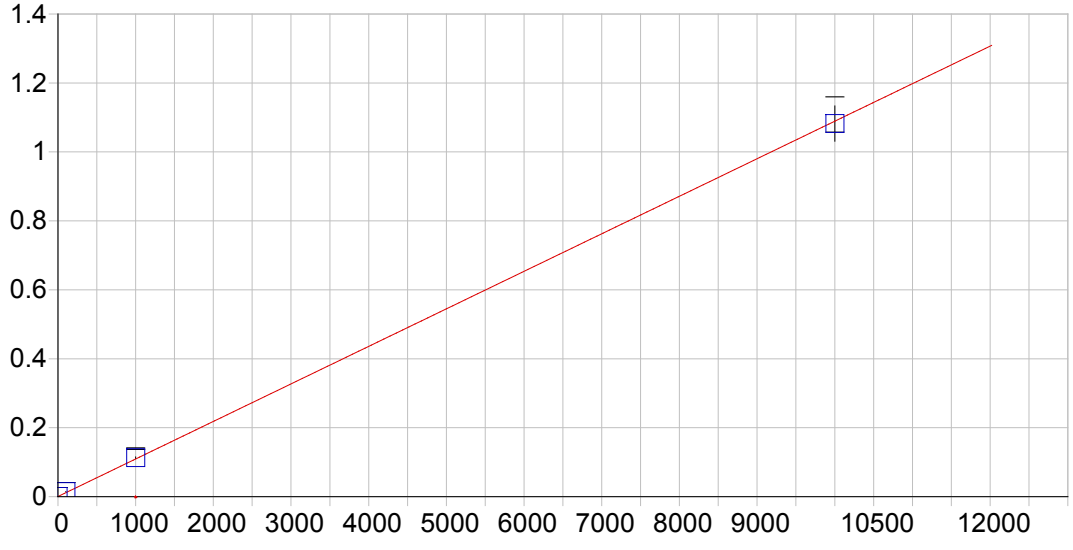


Ca 393.366 { 86}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000163	Re-Slope:	1.000000
A1 (Gain):	0.000065	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998161	Status:	OK.
Std Error of Est:	0.000071		
Predicted MDL:	0.028043		
Predicted MQL:	0.093476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01727	-.017	.000	.00016	.000	1
CalStd9=100	1000.0	980.81	-19.2	-1.92	.06345	.001	1
CalStd8=100	100.00	119.19	19.2	19.2	.00785	.000	1

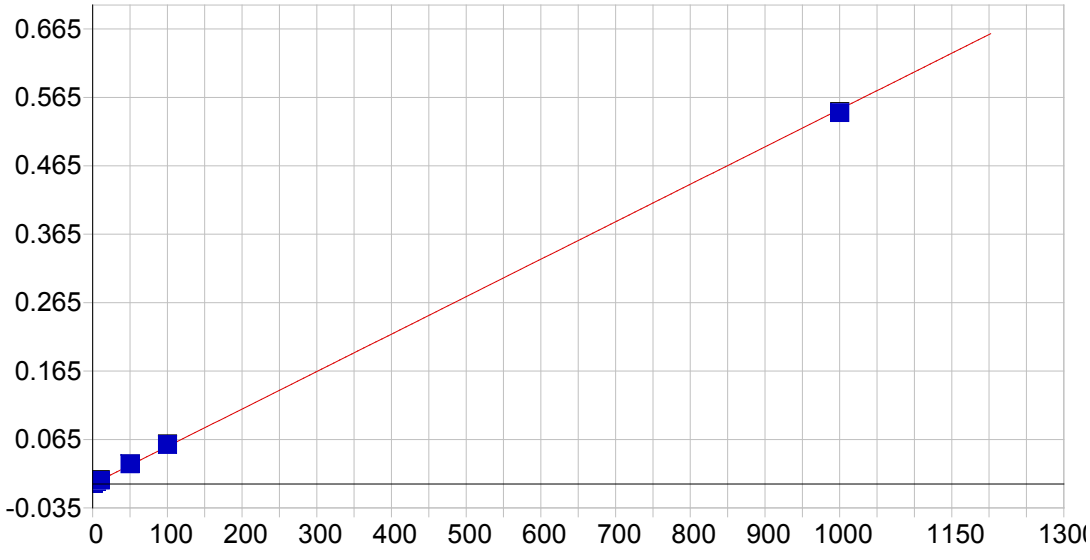


Ca 396.847 { 85}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000319	Re-Slope:	1.000000
A1 (Gain):	0.000109	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999517	Status:	OK.
Std Error of Est:	0.000159		
Predicted MDL:	0.053752		
Predicted MQL:	0.179173		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03303	-.033	.000	.00032	.000	1
CalStd10=10	10000.	9936.6	-63.4	-.634	1.0821	.051	1
CalStd8=100	100.00	130.35	30.4	30.4	.01451	.000	1
CalStd9=100	1000.0	1033.1	33.1	3.31	.11279	.002	1

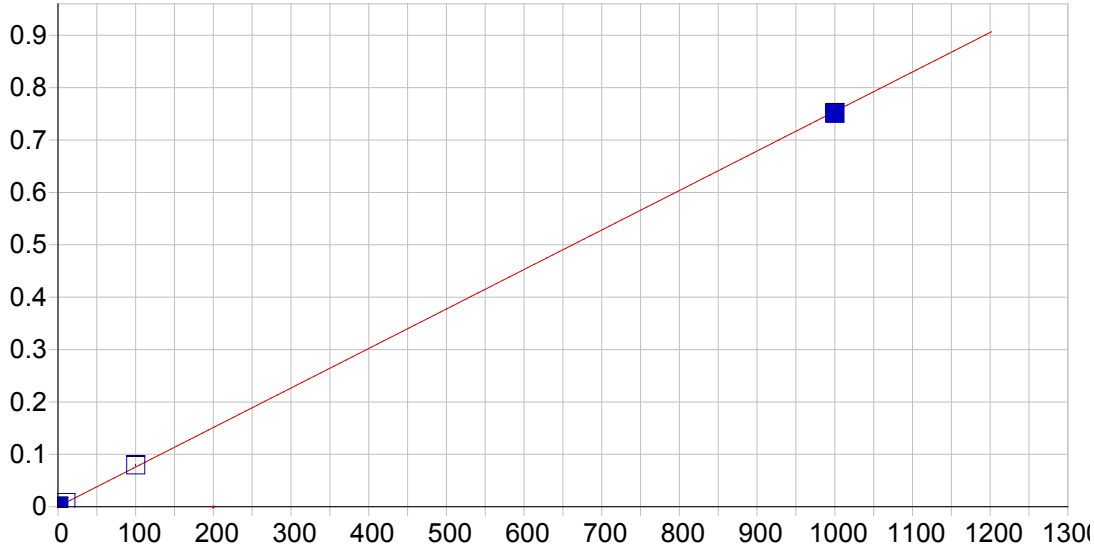


Cd 226.502 {449}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000547	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999752	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.139335		
Predicted MQL:	0.464450		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00021	.000	.000	-.00001	.000	1
CalStd7=50	50.000	53.287	3.29	6.57	.02916	.000	1
CalStd3=1	1.0000	1.0987	.099	9.87	.00059	.000	1
CalStd2=0.5	.50000	.57408	.074	14.8	.00030	.000	1
CalStd4=5	5.0000	5.2445	.245	4.89	.00286	.000	1
CalStd8=100	100.00	104.93	4.93	4.93	.05744	.001	1
CalStd5=10	10.000	10.261	.261	2.61	.00561	.000	1
CalStd9=100	1000.0	991.10	-8.90	-.890	.54272	.001	1

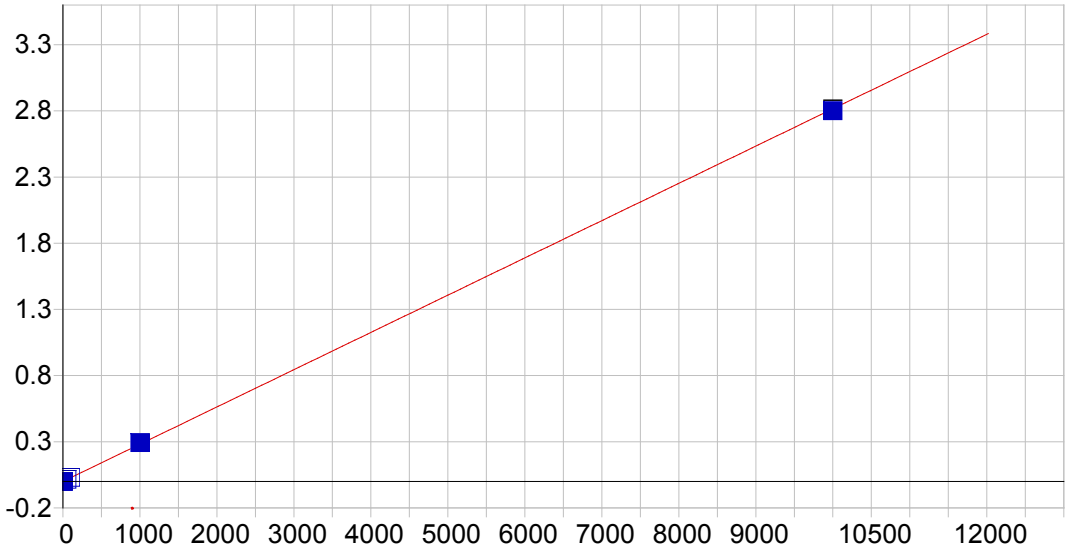


Cd 228.802 {447}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000234	Re-Slope:	1.000000
A1 (Gain):	0.000754	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999873	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.127632		
Predicted MQL:	0.425441		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	.00023	.000	1
CalStd9=100	1000.0	994.85	-5.15	-.515	.75046	.002	1
CalStd8=100	100.00	104.95	4.95	4.95	.07939	.001	1
CalStd2=0.5	.50000	.53895	.039	7.79	.00064	.000	1
CalStd3=1	1.0000	1.0767	.077	7.67	.00105	.000	1
CalStd5=10	10.000	10.085	.085	.850	.00784	.000	1

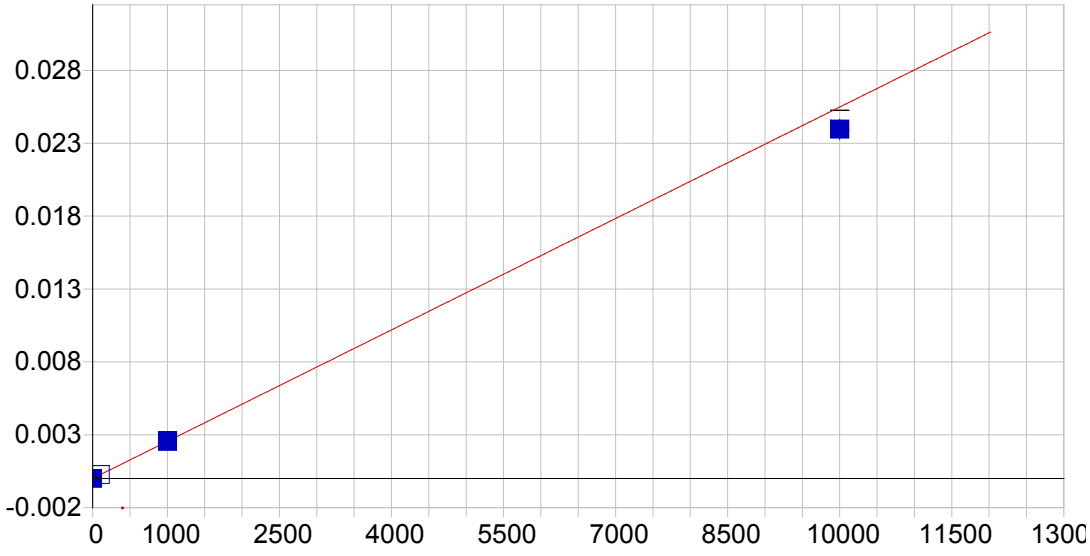


Co 228.616 {447}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000242	Re-Slope:	1.000000
A1 (Gain):	0.000282	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.306600		
Predicted MQL:	1.022001		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00046	.000	.000	-.00024	.000	1
CalStd7=50	50.000	55.415	5.42	10.8	.01536	.000	1
CalStd5=10	10.000	10.596	.596	5.96	.00274	.000	1
CalStd4=5	5.0000	5.3973	.397	7.95	.00128	.000	1
CalStd8=100	100.00	106.62	6.62	6.62	.02978	.000	1
CalStd9=100	1000.0	1040.4	40.4	4.04	.29273	.001	1
CalStd3=1	1.0000	1.1137	.114	11.4	.00007	.000	1
CalStd10=10	10000.	9946.5	-53.5	-.535	2.8007	.012	1

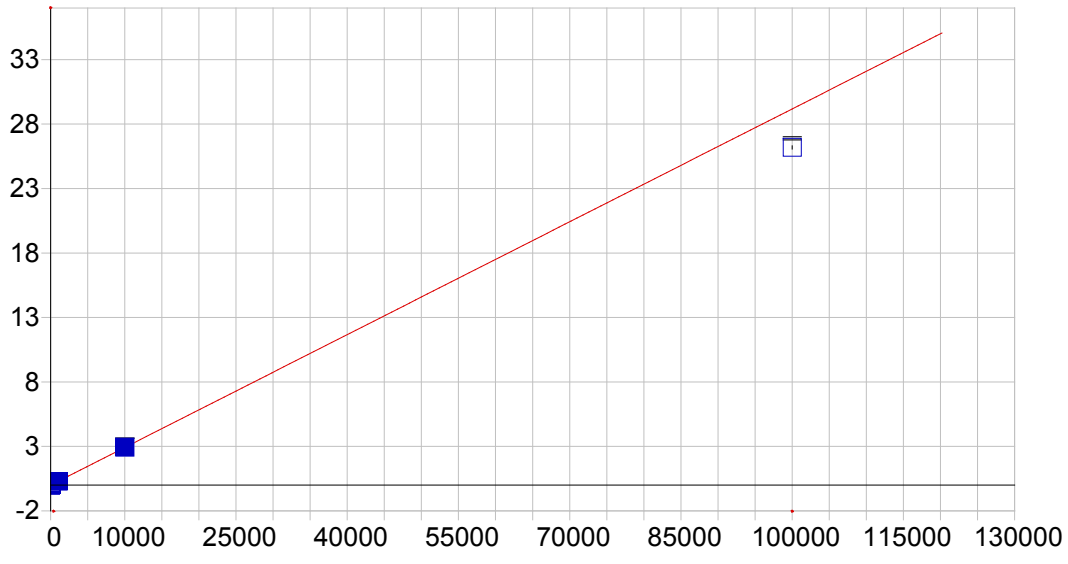


Co 238.892 {141}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999705	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.613337		
Predicted MQL:	2.044455		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08648	-.086	.000	.00000	.000	1
CalStd9=100	1000.0	993.15	-6.85	-.685	.00253	.000	1
CalStd10=10	10000.	9403.8	-596.	-5.96	.02397	.001	1
CalStd8=100	100.00	101.42	1.42	1.42	.00026	.000	1

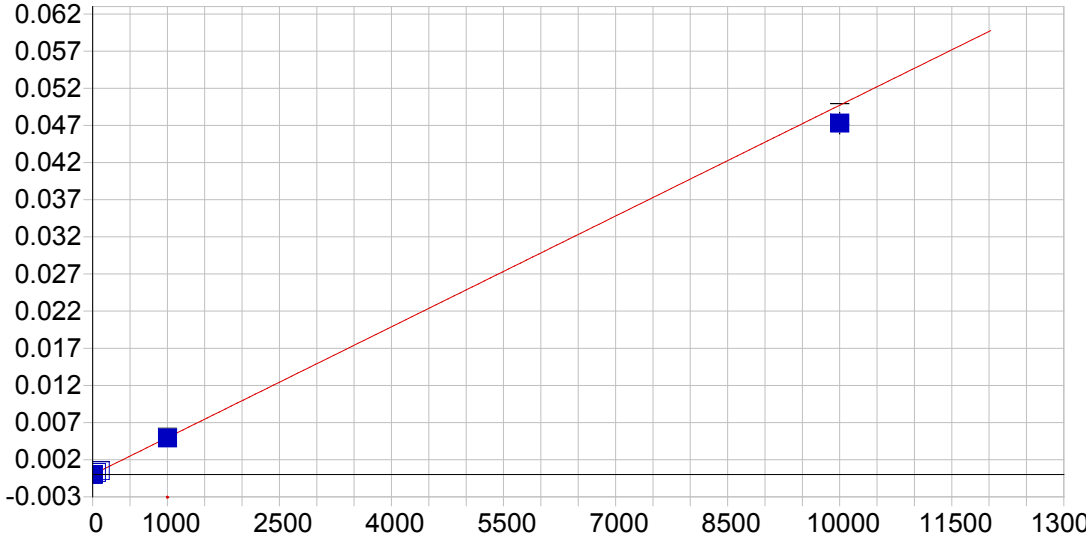


Cr 205.560 {464}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000292	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998274	Status:	OK.
Std Error of Est:	0.000550		
Predicted MDL:	0.181656		
Predicted MQL:	0.605520		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.50031	-.500	.000	-.00013	.000	1
CalStd5=10	10.000	10.076	.076	.763	.00296	.000	1
CalStd7=50	50.000	53.936	3.94	7.87	.01575	.000	1
CalStd9=100	1000.0	1039.3	39.3	3.93	.30321	.001	1
CalStd8=100	100.00	106.58	6.58	6.58	.03111	.000	1
CalStd4=5	5.0000	4.9156	-.084	-1.69	.00145	.000	1
CalStd3=1	1.0000	.86429	-.136	-13.6	.00027	.000	1
CalStd11-100	100000.	89765.	-10200.	-10.2	26.187	.127	1
CalStd10=10	10000.	10037.	36.6	.366	2.9280	.010	1

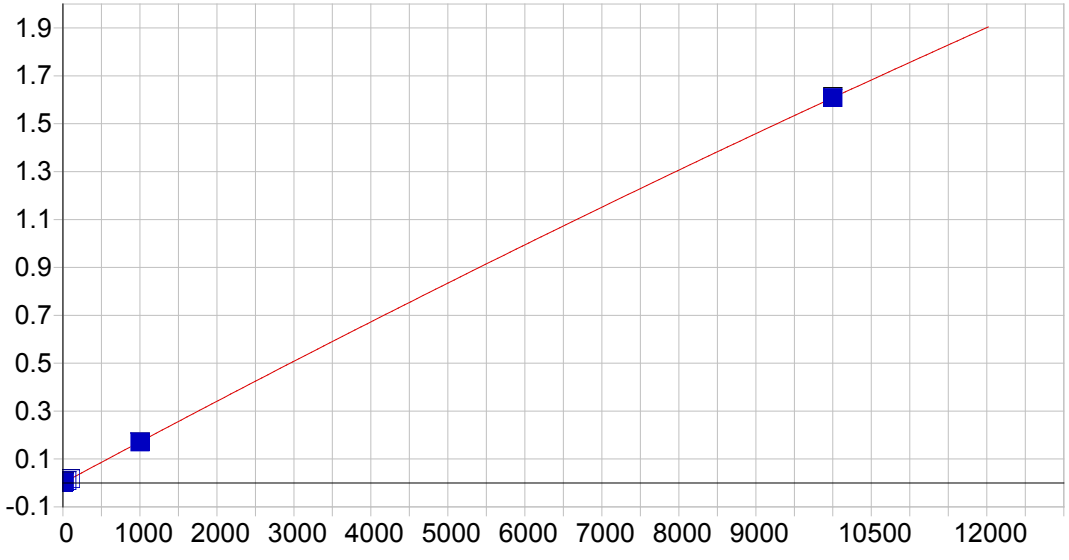


Cr 267.716 {126}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999603	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.427811		
Predicted MQL:	1.426037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.05640	-.056	.000	.00000	.000	1
CalStd5=10	10.000	10.234	.234	2.34	.00005	.000	1
CalStd7=50	50.000	51.926	1.93	3.85	.00026	.000	1
CalStd9=100	1000.0	990.62	-9.38	-.938	.00492	.000	1
CalStd8=100	100.00	101.26	1.26	1.26	.00050	.000	1
CalStd4=5	5.0000	5.2757	.276	5.51	.00003	.000	1
CalStd10=10	10000.	9513.9	-486.	-4.86	.04730	.001	1

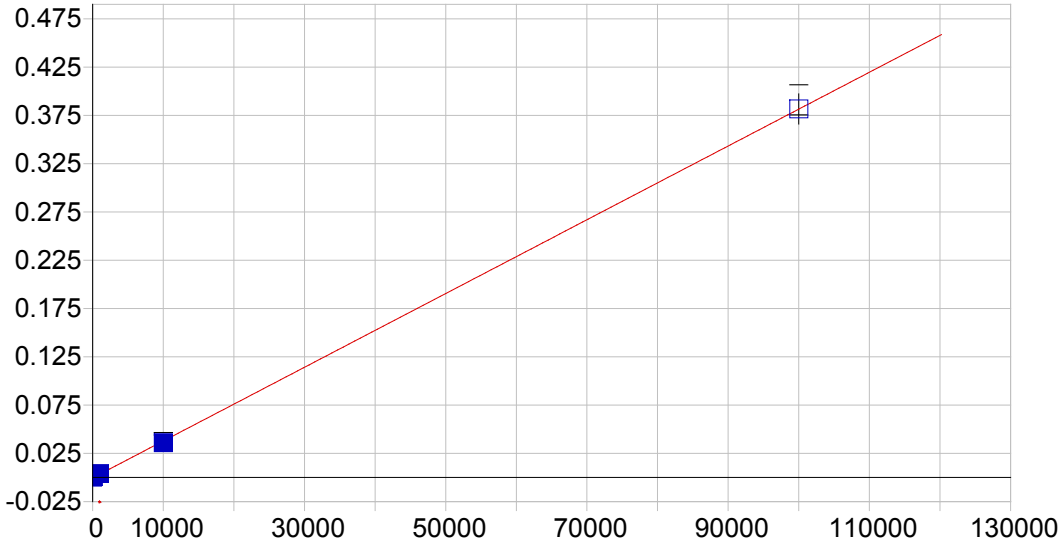


Cu 224.700 {450}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000146	Re-Slope:	1.000000
A1 (Gain):	0.000173	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.446846		
Predicted MQL:	1.489488		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00051	-.001	.000	-.00015	.000	1
CalStd9=100	1000.0	993.54	-6.46	-.646	.17059	.000	1
CalStd7=50	50.000	51.754	1.75	3.51	.00881	.000	1
CalStd8=100	100.00	101.16	1.16	1.16	.01734	.000	1
CalStd5=10	10.000	10.204	.204	2.04	.00162	.000	1
CalStd10=10	10000.	10001.	.711	.007	1.6092	.004	1
CalStd4=5	5.0000	5.2577	.258	5.15	.00076	.000	1
CalStd6=20	20.000	22.088	2.09	10.4	.00368	.000	1
CalStd3=1	1.0000	1.2927	.293	29.3	.00008	.000	1

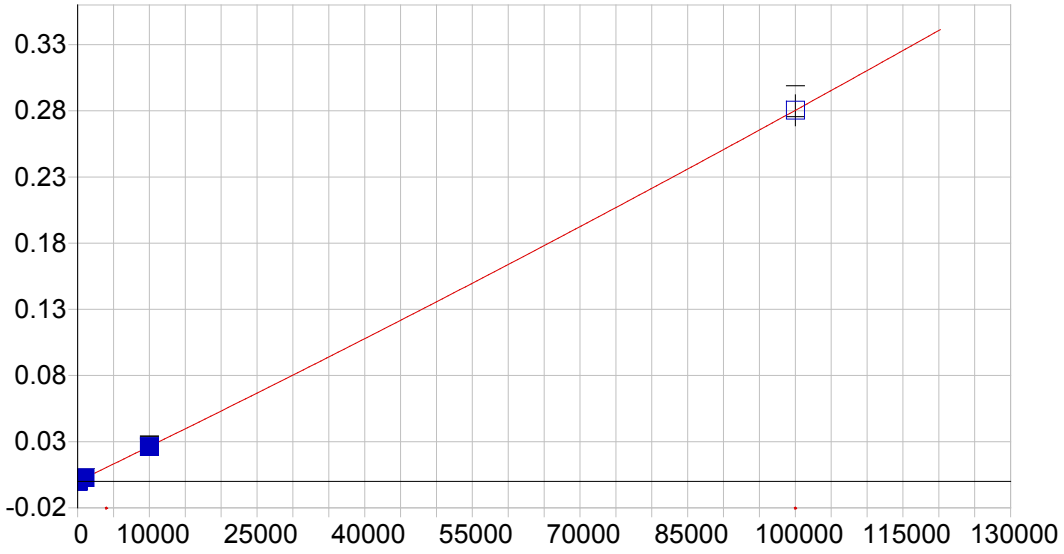


Cu 324.754 {104}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000431	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999980	Status:	OK.
Std Error of Est:	0.001226		
Predicted MDL:	1.172419		
Predicted MQL:	3.908064		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	155.98	156.	.000	.00016	.000	1
CalStd9=100	1000.0	1127.7	128.	12.8	.00388	.000	1
CalStd8=100	100.00	259.26	159.	159.	.00056	.000	1
CalStd10=10	10000.	9509.4	-491.	-4.91	.03589	.001	1
CalStd11-100	100000.	100050.	47.6	.048	.38166	.016	1

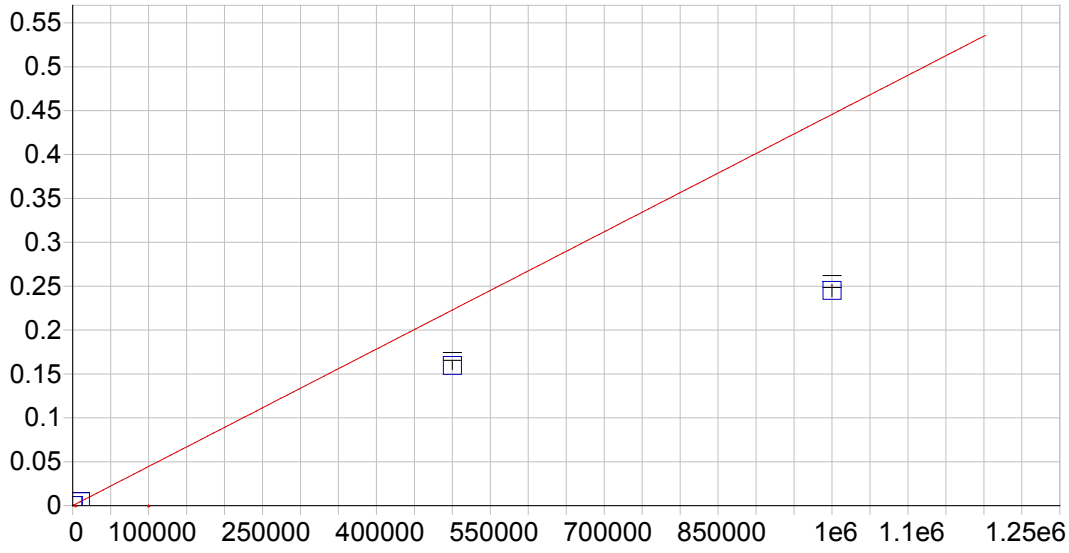


Cu 327.396 {103}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	Warning Positive Curvature
Std Error of Est:	0.000001		
Predicted MDL:	2.162822		
Predicted MQL:	7.209408		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00129	-.001	.000	-.00003	.000	1
CalStd6=20	20.000	19.915	-.085	-.424	.00003	.000	1
CalStd7=50	50.000	50.239	.239	.477	.00011	.000	1
CalStd8=100	100.00	103.48	3.48	3.48	.00025	.000	1
CalStd9=100	1000.0	1032.9	32.9	3.29	.00269	.000	1
CalStd10=10	10000.	9960.2	-39.8	-.398	.02629	.001	1
CalStd11-100	100000.	100000.	3.25	.003	.28040	.012	1

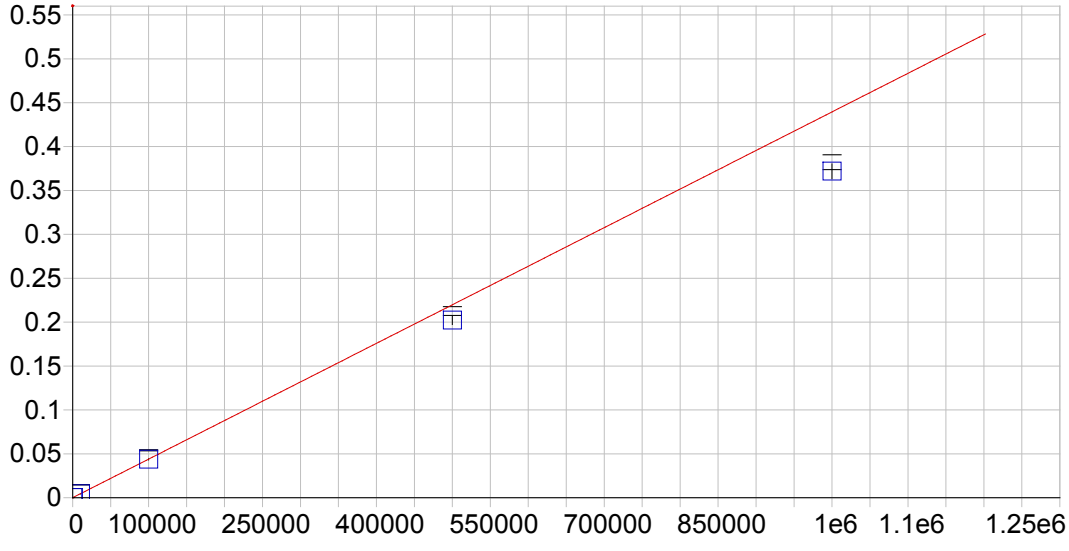


Fe 234.349 {144}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999039	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.598461		
Predicted MQL:	5.328203		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.25415	-.254	.000	.00001	.000	1
CalStd10=10	10000.	9937.1	-62.9	-.629	.00444	.000	1
CalStd13=50	500000.	358030.	-142000.	-28.4	.15960	.004	1
CalStd14-100	1000000.	549670.	-450000.	-45.0	.24502	.007	1
CalStd9=100	1000.0	1040.0	40.0	4.00	.00047	.000	1

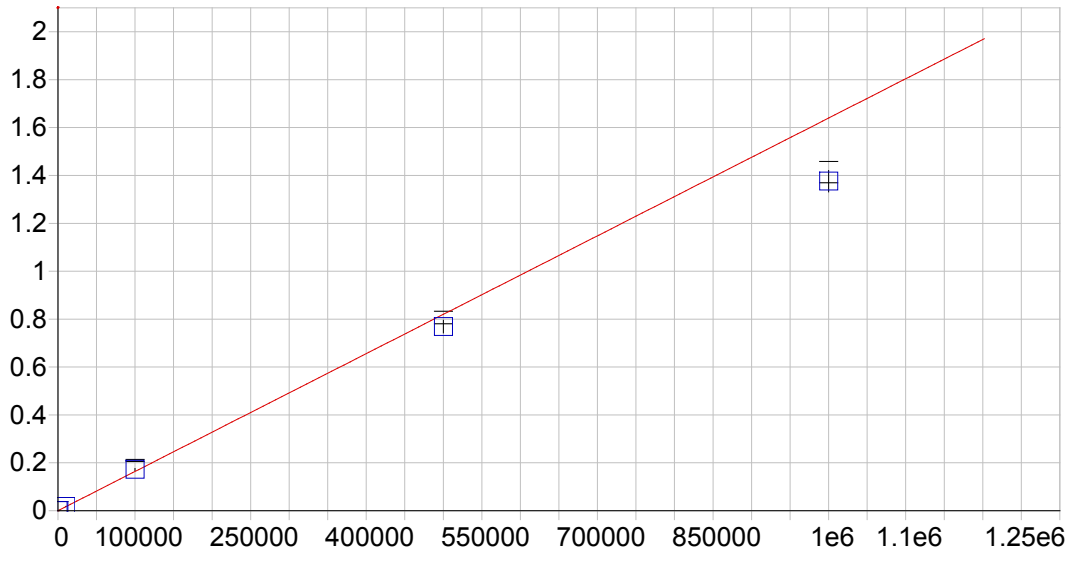


Fe 239.562 {140}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.653964		
Predicted MQL:	5.513215		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04676	.047	.000	.00000	.000	1
CalStd10=10	10000.	9736.8	-263.	-2.63	.00428	.000	1
CalStd13=50	500000.	460180.	-39800.	-7.96	.20227	.005	1
CalStd14-100	1000000.	846010.	-154000.	-15.4	.37185	.008	1
CalStd9=100	1000.0	970.03	-30.0	-3.00	.00043	.000	1
CalStd12-100	100000.	99427.	-573.	-.573	.04370	.001	1

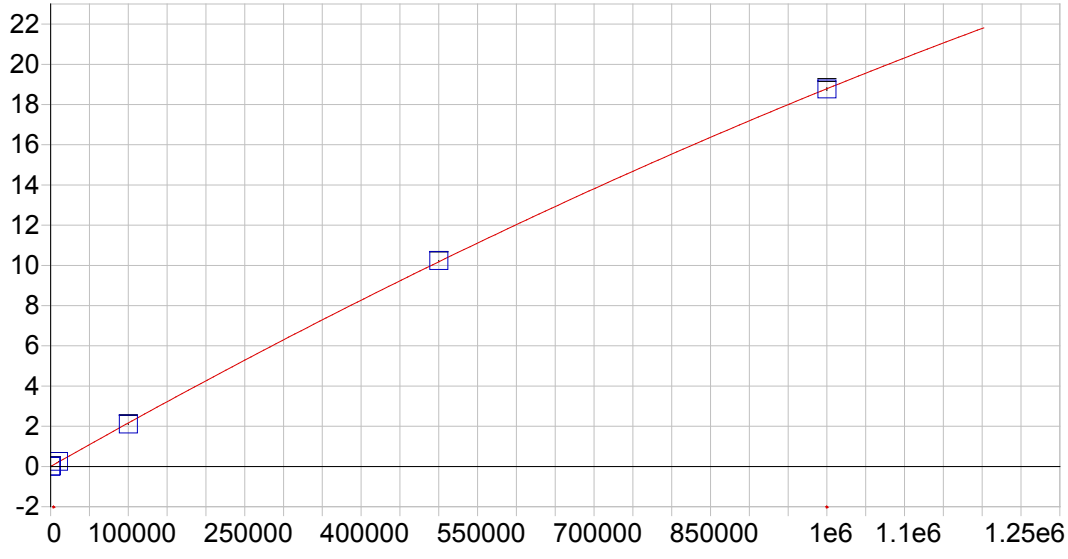


Fe 259.940 {129}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995111	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	1.599947		
Predicted MQL:	5.333157		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16426	-.164	.000	.00001	.000	1
CalStd10=10	10000.	10701.	701.	7.01	.01756	.001	1
CalStd13=50	500000.	468790.	-31200.	-6.24	.76872	.026	1
CalStd14-100	1000000.	839170.	-161000.	-16.1	1.3760	.045	1
CalStd9=100	1000.0	1089.9	89.9	8.99	.00180	.000	1
CalStd12-100	100000.	105000.	5000.	5.00	.17219	.004	1

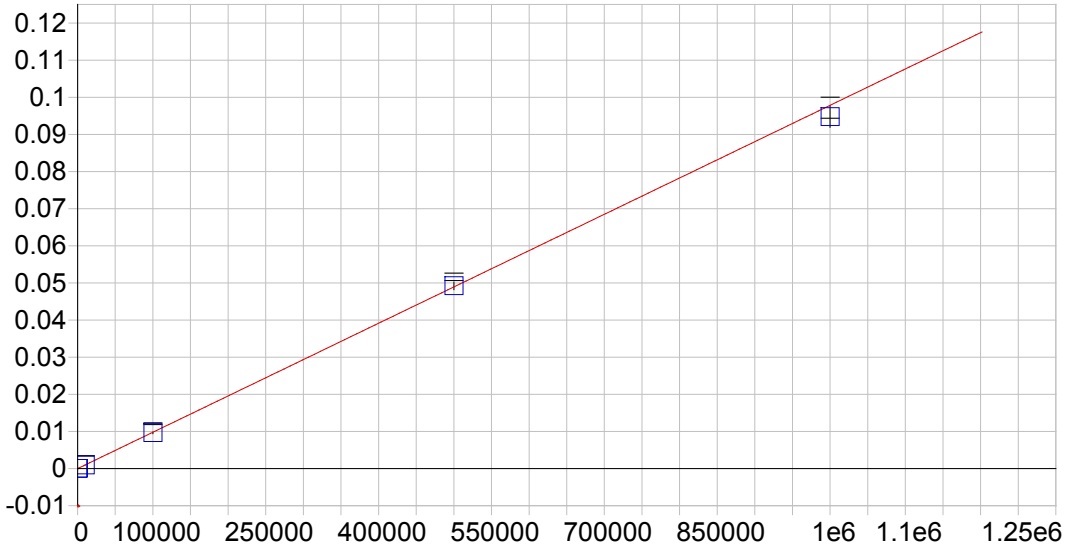


Mg 202.582 {466}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000253	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999901	Status:	OK.
Std Error of Est:	0.000493		
Predicted MDL:	2.629915		
Predicted MQL:	8.766382		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00964	.010	.000	-.00025	.000	1
CalStd13=50	500000.	502690.	2690.	.538	10.231	.011	1
CalStd10=10	10000.	11281.	1280.	12.8	.24681	.001	1
CalStd14-100	1000000.	998730.	-1270.	-.127	18.766	.073	1
CalStd12-100	100000.	97370.	-2630.	-2.63	2.1058	.018	1
CalStd9=100	1000.0	884.47	-116.	-11.6	.01915	.000	1

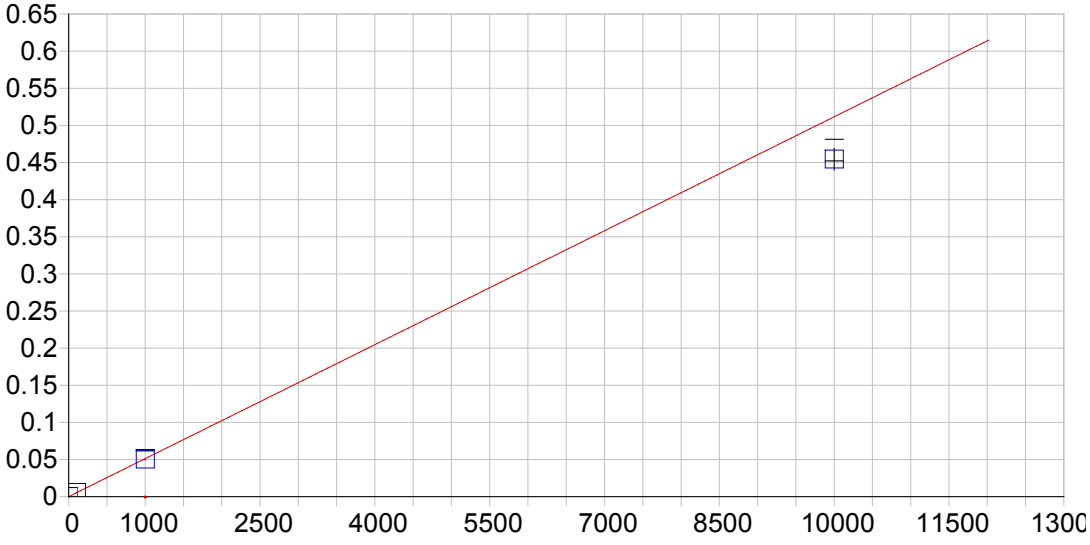


Mg 279.079 {121}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	15.002094		
Predicted MQL:	50.006981		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd13=50	500000.	502970.	2970.	.593	.04921	.001	1
CalStd10=10	10000.	9839.8	-160.	-1.60	.00096	.000	1
CalStd14-100	1000000.	968360.	-31600.	-3.16	.09474	.003	1
CalStd12-100	100000.	98489.	-1510.	-1.51	.00964	.000	1
CalStd9=100	1000.0	1008.3	8.25	.825	.00010	.000	1

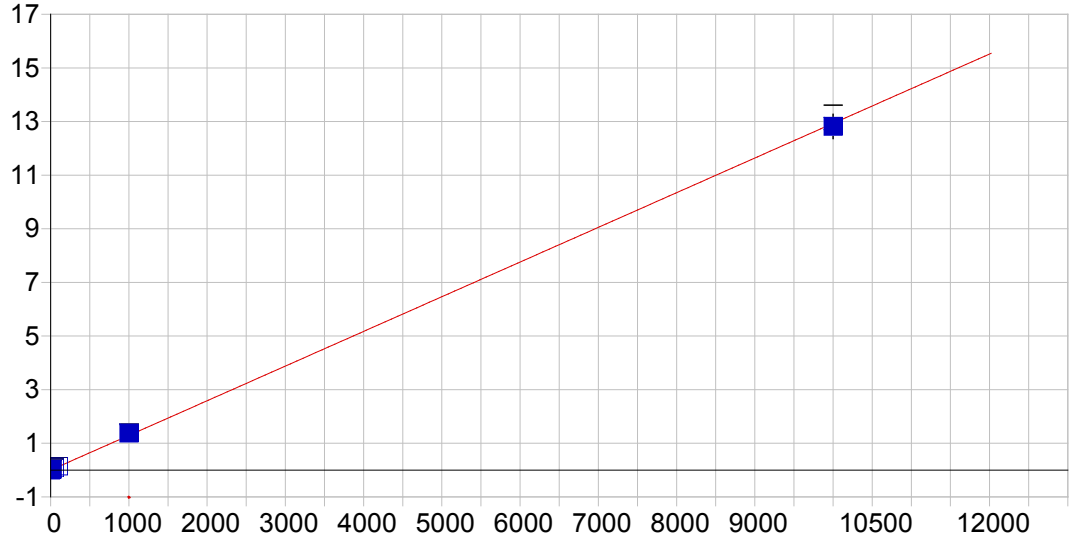


Mg 280.270 {120}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000084	Re-Slope:	1.000000
A1 (Gain):	0.000051	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998189	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.021720		
Predicted MQL:	0.072401		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00044	.000	.000	.00008	.000	1
CalStd9=100	1000.0	982.36	-17.6	-1.76	.05033	.001	1
CalStd10=10	10000.	8882.3	-1120.	-11.2	.45444	.015	1
CalStd8=100	100.00	105.92	5.92	5.92	.00550	.000	1

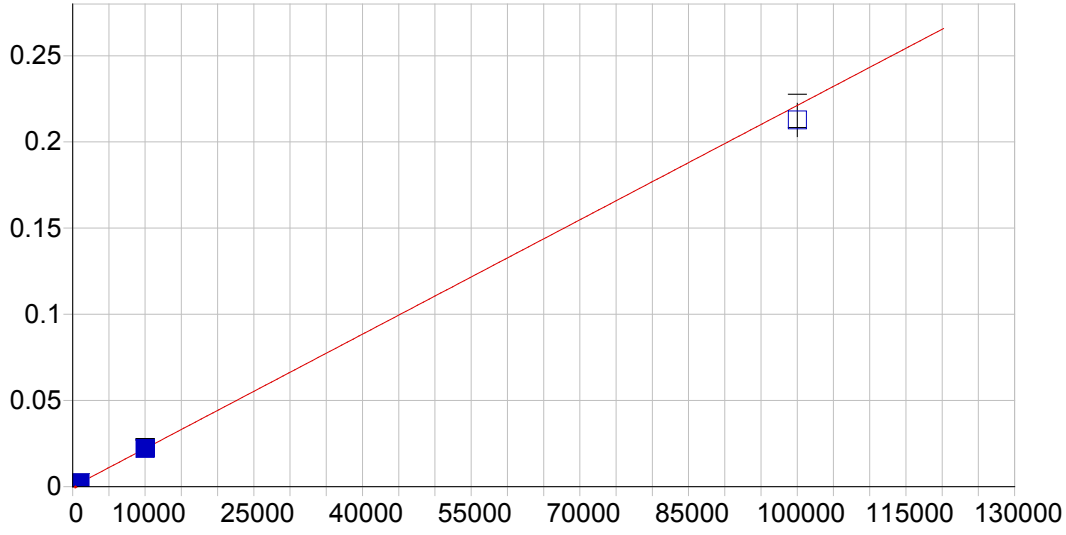


Mn 257.610 {131}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000119	Re-Slope:	1.000000
A1 (Gain):	0.001293	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999603	Status:	OK.
Std Error of Est:	0.000314		
Predicted MDL:	0.114906		
Predicted MQL:	0.383019		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00418	-.004	.000	.00011	.000	1
CalStd5=10	10.000	11.185	1.18	11.8	.01458	.000	1
CalStd7=50	50.000	57.960	7.96	15.9	.07507	.000	1
CalStd6=20	20.000	24.482	4.48	22.4	.03178	.001	1
CalStd8=100	100.00	112.25	12.3	12.3	.14528	.002	1
CalStd4=5	5.0000	5.7862	.786	15.7	.00760	.000	1
CalStd9=100	1000.0	1063.5	63.5	6.35	1.3755	.022	1
CalStd10=10	10000.	9909.9	-90.1	-.901	12.816	.459	1

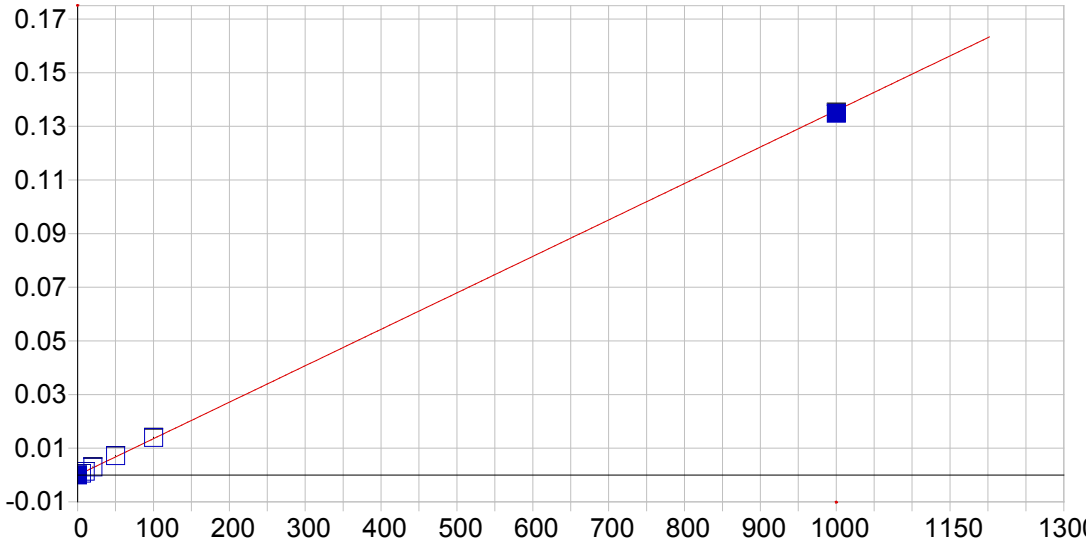


Mn 259.373 {130}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.355368		
Predicted MQL:	1.184560		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00117	-.001	.000	.00000	.000	1
CalStd10=10	10000.	9982.7	-17.3	-.173	.02210	.001	1
CalStd11-100	100000.	96185.	-3810.	-3.81	.21272	.010	1
CalStd9=100	1000.0	1010.5	10.5	1.05	.00224	.000	1

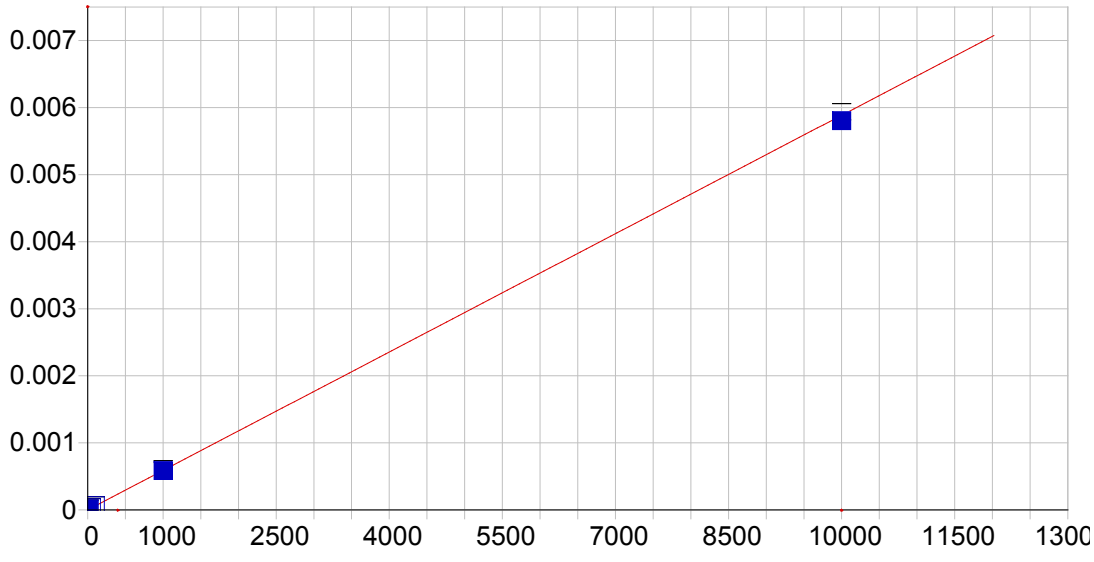


Mo 202.030 {466}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000136	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999784	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.357657		
Predicted MQL:	1.192188		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00094	-.001	.000	-.00004	.000	1
CalStd7=50	50.000	52.862	2.86	5.72	.00715	.000	1
CalStd6=20	20.000	22.075	2.07	10.4	.00296	.000	1
CalStd5=10	10.000	9.9703	-.030	-.297	.00132	.000	1
CalStd8=100	100.00	102.69	2.69	2.69	.01392	.000	1
CalStd4=5	5.0000	5.0543	.054	1.09	.00065	.000	1
CalStd9=100	1000.0	992.35	-7.65	-.765	.13483	.000	1

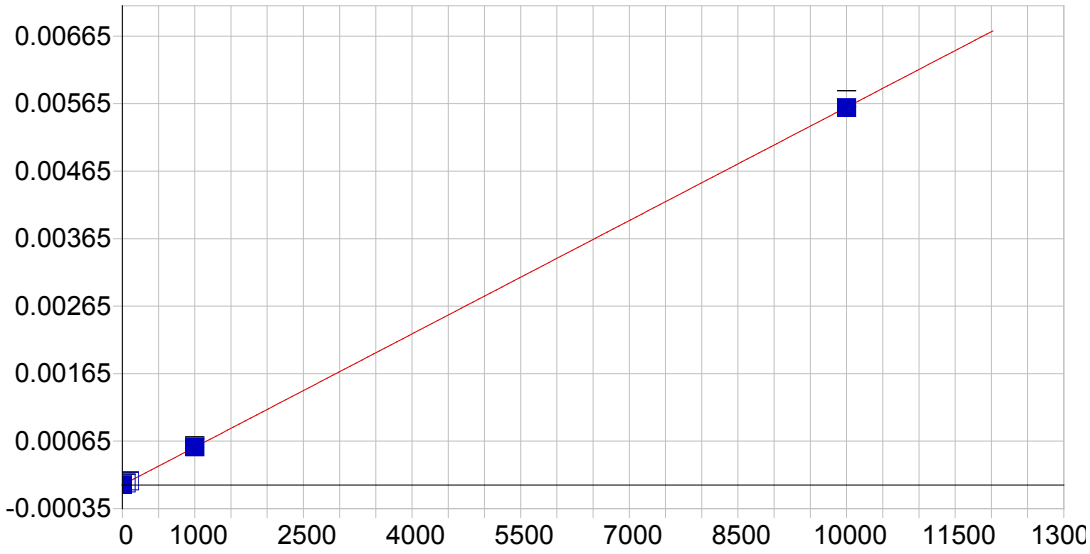


Mo 204.598 {464}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.558361		
Predicted MQL:	1.861202		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00030	.000	.000	.00000	.000	1
CalStd7=50	50.000	51.652	1.65	3.30	.00003	.000	1
CalStd6=20	20.000	21.514	1.51	7.57	.00001	.000	1
CalStd5=10	10.000	9.7000	-.300	-3.00	.00001	.000	1
CalStd8=100	100.00	102.13	2.13	2.13	.00006	.000	1
CalStd4=5	5.0000	4.8273	-.173	-3.45	.00000	.000	1
CalStd9=100	1000.0	993.25	-6.75	-.675	.00059	.000	1
CalStd10=10	10000.	9859.8	-140.	-1.40	.00580	.000	1

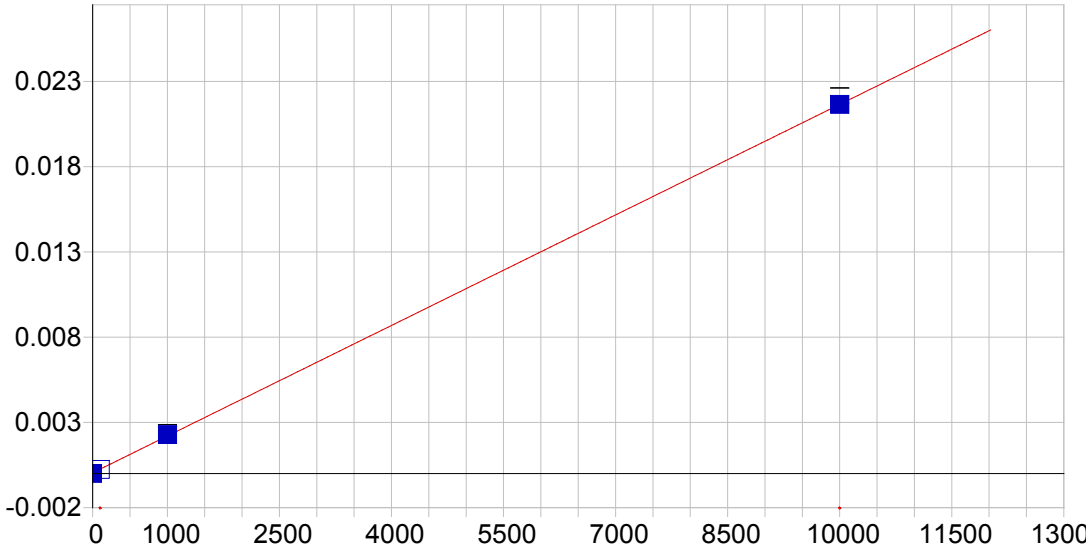


Mo 204.598 {465}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.656121		
Predicted MQL:	2.187071		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00367	-.004	.000	.00000	.000	1
CalStd9=100	1000.0	1006.6	6.63	.663	.00056	.000	1
CalStd10=10	10000.	9988.1	-11.9	-.119	.00559	.000	1
CalStd7=50	50.000	51.490	1.49	2.98	.00003	.000	1
CalStd8=100	100.00	103.82	3.82	3.82	.00006	.000	1

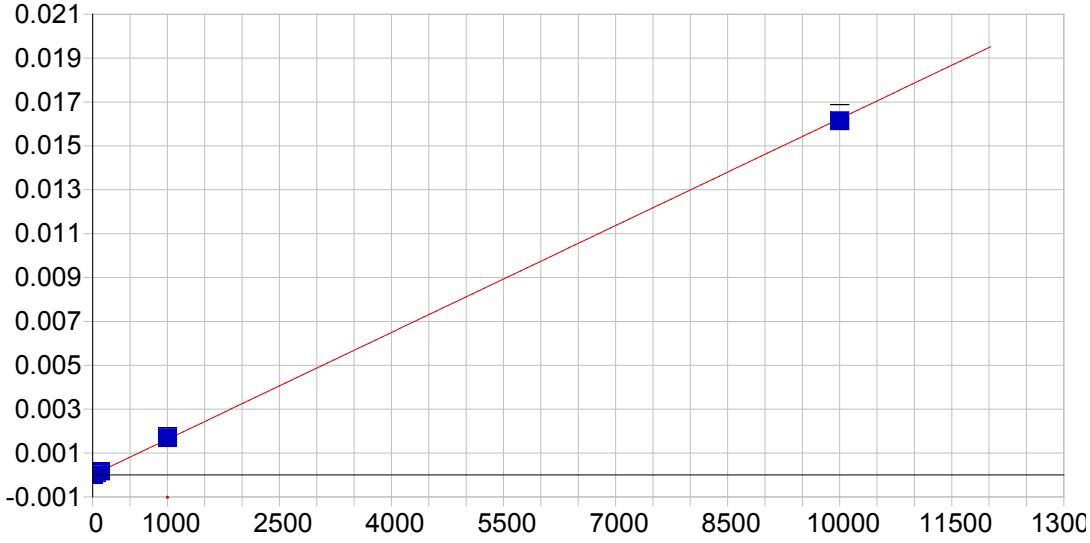


Ni 221.647 {452}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000043	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000066		
Predicted MDL:	0.328630		
Predicted MQL:	1.095433		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-20.050	-20.0	.000	.00000	.000	1
CalStd10=10	10000.	9996.5	-3.45	-.035	.02165	.000	1
CalStd8=100	100.00	87.774	-12.2	-12.2	.00023	.000	1
CalStd9=100	1000.0	1035.7	35.7	3.57	.00228	.000	1

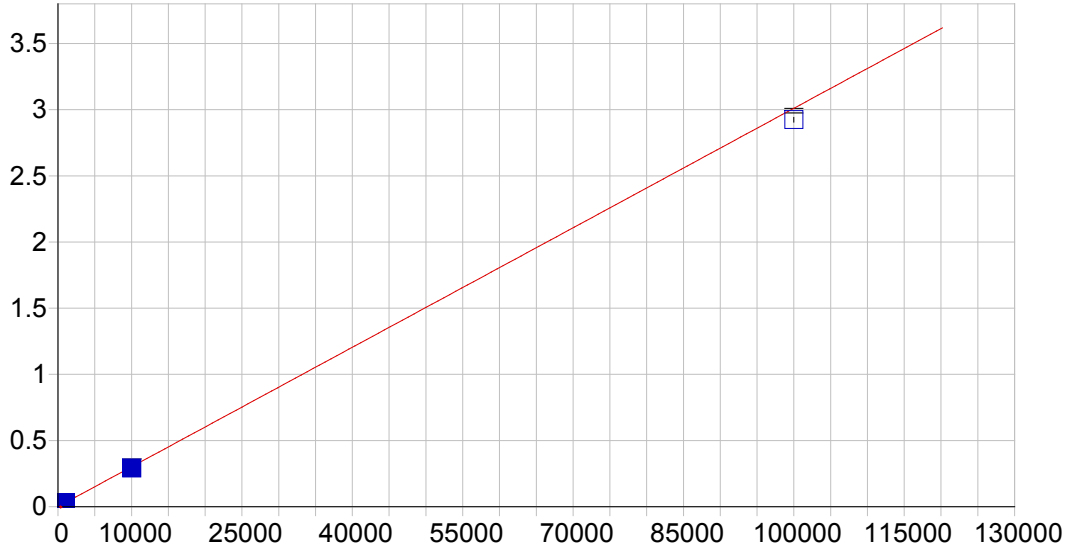


Ni 231.604 {445}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.534073		
Predicted MQL:	1.780243		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00080	-.001	.000	.00000	.000	1
CalStd7=50	50.000	55.581	5.58	11.2	.00009	.000	1
CalStd5=10	10.000	10.683	.683	6.83	.00002	.000	1
CalStd8=100	100.00	107.07	7.07	7.07	.00017	.000	1
CalStd4=5	5.0000	5.5029	.503	10.1	.00001	.000	1
CalStd9=100	1000.0	1044.6	44.6	4.46	.00170	.000	1
CalStd3=1	1.0000	1.4110	.411	41.1	.00000	.000	1
CalStd10=10	10000.	9941.2	-58.8	-.588	.01614	.000	1

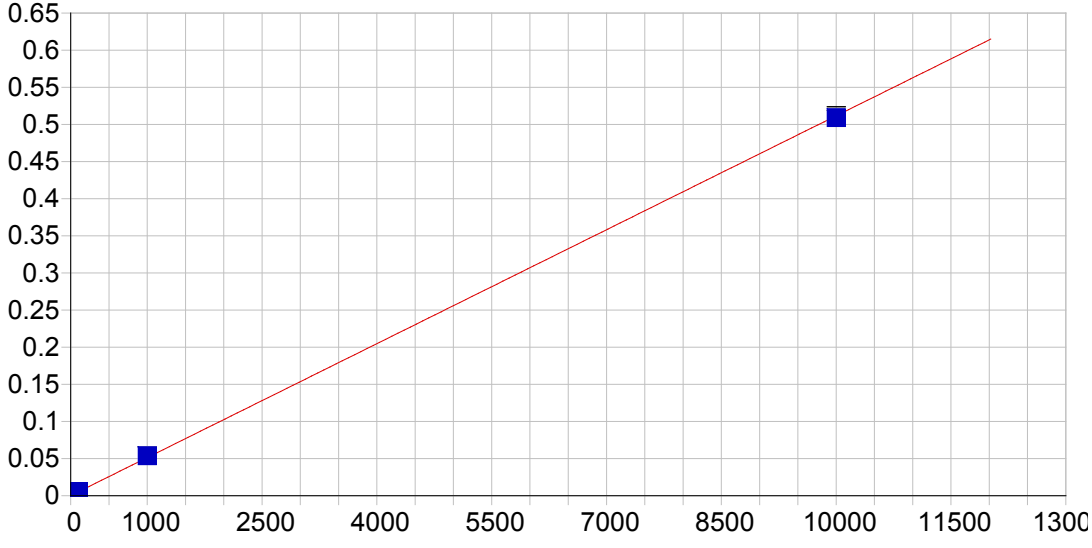


Pb 216.999 {455}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000320	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999135	Status:	OK.
Std Error of Est:	0.000382		
Predicted MDL:	3.245151		
Predicted MQL:	10.817170		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.3675	-3.37	.000	.00022	.000	1
CalStd9=100	1000.0	1049.3	49.3	4.93	.03206	.000	1
CalStd10=10	10000.	9674.0	-326.	-3.26	.29307	.001	1
CalStd11-100	100000.	97134.	-2870.	-2.87	2.9244	.018	1
CalStd8=100	100.00	99.169	-.831	-.831	.00331	.000	1
CalStd5=10	10.000	6.1838	-3.82	-38.2	.00051	.000	1

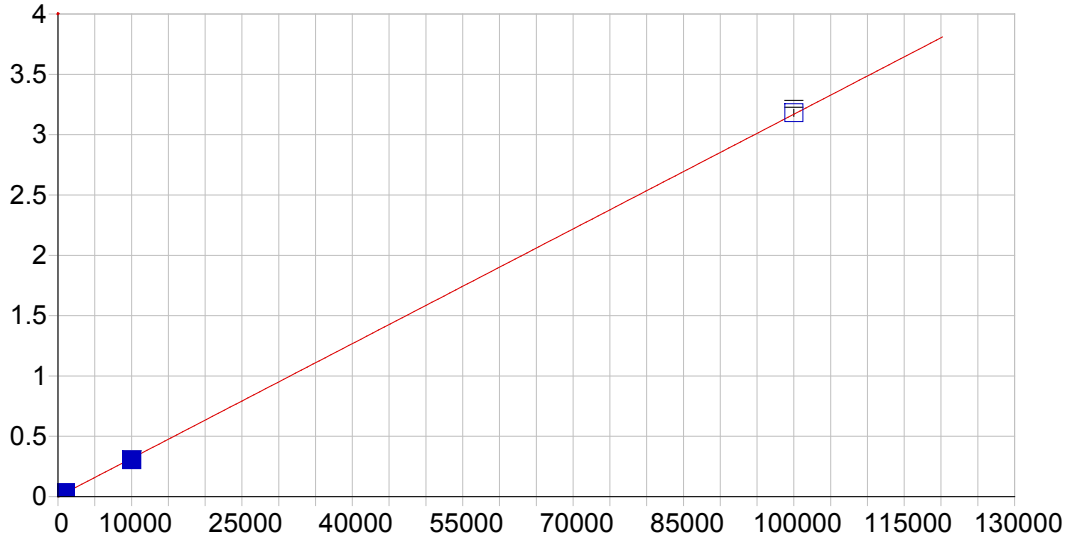


Pb 220.353 {453}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000172	Re-Slope:	1.000000
A1 (Gain):	0.000051	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999822	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	1.989062		
Predicted MQL:	6.630207		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00211	.002	.000	.00017	.000	1
CalStd5=10	10.000	7.3312	-2.67	-26.7	.00055	.000	1
CalStd8=100	100.00	107.19	7.19	7.19	.00565	.000	1
CalStd4=5	5.0000	3.6601	-1.34	-26.8	.00036	.000	1
CalStd9=100	1000.0	1046.2	46.2	4.62	.05368	.000	1
CalStd10=10	10000.	9950.6	-49.4	-.494	.50910	.003	1

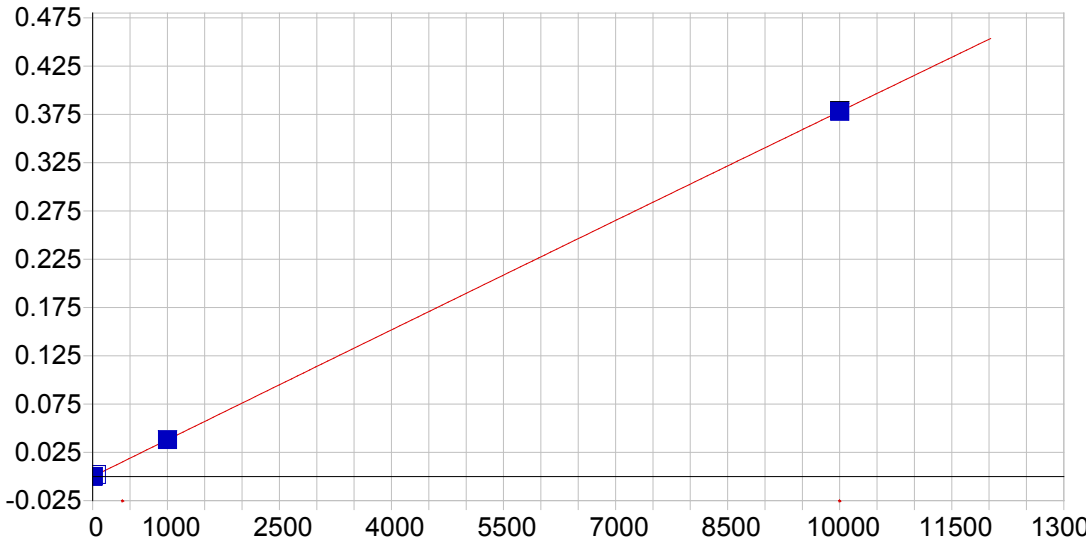


Pb 220.353 {153}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000264	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999918	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	5.031759		
Predicted MQL:	16.772531		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00209	-.002	.000	.00026	.000	1
CalStd9=100	1000.0	1033.0	33.0	3.30	.03300	.001	1
CalStd10=10	10000.	9602.9	-397.	-3.97	.30452	.002	1
CalStd8=100	100.00	102.40	2.40	2.40	.00351	.000	1
CalStd11-100	100000.	100360.	362.	.362	3.1807	.028	1

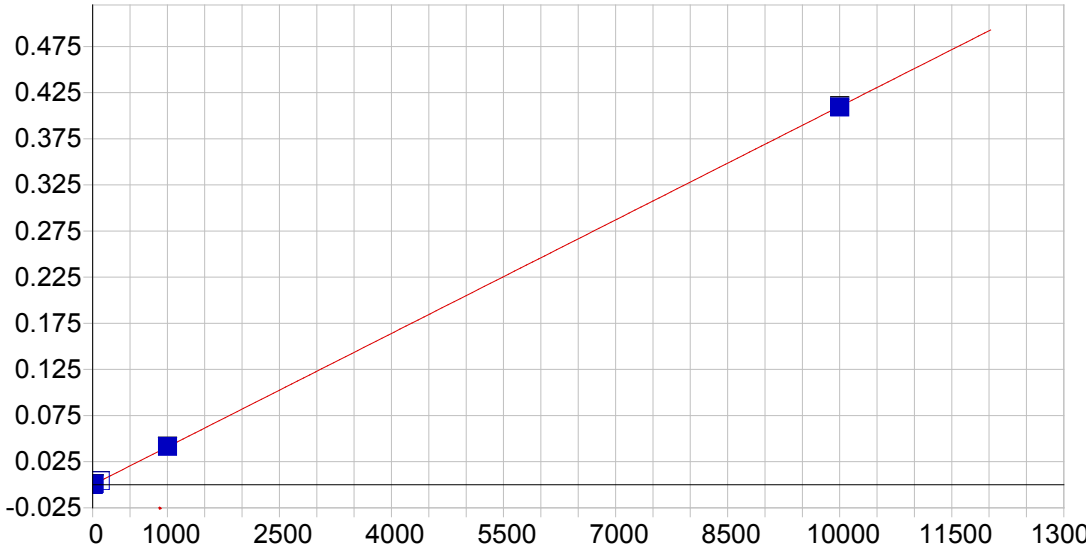


Sb 206.833 {463}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000087	Re-Slope:	1.000000
A1 (Gain):	0.000038	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.627595		
Predicted MQL:	5.425315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00135	.001	.000	-.00009	.000	1
CalStd9=100	1000.0	999.89	-.110	-.011	.03799	.000	1
CalStd5=10	10.000	8.2858	-1.71	-17.1	.00023	.000	1
CalStd7=50	50.000	51.820	1.82	3.64	.00189	.000	1
CalStd10=10	10000.	10000.	.004	.000	.37802	.001	1

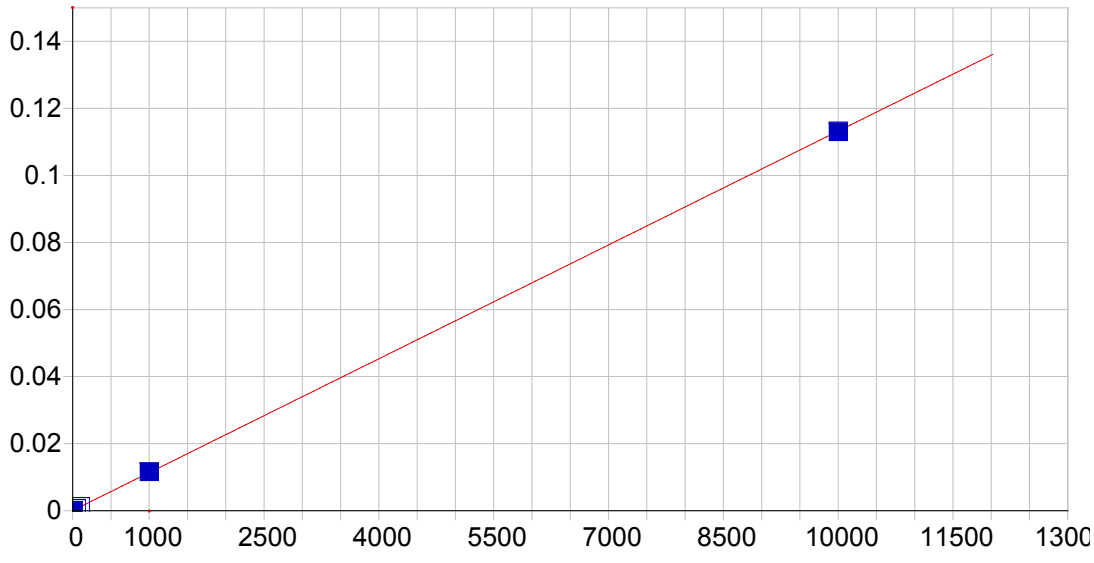


Sb 217.581 {455}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.725951		
Predicted MQL:	5.753169		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00158	-.002	.000	-.00002	.000	1
CalStd9=100	1000.0	1014.1	14.1	1.41	.04156	.000	1
CalStd6=20	20.000	21.932	1.93	9.66	.00088	.000	1
CalStd5=10	10.000	10.695	.695	6.95	.00042	.000	1
CalStd8=100	100.00	102.96	2.96	2.96	.00420	.000	1
CalStd4=5	5.0000	5.5424	.542	10.8	.00020	.000	1
CalStd10=10	10000.	9979.8	-20.2	-.202	.40919	.001	1

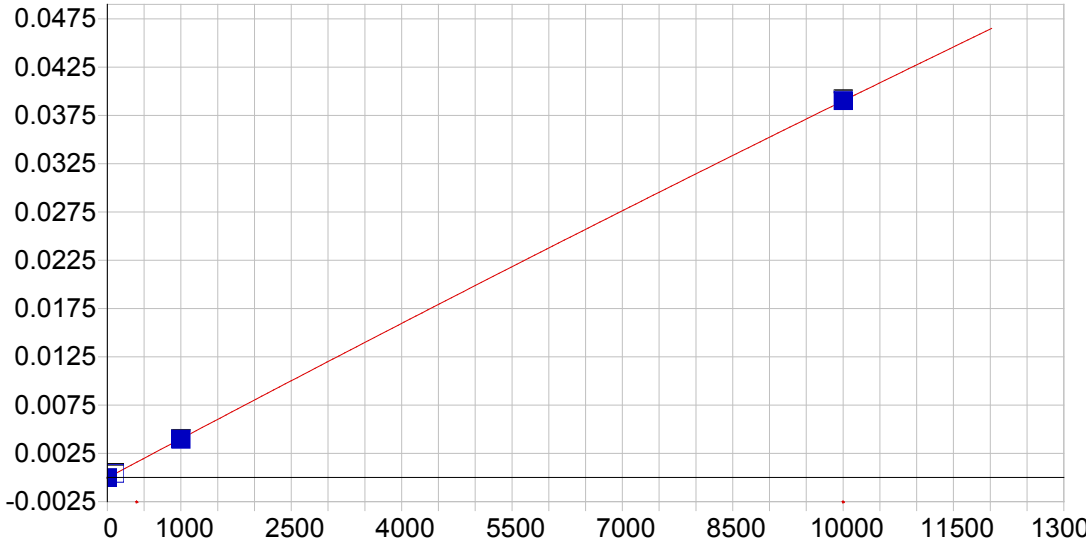


Se 196.090 {472}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000042	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.997478		
Predicted MQL:	13.324927		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00173	.002	.000	.00004	.000	1
CalStd7=50	50.000	48.596	-1.40	-2.81	.00059	.000	1
CalStd9=100	1000.0	1019.6	19.6	1.96	.01158	.000	1
CalStd5=10	10.000	8.2541	-1.75	-17.5	.00014	.000	1
CalStd8=100	100.00	101.20	1.20	1.20	.00119	.000	1
CalStd10=10	10000.	9982.4	-17.6	-.176	.11300	.000	1

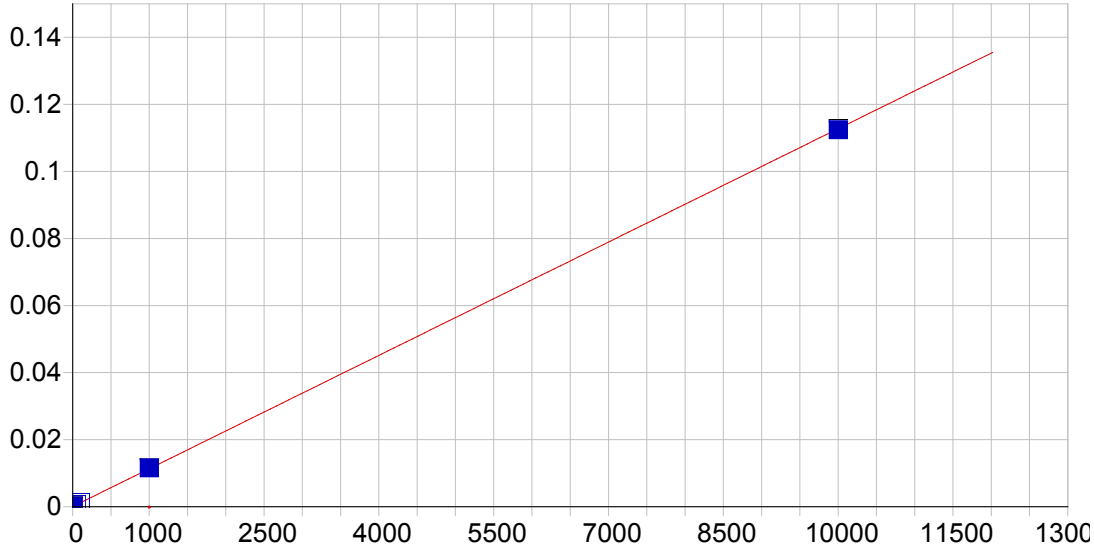


Se 206.279 {463}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	16.670713		
Predicted MQL:	55.569044		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01176	-.012	.000	-.00003	.000	1
CalStd9=100	1000.0	985.39	-14.6	-1.46	.00396	.000	1
CalStd10=10	10000.	10001.	1.43	.014	.03907	.000	1
CalStd8=100	100.00	113.21	13.2	13.2	.00043	.000	1

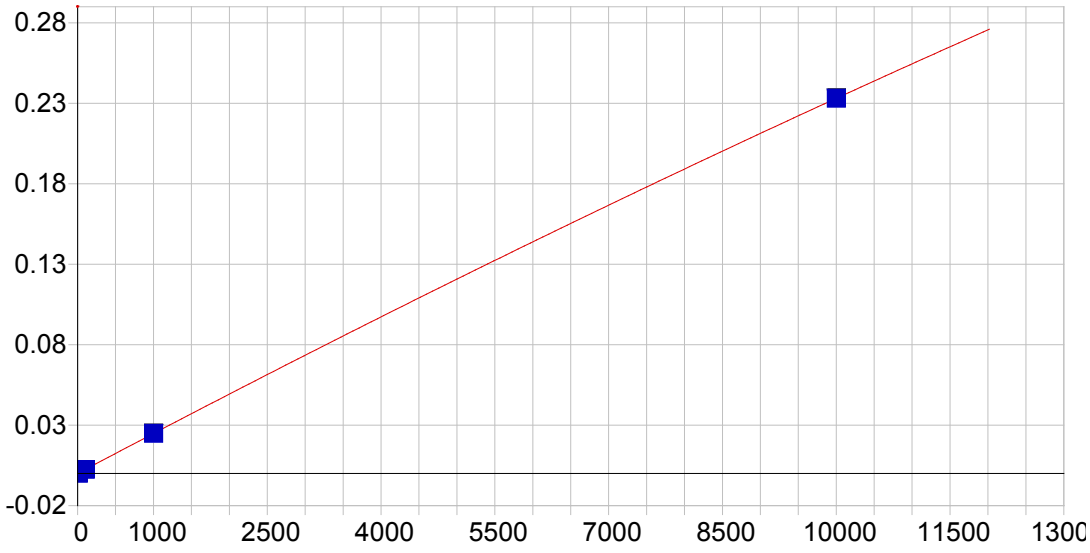


Se 196.090 {471}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999933	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.276098		
Predicted MQL:	14.253659		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00327	-.003	.000	.00005	.000	1
CalStd7=50	50.000	52.407	2.41	4.81	.00064	.000	1
CalStd9=100	1000.0	1018.8	18.8	1.88	.01153	.000	1
CalStd5=10	10.000	11.876	1.88	18.8	.00018	.000	1
CalStd8=100	100.00	107.60	7.60	7.60	.00126	.000	1
CalStd10=10	10000.	9969.3	-30.7	-.307	.11239	.000	1

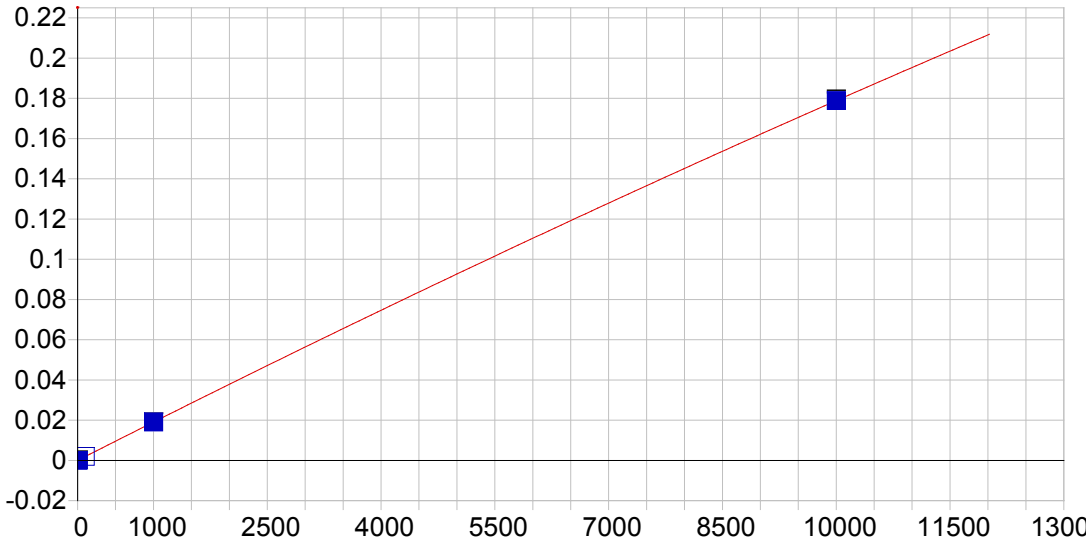


Tl 190.856 {476}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999964	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	2.319650		
Predicted MQL:	7.732168		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00251	.003	.000	-.00004	.000	1
CalStd9=100	1000.0	1001.8	1.83	.183	.02486	.000	1
CalStd8=100	100.00	101.02	1.02	1.02	.00249	.000	1
CalStd5=10	10.000	7.3661	-2.63	-26.3	.00015	.000	1
CalStd10=10	10000.	9999.8	-.217	-.002	.23316	.000	1

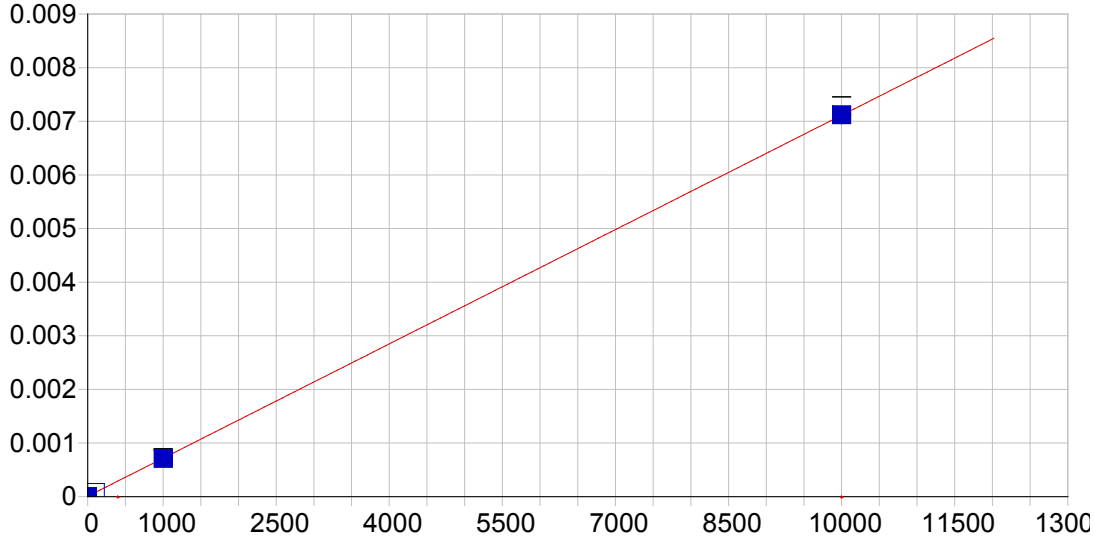


Tl 190.856 {477}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	2.560797		
Predicted MQL:	8.535989		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0053	1.01	.000	.00002	.000	1
CalStd9=100	1000.0	999.96	-.037	-.004	.01905	.000	1
CalStd8=100	100.00	102.16	2.16	2.16	.00196	.000	1
CalStd5=10	10.000	7.8512	-2.15	-21.5	.00015	.000	1
CalStd10=10	10000.	10000.	.051	.001	.17885	.001	1

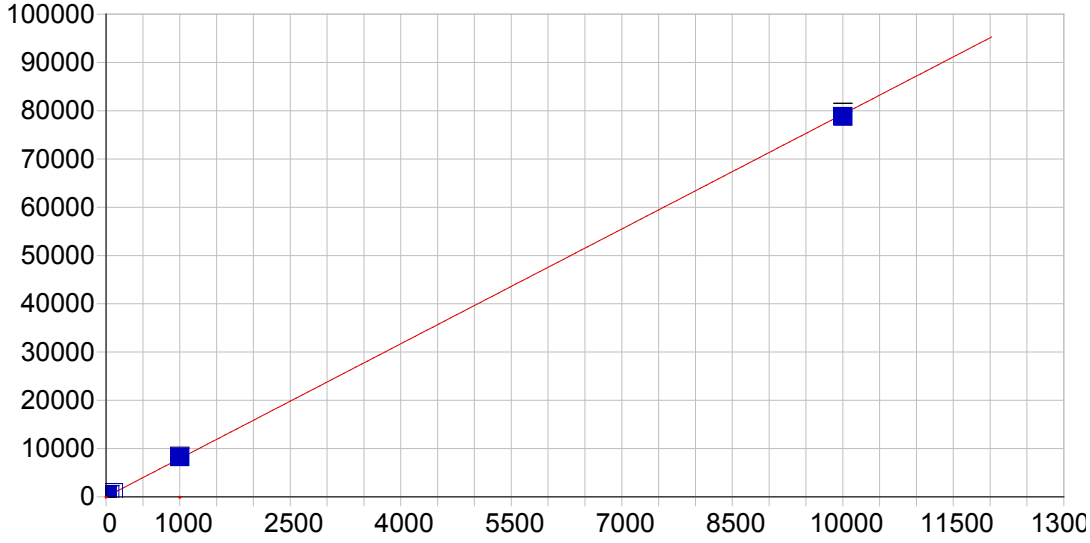


V 290.882 {116}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.594179		
Predicted MQL:	5.313929		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00142	-.001	.000	.00001	.000	1
CalStd9=100	1000.0	988.63	-11.4	-1.14	.00071	.000	1
CalStd10=10	10000.	10009.	8.91	.089	.00712	.000	1
CalStd8=100	100.00	102.47	2.47	2.47	.00008	.000	1

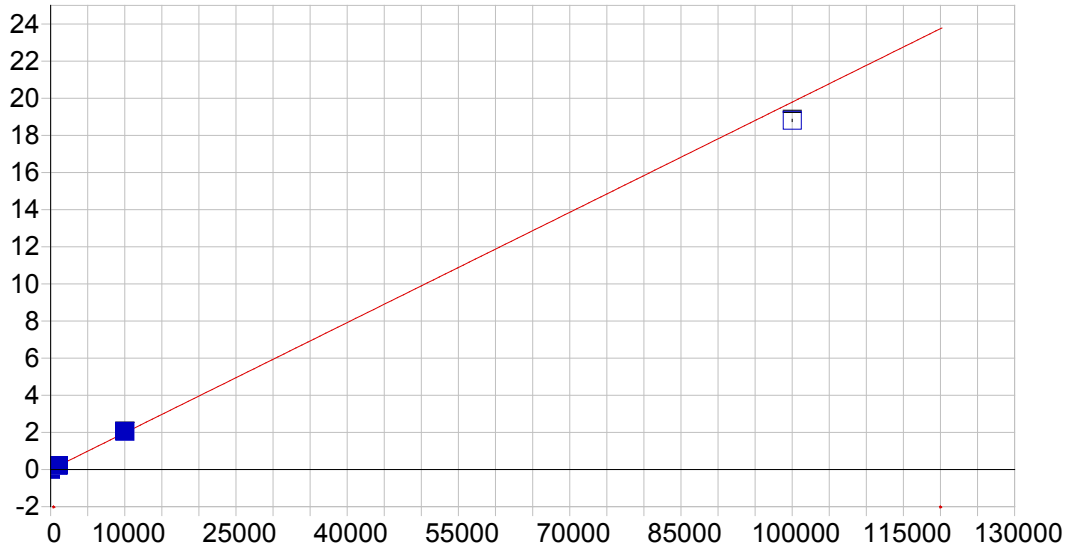


V 292.402 {115}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	11.349938	Re-Slope:	1.000000
A1 (Gain):	7.925522	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999850	Status:	OK.
Std Error of Est:	1.716226		
Predicted MDL:	0.445175		
Predicted MQL:	1.483918		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00360	-.004	.000	11.321	4.70	1
CalStd7=50	50.000	54.393	4.39	8.79	442.45	4.35	1
CalStd9=100	1000.0	1042.2	42.2	4.22	8271.0	107.	1
CalStd6=20	20.000	22.848	2.85	14.2	192.43	8.25	1
CalStd5=10	10.000	10.252	.252	2.52	92.600	1.21	1
CalStd8=100	100.00	106.77	6.77	6.77	857.59	11.6	1
CalStd10=10	10000.	9943.6	-56.4	-.564	78818.	847.	1

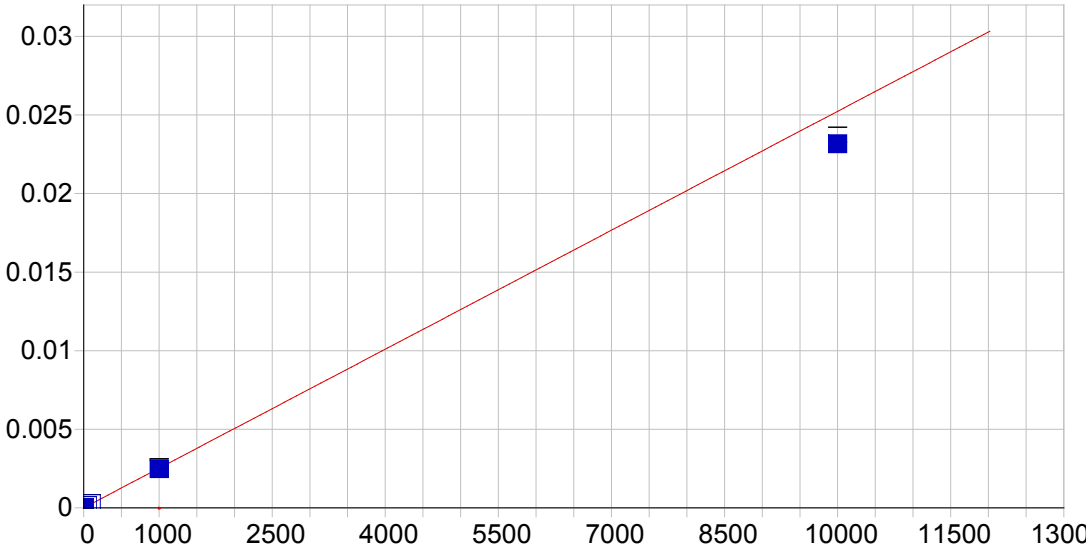


Zn 206.200 {463}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000075	Re-Slope:	1.000000
A1 (Gain):	0.000198	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998273	Status:	OK.
Std Error of Est:	0.001061		
Predicted MDL:	0.310264		
Predicted MQL:	1.034212		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10364.	364.	3.64	2.0510	.010	1
Blank	.00000	-.08859	-.089	.000	-.00009	.000	1
CalStd9=100	1000.0	1086.5	86.5	8.65	.21494	.001	1
CalStd11-100	100000.	95025.	-4970.	-4.97	18.804	.057	1

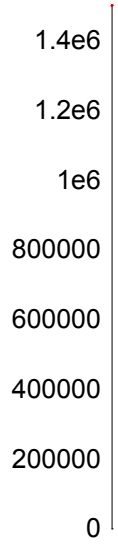


Zn 213.856 {458}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998645	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.149341		
Predicted MQL:	0.497803		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08999	-.090	.000	.00000	.000	1
CalStd8=100	100.00	101.44	1.44	1.44	.00026	.000	1
CalStd7=50	50.000	52.070	2.07	4.14	.00013	.000	1
CalStd5=10	10.000	10.155	.155	1.55	.00003	.000	1
CalStd9=100	1000.0	983.92	-16.1	-1.61	.00248	.000	1
CalStd4=5	5.0000	5.2350	.235	4.70	.00001	.000	1
CalStd10=10	10000.	9178.9	-821.	-8.21	.02317	.000	1

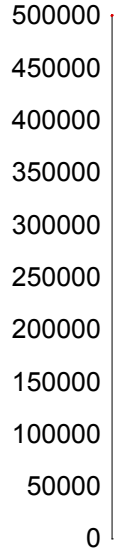


Y 324.228 {104}*

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1408100.	16000.	1

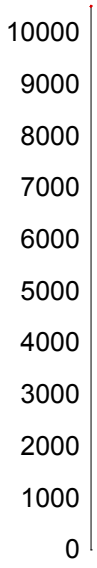


Y 371.030 { 91}*

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	430180.	34700.	1

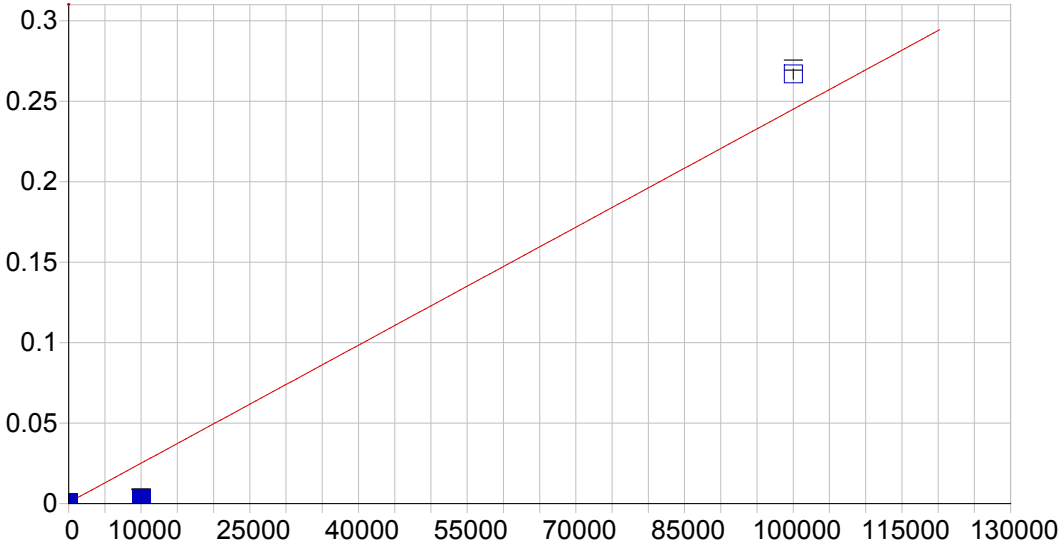


Y 224.306 {451}*

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	9942.1	32.9	1

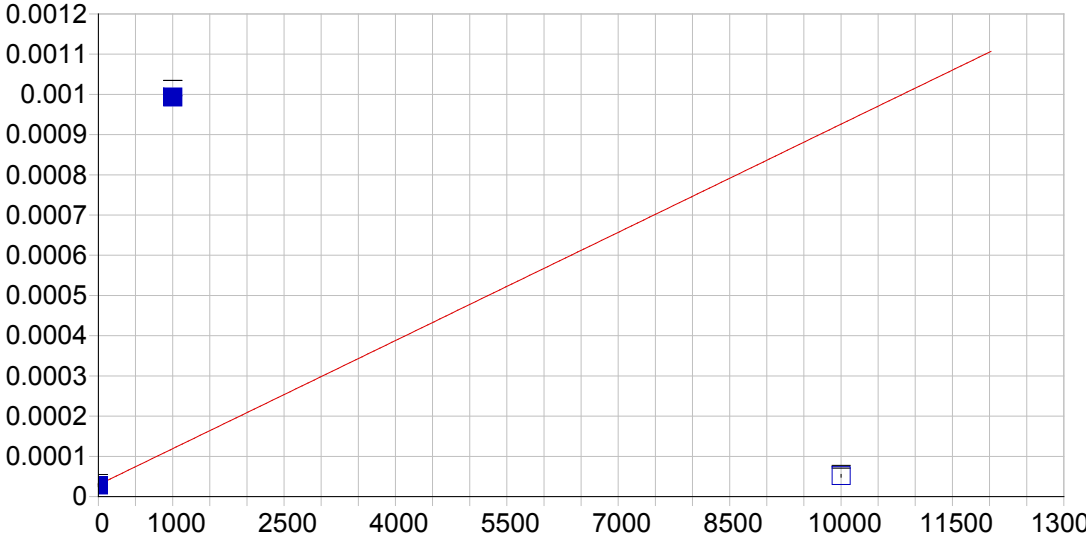


Na 588.995 { 57}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000672	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.962321	Status:	OK.
Std Error of Est:	0.001254		
Predicted MDL:	2.485168		
Predicted MQL:	8.283894		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.0375	8.04	.000	.00069	.000	1
CalStd9=100	10000.	1069.4	-8930.	-89.3	.00328	.000	1
CalStd12-100	100000.	108930.	8930.	8.93	.26690	.003	1

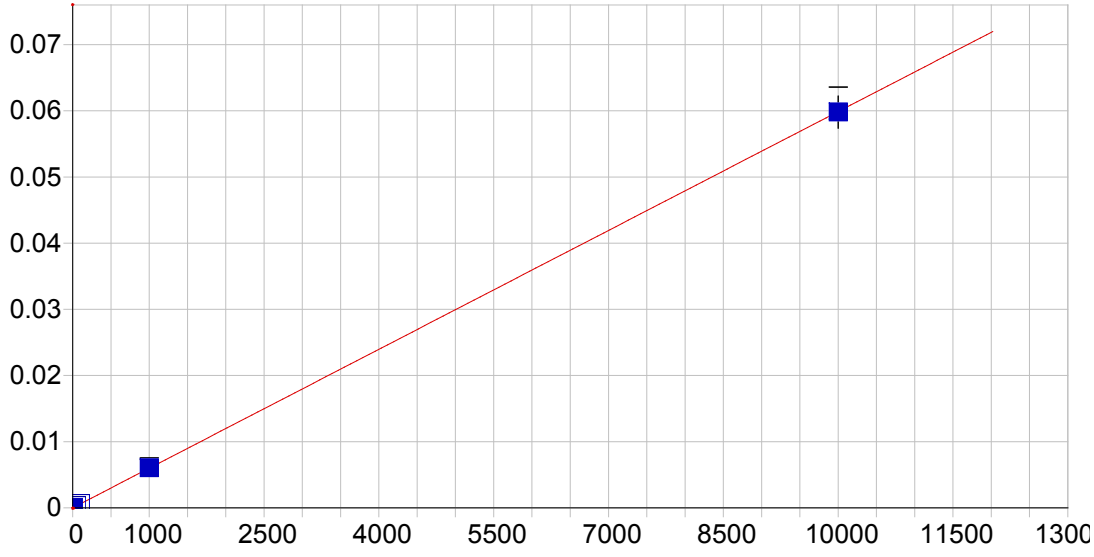


Si 251.611 {134}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000029	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.308326	Status:	OK.
Std Error of Est:	0.000050		
Predicted MDL:	30.936328		
Predicted MQL:	103.121094		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.7762	-8.78	.000	.00003	.000	1
CalStd9=100	1000.0	10751.	9750.	975.	.00099	.000	1
CalStd12-100	10000.	249.79	-9750.	-97.5	.00005	.000	1

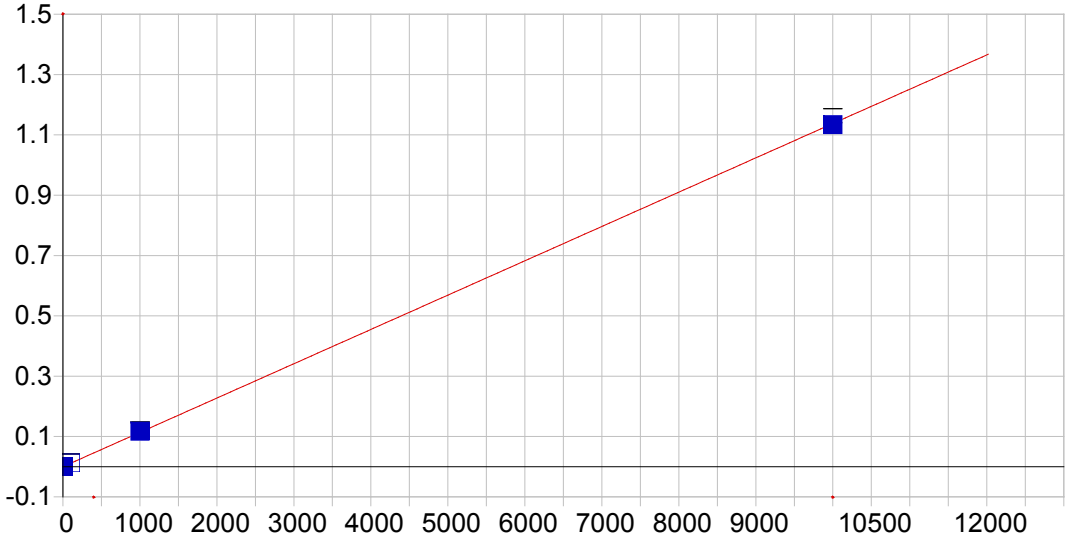


Ti 334.941 {101}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.617243		
Predicted MQL:	2.057476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00039	.000	.000	.00000	.000	1
CalStd5=10	10.000	10.164	.164	1.64	.00006	.000	1
CalStd8=100	100.00	104.17	4.17	4.17	.00063	.000	1
CalStd9=100	1000.0	1008.5	8.48	.848	.00604	.000	1
CalStd10=10	10000.	9987.1	-12.9	-.129	.05981	.002	1
CalStd7=50	50.000	50.946	.946	1.89	.00031	.000	1
CalStd4=5	5.0000	4.1910	-.809	-16.2	.00003	.000	1

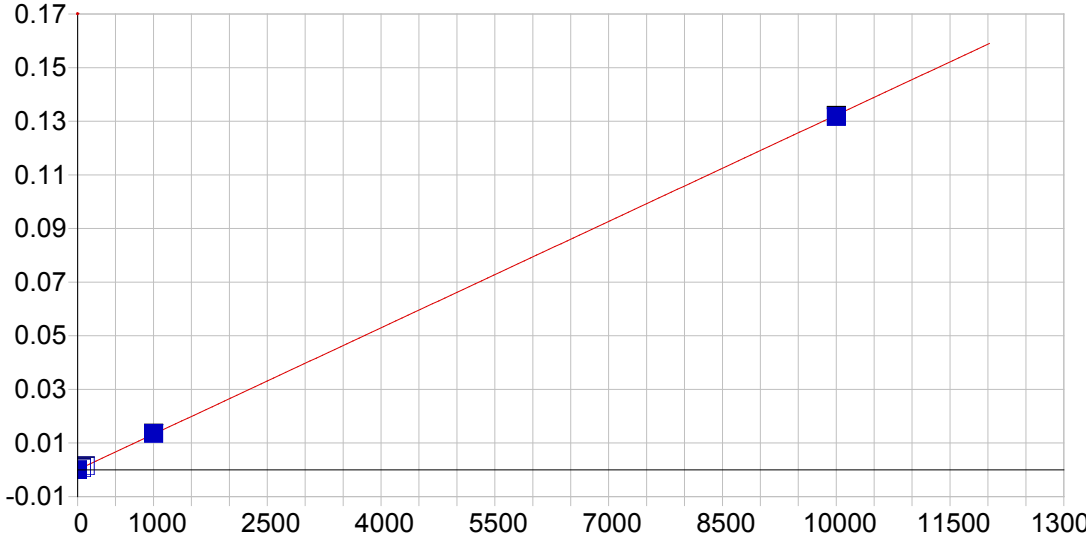


Sr 407.771 { 83}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000045	Re-Slope:	1.000000
A1 (Gain):	0.000114	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.052126		
Predicted MQL:	0.173752		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00036	.000	.000	-.00004	.000	1
CalStd3=1	1.0000	1.1516	.152	15.2	.00009	.000	1
CalStd4=5	5.0000	5.3204	.320	6.41	.00056	.000	1
CalStd5=10	10.000	10.622	.622	6.22	.00116	.000	1
CalStd8=100	100.00	105.99	5.99	5.99	.01201	.000	1
CalStd9=100	1000.0	1028.0	28.0	2.80	.11690	.002	1
CalStd10=10	10000.	9964.9	-35.1	-.351	1.1336	.023	1

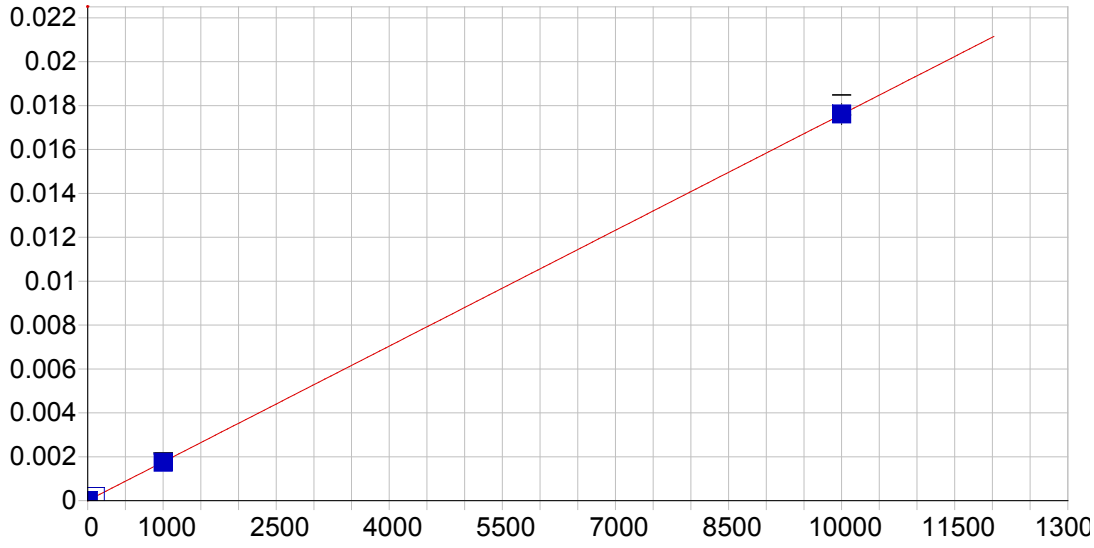


Sn 189.989 {478}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000066	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	2.632719		
Predicted MQL:	8.775730		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.7565	-4.76	.000	.00000	.000	1
CalStd10=10	10000.	9956.1	-43.9	-.439	.13172	.000	1
CalStd9=100	1000.0	1017.5	17.5	1.75	.01352	.000	1
CalStd8=100	100.00	100.41	.407	.407	.00139	.000	1
CalStd7=50	50.000	48.951	-1.05	-2.10	.00071	.000	1

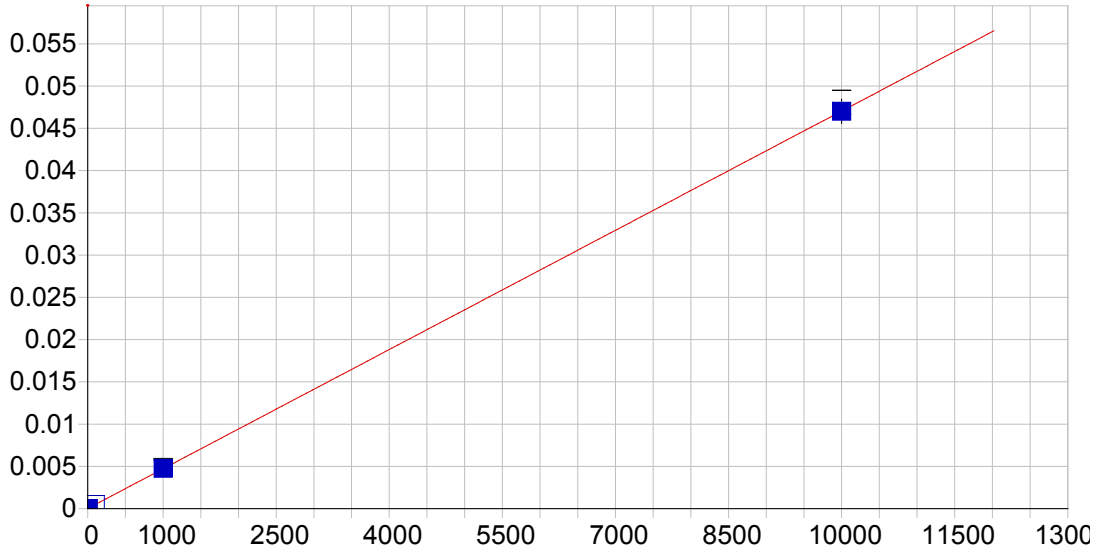


B 249.678 {135}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.097770		
Predicted MQL:	3.659233		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00195	.002	.000	.00000	.000	1
CalStd8=100	100.00	104.01	4.01	4.01	.00019	.000	1
CalStd5=10	10.000	7.7637	-2.24	-22.4	.00002	.000	1
CalStd9=100	1000.0	987.77	-12.2	-1.22	.00174	.000	1
CalStd10=10	10000.	10010.	10.5	.105	.01761	.000	1

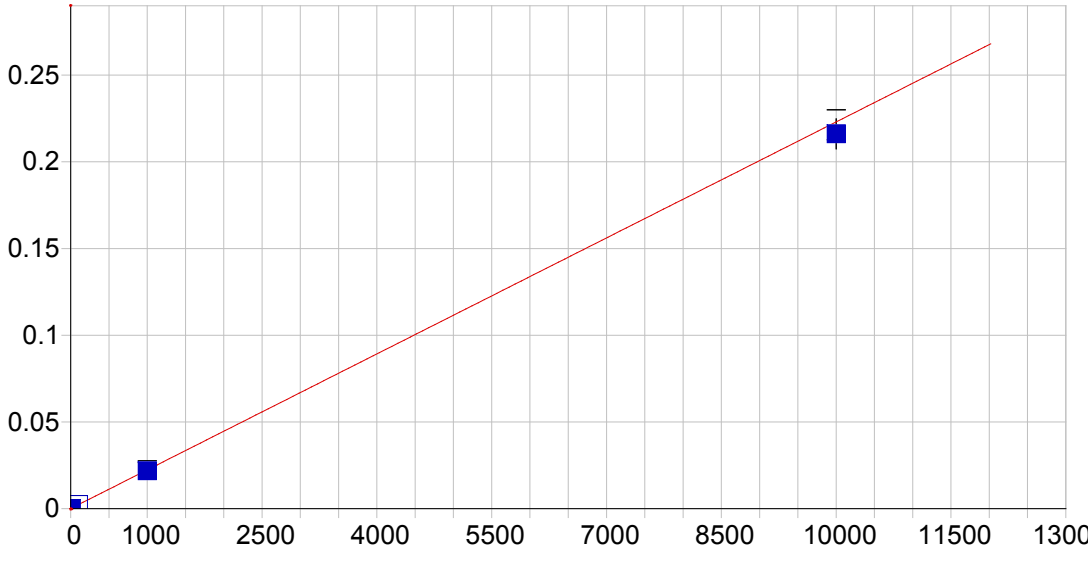


B 249.773 {135}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.483265		
Predicted MQL:	1.610882		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00103	.001	.000	.00001	.000	1
CalStd8=100	100.00	101.33	1.33	1.33	.00049	.000	1
CalStd5=10	10.000	8.7631	-1.24	-12.4	.00006	.000	1
CalStd9=100	1000.0	1007.9	7.94	.794	.00476	.000	1
CalStd10=10	10000.	9992.0	-8.04	-.080	.04702	.001	1

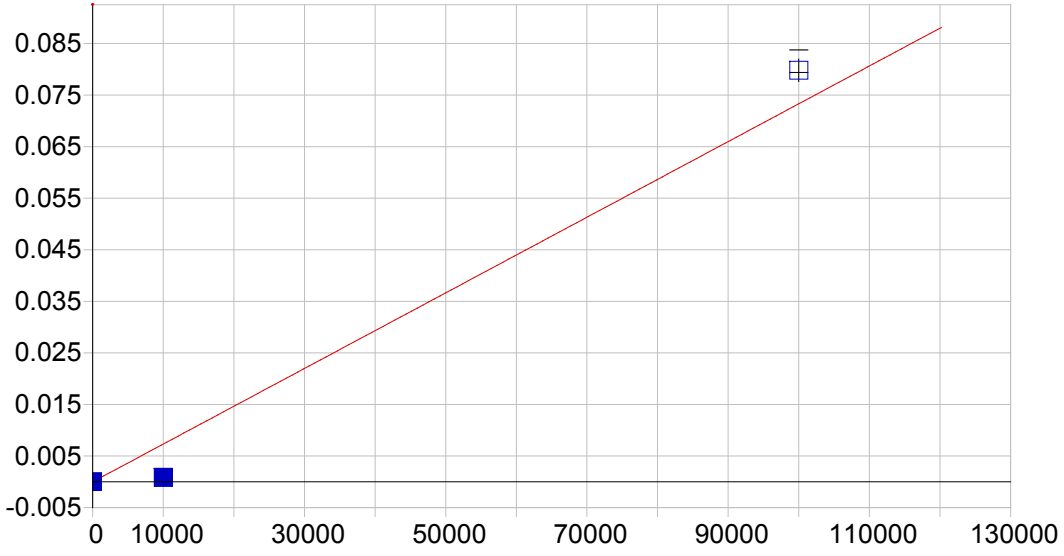


Li 670.784 { 50}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000033	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999815	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	0.769409		
Predicted MQL:	2.564698		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.46671	-.467	.000	.00002	.000	1
CalStd5=10	10.000	10.055	.055	.548	.00026	.000	1
CalStd8=100	100.00	101.00	1.00	1.00	.00228	.000	1
CalStd9=100	1000.0	976.06	-23.9	-2.39	.02180	.000	1
CalStd10=10	10000.	9691.2	-309.	-3.09	.21613	.009	1

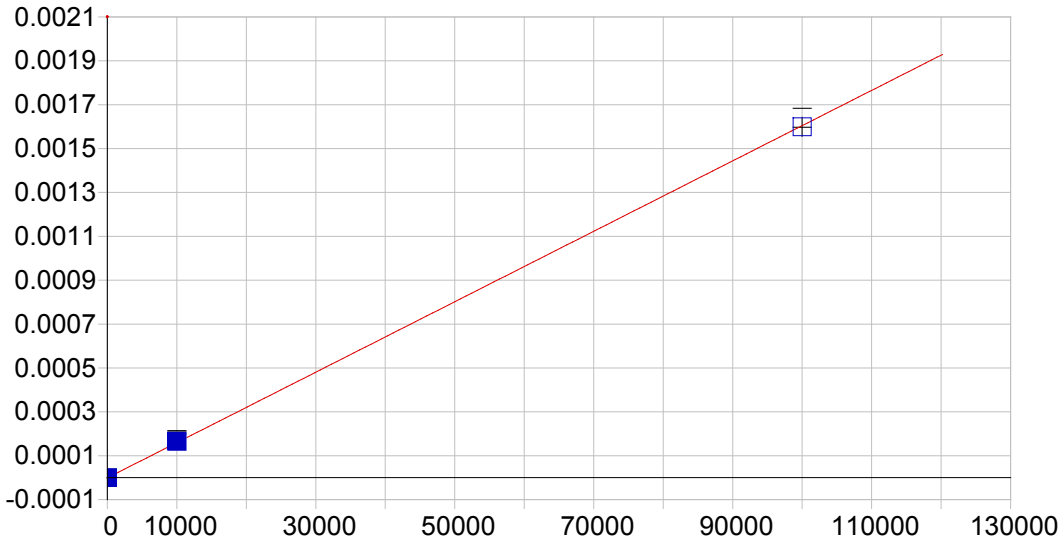


K 766.490 { 44}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.962867	Status:	OK.
Std Error of Est:	0.000373		
Predicted MDL:	21.719976		
Predicted MQL:	72.399922		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.9756	7.98	.000	-.00001	.000	1
CalStd9=100	10000.	1138.3	-8860.	-88.6	.00082	.000	1
CalStd12-100	100000.	108860.	8860.	8.86	.07981	.002	1

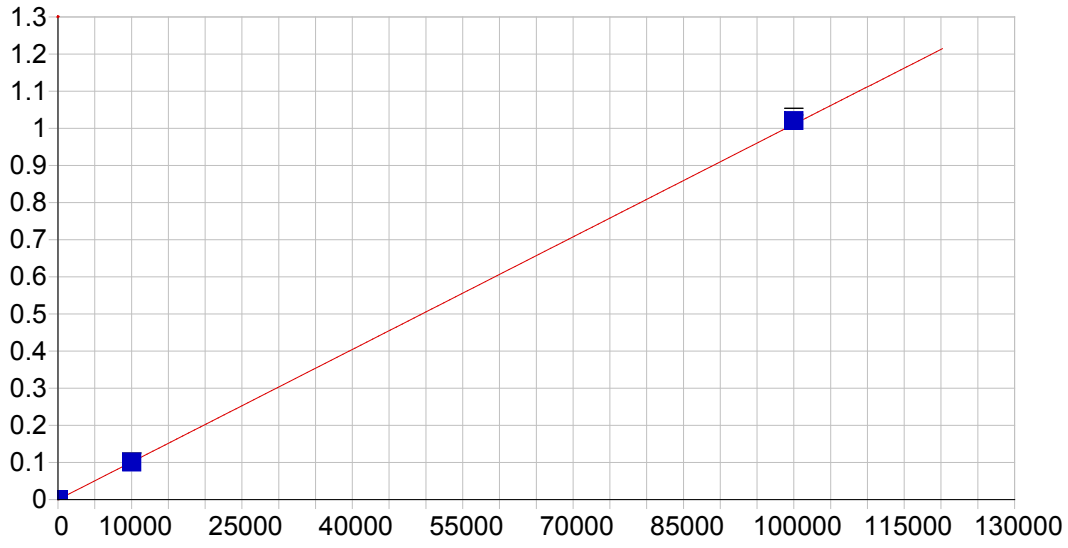


P 213.618 {457}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	28.254140		
Predicted MQL:	94.180468		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.30809	-.308	.000	.00000	.000	1
CalStd9=100	10000.	10342.	342.	3.42	.00017	.000	1
CalStd12-100	100000.	99658.	-342.	-.342	.00160	.000	1

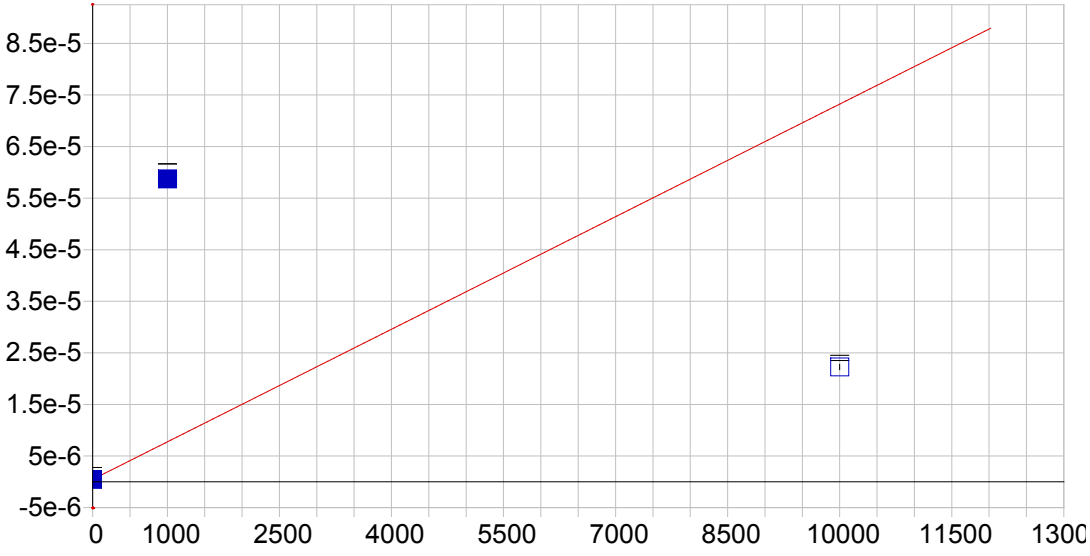


S 182.034 {485}

Date of Fit: 10/21/2016 08:37:37 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000090	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000086		
Predicted MDL:	4.433940		
Predicted MQL:	14.779799		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.20690	.207	.000	.00009	.000	1
CalStd12-100	100000.	100970.	969.	.969	1.0205	.009	1
CalStd9=100	10000.	9989.9	-10.1	-.101	.10105	.000	1

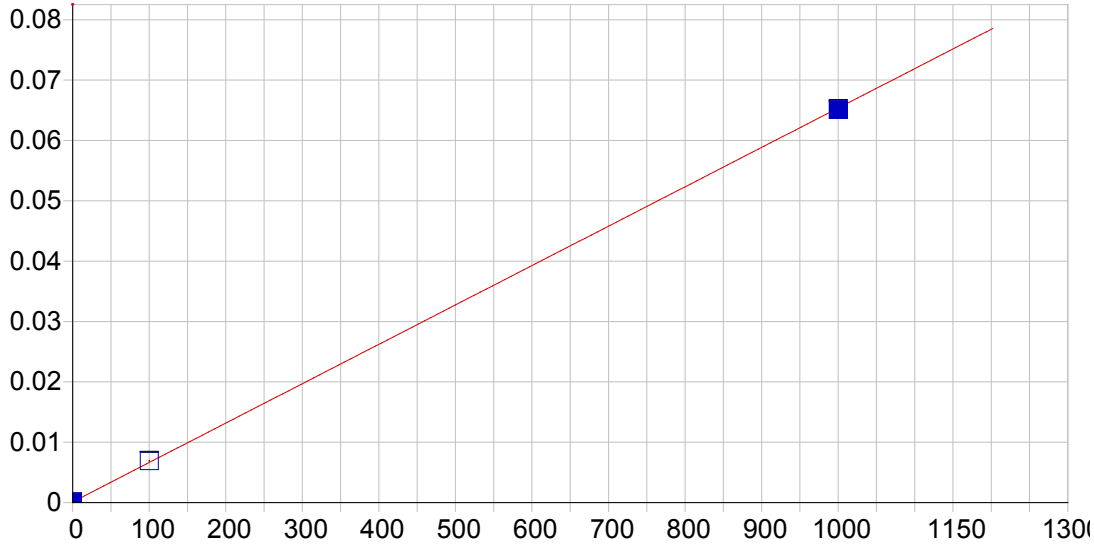


W 239.709 {140}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.411375	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	129.270296		
Predicted MQL:	430.900988		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.3019	-6.30	.000	.00000	.000	1
CalStd9=100	1000.0	8002.7	7000.	700.	.00006	.000	1
CalStd12-100	10000.	2992.7	-7010.	-70.1	.00002	.000	1

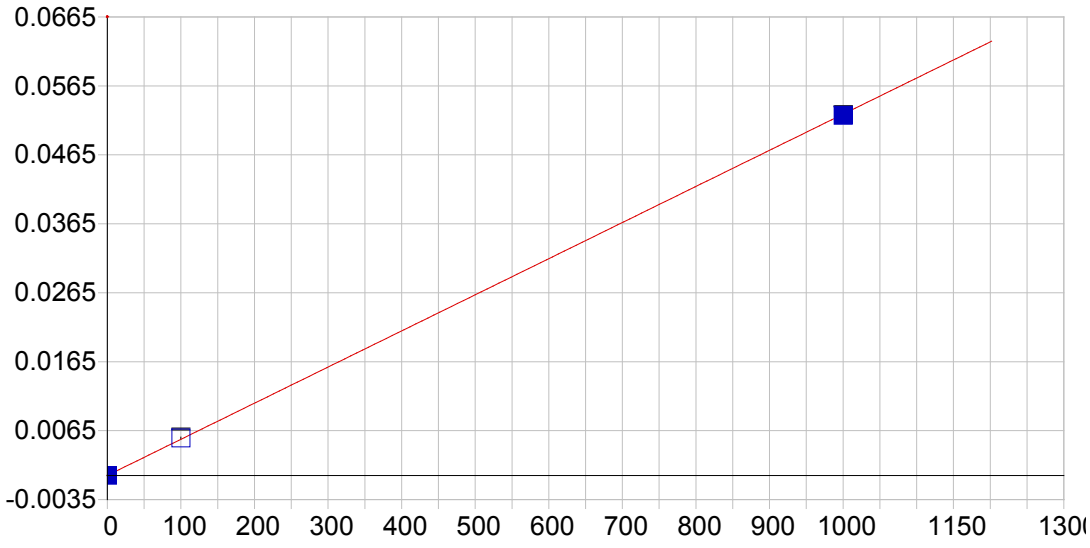


Hg 184.950 {482}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000120	Re-Slope:	1.000000
A1 (Gain):	0.000065	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.763702		
Predicted MQL:	2.545674		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00369	-.004	.000	.00012	.000	1
CalStd8=100	100.00	104.10	4.10	4.10	.00691	.000	1
CalStd9=100	1000.0	995.90	-4.10	-.410	.06511	.000	1



Hg 194.227 {473}

Date of Fit:	10/21/2016 08:37:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000052	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.884941		
Predicted MQL:	2.949805		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00311	-.003	.000	.00000	.000	1
CalStd8=100	100.00	103.46	3.46	3.46	.00543	.000	1
CalStd9=100	1000.0	996.54	-3.46	-.346	.05222	.000	1

Sample Name: Blank Acquired: 10/19/2016 07:54:23 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.005**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.000	.000	.00	.000	.000	.00	.00	.000
%RSD	56.0	60.8	40.0	34.1	99.8	8.28	7.62	7.83	35.1	438.	28.5	157.

Elem	Cr2055	Cr2677	Cu2247	Fe2343	Fe2395	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.000	.000	.000	.000	.000	.00	.000	.00
%RSD	25.6	62.6	37.8	10.8	17.3	119.	.942	138.	87.7	85.7	28.1	71.2

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**11.3**	**.000**	**.000**
Stddev	.000	.000	.000	.00	.00	.000	.00	.000	.000	4.7	.00	.000
%RSD	473.	23.1	48.9	26.6	274.	92.6	192.	187.	13.5	41.5	30.0	29.2

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1408100.**	**430180.**	**9942.1**
Stddev	16032.	34651.	32.9
%RSD	1.1386	8.0550	.33088

Sample Name: CalStd1=0.25 Acquired: 10/19/2016 08:01:17 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.000
Stddev	.00
%RSD	9.88

Int. Std.	Y_3242
Units	Cts/S
Avg	1350500.
Stddev	58313.
%RSD	4.3177

Sample Name: CalStd2=0.5 Acquired: 10/19/2016 08:08:31 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.000	.000
%RSD	53.8	6.64

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	**1403500.**	**9920.9**
Stddev	10497.	40.6
%RSD	.74794	.40900

Sample Name: CalStd3=1 Acquired: 10/19/2016 08:15:33 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.000	.000	.000	.000	.000
%RSD	66.7	5.61	3.19	10.6	73.0	25.8	83.6	21.1

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1363500.**	**406200.**	**9897.8**
Stddev	13779.	19189.	14.4
%RSD	1.0106	4.7240	.14509

Sample Name: CalStd4=5 Acquired: 10/19/2016 08:22:31 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1890	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.003**	**.001**	**.001**	**.000**	**.001**	**.008**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	62.4	3.16	2.74	2.06	3.91	2.69	4.86	9.82	.752	3.80	5.35	2.38

Elem	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	15.0	16.6	1.64

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1360500.**	**404880.**	**9854.9**
Stddev	29014.	10870.	44.1
%RSD	2.1326	2.6848	.44709

Sample Name: CalStd5=10 Acquired: 10/19/2016 08:29:27 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.002**	**.001**	**.006**	**.003**	**.003**	**.000**	**.002**	**.015**	**.001**	**.000**
Stddev	.000	.00	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.56	149.	1.04	1.11	.885	3.24	.818	4.41	5.51	2.72	1.22	5.08

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**	**92.6**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	1.2	.000
%RSD	3.27	12.1	24.9	6.20	10.4	19.2	35.8	1.30	1.89

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1343900.**	**394540.**	**9908.6**
Stddev	5847.	11808.	63.9
%RSD	.43509	2.9929	.64497

Sample Name: CalStd6=20 Acquired: 10/19/2016 08:36:20 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.005**	**.004**	**.032**	**.003**	**.000**	**.001**	**192.**
Stddev	.000	.000	.001	.000	.000	.000	8.
%RSD	1.06	1.06	1.81	1.34	2.24	2.05	4.29

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1353200.**	**405310.**	**9864.2**
Stddev	37859.	3942.	60.9
%RSD	2.7977	.97266	.61740

Sample Name: CalStd7=50 Acquired: 10/19/2016 08:43:10 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1937	Ba2335	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.011**	**.029**	**.015**	**.016**	**.000**	**.009**	**.075**	**.007**	**.000**	**.000**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.08	.481	.581	.915	.750	3.15	1.55	.615	.830	2.11	4.03	3.02

Elem	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.001**	**442.**	**.000**
Stddev	.000	4.	.000
%RSD	4.94	.984	3.20

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1336300.**	**410070.**	**9817.2**
Stddev	40853.	11469.	22.3
%RSD	3.0571	2.7967	.22740

Sample Name: CalStd8=100 Acquired: 10/19/2016 08:49:59 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.001**	**.021**	**.010**	**.007**	**.008**	**.057**	**.030**	**.000**	**.031**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000
%RSD	1.94	4.33	9.64	1.38	1.76	1.98	1.88	1.16	1.11	1.14	.795	2.20

Elem	Cu2247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.017**	**.006**	**.145**	**.014**	**.000**	**.000**	**.000**	**.003**	**.006**	**.004**	**.001**	**.000**
Stddev	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.15	1.63	1.45	1.03	1.78	2.00	2.33	.497	2.45	.647	2.95	17.5

Elem	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**858.**	**.000**
Stddev	.000	.000	12.	.000
%RSD	5.77	2.24	1.35	2.05

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1338500.**	**400180.**	**9846.2**
Stddev	25609.	7053.	70.4
%RSD	1.9133	1.7624	.71530

Sample Name: CalStd9=1000 Acquired: 10/19/2016 08:56:45 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.015**	**.005**	**.199**	**.057**	**.071**	**.000**	**.063**	**.543**	**.293**	**.003**	**.303**
Stddev	.000	.000	.000	.000	.001	.001	.000	.001	.001	.001	.000	.001
%RSD	2.32	.631	.333	.246	2.10	1.66	1.74	2.23	.194	.261	1.81	.354

Elem	Cr2677	Cu2247	Fe2343	Fe2395	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.005**	**.171**	**.000**	**.000**	**.000**	**.050**	**1.38**	**.002**	**.135**	**.001**	**.002**	**.002**
Stddev	.000	.000	.000	.000	.000	.001	.02	.000	.000	.000	.000	.000
%RSD	1.66	.266	2.35	2.03	2.80	1.81	1.58	2.10	.289	2.50	2.49	2.73

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.032**	**.054**	**.038**	**.042**	**.012**	**.004**	**.019**	**.001**	**8270.**	**.215**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	107.	.001	.000
%RSD	.285	.093	.356	.403	.547	1.72	.307	2.08	1.29	.407	2.52

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1338400.**	**406120.**	**9873.5**
Stddev	37650.	9891.	9.5
%RSD	2.8131	2.4354	.09592

Sample Name: CalStd10=10000 Acquired: 10/19/2016 09:02:50 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.148**	**.046**	**.511**	**.004**	**2.80**	**.024**	**2.93**	**.047**	**1.61**	**.004**
Stddev	.001	.000	.000	.035	.000	.01	.001	.01	.001	.00	.000
%RSD	4.08	.305	.295	6.87	4.49	.423	2.82	.333	2.98	.224	3.19

Elem	Fe2395	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.001**	**.454**	**12.8**	**.022**	**.006**	**.022**	**.016**	**.293**	**.509**	**.378**
Stddev	.000	.000	.015	.5	.001	.000	.000	.000	.001	.003	.001
%RSD	2.49	4.25	3.21	3.58	2.36	2.09	2.04	2.02	.286	.495	.263

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.409**	**.113**	**.039**	**.179**	**.007**	**78800.**	**2.05**	**.023**
Stddev	.001	.000	.000	.001	.000	847.	.01	.000
%RSD	.312	.126	.342	.389	2.33	1.07	.474	2.06

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1291000.**	**398870.**	**9564.7**
Stddev	27350.	15202.	21.5
%RSD	2.1185	3.8113	.22496

Sample Name: CalStd11-100k Acquired: 10/19/2016 09:10:00 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**26.2**	**.213**	**2.92**	**18.8**
Stddev	.1	.010	.02	.1
%RSD	.484	4.54	.599	.304

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1284200.**	**391730.**	**9538.2**
Stddev	46597.	16244.	44.1
%RSD	3.6286	4.1469	.46195

Sample Name: CalStd12-100000 Acquired: 10/19/2016 09:17:04 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.194**	**.041**	**.044**	**.010**
Stddev	.005	.001	.001	.000
%RSD	2.71	2.71	1.44	2.54

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1222100.**	**396270.**	**9262.8**
Stddev	11917.	8583.	55.6
%RSD	.97511	2.1659	.60004

Sample Name: CalStd13=500000 Acquired: 10/19/2016 09:24:13 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.971**	**.196**	**.160**	**.202**	**.049**
Stddev	.040	.005	.004	.005	.001
%RSD	4.14	2.38	2.80	2.44	2.04

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1158900.**	**384190.**	**8571.0**
Stddev	26520.	7849.	2.1
%RSD	2.2883	2.0429	.02469

Sample Name: CalStd14-1000k Acquired: 10/19/2016 09:31:58 Type: Cal
Method: DOD Calibration Updated 060614(v1661) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.90**	**.375**	**.245**	**.372**	**.095**
Stddev	.06	.011	.007	.008	.003
%RSD	2.90	2.89	2.78	2.27	2.99

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1100300.**	**370690.**	**8034.5**
Stddev	17476.	10683.	25.9
%RSD	1.5882	2.8818	.32249

Sample Name: icv Acquired: 10/19/2016 09:46:59 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2247	Fe2343
Avg	**47.9**	**12200.**	**2060.**	**2040.**	**47.0**	**10500.**	**49.0**	**508.**	**490.**	**199.**	**247.**	**5250.**
Stddev	.9	517.	18.	92.	.9	461.	.4	5.	8.	4.	3.	98.
%RSD	1.92	4.26	.879	4.53	1.83	4.40	.776	1.02	1.66	1.79	1.22	1.87
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2395	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Avg	**4970.**	**10200.**	**510.**	**510.**	**522.**	**537.**	**501.**	**498.**	**505.**	**511.**	**506.**	**523.**
Stddev	42.	479.	7.	4.	5.	7.	6.	7.	9.	8.	4.	3.
%RSD	.840	4.71	1.36	.840	1.00	1.21	1.24	1.40	1.88	1.58	.839	.543
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**2030.**	**2020.**	**511.**	**528.**	**539.**	**494.**
Stddev	12.	19.	3.	7.	4.	6.
%RSD	.579	.960	.659	1.26	.801	1.26
Check ?	None	None	None	None	None	None
Value						
Range						

Sample Name: icv Acquired: 10/19/2016 09:46:59 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1321300.**	**401300.**	**9827.6**
Stddev	11902.	16278.	54.2
%RSD	.90080	4.0563	.55165

Sample Name: ICVLL Acquired: 10/19/2016 09:53:45 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**47.3**	**1240.**	**57.5**	**31.3**	**13.5**	**1620.**	**1650.**	**16.3**	**31.5**	**32.9**	**31.3**	**959.**
Stddev	1.7	20.	1.7	.2	.4	30.	49.	.2	.2	1.0	.3	32.
%RSD	3.65	1.62	2.94	.637	3.13	1.84	2.95	1.50	.680	3.08	1.04	3.28
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1560.**	**32.9**	**31.1**	**32.7**	**29.9**	**64.5**	**64.6**	**57.7**	**33.2**	**33.5**
Stddev	24.	.5	.7	1.5	.7	1.5	2.1	1.5	.4	1.2
%RSD	1.55	1.43	2.12	4.48	2.46	2.29	3.31	2.60	1.33	3.66
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1280100.**	**404600.**	**9849.9**
Stddev	39476.	6325.	42.8
%RSD	3.0837	1.5632	.43481

Sample Name: icb Acquired: 10/19/2016 10:07:30 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Avg	**.609**	**1.27**	**-8.61**	**.022**	**.067**	**4.24**	**.044**	**.222**	**-.194**	**-.044**	**-.683**	**2.30**
Stddev	.358	3.02	3.88	.166	.031	.57	.123	.082	.304	.576	1.48	.13
%RSD	58.8	239.	45.1	771.	46.0	13.4	280.	37.0	157.	1300.	217.	5.66
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.020**	**.146**	**-.005**	**-4.52**	**.493**	**-.323**	**-2.32**	**-.191**	**.005**
Stddev	.122	.311	.246	.79	1.18	1.72	3.86	.491	.099
%RSD	602.	213.	5040.	17.3	239.	532.	166.	258.	2080.
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1320500.**	**411050.**	**9875.6**
Stddev	15507.	4492.	12.4
%RSD	1.1743	1.0928	.12538

Sample Name: icsa Acquired: 10/19/2016 10:21:28 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**.000**	**502000.**	**-.019**	**-.019**	**.046**	**492000.**	**-.001**	**.000**	**.602**	**-.060**	**460000.**
Stddev	1.31	16600.	23.9	.267	.050	14100.	2.14	.414	.747	2.04	10300.
%RSD	423e15	3.30	129000.	1370.	108.	2.86	284000.	2660000.	124.	3410.	2.23
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**520000.**	**.000**	**.000**	**.000**	**.271**	**.000**	**-.002**	**.489**	**-.177**	**.001**
Stddev	14800.	.81	1.67	1.17	3.92	3.86	16.3	4.09	.922	.699
%RSD	2.85	1800000.	1570000.	774000.	1450.	2490000.	656000.	836.	521.	134000.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1139800.**	**372580.**	**8612.7**
Stddev	25828.	11581.	31.2
%RSD	2.2661	3.1083	.36190

Sample Name: icsab Acquired: 10/19/2016 10:29:13 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388
Avg	**557.**	**503000.**	**533.**	**495.**	**462.**	**405.**	**500.**	**486000.**	**469.**	**443.**	**416.**
Stddev	16.	6730.	20.	7.	2.	11.	15.	11200.	2.	1.	10.
%RSD	2.89	1.34	3.73	1.38	.501	2.65	3.04	2.31	.462	.324	2.31
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Fe2395	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Avg	**502.**	**476.**	**433.**	**482000.**	**519000.**	**465.**	**548.**	**466.**	**503.**	**452.**	**432.**
Stddev	3.	13.	3.	10500.	11100.	8.	25.	1.	11.	9.	8.
%RSD	.627	2.80	.743	2.18	2.13	1.77	4.63	.308	2.20	1.97	1.89
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**428.**	**502.**	**522.**	**493.**	**400.**	**443.**	**442.**	**438.**	**491.**
Stddev	9.	7.	8.	4.	7.	12.	5.	3.	11.
%RSD	1.99	1.35	1.51	.816	1.70	2.76	1.08	.598	2.29
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: icsab Acquired: 10/19/2016 10:29:13 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1129800.**	**387930.**	**8564.3**
Stddev	24589.	7165.	48.3
%RSD	2.1764	1.8471	.56366

Sample Name: ICVLL ag Acquired: 10/19/2016 10:37:22 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.4**	**74.5**	**-4.60**	**.099**	**.124**	**31.7**	**.072**	**.076**	**-.010**	**.247**	**209.**	**31.9**
Stddev	.5	69.1	4.39	.127	.024	15.0	.075	.176	.241	.219	221.	5.1
%RSD	4.48	92.7	95.6	128.	19.4	47.3	105.	233.	2430.	88.4	106.	15.8

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.041**	**.293**	**-.406**	**-1.25**	**-.545**	**.049**	**-3.23**	**-.129**	**.546**
Stddev	.119	.187	.281	.89	1.23	3.16	2.07	.194	.119
%RSD	287.	63.7	69.3	71.3	225.	6520.	64.2	150.	21.9

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1321000.**	**403670.**	**9966.9**
Stddev	28235.	9735.	66.0
%RSD	2.1373	2.4116	.66257

Sample Name: ccv1 Acquired: 10/19/2016 14:51:49 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Fe2343	Fe2395
Avg	**506.**	**5310.**	**5200.**	**5150.**	**510.**	**5450.**	**515.**	**5080.**	**5340.**	**5130.**	**5420.**	**5210.**
Stddev	14.	117.	56.	188.	15.	129.	5.	135.	50.	52.	149.	155.
%RSD	2.80	2.20	1.07	3.66	2.91	2.37	.918	2.66	.930	1.02	2.74	2.97
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Pb2203	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**5240.**	**5340.**	**5280.**	**5350.**	**5150.**	**5280.**	**5200.**	**5180.**	**5230.**	**5300.**	**5460.**
Stddev	123.	154.	163.	164.	51.	46.	53.	30.	57.	164.	47.
%RSD	2.35	2.89	3.08	3.07	.981	.872	1.02	.573	1.09	3.09	.867
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1265600.**	**391800.**	**9513.7**
Stddev	38624.	9003.	59.2
%RSD	3.0517	2.2978	.62185

Sample Name: ccv2 Acquired: 10/19/2016 14:58:28 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Avg	**54.6**	**578.**	**520.**	**530.**	**54.1**	**538.**	**55.2**	**547.**	**534.**	**526.**	**535.**	**532.**
Stddev	.6	3.	11.	.	.1	4.	.3	2.	1.	2.	.	2.
%RSD	1.09	.561	2.15	.007	.157	.673	.527	.403	.124	.314	.085	.358
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**541.**	**529.**	**550.**	**538.**	**538.**	**542.**	**536.**	**549.**	**523.**
Stddev	6.	1.	12.	26.	.	7.	2.	8.	12.
%RSD	1.14	.240	2.11	4.80	.004	1.24	.382	1.46	2.31
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1287600.**	**366290.**	**9540.3**
Stddev	21314.	3237.	14.7
%RSD	1.6554	.88378	.15396

Sample Name: ccb Acquired: 10/19/2016 15:04:53 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Avg	**1.40**	**1.87**	**-7.76**	**.281**	**.065**	**1.10**	**.073**	**.074**	**-.022**	**.392**	**-2.52**	**.913**
Stddev	.37	3.37	3.26	.095	.021	1.21	.073	.106	.719	.295	1.06	.119
%RSD	26.7	180.	42.0	33.7	31.7	110.	100.	142.	3330.	75.4	42.1	13.1
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.030**	**.054**	**-.031**	**-3.92**	**.993**	**-.209**	**-4.11**	**-1.12**	**-.185**
Stddev	.075	.455	.544	1.24	1.28	4.02	2.68	.31	.062
%RSD	249.	851.	1780.	31.7	129.	1930.	65.2	27.5	33.4
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1272900.**	**390490.**	**9567.1**
Stddev	46480.	7380.	31.7
%RSD	3.6514	1.8900	.33155

Sample Name: lcsw59578 Acquired: 10/19/2016 16:10:12 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**23.1**	**1030.**	**957.**	**993.**	**888.**	**907.**	**23.0**	**211000.**	**22.0**	**224.**	**93.9**
Stddev	1.0	62.	13.	7.	11.	29.	.6	5350.	.2	3.	2.5
%RSD	4.40	6.04	1.38	.724	1.26	3.20	2.47	2.54	.995	1.13	2.61

Elem	Cu2247	Fe2395	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**112.**	**642.**	**105000.**	**239.**	**2340.**	**221.**	**232.**	**217.**	**244.**	**968.**	**961.**
Stddev	2.	221.	3140.	3.	31.	3.	4.	3.	4.	11.	12.
%RSD	1.34	34.4	2.99	1.10	1.34	1.21	1.54	1.61	1.61	1.08	1.26

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**835.**	**216.**	**238.**
Stddev	8.	3.	3.
%RSD	.910	1.16	1.26

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1131300.**	**380690.**	**8609.6**
Stddev	17858.	12477.	70.3
%RSD	1.5785	3.2775	.81615

Sample Name: mbw59578 Acquired: 10/19/2016 16:17:06 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.569**	**3.15**	**-9.19**	**.177**	**.056**	**21.2**	**-.019**	**.297**	**.334**	**.011**	**2.41**	**1.78**
Stddev	.565	3.90	3.96	.028	.027	19.2	.034	.215	.093	.233	2.04	.16
%RSD	99.3	124.	43.1	16.0	47.9	90.4	185.	72.3	28.0	2150.	84.5	8.79

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.135**	**.359**	**-.062**	**-4.33**	**.284**	**-.770**	**-2.90**	**-.889**	**.582**
Stddev	.067	.368	.353	1.86	1.76	3.21	1.73	.279	.165
%RSD	49.9	103.	574.	42.9	618.	417.	59.7	31.4	28.3

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1266700.**	**385800.**	**9554.9**
Stddev	8262.	16027.	57.6
%RSD	.65226	4.1542	.60305

Sample Name: ccv1 Acquired: 10/19/2016 16:24:03 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Fe2343	Fe2395
Avg	**498.**	**5190.**	**5250.**	**5070.**	**495.**	**5220.**	**516.**	**5030.**	**5390.**	**5200.**	**5510.**	**5090.**
Stddev	5.	84.	49.	65.	10.	49.	5.	71.	44.	50.	36.	32.
%RSD	1.00	1.62	.930	1.29	1.97	.931	.884	1.41	.807	.957	.661	.637
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Pb2203	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**5090.**	**5230.**	**5230.**	**5270.**	**5240.**	**5300.**	**5260.**	**5250.**	**5280.**	**5220.**	**5460.**
Stddev	65.	47.	15.	17.	45.	33.	45.	43.	32.	43.	34.
%RSD	1.28	.903	.285	.319	.864	.624	.856	.810	.609	.829	.631
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1273900.**	**396100.**	**9401.1**
Stddev	3895.	3482.	71.7
%RSD	.30576	.87912	.76247

Sample Name: ccv2 Acquired: 10/19/2016 16:30:43 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**54.5**	**552.**	**534.**	F **554.**	**539.**	**547.**	**53.4**	F **554.**	F **56.1**	F **558.**	**527.**	F **570.**
Stddev	.6	18.	6.	6.	3.	26.	1.0	12.	.2	2.	4.	3.
%RSD	1.13	3.33	1.17	.996	.537	4.67	1.82	2.08	.278	.388	.787	.517
Check ?	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Fail
Value				500.				500.	50.0	500.		500.
Range				10.4%				10.4%	10.4%	10.4%		10.4%

Elem	Cr2677	Cu2247	Fe2395	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**532.**	**537.**	**541.**	**529.**	F **562.**	F **552.**	**540.**	**543.**	**542.**	F **555.**	F **559.**	F **567.**
Stddev	6.	1.	10.	4.	3.	13.	2.	6.	7.	6.	2.	.
%RSD	1.11	.114	1.88	.814	.478	2.29	.303	1.13	1.31	1.04	.375	.039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail
Value					500.	500.				500.	500.	500.
Range					10.4%	10.4%				10.4%	10.4%	10.4%

Elem	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**547.**	F **553.**	F **560.**	F **564.**	F **553.**	**542.**	**540.**	F **578.**	**526.**
Stddev	.	1.	5.	11.	1.	15.	3.	4.	8.
%RSD	.026	.262	.885	1.86	.205	2.83	.593	.702	1.55
Check ?	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value		500.	500.	500.	500.			500.	
Range		10.4%	10.4%	10.4%	10.4%			10.4%	

Sample Name: ccb Acquired: 10/19/2016 16:37:07 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Avg	**.824**	**4.50**	**-5.09**	**.114**	**.048**	**1.37**	**-.004**	**.101**	**-.009**	**-.088**	**-1.13**	**1.06**
Stddev	1.03	4.20	2.10	.148	.020	1.12	.120	.168	.726	.289	1.19	.11
%RSD	125.	93.4	41.3	130.	41.1	81.6	2830.	165.	8050.	328.	106.	10.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.053**	**.575**	**.298**	**-3.71**	**-.671**	**-2.05**	**-3.69**	**-.719**	**-.199**
Stddev	.064	.425	.240	1.26	1.98	2.94	2.90	.208	.248
%RSD	119.	73.9	80.6	34.1	295.	143.	78.7	28.9	125.
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1204200.**	**386000.**	**9394.1**
Stddev	32003.	10472.	72.8
%RSD	2.6577	2.7129	.77538

Sample Name: 787719 Acquired: 10/19/2016 16:44:07 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.192**	**537.**	**-11.1**	**99.2**	**.004**	**111000.**	**-.098**	**.394**	**4.29**	**1.24**	**753.**
Stddev	.694	6.	2.6	1.0	.023	2330.	.166	.402	.46	.40	34.
%RSD	362.	1.19	23.1	.995	625.	2.09	170.	102.	10.7	32.1	4.44

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**38700.**	**125.**	**4.26**	**1.97**	**-1.02**	**-.581**	**.061**	**-2.81**	**.923**	**8.16**
Stddev	799.	1.	.30	.33	1.97	1.60	4.11	3.86	.384	.33
%RSD	2.06	.739	7.12	16.5	193.	276.	6720.	137.	41.6	4.02

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1177800.**	**385920.**	**8715.5**
Stddev	49432.	6075.	23.7
%RSD	4.1969	1.5742	.27189

Sample Name: I787719 Acquired: 10/19/2016 16:51:12 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.504**	**139.**	**-4.68**	**18.4**	**.034**	**32800.**	**.053**	**.234**	**.584**	**.171**	**209.**	**11300.**
Stddev	.256	11.	3.55	2.1	.021	2410.	.009	.360	.358	.164	8.	803.
%RSD	50.9	7.78	75.8	11.3	61.3	7.33	17.3	154.	61.3	96.2	3.75	7.08

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**29.7**	**.884**	**-.091**	**-3.42**	**-1.09**	**.373**	**-1.93**	**-.232**	**6.90**
Stddev	1.8	.524	.451	2.32	2.20	5.94	1.72	.355	.96
%RSD	6.07	59.2	495.	67.9	201.	1590.	89.0	153.	13.9

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1248400.**	**389600.**	**9304.7**
Stddev	40054.	8652.	39.5
%RSD	3.2084	2.2207	.42417

Sample Name: dup787719 Acquired: 10/19/2016 16:58:31 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.00**	**583.**	**-3.76**	**95.4**	**-.002**	**108000.**	**-.045**	**.325**	**4.02**	**.970**	**764.**
Stddev	.89	19.	3.34	.5	.007	1880.	.165	.213	.29	.348	25.
%RSD	88.5	3.31	88.9	.487	351.	1.75	364.	65.4	7.14	35.9	3.32

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**37400.**	**122.**	**4.02**	**1.55**	**-2.86**	**-.471**	**2.28**	**-1.27**	**.872**	**8.35**
Stddev	730.	1.	.45	.40	1.40	1.55	3.75	2.30	.203	.41
%RSD	1.95	1.11	11.2	25.7	49.2	329.	165.	182.	23.3	4.96

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1144200.**	**376320.**	**8593.8**
Stddev	35620.	6989.	29.3
%RSD	3.1130	1.8571	.34123

Sample Name: mss787719 Acquired: 10/19/2016 17:05:35 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 2
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**12.7**	**895.**	**483.**	**515.**	**498.**	**551.**	**11.7**	**171000.**	**11.4**	**113.**	**49.6**
Stddev	1.3	54.	4.	8.	4.	35.	.2	9940.	.2	1.	1.2
%RSD	10.00	5.98	.731	1.52	.793	6.40	1.82	5.81	1.98	.631	2.44

Elem	Cu2247	Fe2395	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**58.8**	**633.**	**77000.**	**179.**	**1210.**	**108.**	**117.**	**110.**	**125.**	**509.**	**535.**
Stddev	1.0	20.	4250.	2.	35.	4.	3.	1.	1.	6.	20.
%RSD	1.70	3.11	5.52	1.20	2.88	3.24	2.86	1.32	1.19	1.12	3.79

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**439.**	**113.**	**127.**
Stddev	4.	1.	4.
%RSD	1.02	1.07	2.90

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1137300.**	**366330.**	**8665.1**
Stddev	30725.	18783.	35.4
%RSD	2.7017	5.1272	.40906

Sample Name: msds787719 Acquired: 10/19/2016 17:12:21 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 2
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**12.0**	**861.**	**508.**	**519.**	**517.**	**523.**	**11.6**	**164000.**	**11.7**	**118.**	**49.6**
Stddev	.4	11.	4.	6.	4.	6.	.3	1680.	.1	1.	1.8
%RSD	3.13	1.32	.807	1.18	.744	1.05	2.82	1.02	.640	.630	3.61

Elem	Cu2247	Fe2395	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**61.2**	**632.**	**73900.**	**185.**	**1210.**	**108.**	**119.**	**116.**	**131.**	**530.**	**535.**
Stddev	.3	22.	716.	1.	35.	4.	4.	2.	3.	5.	10.
%RSD	.500	3.42	.970	.496	2.86	3.37	3.65	1.31	2.02	.861	1.79

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**454.**	**114.**	**127.**
Stddev	1.	2.	4.
%RSD	.295	1.36	3.21

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1163700.**	**386050.**	**8578.8**
Stddev	34511.	3429.	30.5
%RSD	2.9657	.88830	.35517

Sample Name: pdsw787719 Acquired: 10/19/2016 17:19:07 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**114.**	**5420.**	**5010.**	**4820.**	**106.**	**551000.**	**104.**	**1050.**	**472.**	**439.**	**539.**
Stddev	2.	245.	25.	211.	2.	22900.	1.	24.	4.	11.	5.
%RSD	2.14	4.52	.499	4.38	1.98	4.15	.797	2.31	.805	2.53	.852

Elem	Fe2395	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Pb2203	Sb2068	Se2062	Tl1908	V_2908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3100.**	**271000.**	**1100.**	**2270.**	**1080.**	**1190.**	**1060.**	**1240.**	**4930.**	**4040.**	**1300.**
Stddev	94.	11200.	35.	52.	23.	13.	6.	10.	19.	24.	37.
%RSD	3.04	4.13	3.21	2.28	2.17	1.07	.554	.784	.394	.602	2.81

Elem	V_2924	Zn2062
Units	ug/L	ug/L
Avg	**981.**	**1120.**
Stddev	3.	7.
%RSD	.315	.597

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1073500.**	**363210.**	**7863.9**
Stddev	25896.	12979.	33.0
%RSD	2.4122	3.5733	.42011

Sample Name: 788657 Acquired: 10/19/2016 17:25:46 Type: Unk
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.804**	**407.**	**-9.44**	**101.**	**.053**	**49600.**	**-.123**	**-.039**	**1.78**	**2.00**	**561.**	**34800.**
Stddev	.622	16.	3.08	.	.024	1270.	.046	.178	.27	.39	19.	857.
%RSD	77.4	3.85	32.6	.312	45.5	2.56	37.5	454.	15.2	19.3	3.43	2.46

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**74.5**	**1.70**	**.393**	**-1.49**	**.156**	**2.78**	**-2.71**	**-.397**	**4.76**
Stddev	.5	.62	.496	1.77	.803	1.39	1.92	.400	.29
%RSD	.705	36.6	126.	119.	516.	50.0	70.9	101.	6.21

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1180200.**	**376990.**	**9072.3**
Stddev	44003.	9939.	17.4
%RSD	3.7285	2.6365	.19178

Sample Name: ccv1 Acquired: 10/19/2016 17:53:55 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Fe2395	Mg2790
Avg	**528.**	**5440.**	**5400.**	**5240.**	**523.**	**5460.**	**528.**	**5340.**	F **5550.**	**5350.**	**5480.**	**5290.**
Stddev	8.	261.	75.	254.	8.	262.	7.	81.	63.	62.	113.	261.
%RSD	1.58	4.80	1.39	4.85	1.61	4.80	1.33	1.51	1.13	1.16	2.07	4.92
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									5000.			
Range									10.4%			

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	F **5630.**	F **5590.**	F **5620.**	**5440.**	**5400.**	**5420.**	**5440.**	F **5620.**	F **5600.**
Stddev	124.	136.	134.	57.	58.	66.	61.	127.	67.
%RSD	2.19	2.42	2.39	1.06	1.07	1.21	1.11	2.25	1.19
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value	5000.	5000.	5000.					5000.	5000.
Range	10.4%	10.4%	10.4%					10.4%	10.4%

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1200200.**	**382120.**	**9213.4**
Stddev	26501.	16978.	64.6
%RSD	2.2080	4.4429	.70075

Sample Name: ccv2 Acquired: 10/19/2016 18:00:36 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	F **56.8**	**555.**	**541.**	F **557.**	**551.**	**548.**	**55.0**	F **575.**	F **57.4**	F **570.**	**546.**	F **586.**
Stddev	.8	10.	4.	8.	4.	16.	1.7	20.	.4	3.	15.	3.
%RSD	1.36	1.86	.802	1.52	.666	2.88	3.10	3.44	.662	.539	2.80	.535
Check ?	Chk Fail	None	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Fail
Value	50.0			500.				500.	50.0	500.		500.
Range	10.4%			10.4%				10.4%	10.4%	10.4%		10.4%

Elem	Cr2677	Cu2247	Fe2395	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**550.**	**550.**	F **553.**	**549.**	F **575.**	F **566.**	F **553.**	F **563.**	F **560.**	F **568.**	F **574.**
Stddev	16.	4.	20.	15.	8.	22.	5.	16.	19.	16.	4.
%RSD	2.90	.638	3.59	2.70	1.36	3.81	.876	2.85	3.35	2.79	.763
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value			500.		500.	500.	500.	500.	500.	500.	500.
Range			10.4%		10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**550.**	F **564.**	F **568.**	F **574.**	F **575.**	F **569.**	F **557.**	**546.**	F **594.**	**542.**
Stddev	10.	5.	4.	2.	19.	3.	23.	5.	2.	17.
%RSD	1.75	.846	.634	.267	3.24	.453	4.09	.919	.343	3.13
Check ?	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Fail	Chk Pass
Value		500.	500.	500.	500.	500.	500.		500.	
Range		10.4%	10.4%	10.4%	10.4%	10.4%	10.4%		10.4%	

Sample Name: ccv2 Acquired: 10/19/2016 18:00:36 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1245800.**	**387190.**	**9194.2**
Stddev	39167.	10464.	43.8
%RSD	3.1440	2.7025	.47613

Sample Name: ccb Acquired: 10/19/2016 18:07:01 Type: QC
Method: DOD Calibration Updated 060614(v1661) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2802
Avg	**1.07**	**.671**	**-11.9**	**.154**	**.061**	**1.53**	**-.052**	**.247**	**.149**	**.222**	**-1.83**	**1.12**
Stddev	.88	4.09	5.5	.196	.012	.99	.071	.066	.244	.068	1.42	.09
%RSD	82.4	610.	45.7	127.	20.6	64.5	137.	26.7	164.	30.7	77.8	7.67
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.000**	**.787**	**.336**	**-3.90**	**-1.55**	**-2.43**	**-2.40**	**-.714**	**-.186**
Stddev	.121	.167	.219	1.22	1.23	3.64	1.93	.134	.147
%RSD	41400.	21.2	65.2	31.4	79.3	150.	80.6	18.7	79.2
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

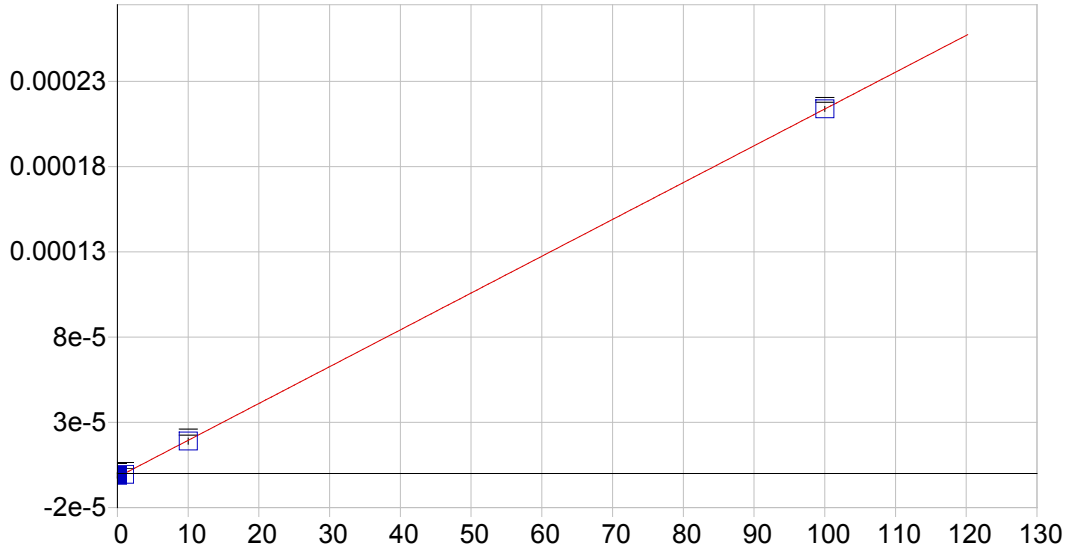
Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1234700.**	**362910.**	**9427.8**
Stddev	37293.	5995.	60.8
%RSD	3.0204	1.6518	.64453

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	11/01/2016 14:47:12	10/27/2016 09:55:35	Linear	1/Var	-0.000002	0.000002	0.000000	1.000000	0.999982	0.000001	0.905775	3.019249	OK.	1.000000
Al 309.271 {109}	11/01/2016 14:47:12	10/27/2016 10:23:32	Curvilin	None	0.000306	0.000001	0.000000	1.000000	0.999999	0.000080	9.163639	30.545463	OK.	1.000000
Al 396.152 { 85}	11/01/2016 14:47:12	10/27/2016 10:39:17	Curvilin	1/Conc	-0.000026	0.000003	0.000000	1.000000	0.999951	0.000051	4.557040	15.190133	OK.	1.000000
Al 167.079 {502}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Var	0.000094	0.000018	0.000000	1.000000	0.999905	0.000023	0.862035	2.873449	OK.	1.000000
As 193.759 {474}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Var	-0.000067	0.000010	0.000000	1.000000	0.999966	0.000052	3.687502	12.291674	OK.	1.000000
As 189.042 {479}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	0.000017	0.000003	0.000000	1.000000	0.999857	0.000000	9.610911	32.036372	OK.	1.000000
Ba 233.527 {445}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Conc	0.000047	0.000112	0.000000	1.000000	0.999715	0.000003	0.244041	0.813470	OK.	1.000000
Ba 455.403 { 74}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	None	0.000031	0.000012	0.000000	1.000000	1.000000	0.000016	0.192583	0.641943	OK.	1.000000
Ba 493.409 { 68}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Var	0.010813	0.000076	0.000000	1.000000	0.999878	0.000229	0.448637	1.495458	OK.	1.000000
Be 313.042 {108}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Conc	-0.000061	0.000061	0.000000	1.000000	0.999977	0.000000	0.030144	0.100481	OK.	1.000000
Be 234.861 {144}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Conc	-0.000000	0.000002	0.000000	1.000000	1.000000	0.000000	0.270017	0.900056	OK.	1.000000
Ca 315.887 {107}	11/01/2016 14:47:12	10/27/2016 10:39:17	Linear	1/Var	0.000109	0.000001	0.000000	1.000000	0.999370	0.000078	5.986454	19.954847	OK.	1.000000
Ca 317.933 {106}	11/01/2016 14:47:12	10/27/2016 10:39:17	Curvilin	1/Conc	0.000352	0.000001	0.000000	1.000000	0.999953	0.000022	3.199103	10.663678	OK.	1.000000
Ca 393.366 { 86}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Conc	0.000468	0.000041	0.000000	1.000000	0.994606	0.000078	0.050825	0.169416	OK.	1.000000
Ca 396.847 { 85}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	0.001431	0.000160	0.000000	1.000000	0.998108	0.000463	0.057602	0.192008	OK.	1.000000
Cd 226.502 {449}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Conc	-0.000072	0.000258	0.000000	1.000000	0.999929	0.000003	0.188502	0.628340	OK.	1.000000
Cd 228.802 {447}	11/01/2016 14:47:12	10/27/2016 10:01:47	Linear	1/Conc	0.000269	0.000316	0.000000	1.000000	0.999943	0.000003	0.196031	0.653438	OK.	1.000000
Co 228.616 {447}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	-0.000187	0.000238	0.000000	1.000000	0.999859	0.000005	0.232334	0.774445	OK.	1.000000
Co 238.892 {141}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Var	0.000002	0.000002	0.000000	1.000000	0.999847	0.000007	0.734571	2.448569	OK.	1.000000
Cr 205.560 {464}	11/01/2016 14:47:12	10/27/2016 10:16:14	Linear	1/Var	0.000061	0.000156	0.000000	1.000000	0.999524	0.000232	0.215089	0.716965	OK.	1.000000
Cr 267.716 {126}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Var	0.000001	0.000004	0.000000	1.000000	0.999808	0.000004	0.518996	1.729988	OK.	1.000000
Cu 224.700 {450}	11/01/2016 14:47:12	10/27/2016 10:09:01	Curvilin	1/Conc	-0.000054	0.000089	-0.000000	1.000000	0.999974	0.000003	0.557579	1.858596	OK.	1.000000
Cu 324.754 {104}	11/01/2016 14:47:12	10/27/2016 10:16:14	Linear	None	-0.000380	0.000005	0.000000	1.000000	0.999985	0.001411	1.391412	4.638041	OK.	1.000000
Cu 327.396 {103}	11/01/2016 14:47:12	10/27/2016 10:16:14	Curvilin	1/Conc	-0.000049	0.000004	0.000000	1.000000	0.999997	0.000001	2.499392	8.331306	Warnin	1.000000
Fe 234.349 {144}	11/01/2016 14:47:12	10/27/2016 10:39:17	Curvilin	1/Var	0.000018	0.000000	0.000000	1.000000	0.998947	0.000021	1.820576	6.068588	OK.	1.000000
Fe 239.562 {140}	11/01/2016 14:47:12	10/27/2016 10:39:17	Curvilin	1/Conc	0.000001	0.000000	0.000000	1.000000	0.999997	0.000001	2.307480	7.691600	OK.	1.000000
Fe 259.940 {129}	11/01/2016 14:47:12	10/27/2016 10:39:17	Linear	1/Var	0.000055	0.000002	0.000000	1.000000	0.995984	0.000244	1.779208	5.930695	OK.	1.000000
Mg 202.582 {466}	11/01/2016 14:47:12	10/27/2016 10:39:17	Curvilin	1/Conc	-0.000208	0.000016	-0.000000	1.000000	0.999966	0.000214	2.486891	8.289635	OK.	1.000000
Mg 279.079 {121}	11/01/2016 14:47:12	10/27/2016 10:39:18	Full Fit	1/Var	0.000001	0.000000	0.000000	1.000000	0.999911	0.000010	16.160246	53.867487	OK.	1.000000
Mg 280.270 {120}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	0.000054	0.000028	0.000000	1.000000	0.999708	0.000012	0.033972	0.113241	OK.	1.000000
Mn 257.610 {131}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	-0.000010	0.000766	0.000000	1.000000	0.999625	0.000181	0.123586	0.411952	OK.	1.000000
Mn 259.373 {130}	11/01/2016 14:47:12	10/27/2016 10:16:14	Linear	1/Var	0.000002	0.000002	0.000000	1.000000	0.999852	0.000013	0.496771	1.655902	OK.	1.000000
Mo 202.030 {466}	11/01/2016 14:47:12	10/27/2016 10:01:48	Linear	1/Conc	0.000051	0.000090	0.000000	1.000000	0.999778	0.000005	0.348536	1.161788	OK.	1.000000
Mo 204.598 {464}	11/01/2016 14:47:12	10/27/2016 10:09:01	Curvilin	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999984	0.000000	0.759132	2.530440	OK.	1.000000
Mo 204.598 {465}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999993	0.000000	0.799458	2.664860	OK.	1.000000
Ni 221.647 {452}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	None	0.000018	0.000002	0.000000	1.000000	0.999997	0.000025	0.387682	1.292273	OK.	1.000000
Ni 231.604 {445}	11/01/2016 14:47:12	10/27/2016 10:09:01	Linear	1/Conc	-0.000004	0.000002	0.000000	1.000000	0.999926	0.000000	0.395759	1.319196	OK.	1.000000
Pb 216.999 {455}	11/01/2016 14:47:12	10/27/2016 10:16:14	Linear	1/Var	0.000061	0.000010	0.000000	1.000000	0.995924	0.000735	5.017934	16.726447	OK.	1.000000
Pb 220.353 {453}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000109	0.000029	0.000000	1.000000	0.999899	0.000004	2.287516	7.625052	OK.	1.000000
Pb 220.353 {153}	11/01/2016 14:47:12	10/27/2016 10:16:14	Linear	1/Conc	0.000226	0.000017	0.000000	1.000000	0.999949	0.000024	5.810121	19.367069	OK.	1.000000
Sb 206.833 {463}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	-0.000086	0.000020	0.000000	1.000000	0.999968	0.000002	1.963250	6.544165	OK.	1.000000
Sb 217.581 {455}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	-0.000040	0.000021	0.000000	1.000000	0.999931	0.000002	2.133712	7.112374	OK.	1.000000
Se 196.090 {472}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000016	0.000009	0.000000	1.000000	0.999917	0.000001	3.652548	12.175161	OK.	1.000000
Se 206.279 {463}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	-0.000038	0.000002	0.000000	1.000000	1.000000	0.000000	26.140315	87.134383	OK.	1.000000
Se 196.090 {471}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000009	0.000007	0.000000	1.000000	0.999916	0.000001	4.516371	15.054569	OK.	1.000000
Tl 190.856 {476}	11/01/2016 14:47:12	10/27/2016 10:09:02	Curvilin	1/Conc	0.000066	0.000014	-0.000000	1.000000	0.999972	0.000002	2.544021	8.480069	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	11/01/2016 14:47:12	10/27/2016 10:09:02	Curvilin	1/Var	-0.000024	0.000010	-0.000000	1.000000	0.999986	0.000034	3.110366	10.367886	OK.	1.000000
V 290.882 {116}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000005	0.000000	0.000000	1.000000	0.999995	0.000000	4.241995	14.139982	OK.	1.000000
V 292.402 {115}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000004	0.000005	0.000000	1.000000	0.999987	0.000000	0.518603	1.728678	OK.	1.000000
Zn 206.200 {463}	11/01/2016 14:47:12	10/27/2016 10:16:14	Linear	1/Var	0.000120	0.000118	0.000000	1.000000	0.999642	0.000877	0.365310	1.217699	OK.	1.000000
Zn 213.856 {458}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Var	0.000000	0.000002	0.000000	1.000000	0.999549	0.000001	0.177920	0.593068	OK.	1.000000
Y 324.228 {104}*	11/01/2016 14:47:12	10/27/2016 08:59:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	11/01/2016 14:47:12	10/27/2016 08:59:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	11/01/2016 14:47:12	10/27/2016 08:59:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	11/01/2016 14:47:12	10/27/2016 10:23:32	Linear	1/Conc	0.000745	0.000002	0.000000	1.000000	0.962034	0.000969	2.946805	9.822683	OK.	1.000000
Si 251.611 {134}	11/01/2016 14:47:12	10/27/2016 10:23:32	Linear	1/Conc	0.000020	0.000001	0.000000	1.000000	0.999999	0.000000	4.979379	16.597931	OK.	1.000000
Ti 334.941 {101}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	-0.000002	0.000008	0.000000	1.000000	0.999989	0.000000	0.747075	2.490249	OK.	1.000000
Sr 407.771 { 83}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	-0.000017	0.000211	0.000000	1.000000	0.999906	0.000011	0.046967	0.156558	OK.	1.000000
Sn 189.989 {478}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Var	0.000020	0.000007	0.000000	1.000000	0.999949	0.000027	2.984984	9.949947	OK.	1.000000
B 249.678 {135}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999912	0.000000	1.253272	4.177572	OK.	1.000000
B 249.773 {135}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Conc	0.000004	0.000003	0.000000	1.000000	0.999996	0.000000	0.536899	1.789663	OK.	1.000000
Li 670.784 { 50}	11/01/2016 14:47:12	10/27/2016 10:09:02	Linear	1/Var	-0.000154	0.000041	0.000000	1.000000	0.999764	0.000064	0.630751	2.102502	OK.	1.000000
K 766.490 { 44}	11/01/2016 14:47:12	10/27/2016 10:23:32	Linear	1/Conc	0.000020	0.000001	0.000000	1.000000	0.962919	0.000539	24.630420	82.101400	OK.	1.000000
P 213.618 {457}	11/01/2016 14:47:12	10/27/2016 10:23:32	Linear	1/Conc	-0.000002	0.000000	0.000000	1.000000	1.000000	0.000000	3.545272	11.817573	OK.	1.000000
S 182.034 {485}	11/01/2016 14:47:12	10/27/2016 10:23:32	Linear	1/Var	-0.000182	0.000001	0.000000	1.000000	0.692715	0.005957	30.946759	103.155863	OK.	1.000000
W 239.709 {140}	11/01/2016 14:47:12	10/27/2016 10:23:32	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.329687	0.000002	260.588663	868.628877	OK.	1.000000
Hg 184.950 {482}	11/01/2016 14:47:12	10/27/2016 10:01:48	Linear	1/Conc	0.000052	0.000040	0.000000	1.000000	0.999944	0.000008	0.786549	2.621831	OK.	1.000000
Hg 194.227 {473}	11/01/2016 14:47:12	10/27/2016 10:01:48	Linear	1/Conc	0.000003	0.000035	0.000000	1.000000	0.999975	0.000005	0.843152	2.810507	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0
Hg 184.950 {482}	0.000000	1	0
Hg 194.227 {473}	0.000000	1	0

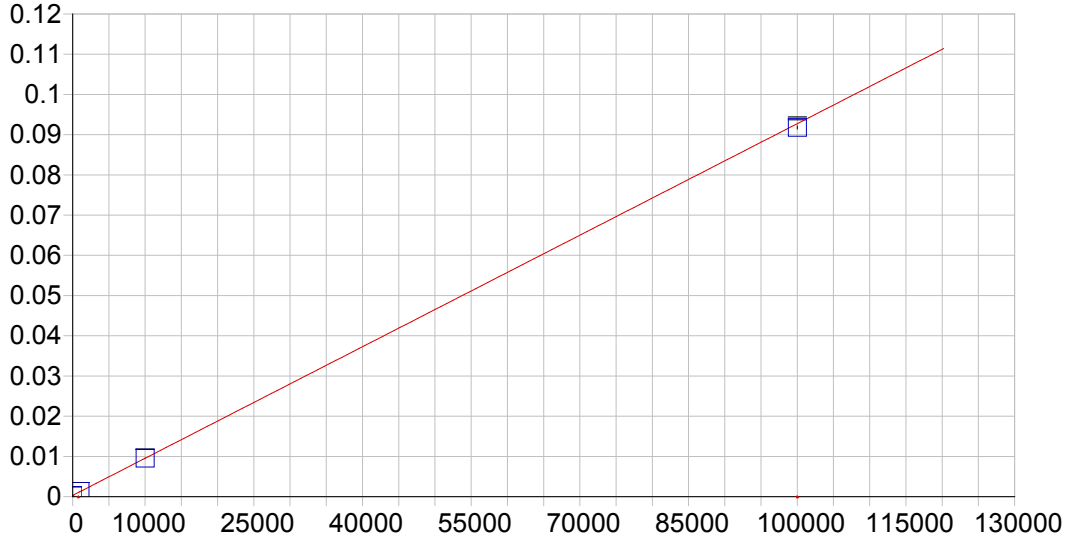


Ag 328.068 {103}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.905775		
Predicted MQL:	3.019249		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.47577	.476	.000	.00000	.000	1
CalStd5=10	10.000	9.7892	-.211	-2.11	.00002	.000	1
CalStd8=100	100.00	100.01	.015	.015	.00021	.000	1
CalStd3=1	1.0000	.72283	-.277	-27.7	.00000	.000	1

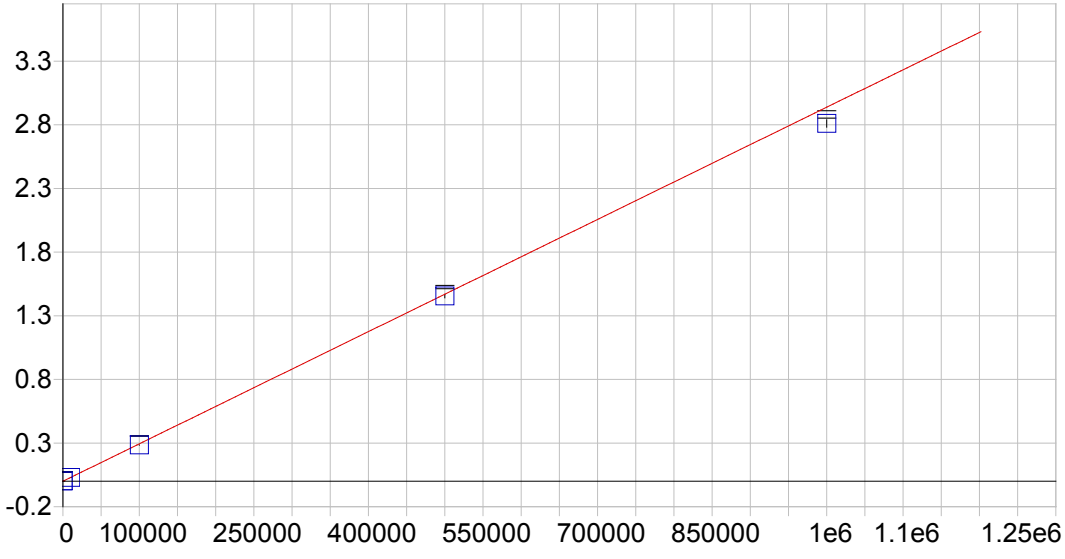


Al 309.271 {109}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000306	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000080		
Predicted MDL:	9.163639		
Predicted MQL:	30.545463		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-57.092	-57.1	.000	.00025	.000	1
CalStd10=10	10000.	9982.8	-17.2	-.172	.00953	.000	1
CalStd9=100	1000.0	1064.0	64.0	6.40	.00129	.000	1
CalStd12-100	100000.	98987.	-1010.	-1.01	.09180	.000	1

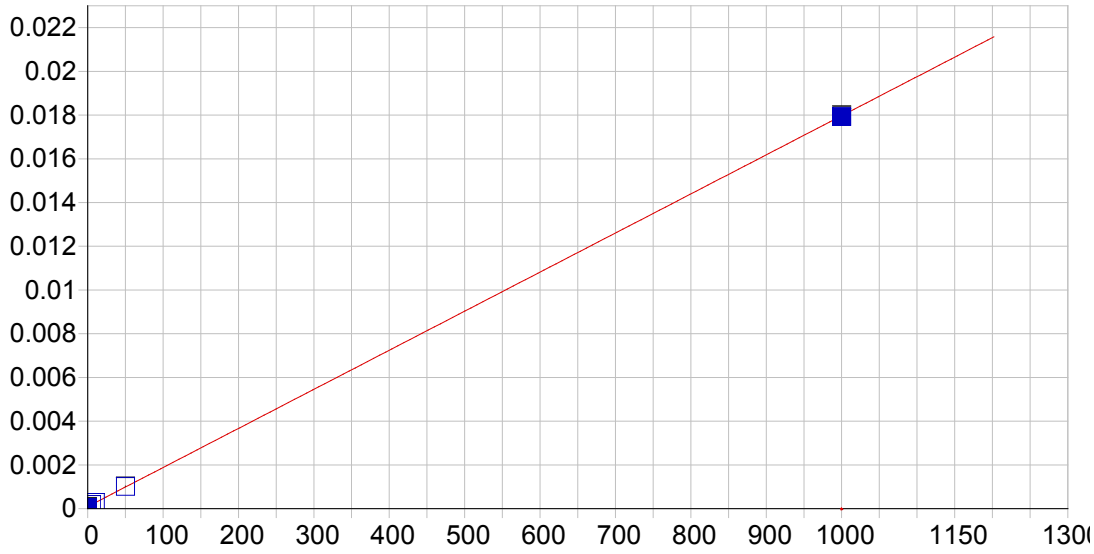


Al 396.152 { 85}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000026	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000051		
Predicted MDL:	4.557040		
Predicted MQL:	15.190133		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02256	-.023	.000	-.00003	.000	1
CalStd14-100	1000000.	956270.	-43700.	-4.37	2.8095	.029	1
CalStd13=50	500000.	494920.	-5080.	-1.02	1.4541	.013	1
CalStd10=10	10000.	9939.4	-60.6	-.606	.02918	.000	1
CalStd12-100	100000.	96667.	-3330.	-3.33	.28398	.001	1
CalStd9=100	1000.0	1049.2	49.2	4.92	.00306	.000	1

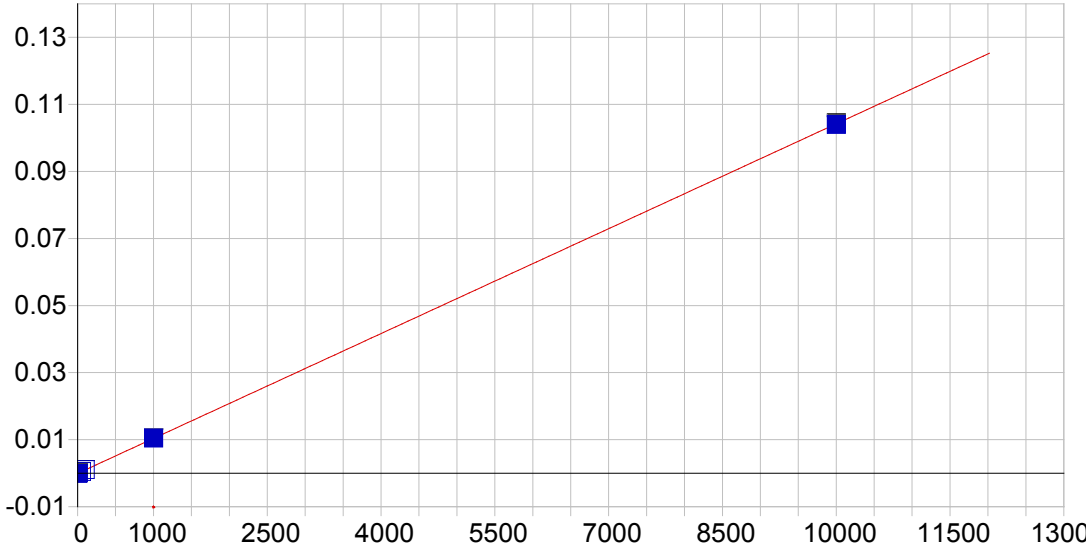


Al 167.079 {502}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000094	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.862035		
Predicted MQL:	2.873449		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5068	-1.51	.000	.00007	.000	1
CalStd9=100	1000.0	997.74	-2.26	-.226	.01794	.000	1
CalStd5=10	10.000	10.442	.442	4.42	.00028	.000	1
CalStd4=5	5.0000	4.9679	-.032	-.641	.00018	.000	1
CalStd7=50	50.000	51.635	1.63	3.27	.00102	.000	1

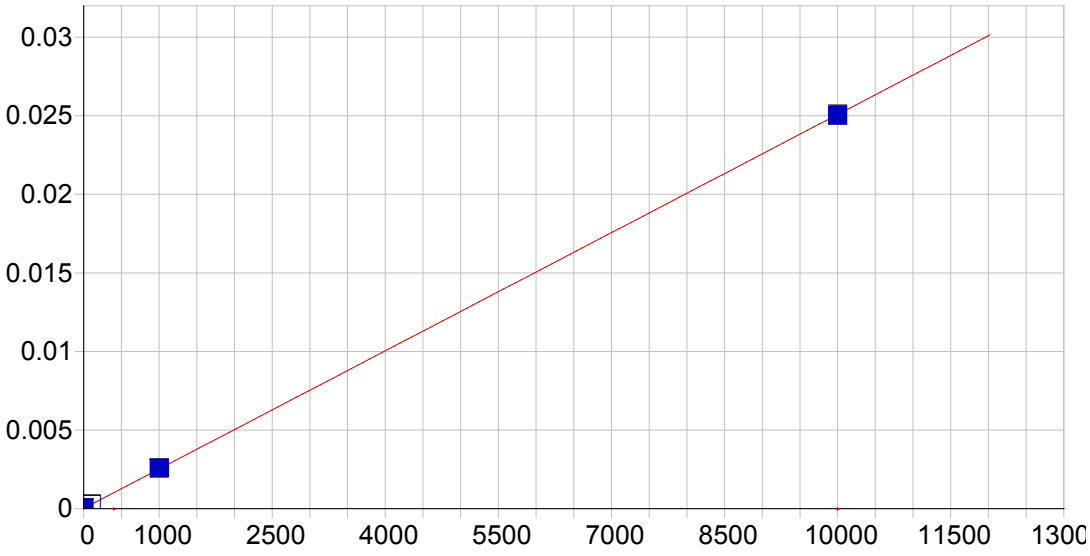


As 193.759 {474}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.000052		
Predicted MDL:	3.687502		
Predicted MQL:	12.291674		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.5045	-4.50	.000	-.00011	.000	1
CalStd9=100	1000.0	1009.5	9.46	.946	.01047	.000	1
CalStd7=50	50.000	51.310	1.31	2.62	.00047	.000	1
CalStd5=10	10.000	8.1582	-1.84	-18.4	.00002	.000	1
CalStd8=100	100.00	104.01	4.01	4.01	.00102	.000	1
CalStd10=10	10000.	9976.2	-23.8	-.238	.10407	.000	1

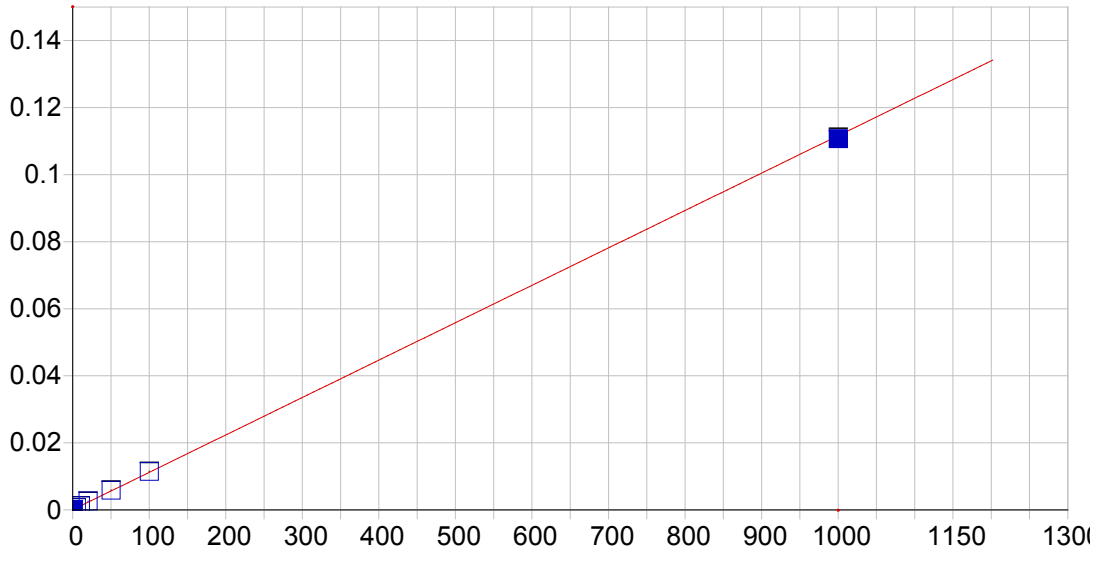


As 189.042 {479}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999857	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	9.610911		
Predicted MQL:	32.036372		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00388	-.004	.000	.00002	.000	1
CalStd9=100	1000.0	1016.1	16.1	1.61	.00256	.000	1
CalStd10=10	10000.	9974.3	-25.7	-.257	.02502	.000	1
CalStd8=100	100.00	106.15	6.15	6.15	.00028	.000	1
CalStd4=5	5.0000	8.5076	3.51	70.2	.00004	.000	1

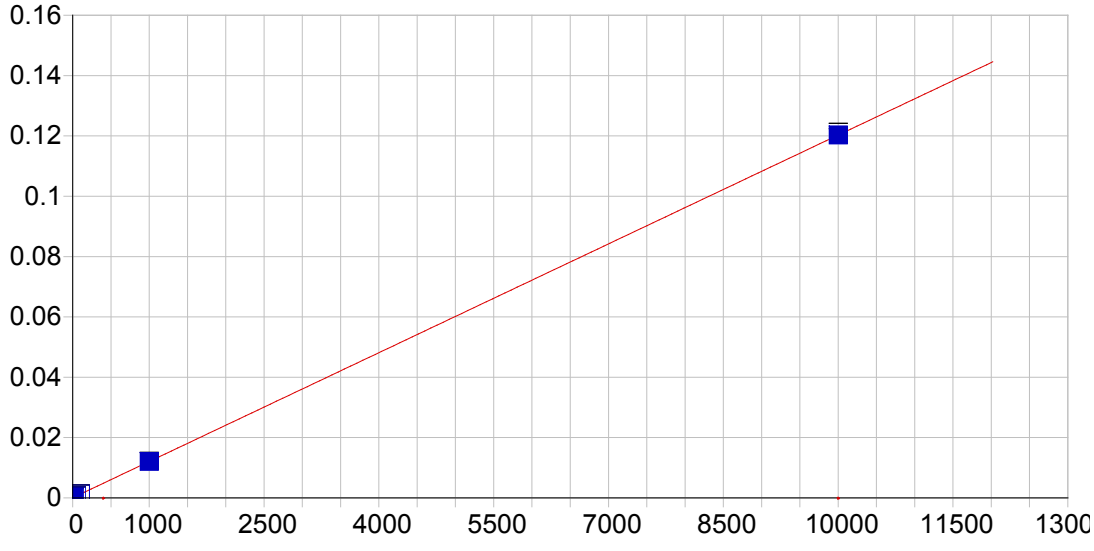


Ba 233.527 {445}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000047	Re-Slope:	1.000000
A1 (Gain):	0.000112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999715	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.244041		
Predicted MQL:	0.813470		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00035	.000	.000	.00005	.000	1
CalStd7=50	50.000	52.176	2.18	4.35	.00587	.000	1
CalStd5=10	10.000	10.618	.618	6.18	.00123	.000	1
CalStd6=20	20.000	22.866	2.87	14.3	.00260	.000	1
CalStd8=100	100.00	102.21	2.21	2.21	.01145	.000	1
CalStd4=5	5.0000	5.2872	.287	5.74	.00064	.000	1
CalStd9=100	1000.0	991.81	-8.19	-.819	.11072	.000	1
CalStd3=1	1.0000	1.0267	.027	2.67	.00016	.000	1

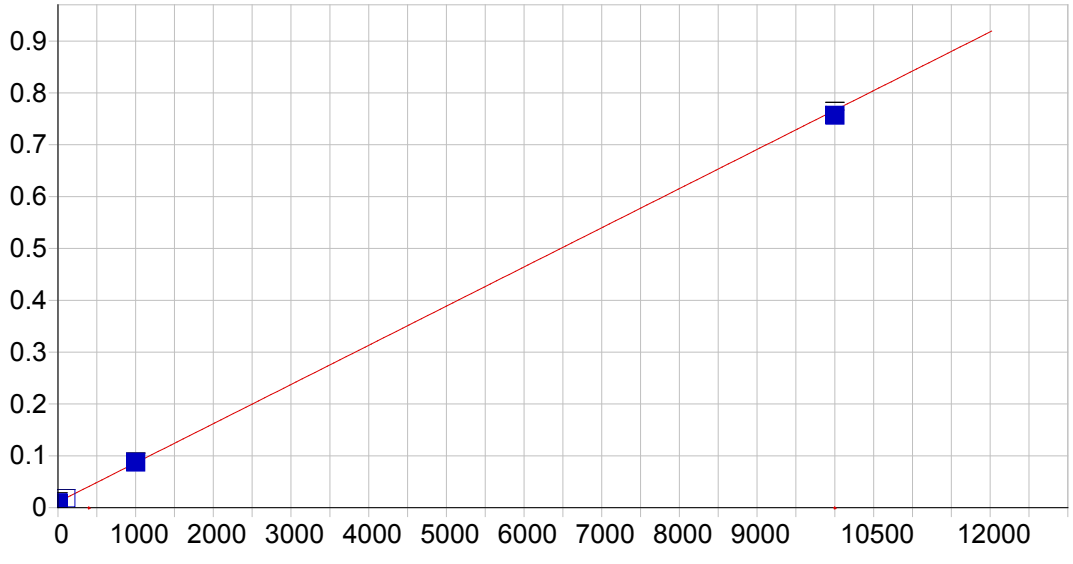


Ba 455.403 { 74}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000031	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.192583		
Predicted MQL:	0.641943		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.93832	-.938	.000	.00002	.000	1
CalStd7=50	50.000	51.300	1.30	2.60	.00065	.000	1
CalStd5=10	10.000	9.2621	-.738	-7.38	.00014	.000	1
CalStd6=20	20.000	21.812	1.81	9.06	.00029	.000	1
CalStd8=100	100.00	101.60	1.60	1.60	.00125	.000	1
CalStd4=5	5.0000	4.2655	-.735	-14.7	.00008	.000	1
CalStd9=100	1000.0	998.31	-1.69	-.169	.01204	.000	1
CalStd3=1	1.0000	.24079	-.759	-75.9	.00003	.000	1
CalStd10=10	10000.	10000.	.144	.001	.12029	.001	1

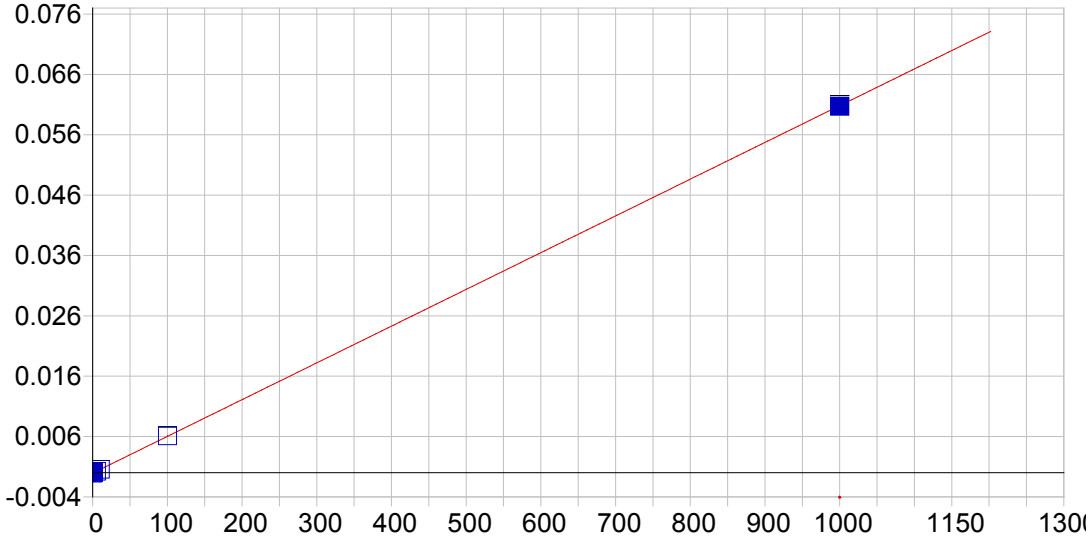


Ba 493.409 { 68}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.010813	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999878	Status:	OK.
Std Error of Est:	0.000229		
Predicted MDL:	0.448637		
Predicted MQL:	1.495458		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-16.295	-16.3	.000	.00958	.003	1
CalStd9=100	1000.0	1016.1	16.1	1.61	.08762	.001	1
CalStd8=100	100.00	99.869	-.131	-.131	.01836	.000	1
CalStd10=10	10000.	9870.9	-129.	-1.29	.75697	.007	1

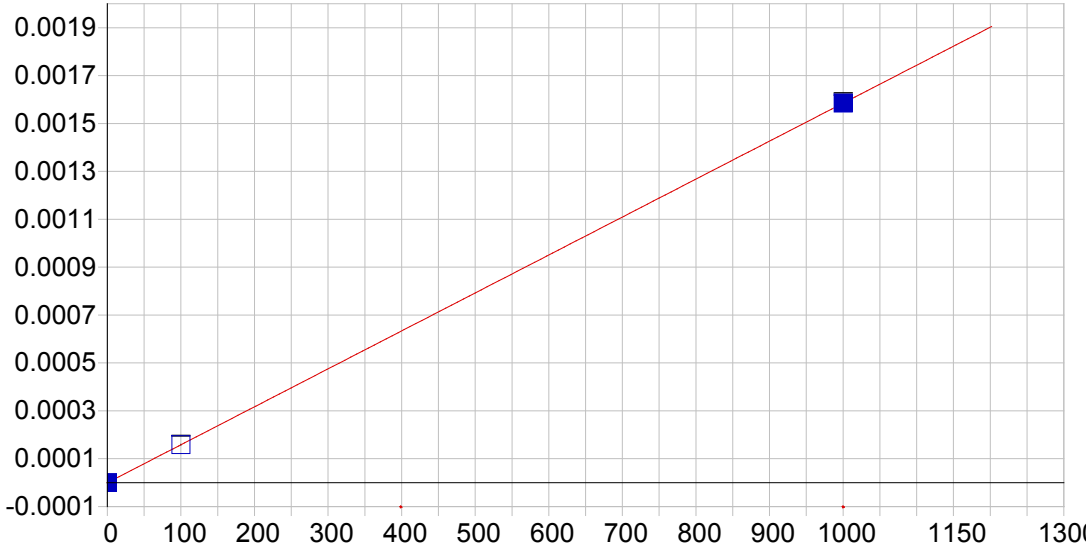


Be 313.042 {108}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000061	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.030144		
Predicted MQL:	0.100481		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00008	.000	.000	-.00006	.000	1
CalStd5=10	10.000	10.301	.301	3.01	.00057	.000	1
CalStd8=100	100.00	101.33	1.33	1.33	.00611	.000	1
CalStd2=0.5	.50000	.56638	.066	13.3	-.00003	.000	1
CalStd4=5	5.0000	5.2341	.234	4.68	.00026	.000	1
CalStd1=0.25	.25000	.26173	.012	4.69	-.00005	.000	1
CalStd9=100	1000.0	998.02	-1.98	-.198	.06071	.000	1
CalStd3=1	1.0000	1.0380	.038	3.80	.00000	.000	1

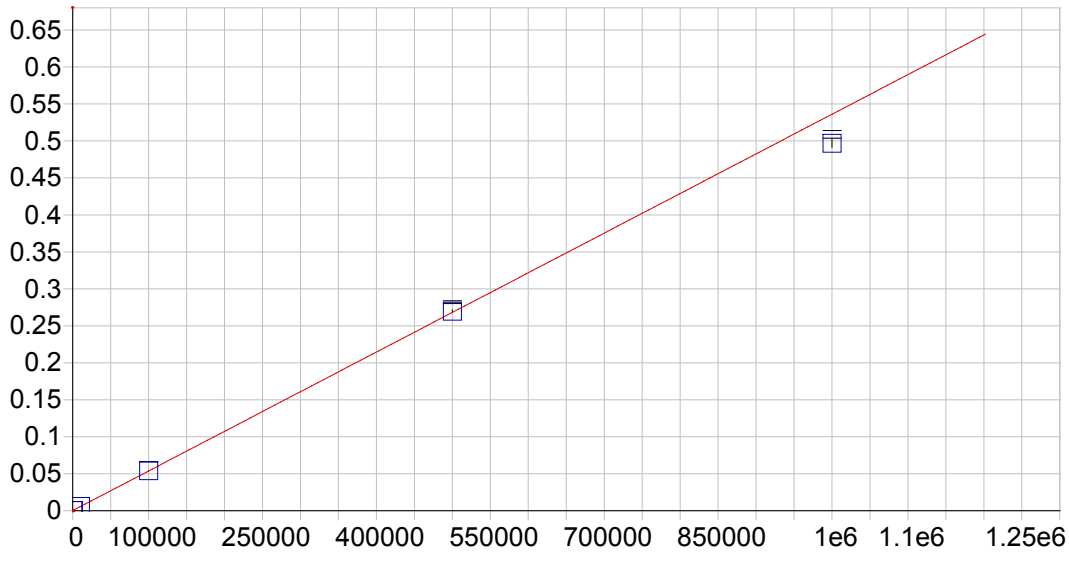


Be 234.861 {144}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.270017		
Predicted MQL:	0.900056		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	.00000	.000	1
CalStd9=100	1000.0	999.89	-.113	-.011	.00158	.000	1
CalStd8=100	100.00	100.11	.113	.113	.00016	.000	1

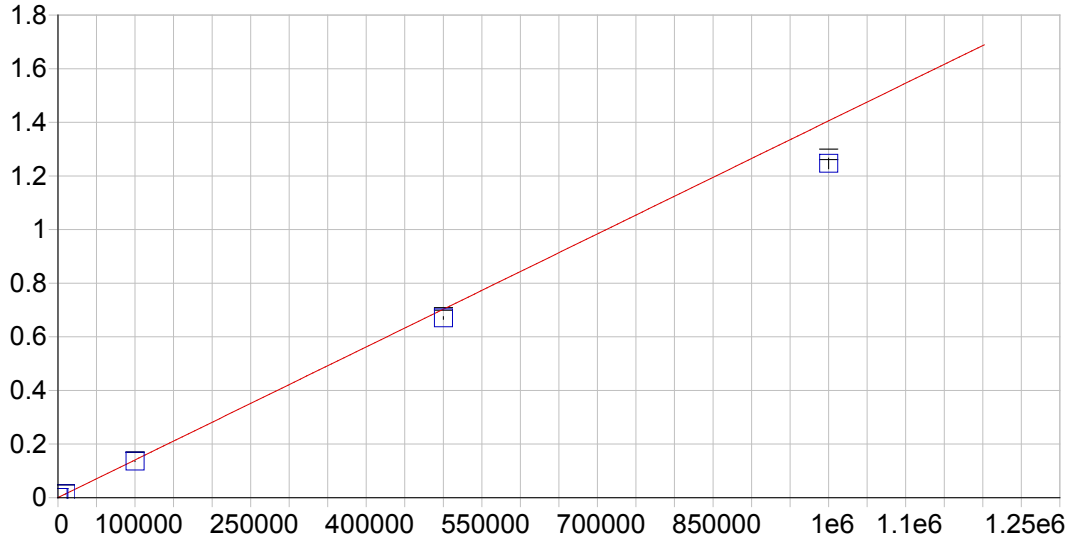


Ca 315.887 {107}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000109	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999370	Status:	OK.
Std Error of Est:	0.000078		
Predicted MDL:	5.986454		
Predicted MQL:	19.954847		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-76.570	-76.6	.000	.00007	.000	1
CalStd10=10	10000.	10231.	231.	2.31	.00559	.000	1
CalStd13=50	500000.	502680.	2680.	.535	.26956	.002	1
CalStd14-100	1000000.	926240.	-73800.	-7.38	.49660	.005	1
CalStd9=100	1000.0	1064.9	64.9	6.49	.00068	.000	1
CalStd12-100	100000.	100400.	395.	.395	.05392	.000	1

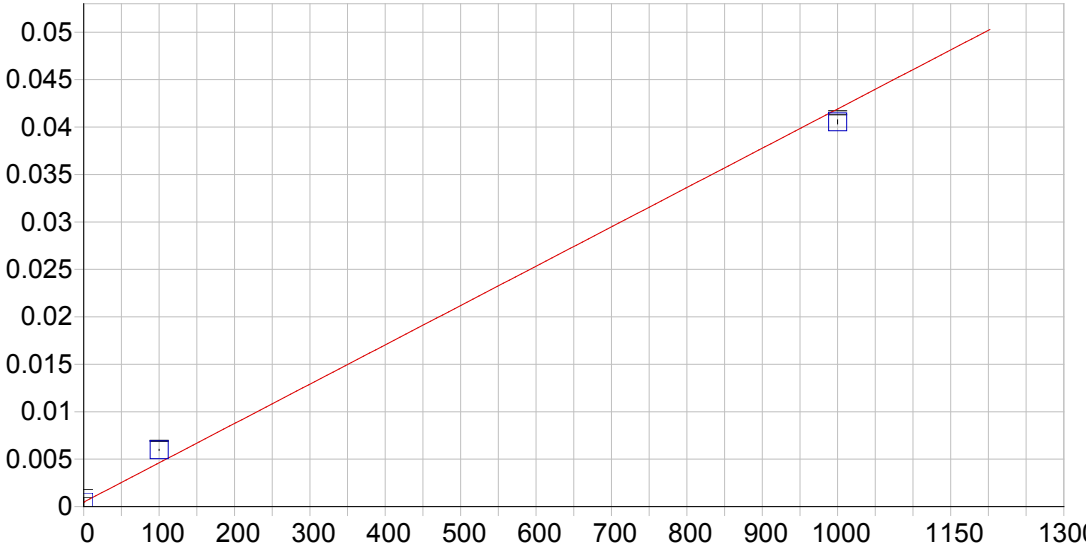


Ca 317.933 {106}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000352	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	3.199103		
Predicted MQL:	10.663678		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08381	-.084	.000	.00035	.000	1
CalStd10=10	10000.	9794.2	-206.	-2.06	.01411	.000	1
CalStd13=50	500000.	476880.	-23100.	-4.62	.67041	.005	1
CalStd14-100	1000000.	886980.	-113000.	-11.3	1.2466	.020	1
CalStd9=100	1000.0	1120.9	121.	12.1	.00193	.000	1
CalStd12-100	100000.	96402.	-3600.	-3.60	.13580	.001	1

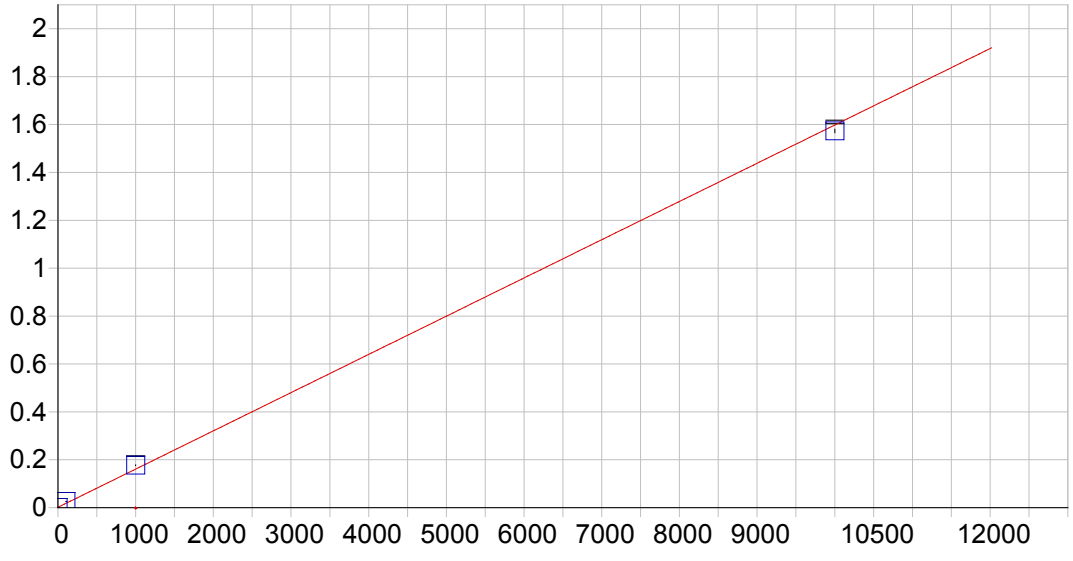


Ca 393.366 { 86}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000468	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994606	Status:	OK.
Std Error of Est:	0.000078		
Predicted MDL:	0.050825		
Predicted MQL:	0.169416		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02967	-.030	.000	.00047	.000	1
CalStd9=100	1000.0	967.04	-33.0	-3.30	.04055	.000	1
CalStd8=100	100.00	132.96	33.0	33.0	.00598	.000	1

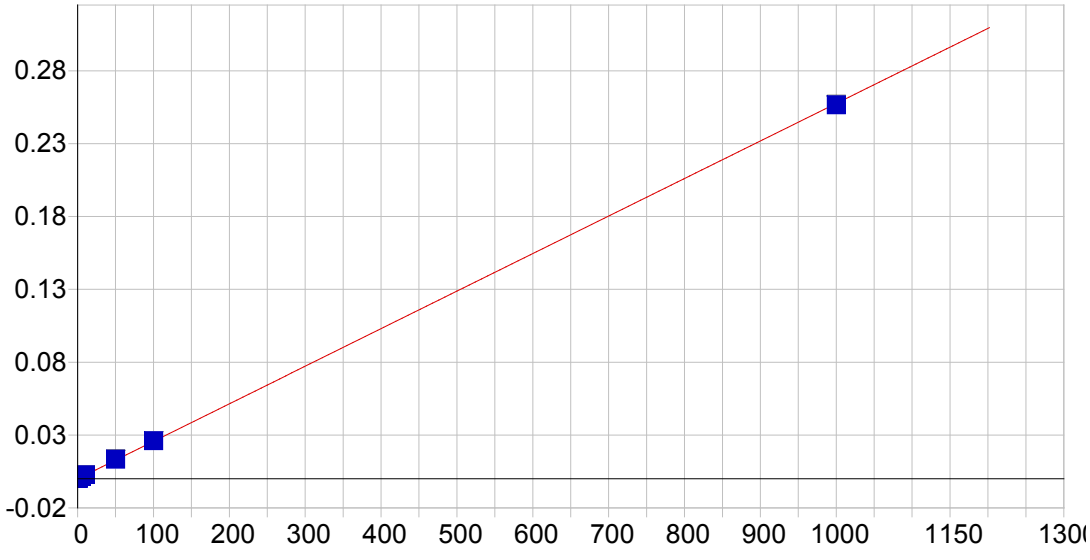


Ca 396.847 { 85}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.001431	Re-Slope:	1.000000
A1 (Gain):	0.000160	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998108	Status:	OK.
Std Error of Est:	0.000463		
Predicted MDL:	0.057602		
Predicted MQL:	0.192008		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.06289	-.063	.000	.00142	.001	1
CalStd10=10	10000.	9845.1	-155.	-1.55	1.5732	.007	1
CalStd8=100	100.00	154.39	54.4	54.4	.02608	.000	1
CalStd9=100	1000.0	1100.5	100.	10.0	.17712	.001	1

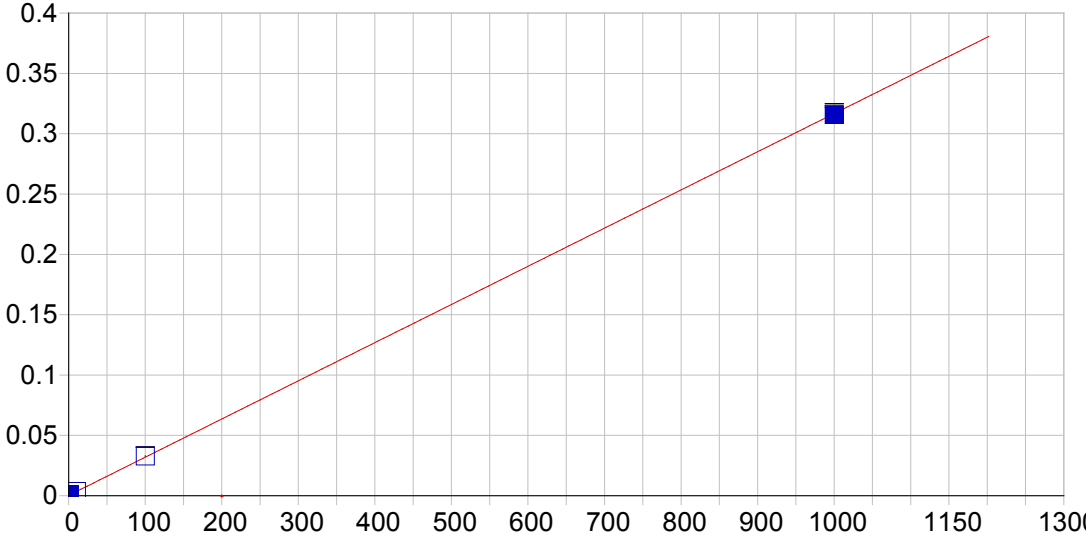


Cd 226.502 {449}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000072	Re-Slope:	1.000000
A1 (Gain):	0.000258	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999929	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.188502		
Predicted MQL:	0.628340		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00021	.000	.000	-.00007	.000	1
CalStd7=50	50.000	51.899	1.90	3.80	.01330	.000	1
CalStd3=1	1.0000	1.1170	.117	11.7	.00022	.000	1
CalStd2=0.5	.50000	.58237	.082	16.5	.00008	.000	1
CalStd4=5	5.0000	5.2157	.216	4.31	.00127	.000	1
CalStd8=100	100.00	101.48	1.48	1.48	.02608	.000	1
CalStd5=10	10.000	10.412	.412	4.12	.00261	.000	1
CalStd9=100	1000.0	995.79	-4.21	-.421	.25653	.000	1

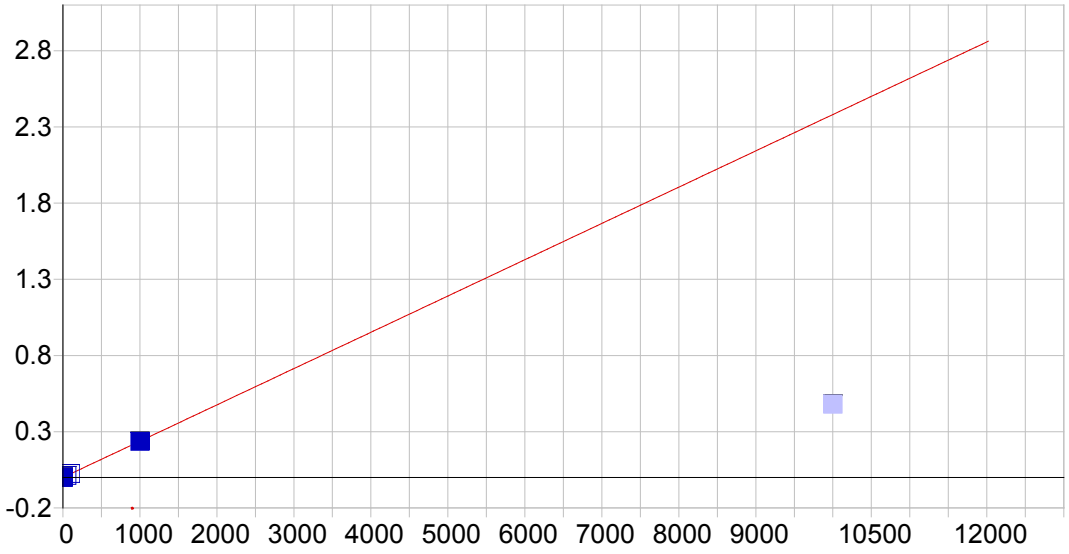


Cd 228.802 {447}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000269	Re-Slope:	1.000000
A1 (Gain):	0.000316	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999943	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.196031		
Predicted MQL:	0.653438		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00008	.000	.000	.00027	.000	1
CalStd9=100	1000.0	996.90	-3.10	-.310	.31570	.002	1
CalStd8=100	100.00	102.80	2.80	2.80	.03280	.000	1
CalStd2=0.5	.50000	.42140	-.079	-15.7	.00040	.000	1
CalStd3=1	1.0000	.92765	-.072	-7.24	.00056	.000	1
CalStd5=10	10.000	10.449	.449	4.49	.00358	.000	1

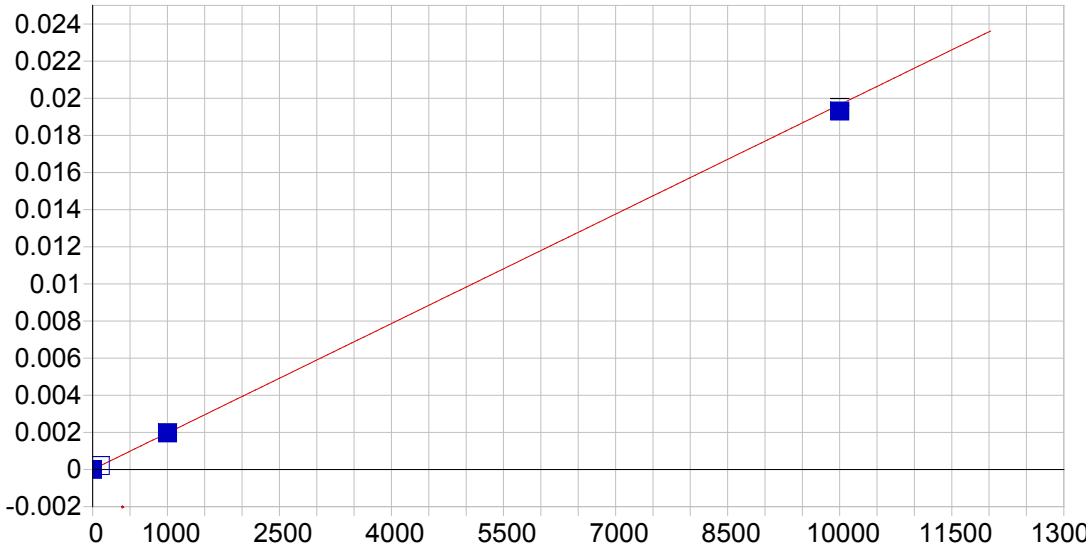


Co 228.616 {447}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000187	Re-Slope:	1.000000
A1 (Gain):	0.000238	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.232334		
Predicted MQL:	0.774445		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00039	.000	.000	-.00019	.000	1
CalStd7=50	50.000	52.306	2.31	4.61	.01227	.000	1
CalStd5=10	10.000	10.651	.651	6.51	.00235	.000	1
CalStd4=5	5.0000	5.3657	.366	7.31	.00109	.000	1
CalStd8=100	100.00	102.79	2.79	2.79	.02429	.000	1
CalStd9=100	1000.0	993.70	-6.30	-.630	.23647	.001	1
CalStd3=1	1.0000	1.1867	.187	18.7	.00010	.000	1
CalStd10=10	10000.	2019.8	-7980.	-79.8	.48085	.003	0

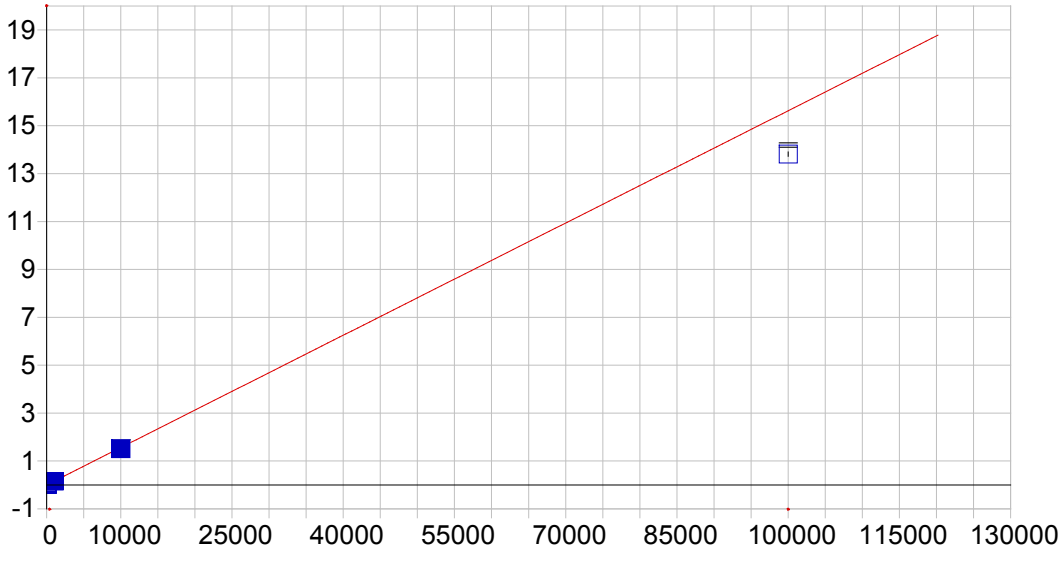


Co 238.892 {141}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.734571		
Predicted MQL:	2.448569		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5563	-1.56	.000	.00000	.000	1
CalStd9=100	1000.0	996.80	-3.20	-.320	.00196	.000	1
CalStd10=10	10000.	9822.8	-177.	-1.77	.01931	.000	1
CalStd8=100	100.00	102.80	2.80	2.80	.00020	.000	1

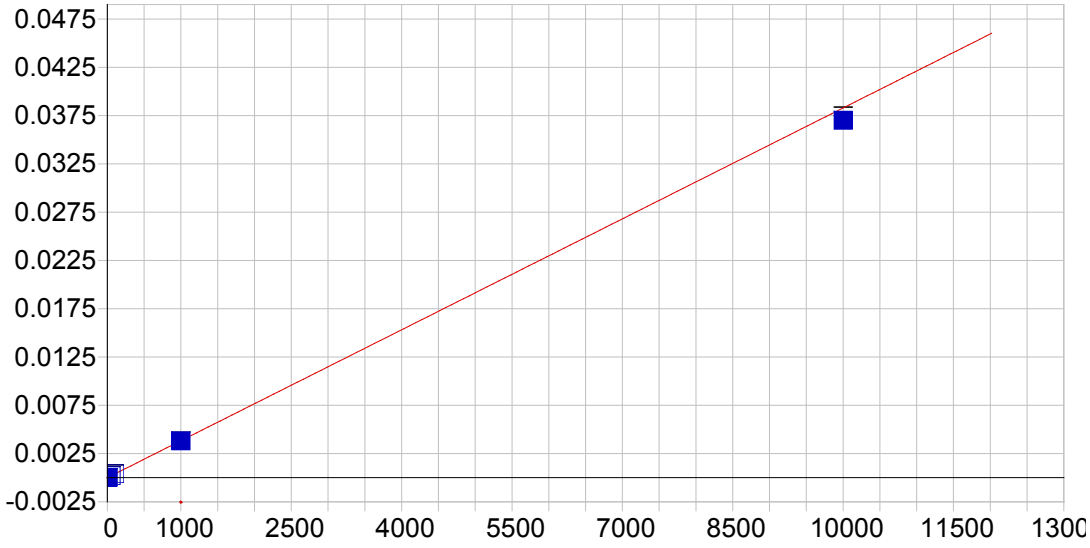


Cr 205.560 {464}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000156	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999524	Status:	OK.
Std Error of Est:	0.000232		
Predicted MDL:	0.215089		
Predicted MQL:	0.716965		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.76867	-.769	.000	-.00006	.000	1
CalStd5=10	10.000	9.7005	-.299	-2.99	.00158	.000	1
CalStd7=50	50.000	50.761	.761	1.52	.00799	.000	1
CalStd9=100	1000.0	1001.1	1.08	.108	.15650	.000	1
CalStd8=100	100.00	101.61	1.61	1.61	.01594	.000	1
CalStd4=5	5.0000	4.4537	-.546	-10.9	.00076	.000	1
CalStd3=1	1.0000	.49447	-.506	-50.6	.00014	.000	1
CalStd11-100	100000.	88394.	-11600.	-11.6	13.813	.091	1
CalStd10=10	10000.	9632.1	-368.	-3.68	1.5052	.005	1

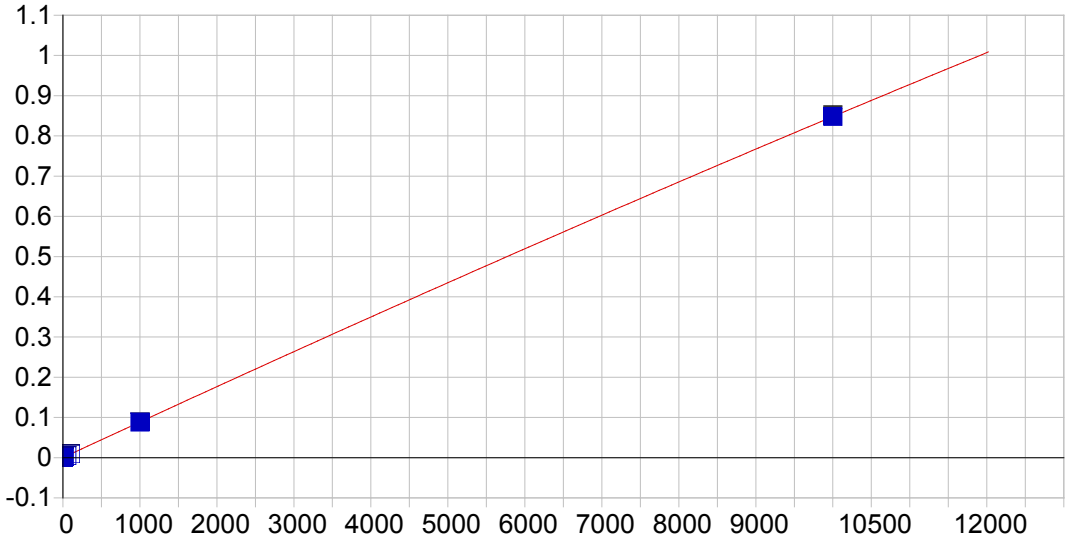


Cr 267.716 {126}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999808	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.518996		
Predicted MQL:	1.729988		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.42162	-.422	.000	.00000	.000	1
CalStd5=10	10.000	10.236	.236	2.36	.00004	.000	1
CalStd7=50	50.000	50.884	.884	1.77	.00020	.000	1
CalStd9=100	1000.0	990.89	-9.11	-.911	.00380	.000	1
CalStd8=100	100.00	101.56	1.56	1.56	.00039	.000	1
CalStd4=5	5.0000	4.7238	-.276	-5.52	.00002	.000	1
CalStd10=10	10000.	9664.0	-336.	-3.36	.03700	.000	1

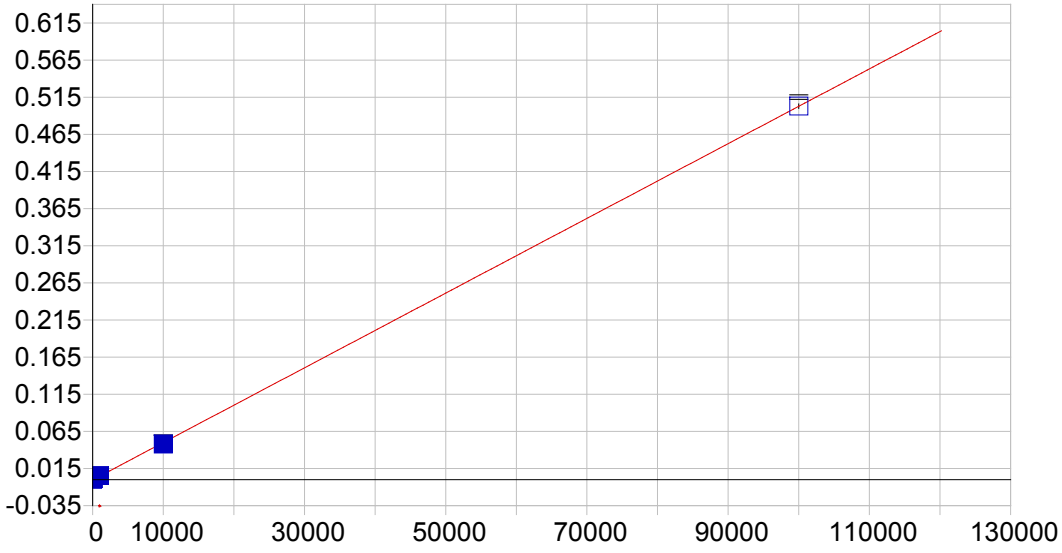


Cu 224.700 {450}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000089	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.557579		
Predicted MQL:	1.858596		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00024	.000	.000	-.00005	.000	1
CalStd9=100	1000.0	991.97	-8.03	-.803	.08803	.000	1
CalStd7=50	50.000	51.214	1.21	2.43	.00451	.000	1
CalStd8=100	100.00	102.96	2.96	2.96	.00913	.000	1
CalStd5=10	10.000	10.277	.277	2.77	.00086	.000	1
CalStd10=10	10000.	10001.	.836	.008	.84842	.003	1
CalStd4=5	5.0000	5.1396	.140	2.79	.00040	.000	1
CalStd6=20	20.000	22.602	2.60	13.0	.00196	.000	1
CalStd3=1	1.0000	1.0085	.009	.855	.00004	.000	1

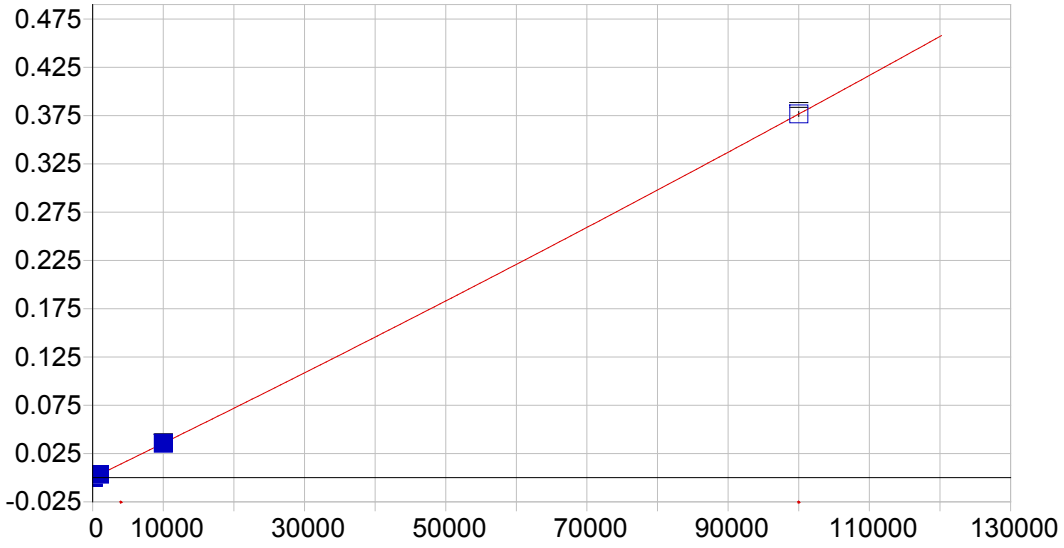


Cu 324.754 {104}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000380	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.001411		
Predicted MDL:	1.391412		
Predicted MQL:	4.638041		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	131.74	132.	.000	.00028	.000	1
CalStd9=100	1000.0	1117.7	118.	11.8	.00524	.000	1
CalStd8=100	100.00	237.77	138.	138.	.00082	.000	1
CalStd10=10	10000.	9571.2	-429.	-4.29	.04778	.000	1
CalStd11-100	100000.	100040.	41.6	.042	.50294	.003	1

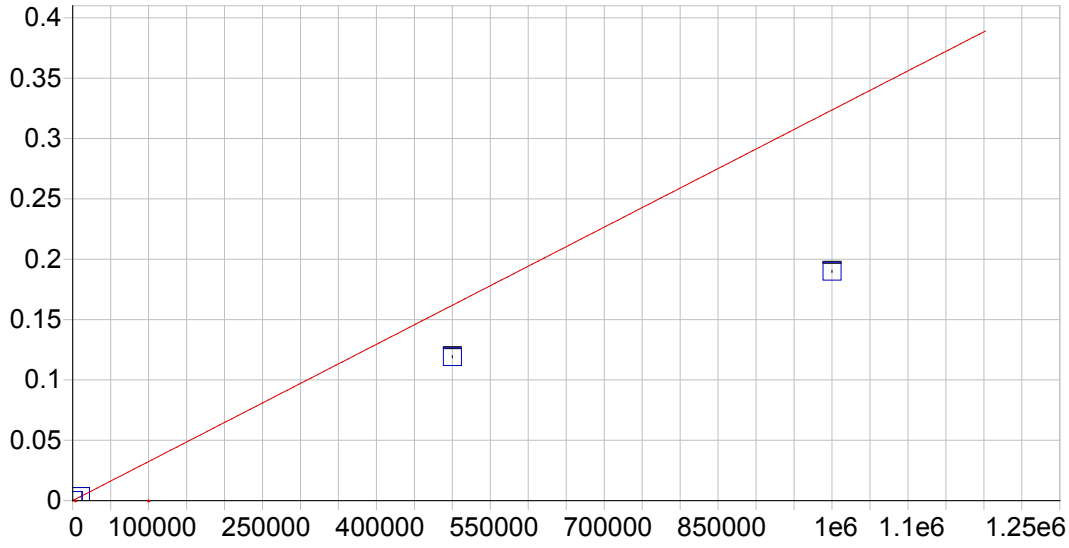


Cu 327.396 {103}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000049	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	Warning Positive Curvature
Std Error of Est:	0.000001		
Predicted MDL:	2.499392		
Predicted MQL:	8.331306		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00051	-.001	.000	-.00005	.000	1
CalStd6=20	20.000	20.304	.304	1.52	.00002	.000	1
CalStd7=50	50.000	49.499	-.501	-1.00	.00013	.000	1
CalStd8=100	100.00	99.830	-.170	-.170	.00031	.000	1
CalStd9=100	1000.0	1024.6	24.6	2.46	.00360	.000	1
CalStd10=10	10000.	9973.6	-26.4	-.264	.03563	.000	1
CalStd11-100	100000.	100000.	2.17	.002	.37663	.002	1

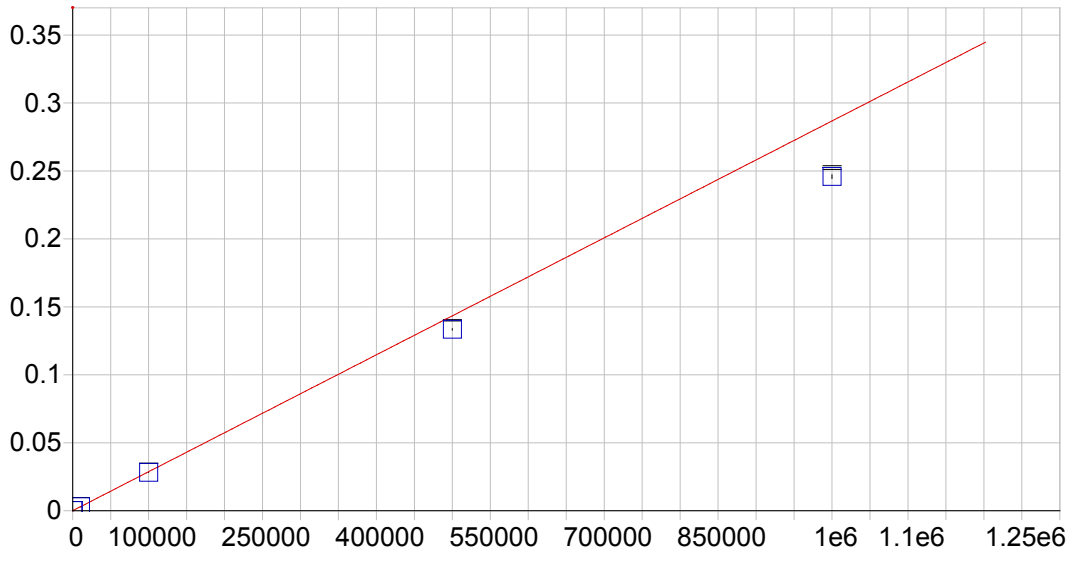


Fe 234.349 {144}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998947	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	1.820576		
Predicted MQL:	6.068588		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-10.581	-10.6	.000	.00001	.000	1
CalStd10=10	10000.	9967.3	-32.7	-.327	.00324	.000	1
CalStd13=50	500000.	368220.	-132000.	-26.4	.11920	.001	1
CalStd14-100	1000000.	586870.	-413000.	-41.3	.18996	.001	1
CalStd9=100	1000.0	1060.0	60.0	6.00	.00036	.000	1

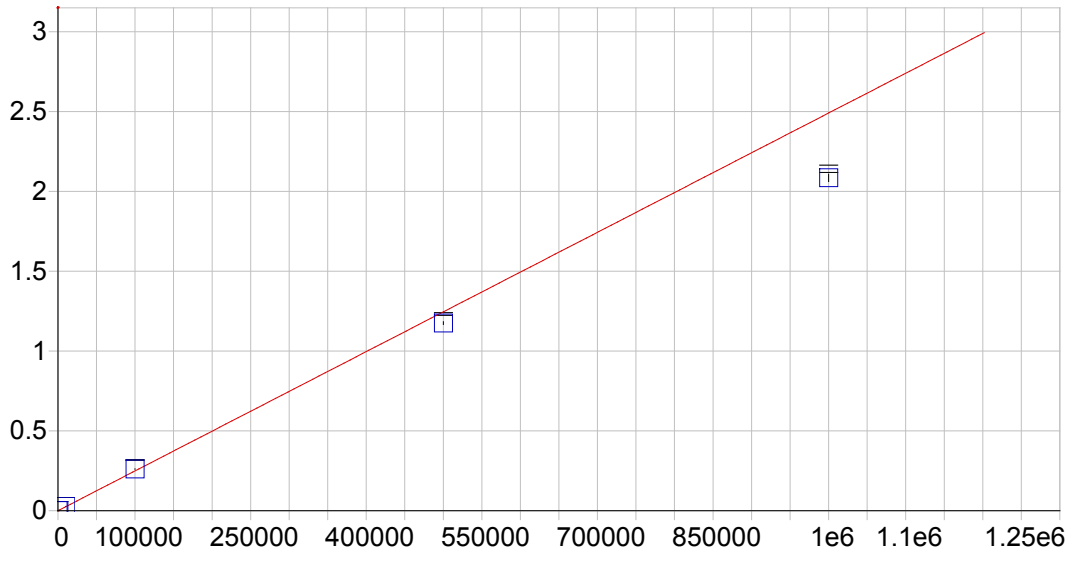


Fe 239.562 {140}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.307480		
Predicted MQL:	7.691600		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00970	.010	.000	.00000	.000	1
CalStd10=10	10000.	9783.2	-217.	-2.17	.00281	.000	1
CalStd13=50	500000.	465220.	-34800.	-6.96	.13342	.000	1
CalStd14-100	1000000.	857100.	-143000.	-14.3	.24580	.001	1
CalStd9=100	1000.0	1011.7	11.7	1.17	.00029	.000	1
CalStd12-100	100000.	98314.	-1690.	-1.69	.02820	.000	1

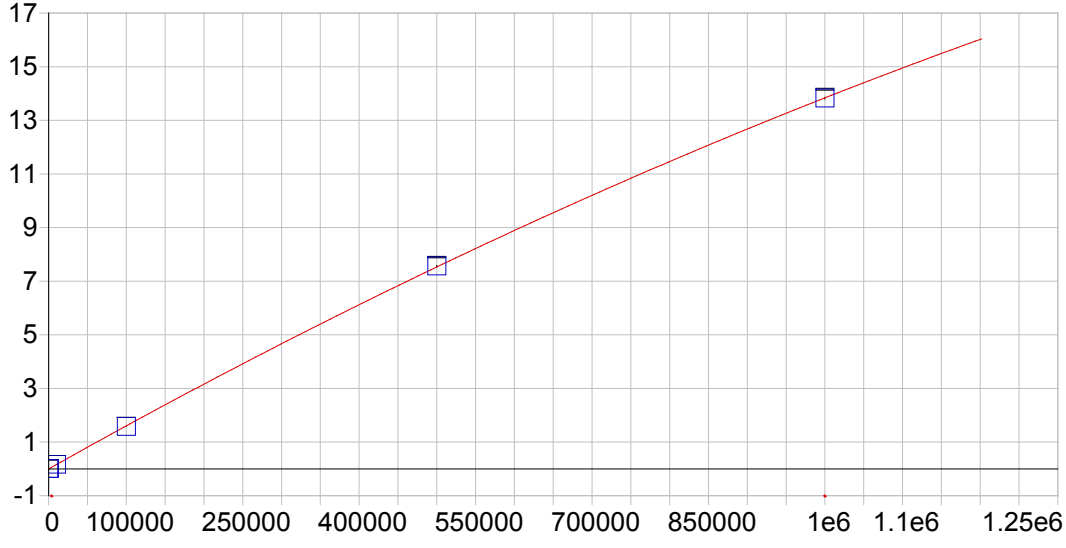


Fe 259.940 {129}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995984	Status:	OK.
Std Error of Est:	0.000244		
Predicted MDL:	1.779208		
Predicted MQL:	5.930695		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-14.278	-14.3	.000	.00002	.000	1
CalStd10=10	10000.	10648.	648.	6.48	.02658	.000	1
CalStd13=50	500000.	471650.	-28300.	-5.67	1.1750	.008	1
CalStd14-100	1000000.	836930.	-163000.	-16.3	2.0849	.023	1
CalStd9=100	1000.0	1115.5	116.	11.6	.00283	.000	1
CalStd12-100	100000.	104690.	4690.	4.69	.26084	.002	1

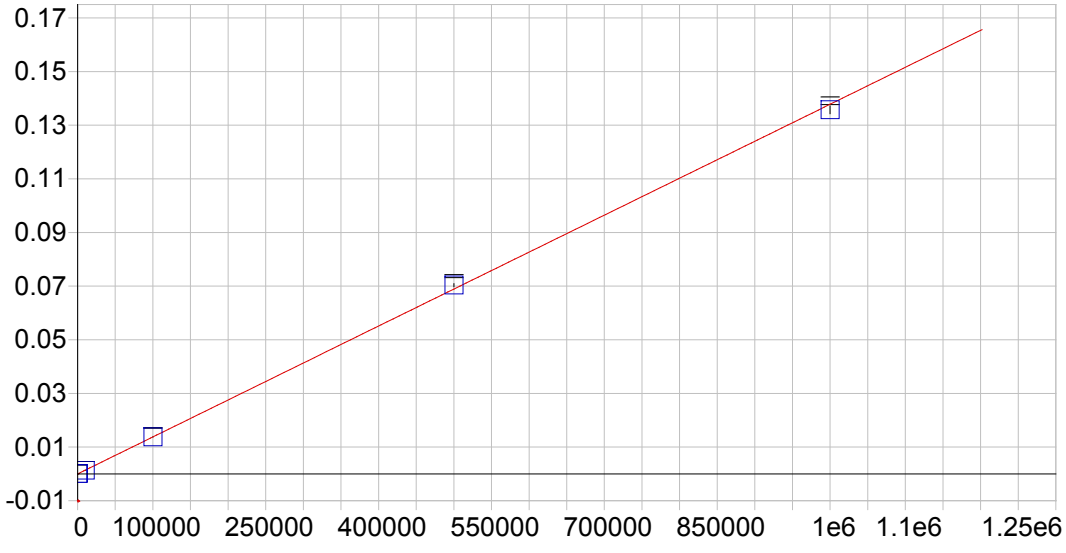


Mg 202.582 {466}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000208	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.000214		
Predicted MDL:	2.486891		
Predicted MQL:	8.289635		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.13219	.132	.000	-.00021	.000	1
CalStd13=50	500000.	502160.	2160.	.432	7.5616	.027	1
CalStd10=10	10000.	10536.	536.	5.36	.17114	.001	1
CalStd14-100	1000000.	998880.	-1120.	-.112	13.826	.033	1
CalStd12-100	100000.	98545.	-1460.	-1.46	1.5812	.004	1
CalStd9=100	1000.0	825.60	-174.	-17.4	.01324	.000	1

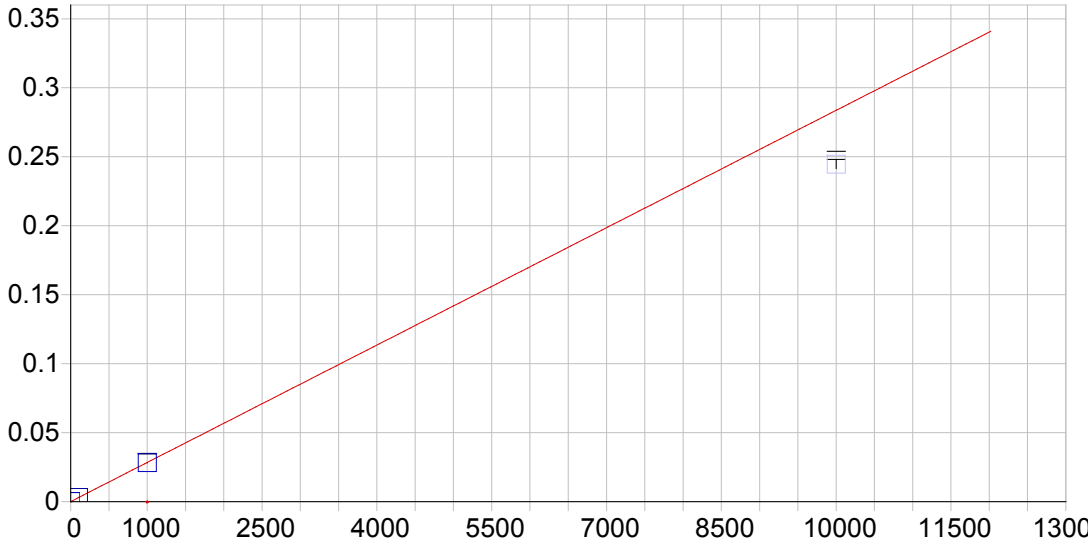


Mg 279.079 {121}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999911	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	16.160246		
Predicted MQL:	53.867487		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd13=50	500000.	510500.	10500.	2.10	.07035	.001	1
CalStd10=10	10000.	9864.7	-135.	-1.35	.00136	.000	1
CalStd14-100	1000000.	984920.	-15100.	-1.51	.13573	.001	1
CalStd12-100	100000.	99740.	-260.	-.260	.01375	.000	1
CalStd9=100	1000.0	1023.9	23.9	2.39	.00014	.000	1

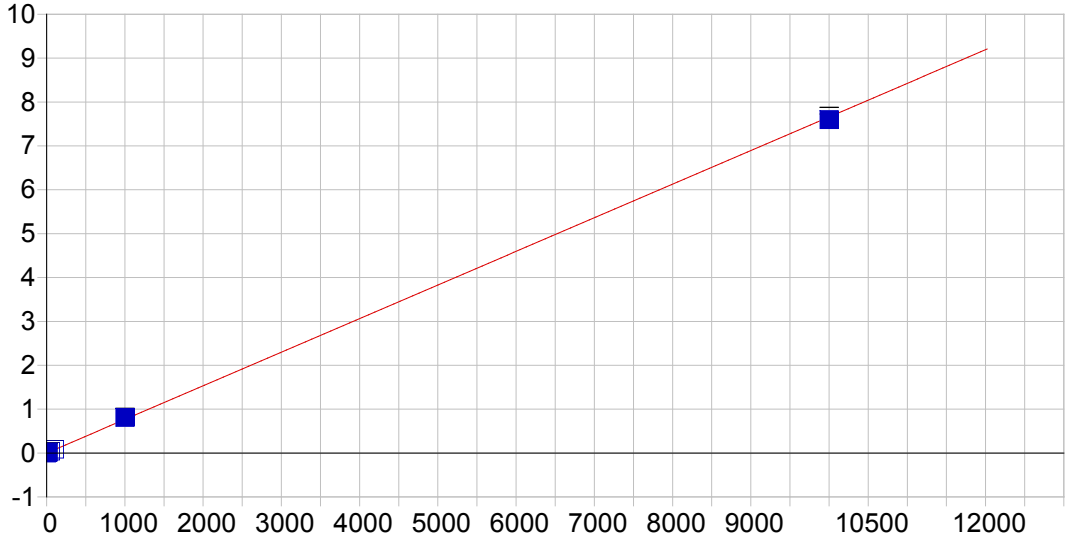


Mg 280.270 {120}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999708	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.033972		
Predicted MQL:	0.113241		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00688	-.007	.000	.00005	.000	1
CalStd9=100	1000.0	992.36	-7.64	-.764	.02820	.000	1
CalStd10=10	10000.	8617.8	-1380.	-13.8	.24446	.003	0
CalStd8=100	100.00	107.64	7.64	7.64	.00311	.000	1

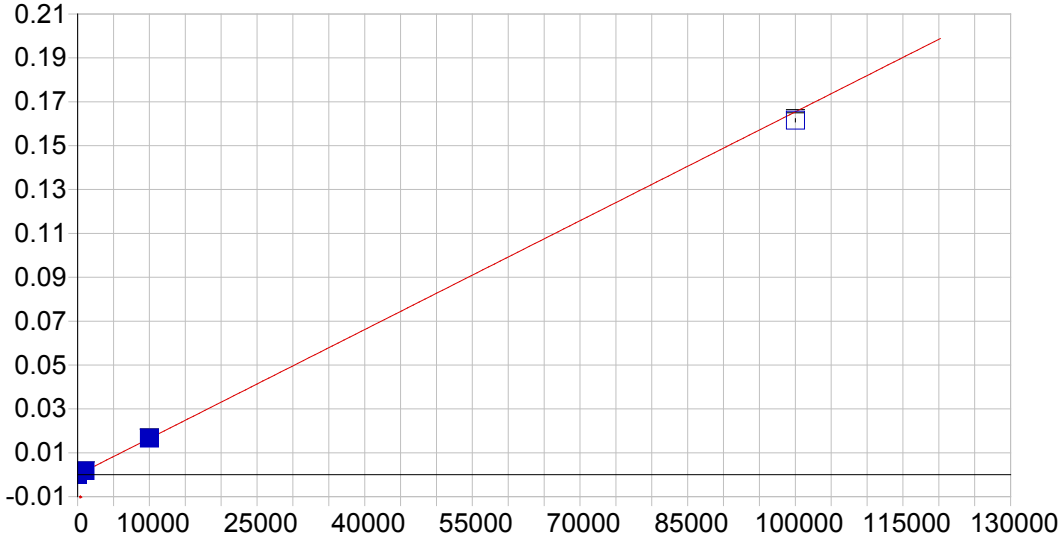


Mn 257.610 {131}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000766	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999625	Status:	OK.
Std Error of Est:	0.000181		
Predicted MDL:	0.123586		
Predicted MQL:	0.411952		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00478	-.005	.000	-.00001	.000	1
CalStd5=10	10.000	11.840	1.84	18.4	.00906	.000	1
CalStd7=50	50.000	57.025	7.03	14.1	.04367	.000	1
CalStd6=20	20.000	25.532	5.53	27.7	.01955	.000	1
CalStd8=100	100.00	112.25	12.3	12.3	.08598	.000	1
CalStd4=5	5.0000	5.9205	.920	18.4	.00453	.000	1
CalStd9=100	1000.0	1056.3	56.3	5.63	.80917	.005	1
CalStd10=10	10000.	9916.1	-83.9	-.839	7.5964	.076	1

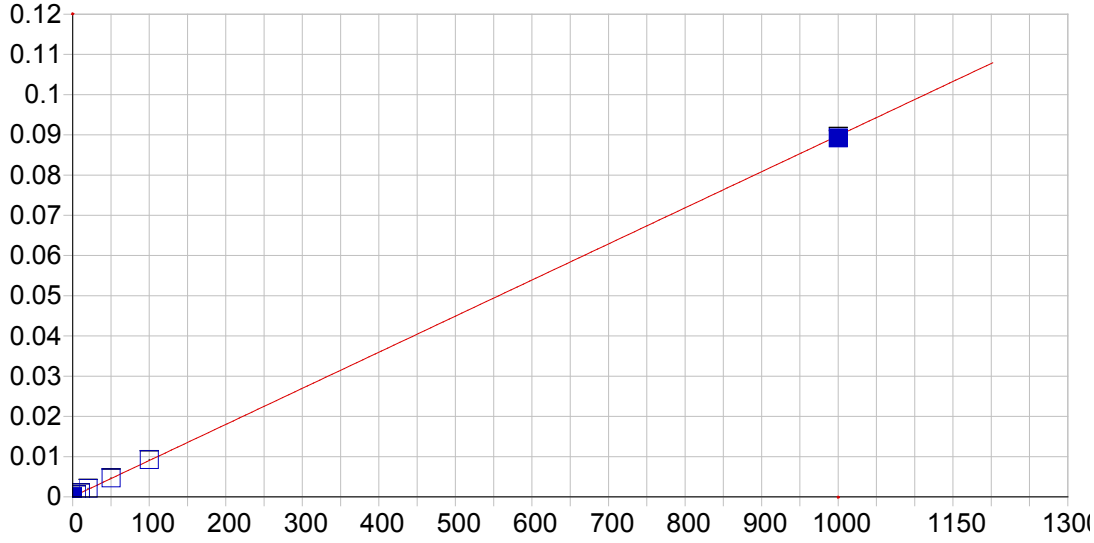


Mn 259.373 {130}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999852	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.496771		
Predicted MQL:	1.655902		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.69928	-.699	.000	.00000	.000	1
CalStd10=10	10000.	10058.	58.2	.582	.01666	.000	1
CalStd11-100	100000.	97676.	-2320.	-2.32	.16156	.001	1
CalStd9=100	1000.0	1015.0	15.0	1.50	.00168	.000	1

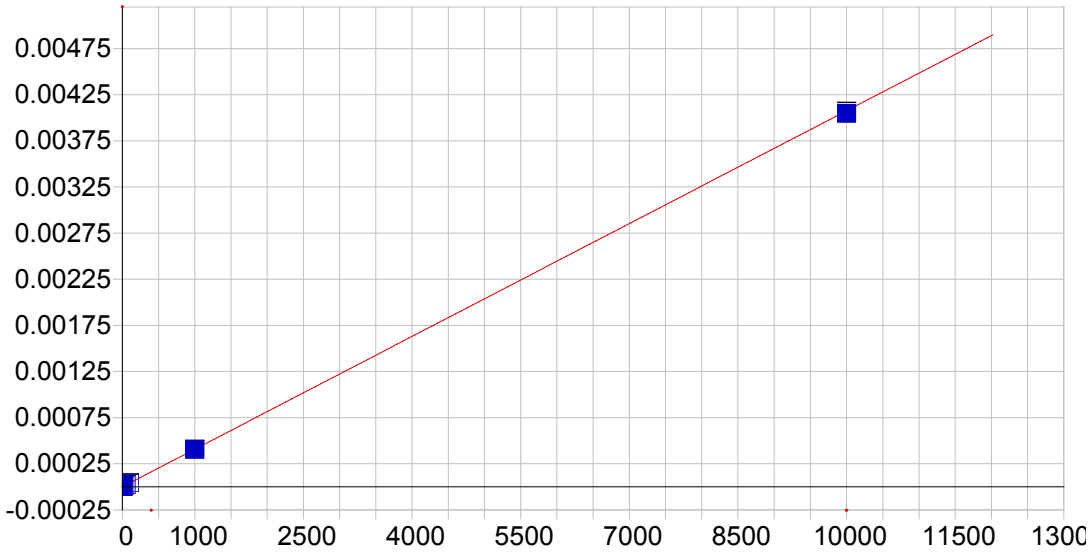


Mo 202.030 {466}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000051	Re-Slope:	1.000000
A1 (Gain):	0.000090	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999778	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.348536		
Predicted MQL:	1.161788		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00110	-.001	.000	.00005	.000	1
CalStd7=50	50.000	51.678	1.68	3.36	.00469	.000	1
CalStd6=20	20.000	22.727	2.73	13.6	.00209	.000	1
CalStd5=10	10.000	10.311	.311	3.11	.00098	.000	1
CalStd8=100	100.00	102.05	2.05	2.05	.00921	.000	1
CalStd4=5	5.0000	5.0288	.029	.576	.00050	.000	1
CalStd9=100	1000.0	993.21	-6.79	-.679	.08920	.000	1

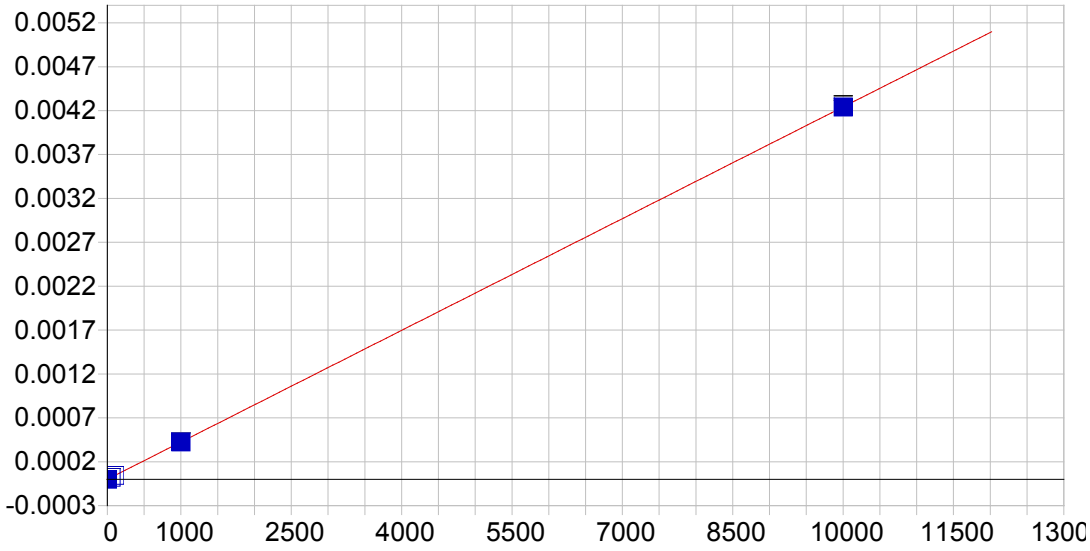


Mo 204.598 {464}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.759132		
Predicted MQL:	2.530440		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00015	.000	.000	.00000	.000	1
CalStd7=50	50.000	51.839	1.84	3.68	.00002	.000	1
CalStd6=20	20.000	21.885	1.89	9.43	.00001	.000	1
CalStd5=10	10.000	9.5167	-.483	-4.83	.00000	.000	1
CalStd8=100	100.00	101.91	1.91	1.91	.00004	.000	1
CalStd4=5	5.0000	4.6665	-.334	-6.67	.00000	.000	1
CalStd9=100	1000.0	993.93	-6.07	-.607	.00040	.000	1
CalStd10=10	10000.	9926.9	-73.1	-.731	.00405	.000	1

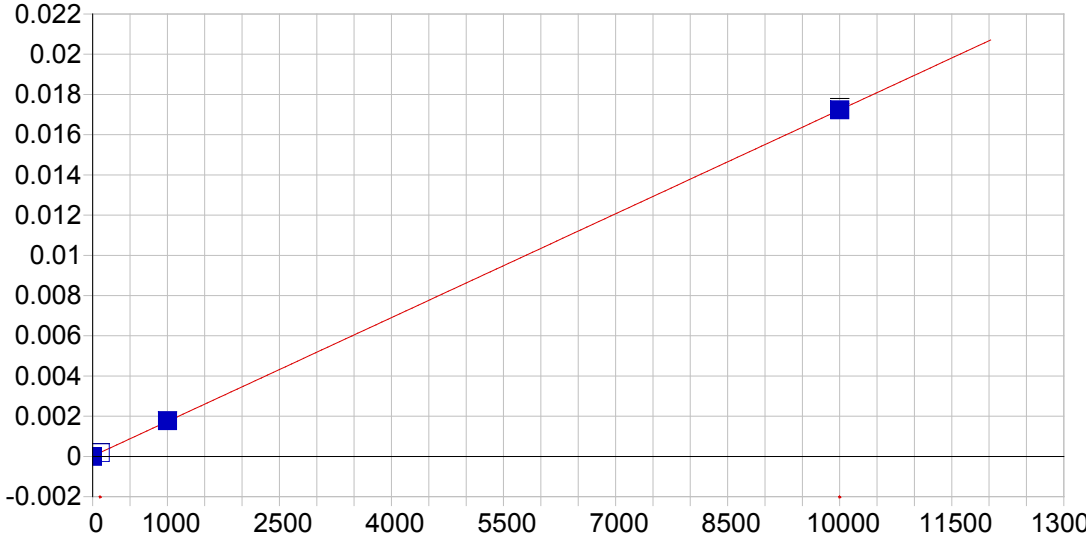


Mo 204.598 {465}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.799458		
Predicted MQL:	2.664860		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00328	-.003	.000	.00000	.000	1
CalStd9=100	1000.0	1001.0	1.04	.104	.00042	.000	1
CalStd10=10	10000.	9994.3	-5.69	-.057	.00424	.000	1
CalStd7=50	50.000	51.863	1.86	3.73	.00002	.000	1
CalStd8=100	100.00	102.78	2.78	2.78	.00004	.000	1

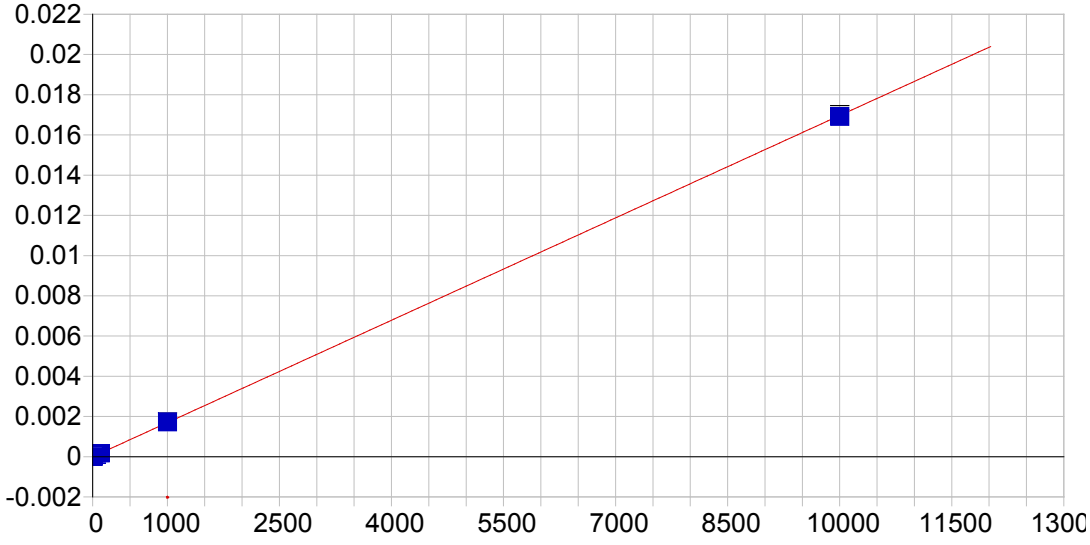


Ni 221.647 {452}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	0.387682		
Predicted MQL:	1.292273		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-10.872	-10.9	.000	.00000	.000	1
CalStd10=10	10000.	9998.3	-1.67	-.017	.01723	.000	1
CalStd8=100	100.00	95.397	-4.60	-4.60	.00018	.000	1
CalStd9=100	1000.0	1017.1	17.1	1.71	.00177	.000	1

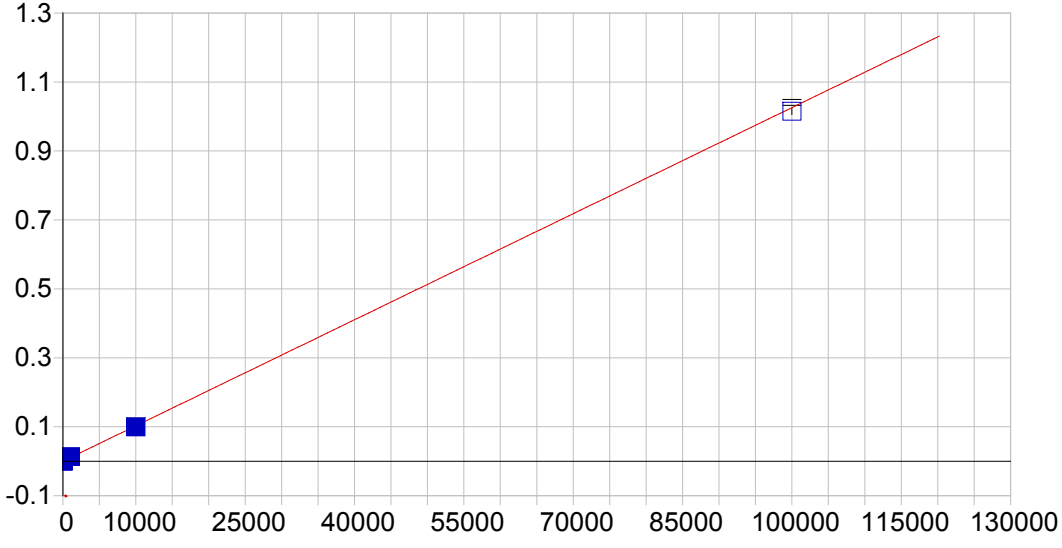


Ni 231.604 {445}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.395759		
Predicted MQL:	1.319196		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00082	-.001	.000	.00000	.000	1
CalStd7=50	50.000	54.034	4.03	8.07	.00009	.000	1
CalStd5=10	10.000	11.322	1.32	13.2	.00002	.000	1
CalStd8=100	100.00	106.28	6.28	6.28	.00018	.000	1
CalStd4=5	5.0000	5.4510	.451	9.02	.00001	.000	1
CalStd9=100	1000.0	1020.3	20.3	2.03	.00173	.000	1
CalStd3=1	1.0000	1.4372	.437	43.7	.00000	.000	1
CalStd10=10	10000.	9967.2	-32.8	-.328	.01691	.000	1

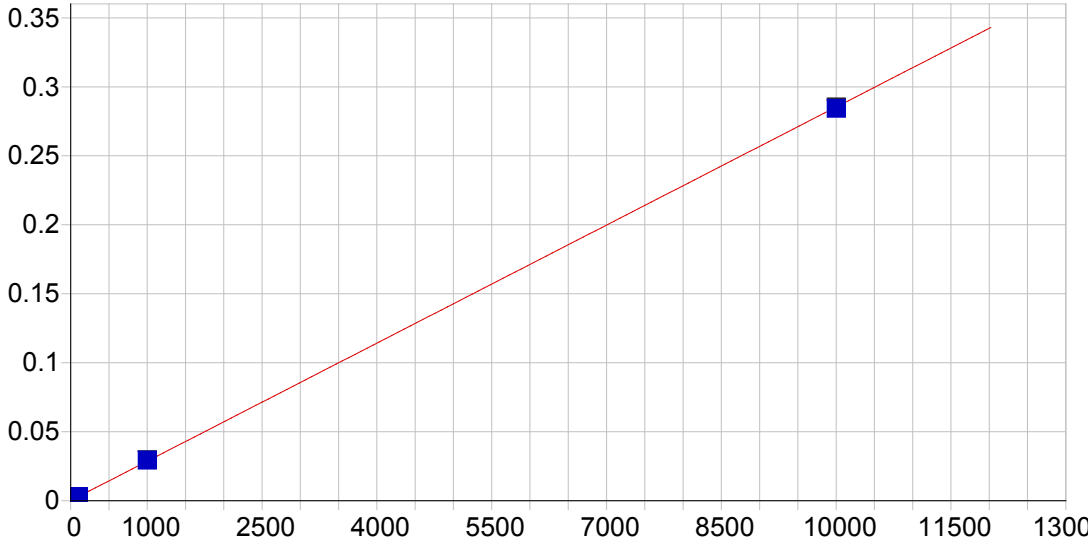


Pb 216.999 {455}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995924	Status:	OK.
Std Error of Est:	0.000735		
Predicted MDL:	5.017934		
Predicted MQL:	16.726447		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-10.057	-10.1	.000	-.00004	.000	1
CalStd9=100	1000.0	1244.3	244.	24.4	.01288	.000	1
CalStd10=10	10000.	9657.2	-343.	-3.43	.09963	.000	1
CalStd11-100	100000.	98920.	-1080.	-1.08	1.0147	.008	1
CalStd8=100	100.00	88.288	-11.7	-11.7	.00097	.000	1
CalStd5=10	10.000	-3.0836	-13.1	-131.	.00003	.000	1

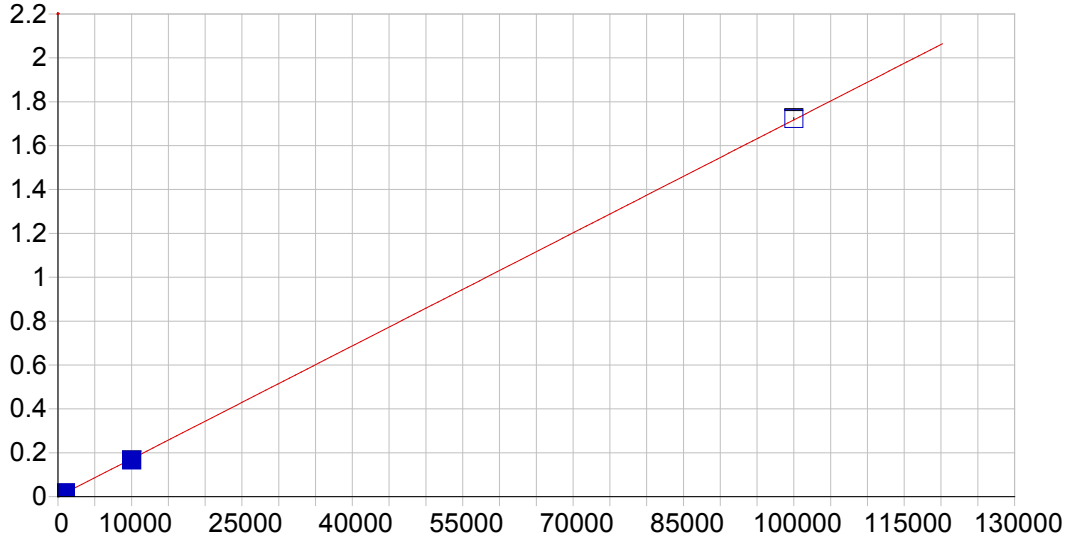


Pb 220.353 {453}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000109	Re-Slope:	1.000000
A1 (Gain):	0.000029	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999899	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	2.287516		
Predicted MQL:	7.625052		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00295	-.003	.000	.00011	.000	1
CalStd5=10	10.000	10.822	.822	8.22	.00042	.000	1
CalStd8=100	100.00	106.89	6.89	6.89	.00316	.000	1
CalStd4=5	5.0000	7.0838	2.08	41.7	.00031	.000	1
CalStd9=100	1000.0	1026.6	26.6	2.66	.02939	.000	1
CalStd10=10	10000.	9963.6	-36.4	-.364	.28433	.001	1

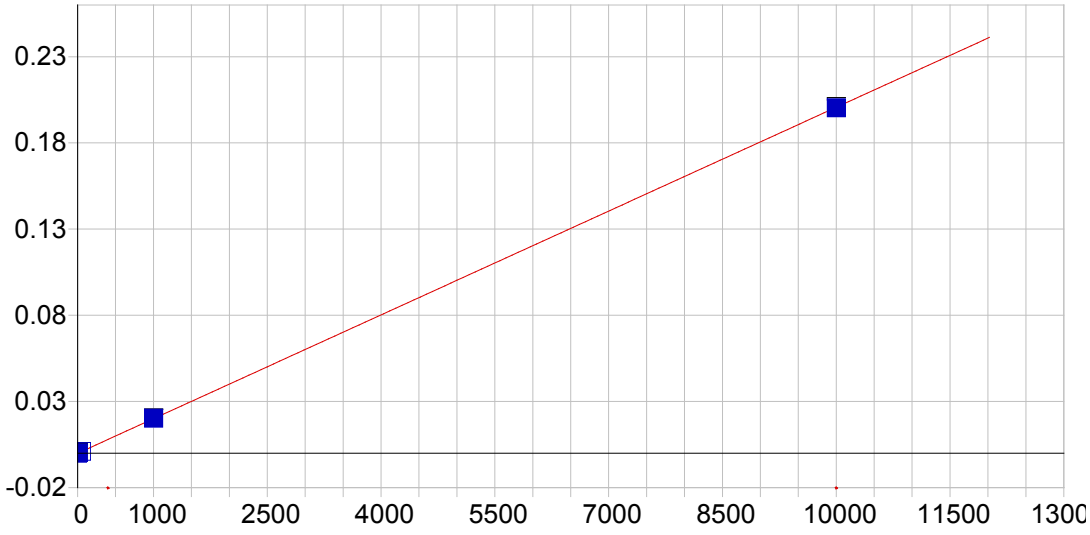


Pb 220.353 {153}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000226	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000024		
Predicted MDL:	5.810121		
Predicted MQL:	19.367069		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00144	-.001	.000	.00023	.000	1
CalStd9=100	1000.0	1007.9	7.94	.794	.01753	.000	1
CalStd10=10	10000.	9680.2	-320.	-3.20	.16643	.001	1
CalStd8=100	100.00	103.53	3.53	3.53	.00200	.000	1
CalStd11-100	100000.	100310.	308.	.308	1.7228	.004	1

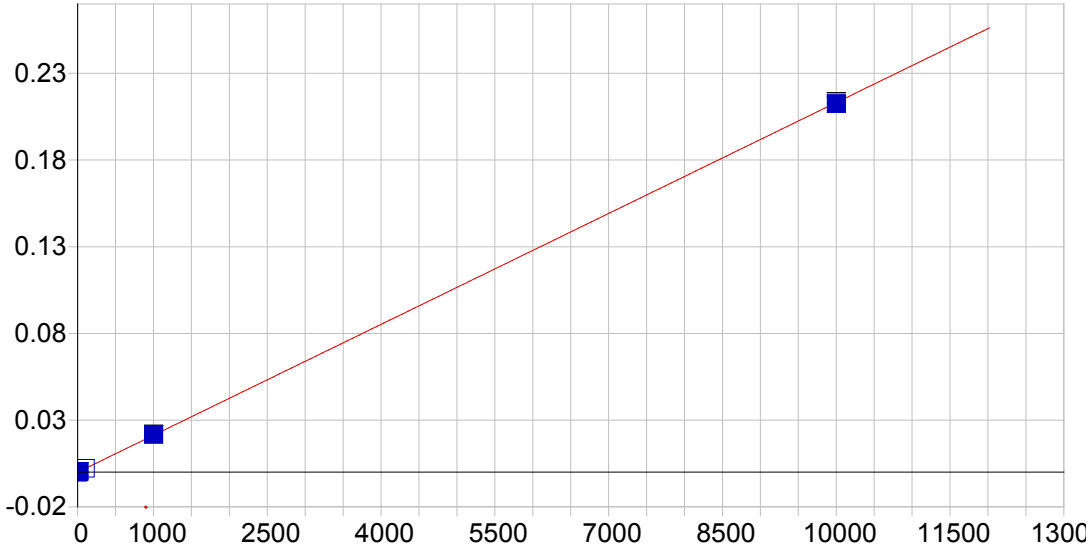


Sb 206.833 {463}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000086	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.963250		
Predicted MQL:	6.544165		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00250	-.003	.000	-.00009	.000	1
CalStd9=100	1000.0	1013.2	13.2	1.32	.02025	.000	1
CalStd5=10	10.000	11.811	1.81	18.1	.00015	.000	1
CalStd7=50	50.000	52.881	2.88	5.76	.00098	.000	1
CalStd10=10	10000.	9982.1	-17.9	-.179	.20030	.001	1

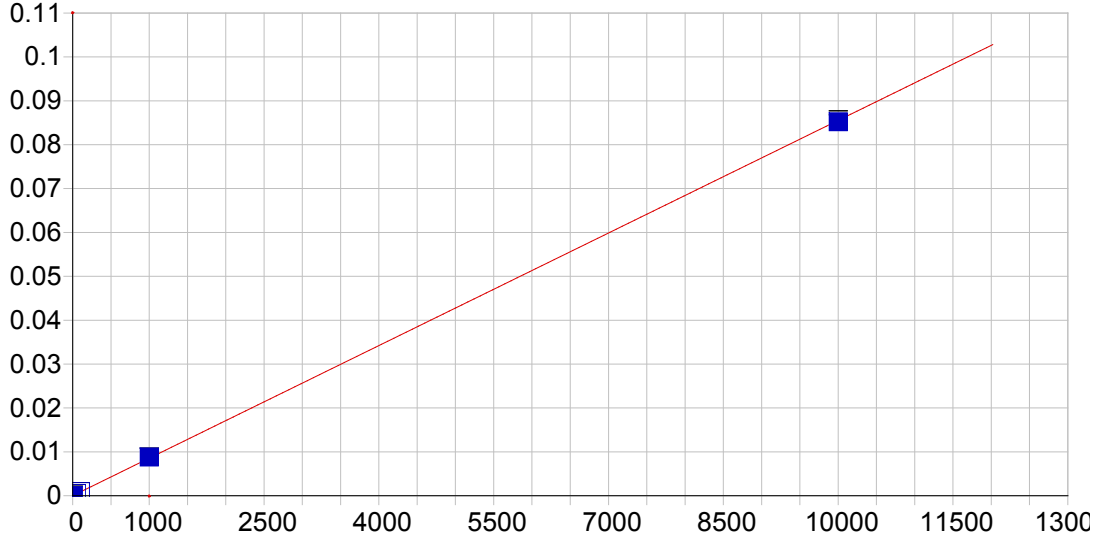


Sb 217.581 {455}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999931	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.133712		
Predicted MQL:	7.112374		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00219	-.002	.000	-.00004	.000	1
CalStd9=100	1000.0	1020.3	20.3	2.03	.02171	.000	1
CalStd6=20	20.000	23.237	3.24	16.2	.00046	.000	1
CalStd5=10	10.000	10.684	.684	6.84	.00019	.000	1
CalStd8=100	100.00	106.04	6.04	6.04	.00222	.000	1
CalStd4=5	5.0000	5.6526	.653	13.1	.00008	.000	1
CalStd10=10	10000.	9969.0	-31.0	-.310	.21248	.001	1

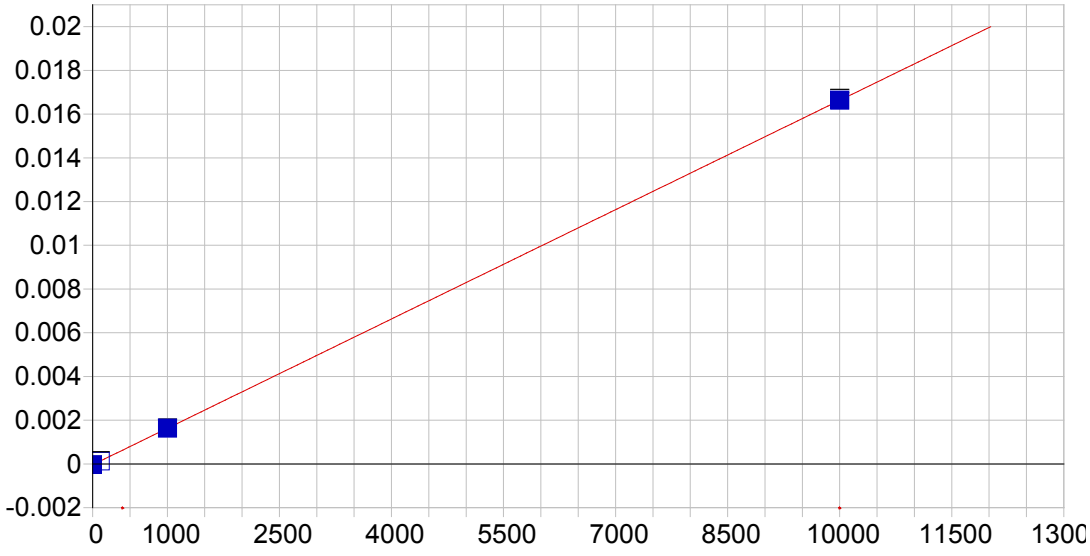


Se 196.090 {472}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.652548		
Predicted MQL:	12.175161		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00364	-.004	.000	.00002	.000	1
CalStd7=50	50.000	53.236	3.24	6.47	.00047	.000	1
CalStd9=100	1000.0	1027.2	27.2	2.72	.00880	.000	1
CalStd5=10	10.000	12.278	2.28	22.8	.00012	.000	1
CalStd8=100	100.00	104.79	4.79	4.79	.00091	.000	1
CalStd10=10	10000.	9962.4	-37.6	-.376	.08519	.000	1

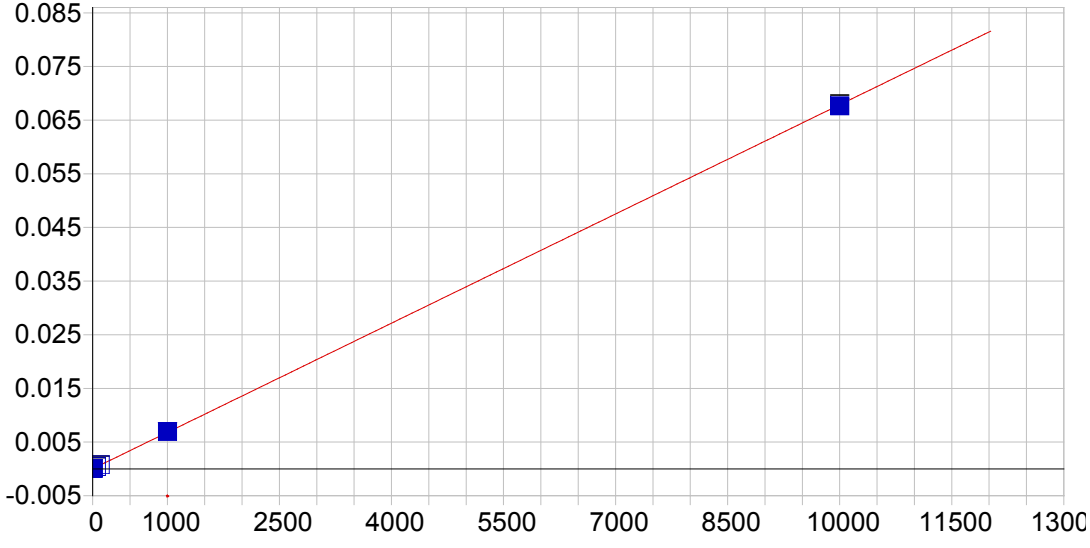


Se 206.279 {463}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	26.140315		
Predicted MQL:	87.134383		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00036	.000	.000	-.00004	.000	1
CalStd9=100	1000.0	1001.3	1.31	.131	.00163	.000	1
CalStd10=10	10000.	9999.2	-.834	-.008	.01665	.000	1
CalStd8=100	100.00	99.521	-.479	-.479	.00013	.000	1

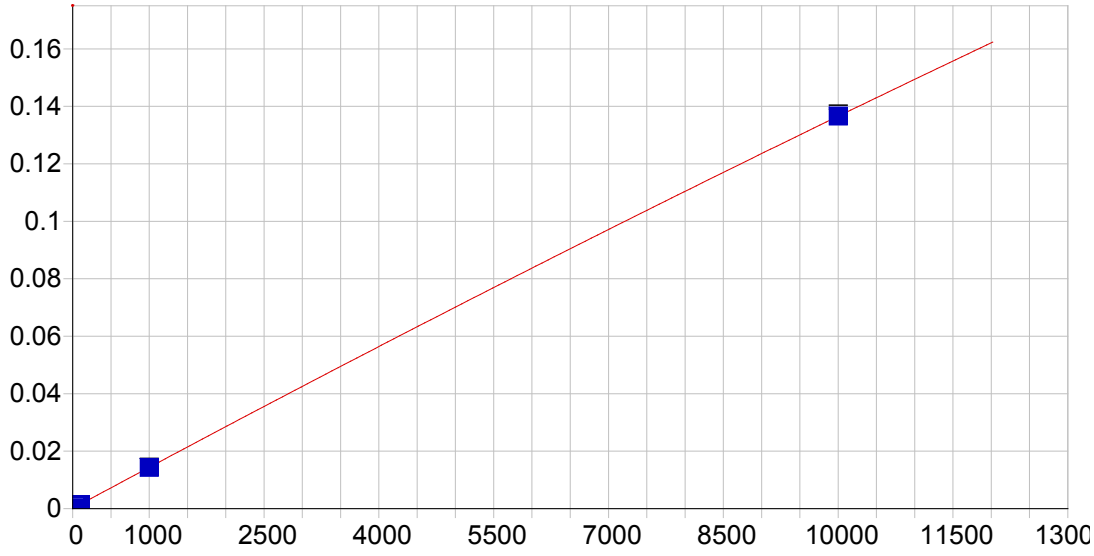


Se 196.090 {471}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.516371		
Predicted MQL:	15.054569		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00299	-.003	.000	.00001	.000	1
CalStd7=50	50.000	57.229	7.23	14.5	.00040	.000	1
CalStd9=100	1000.0	1019.3	19.3	1.93	.00692	.000	1
CalStd5=10	10.000	10.852	.852	8.52	.00008	.000	1
CalStd8=100	100.00	105.32	5.32	5.32	.00072	.000	1
CalStd10=10	10000.	9967.3	-32.7	-.327	.06764	.000	1

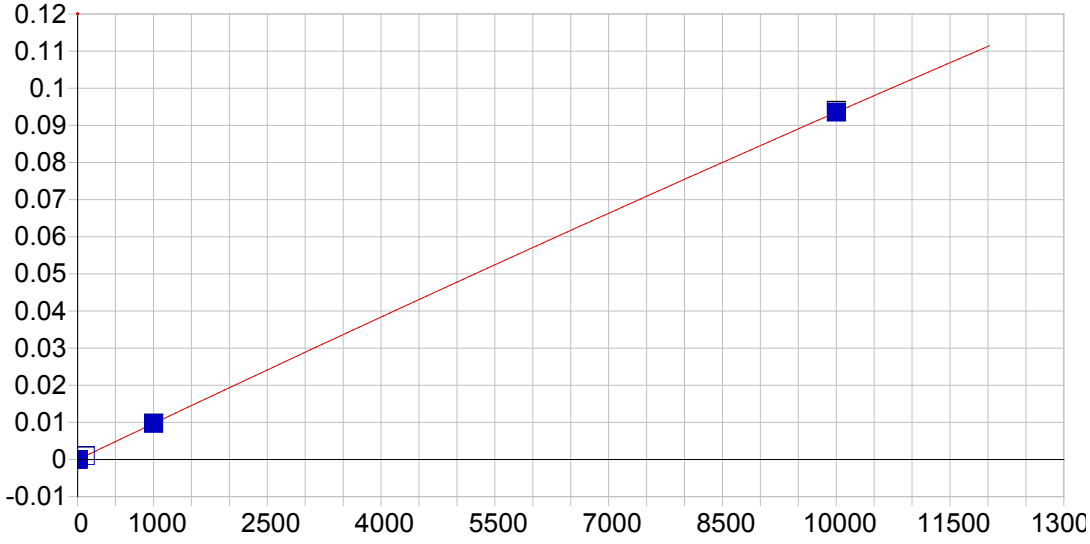


Tl 190.856 {476}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000066	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.544021		
Predicted MQL:	8.480069		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00239	-.002	.000	.00007	.000	1
CalStd9=100	1000.0	994.98	-5.02	-.502	.01430	.000	1
CalStd8=100	100.00	102.29	2.29	2.29	.00154	.000	1
CalStd5=10	10.000	12.206	2.21	22.1	.00024	.000	1
CalStd10=10	10000.	10001.	.525	.005	.13661	.001	1

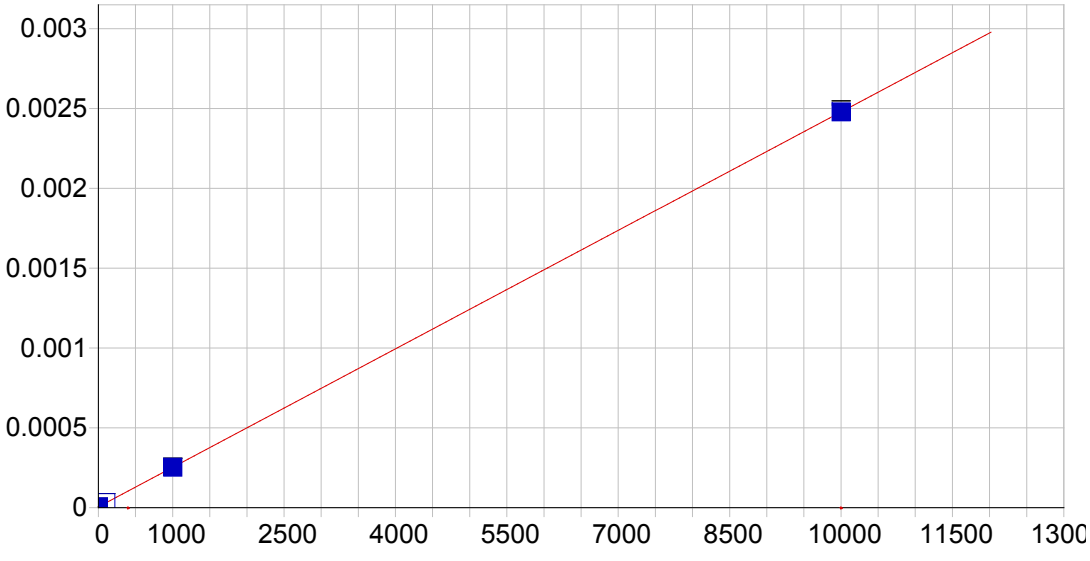


Tl 190.856 {477}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000034		
Predicted MDL:	3.110366		
Predicted MQL:	10.367886		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0295	-1.03	.000	-.00003	.000	1
CalStd9=100	1000.0	999.19	-.806	-.081	.00969	.000	1
CalStd8=100	100.00	104.00	4.00	4.00	.00099	.000	1
CalStd5=10	10.000	8.4370	-1.56	-15.6	.00006	.000	1
CalStd10=10	10000.	10001.	1.16	.012	.09353	.000	1

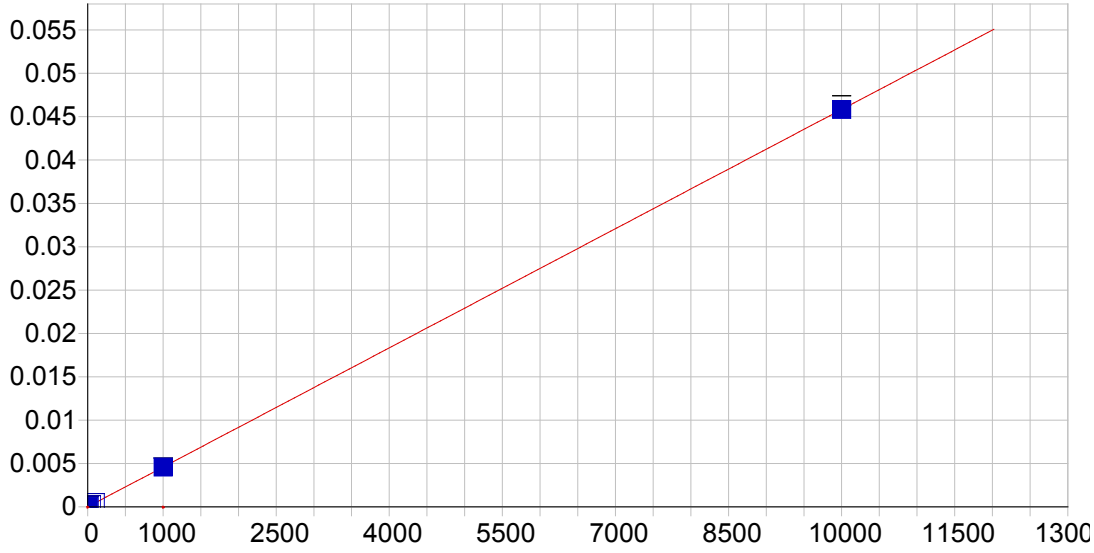


V 290.882 {116}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.241995		
Predicted MQL:	14.139982		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00315	-.003	.000	.00001	.000	1
CalStd9=100	1000.0	999.89	-.108	-.011	.00025	.000	1
CalStd10=10	10000.	9996.9	-3.09	-.031	.00248	.000	1
CalStd8=100	100.00	103.20	3.20	3.20	.00003	.000	1

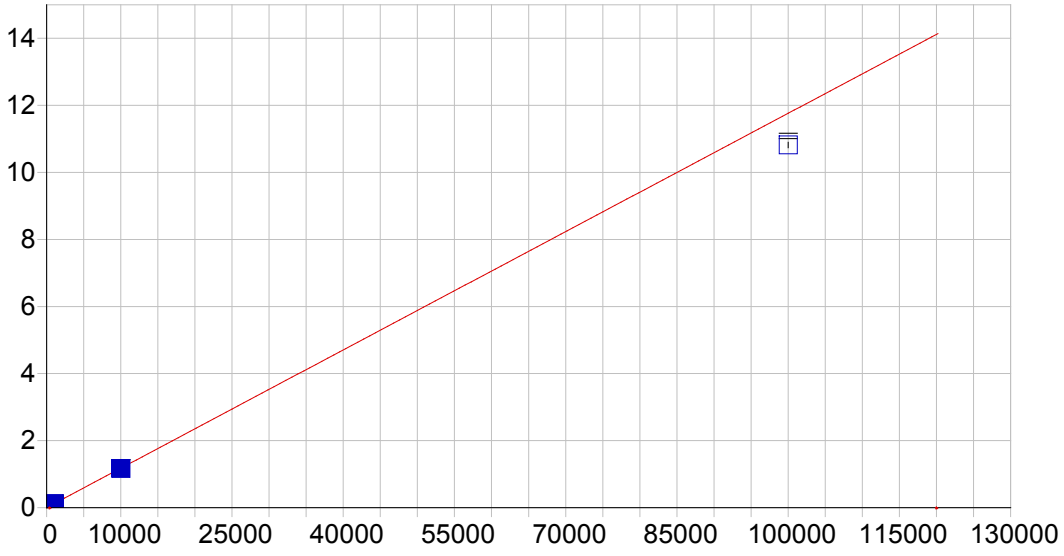


V 292.402 {115}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.518603		
Predicted MQL:	1.728678		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00188	-.002	.000	.00000	.000	1
CalStd7=50	50.000	51.223	1.22	2.45	.00024	.000	1
CalStd9=100	1000.0	998.55	-1.45	-.145	.00458	.000	1
CalStd6=20	20.000	22.003	2.00	10.0	.00011	.000	1
CalStd5=10	10.000	10.475	.475	4.75	.00005	.000	1
CalStd8=100	100.00	101.78	1.78	1.78	.00047	.000	1
CalStd10=10	10000.	9996.0	-4.03	-.040	.04581	.001	1

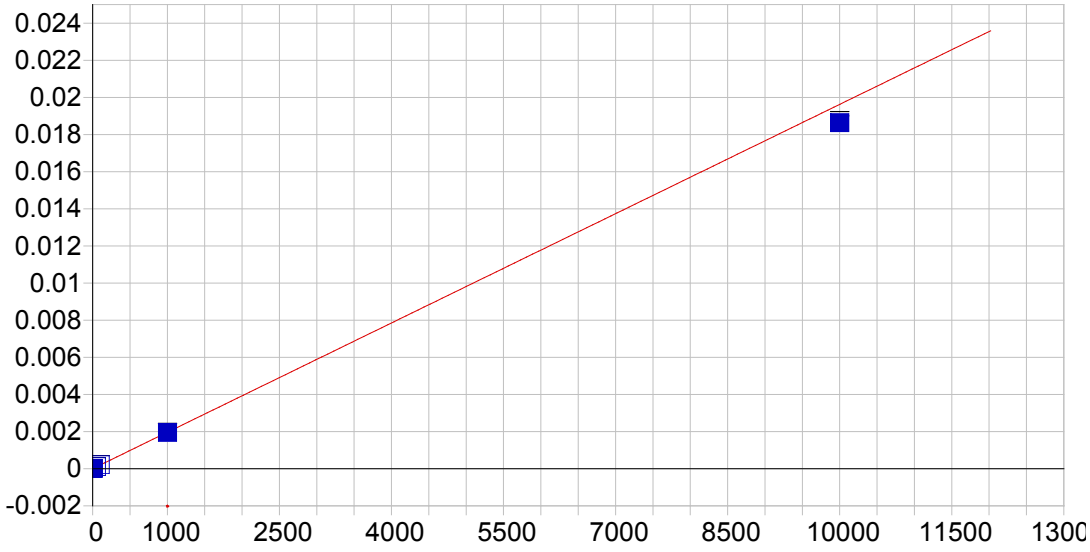


Zn 206.200 {463}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000120	Re-Slope:	1.000000
A1 (Gain):	0.000118	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999642	Status:	OK.
Std Error of Est:	0.000877		
Predicted MDL:	0.365310		
Predicted MQL:	1.217699		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9880.4	-120.	-1.20	1.1624	.003	1
Blank	.00000	-.39902	-.399	.000	.00007	.000	1
CalStd9=100	1000.0	1023.0	23.0	2.30	.12045	.000	1
CalStd11-100	100000.	91967.	-8030.	-8.03	10.818	.082	1

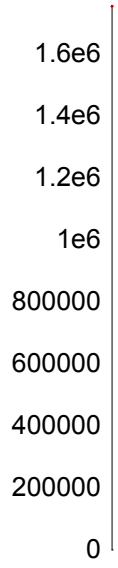


Zn 213.856 {458}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999549	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.177920		
Predicted MQL:	0.593068		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.12128	-.121	.000	.00000	.000	1
CalStd8=100	100.00	103.77	3.77	3.77	.00020	.000	1
CalStd7=50	50.000	52.208	2.21	4.42	.00010	.000	1
CalStd5=10	10.000	10.739	.739	7.39	.00002	.000	1
CalStd9=100	1000.0	991.92	-8.08	-.808	.00195	.000	1
CalStd4=5	5.0000	5.2585	.258	5.17	.00001	.000	1
CalStd10=10	10000.	9493.9	-506.	-5.06	.01863	.000	1

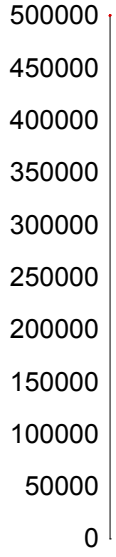


Y 324.228 {104}*

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1651300.	3520.	1

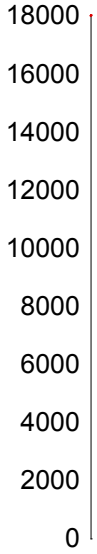


Y 371.030 { 91}*

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	304760.	130000.	1

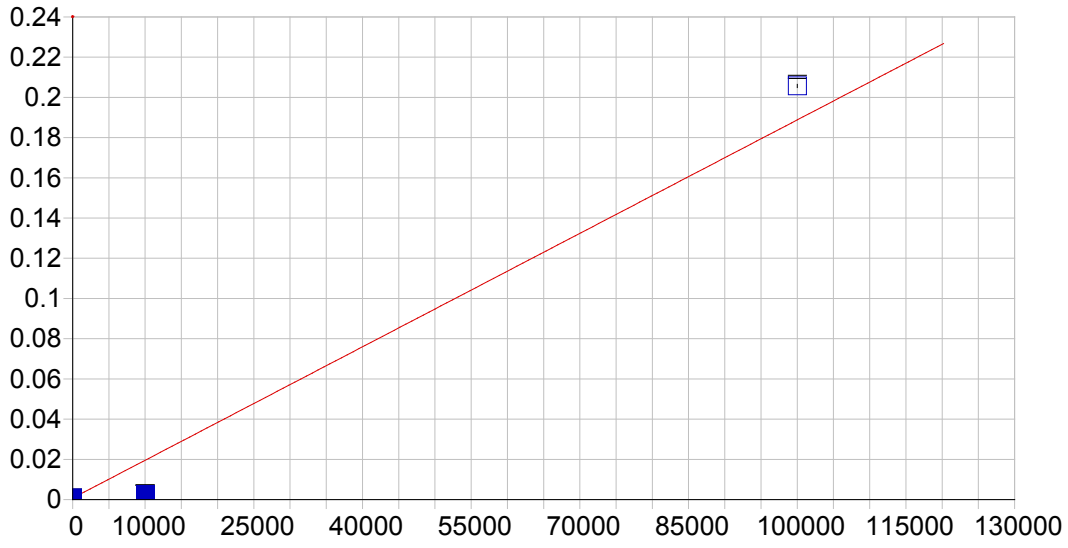


Y 224.306 {451}*

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	17080.	19.2	1

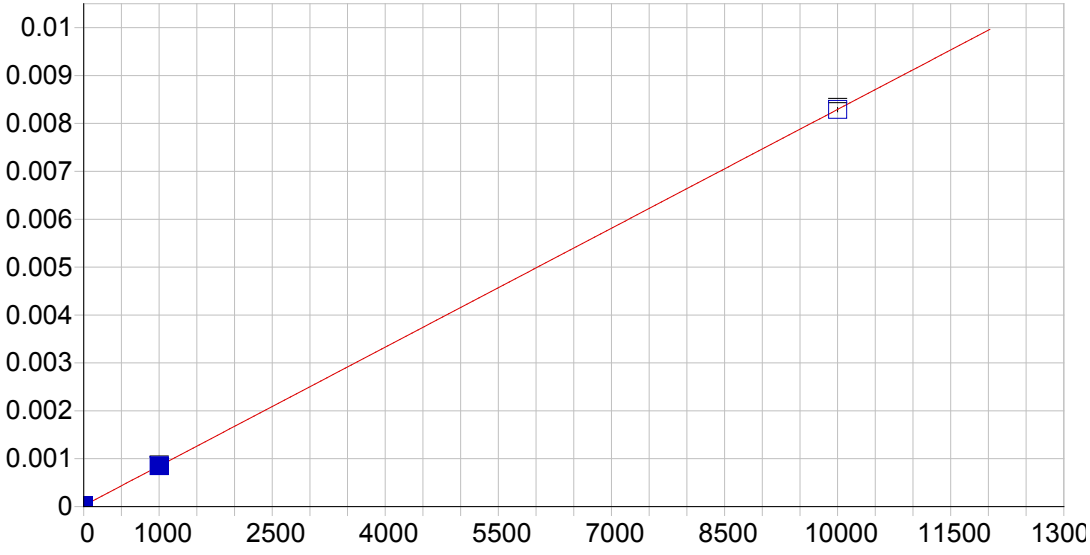


Na 588.995 { 57}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000745	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.962034	Status:	OK.
Std Error of Est:	0.000969		
Predicted MDL:	2.946805		
Predicted MQL:	9.822683		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.0699	8.07	.000	.00076	.000	1
CalStd9=100	10000.	1033.5	-8970.	-89.7	.00269	.000	1
CalStd12-100	100000.	108970.	8970.	8.97	.20567	.001	1

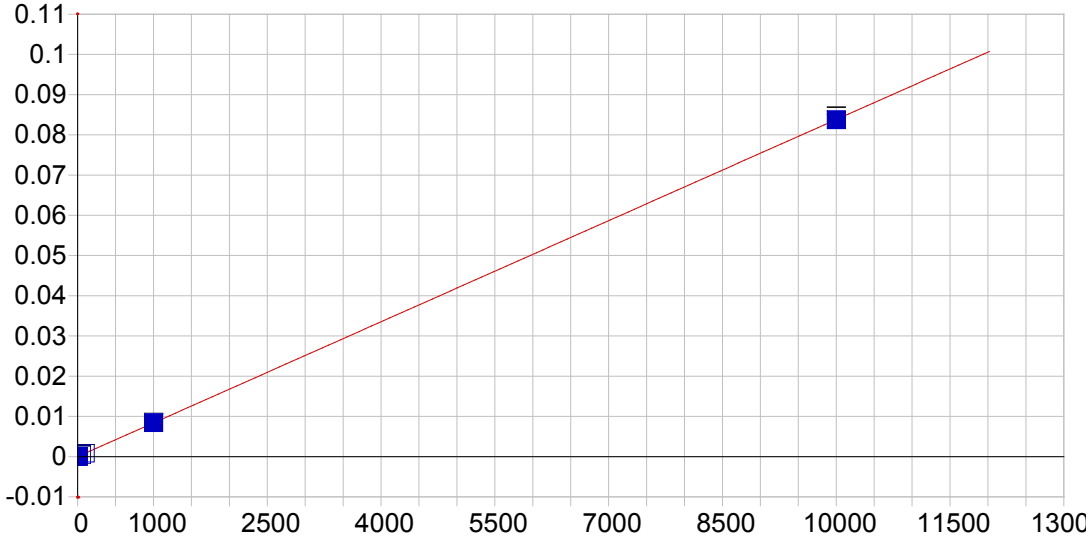


Si 251.611 {134}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.979379		
Predicted MQL:	16.597931		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00479	-.005	.000	.00002	.000	1
CalStd9=100	1000.0	1005.3	5.32	.532	.00085	.000	1
CalStd12-100	10000.	9994.7	-5.32	-.053	.00829	.000	1

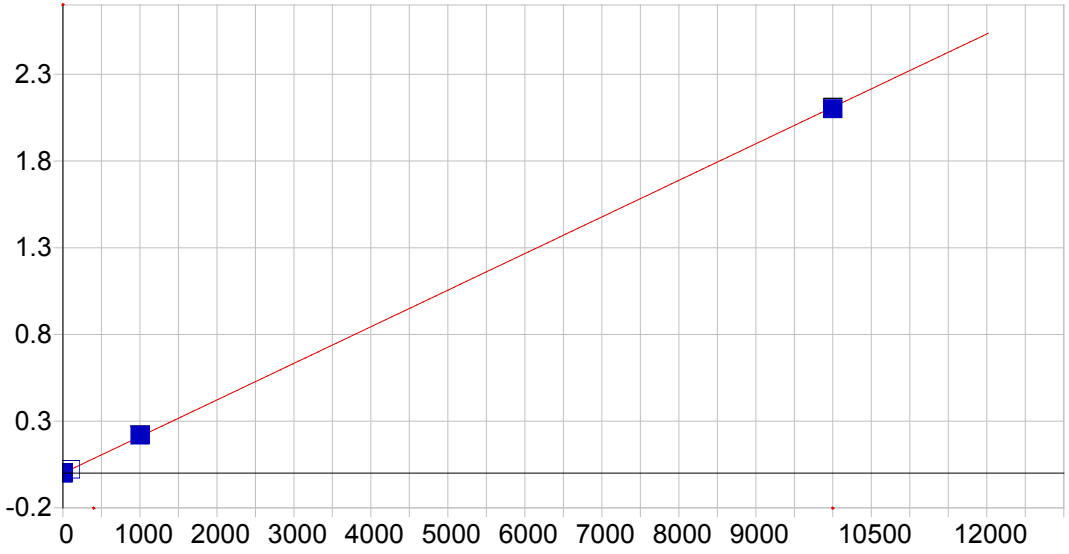


Ti 334.941 {101}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.747075		
Predicted MQL:	2.490249		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00021	.000	.000	.00000	.000	1
CalStd5=10	10.000	9.9438	-.056	-.562	.00008	.000	1
CalStd8=100	100.00	103.63	3.63	3.63	.00087	.000	1
CalStd9=100	1000.0	1004.1	4.11	.411	.00841	.000	1
CalStd10=10	10000.	9990.5	-9.53	-.095	.08374	.001	1
CalStd7=50	50.000	52.008	2.01	4.02	.00043	.000	1
CalStd4=5	5.0000	4.8389	-.161	-3.22	.00004	.000	1

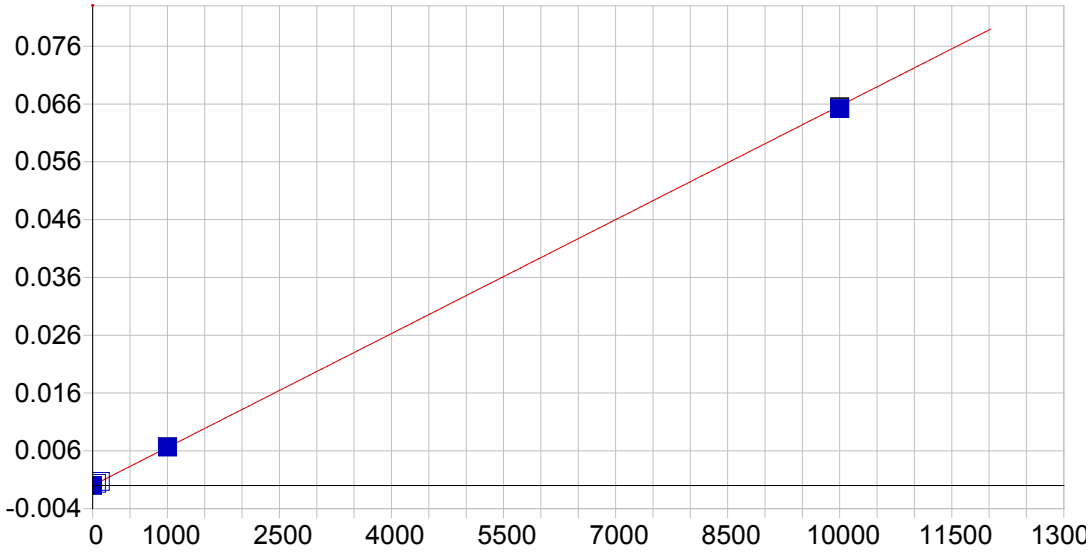


Sr 407.771 { 83}

Date of Fit: 11/01/2016 14:47:12 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000211	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.046967		
Predicted MQL:	0.156558		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00007	.000	.000	-.00002	.000	1
CalStd3=1	1.0000	.94367	-.056	-5.63	.00018	.000	1
CalStd4=5	5.0000	5.0348	.035	.695	.00105	.000	1
CalStd5=10	10.000	10.322	.322	3.22	.00216	.000	1
CalStd8=100	100.00	105.74	5.74	5.74	.02230	.000	1
CalStd9=100	1000.0	1039.2	39.2	3.92	.21934	.002	1
CalStd10=10	10000.	9954.7	-45.3	-.453	2.1012	.008	1

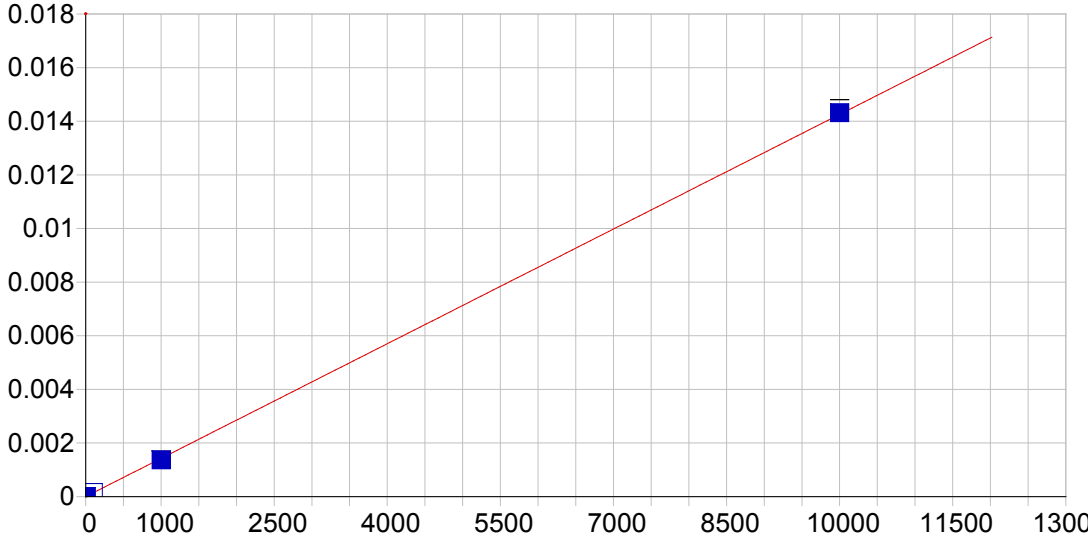


Sn 189.989 {478}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	2.984984		
Predicted MQL:	9.949947		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.2715	-3.27	.000	.00000	.000	1
CalStd10=10	10000.	9922.3	-77.7	-.777	.06518	.000	1
CalStd9=100	1000.0	1007.4	7.37	.737	.00664	.000	1
CalStd8=100	100.00	101.52	1.52	1.52	.00069	.000	1
CalStd7=50	50.000	50.865	.865	1.73	.00035	.000	1

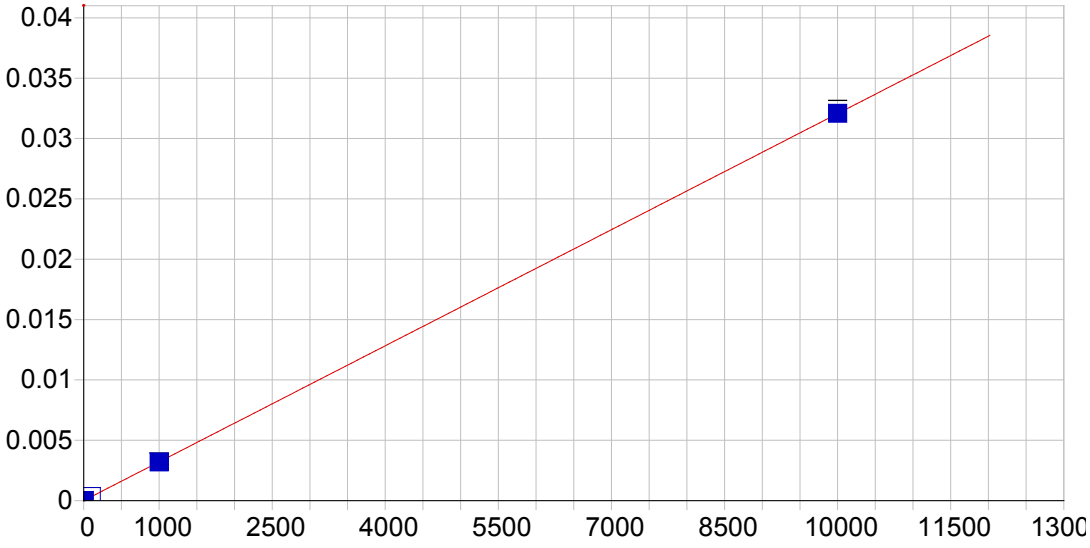


B 249.678 {135}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999912	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.253272		
Predicted MQL:	4.177572		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00098	.001	.000	.00000	.000	1
CalStd8=100	100.00	101.82	1.82	1.82	.00015	.000	1
CalStd5=10	10.000	9.2140	-.786	-7.86	.00001	.000	1
CalStd9=100	1000.0	958.73	-41.3	-4.13	.00137	.000	1
CalStd10=10	10000.	10040.	40.2	.402	.01431	.000	1

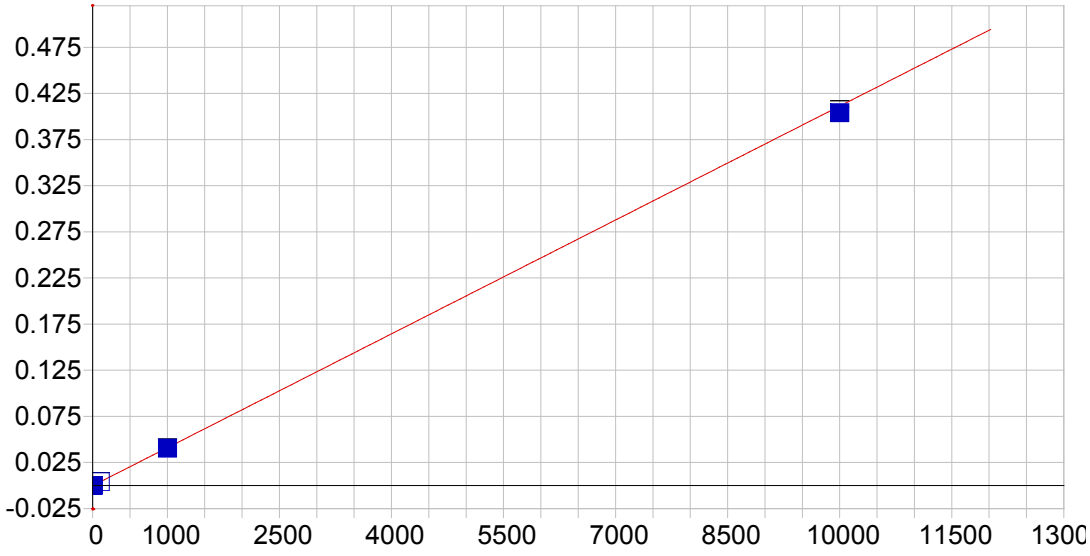


B 249.773 {135}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.536899		
Predicted MQL:	1.789663		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00003	.000	.000	.00000	.000	1
CalStd8=100	100.00	102.37	2.37	2.37	.00033	.000	1
CalStd5=10	10.000	9.8336	-.166	-1.66	.00004	.000	1
CalStd9=100	1000.0	995.35	-4.65	-.465	.00320	.000	1
CalStd10=10	10000.	10002.	2.45	.024	.03209	.000	1

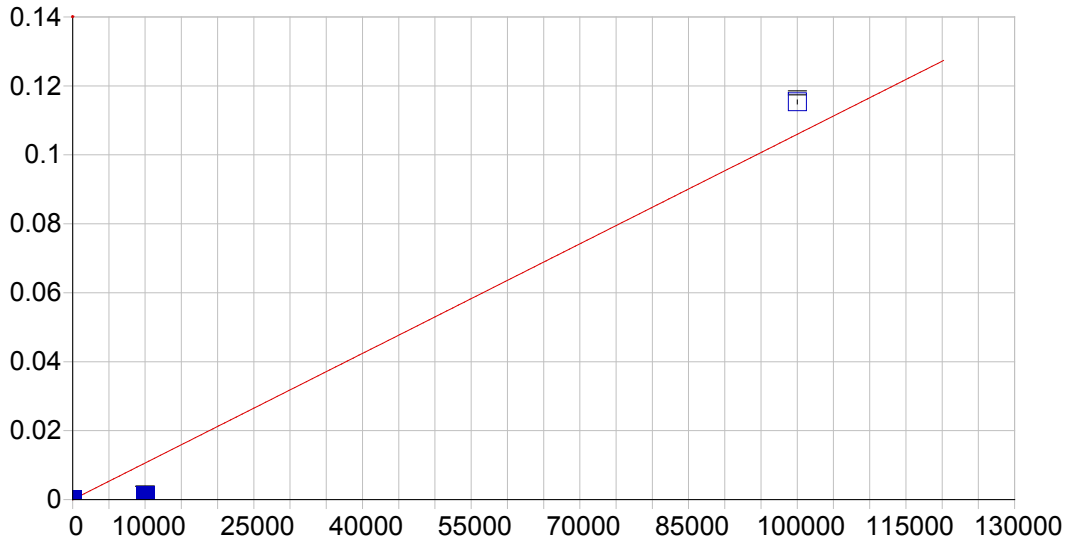


Li 670.784 { 50}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000154	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999764	Status:	OK.
Std Error of Est:	0.000064		
Predicted MDL:	0.630751		
Predicted MQL:	2.102502		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.13753	-.138	.000	-.00016	.000	1
CalStd5=10	10.000	9.5795	-.420	-4.20	.00024	.000	1
CalStd8=100	100.00	102.27	2.27	2.27	.00405	.000	1
CalStd9=100	1000.0	987.58	-12.4	-1.24	.04048	.000	1
CalStd10=10	10000.	9821.6	-178.	-1.78	.40392	.003	1

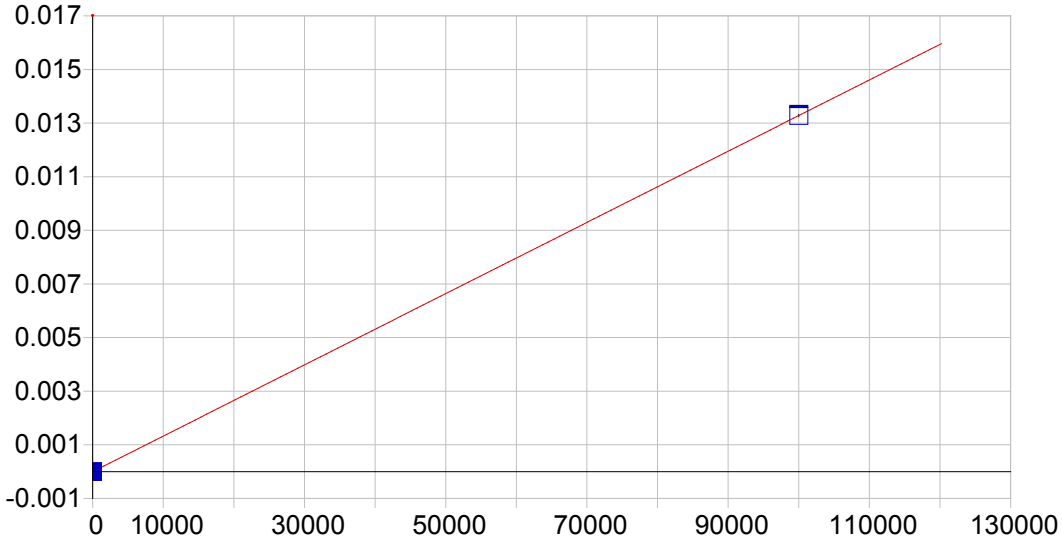


K 766.490 { 44}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.962919	Status:	OK.
Std Error of Est:	0.000539		
Predicted MDL:	24.630420		
Predicted MQL:	82.101400		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.9697	7.97	.000	.00003	.000	1
CalStd9=100	10000.	1144.8	-8860.	-88.6	.00123	.000	1
CalStd12-100	100000.	108850.	8850.	8.85	.11535	.001	1

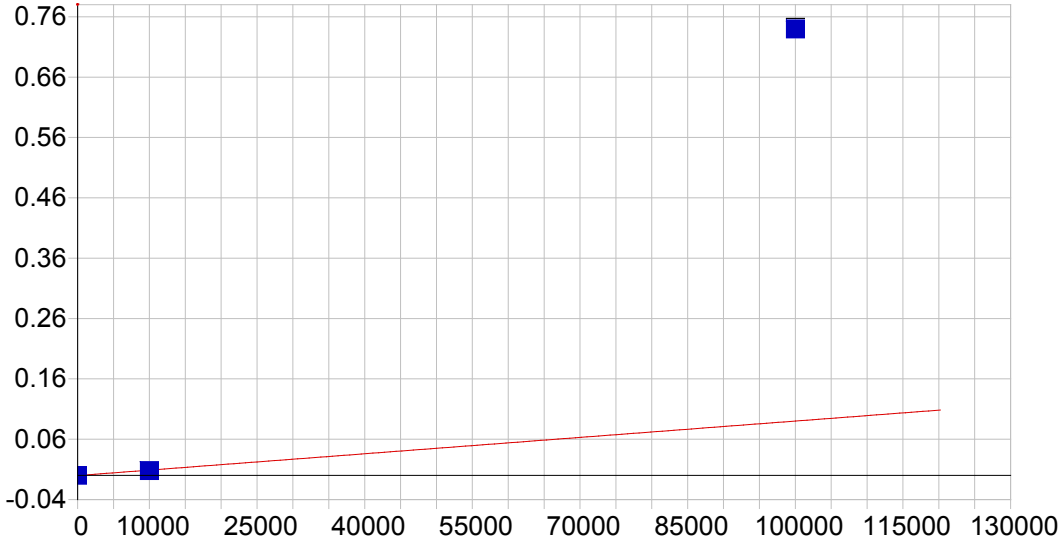


P 213.618 {457}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.545272		
Predicted MQL:	11.817573		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd12-100	100000.	100000.	.000	.000	.01328	.000	1

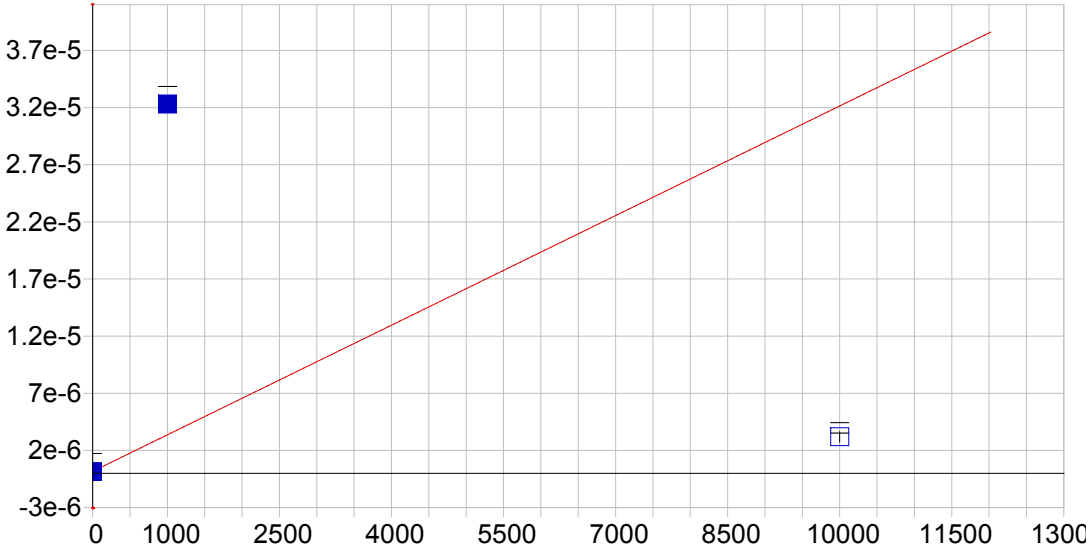


S 182.034 {485}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000182	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.692715	Status:	OK.
Std Error of Est:	0.005957		
Predicted MDL:	30.946759		
Predicted MQL:	103.155863		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	210.64	211.	.000	.00001	.000	1
CalStd12-100	100000.	819500.	719000.	719.	.73969	.002	1
CalStd9=100	10000.	8727.5	-1270.	-12.7	.00770	.000	1

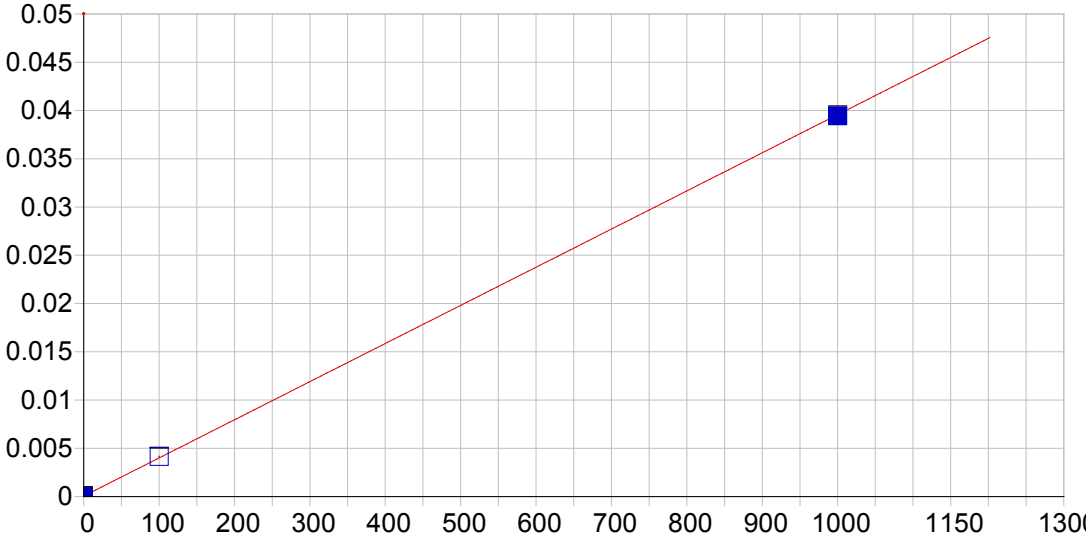


W 239.709 {140}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.329687	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	260.588663		
Predicted MQL:	868.628877		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.1449	-8.14	.000	.00000	.000	1
CalStd9=100	1000.0	10051.	9050.	905.	.00003	.000	1
CalStd12-100	10000.	943.55	-9060.	-90.6	.00000	.000	1

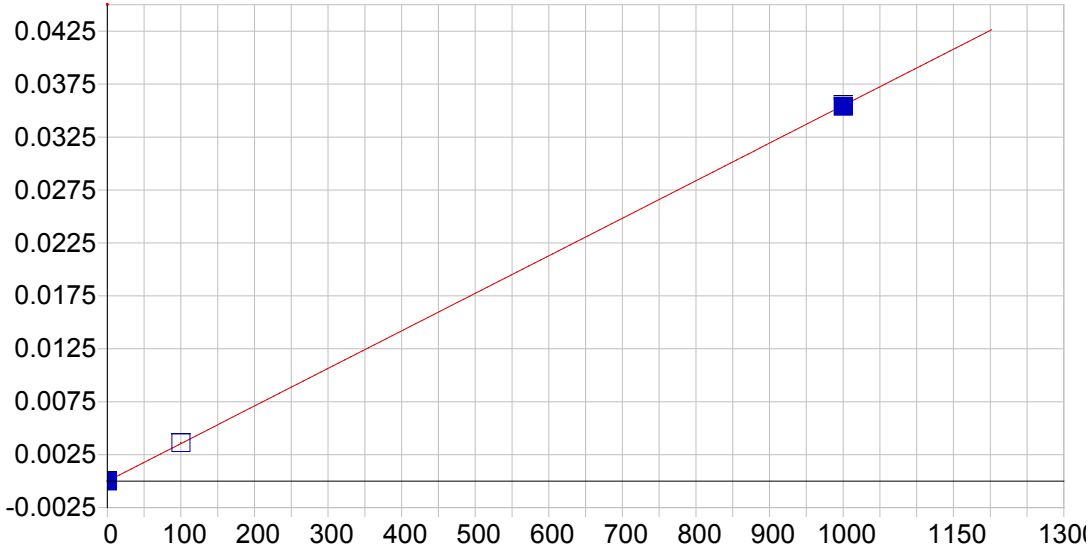


Hg 184.950 {482}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000040	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.786549		
Predicted MQL:	2.621831		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00301	-.003	.000	.00005	.000	1
CalStd8=100	100.00	103.35	3.35	3.35	.00414	.000	1
CalStd9=100	1000.0	996.65	-3.35	-.335	.03944	.000	1



Hg 194.227 {473}

Date of Fit:	11/01/2016 14:47:12	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.843152		
Predicted MQL:	2.810507		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00200	-.002	.000	.00000	.000	1
CalStd8=100	100.00	102.22	2.22	2.22	.00363	.000	1
CalStd9=100	1000.0	997.78	-2.22	-.222	.03539	.000	1

Sample Name: Blank Acquired: 10/27/2016 08:52:57 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.010**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.000	.003	.00	.000	.001	.00	.00	.00
%RSD	157.	74.5	27.2	92.1	38.6	30.0	2.41	13.2	62.7	39.4	31.0	187.

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.000	.000	.00	.000	.000	.000	.000	.00
%RSD	35.0	166.	94.0	18.3	6.68	43.4	91.9	.723	209.	121.	52.8	241.

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Se1960	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.00	.00	.000	.00	.000	.00	.000	.000
%RSD	53.0	7.11	90.5	74.0	50.6	45.1	93.7	55.6	354.	64.3	15.1	31.3

Elem	Zn2062	Zn2138	Sr4077	Sn1899	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.00	.00	.000
%RSD	55.3	481.	36.9	695.	27.0

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1651300.**	**304760.**	**17080.**
Stddev	3520.	129750.	19.
%RSD	.21317	42.576	.11248

Sample Name: CalStd1=0.25 Acquired: 10/27/2016 08:59:54 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.000
Stddev	.00
%RSD	4.18

Int. Std.	Y_3242
Units	Cts/S
Avg	1653200.
Stddev	4490.
%RSD	.27161

Sample Name: CalStd2=0.5 Acquired: 10/27/2016 09:06:55 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.00	.000
%RSD	7.72	91.4

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	**1652600.**	**17023.**
Stddev	12648.	100.
%RSD	.76534	.58908

Sample Name: CalStd3=1 Acquired: 10/27/2016 09:13:58 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Ni2316	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.000	.000	.000	.000	.00	.000
%RSD	293.	9.41	35.0	8.69	27.2	30.0	129.	28.1	5.05

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1666000.**	**244430.**	**17191.**
Stddev	3489.	1407.	45.
%RSD	.20944	.57550	.26070

Sample Name: CalStd4=5 Acquired: 10/27/2016 09:20:59 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1890	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.001**	**.001**	**.001**	**.000**	**.000**	**.007**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	27.7	3.40	.672	3.80	1.16	4.69	13.1	5.47	1.79	6.91	6.65	5.81

Elem	Pb2203	Sb2175	Zn2138	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000
%RSD	15.0	49.3	4.93	.896

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1669700.**	**246730.**	**17264.**
Stddev	7297.	907.	10.
%RSD	.43702	.36756	.05670

Sample Name: CalStd5=10 Acquired: 10/27/2016 09:28:00 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.001**	**.003**	**.002**	**.002**	**.000**	**.001**	**.013**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.39	214.	2.41	.404	1.13	2.06	.730	3.05	2.37	.815	3.73	3.84

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.002**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.81	156.	12.3	16.4	17.4	25.1	20.4	43.1	3.19	1.38	.873	4.13

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1667900.**	**246820.**	**17227.**
Stddev	8491.	1664.	17.
%RSD	.50905	.67399	.10158

Sample Name: CalStd6=20 Acquired: 10/27/2016 09:34:59 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.002**	**.028**	**.002**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	.641	1.54	.227	2.31	3.86	9.13	1.94

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1666700.**	**245410.**	**17242.**
Stddev	6359.	3991.	58.
%RSD	.38150	1.6261	.33569

Sample Name: CalStd7=50 Acquired: 10/27/2016 09:41:55 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1937	Ba2335	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.005**	**.013**	**.012**	**.008**	**.000**	**.005**	**.064**	**.004**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.28	1.03	.533	.453	.181	.976	.866	.671	1.12	.864	.756	3.80

Elem	Se1960	Se1960	V_2924	Zn2138	Sn1899
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	7.10	11.5	.617	.595	2.80

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1692700.**	**252660.**	**17637.**
Stddev	10497.	1788.	43.
%RSD	.62013	.70750	.24639

Sample Name: CalStd8=100 Acquired: 10/27/2016 09:48:48 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3968	Cd2265	Co2286	Co2388	Cr2055	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.010**	**.018**	**.006**	**.026**	**.026**	**.024**	**.000**	**.016**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.651	3.06	3.70	.197	.430	.192	.665	.212	.520	.871	.236	.703

Elem	Cu2247	Cu3247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.009**	**.001**	**.003**	**.126**	**.008**	**.000**	**.000**	**.000**	**.001**	**.003**	**.002**	**.001**
Stddev	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.492	1.23	.309	.403	.238	1.03	.563	.354	3.36	1.74	1.81	1.26

Elem	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2138	Sr4077	Sn1899	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.001**	**.000**	**.000**	**.000**	**.022**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	21.5	2.49	2.81	3.07	.565	.549	.724	2.45	.654

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1688700.**	**250380.**	**17620.**
Stddev	5196.	1266.	44.
%RSD	.30771	.50580	.25117

Sample Name: CalStd9=1000 Acquired: 10/27/2016 09:55:40 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Co2388	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.010**	**.003**	**.096**	**.088**	**.061**	**.001**	**.177**	**.257**	**.236**	**.002**	**.156**
Stddev	.000	.000	.000	.000	.001	.000	.000	.001	.000	.001	.000	.000
%RSD	1.34	.825	.672	.190	.908	.489	1.30	.817	.134	.254	.469	.165

Elem	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.088**	**.005**	**.000**	**.003**	**.000**	**.028**	**1.20**	**.002**	**.077**	**.000**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.01	.000	.000	.000	.000
%RSD	.600	.299	1.06	.635	.866	1.37	.556	.522	.367	.304	.439	.259

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.013**	**.029**	**.020**	**.022**	**.009**	**.002**	**.007**	**.010**	**.000**	**.005**	**.120**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.319	.744	.380	.252	.415	.414	.695	.308	.398	.433	.629	.247

Elem	Zn2138	Sr4077	Sn1899	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.219**	**.007**	**.003**
Stddev	.000	.002	.000	.000
%RSD	.263	.812	.461	.437

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1691700.**	**251010.**	**17700.**
Stddev	3997.	2082.	38.
%RSD	.23628	.82929	.21590

Sample Name: CalStd10=10000 Acquired: 10/27/2016 10:01:52 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.029**	**.104**	**.025**	**.757**	**.006**	**1.57**	*****	**.019**	**1.51**	**.037**	**.848**	**.048**
Stddev	.000	.000	.000	.007	.000	.01	-----	.000	.01	.000	.003	.000
%RSD	.891	.360	.300	.984	.829	.460	-----	.971	.335	1.22	.386	.636

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.027**	**.001**	**.244**	**11.2**	**.017**	**.004**	**.017**	**.017**	**.100**	**.284**	**.200**
Stddev	.000	.000	.000	.003	.1	.000	.000	.000	.000	.000	.001	.001
%RSD	1.33	.799	.962	1.20	.483	.503	.574	.718	.604	.380	.302	.310

Elem	Sb2175	Se1960	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sn1899	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.212**	**.085**	**.017**	**.068**	**.094**	**.002**	**.046**	**1.16**	**.019**	**2.10**	**.065**	**.032**
Stddev	.001	.000	.000	.000	.000	.000	.001	.00	.000	.01	.000	.000
%RSD	.518	.533	.400	.507	.499	.520	1.23	.252	.620	.390	.454	1.01

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1636300.**	**250670.**	**17245.**
Stddev	11398.	2125.	65.
%RSD	.69654	.84778	.37828

Sample Name: CalStd11-100k Acquired: 10/27/2016 10:09:06 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**13.8**	**.503**	**.162**	**1.01**	**10.8**
Stddev	.1	.003	.001	.01	.1
%RSD	.656	.608	.432	.836	.758

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1661100.**	**248870.**	**17179.**
Stddev	3581.	2019.	51.
%RSD	.21556	.81131	.29834

Sample Name: CalStd12-100000 Acquired: 10/27/2016 10:16:18 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.284**	**.054**	**.261**	**.014**
Stddev	.001	.000	.002	.000
%RSD	.495	.516	.629	.418

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1591800.**	**249580.**	**16737.**
Stddev	3381.	1692.	52.
%RSD	.21243	.67790	.31074

Sample Name: CalStd13=500000 Acquired: 10/27/2016 10:23:36 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.45**	**.270**	**.119**	**1.17**	**.070**
Stddev	.01	.002	.001	.01	.001
%RSD	.915	.674	.637	.707	.784

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1491700.**	**238560.**	**15660.**
Stddev	4350.	1798.	39.
%RSD	.29161	.75357	.24963

Sample Name: CalStd14-1000k Acquired: 10/27/2016 10:31:22 Type: Cal
Method: DOD Calibration Updated 060614(v1692) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.81**	**.497**	**.190**	**2.08**	**.136**
Stddev	.03	.005	.001	.02	.001
%RSD	1.03	1.03	.420	1.11	1.03

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1410900.**	**231060.**	**14750.**
Stddev	5237.	2386.	30.
%RSD	.37119	1.0328	.20488

Sample Name: icv Acquired: 10/27/2016 10:46:23 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2790
Avg	**48.0**	**12000.**	**2040.**	**2060.**	**48.4**	**10500.**	**48.9**	**500.**	**200.**	**246.**	**5170.**	**9990.**
Stddev	1.6	116.	4.	17.	.2	59.	.2	1.	1.	1.	18.	87.
%RSD	3.23	.973	.191	.804	.483	.559	.479	.197	.304	.251	.341	.867
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2924	Zn2138	Sr4077	Sn1899	B_2497
Avg	**519.**	**528.**	**514.**	**518.**	**510.**	**1950.**	**1990.**	**513.**	**507.**	**537.**	**516.**	**526.**
Stddev	7.	1.	3.	2.	2.	14.	12.	5.	2.	4.	5.	6.
%RSD	1.27	.108	.510	.479	.368	.722	.585	.927	.348	.702	.906	1.06
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1664500.**	**250080.**	**17891.**
Stddev	6958.	235.	32.
%RSD	.41804	.09380	.17706

Sample Name: ICVLL Acquired: 10/27/2016 10:53:14 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790	Mn2576
Avg	**1200.**	**61.7**	**30.3**	**12.8**	**1530.**	**16.0**	**29.7**	**30.1**	**30.0**	**942.**	**1490.**	**32.5**
Stddev	8.	3.2	.4	.1	15.	.2	.2	.6	.6	11.	11.	.1
%RSD	.695	5.17	1.20	.477	.994	.963	.650	1.96	1.84	1.20	.760	.291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899	B_2497
Avg	**30.1**	**31.8**	**31.7**	**61.5**	**64.3**	**69.0**	**56.6**	**30.9**	**31.2**	**31.8**	**143.**	**63.4**
Stddev	.3	.4	2.6	2.5	2.2	2.3	3.1	.3	.4	.3	2.	.3
%RSD	.956	1.21	8.27	4.15	3.41	3.30	5.41	1.02	1.25	.868	1.39	.524
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1659700.**	**248470.**	**17849.**
Stddev	5287.	1338.	58.
%RSD	.31852	.53829	.32296

Sample Name: icb Acquired: 10/27/2016 11:07:12 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.093**	**.488**	**2.97**	**.006**	**-.127**	**-3.61**	**.002**	**.032**	**-.288**	**-.510**	**-15.3**	**1.64**
Stddev	.676	3.57	.62	.193	.015	.63	.113	.089	.310	.340	2.9	.03
%RSD	724.	732.	20.8	2980.	11.9	17.6	5050.	280.	108.	66.8	19.3	1.72
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Avg	**.138**	**-.493**	**.665**	**.510**	**.145**	**1.72**	**2.32**	**-.632**	**.025**	**.105**	**-.036**	**-2.65**
Stddev	.040	.528	.084	1.77	1.86	.78	4.55	.944	.394	.103	.019	2.49
%RSD	28.7	107.	12.7	347.	1290.	45.6	196.	149.	1570.	98.7	54.2	94.0
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	B_2497
Avg	**1.25**
Stddev	.32
%RSD	25.3
Check ?	None
Value	
Range	

Sample Name: icb Acquired: 10/27/2016 11:07:12 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1678100.**	**250570.**	**17969.**
Stddev	6141.	1747.	38.
%RSD	.36597	.69726	.21279

Sample Name: icsa Acquired: 10/27/2016 11:21:22 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.000**	**488000.**	**.034**	**.000**	**-.181**	**487000.**	**-.002**	**-.184**	**.000**	**-.055**	**446000.**
Stddev	.77	2640.	13.6	.293	.024	2490.	.143	.065	.56	.919	3990.
%RSD	506e15	.542	40600.	8520000.	13.3	.512	5820.	35.4	3670000.	1660.	.895
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138
Avg	**500000.**	**.000**	**-.602**	**.001**	**.000**	**.001**	**-.018**	**.006**	**-.003**	**.000**	**-.001**
Stddev	2610.	.321	.095	.555	2.28	1.76	5.57	8.88	4.00	.50	.831
%RSD	.521	423000.	15.8	80400.	3010000.	330000.	31200.	158000.	155000.	1410000.	99600.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Sr4077	Sn1899	B_2497
Avg	**-.548**	**.001**	**.068**
Stddev	.057	5.02	2.09
%RSD	10.4	724000.	3080.
Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Sample Name: icsa Acquired: 10/27/2016 11:21:22 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1496600.**	**237720.**	**15919.**
Stddev	2979.	1044.	16.
%RSD	.19903	.43900	.10206

Sample Name: icsab Acquired: 10/27/2016 11:29:10 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388
Avg	**532.**	**503000.**	**487.**	**470.**	**462.**	**427.**	**508.**	**500000.**	**468.**	**434.**	**415.**
Stddev	1.	3950.	4.	25.	1.	5.	1.	4740.	1.	.	3.
%RSD	.268	.786	.903	5.26	.158	1.10	.207	.948	.205	.083	.660
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Avg	**458.**	**454.**	**425.**	**454000.**	**515000.**	**476.**	**459.**	**468.**	**463.**	**445.**	**436.**
Stddev	.	3.	2.	3330.	4640.	3.	5.	1.	1.	1.	1.
%RSD	.069	.633	.380	.734	.902	.633	1.14	.187	.226	.315	.246
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077
Avg	**437.**	**480.**	**493.**	**464.**	**464.**	**482.**	**406.**	**479.**	**420.**	**474.**	**505.**
Stddev	4.	4.	4.	4.	7.	4.	5.	1.	2.	1.	5.
%RSD	.836	.838	.741	.809	1.49	.751	1.16	.163	.386	.280	.936
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 10/27/2016 11:29:10 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Sn1899	B_2497
Avg	**448.**	**499.**
Stddev	3.	2.
%RSD	.734	.423
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1488300.**	**235910.**	**15934.**
Stddev	5160.	2079.	34.
%RSD	.34667	.88108	.21142

Sample Name: ICVLL ag Acquired: 10/27/2016 11:37:32 Type: Unk
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.0**	**22.7**	**.584**	**-.058**	**-.172**	**14.7**	**.079**	**.031**	**-.449**	**.072**	**61.7**	**15.0**
Stddev	.5	15.8	2.78	.086	.017	2.2	.132	.157	.246	.129	69.8	.2
%RSD	4.81	69.6	476.	148.	10.1	14.9	166.	502.	54.8	181.	113.	1.12

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.289**	**.320**	**.656**	**.381**	**.023**	**-.609**	**1.37**	**-1.08**	**-.348**	**.570**	**.066**	**-3.26**
Stddev	.079	.128	.362	1.84	.712	1.91	1.86	2.85	.744	.113	.029	1.05
%RSD	27.2	40.0	55.2	483.	3100.	314.	136.	262.	214.	19.8	44.3	32.3

Elem	B_2497
Units	ug/L
Avg	**.607**
Stddev	.414
%RSD	68.3

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1668800.**	**250080.**	**18238.**
Stddev	4646.	2170.	20.
%RSD	.27838	.86760	.11125

Sample Name: ccv1 Acquired: 10/28/2016 01:05:22 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Cu3247	Fe2343
Avg	**458.**	**4820.**	**4650.**	**4980.**	**462.**	**4780.**	**466.**	**4660.**	**4620.**	**4600.**	**4800.**	**4840.**
Stddev	1.	40.	20.	48.	2.	37.	1.	21.	14.	14.	48.	22.
%RSD	.320	.827	.420	.973	.494	.774	.195	.442	.294	.310	1.00	.448
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Pb2203	Sb2068	Se2062	Tl1908	V_2908
Avg	**4750.**	**4560.**	**4810.**	**4590.**	**4740.**	**4760.**	**4760.**	**4790.**	**4660.**	**4560.**	**4700.**	**4640.**
Stddev	41.	57.	12.	20.	17.	18.	21.	6.	15.	25.	15.	20.
%RSD	.855	1.25	.250	.430	.354	.384	.433	.132	.313	.554	.325	.437
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Sr4077	Sn1899	B_2497
Avg	**4710.**	**4990.**	**4640.**	**4820.**
Stddev	16.	41.	13.	13.
%RSD	.341	.821	.275	.271
Check ?	Chk Pass	None	None	Chk Pass
Value				
Range				

Sample Name: ccv1 Acquired: 10/28/2016 01:05:22 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1674100.**	**236250.**	**18208.**
Stddev	4272.	2086.	28.
%RSD	.25520	.88311	.15317

Sample Name: ccv2 Acquired: 10/28/2016 01:11:36 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3968	Cd2265	Co2286	Co2388	Cr2055
Avg	**47.8**	**480.**	**473.**	**472.**	**473.**	**487.**	**48.0**	**475.**	**49.3**	**468.**	**471.**	**470.**
Stddev	.3	4.	3.	5.	1.	6.	.1	5.	.1	1.	3.	1.
%RSD	.548	.918	.569	.987	.221	1.23	.249	1.11	.185	.125	.550	.127
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**468.**	**463.**	**457.**	**450.**	**503.**	**458.**	**479.**	**470.**	**471.**	**487.**	**480.**	**491.**
Stddev	1.	1.	7.	1.	1.	1.	1.	3.	2.	1.	2.	2.
%RSD	.114	.186	1.45	.275	.119	.153	.147	.536	.329	.248	.416	.455
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Sb2175	Se1960	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sn1899
Avg	**468.**	**469.**	**481.**	**489.**	**481.**	**476.**	**454.**	**476.**	**479.**	**467.**	**493.**	**470.**
Stddev	3.	1.	3.	16.	3.	6.	4.	1.	1.	1.	4.	3.
%RSD	.590	.114	.551	3.27	.661	1.22	.985	.192	.216	.274	.876	.680
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Sample Name: ccv2 Acquired: 10/28/2016 01:11:36 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	B_2497
Avg	**487.**
Stddev	2.
%RSD	.321

Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1701100.**	**238920.**	**18242.**
Stddev	2844.	1721.	31.
%RSD	.16717	.72036	.16917

Sample Name: ccb Acquired: 10/28/2016 01:18:09 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.755**	**5.30**	**-3.22**	**.015**	**-.178**	**-5.95**	**-.012**	**.039**	**-.677**	**-.215**	**-17.8**	**.024**
Stddev	.364	2.41	2.50	.113	.032	1.30	.142	.086	.204	.255	2.0	.031
%RSD	48.2	45.5	77.4	741.	17.8	21.9	1150.	223.	30.1	119.	11.1	126.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Avg	**.005**	**.092**	**.662**	**.457**	**1.44**	**.747**	**-.289**	**-1.61**	**-.188**	**-.162**	**.133**	**-4.39**
Stddev	.043	.125	.262	1.55	1.40	2.44	4.54	2.02	.448	.104	.246	2.11
%RSD	865.	136.	39.7	340.	97.2	327.	1570.	125.	239.	63.8	185.	48.1
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	B_2497
Avg	**4.43**
Stddev	.26
%RSD	5.89
Check ?	None
Value	
Range	

Sample Name: ccb Acquired: 10/28/2016 01:18:09 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1699400.**	**238490.**	**18378.**
Stddev	3887.	1096.	12.
%RSD	.22870	.45959	.06347

Sample Name: lcsw59578 Acquired: 10/28/2016 02:00:50 Type: Unk
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.3**	**876.**	**851.**	**841.**	**791.**	**840.**	**19.3**	**185000.**	**19.4**	**194.**	**78.1**
Stddev	.9	11.	6.	14.	.	9.	.1	2040.	.2	1.	.5
%RSD	4.98	1.21	.692	1.62	.050	1.02	.522	1.10	1.28	.329	.603

Elem	Cu2247	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**98.4**	**374.**	**88600.**	**211.**	**1980.**	**192.**	**201.**	**191.**	**209.**	**836.**	**821.**
Stddev	.5	5.	742.	.	6.	.	.	3.	.	5.	22.
%RSD	.508	1.43	.837	.237	.323	.197	.174	1.65	.083	.600	2.73

Elem	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**841.**	**745.**	**206.**	**205.**	**2.32**	**-7.01**	**1960.**
Stddev	9.	4.	2.	1.	.09	3.16	9.
%RSD	1.12	.550	.890	.472	3.89	45.1	.472

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1562000.**	**231540.**	**16853.**
Stddev	4121.	1714.	36.
%RSD	.26380	.74024	.21226

Sample Name: mbw59578 Acquired: 10/28/2016 02:07:52 Type: Unk
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.266**	**5.01**	**-4.28**	**-.212**	**.350**	**-6.82**	**.070**	**.408**	**-.508**	**.042**	**-21.3**	**.571**
Stddev	.517	3.84	.51	.086	.021	.35	.120	.049	.150	.183	.4	.180
%RSD	195.	76.7	11.8	40.4	5.96	5.18	173.	12.0	29.5	441.	1.98	31.6

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.010**	**.010**	**.799**	**1.05**	**-.070**	**.901**	**-.252**	**-2.32**	**-.315**	**-.388**	**-.005**	**-2.92**
Stddev	.029	.184	.088	.66	.946	1.05	2.05	1.65	.152	.029	.011	.22
%RSD	302.	1770.	11.0	63.5	1360.	116.	813.	70.9	48.4	7.49	242.	7.62

Elem	B_2497
Units	ug/L
Avg	**1.32**
Stddev	.14
%RSD	10.5

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**3224200.**	**474920.**	**38487.**
Stddev	11202.	3525.	43.
%RSD	.34744	.74234	.11176

Sample Name: 787719 Acquired: 10/28/2016 02:14:58 Type: Unk
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.469**	**215.**	**1.54**	**31.6**	**-.216**	**43500.**	**-.041**	**.170**	**1.02**	**-.140**	**266.**	**14400.**
Stddev	.783	17.	3.14	1.1	.021	2030.	.179	.051	.41	.335	16.	742.
%RSD	167.	7.72	204.	3.46	9.62	4.66	436.	29.8	40.5	239.	6.17	5.14

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**43.7**	**1.31**	**.793**	**.137**	**.381**	**1.37**	**2.38**	**2.20**	**.520**	**2.85**	**1810.**	**-3.82**
Stddev	1.6	.08	.020	1.03	.817	1.16	2.85	4.76	.315	.19	92.	3.68
%RSD	3.59	6.11	2.54	751.	215.	84.4	120.	216.	60.5	6.54	5.09	96.4

Elem	B_2497
Units	ug/L
Avg	**9.98**
Stddev	.61
%RSD	6.14

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1653800.**	**235710.**	**17772.**
Stddev	10457.	925.	48.
%RSD	.63232	.39252	.26773

Sample Name: 788657 Acquired: 10/28/2016 02:22:22 Type: Unk
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.130**	**294.**	**-2.32**	**89.1**	**-.209**	**43300.**	**-.040**	**-.026**	**.621**	**1.39**	**452.**	**29400.**
Stddev	.699	6.	.94	.4	.024	350.	.233	.184	.180	.45	5.	195.
%RSD	537.	2.05	40.8	.440	11.6	.809	578.	699.	29.0	32.1	1.10	.665

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**66.8**	**1.12**	**1.10**	**.879**	**.407**	**2.13**	**.472**	**-2.89**	**.199**	**3.32**	**50.6**	**-3.63**
Stddev	.4	.15	.31	.833	2.53	1.41	3.24	1.37	.293	.20	.2	2.16
%RSD	.539	13.8	28.1	94.8	622.	66.4	686.	47.3	147.	6.08	.318	59.6

Elem	B_2497
Units	ug/L
Avg	**6.10**
Stddev	.58
%RSD	9.55

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1628200.**	**231740.**	**17595.**
Stddev	5937.	656.	63.
%RSD	.36463	.28304	.35946

Sample Name: ccv1 Acquired: 10/28/2016 02:36:53 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Cu3247	Fe2343
Avg	**462.**	**4840.**	**4710.**	**5020.**	**465.**	**4780.**	**470.**	**4690.**	**4660.**	**4680.**	**4770.**	**4870.**
Stddev	2.	24.	22.	18.	3.	42.	1.	27.	12.	11.	16.	32.
%RSD	.428	.502	.476	.349	.564	.881	.263	.573	.252	.236	.334	.655
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Pb2203	Sb2068	Se2062	Tl1908	V_2908
Avg	**4790.**	**4540.**	**4880.**	**4550.**	**4800.**	**4790.**	**4740.**	**4830.**	**4740.**	**4690.**	**4760.**	**4610.**
Stddev	19.	34.	13.	30.	30.	22.	10.	8.	18.	37.	16.	35.
%RSD	.397	.746	.273	.654	.617	.460	.219	.159	.377	.796	.339	.759
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Sr4077	Sn1899	B_2497
Avg	**4660.**	**5020.**	**4700.**	**4860.**
Stddev	13.	18.	22.	20.
%RSD	.272	.366	.459	.415
Check ?	Chk Pass	None	None	Chk Pass
Value				
Range				

Sample Name: ccv1 Acquired: 10/28/2016 02:36:53 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1659400.**	**235190.**	**17829.**
Stddev	6609.	1620.	33.
%RSD	.39829	.68878	.18327

Sample Name: ccv2 Acquired: 10/28/2016 02:43:08 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3968	Cd2265	Co2286	Co2388	Cr2055
Avg	**49.1**	**484.**	**479.**	**482.**	**477.**	**499.**	**48.5**	**483.**	**49.5**	**476.**	**476.**	**475.**
Stddev	1.0	7.	2.	10.	1.	6.	.1	4.	.1	1.	1.	1.
%RSD	1.97	1.38	.469	2.00	.229	1.26	.251	.892	.221	.159	.199	.245
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**471.**	**470.**	**468.**	**449.**	**509.**	**454.**	**482.**	**477.**	**476.**	**494.**	**478.**	**495.**
Stddev	2.	2.	6.	1.	.	2.	1.	2.	2.	1.	3.	2.
%RSD	.524	.322	1.29	.310	.095	.376	.232	.365	.368	.231	.646	.425
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Sb2175	Se1960	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sn1899
Avg	**479.**	**478.**	**489.**	**519.**	**495.**	**482.**	**450.**	**480.**	**475.**	**474.**	**502.**	**477.**
Stddev	3.	2.	2.	3.	4.	3.	2.	2.	2.	1.	4.	1.
%RSD	.633	.367	.329	.544	.745	.707	.485	.409	.391	.217	.785	.235
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Sample Name: ccv2 Acquired: 10/28/2016 02:43:08 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	B_2497
Avg	**492.**
Stddev	3.
%RSD	.640

Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1685400.**	**235120.**	**17920.**
Stddev	4834.	1820.	22.
%RSD	.28679	.77418	.12296

Sample Name: ccb Acquired: 10/28/2016 02:49:40 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**-.422**	**3.27**	**-.971**	**-.027**	**-.151**	**-6.06**	**-.010**	**.149**	**-.544**	**.242**	**-19.3**	**.067**
Stddev	.449	2.20	3.06	.270	.007	1.25	.144	.068	.388	.268	2.9	.037
%RSD	106.	67.4	315.	990.	4.72	20.7	1500.	45.3	71.4	111.	14.9	55.6
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

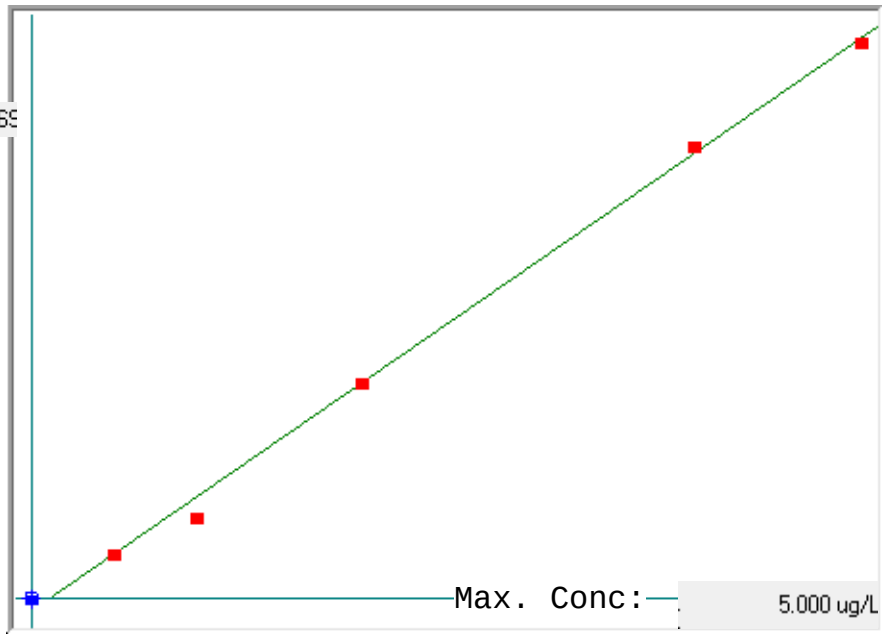
Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sn1899
Avg	**.108**	**-.058**	**.877**	**-.054**	**.361**	**1.56**	**1.60**	**-1.46**	**.059**	**-.200**	**.314**	**-2.17**
Stddev	.059	.181	.167	.695	1.43	4.12	.60	1.90	.454	.207	.437	1.59
%RSD	54.7	311.	19.0	1280.	397.	264.	37.5	131.	772.	104.	139.	73.5
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	B_2497
Avg	**4.84**
Stddev	.19
%RSD	3.95
Check ?	None
Value	
Range	

Sample Name: ccb Acquired: 10/28/2016 02:49:40 Type: QC
Method: DOD Calibration Updated 060614(v1692) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1683500.**	**236590.**	**17948.**
Stddev	4212.	1191.	48.
%RSD	.25018	.50343	.26965

CVAA water



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	0.121	0.121	20	8.367	6	28	24	22	
0.5	0.500	0.504	0.004	1247	5.2 %	1157	1220	1290	1324	
1.0	1.000	0.835	-0.165	2311	4.7 %	2157	2272	2375	2441	
2.0	2.000	2.004	0.004	6063	4.9 %	5632	5963	6225	6434	
4.0	4.000	4.069	0.069	12689	4.7 %	11851	12471	12996	13439	
5.0	5.000	4.966	-0.034	15569	4.5 %	14567	15344	15939	16426	

102016WA PDF

Method: CVAA water Operator: Admin Date of Analysis: 20 Oct 2016 07:00:28

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	20 Oct 2016 07:34:42	Hg	ug/L		16.000
0.5	20 Oct 2016 08:25:02	Hg	ug/L		1247.750
1.0	20 Oct 2016 08:27:13	Hg	ug/L		2311.250
2.0	20 Oct 2016 08:29:24	Hg	ug/L		6063.500
4.0	20 Oct 2016 08:31:35	Hg	ug/L		12689.250
5.0	20 Oct 2016 08:33:45	Hg	ug/L		15569.000
ICV	20 Oct 2016 08:35:57	Hg	ug/L		2.958
ICB	20 Oct 2016 08:38:06	Hg	ug/L		0.008
790604 LCSW59596	20 Oct 2016 08:40:15	Hg	ug/L		2.953
790603 MBW59596	20 Oct 2016 08:42:24	Hg	ug/L		-0.000
788094	20 Oct 2016 08:44:33	Hg	ug/L		0.107
DUP788094	20 Oct 2016 08:46:42	Hg	ug/L		0.113
MSW788094	20 Oct 2016 08:48:51	Hg	ug/L		2.133
MSDW788094	20 Oct 2016 08:51:00	Hg	ug/L		2.035
790599 LCSW59594	20 Oct 2016 08:53:09	Hg	ug/L		2.799
790598 MBW59594	20 Oct 2016 08:55:19	Hg	ug/L		-0.001
788070	20 Oct 2016 08:57:29	Hg	ug/L		0.102
DUP788070	20 Oct 2016 08:59:39	Hg	ug/L		0.106
CCV	20 Oct 2016 09:14:30	Hg	ug/L		2.995
CCB	20 Oct 2016 09:16:39	Hg	ug/L		0.005
MSW788070	20 Oct 2016 09:18:48	Hg	ug/L		2.059
MSDW788070	20 Oct 2016 09:20:59	Hg	ug/L		2.048
790609 LCSW59597	20 Oct 2016 09:23:10	Hg	ug/L		2.980
790608 MBW59597	20 Oct 2016 09:25:20	Hg	ug/L		-0.028
787719	20 Oct 2016 09:27:30	Hg	ug/L		0.097
788657	20 Oct 2016 09:29:39	Hg	ug/L		0.111
DUP788657	20 Oct 2016 09:31:49	Hg	ug/L		0.106
MSW788657	20 Oct 2016 09:33:59	Hg	ug/L		2.034
MSDW788657	20 Oct 2016 09:36:08	Hg	ug/L		1.991
790594 LCSW59593	20 Oct 2016 09:38:18	Hg	ug/L		2.818
CCV	20 Oct 2016 09:40:28	Hg	ug/L		3.038
CCB	20 Oct 2016 09:42:36	Hg	ug/L		-0.007
787584	20 Oct 2016 09:46:56	Hg	ug/L		0.244
DUP787584	20 Oct 2016 09:49:06	Hg	ug/L		0.238
MSW787584	20 Oct 2016 09:51:17	Hg	ug/L		0.391
MSDW787584	20 Oct 2016 09:53:28	Hg	ug/L		0.268
790621 LCSW59598	20 Oct 2016 09:55:38	Hg	ug/L		2.982
790620 MBW59598	20 Oct 2016 09:57:48	Hg	ug/L		0.001
786825	20 Oct 2016 09:59:57	Hg	ug/L		0.089
790068	20 Oct 2016 10:02:07	Hg	ug/L		0.110
MSW790068	20 Oct 2016 10:04:17	Hg	ug/L		1.918
CCV	20 Oct 2016 10:06:26	Hg	ug/L		3.032
CCB	20 Oct 2016 10:08:35	Hg	ug/L		0.018
MSDW790068	20 Oct 2016 10:10:44	Hg	ug/L		2.132
PDSW790068	20 Oct 2016 10:12:53	Hg	ug/L		2.176
790625 LCSW59599	20 Oct 2016 10:15:03	Hg	ug/L		2.876
790624 MBW59599	20 Oct 2016 10:17:14	Hg	ug/L		-0.008
790593 MBW59593	20 Oct 2016 10:30:20	Hg	ug/L		-0.100
CCV	20 Oct 2016 10:32:30	Hg	ug/L		3.163
CCB	20 Oct 2016 10:34:38	Hg	ug/L		0.039
789591	20 Oct 2016 10:36:48	Hg	ug/L	10	1.464
DUP789591	20 Oct 2016 10:38:57	Hg	ug/L	10	1.656
MSW789591	20 Oct 2016 10:41:07	Hg	ug/L	10	1.745
MSDW789591	20 Oct 2016 10:43:16	Hg	ug/L	10	1.706
CCV	20 Oct 2016 10:45:26	Hg	ug/L		3.095
CCB	20 Oct 2016 10:47:35	Hg	ug/L		0.013

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
131471 on 11/09/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	800544								MICP WATER QSM				
					ICV								
	800548								MICP WATER QSM				
					ICVLL								
	800545								MICP WATER QSM				
					ICB								
	800546								MICP WATER QSM				
					ICSA								
	800547								MICP WATER QSM				
					ICSAB								
	800557								MICP WATER QSM				
					ICVLL								
	800549								MICP WATER QSM				
					CCV1								
	800553								MICP WATER QSM				
					CCV2								
	800551								MICP WATER QSM				
					CCB								
	800555								ICP TOTAL QSM 5.0				
					L	787719							
	789907		10/12/2016	1530					ICP TOTAL QSM 5.0				
		54AOW01			DUP	787719				59578			
	789908		10/12/2016	1530					ICP TOTAL QSM 5.0				
		54AOW01			MSW	787719				59578			
	789909		10/12/2016	1530					ICP TOTAL QSM 5.0				
		54AOW01			MSDW	789908				59578			
	800556								ICP TOTAL QSM 5.0				
					PDSW	787719							
	800552								MICP WATER QSM				
					CCV1								
	800550								MICP WATER QSM				
					CCV2								
	800554								MICP WATER QSM				
					CCB								
	798473								MICP WATER QSM				
					ICV					0			
	798474								MICP WATER QSM				
					ICVLL					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
131471 on 11/09/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	798475							MICP WATER QSM				
					ICB				0			
	798476							MICP WATER QSM				
					ICSA				0			
	798477							MICP WATER QSM				
					ICSAB				0			
	798478							MICP WATER QSM				
					ICVLL				0			
	798479							MICP WATER QSM				
					CCV1				0			
	798480							MICP WATER QSM				
					CCV2				0			
	798481							MICP WATER QSM				
					CCB				0			
	789906							ICP TOTAL QSM 5.0				
					LCSW				59578			
	789905							ICP TOTAL QSM 5.0				
					MBW				59578			
122887	787719		10/12/2016	1530		BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		54AOW01							59578			
122926	788657		10/14/2016	1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		49AOW01							59578			
	798482							MICP WATER QSM				
					CCV1				0			
	798483							MICP WATER QSM				
					CCV2				0			
	798484							MICP WATER QSM				
					CCB				0			

33 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
131473 on 11/09/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	790999								MICP WATER QSM K&Na				
					ICV					0			
	791000								MICP WATER QSM K&Na				
					ICVLL					0			
	791001								MICP WATER QSM K&Na				
					ICB					0			
	791002								MICP WATER QSM K&Na				
					MRL					0			
	791003								MICP WATER QSM K&Na				
					ICSA					0			
	791004								MICP WATER QSM K&Na				
					ICSAB					0			
	791005								MICP WATER QSM K&Na				
					CCV					0			
	791006								MICP WATER QSM K&Na				
					CCB					0			
	789906								ICP K TOTAL QSM 5.0				
					LCSW					59578			
	789906								ICP NA TOTAL QSM 5.0				
					LCSW					59578			
	789905								ICP K TOTAL QSM 5.0				
					MBW					59578			
	789905								ICP NA TOTAL QSM 5.0				
					MBW					59578			
122887	787719		10/12/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		54AOW01								59578			
122887	787719		10/12/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		54AOW01								59578			
	791007								MICP WATER QSM K&Na				
					CCV					0			
	791008								MICP WATER QSM K&Na				
					CCB					0			
	791009								ICP K TOTAL QSM 5.0				
					L	787719				0			
	791009								ICP NA TOTAL QSM 5.0				
					L	787719				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
131473 on 11/09/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	789907		10/12/2016	1530					ICP K TOTAL QSM 5.0				
		54AOW01			DUP	787719				59578			
	789907		10/12/2016	1530					ICP NA TOTAL QSM 5.0				
		54AOW01			DUP	787719				59578			
	789908		10/12/2016	1530					ICP K TOTAL QSM 5.0				
		54AOW01			MSW	787719				59578			
	789908		10/12/2016	1530					ICP NA TOTAL QSM 5.0				
		54AOW01			MSW	787719				59578			
	789909		10/12/2016	1530					ICP K TOTAL QSM 5.0				
		54AOW01			MSDW	789908				59578			
	789909		10/12/2016	1530					ICP NA TOTAL QSM 5.0				
		54AOW01			MSDW	789908				59578			
	791010								ICP K TOTAL QSM 5.0				
					PDSW	787719				0			
	791010								ICP NA TOTAL QSM 5.0				
					PDSW	787719				0			
122926	788657		10/14/2016	1105			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		49AOW01								59578			
122926	788657		10/14/2016	1105			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		49AOW01								59578			
	791011								MICP WATER QSM K&Na				
					CCV					0			
	791012								MICP WATER QSM K&Na				
					CCB					0			

30 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
131573 on 11/09/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	791835								MERCURY QSM 5.0				
					ICV					0			
	791836								MERCURY QSM 5.0				
					ICB					0			
	791837								MERCURY QSM 5.0				
					CCV					0			
	791838								MERCURY QSM 5.0				
					CCB					0			
	790609								MERCURY TOTAL QSM 5.0				
					LCSW					59597			
	790608								MERCURY TOTAL QSM 5.0				
					MBW					59597			
122887	787719		10/12/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		54AOW01								59597			
122926	788657		10/14/2016	1105			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		49AOW01								59597			
	790610		10/14/2016	1105					MERCURY TOTAL QSM 5.0				
		49AOW01			DUP	788657				59597			
	790611		10/14/2016	1105					MERCURY TOTAL QSM 5.0				
		49AOW01			MSW	788657				59597			
	790612		10/14/2016	1105					MERCURY TOTAL QSM 5.0				
		49AOW01			MSDW	790611				59597			
	791839								MERCURY QSM 5.0				
					CCV					0			
	791840								MERCURY QSM 5.0				
					CCB					0			

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 11/09/2016

Prep Batch **59,578** Date Prepped: 10/18/2016 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	789905	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	789905	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	789905	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	789906	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	789906	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	789906	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
122887	787719			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	787719			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	787719			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
122926	788657			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	788657			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	788657			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	789907	DUP	787719	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789907	DUP	787719	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789907	DUP	787719	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789908	MSW	787719	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789908	MSW	787719	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 11/09/2016

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	789908	MSW	787719	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789909	MSDW	789908	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789909	MSDW	789908	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	789909	MSDW	789908	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 11/09/2016

Prep Batch **59,597** Date Prepped: 10/19/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	790608	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	790609	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
122887	787719			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
122926	788657			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	790610	DUP	788657	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	790611	MSW	788657	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	790612	MSDW	790611	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: liquid

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	59578
Prep Method:	3010
Analyst:	NAH
Date:	10/18/2016
Start Time:	15:00

Prep Analyst: NAH

Balance ID:

End Date: 10/18/2016

End Time: 20:00

Reagent:	Ref. #
Nitric Acid:	AB.626
Hydrochloric Acid:	AB.624
Hydrogen Peroxide:	

Digestion Tube Lot #: J237316-6560

Block Used: A

Cell Position for Temp. Check: A-1

Initial-DigestionTemp (ºC): 92

Final-Digestion Temp (ºC): 92

Sample			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
789905	(MB)			50.0	50
789906	(LCS)			50.0	50
787719				50.0	50
788657				50.0	50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
789907	(DUP) if applicable			50.0	50
789908	(MS)	Parent Sample		50.0	50
789909	(MSD)	787719		50.0	50
	(DUP) if applicable				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12938
0.5	M12946
0.1	M12677
0.5	M12951
0.1	M12957

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12938
0.5	M12946
0.1	M12677
0.5	M12951
0.1	M12957

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M12972
ICV/LCSW ID: M12971

*Matrix: GW
Balance ID:

Prep Batch #:	59597
Prep Method:	7070A
Analyst:	LJF
Date:	10/19/2016
Start Time:	08:30

7470A= Hg Liquids
7471A= Hg Solids

End Date: 10/19/2016
End Time: 10:30

Digestion Tube Lot #: 6416053
Block Used: A
Cell Position for Temp. Check: C-3
Initial-DigestionTemp (ºC): 90.4
Final-Digestion Temp (ºC): 90.4
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M12969

Reagent:	Ref. #
HNO3:	AB.628
H2SO4:	AB.605
NaCl/Hydrox.SO4:	M12858
KMnO4:	M12979
K2S2O8:	M12830
Aqua-Regia:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
790608	(MB)			25.0	25
790609	(LCS)			25.0	25
787719				25.0	25
788657	**Comments:**			25.0	25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
790610	(DUP)			25.0	25
790611	(MS)	Parent Sample		25.0	25
790612	(MSD)	788657		25.0	25
Leave >>	(MS)	Parent Sample			25
blank	(MSD)				25
	(MS)	Parent Sample			25
	(MSD)				25
					25
if N/A					25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M12970

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 10-21,27-16	Data File: 000 results	Date of review: 11/04/16
Cal Std ID: 112889 LIMS # : 131471	Analyst: JJ	Reviewer: MDS	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					Very limited sample volume had to reanalyze did not Have enough to reanalyze the QC
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 59578 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓	✓	Be > ½ RL
Spiked samples in batch:					
a) 787719 matrix = GW	✓	✓	✓	✓	L failures invalid
b) _____ matrix = _____					Dup failures Invalids Al, Ca, mg, Na "4"
c) _____ matrix = _____					MS, MSD failures
PDS: ±15% / 20% / 25% Sample#: a	✓	✓	✓	✓	Al, As, Fe, mg, Mn, Ni, Se, Sb "M" (Ca)
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 10/19/16	Data File: NAK101916 v797	Date of review: 10-20-16
Cal Std ID: M12981 LIMS # : 131473	Analyst: MMS	Reviewer:	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 59578 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 787719 matrix = Lw	✓	✓	✓	✓	L invalid
b) _____ matrix = _____					Dup invalid K
c) _____ matrix = _____					MSD Failed K
PDS: ±15% / 20% / 25% Sample#: a	✓		✓		OK, no Flag
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER			
Analysis Date: 10/20/16	Data File: 1020Hgw	Date Review:	10-20-16	Analyte: Hg		
Cal Std ID: M129641	IMS # : B1573	Analyst: SF	Reviewer:	Approved?	Yes	No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)						

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 598217 Dig. Meth. 7470A	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 788057 matrix = GW	✓	✓	✓	✓	Dup invalid
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std ID	Comments	Pressure (kPa)
10/06/16	0830 / 1316	MDS	NaK	131009, 130984, 130960 130791, 130935, 130967, 131005	NaK100616	M12871	v789	320
10/06/16	1424 / 1531	MDS	NaK	130960	NaK1006166	M12871	v790	320
10/07/16	0924 / 1031	MDS	NaK	130960, 131059	NaK100716	M12871	v791	320
10/11/16	0728 / 0839	MDS	B+Si	131063	Si101116	M12746	v175	320
10/11/16	1136 / 1609	MDS	NaK	131125, 131215 131155, 131151, 131121, 131123	NaK101116	M12981	v792	320
10/13/16	0924 / 1355	MDS	NaK	131204, 131202, 131273 131200, 131201	NaK101316	M12981	v793, v794	320
10/14/16	1053 / 1224	MDS	NaK	131304	NaK101416	M12981	v795	320
10/17/16	0726 / 1017	MDS	NaK	131364, 131375, 131305, 131388	NaK101716	M12981	v796	320
10/17/16	1051 / 1201	MDS	B+Si	131301	Si101716	M12995	v176	320
10/19/16	0711 / 1206	MDS	NaK	131442, 131440 131490, 131489, 131473, 131475	NaK101916	M12981	v797	320
10/24/16	0924 / 1211	MDS	NaK	131605, 131612, 131646	NaK102416	M12981	v798	320
10/25/16	0752 / 0854	MDS	B+Si	131606	Si102516	M12995	v177	320
10/25/16	1037 / 1205	MDS	B+Si	131767	Si102516b	M12995	v178	320
10/25/16	1242 / 1436	MDS	NaK	131772, 131763	NaK102516	M12981	v799	320
10/26/16	0831 / 1105	MDS	L2	131765, 131822, 131810	L2102616	M13009	v209	~~320~~ 270
10/26/16	1235 / 1331	MDS	B+Si	131820	Si102616	M12995	v178	320
10/26/16	1548 / 1646	MDS	B+Si	131820	Si102616b	M12995	v179	320
10/27/16	1514 / 1801	MDS	NaK	131809, 131929, 131940	NaK102716	M12981	v800	320
10/28/16	1108 / 1728	MDS	NaK	131996, 131996, 131983 131996, 132000, 131990, 131992	NaK102816	M12981	v801	320
10/31/16	1011 / 1211	MDS	NaK	131996, 132073, 132075	NaK103116	M12981	v802	320
10/31/16	1551 / 2032	MDS	L2	131810, 131765, 132055, 132056	L2103116	M13009	v212	270
11/02/16	0834 / 1008	MDS	L2	132055	L2110216	M13009	v213	270
11/03/16	1132 / 2031	MDS	NaK	132154, 132170, 132169, 132271 132178, 132175, 132172, 132156, 132151	NaK110316	M12981	v803	320
11/04/16	1403 / 1709	MDS	NaK	132172, 132170, 132169, 132272	NaK110416	M12981	v804	320
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Checked by: _____ Verified by: _____

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ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
10-10-16	1142 / 1007 1533		D0061 16	DOOcalw	130679, 130937, 130968, 131004 130914, 130913, 130918, 130917, 130961 13006, 131007, 130985, 130959, 300		M12889	V1631 V1632 V1633	
10-10-16	0947 / 10/11/16 1525		D1010 16	DOOcalw	131042, 131126, 130959, 131061 10-06-16 131141, 131060, 131122, 131064 131140, 131067, 131124, 130959 300		M12889	V1634 V1635 V1640 V1636 V1637 V1647 V1638 V1639 V1648	
10-11-16	1533 / 1914		D011 16	DOOcalw	131154, 131211, 131170, 131214, 131150 130937		300 M12889	V1649	
10-13-16	1102 / 0527		D101316	DOOcalw	131156, 130968, 131197 131177, 131199, 131195 131207, 06, 1, 1203		300 M12889	V1650	
10-14-16	0804 / 10-15-16 0837		D101416	DOOcalw	131310, 131309, 131337 131300, 131303, 131302 131322, 131318, 13135, 16		300 M12889	V1654 V1651 V1652	
10-17-16	1134 / 2302		D101716	DOOcalw	131150 131389 131346 131388 131374		300 M12889	V1655	
10-18-16	0725 / 1945		D101816	DOOcalw	131468 131441 131443 131439		300 M12889	V1656 V1657 V1658	
10-19-16	0754 / 0305		D101916	DOOcalw	131472 131492 131424 131491 131471		300 M12889	V1660 V1661 V1659	
10/20/16	1317 / 1804		D102016	DOOcalw	131587 131601		300 M12889	V1662	
10/21/16	0927 / 10-22-16 1514		D102116	DOOcalw	131614, 131613 131611, 131596, 97		300 M12889	V1663 V1665	
10/22/16	/		D102216	DOOcalw			300 M12889 300 M12889		
10-24-16	0659 / 1351		D102316 As+Pb D102416	DOOcalw	131705, 131706, 131707 131647		300 M12889	V1664	

10-23-16

Comments: _____

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Checked By / Date: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
10-24-16	1428 / 0504	[signature]	0102416	DOD Cal u	131680, 131685, 131686, 131679	300	M12889	V31	
10-25-16	D9/16 1522 / 0812	[signature]	0102516	DODCal u DODCal u	131768 131769 131770 131764 131771 131858 131876 131761 131698 131771 131770 131627 131827 131699 131701 131762	300	M12889	V1683 V1673 V1688 V1684 V1686	
10-26-16	1145 / 1947	[signature]	D102616	DODCal u	131876 131813 131875 131817 131773 131826 131764	300	M12889	V1690 V1689	
10-27-16	0852 / 0316	[signature]	D102716	DODCal u	131928 131858 131939	300	M12889	V1692 V1691	
10-28-16	0855 / 10/29 1413	[signature]	D102816	DODCal u	131980 131984 131993 131985 131984 131988 131981 131991 132006	300	M12889	V1694 V1693 V1695	
10-29-16	1514 / 1030 1516	[signature]	D102916	DODCal u	131998 132003 132046 132001 132997 132047 131999 131982 131994 132008	300	M12889	V1696 V1697	
10-30-16	1541 / 0817	[signature]	D103016	DODCal u	132046 132045 132041 132044 132083	300	M12889	V1698	
10-31-16	0832 / 0356	[signature]	D10316	DODCal u	132083 132086	300	M12889	V1699	
11-2-16	/	[signature]	D110216	DODCal u			M13017		
	/								
	/								
	/								

Comments: _____

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Checked By / Date: _____

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: ~~Cetac M-6000A~~ 05/31/16 LSF Teledyne HydraII

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
08/17/16	06:34	09:35	LSF	128728, 128723, 128725 08/17/16 LSF	08171650	M12912	22.86	250298	Sncl2: M12918
08/17/16	09:56	12:08	LSF	128734 128736, 128740, 128738	08171650	M12912	22.86	250298	Sncl2: M12918
08/18/16	11:41	14:03	LSF	128815, 128816	08181650	M12912	22.86	250298	Sncl2: M12918
08/22/16	06:55	07:35	LSF	08/22/16 LSF ~~128828~~ 128826	08221650	M12912	22.86	250298	Sncl2: M12918
08/24/16	07:28	08:09	LSF	129069	08241650	M12912	22.86	250298	Sncl2: M12918
08/31/16	09:35	15:06	LSF	129319, 129324, 129325 129316, 129317, 129318, 129320	~~08311650~~ 08311650	M12912	22.86	250298	Sncl2: M12918
09/01/16	09:14	11:24 09/01/16 LSF	LSF	129363, 129362, 129345, 129484	08/31/16 LSF 09011650	M12912	22.86	250298	Sncl2: M12918
09/02/16	09:17	11:04	LSF	129488, 129489, 129490	09021650	M12912	22.86	250298	Sncl2: M12918
09/09/16	08:03	12:04	LSF	129724, 129729 129723, 129720, 129721	09091650	M12912	22.86	250298	Sncl2: M12918
09/12/16	14:11	17:01	LSF	129764, 129766, 129765, 129777	09121650	M12912	22.86	250298	Sncl2: M12918
09/13/16	06:59	11:19	LSF	129891 129892, 129888, 129890, 129886	09131650	M12912	22.86	250298	Sncl2: M12918
09/19/16	08:00	10:30	LSF	130186 130188, 130187, 130189, 130190	09191650	M12969	22.86	250298	Sncl2: M12975
09/19/16	11:04	13:08	LSF	130194, 130193	09191650	M12969	22.86	250298	Sncl2: M12975
09/22/16	07:39	10:06	LSF	130339, 130336, 130335, 130344	09221650	M12969	22.86	250298	Sncl2: M12975
09/22/16	10:50	11:42	LSF	130350	09221650	M12969	22.86	250298	Sncl2: M12975
09/29/16	06:55	08:50	LSF	130735, 130733, 130734, 130736	09291650	M12969	22.86	250298	Sncl2: M12975
10/03/16	07:51	09:57	LSF	130868, 130867	10031650	M12969	22.86	250298	Sncl2: M12975
10/07/16	07:08	07:59	LSF	131038, 131037, 131040	10071650	M12969	22.86	250298	Sncl2: M12975
10/12/16	07:40	10:38	LSF	131193, 131192, 131191, 131190	10121650	M12969	22.86	250298	Sncl2: M12975
10/13/16	08:28	11:01	LSF	131258, 131259, 131243, 131257	10131650	M12969	22.86	250298	Sncl2: M12975
10/18/16	07:57	13:01	LSF	131437, 131418, 131441, ~~131412~~ 10/18/16 LSF 131459, 131247, 131757, 131188	10181650	M12969	22.86	250298	Sncl2: M12975
10/19/16	08:28	11:01	LSF	131247, 131757, 131188	10141650	M12969	22.86	250298	Sncl2: M12975
10/19/16	09:31	12:19	LSF	131418, 131411, 131412	10191650	M12969	22.86	250298	Sncl2: M12975
10/20/16	07:34	10:47	LSF	131568, ~~131569~~ 131571 131570, 131572, 131573 10/20/16 LSF	10201650	M12969	22.86	250298	Sncl2: M12975

Reviewed By/Date: _____

Type	Date/Time	Message	User name	Application	Sequence Name
	10/17/2016 11:28:39	Running lcsw59479 (1)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:31:07	Running mbw59479 (2)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:33:39	Running 784877 (3)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:36:10	Running l784877 (4)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:38:41	Running dup784877 (5)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:41:12	Running msw784877 (6)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:43:43	Running msdw784877 (7)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:46:14	Running pdsw784877 (8)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:48:46	Running 785421 (9)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:51:17	Running ccv (13)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:53:50	Running ccb (14)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:56:23	Running 785423 (10)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 11:58:55	Running ccv (13)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 12:01:27	Running ccb (14)	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 12:03:57	Autosampler Run Completed	MDS	Analyst	S_Boron and Si2(v1
	10/17/2016 12:13:40	Plasma off	MDS	iTEVA Control Center	
	10/17/2016 12:13:40	Plasma extinguished successfully	MDS	Analyst	
	10/19/2016 06:41:26	Plasma On	MDS	iTEVA Control Center	
	10/19/2016 06:41:30	Plasma ignition successful	MDS	iTEVA Control Center	
	10/19/2016 06:42:10	D33534 - Debug:Wavelength check : x = -0.508, y =-0.271	MDS	iTEVA Control Center	
	10/19/2016 07:10:44	Sequence Started	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:10:44	Autosampler Run Started	MDS	Analyst	
	10/19/2016 07:11:05	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:14:02	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:16:47	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:19:32	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:22:17	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:25:04	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:27:51	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:30:37	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:33:22	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:36:16	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:39:02	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:41:49	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:44:34	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:47:19	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:50:15	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:53:08	Running lcss59581 (1)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:55:50	Running mbs59581 (2)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 07:58:39	Running 788683 (3)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:01:19	Running l788683 (4)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:04:01	Running dup788683 (5)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:06:42	Running mss788683 (6)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:09:22	Running msds788683 (7)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:12:03	Running pdss788683 (8)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:14:45	Running 788684 (9)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:17:27	Running 788685 (10)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:20:09	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:22:56	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:25:46	Running lcss59580 (11)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:28:29	Running mbs59580 (12)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:31:19	Running 788660 (13)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	10/19/2016 08:33:59	Running 788661 (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:36:40	Running 788662 (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:39:21	Running 788663 (16)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:42:01	Running 788664 (17)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:44:42	Running 788666 (18)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:47:23	Running 788667 (19)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:50:04	Running 788668 (20)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:52:46	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:55:32	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 08:58:20	Running 788669 (21)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:01:02	Running 788670 (22)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:03:44	Running 788671 (23)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:06:26	Running 788672 (24)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:09:08	Running 788673 (25)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:11:50	Running 788674 (26)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:14:31	Running 788675 (27)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:17:13	Running 788676 (28)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:19:54	Running 788677 (29)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:22:35	Running 788678 (30)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:25:17	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:28:04	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:30:51	Running 788679 (31)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:33:33	Running 788680 (32)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:36:14	Running l788680 (33)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:38:57	Running dup788680 (34)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:41:40	Running mss788680 (35)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:44:21	Running msds788680 (36)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:47:04	Running pdss788680 (37)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:49:45	Running lcsw59578 (38)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:52:29	Running mbw59578 (39)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:55:18	Running 787719 (40)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 09:58:04	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:00:51	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:03:40	Running l787719 (41)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:06:25	Running dup787719 (42)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:09:11	Running msw787719 (43)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:11:56	Running msdw787719 (44)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:14:40	Running pdsw787719 (45)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:17:26	Running 788657 (46)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:20:12	Running lcsw59575 (47)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:22:58	Running mbw59575 (48)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:25:49	Running 788058 (49)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:28:34	Running 788059 (50)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:31:30	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:34:17	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:37:07	Running 788060 (51)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:39:52	Running 788061 (52)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:42:37	Running msw788061 (53)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:45:23	Running msdw788061 (54)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:48:08	Running pdsw788061 (55)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:50:54	Running lcsw59551 (56)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:53:39	Running mbw59551 (57)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	10/19/2016 10:56:29	Running 788070 (58)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 10:59:15	Running I788070 (59)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:02:02	Running dup788070 (60)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:04:48	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:07:35	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:10:23	Running msw788070 (61)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:13:08	Running msdw788070 (62)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:15:54	Running pdsw788070 (63)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:18:39	Running lcsw59555 (64)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:21:25	Running mbw59555 (65)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:24:14	Running 788686 (66)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:27:04	Running I788686 (67)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:29:53	Running dup788686 (68)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:32:43	Running msw788686 (69)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:35:28	Running msdw788686 (70)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:38:14	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:41:01	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:43:50	Running pdsw788686 (71)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:46:38	Running 788059 (72)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:49:24	Running 788061 (73)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:52:11	Running msw788061 (74)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:54:57	Running msdw788061 (75)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 11:57:43	Running pdsw788061 (76)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 12:00:27	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 12:03:15	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 12:06:02	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/19/2016 12:08:47	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	10/19/2016 12:12:14	Plasma extinguished successfully	MDS	Analyst	
	10/19/2016 12:12:14	Plasma off	MDS	iTEVA Control Center	
	10/24/2016 08:46:16	Plasma On	MDS	iTEVA Control Center	
	10/24/2016 08:46:22	Plasma ignition successful	MDS	Analyst	
	10/24/2016 08:47:01	D33534 - Debug:Wavelength check : x = -0.695, y =-0.357	MDS	Analyst	
	10/24/2016 09:24:20	Autosampler Run Started	MDS	Analyst	
	10/24/2016 09:24:20	Sequence Started	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:24:41	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:27:38	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:30:24	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:33:11	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:35:57	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:38:45	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:41:33	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:44:20	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:47:06	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:49:59	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:52:46	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:55:33	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 09:58:20	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 10:01:06	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 10:04:00	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 10:06:53	Running lcsw59683 (1)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 10:09:38	Running mbw59683 (2)	MDS	Analyst	S_Sodium and Potas
	10/24/2016 10:12:27	Running 791608 (3)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	10/18/2016 17:15:15	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/18/2016 17:21:40	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/18/2016 17:28:05	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/18/2016 17:35:02	Running 788805 (51)	NAH	Analyst	S_DOD Calibration
	10/18/2016 17:42:03	Running new tube1 (52)	NAH	Analyst	S_DOD Calibration
	10/18/2016 17:49:00	Running new tube2 (53)	NAH	Analyst	S_DOD Calibration
	10/18/2016 17:55:57	Running pdss784496 (54)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:02:35	Running 784516 (55)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:09:40	Running 787440 (56)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:16:46	Running 787441 (57)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:23:40	Running l787441 (58)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:30:52	Running dup787441 (59)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:37:47	Running mss787441 (60)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:44:41	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:51:19	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/18/2016 18:57:44	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:04:42	Running msds787441 (61)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:11:40	Running pdss787441 (62)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:18:32	Running 787443 (63)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:25:38	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:32:31	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:39:05	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:45:30	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/18/2016 19:52:30	Plasma extinguished successfully	NAH	Analyst	
	10/18/2016 19:52:31	Plasma off	NAH	iTEVA Control Center	
	10/18/2016 19:52:32	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	10/19/2016 06:44:43	Plasma On	NAH	iTEVA Control Center	
	10/19/2016 06:44:48	Plasma ignition successful	NAH	Analyst	
	10/19/2016 06:45:27	D33534 - Debug:Wavelength check : x = 1.755, y =2.328	NAH	Analyst	
	10/19/2016 07:54:03	Sequence Started	NAH	Analyst	S_DOD Calibration
	10/19/2016 07:54:03	Autosampler Run Started	NAH	Analyst	
	10/19/2016 07:54:23	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:01:17	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:08:31	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:15:33	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:22:31	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:29:27	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:36:20	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:43:10	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:49:59	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	10/19/2016 08:56:45	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:02:50	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:10:00	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:17:04	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:24:13	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:31:58	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:40:04	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:46:59	Running icv (16)	NAH	Analyst	S_DOD Calibration
	10/19/2016 09:53:45	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:00:33	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:07:30	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:14:27	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:21:28	Running icsa (20)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/19/2016 10:26:54	Closing will close the method and all associated samples.	NAH	Analyst	
	10/19/2016 10:29:13	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:37:22	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:44:16	Running lcss59580 (2)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:50:56	Running mbs59580 (3)	NAH	Analyst	S_DOD Calibration
	10/19/2016 10:58:49	Running 788660 (4)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:05:50	Running 788661 (5)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:12:52	Running 788662 (6)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:19:56	Running 788663 (7)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:26:55	Running 788664 (8)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:33:59	Running 788666 (9)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:41:22	Running 788667 (10)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:48:43	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 11:55:22	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:01:47	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:08:47	Running 788668 (11)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:16:09	Running 788669 (12)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:23:19	Running 788670 (13)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:30:24	Running 788671 (14)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:37:27	Running 788672 (15)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:44:35	Running 788673 (16)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:51:41	Running 788674 (17)	NAH	Analyst	S_DOD Calibration
	10/19/2016 12:58:44	Running 788675 (18)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:05:49	Running 788676 (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:12:55	Running 788677 (20)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:19:58	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:26:36	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:33:01	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:40:01	Running 788678 (21)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:47:05	Running 788679 (22)	NAH	Analyst	S_DOD Calibration
	10/19/2016 13:54:20	Running 788680 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:01:24	Running l788680 (24)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:08:28	Running dup788680 (25)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:15:30	Running mss788680 (26)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:23:07	Running msds788680 (27)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:30:45	Running pdss788680 (28)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:38:16	Running lcss59581 (29)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:44:56	Running mbs59581 (30)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:51:49	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 14:58:28	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:04:53	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:11:52	Running 788683 (31)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:18:56	Running l788683 (32)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:25:59	Running dup788683 (33)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:33:04	Running mss788683 (34)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:40:43	Running msds788683 (35)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:48:22	Running pdss788683 (36)	NAH	Analyst	S_DOD Calibration
	10/19/2016 15:55:50	Running 788684 (37)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:02:55	Running 788685 (38)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:10:12	Running lcsw59578 (39)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:17:06	Running mbw59578 (40)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:24:03	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:30:43	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/19/2016 16:37:07	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:44:07	Running 787719 (41)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:51:12	Running l787719 (42)	NAH	Analyst	S_DOD Calibration
	10/19/2016 16:58:31	Running dup787719 (43)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:05:35	Running mss787719 (44)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:12:21	Running msds787719 (45)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:19:07	Running pdsw787719 (46)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:25:46	Running 788657 (47)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:33:05	Running lcsw59576 (48)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:40:00	Running mbw59576 (49)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:46:58	Running 788578 (50)	NAH	Analyst	S_DOD Calibration
	10/19/2016 17:53:55	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:00:36	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:07:01	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:14:00	Running 788583 (51)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:21:10	Running msw788583 (52)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:28:03	Running msdw788583 (53)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:34:56	Running pdsw788583 (54)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:41:32	Running 788805 (55)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:48:33	Running lcsw59579 (56)	NAH	Analyst	S_DOD Calibration
	10/19/2016 18:55:26	Running mbw59579 (57)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:02:24	Running 789591 (58)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:09:24	Running l789591 (59)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:16:16	Running dup789591 (60)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:23:17	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:29:55	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:36:21	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:43:19	Running msw789591 (61)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:50:25	Running msdw789591 (62)	NAH	Analyst	S_DOD Calibration
	10/19/2016 19:57:30	Running pdsw789591 (63)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:04:36	Running lcsw59583 (64)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:11:31	Running mbw59583 (65)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:18:29	Running 787584 (66)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:25:29	Running l787584 (67)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:32:45	Running dup787584 (68)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:39:47	Running msw787584 (69)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:46:49	Running msdw787584 (70)	NAH	Analyst	S_DOD Calibration
	10/19/2016 20:53:48	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:00:31	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:06:56	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:13:56	Running pdsw787584 (71)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:20:45	Running lcss59584 (72)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:26:58	Running mbs59584 (73)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:33:50	Running 789114 (74)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:41:01	Running l789114 (75)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:47:44	Running dup789114 (76)	NAH	Analyst	S_DOD Calibration
	10/19/2016 21:55:03	Running mss789114 (77)	NAH	Analyst	S_DOD Calibration
	10/19/2016 22:02:25	Running msds789114 (78)	NAH	Analyst	S_DOD Calibration
	10/19/2016 22:09:38	Running pdss789114 (79)	NAH	Analyst	S_DOD Calibration
	10/19/2016 22:17:14	Running 789115 (80)	NAH	Analyst	S_DOD Calibration
	10/19/2016 22:24:23	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/19/2016 22:31:07	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/19/2016 22:37:32	Running ccb (27)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/26/2016 19:34:45	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/26/2016 19:41:08	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/26/2016 19:47:38	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/26/2016 19:54:40	Plasma off	NAH	iTEVA Control Center	
	10/26/2016 19:54:41	Plasma extinguished successfully	NAH	Analyst	
	10/26/2016 19:54:43	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	10/27/2016 06:41:22	Plasma On	NAH	iTEVA Control Center	
	10/27/2016 06:41:25	Plasma ignition successful	NAH	Analyst	
	10/27/2016 06:42:05	D33534 - Debug:Wavelength check : x = 1.810, y =2.302	NAH	Analyst	
	10/27/2016 08:52:37	Autosampler Run Started	NAH	Analyst	
	10/27/2016 08:52:37	Sequence Started	NAH	Analyst	S_DOD Calibration
	10/27/2016 08:52:57	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	10/27/2016 08:59:54	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:06:55	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:13:58	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:20:59	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:28:00	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:34:59	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:41:55	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:48:48	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	10/27/2016 09:55:40	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:01:52	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:09:06	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:16:18	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:23:36	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:29:25	Closing will close the method and all associated samples.	NAH	Analyst	
	10/27/2016 10:30:21	Closing will close the method and all associated samples.	NAH	Analyst	
	10/27/2016 10:31:22	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:39:23	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:46:23	Running icv (16)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:52:12	Closing will close the method and all associated samples.	NAH	Analyst	
	10/27/2016 10:53:02	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:53:14	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	10/27/2016 10:57:56	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:58:10	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:58:15	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:58:21	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:58:27	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:58:30	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:58:34	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:59:09	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 10:59:11	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:00:06	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 11:00:06	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/27/2016 11:03:11	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:03:19	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:03:22	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:04:06	Closing will close the method and all associated samples.	NAH	Analyst	
	10/27/2016 11:06:27	Closing will close the method and all associated samples.	NAH	Analyst	
	10/27/2016 11:06:52	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:07:12	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/27/2016 11:12:27	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:12:57	Unable to Set Check Table,	NAH	Analyst	

Type	Date/Time	Message	User name	Application	Sequence Name
i	10/27/2016 11:14:24	Running MRL (24)	NAH	Analyst	S_DOD Calibration
⊘	10/27/2016 11:17:37	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:18:21	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:18:44	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:19:46	Unable to Set Check Table,	NAH	Analyst	
i	10/27/2016 11:21:22	Running icsa (20)	NAH	Analyst	S_DOD Calibration
i	10/27/2016 11:29:10	Running icsab (21)	NAH	Analyst	S_DOD Calibration
i	10/27/2016 11:37:32	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
⊘	10/27/2016 11:43:57	Unable to Set Check Table,	NAH	Analyst	
i	10/27/2016 11:44:33	Running lcsw59802 (2)	NAH	Analyst	S_DOD Calibration
⊘	10/27/2016 11:44:53	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:44:57	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:02	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:05	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:16	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:21	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:26	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:33	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:37	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:41	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:45:52	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:00	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:04	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:06	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:08	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:10	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:13	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:27	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:29	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:32	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:34	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:37	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:42	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:46	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:49	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:51	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:46:58	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:47:16	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:47:36	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:47:43	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:47:53	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:00	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:06	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:12	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:15	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:18	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:20	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:23	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:26	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:28	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:32	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:38	Unable to Set Check Table,	NAH	Analyst	
⊘	10/27/2016 11:48:55	Unable to Set Check Table,	NAH	Analyst	

Type	Date/Time	Message	User name	Application	Sequence Name
	10/27/2016 11:48:57	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:00	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:05	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:08	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:13	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:15	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:19	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:24	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:26	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:34	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:37	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:45	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:49:51	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:31	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:34	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:37	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:40	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:43	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:45	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:51	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:50:54	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:00	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:06	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:08	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:13	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:17	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:21	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:51:25	Running mbw59802 (3)	NAH	Analyst	S_DOD Calibration
	10/27/2016 11:52:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:54:54	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:54:56	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:56:41	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:57:33	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 11:58:30	Running 794382 (4)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:01:22	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:01:48	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:05:14	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:05:43	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:06:00	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:06:04	Running l794382 (5)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:06:32	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:06:51	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:07:09	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:07:27	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:07:47	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:08:09	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:08:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:09:06	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:09:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:10:06	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:11:03	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:13:39	Unable to Set Check Table,	NAH	Analyst	

Type	Date/Time	Message	User name	Application	Sequence Name
	10/27/2016 12:13:43	Running dup794382 (6)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:14:30	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:14:48	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:15:05	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:15:21	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:16:31	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:16:56	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:17:41	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:18:28	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:19:21	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:21:04	Running msw794382 (7)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:21:45	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:25:53	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:26:54	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:28:22	Running msdw794382 (8)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:28:54	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:30:05	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:30:21	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:31:15	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:31:47	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:32:22	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:32:57	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:33:19	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:34:06	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:35:49	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:35:53	Running 794384 (9)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:36:20	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:37:18	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:38:34	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 12:42:48	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:43:26	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:43:30	Running 794386 (10)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:43:54	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 12:48:41	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:49:04	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:50:55	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 12:51:48	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 12:53:00	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 12:53:21	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 12:57:06	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:03:36	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:10:39	Running 794387 (11)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:18:05	Running 794388 (12)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:25:30	Running 794389 (13)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:32:55	Running 794390 (14)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:38:05	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:38:26	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:38:46	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:39:01	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:39:42	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:40:29	Running 794391 (15)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:42:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:43:18	Unable to Set Check Table,	NAH	Analyst	

Type	Date/Time	Message	User name	Application	Sequence Name
	10/27/2016 13:43:33	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:44:30	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:45:42	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:46:34	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:47:42	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:47:59	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:48:02	Running 794392 (16)	NAH	Analyst	S_DOD Calibration
	10/27/2016 13:48:36	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:49:17	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:50:15	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:50:35	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 13:55:26	Running 794393 (17)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:02:51	Running 794394 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:10:16	Running 794395 (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:17:40	Running 794396 (20)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:25:04	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:31:16	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:37:47	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:44:50	Running 794397 (21)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:52:15	Running 794398 (22)	NAH	Analyst	S_DOD Calibration
	10/27/2016 14:59:40	Running 794399 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:02:36	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:03:06	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:03:41	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:04:27	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:04:41	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 15:06:53	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:07:09	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:07:13	Running 794400 (24)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:08:27	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:08:47	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:09:02	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:09:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:10:04	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:10:29	Unable to Set Check Table,	NAH	Analyst	
	10/27/2016 15:10:45	Cannot update method with modified line positions following an Auto P	NAH	Analyst	
	10/27/2016 15:14:38	Running 794401 (25)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:22:03	Running lcsw59800 (26)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:28:58	Running mbw59800 (27)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:36:02	Running 794404 (28)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:43:26	Running l794404 (29)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:50:54	Running msw794404 (30)	NAH	Analyst	S_DOD Calibration
	10/27/2016 15:57:47	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:03:59	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:10:30	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:17:33	Running 794407 (31)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:24:57	Running 794408 (32)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:32:22	Running 794409 (33)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:39:26	Running lcss59639 (35)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:45:48	Running mbs59639 (36)	NAH	Analyst	S_DOD Calibration
	10/27/2016 16:52:50	Running 789411 (37)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:00:10	Running l789411 (38)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:07:05	Running dup789411 (39)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/27/2016 17:14:20	Running mss789411 (40)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:21:45	Running msds789411 (41)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:29:09	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:35:21	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:41:52	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:48:55	Running pdss789411 (42)	NAH	Analyst	S_DOD Calibration
	10/27/2016 17:56:31	Running 789412 (43)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:03:49	Running 789413 (44)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:10:59	Running 789414 (45)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:18:09	Running 789415 (46)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:25:28	Running 789416 (47)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:32:57	Running 789417 (48)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:40:05	Running 789418 (49)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:47:22	Running 789419 (50)	NAH	Analyst	S_DOD Calibration
	10/27/2016 18:54:22	Running 789420 (51)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:01:28	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:07:40	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:14:11	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:21:15	Running 789421 (52)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:28:15	Running 789422 (53)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:35:40	Running 789423 (54)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:42:48	Running 789424 (55)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:49:55	Running 789425 (56)	NAH	Analyst	S_DOD Calibration
	10/27/2016 19:57:06	Running 789426 (57)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:04:19	Running 789427 (58)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:11:38	Running 789428 (59)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:18:57	Running 789429 (60)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:25:57	Running 789430 (61)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:33:02	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:39:14	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:45:45	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:52:49	Running lcss59640 (62)	NAH	Analyst	S_DOD Calibration
	10/27/2016 20:59:11	Running mbs59630 (63)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:06:14	Running 789431 (64)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:13:16	Running l789431 (65)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:20:16	Running dup789431 (66)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:27:20	Running mss789431 (67)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:34:34	Running msds789431 (68)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:41:42	Running pdss789431 (69)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:49:06	Running 789432 (70)	NAH	Analyst	S_DOD Calibration
	10/27/2016 21:56:20	Running 789433 (71)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:03:25	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:09:39	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:16:12	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:23:19	Running 789434 (72)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:30:22	Running 789435 (73)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:37:38	Running 789436 (74)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:44:42	Running 789437 (75)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:51:54	Running 789438 (76)	NAH	Analyst	S_DOD Calibration
	10/27/2016 22:59:05	Running 789439 (77)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:06:08	Running 789440 (78)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:13:08	Running 789441 (79)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:20:11	Running 789442 (80)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/27/2016 23:27:15	Running 789444 (81)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:34:28	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:40:42	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:47:14	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/27/2016 23:54:20	Running 789445 (82)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:01:25	Running 789446 (83)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:08:38	Running 789447 (84)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:15:42	Running 789448 (85)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:22:47	Running 789449 (86)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:29:51	Running 789450 (87)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:36:52	Running 789451 (88)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:43:57	Running lcsw59683 (89)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:51:01	Running mbw59683 (90)	NAH	Analyst	S_DOD Calibration
	10/28/2016 00:58:06	Running 791608 (91)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:05:22	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:11:36	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:18:09	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:25:16	Running 791628 (92)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:32:30	Running dup791628 (93)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:39:43	Running msw791628 (94)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:46:39	Running msw791628 (95)	NAH	Analyst	S_DOD Calibration
	10/28/2016 01:53:36	Running msdw791628 (96)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:00:50	Running 791629 (97)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:07:52	Running lcsw59578 (34)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:14:58	Running mbw59578 (98)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:22:22	Running 787719 (99)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:29:46	Running 788657 (100)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:36:53	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:43:08	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:49:40	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/28/2016 02:56:46	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	10/28/2016 03:03:46	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	10/28/2016 03:09:59	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	10/28/2016 03:16:33	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	10/28/2016 03:23:41	Plasma extinguished successfully	NAH	Analyst	
	10/28/2016 03:23:42	Plasma off	NAH	iTEVA Control Center	
	10/28/2016 03:23:44	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	10/28/2016 07:21:30	Plasma On	NAH	iTEVA Control Center	
	10/28/2016 07:21:37	Plasma ignition successful	NAH	Analyst	
	10/28/2016 07:22:23	D33534 - Debug:Wavelength check : x = 1.785, y =2.308	NAH	Analyst	
	10/28/2016 07:28:35	E9000 - : Plasma went out unexpectedly; please refer to error message	NAH	iTEVA Control Center	
	10/28/2016 07:29:33	Plasma On	NAH	iTEVA Control Center	
	10/28/2016 07:29:38	Plasma ignition successful	NAH	Analyst	
	10/28/2016 07:30:25	D33534 - Debug:Wavelength check : x = 1.710, y =2.339	NAH	Analyst	
	10/28/2016 08:54:56	Autosampler Run Started	NAH	Analyst	
	10/28/2016 08:54:56	Sequence Started	NAH	Analyst	S_DOD Calibration
	10/28/2016 08:55:17	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	10/28/2016 09:02:06	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	10/28/2016 09:09:01	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	10/28/2016 09:15:55	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	10/28/2016 09:22:59	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	10/28/2016 09:29:54	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	10/28/2016 09:36:53	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

MRL BASE STD M13023

Analyst NAH

Prep Date 11/01/2016

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	02/10/2017
Al	400	M12948	10000	2	01/29/2018
Ba	10	M12473	1000	0.5	10/16/2016
Be	4	M12667	1000	0.2	04/15/2017
Cd	5	M12674	1000	0.25	04/15/2017
Co	10	M12678	1000	0.5	04/15/2017
Cr	10	M12941	10000	0.05	01/29/2018
Cu	10	M12945	10000	0.05	01/29/2018
Mg	500	M12947	10000	2.5	01/29/2018
Mn	10	M12944	10000	0.05	01/29/2018
Mo	10	M12677	1000	0.5	04/15/2017
Ni	10	M12681	1000	0.5	04/15/2017
Pb	10	M12861	10000	0.05	11/11/2017
Sb	20	M12602	1000	1	02/10/2017
V	10	M12676	1000	0.5	04/15/2017
Zn	10	M12989	10000	0.05	04/07/2018
K	1000	M12946	10000	5	01/29/2018
Na	1000	M12679	10000	5	04/15/2017
As	20	M12958	1000	1	02/23/2018
Ca	500	M12942	10000	2.5	01/29/2018
Fe	300	M12949	10000	1.5	01/29/2018
Se	20	M12600	1000	1	02/10/2017
Tl	20	M12668	1000	1	04/15/2017
Si	100	M12943	1000	5	01/29/2018
B	20	M12957	1000	1	02/23/2018
Li	20	M12672	1000	1	04/15/2017
W	50	M12673	1000	2.5	04/15/2017
Ti	10	M12671	1000	0.5	04/15/2017
Sr	10	M12670	1000	0.5	04/15/2017
Sn	50	M12669	1000	2.5	04/15/2017
S	300	M12872	10000	1.5	11/30/2017

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	ICP 6500
Standard Log #:	M13021	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910 and **15 mL** Fe (10000 mg/L) M12992 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13022	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12977, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12957, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

		Instrument:	ICP 6500
Standard Log #:	M13018	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13019	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13020	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	11/01/2016	Expiration Date:	6/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910 , **15 mL** Fe (10,000 mg/L) M12992 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12964 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13017	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	11/01/2016	Expiration Date:	06/30/2017

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12882 and **1 mL** of Si (1000 mg/L) M12943.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12946.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12945, **10 mL** of Mn (10,000 mg/L) M12944, **10 mL** of Cr (10,000 mg/L) M12944, **10 mL** Pb (10,000 mg/L) M12861, **10 mL** of Zn (10,000 mg/L) M12989 and **10 mL** of Na (10,000 mg/L) M12679.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12947, **10 mL** of Fe (10,000 mg/L) M12992, **10 mL** of Ca (10,000 mg/L) M12991 and **10 mL** Al (10,000 mg/L) M12948.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard ID#:	M13015	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	10/31/2016	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13016	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/31/2016	Expiration Date:	10/31/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard Log #:	M13013	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/26/2016	Expiration Date:	04/26/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13014	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/26/2016	Expiration Date:	04/26/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12629 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13011	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12673		

		Instrument:	ICP 6000
Standard Log #:	M13012	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12673	1000	5	04/15/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13009	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	10/26/2016	Expiration Date:	06/30/2017

Prep:	Standard Conc. (ug/L)	Pipette the following:
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.001 mL** W (1000 µg/mL) M12784 into 1L = *1 µg/L*
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.01 mL** W (1000 µg/mL) M12784 into 1L = *10 µg/L*
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.1 mL** W (1000 µg/mL) M12784 into 1L = *100 µg/L*
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.2 mL** W (1000 µg/mL) M12784 into 200mL = *1000 µg/L*
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **2 mL** W (1000 µg/mL) M12784 into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13010	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **6 mL** of Fe (10,000 mg/L) M12949, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12784 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M13006	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/25/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13007	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/25/2016	Expiration Date:	10/25/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13008	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/25/2016	Expiration Date:	04/25/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.631 and dissolved **100 g** Stannous chloride M12926 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13003	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/25/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13004	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/25/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13005	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/25/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M13000	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13001	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13002	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12999	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Pd Matrix Modifier
Date Received:	10/20/2016	Lot #:	1616501
Expiration Date (if any):	10/17/2017	Catalog #:	HP1900-100

Standard ID#:	M12998	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/19/2016	Lot #:	F267-16
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M12995	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/17/2016	Expiration Date:	04/15/2017
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12957 and Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12996	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/17/2016	Expiration Date:	04/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **0.05 mL** of B (1000 µg/mL) M12957, **0.05 mL** of Si (1000 µg/mL) M12675 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12997	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/17/2016	Expiration Date:	10/17/2016
Prep:	Carefully mixed **3** parts HCl AB.629 with **1** part HNO_3 AB.628 in a hood.		

Standard ID#:	M12992	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I080
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M261

Standard ID#:	M12993	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	10/13/2016	Lot #:	16B102
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M11

Standard ID#:	M12994	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I092
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M671

Standard ID#:	M12988	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I165
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M411

Standard ID#:	M12989	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn
Date Received:	10/13/2016	Lot #:	16H186
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M411

Standard ID#:	M12990	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	1013/2016	Lot #:	16I168
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10311

Standard ID#:	M12991	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I091
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M91

		Instrument:	CETAC
Standard Log #:	M12987	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/12/2016	Expiration Date:	10/12/2016
Prep:	Carefully mixed **3** parts HCl AB.629 with **1** part HNO_3 AB.628 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M12984	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12946 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12985	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12946 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12986	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/11/2016	Expiration Date:	10/11/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12981	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	02/12/2017
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12982	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **2.5 mL** of K (10,000 mg/L) M12946, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12949 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12983	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	02/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12607 and **0.5 mL** K (1000 µg/mL) M12608 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12979	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/10/2016	Expiration Date:	04/10/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12980	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/10/2016	Expiration Date:	10/10/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard Log #:	M12978	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/07/2016	Expiration Date:	07/31/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier MM12584 and **10 mL** Mg (10,000 mg/L) M12884 and brought up to volume.		

Standard ID#:	M12977	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09/23/2016	Lot #:	39-001CR
Expiration Date (if any):	09/30/2016	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M12976	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/21/2016	Expiration Date:	09/21/2016
Prep:	Carefully mixed **3** parts HCl AB.624 with **1** part HNO_3 AB.626 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12972	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/16/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M112788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12973	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/16/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12974	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/16/2016	Expiration Date:	09/16/2016
Prep:	Carefully mixed **3** parts HCl AB.623 with **1** part HNO_3 AB.626 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12975	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/16/2016	Expiration Date:	03/16/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.623 and dissolved **100 g** Stannous chloride M12864 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12969	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/16/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12970	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/16/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12971	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/16/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12967	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/15/2016	Expiration Date:	09/15/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard Log #:	M12968	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/15/2016	Expiration Date:	09/15/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard Log #:	M12965	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/14/2016	Expiration Date:	0314/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12966	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/14/2016	Expiration Date:	09/14/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard ID#:	M12964	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	09/13/2016	Lot #:	1-136WG
Expiration Date (if any):	09/30/2017	Catalog #:	XCTWI-5-500

		Instrument:	CETAC
Standard Log #:	M12963	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/08/2016	Expiration Date:	09/08/2017
Prep:	Carefully mixed **3** parts HCl AB.624 with **1** part HNO_3 AB.625 in a hood.		

Standard Log #:	M12961	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/06/2016	Expiration Date:	09/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard ID#:	M12962	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	09/06/2016	Lot #:	1518025
Expiration Date (if any):	03/01/2016	Catalog #:	HP10M67-1

Standard Log #:	M12959	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/01/2016	Expiration Date:	09/01/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard Log #:	M12960	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/01/2016	Expiration Date:	09/01/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard ID#:	M12956	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	08/31/2016	Lot #:	16E154
Expiration Date (if any):	02/23/2018	Catalog #:	P/N4400-1000411

Standard ID#:	M12957	Vendor:	CPI
Analyst:	NAH	Chemical:	B 1000 mg/L
Date Received:	08/31/2016	Lot #:	16D064
Expiration Date (if any):	02/23/2018	Catalog #:	P/N S4400-100074

Standard ID#:	M12958	Vendor:	CPI
Analyst:	NAH	Chemical:	AS 1000 mg/L
Date Received:	08/31/2016	Lot #:	16H061
Expiration Date (if any):	02/23/2018	Catalog #:	P/N S4400-100031

		Instrument:	CETAC
Standard Log #:	M12955	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/30/2016	Expiration Date:	08/30/2016
Prep:	Carefully mixed **3** parts HCl AB.624 with **1** part HNO_3 AB.625 in a hood.		

		Instrument:	ICP
Standard Log #:	M12954	Standard:	As Pb ICV1
Analyst:	NAH	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	08/22/2016	Expiration Date:	11/11/2017
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12860 and **0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12953	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/18/2016	Expiration Date:	08/18/2016
Prep:	Carefully mixed **3** parts HCl AB.623 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12952	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/16/2016	Expiration Date:	08/16/2016
Prep:	Carefully mixed **3** parts HCl AB.623 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12951	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std Ca, Mg, & Na
Date Received:	08/11/2016	Lot #:	38-096CR
Expiration Date (if any):	08/30/2017	Catalog #:	XCTWI-1-500

Standard Log #:	M12950	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/09/2016	Expiration Date:	08/08/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard ID#:	M12945	Vendor:	CPI
Analyst:	NAH	Chemical:	Copper 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16C137
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M141

Standard ID#:	M12946	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16D218
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M411

Standard ID#:	M12947	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16E106
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M311

Standard ID#:	M12948	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16B102
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M11

Standard ID#:	M12949	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16F173
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M261

		Instrument:	CETAC
Standard Log #:	M12940	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/04/2016	Expiration Date:	08/04/2016
Prep:	Carefully mixed **3** parts HCl AB.623 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12941	Vendor:	CPI
Analyst:	NAH	Chemical:	Chromium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	13D123
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M121

Standard ID#:	M12942	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16E067
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M91

Standard ID#:	M12943	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	08/04/2016	Lot #:	16D134
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-1000504F

Standard ID#:	M12944	Vendor:	CPI
Analyst:	NAH	Chemical:	Manganese 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16B024
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M321

Standard Log #:	M12938b	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	08/03/2016	Expiration Date:	02/03/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W38729 and brought up to volume.		

Standard Log #:	M12939	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/03/2016	Expiration Date:	08/03/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938b. Dilute to 20 L and mix.		

Standard ID#:	M12938	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/27/2016	Lot #:	2-46MKB
Expiration Date (if any):	07/20/2017	Catalog #:	XSPIKE-1-250

Standard Log #:	M12937	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/26/2016	Expiration Date:	01/26/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12936	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/20/2016	Expiration Date:	07/20/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12878. Dilute to 20 L and mix.		

Standard Log #:	M12935	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	07/14/2016	Expiration Date:	11/29/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	9.6	M12885	**10000**	0.048
As	32	M12860	1000	1.6
Ba	2	M12473	1000	0.1
Be	1.6	M12667	1000	0.08
Ca	56	M12886	**10000**	0.28
Cd	1.6	M12674	1000	0.08
Co	9.6	M12678	1000	0.48
Cr	5.6	M12470	**10000**	0.028
Cu	16	M12472	**10000**	0.08
Fe	72	M12887	**10000**	0.36
Mg	32	M12884	**10000**	0.16
Mn	6	M12533	**10000**	0.03
Mo	9.6	M12677	1000	0.48
Ni	4.8	M12681	1000	0.24
Pb	10	M12861	**10000**	0.05
Sb	32	M12602	1000	1.6
Se	16	M12600	1000	0.8
Tl	19	M12668	1000	0.95
V	3.2	M12676	1000	0.16
Zn	12	M12680	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12934	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12933	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12876	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12932	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12883	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12931	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12930	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	07/14/2016	Expiration Date:	11/29/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	36	M12885	**10000**	0.18
As	24	M12860	1000	1.2
Ba	1.8	M12473	1000	0.09
Be	0.6	M12667	1000	0.03
Ca	100	M12886	**10000**	0.5
Cd	2.0	M12674	1000	0.1
Co	4	M12678	1000	0.2
Cr	4	M12470	**10000**	0.02
Cu	7	M12472	**10000**	0.035
Fe	100	M12887	**10000**	0.5
Mg	40	M12884	**10000**	0.2
Mn	4	M12533	**10000**	0.02
Mo	7	M12677	1000	0.35
Ni	6	M12681	1000	0.2
Pb	4	M12861	**10000**	0.02
Sb	12	M12602	1000	0.6
Se	13	M12600	1000	0.65
Tl	20	M12668	1000	0.75
V	5	M12676	1000	0.25
Zn	10	M12680	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12883	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929B	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12928	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12876	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12927	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M12924	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/14/2016	Expiration Date:	10/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733 , **0.05 mL** of B (1000 µg/mL) M12471 , **0.05 mL** of Si (1000 µg/mL) M12675 and **3 mL** of Fe (10,000 mg/L) M12887 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12925	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/14/2016	Expiration Date:	07/14/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12926	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	07/14/2016	Lot #:	F161-11
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12923	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/13/2016	Expiration Date:	07/13/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12878. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M12921	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12860 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12861 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12922	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/12/2016	Expiration Date:	01/12/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12920	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12860 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12861 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	ICP 6000
Standard Log #:	M12919	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	07/08/2016	Expiration Date:	02/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12607 and **0.5 mL** K (1000 µg/mL) M12608 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12915	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	07/07/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12916	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	07/07/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12917	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/07/2016	Expiration Date:	07/07/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12918	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/07/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.621 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12912	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/07/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12913	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/07/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12914	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	07/07/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12911	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/28/2016	Expiration Date:	06/28/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12909	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard 23 meta
Date Received:	06/27/2016	Lot #:	2-18MKB
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-5-500

Standard ID#:	M12910	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	06/27/2016	Lot #:	12-165YPX
Expiration Date (if any):	06/30/2016	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M12906	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	06/21/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12907	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.621 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

Standard ID#:	M12908	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	Amco clear turbidity std 2.0 NTU
Date Received:	06/21/2016	Lot #:	C583585
Expiration Date (if any):	7/2017	Catalog #:	#8008

		Instrument:	CETAC
Standard Log #:	M12904	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	06/21/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12905	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	06/21/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12901	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/21/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12902	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/21/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12903	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	06/21/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12900	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard, 200 NTU or FNU
Date Received:	06/17/2016	Lot #:	A6036
Expiration Date (if any):	02/2018	Catalog #:	2660449

Standard Log #:	M12899	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/16/2016	Expiration Date:	06/16/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard Log #:	M12898	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	06/13/2016	Expiration Date:	12/13/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12896	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12897	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12894	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Fe. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12893 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12895	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12893 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

MRL BASE STD M12893

Analyst NAH

Prep Date 06/09/2016

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	02/10/2017
Al	400	M12885	10000	2	12/01/2017
Ba	10	M12473	1000	0.5	10/15/2016
Be	4	M12667	1000	0.2	04/15/2017
Cd	5	M12674	1000	0.25	04/15/2017
Co	10	M12678	1000	0.5	04/15/2017
Cr	10	M12470	10000	0.05	10/15/2016
Cu	10	M12472	10000	0.05	10/15/2016
Mg	500	M12884	10000	2.5	12/01/2017
Mn	10	M12533	10000	0.05	11/29/2016
Mo	10	M12677	1000	0.5	04/15/2017
Ni	10	M12681	1000	0.5	04/15/2017
Pb	10	M12861	10000	0.05	11/11/2017
Sb	20	M12602	1000	1	02/10/2017
V	10	M12676	1000	0.5	04/15/2017
Zn	10	M12680	10000	0.05	04/15/2017
K	1000	M12883	10000	5	12/01/2017
Na	1000	M12679	10000	5	04/15/2017
As	20	M12860	1000	1	11/11/2017
Ca	500	M12886	10000	2.5	12/01/2017
Fe	300	M12887	10000	1.5	12/01/2017
Se	20	M12600	1000	1	02/10/2017
Tl	20	M12668	1000	1	04/15/2017
Si	100	M12675	1000	5	04/15/2017
B	20	M12471	1000	1	10/15/2016
Li	20	M12672	1000	1	04/15/2017
W	50	M12673	1000	2.5	04/15/2017
Ti	10	M12671	1000	0.5	04/15/2017
Sr	10	M12670	1000	0.5	04/15/2017
Sn	50	M12669	1000	2.5	04/15/2017
S	300	M12876	10000	1.5	05/30/2017

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12892	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/09/2016	Expiration Date:	12/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12733 , **15 mL** Fe (10,000 mg/L) M12887 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12769 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12890	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12819, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12733, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

		Instrument:	ICP 6500
Standard Log #:	M12891	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	06/09/2016	Expiration Date:	12/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12733 and **15 mL** Fe (10000 mg/L) M12887 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12889	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/09/2016	Expiration Date:	02/28/2017
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12882 and **1 mL** of Si (1000 mg/L) M12675. *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12883. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12861, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M12884, **10 mL** of Fe (10,000 mg/L) M12887, **10 mL** of Ca (10,000 mg/L) M12886 and **10 mL** Al (10,000 mg/L) M12885. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

Standard ID#:	M12886	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E067
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M91

Standard ID#:	M12887	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D220
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M261

Standard ID#:	M12888	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/01/2016	Lot #:	16E033
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M671

Standard ID#:	M12882	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/08/2016	Lot #:	37-058CR
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-4-500

Standard ID#:	M12883	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D014
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M411

Standard ID#:	M12884	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E106
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M311

Standard ID#:	M12885	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16B102
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M11

Standard Log #:	M12879	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard Log #:	M12880	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard Log #:	M12881	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard ID#:	M12876	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/06/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	05/30/2016	Catalog #:	PLS9-3Y

Standard ID#:	M12877	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/06/2016	Lot #:	158648
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M12878	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W38729 and brought up to volume.		

Standard Log #:	M12875	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	06/03/16	Expiration Date:	02/10/17

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12860	10,000
Pb	0.1	10,000	M12861	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

Standard ID#:	M12873	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 1000 mg/L
Date Received:	06/03/16	Lot #:	16D063
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000521

Standard ID#:	M12874	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 1000 mg/L
Date Received:	06/03/16	Lot #:	16B100
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000411

		Instrument:	ICP 6000
Standard Log #:	M12871	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	06/02/16	Expiration Date:	02/12/17
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

Standard ID#:	M12872	Vendor:	SCP Science Plasma Cal
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/02/16	Lot #:	S160222009
Expiration Date (if any):	11/2017	Catalog #:	140-060-161

		Instrument:	GFAA
Standard Log #:	M12868	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/01/16	Expiration Date:	06/01/17
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12869	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/01/16	Expiration Date:	06/01/17
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12870	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/01/16	Expiration Date:	06/01/17
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12867	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-27-2016	Lot #:	37-024CR
Expiration Date (if any):	05/20/2017	Catalog #:	XSPIKE-1-250

Standard ID#:	M12866	Vendor:	Fisher, distributer (saint-gobain, manu
Analyst:	NAH	Chemical:	Chemware Ultra pure PTFE Boiling St
Date Received:	05/23/2016	Lot #:	5608-6E001
Expiration Date (if any):		Catalog #:	0919120

Standard ID#:	M12864	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/19/2016	Lot #:	F120-15
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12865	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/20/2016	Expiration Date:	05/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12862	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	05/19/2016	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-SPK-1

Standard ID#:	M12863	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	05/19/2016	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-GFCAL-1

Standard ID#:	M12860	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 mg/L
Date Received:	05/17/2016	Lot #:	16B070
Expiration Date (if any):	11/11/2017	Catalog #:	S4400-100031

Standard ID#:	M12861	Vendor:	CPI
Analyst:	NAH	Chemical:	Lead 10,000 mg/L
Date Received:	05/17/2016	Lot #:	16D240
Expiration Date (if any):	11/11/2017	Catalog #:	4400-10M281

Standard ID#:	M12859	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	05/12/2016	Lot #:	921812Q
Expiration Date (if any):	06/30/2017	Catalog #:	39043

Standard ID#:	M12856	Vendor:	SPEX CertPrep
Analyst:	LJF	Chemical:	Hg
Date Received:	05/10/2016	Lot #:	CL8-144HGY
Expiration Date (if any):	05/30/2017	Catalog #:	CLHG4-2Y

Standard Log #:	M12857	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12858	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12852	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/06/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12853	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	05/06/2016	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12532 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12854	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/06/2016	Expiration Date:	05/06/2016
Prep:	Carefully mixed **3** parts HCl AB.618 with **1** part HNO_3 AB.619 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12855	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.618 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12849	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/06/2016	Expiration Date:	08/18/2016
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12850	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/06/2016	Expiration Date:	06/30/2016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12851	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/06/2016	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12532 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12848	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/04/16	Expiration Date:	12/30/16
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **6 mL** of Fe (10,000 mg/L) M12745, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12673 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M12846	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12847	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12843	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/28/16	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	ICP 6000
Standard Log #:	M12844	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/29/16	Expiration Date:	02/28/17
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **1.0 mL** Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M12845	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12841	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	04/22/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12744 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12842	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/22/2016	Expiration Date:	12/30/2016
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **2.5 mL** of K (10,000 mg/L) M12744, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12745 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12840	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12770	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12839	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12770	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12838	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12837	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12836	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12744	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12835	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12744	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12834	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12833	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12832	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	0419/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	9.6	M12713	**10000**	0.048
As	32	M12315	1000	1.6
Ba	2	M12473	1000	0.1
Be	1.6	M12667	1000	0.08
Ca	56	M12716	**10000**	0.28
Cd	1.6	M12674	1000	0.08
Co	9.6	M12678	1000	0.48
Cr	5.6	M12470	**10000**	0.028
Cu	16	M12472	**10000**	0.08
Fe	72	M12745	**10000**	0.36
Mg	32	M12715	**10000**	0.16
Mn	6	M12733	**10000**	0.03
Mo	9.6	M12677	1000	0.48
Ni	4.8	M12681	1000	0.24
Pb	10	M12313	**10000**	0.05
Sb	32	M12602	1000	1.6
Se	16	M12600	1000	0.8
Tl	19	M12668	1000	0.95
V	3.2	M12676	1000	0.16
Zn	12	M12680	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12831	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	36	M12713	**10000**	0.18
As	24	M12315	1000	1.2
Ba	1.8	M12473	1000	0.09
Be	0.6	M12667	1000	0.03
Ca	100	M12716	**10000**	0.5
Cd	2.0	M12674	1000	0.1
Co	4	M12678	1000	0.2
Cr	4	M12470	**10000**	0.02
Cu	7	M12472	**10000**	0.035
Fe	100	M12745	**10000**	0.5
Mg	40	M12715	**10000**	0.2
Mn	4	M12533	**10000**	0.02
Mo	7	M12677	1000	0.35
Ni	6	M12681	1000	0.2
Pb	4	M12313	**10000**	0.02
Sb	12	M12602	1000	0.6
Se	13	M12600	1000	0.65
Tl	20	M12668	1000	0.75
V	5	M12676	1000	0.25
Zn	10	M12680	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12830	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	041916	Expiration Date:	101916
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12827	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12828	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	1518025
Expiration Date (if any):	10/14/2017	Catalog #:	hp10m67-1

Standard ID#:	M12829	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	16a118
Expiration Date (if any):	10/12/2017	Catalog #:	4400-10m671

		Instrument:	CETAC
Standard Log #:	M12823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12824	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12825	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	010118
Prep:	Carefully mixed **3** parts HCl AB.618 with **1** part HNO_3 AB.617 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12826	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.618 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	041816	Expiration Date:	081817
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12819	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	04/12/2016	Lot #:	36-051CR
Expiration Date (if any):	4/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M12816	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

Standard Log #:	M12817	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12818	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12813	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12814	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12815	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12810	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12811	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12812	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12809	Instrument:	ICP 6500
Analyst:	MDS	Standard:	MDL 21 Metals Spiking Solution
Prep Date:	03/22/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M12599	1000	0.25
Al	10	M12713	**10000**	0.05
As	20	M12315	1000	1
Ba	2	M12473	1000	0.1
Be	0.5	M12667	1000	0.025
Ca	50	M12716	**10000**	0.25
Cd	0.5	M12674	1000	0.025
Co	2.5	M12678	1000	0.125
Cr	50	M12470	**10000**	0.25
Cu	10	M12472	**10000**	0.05
Fe	40	M12714	**10000**	0.2
Mg	25	M12715	**10000**	0.125
Mn	5	M12533	**10000**	0.025
Mo	2.5	M12677	1000	0.125
Ni	5	M12681	1000	0.25
Pb	10	M12313	**10000**	0.05
Sb	20	M12602	1000	1
Se	20	M12600	1000	1
Tl	20	M12668	1000	1
V	5	M12676	1000	0.25
Zn	5	M12680	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12808	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/17/16	Expiration Date:	03/17/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M12805	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12806	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12807	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12802	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/09/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12803	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/09/16	Expiration Date:	09/09/17
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12804	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 10,000 mg/L
Date Received:	03/09/16	Lot #:	14A276
Expiration Date (if any):	09/03/17	Catalog #:	S4400-10M31

		Instrument:	ICP 6000
Standard Log #:	M12800	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M12801	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M12798	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12799	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12797	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/29/16	Expiration Date:	08/29/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12793	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12794	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12796	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12790	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12791	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12792	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12787	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	02/24/2016	Lot #:	16A118
Expiration Date (if any):	08/18/2017	Catalog #:	4400-10M671

Standard ID#:	M12788	Vendor:	CPI
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	02/24/2016	Lot #:	15J139
Expiration Date (if any):	08/18/2017	Catalog #:	S4400-1000331

Standard ID#:	M12789	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	02/24/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12786	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/22/16	Expiration Date:	02/22/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12785	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/18/16	Expiration Date:	02/18/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12783	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/16/16	Expiration Date:	08/16/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12784	Vendor:	CPI
Analyst:	NAH	Chemical:	Tungsten
Date Received:	02/16/2016	Lot #:	15k204
Expiration Date (if any):	08/11/2017	Catalog #:	S4400-1000633

		Instrument:	CETAC
Standard Log #:	M12780	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12781	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

Standard ID#:	M12782	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	TIN CHLORIDE DIH
Date Received:	02/11/16	Lot #:	W03B012
Expiration Date (if any):		Catalog #:	11536

		Instrument:	CETAC
Standard Log #:	M12777	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12778	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12779	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12774	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/15/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12774 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12775	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12776	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M12773	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance std-spike
Date Received:	02/12/16	Lot #:	35-054CR
Expiration Date (if any):	02/28/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12770	Vendor:	SPEX CertiPrep
Analyst:	MDS	Chemical:	Sulfur 10,000 µg/mL
Date Received:	02/09/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	02/28/2017	Catalog #:	PLS9-3Y

		Instrument:	ICP 6000
Standard Log #:	M12771	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	02/28/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12770 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12772	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	08/13/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12371 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12769	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/08/2016	Lot #:	11-035WL
Expiration Date (if any):	02/28/2017	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6000
Standard Log #:	M12766	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	12/30/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **6 mL** of Fe (10,000 mg/L) M12714, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12673 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12767	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12163	1000	5	02/06/2016
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M12768	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Std Ca,Mg,Na
Date Received:	02/04/2016	Lot #:	11-022WL
Expiration Date (if any):	01/30/2017	Catalog #:	XTTWI-1-500

		Instrument:	ICP
Standard Log #:	M12764	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	02/04/2016	Expiration Date:	11/30/2016
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.001 mL** W (1000 µg/mL) M12673 into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.01 mL** W (1000 µg/mL) M12673 into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.1 mL** W (1000 µg/mL) M12673 into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.2 mL** W (1000 µg/mL) M12673 into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **2 mL** W (1000 µg/mL) M12673 into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M12765	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12163		

Standard Log #:	M12763	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/03/16	Expiration Date:	08/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12762	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	01/29/16	Expiration Date:	07/29/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12761	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/28/16	Expiration Date:	07/28/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12760	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/25/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M12599	1000	0.01
As	2	M12315	1000	0.1
Pb	2	M12313	10000	0.01
Sb	2	M12602	1000	0.1
Se	2	M12600	1000	0.1
Tl	2	M12668	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M12757	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12758	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12759	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12755	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12756	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M12752	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/19/16	Expiration Date:	01/19/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12753	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12754	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M12751	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	011116	Expiration Date:	071116
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12750	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12748	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	010516	Expiration Date:	070516
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12749	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard Log #:	M12747	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	123015	Expiration Date:	123016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	CETAC
Standard Log #:	M12740	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12741	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12742	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12743	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12737	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12738	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12739	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12734	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12735	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	121715	Expiration Date:	061716
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12730	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/14/15	Expiration Date:	06/14/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12731	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	12/10/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard ID#:	M12732	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12-14-2015	Lot #:	34-008CR
Expiration Date (if any):	12-30-2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12733	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	12-14-2015	Lot #:	12-165YPX
Expiration Date (if any):	12-30-2016	Catalog #:	INT-A1

		Instrument:	ICP 6000
Standard Log #:	M12729	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	12/07/2015	Expiration Date:	06/03/2015
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12377 and **0.5 mL** K (1000 µg/mL) M12378 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12725	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M12727	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	12/04/2015	Expiration Date:	03/26/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12213 and **0.5 mL** Pb (10,000 mg/L) M12313 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard Log #:	M12728	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	120415	Expiration Date:	120416
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12721	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12722	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12723	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	040117
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12724	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	120915
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12718	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12719	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12720	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6500
Standard Log #:	M12717	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	12-01-2015	Expiration Date:	06-16
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12653, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

Standard ID#:	M12713	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15l132
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m11

Standard ID#:	M12714	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15H243
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m261

Standard ID#:	M12715	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15G077
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m311

Standard ID#:	M12716	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15k045
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m91

		Instrument:	ICP 6500
Standard Log #:	M12710	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12711	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12603 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12712	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **15 mL** Fe (10,000 mg/L) M12603, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

MRL BASE STD M12709

Analyst NAH

Prep Date 12-01-2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	-
Al	400	M12605	10000	2	-
Ba	10	M12473	1000	0.5	-
Be	4	M12667	1000	0.2	-
Cd	5	M12674	1000	0.25	-
Co	10	M12678	1000	0.5	-
Cr	10	M12470	10000	0.05	-
Cu	10	M12472	10000	0.05	-
Mg	500	M12606	10000	2.5	-
Mn	10	M12533	10000	0.05	-
Mo	10	M12677	1000	0.5	---
Ni	10	M12681	1000	0.5	--
Pb	10	M12313	10000	0.05	--
Sb	20	M12602	1000	1	--
V	10	M12676	1000	0.5	--
Zn	10	M12680	10000	0.05	--
K	1000	M12608	10000	5	--
Na	1000	M12607	10000	5	--
As	20	M12315	1000	1	--
Ca	500	M12604	10000	2.5	--
Fe	300	M12603	10000	1.5	--
Se	20	M12600	1000	1	--
Tl	20	M12668	1000	1	--
Si	100	M12601	1000	5	--
B	20	M12471	1000	1	--
Li	20	M12672	1000	1	--
W	50	M12673	1000	2.5	--
Ti	10	M12671	1000	0.5	--
Sr	10	M12670	1000	0.5	--
Sn	50	M12669	1000	2.5	--
S	300	M12371	10000	1.5	-

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12706	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12707	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12830 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12708	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6000
Standard Log #:	M12704	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/01/2015	Expiration Date:	07/03/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12377 and K (1000 µg/mL) M12378 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6500
Standard Log #:	M12705	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M12601. *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12609. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M12606, **10 mL** of Fe (10,000 mg/L) M12603, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12605. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard Log #:	M12700	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/20/15	Expiration Date:	11/20/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12699	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	11/12/15	Expiration Date:	06/02/16

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	ICP 6000
Standard Log #:	M12695	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12609 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12696	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12609 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12697	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	06/30/16
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12609, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12603 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12698	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/11/15	Expiration Date:	05/11/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12693	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12694	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/02/2015	Expiration Date:	02/06/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **6 mL** of Fe (10,000 mg/L) M12603, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12163 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12690	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	11/02/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

		Instrument:	GFAA
Standard Log #:	M12691	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12692	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12688	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

Standard Log #:	M12689	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	04/27/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12685	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12686	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12687	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	06/30/15
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12682	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12683	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12684	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	ICP 6000
Standard Log #:	M12666	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/21/2015	Expiration Date:	03/2016
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **1.0 mL** Si (1000 mg/L) M11919 and brought up to volume using milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12662	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12663	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12664	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	07/01/17
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12665	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12659	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12660	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12661	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M12657	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12658	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12652	Vendor:	SIGMA-ALDRICH
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	10/09/2015	Lot #:	MKBV6966V
Expiration Date (if any):	10/09/2016	Catalog #:	216224

Standard ID#:	M12653	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	10/09/2015	Lot #:	33-28CR
Expiration Date (if any):	10/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12654	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity standard 2.0 ntu
Date Received:	10/09/2015	Lot #:	C580865
Expiration Date (if any):	10/30/2016	Catalog #:	8008

Standard Log #:	M12651	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/08/15	Expiration Date:	10/08/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12650	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/07/15	Expiration Date:	10/07/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12648	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/02/15	Expiration Date:	10/02/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12649	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/02/15	Lot #:	119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard Log #:	M12646	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12647	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12645	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/29/15	Expiration Date:	09/29/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M12543 and brought up to volume.		

Standard Log #:	M12644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/28/15	Expiration Date:	09/28/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12641	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12643	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/24/15	Expiration Date:	03/24/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	09/22/2015	Expiration Date:	11/08/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	GFAA
Standard Log #:	M12639	Standard:	As Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	GFAA
Standard Log #:	M12640	Standard:	As/Se Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As,Se)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and **1.0 mL** of Se (1000 mg/L) M12600 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	CETAC
Standard Log #:	M12636	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12637	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	03/18/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12633	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12634	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12635	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12630	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12631	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12632	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12628	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/16/15	Expiration Date:	09/16/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard ID#:	M12629	Vendor:	GR ACS
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/16/15	Lot #:	x131a
Expiration Date (if any):		Catalog #:	C710L50

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M12627	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	9/11/2015	Expiration Date:	08/2016
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M12186 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M12186 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M12186 *and* 0 mls DI H20.		

Standard Log #:	M12626	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/10/15	Expiration Date:	09/10/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12625	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/09/15	Expiration Date:	09/09/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12622	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12623	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

Standard Log #:	M12624	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12619	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12620	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12621	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12616	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12617	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12618	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12615	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	09/01/2015	Lot #:	32-105CR
Expiration Date (if any):	09/20/2015	Catalog #:	XSPIKE-1-250

		Instrument:	ICP 6000
Standard Log #:	M12614	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/31/15	Expiration Date:	11/08/15
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12613	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/27/15	Expiration Date:	08/27/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12612	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	08/27/15	Lot #:	15E153
Expiration Date (if any):	02/20/17	Catalog #:	4400-10M671

Standard Log #:	M12611	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/24/15	Expiration Date:	08/24/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M12596	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12597	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12598	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12599a	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12593	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12594	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12595	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/15
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12588	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	08/10/15	Expiration Date:	10/23/16
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12488 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12586	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12489 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12587	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 , **15 mL** Fe (10,000 mg/L) M12489 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

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Standard ID#:	M12584	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	GFAA Pd Matrix Modifier
Date Received:	08/05/15	Lot #:	1421912
Expiration Date (if any):	07/31/17	Catalog #:	HP1900-100

		Instrument:	ICP 6500
Standard Log #:	M12585	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	08/05/15	Expiration Date:	11/15
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12574, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12582	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	08/03/15	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12583	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	08/03/2015	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12581	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	08/03/15	Expiration Date:	11/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M11919.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M12579	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/24/15	Expiration Date:	01/24/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12576	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12577	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12578	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12574	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	31-138CR
Expiration Date (if any):	07/30/2016	Catalog #:	XSPIKE-1-500

Standard ID#:	M12575	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	07-30-2016
Expiration Date (if any):	07/30/2015	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M12559	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12560	Standard:	B&Si CCV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** B (1000 mg/L) M12471 and **1.0 mL** Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M12561	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12007 and **3 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12558	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	07/13/2015	Lot #:	9-105WL
Expiration Date (if any):	07/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12548	Vendor:	Alfa Aesar
Analyst:	LJF	Chemical:	Hydroxylamine Sulfate
Date Received:	07/08/15	Lot #:	Z16A019
Expiration Date (if any):	N/A	Catalog #:	88944

Standard ID#:	M12549	Vendor:	MACRON
Analyst:	LJF	Chemical:	Stannous Chloride
Date Received:	07/08/15	Lot #:	0000111217
Expiration Date (if any):	12/09/15	Catalog #:	8176-04

Standard Log #:	M12543	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard Log #:	M12544	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12529	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Interference-A
Date Received:	06/04/2015	Lot #:	12-101YPX
Expiration Date (if any):	06/30/2016	Catelog #:	INT-A1

Standard ID#:	M12530	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (3) Ag,Be,Cd
Date Received:	06/04/2015	Lot #:	30-152CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-4-500

Standard ID#:	M12531	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (23)
Date Received:	06/04/2015	Lot #:	30-153CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-5-500

Standard ID#:	M12532	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	06/04/2015	Lot #:	CL7-180HGY
Expiration Date (if any):	06/30/2016	Catelog #:	CLHG4-2Y

Standard ID#:	M12533	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	06/04/2015	Lot #:	15E180
Expiration Date (if any):	11/29/2016	Catelog #:	P/N S4400-10M321

Standard ID#:	M12518	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	05/29/2015	Lot #:	785159H
Expiration Date (if any):	11/30/2016	Catelog #:	39043

		Instrument:	GFAA
Standard Log #:	M12519	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12520	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12521	Standard:	ICV/Spike Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12507	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	ICP 6000
Standard Log #:	M12508	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	05/27/2015	Expiration Date:	08/30/2015
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12164, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12401 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M12504	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-SPK-1

Standard ID#:	M12505	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/Spiking Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-GFCAL-1

Standard ID#:	M12502	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum assurance standard
Date Received:	05-19-2015	Lot #:	30-096CR
Expiration Date (if any):	05-30-2016	Catelog #:	XSPIKE-1-250

Standard Log #:	M12501	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/14/15	Expiration Date:	11/14/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M10987 and brought up to volume.		

#M12488 5-5-15 - Mg 10,000mg/L CPI Lot 15C248 ex 10/2016.

#M12489 5-5-15 - Fe 10,000mg/L CPI Lot 15C290 ex 10/16.

#M12490 5-5-15 Ca 10,000mg/L CPI Lot 15A007 ex 10/16.

#M12491 05/06/15C3F TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB 579) and 128.6mL of 10N NaOH (#M12797). Dilute to 20L w/D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/06/16

#M12492 05/06/15C3F SPLP Extraction Fluid #2 west: Fill a 20L carboy with D.I. H2O and adjust pH to 5.00 ± 0.05 with (#M12457) 60/40 HNO_3, H_2SO_4 mix w/v mix.

Exp: 05/06/16

#M12493 05/11/15C3F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12494 05/11/15C3F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12495 05/11/15C3F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12494) into 100ml = 3.0ug/L Hg
#M12496 05/11/15C3F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12497 05/11/15C3F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12494) into 100ml = 0.2ug/L Hg
#M12498 05/11/15 C3F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12499 05/11/15C3F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12799 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12468
4/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12468	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	11/8/2015
Prep:	Into a 500 mL volumetric flask, pipetted 0.15 mL of Na (10,000 µg/mL) M12010 and 0.15 mL K (10,000 µg/mL) M12294 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

#M12469
4/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12469	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 mL of Na (1000 µg/mL) M12296 and 0.5 mL K (1000 µg/mL) M12295 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

M12470 ZA Cr 10,000 mg/L CPI lot # 13D123. ex oct/2016
4-24-15

M12471 ZA Boron 1000 mg/L CPI lot # 15D007. ex oct/2016
4-24-15

M12472 ZA Cu 10,000 mg/L CPI lot # 15B087. ex oct/2016

M12473 ZA Ba 1000 mg/L CPI lot # 15C142. ex oct/2016

M12474 ZA K 10,000 mg/L CPI lot # 15D114. ex oct/2016

#M12475
04/24/15
MDS

Standard Log #:	M12475	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/24/2015	Expiration Date:	08/07/2015
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted 15 mL Pd Modifier M12158 and 10 mL Mg (10,000 mg/L) M12314 and brought up to volume.		

#M12459 04/20/15 CSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12460 04/20/15 CSF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12461 04/20/15 CSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12460) into 100ml = 3.0ug/L Hg
#M12462 04/20/15 CSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12463 04/20/15 CSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12460) into 100ml = 0.2ug/L Hg
#M12464 04/20/15 CSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12465 04/20/15 CSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12466 04/22/15 CSF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M12096) in 500ml of Milli-Q H2O.
Exp: 10/22/15

#M12467
04/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12467	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12296 and K (1000 µg/mL) M12295 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

#M12453 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12294	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12454 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

M12455 4/8/15 FA Environmental Express 4, 10,000mg/L lot# 1418108. exp pmd. 10/16

#M12456 04/14/15 13F potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H_2O.
Exp: 10/14/15

#M12457 04/15/15 13F SPLP Ext. Fluid Acid mixture: In to a 200 mL vol. flask, add 12g H_2SO_4 (AB.598) and 8g conc. HNO_3 (AB.596). Bring up to volume with D.I. H_2O.
Exp: 04/15/16

#M12458 04/16/15 13F SPLP Extraction Fluid West #2: Fill a 2 L carboy with D.I. H_2O and adjust pH to 5.00 ± 0.05 with #M12457) 60/40 HNO_3, H_2SO_4 mix w/v mix.
Exp: 04/16/16

#M12449 04/07/15 13F
LOQ Check
3010 QSM DOD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Si	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12450 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11996	1000	1
Sr	3.2	M11999	1000	0.16
Ti	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12451 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M12312	10000	0.048
As	32	M12315	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M12310	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M1200	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M1231	10000	0.36
Mg	32	M12314	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M12313	10000	0.05
Sb	32	M11909	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12452 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11679	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working

#M12445 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11996	1000	0.5
Sr	2	M11999	1000	0.1
Ti	8	M12003	1000	0.4
W	36	M12163	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12446 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12294	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

List 2 MRL/ICVLL Base SPIKE PREPARATION 50x

#M12395
02/23/15 MDS

Into a 1000 mL Volumetric Flask, pipet the following:

0.5% HNO_3
0.5% HCl

Analyte	MRL (ug/L)	ICVLL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) pipet into 1	Expired Date
Li	20	60	M11998	1000	1	11/08/2015
W	100	300	M12163	1000	5	02/06/2016
Ti	10	30	M12003	1000	0.5	11/08/2015
Sr	10	30	M11999	1000	0.5	11/08/2015
Sn	20	60	M11996	1000	1	11/08/2015

Pipette 10 mL into a 500 mL volumetric flask to create a [redacted] working MRL std. or 1 mL into a 50 mL digestion tube for a digested MRL working standard. Pipette 30 mL into 500mL for ICVLL Working

#M12396
02/23/15 MDS

List 2 MRL

Into a 500 mL volumetric flask, pipetted 10 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12397
02/23/15 MDS

List 2 ICVLL

Into a 500 mL volumetric flask, pipetted 30 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12398 02/23/15 I3F NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11798) in 500mL of milli-Q H_2O.
Exp: 08/23/15

#M12399 02/24/15 I3F Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1,000mL of D.I. H_2O.
Exp: 08/24/15

#M12400 2-25-15 Al 10,000 mg/L CPI Lot# 14K153 ex 7/2016

#M12401 2-25-15 Fe 10,000 mg/L CPI Lot# H5165 7/2016

#M12402 02/26/15 I3F Stannous Chloride (AMacrun) lot# 0000096553 02/26/15 I5F

#M12403 02/26/15 I5F Sodium Chloride (Fisher) lot# 145475 02/26/15 I3F

#M12404 03/04/15 I5F TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL of 10N NaOH (#M11797). Dilute to 20L w/D.I. H_2O and mix.
pH = 4.93 ± 0.05

#M12405 03/04/15 I5F TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H_2O 03/04/15 I3F Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL of 10N NaOH (#M11797). Dilute to 20L w/D.I. H_2O and mix.
pH = 4.93 ± 0.05

#M12383 02/19/15 CF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 578) and 128.6mL of 10N NaOH (#M7492). Dilute to 20L w/ D.I. H2O and mix. pH=4.93 ± 0.05

#M12384 02/19/15 CF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12385 02/19/15 CF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12386 02/19/15 CF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12385) into 100ml = 3.0ug/L Hg
#M12387 02/19/15 CF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12388 02/19/15 CF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12385) into 100ml = 0.2ug/L Hg
#M12389 02/19/15 CF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12390 02/19/15 CF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

ICAP Working Standards List 2

.5% HNO3 .5%HCL

#M12391 02/23/15 MDS

Standard name — Pipetted the following respectively:

1	0.01mL of #M12316 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12316 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12316 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2 mL of #M12316 and 0.2 mL #M12001 into 200 mL = 1000 ug/L
10000	20mL of #M12316 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12392 02/23/15 MDS — Continuing Calibration Standard (CCV)

Into a 200mL volumetric flask pipetted 2mL of #M12316 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12393 02/23/15 MDS — Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998, M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12394 02/23/15 MDS — ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12164, 6 mL Fe (10,000 µg/mL) #M12311, and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively.
Brought up to mark with milli-Q H20 Exp. 08/30/2015 0.5% HNO3, 0.5% HCl

M12378 2-10-15 K 1000mg/L CLI Lot# 14L175 exp 7/16.

Standard Log #:	M12379	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	02/17/2015	Expiration Date:	09/18/2015

#M12379
MDS
02/17/15

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M11911	10,000
Sb	1	1000	M11909	10,000
Ag	0.1	1000	M11908	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H20. (1% HNO3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	Final Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

#M12380 - Custum Assurance Std - Spex Certiprep
2.17.15

#M12381 02/17/15 SF TCLP Extraction Fluid #1: Fill a 2oL carboy w/ 1.92 D.I. H20. Add 11.4mL Glacial Acetic Acid (AB579) and 128.6mL of 10N NaOH (#M12292). Dilute to 2oL w/ D.I. H20 and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12382 02/17/15 SF TCLP Extraction Fluid #1: Fill a 2oL carboy w/ 1.92 D.I. H20. Add 11.4mL Glacial Acetic Acid (AB579) and 128.6mL of 10N NaOH (#M12292). Dilute to 2oL w/ D.I. H20 and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12364 02/04/15 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12365 02/04/15 LSF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12366 02/04/15 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12365) into 100ml = 3.0ug/L Hg
#M12367 02/04/15 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12368 02/04/15 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12365) into 100ml = 0.2ug/L Hg
#M12369 02/04/15 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12370 02/04/15 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11995 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12371 2-5-15 ZA Sulfur 10,000mg/L SPC Science lot# S140717006 ex 4/16.

#M12372 02/05/15 LSF TCLP Extraction Fluid#1: Fill a 2oL carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M12291). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/05/16

#M12373 02/05/15 LSF TCLP Extraction Fluid#1: Fill a 2oL carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12291). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/05/16

#M12374 2/5/15 Custom Assurance Std 100ug/ml 23 Lot# 8-91WL ex 1/16

#M12375 02/10/15 LSF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11852) and bring up to volume with D.I. H2O.
Exp: 08/10/15

#M12376 02/10/15 LSF Potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000 mL of D.I. H2O.
Exp: 08/10/15

#M12377 ZA 2.10.15 Na 1000mg/L CPI Lot# 142083. ex 7/16.

#M12352 01/20/15 13F Potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O
Exp: 07/20/15

#M12353 01-22-15 MOS · S ICAL - Into 4, 100 mL vol. Flasks, pipetted the following and brought up to volume with milli-Q H2O. exp. 01-30-16
0.01 mL S (10,000ug/mL) # M12350 = 1000ug/L S
0.1 mL S (10,000ug/mL) # M12350 = 10,000 ug/L S
Used as CCV → 1.0 mL S (10,000ug/mL) # M12350 = 100,000 ug/L S
10 mL S (10,000ug/mL) # M12350 = 1000K ug/L S

#M12354 01-22-15 MOS S ICV - Into a 100mL vol. flask, pipetted 1.0mL S(10,000ug/mL) #M11828 and brought to volume with milli-Q H2O. exp. 01-30-15

#M12355 01/27/15 13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12356 01/27/15 13F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
#M12357 01/27/15 13F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12356) into 100ml = 3.0ug/L Hg
#M12358 01/27/15 13F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12359 01/27/15 13F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12356) into 100ml = 0.2ug/L Hg
#M12360 01/27/15 13F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12361 01/27/15 13F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12362 01/27/15 13F NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11798) in 500mL of Milli-Q H2O.
Exp: 07/27/15

#M12363 01/30/15 13F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 11.92 D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12792). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 01/30/16 01/30/15 13F

#M12340 1-9-15
5% HCl
5% HNO3

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	#M12294	10000	2.5
Na	500	#M12010	10000	2.5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 11/15

#M12341 01-14-15 MMS GFAA LOD/LOQ Check Water Working Std. (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H2O. exp. 09-18-15

#M12342 01-14-15 MMS GFAA LOD/LOQ Water Spiking Solution (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12341 and brought up to volume using milli-Q H2O. (1% HNO3) exp. 09-18-15

#M12343 01/19/15SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12344 01/19/15SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12345 01/19/15SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12344) into 100ml = 3.0ug/L Hg

#M12346 01/19/15SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12347 01/19/15SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12344) into 100ml = 0.2ug/L Hg

#M12348 01/19/15SF Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12349 01/19/15SF Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12350 1-19-15Z Spex Certiprep S 10,000 mg/L Lot # AH15-85SY exp 1/16

#M12351 01/19/15SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: ~~09~~ 01/19/16
01/19/15SF

#M12310 12-9-14 10,000 mg/L Ca CPI Lot# 14K204 ex 6/16

#M12311 12-9-14 10,000 mg/L Fe CPI Lot# 14J165 ex 6/16

#M12312 12-9-14 10,000 mg/L Al CPI Lot # 14H211 ex 6/16

#M12313 12-9-14 10,000 mg/L Pb CPI Lot #140135 ex 6/16

#M12314 12-9-14 10,000 mg/L Mg CPI Lot # 14K161 ex 6/16

#M12315 12-9-14 1000 mg/L As CPI Lot # 131194 ex 6/16

#M12316 12-9-14 Custom Assurance Std CPI Ex Centriprep lot 27-185CR ex 12/15

#M12317 12-09-14 mas GFAA Se Spike (10ng/mL) - Into a 100mL vol. Flask, pipetted 1.0mL Se (1000mg/mL) #M11911 + brought to volume with DI H_2O. (3% HNO_3) Exp. 09/18/15

#M12318 12/09/14 lsf TCLP Extraction Fluid #1: Fill a 7L carboy w/ 1gL D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AB5379) and 128.6mL of 10N NaOH (#M12292) Dilute to 7L with D.I. H_2O and mix. pH = 4.93 ± 0.05 Exp: 12/09/15

#M12319 12/12/14 lsf potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H_2O. Exp: 06/12/15

#M12320 12-15-14 Custom Assurance Std Spex Centriprep Lot 27-232CR XCTWT-1-500

#M12321 12-15-14 Custom Assurance Std Spex Centriprep Lot 27-231CR XSpike-1-250

#M12322 12/15/14 lsf TCLP Extraction Fluid #1: Fill a 7L Carboy w/ 1gL D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AB5379) and 128.6mL of 10N NaOH (#M12292) Dilute to 7L with D.I. H_2O and mix. pH = 4.93 ± 0.05 Exp: 12/15/15

#M12323 12-22-14 mas GFAA Pd/Mg Matrix Modifier - Into a 50mL vol. Flask, pipetted 15mL of Pd Modifier #M12158 + 10mL of Mg (10,000mg/mL) #M12113 + brought up to volume using milli-Q H_2O. (2% HNO_3) exp. 8/7/15

#M12295 11-21-14 K 1000ug/ml CPI Lot 141165 Exp 4/16

#M12296 11-21-14 Na 1000mg/L CPI Lot 141167 Exp 4/16

#M12297 11/24/14 SF Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolved Exp: 05/24/15 into 1000mL of D.I. H_2O.

#M12298 11/24/14 SF Stannous Chloride (Macron) Lot# 0000082282

#M12299 11-25-14 JT ICV 1 As + Pb. Into 1 Liter Vol flask pipet 5mL #M11912, 0.5mL #M11682. Bring up to mark w/ DI H_2O.

~~#M12300~~ 12300 11/25/14 SF #M12299 11/25/14 SF Stannous Chloride (Macron) Lot# 0000090643

#M12301 12/02/14 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L with D.I. H_2O and mix. pH = 4.93 ± 0.05. Exp: 12/02/15

#M12302 12/05/14 SF — Hg Working Stds: (0.2% HNO3, HCl)

- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
- 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
- 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
- 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
- 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
- 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12303 12/05/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

- 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
- 1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12304 12/05/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)

- 3.0ml of 100ug/L Hg (#M12303) into 100ml = 3.0ug/L Hg

#M12305 12/05/14 SF — Hg CCV (0.2% HNO3, HCl)

- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12306 12/05/14 SF — Hg MRL: (0.2% HNO3, HCl)

- 0.2ml of 100ug/L Hg (#M12303) into 100ml = 0.2ug/L Hg

#M12307 12/05/14 SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12308 12/05/14 SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

~~#M12309~~ 12/09/14 SF #M12309 12/09/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11999) and 60g hydroxylamine sulfate (#M11998) in 500mL of milli-a H_2O. Exp: 06/09/15

#M12282
11-13-14 MMS

ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12082 and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively. Brought up to mark with milli-Q H20 Exp. 06/30/2015

#M12283 Yttrium 10,000 ug/mL Environmental Express Lot#1418108
11-14-14

#M12284 11/14/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12285 11/14/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12286 11/14/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12285) into 100ml = 3.0ug/L Hg
#M12287 11/14/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12288 11/14/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12285) into 100ml = 0.2ug/L Hg
#M12289 11/14/14 ISF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12290 11/14/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12291 11/15/14 ISF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11782) in 500ml of milli-Q H2O.
Exp: 05/15/15

#M12292 11/20/14 ISF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 05/20/15

#M12293 11/20/14 ISF TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6ml of 10N NaOH (#M12292). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 11/20/15

#M12294 11-21-14 K 10,000 ug/mL CPI Lot 146213 ex 4/29/16

11/04/14 15F

#M12271 TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 579) and 128.6mL 10N NaOH (#M11955). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 10/21/04/14
11/04/14 15F

#M12272 11/05/14 15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12273 11/05/14 15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12274 11/05/14 15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12273) into 100ml = 3.0ug/L Hg
#M12275 11/05/14 15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12276 11/05/14 15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12273) into 100ml = 0.2ug/L Hg
#M12277 11/05/14 15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12276 11/05/14 15F	Stannous Chloride Reagent:	Into a 1000mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12277 11/07/14 15F Potassium permanganate (Fisher) Lot# 138790A

#M12278 11/13/14 15F potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 05/13/15

ICAP Working Standards List 2

#M12279
11-13-14 MMS

.5% HNO3 .5%HCL

Standard name	Pipetted the following respectively:
1	0.01mL of #M12165 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12165 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12165 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2mL of #M12165 and 0.2mL #M12001 into 200mL = 1000 ug/L
10000	20mL of #M12165 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12280
11-13-14 MMS

Continuing Calibration Standard (CCV)
Into a 200mL volumetric flask pipetted 2mL of #M12165 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12281
11-13-14 MMS

Initial Calibration Standard (ICV) List 2
Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998 and M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M122258 10/22/14 SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O.
Exp: 04/22/15

#M122259 10/27/14 SF Stannous Chloride (Macron) lot#0000087461

M122260 10/28/14 ICV/LCS boron and silicon

Into a one liter volmetric flask pipet 10ml of #M12165 and 1.0 ml #M11919

Bring up to mark with DI H2O

#M122261 10/28/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M122262 10/28/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M122263 10/28/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M122262) into 100ml = 3.0ug/L Hg
#M122264 10/28/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M122265 10/28/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M122262) into 100ml = 0.2ug/L Hg
#M122266 10/28/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M122267 10/28/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11795) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M122268 10/29/14 SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O.
Exp: 04/29/15

#M122269 10/29/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11798) in 500ml of milli-Q H2O.
Exp: 04/29/14

#M122270 11/04/14 SF Sodium Chloride (Fisher) lot#142463

#M12210 10/02/14/SF TCLP Extraction Fluid #1: Fill 10/02/14/SF into a 20L carboy w/ 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (#M10/09/14/SF AB: 599) and 128.6mL 10 N NaOH (#M11955). Dilute to 20L with D.I. H_2O and mix pH = 4.93 ± 0.05
Exp: 10/02/15

#M12211 10/6/14 JH Custom Assurance Std Spex CertiPrep Lot # 26-201CR. exp 9/15

#M12212 10/6/14 JH Potassium 10,000 CPI Lot# 146213 exp 3/16

#M12213 10/6/14 JH Arsenic 10,000 CPI Lot# 132089 exp 3/16

#M12214 10/06/14/SF	Hg Working Stds: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12215 10/06/14/SF	Hg Alt Source Working Std: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12216 10/06/14/SF	Hg ICV / LCSW (0.2% HNO_3, HCl)	3.0ml of 100ug/L Hg (#M 12215) into 100ml = 3.0ug/L Hg
#M12217 10/06/14/SF	Hg CCV (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12218 10/06/14/SF	Hg MRL: (0.2% HNO_3, HCl)	0.2ml of 100ug/L Hg (#M 12215) into 100ml = 0.2ug/L Hg
#M12219 10/06/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO_3 (AB: 554)
#M12220 10/06/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11975) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12221 10/06/14/SF Potassium Permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of D.I. H_2O.
Exp: 04/06/15

#M12222 10/06/14 MOS GFAA LOD/LOQ check Water Working Std (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H_2O. (1% HNO_3) exp. 09/18/15

#M12223 10/06/14 MOS GFAA LOD/LOQ Water Spiking Soln (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12222 and brought up to volume using milli-Q H_2O. (1% HNO_3) exp. 09/18/15

~~#M12149 08/28/14 I3F Stannous chloride lot#~~ 08/28/14 I3F

#M12179 9-4-15 Hg 1000 ug/mL CPI lot# 14F110.

#M12180 09/04/14 I4F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12181 09/04/14 I3F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12182 09/04/14 I3F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12181) into 100ml = 3.0ug/L Hg
#M12183 09/04/14 I3F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12184 09/04/14 I5F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12181) into 100ml = 0.2ug/L Hg
#M12185 09/04/14 I5F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12186 09/04/14 I3F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12185 09/05/14 I5F TCLP Extraction Fluid #1: Fill a 20l carboy w/19L DI H2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 10N NaOH (#M11955). Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05

Exp: 09/05/15

#M12186 9-9-14 StablCal Standard 200 ntu turbidity Hach lot #A4216 exp 8/16

#M12187 9-9-14 Turbidity Working Stds → into 3 Hach Vials =>

~~pipet 1, 5~~ #9-9-14

~~1mls → 9mls DH~~ #9-9-14

1 ml #M12186 → 9mls DI H_2O = 20 ntu

5 mls M12186 → 5 mls DI H_2O = 100 ntu

10 Ø #9-9-14 mls → M12186 → 0 ml DI H_2O = 200 ntu

#M12157 TMOS
08-06-14

ICAP Working Standards Boron & Silicon

Standard name	Into a 1L volumetric flask, pipetted the following respectively:
50	0.05mL of #M11763 and 0.05mL #M12007 = 50 ug/L
200	0.2mL of #M11763 and 0.2mL #M12007 = 100 ug/L
1000	1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
2000	2.0mL of #M11763 and 2.0mL #M12007 = 1000 ug/L
10000	10.0mL of #M11763 and 10.0mL #M12007 = 10000 ug/L

Expires: 05/13/2015

Continuing Calibration Standard (CCV)

Into a 1L volumetric flask, pipetted 1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
Brought up to volume with DI H20. Expires 05/13/2015

#M12158 TMOS 08/11/14: 1% Pd GFAA matrix modifier. Environmental Express Lot# 1421912
Expires: 08/07/15

#M12159 TMOS 08/11/14: 1% Nickel Nitrate GFAA matrix Modifier. Alfa Aesar Lot# 41-553987D

#M12160 08/12/14 CSF Triscolyt (Mettler Toledo) lot# 17134C

#M12161 08/12/14 CSF TCLP Extraction Fluid #1: ~~In to~~ a 2oz Carboy w/ 1.92 D.I. H2O. Add 1.14mL Glacial Acetic Acid (AB-579) and 2.28.6mL 1.0N NaOH (#M11955). Dilute to 2oz with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 08/12/15

#M12162 8-13-14 Potassium 1000 mg/L CPI lot#14F193 ex 2/16.

#M12163 8-13-14 Tungsten std. CPI Lot# 14F230 ex 2/16

#M12164 8-13-14 Interference A Spex Certiprep Lot# 11-384PX ex 8/15

#M12165 8-13-14 Custom Assurance Std Spex Certiprep Lot #7-93WL ex 8/15

#M12134 MOS
07-21-14

Working Standards for Sodium and Potassium - Into seven, 200 mL volumetric flasks, pipetted the following from #M11719 and #M11722 and brought up to volume using milli-Q H_2O. (2% HNO_3)

0.5 mg/L std - 0.1 mL of each
1.0 mg/L std - 0.2 mL of each
5.0 mg/L std - 1.0 mL of each
10.0 mg/L std - 2.0 mL of each
50.0 mg/L std -10 mL of each
100 mg/L std - 20 mL of each, used for Continuing Calibration Standard (CCV)
200 mg/L std - 40 mL of each
Expires: 04/24/15

#M12135 MOS
07-21-14

Initial Calibration Standard (ICV) - Into a 250 mL volumetric flask, pipetted 2.5 mL of #M12010 and #M12011 and brought up to volume using milli-Q H_2O. (2% HNO_3)
Expires: 11/08/2015

#M12136 MOS
07-21-14

ICAP 6000 ICSAB Standard for Sodium and Potassium – Into a 250 mL volumetric flask, pipetted 25 mL of #M11776 and 2.5 mL of each #M12010 & #M12011 and brought to volume using milli-Q H_2O. (2% HNO_3) 7.5mL of #M11915
Expires: 12/30/14

#M12137 MOS
07-22-14

TCLP Extraction Fluid #1 – Into a 20L carboy, added 114mL Glacial Acetic acid #AB586 + 128.6mL 10N NaOH #M12086 + brought to volume w/ D.I H_2O. Mix. pH = 4.93 ± 0.05

#M12138 07/30/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12139 07/30/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12140 07/30/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12139) into 100ml = 3.0ug/L Hg
#M12141 07/30/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12105 07/08/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12106 07/08/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12107 07/08/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12106) into 100ml = 3.0ug/L Hg
#M12108 07/08/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12109 07/08/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12106) into 100ml = 0.2ug/L Hg
#M12110 07/08/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12111 07/08/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12112 7-10-14 Ca 10,000 mg/L CPI Lot # 14D176 exp 1/16
D

#M12113 7-10-14 Mg 10,000 mg/L CPI Lot # 14F190 exp 1/16

#M12114 07/11/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12115 07/11/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12116 07/11/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12115) into 100ml = 3.0ug/L Hg
#M12117 07/11/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12118 07/11/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12115) into 100ml = 0.2ug/L Hg
#M12119 07/11/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12120 07/11/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12079 06/18/14 CSF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O
Exp: 12/18/14

ICAP Working Standards W Only

.5% HNO3 .5%HCL

#M12080 06/19/14 MDS

Standard name		Pipetted the following respectively:
100		0.1mL #M12001 into 1L = 100 ug/L
1000	M12080	1mL #M12001 into 1L = 1000 ug/L
10000		10mL #M12001 into 1L = 10000 ug/L

Bring up to mark with milli-Q H20 Exp. 11/08/15

Continuing Calibration Standard (CCV) M12080
Into a 1L volumetric flask pipetted 1mL #M12001 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 11/08/15

#M12081 06/19/14 MDS

Initial Calibration Standard (ICV) W Only M12081
Into a 1 liter volumetric flask pipetted 1mL of #M11365
Bring up to mark with milli-Q H20 Exp. ~~04/23/15~~ 04/20/14
MDS 06/19/14

#M12082 6-23-14 ZA Spex Certiprep INT-A ~~lot~~ # 11-38YPX ~~ex~~ 6/15,

#M12083 ZB 6-23-14 Spex Certprep Cust. Assurance std T Hardness + Na ex 6/15.

#M12084 ZA 6-23-14 TCLP Extraction fluid into 20 ~~liter~~ carboy, Add 114ml Glacial acetic Acid (AB-5886) + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O & mix pH=4.93±.05

#M12085 ZA 6-23-14 TCLP Extraction fluid into 20 Liter carboy add 114ml Glacial acetic Acid (AB-5886), + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O & Mix ph=4.93±.05

#M12086 ZA 6-23-14 10N NaOH into 1 Liter Vol dissolve 400g Sodium Hydroxide #M11145. Bring up to mark w/DI H2O ex 6-23-15.

#M12087 CSF 06/25/14 Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1,000mL of D.I. H2O.
Exp: 12/25/14

#M12002 05/13/14 LSF Cadmium 1,000mg/L CPI Lot#14A402 Exp: 11/08/15

#M12003 05/13/14 LSF Titanium 1,000mg/L CPI Lot#13H001 Exp: 11/08/15

#M12004 05/13/14 LSF Nickel 1,000mg/L CPI Lot#14D214 Exp: 11/08/15

#M12005 05/13/14 LSF Zinc ~~1,000~~ 10,000 05/13/14 LSF mg/L CPI Lot#14A199 Exp: 11/08/15

#M12006 05/13/14 LSF Beryllium 1,000mg/L CPI Lot#14D241 Exp: 11/08/15

#M12007 05/13/14 LSF Silicon 1,000mg/L CPI Lot#132019 Exp: 11/08/15

#M12008 05/13/14 LSF Molybdenum 1,000mg/L CPI Lot#148183 Exp: 11/08/15

#M12009 05/13/14 LSF Vanadium 1,000mg/L CPI Lot#14A107 Exp: 11/08/15

#M12010 05/13/14 LSF Sodium 10,000mg/L CPI Lot#148243 Exp: 11/08/15

#M12011 05/13/14 LSF Potassium 10,000mg/L CPI Lot#14C131 Exp: 11/08/15

#M12012 05/14/14 LSF Potassium permanganate soln: 50g potassium permanganate (#M11785) dissolve into 1,000mL of D.I. H_2O.
Exp: 11/14/14

#M12013 05/14/14 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12014 05/14/14 LSF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12015 05/14/14 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12014) into 100ml = 3.0ug/L Hg
#M12016 05/14/14 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12017 05/14/14 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12014) into 100ml = 0.2ug/L Hg
#M12018 05/14/14 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12019 05/14/14 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11779) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M 11986 05/08/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 1 Liter NaCl (#M11799) and 1 Liter Hydroxylamine Sulfate (#M11998) in 500ml Milli-Q H2O.

Exp: 11/08/14

#M11987 05/09/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11988 05/09/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11989 05/09/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11988) into 100ml = 3.0ug/L Hg
#M11990 05/09/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11991 05/09/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11988) into 100ml = 0.2ug/L Hg
#M11992 05/09/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11993 05/09/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11749 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11994 05/12/14 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19.2 D.I. H2O. Add 114ml Glacial Acetic Acid (AB.579) and 128.6mL 10 N NaOH (#M11955), Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05 05/11/14 SF

Exp: 05/12/15

#M11995 05/13/14 SF Stannous Chloride (Macron) lot #0000076357 Exp: 02/14/15

#M11996 05/13/14 SF Tin 1,000 mg/L CPI lot # 13H238 Exp: 11/08/15

#M11997 05/13/14 SF Thallium 1,000mg/L CPI lot # 13I105 Exp: 11/08/15

#M11998 05/13/14 SF Lithium 1,000 mg/L CPI lot # 14E049 Exp: 11/08/15

#M11999 05/13/14 SF Strontium 1,000mg/L CPI lot # 14C002 Exp: 11/08/15

#M12000 05/13/14 SF Cobalt 1,000mg/L CPI lot # 14D005 Exp: 11/08/15

#M12001 05/13/14 SF Tungsten 1,000mg/L CPI lot # 13H199 Exp: 11/08/15

#M11917 4-1-14 $ ICV(###) ent 100 ml vol flask pipet M11679 from 10mls = 100,000 =100,000ug/L $ exp 5/15

#M11918 04/02/14/SF Potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O. EXP: 10/02/14 04/02/14/SF

M11919 4-2-14 Si 1000 mg/L Std Fisher Lot # 141902 exp 3/16

M11920 4-2-14 AMCO Clear turbidity std 20 nta exp Lot# C4674160 ex 3/15.

#M11921 04/03/14/SF Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1000 ml of D.I. H2O. EXP: 10/03/14 04/03/14/SF

#M11922 04/04/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11923 04/04/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11924 04/04/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11923) into 100ml = 3.0ug/L Hg
#M11925 04/04/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11926 04/04/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11923) into 100ml = 0.2ug/L Hg
#M11927 04/04/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11928 04/04/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11790) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11929 04/10/14/SF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 600g NaCl (#M11799) and 60g hydroxylamine Sulfate (#M11798) in 500mL Milli-Q Exp: 10/10/14

#M11930 04/11/14/SF 04/11/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11931 04/11/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg

INORGANIC
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

101216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787718
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 15:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

101216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787718
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 16:06
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

101216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787718
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131621	Analysis Date/Time	10/24/2016 23:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

101416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788656
Analytical Method:	EPA 9056A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131448	Analysis Date/Time	10/17/2016 18:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	H	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.3	J		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

101416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788656
Analytical Method:	EPA 9060A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 20:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787722
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 17:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.51	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787722
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 18:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.7	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	43		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787720
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 16:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787720
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 16:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.4	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.54		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787720
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 19:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	95		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787721
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 16:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.7		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.70		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	50	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787721
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 16:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788654
Analytical Method:	EPA 9056A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131448	Analysis Date/Time	10/17/2016 17:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	10		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.3	H	0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788654
Analytical Method:	EPA 9056A	Date Received:	10/15/2016
Dilution Factor:	4.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131448	Analysis Date/Time	10/17/2016 18:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	76		5.2	10	20	20

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788654
Analytical Method:	EPA 9060A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 19:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.78	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788655
Analytical Method:	EPA 9056A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131448	Analysis Date/Time	10/18/2016 08:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.8	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.72	H	0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788655
Analytical Method:	EPA 9056A	Date Received:	10/15/2016
Dilution Factor:	2.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131448	Analysis Date/Time	10/17/2016 18:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	37		2.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788655
Analytical Method:	EPA 9060A	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 20:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788213
Analytical Method:	EPA 9056A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131362	Analysis Date/Time	10/14/2016 17:28
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.72		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	3.8	J	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788213
Analytical Method:	EPA 9060A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 18:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788211
Analytical Method:	EPA 9056A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131362	Analysis Date/Time	10/14/2016 15:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.3	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	6.6		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	28		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788211
Analytical Method:	EPA 9060A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 18:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788657
Analytical Method:	EPA 410.4	Date Received:	10/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131726	Analysis Date/Time	10/24/2016 15:00
Analytical Prep Batch #:	59729	Prep. Date/Time:	10/24/2016 12:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
COD	COD	35	U	M	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788657
Analytical Method:	EPA 9040C	Date Received:	10/15/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131510	Analysis Date/Time	10/18/2016 16:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.77		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788214
Analytical Method:	EPA 9056A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131362	Analysis Date/Time	10/14/2016 17:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.40		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788214
Analytical Method:	EPA 9060A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 19:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788210
Analytical Method:	EPA 9056A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131362	Analysis Date/Time	10/14/2016 15:44
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.17	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	19		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788210
Analytical Method:	EPA 9060A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 18:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787723
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 17:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787723
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 18:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.48		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	55		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788212
Analytical Method:	EPA 9056A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131362	Analysis Date/Time	10/14/2016 17:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.0	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	6.9		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	28		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788212
Analytical Method:	EPA 9060A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 18:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788209
Analytical Method:	EPA 9056A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131362	Analysis Date/Time	10/14/2016 15:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	7.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.1		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	63		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	788209
Analytical Method:	EPA 9060A	Date Received:	10/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 18:05
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787719
Analytical Method:	EPA 410.4	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131726	Analysis Date/Time	10/24/2016 15:00
Analytical Prep Batch #:	59729	Prep. Date/Time:	10/24/2016 12:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	110		15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787719
Analytical Method:	EPA 9040C	Date Received:	10/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131510	Analysis Date/Time	10/18/2016 16:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.64		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787265
Analytical Method:	EPA 9060A	Date Received:	10/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 14:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787265
Analytical Method:	EPA 9056A	Date Received:	10/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131270	Analysis Date/Time	10/12/2016 17:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.8	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	30		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787265
Analytical Method:	EPA 9060A	Date Received:	10/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131621	Analysis Date/Time	10/24/2016 21:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	59		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787717
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 15:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.55	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787717
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 15:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.26	J	0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787717
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 19:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	150		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787717
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131621	Analysis Date/Time	10/24/2016 23:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	72		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787283
Analytical Method:	EPA 9060A	Date Received:	10/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 14:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.99	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787283
Analytical Method:	EPA 9056A	Date Received:	10/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131270	Analysis Date/Time	10/12/2016 16:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.2	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.2		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	41		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787283
Analytical Method:	EPA 9060A	Date Received:	10/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131621	Analysis Date/Time	10/24/2016 21:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	68		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787715
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 15:12
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.4		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.49		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	38		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787715
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 15:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787715
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131621	Analysis Date/Time	10/24/2016 23:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	79		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787716
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131620	Analysis Date/Time	10/24/2016 15:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787716
Analytical Method:	EPA 9056A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131328	Analysis Date/Time	10/13/2016 15:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.6		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.53		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	36		1.3	2.5	5.0	5.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	122845
% Solids:		Lab Sample ID:	787716
Analytical Method:	EPA 9060A	Date Received:	10/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	131621	Analysis Date/Time	10/24/2016 23:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	78		0.50	1.5	3.0	3.0

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270 Lab Sample ID: 788929

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	6/16/16	16:29	15.00	13.51	90	90	110
Nitrate Nitrogen	6/16/16	16:29	3.500	3.287	94	90	110
Sulfate	6/16/16	16:29	25.00	23.89	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362

Lab Sample ID: 788980

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/14/16	11:45	15.00	13.86	92	90	110
Nitrate Nitrogen	10/14/16	11:45	3.500	3.272	93	90	110
Sulfate	10/14/16	11:45	25.00	23.34	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726 Lab Sample ID: 794252

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/24/16 15:00	400.0	394.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 794336

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/2/16 18:07	50.00	51.21	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131328 Lab Sample ID: 788029

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/13/16	13:03	15.00	15.85	106	90	110
Nitrate Nitrogen	10/13/16	13:03	3.500	3.539	101	90	110
Sulfate	10/13/16	13:03	25.00	26.43	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131328 Lab Sample ID: 788032

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/13/16	17:01	15.00	16.05	107	90	110
Nitrate Nitrogen	10/13/16	17:01	3.500	3.622	103	90	110
Sulfate	10/13/16	17:01	25.00	26.97	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131328 Lab Sample ID: 788037

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/13/16	19:45	15.00	16.07	107	90	110
Nitrate Nitrogen	10/13/16	19:45	3.500	3.650	104	90	110
Sulfate	10/13/16	19:45	25.00	26.82	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362

Lab Sample ID: 788844

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/14/16	12:47	15.00	14.37	96	90	110
Nitrate Nitrogen	10/14/16	12:47	3.500	3.194	91	90	110
Sulfate	10/14/16	12:47	25.00	23.79	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362 Lab Sample ID: 788848

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/14/16	16:36	15.00	14.51	97	90	110
Nitrate Nitrogen	10/14/16	16:36	3.500	3.268	93	90	110
Sulfate	10/14/16	16:36	25.00	24.04	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362 Lab Sample ID: 788853

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/14/16	20:03	15.00	14.66	98	90	110
Nitrate Nitrogen	10/14/16	20:03	3.500	3.281	94	90	110
Sulfate	10/14/16	20:03	25.00	24.27	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270 Lab Sample ID: 788954

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/12/16	15:05	15.00	15.38	103	90	110
Nitrate Nitrogen	10/12/16	15:05	3.500	3.406	97	90	110
Sulfate	10/12/16	15:05	25.00	25.71	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270 Lab Sample ID: 788960

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/12/16	19:00	15.00	15.55	104	90	110
Nitrate Nitrogen	10/12/16	19:00	3.500	3.488	100	90	110
Sulfate	10/12/16	19:00	25.00	25.88	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790115

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/17/16	14:57	15.00	14.87	99	90	110
Nitrate Nitrogen	10/17/16	14:57	3.500	3.192	91	90	110
Sulfate	10/17/16	14:57	25.00	24.00	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790119

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/17/16	19:26	15.00	15.15	101	90	110
Nitrate Nitrogen	10/17/16	19:26	3.500	3.236	92	90	110
Sulfate	10/17/16	19:26	25.00	24.89	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790123

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/17/16	23:05	15.00	15.19	101	90	110
Nitrate Nitrogen	10/17/16	23:05	3.500	3.182	91	90	110
Sulfate	10/17/16	23:05	25.00	25.99	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790126

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/18/16	06:42	15.00	15.30	102	90	110
Nitrate Nitrogen	10/18/16	06:42	3.500	3.191	91	90	110
Sulfate	10/18/16	06:42	25.00	25.00	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790128

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/18/16	10:21	15.00	15.30	102	90	110
Nitrate Nitrogen	10/18/16	10:21	3.500	3.149	90	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270 Lab Sample ID: 791439

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/20/16	03:13	15.00	15.45	103	90	110
Nitrate Nitrogen	10/20/16	03:13	3.500	3.583	102	90	110
Sulfate	10/20/16	03:13	25.00	25.66	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793277

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/24/16 13:14	50.00	51.96	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793283

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/24/16 16:20	50.00	51.38	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793286

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/24/16 19:40	50.00	47.08	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793288

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/24/16 21:40	50.00	48.21	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621 Lab Sample ID: 793301

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	10/24/16	16:20	50.00	51.38	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621 Lab Sample ID: 793304

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	10/24/16 19:40	50.00	47.08	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621 Lab Sample ID: 793306

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	10/24/16 21:40	50.00	48.21	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621 Lab Sample ID: 793311

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	10/25/16	00:01	50.00	48.93	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726

Lab Sample ID: 794254

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/24/16 15:00	400.0	399.0	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726 Lab Sample ID: 794255

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/24/16 15:00	400.0	397.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726

Lab Sample ID: 794257

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/24/16 15:00	400.0	401.0	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726 Lab Sample ID: 794259

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/24/16 15:00	400.0	395.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726

Lab Sample ID: 794253

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/24/2016 15:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620

Lab Sample ID: 794337

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/02/2016 18:21	0.2900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270

Lab Sample ID: 788930

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	06/17/2016 07:43	0	U	1.1	2.0
Nitrate Nitrogen	06/17/2016 07:43	0	U	0.08	0.20
Sulfate	06/17/2016 07:43	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362

Lab Sample ID: 788981

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/14/2016 12:02	0	U	1.1	2.0
Nitrate Nitrogen	10/14/2016 12:02	0	U	0.08	0.20
Sulfate	10/14/2016 12:02	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793287

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/24/2016 19:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793289

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/24/2016 21:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793294

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/24/2016 17:03	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621

Lab Sample ID: 793305

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0092A

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	10/24/2016 19:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621

Lab Sample ID: 793307

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0092A

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	10/24/2016 21:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621

Lab Sample ID: 793312

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0092A

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	10/25/2016 00:16	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726 Lab Sample ID: 794256

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/24/2016 15:00	2.000			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726

Lab Sample ID: 794258

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/24/2016 15:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726

Lab Sample ID: 794260

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/24/2016 15:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131328 Lab Sample ID: 788033

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/13/2016 17:19	0	U	1.1	2.0
Nitrate Nitrogen	10/13/2016 17:19	0	U	0.08	0.20
Sulfate	10/13/2016 17:19	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131328 Lab Sample ID: 788038

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/13/2016 20:04	0	U	1.1	2.0
Nitrate Nitrogen	10/13/2016 20:04	0	U	0.08	0.20
Sulfate	10/13/2016 20:04	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362

Lab Sample ID: 788849

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/14/2016 16:53	0.4877	U	1.1	2.0
Nitrate Nitrogen	10/14/2016 16:53	0	U	0.08	0.20
Sulfate	10/14/2016 16:53	0.8188	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362 Lab Sample ID: 788854

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/14/2016 20:20	0	U	1.1	2.0
Nitrate Nitrogen	10/14/2016 20:20	0	U	0.08	0.20
Sulfate	10/14/2016 20:20	0.7465	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270 Lab Sample ID: 788961

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/12/2016 19:18	0	U	1.1	2.0
Nitrate Nitrogen	10/12/2016 19:18	0	U	0.08	0.20
Sulfate	10/12/2016 19:18	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448

Lab Sample ID: 790120

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/17/2016 19:44	0	U	1.1	2.0
Nitrate Nitrogen	10/17/2016 19:44	0	U	0.08	0.20
Sulfate	10/17/2016 19:44	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790127

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/18/2016 07:00	0	U	1.1	2.0
Nitrate Nitrogen	10/18/2016 07:00	0	U	0.08	0.20
Sulfate	10/18/2016 07:00	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790129

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/18/2016 10:39	0	U	1.1	2.0
Nitrate Nitrogen	10/18/2016 10:39	0	U	0.08	0.20

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790868

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/17/2016 23:42	0	U	1.1	2.0
Nitrate Nitrogen	10/17/2016 23:42	0	U	0.08	0.20
Sulfate	10/17/2016 23:42	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131726 Lab Sample ID: 792894

Analytical Prep Batch # 59729 Preparation Date/Time: 10/24/2016 12:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	10/24/2016 15:00	3.000	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131620 Lab Sample ID: 793279

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/24/2016 13:43	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131621 Lab Sample ID: 793303

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	10/24/2016 17:03	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131328 Lab Sample ID: 788031

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/13/2016 13:40	0	U	1.1	2.0
Nitrate Nitrogen	10/13/2016 13:40	0	U	0.08	0.20
Sulfate	10/13/2016 13:40	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131362 Lab Sample ID: 788846

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/14/2016 13:26	0.4862	U	1.1	2.0
Nitrate Nitrogen	10/14/2016 13:26	0	U	0.08	0.20
Sulfate	10/14/2016 13:26	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131270 Lab Sample ID: 788956

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/12/2016 15:57	0.4654	U	1.1	2.0
Nitrate Nitrogen	10/12/2016 15:57	0	U	0.08	0.20
Sulfate	10/12/2016 15:57	0.5815	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 122845

Analytical Run #: 131448 Lab Sample ID: 790117

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/17/2016 16:05	0	U	1.1	2.0
Nitrate Nitrogen	10/17/2016 16:05	0	U	0.08	0.20
Sulfate	10/17/2016 16:05	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

49AOW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	792891	Parent Sample No.:	788657
Analytical Prep Batch #	59729	Analytical Preparation Date/Time:	10/24/2016 12:00
Analytical Run #:	131726	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 10/24/2016 Analysis Time: -------- 15:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
COD	90-110	171		BDL	U	148	116		SP	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	793281	Parent Sample No.:	787283
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131620	ICAL Calibration #:	ICAL 0092A

Analysis Type *Initial Analysis* Analysis Date: ----- 10/24/2016 Analysis Time: -------- 14:45

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	48.6		0.99	J	50.0	95		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	788035	Parent Sample No.:	787721
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131328	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/13/2016	Analysis Time: --------	17:56

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.4		4.7		8.00	96		IC	
Nitrate Nitrogen	88-111	2.78		0.70		2.00	104		IC	
Sulfate	87-112	56.3		50		8.00	79		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	788851	Parent Sample No.:	788210
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131362	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/14/2016	Analysis Time: --------	18:20

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	9.93		2.1	J	8.00	98		IC
Nitrate Nitrogen	88-111	2.11		0.17	J	2.00	97		IC
Sulfate	87-112	27.1		19		8.00	101		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	788958	Parent Sample No.:	787283
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131270	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/12/2016	Analysis Time: --------	18:23

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	15.2		6.2		8.00	112		IC	*FAIL*
Nitrate Nitrogen	88-111	3.30		1.2		2.00	105		IC	
Sulfate	87-112	49.1		41		8.00	101		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

101416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	790121	Parent Sample No.:	788656
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131448	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 10/17/2016 Analysis Time: -------- 20:02

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.34		BDL	U	8.00	104		IC
Nitrate Nitrogen	88-111	1.99		BDL	U	2.00	100		IC
Sulfate	87-112	9.58		2.3	J	8.00	91		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49AOW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	792893	Parent Sample No.:	792891
Analytical Prep Batch #	59729	Analytical Preparation Date/Time:	10/24/2016 12:00
Analytical Run #:	131726	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/24/2016 Analysis Time: -------- 15:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
COD	90-110	171		BDL	U	148	116		SP	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	793282	Parent Sample No.:	793281
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131620	ICAL Calibration #:	ICAL 0092A

Analysis Type *Initial Analysis* Analysis Date: ----- 10/24/2016 Analysis Time: -------- 14:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	49.2		0.99	J	50.0	96		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **13MW4**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solids for Sample:
Concentration Units: mg/L
Sample No: 788036
Parent Sample No.: 788035
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131328
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/13/2016 Analysis Time: -------- 18:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.4		4.7		8.00	96		IC	
Nitrate Nitrogen	88-111	2.77		0.70		2.00	104		IC	
Sulfate	87-112	56.4		50		8.00	80		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	788852	Parent Sample No.:	788851
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131362	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/14/2016	Analysis Time: --------	18:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	10.0		2.1	J	8.00	99		IC
Nitrate Nitrogen	88-111	2.13		0.17	J	2.00	98		IC
Sulfate	87-112	27.1		19		8.00	101		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	788959	Parent Sample No.:	788958
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131270	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/12/2016	Analysis Time: --------	18:41

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	15.3		6.2		8.00	114		IC	*FAIL*
Nitrate Nitrogen	88-111	3.30		1.2		2.00	105		IC	
Sulfate	87-112	49.1		41		8.00	101		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

101416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	122845
% Solids for Sample:		Concentration Units:	mg/L
Sample No	790122	Parent Sample No.:	790121
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	131448	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 10/17/2016 Analysis Time: -------- 20:20

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.45		BDL	U	8.00	106		IC
Nitrate Nitrogen	88-111	2.01		BDL	U	2.00	100		IC
Sulfate	87-112	9.66		2.3	J	8.00	92		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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6

DUPLICATES

Sample Description

49AOW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 122845

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 131510

ICAL Calibration #:

Sample #: 792292

Parent Sample #: 788657

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	10/18/2016	16:52	1	7.77		7.77		0		ELEC

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6

DUPLICATES

Sample Description

49AOW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 122845

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 59729

Analytical Run #: 131726

ICAL Calibration #:

Sample #: 792892

Parent Sample #: 788657

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	10/24/2016	15:00	20	15	U	15	U	0		SP

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 131620
ICAL Calibration #: ICAL 0092A
Sample #: 793280
Parent Sample #: 787283

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	10/24/2016	14:31	20	0.99	J	0.950	J	4		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 131621
ICAL Calibration #: ICAL 0092A
Sample #: 793308
Parent Sample #: 787283

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Inorganic Carbon	10/24/2016	22:15	20	68		65.7		3		TOC

CT LABORATORIES
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6

DUPLICATES

Sample Description

13MW4

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 122845

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 131328

ICAL Calibration #:

Sample #: 788034

Parent Sample #: 787721

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/13/2016	17:38	10	4.7		4.70		0		IC
Nitrate Nitrogen	10/13/2016	17:38	10	0.70		0.700		0		IC
Sulfate	10/13/2016	17:38	10	50		49.8		0		IC

CT LABORATORIES
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6

DUPLICATES

Sample Description

49MW02

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 131362
ICAL Calibration #:
Sample #: 788850
Parent Sample #: 788210

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/14/2016	18:02	10	2.1	J	2.11	J	0		IC
Nitrate Nitrogen	10/14/2016	18:02	10	0.17	J	0.163	J	4		IC
Sulfate	10/14/2016	18:02	10	19		19.4		2		IC

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 131270
ICAL Calibration #:
Sample #: 788957
Parent Sample #: 787283

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/12/2016	18:05	10	6.2		6.17		0		IC
Nitrate Nitrogen	10/12/2016	18:05	10	1.2		1.21		1		IC
Sulfate	10/12/2016	18:05	10	41		40.8		0		IC

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6

DUPLICATES

Sample Description

101416R1

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 131448
ICAL Calibration #:
Sample #: 790118
Parent Sample #: 788656

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/17/2016	19:08	10	1.1	U	1.1	U	0		IC
Nitrate Nitrogen	10/17/2016	19:08	10	0.080	U	0.080	U	0		IC
Sulfate	10/17/2016	19:08	10	2.3	J	2.26	J	2		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49AOW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 59729
Analytical Preparation Date/Time: 10/24/2016 12:00
Analytical Run #: 131726
ICAL Calibration #:
Sample #: 792893
Parent Sample #: 792891

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	10/24/2016	15:00	20	171		171		0		SP

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131620
ICAL Calibration #: ICAL 0092A
Sample #: 793282
Parent Sample #: 793281

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	10/24/2016	14:59	20	48.6		49.2		1		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW4**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131328
ICAL Calibration #:
Sample #: 788036
Parent Sample #: 788035

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/13/2016	18:14	15	12.4		12.4		0		IC
Nitrate Nitrogen	10/13/2016	18:14	15	2.78		2.77		0		IC
Sulfate	10/13/2016	18:14	15	56.3		56.4		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49MW02**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131362
ICAL Calibration #:
Sample #: 788852
Parent Sample #: 788851

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/14/2016	18:37	15	9.93		10.0		1		IC
Nitrate Nitrogen	10/14/2016	18:37	15	2.11		2.13		1		IC
Sulfate	10/14/2016	18:37	15	27.1		27.1		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131270
ICAL Calibration #:
Sample #: 788959
Parent Sample #: 788958

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/12/2016	18:41	15	15.2		15.3		0		IC
Nitrate Nitrogen	10/12/2016	18:41	15	3.30		3.30		0		IC
Sulfate	10/12/2016	18:41	15	49.1		49.1		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **101416R1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 122845
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 131448
ICAL Calibration #:
Sample #: 790122
Parent Sample #: 790121

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/17/2016	20:20	15	8.34		8.45		1		IC
Nitrate Nitrogen	10/17/2016	20:20	15	1.99		2.01		1		IC
Sulfate	10/17/2016	20:20	15	9.58		9.66		1		IC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131726 Sample No.:#: 792895

Analytical Prep Batch #: 59729 Preparation Date/Time: 10/24/2016 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	10/24/2016 15:00	90-110	394.0		400.0	98		SP

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131620 Sample No.:#: 793278

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	10/24/2016 13:28	85-111	48.47		50.00	97		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131621 Sample No.:#: 793302

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0092A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	10/24/2016 16:35	85-111	47.93		50.00	96		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131328 Sample No.:#: 788030

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/13/2016 13:21	87-111	15.86		15.00	106		IC
Nitrate Nitrogen	10/13/2016 13:21	88-111	3.557		3.500	102		IC
Sulfate	10/13/2016 13:21	87-112	26.60		25.00	106		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131362 Sample No.:#: 788845

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/14/2016 13:09	87-111	14.33		15.00	96		IC
Nitrate Nitrogen	10/14/2016 13:09	88-111	3.431		3.500	98		IC
Sulfate	10/14/2016 13:09	87-112	24.12		25.00	96		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131270 Sample No.:#: 788955

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/12/2016 15:39	87-111	15.25		15.00	102		IC
Nitrate Nitrogen	10/12/2016 15:39	88-111	3.577		3.500	102		IC
Sulfate	10/12/2016 15:39	87-112	25.65		25.00	103		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 122845

Concentration Units: mg/L

Analytical Run #: 131448 Sample No.:#: 790116

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/17/2016 15:32	87-111	14.49		15.00	97		IC
Nitrate Nitrogen	10/17/2016 15:32	88-111	3.374		3.500	96		IC
Sulfate	10/17/2016 15:32	87-112	24.32		25.00	97		IC

INORGANICS
RAW DATA
DOCUMENTS

Schedule File: C:\INSTARCH\Sequences\System 2\061616 - ic0692.SCH

Line	Sample	Sample Type	Level	Method
1	CCV IC0679 IC0680	Sample		ic0692b.met
2	STD 1	Calibration St	1	ic0692b.met
3	STD 2	Calibration St	2	ic0692b.met
4	STD 3	Calibration St	3	ic0692b.met
5	STD 4	Calibration St	4	ic0692b.met
6	STD 5	Calibration St	5	ic0692b.met
7	STD 6	Calibration St	6	ic0692b.met
8	STD 7	Calibration St	7	ic0692b.met
9	STD 8	Calibration St	8	ic0692b.met
10	STD 9	Calibration St	9	ic0692b.met
11	ICV IC0660 IC0661	Sample		ic0692b.met
12	ICB	Sample		ic0692b.met

Calibration Concentrations

Instrument:	DX-120 (2)	Cal. File:		IC0692	ICV	IC0660 IC0661		Analyst/Date: JJF 06/16/2016		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

Calibration Update Report

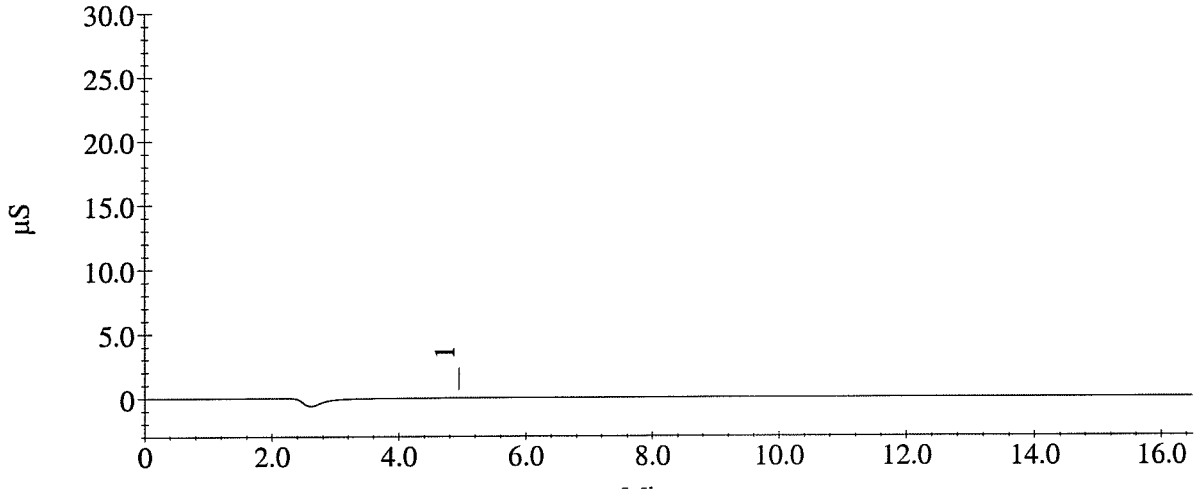
Sample Name : STD 1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 1_002.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 13:57:22
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)

STD 1



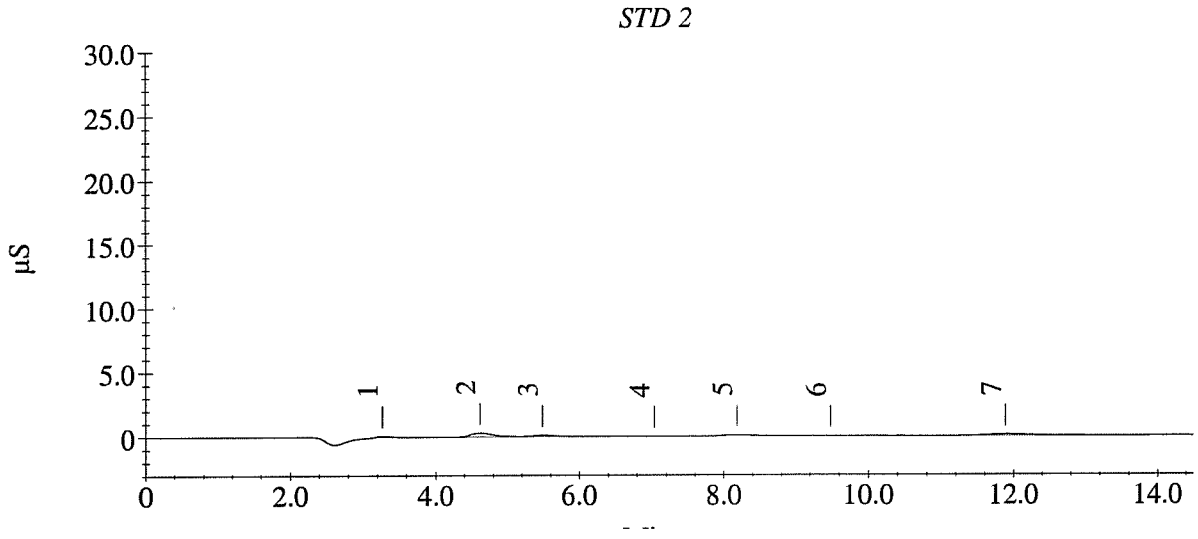
Calibration Update Report

Sample Name : STD 2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 2_003.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 14:16:04
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.27	0	10950	10950
2	Chloride	4.62	20178	59065	59065
3	Nitrite	5.48	4440	20178	20178
4	Bromide	7.03	0	4440	4440
5	Nitrate	8.18	5105	29348	29348
6	O.Phos	9.48	43398	5105	5105
7	Sulfate	11.88	0	43398	43398



Calibration Update Report

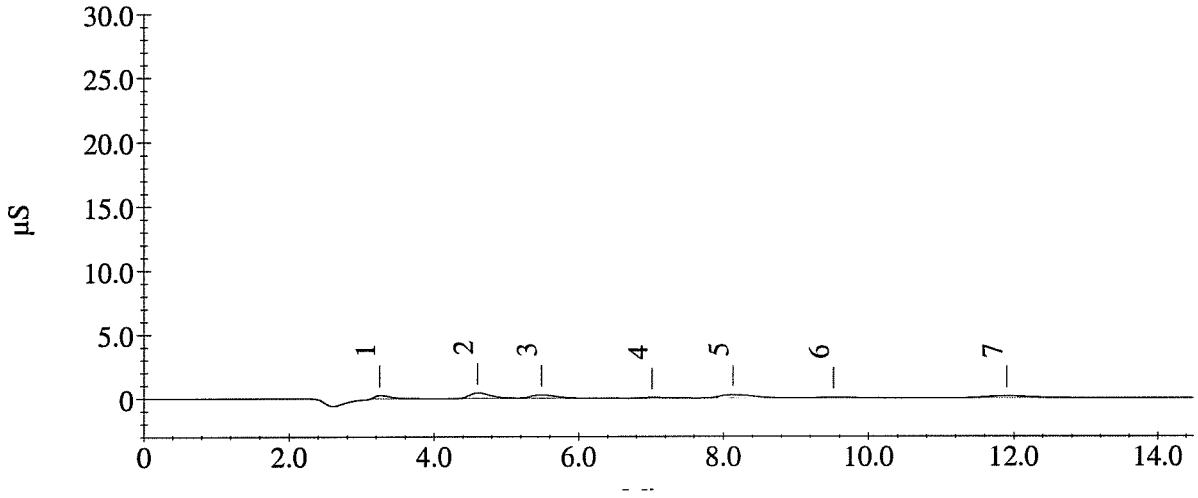
Sample Name : STD 3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 3_004.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 14:32:47
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	38986	38986	38986
2	Chloride	4.60	85103	85103	85103
3	Nitrite	5.48	59008	59008	59008
4	Bromide	7.02	13847	13847	13847
5	Nitrate	8.13	80310	80310	80310
6	O.Phos	9.52	20382	20382	20382
7	Sulfate	11.90	61443	61443	61443

STD 3



Calibration Update Report

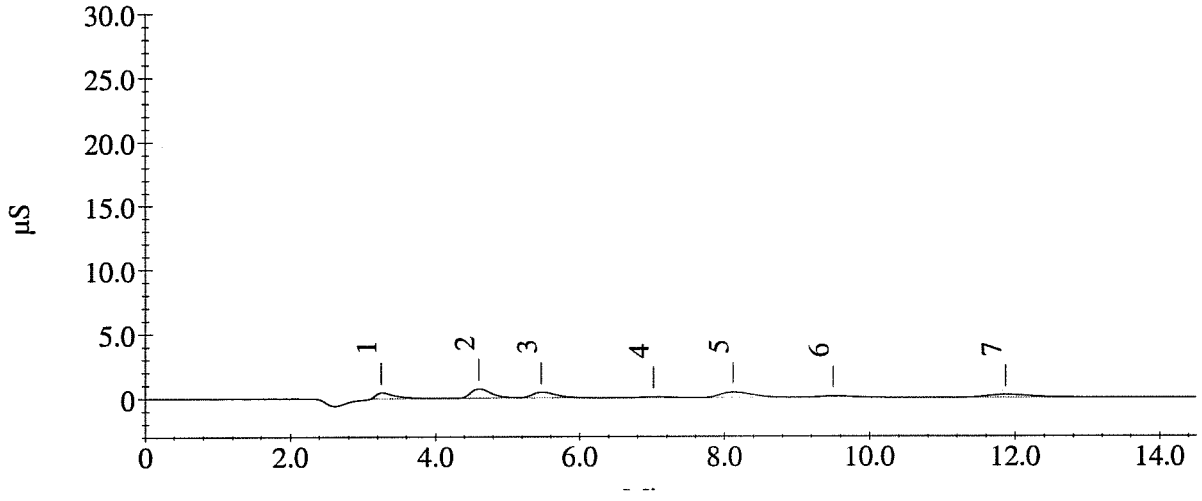
Sample Name : STD 4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 4_005.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 14:49:31
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	0	82954	82954
2	Chloride	4.60	97334	138694	138694
3	Nitrite	5.47	22303	97334	97334
4	Bromide	7.02	0	22303	22303
5	Nitrate	8.12	35432	131482	131482
6	O.Phos	9.50	96464	35432	35432
7	Sulfate	11.87	0	96464	96464

STD 4



Calibration Update Report

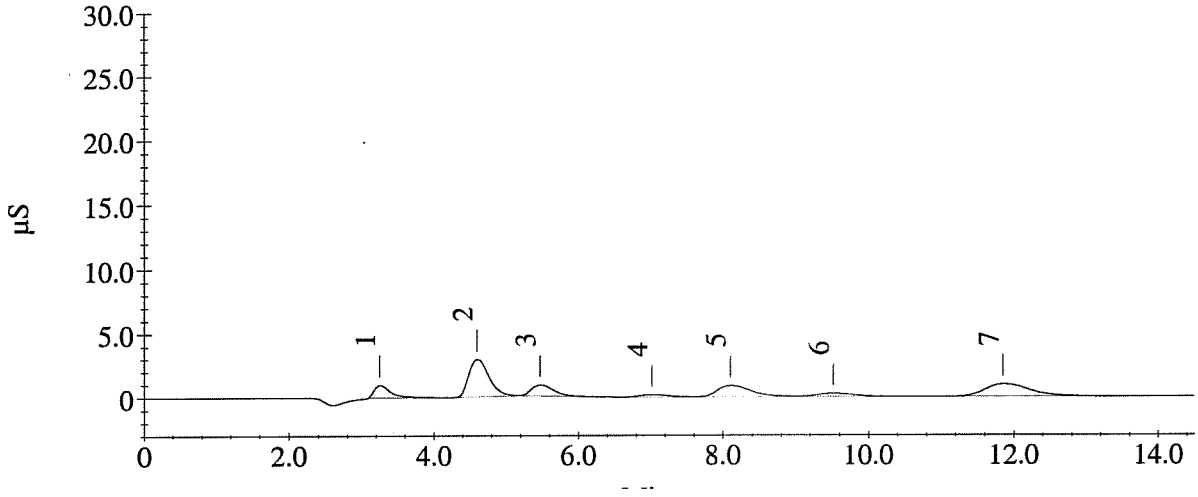
Sample Name : STD 5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 5_006.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:06:14
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	158094	158094	158094
2	Chloride	4.60	565202	565202	565202
3	Nitrite	5.47	184294	184294	184294
4	Bromide	7.02	43354	43354	43354
5	Nitrate	8.10	265405	265405	265405
6	O.Phos	9.52	77877	77877	77877
7	Sulfate	11.85	426581	426581	426581

STD 5



Calibration Update Report

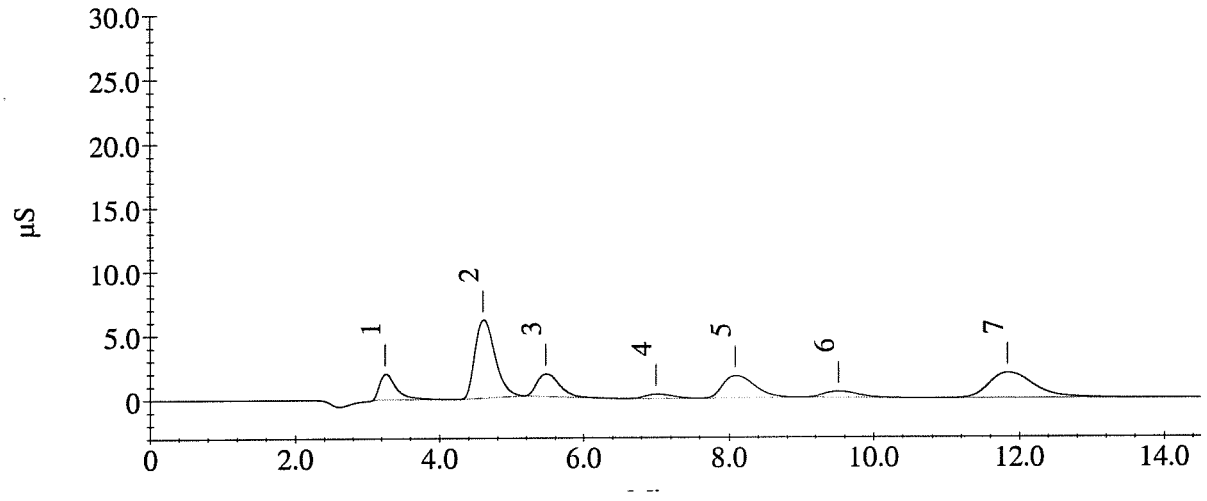
Sample Name : STD 6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 6_007.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:22:57
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	0	321487	321487
2	Chloride	4.60	375372	1164246	1164246
3	Nitrite	5.47	82798	375372	375372
4	Bromide	7.00	0	82798	82798
5	Nitrate	8.08	153586	525184	525184
6	O.Phos	9.52	859682	153586	153586
7	Sulfate	11.83	0	859682	859682

STD 6



Calibration Update Report

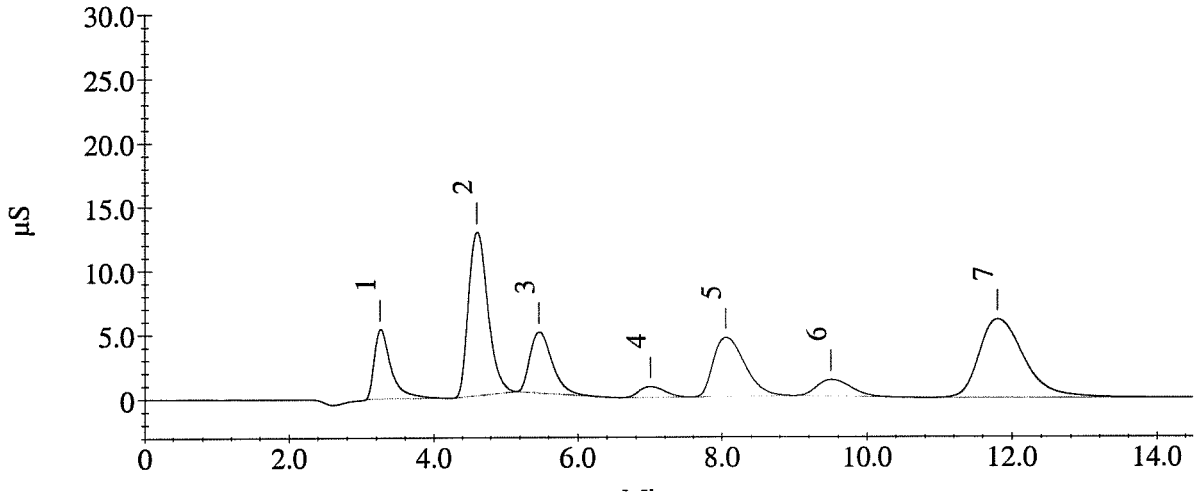
Sample Name : STD 7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 7_008.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:39:39
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	870341	870341	870341
2	Chloride	4.60	2412636	2412636	2412636
3	Nitrite	5.47	1020077	1020077	1020077
4	Bromide	7.00	209787	209787	209787
5	Nitrate	8.05	1375481	1375481	1375481
6	O.Phos	9.50	418204	418204	418204
7	Sulfate	11.80	2607317	2607317	2607317

STD 7



Calibration Update Report

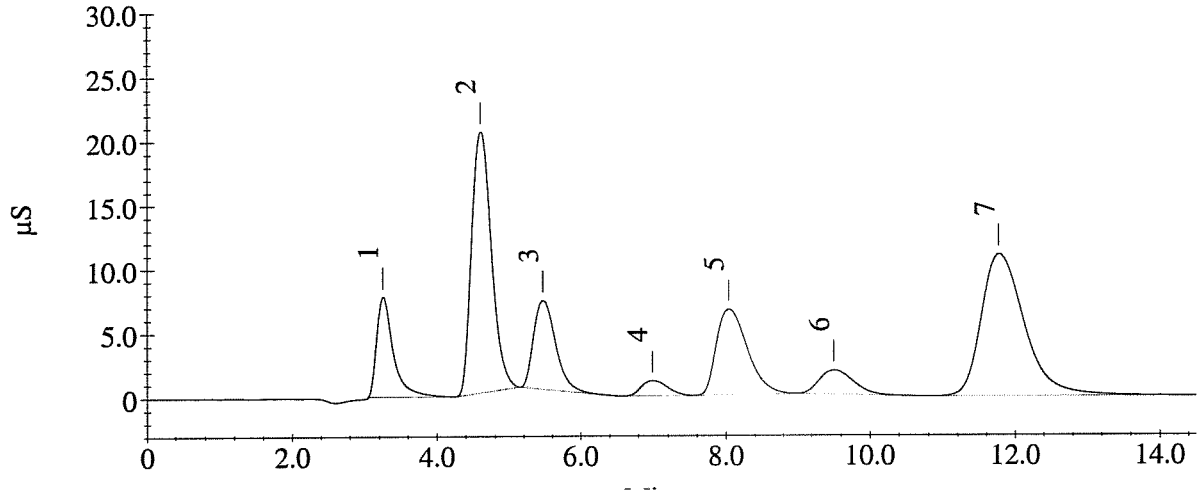
Sample Name : STD 8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 8_009.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:56:22
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	0	1246344	1246344
2	Chloride	4.60	1473312	3843823	3843823
3	Nitrite	5.47	294169	1473312	1473312
4	Bromide	6.98	0	294169	294169
5	Nitrate	8.03	607630	1978886	1978886
6	O.Phos	9.50	4616875	607630	607630
7	Sulfate	11.77	0	4616875	4616875

STD 8



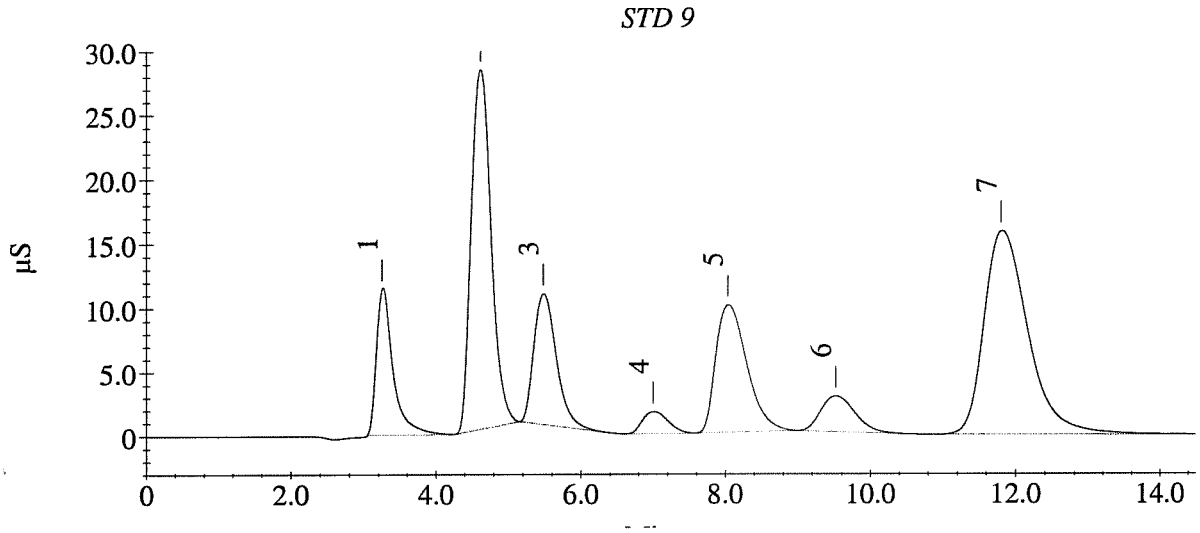
Calibration Update Report

Sample Name : STD 9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 9_010.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 16:13:05
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	1851689	1851689	1851689
2	Chloride	4.62	5354490	5354490	5354490
3	Nitrite	5.48	2198898	2198898	2198898
4	Bromide	7.00	424629	424629	424629
5	Nitrate	8.03	2952731	2952731	2952731
6	O.Phos	9.52	907949	907949	907949
7	Sulfate	11.80	6619756	6619756	6619756



Sample Analysis Report

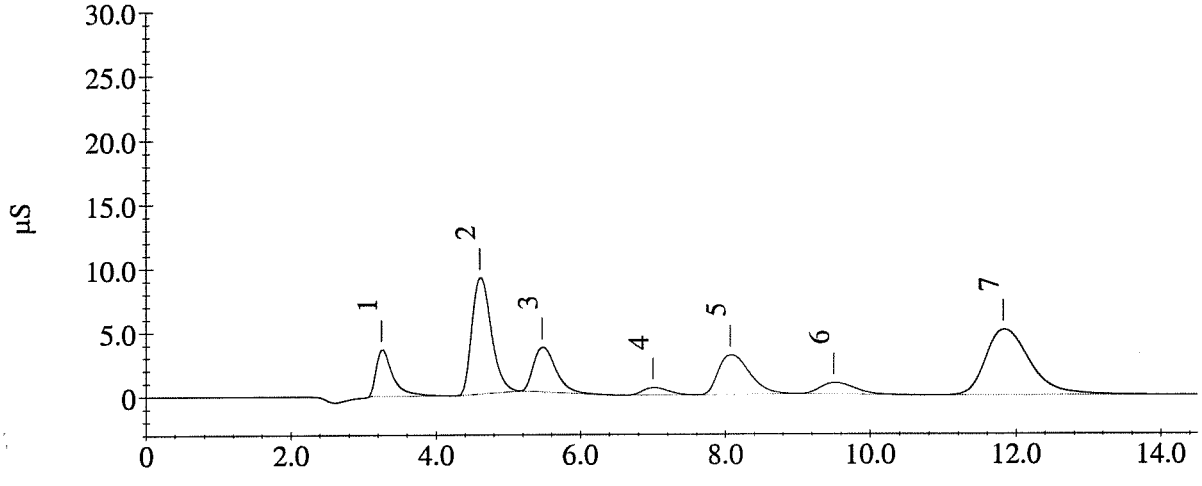
Sample Name : ICV IC0660 IC0661
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\ICV IC0660 IC0661_011.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Date Time Collected : 6/16/16 16:29:48
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.25	3.3013	586910	35999	
2	Chloride	4.60	13.5108	1723959	90662	
3	Nitrite	5.47	3.5909	758428	34741	
4	Bromide	7.00	3.4401	145456	5763	
5	Nitrate	8.07	3.2871	934850	30926	
6	O.Phos	9.50	3.3261	287733	8836	
7	Sulfate	11.82	23.8866	2200954	51182	

ICV IC0660 IC0661



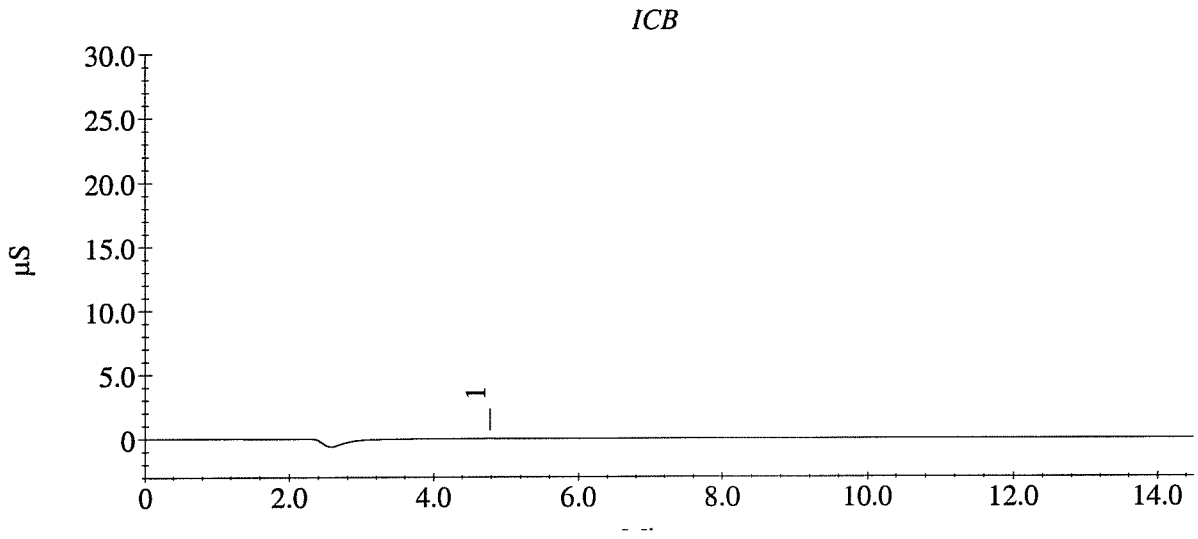
Sample Analysis Report

Sample Name : ICB
Data File Name : c:\instarch\data\system 2\061616 - ic0692\ICB_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 6/17/16 07:43:43
System Operator : JJF

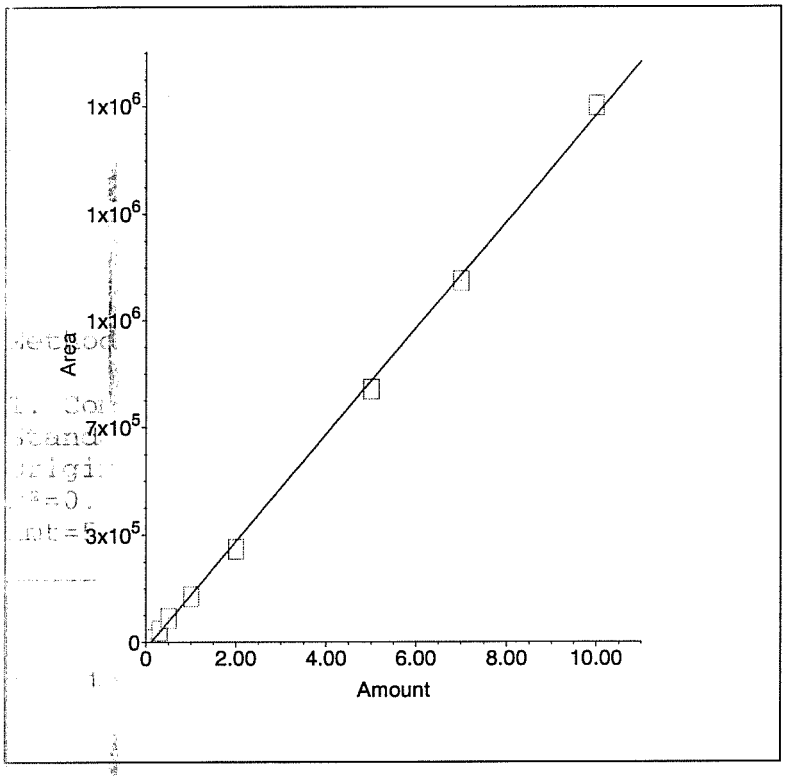
Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

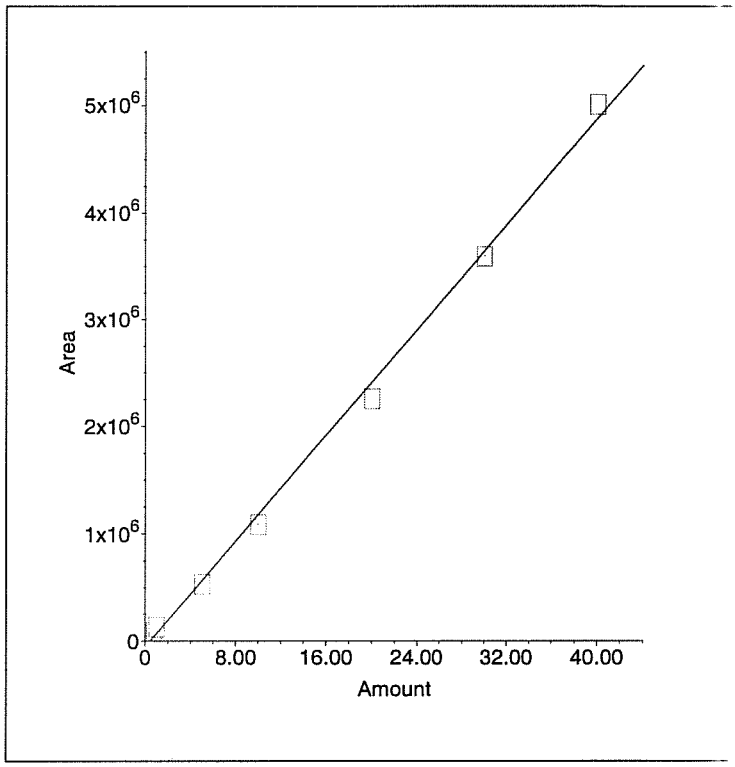


Method:C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.MET Updated:6/17/16 07:36:19 Total:7

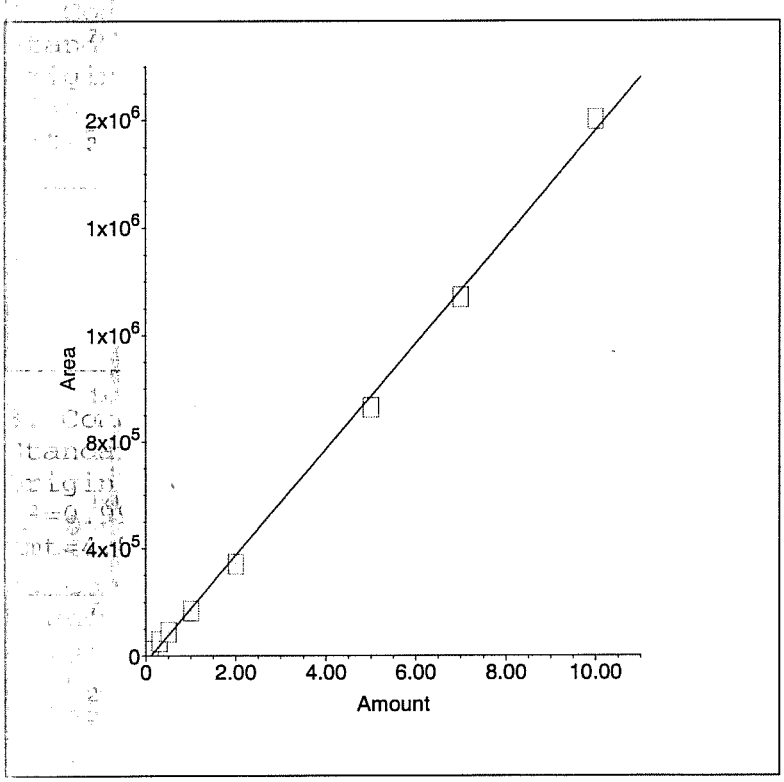
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.998935
Amt=5.435e-006*Resp+0.1116



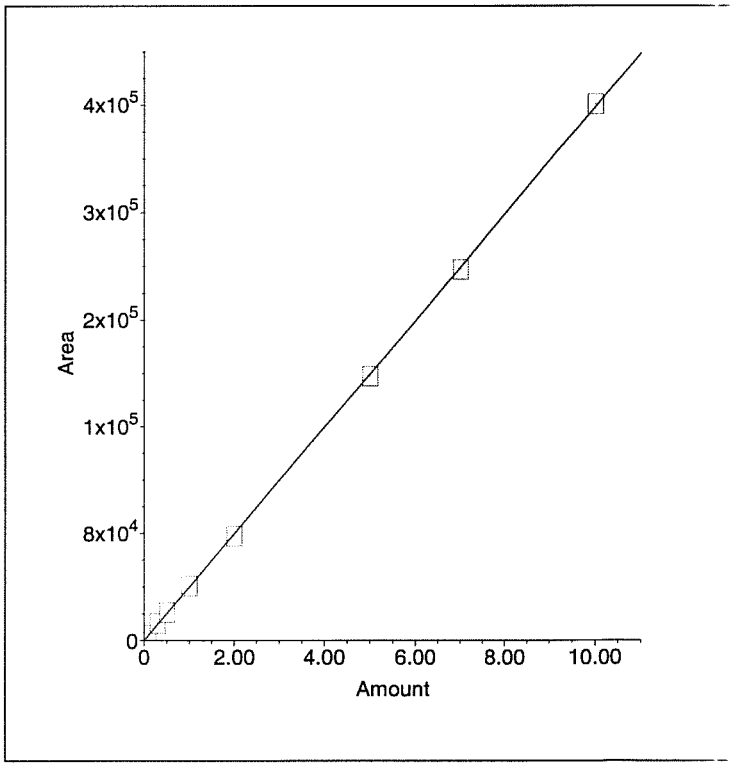
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.997617
Amt=7.582e-006*Resp+0.4402



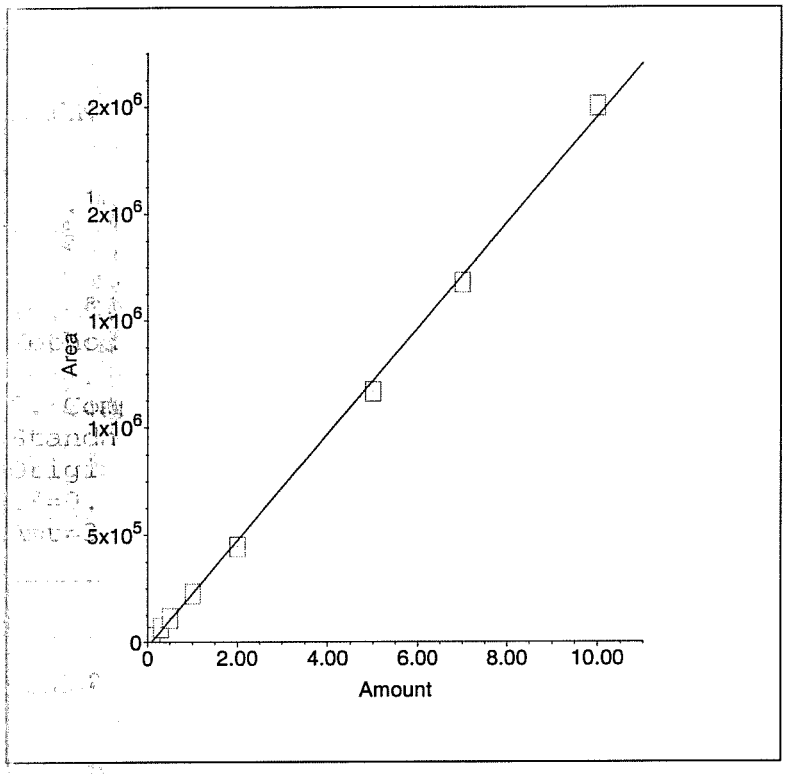
3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.998447
Amt=4.593e-006*Resp+0.1073



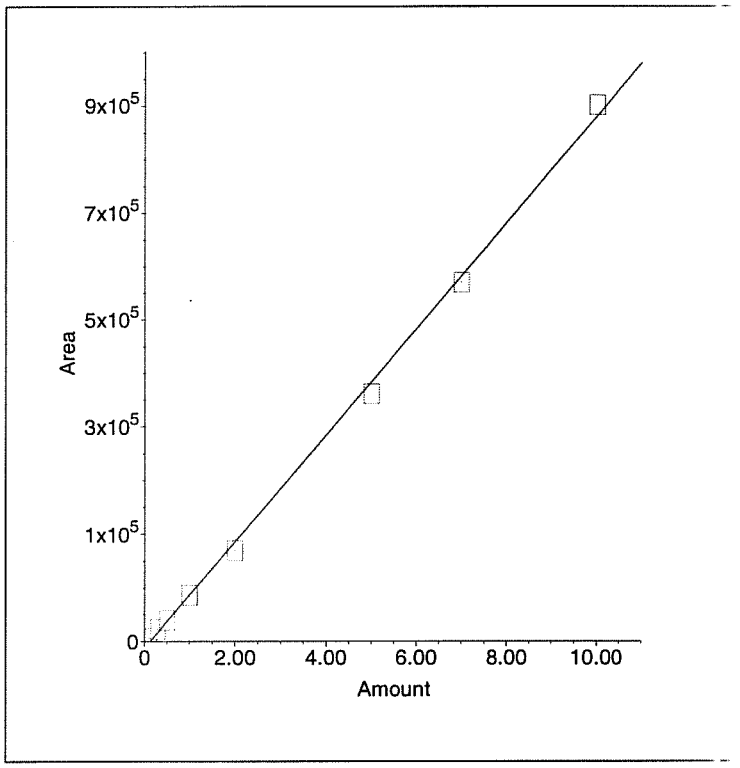
4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.999915
Amt=2.367e-005*Resp+-0.003466



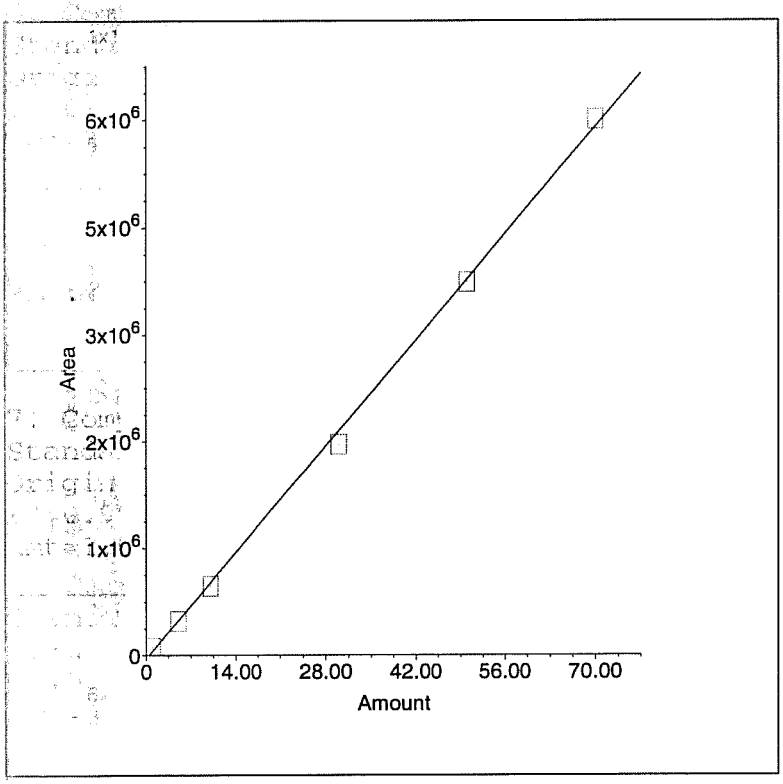
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.998735
Amt=3.427e-006*Resp+0.08326



6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.998412
Amt=1.11e-005*Resp+0.1319



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999041
Amt=1.066e-005*Resp+0.4227



Schedule File: C:\INSTARCH\Sequences\System 2\101216-2.sch

Line	Sample	Sample Type	Level	Method
1	CCV IC0842 IC0855	Sample		ic0692b.met
2	LCSW IC0854 IC0834	Sample		ic0692b.met
3	MBW	Sample		ic0692b.met
7	787265	Sample		ic0692b.met
8	DUP786437	Sample		ic0692b.met
9	MSW786437	Sample		ic0692b.met
10	DUP787283	Sample		ic0692b.met
11	MSW787283	Sample		ic0692b.met
12	MSDW787283	Sample		ic0692b.met
13	CCV IC0842 IC0855	Sample		ic0692b.met
14	CCB	Sample		ic0692b.met

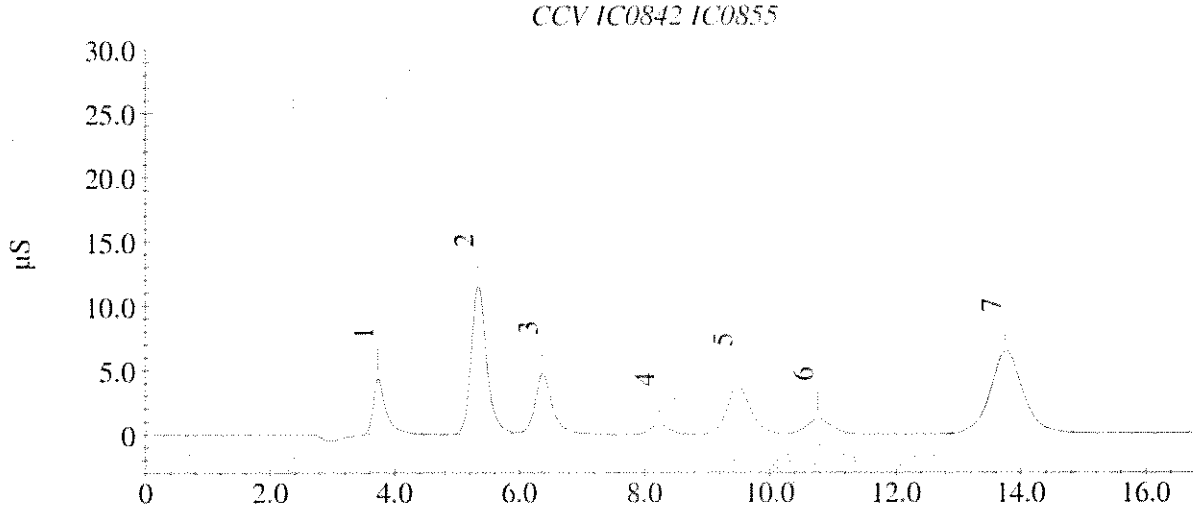
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101216-2\CCV IC0842 IC0855_001.DXD

Method File Name : C:\INSTARCH\Methods\System 2\IC0692B.met
Date Time Collected : 10/12/16 15:05:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
1	Fluoride	3.73	3.5457	631875	43700	
2	Chloride	5.33	15.3773	1970142	114501	
3	Nitrite	6.37	4.1436	878739	46504	
4	Bromide	8.23	4.0562	171478	7826	
5	Nitrate	9.48	3.4063	969650	37734	
6	O.Phos	10.77	3.4416	298137	11099	
7	Sulfate	13.75	25.7056	2371582	64399	



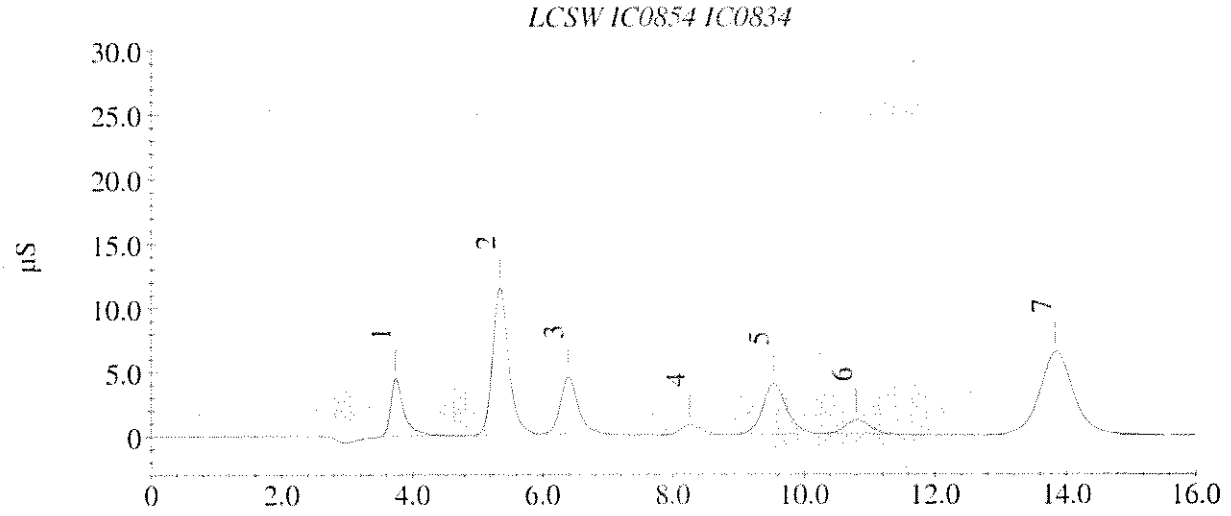
Sample Analysis Report

Sample Name : LCSW IC0854 IC0834
Data File Name : c:\instarch\data\system 2\101216-2\LCSW IC0854 IC0834_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 15:39:30
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.73	3.5575	634060	44292	
2	Chloride	5.35	15.2502	1953376	114189	
3	Nitrite	6.38	3.9589	838543	44397	
4	Bromide	8.27	4.1653	176086	7916	
5	Nitrate	9.53	3.5772	1019525	39461	
6	O.Phos	10.80	3.3567	290491	10965	
7	Sulfate	13.83	25.6548	2366818	65080	



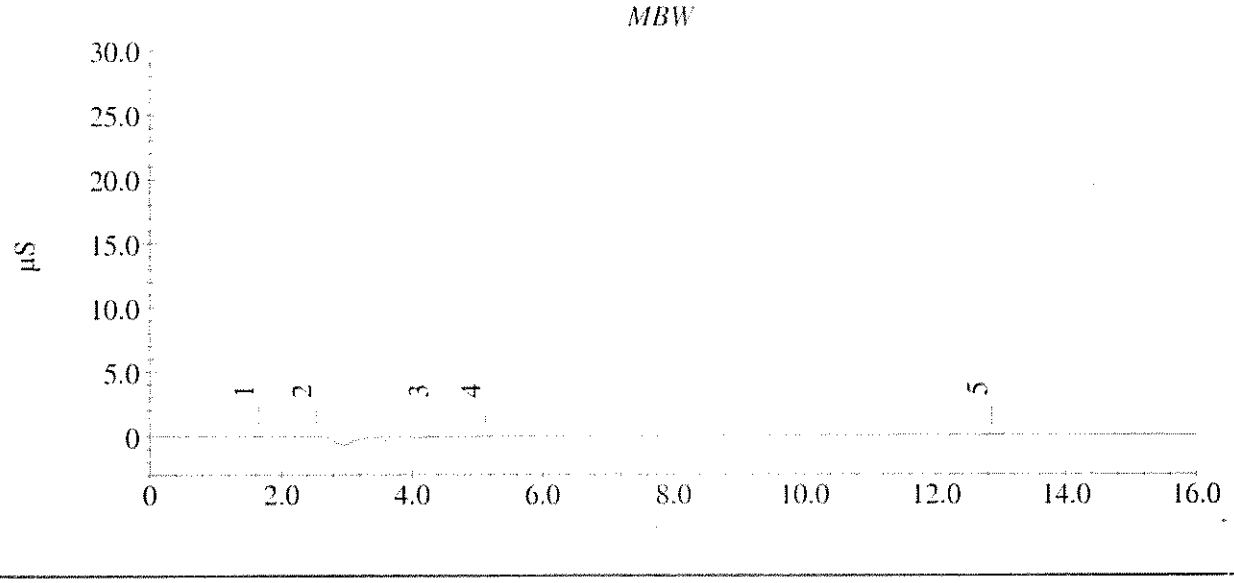
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\101216-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 15:57:45
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Chloride	5.12	0.4654	3325	134	
5	Sulfate	12.85	0.5815	14902	198	



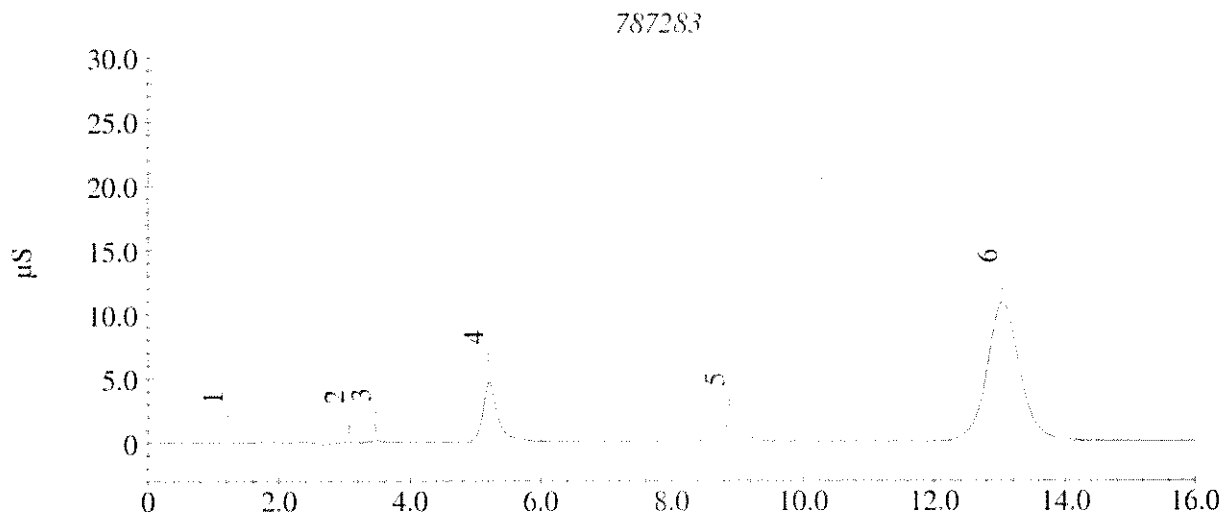
Sample Analysis Report

Sample Name : 787283
Data File Name : c:\instarch\data\system 2\101216-2\787283_006.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 16:52:27
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
3	Fluoride	3.47	0.2508	25606	1689	
4	Chloride	5.20	6.2062	760502	46330	
5	Nitrate	8.88	1.2156	330412	12719	
6	Sulfate	13.03	40.8645	3793511	108702	



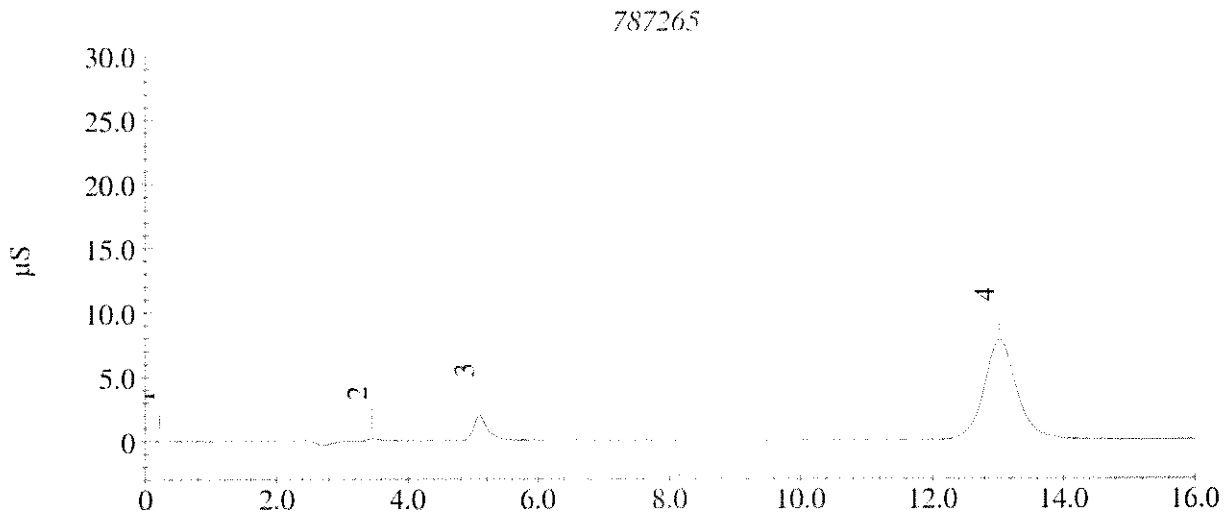
Sample Analysis Report

Sample Name : 787265
Data File Name : c:\instarch\data\system 2\101216-2\787265_007.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 17:10:45
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.45	0.2396	23562	1786	
3	Chloride	5.08	2.7920	310183	19478	
4	Sulfate	13.02	29.5329	2730585	77345	



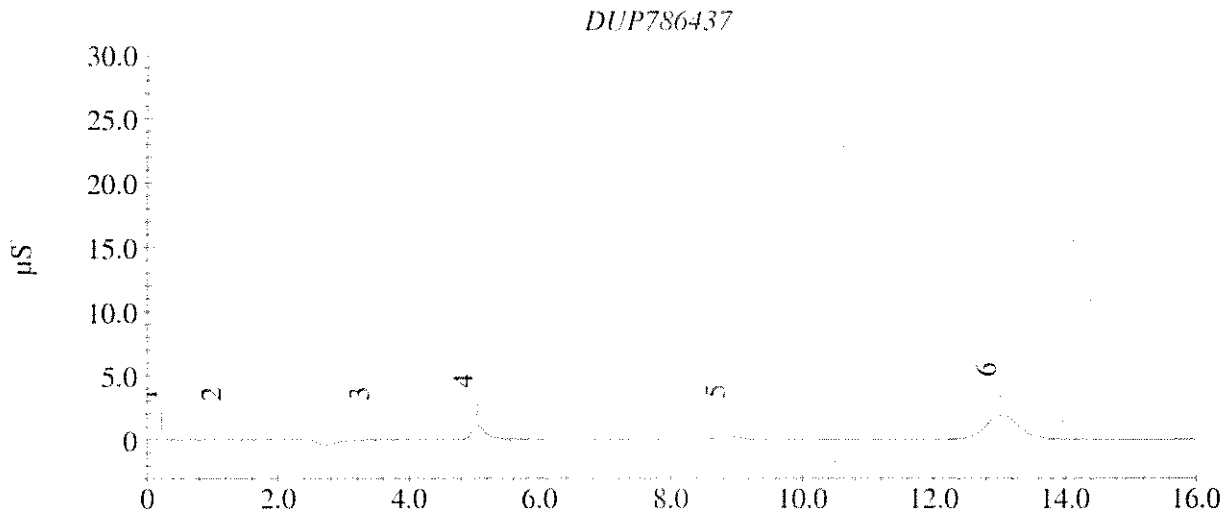
Sample Analysis Report

Sample Name : DUP786437
Data File Name : c:\instarch\data\system 2\101216-2\DUP786437_008.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 17:28:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
3	Fluoride	3.45	0.1295	3304	318	
4	Chloride	5.05	1.7957	178779	10687	
5	Nitrate	8.90	0.2724	55188	2159	
6	Sulfate	13.02	7.7868	690765	18980	



Allen
AGK
10/15/16

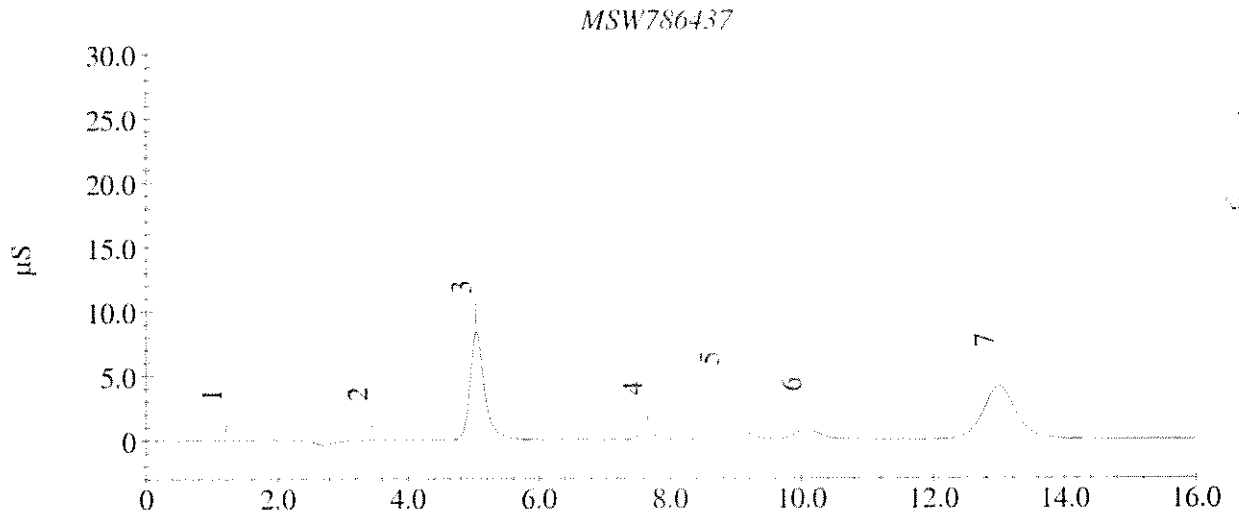
Sample Analysis Report

Sample Name : MSW786437
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101216-2\MSW786437_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 17:47:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.45	0.1269	2811	288	
3	Chloride	5.03	10.4365	1318469	83253	
5	Nitrate	8.82	2.3645	665649	26947	
6	O.Phos	10.07	2.1217	179247	6929	
7	Sulfate	12.98	16.0392	1464862	41201	



PM 10/17/16

Before #1 AGE 10/13/16

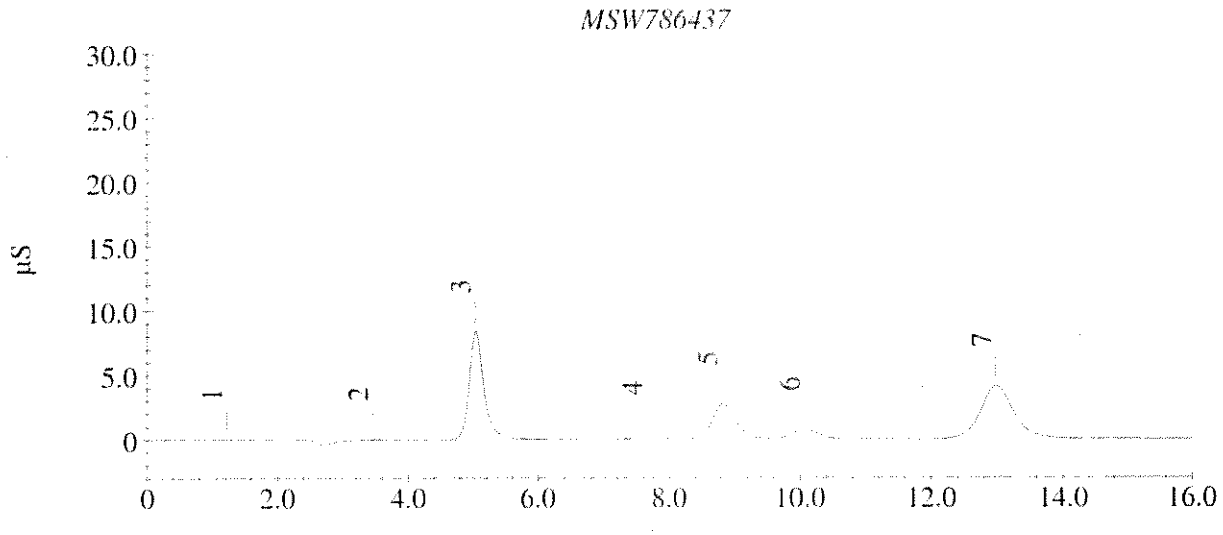
Sample Analysis Report

Sample Name : MSW786437
Data File Name : c:\instarch\data\system 2\101216-2\MSW786437_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 17:47:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
2	Fluoride	3.45	0.1269	2811	288	
3	Chloride	5.03	10.4365	1318469	83253	
6	Nitrate	10.07	0.6976	179247	6929	
7	Sulfate	12.98	16.0392	1464862	41201	



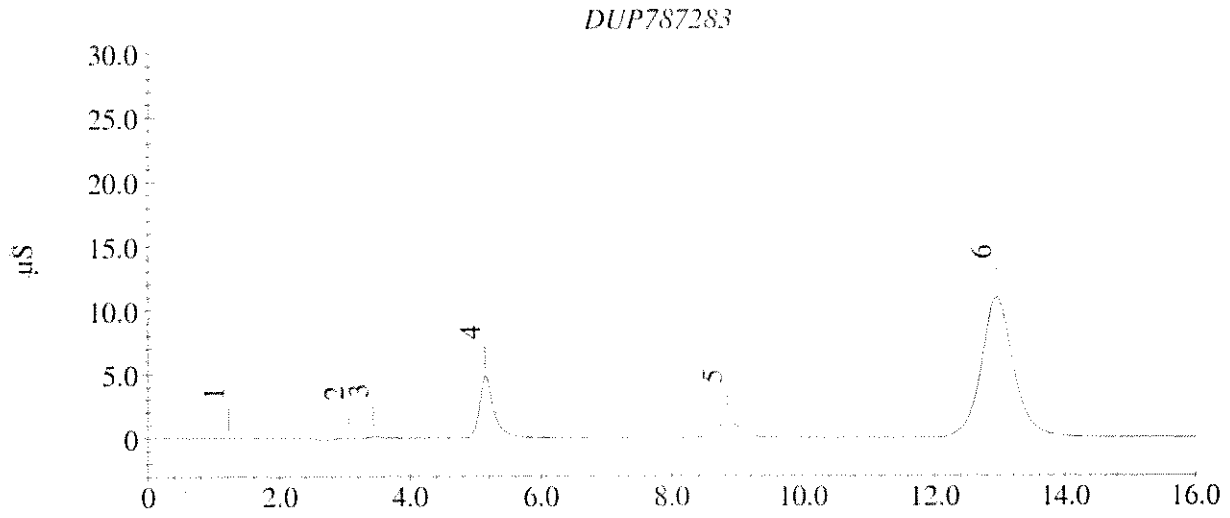
Sample Analysis Report

Sample Name : DUP787283
Data File Name : c:\instarch\data\system 2\101216-2\DUP787283_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 18:05:26
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede'
3	Fluoride	3.43	0.2995	34578	1869	
4	Chloride	5.13	6.1717	755952	47790	
5	Nitrate	8.83	1.2066	327781	12716	
6	Sulfate	12.93	40.8032	3787759	109295	



Sample Analysis Report

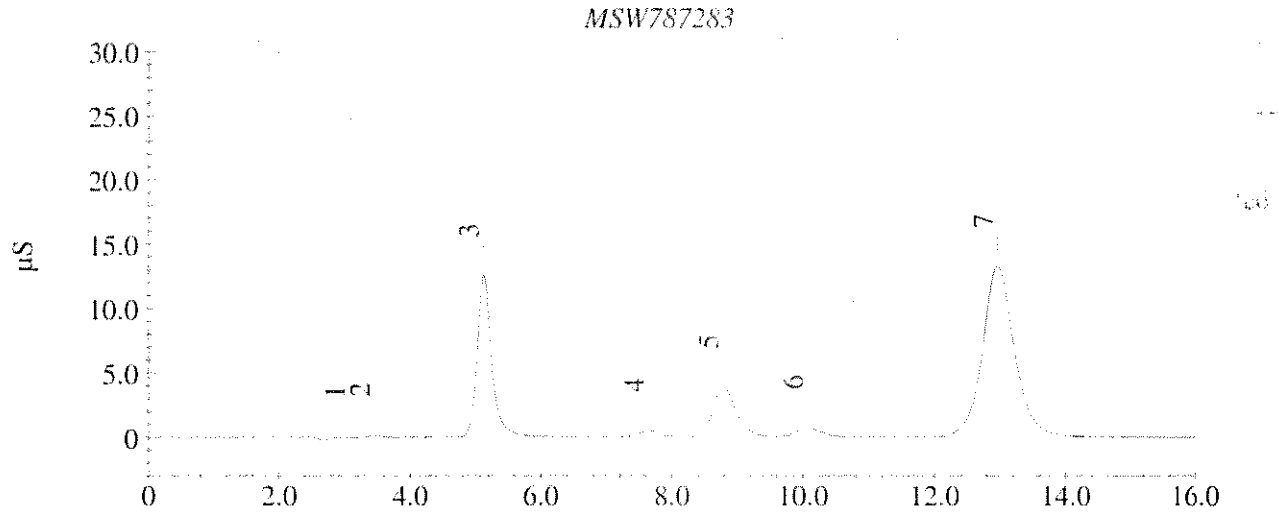
AFK
AGK
10/13/16

Sample Name : MSW787283
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101216-2\MSW787283_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 18:23:38
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.45	0.2644	28119	1597	
3	Chloride	5.12	15.2420	1952300	124718	
5	Nitrate	8.78	3.2991	938370	38214	
6	O.Phos	10.07	2.0619	173856	6725	
7	Sulfate	12.95	49.1276	4568609	132401	



10/17/16

Sample Analysis Report

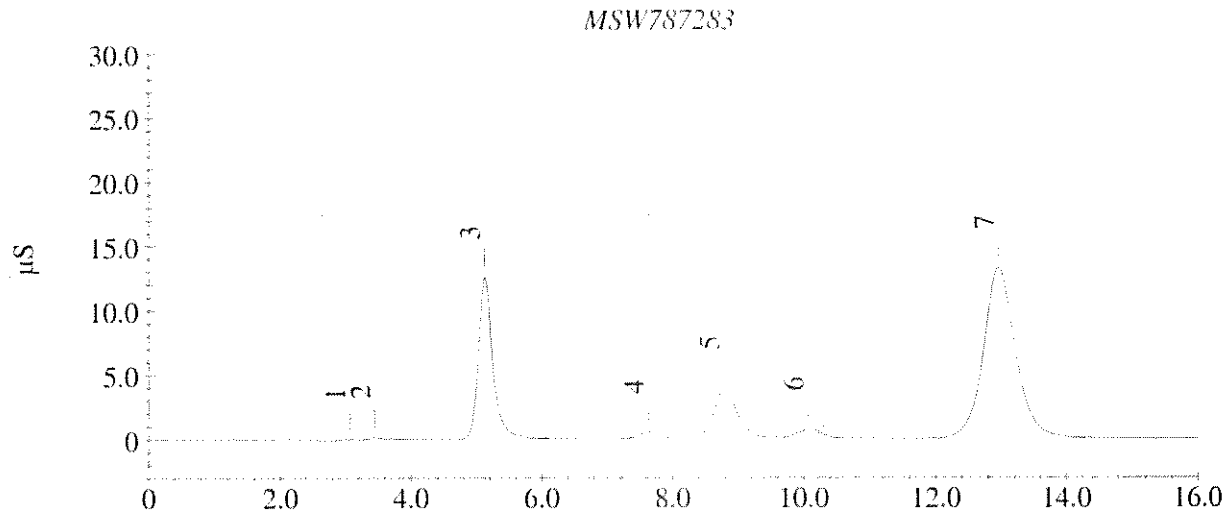
Before
AGK
10/13/16

Sample Name : MSW787283
Data File Name : c:\instarch\data\system 2\101216-2\MSW787283_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 18:23:38
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.45	0.2644	28119	1597	
3	Chloride	5.12	15.2420	1952300	124718	
6	Nitrate	10.07	0.6791	173856	6725	
7	Sulfate	12.95	49.1276	4568609	132401	



Sample Analysis Report

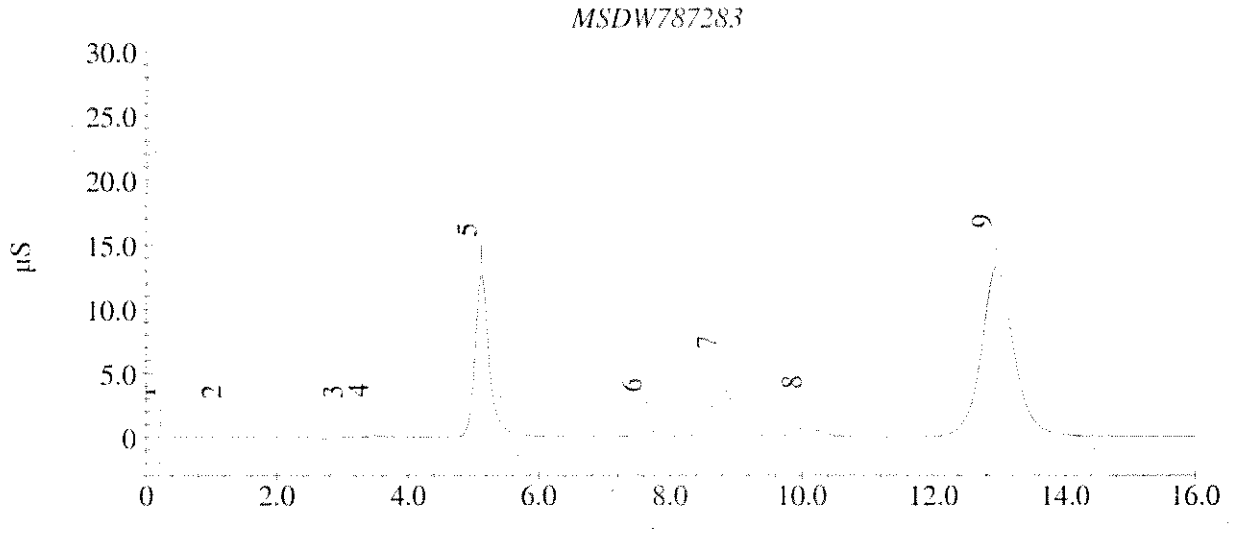
After AGR 10/13/16

Sample Name : MSDW787283
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101216-2\MSDW787283_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 18:41:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.45	0.2658	28375	1599	
5	Chloride	5.12	15.2666	1955536	125778	
7	Nitrate	8.78	3.3035	939648	38095	
8	O.Phos	10.07	2.0435	172201	6711	
9	Sulfate	12.95	49.1404	4569807	132326	



RS 10/17/16

Before
AGP
10/13/16

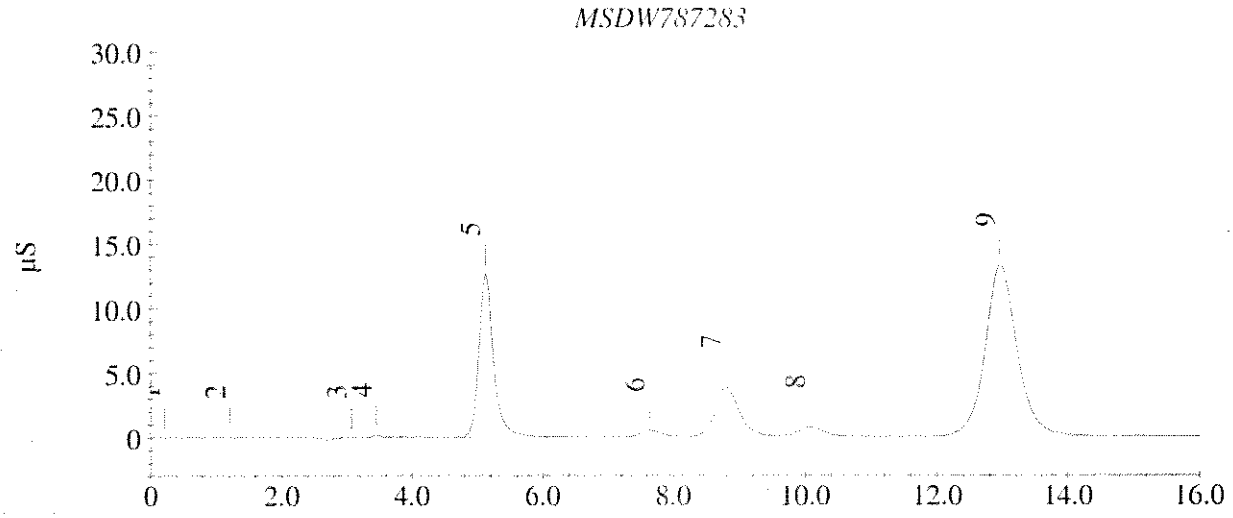
Sample Analysis Report

Sample Name : MSDW787283
Data File Name : c:\instarch\data\system 2\101216-2\MSDW787283_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 18:41:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
4	Fluoride	3.45	0.2658	28375	1599	
5	Chloride	5.12	15.2666	1955536	125778	
8	Nitrate	10.07	0.6734	172201	6711	
9	Sulfate	12.95	49.1404	4569807	132326	



A Skr
AGK
10/13/16

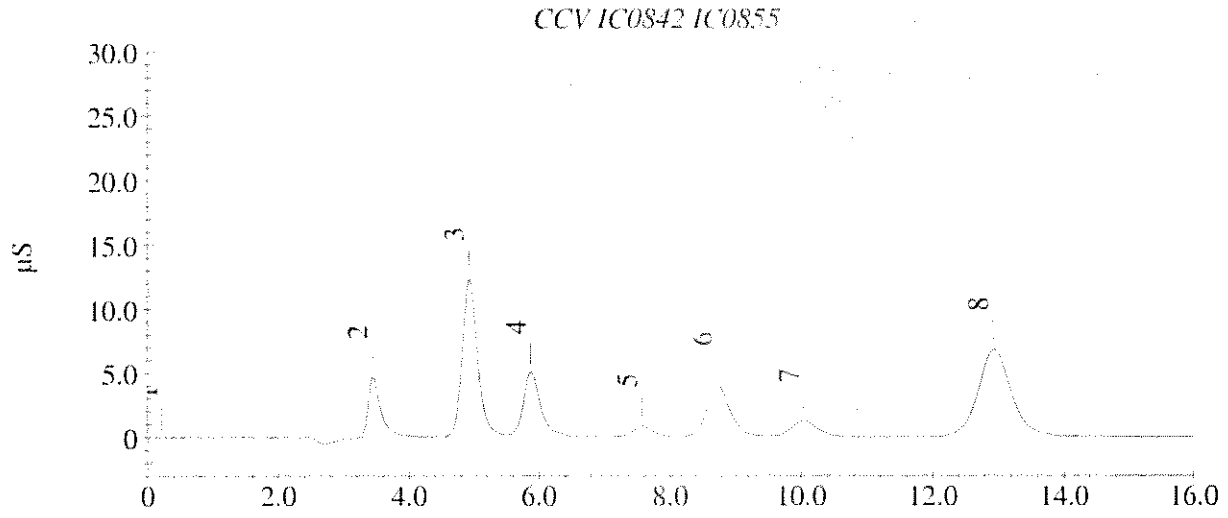
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101216-2\CCV IC0842 IC0855_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 19:00:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.43	3.5535	633324	46332	
3	Chloride	4.92	15.5481	1992662	121728	
4	Nitrite	5.87	4.1098	871396	49130	
5	Bromide	7.57	4.1088	173700	8378	
6	Nitrate	8.72	3.4879	993457	40606	
7	O.Phos	10.03	3.6325	315337	11999	
8	Sulfate	12.92	25.8831	2388233	67975	



10/17/16

Before #1 AGK 10/13/16

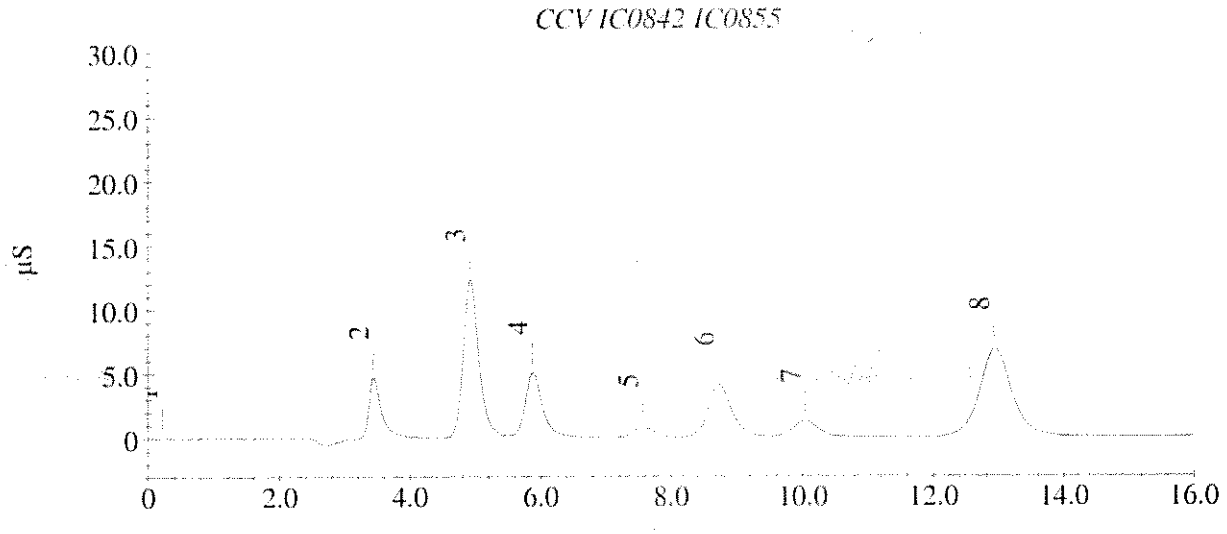
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101216-2\CCV IC0842 IC0855_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 19:00:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.43	3.5535	633324	46332	
3	Chloride	4.92	15.5481	1992662	121728	
4	Nitrite	5.87	4.1098	871396	49130	
7	Nitrate	10.03	1.1639	315337	11999	
8	Sulfate	12.92	25.8831	2388233	67975	



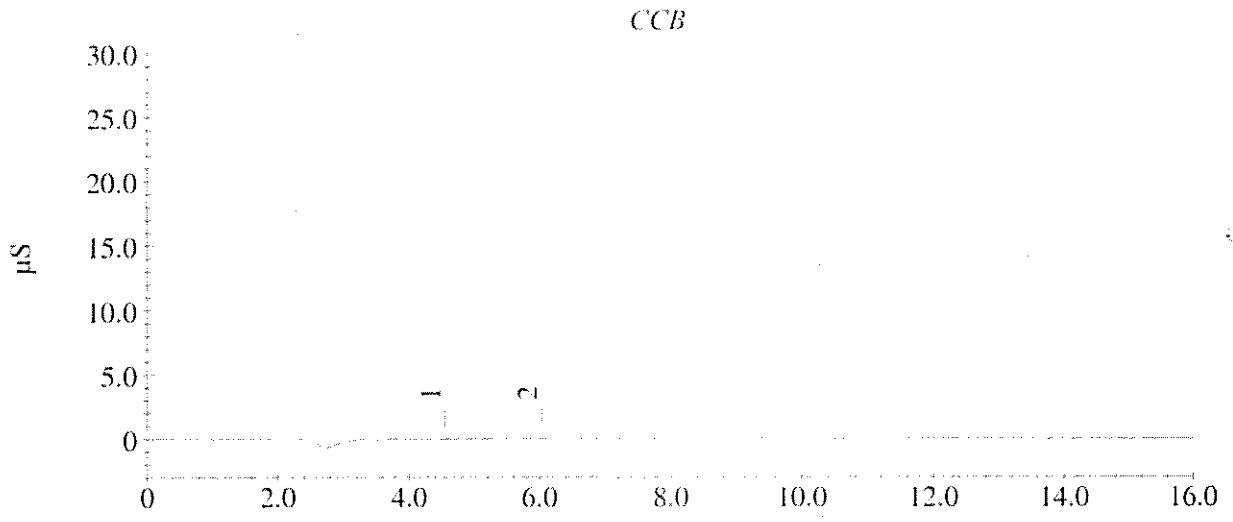
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101216-2\CCB_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/12/16 19:18:26
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	6.03	0.1267	4234	44	



Schedule File: C:\INSTARCH\Sequences\System 2\101316-2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume
1	CCV IC0842 IC0855	Sample		ic0692b.met	ccv ic0842 ic0855_001.dxd	1
2	LCSW IC0854 IC0834	Sample		ic0692b.met	lcsw ic0854 ic0834_002.dxd	1
3	MBW	Sample		ic0692b.met	mbw_003.dxd	1
4	787451	Sample		ic0692b.met	787451_004.dxd	1
5	787546	Sample		ic0692b.met	787546_005.dxd	1
6	DUP787546	Sample		ic0692b.met	dup787546_006.dxd	1
7	MSW787546	Sample		ic0692b.met	msw787546_007.dxd	1
8	787715	Sample		ic0692b.met	787715_008.dxd	1
9	787716	Sample		ic0692b.met	787716_009.dxd	1
10	787717	Sample		ic0692b.met	787717_010.dxd	1
11	787718	Sample		ic0692b.met	787718_011.dxd	1
12	787720	Sample		ic0692b.met	787720_012.dxd	1
13	787721	Sample		ic0692b.met	787721_013.dxd	1
14	CCV	Sample		ic0692b.met	ccv_014.dxd	1
15	CCB	Sample		ic0692b.met	ccb_015.dxd	1
16	DUP787721	Sample		ic0692b.met	dup787721_016.dxd	1
17	MSW787721	Sample		ic0692b.met	msw787721_017.dxd	1
18	MSDW787721	Sample		ic0692b.met	msdw787721_018.dxd	1
19	787722	Sample		ic0692b.met	787722_019.dxd	1
20	787723	Sample		ic0692b.met	787723_020.dxd	1
21	787717X5	Sample		ic0692b.met	787717x5_021.dxd	1
22	787720X5	Sample		ic0692b.met	787720x5_022.dxd	1
23	CCV	Sample		ic0692b.met	ccv_023.dxd	1
24	CCB	Sample		ic0692b.met	ccb_024.dxd	1

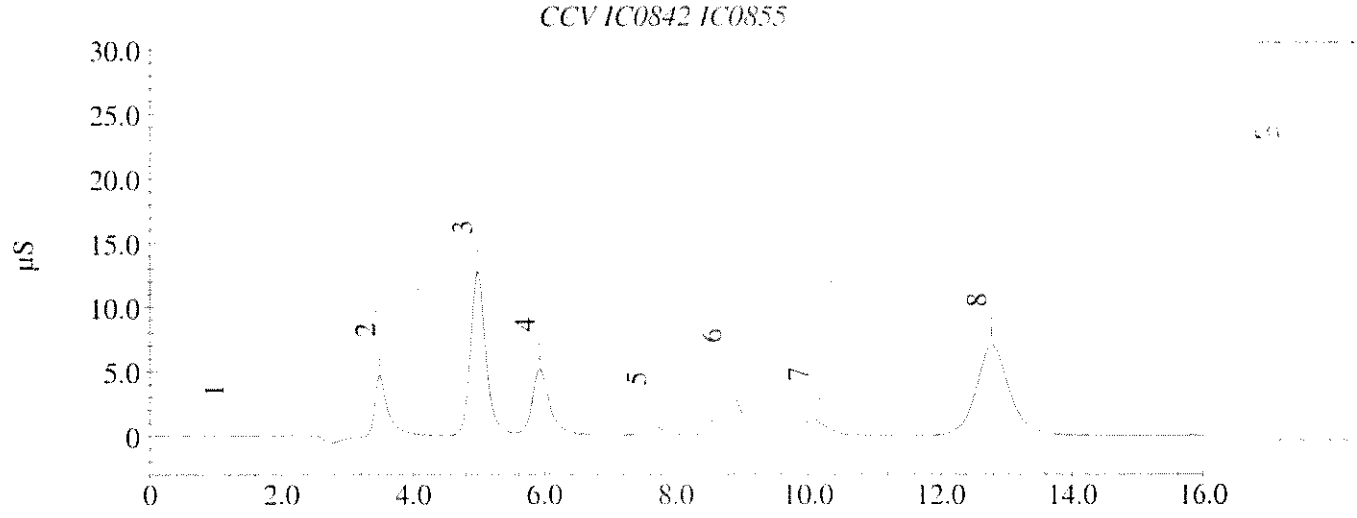
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101316-2\CCV IC0842 IC0855_001.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 13:03:31
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
2	Fluoride	3.48	3.5839	638907	46368	
3	Chloride	4.97	15.8499	2032475	125714	
4	Nitrite	5.92	4.1609	882518	49403	
5	Bromide	7.62	4.1305	174619	8435	
6	Nitrate	8.77	3.5388	1008296	41326	
7	O.Phos	10.07	3.4439	298351	11679	
8	Sulfate	12.77	26.4300	2439533	69852	



Sample Analysis Report

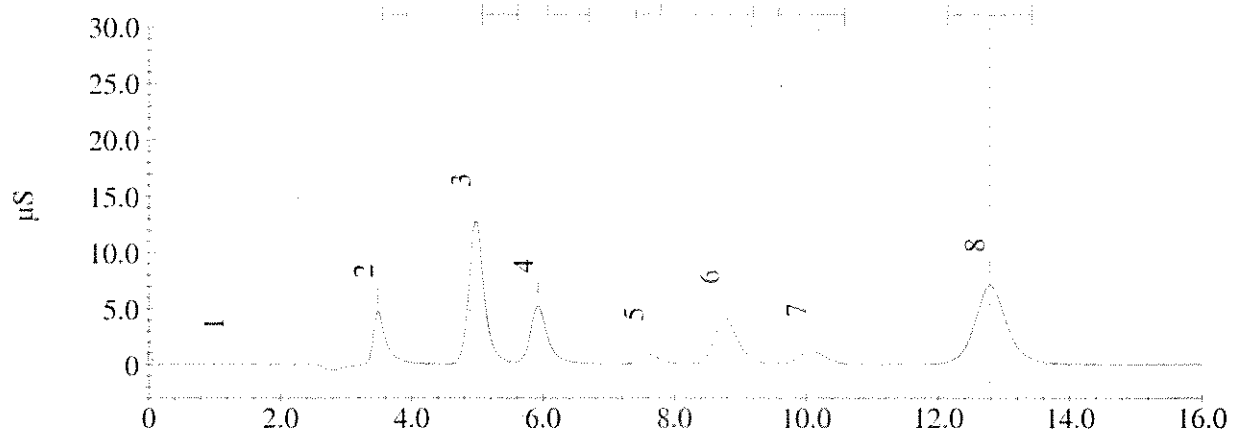
Sample Name : LCSW IC0854 IC0834
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101316-2\LCSW IC0854 IC0834_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 13:21:42
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	3.6078	643313	46685	
3	Chloride	4.97	15.8565	2033338	126134	
4	Nitrite	5.92	4.2070	892544	50083	
5	Bromide	7.60	4.1561	175698	8435	
6	Nitrate	8.75	3.5569	1013586	41340	
7	O.Phos	10.07	3.5832	310898	11778	
8	Sulfate	12.77	26.6014	2455611	70079	

LCSW IC0854 IC0834



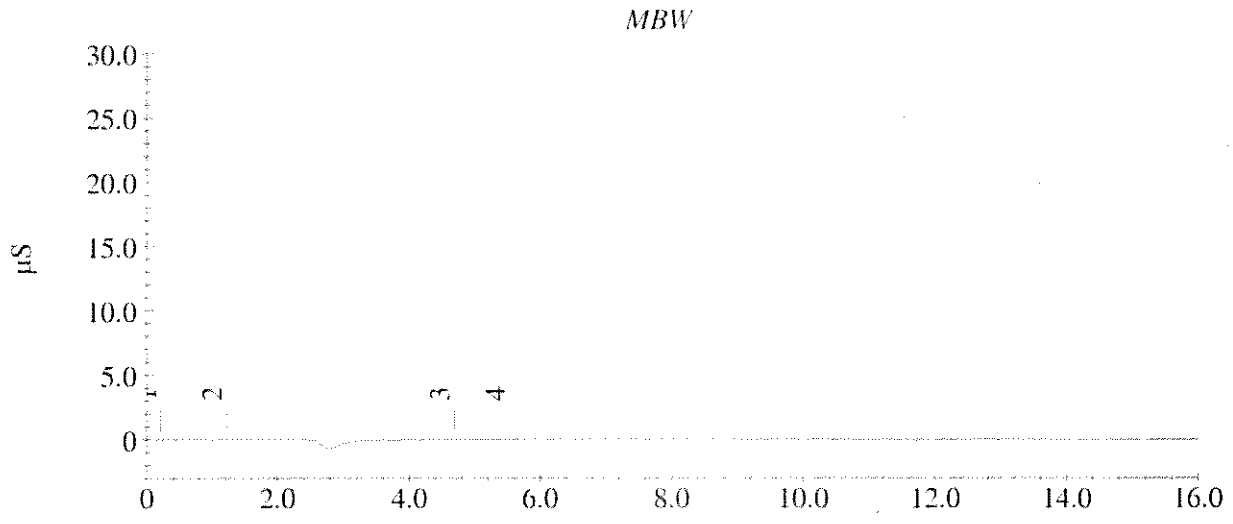
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\101316-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 13:40:00
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Nitrite	5.53	0.1198	2714	56	



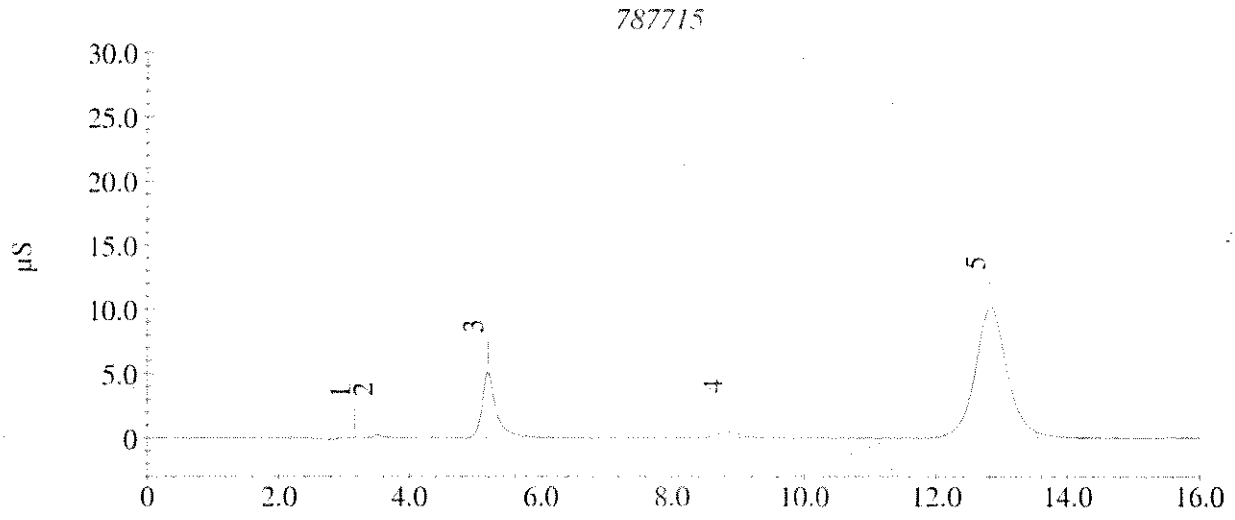
Sample Analysis Report

Sample Name : 787715
Data File Name : c:\instarch\data\system 2\101316-2\787715_008.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 15:12:13
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.2728	29670	2018	
3	Chloride	5.18	6.3956	785491	51328	
4	Nitrate	8.83	0.4918	119205	4788	
5	Sulfate	12.80	37.7108	3497692	101024	



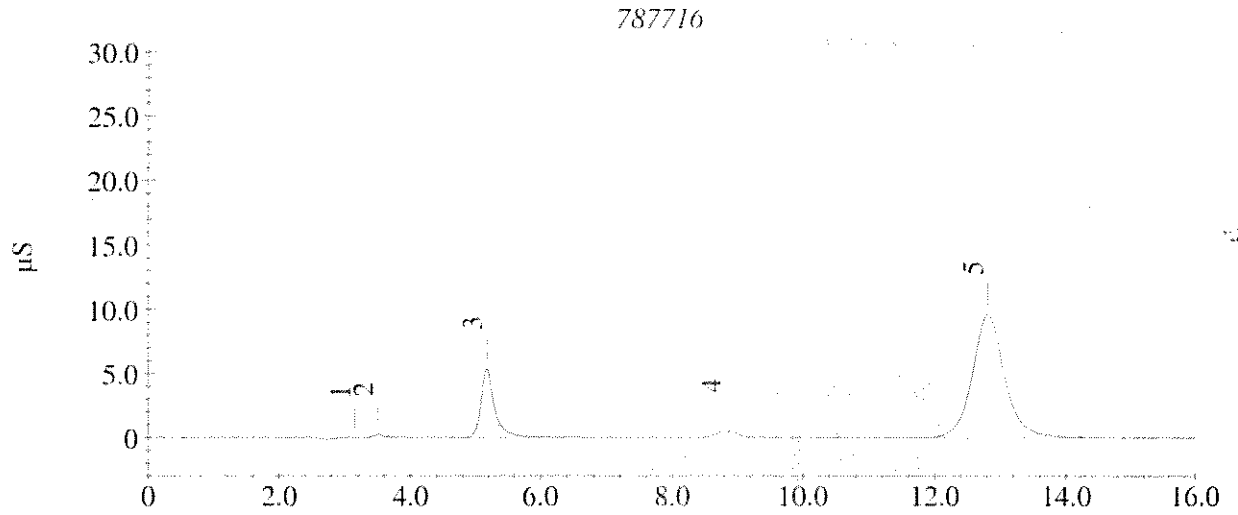
Sample Analysis Report

Sample Name : 787716
Data File Name : c:\instarch\data\system 2\101316-2\787716_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 15:30:31
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.2746	29997	2044	
3	Chloride	5.17	6.5816	810025	53797	
4	Nitrate	8.82	0.5328	131169	5152	
5	Sulfate	12.80	35.7871	3317249	96305	



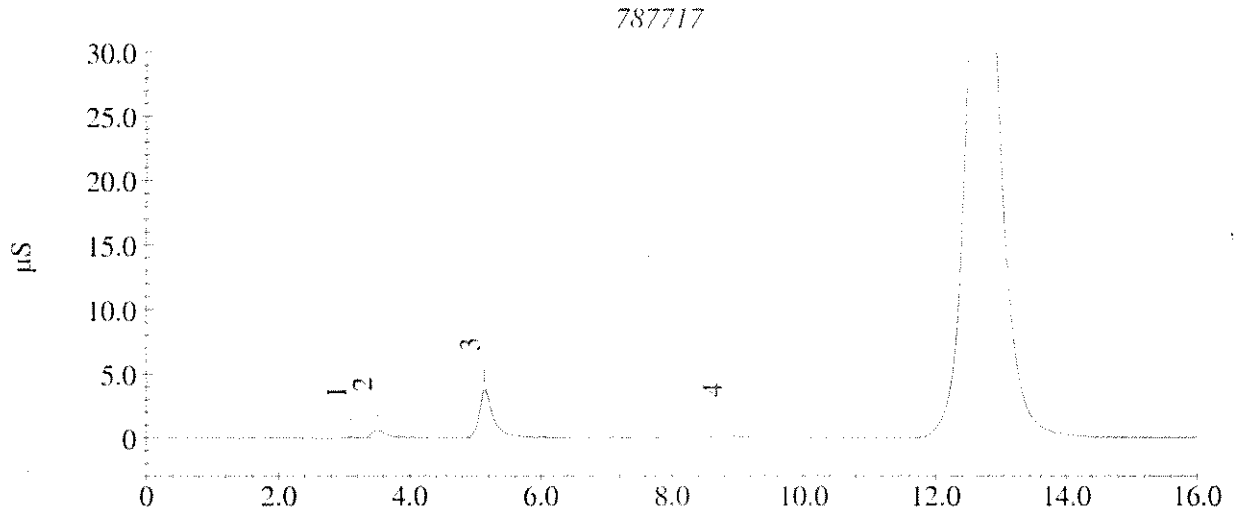
Sample Analysis Report

Sample Name : 787717
Data File Name : c:\instarch\data\system 2\101316-2\787717_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 15:48:43
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.50	0.6132	92293	6233	
3	Chloride	5.13	4.8721	584550	37326	
4	Nitrate	8.83	0.2563	50503	1996	
5	Sulfate	12.68	181.2309	16960123	499195	+



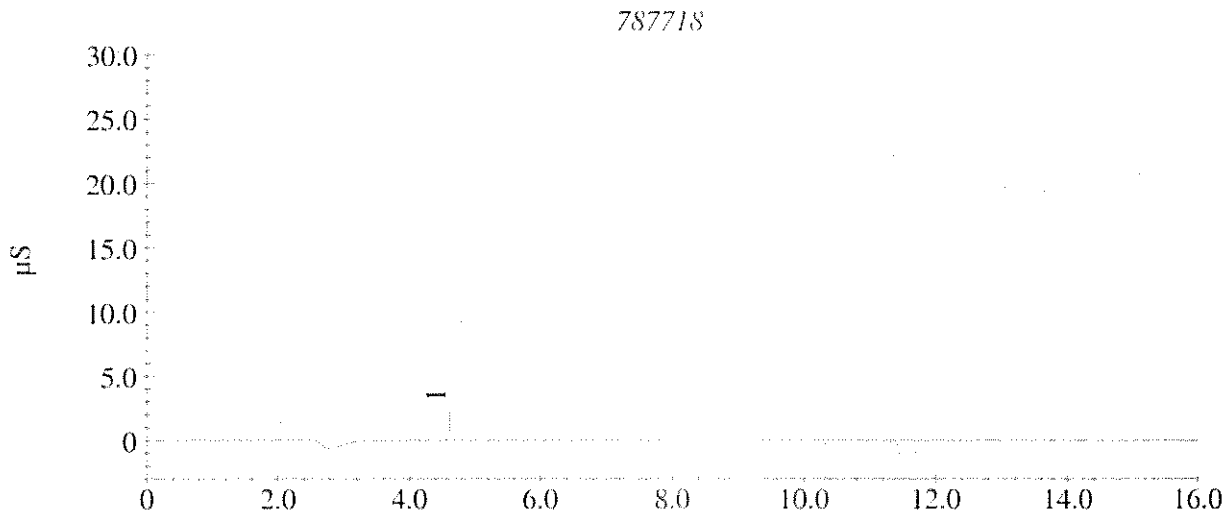
Sample Analysis Report

Sample Name : 787718
Data File Name : c:\instarch\data\system 2\101316-2\787718_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 16:06:54
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed



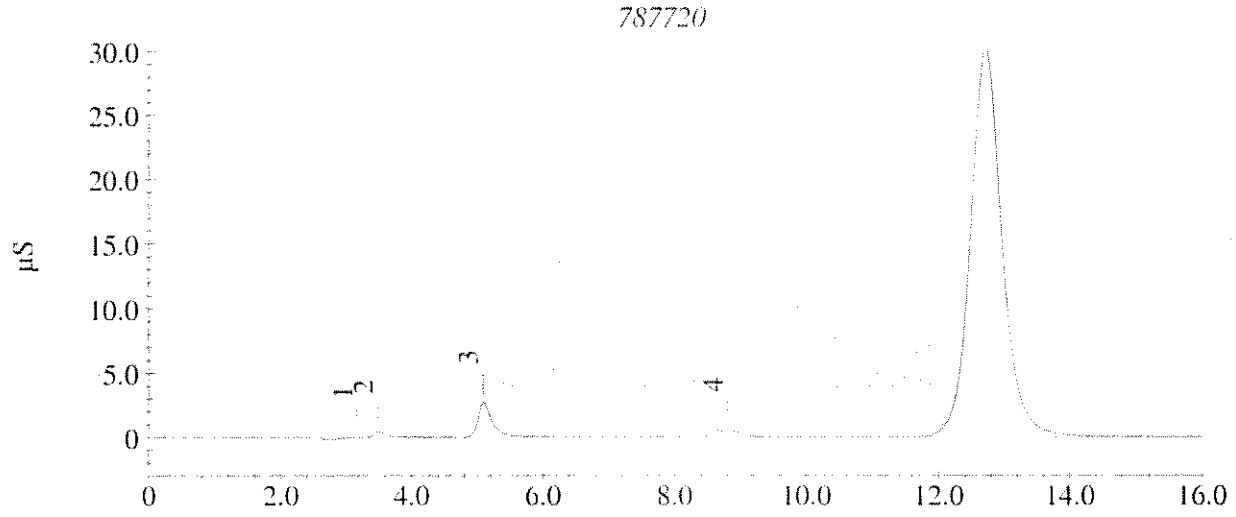
Sample Analysis Report

Sample Name : 787720
Data File Name : c:\instarch\data\system 2\101316-2\787720_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 16:25:06
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	0.5115	73576	4146	
3	Chloride	5.08	3.4243	393579	26663	
4	Nitrate	8.80	0.5398	133216	5280	
5	Sulfate	12.68	108.4903	10136929	300713	+



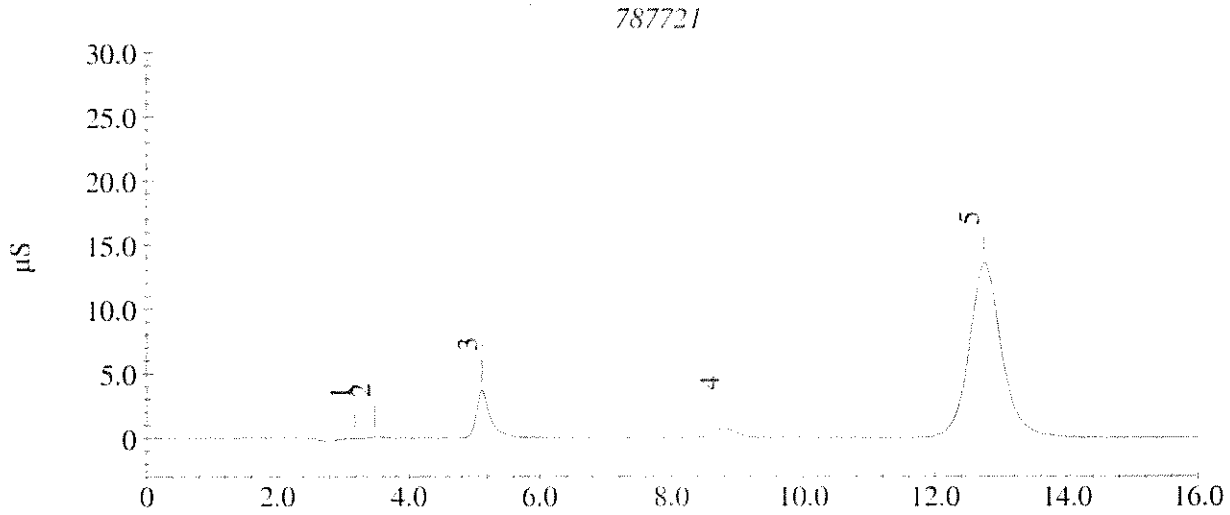
Sample Analysis Report

Sample Name : 787721
Data File Name : c:\instarch\data\system 2\101316-2\787721_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 16:43:23
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	0.2400	23630	1784	
3	Chloride	5.12	4.7332	566230	37234	
4	Nitrate	8.80	0.7001	179993	7117	
5	Sulfate	12.73	49.6364	4616329	135078	



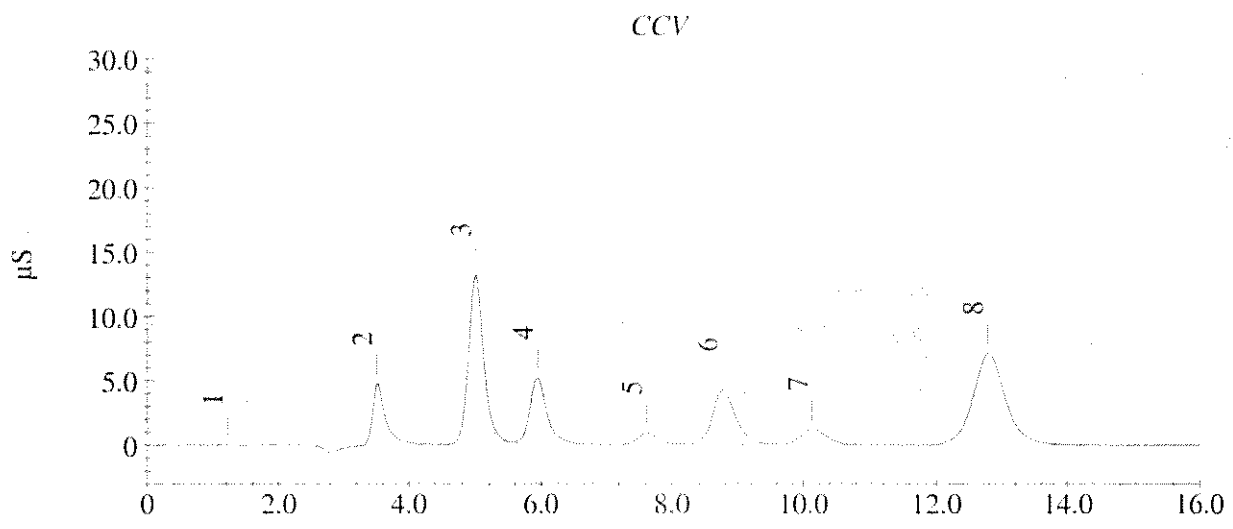
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\101316-2\CCV_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 17:01:40
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.50	3.6482	650747	46552	
3	Chloride	5.00	16.0484	2058650	130681	
4	Nitrite	5.93	4.2184	895025	50200	
5	Bromide	7.62	4.2310	178861	8588	
6	Nitrate	8.75	3.6222	1032651	42050	
7	O.Phos	10.13	3.6690	318622	11910	
8	Sulfate	12.77	26.9738	2490545	71182	



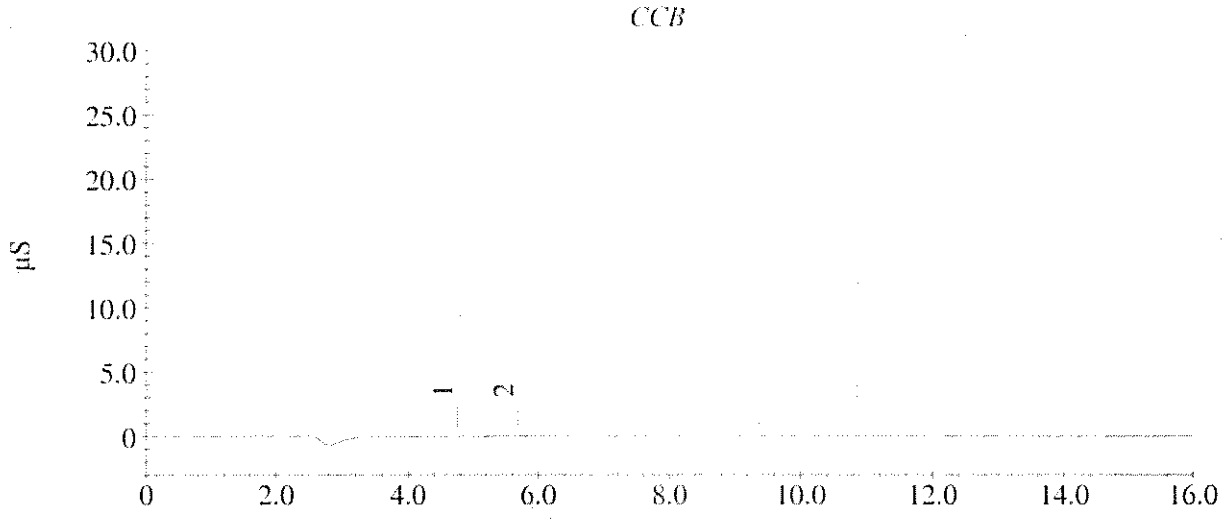
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101316-2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 17:19:53
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Nitrite	5.68	0.1212	3021	53	



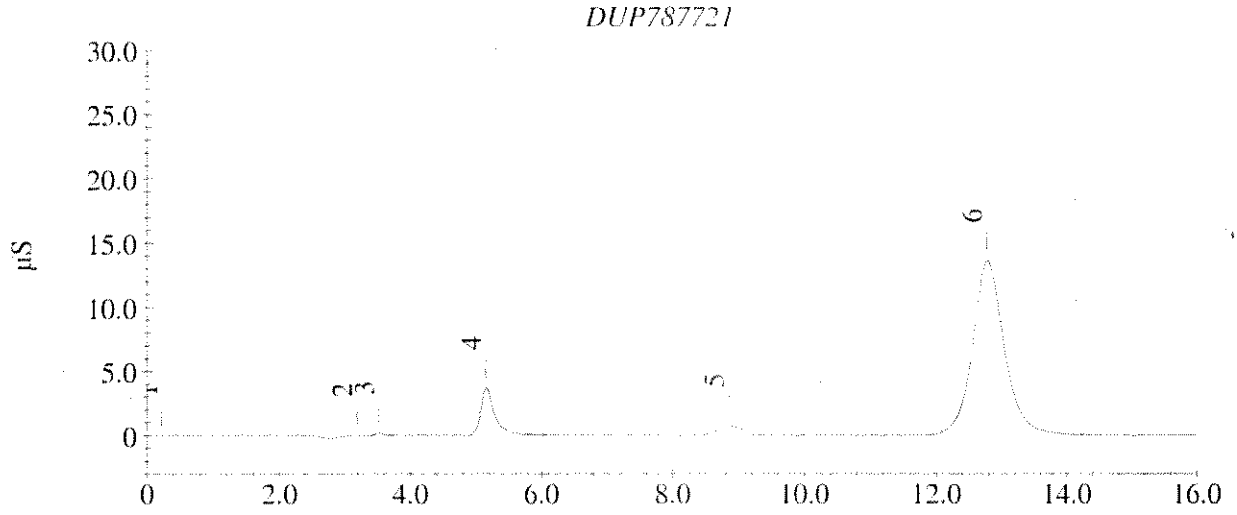
Sample Analysis Report

Sample Name : DUP787721
Data File Name : c:\instarch\data\system 2\101316-2\DUP787721_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 17:38:10
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
3	Fluoride	3.52	0.2437	24312	1812	
4	Chloride	5.13	4.7037	562338	36668	
5	Nitrate	8.85	0.6998	179916	7133	
6	Sulfate	12.77	49.8483	4636205	135337	



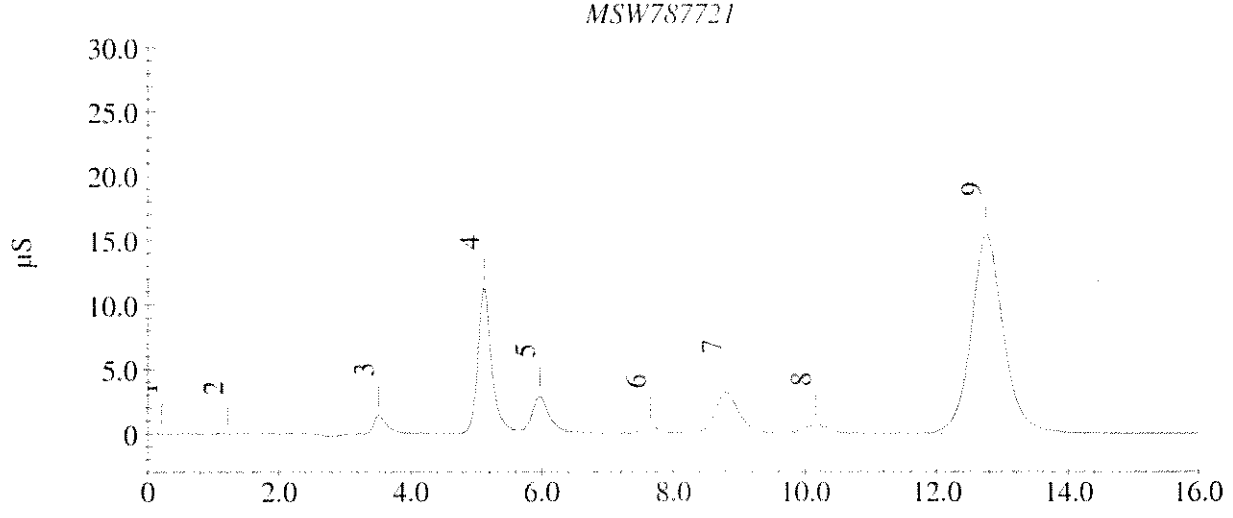
Sample Analysis Report

Sample Name : MSW787721
Data File Name : c:\instarch\data\system 2\101316-2\MSW787721_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 17:56:28
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.50	1.2182	203625	14293	
4	Chloride	5.12	12.4306	1581479	111510	
5	Nitrite	5.97	2.1852	452381	26760	
6	Bromide	7.65	2.4047	101719	4936	
7	Nitrate	8.80	2.7786	786484	31898	
8	O.Phos	10.15	1.9649	165120	6323	
9	Sulfate	12.73	56.3138	5242684	153958	



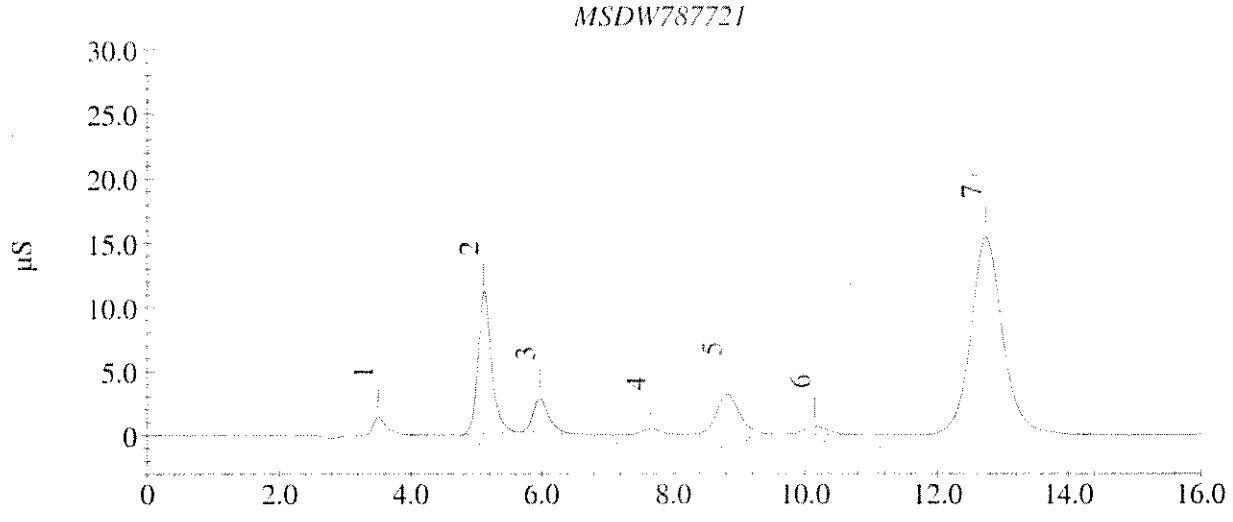
Sample Analysis Report

Sample Name : MSDW787721
Data File Name : c:\instarch\data\system 2\101316-2\MSDW787721_018.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 18:14:46
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	1.1978	199867	14139	
2	Chloride	5.10	12.4425	1583052	109463	
3	Nitrite	5.97	2.1849	452323	26668	
4	Bromide	7.65	2.4111	101992	4933	
5	Nitrate	8.80	2.7741	785170	31761	
6	O.Phos	10.15	1.9501	163783	6291	
7	Sulfate	12.73	56.3577	5246798	154329	



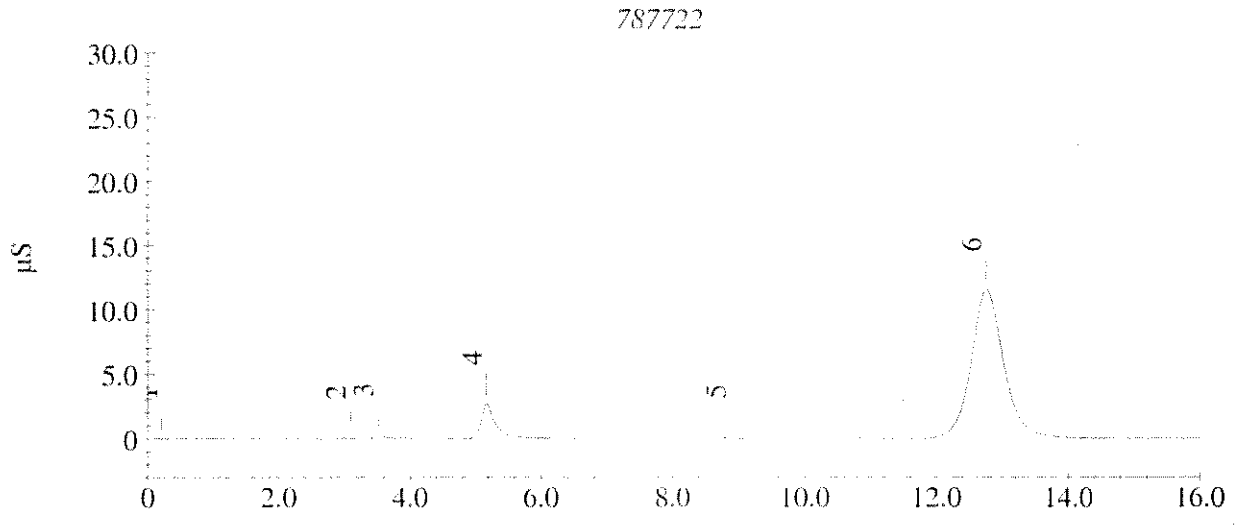
Sample Analysis Report

Sample Name : 787722
Data File Name : c:\instarch\data\system 2\101316-2\787722_019.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 18:33:04
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
3	Fluoride	3.50	0.2531	26034	1847	
4	Chloride	5.17	3.6961	429440	27098	
5	Nitrate	8.88	0.1509	19731	808	
6	Sulfate	12.75	42.5965	3955979	115131	



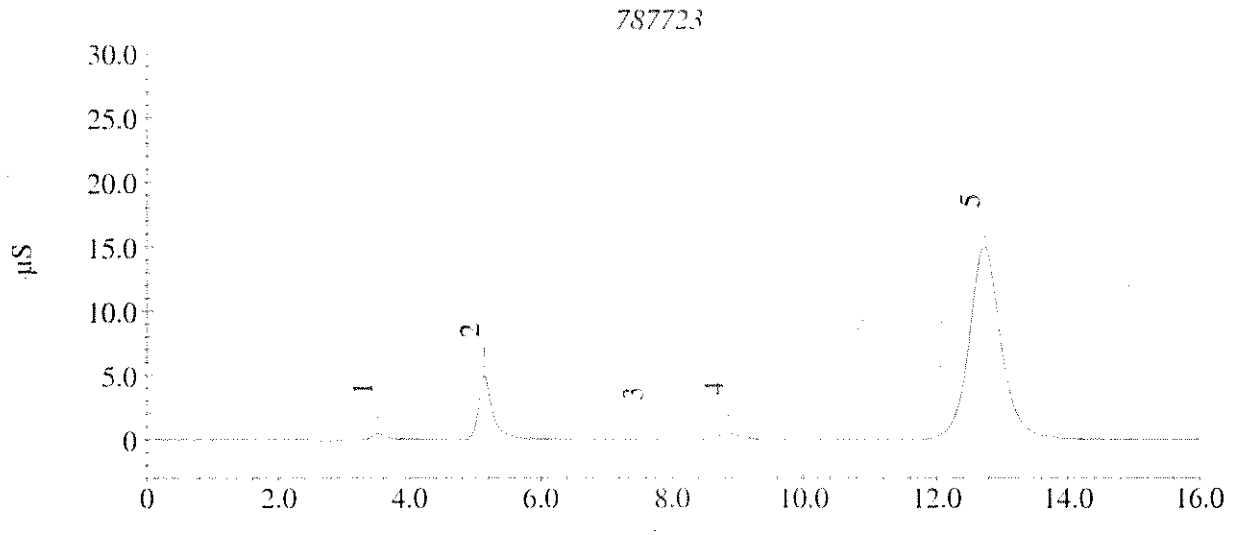
Sample Analysis Report

Sample Name : 787723
Data File Name : c:\instarch\data\system 2\101316-2\787723_020.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 18:51:23
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.4525	62728	4301	
2	Chloride	5.13	6.0319	737512	49461	
3	Bromide	7.62	0.0269	1283	70	
4	Nitrate	8.85	0.4787	115373	4541	
5	Sulfate	12.72	54.6816	5089584	149805	



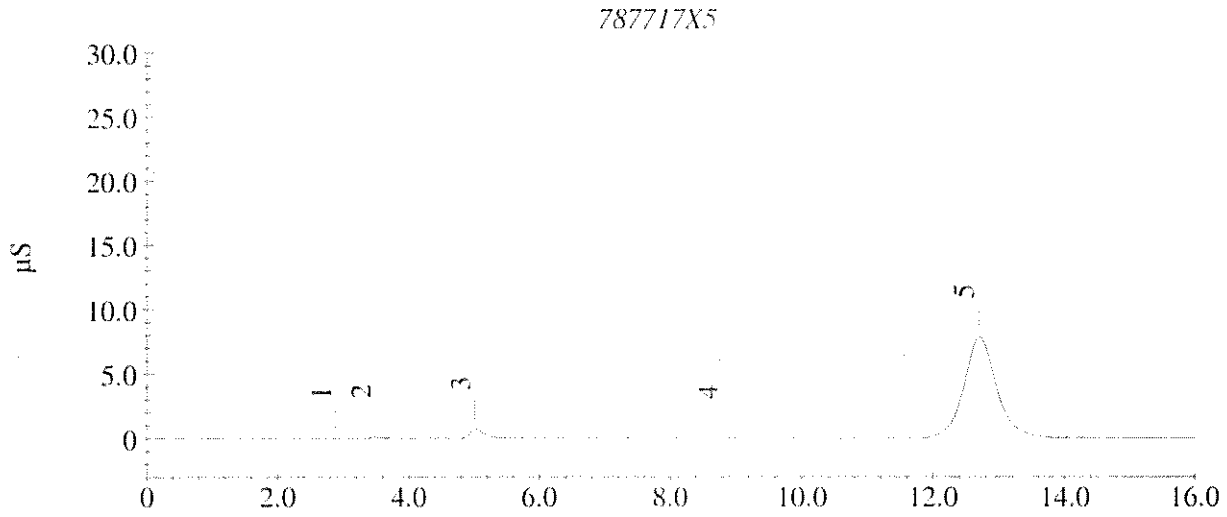
Sample Analysis Report

Sample Name : 787717X5
Data File Name : c:\instarch\data\system 2\101316-2\787717X5_021.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 19:09:34
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	0.1977	15844	1145	
3	Chloride	5.02	1.3470	119599	7142	
4	Nitrate	8.80	0.1112	8159	371	
5	Sulfate	12.68	29.2778	2706660	78072	



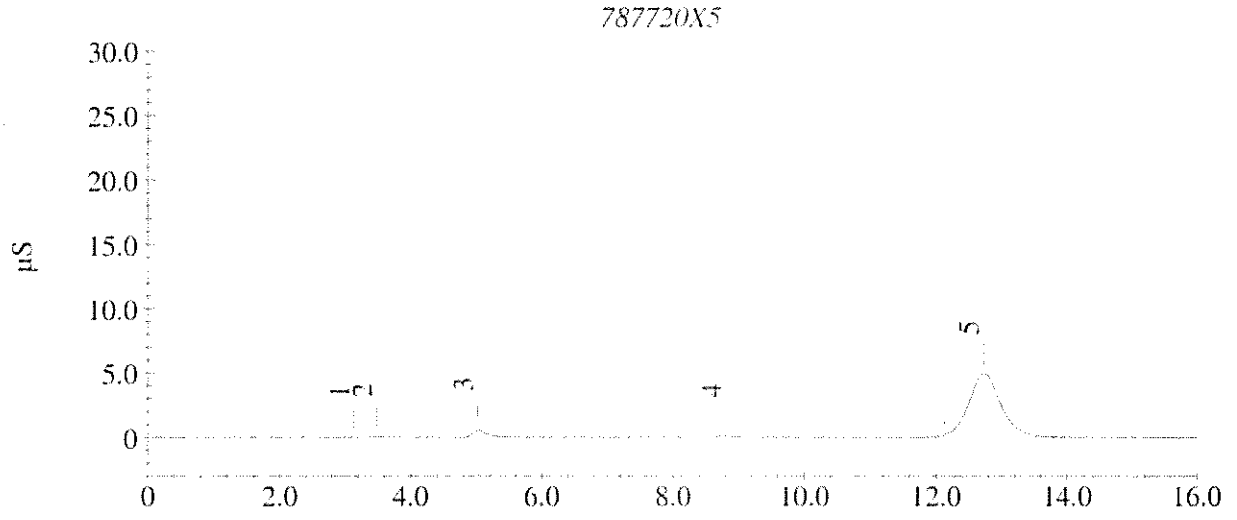
Sample Analysis Report

Sample Name : 787720X5
Data File Name : c:\instarch\data\system 2\101316-2\787720X5_022.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 19:27:46
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	0.1655	9926	782	
3	Chloride	5.02	1.1175	89330	5521	
4	Nitrate	8.80	0.1670	24423	1015	
5	Sulfate	12.72	18.9510	1737991	49605	



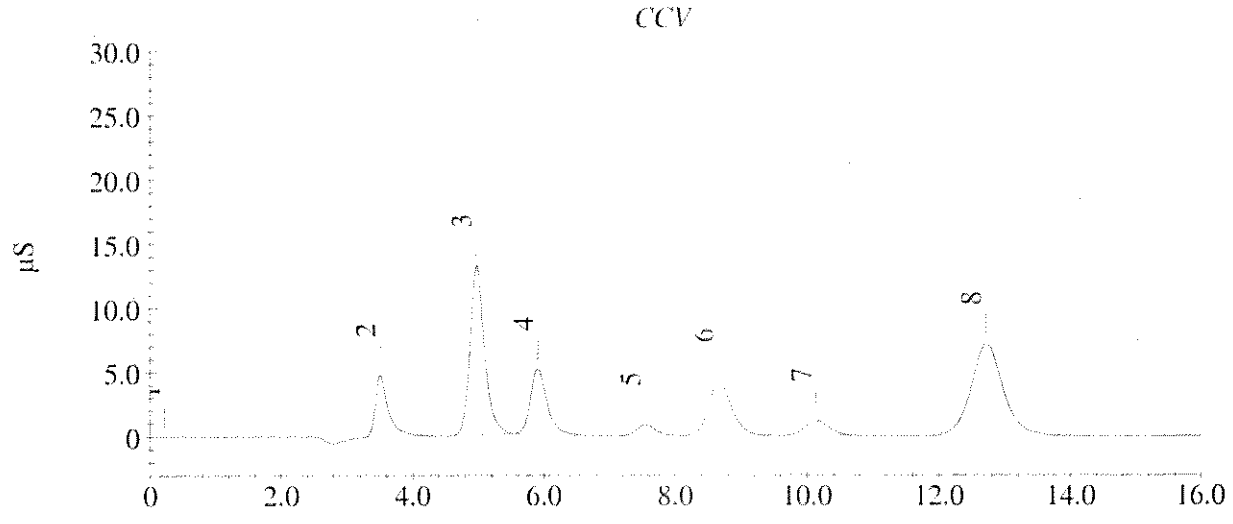
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\101316-2\CCV_023.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 19:45:58
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	3.6382	648899	47218	
3	Chloride	4.97	16.0701	2061514	131247	
4	Nitrite	5.90	4.2261	896703	50807	
5	Bromide	7.53	4.1952	177352	8650	
6	Nitrate	8.65	3.6498	1040698	42738	
7	O.Phos	10.13	3.6630	318089	11930	
8	Sulfate	12.70	26.8239	2476483	71882	



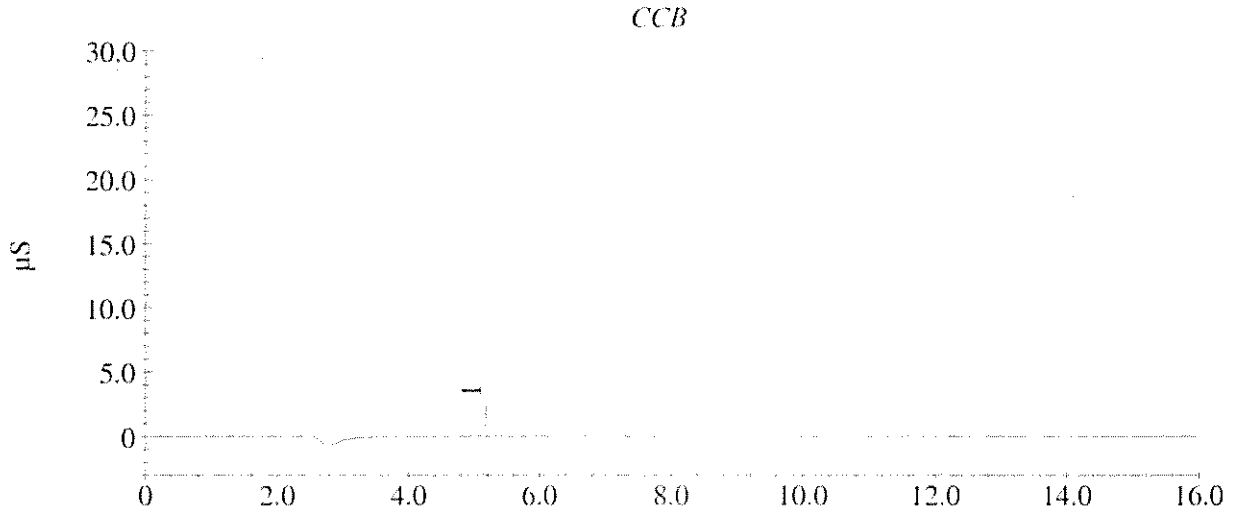
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101316-2\CCB_024.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 10/13/16 20:04:16
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede



Schedule File: C:\INSTARCH\Sequences\System 2\IC0864.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume
1	CCV IC0842 IC0855	Sample		ic0864.met	ccv ic0842 ic0855_001.dxd	1
2	BLANK	Sample		ic0864.met	blank_002.dxd	1
3	STD 1	Calibration St	1	ic0864.met	std 1_003.dxd	1
4	STD 2	Calibration St	2	ic0864.met	std 2_004.dxd	1
5	STD 3	Calibration St	3	ic0864.met	std 3_005.dxd	1
6	STD 4	Calibration St	4	ic0864.met	std 4_006.dxd	1
7	STD 5	Calibration St	5	ic0864.met	std 5_007.dxd	1
8	STD 6	Calibration St	6	ic0864.met	std 6_008.dxd	1
9	STD 7	Calibration St	7	ic0864.met	std 7_009.dxd	1
10	STD 8	Calibration St	8	ic0864.met	std 8_010.dxd	1
11	STD 9	Calibration St	9	ic0864.met	std 9_011.dxd	1
12	ICV IC0854 IC0834	Sample		ic0864.met	icv ic0854 ic0834_012.dxd	1
13	ICB	Sample		ic0864.met	icb_013.dxd	1

Calibration Concentrations

Instrument:	**DX-120 (2)**	**Cal. File:**		IC0864	**ICV**	IC0854 IC0834		**Analyst/Date: JJF 10/14/2016**		
Analyte	**Cal Level 1 (mg/L)**	**Cal Level 2 (mg/L)**	**Cal Level 3 (mg/L)**	**Cal Level 4 (mg/L)**	**Cal Level 5 (mg/L)**	**Cal Level 6 (mg/L)**	**Cal Level 7 (mg/L)**	**Cal Level 8 (mg/L)**	**Cal Level 9 (mg/L)**	**ICV (mg/L)**
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

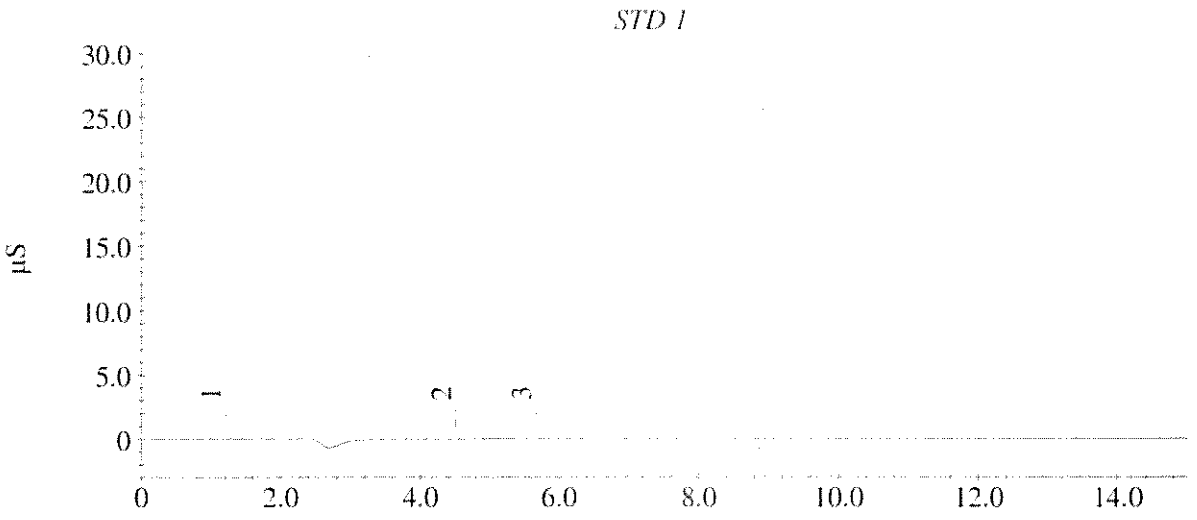
Calibration Update Report

Sample Name : STD 1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 1_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 09:10:25
Calibration Date : 10/14/16 09:25:28
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Chloride	4.50	0	1042	1042
3	Nitrite	5.67	0	6288	6288



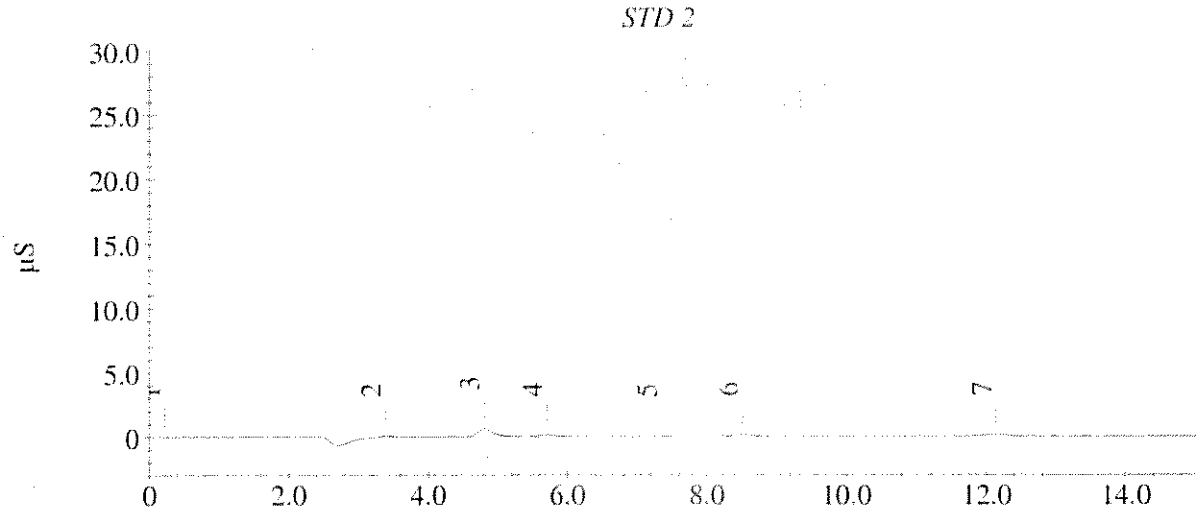
Calibration Update Report

Sample Name : STD 2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 2_004.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 09:27:39
Calibration Date : 10/14/16 09:42:42
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.38	0	12578	12578
3	Chloride	4.80	0	90069	90069
4	Nitrite	5.70	0	22785	22785
5	Bromide	7.35	0	5135	5135
6	Nitrate	8.52	0	32888	32888
7	Sulfate	12.13	0	49289	49289



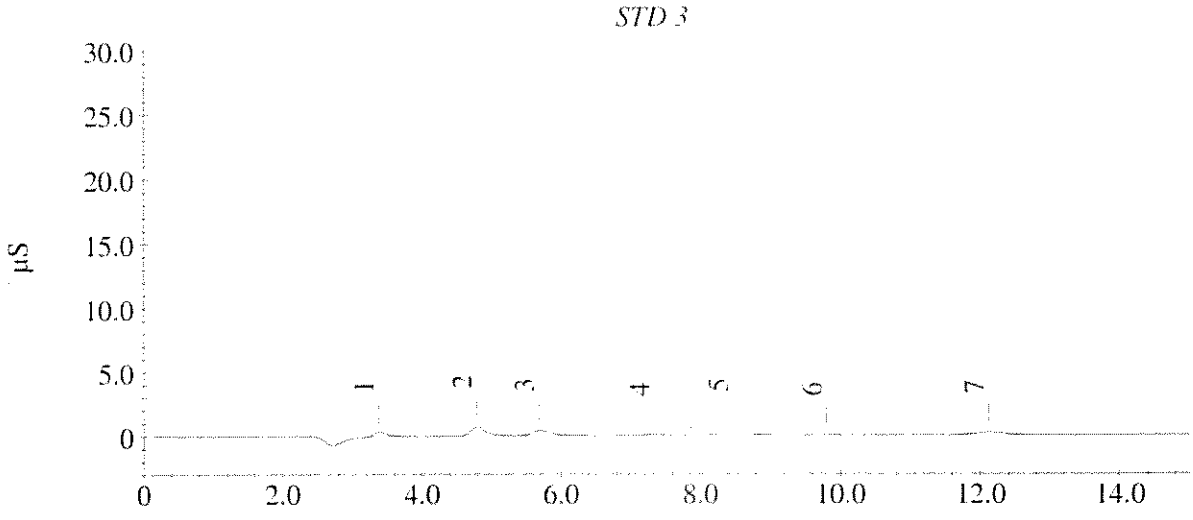
Calibration Update Report

Sample Name : STD 3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 3_005.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 09:44:54
Calibration Date : 10/14/16 09:59:57
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.37	0	40948	40948
2	Chloride	4.78	0	102240	102240
3	Nitrite	5.68	0	70419	70419
4	Bromide	7.33	0	15582	15582
5	Nitrate	8.47	0	88276	88276
6	O.Phos	9.80	0	5330	5330
7	Sulfate	12.12	0	65967	65967



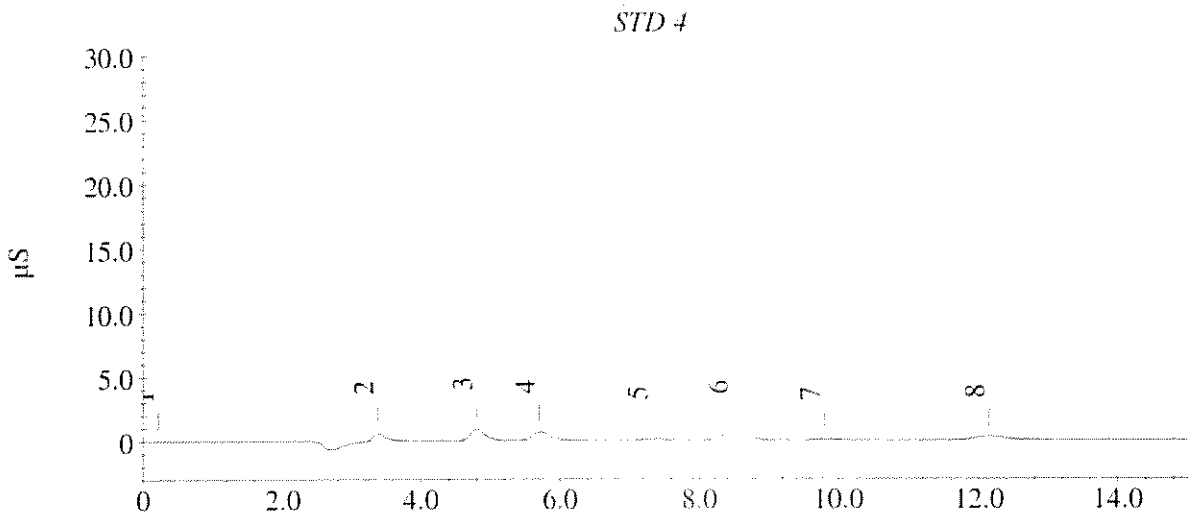
Calibration Update Report

Sample Name : STD 4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 4_006.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 10:02:08
Calibration Date : 10/14/16 10:17:11
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.38	0	76073	76073
3	Chloride	4.80	0	133071	133071
4	Nitrite	5.70	0	118064	118064
5	Bromide	7.33	0	24720	24720
6	Nitrate	8.48	0	146725	146725
7	O.Phos	9.80	0	16427	16427
8	Sulfate	12.15	0	90881	90881



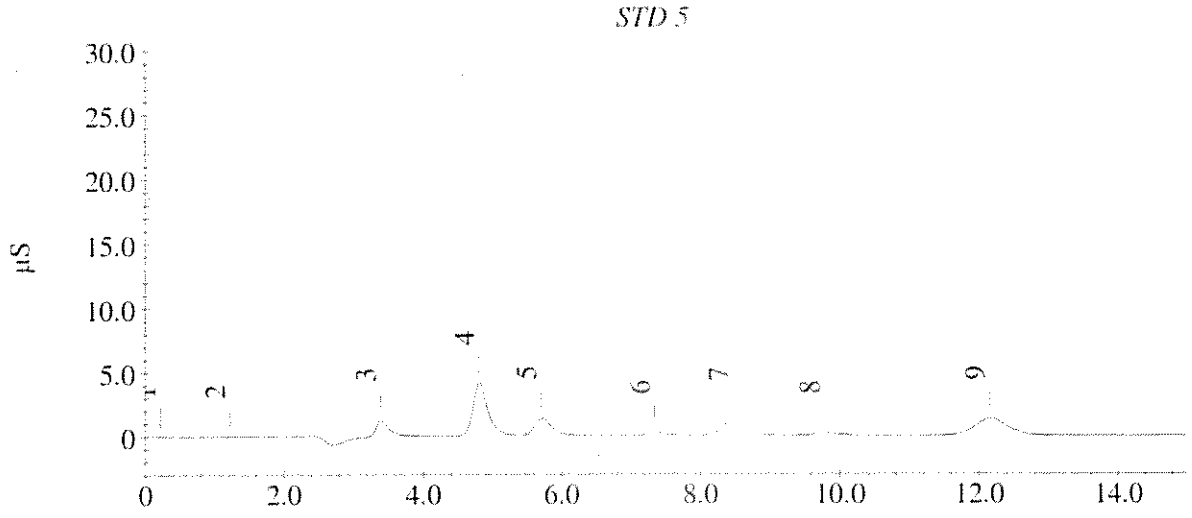
Calibration Update Report

Sample Name : STD 5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 5_007.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 10:19:22
Calibration Date : 10/14/16 10:34:25
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.38	0	168953	168953
4	Chloride	4.80	0	617790	617790
5	Nitrite	5.70	0	230571	230571
6	Bromide	7.33	0	49278	49278
7	Nitrate	8.47	0	298118	298118
8	O.Phos	9.78	0	56466	56466
9	Sulfate	12.15	0	454485	454485



Calibration Update Report

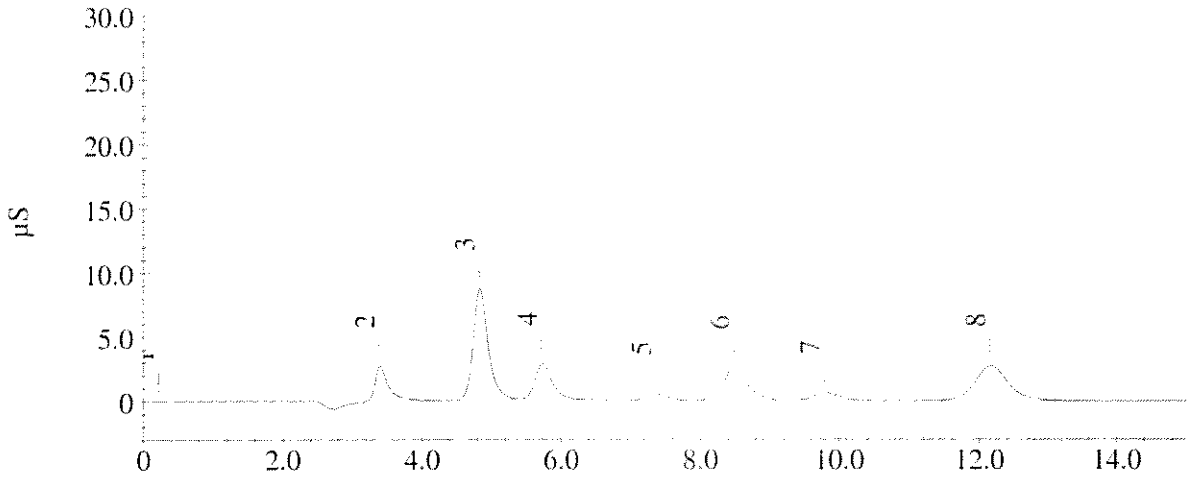
Sample Name : STD 6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 6_008.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 10:36:37
Calibration Date : 10/14/16 10:51:40
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.38	0	357740	357740
3	Chloride	4.82	0	1290351	1290351
4	Nitrite	5.72	0	475646	475646
5	Bromide	7.37	0	98611	98611
6	Nitrate	8.48	0	600686	600686
7	O.Phos	9.78	0	148903	148903
8	Sulfate	12.15	0	935864	935864

STD 6



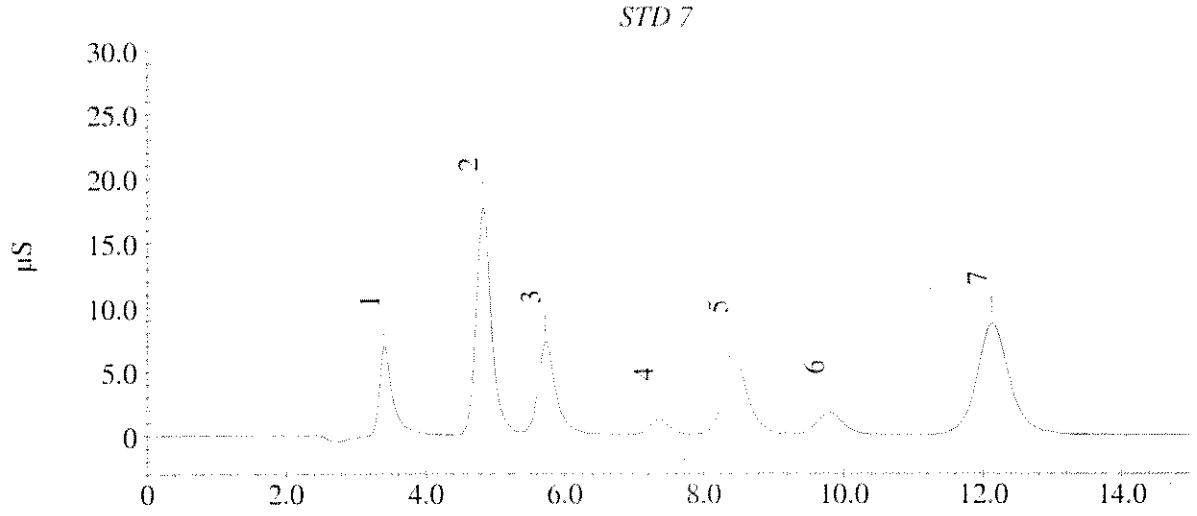
Calibration Update Report

Sample Name : STD 7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 7_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 10:53:51
Calibration Date : 10/14/16 11:08:52
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.40	0	911368	911368
2	Chloride	4.82	0	2663833	2663833
3	Nitrite	5.72	0	1209602	1209602
4	Bromide	7.33	0	236642	236642
5	Nitrate	8.42	0	1503204	1503204
6	O.Phos	9.78	0	428541	428541
7	Sulfate	12.12	0	2874122	2874122



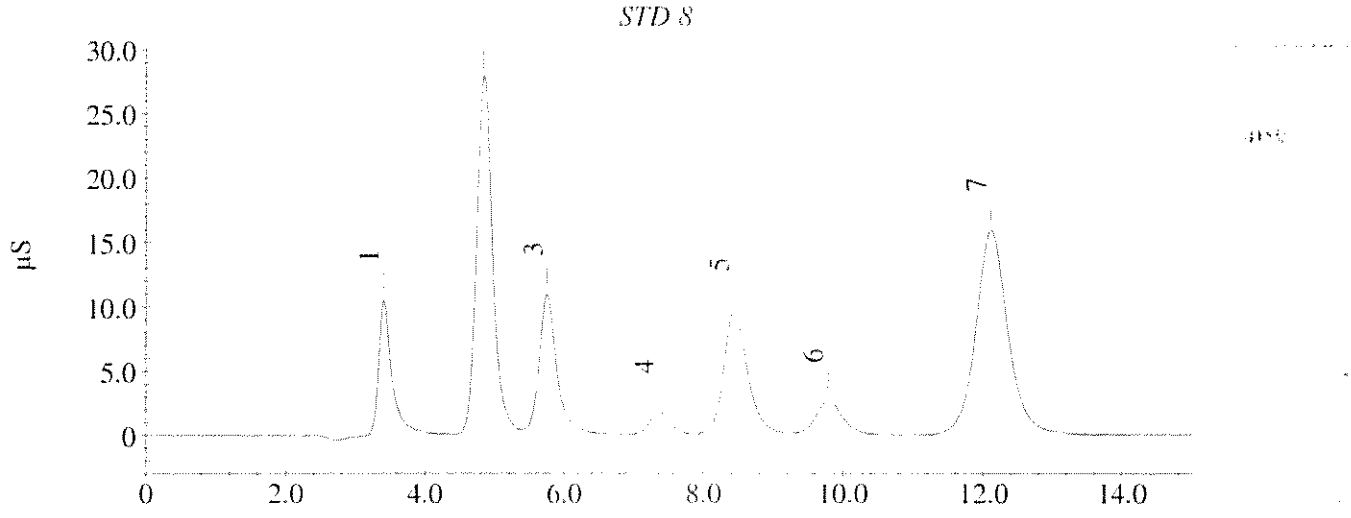
Calibration Update Report

Sample Name : STD 8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 8_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 11:11:04
Calibration Date : 10/14/16 11:26:07
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.40	0	1372528	1372528
2	Chloride	4.83	0	4369218	4369218
3	Nitrite	5.75	0	1816457	1816457
4	Bromide	7.37	0	346803	346803
5	Nitrate	8.43	0	2257761	2257761
6	O.Phos	9.78	0	661200	661200
7	Sulfate	12.10	0	5177664	5177664



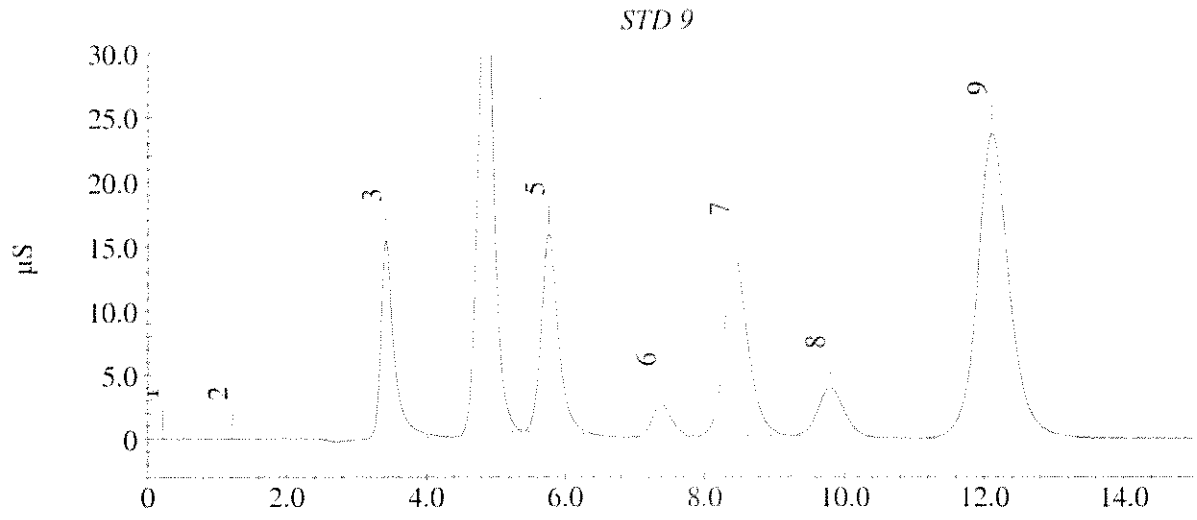
Calibration Update Report

Sample Name : STD 9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\STD 9_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Schedule File Name : c:\instarch\sequences\system 2\ic0864.sch
Date Time Collected : 10/14/16 11:28:18
Calibration Date : 10/14/16 11:43:21
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.42	0	2024026	2024026
4	Chloride	4.85	0	5998041	5998041
5	Nitrite	5.77	0	2678289	2678289
6	Bromide	7.37	0	495716	495716
7	Nitrate	8.42	0	3334499	3334499
8	O.Phos	9.78	0	989768	989768
9	Sulfate	12.10	0	7616676	7616676



Sample Analysis Report

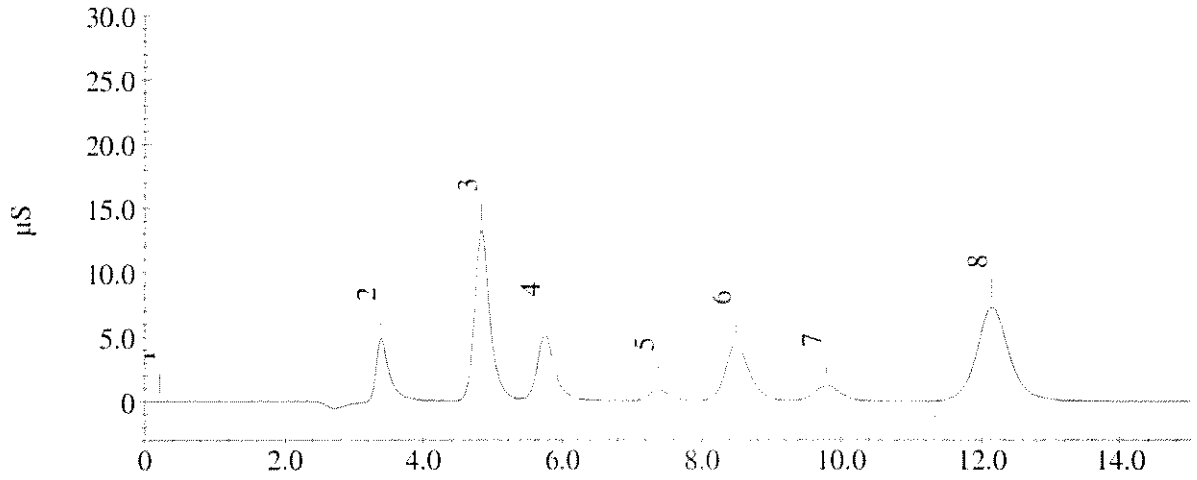
Sample Name : ICV IC0854 IC0834
Data File Name : c:\instarch\data\system 2\101416 - ic0864\ICV IC0854 IC0834_012.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC0864.met
Date Time Collected : 10/14/16 11:45:32
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.38	3.3283	642238	47273	
3	Chloride	4.83	13.8565	1983872	131313	
4	Nitrite	5.73	3.3350	857682	49673	
5	Bromide	7.38	3.5066	172417	8685	
6	Nitrate	8.48	3.2721	1048007	44190	
7	O.Phos	9.78	3.2762	293460	11576	
8	Sulfate	12.13	23.3429	2428875	72856	

ICV IC0854 IC0834



After Manual Integration

JTF

10/18/2016

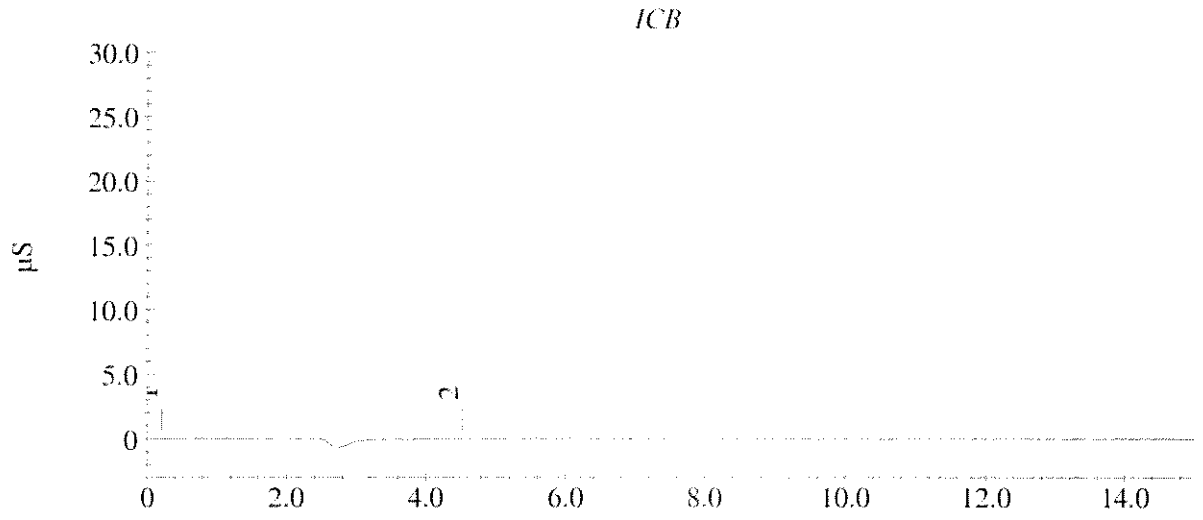
Sample Analysis Report

Sample Name : ICB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101416 - IC0864\ICB_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 12:02:47
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed



RJ 10/31/2016

REASON #4 Before Manual Integration

JTF

10/18/2016

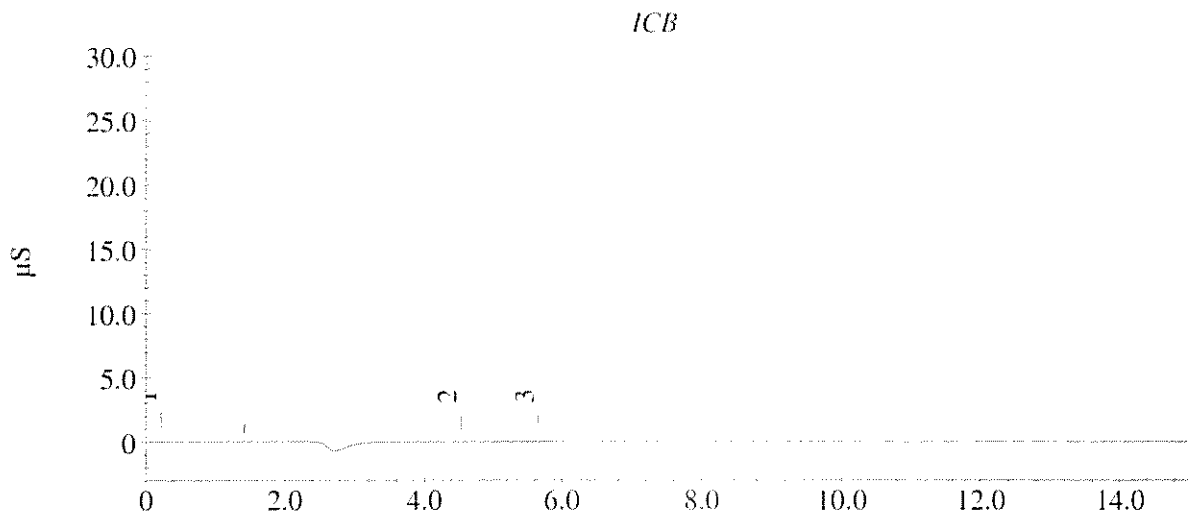
Sample Analysis Report

Sample Name : ICB
Data File Name : c:\instarch\data\system 2\101416 - ic0864\ICB_013.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC0864.met
Date Time Collected : 10/14/16 12:02:47
System Operator : AGK

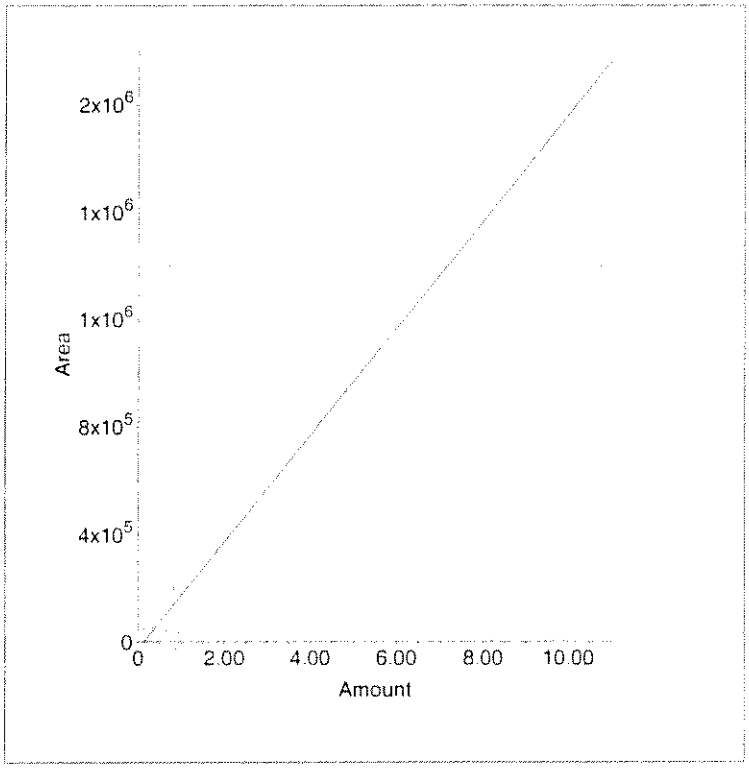
Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
3	Nitrite	5.67	0.1205	5456	67	

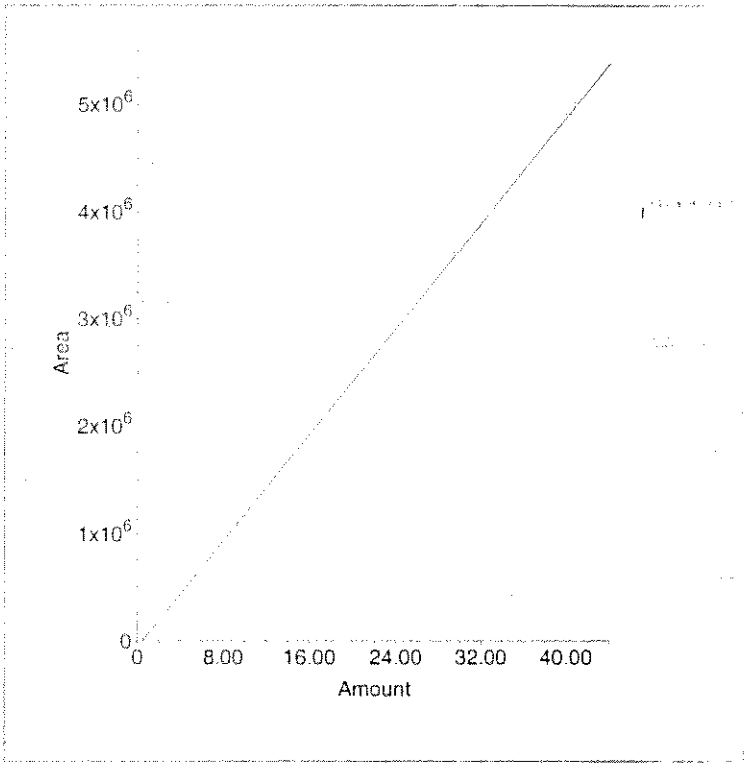


Method:C:\INSTARCH\METHODS\SYSTEM 2\IC0864.MET Updated:10/14/16 12:21:15 Total:7

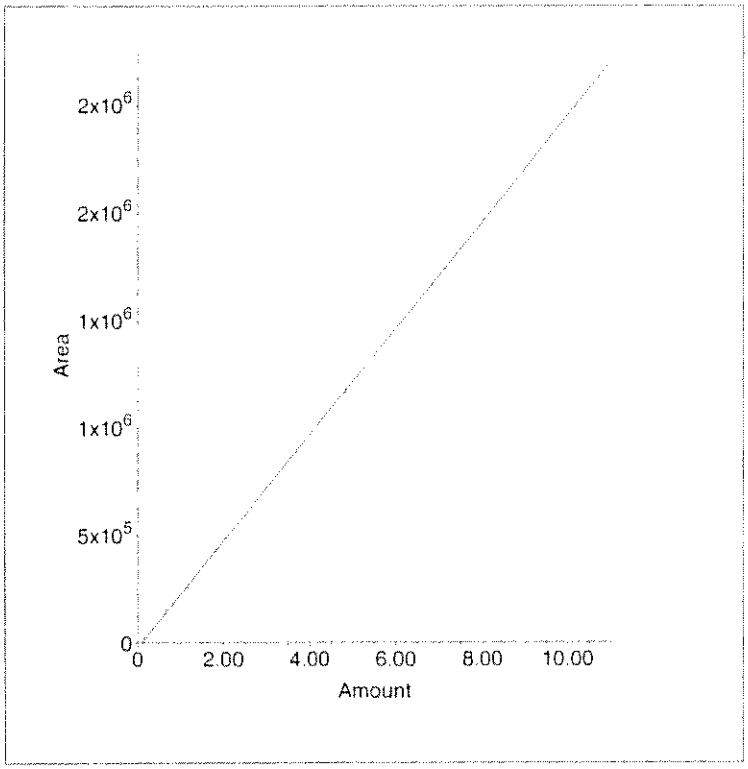
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.998189
Amt=4.969e-006*Resp+0.1369



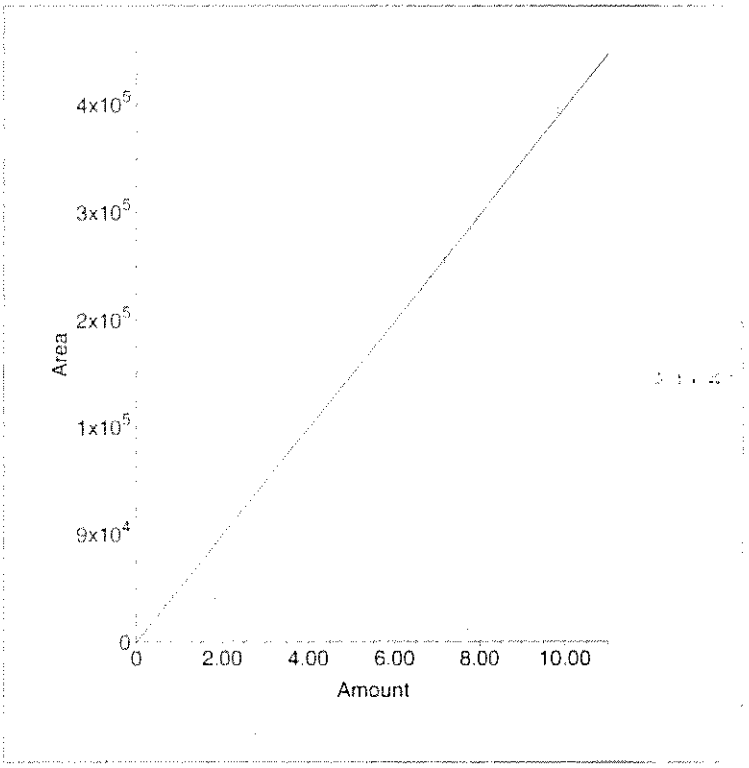
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.997151
Amt=6.743e-006*Resp+0.4794



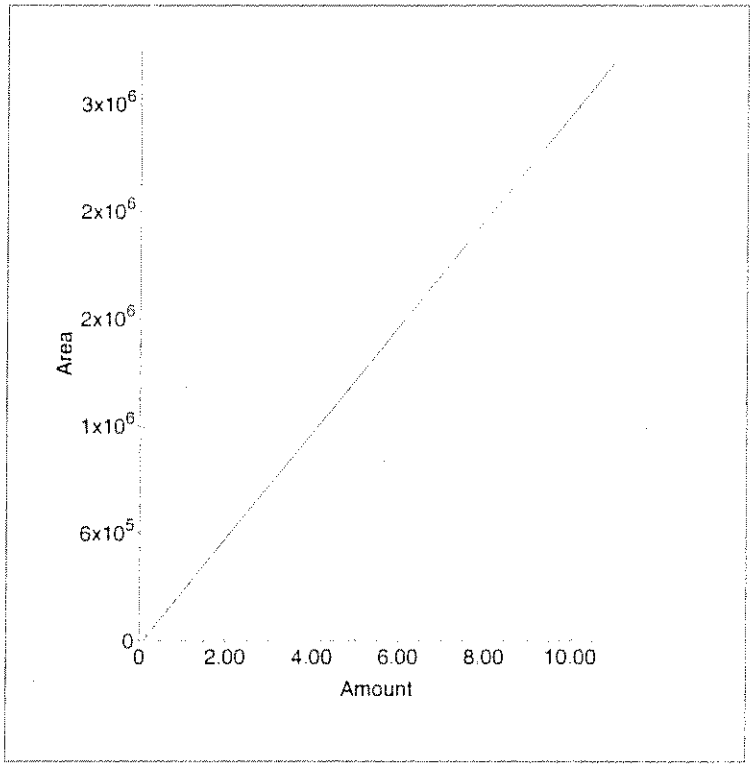
3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998108
Amt=3.772e-006*Resp+0.09995



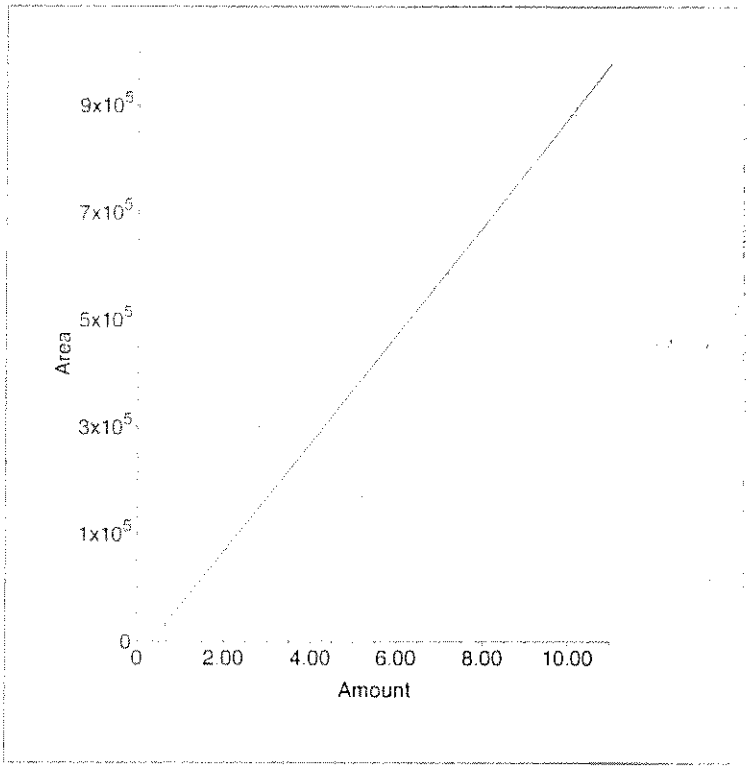
4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999585
Amt=2.026e-005*Resp+0.01256



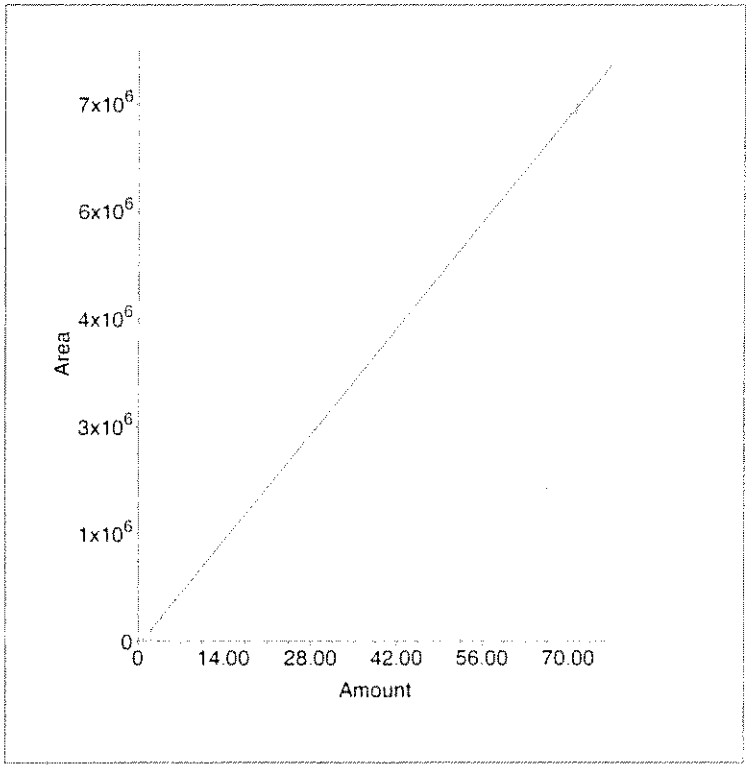
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.998123
Amt=3.033e-006*Resp+0.09325



6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.996240
Amt=9.983e-006*Resp+0.3467



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.997719
Amt=9.322e-006*Resp+0.6998



Schedule File: C:\INSTARCH\Sequences\System 2\101416-2.sch

Line	Sample	Sample Type	Level	Method
1	CCV IC0842 IC0855	Sample		ic0864.met
2	LCSW IC0854 IC0834	Sample		ic0864.met
3	MBW	Sample		ic0864.met
9	788211	Sample		ic0864.met
10	788209	Sample		ic0864.met
11	788210	Sample		ic0864.met
12	DUP787824	Sample		ic0864.met
13	MSW787824	Sample		ic0864.met
14	CCV IC0842 IC0855	Sample		ic0864.met
15	CCB	Sample		ic0864.met
16	788212	Sample		ic0864.met
17	788213	Sample		ic0864.met
18	788214	Sample		ic0864.met
19	DUP788210	Sample		ic0864.met
20	MSW788210	Sample		ic0864.met
21	MSDW788210	Sample		ic0864.met
22	788209X2	Sample		ic0864.met
26	CCV IC0842 IC0855	Sample		ic0864.met
27	CCB	Sample		ic0864.met

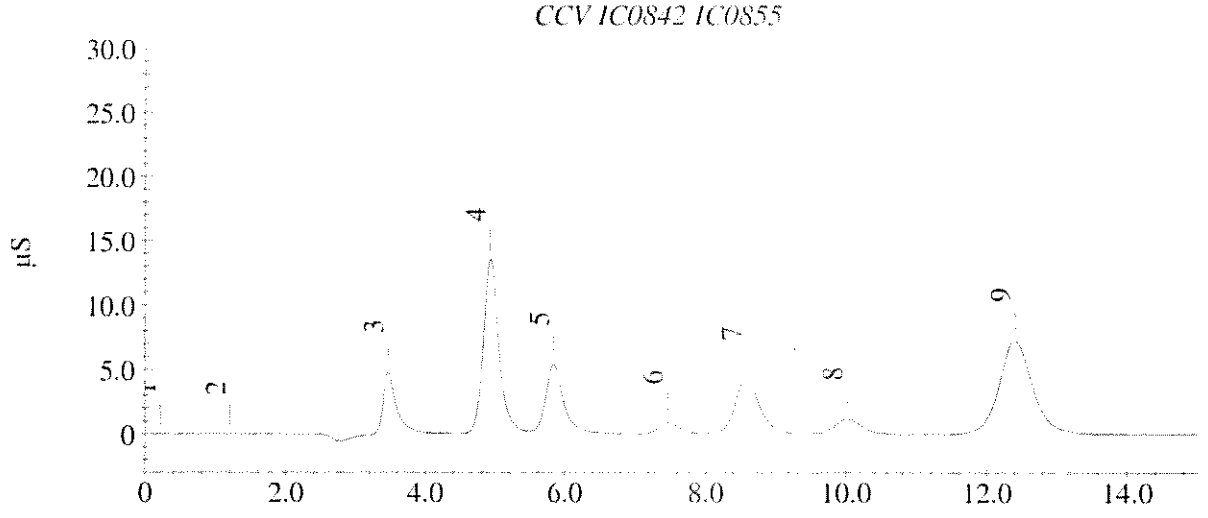
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101416-2\CCV IC0842 IC0855_A001.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 12:47:12
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
3	Fluoride	3.47	3.3360	643794	47694	
4	Chloride	4.92	14.3703	2060066	134098	
5	Nitrite	5.83	3.5342	910500	52314	
6	Bromide	7.45	3.5387	174001	8661	
7	Nitrate	8.57	3.1937	1022172	42713	
8	O.Phos	10.02	3.3361	299458	11505	
9	Sulfate	12.40	23.7858	2476389	73207	



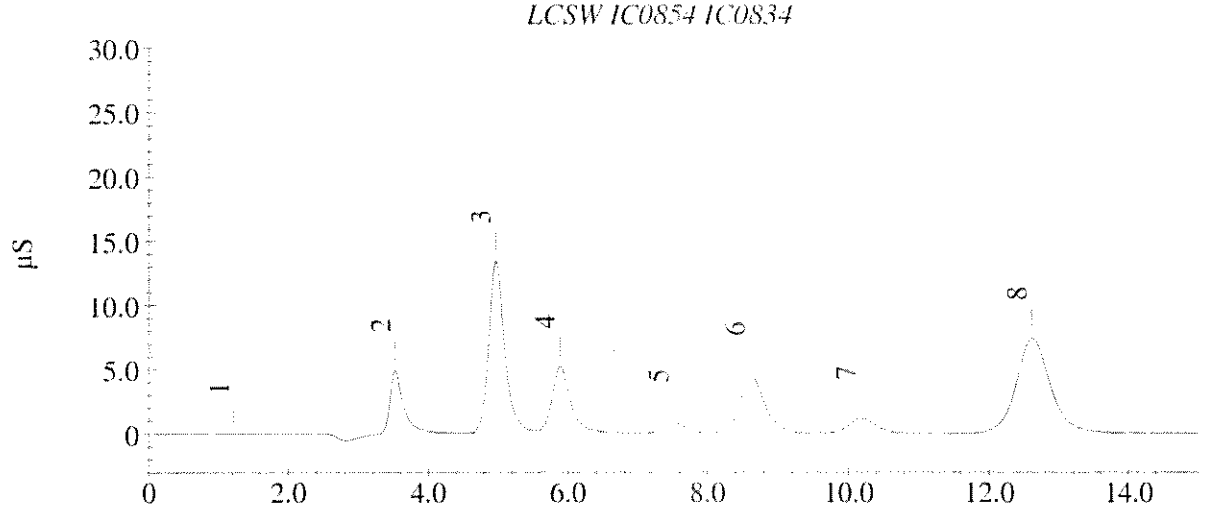
Sample Analysis Report

Sample Name : LCSW IC0854 IC0834
Data File Name : c:\instarch\data\system 2\101416-2\LCSW IC0854 IC0834_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 13:09:40
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.52	3.4223	661168	48545	
3	Chloride	4.97	14.3276	2053730	132296	
4	Nitrite	5.88	3.4223	880835	50075	
5	Bromide	7.50	3.6089	177465	8856	
6	Nitrate	8.60	3.4305	1100243	45546	
7	O.Phos	10.17	3.3978	305641	11512	
8	Sulfate	12.60	24.1237	2512629	73506	



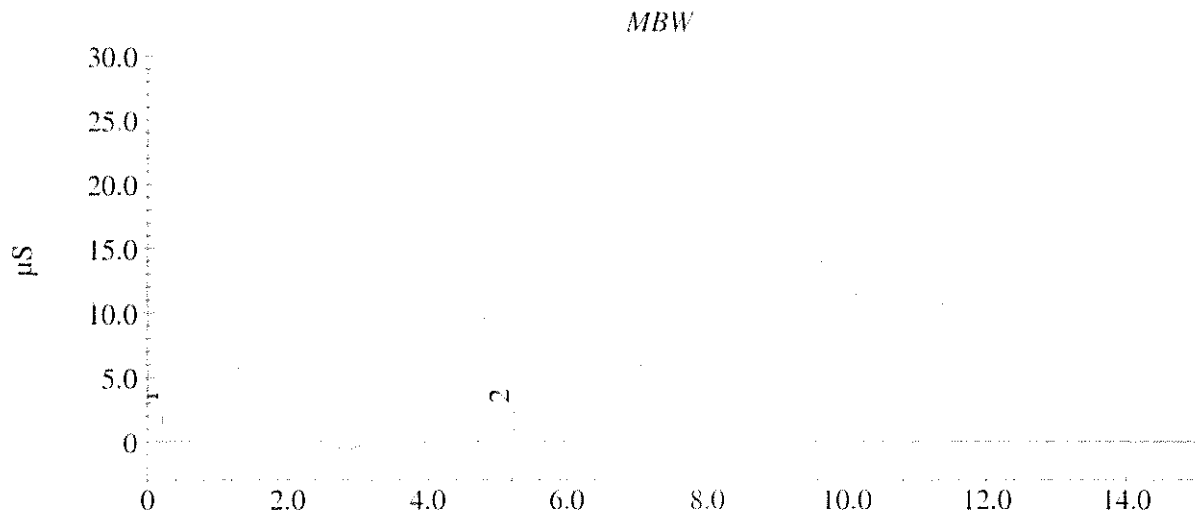
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\101416-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 13:26:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Chloride	5.23	0.4862	1015	36	



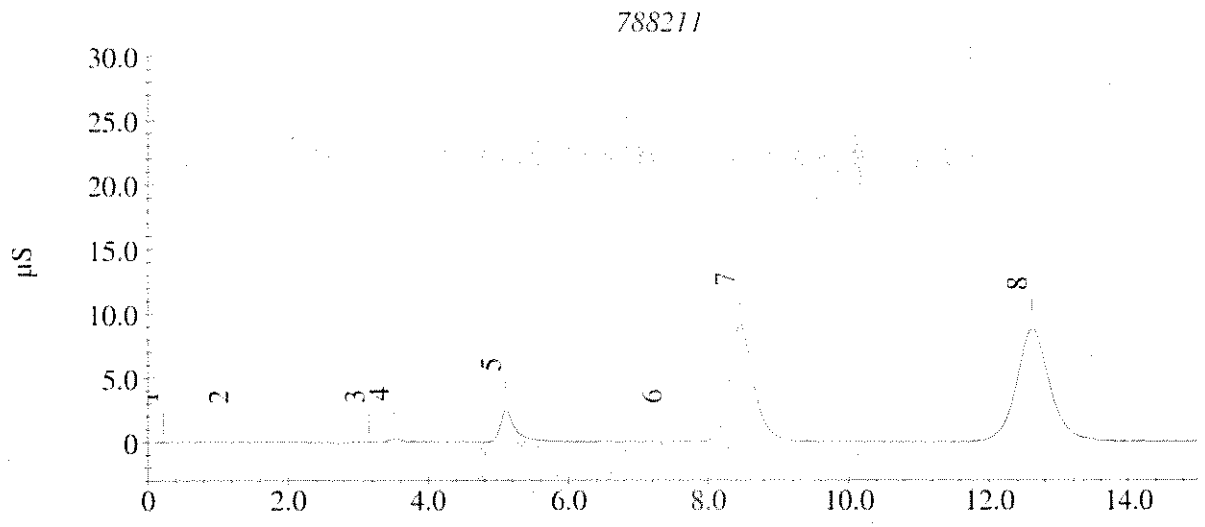
Sample Analysis Report

Sample Name : 788211
Data File Name : c:\instarch\data\system 2\101416-2\788211_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 15:10:23
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
4	Fluoride	3.50	0.2926	31342	2146	
5	Chloride	5.10	3.2761	414761	25240	
6	Bromide	7.40	0.0645	2563	148	
7	Nitrate	8.45	6.6499	2161622	91107	
8	Sulfate	12.60	28.1328	2942675	87472	



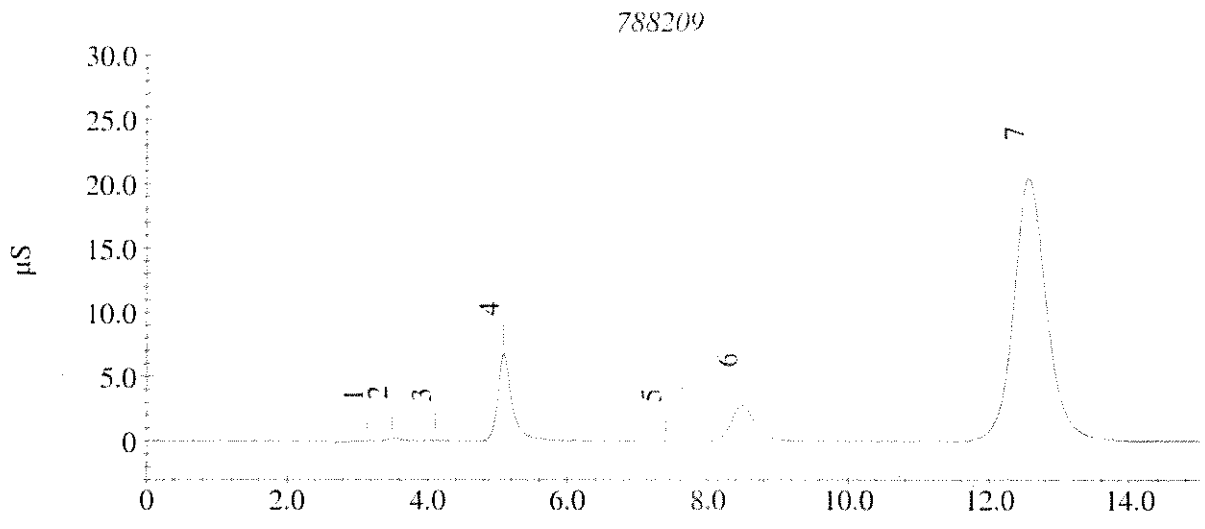
Sample Analysis Report

Sample Name : 788209
Data File Name : c:\instarch\data\system 2\101416-2\788209_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 15:27:39
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.2678	26339	1951	
4	Chloride	5.08	7.1465	988757	67884	
5	Bromide	7.40	0.0465	1676	95	
6	Nitrate	8.48	2.1041	662933	27686	
7	Sulfate	12.55	63.1621	6700200	204272	



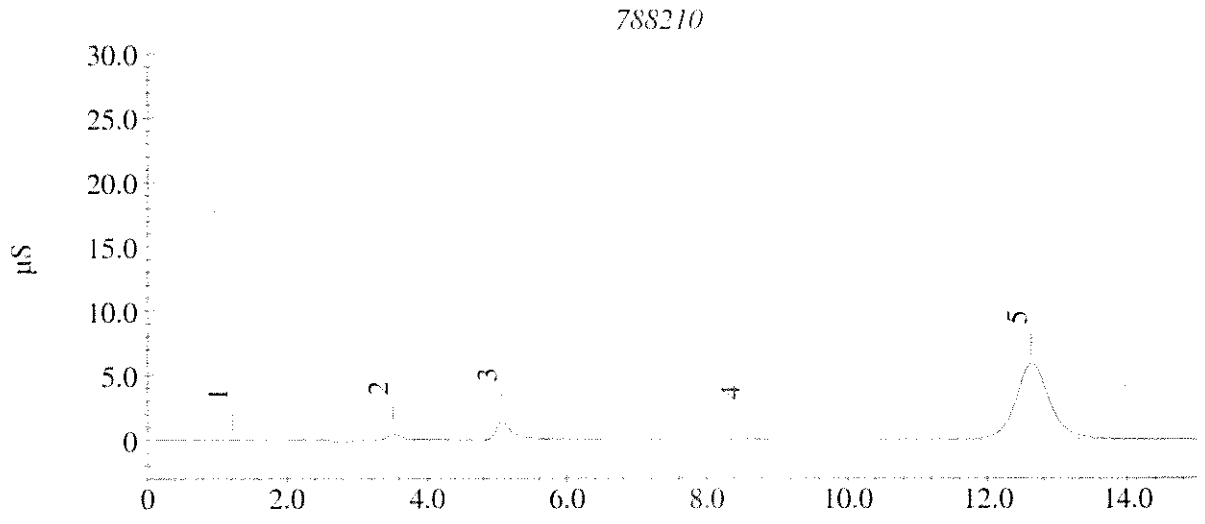
Sample Analysis Report

Sample Name : 788210
Data File Name : c:\instarch\data\system 2\101416-2\788210_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 15:44:54
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
2	Fluoride	3.50	0.4563	64271	4306	
3	Chloride	5.07	2.1428	246689	14596	
4	Nitrate	8.55	0.1709	25602	1086	
5	Sulfate	12.62	19.2987	1995068	58754	



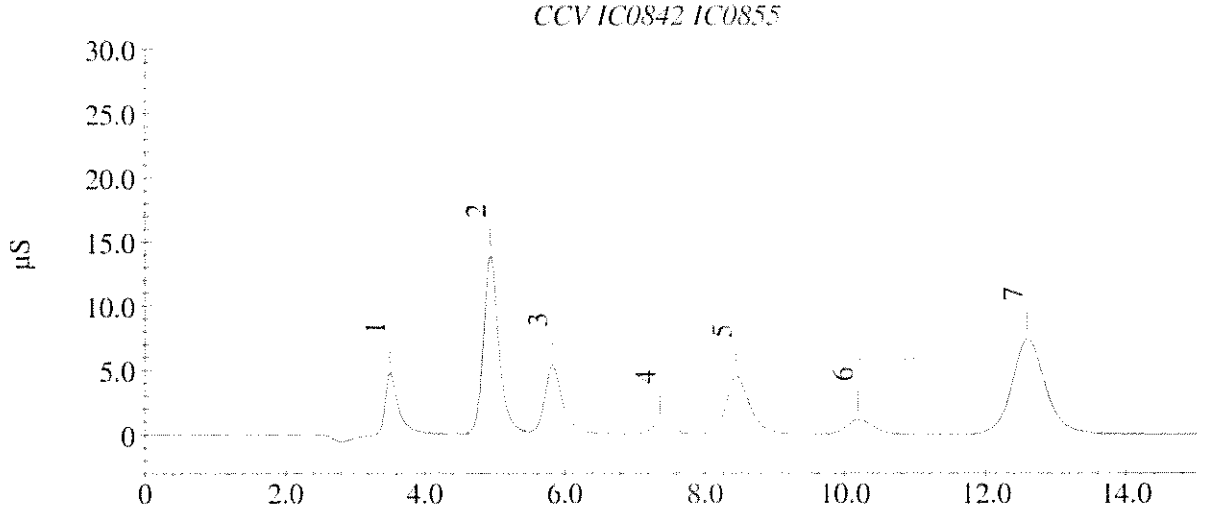
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101416-2\CCV IC0842 IC0855_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 16:36:40
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.3486	646330	47375	
2	Chloride	4.93	14.5124	2081141	137259	
3	Nitrite	5.82	3.4734	894363	51844	
4	Bromide	7.37	3.5894	176505	8958	
5	Nitrate	8.45	3.2679	1046636	44355	
6	O.Phos	10.18	3.3667	302519	11271	
7	Sulfate	12.58	24.0359	2503215	73937	



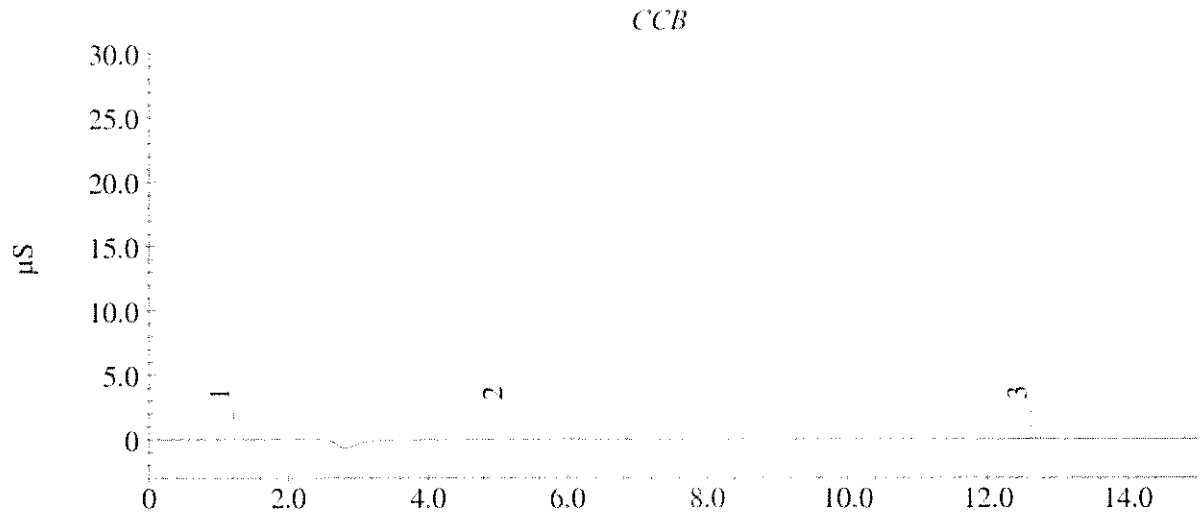
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101416-2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 16:53:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
2	Chloride	5.13	0.4877	1232	42	
3	Sulfate	12.62	0.8188	12760	411	



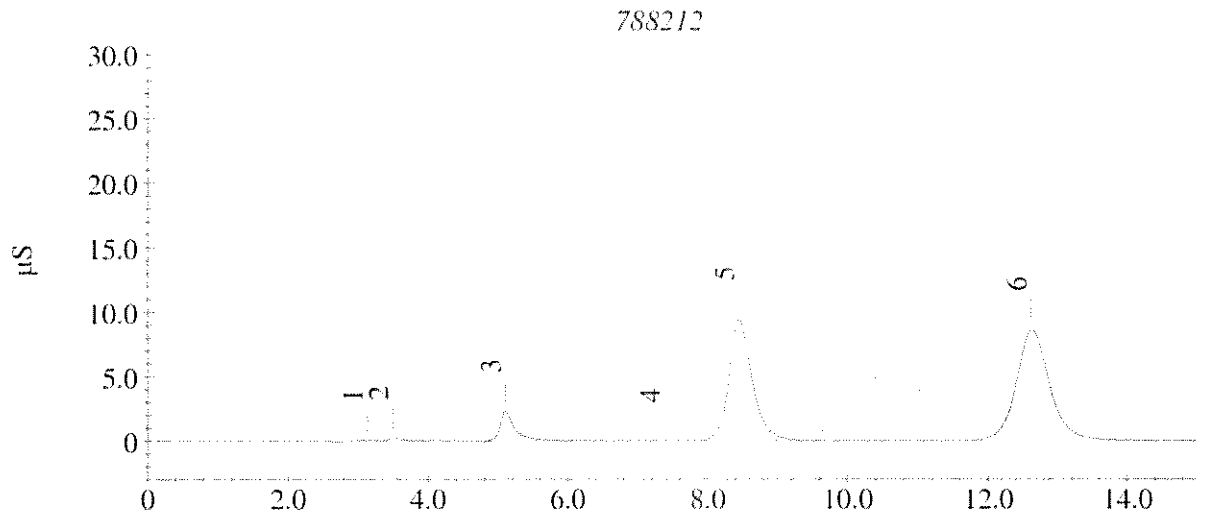
Sample Analysis Report

Sample Name : 788212
Data File Name : c:\instarch\data\system 2\101416-2\788212_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 17:11:10
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.2873	30280	2067	
3	Chloride	5.10	2.9846	371525	23122	
4	Bromide	7.38	0.0470	1700	106	
5	Nitrate	8.45	6.8517	2228151	94159	
6	Sulfate	12.62	27.8491	2912248	86202	



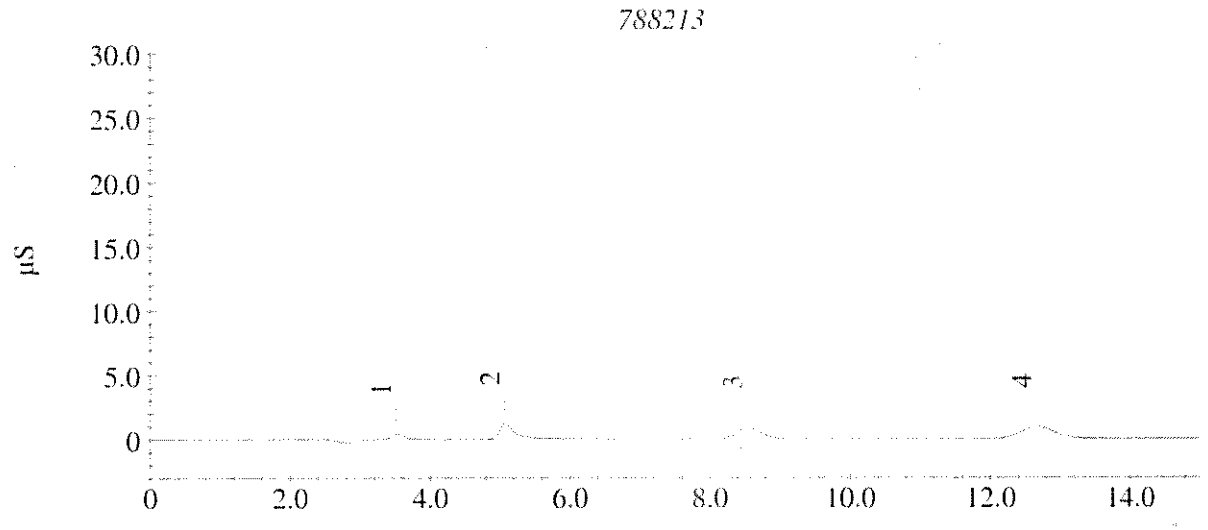
Sample Analysis Report

Sample Name : 788213
Data File Name : c:\instarch\data\system 2\101416-2\788213_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 17:28:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
1	Fluoride	3.50	0.4000	52958	3772	
2	Chloride	5.07	1.8568	204272	12030	
3	Nitrate	8.53	0.7250	208267	8641	
4	Sulfate	12.65	3.7813	330538	9482	



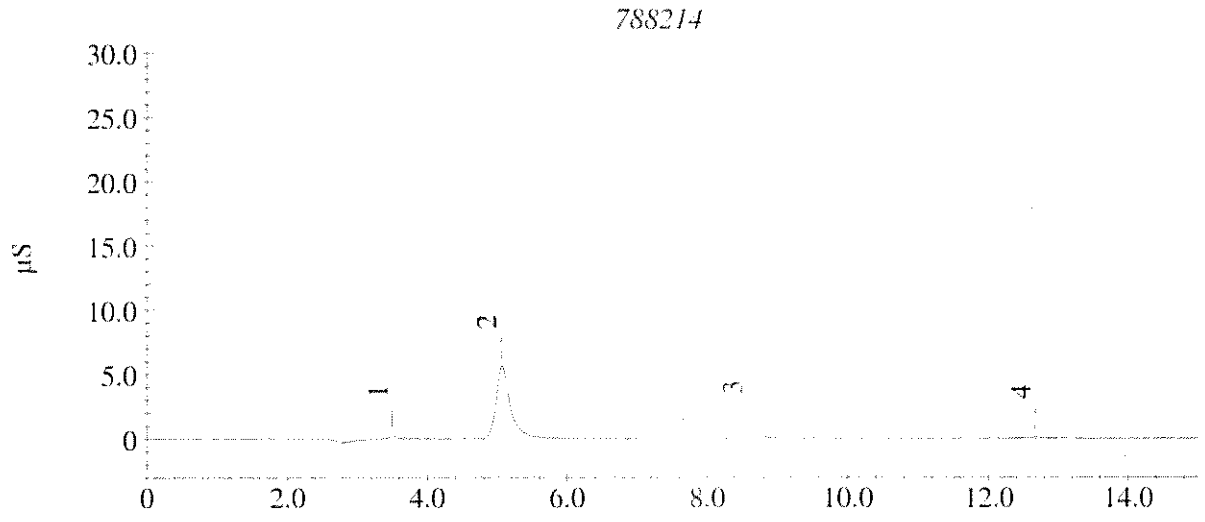
Sample Analysis Report

Sample Name : 788214
Data File Name : c:\instarch\data\system 2\101416-2\788214_018.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 17:45:40
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
1	Fluoride	3.50	0.2340	19536	1510	
2	Chloride	5.05	5.9879	816924	55187	
3	Nitrate	8.57	0.4022	101841	4235	
4	Sulfate	12.67	0.9876	30867	933	



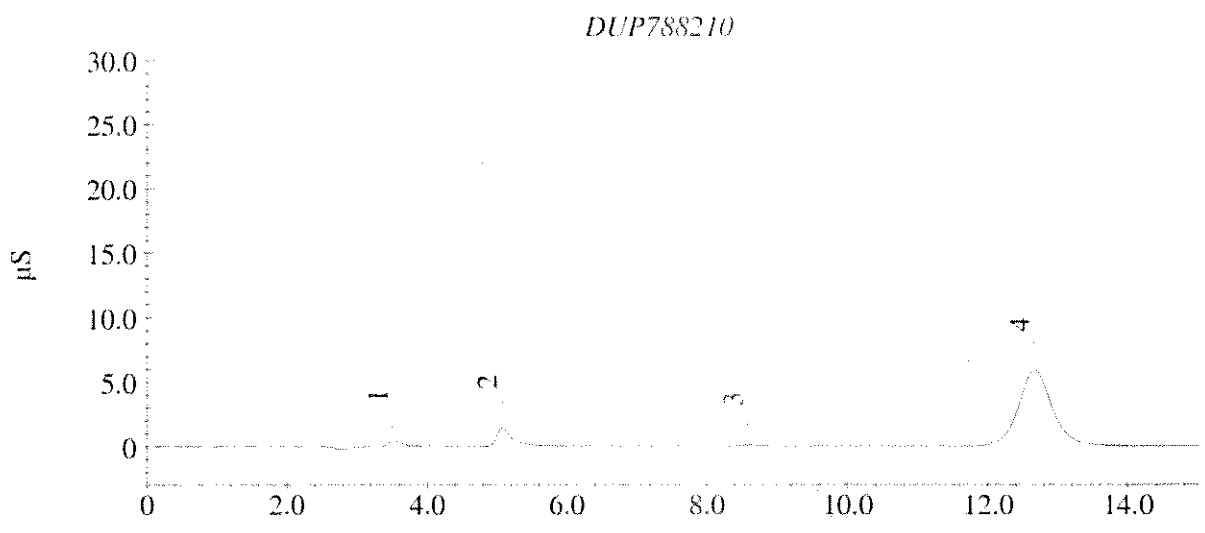
Sample Analysis Report

Sample Name : DUP788210
Data File Name : c:\instarch\data\system 2\101416-2\DUP788210_019.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 18:02:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Fluoride	3.50	0.4253	58051	4103	
2	Chloride	5.07	2.1091	241696	14565	
3	Nitrate	8.58	0.1633	23087	1001	
4	Sulfate	12.65	19.4495	2011234	58763	



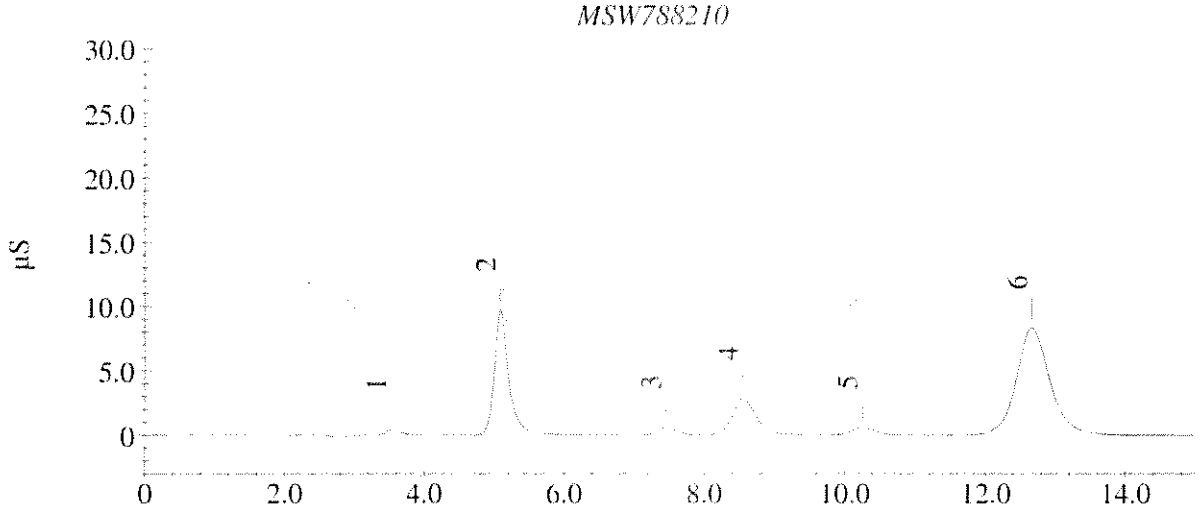
Sample Analysis Report

Sample Name : MSW788210
Data File Name : c:\instarch\data\system 2\101416-2\MSW788210 _020.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 18:20:11
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.52	0.4194	56852	4013	
2	Chloride	5.08	9.9298	1401526	96941	
3	Bromide	7.45	2.1620	106066	5306	
4	Nitrate	8.55	2.1078	664168	27948	
5	O.Phos	10.25	1.7033	135896	5317	
6	Sulfate	12.67	27.0944	2831290	83476	



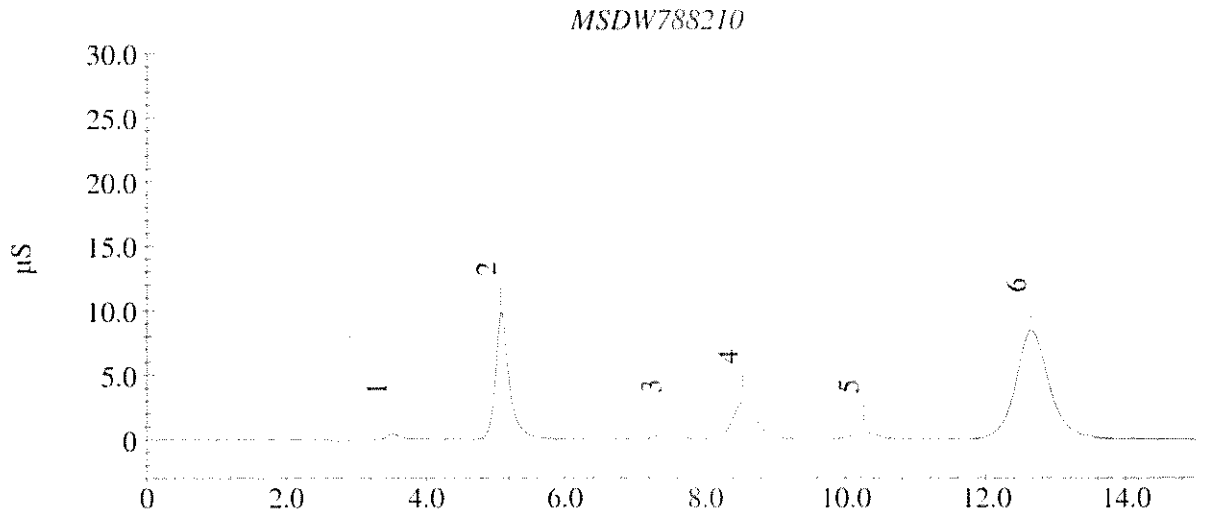
Sample Analysis Report

Sample Name : MSDW788210
Data File Name : c:\instarch\data\system 2\101416-2\MSDW788210_021.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 18:37:27
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.3962	52192	3844	
2	Chloride	5.07	9.9993	1411833	96392	
3	Bromide	7.43	2.1858	107241	5336	
4	Nitrate	8.53	2.1280	670824	28117	
5	O.Phos	10.25	1.7344	139011	5431	
6	Sulfate	12.63	27.1111	2833082	83851	



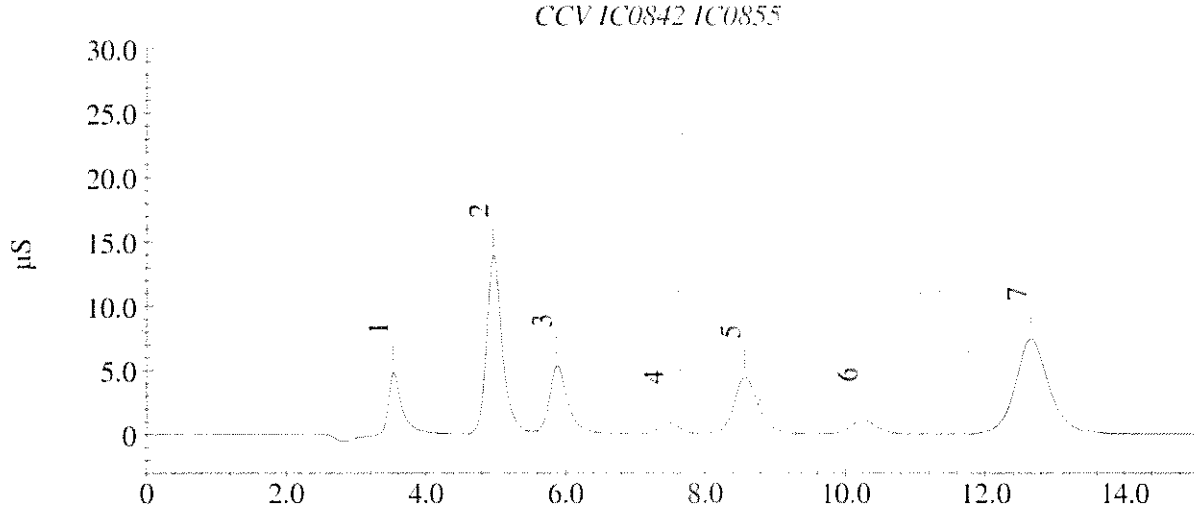
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101416-2\CCV IC0842 IC0855_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 20:03:43
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.52	3.3805	652753	47091	
2	Chloride	4.97	14.6648	2103746	137281	
3	Nitrite	5.87	3.4863	897790	51440	
4	Bromide	7.47	3.6489	179442	8945	
5	Nitrate	8.57	3.2814	1051089	44060	
6	O.Phos	10.23	3.2061	286440	10812	
7	Sulfate	12.65	24.2715	2528484	74169	



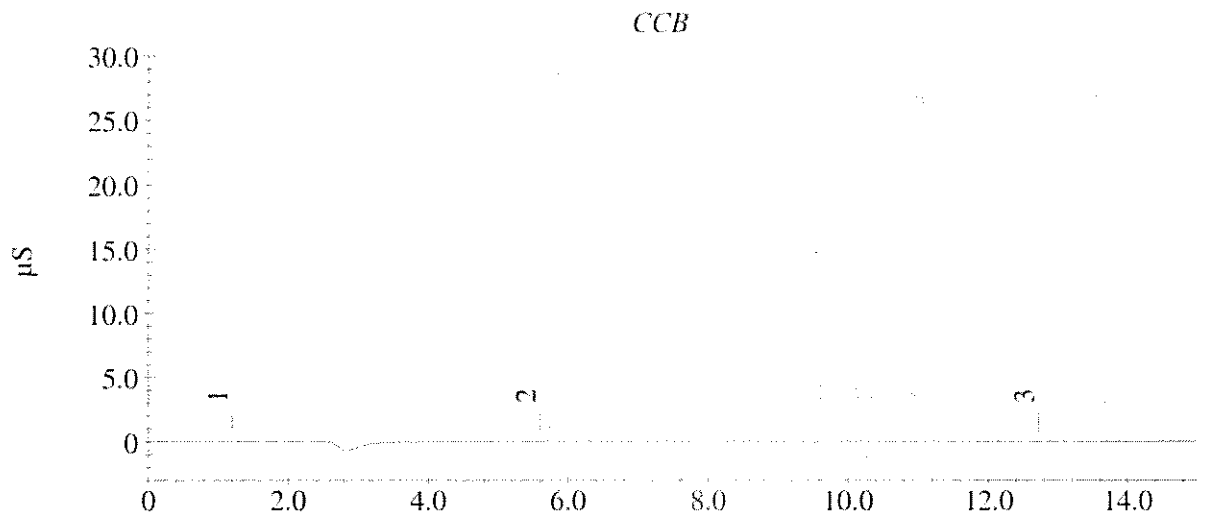
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101416-2\CCB_027.DXD

Method File Name : c:\instarch\methods\system 2\ic0864.met
Date Time Collected : 10/14/16 20:20:59
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	5.60	0.1089	2364	55	
3	Sulfate	12.72	0.7465	5008	162	



Schedule File: C:\INSTARCH\Sequences\System 2\101716-2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume
1	CCV IC0842 IC0855	Sample		ic0864a.met	ccv ic0842 ic0855_a001.dxd	1
2	LCSW IC0854 IC0834	Sample		ic0864a.met	lcsw ic0854 ic0834_002.dxd	1
3	MBW	Sample		ic0864a.met	mbw_003.dxd	1
9	788654	Sample		ic0864a.met	788654_009.dxd	1
10	788655X2	Sample		ic0864a.met	788655x2_010.dxd	1
11	788656	Sample		ic0864a.met	788656_011.dxd	1
12	788654X4	Sample		ic0864a.met	788654x4_012.dxd	1
13	DUP788656	Sample		ic0864a.met	dup788656_013.dxd	1
14	CCV IC0842 IC0855	Sample		ic0864a.met	ccv ic0842 ic0855_014.dxd	1
15	CCB	Sample		ic0864a.met	ccb_015.dxd	1
16	MSW788656	Sample		ic0864a.met	msw788656_016.dxd	1
17	MSDW788656	Sample		ic0864a.met	msdw788656_017.dxd	1
26	CCV IC0842 IC0855	Sample		ic0864a.met	ccv ic0842 ic0855_026.dxd	1
28	MBW CCB	Sample		ic0864a.met	mbw_028.dxd	1
51	CCV IC0842 IC0855	Sample		ic0864a.met	ccv ic0842 ic0855_051.dxd	1
52	CCB	Sample		ic0864a.met	ccb_052.dxd	1
57	788655	Sample		ic0864a.met	788655	1
63	CCV IC0842 IC0855	Sample		ic0864a.met	ccv ic0842 ic0855	1

Line	Sample	Sample Type	Level	Method	Data File	Volume
64	CCB	Sample		ic0864a.met	ccb	1

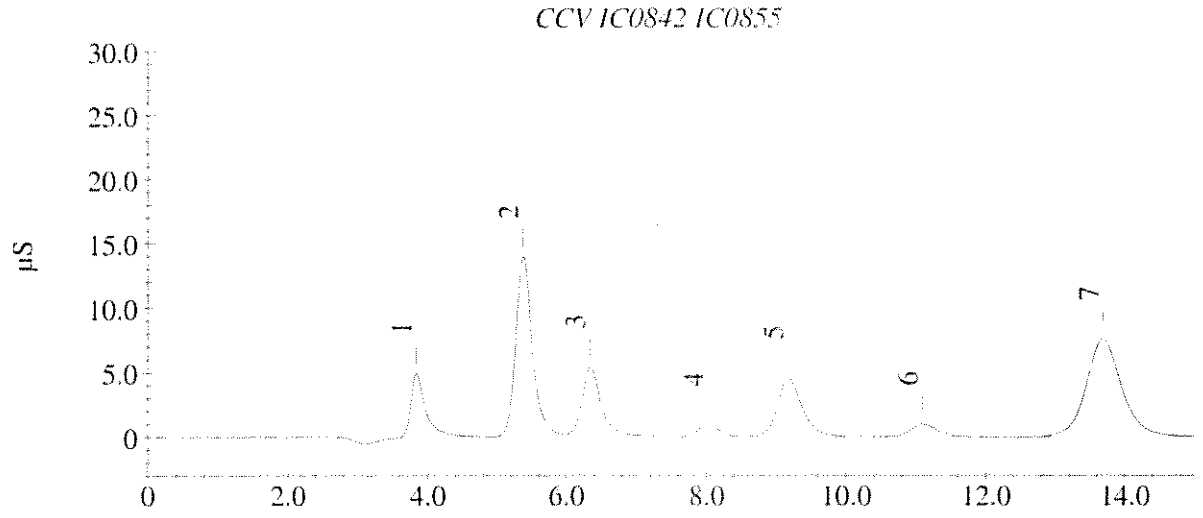
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101716-2\CCV IC0842 IC0855_A001.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 14:57:43
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Fluoride	3.83	3.4750	720167	48918	
2	Chloride	5.37	14.8659	2292292	137958	
3	Nitrite	6.33	3.5943	969326	52512	
4	Bromide	8.02	3.6769	194003	9265	
5	Nitrate	9.17	3.1919	1116406	45045	
6	O.Phos	11.08	3.2934	267322	9925	
7	Sulfate	13.68	23.9967	2696969	75763	



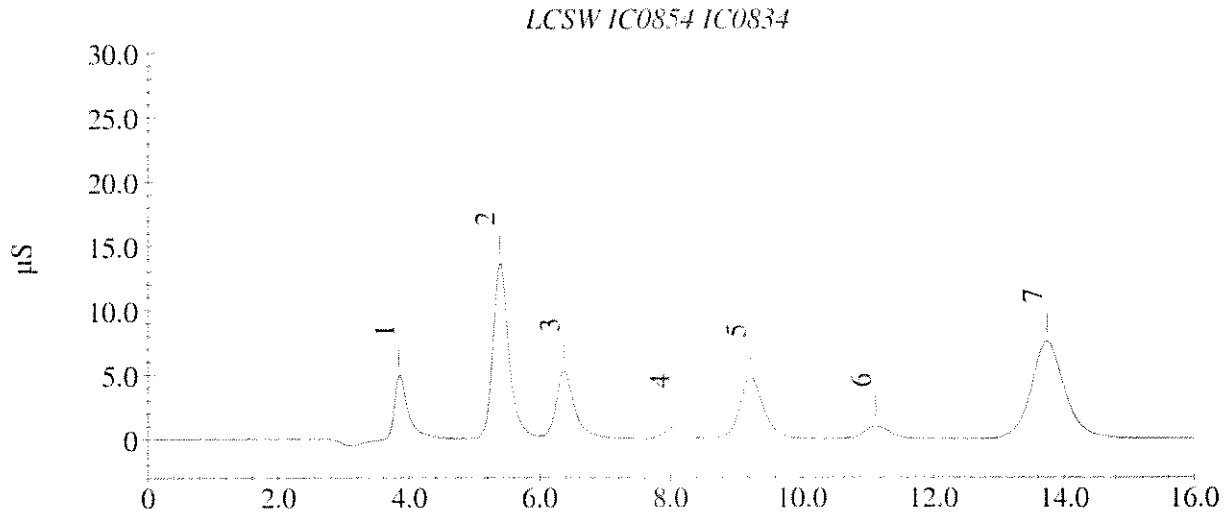
Sample Analysis Report

Sample Name : LCSW IC0854 IC0834
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101716-2\LCSW IC0854 IC0834_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 15:32:46
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeds
1	Fluoride	3.83	3.4824	721756	48308	
2	Chloride	5.38	14.4868	2231969	134245	
3	Nitrite	6.37	3.4816	937875	50825	
4	Bromide	8.05	3.6608	193155	9197	
5	Nitrate	9.22	3.3739	1182341	47733	
6	O.Phos	11.12	3.2450	262112	9732	
7	Sulfate	13.73	24.3204	2734255	75348	



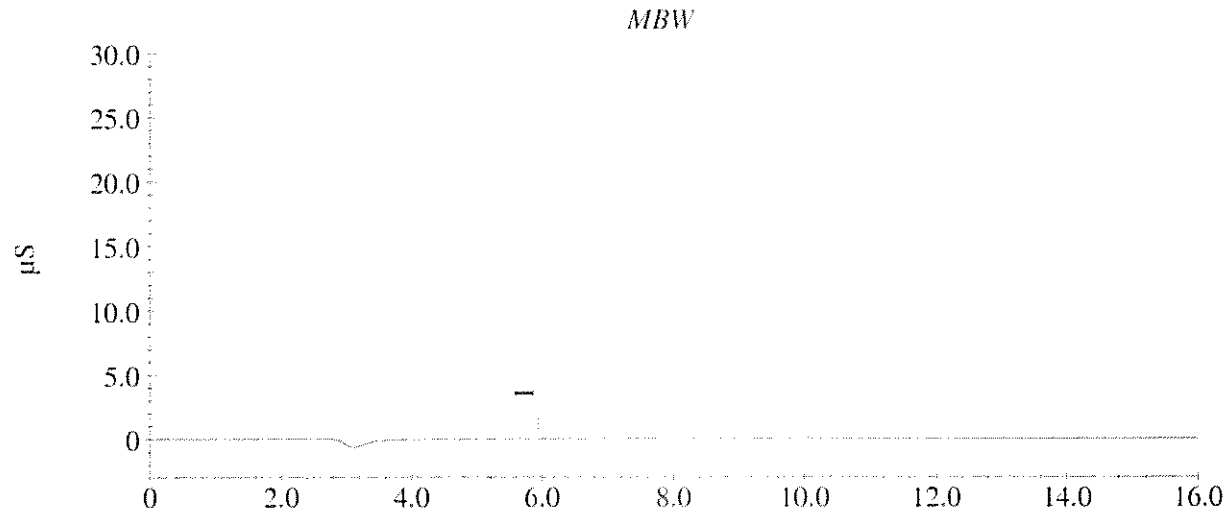
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\101716-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 16:05:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Nitrite	5.93	0.1256	1048	46	



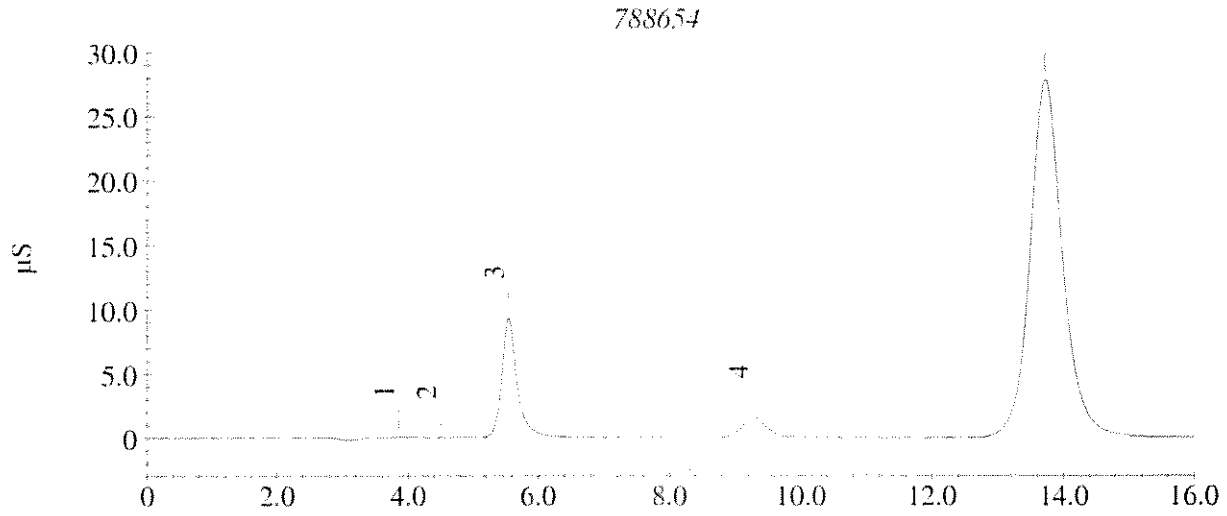
Sample Analysis Report

Sample Name : 788654
Data File Name : c:\instarch\data\system 2\101716-2\788654_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 17:55:01
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.85	0.1832	13512	1015	
3	Chloride	5.55	10.0466	1525329	93221	
4	Nitrate	9.28	1.2536	414276	16507	
5	Sulfate	13.70	84.9522	9718249	277269	+



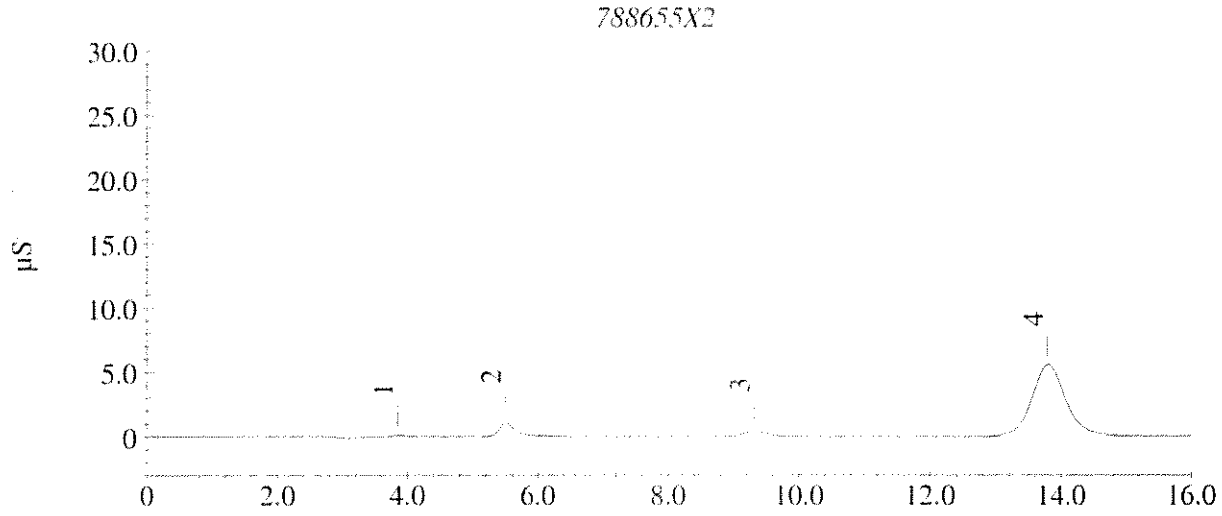
Sample Analysis Report

Sample Name : 788655X2
Data File Name : c:\instarch\data\system 2\101716-2\788655X2_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 18:13:13
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.85	0.2133	19985	1225	
2	Chloride	5.50	1.6784	193558	10813	
3	Nitrate	9.32	0.4079	107910	4364	
4	Sulfate	13.78	18.3287	2044083	55697	



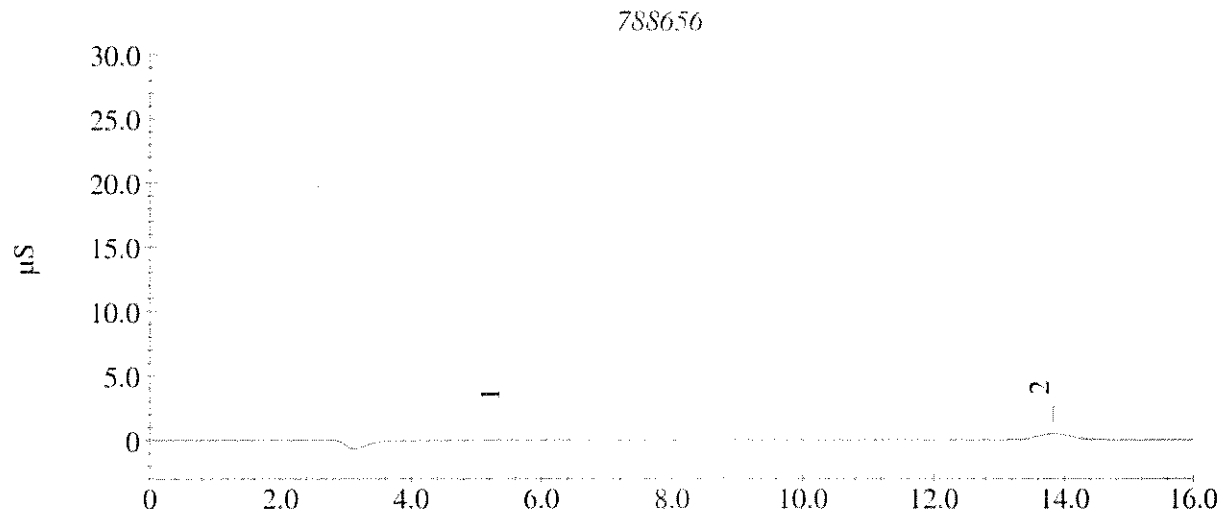
Sample Analysis Report

Sample Name : 788656
Data File Name : c:\instarch\data\system 2\101716-2\788656_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 18:31:31
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Chloride	5.43	0.4743	1927	131	
2	Sulfate	13.83	2.2626	193483	5071	



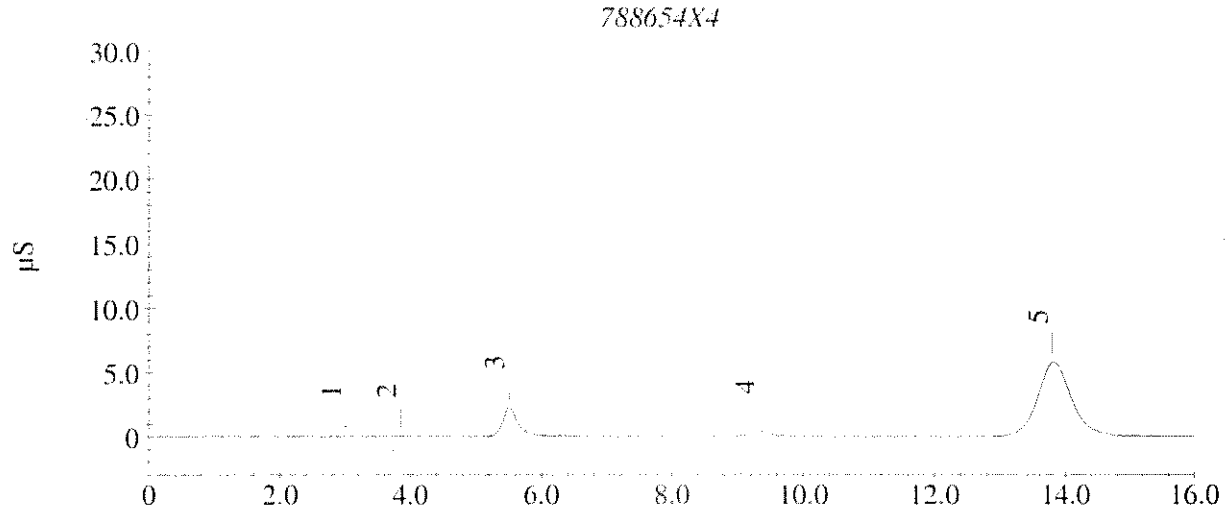
Sample Analysis Report

Sample Name : 788654X4
Data File Name : c:\instarch\data\system 2\101716-2\788654X4_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 18:49:49
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.85	0.1341	2973	239	
3	Chloride	5.50	2.8414	378651	22417	
4	Nitrate	9.33	0.3551	88797	3592	
5	Sulfate	13.80	19.0781	2130408	57885	



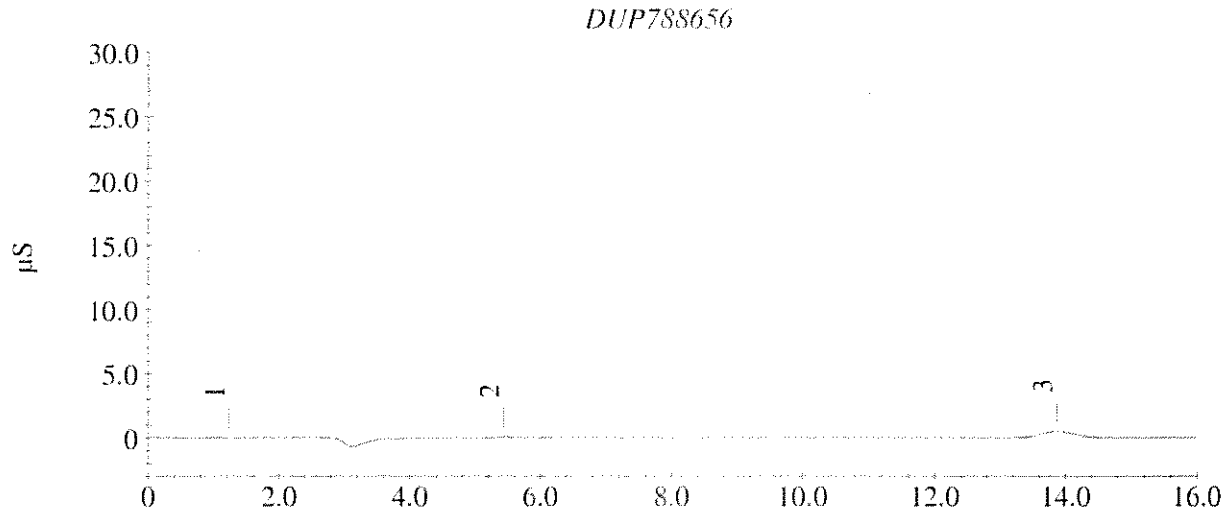
Sample Analysis Report

Sample Name : DUP788656
Data File Name : c:\instarch\data\system 2\101716-2\DUP788656_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 19:08:01
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.43	0.5416	12649	804	
3	Sulfate	13.87	2.2561	192725	5085	



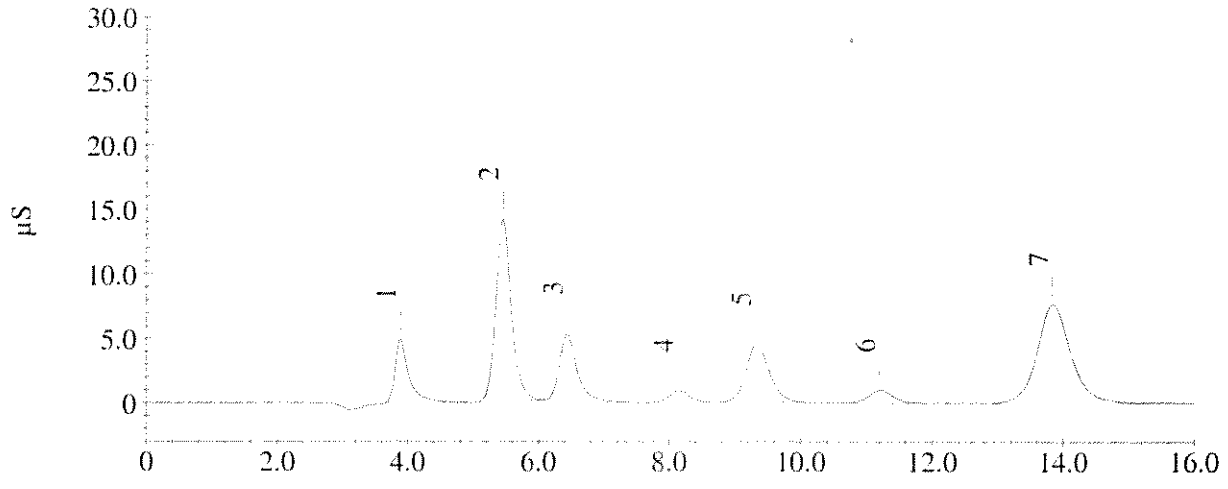
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101716-2\CCV IC0842 IC0855_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 19:26:13
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.88	3.5222	730300	49150	
2	Chloride	5.45	15.1483	2337244	140913	
3	Nitrite	6.43	3.5596	959660	51694	
4	Bromide	8.13	3.7771	199287	9319	
5	Nitrate	9.32	3.2358	1132304	45017	
6	O.Phos	11.20	3.2469	262316	9647	
7	Sulfate	13.83	24.8909	2799972	76657	



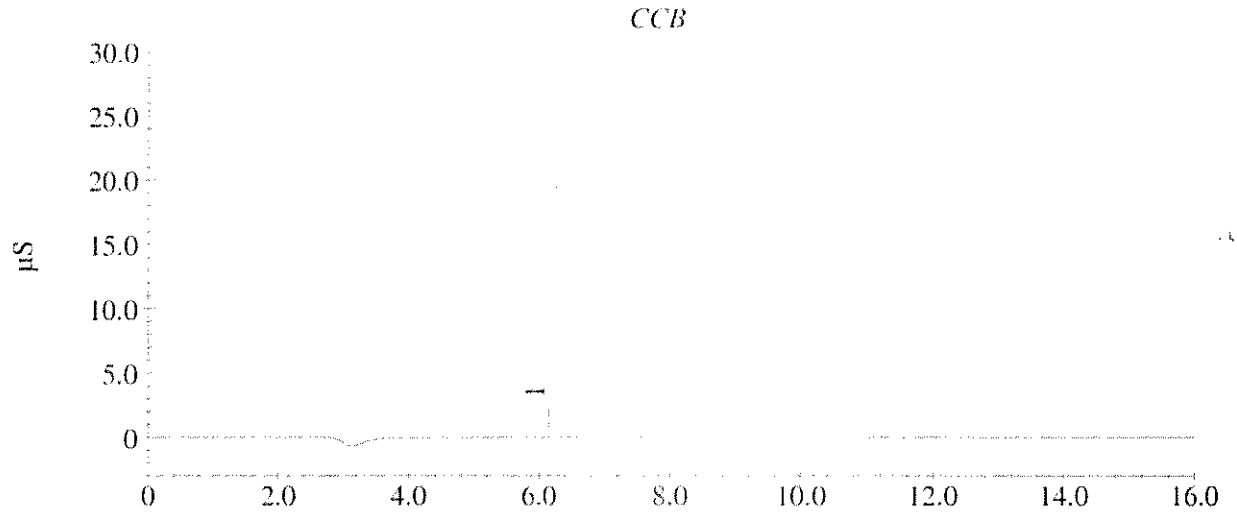
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101716-2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 19:44:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Nitrite	6.15	0.1369	4214	83	



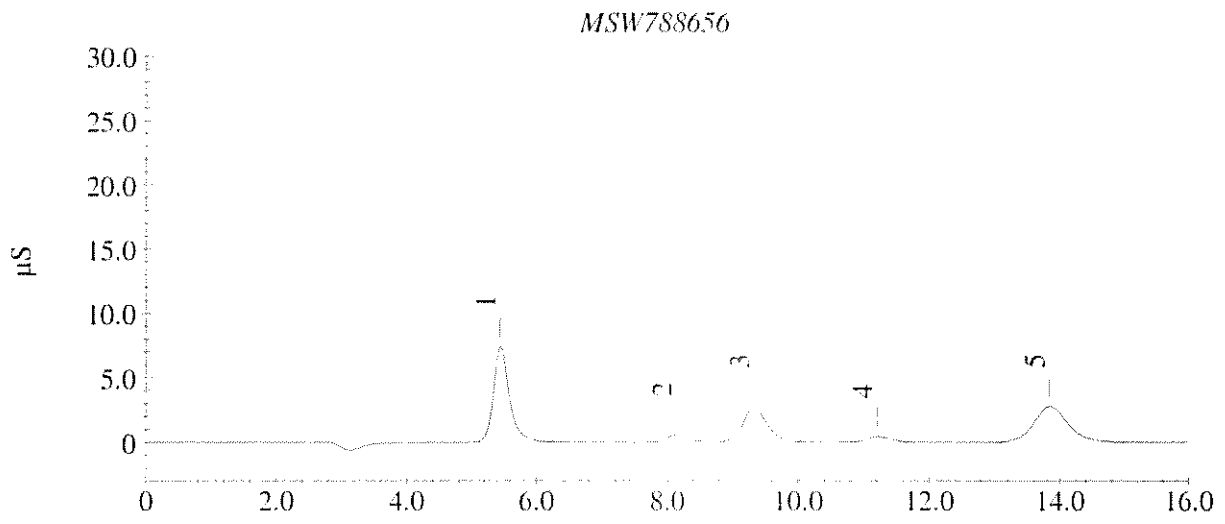
Sample Analysis Report

Sample Name : MSW788656
Data File Name : c:\instarch\data\system 2\101716-2\MSW788656_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 20:02:43
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Chloride	5.43	8.3390	1253562	73562	
2	Bromide	8.13	2.2383	118161	5452	
3	Nitrate	9.33	1.9879	680269	27093	
4	O.Phos	11.20	1.8347	110122	4210	
5	Sulfate	13.83	9.5781	1036127	27738	



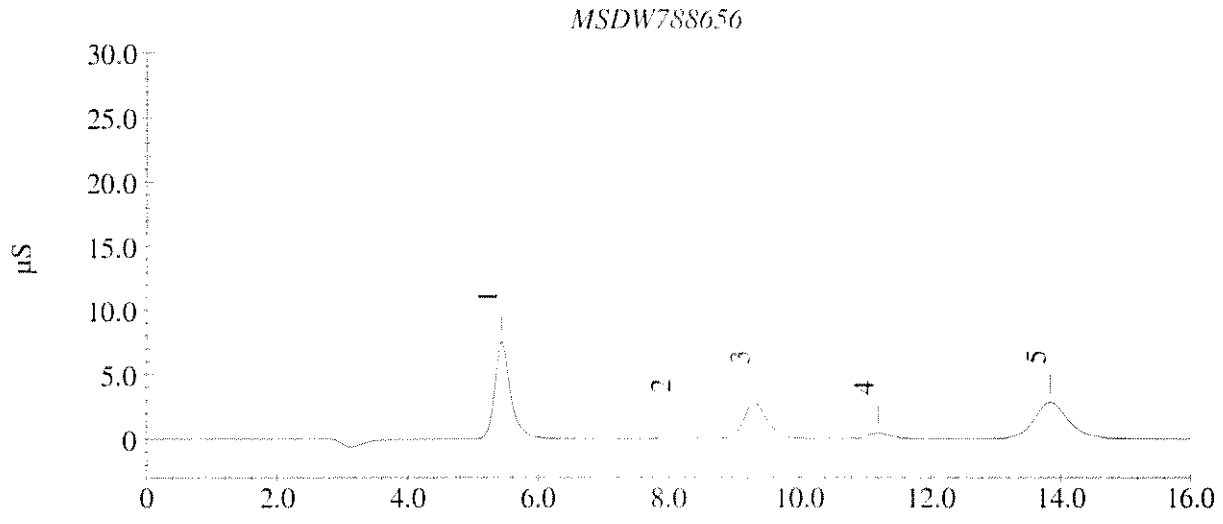
Sample Analysis Report

Sample Name : MSDW788656
Data File Name : c:\instarch\data\system 2\101716-2\MSDW788656_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 20:20:59
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Chloride	5.43	8.4462	1270625	74890	
2	Bromide	8.10	2.2610	119354	5506	
3	Nitrate	9.30	2.0086	687771	27496	
4	O.Phos	11.20	1.8404	110740	4275	
5	Sulfate	13.83	9.6581	1045342	28056	



Sample Analysis Report

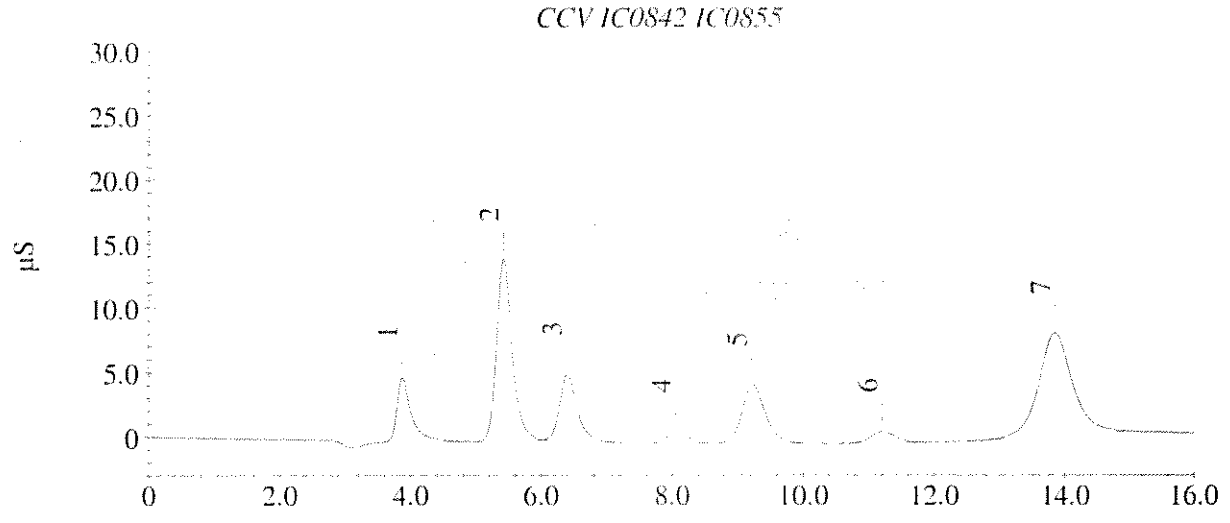
After 10/18/16 JJF

Sample Name : CCV IC0842 IC0855
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\101716-2\CCV IC0842 IC0855_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 23:05:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Fluoride	3.87	3.6660	761172	49602	
2	Chloride	5.42	15.1916	2344136	140454	
3	Nitrite	6.38	3.5031	943883	51238	
4	Bromide	8.05	3.7272	196654	9304	
5	Nitrate	9.22	3.1819	1112787	44977	
6	O.Phos	11.20	2.9832	233893	9053	
7	Sulfate	13.83	25.9939	2927018	79752	



10/20/16

Sample Analysis Report

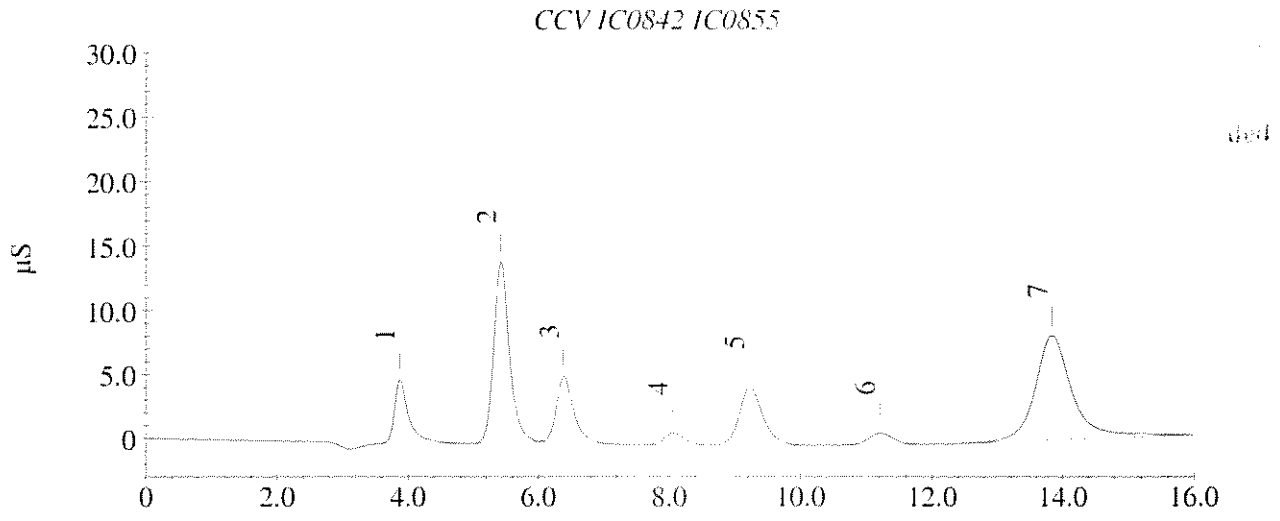
Before R#4
10/18/16 JJF

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101716-2\CCV IC0842 IC0855_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 23:05:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Fluoride	3.87	3.6660	761172	49602	
2	Chloride	5.42	15.1916	2344136	140454	
3	Nitrite	6.38	3.5031	943883	51238	
4	Bromide	8.05	3.7272	196654	9304	
5	Nitrate	9.22	3.1819	1112787	44977	
6	O.Phos	11.20	2.9832	233893	9053	
7	Sulfate	13.83	28.9182	3263860	81547	



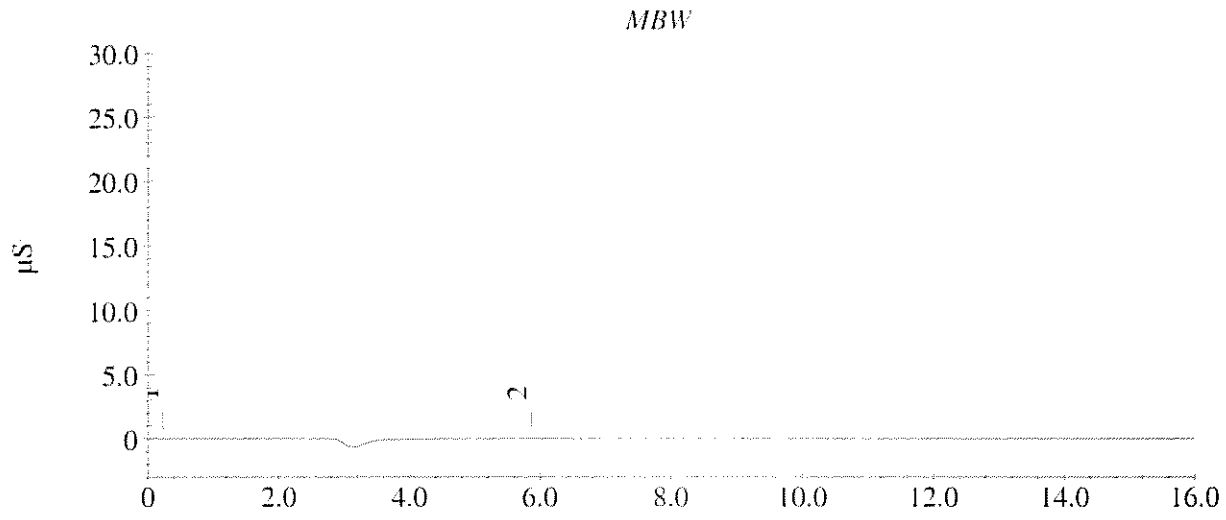
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\101716-2\MBW_028.DXD CCB

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/17/16 23:42:02
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



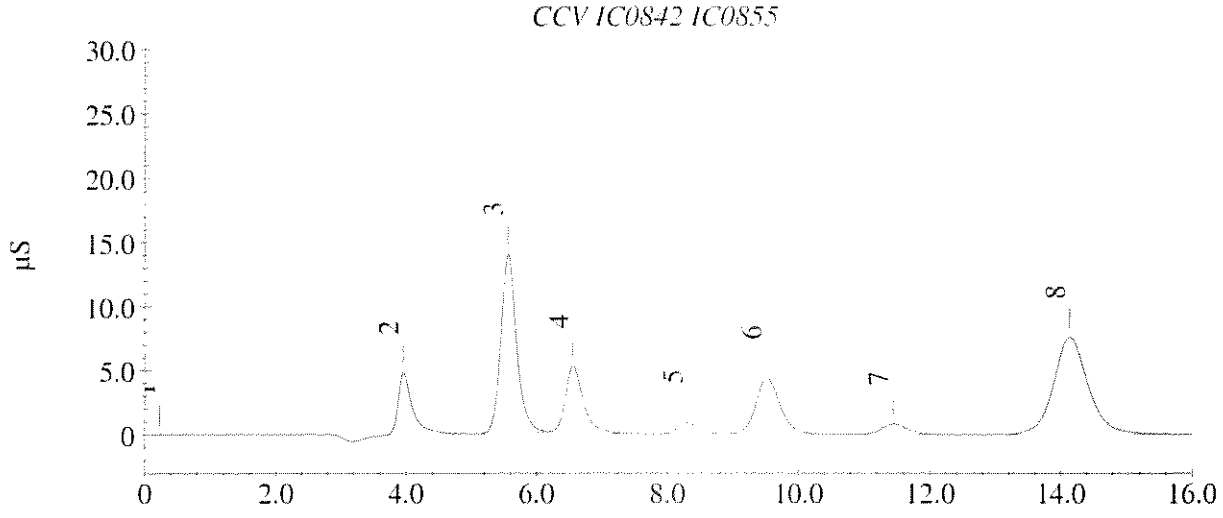
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101716-2\CCV IC0842 IC0855_051.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/18/16 06:42:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.95	3.5099	727662	47650	
3	Chloride	5.55	15.2951	2360602	139482	
4	Nitrite	6.55	3.6153	975190	51474	
5	Bromide	8.30	3.8408	202643	9271	
6	Nitrate	9.50	3.1915	1116249	43786	
7	O.Phos	11.43	2.8176	216045	8108	
8	Sulfate	14.13	24.9953	2811988	75761	



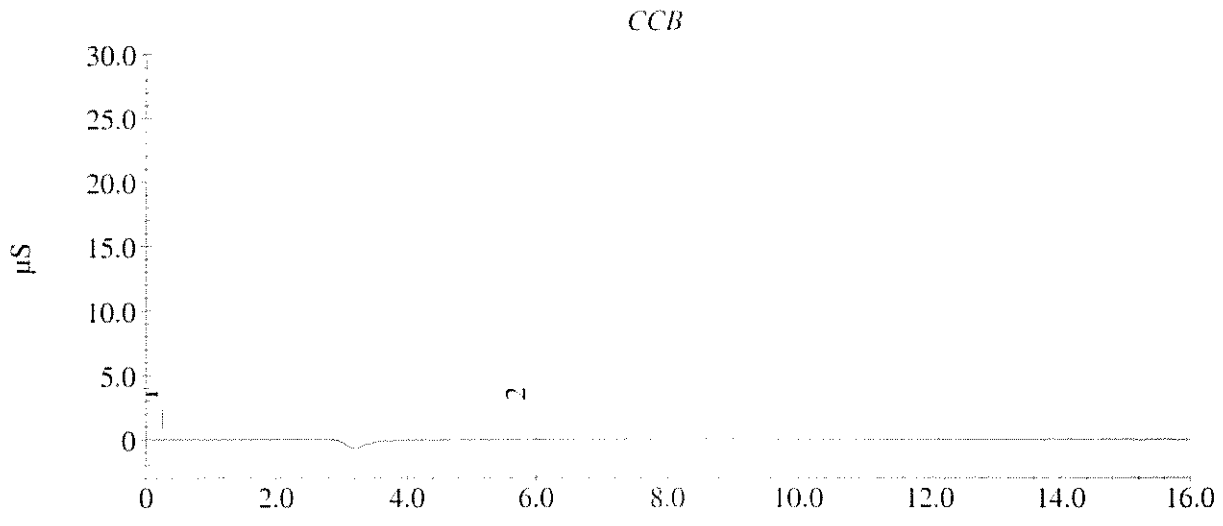
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101716-2\CCB_052.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/18/16 07:00:49
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Excee



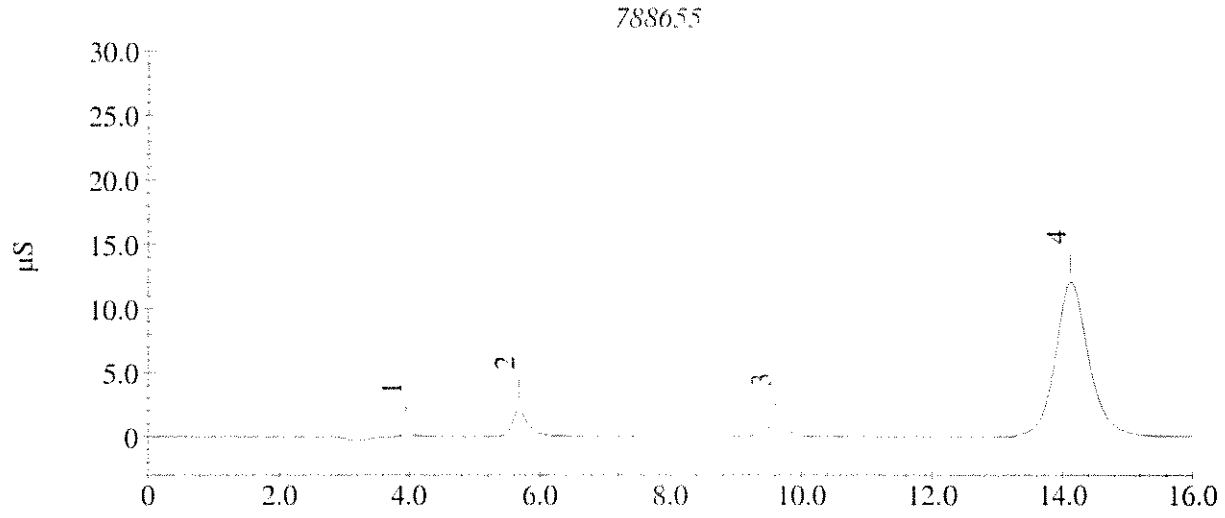
Sample Analysis Report

Sample Name : 788655
Data File Name : c:\instarch\data\system 2\101716-2\788655_057.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/18/16 08:32:05
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceede
1	Fluoride	3.95	0.2652	31122	2319	
2	Chloride	5.67	2.8127	374080	22085	
3	Nitrate	9.60	0.7222	221779	8811	
4	Sulfate	14.12	38.9246	4416462	120833	



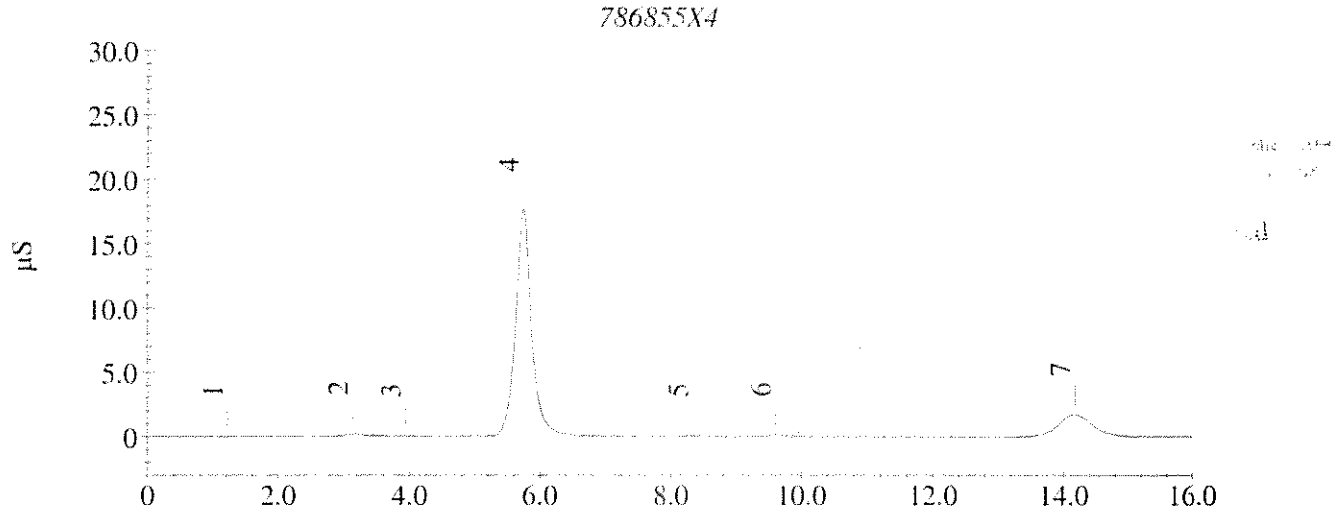
Sample Analysis Report

Sample Name : 786855X4
Data File Name : c:\instarch\data\system 2\101716-2\786855X4_058.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/18/16 08:50:17
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Chloride	5.73	19.6113	3047504	175701	
5	Bromide	8.33	0.2406	12842	605	
6	Nitrate	9.60	0.2065	34974	1507	
7	Sulfate	14.17	6.3054	659152	17348	



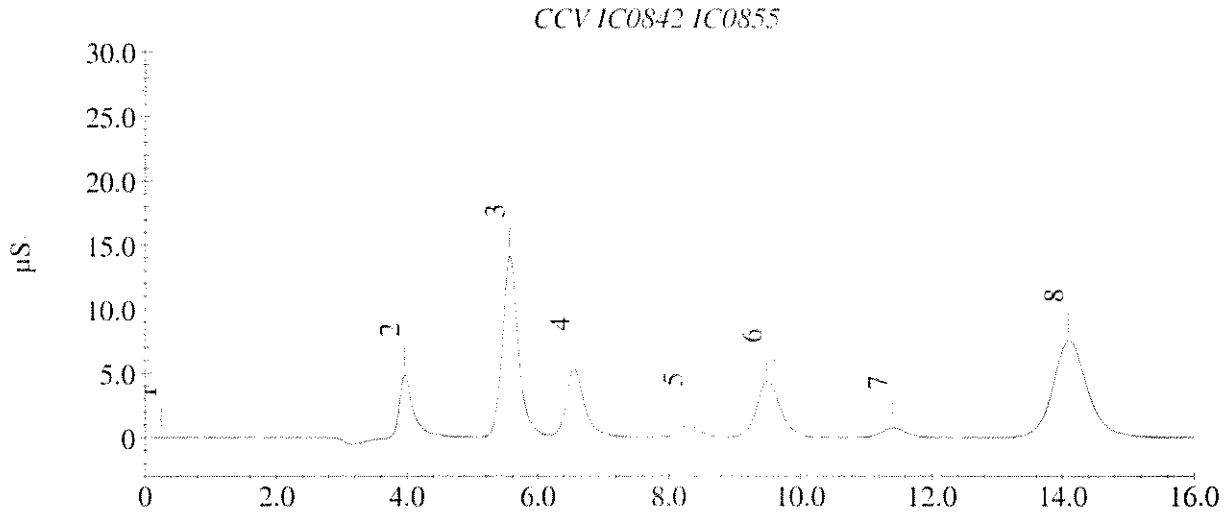
Sample Analysis Report

Sample Name : CCV IC0842 IC0855
Data File Name : c:\instarch\data\system 2\101716-2\CCV IC0842 IC0855_063.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/18/16 10:21:33
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.95	3.5114	727977	47768	
3	Chloride	5.55	15.2991	2361233	140008	
4	Nitrite	6.55	3.5997	970831	51576	
5	Bromide	8.28	3.8031	200658	9219	
6	Nitrate	9.48	3.1493	1100989	43466	
7	O.Phos	11.40	2.6711	200263	7530	
8	Sulfate	14.08	24.9812	2810372	75359	



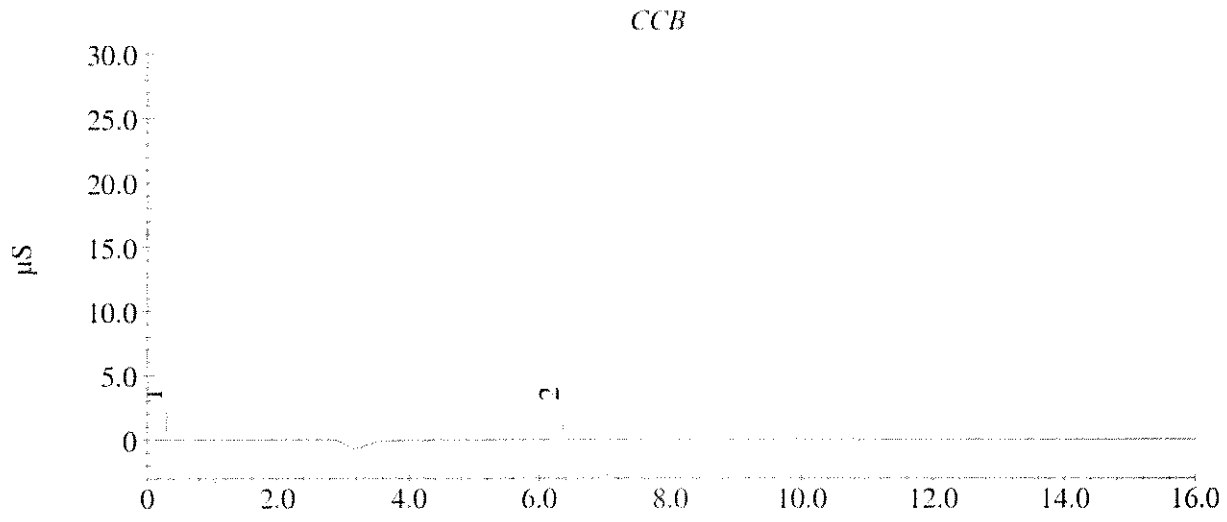
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\101716-2\CCB_064.DXD

Method File Name : c:\instarch\methods\system 2\ic0864a.met
Date Time Collected : 10/18/16 10:39:51
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Nitrite	6.37	0.1261	1204	36	



COD

131725 131726 131727

1
399.
2
394.
3
3.
4
466.
5
550.
6
545.
7
49.
8
92.
9
367.
10
16.
11
166.
12
183.
13
44.
14
397.
15
2.
16
67.
17
297.
18
434.
19
437.
20
313.
21
285.
22
430.
23
177.
24
110.
25
13.
26
401.
27
0.
28
14.
29
171.
30
171.
31
145.
32

131725 131726 131727

140.
33
283.
34
285.
35
395.
36
-1.

Form: FWC11-02
Rev #:1.0
Effective Date:06/17/16

Chemical Oxygen Demand (COD)

Analyst: SAW **Runs:** ############ **Date:** 10/24/2016

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1	1	**CCV**			399
2	2	**LCS**			394
3	3	**MBW**			3
4	4	788058	50		466
5	5	MSW788058	50		550
6	6	MSDW788058	50		545
7	7	788059	2000		49
8	8	788060	200		92
9	9	788061	100		367
10	10	788250			16
11	11	MSW788250			166
12	12	MSDW788250			183
13	13	788253			44
1	14	**CCV**			397
3	15	**CCB**			2
14	16	788254			67
15	17	788578			297
16	18	MSW788578			434
17	19	MSDW788578			437
18	20	788583			313
19	21	792352	200		285
20	22	792353	100		430
21	23	792354	200		177
22	24	787719			110
23	25	788657			131 spw 10/24/16
1	26	**CCV**			401
3	27	**CCB**			0

Form: FWC11-02
Rev #:1.0
Effective Date:06/17/16

Chemical Oxygen Demand (COD)

Analyst: _____ **Runs:** _____ **Date:** _____

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
24	28	DUP788657			14
25	29	MSW788657			171
26	30	MSDW788657			171
27	31	790332			145
28	32	DUP790332			140
29	33	MSW790332			283
30	34	MSDW790332			285
31					
32					
33					
1	35	**CCV**			395
3	36	**CCB**			-1
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
1		**CCV**			
3		**CCB**			
44					
45					
46					

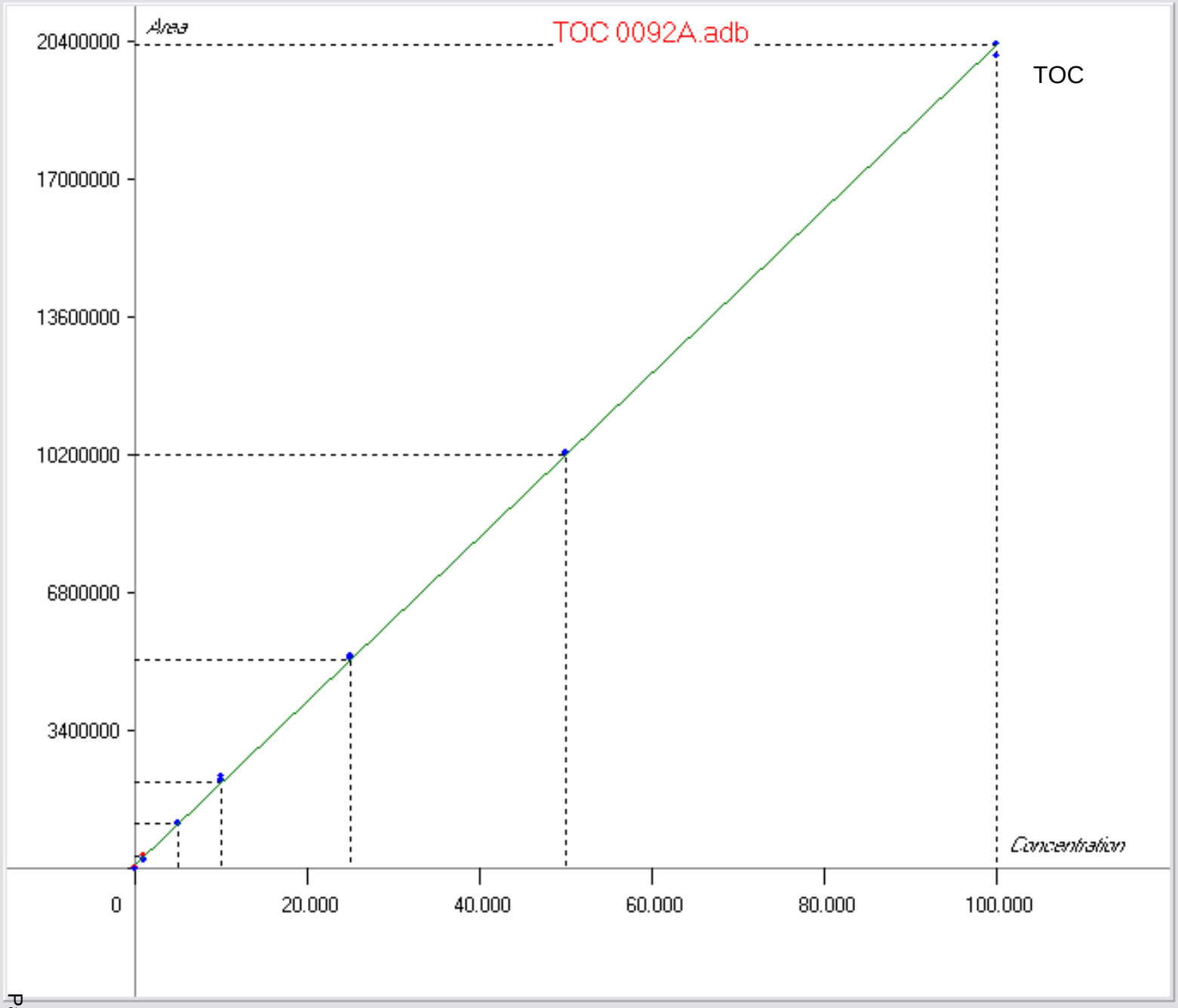
pH Bench Sheet

Date: 10/18/2016 Analyst: SAW

Instrument: *Mettler Toledo Seven Easy* LIMS#: 131510

Time: 1652 Slope (%): 99%

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	787719	GW	7.64	11.4	
2	788657	GW	7.77	11.3	
3	DUP788657	GW	7.77	10.5	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					



Cursor Position

Concentration	Area
83.600 mg/l	-3060000

A2	0
A1	202300
A0	123265
Correlation	0.99991
Order	1
Volume	100 µl
Conc.	100.00
Area	20385142

☐ Confidence Intervals 95%

☐ Detection/Determination 95%

Conc.	Area	Sel.
0	67055	☐
0	6502	☑
0	15479	☑
0	13498	☑
0	10812	☑
1	355611	☐
1	256541	☑
1	249342	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

05/05/2016

Analysis Name TOC 0092A.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator JJF

Date Monday, May 2, 2016
Time 15:47

Start Oven Temp. 756 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092
ICV TOC0089

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**74051**	**84.37**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 15:58:37	2.80	689752	1	761	2	-	-
2	5 2 2016 16:02:41	0.00	0	0	761	2	-	Yes
3	5 2 2016 16:06:43	ZERO !	121725	1	762	2	-	Yes
4	5 2 2016 16:09:13	0.03	129696	1	761	2	-	Yes
5	5 2 2016 16:13:04	ZERO !	44784	1	762	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**20752**	**59.27**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:16:34	ZERO !	36830	1	762	2	-	Yes
2	5 2 2016 16:17:40	ZERO !	73204	1	763	2	-	-
3	5 2 2016 16:19:56	ZERO !	23805	1	760	2	-	Yes
4	5 2 2016 16:22:45	ZERO !	9954	1	761	2	-	Yes
5	5 2 2016 16:25:39	ZERO !	12421	1	762	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S1	Standard	TC Std 0.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**11572**	**33.56**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:29:33	ZERO !	67055	1	762	2	-	-
2	5 2 2016 16:32:56	ZERO !	6502	1	761	2	-	Yes
3	5 2 2016 16:36:03	ZERO !	15479	1	761	2	-	Yes
4	5 2 2016 16:39:01	ZERO !	13498	1	761	2	-	Yes
5	5 2 2016 16:41:59	ZERO !	10812	1	761	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S2	Standard	TC Std 1.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.68**	**261045**	**4.26**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:45:43	1.15	355611	1	761	2	-	-
2	5 2 2016 16:48:46	0.66	256541	1	760	2	-	Yes
3	5 2 2016 16:51:01	0.62	249342	1	759	2	-	Yes
4	5 2 2016 16:53:17	0.69	262751	1	758	2	-	Yes
5	5 2 2016 16:55:31	0.75	275546	1	758	2	-	Yes

5 S3 Standard TC Std. 5.00 mg/l 1 x

TC **5.05** **1145745** **1.97** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:58:52	5.18	1171891	1	759	2	-	Yes
2	5 2 2016 17:02:02	4.95	1125467	1	758	2	-	Yes
3	5 2 2016 17:04:49	4.97	1128514	1	758	2	-	Yes
4	5 2 2016 17:07:40	5.11	1157109	1	758	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

TC **10.47** **2240681** **2.39** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:11:19	10.86	2320542	1	758	2	-	Yes
2	5 2 2016 17:14:55	10.31	2208918	1	758	2	-	Yes
3	5 2 2016 17:17:46	10.38	2223049	1	757	2	-	Yes
4	5 2 2016 17:20:40	10.32	2210215	1	757	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

TC **25.34** **5250145** **0.93** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:24:28	25.63	5308682	1	757	2	-	Yes
2	5 2 2016 17:28:13	25.23	5227580	1	757	2	-	Yes
3	5 2 2016 17:31:18	25.43	5267780	1	757	2	-	Yes
4	5 2 2016 17:34:22	25.08	5196538	1	757	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

TC **50.28** **10294470** **0.15** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:38:19	50.21	10279869	1	756	2	-	Yes
2	5 2 2016 17:42:17	50.36	10310763	1	756	2	-	Yes
3	5 2 2016 17:45:32	50.22	10281823	1	756	2	-	Yes
4	5 2 2016 17:48:42	50.33	10305425	1	756	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

TC **99.73** **20298418** **0.77** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:52:45	100.02	20357592	1	756	2	-	Yes
2	5 2 2016 17:56:37	98.58	20066104	1	756	2	-	Yes
3	5 2 2016 17:59:45	100.16	20385142	1	755	2	-	Yes
4	5 2 2016 18:02:41	100.16	20384837	1	755	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

TC **51.21** **10483878** **0.72** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:07:08	51.67	10575523	1	755	2	-	Yes
2	5 2 2016 18:10:58	50.76	10392416	1	755	2	-	Yes
3	5 2 2016 18:14:12	51.17	10474795	1	755	2	-	Yes
4	5 2 2016 18:17:32	51.26	10492781	1	754	2	-	Yes

11 S9 Unknown ICB 1 x

TC **0.29** **182348** **2.43** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:21:43	0.70	264811	1	755	2	-	-
2	5 2 2016 18:24:53	0.32	187637	1	753	2	-	Yes
3	5 2 2016 18:27:13	0.26	176792	1	753	2	-	Yes
4	5 2 2016 18:29:34	0.29	182491	1	753	2	-	Yes
5	5 2 2016 18:31:58	0.29	182473	1	753	2	-	Yes

Analysis Name 102416 -131620 131621.adb

Template Name 102116 - 131620 131621.tdb
Method Name INSTRUMENT - TOCW.mt
Operator JJF

Date Monday, October 24, 2016
Time 12:42

Start Oven Temp. 756 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL 0092A SPIKE TOC0086
CCV TOC0137
LCSW TOC0138

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order 1 | Position 3 | Type Unknown | Identification BLANK | Dilution Factor 1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 12:53:00	8.41	1825586	1	768	2	-	-
2	10 24 2016 12:57:06	0	0	0	769	2	-	Yes
3	10 24 2016 13:01:08	0	0	0	769	2	-	Yes
4	10 24 2016 13:05:09	0	0	0	770	2	-	Yes
5	10 24 2016 13:09:10	0	0	0	770	2	-	Yes

---

2 | S1 | Unknown | CCV | 1 x

TC	**51.96**	**10635064**	**1.18**	**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 13:14:02	51.69	10580790	1	770	2	-	Yes
2	10 24 2016 13:18:06	51.24	10489524	1	769	2	-	Yes
3	10 24 2016 13:21:18	52.65	10775133	1	769	2	-	Yes
4	10 24 2016 13:24:33	52.26	10694810	1	769	2	-	Yes

---

3 | S5 | Unknown | LCSW | 1 x

TC	**48.47**	**9929094**	**0.80**	**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 13:28:37	49.02	10040050	1	769	2	-	Yes
2	10 24 2016 13:32:32	48.49	9933251	1	769	2	-	Yes
3	10 24 2016 13:35:45	48.21	9876962	1	769	2	-	Yes
4	10 24 2016 13:39:10	48.16	9866113	1	768	2	-	Yes

---

4 | S7 | Unknown | MBW | 1 x

TC	**0.00**	**0**	**0.00**	**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 13:43:13	0.02	126330	1	767	2	-	-
2	10 24 2016 13:46:28	0	0	0	766	2	-	Yes
3	10 24 2016 13:50:29	0	0	0	766	2	-	Yes
4	10 24 2016 13:54:32	0	0	0	764	2	-	Yes
5	10 24 2016 13:58:33	0	0	0	764	2	-	Yes

5 4 Unknown 787265 1 x

TC **0.20** **164842** **11.31** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 14:03:25	0.87	298958	1	763	2	-	-
2	10 24 2016 14:06:46	0.08	139252	1	762	2	-	Yes
3	10 24 2016 14:09:09	0.30	184016	1	761	2	-	Yes
4	10 24 2016 14:11:40	0.22	168199	1	760	2	-	Yes
5	10 24 2016 14:14:03	0.22	167902	1	760	2	-	Yes

---

6 5 Unknown 787283 1 x

TC **0.99** **324737** **2.73** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 14:17:15	1.55	436328	1	760	2	-	-
2	10 24 2016 14:20:31	0.97	319642	1	759	2	-	Yes
3	10 24 2016 14:23:10	1.05	335502	1	759	2	-	Yes
4	10 24 2016 14:25:44	1.01	328149	1	759	2	-	Yes
5	10 24 2016 14:28:14	0.95	315657	1	758	2	-	Yes

---

7 6 Unknown DUP787283 1 x

TC **0.95** **315404** **1.19** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 14:31:33	1.54	435514	1	758	2	-	-
2	10 24 2016 14:34:48	0.96	317004	1	758	2	-	Yes
3	10 24 2016 14:37:14	0.93	311945	1	758	2	-	Yes
4	10 24 2016 14:39:44	0.97	319964	1	758	2	-	Yes
5	10 24 2016 14:42:10	0.94	312703	1	757	2	-	Yes

---

8 7 Unknown MSW787283 1 x

TC **48.55** **9944383** **1.45** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 14:45:29	49.09	10053316	1	757	2	-	Yes
2	10 24 2016 14:49:12	48.43	9919812	1	757	2	-	Yes
3	10 24 2016 14:52:15	47.59	9750384	1	757	2	-	Yes
4	10 24 2016 14:55:20	49.09	10054020	1	757	2	-	Yes

---

9 8 Unknown MSDW787283 1 x

TC **49.15** **10065604** **1.71** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 14:59:17	50.08	10254024	1	756	2	-	Yes
2	10 24 2016 15:03:02	48.03	9840204	1	755	2	-	Yes
3	10 24 2016 15:06:08	49.08	10051926	1	754	2	-	Yes
4	10 24 2016 15:09:14	49.40	10116265	1	754	2	-	Yes

---

10 9 Unknown 787715 1 x

TC **0.37** **198203** **2.64** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 15:13:10	0.78	281705	1	755	2	-	-
2	10 24 2016 15:16:29	0.38	201143	1	754	2	-	Yes
3	10 24 2016 15:18:58	0.38	199424	1	753	2	-	Yes
4	10 24 2016 15:21:25	0.39	201762	1	752	2	-	Yes
5	10 24 2016 15:23:49	0.33	190485	1	752	2	-	Yes

---

11 10 Unknown 787716 1 x

TC **0.20** **163901** **9.60** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 15:27:06	0.71	267196	1	752	2	-	-
2	10 24 2016 15:30:15	0.14	152459	1	752	2	-	Yes
3	10 24 2016 15:32:41	0.15	154127	1	751	2	-	Yes
4	10 24 2016 15:35:06	0.19	162429	1	751	2	-	Yes
5	10 24 2016 15:37:28	0.31	186589	1	751	2	-	Yes

---

12 11 Unknown 787717 1 x

TC **0.55** **235306** **2.96** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1	10 24 2016 15:40:41	0.97	319515	1	752	2	-	-
2	10 24 2016 15:43:49	0.50	225138	1	751	2	-	Yes
3	10 24 2016 15:46:11	0.57	238530	1	751	2	-	Yes
4	10 24 2016 15:48:35	0.58	240780	1	751	2	-	Yes
5	10 24 2016 15:50:58	0.56	236778	1	751	2	-	Yes

---

13 12 Unknown 787718 1 x

TC **ZERO !** **105736** **17.96** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 15:54:15	0.32	188179	1	752	2	-	-
2	10 24 2016 15:57:23	0.03	129843	1	752	2	-	Yes
3	10 24 2016 15:59:44	ZERO !	86014	1	751	2	-	Yes
4	10 24 2016 16:02:01	ZERO !	110691	1	751	2	-	Yes
5	10 24 2016 16:04:17	ZERO !	96398	1	751	2	-	Yes

---

14 13 Unknown 787720 1 x

TC **0.25** **173203** **2.44** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 16:07:25	0.86	296355	1	752	2	-	-
2	10 24 2016 16:10:38	0.22	166890	1	752	2	-	Yes
3	10 24 2016 16:12:59	0.26	175769	1	752	2	-	Yes
4	10 24 2016 16:15:22	0.26	175345	1	752	2	-	Yes
5	10 24 2016 16:17:43	0.25	174808	1	752	2	-	Yes

---

15 S1 Unknown CCV 1 x

TC **51.38** **10518143** **1.13** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 16:20:56	51.14	10469538	1	752	2	-	Yes
2	10 24 2016 16:24:52	52.17	10676901	1	752	2	-	Yes
3	10 24 2016 16:28:09	50.79	10398129	1	752	2	-	Yes
4	10 24 2016 16:31:24	51.43	10528004	1	752	2	-	Yes

---

16 S5 Unknown LCSW 1 x

TC **47.93** **9819516** **0.37** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 16:35:27	47.99	9831433	1	752	2	-	Yes
2	10 24 2016 16:39:21	47.67	9767250	1	752	2	-	Yes
3	10 24 2016 16:42:30	47.98	9829936	1	753	2	-	Yes
4	10 24 2016 16:45:40	48.08	9849445	1	753	2	-	Yes

---

17 14 Unknown 787721 1 x

TC **0.34** **191005** **12.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 16:49:53	0.80	286095	1	753	2	-	-
2	10 24 2016 16:53:06	0.30	182972	1	753	2	-	Yes
3	10 24 2016 16:55:32	0.24	172347	1	753	2	-	Yes
4	10 24 2016 16:57:58	0.30	183292	1	752	2	-	Yes
5	10 24 2016 17:00:29	0.50	225410	1	752	2	-	Yes

---

18 S7 Unknown MBW 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 17:03:56	0.25	174211	1	752	2	-	-
2	10 24 2016 17:07:06	0	0	0	752	2	-	Yes
3	10 24 2016 17:11:09	0	0	0	753	2	-	Yes
4	10 24 2016 17:15:10	0	0	0	753	2	-	Yes
5	10 24 2016 17:19:11	0	0	0	753	2	-	Yes

---

19 14 Unknown 787721 Sample not purged! 1 x NOT USED

TC **6.83** **1503794** **6.04** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 17:24:05	7.47	1635157	1	754	2	-	Yes
2	10 24 2016 17:27:40	6.46	1429149	1	753	2	-	Yes
3	10 24 2016 17:30:27	6.62	1462623	1	753	2	-	Yes

4	10 24 2016 17:33:16	6.75	1488248	1	753	2	-	Yes

20	15	Unknown	787722			1 x		
		TC	**0.51**	**227214**	**11.34**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 17:37:01	0.89	303874	1	754	2	-	-
2	10 24 2016 17:40:14	0.45	214301	1	753	2	-	Yes
3	10 24 2016 17:42:40	0.70	265851	1	753	2	-	Yes
4	10 24 2016 17:45:14	0.45	214792	1	752	2	-	Yes
5	10 24 2016 17:47:43	0.45	213912	1	752	2	-	Yes

21	16	Unknown	787723			1 x		
		TC	**0.40**	**204388**	**4.37**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 17:51:05	0.98	321865	1	753	2	-	-
2	10 24 2016 17:54:21	0.38	200444	1	752	2	-	Yes
3	10 24 2016 17:56:50	0.42	207488	1	751	2	-	Yes
4	10 24 2016 17:59:18	0.35	194467	1	751	2	-	Yes
5	10 24 2016 18:01:46	0.45	215154	1	750	2	-	Yes

22	17	Unknown	788209			1 x		
		TC	**0.40**	**204363**	**30.61**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:05:03	0.86	297121	1	751	2	-	Yes
2	10 24 2016 18:08:18	0.30	184730	1	751	2	-	Yes
3	10 24 2016 18:10:50	1.36	398595	1	750	2	-	-
4	10 24 2016 18:13:18	0.25	174125	1	750	2	-	Yes
5	10 24 2016 18:15:46	0.19	161479	1	750	2	-	Yes

23	18	Unknown	788210			1 x		
		TC	**ZERO !**	**102934**	**17.60**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:19:03	0.59	242177	1	750	2	-	-
2	10 24 2016 18:22:16	ZERO !	80097	1	750	2	-	Yes
3	10 24 2016 18:24:43	ZERO !	121582	1	751	2	-	Yes
4	10 24 2016 18:27:05	ZERO !	112317	1	750	2	-	Yes
5	10 24 2016 18:29:28	ZERO !	97740	1	751	2	-	Yes

24	19	Unknown	788211			1 x		
		TC	**0.25**	**174230**	**12.91**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:32:40	0.85	296008	1	751	2	-	-
2	10 24 2016 18:35:58	0.28	180231	1	752	2	-	Yes
3	10 24 2016 18:38:22	0.10	144314	1	751	2	-	Yes
4	10 24 2016 18:40:45	0.37	198449	1	751	2	-	Yes
5	10 24 2016 18:43:09	0.25	173927	1	751	2	-	Yes

25	20	Unknown	788212			1 x		
		TC	**0.13**	**149272**	**3.66**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:46:26	0.49	222624	1	751	2	-	-
2	10 24 2016 18:49:33	0.09	141865	1	751	2	-	Yes
3	10 24 2016 18:51:59	0.15	154614	1	750	2	-	Yes
4	10 24 2016 18:54:21	0.14	151698	1	751	2	-	Yes
5	10 24 2016 18:56:44	0.13	148912	1	752	2	-	Yes

26	21	Unknown	788213			1 x		
		TC	**0.24**	**171779**	**8.90**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:59:56	0.84	293244	1	752	2	-	-
2	10 24 2016 19:03:10	0.14	151020	1	753	2	-	Yes
3	10 24 2016 19:05:32	0.32	187840	1	753	2	-	Yes
4	10 24 2016 19:07:53	0.26	175052	1	753	2	-	Yes
5	10 24 2016 19:10:16	0.25	173207	1	753	2	-	Yes

4	10 24 2016 17:33:16	6.75	1488248	1	753	2	-	Yes

20	15	Unknown	787722			1 x		
		TC	**0.51**	**227214**	**11.34**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 17:37:01	0.89	303874	1	754	2	-	-
2	10 24 2016 17:40:14	0.45	214301	1	753	2	-	Yes
3	10 24 2016 17:42:40	0.70	265851	1	753	2	-	Yes
4	10 24 2016 17:45:14	0.45	214792	1	752	2	-	Yes
5	10 24 2016 17:47:43	0.45	213912	1	752	2	-	Yes

21	16	Unknown	787723			1 x		
		TC	**0.40**	**204388**	**4.37**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 17:51:05	0.98	321865	1	753	2	-	-
2	10 24 2016 17:54:21	0.38	200444	1	752	2	-	Yes
3	10 24 2016 17:56:50	0.42	207488	1	751	2	-	Yes
4	10 24 2016 17:59:18	0.35	194467	1	751	2	-	Yes
5	10 24 2016 18:01:46	0.45	215154	1	750	2	-	Yes

22	17	Unknown	788209			1 x		
		TC	**0.40**	**204363**	**30.61**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:05:03	0.86	297121	1	751	2	-	Yes
2	10 24 2016 18:08:18	0.30	184730	1	751	2	-	Yes
3	10 24 2016 18:10:50	1.36	398595	1	750	2	-	-
4	10 24 2016 18:13:18	0.25	174125	1	750	2	-	Yes
5	10 24 2016 18:15:46	0.19	161479	1	750	2	-	Yes

23	18	Unknown	788210			1 x		
		TC	**ZERO !**	**102934**	**17.60**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:19:03	0.59	242177	1	750	2	-	-
2	10 24 2016 18:22:16	ZERO !	80097	1	750	2	-	Yes
3	10 24 2016 18:24:43	ZERO !	121582	1	751	2	-	Yes
4	10 24 2016 18:27:05	ZERO !	112317	1	750	2	-	Yes
5	10 24 2016 18:29:28	ZERO !	97740	1	751	2	-	Yes

24	19	Unknown	788211			1 x		
		TC	**0.25**	**174230**	**12.91**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:32:40	0.85	296008	1	751	2	-	-
2	10 24 2016 18:35:58	0.28	180231	1	752	2	-	Yes
3	10 24 2016 18:38:22	0.10	144314	1	751	2	-	Yes
4	10 24 2016 18:40:45	0.37	198449	1	751	2	-	Yes
5	10 24 2016 18:43:09	0.25	173927	1	751	2	-	Yes

25	20	Unknown	788212			1 x		
		TC	**0.13**	**149272**	**3.66**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:46:26	0.49	222624	1	751	2	-	-
2	10 24 2016 18:49:33	0.09	141865	1	751	2	-	Yes
3	10 24 2016 18:51:59	0.15	154614	1	750	2	-	Yes
4	10 24 2016 18:54:21	0.14	151698	1	751	2	-	Yes
5	10 24 2016 18:56:44	0.13	148912	1	752	2	-	Yes

26	21	Unknown	788213			1 x		
		TC	**0.24**	**171779**	**8.90**	**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 18:59:56	0.84	293244	1	752	2	-	-
2	10 24 2016 19:03:10	0.14	151020	1	753	2	-	Yes
3	10 24 2016 19:05:32	0.32	187840	1	753	2	-	Yes
4	10 24 2016 19:07:53	0.26	175052	1	753	2	-	Yes
5	10 24 2016 19:10:16	0.25	173207	1	753	2	-	Yes

34 27 Unknown 787265 1 x

TC **59.10** **12078960** **2.13** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 21:08:27	60.08	12276998	1	752	2	-	Yes
2	10 24 2016 21:12:25	59.47	12153290	1	752	2	-	Yes
3	10 24 2016 21:16:12	59.62	12184290	1	752	2	-	Yes
4	10 24 2016 21:20:01	57.23	11701264	1	752	2	-	Yes

35 28 Unknown 787283 1 x

TC **68.52** **13984194** **2.90** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 21:24:25	71.09	14505536	1	752	2	-	Yes
2	10 24 2016 21:28:55	68.98	14078089	1	752	2	-	Yes
3	10 24 2016 21:32:52	67.53	13785485	1	752	2	-	Yes
4	10 24 2016 21:36:13	66.46	13567668	1	752	2	-	Yes

36 S2 Unknown CCV 1 x

TC **48.21** **9876846** **0.63** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 21:40:18	48.40	9914708	1	752	2	-	Yes
2	10 24 2016 21:44:23	48.36	9905976	1	752	2	-	Yes
3	10 24 2016 21:47:42	48.34	9902371	1	751	2	-	Yes
4	10 24 2016 21:51:03	47.76	9784330	1	752	2	-	Yes

37 S8 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 21:55:17	0.28	179490	1	753	2	-	-
2	10 24 2016 21:58:43	0	0	0	752	2	-	Yes
3	10 24 2016 22:02:44	0	0	0	752	2	-	Yes
4	10 24 2016 22:06:46	0	0	0	752	2	-	Yes
5	10 24 2016 22:10:48	0	0	0	752	2	-	Yes

38 29 Unknown DUP787283 1 x

TC **66.61** **13599176** **0.48** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 22:15:43	66.54	13584678	1	752	2	-	Yes
2	10 24 2016 22:19:38	66.19	13514402	1	752	2	-	Yes
3	10 24 2016 22:22:57	66.79	13635300	1	752	2	-	Yes
4	10 24 2016 22:26:10	66.93	13662324	1	752	2	-	Yes

39 30 Unknown MSW787283 2 x

TC **151.41** **15438481** **0.20** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 22:30:09	151.79	15477072	1	752	2	-	Yes
2	10 24 2016 22:34:22	151.45	15442601	1	752	2	-	Yes
3	10 24 2016 22:37:44	151.32	15429415	1	753	2	-	Yes
4	10 24 2016 22:41:06	151.08	15404838	1	752	2	-	Yes

40 31 Unknown MSDW787283 2 x

TC **152.42** **15540674** **0.23** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 22:45:19	152.54	15552864	1	752	2	-	Yes
2	10 24 2016 22:49:26	152.87	15586264	1	752	2	-	Yes
3	10 24 2016 22:52:51	152.20	15518440	1	752	2	-	Yes
4	10 24 2016 22:56:15	152.07	15505131	1	752	2	-	Yes

41 32 Unknown 787715 1 x

TC **79.33** **16170617** **0.34** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 23:00:42	79.52	16209183	1	752	2	-	Yes
2	10 24 2016 23:04:39	79.40	16185312	1	751	2	-	Yes

3	10 24 2016 23:07:57	79.46	16198773	1	751	2	-	Yes
4	10 24 2016 23:11:15	78.92	16089202	1	752	2	-	Yes

42 33 Unknown 787716 1 x

TC **78.37** **15976980** **0.66** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 23:15:34	79.09	16123504	1	752	2	-	Yes
2	10 24 2016 23:19:36	77.93	15888429	1	752	2	-	Yes
3	10 24 2016 23:23:02	78.06	15914278	1	751	2	-	Yes
4	10 24 2016 23:26:22	78.39	15981712	1	752	2	-	Yes

43 34 Unknown 787717 1 x

TC **72.77** **14844684** **0.46** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 23:30:42	73.02	14895032	1	752	2	-	Yes
2	10 24 2016 23:34:37	73.07	14905785	1	752	2	-	Yes
3	10 24 2016 23:37:58	72.64	14818765	1	751	2	-	Yes
4	10 24 2016 23:41:15	72.35	14759157	1	751	2	-	Yes

44 35 Unknown 787718 1 x

TC **ZERO !** **120709** **35.05** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2016 23:45:31	0.30	184172	1	752	2	-	Yes
2	10 24 2016 23:48:43	ZERO !	99424	1	751	2	-	Yes
3	10 24 2016 23:51:13	ZERO !	99877	1	751	2	-	Yes
4	10 24 2016 23:53:43	ZERO !	99364	1	751	2	-	Yes
5	10 24 2016 23:56:07	0	0	0	752	2	-	-

45 S2 Unknown CCV 1 x

TC **48.93** **10021241** **0.65** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2016 0:01:04	48.71	9976846	1	752	2	-	Yes
2	10 25 2016 0:05:14	48.61	9956818	1	752	2	-	Yes
3	10 25 2016 0:08:34	49.29	10095383	1	752	2	-	Yes
4	10 25 2016 0:11:51	49.10	10055917	1	752	2	-	Yes

46 S8 Unknown CCB 1 x

TC **ZERO !** **54730** **136.90** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2016 0:16:10	0.18	158762	1	752	2	-	Yes
2	10 25 2016 0:19:32	0	0	0	751	2	-	Yes
3	10 25 2016 0:23:33	0	0	0	752	2	-	Yes
4	10 25 2016 0:27:35	0	0	0	752	2	-	-
5	10 25 2016 0:31:36	ZERO !	60160	1	752	2	-	Yes

47 139 Unknown RINSE 1 x

TC **ZERO !** **109025** **42.63** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2016 0:34:59	0.27	177881	1	752	2	-	Yes
2	10 25 2016 0:38:12	ZERO !	90260	1	752	2	-	Yes
3	10 25 2016 0:40:41	ZERO !	92144	1	751	2	-	Yes
4	10 25 2016 0:43:10	ZERO !	75816	1	751	2	-	Yes
5	10 25 2016 0:45:35	0	0	0	751	2	-	-

48 140 Unknown RINSE 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2016 0:50:31	0.18	160143	1	752	2	-	-
2	10 25 2016 0:53:59	0	0	0	752	2	-	Yes
3	10 25 2016 0:58:01	0	0	0	752	2	-	Yes
4	10 25 2016 1:02:03	0	0	0	752	2	-	Yes
5	10 25 2016 1:06:05	0	0	0	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
131270 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	788929						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	788930						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	788954						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	788955						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	788956						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131270 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122845	787283		10/11/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*								
		Nitrate Nitrogen			*								
		Sulfate			*								
122845	787265		10/11/2016	1230			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	788957		10/11/2016	1530					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	787283				0			
		Chloride			DUP	787283				0			
		Sulfate			DUP	787283				0			
	788958		10/11/2016	1530					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	787283				0			
		Chloride			MSW	787283				0			
		Sulfate			MSW	787283				0			
	788959		10/11/2016	1530					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	788958				0			
		Chloride			MSDW	788958				0			
		Sulfate			MSDW	788958				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131270 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	788960						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	788961						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 131270 131271	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/12/2016	JJF/AGK	RLD		Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
131328 on 10/14/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	788029							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	788030							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	788031							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
122887	787715		10/12/2016	0925		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122887	787716		10/12/2016	0955		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131328 on 10/14/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122887	787717		10/12/2016	1116		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122887	787718		10/12/2016	1530		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122887	787720		10/12/2016	1250		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122887	787721		10/12/2016	1425		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	788032							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131328 on 10/14/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	788033								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
	788034		10/12/2016	1425					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	787721				0			
		Chloride			DUP	787721				0			
		Sulfate			DUP	787721				0			
	788035		10/12/2016	1425					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	787721				0			
		Chloride			MSW	787721				0			
		Sulfate			MSW	787721				0			
	788036		10/12/2016	1425					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	788035				0			
		Chloride			MSDW	788035				0			
		Sulfate			MSDW	788035				0			
122887	787722		10/12/2016	1515			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131328 on 10/14/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122887	787723		10/12/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
122887	787717		10/12/2016 1116		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
122887	787720		10/12/2016 1250		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	788037						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	788038						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 131328	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/13/2016	AGK/JJF	RLD	10/17/2016	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
131362 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	788980						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	788981						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	788844						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	788845						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	788846						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131362 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122907	788211		10/13/2016 1205		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
122907	788209		10/13/2016 0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
122907	788210		10/13/2016 1005		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	788848						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	788849						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131362 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122907	788212		10/13/2016	1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122907	788213		10/13/2016	1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122907	788214		10/13/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	788850		10/13/2016	1005				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	788210			0			
		Chloride			DUP	788210			0			
		Sulfate			DUP	788210			0			
	788851		10/13/2016	1005				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	788210			0			
		Chloride			MSW	788210			0			
		Sulfate			MSW	788210			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131362 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	788852		10/13/2016 1005				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 788851				0			
		Chloride		MSDW 788851				0			
		Sulfate		MSDW 788851				0			
	788853						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	788854						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 131362	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/14/2016	JJF	RLD	10/18/2016	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
131448 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	790115							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	790116							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	790117							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
122926	788654		10/14/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
122926	788655		10/14/2016	1020		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131448 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122926	788656		10/14/2016 1100		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
122926	788654		10/14/2016 0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	790118		10/14/2016 1100				ANIONS IC QSM 5.0				
		Sulfate		DUP	788656			0			
		Nitrate Nitrogen		DUP	788656			0			
		Chloride		DUP	788656			0			
	790119						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	790120						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131448 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	790121		10/14/2016 1100				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW 788656				0			
		Chloride		MSW 788656				0			
		Sulfate		MSW 788656				0			
	790122		10/14/2016 1100				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 790121				0			
		Chloride		MSDW 790121				0			
		Sulfate		MSDW 790121				0			
	790123						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	790868						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							
	790126						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
131448 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	790127							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
122926	788655		10/14/2016	1020		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***									
		Chloride	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Sulfate	***RERUN***									
		Sulfate	***RERUN***									
	790128							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
	790129							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 131448	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/17/2016	JJF	RLD	10/20/2016	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3		No		No	If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments
08/11/16	12:08	08/11/16	14:29	JJF	128590	IC0692B	081116-2	IC0740 IC0741	20.4	1617	1.06	CHANGED OUT FRIT ON GUARD COLUMN
08/12/16	10:23	08/12/16	14:25	JJF	128618	IC0692B	081216-2	IC0740 IC0741	18.71	1525	0.99	CHANGED ELUENT
08/15/16	8:33	08/15/16	10:14	JJF	RR128618	IC0692B	081516-2	IC0740 IC0741	18.33	1499	1.01	
08/15/16	12:58	08/15/16	22:18	JJF	128687 128691	IC0692B	081516A-2	IC0740 IC0741	18.33	1426	1	
08/16/16	8:28	08/16/16	14:50	JJF	RR128687 128309 128311	IC0692B	081616-2	IC0740 IC0741	18.38	1380	0.99	
08/17/16	13:59	08/17/16	16:51	JJF	IC0804	IC0804	IC0804-081716		18.34	1483	0.99	
08/18/16	9:59	08/18/16	16:39	JJF	128817	IC0804	081816-2	IC0740 IC0741	18.35	1481	0.99	
08/19/16	9:07	08/19/16	14:39	JJF/AGK/RAD	RR128817 128886 128888 128890 128891 128892	IC0804	081916-2	IC0740 IC0741	18.41	1471	0.99	
08/24/16	8:44	08/24/16	14:43	JJF	129056	IC0804	082416-2	IC0810 IC0811	18.42	1444	0.98	
08/31/16	11:50	08/31/16	17:56	JJF	129398	IC0804	083116-2	IC0810 IC0811	18.86	1473	0.98	
09/01/16	12:25	09/01/16	14:26	JJF	129445	NO2 IC0646	090116-2	IC0810 IC0811	19.25	1470	0.98	
09/02/16	10:37	09/02/16	16:03	JJF		IC0804	090216-2	IC0810 IC0811	19.3	1435	0.96	
09/06/16	10:11	09/06/16	21:33	JJF	129529 129532	IC0804	090616-2	IC0810 IC0811	19.38	1442	0.96	
09/07/16	9:11	09/08/16	11:12	JJF	RR 129532 129627	IC0804	090716-2	IC0810 IC0811	19.53	1465	0.96	
09/12/16	12:17	09/13/16	00:08	JJF	129884	IC0804	091216-2	IC0810 IC0811	20.82	1475	0.96	
09/13/16	7:37	09/13/16	15:06	JJF	RR129884 129958	IC0804	091316-2	IC0810 IC0811	20.82	1486	0.96	
09/14/16	8:33	09/15/16	07:45	JJF	130004	IC0804	091416-2	IC0810 IC0811	19.53	1461	0.94	
09/16/16	8:31	09/16/16	18:03	JJF	130089	IC0804	091616-2	IC0810 IC0811	18.74	1434	0.93	
09/19/16	8:23	09/19/16	10:40	JJF	RR130089	IC0804	091916-2	IC0810 IC0811	18.7	1428	0.93	
09/20/16	14:11	09/20/16	19:57	JJF	130291	IC0804	092016-2	IC0810 IC0811	18.7	1398	0.94	
09/21/16	7:48	09/21/16	08:57	JJF	RR130291	IC0804	092116-2	IC0810 IC0811	18.8	1482	0.93	
09/26/16	8:56	09/26/16	20:13	JJF	130525	IC0804	092616-2	IC0835 IC0836	19.7	1597	0.92	
09/27/16	8:22	09/27/16	15:13	JJF	130653 130637	IC0804	092716-2	IC0835 IC0836	19.35	1600	0.92	
10/03/16	13:34	10/04/16	09:42	JJF	IC0850A	IC0850A	100316-2		19.75	1615	1.1	
10/04/16	10:58	10/05/16	00:29	JJF	130872 130933	IC0850A	100416-2	IC0835 IC0836	19.77	1516	1.05	RR CCV FAILED
10/05/16	9:31	10/05/16	21:59	JJF	130872 130948	IC0850A	100516-2	IC0835 IC0836	19.71	1429	0.93	
10/06/16	7:34	10/06/16	14:52	JJF	131026	IC0850A	100616-2	IC0835 IC0836	19.65	1423	0.93	
10/07/16	9:37	10/07/16	15:01	JJF	131105	IC0850A	100716-2	IC0835 IC0836	21.72	1525	1.03	
10/10/16	11:55	10/11/16	08:59	JJF	131159 131160	IC0850A	101016-2	IC0835 IC0836	20.27	1501	0.97	
10/11/16	12:56	10/12/16	10:16	JJF	131224	IC0850A	101116-2	IC0835 IC0836	21.25	1502	0.97	
10/12/16	15:05	10/12/16	19:19	JJF	131270 131271	IC0692B	101216-2	IC0835 IC0836	19.84	1444	1.07	CHANGED OUT GUARD COLUMN
10/13/16	13:03	10/13/16	20:04	AGK		IC0692B		IC0835 IC0836	19.56	1555	1.05	
10/14/16	8:35	10/14/16	12:02	JJF		IC0864	101416-IC0864		19.28	1552	1.05	
10/14/16	12:47	10/15/16	06:42	JJF	131343 131344 131363 131362	IC0864	101416-2	IC0835 IC0836	19.34	1512	1.03	
10/17/16	10:45	10/17/16	14:14	JJF		IC0864A	101716-IC0864A		19.35	1410	0.97	
10/17/16	14:57	10/18/16	10:39	JJF	131447 131448 131449	IC0864A	101716-2	IC0835 IC0836	19.29	1328	0.92	
10/19/16	13:10	10/20/16	07:39	JJF	131486 131557	IC0864A	101916-2	IC0835 IC0836	19.38	1367	0.95	
10/20/16	11:54	10/20/16	19:42	RLD	131598	IC0864A	102016-2	IC0868	19.893	1448	0.94	
10/26/16	9:21	10/26/16	12:19	JJF		IC0882A	102616-IC0882		22.65	1565	1.11	CLEANED COLUMN

Anions

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
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Project: Unassigned
Page Title: 102716

Standard Log #:	IC0883	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0884	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/27/2016	Expiration Date (1 Year):	11/27/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0885	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	10/27/2016	Expiration Date (48 hours):	10/29/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0886	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0838, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0887	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
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Page is not Witnessed
Project: Unassigned
Page Title: 102616

Standard Log #:	IC0881	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/26/2016	Expiration Date (48 Hours):	10/28/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0882	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/26/2016	Expiration Date (48 hours):	10/28/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0881	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 65
Page is Locked
Author: jfaust on: 27.10.2016 08:50:41
Page is not Witnessed
Project: Unassigned
Page Title: 102516

Standard Log #:	IC0879	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	
Prep Date:	10/25/2016	Expiration Date:	10/27/2016
Prep:	Into two 100 mL volumetric flasks add 0.50 mL 790336 Water Pollution Simple Nutrients Cat# 584 and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0880	Standard/Reagent:	CCV ML Cl and SO4
Analyst:	JJF	Final Concentration:	3 mg/L Cl and 5 mg/L SO4
Prep Date:	10/25/2016	Expiration Date:	11/25/2016
Prep:	Into a 200 mL volumetric add 0.60 mL Chloride Standard @1000 mg/L (IC0843) and 1.0 mL Sulfate Standard @1000 mg/L (IC)844) and dilute to 200 mL with Milli-Q water.		

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CT Laboratories, LLC

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 64
Page is Locked
Author: JFAUST on: 25.10.2016 14:23:31
Page is not Witnessed
Project: Unassigned
Page Title: 102416

Standard Log #:	IC0873	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	10/24/2016	Expiration Date (48 hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0874	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	10/24/2016	Expiration Date (48 Hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0875	Standard/Reagent:	IC Cal ML Cl and SO4
Analyst:	JJF	Final Concentration:	10.0 mg/L Cl & SO4
Prep Date:	10/24/2016	Expiration Date:	10/26/2016
Prep:	Into a 100 mL volumetric add 1 ml		

Standard Log #:	IC0876	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	10/24/2016	Expiration Date (48 hours):	11/24/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0854 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0834 and dilute to		

Standard Log #:	IC0877	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	10/24/2016	Expiration Date:	10/26/2016
Prep:	Into two 100 mL volumetric flasks add 0.50 mL 790180 Water Pollution Bromide Cat # 887 and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0878	Standard/Reagent:	PT Nitrite
Analyst:	JJF	Final Concentration:	
Prep Date:	10/24/2016	Expiration Date:	10/26/2016
Prep:	Into two 100 mL volumetric flasks add 0.50 mL 790181 Water Pollution Nitrite Cat #888 and dilute to 100 mL with Milli-Q water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 62
Page is Locked
Author: JFAUST on: 24.10.2016 09:08:50
Page is not Witnessed
Project: Unassigned
Page Title: 101816

Standard Log #:	IC0868	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5005 mg/L
Prep Date:	10/18/2016	Expiration Date:	10/25/2016
Prep:	Added 0.5005 g of IC0637 (Nitrocellulose Stock-dried) into a 100 ml volumetric flask and brought to volume with acetone (Millipore-Omnisolv, Cat.# AX0116-1, Lot# 55338).		

Standard Log #:	IC0869	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	10/18/2016	Expiration Date (6 months):	03/18/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 61
Page is Locked
Author: JFAUST on: 18.10.2016 08:39:03
Page is not Witnessed
Project: Unassigned
Page Title: 101416

Standard Log #:	IC0863	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/14/2016	Expiration Date (48 Hours):	10/16/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0864	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/14/2016	Expiration Date (48 hours):	10/16/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0863	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0865	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/14/2016	Expiration Date (1 Month):	11/14/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0866	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/14/2016	Expiration Date (1 Year):	10/14/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0867	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	10/14/2016	Expiration Date (48 hours):	10/16/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0597				

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 60
Page is Locked
Author: JFAUST on: 18.10.2016 08:38:36
Page is not Witnessed
Project: Unassigned
Page Title: 101216

Standard Log #:	IC0858	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/12/2016	Expiration Date (1 Year):	10/12/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0859	Standard/Reagent:	LL o-Phos Std
Analyst:	JJF	Final Concentration:	0.40 mg/L o-Phos
Prep Date:	10/12/2016	Expiration Date:	10/14/2016
Prep:	Into a 100 mL volumetric add 0.04 mL Phosphate Std. (IC0486) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0860	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	10/12/2016	Expiration Date (1 month):	11/12/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0861	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	10/12/2016	Expiration Date (1 Month):	11/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0862	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	10/12/2016	Expiration Date (1 Month):	11/12/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 59
Page is Locked
Author: JFAUST on: 12.10.2016 08:45:11
Page is not Witnessed
Project: Unassigned
Page Title: 101116

Standard Log #:	IC0853	Standard/Reagent:	LCS/ICV Custom Ion Std
Analyst:	JJF	Final Concentration:	
Prep Date:	10/11/2016	Expiration Date:	10/30/2017
Prep:	SPEX CertiPrep Custom Ion Standard Cat # VCTWI-3-500 Lot # 1-26PW		

Standard Log #:	IC0854	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0855	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0856	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	10/11/2016	Expiration Date (6 months):	11/11/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0857	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/11/2016	Expiration Date (1 Year):	10/11/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 58
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Author: JFAUST on: 12.10.2016 08:44:08
Page is not Witnessed
Project: Unassigned
Page Title: 100416

Standard Log #:	IC0852	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	10/04/2016	Expiration Date (48 hours):	10/06/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 57
Page is Locked
Author: JFAUST on: 12.10.2016 08:44:24
Page is not Witnessed
Project: Unassigned
Page Title: 100316

Standard Log #:	IC0849	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/03/2016	Expiration Date (48 Hours):	10/05/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0850	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/03/2016	Expiration Date (48 hours):	10/05/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0849	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0851	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	F.W. 105.99
Prep Date:	10/03/2016	Expiration Date:	
Prep:	500 Grams Fisher Brand Na2CO3 Lot # S263-500		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 56
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 092816

Standard Log #:	IC0845	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0846	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate W38024 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

Standard Log #:	IC0847	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0848	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	09/28/2016	Expiration Date (48 hours):	09/30/2016

Prep:

LOD Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0829
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0597				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0597				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 55
Page is Locked
Author: jfaust on: 28.09.2016 09:07:04
Page is not Witnessed
Project: Unassigned
Page Title: 092616

Standard Log #:	IC0833	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0834	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0835	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0839, and Phosphate IC and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0836	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0837	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/26/2016	Expiration Date (1 Year):	10/26/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0838	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/26/2016	Expiration Date (6 months):	03/26/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0839	Standard/Reagent:	Nitrate Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/21/2016	Expiration Date:	10/21/2016
Prep:	Accu SPEC Nitrate Standard @1000 mg/L Catalog# 250-220-521. Lot # S150804004 Same as W39820		

Standard Log #:	IC0840	Standard/Reagent:	Nitrite Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	06/16/2016	Expiration Date:	06/16/2017
Prep:	Same as W39180 SPEX Certiprep Nitrite IC Std. @ 1000 mg/L Lot # 3-138NO2N-2Y CAT # AS-NO2N9-2Y		

Standard Log #:	IC0841	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0842	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4

Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0843	Standard/Reagent:	IC Chloride Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	09/26/2017
Prep:	AccuSPEC - IC Standard Chloride @1000 mg/L Lot# S160712001 Cat# 250-220-37x		

Standard Log #:	IC0844	Standard/Reagent:	IC Sulfate Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	10/26/2016
Prep:	AccuSPEC - IC Standard Sulfate @ 1000 mg/L Lot# S160602024 Cat# 250-220-70x		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 54
Page is Locked
Author: jfaust on: 26.09.2016 10:43:08
Page is not Witnessed
Project: Unassigned
Page Title: 092116

Standard Log #:	IC0830	Standard:	IC Suppressor Regen Metrohn
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/21/2016	Expiration Date (6 months):	03/21/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0831	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/21/2016	Expiration Date (1 Year):	09/21/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0832	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	09/21/2016	Expiration Date (48 hours):	09/23/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 53
Page is Locked
Author: jfaust on: 26.09.2016 10:42:47
Page is not Witnessed
Project: Unassigned
Page Title: 091316

Standard Log #:	IC0827	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/13/2016	Expiration Date (1 Year):	09/13/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0828	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/13/2016	Expiration Date (1 Year):	09/13/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0829	Standard:	IC Suppressor Regen Metrohn
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/13/2016	Expiration Date (6 months):	03/13/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 52
Page is Locked
Author: JFAUST on: 21.09.2016 08:23:40
Page is not Witnessed
Project: Unassigned
Page Title: 090716

Standard Log #:	IC0825	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	09/07/2016	Expiration Date (48 hours):	09/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0826	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	09/07/2016	Expiration Date (48 hours):	09/09/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

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NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 51
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Author: JFAUST on: 07.09.2016 09:25:02
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Project: Unassigned
Page Title: 090616

Standard Log #:	IC0820	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/06/2016	Expiration Date (1 Month):	10/06/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0821	Standard/Reagent:	Fluoride IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Fluoride IC Standard @1000 mg/L Cat # 250-220-401 Lot # S160323007		

Standard Log #:	IC0822	Standard/Reagent:	Nitrite IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Nitrite IC Standard @1000 mg/L Catalog # 250-220-551 Lot #S160802021		

Standard Log #:	IC0823	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/06/2016	Expiration Date (1 Month):	10/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0824	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/06/2016	Expiration Date (6 months):	03/06/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39587 and brought to volume with Milli-Q Di water.		

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NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 50
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Author: JFAUST on: 02.09.2016 11:26:11
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Standard Log #:	IC0816	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/01/2016	Expiration Date (1 Year):	09/01/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0817	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	09/01/2016	Expiration Date (1 month):	10/01/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0818	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	09/01/2016	Expiration Date (1 Month):	10/01/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0819	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	09/01/2016	Expiration Date (1 Month):	10/01/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

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Author: JFAUST on: 02.09.2016 11:26:05
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Project: Unassigned
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Standard Log #:	IC0815	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	08/30/2016	Expiration Date (48 Hours):	09/01/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0810	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	08/23/2016	Expiration Date (1 Month):	09/23/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0811	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	08/23/2016	Expiration Date (1 Month):	09/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0808	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/22/2016	Expiration Date (1 Month):	09/22/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0809	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	08/22/2016	Expiration Date (1 Month):	09/22/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W39180 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0803	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	08/17/2016	Expiration Date (48 Hours):	08/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0804	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	08/17/2016	Expiration Date (48 hours):	08/19/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0803	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0606	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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Author: JFAUST on: 16.08.2016 16:07:11
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Standard Log #:	IC0798	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	08/11/2016	Expiration Date (48 Hours):	08/13/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 16.08.2016 16:07:06
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Project: Unassigned
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Standard Log #:	IC0796	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	08/09/2016	Expiration Date (48 hours):	08/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0797	Standard/Reagent:	ML CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl and 5 mg/L SO4
Prep Date:	08/09/2016	Expiration Date:	09/09/2016
Prep:	Into a 200 mL volumetric add 0.60 mL Chloride STD (1)@ 1000 mg/L and 1.00 mL Sulfate Std (2) @ 1000 mg/L and dilute to 200 mL with Milli-Q water. (1) IC0576		

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Author: JFAUST on: 11.08.2016 12:04:38
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Standard Log #:	IC0791	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	08/08/2016	Expiration Date (6 months):	02/08/2017
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0792	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	08/08/2016	Expiration Date (1 Year):	08/08/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0793	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	08/08/2016	Expiration Date (1 Year):	08/08/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0794	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/08/2016	Expiration Date (1 Month):	09/08/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0795	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	08/08/2016	Expiration Date (1 Month):	09/08/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 08.08.2016 11:50:00
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Standard Log #:	IC0789	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	08/05/2016	Expiration Date (1 Month):	09/05/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W39180 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0790	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	08/05/2016	Expiration Date (48 hours):	09/05/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0738 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0789 and dilute to		

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Author: JFAUST on: 08.08.2016 11:49:52
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Standard Log #:	IC0787	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	08/04/2016	Expiration Date (48 hours):	08/06/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0788	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	08/04/2016	Expiration Date (48 hours):	08/06/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0576 (2) IC0606		

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Author: JFAUST on: 08.08.2016 11:49:44
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Standard Log #:	IC0784	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	08/03/2016	Expiration Date (1 Year):	08/03/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0785	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	08/03/2016	Expiration Date (48 hours):	08/05/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0576, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

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Author: rdigmann on: 02.08.2016 13:03:07
Witness: AKURTH on: 02.08.2016 13:31:01
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Standard Log #:	IC0783	Standard/Reagent:	LL oPhos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L oPhos
Prep Date:	07/28/2016	Expiration Date:	07/30/2016
Prep:	Into a 100 ml volumetric add 0.04 mL 1000 mg/L Phosphorus standard (IC0486) and dilute to 100 mL with Milli-Q water.		

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Project: Unassigned
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Standard Log #:	IC0777	Standard:	IC Low Level o-Phos CC'
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/26/2016	Expiration Date (1 month):	08/26/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0778	Standard/Reagent:	LL o-Phos Calibration
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	07/26/2016	Expiration Date:	07/28/2016
Prep:	Into a 100 mL volumetric add 0.04 mL of Phosphate std (IC0486) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0779	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	07/26/2016	Expiration Date (48 hours):	07/28/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. IC0722, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0779, then brought to volume with Milli-Q DI water.		

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Author: jfaust on: 26.07.2016 11:48:25
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Standard Log #:	IC0775	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	07/25/2016	Expiration Date (48 hours):	07/27/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0576 (2) IC0606		

Standard Log #:	IC0776	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/25/2016	Expiration Date (1 Year):	07/25/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 26.07.2016 11:48:14
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Standard Log #:	IC0737	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/22/2016	Expiration Date (1 Year):	07/22/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0738	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/22/2016	Expiration Date (1 Month):	08/22/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0739	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	07/22/2016	Expiration Date (1 Month):	08/22/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W39180 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0740	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	07/22/2016	Expiration Date (1 Month):	08/22/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0741	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	07/22/2016	Expiration Date (1 Month):	08/22/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0742	Standard/Reagent:	IC ML CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl & 5 mg/L SO4
Prep Date:	07/22/2016	Expiration Date:	08/22/2016
Prep:	Into a 200 mL volumetric add 0.60 mL Sulfate (1) @1000 mg/L and 1.0 mL Chloride (2) @1000 mg/L and dilute to 200 mL with Milli-Q water. (1) IC0576		

Standard Log #:	IC0774	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	07/22/2016	Expiration Date (48 hours):	08/22/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0737 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0738 and dilute to		

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Standard Log #:	IC0721	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/06/2016	Expiration Date (1 month):	08/06/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0722	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/06/2016	Expiration Date (1 Month):	08/06/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0723	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	07/06/2016	Expiration Date (1 Month):	08/06/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0724	Standard/Reagent:	LL ICAL Std for oPhos
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	07/06/2016	Expiration Date:	07/08/2016
Prep:	Pipette 4 mL LL ICAL Working Std (IC0724) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0725	Standard/Reagent:	LL ICAL Working Std
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	07/06/2016	Expiration Date:	07/08/2016
Prep:	Pipette 1 mL of Phosphate 1000 mg/L (IC0486) and dilute to 100 mL with Milli-Q water.		

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Author: jfaust on: 06.07.2016 10:07:55
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Standard Log #:	IC0714	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/05/2016	Expiration Date (1 Month):	08/05/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0715	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/05/2016	Expiration Date (1 Month):	08/05/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0716	Standard/Reagent:	oxyhalide eluent
Analyst:	JJF	Final Concentration:	
Prep Date:	07/05/2016	Expiration Date:	07/05/2017
Prep:	Weigh out 0.763 grams Sodium Carbonate (W38024) and add to a 2 liter volumetric flask. Dilute to 2 liters with Milli-Q water.		

Standard Log #:	IC0717	Standard/Reagent:	Oxyhalide/anion CCV stock

Standard Log #:	W39178	Reagent:	NO2 NO3 COLOR
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1L volumetric flask volumetrically dissolve 40g sulfanilamide W37969 and 1g N-(1-naphthyl)ethylenediamine dihydrochloride (NED) W32265 volumetrically add 100mL phosphoric acid W38600 and fill to volume with DI H_2O.		

Standard Log #:	W39179	Reagent:	NO2 NO3 BUFFER
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W36986 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W36989		

Standard ID#:	W39180	Vendor:	SPEX
Analyst:	LJS	Chemical:	N02 ICV STANDARD
Date Received:	6/6/16	Lot #:	3-138NO2N-2Y
Expiration Date (if any):	5/30/17	Catalog #:	AS-NO2N9-2Y

Standard Log #:	W39181	Standard:	NO2 NO3 ICAL
Analyst:	LJS	Concentration:	20 mg/L
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 100 mL volumetric flask pipette 2mL NO_3 ICAL/CCV stock (1000 mg/L) IC0403 and fill to volume with H_2SO_4 diluent W39177		

Standard Log #:	W39182	Standard:	NO2 NO3 ICV

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Standard Log #:	IC0696	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0697	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W39180 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0698	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0699	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 20.06.2016 14:01:34
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Standard Log #:	IC0690	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/15/2016	Expiration Date (1 Year):	06/15/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0691	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	06/15/2016	Expiration Date (48 Hours):	06/17/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0692	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	06/15/2016	Expiration Date (48 hours):	06/17/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0691	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0606	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0693	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/15/2016	Expiration Date (1 Year):	06/15/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0679	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/02/2016	Expiration Date (1 Month):	07/02/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0680	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/02/2016	Expiration Date (1 Month):	07/02/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0681	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/02/2016	Expiration Date (48 hours):	06/04/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0682	Standard/Reagent:	SO4 MDL
Analyst:	JJF	Final Concentration:	4 mg/L
Prep Date:	05/31/2016	Expiration Date:	06/31/2016
Prep:	Into 8 volumetric flasks pipette 0.40 mL Sulfate standard (IC0606) and dilute		

Standard Log #:	IC0677	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	05/31/2016	Expiration Date (1 Month):	07/01/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0678	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	05/31/2016	Expiration Date (48 hours):	06/02/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0676	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/31/2016	Expiration Date (6 months):	11/31/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0674	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/27/2016	Expiration Date (1 Year):	05/27/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0675	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/27/2016	Expiration Date (1 Year):	05/27/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0672	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/26/2016	Expiration Date (1 Year):	05/26/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0673	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/26/2016	Expiration Date (48 hours):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0665	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (48 hours):	05/27/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0666	Standard/Reagent:	IC LL o-Phos Cal Std
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	05/25/2016	Expiration Date:	05/27/2016
Prep:	Into a 100 mL volumetric add 0.80 mL (IC0665) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0667	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (1 month):	06/26/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0668	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (1 Month):	06/25/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0669	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD

Prep Date:	05/25/2016	Expiration Date (48 hours):	06/25/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. IC0667, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0669, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0670	Standard:	IC LL MDL Study
Analyst:	JJF	Concentrations:	0.025mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (48 hours):	05/27/2016
Prep:	Into 8 separate 100 mL volumetric flasks, pipetted 10mL of 0.25 mg/L MDL LL Working Std (1) and brought to volume with Milli-Q DI water. (1) IC0671		

Standard Log #:	IC0671	Standard:	IC MDL LL WS
Analyst:	JJF	Concentrations:	0.25 mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (48 hours):	05/27/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.025 mL of Phosphate IC0486 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0664	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	05/24/2016	Expiration Date (48 hours):	05/26/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0660	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0661	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	05/30/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IW37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0662	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0663	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0658	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/19/2016	Expiration Date (1 Year):	05/19/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0659	Standard:	IC Suppressor Regen Metrohn
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/19/2016	Expiration Date (6 months):	11/19/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0655	Standard/Reagent:	Sodium Hydroxide Solution
Analyst:	RLD	Final Concentration:	1 N
Prep Date:	05/18/2016	Expiration Date:	11/05/2016
Prep:	Added 200 ml of IC0639 (5 N NaOH Sln) into a 1000 ml volumetrix flask and brought to volume with DI H2O. Used for nitrocellulose waters prep.		

Standard Log #:	IC0656	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5007 mg/L
Prep Date:	05/18/2016	Expiration Date:	05/25/2016
Prep:	Added 0.5007 g of IC0637 (Nitrocellulose Stock-dried) into a 100 ml volumetric flask and brought to volume with acetone (Millipore-Omnisolv, Cat.# AX0116-1, Lot# 55338).		

Standard Log #:	IC0657	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/18/2016	Expiration Date (1 Year):	05/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 19.05.2016 09:44:01
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Standard Log #:	IC0655	Standard/Reagent:	Sodium Hydroxide Solution
Analyst:	RLD	Final Concentration:	1 N
Prep Date:	05/18/2016	Expiration Date:	11/05/2016
Prep:	Added 200 ml of IC0639 (5 N NaOH Sln) into a 1000 ml volumetrix flask and brought to volume with DI H2O. Used for nitrocellulose waters prep.		

Standard Log #:	IC0656	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5007 mg/L
Prep Date:	05/18/2016	Expiration Date:	05/25/2016
Prep:	Added 0.5007 g of IC0637 (Nitrocellulose Stock-dried) into a 100 ml volumetric flask and brought to volume with acetone (Millipore-Omnisolv, Cat.# AX0116-1, Lot# 55338).		

Standard Log #:	IC0657	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/18/2016	Expiration Date (1 Year):	05/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0653	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/17/2016	Expiration Date (48 hours):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0654	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	05/17/2016	Expiration Date (48 hours):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0606 (2) IC0576		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 99
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Author: jfaust on: 18.05.2016 14:45:02
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Project: Unassigned
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Standard Log #:	IC0649	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	05/12/2016	Expiration Date (48 Hours):	05/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0650	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	05/12/2016	Expiration Date (48 hours):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0576 (2) IC0606		

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Author: jfaust on: 18.05.2016 14:44:50
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Standard Log #:	IC0645	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0646	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0645 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0647	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/11/2016	Expiration Date (1 Year):	05/11/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 11.05.2016 15:31:22
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Project: Unassigned
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Standard Log #:	IC0643	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/09/2016	Expiration Date (48 hours):	05/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0644	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/09/2016	Expiration Date (1 Year):	05/09/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 09.05.2016 10:49:34
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Project: Unassigned
Page Title: 050616

Standard Log #:	IC0640	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/06/2016	Expiration Date (1 Year):	05/06/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0641	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/06/2016	Expiration Date (1 Month):	06/06/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0642	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/06/2016	Expiration Date (1 Month):	06/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 06.05.2016 07:56:00
Page is not Witnessed
Project: Unassigned
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Standard Log #:	IC0638	Standard/Reagent:	Nitrocellulose Spiking Std
Analyst:	RLD	Final Concentration:	5002 mg/L
Prep Date:	05/05/2016	Expiration Date:	05/12/2016
Prep:	Added 0.5002g of IC0637 into a 100 mL volumetric flask and brought to volume with acetone (Millipore, Omni Solv, Cat.# AX0116-1, Lot# 55189).		

Standard Log #:	IC0639	Standard/Reagent:	Sodium Hydroxide Sln.
Analyst:	RLD	Final Concentration:	5N
Prep Date:	05/05/2016	Expiration Date:	11/05/2016
Prep:	Added 200g of sodium hydroxide pellets (VWR-Amresco, Cat.# 0583-5kg, Lot# 1405C083) w/ stir bar to 1000 ml volumetrix flask and added approximately 800 ml DI H2O (stirred until dissolved), then cooled and brought to volume. Labeled 5N NaOH.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 94
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Author: JFAUST on: 06.05.2016 07:55:46
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Standard Log #:	IC0637	Standard/Reagent:	Nitrocellulose Stock Std.
Analyst:	RLD	Final Concentration:	Neat
Prep Date:	05/04/2016	Expiration Date:	04/28/2016
Prep:	Dried in vaccum desicator (04/28/2016 - 05/03/2016). Used for preparation of Nitrocellulose Spiking Std.		

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Author: JFAUST on: 06.05.2016 07:55:22
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Project: Unassigned
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Standard Log #:	IC0634	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	05/04/2016	Expiration Date (48 Hours):	05/06/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0635	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/04/2016	Expiration Date (48 hours):	05/06/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0634	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0403	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0636	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/04/2016	Expiration Date (48 hours):	05/06/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 92
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Author: rdigmann on: 05.05.2016 07:53:59
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Standard Log #:	IC0626	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/03/2016	Expiration Date (6 months):	11/03/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0627	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0628	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 month):	06/03/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0629	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0630	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	05/03/2016	Expiration Date (48 hours):	05/05/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. 0629, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0630, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0631	Standard/Reagent:	Dionex AS14 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AS14 Analytical Column 4X250 mm Serial #034842 Lot#015171010 Product # 046124		

Standard Log #:	IC0632	Standard/Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AG14 Guard 4 x 50 mm Lot# 01517101 Product # 046134 Serial # 160318088		

Standard Log #:	IC0633	Standard:	IC Eluent Dionex

Analyst:	JJD	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 02.05.2016 15:36:35
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Standard Log #:	IC0621	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0606 (2) IC0576		

Standard Log #:	IC0622	Standard:	IC CCV Mid Level
Analyst:	JJF	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	04/21/2016	Expiration Date (1 Month):	05/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0576 (2) IC0606		

Standard Log #:	IC0623	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	04/21/2016	Expiration Date (48 hours):	05/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC608 and 10 mL Nitrite LCS (7 mg/L NO_2) IC609 and dilute to		

Standard Log #:	IC0624	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

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Author: JFAUST on: 21.04.2016 08:17:42
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Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (584-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0612	Standard/Reagent:	PT Nitrite
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (888-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0613	Standard/Reagent:	PT Nitrite DW
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (594-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0614	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	04/19/2016	Expiration Date (48 Hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0615	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC00395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0616	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0617	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0618	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0619	Standard:	IC Calibration Metrohm
Analyst:	jjf	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/19/2016	Expiration Date (48 hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0413, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0620	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/19/2016	Expiration Date (1 Year):	04/19/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 20.04.2016 12:21:20
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Project: Unassigned
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Standard Log #:	IC0605	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/18/2016	Expiration Date (1 Year):	04/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0606	Standard/Reagent:	Sulfate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/18/2016	Expiration Date:	04/18/2017
Prep:	Sulfate IC Standard AccuSPEC Lot #S160114034 Catalog # 250-220-701		

Standard Log #:	IC0607	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/18/2016	Expiration Date (48 hours):	04/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0576.		

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Author: jfaust on: 13.04.2016 11:38:10
Witness: akurth on: 18.04.2016 10:10:30
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Standard Log #:	IC0600	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/07/2016	Expiration Date (1 Month):	05/07/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 79
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 032816

Standard Log #:	IC0584	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0585	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0586	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/28/2016	Expiration Date (1 month):	04/28/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 75
Page is Locked
Author: JFAUST on: 21.03.2016 17:27:05
Page is not Witnessed
Project: Unassigned
Page Title: 031616

Standard Log #:	IC0576	Standard/Reagent:	Chloride IC stock Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	03/16/2016	Expiration Date:	03/16/2017
Prep:	AccuSPEC IC Standard Chloride @ 1000 mg/L Lot #S150923021 Catalog #250-220-37x		

Standard Log #:	IC0577	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/06/16 for Br 4/16/201
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0578	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/16/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 66
Page is Locked
Author: JFAUST on: 22.02.2016 13:03:31
Page is not Witnessed
Project: Unassigned
Page Title: 021716

Standard Log #:	IC0558	Standard/Reagent:	Calibration Oxyhalides and r
Analyst:	JJF	Final Concentration:	10mg/L - NO2, NO3, PO4, E
Prep Date:	02/17/2016	Expiration Date:	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) (1), Nitrite (1000mg/L) (2), Bromide (1000mg/L) (3), Nitrate (1000mg/L) (4), Phosphate (1000mg/L) (5), Chlorite (1000 mg/L), (6) Chlorate (1000 mg/L) (7) and 10 mL each of Sulfate (1000mg/L) (8), and Chloride (1000mg/L) (9).		

Standard Log #:	IC0559	Standard/Reagent:	Eluent for ASupp 7 Column
Analyst:	JJF	Final Concentration:	3.6 mmoles/L Sodium Carbo
Prep Date:	02/17/2016	Expiration Date:	02/17/2017
Prep:	Into a 2 liter volumetric flask add 0.763 grams Sodium Carbonate (W38024) and dilute to 2 liters with Milli-Q- DI water.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 65
Page is Locked
Author: jfaust on: 17.02.2016 16:07:38
Page is not Witnessed
Project: Unassigned
Page Title: 021516

Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 53
Page is Locked
Author: jfaust on: 19.01.2016 08:33:08
Page is not Witnessed
Project: Unassigned
Page Title: 011816

Standard Log #:	IC0526	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/18/2016	Expiration Date (48 hours):	01/20/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0527	Standard/Reagent:	LL o-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/18/2016	Expiration Date:	01/20/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL of (IC0526) LL o-Phos working standard and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0528	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 52
Page is Locked
Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
Project: Unassigned
Page Title: 011416

Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 10
Page is Locked
Author: JFAUST on: 12.10.2015 08:32:53
Page is not Witnessed
Project: Unassigned
Page Title: 092215

Standard Log #:	IC0401	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0402	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0403	Standard/Reagent:	NO3 STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/22/2015	Expiration Date:	9/22/2016
Prep:	Accu SPEC Nitrate Standard for Ion Chromatography Cat #250-220-521 Lot # S150804004		

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Standard Log #:	IC0400	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/15/2015	Expiration Date (1 Year):	09/15/2016
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate IC0145 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 8
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Project: Unassigned
Page Title: 090915

Standard Log #:	IC0395	Standard/Reagent:	Fluoride Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150818016 Catalog # 250-220-40x		

Standard Log #:	IC0396	Standard/Reagent:	Nitrite Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150410003 Catalog # 250-220-55x		

Standard Log #:	IC0397	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 94
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 072415

Standard Log #:	IC0310	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0311	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0310 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0312	Standard/Reagent:	IC Chlorate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/24/2015	Expiration Date:	07/24/2016
Prep:	Accu SPEC Chlorate Standard @ 990 or - 10 mg/L Lot # S141009020 Catalog # 250-220-355		

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Standard ID#:	IC0300	Vendor:	SPEX CertiPrep
Analyst:	JJF	Chemical:	Chlorite Anion Standard 1000 ug/mL
Date Received:	07/21/2015	Lot #:	3-114CLO2-2Y
Expiration Date (if any):	1/30/2016	Catalog #:	AS-CLO29-2Y

Standard Log #:	IC0301	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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CT Laboratories, LLC

Standard ID#:	W37105	Vendor:	SPEX
Analyst:	LJS	Chemical:	NITRITE-NITROGEN 1000UG/ML ST
Date Received:	MAY 2015	Lot #:	3-106N02N-2Y
Expiration Date (if any):	05-30-2016	Catalog #:	AS-N02N9-2Y

Standard Log #:	W37106	Standard:	CR6 WATER ICAL
Analyst:	MER	Concentration:	200 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10mg/L) W35703 and fill to volume with DI H_2O.		

Standard Log #:	W37107	Standard:	CR6 WATER LCS/ICV
Analyst:	MER	Concentration:	100 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 2.5mL LCS/ICV working (10mg/L) W35700 and fill to volume with DI H_2O.		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
Page is Locked
Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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CT Laboratories, LLC

W 35369 Fisher Ammonium Sulfate (A702-500)
AGK CAS 7783-20-2 LOT# 135994A
9/15/14 Opened 09/15/14

6
PROJECT _____ Notebook No. _____
Continued From Page _____

W25134 CES			Sodium	Bicarbonate.	Fisher								Cat#	S233-500		Lot #			
11/23/15			164706		eyp		11/23/15												
																			Continued on Page

Read and Understood By

Signed	Date	Signed	Date

WCOD QSM Analytical Run
131726 on 10/26/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122887	787719		10/12/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		54AOW01								59729			
122926	788657		10/14/2016	1105			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		49AOW01								59729			
	792891		10/14/2016	1105					COD QSM				
		49AOW01			MSW	788657				59729			
	792892		10/14/2016	1105					COD QSM				
		49AOW01			DUP	788657				59729			
	792893		10/14/2016	1105					COD QSM				
		49AOW01			MSDW	792891				59729			
	792894								COD QSM				
					MBW					59729			
	792895								COD QSM				
					LCSW					59729			
	794252								WCOD QSM				
					ICV								
	794253								WCOD QSM				
					ICB								
	794254								WCOD QSM				
					CCV								
	794255								WCOD QSM				
					CCV								
	794256								WCOD QSM				
					CCB								
	794257								WCOD QSM				
					CCV								
	794258								WCOD QSM				
					CCB								
	794259								WCOD QSM				
					CCV								
	794260								WCOD QSM				
					CCB								

16 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP BATCH (ES): 59726, 9 SAW 10/24/16 DATE/ANALYST 10/24/16 SAW TIME: 1200

RUN(S): 131726 DATE/ANALYST: 10/24/16 SAW

CHEMICAL OXYGEN DEMAND REAGENT LOG

ICAL PREPARATION.....W 40015 /Exp 04/24/17 10/24/16

CCV PREPARATION.....W 40016 /Exp 01/24/17

ICV/LCS PREPARATION.....W 40017 /Exp ↓

SILVER SULFATE ACID.....W 39995 /Exp 10/20/17

POTASSIUM DICHROMATE DIG SOLN...W 38894 /Exp 4/28/17

SPIKED SAMPLES:

SPIKING SOLUTION.....W 40014 /Exp 01/24/17

CONCENTRATION..... 2000 mg/L

VOLUME OF SPIKE USED. ..... 0.2 mL

FINAL SAMPLE VOLUME..... 2.5 mL

FINAL SPIKE CONCENTRATION ..... 148.2 mg/L

COD DIGESTION BLOCKS

DATE: 10/24/16 TIME: 1320

	A	B	C	D
Temperature (Max) 150°C ± 2°C			148.0	150.6

PREP WORKSHEET 2
on 10/26/2016

Prep Batch: **59729**

Prepped By: _____

Date Prepped: _____

Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	792894	MBW	0	COD QSM			LIQUID				
	792895	LCSW	0	COD QSM			LIQUID				
122887	787719			COD QSM	BERING SEA ENVIRONMENT	54AOW01	GROUND WATER	10/12/16	1530	10/25/16	4
122926	788657			COD QSM	BERING SEA ENVIRONMENT	49AOW01	GROUND WATER	10/14/16	1105	10/27/16	4
	792891	MSW	788657	COD QSM		49AOW01	GROUND WATER	10/14/16	1105		
	792892	DUP	788657	COD QSM		49AOW01	GROUND WATER	10/14/16	1105		
	792893	MSDW	792891	COD QSM		49AOW01	GROUND WATER	10/14/16	1105		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

Distibution: C:\LIMSREPS\PREPWRKSHT2.RPT

PREP WORKSHEET 2
on 10/24/2016

Prep Batch: 59729
Date Prepped: 10/24/16

Prepped By: _____
Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	792894 2	MBW	0	COD QSM			LIQUID			
	792895 1	LCSW	0	COD QSM			LIQUID			
122887	787719 22			COD QSM	BERING SEA ENVIRONMENT	54AOW01	GROUND WATER	10/12/16 1530	10/25/16	4
122926	788657 23, 24, 25, 26			ms/msd COD QSM	BERING SEA ENVIRONMENT	49AOW01	GROUND WATER	10/14/16 1105	10/27/16	4
	792891	MSW	788657	COD QSM		49AOW01	GROUND WATER	10/14/16 1105		
	792892	DUP	788657	COD QSM		49AOW01	GROUND WATER	10/14/16 1105		
	792893	MSDW	792891	COD QSM		49AOW01	GROUND WATER	10/14/16 1105		

Control Spike/Control Spike Dup Reference Number: _____ Methanol Supplier/Lot #: _____

Notes: _____

Distibution: C:\LIMSREPS\PREPWRKSHT2.RPT

W40015

TEST 29
10/24/16

LINEAR{32}CURVE{32}FIT{13}{10}
NOT{32}THROUGH{32}0{13}{10}
{13}{10}
{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}ENTERED{32}{32}{32}{32}
CALCULATED{13}{10}
STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32
}{32}{32}CONC{32}{32}{32}{32}ERROR{13}{10}
{32}1{32}{32}{32}0.000{32}{32}{32}{32}0.000{32}{32}{32}{32}{32}{32}{32}0.0
71{32}{32}{32}{32}0.071{13}{10}
{32}2{32}{32}{32}0.003{32}{32}{32}{32}{32}10.0{32}{32}{32}{32}{32}{32}{32}
{32}{32}6.9{32}{32}{32}{32}{32}-3.1{13}{10}
{32}3{32}{32}{32}0.008{32}{32}{32}{32}{32}25.0{32}{32}{32}{32}{32}{32}{32}
{32}17.5{32}{32}{32}{32}{32}-7.5{13}{10}
{32}4{32}{32}{32}0.019{32}{32}{32}{32}{32}50.0{32}{32}{32}{32}{32}{32}{32}
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{32}6{32}{32}{32}0.227{32}{32}{32}{32}{32}500.{32}{32}{32}{32}{32}{32}{32}
{32}524.{32}{32}{32}{32}{32}{32}24.{13}{10}
{32}7{32}{32}{32}0.317{32}{32}{32}{32}{32}750.{32}{32}{32}{32}{32}{32}{32}
{32}733.{32}{32}{32}{32}{32}-17.{13}{10}
----------{13}{10}
{13}{10}
SLOPE{32}{32}{32}{32}{32}{32}{32}{32}0.0004{13}{10}
INTERCEPT{32}{32}{32}{32}{32}0.000{13}{10}
CORR{32}COEFF{32}{32}{32}0.9979{13}{10}
----------{13}{10}
{13}{10}

ICV W40017
394.
ICB
0.

COD Data Validation Checklist

LIMS #: 131726	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
10/24/16	JMW / SAM	CEG	10/26/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	---	X		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
6. Was the LCS used before the indicated expiration date?	---	X		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		X		
8. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
9. Did the MS/ MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits		X		X	788657 M flagged
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
11. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
13. Were the samples digested within hold time?	28 days	X		X		
14. Are all samples on the job lists accounted for?	---	X		Y		

Spec. 401 Accuracy Check / Maintenance Logbook

	*Acceptance Range: +/- 2 nm			
Date/Time	529 nm	742 nm	Analyst	Comments or Performed Maintenance:
7/27/16 0950	530	741	SAW	
8/1/16 1024	530	741	VJS	
8/4/16 1245	530	741	MER / SAW	
8/11/16 1445	530	741	SAW	
8/19/16 1330	530	741	SAW	
9/1/16 1340	530	741	SAW	Number pad screen did not turn on on start up. Opened it up, then reclosed it. Started working again.
9/2/16 0910	530	741	SAW	
9/6/16 1530	530	742	SAW	
9/20/16 1055	530	741	SAW	
9/28/16 0930	530	741	SAW	
10/5/16 1430	530	741	MER	
10/14/16 1200	529	741	VJS	
10/19/16 1630	530	741	SAW	
10/24/16 1500	529	741	SAW	
10/26/16			MER	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By: _____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

	Time				Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments:
8/4/16	1245	1300	MER/ SAW	Chlor A	——	128360
8/11/16	1445	1455	SAW	COD	Test 31	128584
8/19/16	1330	1345	SAW	COD	Test 31	128873
9/1/16	1340	1350	SAW	COD	Test 31	129430
9/2/16	0910	0920	SAW	COD	Test 31	129430
9/6/16	1530	1540	SAW	COD	Test 31	129430
9/20/16	1055	1140	SAW	COD	Test 31	130242, 240, 241 130243
9/28/16	0930	1020	SAW	COD	Test 31	~~130243~~ CB 9/29/16 130643, 644, 651
10/5/16	1430	1500	MER	COD	Test 31	130969, 972, 973
10/14/16	1200	1245	VJB	COD	Test 31	131296, 7, 8, 9
10/19/16	1630	1645	SAW	COD	Test 31	131550, 551
10/21/16	1500	1550	SAW	COD	Test 29	131725, 726, 727
10/26/16			MER	Hex Cr^{+6} Soils		

Reviewed By:_____

PROJECT _____ Notebook No. _____

Continued From Page _____

W18817 mwl 4-18-08 — TOC St. Prep Stock Std. 1000mg/L Into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/mixed DI H_2O exp 10-18-08

W18818 mwl 4-18-08 — TOC LCS/ICV Stock Std. 1000mg/L Into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16192 + brought to Vol. w/ mixed DI H_2O exp 10-18-08

W18819 KMB 4-18-08 (A+B) — Baker Potassium Dichromate Cat # 3093-01 Lot # E18590 (2-bottles, A+B) Newly

W18820 KMB 4-18-08 — Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl^- and 175 mg/L Cat # VCTWI-3-500 Lot # 38-81AS exp 04/2009.

W18821 KMB 4-18-08 — Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2/N9-2Y Lot # 1-81NO2N-2 exp. 4-15-2009

W18822 mwl 4-18-08 — Pyridine Into a 500mL Vol. dissolved 7.5g Barbituric acid W17815 pipetted 7.5mL HCL W18474 + Volumetrically added 37.5mL Pyridine W17409 + brought to Vol. w/DI H_2O exp 4-25-08

W18823 mwl 4-18-08 — Chloramines T Into a 500mL Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-19-08

W18824 CES 4-21-08 — NH_3 LCS. Into a 200mL Vol pipetted 1mL W18721 + filled to Vol w/ DI H_2O.

W18825 KMB 4-21-08 — TVN Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18141 and brought to Vol. w/DI H_2O, exp 4-22-08

W18826 KMB 4-21-08 — 0.8M NaOH - Into a 1L vol. dissolved 32g NaOH W18334 and brought to Vol. w/DI H_2O. exp. 5-21-08

W18827 KMB 4-21-08 — Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18517 and brought to vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RM — Signed

4/23/08 — Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite: Into a 500mL vol. volumetrically collected 30mL W33266 & filled to vol w/ DI H_2O. exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W33411e + filled to volume w/ DI. Then pipetted 10mL into TKN tube.

W33269 Bms 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page _____

Read and Understood By

1/9/14 CS
Signed — Date — Signed — Date

W34206 MER 4/28/14

KHP Buffer (pH 3.1)

Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1± 0.05.

EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific Cat # P243-100 Lot # 132808

W34208 AGK 04-28-14

IC ICAL Mixed Standard (50 mg/L):

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406, Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.

EXP (48 Hours):04/30/14

IC ICAL

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

W34209 AGK 04-28-14

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 CES 4/28/14

Cyanide In-Line Phosphate Buffer

Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32106~~ W33932 CES 4/28/14 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 CES 4/28/14

Sodium Salicylate-Nitroprusside Color Reagent

Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.

EXP(1 month): 5/28/14

W34212 CES 4/28/14 CES 4/28/14 Sodium Salicylate - Alfa Aesar - cat # A17056 Lot # J03Z041

W34213 CES 4/28/14

0.8M Sodium Hydroxide

Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

9/9/14 CES

Signed | Date | Signed | Date

Notebook No. _____ 69

PROJECT _____ Continued From Page _____

W34448 MER 5/23/14

TKN/ TPHOS Cupric ICal using 250mg/L working W 34447 and brought to volume with diluent W 34265 Exp (one month) 6/23/14

	mL 250mg/L working	Final volume (mL)	True Value (mg/L)	Corrected Value (mg/L)
A	8	100	20	21.0
B	3.2	50	16	16.8
C	10	250	10	10.5
D	0.8	50	4	4.2
E	0.4	50	2	2.1
F	0.2	50	1	1.05
G	0.04	50	0.2	0.21
H	0	50	0	0

W34449 AGK 5/23/14 Phosphate Standard 1000mg/L CCV/ICAL AccuSpec Lot # S140411008 Exp: 05-23-15

W34450 MER 5/23/14

Potassium Dichromate Digestion Solution

Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W 29723 (W19633 + W34451 MER 5/23/14) in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W 34363 and dissolve 20.42g potassium dichromate W 18819A then fill to volume with DI H_2O.
Exp (one year): 5/23/15

W34451 MER 5/23/14 Mercury (II) sulfate Acros Organics Code# 413651000
Lot # A0330723 CAS: 7783-35-9

W34452 MER 5/23/14

TKN/ TPHOS Cupric Diluent

Into a 2L volumetric flask volumetrically add ~~800~~ 400 MER 5/23/14 mL cupric digestion solution W 34424 and fill to volume with DI H_2O. Exp (one month): 6/23/14

W3445 3 GS 5/24/14

Cr^{+6} ICal (200mg/L)

Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10.0 mg/L) W ~~33822~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: ~~5/24/15~~ 5/24/15 GS 5/24/14

W34454 GS 5/24/14

Cr^{+6} CCV (100µg/L)

Into a 250mL volumetric flask pipette 2.5mL Ical/CCV working (10mg/L) W ~~33822~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: ~~5/24/15~~ GS 5/24/14

W34455 GS 5/24/14

Cr^{+6} ICV/LCS (100µg/L)

Into a 250mL volumetric flask pipette 2.5mL ICV/LCS working (10mg/L) W 34462 and fill to volume with DI H_2O. Exp. (one year): 5/24/15

Continued on Page

Read and Understood By

5/31/14 GS
Signed _____ Date _____ Signed _____ Date _____

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 54
Page is Locked
Author: mradske on: 27.05.2015 17:17:54
Page is not Witnessed
Project: Unassigned
Page Title: 042815

Standard Log #:	W36769	Reagent:	NO2 NO3 BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W31507 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W34485		

Standard Log #:	W36770	Reagent:	CN SOLID BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 500 mL volumetric flask dissolved 48.5 g potassium phosphate monobasic W35758 and brought to volume with DI H_2O.		

Standard ID#:	W36771	Vendor:	MACRON
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	91540
Expiration Date (if any):	9/9/19	Catalog #:	5557-46

1

Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 68
Page is Locked
Author: mradske on: 11.03.2016 11:12:51
Witness: lsilvers on: 25.03.2016 12:48:10
Project: Unassigned
Page Title: 031016

Standard Log #:	W38580	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38581	Reagent:	COD ICAL
Analyst:	LJS		
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38580 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38582	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.

Standard Log #:	W38583	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask pipette 50mL COD SPIKE/LCS Stock (2000mg/L) W38582 and fill to volume with DI H_2O.		

Standard Log #:	W38584	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38580 and fill to volume with DI H_2O.		

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CT Laboratories, LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 91
Page is Locked
Author: LSILVERS on: 15.04.2016 13:35:24
Page is not Witnessed
Project: Unassigned
Page Title: 041316

Standard Log #:	W38784	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38785	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38786	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep: Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38787	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep: Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38784 and fill to volume with DI H_2O.

Standard Log #:	W38788	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep: Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water.

(1) W38785

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LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 2
Page is Locked
Author: swinters on: 29.04.2016 11:45:59
Witness: mradske on: 09.05.2016 17:03:58
Project: Unassigned
Page Title: 042816

Standard Log #:	W38893	Reagent:	H2SO4/ AG SULFATE
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a new 2.5 L sulfuric acid W38896 dissolve 25g silver sulfate W38898 .		

Standard Log #:	W38894	Reagent:	DICHROMATE DIG
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W38895 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W38896 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard ID#:	W38895	Vendor:	J.T. BAKER
Analyst:	SAW	Chemical:	Mercuric Sulfate
Date Received:	1/28/15	Lot #:	0000076767
Expiration Date (if any):	NA	Catalog #:	2642-04

Standard ID#:	W38896	Vendor:	FISHER
Analyst:	SAW	Chemical:	Sulfuric Acid
Date Received:	NA	Lot #:	158062
Expiration Date (if any):	NA	Catalog #:	A300-212

Standard ID#:	W38898	Vendor:	MILLIPORE
Analyst:	SAW	Chemical:	Silver Sulfate
Date Received:	4/27/16	Lot #:	XK06B
Expiration Date (if any):	NA	Catalog #:	SX0210-2

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CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 3
Page is Locked
Author: LSILVERS on: 02.05.2016 11:47:02
Witness: mradske on: 09.05.2016 17:04:54
Project: Unassigned
Page Title: 042916

Standard Log #:	W38914	Reagent:	COD ICAL
Analyst:	SAW		
Prep Date:	4/29/16	Expiration Date (3 Months):	7/29/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 56
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071916

Standard Log #:	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):		Lot #:	A0365830
Comments:			

Standard Log #:	W39425	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	SAW	Concentration:	1,000 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W39426	Standard/Reagent:	COD CCV
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used

Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.	(1) W39425

Standard Log #:	W39427	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	SAW	Concentration:	2,000 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W39424

Standard Log #:	W39428	Standard/Reagent:	COD LCS
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W39427

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LPWC01-7
Wetchem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 09/21/16

NOTEBOOK VIEW: LTN_LPWC01_7_Default, NOTEBOOK: LPWC01_7, PAGE: 22
Page is Locked
Author: SWINTERS on: 21.10.2016 09:00:53
Page is not Witnessed
Project: Unassigned
Page Title: 102016

Standard Log #:	W39995	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	LJS	Concentration:	N/A
Prep Date:	10/20/16	Expiration Date (1 Year):	10/20/17
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) W39997 (2) W39996	

Standard Log #:	W39996	Chemical:	SILVER SULFATE
Analyst:	LJS	Vendor:	MILLIPORE
Date Received:	10/11/16	Catalog #:	SX0210-2
Expiration Date (if any):	N/A	Lot #:	XK068
Comments:			

Standard Log #:	W39997	Chemical:	SULFURIC ACID
Analyst:	LJS	Vendor:	FISHER
Date Received:	10/2016	Catalog #:	A300-212
Expiration Date (if any):	N/A	Lot #:	162572
Comments:			

1

LPWC01-7
Wetchem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 09/21/16

NOTEBOOK VIEW: LTN_LPWC01_7_Default, NOTEBOOK: LPWC01_7, PAGE: 24
Page is Locked
Author: swinters on: 25.10.2016 09:05:48
Page is not Witnessed
Project: Unassigned
Page Title: 102416

Standard Log #:	W40013	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	SAW	Concentration:	1,000 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W40014	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	SAW	Concentration:	2,000 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17

PREP	Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.	(1) W34207

Standard Log #:	W40015	Standard/Reagent:	COD ICAL
Analyst:	SAW	Concentration:	N/A
Prep Date:	10/24/16	Expiration Date (6 months):	04/24/17

PREP	Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)	(1) W40013

Standard Log #:	W40016	Standard/Reagent:	COD CCV
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.			(1) W40013

Standard Log #:	W40017	Standard/Reagent:	COD LCS
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W40014

Standard Log #:	W40018	Reagent/Standard:	COD PT WATER
Analyst:	SAW	Concentration:	Unknown
Prep Date:	10/24/16	Expiration Date:	01/24/17
PREP			
In a 1000 ml volumetric flask, pipetted 5.0 mL of COD PT 790332 and filled to volume with DI H2O.			

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CT Laboratories, LLC

WFILTRATION,SAMP Analytical Run
131395 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122887	787715	54MW13	10/12/2016 0925		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787716	54TM12	10/12/2016 0955		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787717	54MW10	10/12/2016 1116		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787718	101216R1	10/12/2016 1530		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787720	13MW3	10/12/2016 1250		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787721	13MW4	10/12/2016 1425	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787722	13MW2	10/12/2016 1515		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122887	787723	49MW04	10/12/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

8 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
131396 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122907	788209	50MW02	10/13/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122907	788210	49MW02	10/13/2016	1005		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122907	788211	48MW3	10/13/2016	1205		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122907	788212	49TM01	10/13/2016	1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122907	788213	48MW2	10/13/2016	1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122907	788214	49MW01	10/13/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

6 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
131397 on 10/17/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122845	787265	54MW1	10/11/2016 1230		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122845	787283	54MW12	10/11/2016 1530	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

2 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
131603 on 10/20/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122926	788654	48MW06	10/14/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122926	788655	48MW1	10/14/2016	1020		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
122926	788656	101416R1	10/14/2016	1100		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WPH Analytical Run
131510 on 10/21/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122887	787719		10/12/2016	1530		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		54AOW01										
122926	788657		10/14/2016	1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		49AOW01										
	792292		10/14/2016	1105				PH				
		49AOW01			DUP 788657							

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC20,21-01
Data Validation Checklist

CT Laboratories

LIMS #: 131510	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
10/18/10	SAW / SAW	[illegible]	10-21-10	(Yes) ... No

Instructions: Complete one checklist per *analytical run.* Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		Y		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		Y		
3. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		Y		
4. Are all samples on the job lists accounted for?	---	X		Y		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date / IN.	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
8/2/16 SAW	1315	1420	pH	128295, 296	
8/8/16 SAW	0940	1045	pH	128457, 459	
8/11/16 MER	1210	1220	pH	128598	
8/18/16 WB	1530	1630	pH	128858, 62, 61, 59, 60	
8/23/16 SAW	1445	1515	pH	129057	
8/30/16 WB	1430	1530	pH	129333, 4, 2, 5	
9/1/16 SAW	1520	1610	pH	129471, 472, 473	
9/8/16 SAW	1545	1715	pH	129726, 727, 728	
9/15/16 SAW	1630	1800	pH	130091, 92, 93, 95, 96, 94, 97, 98	
9/20/16 SAW	1405	1530	pH	130300, 301, 302	
10/3/16 WB	1500	1600	pH	130889, 90, 91, 92	
10/4/16 WB	1545	1550	pH	131071	
10/10/16 SAW	0930	1120	pH	131129, 130, 131	
10/18/16 SAW	1605	1725	pH	131506, 07, 08, 09, 10, 11, 12, 13	
10/19/16 SAW	0840	0850	pH	131507	

Reviewed By:_____

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #	----3 Point Calibration----								
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
6/20/16	VJS	W36459	W36995	W38037	7.03	4.00	10.07	99	19.1	
7/5/16	SAW	W36459	W36995	W38037	7.02	4.00	10.06	98%	19.8	
7/6/16	SAW	W36459	W36995	W38037	7.03	4.00	10.09	99%	19.0	
7/12/16	SAW	W36459	W36995	W38037	7.03	4.00	10.07	99%	18.9	
7/18/16	VJS	W36459	W36995	W38037	7.02	4.00	10.07	98%	19.3	
7/19/16	MER	W36459	W36995	W38037	7.02	4.00	10.07	99%	18.9	
7/25/16	SAW	W36459	W36995	W38037	7.02	4.00	10.06	99%	19.9	
8/2/16	SAW	W36459	W36995	W38037	7.02	4.00	10.06	99%	20.3	
8/8/16	SAW	W36459	W36995	W38037	7.02	4.00	10.07	98%	18.9	
8/11/16	MER	W36459	W36995	W38037	7.02	4.00	10.07	100%	19.1	
8/16/16	VJS	W36459	W36995	W38037	7.02	4.00	10.05	99%	20.8	
8/23/16	SAW	W36459	W36995	W38037	7.02	4.00	10.05	99%	20.4	
8/30/16	VJS	W39691	W36995	W38037	7.02	4.00	10.06	96	19.9	
9/1/16	SAW	W39691	W36995	W38037	7.02	4.00	10.07	99%	19.1	
9/8/16	SAW	W39691	W36995	W38037	7.02	4.00	10.06	97%	19.9	
9/15/16	SAW	W39691	W36995	W38037	7.02	4.00	10.08 6/16/16	99%	19.8	
9/20/16	SAW	W39691	W36995	W38037	7.02	4.00	10.07	98%	19.5°	
9/23/16	VJS	W39691	W36995	W38037	7.03	4.00	10.08	99%	18.5	
10/6/16	VJS	W39691	W36995	W38037	7.03	4.00	10.02	98%	18.3	
10/10/16	SAW	W39691	W36995	W38037	7.02	4.00	10.07	98%	19.1	
10/18/16	SAW	W39691	W36995	W38037	7.02	4.00	10.05	99%	21.0	

Reviewed By:_____

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV **WORKING STD** 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

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Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 1
Page is Locked
Author: mradske on: 02.12.2015 15:41:32
Witness: lsilvers on: 03.12.2015 20:23:30
Project: Unassigned
Page Title: 120115

Standard ID#:	W38037	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	11/24/15	Lot #:	2509915
Expiration Date (if any):	MAR 2017	Catalog #:	1601-1CT

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CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 86
Page is Locked
Author: mradske on: 31.08.2016 11:14:53
Page is not Witnessed
Project: Unassigned
Page Title: 083016

Standard Log #:	W39691	Chemical:	PH BUFFER 7.00
Analyst:	LJS	Vendor:	RICCA
Date Received:	4/25/16	Catalog #:	1551-1
Expiration Date (if any):	JAN 2018	Lot #:	4602467
Comments:			

1

CT Laboratories, LLC

WORGANIC CARBON QSM 5.0 Analytical Run
131620 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	794336								WORGANIC CARBON QSM 5.0				
					ICV								
	794337								WORGANIC CARBON QSM 5.0				
					ICB								
	793277								WORGANIC CARBON QSM 5.0				
					CCV					0			
	793278								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	793279								WORGANIC CARBON QSM 5.0				
					MBW					0			
122845	787265		10/11/2016	1230			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW1											
122845	787283		10/11/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW12			Designated MS/MSD								
	793280		10/11/2016	1530					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	787283				0			
	793281		10/11/2016	1530					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	787283				0			
	793282		10/11/2016	1530					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	793281				0			
122887	787715		10/12/2016	0925			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW13											
122887	787716		10/12/2016	0955			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54TM12											
122887	787717		10/12/2016	1116			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW10											
122887	787718		10/12/2016	1530			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		101216R1											
122887	787720		10/12/2016	1250			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3											
	793283								WORGANIC CARBON QSM 5.0				
					CCV					0			
122887	787721		10/12/2016	1425			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW4			Designated MS/MSD								
	793294								WORGANIC CARBON QSM 5.0				
					CCB					0			
122887	787722		10/12/2016	1515			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
131620 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
122887	787723	49MW04	10/12/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122907	788209	50MW02	10/13/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122907	788210	49MW02	10/13/2016	1005		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122907	788211	48MW3	10/13/2016	1205		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122907	788212	49TM01	10/13/2016	1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122907	788213	48MW2	10/13/2016	1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122907	788214	49MW01	10/13/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122926	788654	48MW06	10/14/2016	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
	793286				CCV			WORGANIC CARBON QSM 5.0	0			
	793287				CCB			WORGANIC CARBON QSM 5.0	0			
122926	788655	48MW1	10/14/2016	1020		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
122926	788656	101416R1	10/14/2016	1100		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
	793288				CCV			WORGANIC CARBON QSM 5.0	0			
	793289				CCB			WORGANIC CARBON QSM 5.0	0			

33 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

W CARBON, INORG & ORG Analytical Run
131621 on 11/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	793301							W CARBON, INORG & ORG				
					CCV				0			
	793302							W CARBON, INORG & ORG				
					LCSW				0			
	793303							W CARBON, INORG & ORG				
					MBW				0			
	793304							W CARBON, INORG & ORG				
					CCV				0			
	793305							W CARBON, INORG & ORG				
					CCB				0			
122845	787265	54MW1	10/11/2016	1230		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
122845	787283	54MW12	10/11/2016	1530	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
	793306							W CARBON, INORG & ORG				
					CCV				0			
	793307							W CARBON, INORG & ORG				
					CCB				0			
	793308		10/11/2016	1530				CARBON, INORG & ORG				
		54MW12			DUP 787283				0			
122887	787715	54MW13	10/12/2016	0925		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
122887	787716	54TM12	10/12/2016	0955		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
122887	787717	54MW10	10/12/2016	1116		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
122887	787718	101216R1	10/12/2016	1530		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
	793311							W CARBON, INORG & ORG				
					CCV				0			
	793312							W CARBON, INORG & ORG				
					CCB				0			

16 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
131620 131621	10/24/2016	JJF	RLD	10/26/2016	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
10-24-16	13:14	10-25-16	0:16	JJF	131620 131621	W	TOC 0093A	
10-25-16	08:46	10-35-16	20:59	JJF	131622 131755 131757	W	TOC 0093A	
10-26-16	08:39	10-26-16	16:06	JJF	RR 131755 RR131757 RR 131622 131859	W	TOC 0093A	
10-27-16	09:41	10-27-16	12:18	JJF	RR131859 131945	W	TOC 0093A	
10/31/16	12:22	10/31/16	17:09	JJF	132088	JJF W S	TOC105	
11/01/16	13:23	11/01/16	16:44	JJF	132087	S	TOC 105	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 80
Page is Locked
Author: JFAUST on: 18.10.2016 08:51:48
Page is not Witnessed
Project: Unassigned
Page Title: 101716

Standard Log #:	TOC0137	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0138	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 78
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 092116

Standard Log #:	TOC0134	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/206
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0135	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 76
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 082916

Standard Log #:	TOC0129	Standard/Reagent:	CCV SOIL
Analyst:	JJF	Final Concentration:	5.002 mg Dextrose
Prep Date:	08/29/2016	Expiration Date:	10/29/2016
Prep:	Into A 100 mL volumetric add 500.2 mg Dextrose (W23772) and dilute to 100 mL with Milli-q water.		

Standard Log #:	TOC0130	Standard/Reagent:	LCS SOIL
Analyst:	JJF	Final Concentration:	5.00 mg Dextrose
Prep Date:	08/29/2016	Expiration Date:	10/29/2016
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23192) and dilute to 100 mL wi		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 74
Page is Locked
Author: JFAUST on: 30.08.2016 13:50:49
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0126	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	08/29/2016	Expiration Date (1 Month):	09/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0127	Standard/Reagent:	TOC BLIND STD
Analyst:	JJF	Final Concentration:	60 mg/L
Prep Date:	08/29/2016	Expiration Date:	09/29/2016
Prep:	Into a 50 mL volumetric flask add 3 ml of CCV STD @ 1000 mg/L (TOC0049) and dilute to 50 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 73
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 081716

Standard Log #:	TOC0125	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	08/17/2016	Expiration Date (1 Month):	08/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 69
Page is Locked
Author: jfaust on: 28.07.2016 14:16:43
Page is not Witnessed
Project: Unassigned
Page Title: 072716

Standard Log #:	TOC0120	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/26/2016	Expiration Date:	06/30/2018
Prep:	Ultra Scientific TOC standard @ 1001 or - 5 ug/mL Lot # CP-2362		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 68
Page is Locked
Author: jfaust on: 21.07.2016 11:01:09
Page is not Witnessed
Project: Unassigned
Page Title: 071916

Standard Log #:	TOC0117	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/19/2016	Expiration Date (1 Month):	08/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 67
Page is Locked
Author: jfaust on: 13.07.2016 14:03:46
Page is not Witnessed
Project: Unassigned
Page Title: 071116

Standard Log #:	TOC0113	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/11/16	Expiration Date (1 Month):	08/11/16
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0114	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/11/16	Expiration Date (1 Month):	08/11/16
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0115	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	07/11/2016	Expiration Date (1 Month):	08/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0116	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	07/11/2016	Expiration Date (1 Month):	08/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 65
Page is Locked
Author: JFAUST on: 27.06.2016 11:35:58
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0111	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/27/2016	Expiration Date (1 Month):	07/27/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 64
Page is Locked
Author: JFAUST on: 27.06.2016 11:51:49
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Project: Unassigned
Page Title: 062416

Standard Log #:	TOC0110	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/24/2016	Expiration Date (1 Month):	07/24/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 60
Page is Locked
Author: JFAUST on: 10.06.2016 13:14:16
Page is not Witnessed
Project: Unassigned
Page Title: 060316

Standard Log #:	TOC0102	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/03/2016	Expiration Date (1 Month):	07/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0103	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/03/2016	Expiration Date (1 Month):	07/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 58
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 052016

Standard Log #:	TOC0099	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 56
Page is Locked
Author: jfaust on: 09.05.2016 16:24:51
Page is not Witnessed
Project: Unassigned
Page Title: 050916

Standard Log #:	TOC0096	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/09/2016	Expiration Date (1 Month):	06/09/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 55
Page is Locked
Author: jfaust on: 09.05.2016 16:23:08
Page is not Witnessed
Project: Unassigned
Page Title: 050316

Standard Log #:	TOC0093	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0094	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0095	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 54
Page is Locked
Author: JFAUST on: 03.05.2016 09:35:46
Page is not Witnessed
Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 53
Page is Locked
Author: jfaust on: 02.05.2016 15:50:25
Page is not Witnessed
Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
Page is Locked
Author: jfaust on: 28.04.2016 09:46:26
Page is not Witnessed
Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 50
Page is Locked
Author: JFAUST on: 20.04.2016 08:29:42
Page is not Witnessed
Project: Unassigned
Page Title: 041416

Standard Log #:	TOC0081	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0082	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 49
Page is Locked
Author: AAnstett on: 30.03.2016 16:30:06
Page is not Witnessed
Project: Unassigned
Page Title: 032916

Standard Log #:	TOC0080	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/29/2016	Expiration Date (1 Month):	04/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

1

CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 48
Page is Locked
Author: JFAUST on: 29.03.2016 09:29:21
Witness: AAnstett on: 30.03.2016 16:29:44
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0079	Standard:	TOCW LCS Std.
Analyst:	AMA	Concentration:	50 mg/L
Prep Date:	03/22/2016	Expiration Date (1 Month):	04/22/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 47
Page is Locked
Author: JFAUST on: 29.03.2016 09:29:15
Witness: AAnstett on: 30.03.2016 16:28:59
Project: Unassigned
Page Title: 031716

Standard Log #:	TOC0078	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/17/2016	Expiration Date (1 Month):	04/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 45
Page is Locked
Author: JFAUST on: 14.03.2016 14:13:41
Witness: AAnstett on: 30.03.2016 16:28:14
Project: Unassigned
Page Title: 030916

Standard Log #:	TOC0075	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0076	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 42
Page is Locked
Author: JFAUST on: 12.02.2016 08:30:14
Page is not Witnessed
Project: Unassigned
Page Title: 020916

Standard Log #:	TOC0066	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0067	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0068	Standard/Reagent:	TOC MDL WATER
Analyst:	JJF	Final Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date:	02/11/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.15 mL TOC ccv Stock standard @1000 mg/L and dilute to 100 mL with Milli-Q DI water.		

Standard Log #:	TOC0069	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0070	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 41
Page is Locked
Author: JFAUST on: 09.02.2016 14:52:01
Page is not Witnessed
Project: Unassigned
Page Title: 020816

Standard Log #:	TOC0064	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	02/08/2016	Expiration Date (1 Month):	03/08/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0065	Standard/Reagent:	TOC MDL STD WATER
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	02/08/2016	Expiration Date:	02/10/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL (TOC 0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 37
Page is Locked
Author: jfaust on: 25.01.2016 10:48:11
Page is not Witnessed
Project: Unassigned
Page Title: 012216

Standard Log #:	TOC0058	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0059	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 36
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 012016

Standard Log #:	TOC0057	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/20/2016	Expiration Date (1 Month):	02/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 35
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 011916

Standard Log #:	TOC0055	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0056	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0057	Standard/Reagent:	TOCW MDL STUDY
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	01/19/2016	Expiration Date:	01/21/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL TOC CCV Standard (TOC0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 32
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121615

Standard Log #:	TOC0050	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0051	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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TOC Logbook 01

01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 6
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Project: Unassigned
Page Title: 031715

Standard ID#:	TOC0011	Vendor:	SCP Science
Analyst:	BMS	Chemical:	TOCW LCS Stock Std. (1000mg/L)
Date Received:	03/17/2015	Lot #:	S150304004
Expiration Date (if any):	03/2017	Catalog #:	250-250-05x

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PROJECT _____ Continued From Page _____

W34137 MDS 04/21/14	TOCW	ICAL	Into seven 50mL vol. Flasks, pipetted 0, 0.05, 0.25, 0.50, 1.25, 2.50 and 5.0 mL of 1000 mg/L ICAL/CCV Stock (W34125) and brought to volume with milli-Q H_2O. Exp. 05/21/14
W34138 MDS 04/21/14	TOCW	ICV	Into a 50mL vol. Flask, pipetted 2.50 mL of 1000mg/L ICV/LCS Stock std (W34126) and brought to volume with milli-Q H_2O. Exp. 05/21/14

Read and Understood By

4/22/14 GZ

Signed | Date | Signed | Date

W34123 MMS 04/18/14 — TOCW CCV Std (50mg/L) – Into a 100mL vol. Flask, pipetted 5.0 mL of ~~W33270~~ W34125 MMS 04/18/14 & brought to volume with mili-Q H_2O exp. 05/18/14

W34124 MMS 04/18/14 — TOCW LCS Std (50mg/L) – Into a 100mL vol. Flask, pipetted 5.0mL of ~~W33271~~ W34126 MMS 04/18/14 & brought to volume with mili-Q H_2O. exp 05/18/14

W34125 BMS 04/18/14 — TOCW Ical./CCV Stock Std. (1000 mg/L): Into a 100 mL vol., dissolved 0.2128g of KHP (W33269) and brought to volume with Milli Q H_2O. Exp. 10/18/14.

W34126 BMS 04/18/14 — TOCW ICV/LCS Stock Std. (1000 mg/L): Into a 100mL vol., dissolved 0.2128g of KHP (W29079) and brought to volume with Milli Q H_2O. Exp. 10/18/14.

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Read and Understood By

4/19/14 0?

Signed Date Signed Date

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite Into a 500mL vol. volumetrically calculated 30mL W33266 & filled to mL w/ DI. exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000µg/L stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bms 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7, 50mL vol, pipetted 0, 0.05, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

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Signed Date Signed Date

SUBCONTRACTED ANALYSIS DOCUMENTS

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e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA37760

Sampling Date: 10/11/16

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **203**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177),
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Test results relate only to samples analyzed.

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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA37760

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA37760-1	10/11/16	12:30	CTL	10/14/16	AQ	Ground Water	787265/54MW1
FA37760-2	10/11/16	15:30	CTL	10/14/16	AQ	Ground Water	787283/54MW12
FA37760-2D	10/11/16	15:30	CTL	10/14/16	AQ	Water Dup/MSD	787283/54MW12
FA37760-2S	10/11/16	15:30	CTL	10/14/16	AQ	Water Matrix Spike	787283/54MW12

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA37760

Site: Radford AAP; VA **Report Date:** 10/31/2016 9:09:02

2 Sample(s) were collected on 10/11/2016 and were received at SGS Accutest Southeast (SASE) on 10/14/2016 properly preserved, at 3.2 Deg. C and intact. These Samples received an SASE job number of FA37760. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP62267

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA37760-2MSD, FA37760-2MS were used as the QC samples indicated.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Outside control limits due to high level in sample relative to spike amount. % RPD was within control limits in MS/MSD.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP62253

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA37760-2MS, FA37760-2MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Tetryl are outside control limits. % Recovery was above upper control limit, but samples were ND for this compound.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for Tetryl are outside control limits. Probable cause is due to matrix interference. % RPD was within control limits in MS/MSD.

FA37760-1 for Tetryl: Associated BS recovery outside control limits.

FA37760-2 for Tetryl: Associated BS and MS/MSD recovery outside control limits.

FA37760-2: All hits confirmed by reanalysis on a dissimilar column.

FA37760-2: Confirmation run.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: October 31, 2016

Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA37760-2	GCSEMI	PP380487.D	1,3,5-Trinitrobenzene, 3,5-Dinitroaniline, RDX
GGG2478-CC2478	GCSEMI	GG060247.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, MNX, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-ECC2478	GCSEMI	GG060257.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-IC2478	GCSEMI	GG060227.D	2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060228.D	2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060229.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060230.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060232.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-ICC2478	GCSEMI	GG060231.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-ICV2478	GCSEMI	GG060234.D	Nitroglycerine, PETN, TNX
GGG2478-ICV2478	GCSEMI	GG060235.D	3,5-Dinitroaniline
GPP2032-CC2032	GCSEMI	PP380282.D	HMX, m-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP2032-ECC2032	GCSEMI	PP380290.D	HMX, PETN, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380267.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, Nitroglycerine, PETN, RDX, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380268.D	1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, HMX, MNX, Nitrobenzene, PETN, RDX, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380269.D	2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, Nitroglycerine, PETN, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380270.D	3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, PETN, RDX, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380272.D	HMX, PETN, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380273.D	HMX, Nitroglycerine, PETN, TNX
GPP2032-ICC2032	GCSEMI	PP380271.D	HMX, PETN, RDX, Tetryl, TNX
GPP2032-ICV2032	GCSEMI	PP380274.D	PETN, TNX
GPP2032-ICV2032	GCSEMI	PP380275.D	m-Nitrotoluene

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
GPP2033-CC2032	GCSEMI	PP380292.D	HMX, MNX, PETN, Tetryl, TNX
GPP2033-CC2032	GCSEMI	PP380297.D	HMX, PETN, Tetryl, TNX
GPP2033-CC2032	GCSEMI	PP380309.D	HMX, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP2033-ECC2032	GCSEMI	PP380312.D	HMX, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP2034-CC2032	GCSEMI	PP380314.D	HMX, MNX, PETN, Tetryl, TNX
GPP2034-ECC2032	GCSEMI	PP380323.D	HMX, MNX, PETN, Tetryl, TNX
GPP2035-CC2032	GCSEMI	PP380327.D	MNX, PETN, Tetryl
GPP2035-ECC2032	GCSEMI	PP380338.D	PETN, RDX, Tetryl
GPP2036-CC2032	GCSEMI	PP380341.D	PETN, RDX, Tetryl
GPP2036-CC2032	GCSEMI	PP380352.D	PETN, RDX, Tetryl
GPP2036-CC2032	GCSEMI	PP380364.D	PETN, RDX, Tetryl
GPP2036-ECC2032	GCSEMI	PP380376.D	PETN, RDX, Tetryl
GPP2037-CC2032	GCSEMI	PP380378.D	PETN, RDX, Tetryl, TNX
GPP2037-CC2032	GCSEMI	PP380389.D	PETN, RDX, Tetryl, TNX
GPP2037-CC2032	GCSEMI	PP380401.D	PETN, RDX, Tetryl, TNX
GPP2037-CC2032	GCSEMI	PP380413.D	PETN, RDX, Tetryl, TNX
GPP2037-ECC2032	GCSEMI	PP380416.D	m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, Tetryl, TNX
GPP2038-CC2032	GCSEMI	PP380418.D	PETN, RDX, TNX
GPP2038-ECC2032	GCSEMI	PP380426.D	o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, TNX
GPP2039-CC2032	GCSEMI	PP380429.D	PETN
GPP2039-CC2032	GCSEMI	PP380440.D	PETN
GPP2039-ECC2032	GCSEMI	PP380444.D	PETN
GPP2040-CC2032	GCSEMI	PP380447.D	PETN, TNX
GPP2040-CC2032	GCSEMI	PP380458.D	PETN, TNX
GPP2040-ECC2032	GCSEMI	PP380462.D	PETN, TNX
GPP2041-CC2032	GCSEMI	PP380464.D	PETN
GPP2041-CC2032	GCSEMI	PP380475.D	PETN
GPP2041-CC2032	GCSEMI	PP380485.D	PETN
GPP2041-CC2032	GCSEMI	PP380493.D	PETN
GPP2041-ECC2032	GCSEMI	PP380500.D	PETN
OP62253-BS	GCSEMI	PP380395.D	PETN, TNX
OP62253-MS	GCSEMI	PP380399.D	1,3-Dinitrobenzene, 3,5-Dinitroaniline, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX
OP62253-MSD	GCSEMI	PP380400.D	1,3-Dinitrobenzene, 3,5-Dinitroaniline, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX

55 Manual Integrations were found for FA37760

Summary of Hits

Job Number: FA37760
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 10/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA37760-1	**787265/54MW1**					
No hits reported in this sample.						
FA37760-2	**787283/54MW12**					
Perchlorate		1.6	0.20	0.10	ug/l	SW846 6850
HMX [a]		12.1	0.20	0.10	ug/l	SW846 8330B
RDX [a]		6.0	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.41	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		4.1	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.0	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		19.1	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		10.6	0.20	0.10	ug/l	SW846 8330B

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	787265/54MW1		
Lab Sample ID:	FA37760-1	**Date Sampled:**	10/11/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q26575.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787265/54MW1		
Lab Sample ID:	FA37760-1	**Date Sampled:**	10/11/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP380397.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl [a]	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	99%		70-136%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787283/54MW12		
Lab Sample ID:	FA37760-2	**Date Sampled:**	10/11/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q26576.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	1.6	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787283/54MW12		
Lab Sample ID:	FA37760-2	**Date Sampled:**	10/11/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP380487.D	1	10/27/16	KL	10/17/16	OP62253	GPP2041
Run #2 [b]	GG060242.D	1	10/28/16	KL	10/17/16	OP62253	GGG2478

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	12.1	0.20	0.10	0.080	ug/l	
121-82-4	RDX	6.0	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.41	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	4.1	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.0	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl [c]	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	19.1	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	10.6	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	101%	120%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated BS and MS/MSD recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

FA37760

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 122845 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
1	787265	10/11/2016 1230	GROUND WATER	54MW1	Explosives + MNX/DNX/TNX 8330B	
	787265	10/11/2016 1230	GROUND WATER	54MW1	PERCHLORATE SW6850	
2	787283	10/11/2016 1530	GROUND WATER	54MW12 Designated MS/MSD	Explosives + MNX/DNX/TNX 8330B	
	787283	10/11/2016 1530	GROUND WATER	54MW12 Designated MS/MSD	PERCHLORATE SW6850	

Relinquished by: Brett Szymanski FX Date/Time: 10/13/2016 14:50

Received by: J. Crane FX (A186) Date/Time: 10-14-16 10:30 Receipt Temperature (C)

COMMENTS: FULL LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX)

3-2

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

5.1 5

FA37760: Chain of Custody
Page 1 of 3

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA 37760 CLIENT: CT LABORATORIES PROJECT: RAD FOLD AAP

DATE/TIME RECEIVED: 10-14-16 10:30 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER: _____

AIRBILL NUMBERS: 1Z 1A3 77E 01 4131 8302

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.4
- [ ] OBSERVED TEMPS: 3.6
- [ ] CORRECTED TEMPS: 3.2 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

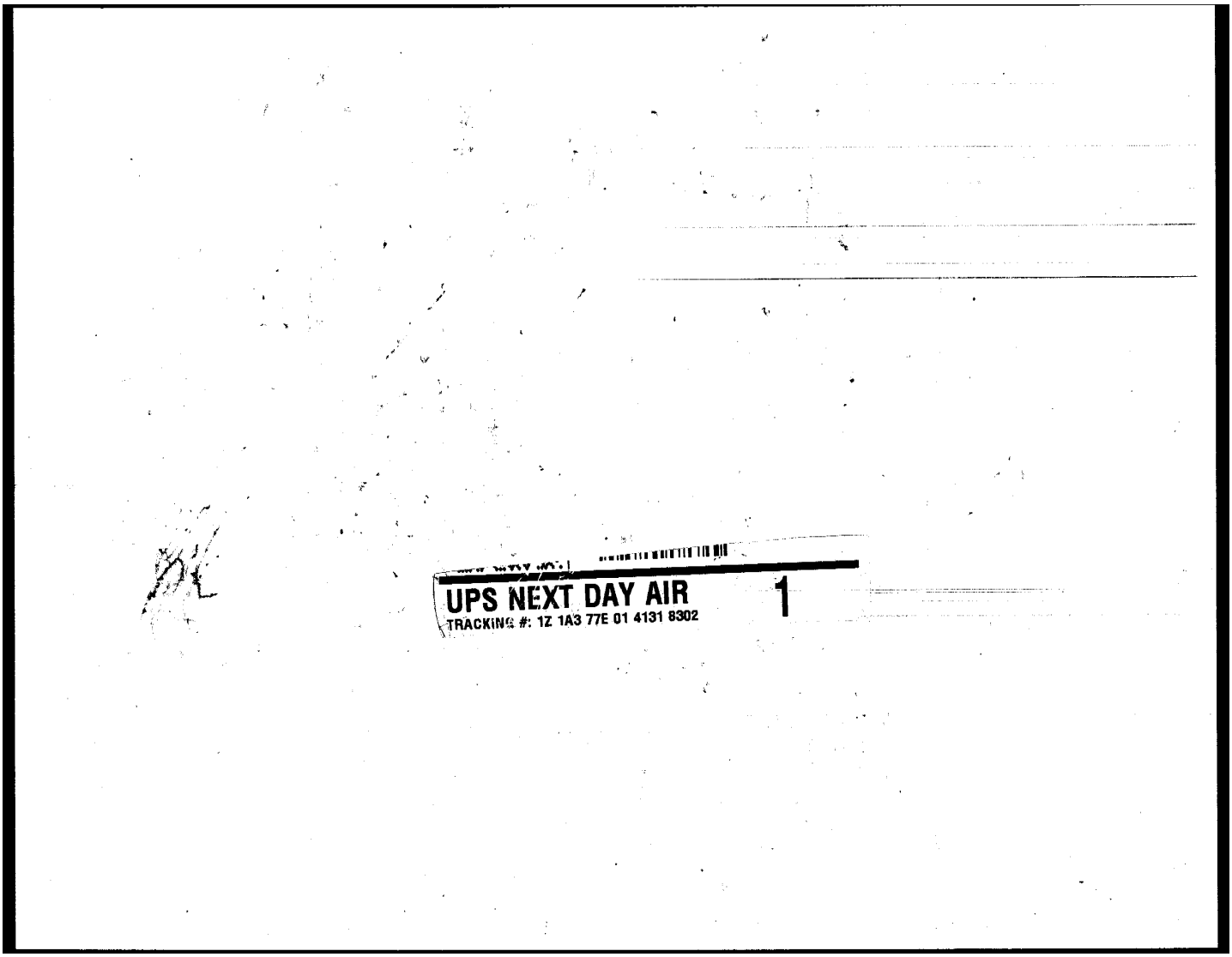
SUMMARY OF COMMENTS: _____

TECHNICIAN SIGNATURE/DATE JE 10-14-16 REVIEWER SIGNATURE/DATE KD 10-14-16

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA37760: Chain of Custody
Page 2 of 3



FA37760: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA37760
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 10/11/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP62267	SW846 6850						
OP62267-BS	14797-73-0	Perchlorate	BSP	REC	100	%	84-119
OP62267-MS	14797-73-0	Perchlorate	MS	REC	50 [a]	%	84-119
OP62267-MSD	14797-73-0	Perchlorate	MSD	REC	50 [a]	%	84-119
OP62267-MSD	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP62253	SW846 8330B						
OP62253-BS	2691-41-0	HMX	BSP	REC	104	%	65-135
OP62253-BS	121-82-4	RDX	BSP	REC	96	%	68-130
OP62253-BS		DNX	BSP	REC	86	%	66-119
OP62253-BS		MNX	BSP	REC	98	%	57-132
OP62253-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	86	%	71-117
OP62253-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	96	%	78-120
OP62253-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	108	%	77-127
OP62253-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	102	%	78-120
OP62253-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	104	%	79-120
OP62253-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	102	%	76-125
OP62253-BS	98-95-3	Nitrobenzene	BSP	REC	96	%	65-134
OP62253-BS	88-72-2	o-Nitrotoluene	BSP	REC	102	%	70-127
OP62253-BS	99-08-1	m-Nitrotoluene	BSP	REC	104	%	73-125
OP62253-BS	99-99-0	p-Nitrotoluene	BSP	REC	108	%	71-127
OP62253-BS	479-45-8	Tetryl	BSP	REC	134	%	64-128
OP62253-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	102	%	73-125
OP62253-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	90	%	71-123
OP62253-BS	55-63-0	Nitroglycerine	BSP	REC	99	%	74-127
OP62253-BS	78-11-5	PETN	BSP	REC	117	%	73-127
OP62253-MS	2691-41-0	HMX	MS	REC	118	%	65-135
OP62253-MS	121-82-4	RDX	MS	REC	103	%	68-130
OP62253-MS		DNX	MS	REC	92	%	66-119
OP62253-MS		MNX	MS	REC	103	%	57-132
OP62253-MS	618-87-1	3,5-Dinitroaniline	MS	REC	85	%	71-117
OP62253-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	91	%	78-120
OP62253-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	115	%	77-127
OP62253-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	102	%	78-120
OP62253-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	104	%	79-120
OP62253-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	102	%	76-125
OP62253-MS	98-95-3	Nitrobenzene	MS	REC	97	%	65-134
OP62253-MS	88-72-2	o-Nitrotoluene	MS	REC	100	%	70-127
OP62253-MS	99-08-1	m-Nitrotoluene	MS	REC	99	%	73-125
OP62253-MS	99-99-0	p-Nitrotoluene	MS	REC	101	%	71-127
OP62253-MS	479-45-8	Tetryl	MS	REC	136	%	64-128
OP62253-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	100	%	73-125

* Sample used for QC is not from job FA37760

QC Evaluation: DOD QSM5 Limits

Job Number: FA37760
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 10/11/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP62253-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	88	%	71-123
OP62253-MS	55-63-0	Nitroglycerine	MS	REC	103	%	74-127
OP62253-MS	78-11-5	PETN	MS	REC	110	%	73-127
OP62253-MSD	2691-41-0	HMX	MSD	REC	117	%	65-135
OP62253-MSD	2691-41-0	HMX	MSD	RPD	0	%	30
OP62253-MSD	121-82-4	RDX	MSD	REC	98	%	68-130
OP62253-MSD	121-82-4	RDX	MSD	RPD	3	%	30
OP62253-MSD		DNX	MSD	REC	89	%	66-119
OP62253-MSD		DNX	MSD	RPD	3	%	30
OP62253-MSD		MNX	MSD	REC	99	%	57-132
OP62253-MSD		MNX	MSD	RPD	4	%	30
OP62253-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	94	%	71-117
OP62253-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	10	%	30
OP62253-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	99	%	78-120
OP62253-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	8	%	30
OP62253-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	118	%	77-127
OP62253-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	3	%	30
OP62253-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	102	%	78-120
OP62253-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	104	%	79-120
OP62253-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	102	%	76-125
OP62253-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD	98-95-3	Nitrobenzene	MSD	REC	98	%	65-134
OP62253-MSD	98-95-3	Nitrobenzene	MSD	RPD	1	%	30
OP62253-MSD	88-72-2	o-Nitrotoluene	MSD	REC	102	%	70-127
OP62253-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	2	%	30
OP62253-MSD	99-08-1	m-Nitrotoluene	MSD	REC	103	%	73-125
OP62253-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	4	%	30
OP62253-MSD	99-99-0	p-Nitrotoluene	MSD	REC	103	%	71-127
OP62253-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	2	%	30
OP62253-MSD	479-45-8	Tetryl	MSD	REC	137	%	64-128
OP62253-MSD	479-45-8	Tetryl	MSD	RPD	1	%	30
OP62253-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	98	%	73-125
OP62253-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	1	%	30
OP62253-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	88	%	71-123
OP62253-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD	55-63-0	Nitroglycerine	MSD	REC	103	%	74-127
OP62253-MSD	55-63-0	Nitroglycerine	MSD	RPD	0	%	30
OP62253-MSD	78-11-5	PETN	MSD	REC	112	%	73-127
OP62253-MSD	78-11-5	PETN	MSD	RPD	2	%	30

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FA37760

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62267-MB	Q26574.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742

The QC reported here applies to the following samples: **Method:** SW846 6850

FA37760-1, FA37760-2

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62267-BS	Q26573.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742

The QC reported here applies to the following samples: **Method:** SW846 6850

FA37760-1, FA37760-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.20	100	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62267-MS	Q26577.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
OP62267-MSD	Q26578.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
FA37760-2	Q26576.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742

The QC reported here applies to the following samples: **Method:** SW846 6850

FA37760-1, FA37760-2

CAS No.	Compound	FA37760-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	1.6		0.2	1.7	50* [a]	0.2	1.7	50* [a]	0	80-120/15

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ742-CC742	**Injection Date:**	10/17/16
Lab File ID:	Q26568.D	**Injection Time:**	18:17
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	28358	4.59
Check Std [b]	33212	4.60
Upper Limit [c]	42537	6.60
Lower Limit [d]	14179	2.60

Lab Sample ID	IS 1 AREA	RT
ZZZZZZ	35824	4.59
OP62267-BS	35929	4.61
OP62267-MB	36069	4.61
FA37760-1	24868	4.42
FA37760-2	24186	4.42
OP62267-MS	23915	4.42
OP62267-MSD	24178	4.43
ZZZZZZ	23154	4.41
ZZZZZZ	23541	4.42

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ742-ICC742 Q26538.D 10/17/16 14:29. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-ICC742
Lab FileID: Q26538.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2 : D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3 : D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4 : D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5 : D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6 : D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7 : D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8 : D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) C118O4	----------ISTD----------										
3) Perchlorate	0.9262	0.8879	0.9087	0.9426	0.9865	1.0059	-----	-----	0.9430	4.826	0.9996

*(value) - Average RF below (value)

6.5.1

6

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-ICV742
Lab FileID: Q26543.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26543
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.255	12.8	112.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26568.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26568
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.909	-4.6	95.4

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26569.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26569
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.177	-11.6	88.4

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26581.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26581
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.771	-11.4	88.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26582.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26582
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.186	-7.0	93.0

CC Criteria: +/- 30%

GC/MS Semi-volatiles

Raw Data

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Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26575.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:09
Sample Name	:	FA37760-1
Vial	:	Vial 36
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

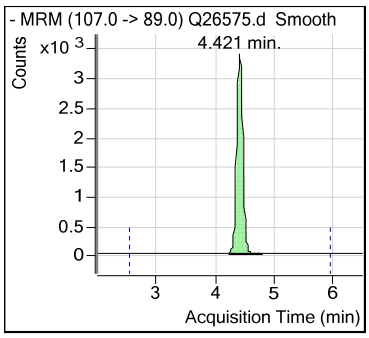
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.421	107.0 -> 89.0	24868	5.000	ng/ml	0.171	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

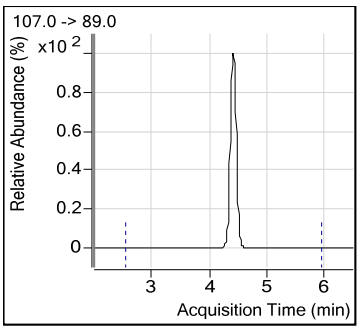
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

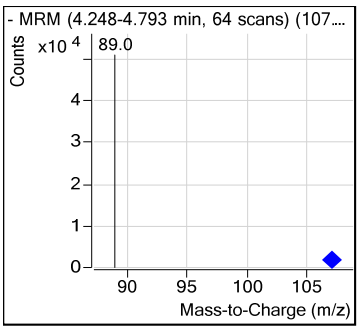
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26575.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:09
Sample Name	:	FA37760-1
Vial	:	Vial 36
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

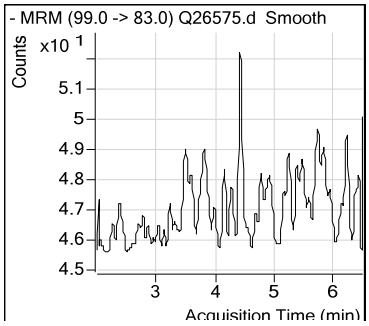
Cl18O4

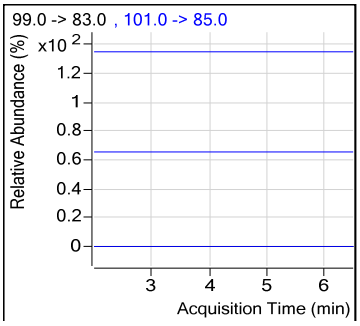


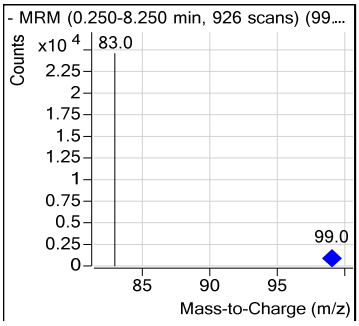




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26576.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:16
Sample Name	:	FA37760-2
Vial	:	Vial 37
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

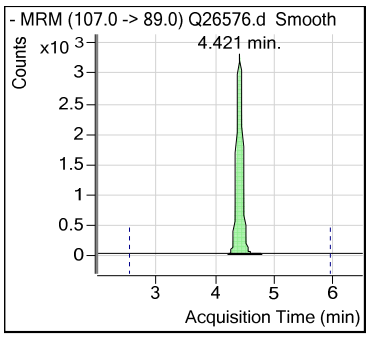
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.421	107.0 -> 89.0	24186	5.000	ng/ml	0.171	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.424	99.0 -> 83.0	7602	1.573	ng/ml	92	2.9
		101.0 -> 85.0	2599				

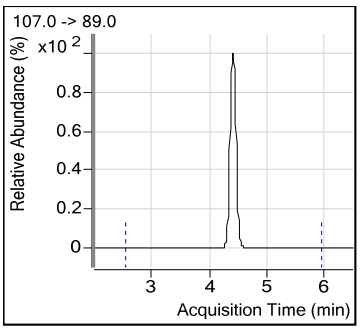
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

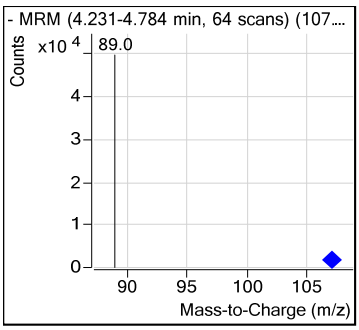
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26576.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:16
Sample Name	:	FA37760-2
Vial	:	Vial 37
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

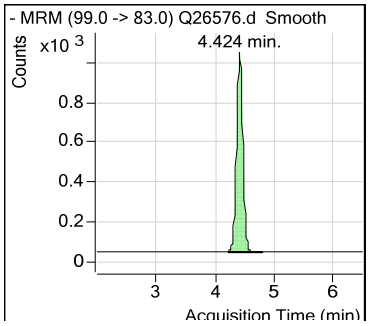
Cl18O4

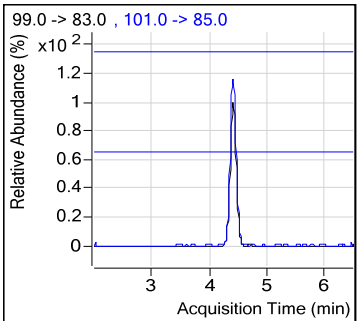


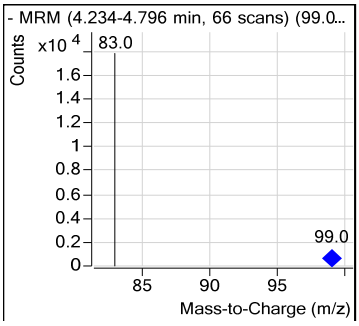




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26574.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:02
Sample Name	:	OP62267-MB
Vial	:	Vial 35
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

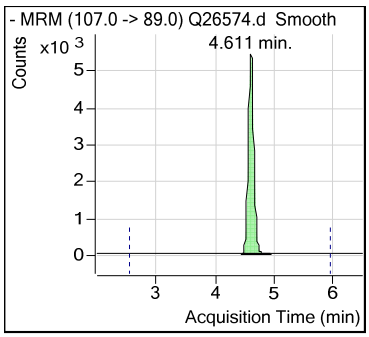
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.611	107.0 -> 89.0	36069	5.000	ng/ml	0.361	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

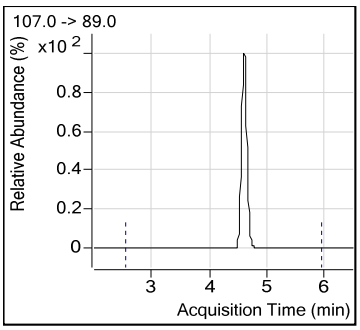
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

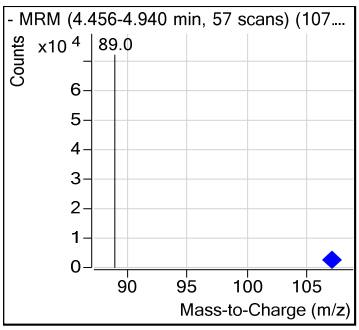
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26574.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:02
Sample Name	:	OP62267-MB
Vial	:	Vial 35
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

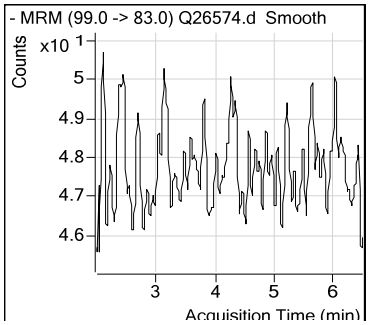
Cl18O4

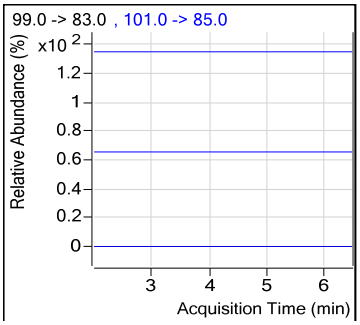


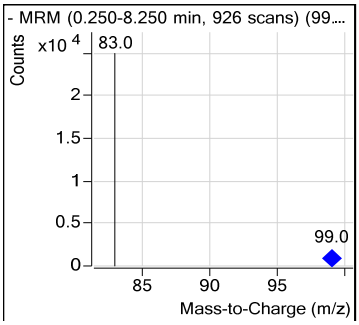




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26573.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:54
Sample Name	:	OP62267-BS
Vial	:	Vial 34
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

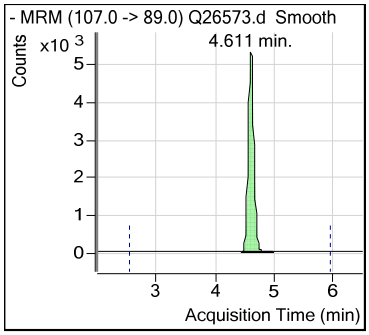
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.611	107.0 -> 89.0	35929	5.000	ng/ml	0.361	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.615	99.0 -> 83.0	1445	0.201	ng/ml	95	3.1
		101.0 -> 85.0	473				

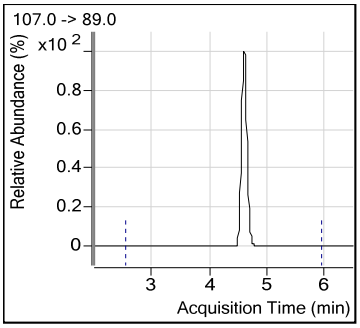
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

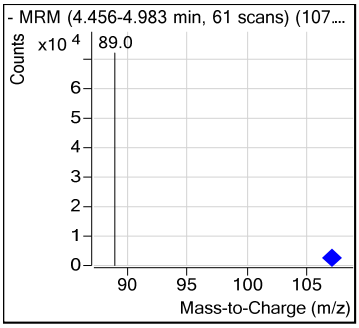
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26573.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:54
Sample Name	:	OP62267-BS
Vial	:	Vial 34
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

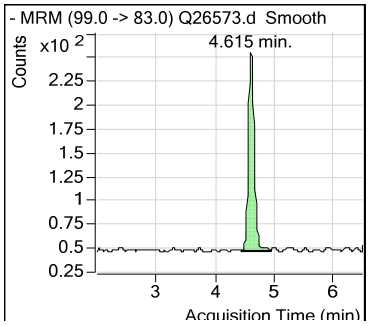
Cl18O4

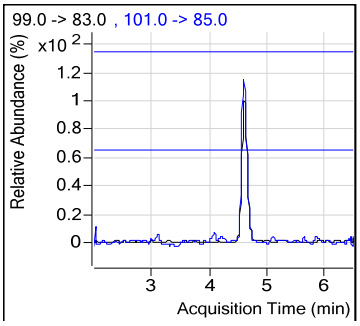


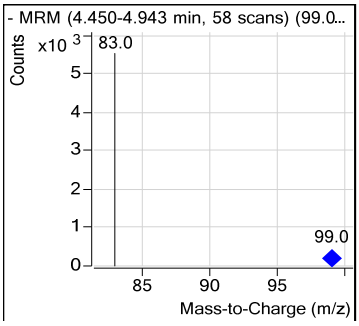




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:24
Sample Name	:	OP62267-MS
Vial	:	Vial 38
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

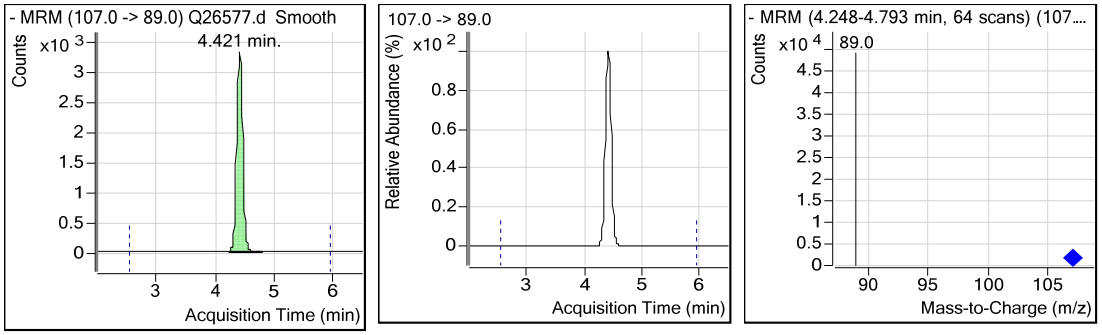
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.421	107.0 -> 89.0	23915	5.000	ng/ml	0.171	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.424	99.0 -> 83.0	8164	1.708	ng/ml	87	2.7
		101.0 -> 85.0	3029				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

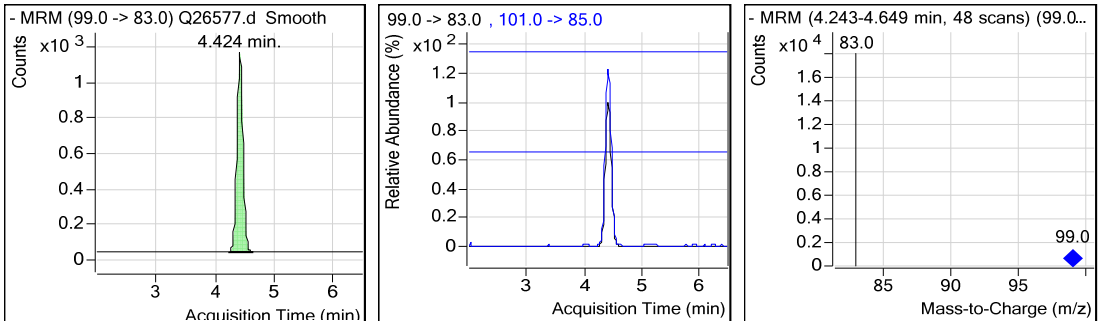
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:24
Sample Name	:	OP62267-MS
Vial	:	Vial 38
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:31
Sample Name	:	OP62267-MSD
Vial	:	Vial 39
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.430	107.0 -> 89.0	24178	5.000	ng/ml	0.180	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.424	99.0 -> 83.0	8260	1.709	ng/ml	88	2.7
		101.0 -> 85.0	3012				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

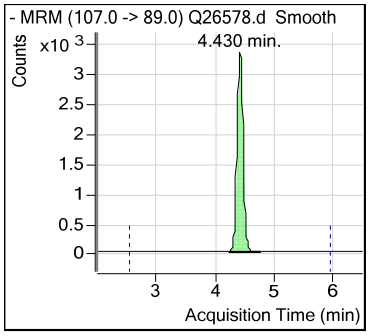
7.4.2

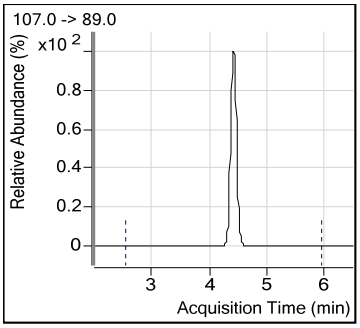
7

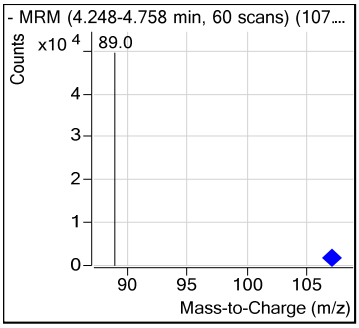
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:31
Sample Name	:	OP62267-MSD
Vial	:	Vial 39
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

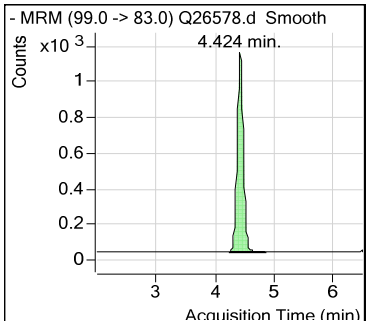
Cl18O4

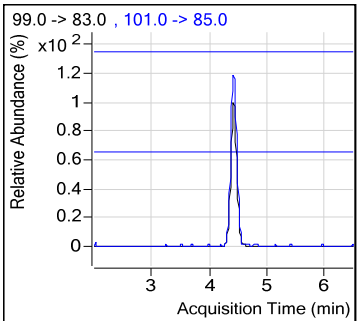


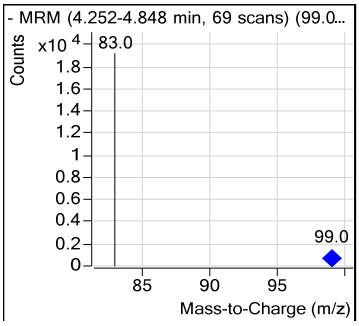




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26535.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:06
Sample Name	:	IC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

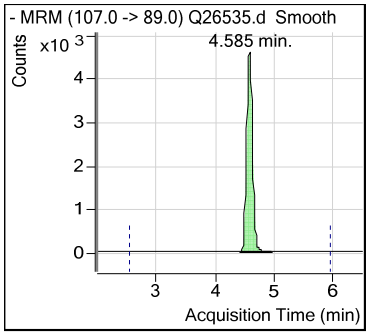
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	31717	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.589	99.0 -> 83.0	1175	0.185	ng/ml	85	2.6
		101.0 -> 85.0	448				

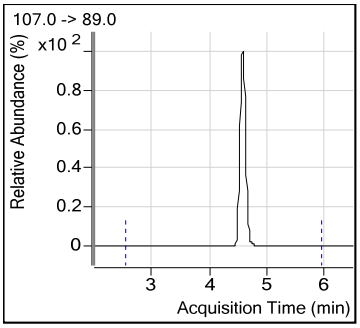
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

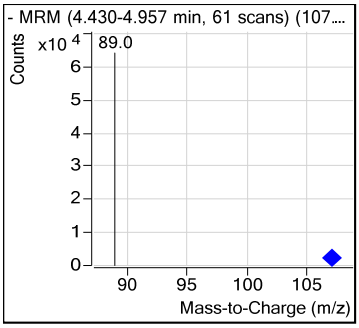
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26535.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:06
Sample Name	:	IC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

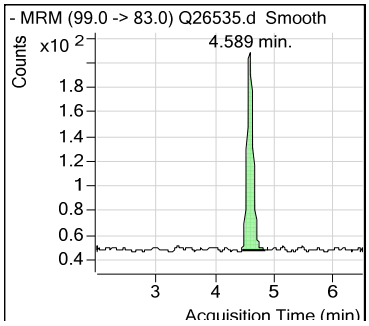
Cl18O4

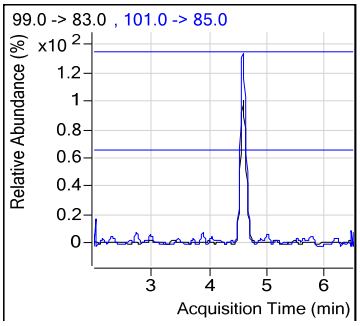


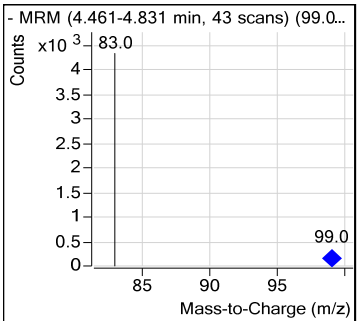




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26536.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:14
Sample Name	:	IC742-0.5
Vial	:	Vial 3
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	32070	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.589	99.0 -> 83.0	2848	0.444	ng/ml	82	2.5
		101.0 -> 85.0	1125				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

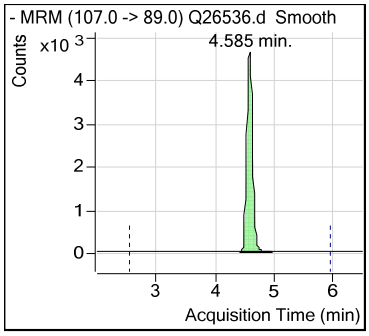
7.5.2

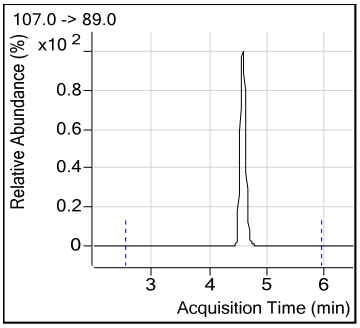
7

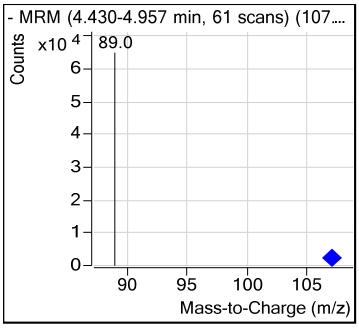
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26536.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:14
Sample Name	:	IC742-0.5
Vial	:	Vial 3
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

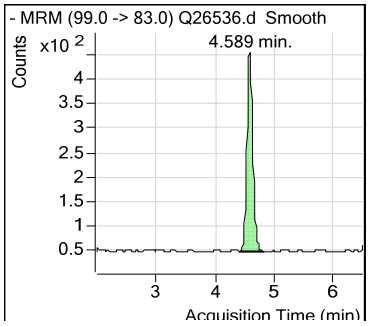
Cl18O4

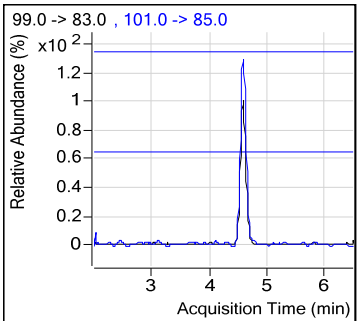


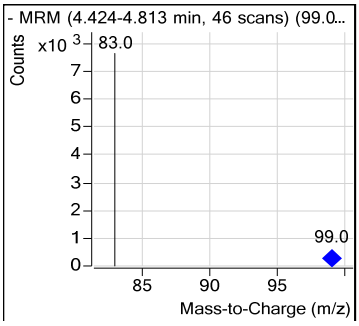




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26537.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:21
Sample Name	:	IC742-1.0
Vial	:	Vial 4
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

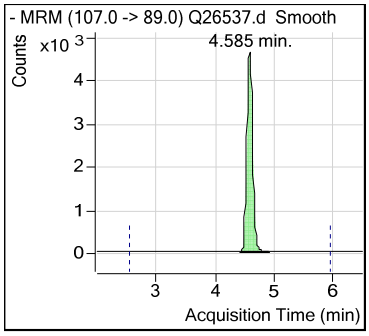
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	31977	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.589	99.0 -> 83.0	5812	0.909	ng/ml	91	2.8
		101.0 -> 85.0	2041				

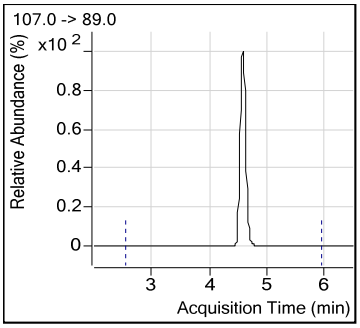
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

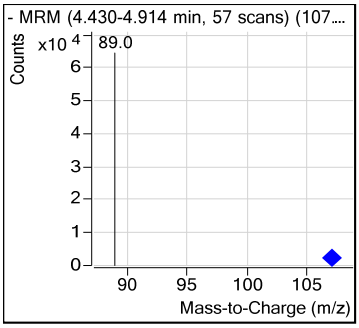
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26537.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:21
Sample Name	:	IC742-1.0
Vial	:	Vial 4
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

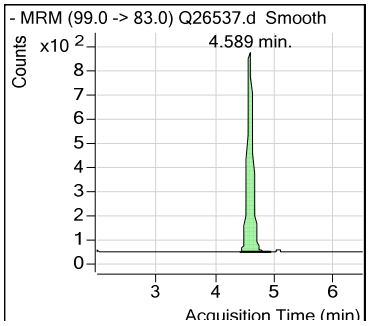
Cl18O4

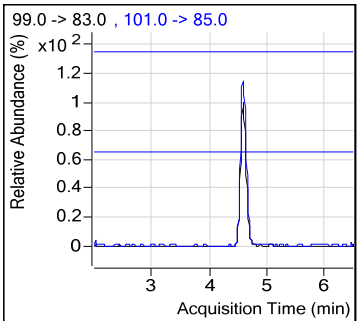


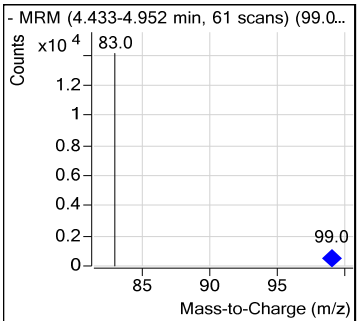




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26538.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:29
Sample Name	:	ICC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	31347	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	11819	1.887	ng/ml	90	2.8
		101.0 -> 85.0	4201				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

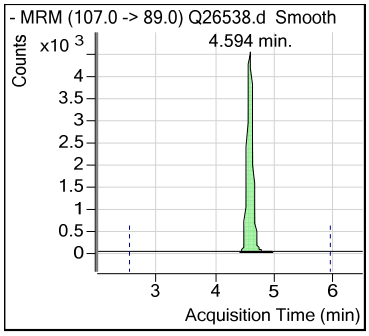
7.5.4

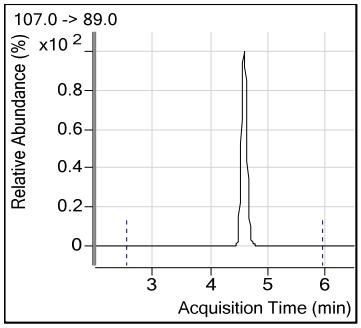
7

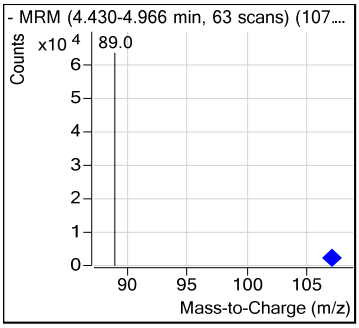
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26538.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:29
Sample Name	:	ICC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

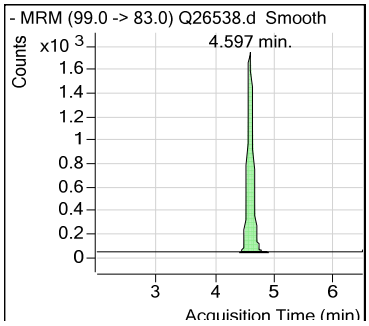
Cl18O4

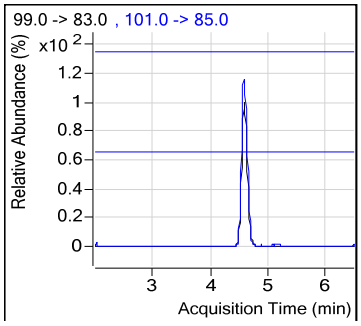


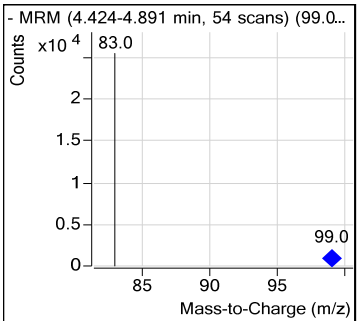




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26539.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:36
Sample Name	:	IC742-5.0
Vial	:	Vial 6
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

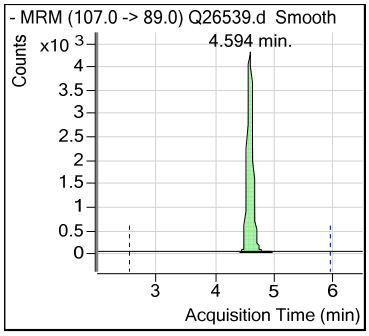
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	29827	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	29426	4.936	ng/ml	91	2.8
		101.0 -> 85.0	10326				

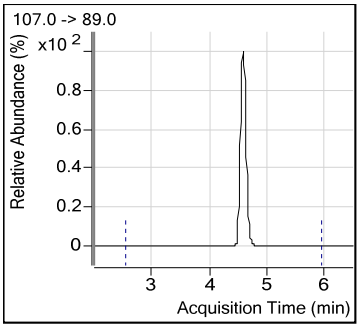
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

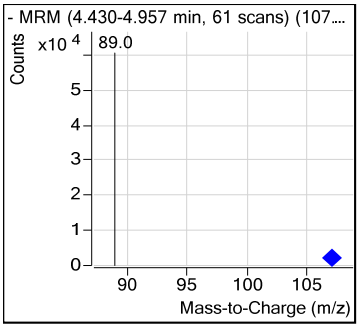
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26539.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:36
Sample Name	:	IC742-5.0
Vial	:	Vial 6
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

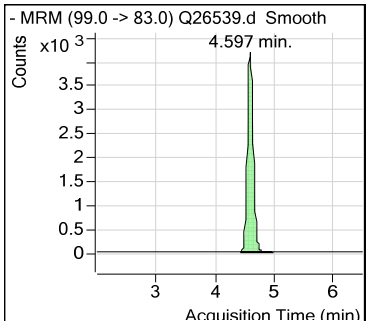
Cl18O4

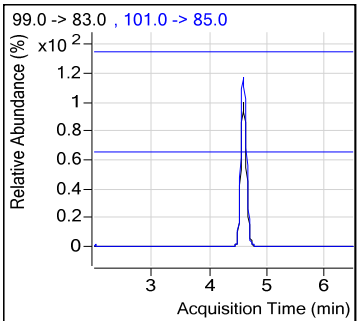


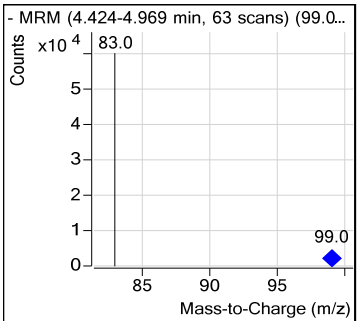




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26540.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:44
Sample Name	:	IC742-10
Vial	:	Vial 7
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

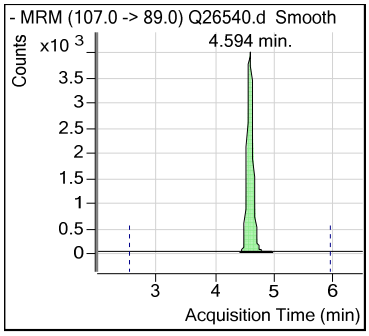
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	28307	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	56952	10.067	ng/ml	93	3.0
		101.0 -> 85.0	19202				

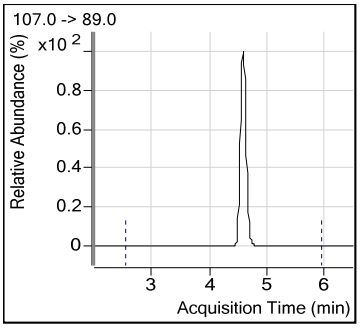
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

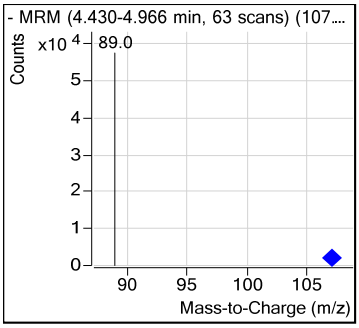
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26540.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:44
Sample Name	:	IC742-10
Vial	:	Vial 7
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

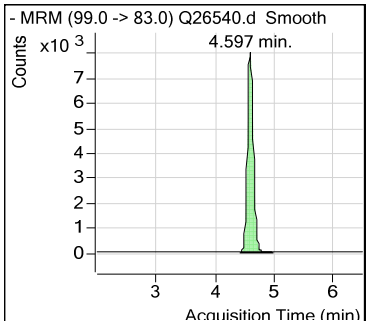
Cl18O4

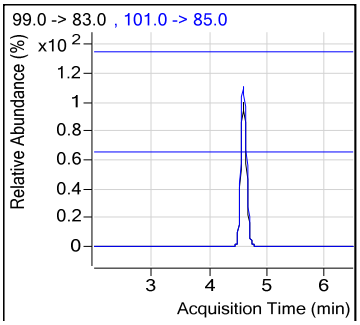


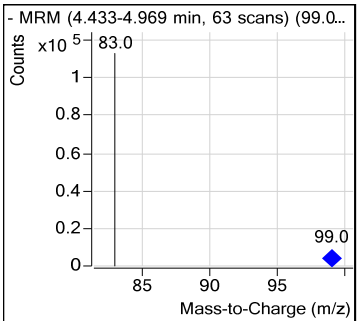




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26541.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:51
Sample Name	:	IC742-25
Vial	:	Vial 8
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

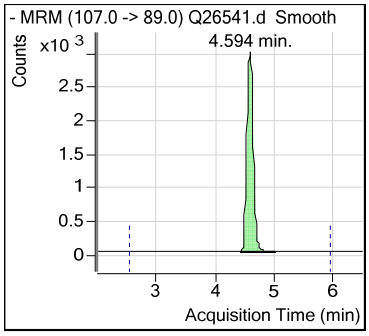
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	22743	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	125061	27.514	ng/ml	95	3.0
		101.0 -> 85.0	41037				

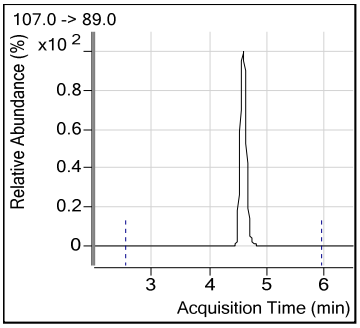
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

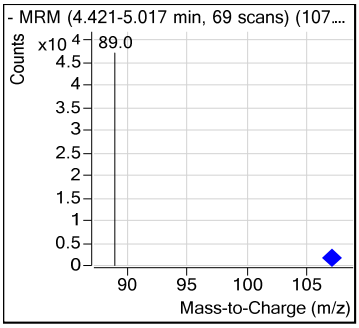
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26541.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:51
Sample Name	:	IC742-25
Vial	:	Vial 8
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

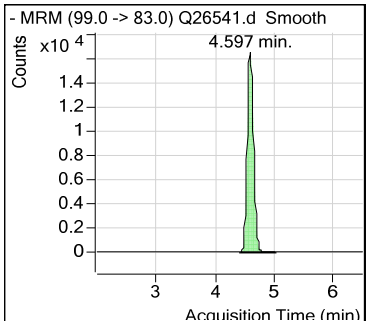
Cl18O4

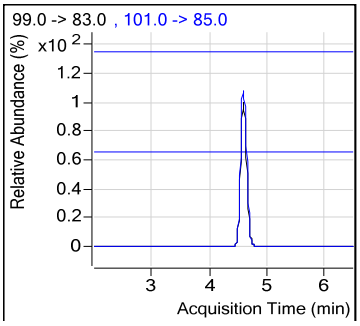


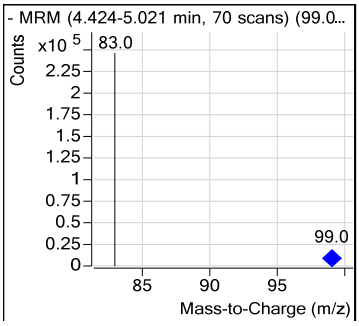




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26542.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:58
Sample Name	:	IC742-50
Vial	:	Vial 9
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

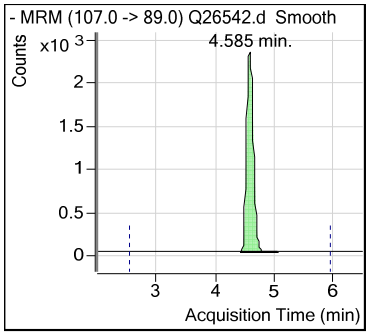
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	18876	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	202303	53.625	ng/ml	95	3.0
		101.0 -> 85.0	66391				

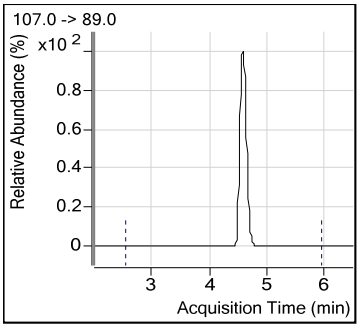
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

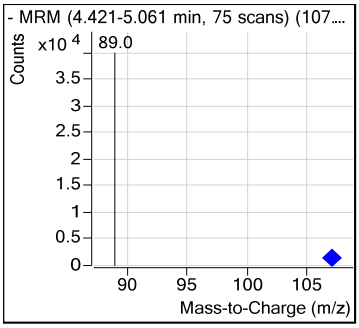
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26542.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:58
Sample Name	:	IC742-50
Vial	:	Vial 9
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

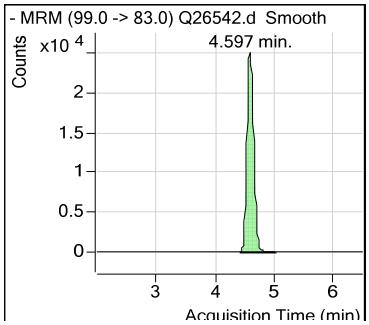
Cl18O4

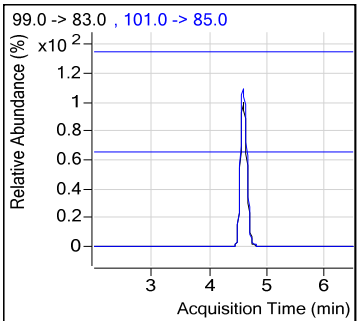


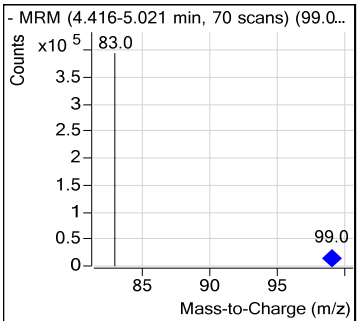




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26543.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 15:11
Sample Name	:	ICV742-2.0
Vial	:	Vial 10
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

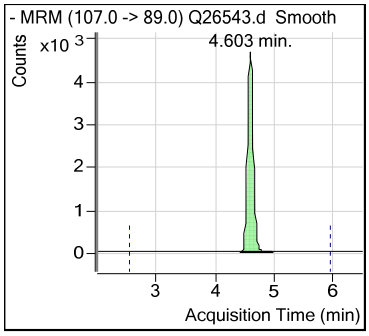
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	32171	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	14500	2.255	ng/ml	88	2.7
		101.0 -> 85.0	5315				

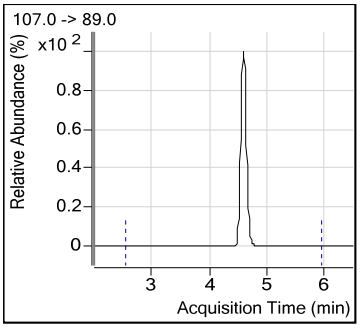
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

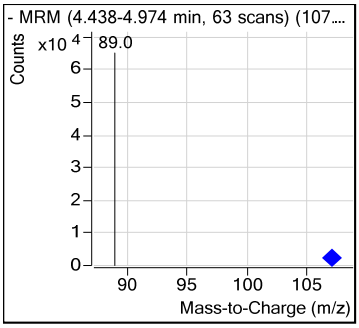
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26543.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 15:11
Sample Name	:	ICV742-2.0
Vial	:	Vial 10
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

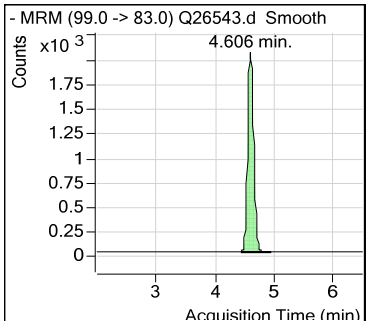
Cl18O4

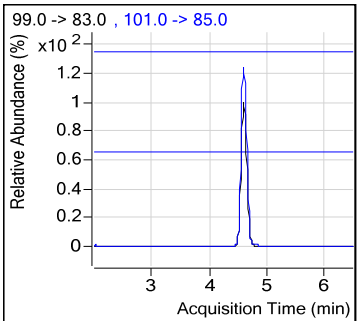


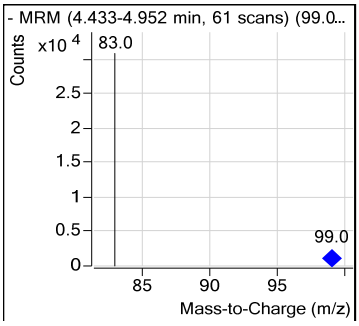




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26568.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:17
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	33212	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	12668	1.909	ng/ml	94	3.0
		101.0 -> 85.0	4241				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

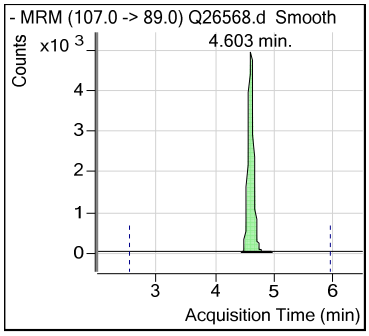
7.5.10

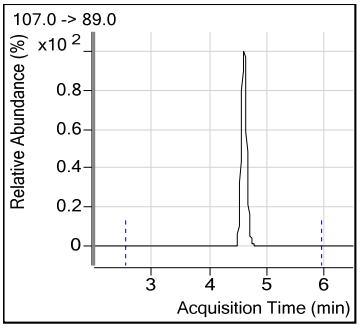
7

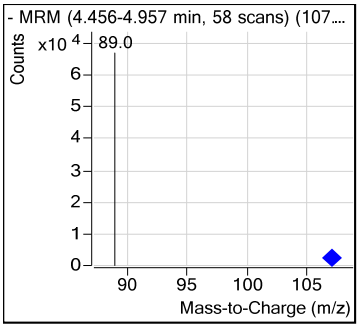
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26568.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:17
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

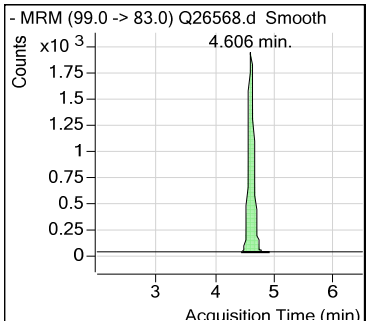
Cl18O4

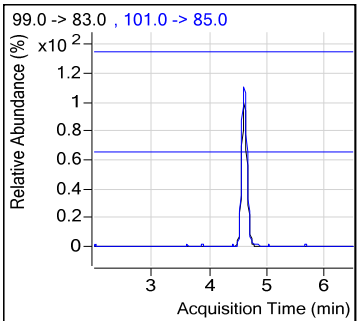


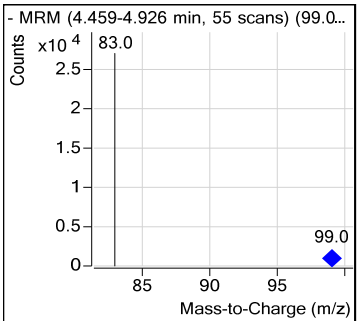




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26569.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:25
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

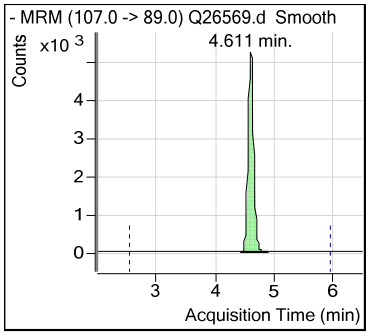
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.611	107.0 -> 89.0	34873	5.000	ng/ml	0.361	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	1232	0.177	ng/ml	86	2.7
		101.0 -> 85.0	463				

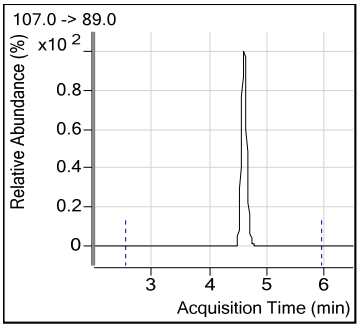
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

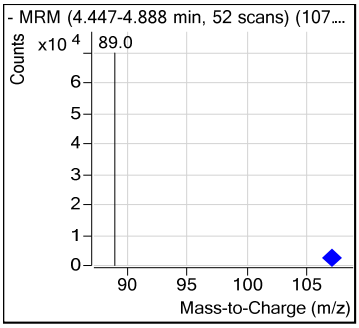
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26569.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:25
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

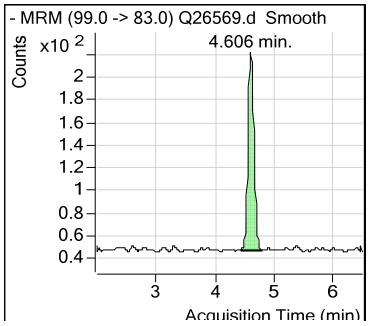
Cl18O4

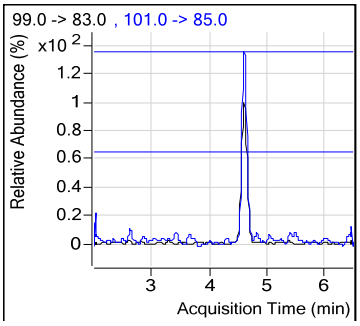


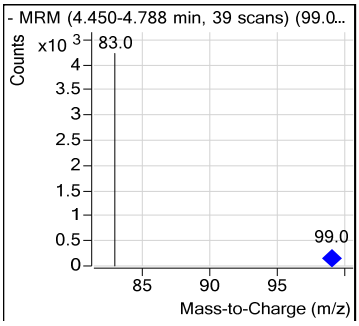




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:54
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	31711	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	11224	1.771	ng/ml	95	3.1
		101.0 -> 85.0	3674				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

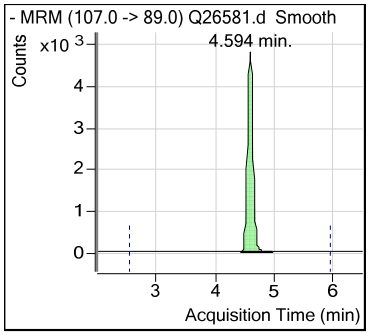
7.5.12

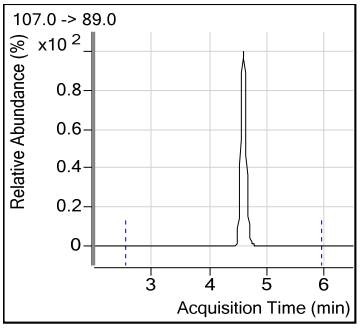
7

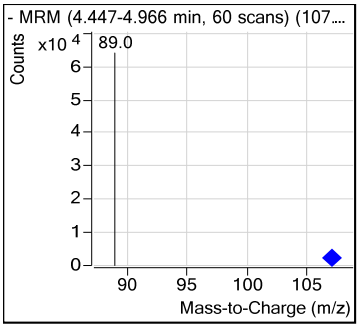
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:54
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

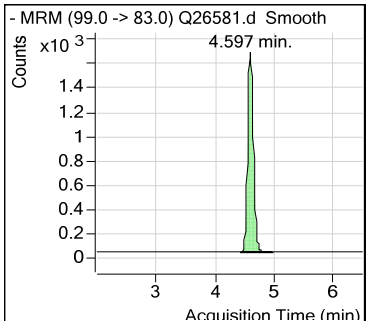
Cl18O4

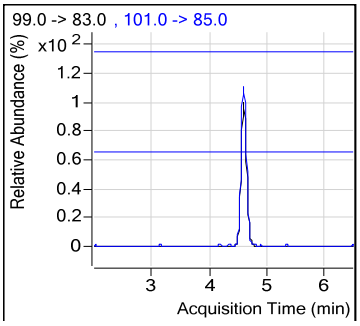


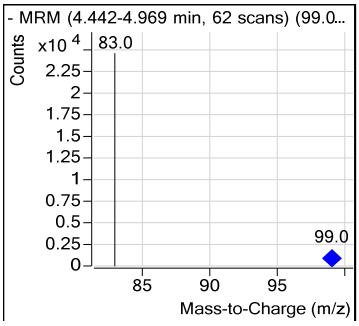




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26582.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:01
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

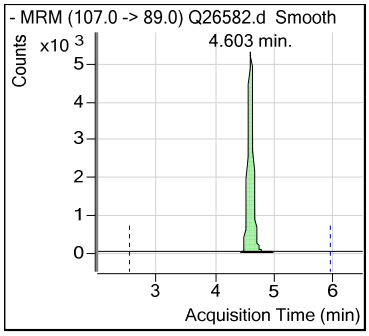
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	34712	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	1291	0.186	ng/ml	95	3.1
		101.0 -> 85.0	422				

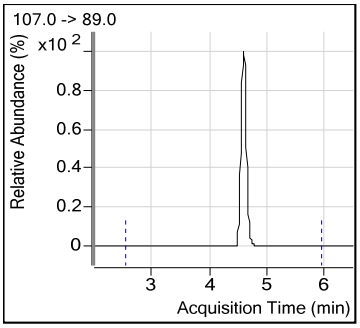
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

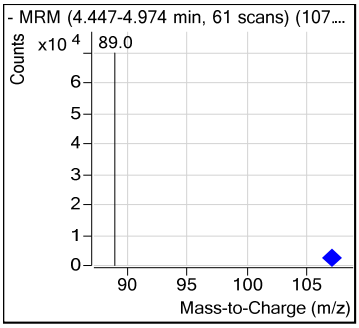
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26582.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:01
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

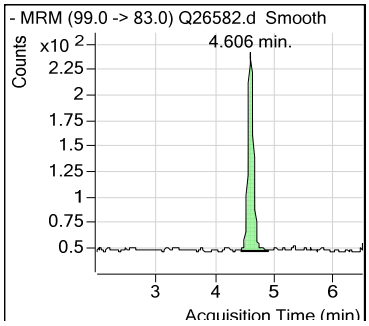
Cl18O4

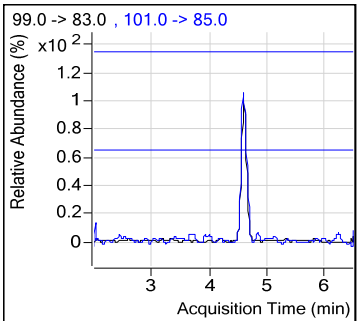


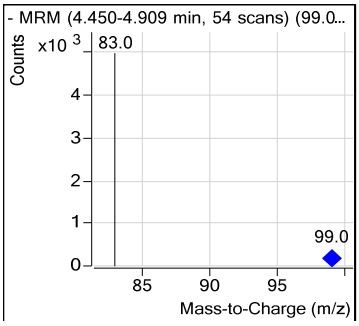




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 1017 SQ 742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	95/5 167396 / 162332
ELUENT B LOT #:	95/5 162332 / 167396
WATER LOT #:	167396
ISTD Lot #:	0064

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26507	1	CCB	6850						ND
Q 08	1								ND
Q 09	1								ND
Q 10	1								ND
Q 11	1								ND ISTD ↓ low curve
Q 12	2	FCL742-0.2		LC711	20ul 10ml				QR ISTD went high
Q 13	3	-0.5			50ul 10ml				
Q 14	4	-1.0			100ul 10ml				
Q 15	5	-2.0			200ul 10ml				
Q 16	6	-5.0			500ul 10ml				
Q 17	7	-10			1.0ml 10ml				
Q 18	8	-25			2.5ml 10ml				
Q 19	9	-50			5.0ml 10ml				
Q 20	10	FCV742-2.0		LC734	200ul 10ml				
Q 21	11	FCS742-0.2			20ul 10ml				
Q 22	11	-0.2			↓				
Q 23	12	OP62262-BS		OP62262	14				
Q 24	13	-MS							
Q 25	14	FMS742-1							
Q 26	15	OP62262-MS							

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	95/5 165396/162732
ELUENT B LOT #:	95/5 162732/165396
WATER LOT #:	165396
ISTD Lot #:	8064

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 265 27	16	OP62262-MSD	PFC	OP62262					RA ISTD wint ↑
Q 28	17	FA37412-2							
Q 29	18	-3							
Q 30	5	CC742-2.0		LC711	200ul 10ml				
Q 31	2	-0.2			20ul 10ml				
Q 32	1	CCA			—				
Q 33	1	CCB			—				
Q 34	1	CCD			—			L10K	
Q 35	2	IC742-0.2		LC711	20ul 10ml	2.6	NPEAK	~~L10K~~	✓
Q 36	3	0.5			50ul 10ml	2.5			✓
Q 37	4	-1.0			100ul 10ml	2.8			✓
Q 38	5	ICC742-2.0			200ul 10ml	2.8			✓
Q 39	6	IC742-5.0			500ul 10ml	2.8			✓
Q 40	7	-10			1.0ml 10ml	3.0			✓
Q 41	8	-25			2.5ml 10ml	3.0			✓ Drop
Q 42	9	-50			5.0ml 10ml	3.0			✓ ↓
Q 43	10	FCV742-2.0		LC734	200ul 10ml	2.7			Poss
Q 44	11	FCS742-0.2		↓	20ul 10ml	2.8		L10K L15K	Poss 2016 Poss
Q 45	12	OP62262-BS		OP62262	1X	2.5		L10K ~~L15K~~	✓
Q 46	13	-MB	↓	↓	↓	—	NPEAK	↓	ND

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K-Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	95% 165396 / 162332
ELUENT B LOT #:	95% 162332 / 165396
WATER LOT #:	165396
ISTD Lot #:	8062

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26547	14	FA37412-1	6850	OP62262	1x	2.6	MP	LOW	ND
Q 48	15	OP62262-MS				2.7			✓
Q 49	16	-MSD				2.5			✓
Q 50	17	FA37412-2				1.6	MP		ND
Q 51	18	-3				—			ND
Q 52	19	FA37413-1				2.3	MP		ND
Q 53	20	-2				—			ND
Q 54	21	-3				—			ND
Q 55	5	CC742-2.0		LC711	2over 10ml	2.8			Pass
Q 56	2	-0.2		↓	2over 10ml	2.8			Pass
Q 57	1	CCB		—	—	—			ND
Q 58	22	FA37414-1		OP62262	1x	2.5	MP		ND
Q 59	23	-2				3.3	MP		ND
Q 60	24	-3				3.0			✓
Q 61	25	FA37415-1				—			ND
Q 62	26	-2				2.5			✓
Q 63	27	-3				2.5			✓
Q 64	28	FA37416-1				2.6			✓
Q 65	29	-2				3.0			✓ Run 2x
Q 66	30	-3	↓	↓	↓	1.9	MP	↓	ND

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	9F1F 165396/162732
ELUENT B LOT #:	9F1F 162732/165396
WATER LOT #:	165396
ISTD Lot #:	8062

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26567	31	FA37416-4	6850	OP62262	1X	3.0	MP	LIM	ND
Q 68	5	CCL742-2.0		LL711	200uL 10ml	3.0			Pos
Q 69	2	-0.2		↓	200uL 10ml	2.7			Poss
Q 70	1	CCB		—	—	—			ND
Q 71	32	FA37416-5		OP62262	1X	3.0			✓ Run 2x
Q 72	33	-6		↓	↓	2.4			ND
Q 73	34	OP62276-BS		OP62276	1X	3.1			✓
Q 74	35	-MB				—			ND
Q 75	36	FA37760-1				ND			ND
Q 76	37	-2				2.9			✓
Q 77	38	OP62276-MS				2.7			✓
Q 78	39	-MSD				2.7			✓
Q 79	40	FA37761-1				2.8			✓
Q 80	41	-2		↓	↓	2.6			✓
Q 81	5	CCL742-2.0		LL711	200uL 10ml	3.1			Pos
Q 82	2	-0.2		↓	200uL 10ml	3.1			Poss
Q 83	1	CCB		—	—	—			ND
Q 84	42	FA37761-3		OP62276	1X	3.8			✓
Q 85	43	-4		↓	↓	—			ND
Q 86	44	FA37708-79	↓	↓	↓	3.2		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	R Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	perchlorate 2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH:	SQ 742

ANALYST:	NAS NAS 10/18/16
ELUENT A LOT #:	95/5 LC4 165396/162732
ELUENT B LOT #:	95/5 162732/165396
WATER LOT #:	165396
ISTD Lot #:	8062

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26587	5	CC742-2.0	PFC	LC711	2wve 10ml	2.9		<10K	Pass
Q 88	2	0.2		↓	2wve 10ml	2.5			Pass
Q 89	1	CCB		—	—	—			ND
Q 90	45	OA62263-BS		APO2263	1X	2.4			✓
Q 91	46	-MB				—			ND
Q 92	47	FA37707-BT				2.3			✓
Q 93	48	FA37415-4				—			ND
Q 94	49	OP62263-MS				2.5			✓
Q 95	50	-MSD				3.1			✓
Q 96	51	FA37415-5				—			ND
Q 97	52	FA37614-1				2.9			✓
Q 98	53	-2		↓	↓	2.9			✓
Q 99	5	CC742-2.0		LC714	2wve 10ml	2.9			Pass
Q 600	2	-0.2		↓	2wve 10ml	2.9			Pass
Q 601	1	CCB	↓	—	—	—		↓	ND
Q									
Q									
Q									
Q									
Q							NAS 10-18-16		

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 10-17-16 1000 {mm/dd/yy 24:00}

Date/Time Finished: 10-17-16 1500 {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP62267 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 62267- MB	1	10.0					10.0	
OP - BS						20ul		
FA37760-1	1							
-2								MS/MSD
FA37761-1								
-2								
-3								
-4								
FA37708-79	1	10.0				10ul	10.0	LL711
								NAS 10-17-16
OP62267- MS	1	10.0				20ul	10.0	FA37760-2
- MSD	1							-2
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LL734 Conc: 100 ppb Exp. Date: 12-04-16 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): _____ Exchange Bath/N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

CH2CL2 Lot # — Hexane Lot # — Na2SO4 Lot# —

Acetonitrile Lot # — Methanol Lot # — Acetone Lot# —

Syringe Filter Lot# 922647 pH Paper # — Reagent # —

Copper Lot # _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 10-17-16

Accepted By: _____ Date: 10-17-16

NF 02/16 extwater 020116.xls

7.7.1

7

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-MB	PP380396.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37760-1, FA37760-2

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	103%	70-136%

Method Blank Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-MB	GG060241.D	1	10/28/16	KL	10/17/16	OP62253	GGG2478

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37760-1, FA37760-2

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	119%	70-136%

Blank Spike Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-BS	PP380395.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37760-1, FA37760-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.2	104	77-144
121-82-4	RDX	5	4.8	96	77-125
	DNX	5	4.3	86	66-127
	MNX	5	4.9	98	71-137
	TNX	5	3.9	78	60-126
618-87-1	3,5-Dinitroaniline	5	4.3	86	77-115
99-65-0	1,3-Dinitrobenzene	5	4.8	96	79-122
606-20-2	2,6-Dinitrotoluene	5	5.4	108	81-131
121-14-2	2,4-Dinitrotoluene	5	5.1	102	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	5.2	104	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	5.1	102	79-119
98-95-3	Nitrobenzene	5	4.8	96	78-130
88-72-2	o-Nitrotoluene	5	5.1	102	76-131
99-08-1	m-Nitrotoluene	5	5.2	104	78-122
99-99-0	p-Nitrotoluene	5	5.4	108	79-124
479-45-8	Tetryl	5	6.7	134*	65-124
99-35-4	1,3,5-Trinitrobenzene	5	5.1	102	79-128
118-96-7	2,4,6-Trinitrotoluene	5	4.5	90	72-112
55-63-0	Nitroglycerine	25	24.8	99	69-123
78-11-5	PETN	25	29.3	117	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	103%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-MS	PP380399.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037
OP62253-MSD	PP380400.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037
FA37760-2 [a]	PP380487.D	1	10/27/16	KL	10/17/16	OP62253	GPP2041
FA37760-2 [b]	GG060242.D	1	10/28/16	KL	10/17/16	OP62253	GGG2478

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37760-1, FA37760-2

CAS No.	Compound	FA37760-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	12.1		10	23.9	118	10	23.8	117	0	77-144/21
121-82-4	RDX	6.0		10	16.3	103	10	15.8	98	3	77-125/19
	DNX	0.20 U		10	9.2	92	10	8.9	89	3	66-127/25
	MNX	0.20 U		10	10.3	103	10	9.9	99	4	71-137/20
	TNX	0.20 U		10	9.0	90	10	8.4	84	7	60-126/18
618-87-1	3,5-Dinitroaniline	0.41		10	8.9	85	10	9.8	94	10	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		10	9.1	91	10	9.9	99	8	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		10	11.5	115	10	11.8	118	3	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		10	10.2	102	10	10.2	102	0	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	4.1		10	14.5	104	10	14.5	104	0	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	2.0		10	12.2	102	10	12.2	102	0	79-119/20
98-95-3	Nitrobenzene	0.20 U		10	9.7	97	10	9.8	98	1	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		10	10.0	100	10	10.2	102	2	76-131/20
99-08-1	m-Nitrotoluene	0.20 U		10	9.9	99	10	10.3	103	4	78-122/18
99-99-0	p-Nitrotoluene	0.20 U		10	10.1	101	10	10.3	103	2	79-124/18
479-45-8	Tetryl	0.20 U		10	13.6	136*	10	13.7	137*	1	65-124/20
99-35-4	1,3,5-Trinitrobenzene	19.1		10	29.1	100	10	28.9	98	1	79-128/16
118-96-7	2,4,6-Trinitrotoluene	10.6		10	19.4	88	10	19.4	88	0	72-112/16
55-63-0	Nitroglycerine	2.0 U		50	51.3	103	50	51.4	103	0	69-123/18
78-11-5	PETN	2.0 U		50	54.8	110	50	55.8	112	2	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA37760-2	FA37760-2	Limits
610-39-9	3,4-Dinitrotoluene	99%	99%	101%	120%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA37760-1	PP380397.D	99
FA37760-2	GG060242.D	120
FA37760-2	PP380487.D	101
OP62253-BS	PP380395.D	103
OP62253-MB	PP380396.D	103
OP62253-MB	GG060241.D	119
OP62253-MS	PP380399.D	99
OP62253-MSD	PP380400.D	99

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2478-ICC2478	**Injection Date:**	10/27/16
Lab File ID:	GG060231.D	**Injection Time:**	19:43
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	20.97

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP62296-MB	GG060237.D	10/27/16	23:10	20.96
ZZZZZZ	GG060238.D	10/27/16	23:45	20.91
ZZZZZZ	GG060239.D	10/28/16	00:19	20.93
FA37729-3	GG060240.D	10/28/16	00:54	20.94
OP62253-MB	GG060241.D	10/28/16	01:28	20.92
FA37760-2	GG060242.D	10/28/16	02:03	20.92
ZZZZZZ	GG060245.D	10/28/16	03:47	20.97

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2037-CC2032	**Injection Date:**	10/21/16
Lab File ID:	PP380389.D	**Injection Time:**	12:50
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.03

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	PP380391.D	10/21/16	13:46	10.02
ZZZZZZ	PP380392.D	10/21/16	14:10	10.01
ZZZZZZ	PP380393.D	10/21/16	14:35	10.00
ZZZZZZ	PP380394.D	10/21/16	15:00	10.00
OP62253-BS	PP380395.D	10/21/16	15:25	10.00
OP62253-MB	PP380396.D	10/21/16	15:50	9.99
FA37760-1	PP380397.D	10/21/16	16:15	10.01
OP62253-MS	PP380399.D	10/21/16	17:05	9.99
OP62253-MSD	PP380400.D	10/21/16	17:30	9.99

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2041-CC2032	**Injection Date:**	10/27/16
Lab File ID:	PP380485.D	**Injection Time:**	17:10
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	9.95

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FA37760-2	PP380487.D	10/27/16	18:00	9.91
ZZZZZZ	PP380488.D	10/27/16	18:25	9.92
ZZZZZZ	PP380489.D	10/27/16	18:50	9.91
ZZZZZZ	PP380490.D	10/27/16	19:15	9.91
ZZZZZZ	PP380491.D	10/27/16	19:40	9.91
ZZZZZZ	PP380492.D	10/27/16	20:05	9.90

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICC2478
Lab FileID: GG060231.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 17:19:29 2016
Response via : Initial Calibration

Calibration Files
20 =GG060227.D 50 =GG060228.D 100 =GG060229.D 200 =GG060230.D
500 =GG060231.D 1000 =GG060232.D

		Compound	20	50	100	200	500	1000	Avg		%RSD
1)		TNX	8.661	8.323	8.509	8.170	8.018	7.770	8.242	E3	3.96
2)		HMX	2.280	2.455	2.645	2.816	2.879	2.804	2.646	E3	8.93
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
		Response Ratio = 0.00000 + 2874.72922 *A + -0.06629 *A^2									
3)		DNX	6.391	6.206	6.329	6.528	6.585	6.467	6.418	E3	2.16
4)		MNX	5.287	5.250	5.232	5.313	5.300	5.173	5.259	E3	0.99
5)		1,3,5-Trinitrobenze	8.381	8.482	8.729	8.850	8.784	8.549	8.629	E3	2.15
6)		RDX	3.685	3.681	3.941	4.012	4.033	3.921	3.879	E3	4.06
7)		1,3-Dinitrobenzene	1.244	1.175	1.219	1.218	1.195	1.167	1.203	E4	2.44
8)		Nitrobenzene	7.922	7.703	7.953	7.885	7.853	7.762	7.846	E3	1.23
9)		2,4,6-Trinitrotolue	8.289	7.975	8.310	8.306	8.267	8.102	8.208	E3	1.68
10)		Nitroglycerin							0.000		-1.00
11)		Tetryl	6.096	5.903	5.949	6.276	6.331	6.203	6.126	E3	2.85
12)	S	3,4-Dinitrotoluene	3.956	4.124	4.414	4.583	4.547	4.452	4.346	E3	5.76
13)		2,6-Dinitrotoluene	4.631	5.078	5.622	5.777	5.845	5.777	5.455	E3	9.01
14)		2,4-Dinitrotoluene	1.078	1.161	1.122	1.128	1.093	1.070	1.109	E4	3.12
15)		o-Nitrotoluene	4.685	4.663	4.966	5.011	4.873	4.723	4.820	E3	3.12
16)		3,5-Dinitroaniline	0.953	0.957	1.008	1.034	0.983	0.990	0.987	E4	3.11
17)		p-Nitrotoluene	4.391	4.325	4.338	4.390	4.298	4.293	4.339	E3	0.99
18)		4-Amino-2,6-Dinitro	6.267	5.882	5.617	5.771	5.749	6.090	5.896	E3	4.09
19)		m-Nitrotoluene	5.643	5.273	5.554	5.655	5.618	5.680	5.571	E3	2.73
20)		2-Amino-4,6-Dinitro	8.068	8.208	7.895	7.984	8.058	7.850	8.010	E3	1.62
21)		PETN							0.000		-1.00

Signal #2

1)		TNX	8.607	8.449	8.503	8.141	8.061	7.777	8.256	E3	3.84
2)		HMX	2.280	2.454	2.637	2.814	2.876	2.802	2.644	E3	8.90
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
		Response Ratio = 0.00000 + 2871.30196 *A + -0.06543 *A^2									
3)		DNX	6.391	6.207	6.293	6.531	6.588	6.470	6.413	E3	2.26
4)		MNX	7.241	7.234	7.673	8.202	8.067	7.943	7.727	E3	5.40
5)		1,3,5-Trinitrobenze	1.432	1.421	1.480	1.576	1.543	1.512	1.494	E4	4.10
6)		RDX	8.321	6.799	8.279	7.437	7.505	7.661	7.667	E3	7.46
7)		1,3-Dinitrobenzene	8.378	8.926	9.394	9.606	8.979	8.818	9.017	E3	4.82
8)		Nitrobenzene	7.777	7.324	7.845	7.130	7.211	7.215	7.417	E3	4.21
9)		2,4,6-Trinitrotolue	1.236	1.052	1.152	1.121	1.119	1.059	1.123	E4	6.00
10)		Nitroglycerin	2.449	2.937	3.091	2.990	3.009	2.968	2.907	E3	7.93
11)		Tetryl	1.129	1.102	1.049	1.143	1.121	1.094	1.106	E4	3.02
12)	S	3,4-Dinitrotoluene	4.938	6.920	8.081	8.991	8.693	8.654	7.713	E3	20.04
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998									
		Response Ratio = 0.00000 + 8701.87459 *A + -0.04462 *A^2									
13)		2,6-Dinitrotoluene	1.118	4.167	6.171	6.941	7.850	7.932	5.697	E3	46.26
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9992									

Initial Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICC2478
Lab FileID: GG060231.D

```
              Response Ratio = 0.00000 + 7209.13322 *A + 0.75155 *A^2

14)     2,4-Dinitrotoluene  7.043 5.769 7.355 7.399 7.804 7.492 7.144 E3  10.03
15)     o-Nitrotoluene      4.349 5.977 6.764 6.931 6.903 6.701 6.271 E3  16.02
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 7006.46991 *A + -0.30023 *A^2

16)     3,5-Dinitroaniline  0.803 1.294 1.623 1.578 1.719 1.633 1.442 E4  23.92
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 17083.75942 *A + -0.70771 *A^2

17)     p-Nitrotoluene      5.709 5.411 7.747 7.537 7.033 7.112 6.758 E3  14.34
18)     4-Amino-2,6-Dinitro 0.989 1.013 1.004 1.192 1.167 1.131 1.083 E4   8.38
19)     m-Nitrotoluene      1.185 0.729 0.904 1.006 0.965 0.926 0.952 E4  15.55
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 9954.10951 *A + -0.69119 *A^2

20)     2-Amino-4,6-Dinitro 1.117 1.304 1.083 1.163 1.154 1.136 1.159 E4   6.60
21)     PETN                2.701 2.828 3.245 3.208 3.146 3.159 3.048 E3   7.41
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_1027.M        Fri Oct 28 17:19:48 2016
```

8.6.1

8

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060234.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1025RPB3\GG060234.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1025RPB3\GG060234.D\dad1A.ch
Acq On : 27-Oct-2016, 21:26:53 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	494.395	1.1	102	0.02	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	500.000	574.616	-14.9	113	0.05	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	500.000	542.313	-8.5	106	0.04	7.00- 8.00
4	MNX	500.000	530.038	-6.0	105	0.07	8.82- 9.82
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene		----------NA----------				
9	2,4,6-Trinitrotoluene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene		----------NA----------				
14	2,4-Dinitrotoluene		----------NA----------				
15	o-Nitrotoluene		----------NA----------				
16	3,5-Dinitroaniline		----------NA----------				
17	p-Nitrotoluene		----------NA----------				
18	4-Amino-2,6-Dinitrotoluen		----------NA----------				
19	m-Nitrotoluene		----------NA----------				
20	2-Amino-4,6-Dinitrotoluen		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	496.331	0.7	102	0.02	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	500.000	574.690	-14.9	113	0.05	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	500.000	542.912	-8.6	106	0.04	7.00- 8.00
4	MNX	500.000	553.462	-10.7	106	0.07	8.82- 9.82
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene		----------NA----------				
9	2,4,6-Trinitrotoluene		----------NA----------				

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060234.D

10	Nitroglycerin	2500.000	2643.314	-5.7	102	0.17	17.36-18.36
11	Tetryl		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
14	2,4-Dinitrotoluene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
15	o-Nitrotoluene		----------NA----------				
16	3,5-Dinitroaniline		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
17	p-Nitrotoluene		----------NA----------				
18	4-Amino-2,6-Dinitrotoluen		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
19	m-Nitrotoluene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
20	2-Amino-4,6-Dinitrotoluen		----------NA----------				
21	PETN	2500.000	2717.369	-8.7	105	0.14	28.07-29.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060231.D 8330RPB.M_1027.M Fri Oct 28 08:25:12 2016

8.6.2

8

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060235.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1025RPB3\GG060235.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1025RPB3\GG060235.D\dad1A.ch
Acq On : 27-Oct-2016, 22:01:30 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
	---------- Amount		Calc.	%Drift			
2	HMX		----------NA----------				
	---------- Amount		Calc.	%Drift			
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	500.000	528.101	-5.6	104	0.00	10.03-11.03
6	RDX	500.000	541.731	-8.3	104	0.02	10.80-11.80
7	1,3-Dinitrobenzene	500.000	490.495	1.9	99	0.03	13.56-14.56
8	Nitrobenzene	500.000	537.180	-7.4	107	0.04	15.03-16.03
9	2,4,6-Trinitrotoluene	500.000	427.245	14.6	85	0.03	16.29-17.29
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	509.076	-1.8	99	0.06	18.70-19.70
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	549.721	-9.9	103	0.07	20.92-21.92
14	2,4-Dinitrotoluene	500.000	504.797	-1.0	102	0.06	21.90-22.90
15	o-Nitrotoluene	500.000	562.056	-12.4	111	0.06	23.85-24.85
16	3,5-Dinitroaniline	500.000	492.465	1.5	99	0.06	23.60-24.60
17	p-Nitrotoluene	500.000	556.507	-11.3	112	0.06	24.89-25.89
18	4-Amino-2,6-Dinitrotol	500.000	524.735	-4.9	108	0.07	25.29-26.29
19	m-Nitrotoluene	500.000	551.297	-10.3	109	0.06	26.00-27.00
20	2-Amino-4,6-Dinitrotol	500.000	532.680	-6.5	106	0.07	27.12-28.12
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
	---------- Amount		Calc.	%Drift			
2	HMX		----------NA----------				
	---------- Amount		Calc.	%Drift			
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	500.000	532.627	-6.5	103	0.00	10.03-11.03
6	RDX	500.000	505.212	-1.0	103	0.02	10.80-11.80
7	1,3-Dinitrobenzene	500.000	487.432	2.5	98	0.03	13.56-14.56
8	Nitrobenzene	500.000	541.673	-8.3	111	0.04	15.03-16.03
9	2,4,6-Trinitrotoluene	500.000	421.133	15.8#	85	0.03	16.28-17.28

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060235.D

10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	503.646	-0.7	99	0.06	18.70-19.70
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	536.278	-7.3	104	0.07	20.92-21.92
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	500.000	549.570	-9.9	101	0.06	21.92-22.92
		Amount	Calc.	%Drift			
15	o-Nitrotoluene	500.000	588.072	-17.6#	116	0.07	23.84-24.84
16	3,5-Dinitroaniline	500.000	460.650	7.9	90	0.06	23.61-24.61
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	580.478	-16.1#	112	0.05	24.89-25.89
18	4-Amino-2,6-Dinitrotol	500.000	554.624	-10.9	103	0.06	25.29-26.29
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	500.000	537.776	-7.6	107	0.06	26.00-27.00
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	500.000	532.740	-6.5	107	0.07	27.12-28.12
21	PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060231.D 8330RPB.M_1027.M Fri Oct 28 08:25:13 2016

8.6.3

8

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-CC2478
Lab FileID: GG060247.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1025RPB3\GG060247.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1025RPB3\GG060247.D\dad1A.ch
Acq On : 28-Oct-2016, 04:56:31 Operator: kismetl
Sample : cc2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	960.089	4.0	102	0.00	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	1000.000	992.059	0.8	99	-0.01	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	1000.000	999.881	0.0	99	-0.02	7.00- 8.00
4	MNX	1000.000	1019.709	-2.0	104	-0.03	8.82- 9.82
5	1,3,5-Trinitrobenzene	1000.000	1019.224	-1.9	103	-0.02	10.03-11.03
6	RDX	1000.000	1012.309	-1.2	100	-0.02	10.80-11.80
7	1,3-Dinitrobenzene	1000.000	962.529	3.7	99	-0.01	13.56-14.56
8	Nitrobenzene	1000.000	991.023	0.9	100	0.00	15.03-16.03
9	2,4,6-Trinitrotoluene	1000.000	981.376	1.9	99	0.00	16.29-17.29
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1013.415	-1.3	100	0.00	18.70-19.70
12 S	3,4-Dinitrotoluene	1000.000	1021.440	-2.1	100	0.01	20.48-21.48
13	2,6-Dinitrotoluene	1000.000	1052.626	-5.3	99	0.01	20.92-21.92
14	2,4-Dinitrotoluene	1000.000	956.619	4.3	99	0.01	21.90-22.90
15	o-Nitrotoluene	1000.000	1006.578	-0.7	103	-0.03	23.85-24.85
16	3,5-Dinitroaniline	1000.000	1008.617	-0.9	101	0.03	23.60-24.60
17	p-Nitrotoluene	1000.000	973.222	2.7	98	0.03	24.89-25.89
18	4-Amino-2,6-Dinitrotol	1000.000	947.921	5.2	92	0.03	25.29-26.29
19	m-Nitrotoluene	1000.000	997.911	0.2	98	0.03	26.00-27.00
20	2-Amino-4,6-Dinitrotol	1000.000	977.092	2.3	100	0.04	27.12-28.12
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	941.109	5.9	100	0.00	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	1000.000	992.105	0.8	99	-0.01	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	1000.000	1000.938	-0.1	99	-0.02	7.00- 8.00
4	MNX	1000.000	1034.117	-3.4	101	-0.02	8.82- 9.82
5	1,3,5-Trinitrobenzene	1000.000	1003.584	-0.4	99	-0.02	10.03-11.03
6	RDX	1000.000	1005.633	-0.6	101	-0.02	10.80-11.80
7	1,3-Dinitrobenzene	1000.000	1023.661	-2.4	105	-0.01	13.56-14.56
8	Nitrobenzene	1000.000	976.453	2.4	100	0.00	15.03-16.03
9	2,4,6-Trinitrotoluene	1000.000	934.574	6.5	99	0.00	16.28-17.28

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-CC2478
Lab FileID: GG060247.D

		Amount	Calc.	%Drift			
10	Nitroglycerin	5000.000	5031.351	-0.6	99	0.00	17.36-18.36
11	Tetryl	1000.000	973.927	2.6	98	0.00	18.70-19.70
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	1000.000	994.247	0.6	99	0.01	20.47-21.47
13	2,6-Dinitrotoluene	1000.000	985.019	1.5	99	0.01	20.92-21.92
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	1030.780	-3.1	98	0.00	21.92-22.92
		Amount	Calc.	%Drift			
15	o-Nitrotoluene	1000.000	1029.197	-2.9	103	-0.02	23.84-24.84
16	3,5-Dinitroaniline	1000.000	1004.695	-0.5	101	0.02	23.61-24.61
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	1000.000	1029.312	-2.9	98	0.02	24.89-25.89
18	4-Amino-2,6-Dinitrotol	1000.000	1040.560	-4.1	100	0.03	25.29-26.29
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	1000.000	1004.005	-0.4	100	0.03	26.00-27.00
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	950.303	5.0	97	0.04	27.12-28.12
21	PETN	5000.000	5114.133	-2.3	99	0.00	28.07-29.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060232.D 8330RPB.M_1027.M Fri Oct 28 13:34:24 2016

8.6.4

8

Initial Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICC2032
Lab FileID: PP380271.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Initial Calibration

Calibration Files
20 =PP380267.D 50 =PP380268.D 100 =PP380269.D 200 =PP380270.D
500 =PP380271.D 1000=PP380272.D 2000=PP380273.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	2.343	3.211	3.077	3.177	3.242	3.260	3.357	3.095	E3	11.06
2)	HMX	1.440	1.705	1.578	1.629	1.633	1.629	1.622	1.605	E3	5.11
3)	DNX	2.861	3.079	2.938	2.946	2.833	2.779	2.846	2.897	E3	3.42
4)	MNX	2.255	2.271	2.261	2.352	2.275	2.155	2.312	2.269	E3	2.67
5)	RDX	1.640	1.973	1.775	1.900	1.902	1.802	1.854	1.835	E3	5.91
6)	1,3,5-Trinitroben	3.697	4.119	3.656	3.770	3.641	3.589	3.708	3.740	E3	4.73
7)	1,3-Dinitrobenzen	5.051	5.319	4.990	5.144	5.012	4.937	5.103	5.079	E3	2.49
8)	3,5-Dinitroanilin	4.688	4.679	4.397	4.460	4.377	4.291	4.462	4.479	E3	3.37
9)	Nitrobenzene	3.397	3.172	2.909	2.875	2.899	2.866	2.958	3.011	E3	6.64
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	1.939	2.041	1.912	1.792	1.848	1.828	2.121	1.926	E3	6.19
12)	2,4,6-Trinitrotol	3.352	3.587	3.471	3.330	3.391	3.356	3.650	3.448	E3	3.66
13)	2-Amino-4,6-Dinit	3.075	3.383	3.126	3.040	3.149	3.108	3.079	3.137	E3	3.64
14)	4-Amino-2,6-Dinit	2.148	2.429	2.386	2.201	2.317	2.274	2.374	2.304	E3	4.45
15)S	3,4-Dinitrotoluen	1.786	2.341	2.079	2.113	2.024	2.016	2.116	2.068	E3	7.98
16)	2,4-Dinitrotoluen	4.187	4.911	4.585	4.741	4.520	4.435	4.634	4.573	E3	5.03
17)	2,6-Dinitrotoluen	2.082	2.452	2.684	2.594	2.563	2.536	2.617	2.504	E3	7.97
18)	o-Nitrotoluene	2.218	2.266	2.108	2.177	2.130	2.076	2.118	2.156	E3	3.13
19)	p-Nitrotoluene	3.299	3.545	3.456	3.427	3.337	3.289	3.392	3.392	E3	2.72
20)	m-Nitrotoluene	3.310	3.272	3.186	3.155	3.080	3.037	3.142	3.169	E3	3.08
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	4.614	5.199	4.949	5.403	4.954	4.884	4.542	4.935	E3	6.13
2)	HMX	4.220	4.516	4.369	4.505	4.389	4.268	4.462	4.390	E3	2.61
3)	DNX	4.967	5.268	5.060	4.647	4.672	4.410	4.432	4.779	E3	6.83
4)	MNX	3.328	3.691	3.496	3.722	3.511	3.452	3.563	3.538	E3	3.86
5)	RDX	2.764	3.219	2.675	2.946	2.905	2.830	2.973	2.902	E3	6.02
6)	1,3,5-Trinitroben	7.243	7.764	7.132	7.273	7.153	6.969	7.187	7.246	E3	3.43
7)	1,3-Dinitrobenzen	3.272	3.778	3.335	3.430	3.352	3.258	3.416	3.406	E3	5.19
8)	3,5-Dinitroanilin	7.972	7.933	7.421	7.521	7.301	7.165	7.491	7.543	E3	4.04
9)	Nitrobenzene	2.420	2.825	2.884	2.873	2.872	2.862	2.959	2.814	E3	6.33
10)	Nitroglycerin	1.370	1.557	1.455	1.488	1.421	1.388	1.457	1.448	E3	4.36
11)	Tetryl	2.091	2.715	2.748	2.796	2.692	2.615	2.444	2.586	E3	9.52
12)	2,4,6-Trinitrotol	3.528	4.442	4.492	4.519	4.372	4.265	4.583	4.315	E3	8.38
13)	2-Amino-4,6-Dinit	4.617	5.500	4.970	5.042	4.843	4.719	4.751	4.920	E3	5.99
14)	4-Amino-2,6-Dinit	4.502	4.952	4.867	4.966	4.787	4.661	4.828	4.795	E3	3.45
15)S	3,4-Dinitrotoluen	4.016	4.177	3.830	3.907	3.796	3.727	3.839	3.899	E3	3.91
16)	2,4-Dinitrotoluen	2.900	3.181	2.820	2.946	2.951	2.935	3.087	2.974	E3	4.06
17)	2,6-Dinitrotoluen	1.779	2.243	2.693	2.875	3.128	3.184	3.391	2.756	E3	20.74
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 2972.79609 *A + 0.20967 *A^2										
18)	o-Nitrotoluene	3.133	3.144	2.978	3.066	3.036	2.988	3.086	3.061	E3	2.14
19)	p-Nitrotoluene	2.589	3.136	2.784	2.850	2.903	2.868	2.957	2.869	E3	5.80
20)	m-Nitrotoluene	4.047	3.515	3.693	3.906	3.871	3.819	3.873	3.818	E3	4.46

Initial Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICC2032
Lab FileID: PP380271.D

21) PETN	1.582	1.562	1.389	1.452	1.402	1.391	1.432	1.459	E3 5.55

(#) = Out of Range

8330-1003BPLUS.M Tue Oct 04 11:25:12 2016

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380274.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1003BPL\PP380274.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\1003BPL\PP380274.D\dad1A.ch
Acq On : 03-Oct-2016, 14:06:46 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	484.073	3.2	92	0.00	0.90- 1.50
2	HMX		----------NA----------				
3	DNX	500.000	482.342	3.5	99	0.00	1.23- 1.83
4	MNX	500.000	520.039	-4.0	104	0.00	1.74- 2.34
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	476.114	4.8	95	0.00	0.90- 1.50
2	HMX		----------NA----------				
3	DNX	500.000	483.431	3.3	99	0.00	1.23- 1.83
4	MNX	500.000	520.026	-4.0	105	0.00	1.73- 2.33
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin	2500.000	2327.251	6.9	95	0.00	7.85- 8.85
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380274.D

		Amount	Calc.	%Drift		
17	2,6-Dinitrotoluene		----------NA----------			
		Amount	Calc.	%Drift		
18	o-Nitrotoluene		----------NA----------			
19	p-Nitrotoluene		----------NA----------			
20	m-Nitrotoluene		----------NA----------			
21	PETN	2500.000	2561.573	-2.5	107	0.00 15.82-16.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380271.D 8330-1003BPLUS.M Tue Oct 04 11:28:28 2016

8.6.6

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Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380275.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1003BPL\PP380275.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\1003BPL\PP380275.D\dad1A.ch
Acq On : 03-Oct-2016, 14:57:09 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX	500.000	507.406	-1.5	100	0.00	0.99- 1.59
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	500.000	499.915	0.0	96	0.00	2.16- 2.96
6	1,3,5-Trinitrobenzene	500.000	528.353	-5.7	109	0.00	3.71- 4.51
7	1,3-Dinitrobenzene	500.000	485.088	3.0	98	0.00	4.86- 5.66
8	3,5-Dinitroaniline	500.000	442.393	11.5	91	0.00	5.22- 6.02
9	Nitrobenzene	500.000	508.240	-1.6	106	0.01	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	745.532	-49.1#	155	0.01	8.14- 8.94
12	2,4,6-Trinitrotoluene	500.000	475.950	4.8	97	0.01	8.53- 9.33
13	2-Amino-4,6-Dinitrotol	500.000	524.433	-4.9	104	0.02	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	500.000	514.194	-2.8	102	0.01	9.26-10.06
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	512.398	-2.5	104	0.01	10.25-11.05
17	2,6-Dinitrotoluene	500.000	534.602	-6.9	104	0.02	10.71-11.51
18	o-Nitrotoluene	500.000	520.022	-4.0	105	0.01	13.14-14.14
19	p-Nitrotoluene	500.000	500.434	-0.1	102	0.01	13.54-14.54
20	m-Nitrotoluene	500.000	511.280	-2.3	105	0.00	14.14-15.14
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX	500.000	507.386	-1.5	102	0.00	0.99- 1.59
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	500.000	499.539	0.1	100	0.00	2.16- 2.96
6	1,3,5-Trinitrobenzene	500.000	528.905	-5.8	107	0.00	3.71- 4.51
7	1,3-Dinitrobenzene	500.000	485.586	2.9	99	0.01	4.86- 5.66
8	3,5-Dinitroaniline	500.000	440.057	12.0	91	0.00	5.22- 6.02
9	Nitrobenzene	500.000	547.705	-9.5	107	0.01	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	935.831	-87.2#	180	0.03	8.12- 8.92
12	2,4,6-Trinitrotoluene	500.000	478.647	4.3	94	0.01	8.53- 9.33
13	2-Amino-4,6-Dinitrotol	500.000	519.347	-3.9	106	0.02	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	500.000	526.673	-5.3	105	0.01	9.27-10.07
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	498.467	0.3	100	0.01	10.25-11.05

Initial Calibration Verification

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380275.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	500.000	525.655	-5.1	104	0.01	10.71-11.51
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	500.000	525.429	-5.1	106	0.00	13.14-14.14
19	p-Nitrotoluene	500.000	508.328	-1.7	100	0.00	13.55-14.55
20	m-Nitrotoluene	500.000	520.146	-4.0	103	0.00	14.14-15.14
21	PETN			NA			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380271.D 8330-1003BPLUS.M Tue Oct 04 11:28:29 2016

8.6.7

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Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380389.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1021BPL\PP380389.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380389.D\dad1A.ch
Acq On : 21-Oct-2016, 12:50:32 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1080.765	-8.1	103	0.00	0.90- 1.50
2	HMX	1000.000	998.343	0.2	98	0.00	0.99- 1.59
3	DNX	1000.000	961.805	3.8	100	0.00	1.22- 1.82
4	MNX	1000.000	993.963	0.6	105	0.00	1.72- 2.32
5	RDX	1000.000	1182.538	-18.3#	120	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	960.758	3.9	100	0.02	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	969.966	3.0	100	0.01	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	966.418	3.4	101	0.02	5.20- 6.00
9	Nitrobenzene	1000.000	888.939	11.1	93	0.02	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	854.135	14.6	90	0.03	8.15- 8.95
12	2,4,6-Trinitrotoluene	1000.000	969.131	3.1	100	0.03	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	998.860	0.1	101	0.03	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	1016.348	-1.6	103	0.03	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	970.791	2.9	100	0.03	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	988.154	1.2	102	0.03	10.26-11.06
17	2,6-Dinitrotoluene	1000.000	999.879	0.0	99	0.03	10.72-11.52
18	o-Nitrotoluene	1000.000	894.107	10.6	93	0.02	13.15-14.15
19	p-Nitrotoluene	1000.000	956.821	4.3	99	0.02	13.55-14.55
20	m-Nitrotoluene	1000.000	933.296	6.7	97	0.02	14.15-15.15
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	1009.434	-0.9	102	0.00	0.90- 1.50
2	HMX	1000.000	989.123	1.1	102	0.00	0.99- 1.59
3	DNX	1000.000	954.061	4.6	103	0.00	1.22- 1.82
4	MNX	1000.000	1008.106	-0.8	103	0.00	1.72- 2.32
5	RDX	1000.000	1100.453	-10.0	113	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	954.918	4.5	99	0.02	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	954.281	4.6	100	0.01	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	965.662	3.4	102	0.02	5.20- 6.00
9	Nitrobenzene	1000.000	1022.854	-2.3	101	0.01	6.38- 7.18
10	Nitroglycerin	5000.000	4803.597	3.9	100	0.02	7.85- 8.85
11	Tetryl	1000.000	922.662	7.7	91	0.03	8.14- 8.94
12	2,4,6-Trinitrotoluene	1000.000	987.834	1.2	100	0.03	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	974.687	2.5	102	0.03	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	999.226	0.1	103	0.03	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	939.906	6.0	98	0.03	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	1028.837	-2.9	104	0.03	10.26-11.06

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380389.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1000.969	-0.1	100	0.03	10.72-11.52

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	901.835	9.8	92	0.02	13.15-14.15
19	p-Nitrotoluene	1000.000	999.569	0.0	100	0.02	13.56-14.56
20	m-Nitrotoluene	1000.000	884.473	11.6	88	0.02	14.15-15.15
21	PETN	5000.000	4821.066	3.6	101	0.02	15.83-16.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Mon Oct 24 09:16:39 2016

8.6.8

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Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380401.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1021BPL\PP380401.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380401.D\dad1A.ch
Acq On : 21-Oct-2016, 17:55:19 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1064.035	-6.4	101	0.00	0.90- 1.50
2	HMX	1000.000	984.583	1.5	97	0.00	0.99- 1.59
3	DNX	1000.000	970.678	2.9	101	0.00	1.22- 1.82
4	MNX	1000.000	978.154	2.2	103	0.00	1.72- 2.32
5	RDX	1000.000	1162.062	-16.2#	118	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	951.787	4.8	99	0.00	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	962.832	3.7	99	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	962.801	3.7	100	0.00	5.20- 6.00
9	Nitrobenzene	1000.000	890.479	11.0	94	0.00	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	864.912	13.5	91	0.00	8.15- 8.95
12	2,4,6-Trinitrotoluene	1000.000	960.891	3.9	99	0.00	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	992.090	0.8	100	0.00	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	1009.321	-0.9	102	0.00	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	966.940	3.3	99	0.00	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	979.086	2.1	101	0.00	10.26-11.06
17	2,6-Dinitrotoluene	1000.000	998.571	0.1	99	0.00	10.72-11.52
18	o-Nitrotoluene	1000.000	910.500	8.9	95	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	950.535	4.9	98	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	904.369	9.6	94	0.00	14.15-15.15
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	994.688	0.5	101	0.00	0.90- 1.50
2	HMX	1000.000	981.663	1.8	101	0.00	0.99- 1.59
3	DNX	1000.000	952.745	4.7	103	0.00	1.22- 1.82
4	MNX	1000.000	983.345	1.7	101	0.00	1.72- 2.32
5	RDX	1000.000	1098.424	-9.8	113	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	948.632	5.1	99	0.00	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	944.118	5.6	99	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	959.136	4.1	101	0.00	5.20- 6.00
9	Nitrobenzene	1000.000	1016.197	-1.6	100	0.00	6.38- 7.18
10	Nitroglycerin	5000.000	4842.244	3.2	101	0.00	7.85- 8.85
11	Tetryl	1000.000	891.920	10.8	88	0.00	8.14- 8.94
12	2,4,6-Trinitrotoluene	1000.000	982.428	1.8	99	0.00	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	970.885	2.9	101	0.00	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	995.093	0.5	102	0.00	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	940.298	6.0	98	0.00	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	1025.571	-2.6	104	0.00	10.26-11.06

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380401.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1004.963	-0.5	100	0.00	10.72-11.52

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	889.405	11.1	91	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	1006.549	-0.7	101	0.00	13.56-14.56
20	m-Nitrotoluene	1000.000	892.211	10.8	89	0.00	14.15-15.15
21	PETN	5000.000	4752.678	4.9	100	0.00	15.83-16.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Mon Oct 24 09:16:40 2016

8.6.9

8

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380485.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1027BPL\PP380485.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380485.D\dad1A.ch
Acq On : 27-Oct-2016, 17:10:41 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1002.557	-0.3	95	0.00	0.90- 1.50
2	HMX	1000.000	963.090	3.7	95	0.00	0.98- 1.58
3	DNX	1000.000	915.296	8.5	95	0.00	1.22- 1.82
4	MNX	1000.000	986.634	1.3	104	0.00	1.71- 2.31
5	RDX	1000.000	951.585	4.8	97	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1014.943	-1.5	106	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	980.290	2.0	101	0.00	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	943.020	5.7	98	0.00	5.17- 5.97
9	Nitrobenzene	1000.000	961.084	3.9	101	0.00	6.35- 7.15
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1505.815	-50.6#	159	0.00	8.10- 8.90
12	2,4,6-Trinitrotoluene	1000.000	1021.926	-2.2	105	0.00	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	981.817	1.8	99	0.00	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	993.258	0.7	101	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	959.205	4.1	98	0.01	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	976.823	2.3	101	0.01	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	991.736	0.8	98	0.01	10.65-11.45
18	o-Nitrotoluene	1000.000	974.556	2.5	101	0.02	13.10-14.10
19	p-Nitrotoluene	1000.000	958.352	4.2	99	0.02	13.51-14.51
20	m-Nitrotoluene	1000.000	988.930	1.1	103	0.02	14.11-15.11
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	941.225	5.9	95	0.00	0.90- 1.50
2	HMX	1000.000	984.166	1.6	101	0.00	0.99- 1.59
3	DNX	1000.000	879.554	12.0	95	0.00	1.22- 1.82
4	MNX	1000.000	980.015	2.0	100	0.00	1.71- 2.31
5	RDX	1000.000	955.499	4.5	98	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1018.943	-1.9	106	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	958.801	4.1	100	0.00	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	944.929	5.5	99	0.00	5.17- 5.97
9	Nitrobenzene	1000.000	1029.174	-2.9	101	0.00	6.35- 7.15
10	Nitroglycerin	5000.000	4571.673	8.6	95	0.00	7.82- 8.82
11	Tetryl	1000.000	1708.883	-70.9#	169	0.00	8.09- 8.89
12	2,4,6-Trinitrotoluene	1000.000	991.712	0.8	100	0.00	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	971.910	2.8	101	0.00	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	987.012	1.3	102	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	942.794	5.7	99	0.00	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	988.326	1.2	100	0.01	10.19-10.99

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380485.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	999.807	0.0	100	0.01	10.65-11.45
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	986.012	1.4	101	0.02	13.10-14.10
19	p-Nitrotoluene	1000.000	949.503	5.0	95	0.02	13.51-14.51
20	m-Nitrotoluene	1000.000	1001.959	-0.2	100	0.01	14.11-15.11
21	PETN	5000.000	4750.432	5.0	100	0.01	15.82-16.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Fri Oct 28 11:58:45 2016

8.6.10

8

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380493.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1027BPL\PP380493.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380493.D\dad1A.ch
Acq On : 27-Oct-2016, 20:30:15 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1000.029	-0.0	95	0.00	0.90- 1.50
2	HMX	1000.000	966.249	3.4	95	0.00	0.98- 1.58
3	DNX	1000.000	914.766	8.5	95	0.00	1.22- 1.82
4	MNX	1000.000	987.947	1.2	104	0.00	1.71- 2.31
5	RDX	1000.000	947.904	5.2	97	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1017.305	-1.7	106	-0.02	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	981.229	1.9	101	-0.02	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	946.379	5.4	99	-0.02	5.17- 5.97
9	Nitrobenzene	1000.000	962.651	3.7	101	-0.02	6.35- 7.15
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1513.133	-51.3#	159	-0.04	8.10- 8.90
12	2,4,6-Trinitrotoluene	1000.000	1026.722	-2.7	106	-0.04	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	983.061	1.7	99	-0.04	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	994.398	0.6	101	-0.04	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	959.775	4.0	98	-0.04	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	979.812	2.0	101	-0.04	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	999.198	0.1	99	-0.05	10.65-11.45
18	o-Nitrotoluene	1000.000	1024.180	-2.4	106	-0.03	13.10-14.10
19	p-Nitrotoluene	1000.000	1008.543	-0.9	104	-0.03	13.51-14.51
20	m-Nitrotoluene	1000.000	995.320	0.5	104	-0.02	14.11-15.11
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	938.922	6.1	95	0.00	0.90- 1.50
2	HMX	1000.000	985.372	1.5	101	0.00	0.99- 1.59
3	DNX	1000.000	876.474	12.4	95	0.00	1.22- 1.82
4	MNX	1000.000	975.076	2.5	100	0.00	1.71- 2.31
5	RDX	1000.000	952.726	4.7	98	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1017.169	-1.7	106	-0.02	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	967.060	3.3	101	-0.02	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	943.768	5.6	99	-0.02	5.17- 5.97
9	Nitrobenzene	1000.000	1005.870	-0.6	99	-0.02	6.35- 7.15
10	Nitroglycerin	5000.000	4627.701	7.4	97	-0.03	7.82- 8.82
11	Tetryl	1000.000	1679.485	-67.9#	166	-0.04	8.09- 8.89
12	2,4,6-Trinitrotoluene	1000.000	995.976	0.4	101	-0.04	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	975.630	2.4	102	-0.04	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	990.581	0.9	102	-0.04	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	948.148	5.2	99	-0.05	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	1000.850	-0.1	101	-0.04	10.19-10.99

Continuing Calibration Summary

Job Number: FA37760
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380493.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1013.399	-1.3	101	-0.05	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	982.954	1.7	101	-0.03	13.10-14.10
19	p-Nitrotoluene	1000.000	990.732	0.9	99	-0.03	13.51-14.51
20	m-Nitrotoluene	1000.000	1006.862	-0.7	101	-0.03	14.11-15.11
21	PETN	5000.000	4747.804	5.0	100	-0.03	15.82-16.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Fri Oct 28 11:58:46 2016

8.6.11

8

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380397.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\1021BPL\PP380397.D\dad1A.ch
Acq On : 21-Oct-2016, 16:15:36 Operator: kismetl
Sample : FA37760-1 Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:56 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.01	10.01	1018462	1878798	492.507	481.899
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.50%	96.38%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

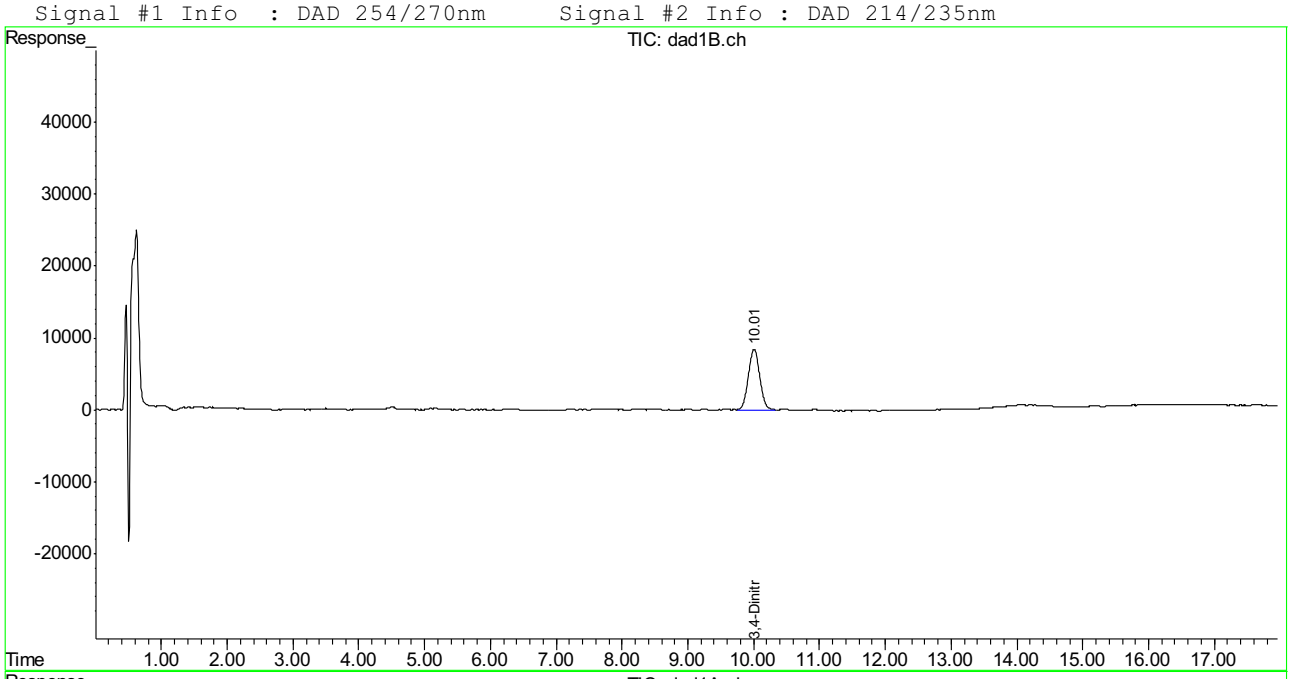
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380397.D 8330-1003BPLUS.M Mon Oct 24 09:19:50 2016 Page 1

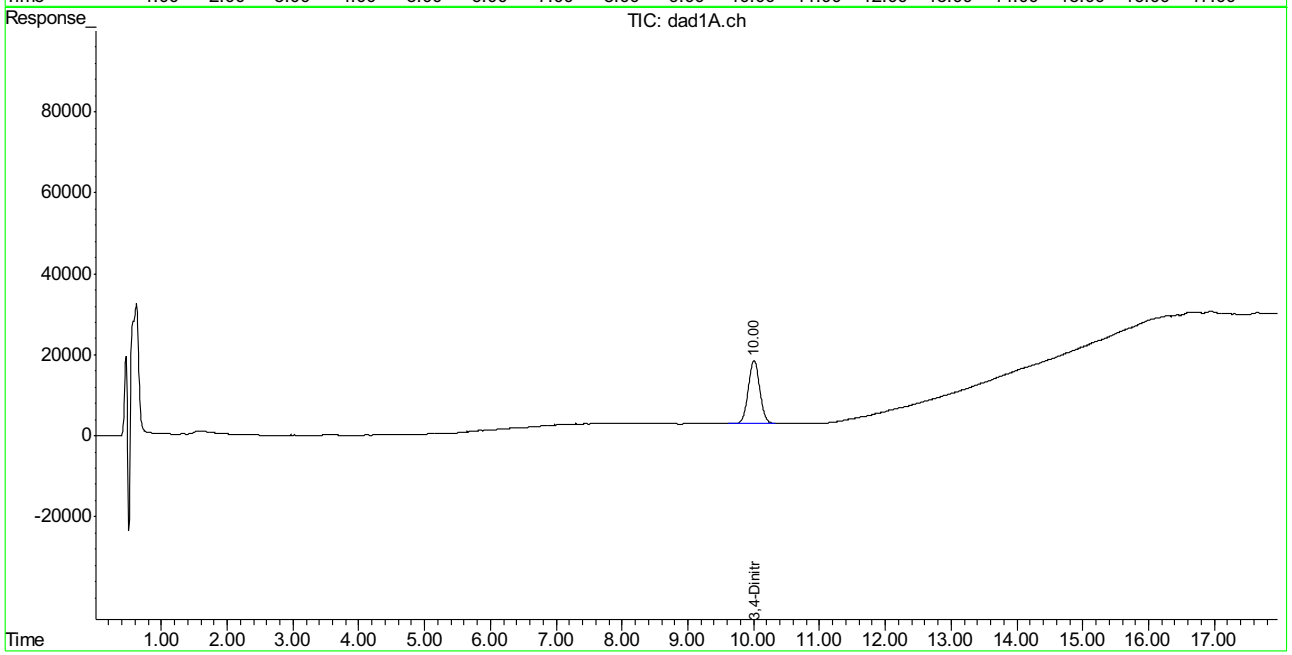
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380397.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\1021BPL\PP380397.D\dad1A.ch
Acq On : 21-Oct-2016, 16:15:36 Operator: kismetl
Sample : FA37760-1 Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:20 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380487.D\dad1B.ch Vial: 62
Signal #2 : P:\DATA\1027BPL\PP380487.D\dad1A.ch
Acq On : 27-Oct-2016, 18:00:32 Operator: kismetl
Sample : fa37760-2 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:29 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.91	9.91	1043149	1942189	504.445	498.158
	Spiked Amount 500.000	Range 70 - 136		Recovery =		100.89%	99.63%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.28	1.28	1949124	5417004	1214.352	1233.988
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.52	2.52	1101671	1717442	600.337m	591.850m
6)	1,3,5-Trinitrobe	4.07	4.07	7152807	13923126	1912.565m	1921.522m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	5.54	5.54	182868	319362	40.827m	42.336m
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.88	8.88	3664812	4457393	1062.848	1033.108
13)	2-Amino-4,6-Dini	9.11	9.11	1291292	2137230	411.623	434.367
14)	4-Amino-2,6-Dini	9.56	9.56	471613	1034520	204.676	215.753
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

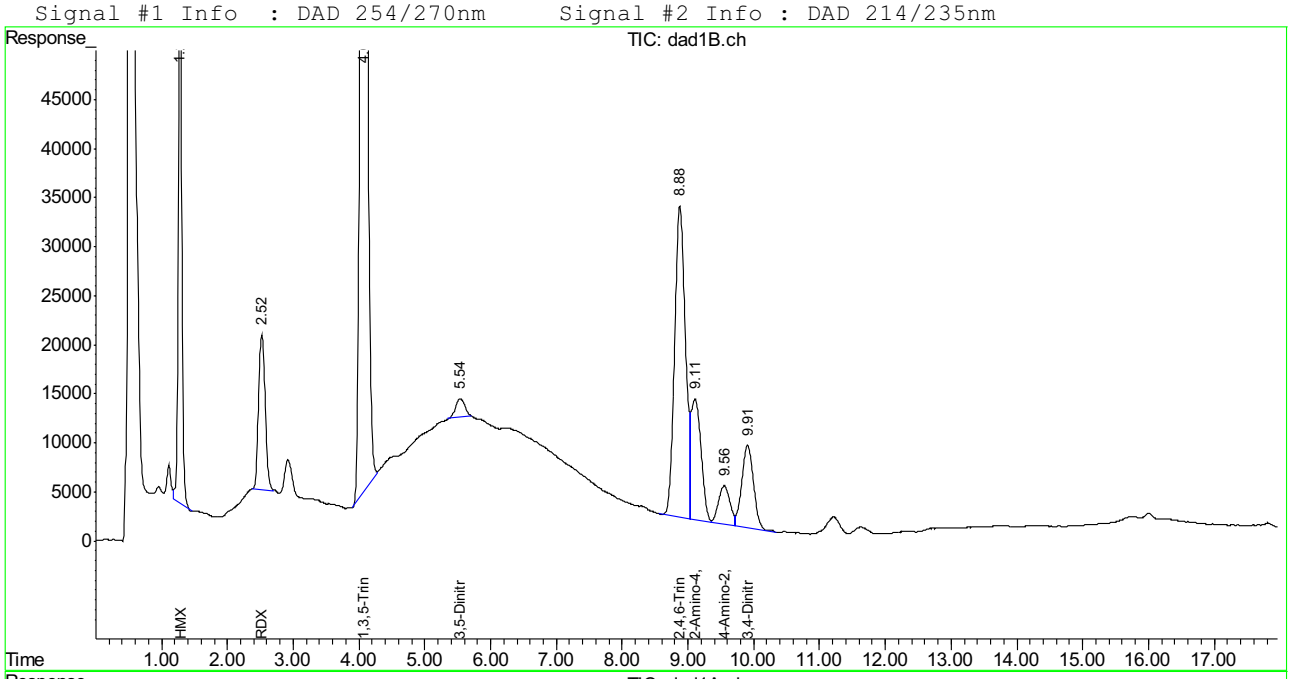
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380487.D 8330-1003BPLUS.M Fri Oct 28 12:01:19 2016 Page 1

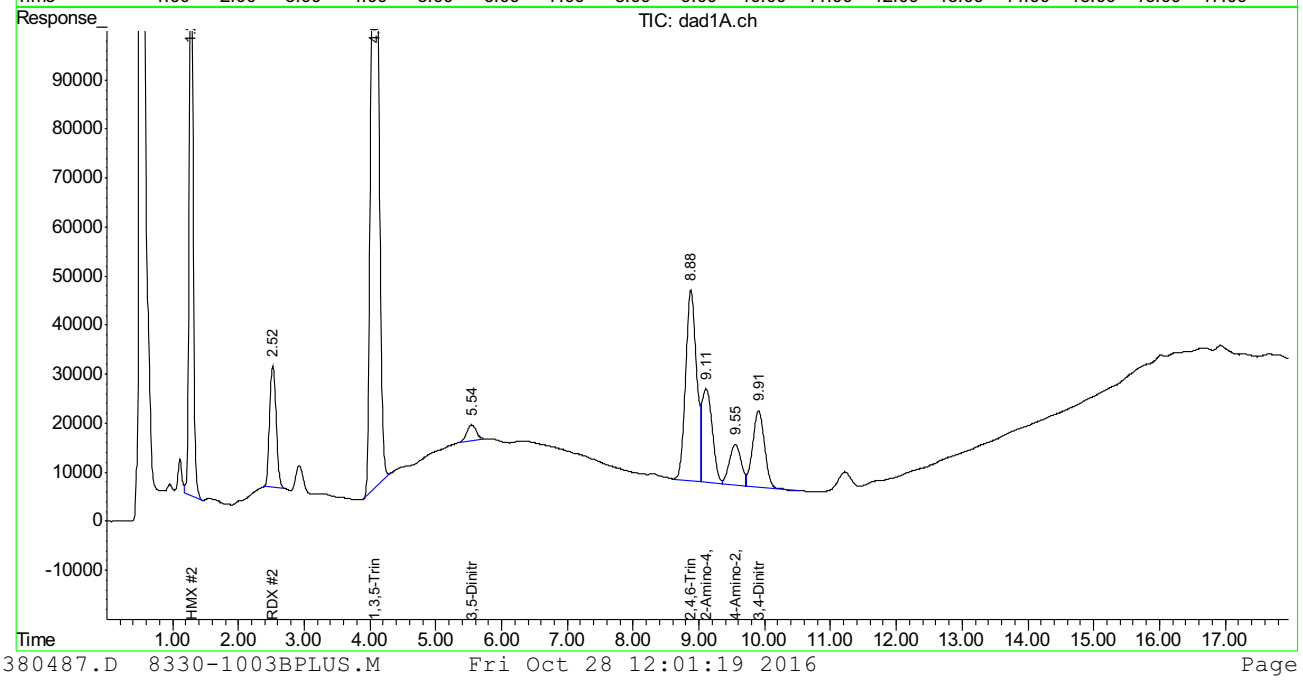
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380487.D\dad1B.ch Vial: 62
Signal #2 : P:\DATA\1027BPL\PP380487.D\dad1A.ch
Acq On : 27-Oct-2016, 18:00:32 Operator: kismetl
Sample : fa37760-2 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 10:34 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA37760-2
Lab FileID: PP380487.D
Injection Time: 10/27/16 18:00
Method: SW846 8330B
Analyst approved: 10/28/16 15:59 Kismet Lugo
Supervisor approved: 10/28/16 17:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.52	Poor instrument integration
RDX	121-82-4	2	2.52	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.07	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.07	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.54	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.54	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060242.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\1025RPB3\GG060242.D\dad1A.ch
Acq On : 28-Oct-2016, 02:03:29 Operator: kismetl
Sample : FA37760-2cf Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:53:18 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.92	20.92	2603143	5079115	598.983	585.438
	Spiked Amount 500.000	Range 70 - 136		Recovery =		119.80%	117.09%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.17	7.17	4201310	4201777	1514.344	1515.726
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	10.49	10.49	16399539	29179646	1900.493	1953.086
6)	RDX	11.25	11.25	2264492	4571471	583.818	596.269
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	16.74	16.74	8144315	10598721	992.236	943.630m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	24.09	24.14	383124	488724	38.798m	28.642m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	25.78	25.78	1344014	2843483	227.950m	262.626m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	27.61	27.61	3898019	5628561	486.614m	485.491m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

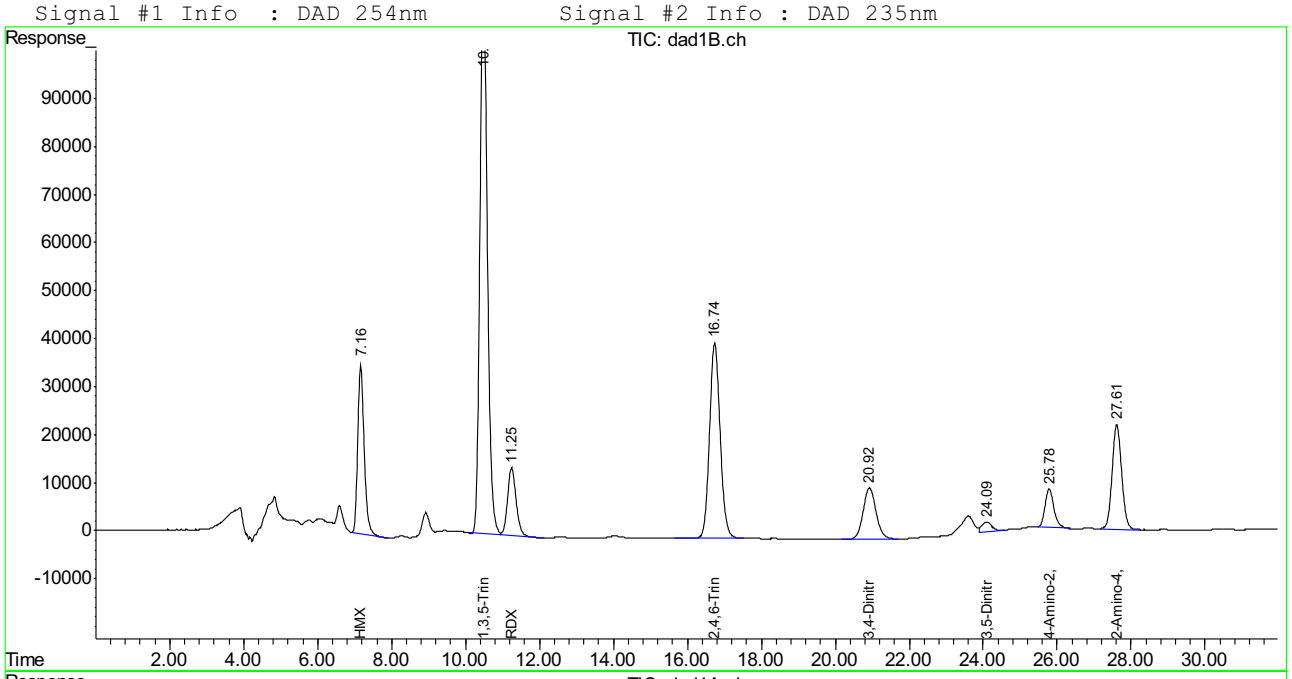
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060242.D 8330RPB.M_1027.M Fri Oct 28 17:18:26 2016 Page 1

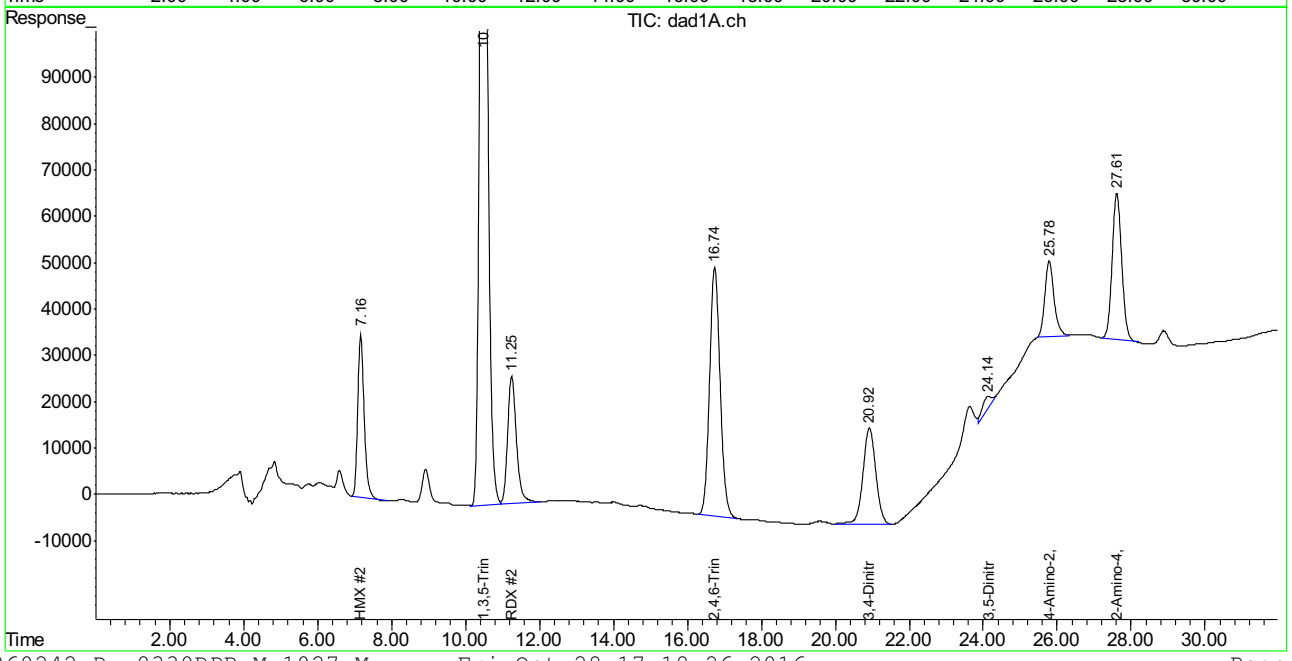
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060242.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\1025RPB3\GG060242.D\dad1A.ch
Acq On : 28-Oct-2016, 02:03:29 Operator: kismetl
Sample : FA37760-2cf Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 15:47 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA37760-2
Lab FileID: GG060242.D
Injection Time: 10/28/16 02:03
Method: SW846 8330B
Analyst approved: 10/28/16 15:59 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	16.74	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.09	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.14	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.78	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.78	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.61	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.61	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380396.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\1021BPL\PP380396.D\dad1A.ch
Acq On : 21-Oct-2016, 15:50:39 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:55 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	1062255	1960393	513.684	502.827
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.74%	100.57%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

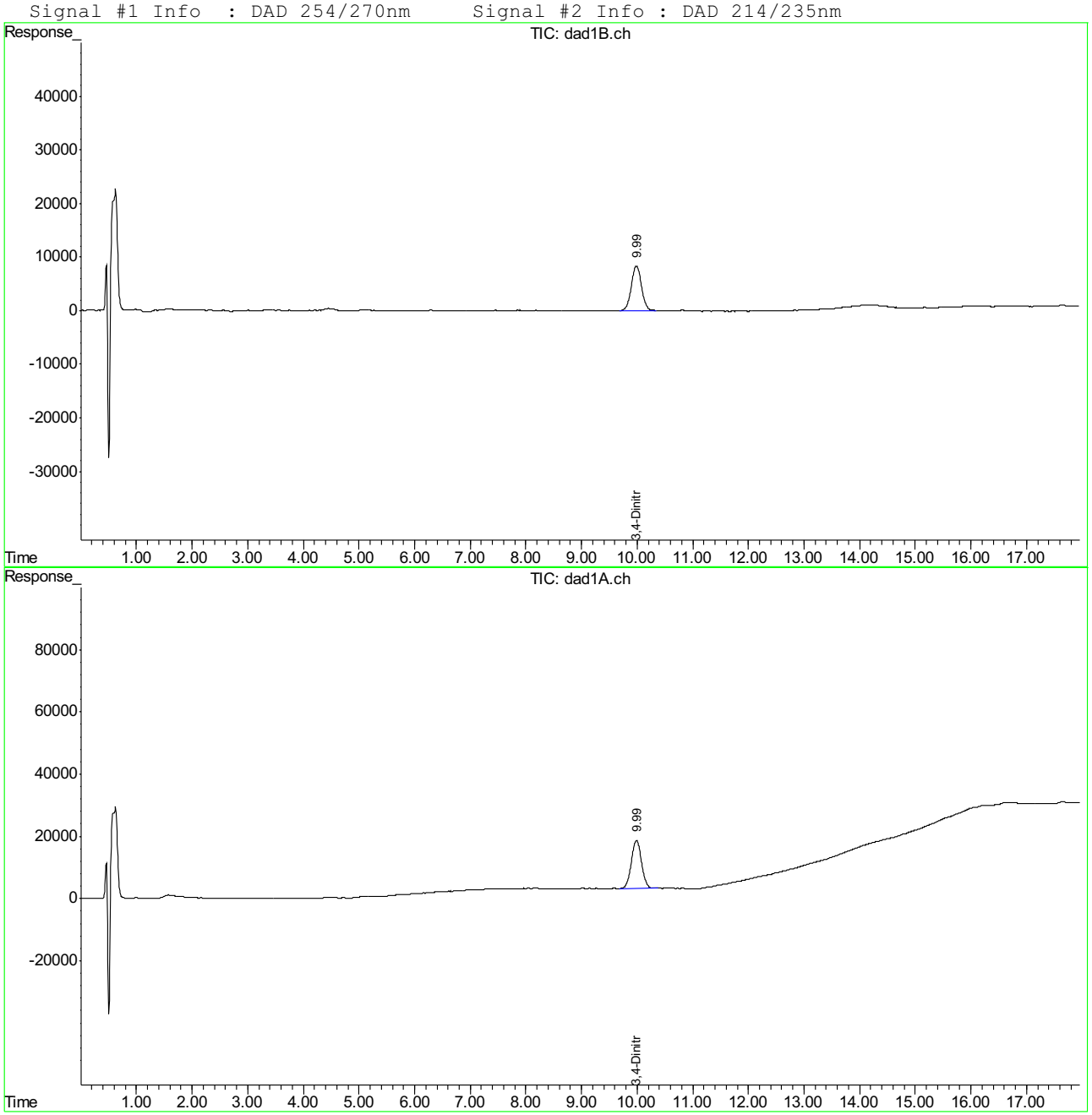
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380396.D 8330-1003BPLUS.M Mon Oct 24 09:19:49 2016 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380396.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\1021BPL\PP380396.D\dad1A.ch
Acq On : 21-Oct-2016, 15:50:39 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:15 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm



SGS ACCUTEST FA37760

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060241.D\dad1B.ch Vial: 16
Signal #2 : G:\DATA\1025RPB3\GG060241.D\dad1A.ch
Acq On : 28-Oct-2016, 01:28:54 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:53:17 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.92	20.92	2577774	4896048	593.146	564.276
	Spiked Amount 500.000	Range 70 - 136		Recovery =		118.63%	112.86%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

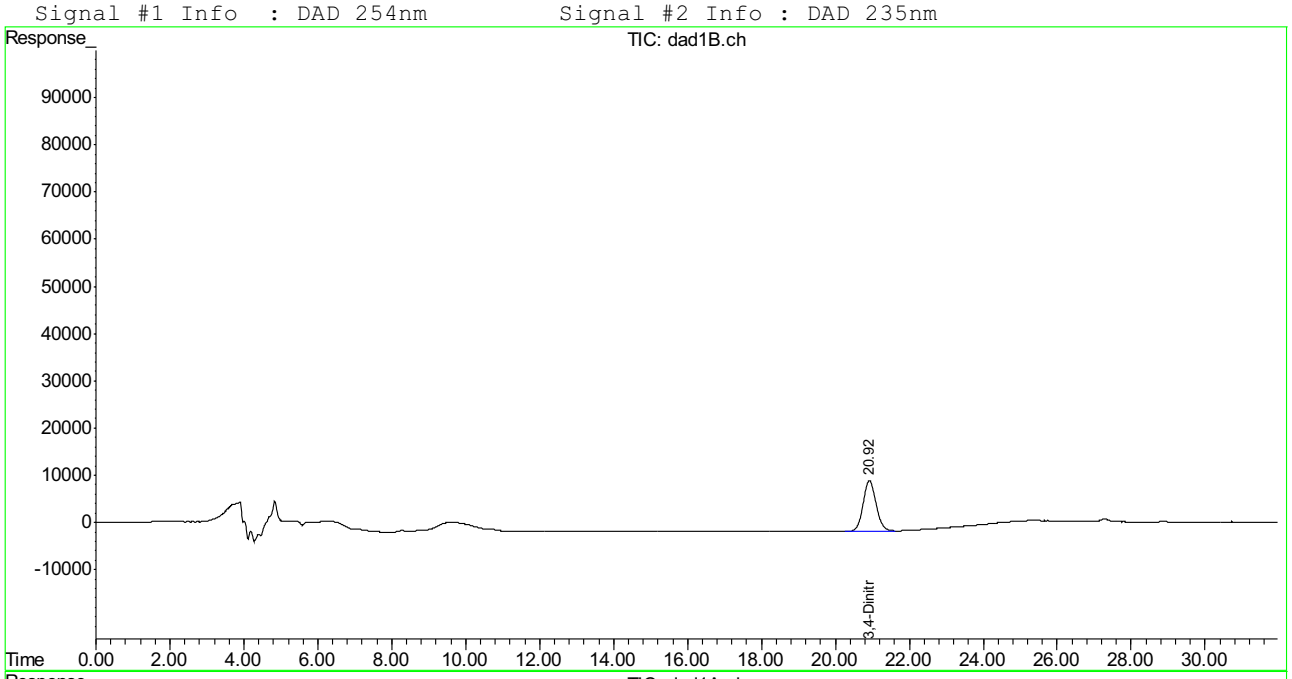
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060241.D 8330RPB.M_1027.M Fri Oct 28 17:18:25 2016 Page 1

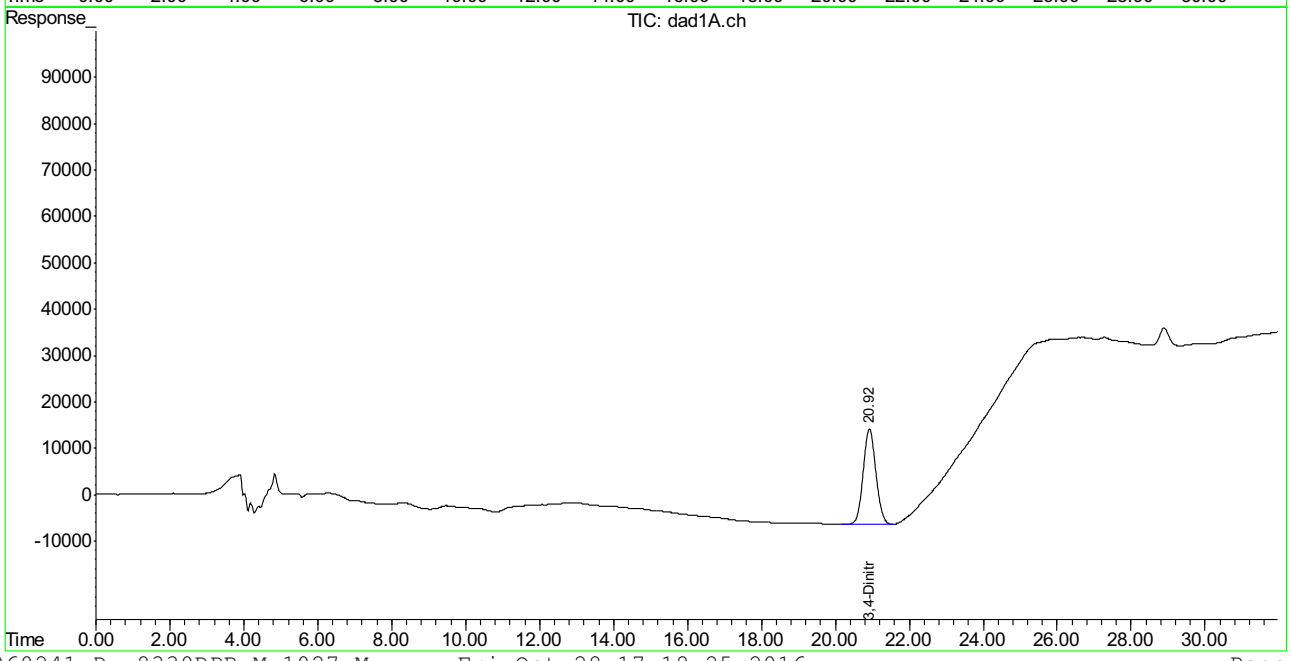
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060241.D\dad1B.ch Vial: 16
Signal #2 : G:\DATA\1025RPB3\GG060241.D\dad1A.ch
Acq On : 28-Oct-2016, 01:28:54 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 9:18 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380395.D\dad1B.ch Vial: 17
Signal #2 : P:\DATA\1021BPL\PP380395.D\dad1A.ch
Acq On : 21-Oct-2016, 15:25:43 Operator: kismetl
Sample : op62253-bs Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:54 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	1061711	1944053	513.421	498.636
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.68%	99.73%
	Target Compounds						
1)	TNX	1.19	1.19	1221879	1726502	394.756m	349.862
2)	HMX	1.29	1.29	840743	2358048	523.803	537.161
3)	DNX	1.52	1.52	1235721	2147153	426.487	449.245
4)	MNX	2.02	2.01	1121999	1742733	494.544	492.636m
5)	RDX	2.54	2.54	888763	1420417	484.316	489.492
6)	1,3,5-Trinitrobe	4.10	4.10	1920087	3712925	513.406	512.418
7)	1,3-Dinitrobenze	5.24	5.24	2445954	1607867	481.554	472.077
8)	3,5-Dinitroanili	5.59	5.59	1946508	3258522	434.581	431.965
9)	Nitrobenzene	6.77	6.77	1432030	1429421	475.639	508.021
10)	Nitroglycerin	0.00	8.36	0	3583552	N.D. d	2475.008
11)	Tetryl	8.55	8.54	1289283	1869684	669.488	723.016
12)	2,4,6-Trinitroto	8.95	8.95	1552922	1896521	450.370	439.564
13)	2-Amino-4,6-Dini	9.21	9.21	1615656	2529608	515.020	514.113
14)	4-Amino-2,6-Dini	9.66	9.66	1179948	2458868	512.088	512.805
16)	2,4-Dinitrotolue	10.65	10.65	2320548	1467183	507.440	493.282
17)	2,6-Dinitrotolue	11.12	11.12	1357651	1582302	542.185	513.652
18)	o-Nitrotoluene	13.65	13.65	1092316	1443393	506.570	471.467m
19)	p-Nitrotoluene	14.05	14.05	1837199	1384407	541.630	482.478m
20)	m-Nitrotoluene	14.64	14.64	1644661	1849780	519.009	484.530m
21)	PETN	0.00	16.33	0	4276648	N.D. d	2932.047m

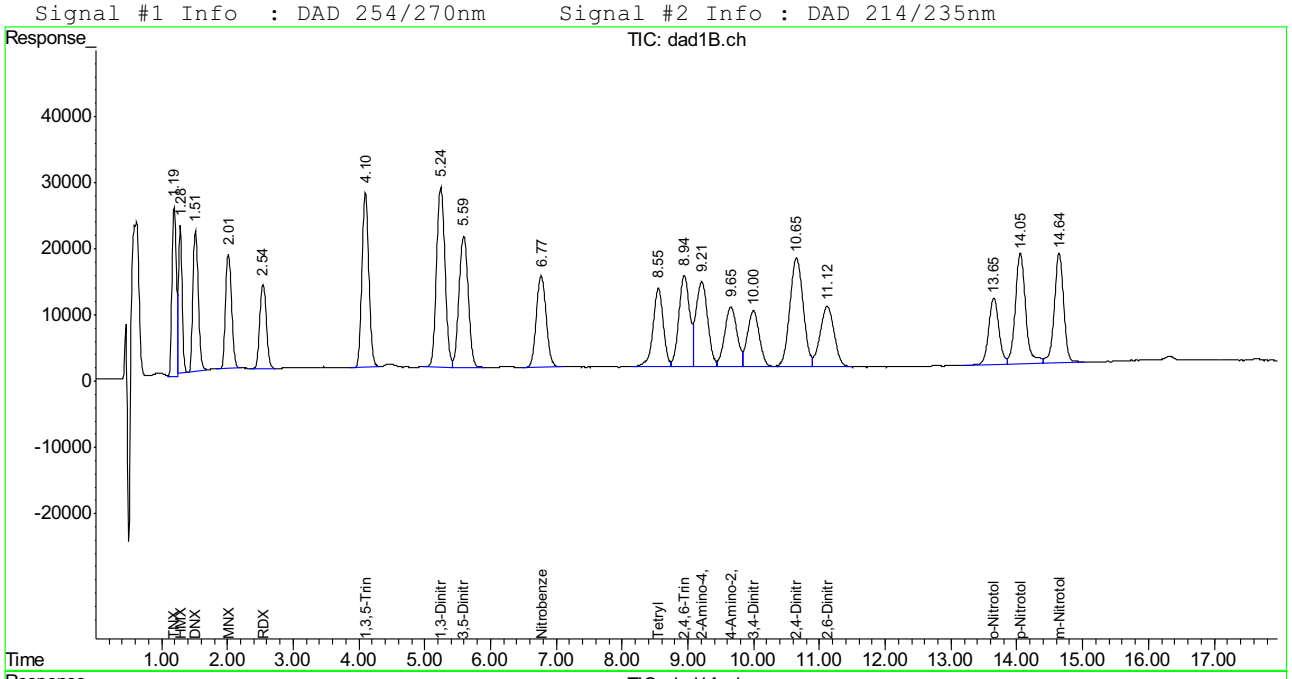
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380395.D 8330-1003BPLUS.M Mon Oct 24 09:19:48 2016 Page 1

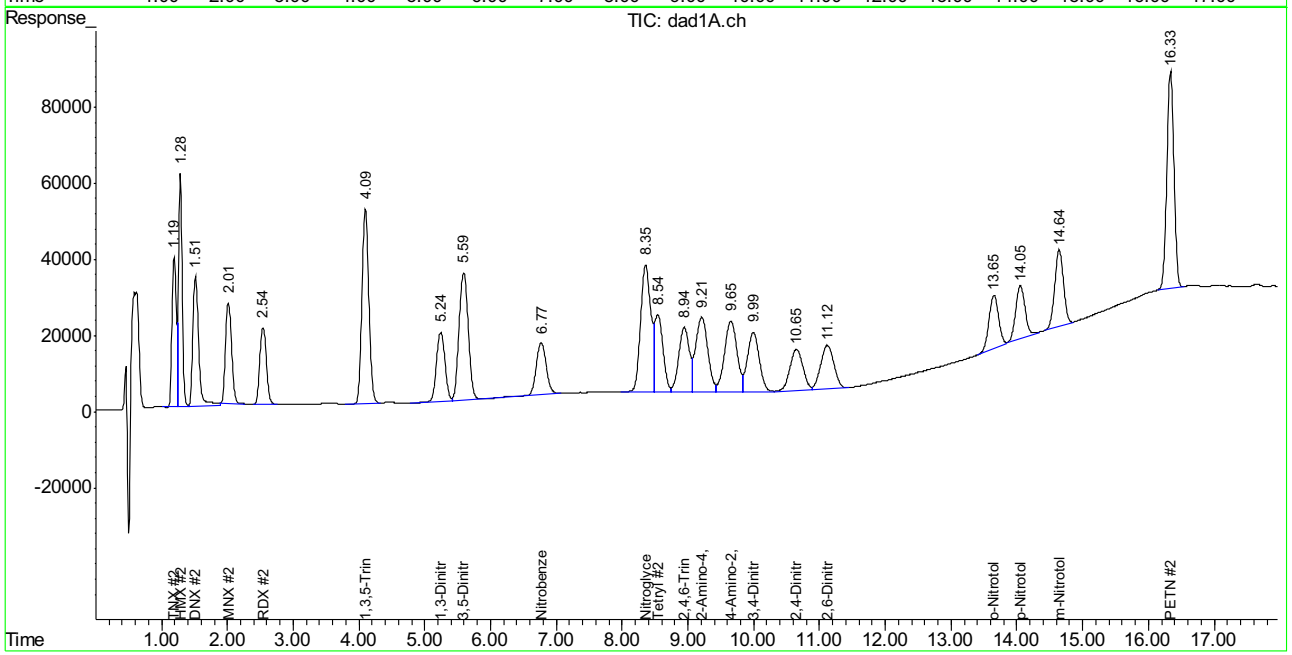
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380395.D\dad1B.ch Vial: 17
Signal #2 : P:\DATA\1021BPL\PP380395.D\dad1A.ch
Acq On : 21-Oct-2016, 15:25:43 Operator: kismetl
Sample : op62253-bs Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:13 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: OP62253-BS
Lab FileID: PP380395.D
Injection Time: 10/21/16 15:25
Method: SW846 8330B
Analyst approved: 10/24/16 10:02 Kismet Lugo
Supervisor approved: 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.19	Poor instrument integration
MNX		2	2.01	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380399.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\1021BPL\PP380399.D\dad1A.ch
Acq On : 21-Oct-2016, 17:05:31 Operator: kismetl
Sample : op62253-ms Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:58 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	1028030	1896605	497.134	486.466
	Spiked Amount 500.000	Range 70 - 136		Recovery =		99.43%	97.29%
	Target Compounds						
1)	TNX	1.19	1.19	1394185	2057655	450.424	416.968
2)	HMX	1.29	1.29	1914191	5233397	1192.588	1192.163
3)	DNX	1.52	1.52	1336663	2142312	461.325	448.232
4)	MNX	2.02	2.02	1164639	1805907	513.338	510.494
5)	RDX	2.54	2.54	1497995	2289945	816.307m	789.142m
6)	1,3,5-Trinitrobe	4.09	4.09	5435456	10539050	1453.368	1454.488
7)	1,3-Dinitrobenze	5.24	5.24	2319919	1536078	456.741m	451.000m
8)	3,5-Dinitroanili	5.59	5.59	1991433	3421240	444.611m	453.536m
9)	Nitrobenzene	6.77	6.76	1463524	1382879	486.099	491.480m
10)	Nitroglycerin	0.00	8.35	0	3714698	N.D. d	2565.585
11)	Tetryl	8.54	8.53	1305996	1920771	678.166	742.772
12)	2,4,6-Trinitroto	8.94	8.94	3344950	4087228	970.084	947.313
13)	2-Amino-4,6-Dini	9.20	9.20	2268033	3579249	722.977	727.440
14)	4-Amino-2,6-Dini	9.65	9.65	1406618	2961459	610.461	617.622
16)	2,4-Dinitrotolue	10.65	10.65	2321966	1453518	507.750	488.688
17)	2,6-Dinitrotolue	11.12	11.12	1437975	1773538	574.263	573.400
18)	o-Nitrotoluene	13.65	13.65	1078836	1476064	500.319m	482.138m
19)	p-Nitrotoluene	14.05	14.06	1715029	1358264	505.613m	473.367m
20)	m-Nitrotoluene	14.64	14.64	1573092	1869392	496.424m	489.668m
21)	PETN	0.00	16.34	0	3998885	N.D. d	2741.614m

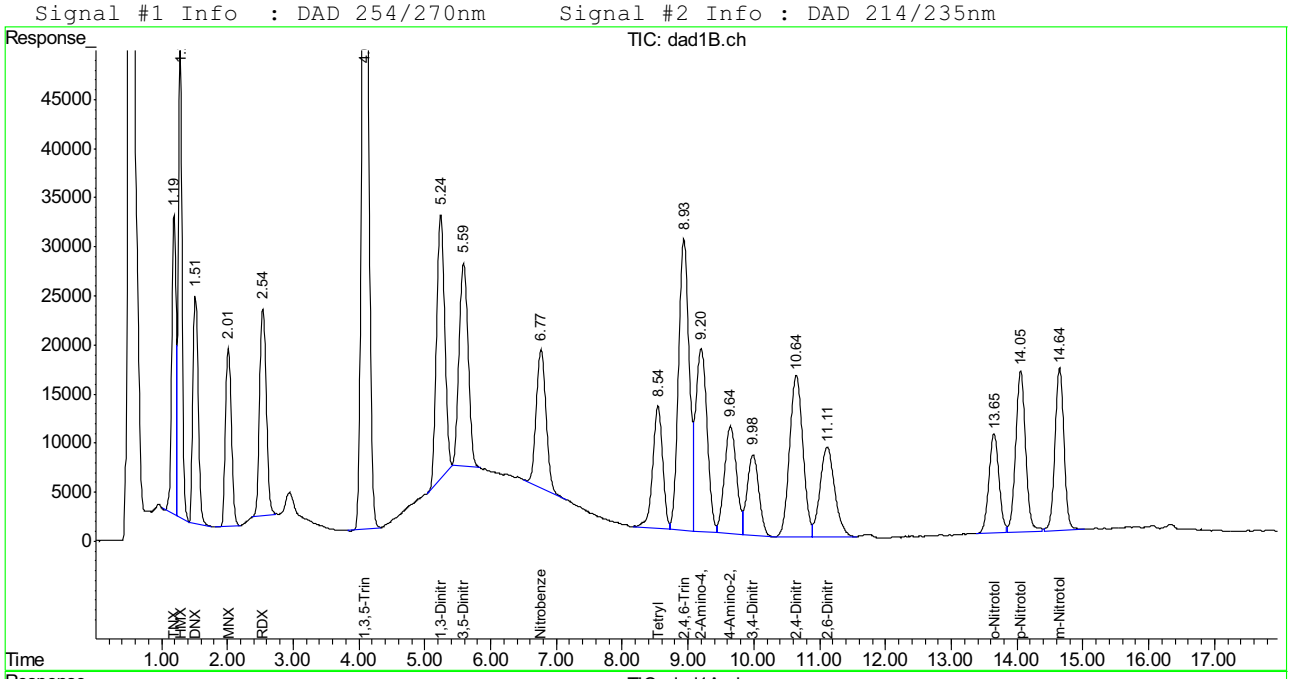
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380399.D 8330-1003BPLUS.M Mon Oct 24 09:19:52 2016 Page 1

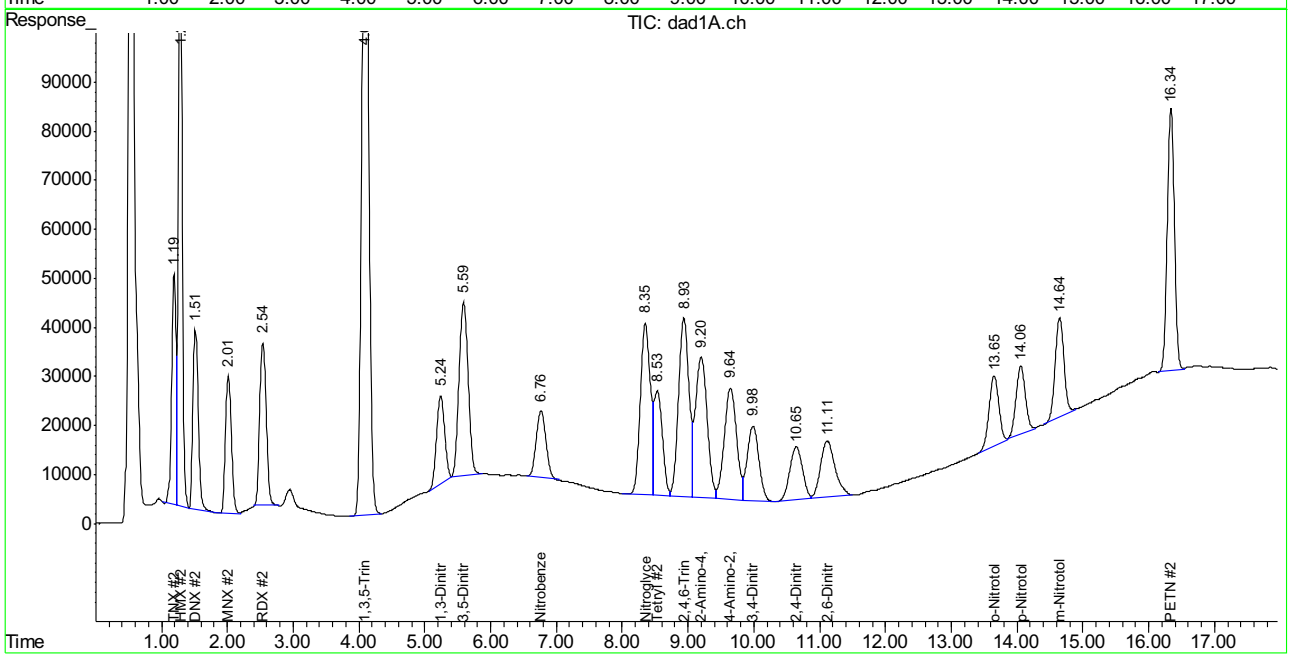
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380399.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\1021BPL\PP380399.D\dad1A.ch
Acq On : 21-Oct-2016, 17:05:31 Operator: kismetl
Sample : op62253-ms Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:25 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: OP62253-MS
Lab FileID: PP380399.D
Injection Time: 10/21/16 17:05
Method: SW846 8330B
Analyst approved: 10/28/16 16:02 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.24	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.24	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.59	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.59	Poor instrument integration
Nitrobenzene	98-95-3	2	6.76	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.05	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.34	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380400.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\1021BPL\PP380400.D\dad1A.ch
Acq On : 21-Oct-2016, 17:30:25 Operator: kismetl
Sample : op62253-msd Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:59 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	1028599	1883504	497.409	483.106
	Spiked Amount 500.000	Range 70 - 136		Recovery =		99.48%	96.62%
	Target Compounds						
1)	TNX	1.19	1.19	1304116	2007343	421.325	406.773
2)	HMX	1.29	1.29	1912063	5149888	1191.262	1173.139
3)	DNX	1.52	1.52	1293735	2054448	446.509	429.848
4)	MNX	2.02	2.02	1124734	1764012	495.749	498.652
5)	RDX	2.54	2.54	1453498	2302285	792.059m	793.394m
6)	1,3,5-Trinitrobe	4.10	4.10	5404926	10479107	1445.205	1446.215
7)	1,3-Dinitrobenze	5.24	5.24	2502360	1658440	492.660m	486.926m
8)	3,5-Dinitroanili	5.59	5.59	2192150	3655957	489.423m	484.651m
9)	Nitrobenzene	6.77	6.76	1480129	1455584	491.614	517.319m
10)	Nitroglycerin	0.00	8.35	0	3717722	N.D. d	2567.674
11)	Tetryl	8.54	8.53	1323564	1927660	687.289	745.436
12)	2,4,6-Trinitroto	8.94	8.94	3351566	4081657	972.002	946.022
13)	2-Amino-4,6-Dini	9.20	9.20	2270173	3566854	723.659	724.921
14)	4-Amino-2,6-Dini	9.65	9.65	1409787	2952509	611.836	615.756
16)	2,4-Dinitrotolue	10.65	10.65	2326595	1466785	508.762	493.148
17)	2,6-Dinitrotolue	11.12	11.12	1482602	1800980	592.085	581.935
18)	o-Nitrotoluene	13.65	13.65	1099464	1460536	509.885m	477.066m
19)	p-Nitrotoluene	14.05	14.05	1743092	1406724	513.886m	490.256m
20)	m-Nitrotoluene	14.64	14.64	1635271	1884818	516.046	493.708m
21)	PETN	0.00	16.33	0	4070550	N.D. d	2790.747m

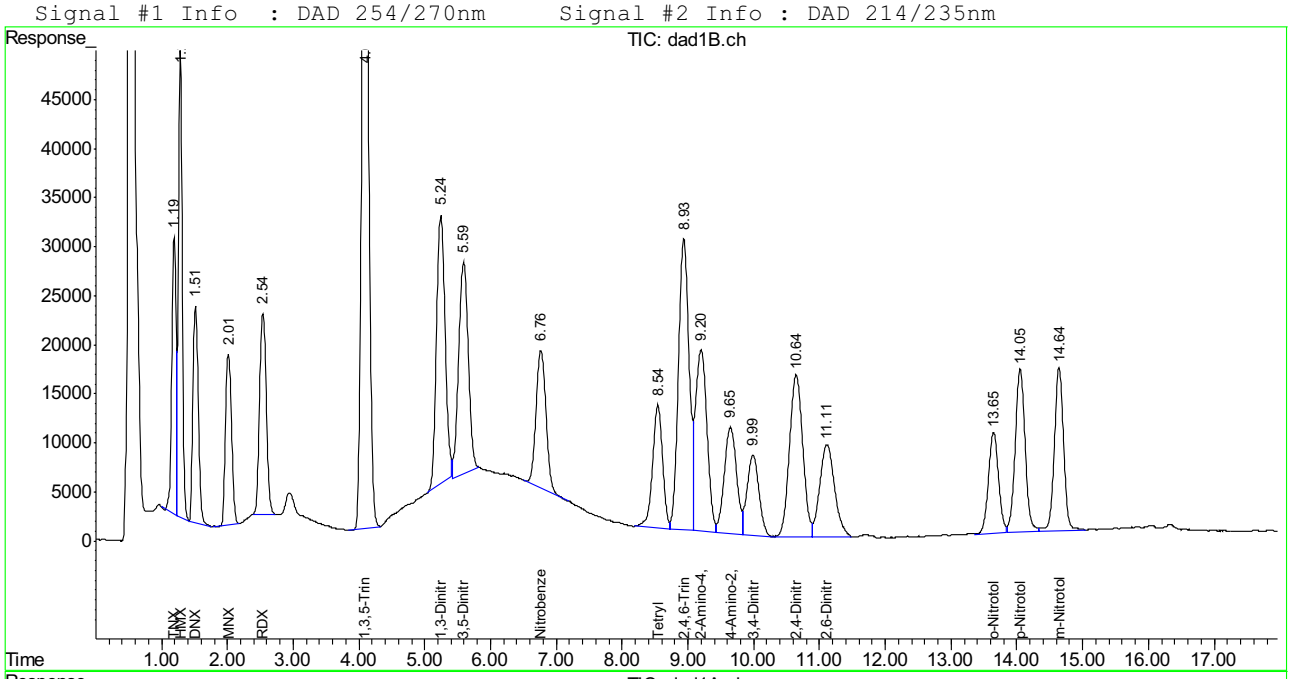
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380400.D 8330-1003BPLUS.M Mon Oct 24 09:19:53 2016 Page 1

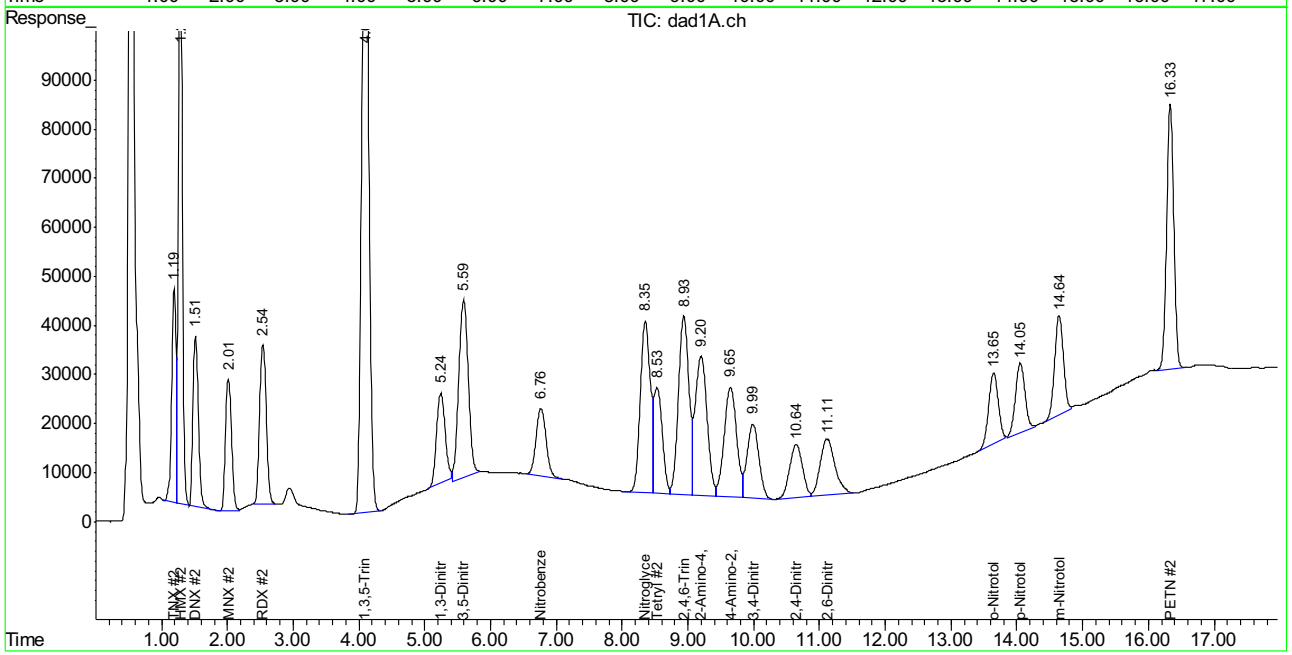
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380400.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\1021BPL\PP380400.D\dad1A.ch
Acq On : 21-Oct-2016, 17:30:25 Operator: kismetl
Sample : op62253-msd Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:27 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: OP62253-MSD
Lab FileID: PP380400.D
Injection Time: 10/21/16 17:30
Method: SW846 8330B
Analyst approved: 10/28/16 16:02 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.24	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.24	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.59	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.59	Poor instrument integration
Nitrobenzene	98-95-3	2	6.76	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.05	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060227.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\1025RPB3\GG060227.D\dad1A.ch
Acq On : 27-Oct-2016, 17:24:48 Operator: kismetl
Sample : ic2478-20 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:51 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.04	21.05	79123	98762	16.534m	10.432m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.31%#	2.09%#
	Target Compounds						
1)	TNX	6.53	6.53	173230	172133	21.172m	13.474m
2)	HMX	7.22	7.22	45591	45591	16.079	5.316 #
3)	DNX	7.52	7.52	127821	127821	17.735	13.402
4)	MNX	9.35	9.34	105744	144817	19.047	17.392m
5)	1,3,5-Trinitrobe	10.56	10.56	167619	286467	19.182	18.598m
6)	RDX	11.34	11.33	73702	166415	18.432	21.569m
7)	1,3-Dinitrobenze	14.11	14.11	248863	167556	20.861	18.804m
8)	Nitrobenzene	15.59	15.59	158432	155541	20.137	21.670m
9)	2,4,6-Trinitroto	16.85	16.84	165771	247148	19.949	22.922
10)	Nitroglycerin	0.00	17.94	0	244855	N.D.	81.895 #
11)	Tetryl	19.28	19.29	121923	225768	19.349	20.189m
13)	2,6-Dinitrotolue	21.53	21.54	92624	22355	15.572m	2.566m#
14)	2,4-Dinitrotolue	22.49	22.52	215595	140857	19.640m	16.770m
15)	o-Nitrotoluene	24.41	24.40	93707	86983	18.911m	12.886m
16)	3,5-Dinitroanili	24.16	24.13	190520	160639	18.735m	9.939m#
17)	p-Nitrotoluene	25.44	25.47	87817	114186	21.902m	17.867m
18)	4-Amino-2,6-Dini	25.82	25.84	125338	197772	20.536m	16.447m
19)	m-Nitrotoluene	26.54	26.55	112862	236915	20.038m	26.803m
20)	2-Amino-4,6-Dini	27.66	27.66	161356	223310	19.894	18.858m
21)	PETN	0.00	28.61	0	270104	N.D. d	83.279m

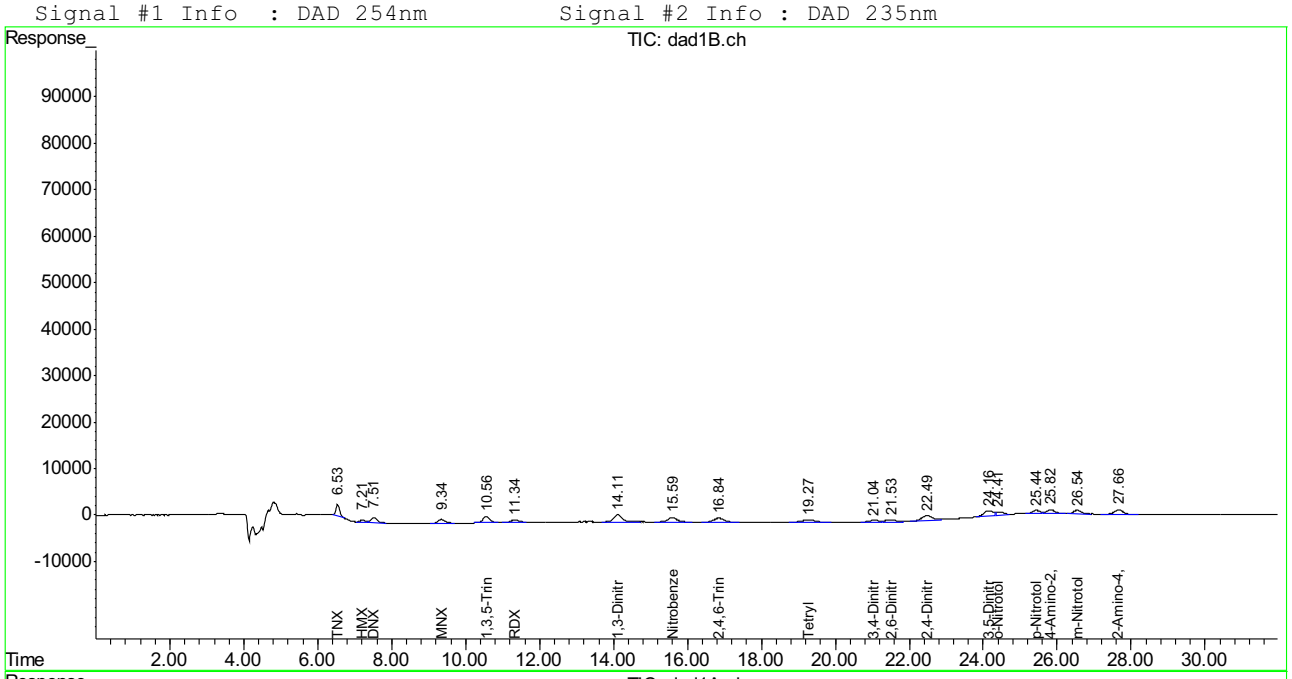
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060227.D 8330RPB.M_1027.M Fri Oct 28 08:28:46 2016 Page 1

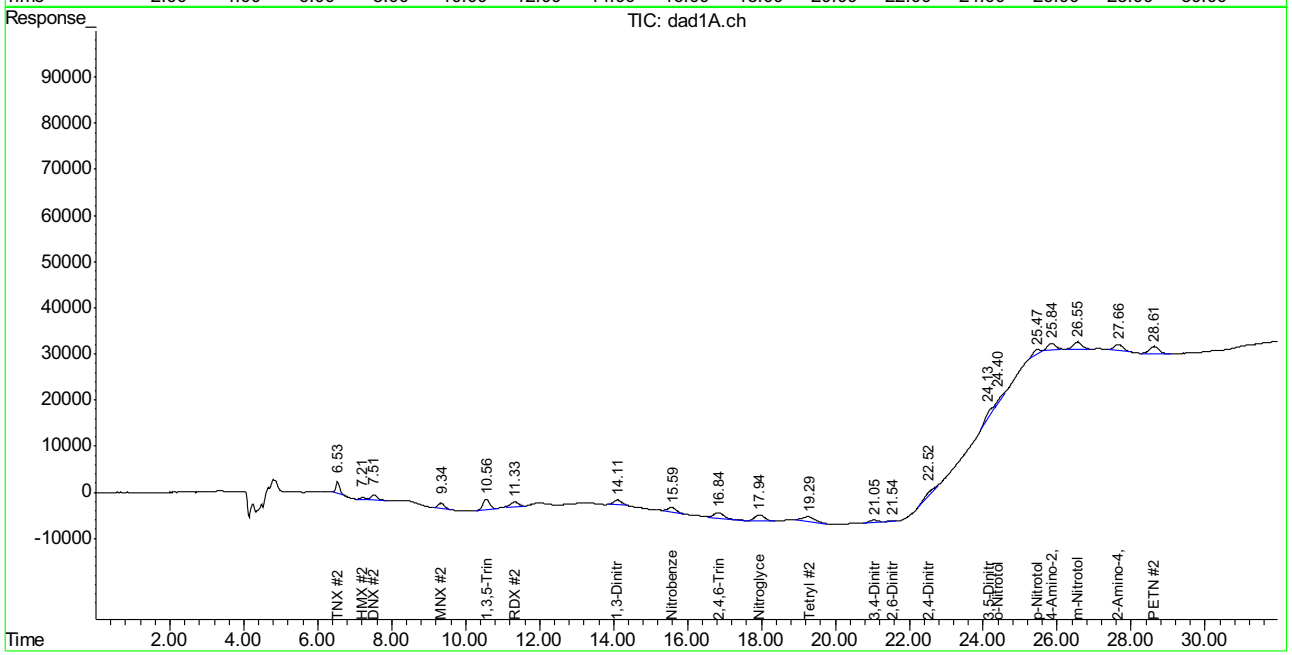
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060227.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\1025RPB3\GG060227.D\dad1A.ch
Acq On : 27-Oct-2016, 17:24:48 Operator: kismetl
Sample : ic2478-20 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 6:45 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060227.D
Injection Time: 10/27/16 17:24
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.53	Poor instrument integration
TNX		2	6.53	Poor instrument integration
MNX		2	9.34	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Poor instrument integration
RDX	121-82-4	2	11.33	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.11	Poor instrument integration
Nitrobenzene	98-95-3	2	15.59	Poor instrument integration
Tetryl	479-45-8	2	19.29	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	21.04	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	21.05	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	21.53	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	21.54	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	22.49	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.52	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
3,5-Dinitroaniline	618-87-1	1	24.16	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.40	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.41	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.44	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.47	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.82	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.84	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.54	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.55	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060228.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\1025RPB3\GG060228.D\dad1A.ch
Acq On : 27-Oct-2016, 17:59:23 Operator: kismetl
Sample : ic2478-50 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:52 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.02	21.02	206212	345983	43.092	36.545m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		8.62%#	7.31%#
	Target Compounds						
1)	TNX	6.53	6.53	416167	422425	50.863m	33.066m
2)	HMX	7.21	7.21	122736	122701	43.287	14.307 #
3)	DNX	7.51	7.51	310298	310334	43.055	32.539
4)	MNX	9.34	9.33	262492	361684	47.281	43.438m
5)	1,3,5-Trinitrobe	10.54	10.54	424119	710463	48.536	46.125
6)	RDX	11.33	11.32	184044	339943	46.027	44.060m
7)	1,3-Dinitrobenze	14.09	14.09	587582	446322	49.253	50.089m
8)	Nitrobenzene	15.57	15.56	385133	366186	48.952	51.005m
9)	2,4,6-Trinitroto	16.82	16.81	398759	525854	47.987	48.770
10)	Nitroglycerin	0.00	17.90	0	734142	N.D.	245.544 #
11)	Tetryl	19.24	19.23	295127	551149	46.837	49.287
13)	2,6-Dinitrotolue	21.46	21.46	253919	208337	42.689	23.913 #
14)	2,4-Dinitrotolue	22.45	22.46	580748	288452	52.905	34.342m
15)	o-Nitrotoluene	24.40	24.47	233127	298832	47.047m	44.269m
16)	3,5-Dinitroanili	24.13	24.16	478710	646896	47.073m	40.025m
17)	p-Nitrotoluene	25.42	25.43	216240	270564	53.931m	42.337m
18)	4-Amino-2,6-Dini	25.81	25.83	294121	506517	48.191m	42.122m
19)	m-Nitrotoluene	26.53	26.53	263644	364728	46.808m	41.263m
20)	2-Amino-4,6-Dini	27.65	27.66	410402	652127	50.600m	55.070m
21)	PETN	0.00	28.61	0	707098	N.D. d	218.014m

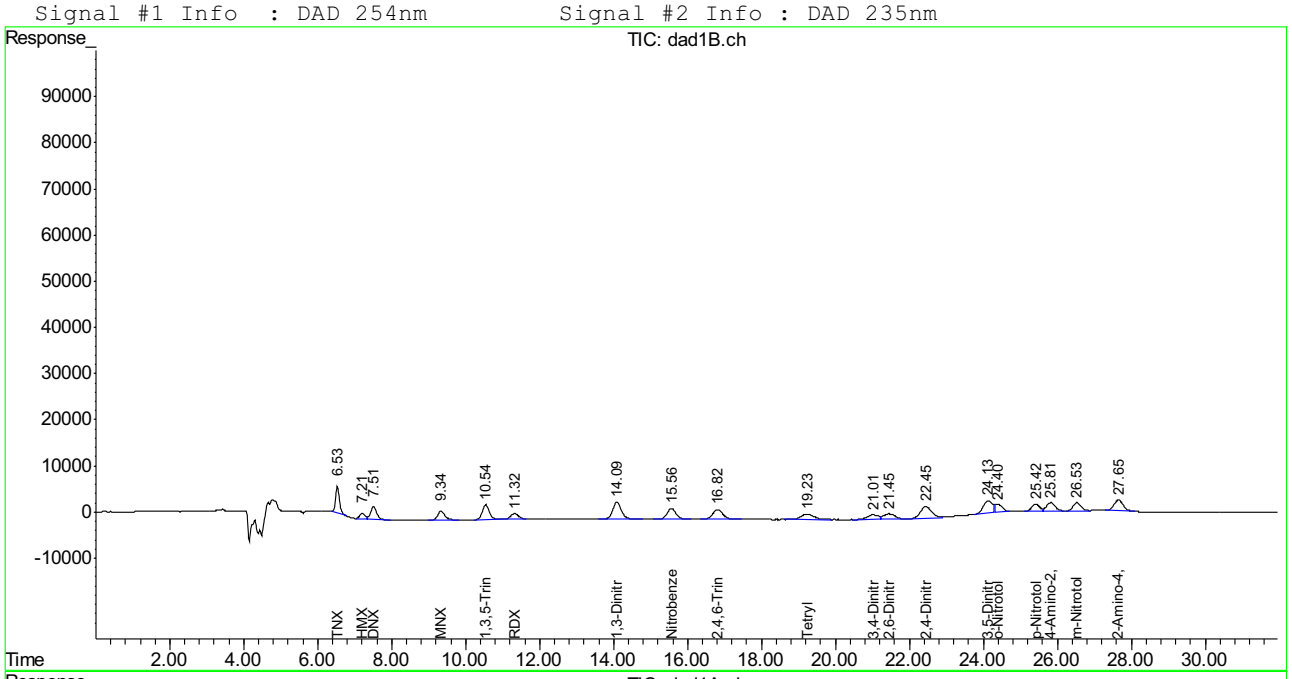
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060228.D 8330RPB.M_1027.M Fri Oct 28 08:29:22 2016 Page 1

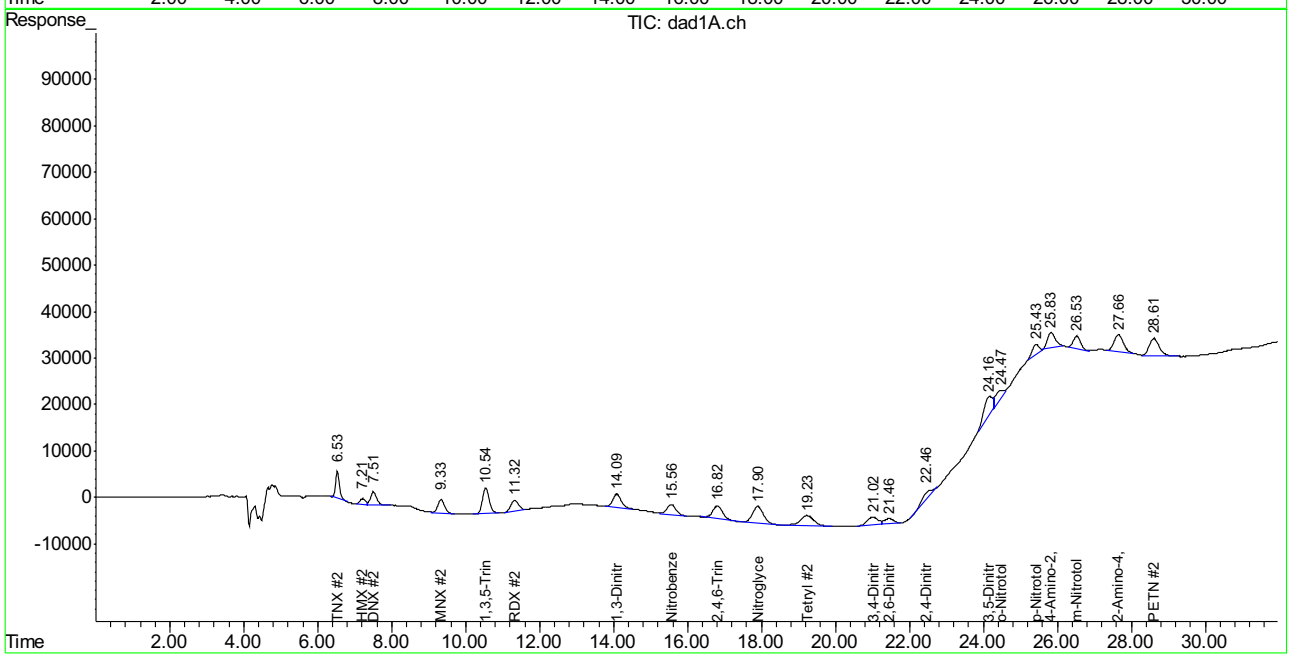
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060228.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\1025RPB3\GG060228.D\dad1A.ch
Acq On : 27-Oct-2016, 17:59:23 Operator: kismetl
Sample : ic2478-50 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:27 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060228.D
Injection Time: 10/27/16 17:59
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.53	Poor instrument integration
TNX		2	6.53	Poor instrument integration
MNX		2	9.33	Poor instrument integration
RDX	121-82-4	2	11.32	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.09	Poor instrument integration
Nitrobenzene	98-95-3	2	15.56	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	21.02	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.46	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.13	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.16	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.40	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.47	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.42	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.43	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.83	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.65	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060229.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\1025RPB3\GG060229.D\dad1A.ch
Acq On : 27-Oct-2016, 18:33:57 Operator: kismetl
Sample : ic2478-100 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:53 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.97	441420	808124	92.242	85.360
	Spiked Amount 500.000	Range 70 - 136		Recovery =		18.45%#	17.07%#
	Target Compounds						
1)	TNX	6.52	6.52	850928	850340	103.999m	66.562m
2)	HMX	7.19	7.19	264483	263748	93.279	30.754 #
3)	DNX	7.49	7.49	632878	629284	87.814	65.982
4)	MNX	9.32	9.31	523155	767301	94.232	92.152
5)	1,3,5-Trinitrobe	10.52	10.52	872851	1480264	99.888	96.102
6)	RDX	11.30	11.30	394092	827882	98.557	107.301
7)	1,3-Dinitrobenze	14.06	14.06	1219339	939357	102.209	105.420m
8)	Nitrobenzene	15.53	15.53	795274	784476	101.083	109.215m
9)	2,4,6-Trinitroto	16.78	16.77	830964	1151909	100.000	106.834m
10)	Nitroglycerin	0.00	17.86	0	1545659	N.D. d	516.968
11)	Tetryl	19.19	19.19	594854	1048725	94.403	93.783
13)	2,6-Dinitrotolue	21.41	21.41	562182	617138	94.514	70.835
14)	2,4-Dinitrotolue	22.40	22.45	1122199	735485	102.230	87.565m
15)	o-Nitrotoluene	24.37	24.40	496574	676448	100.212m	100.209m
16)	3,5-Dinitroanili	24.11	24.13	1008197	1622701	99.139m	100.401m
17)	p-Nitrotoluene	25.40	25.40	433827	774659	108.197m	121.216m
18)	4-Amino-2,6-Dini	25.80	25.80	561698	1004280	92.034m	83.516m
19)	m-Nitrotoluene	26.51	26.51	555380	903933	98.603m	102.264m
20)	2-Amino-4,6-Dini	27.64	27.63	789528	1082664	97.343	91.427m
21)	PETN	0.00	28.59	0	1622649	N.D. d	500.298m

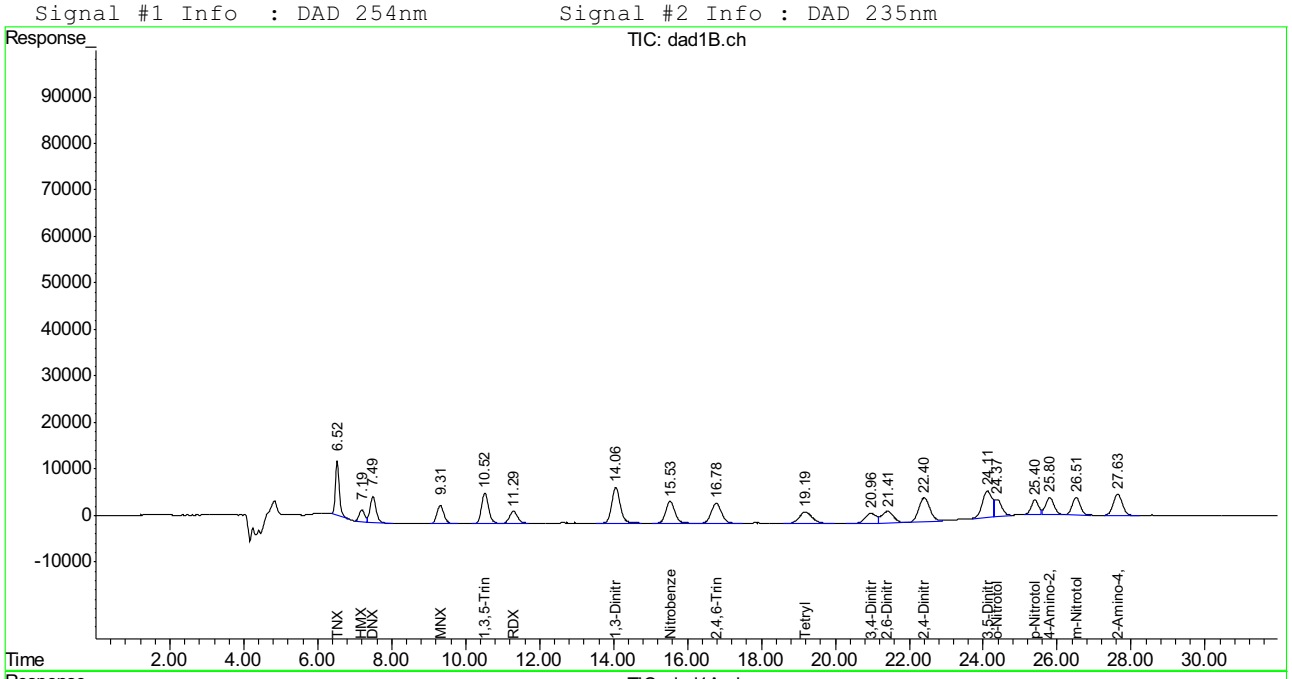
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060229.D 8330RPB.M_1027.M Fri Oct 28 08:29:23 2016 Page 1

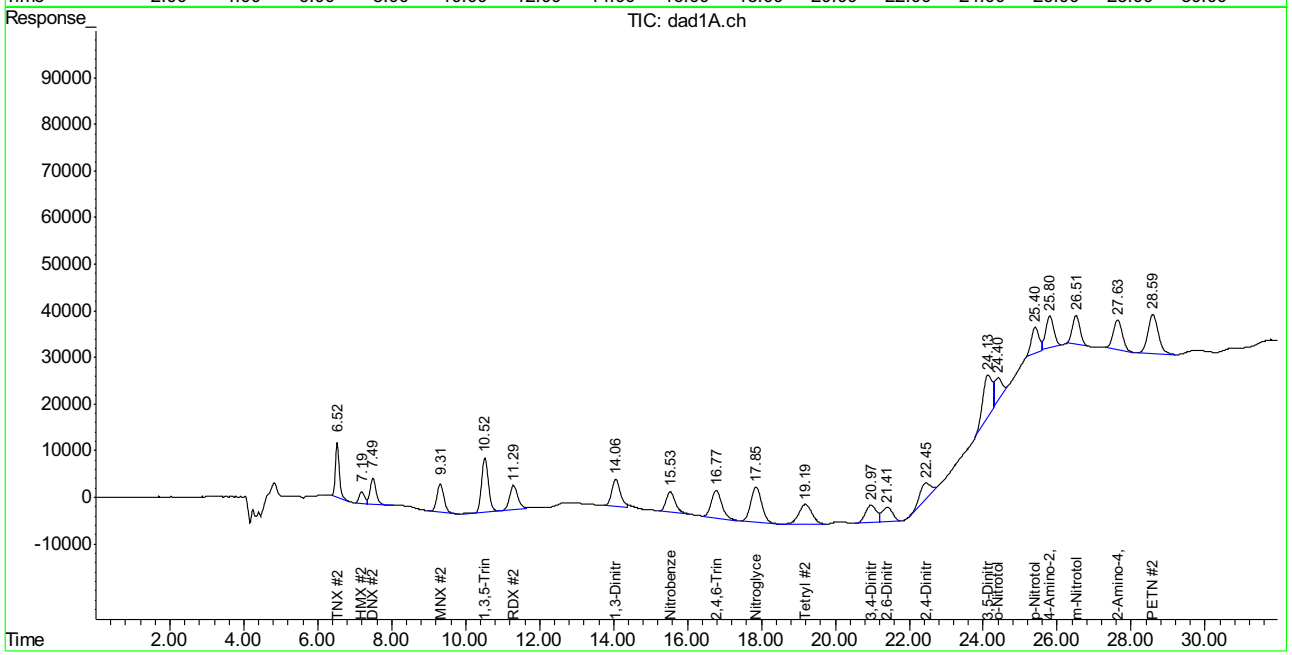
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060229.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\1025RPB3\GG060229.D\dad1A.ch
Acq On : 27-Oct-2016, 18:33:57 Operator: kismetl
Sample : ic2478-100 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:31 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060229.D
Injection Time: 10/27/16 18:33
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.52	Poor instrument integration
TNX		2	6.52	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.06	Poor instrument integration
Nitrobenzene	98-95-3	2	15.53	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.77	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.45	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.11	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.37	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.40	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.40	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.40	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.80	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.80	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.51	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.51	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.63	Poor instrument integration
PETN	78-11-5	2	28.59	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060230.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\1025RPB3\GG060230.D\dad1A.ch
Acq On : 27-Oct-2016, 19:08:31 Operator: kismetl
Sample : ic2478-200 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:54 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.00	21.00	916506	1798164	191.520	189.935
	Spiked Amount 500.000	Range 70 - 136		Recovery =		38.30%#	37.99%#
	Target Compounds						
1)	TNX	6.53	6.53	1634014	1628201	199.707m	127.451m
2)	HMX	7.21	7.21	563225	562867	198.640	65.633 #
3)	DNX	7.51	7.51	1305594	1306276	181.155	136.966
4)	MNX	9.34	9.34	1062516	1640382	191.383	197.009
5)	1,3,5-Trinitrobe	10.54	10.54	1769939	3151903	202.549	204.629
6)	RDX	11.32	11.32	802441	1487328	200.680	192.770
7)	1,3-Dinitrobenze	14.08	14.08	2436921	1921146	204.271	215.601m
8)	Nitrobenzene	15.56	15.55	1577084	1425926	200.455	198.372m
9)	2,4,6-Trinitroto	16.81	16.80	1661235	2242936	199.916	208.022
10)	Nitroglycerin	0.00	17.89	0	2990267	N.D. d	1000.137
11)	Tetryl	19.23	19.23	1255105	2286263	199.185	204.451
13)	2,6-Dinitrotolue	21.44	21.44	1155411	1388169	194.248	159.333
14)	2,4-Dinitrotolue	22.43	22.45	2255635	1479831	205.484	176.184m
15)	o-Nitrotoluene	24.37	24.39	1002206	1386280	202.252m	205.363m
16)	3,5-Dinitroanili	24.12	24.13	2067725	3156646	203.326m	195.311m
17)	p-Nitrotoluene	25.40	25.40	877992	1507379	218.972m	235.869m
18)	4-Amino-2,6-Dini	25.80	25.80	1154274	2383007	189.127m	198.170m
19)	m-Nitrotoluene	26.52	26.52	1131039	2011565	200.806m	227.573m
20)	2-Amino-4,6-Dini	27.64	27.64	1596827	2325575	196.877m	196.387m
21)	PETN	0.00	28.59	0	3208479	N.D. d	989.243m

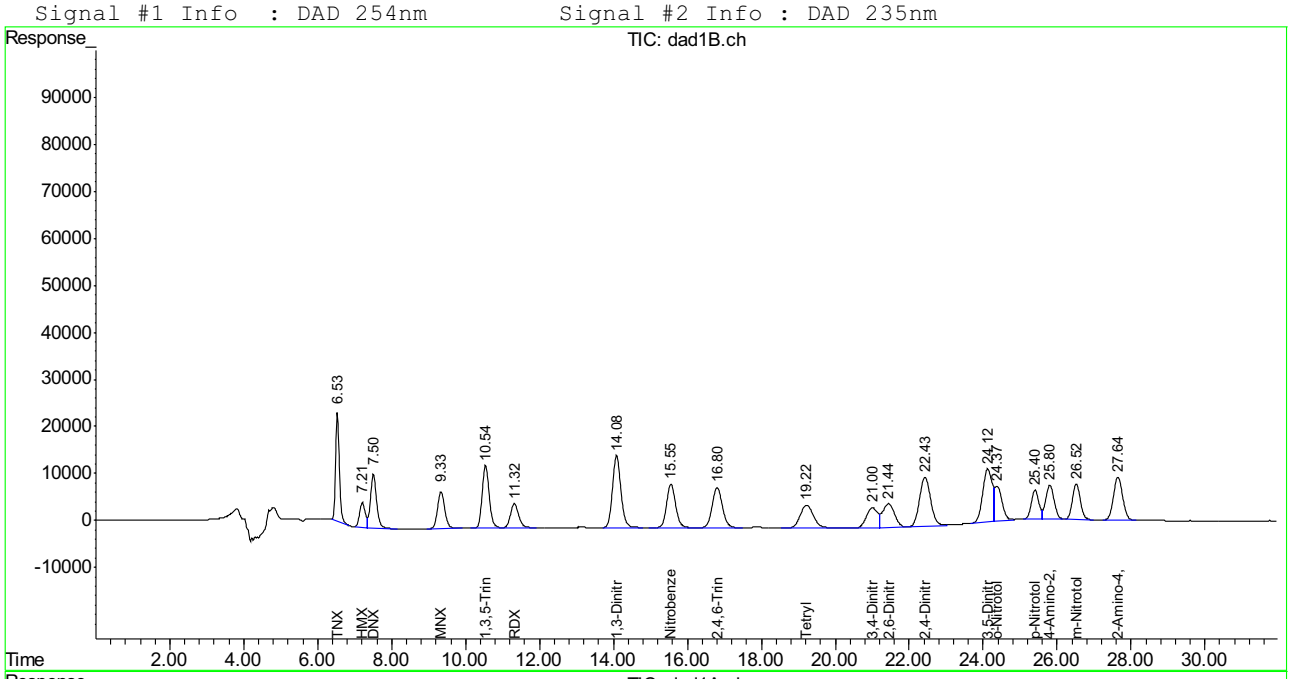
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060230.D 8330RPB.M_1027.M Fri Oct 28 08:29:24 2016 Page 1

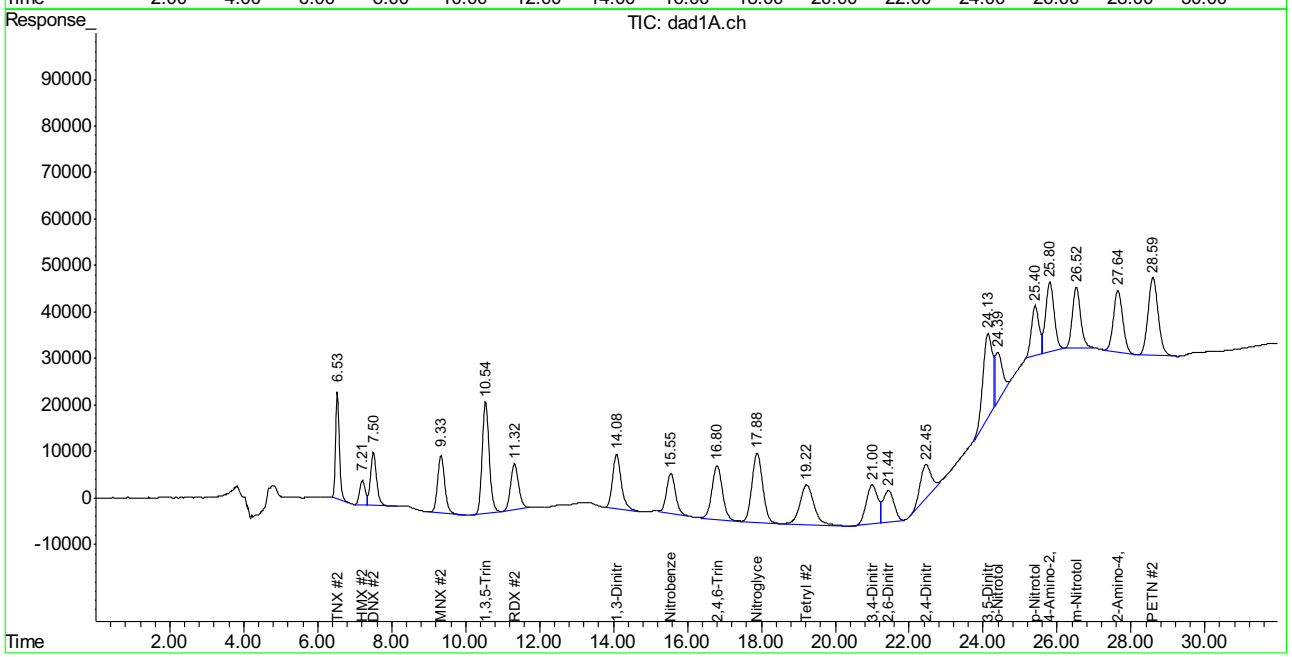
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060230.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\1025RPB3\GG060230.D\dad1A.ch
Acq On : 27-Oct-2016, 19:08:31 Operator: kismetl
Sample : ic2478-200 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:35 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060230.D
Injection Time: 10/27/16 19:08
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.53	Poor instrument integration
TNX		2	6.53	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.08	Poor instrument integration
Nitrobenzene	98-95-3	2	15.55	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.45	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.12	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.37	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.39	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.40	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.40	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.80	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.80	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.52	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.52	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.64	Poor instrument integration
PETN	78-11-5	2	28.59	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060231.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\1025RPB3\GG060231.D\dad1A.ch
Acq On : 27-Oct-2016, 19:43:06 Operator: kismetl
Sample : icc2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:55 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.96	2273258	4346647	475.037	459.125
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.01%	91.83%
	Target Compounds						
1)	TNX	6.52	6.52	4009155	4030340	489.994	315.483
2)	HMX	7.20	7.20	1439524	1437950	507.695	167.671 #
3)	DNX	7.50	7.50	3292462	3294036	456.838	345.386
4)	MNX	9.32	9.32	2649878	4033654	477.302	484.439
5)	1,3,5-Trinitrobe	10.52	10.52	4391864	7715924	502.599	500.936
6)	RDX	11.30	11.30	2016305	3752386	504.252	486.341
7)	1,3-Dinitrobenze	14.06	14.05	5973469	4489665	500.717	503.854m
8)	Nitrobenzene	15.53	15.52	3926656	3605696	499.096	500.364m
9)	2,4,6-Trinitroto	16.78	16.77	4133512	5594686	497.435	518.880
10)	Nitroglycerin	0.00	17.85	0	7521534	N.D. d	2515.685
11)	Tetryl	19.19	19.19	3165443	5605740	502.355	501.297
13)	2,6-Dinitrotolue	21.41	21.41	2922322	3924933	491.301	450.501
14)	2,4-Dinitrotolue	22.39	22.39	5463908	3901806	497.751	464.537m
15)	o-Nitrotoluene	24.34	24.34	2436568	3451528	491.715m	511.308m
16)	3,5-Dinitroanili	24.09	24.09	4914553	8594819	483.264m	531.788m
17)	p-Nitrotoluene	25.38	25.38	2148988	3516648	535.960m	550.271m
18)	4-Amino-2,6-Dini	25.78	25.78	2874263	5837278	470.945m	485.426m
19)	m-Nitrotoluene	26.49	26.49	2809031	4825680	498.719m	545.941m
20)	2-Amino-4,6-Dini	27.61	27.61	4028750	5771230	496.715m	487.361m
21)	PETN	0.00	28.55	0	7864315	N.D. d	2424.739m

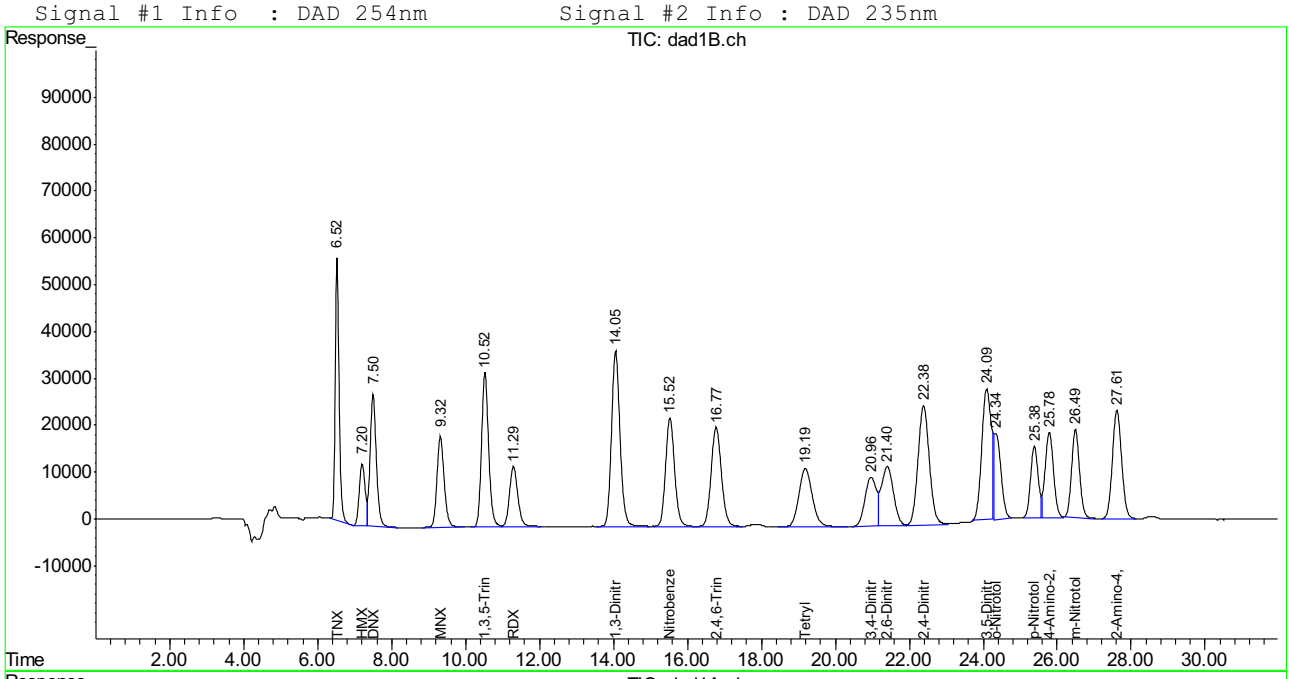
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060231.D 8330RPB.M_1027.M Fri Oct 28 08:29:42 2016 Page 1

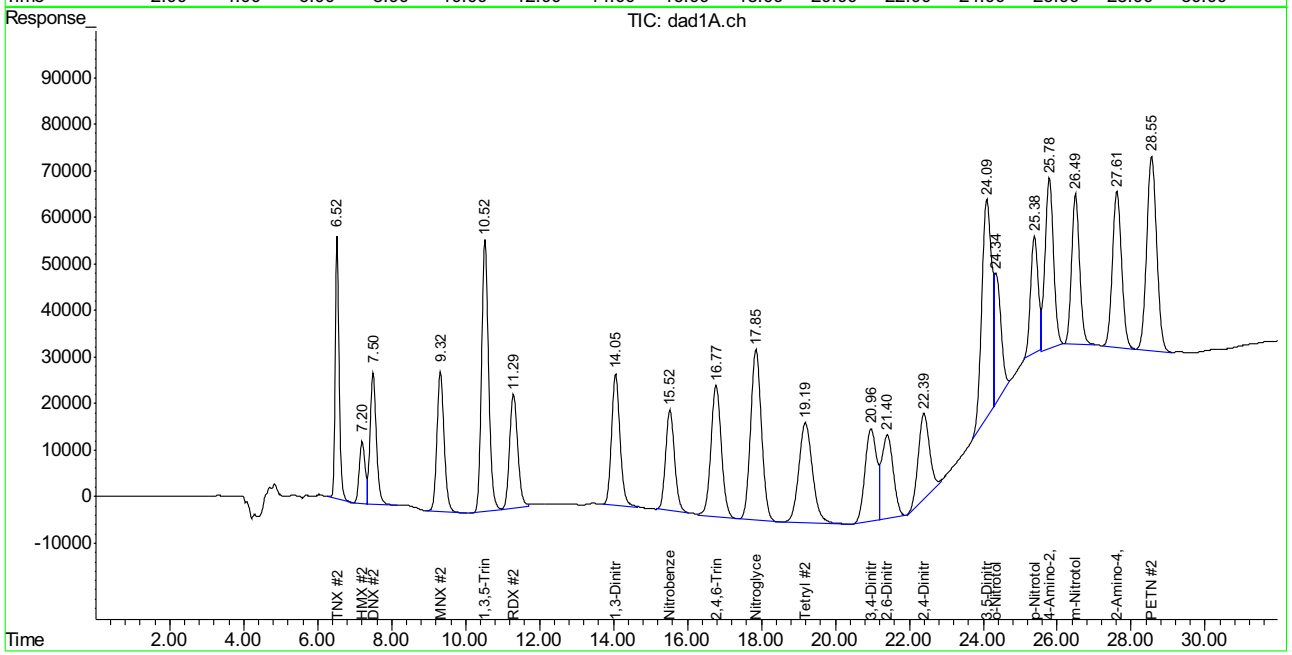
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060231.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\1025RPB3\GG060231.D\dad1A.ch
Acq On : 27-Oct-2016, 19:43:06 Operator: kismetl
Sample : icc2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:37 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GGG2478-ICC2478
Lab FileID: GG060231.D
Injection Time: 10/27/16 19:43
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.05	Poor instrument integration
Nitrobenzene	98-95-3	2	15.52	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.39	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.09	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.09	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.34	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.34	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.38	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.38	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.78	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.78	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.49	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.49	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.61	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.61	Poor instrument integration
PETN	78-11-5	2	28.55	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060232.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\1025RPB3\GG060232.D\dad1A.ch
Acq On : 27-Oct-2016, 20:17:42 Operator: kismetl
Sample : ic2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:56 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.95	20.95	4452014	8654024	930.327	914.102
	Spiked Amount 500.000	Range 70 - 136		Recovery =		186.07%#	182.82%#
	Target Compounds						
1)	TNX	6.52	6.52	7770435	7777087	949.693	608.766
2)	HMX	7.19	7.19	2804400	2801837	989.063	326.706 #
3)	DNX	7.48	7.48	6467046	6469608	897.319	678.351
4)	MNX	9.31	9.31	5172542	7943460	931.690	954.004
5)	1,3,5-Trinitrobe	10.52	10.52	8549323	15115048	978.373	981.305
6)	RDX	11.29	11.29	3920871	7660933	980.559	992.922
7)	1,3-Dinitrobenze	14.05	14.04	11673800	8817950	978.539	989.597m
8)	Nitrobenzene	15.51	15.51	7761663	7215062	986.543	997.142
9)	2,4,6-Trinitroto	16.77	16.77	8101687	10593502	974.973	982.496
10)	Nitroglycerin	0.00	17.84	0	14838095	N.D. d	4962.813
11)	Tetryl	19.18	19.18	6202722	10939539	984.370	978.275
13)	2,6-Dinitrotolue	21.39	21.39	5777099	7932455	971.246	910.482
14)	2,4-Dinitrotolue	22.38	22.39	10703651	7492159	975.081	891.994m
15)	o-Nitrotoluene	24.32	24.29	4723023	6700877	953.137m	992.666m
16)	3,5-Dinitroanili	24.09	24.09	9899875	16329229	973.487m	1010.340m
17)	p-Nitrotoluene	25.37	25.37	4293278	7111812	1070.749m	1112.828m
18)	4-Amino-2,6-Dini	25.78	25.77	6090412	11311270	997.907	940.640m
19)	m-Nitrotoluene	26.48	26.48	5680031	9256783	1008.441m	1047.243m
20)	2-Amino-4,6-Dini	27.60	27.60	7850159	11356283	967.867m	959.000m
21)	PETN	0.00	28.54	0	15796110	N.D. d	4870.282m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060232.D 8330RPB.M_1027.M Fri Oct 28 08:29:43 2016 Page 1

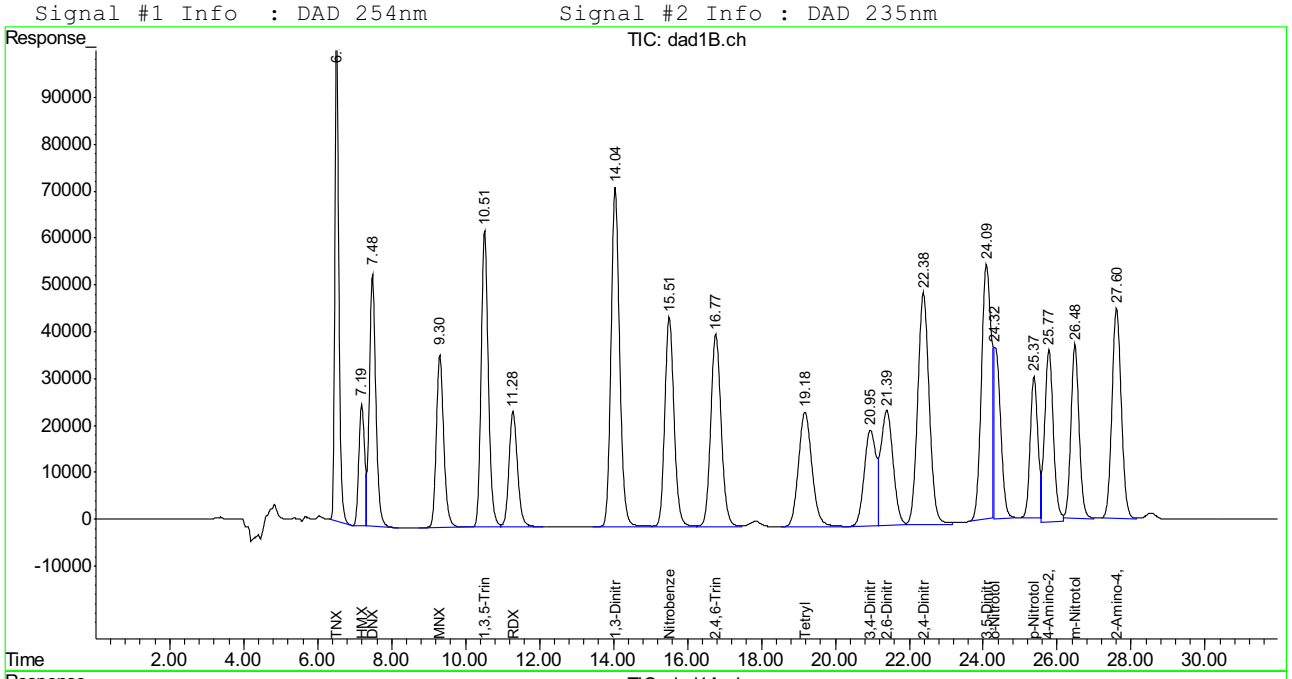
9.5.6
6

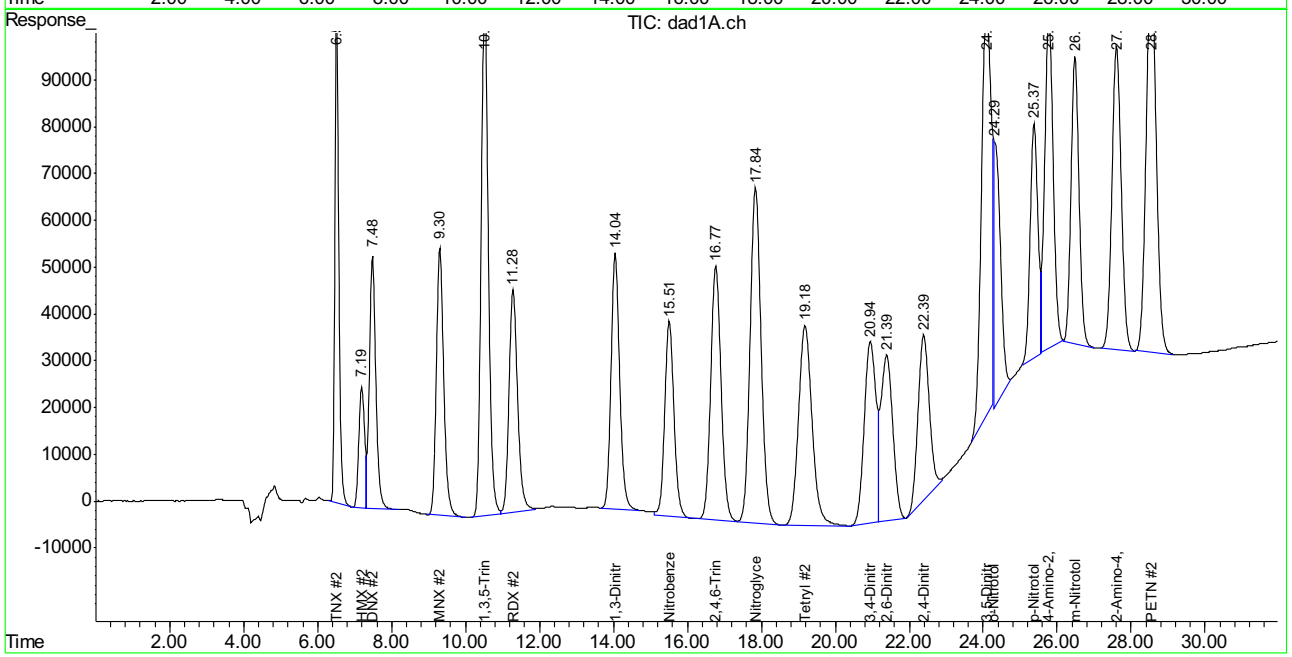
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060232.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\1025RPB3\GG060232.D\dad1A.ch
Acq On : 27-Oct-2016, 20:17:42 Operator: kismetl
Sample : ic2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:41 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060232.D
Injection Time: 10/27/16 20:17
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.04	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.39	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.09	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.09	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.29	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.32	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.37	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.37	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.77	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.48	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.48	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.60	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.60	Poor instrument integration
PETN	78-11-5	2	28.54	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060234.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1025RPB3\GG060234.D\dad1A.ch
Acq On : 27-Oct-2016, 21:26:53 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:05:39 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	6.55	6.55	4074879	4097814	494.395m	496.331
2)	HMX	7.25	7.25	1629979	1628497	574.616	574.690
3)	DNX	7.54	7.54	3480362	3481844	542.313	542.912
4)	MNX	9.39	9.39	2787424	4276433	530.038	553.462
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	18.03	0	7684524	N.D. d	2643.314m
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	28.71	0	8282613	N.D. d	2717.369m

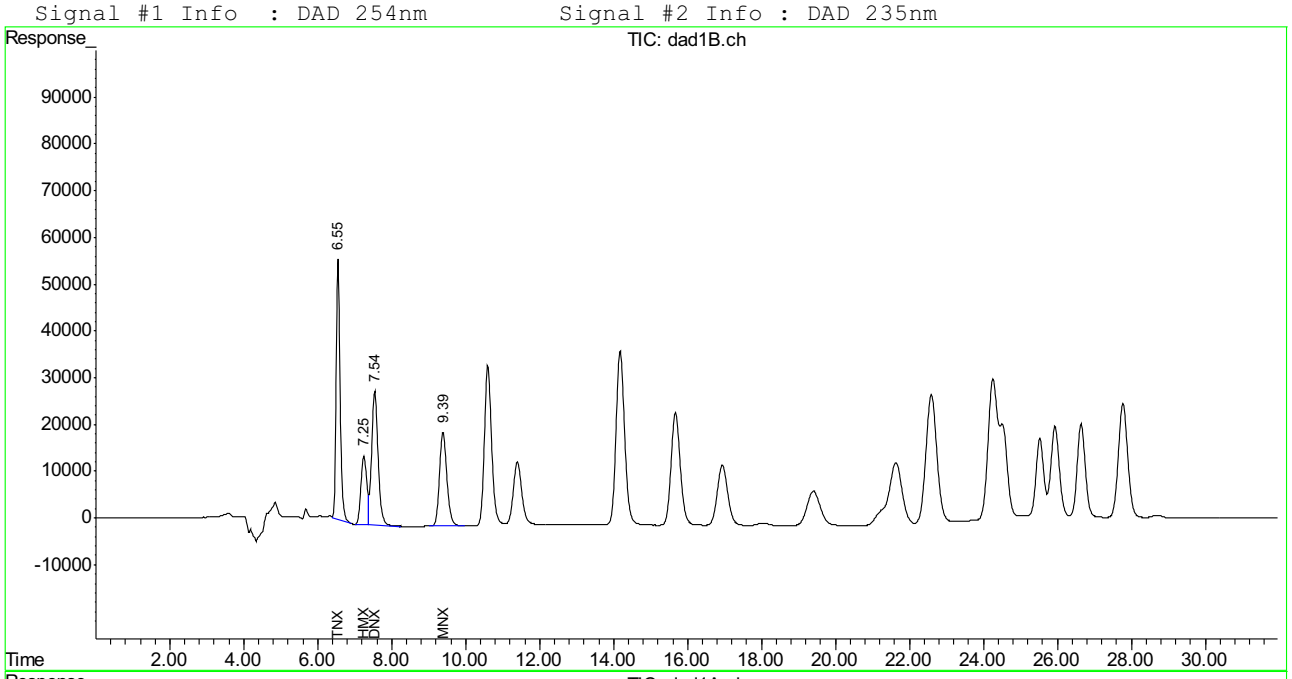
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060234.D 8330RPB.M_1027.M Fri Oct 28 08:30:21 2016 Page 1

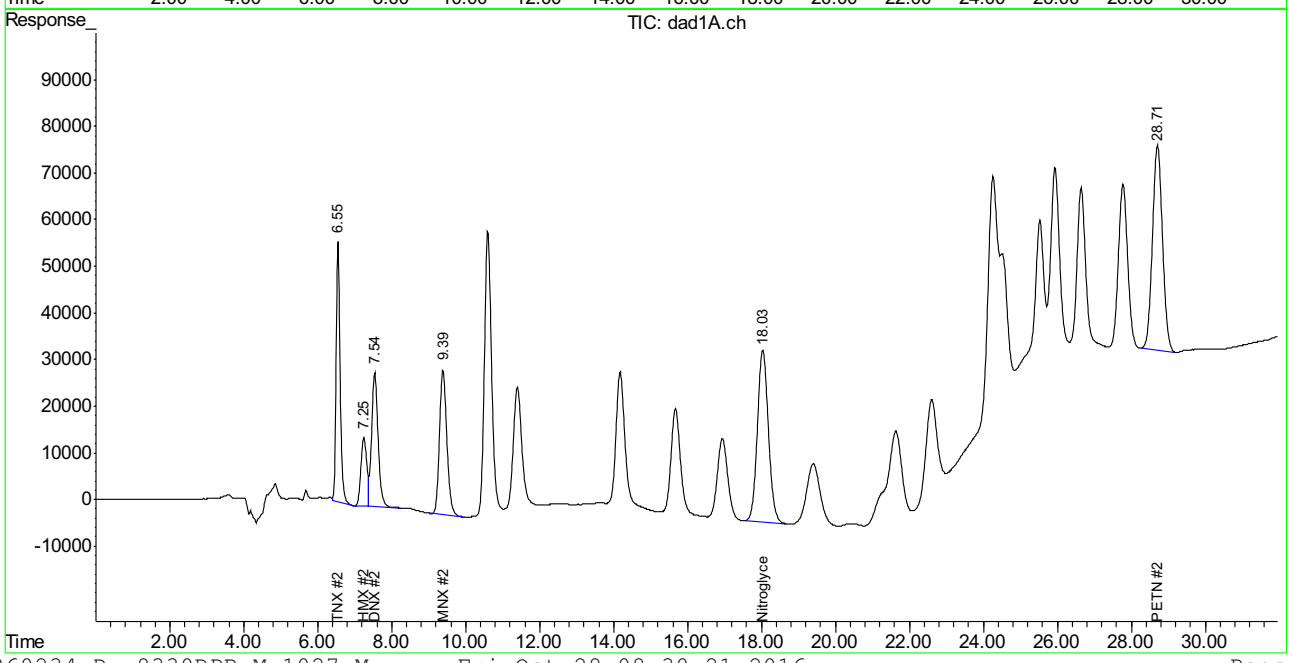
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060234.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1025RPB3\GG060234.D\dad1A.ch
Acq On : 27-Oct-2016, 21:26:53 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 8:11 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-ICV2478
Lab FileID: GG060234.D
Injection Time: 10/27/16 21:26
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.55	Poor instrument integration
Nitroglycerine	55-63-0	2	18.03	Poor instrument integration
PETN	78-11-5	2	28.71	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060235.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1025RPB3\GG060235.D\dad1A.ch
Acq On : 27-Oct-2016, 22:01:30 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:05:40 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.53	10.53	4557037	7957599	528.101	532.627
6)	RDX	11.32	11.32	2101246	3873356	541.731	505.212
7)	1,3-Dinitrobenze	14.09	14.09	5901759	4395079	490.495	487.432m
8)	Nitrobenzene	15.57	15.57	4214837	4017550	537.180	541.673m
9)	2,4,6-Trinitroto	16.82	16.81	3506847	4730110	427.245	421.133m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	19.26	19.26	3118629	5572087	509.076	503.646
13)	2,6-Dinitrotolue	21.49	21.49	2998745	4082243	549.721	536.278
14)	2,4-Dinitrotolue	22.47	22.47	5597044	3925916	504.797	549.570m
15)	o-Nitrotoluene	24.41	24.41	2709184	4016480	562.056	588.072m
16)	3,5-Dinitroanili	24.17	24.17	4863077	7719452	492.465m	460.650m
17)	p-Nitrotoluene	25.45	25.45	2414790	3922985	556.507	580.478m
18)	4-Amino-2,6-Dini	25.86	25.85	3093894	6004965	524.735	554.624m
19)	m-Nitrotoluene	26.56	26.56	3071011	5153186	551.297	537.776m
20)	2-Amino-4,6-Dini	27.70	27.69	4267030	6176346	532.680	532.740m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

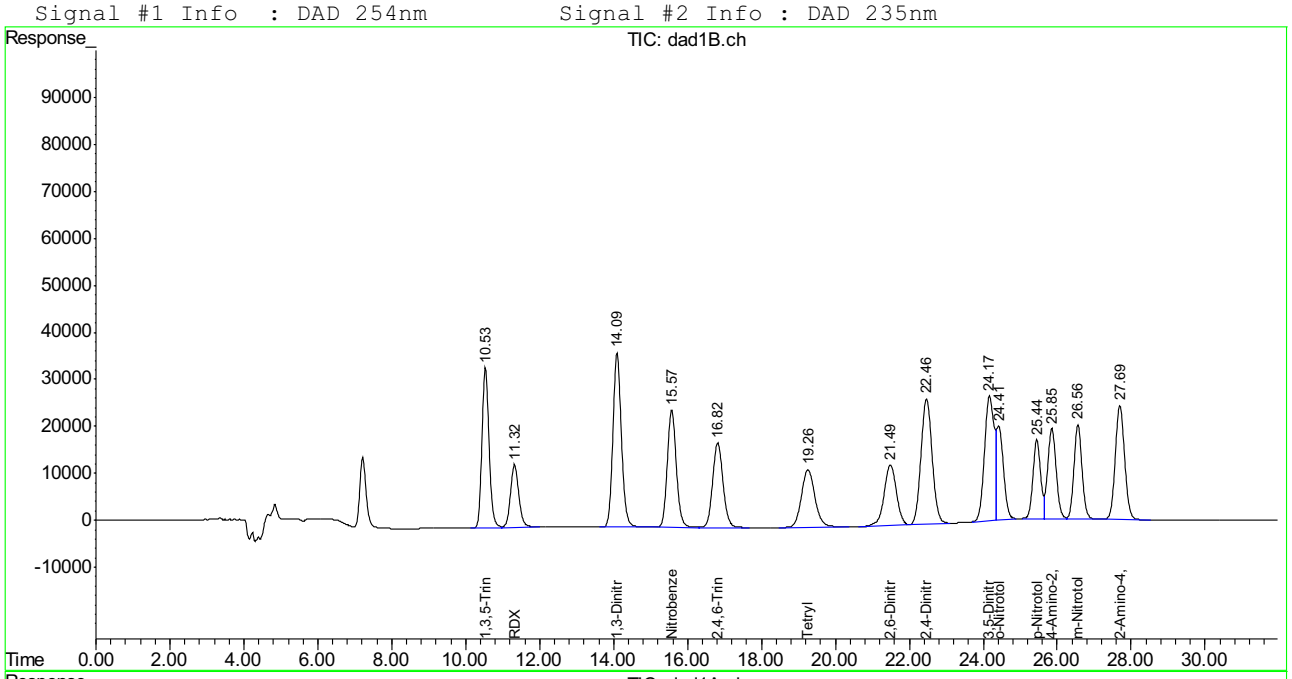
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060235.D 8330RPB.M_1027.M Fri Oct 28 08:30:22 2016 Page 1

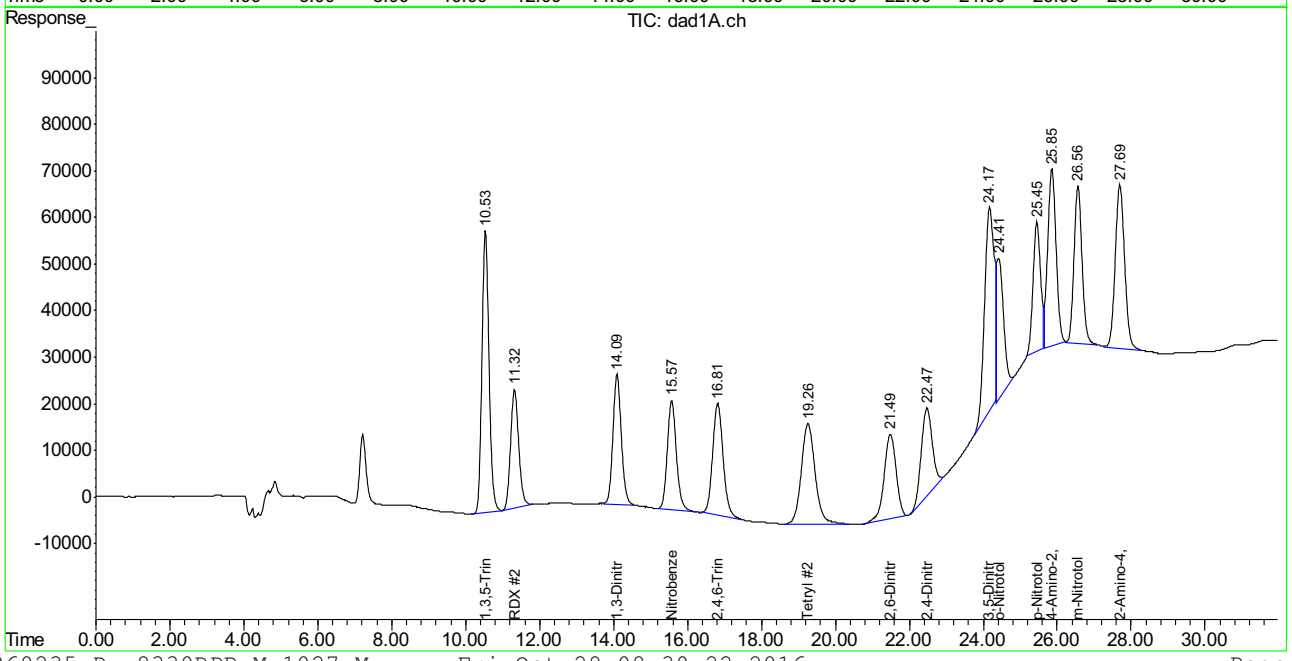
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060235.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1025RPB3\GG060235.D\dad1A.ch
Acq On : 27-Oct-2016, 22:01:30 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 8:09 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-ICV2478
Lab FileID: GG060235.D
Injection Time: 10/27/16 22:01
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.09	Poor instrument integration
Nitrobenzene	98-95-3	2	15.57	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.81	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.47	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.17	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.17	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.41	Overlapping peak
p-Nitrotoluene	99-99-0	2	25.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.85	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.56	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.69	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060247.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1025RPB3\GG060247.D\dad1A.ch
Acq On : 28-Oct-2016, 04:56:31 Operator: kismetl
Sample : cc2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:53:23 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.99	20.99	4439116	8607707	1021.440	994.247
	Spiked Amount 500.000	Range 70 - 136		Recovery =		204.29%#	198.85%#
	Target Compounds						
1)	TNX	6.52	6.52	7913201	7769999	960.089	941.109
2)	HMX	7.19	7.19	2786659	2784228	992.059	992.105
3)	DNX	7.48	7.48	6416855	6419287	999.881	1000.938
4)	MNX	9.30	9.30	5362560	7990308	1019.709m	1034.117
5)	1,3,5-Trinitrobe	10.50	10.50	8794986	14993828	1019.224	1003.584
6)	RDX	11.28	11.28	3926510	7709981	1012.309	1005.633
7)	1,3-Dinitrobenze	14.05	14.05	11581383	9230153	962.529	1023.661
8)	Nitrobenzene	15.53	15.53	7775797	7242284	991.023	976.453
9)	2,4,6-Trinitroto	16.78	16.78	8055180	10496996	981.376	934.574
10)	Nitroglycerin	0.00	17.85	0	14626920	N.D. d	5031.351
11)	Tetryl	19.20	19.20	6208241	10775031	1013.415	973.927
13)	2,6-Dinitrotolue	21.43	21.43	5742108	7830328	1052.626	985.019
14)	2,4-Dinitrotolue	22.42	22.42	10606722	7363487	956.619	1030.780m
15)	o-Nitrotoluene	24.32	24.32	4851841	6893015	1006.578m	1029.197m
16)	3,5-Dinitroanili	24.13	24.13	9960060	16449599	1008.617m	1004.695m
17)	p-Nitrotoluene	25.41	25.41	4222990	6956294	973.222m	1029.312m
18)	4-Amino-2,6-Dini	25.82	25.82	5589041	11266253	947.921m	1040.560m
19)	m-Nitrotoluene	26.53	26.53	5558876	9297239	997.911m	1004.005m
20)	2-Amino-4,6-Dini	27.66	27.66	7826980	11017391	977.092m	950.303m
21)	PETN	0.00	28.56	0	15588015	N.D. d	5114.133m

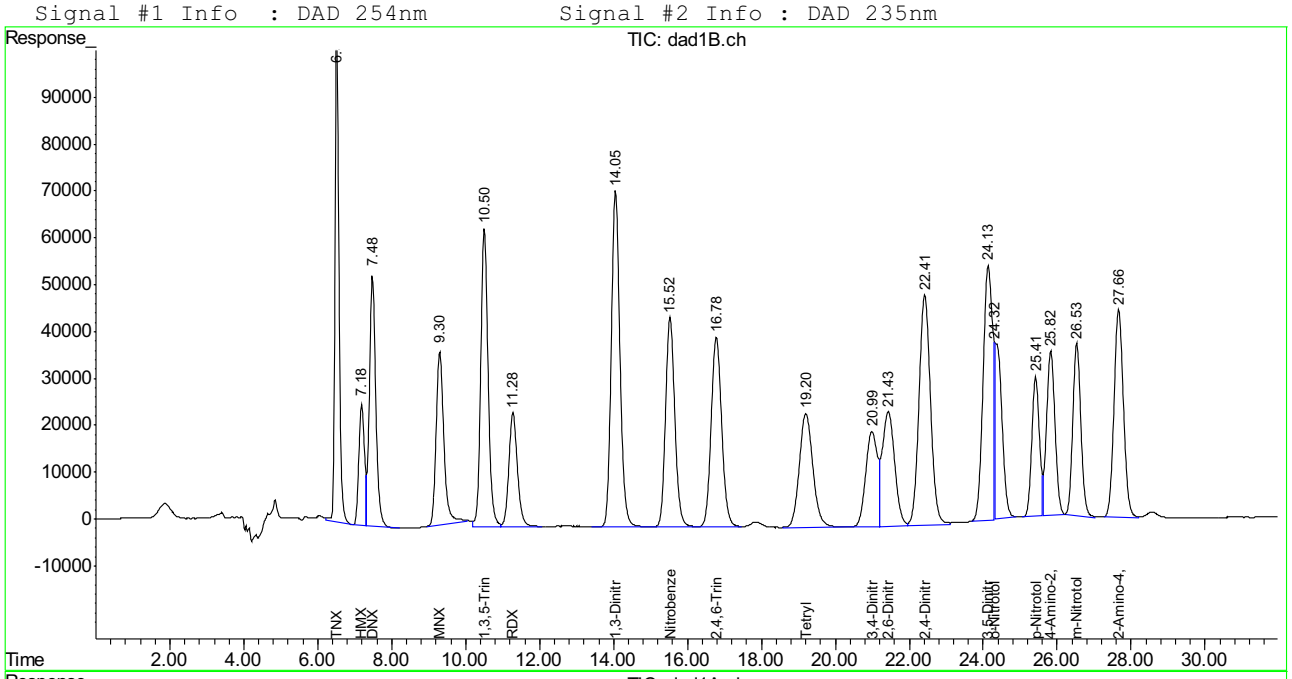
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060247.D 8330RPB.M_1027.M Fri Oct 28 17:18:31 2016 Page 1

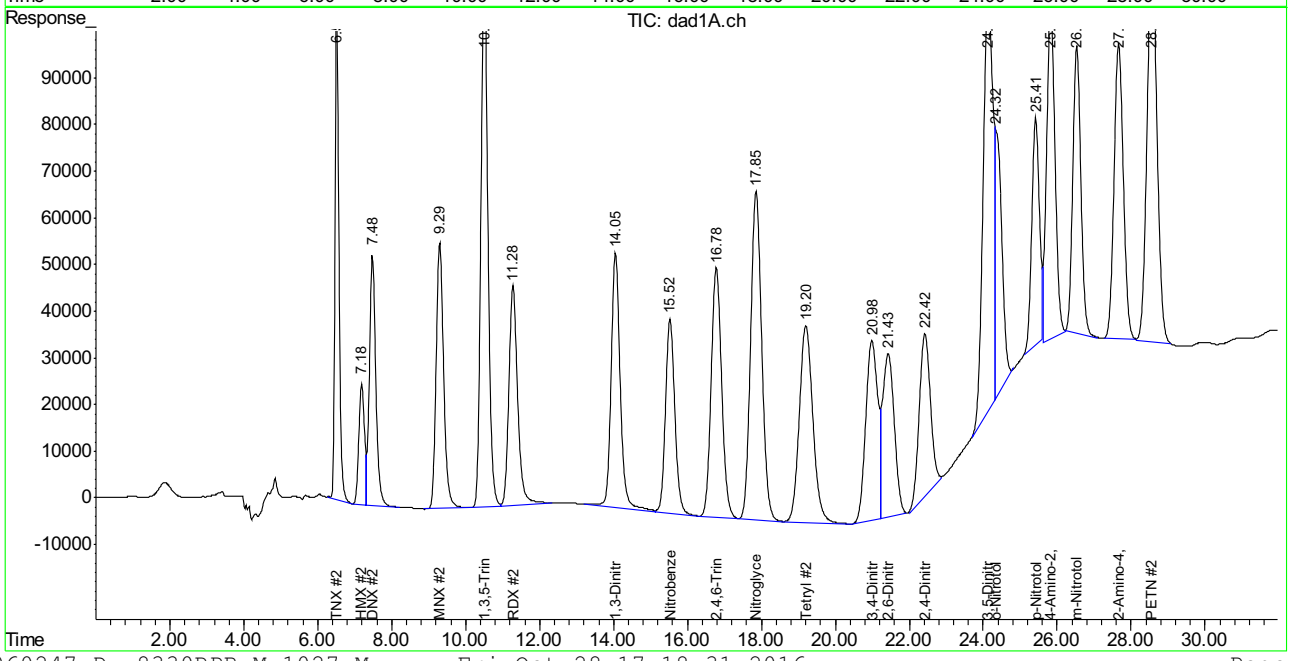
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060247.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1025RPB3\GG060247.D\dad1A.ch
Acq On : 28-Oct-2016, 04:56:31 Operator: kismetl
Sample : cc2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 8:57 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-CC2478
Lab FileID: GG060247.D
Injection Time: 10/28/16 04:56
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
MNX		1	9.30	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.42	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.13	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.32	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.32	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.41	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.41	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.82	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.82	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.56	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380267.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\1003BPL\PP380267.D\dad1A.ch
Acq On : 03-Oct-2016, 11:04:35 Operator: kismetl
Sample : ic2032-20 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:13:59 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.97	9.97	35719	80311	16.648m	23.682m#
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.33%#	4.74%#
	Target Compounds						
1)	TNX	1.21	1.21	46860	92272	14.959m	19.853
2)	HMX	1.29	1.30	28796	84394	17.427m	18.032
3)	DNX	1.54	1.53	57217	99336	19.786m	22.418m
4)	MNX	2.04	2.04	45102	66564	18.963m	18.300m
5)	RDX	2.57	2.57	32799	55282	18.017m	19.151m
6)	1,3,5-Trinitrobe	4.11	4.11	73934	144857	18.851m	19.287
7)	1,3-Dinitrobenze	5.26	5.27	101016	65444	20.115m	19.141m
8)	3,5-Dinitroanili	5.62	5.62	93761	159443	21.605m	21.799m
9)	Nitrobenzene	6.78	6.79	67933	48405	23.652m	16.825m
10)	Nitroglycerin	0.00	8.35	0	137003	N.D.	100.335m#
11)	Tetryl	8.53	8.53	38771	41823	14.732m	9.891m
12)	2,4,6-Trinitroto	8.93	8.93	67047	70570	19.069m	16.471m
13)	2-Amino-4,6-Dini	9.21	9.20	61507	92337	19.390m	19.354m
14)	4-Amino-2,6-Dini	9.65	9.65	42961	90047	18.123m	19.115m
16)	2,4-Dinitrotolue	10.63	10.63	83734	58008	19.186m	21.578m
17)	2,6-Dinitrotolue	11.07	11.08	41636	35572	16.782m	11.421m
18)	o-Nitrotoluene	13.62	13.74	44366	62667	21.187	22.011m
19)	p-Nitrotoluene	14.03	14.13	65971	51771	19.655	19.417m
20)	m-Nitrotoluene	14.63	14.66	66200	80931	21.363m	21.854m
21)	PETN	0.00	16.30	0	158185	N.D. d	113.330m

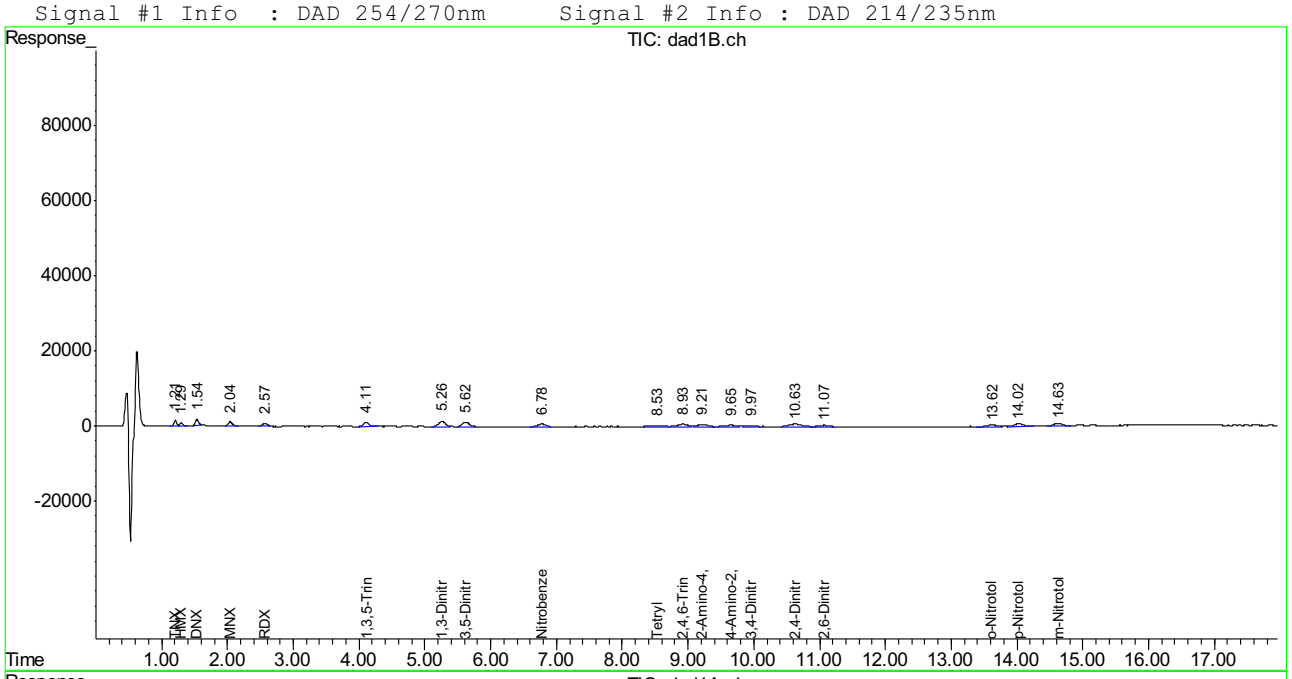
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380267.D 8330-1003BPLUS.M Tue Oct 04 09:42:42 2016 Page 1

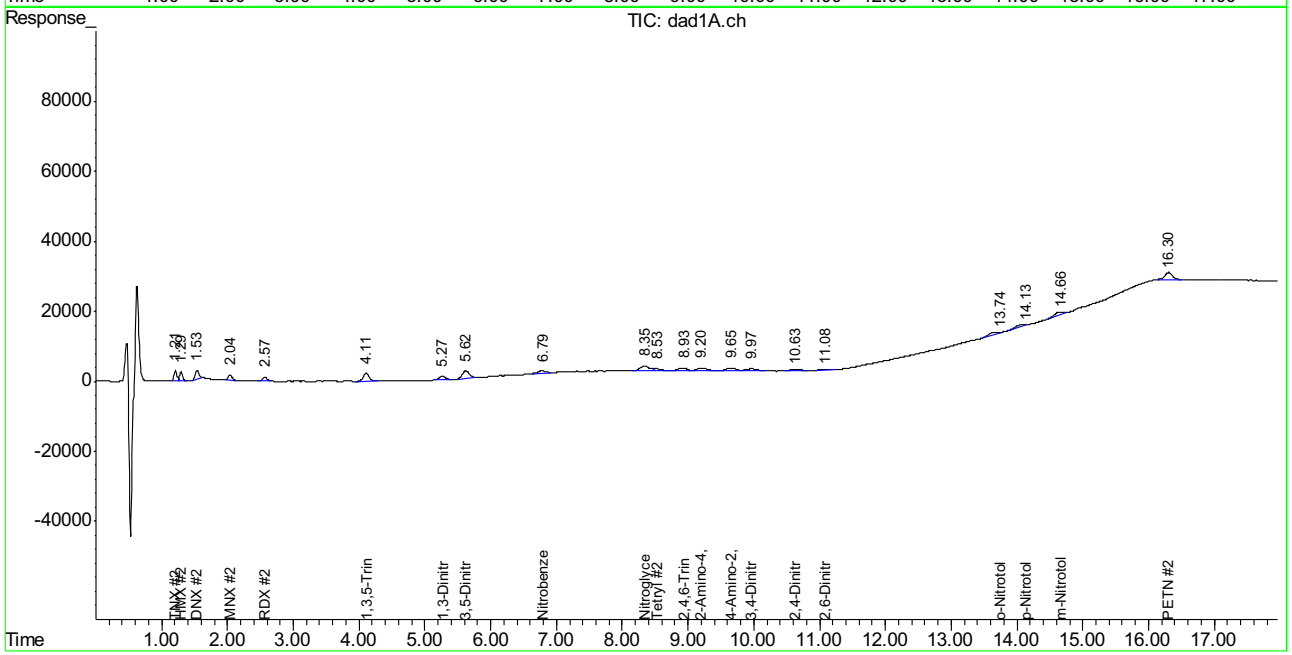
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380267.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\1003BPL\PP380267.D\dad1A.ch
Acq On : 03-Oct-2016, 11:04:35 Operator: kismetl
Sample : ic2032-20 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:22 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380267.D
Injection Time: 10/03/16 11:04
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
DNX		1	1.54	Poor instrument integration
MNX		1	2.04	Poor instrument integration
MNX		2	2.04	Poor instrument integration
RDX	121-82-4	1	2.57	Poor instrument integration
RDX	121-82-4	2	2.57	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.11	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.26	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.27	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.62	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
Nitroglycerine	55-63-0	2	8.35	Poor instrument integration
Tetryl	479-45-8	1	8.53	Poor instrument integration
Tetryl	479-45-8	2	8.53	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.93	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	8.93	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.20	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.21	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.65	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	9.65	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.97	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	9.97	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.63	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	10.63	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.07	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	11.08	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.74	Missed peak
p-Nitrotoluene	99-99-0	2	14.13	Missed peak
m-Nitrotoluene	99-08-1	1	14.63	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Missed peak
PETN	78-11-5	2	16.30	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380268.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\1003BPL\PP380268.D\dad1A.ch
Acq On : 03-Oct-2016, 11:29:29 Operator: kismetl
Sample : ic2032-50 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:00 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.97	117053	208841	54.556m	61.489
	Spiked Amount 500.000	Range 70 - 136		Recovery =		10.91%#	12.30%#
	Target Compounds						
1)	TNX	1.21	1.21	160534	259928	51.246m	55.924
2)	HMX	1.29	1.29	85260	225823	51.599m	48.250
3)	DNX	1.54	1.53	153947	263420	53.235	59.430m
4)	MNX	2.04	2.04	113559	184545	47.745m	50.735m
5)	RDX	2.56	2.56	98645	160951	54.188m	55.757m
6)	1,3,5-Trinitrobe	4.10	4.11	205966	388195	52.516m	51.687
7)	1,3-Dinitrobenze	5.26	5.26	265972	188921	52.962	55.254m
8)	3,5-Dinitroanili	5.62	5.62	233930	396652	53.904m	54.230
9)	Nitrobenzene	6.78	6.78	158585	141247	55.215m	49.096m
10)	Nitroglycerin	0.00	8.34	0	389209	N.D.	285.038 #
11)	Tetryl	8.53	8.52	102029	135746	38.732m	32.073
12)	2,4,6-Trinitroto	8.92	8.92	179361	222114	51.014m	51.843
13)	2-Amino-4,6-Dini	9.22	9.22	169129	275015	53.318m	57.644
14)	4-Amino-2,6-Dini	9.66	9.66	121461	247593	51.238m	52.557
16)	2,4-Dinitrotolue	10.64	10.64	245533	159034	56.258m	59.160
17)	2,6-Dinitrotolue	11.08	11.10	122593	112171	49.413m	36.014
18)	o-Nitrotoluene	13.63	13.64	113308	157212	54.111	55.218m
19)	p-Nitrotoluene	14.04	14.05	177252	156792	52.809	58.805m
20)	m-Nitrotoluene	14.63	14.64	163613	175725	52.800	47.452m
21)	PETN	0.00	16.31	0	390603	N.D. d	279.843m

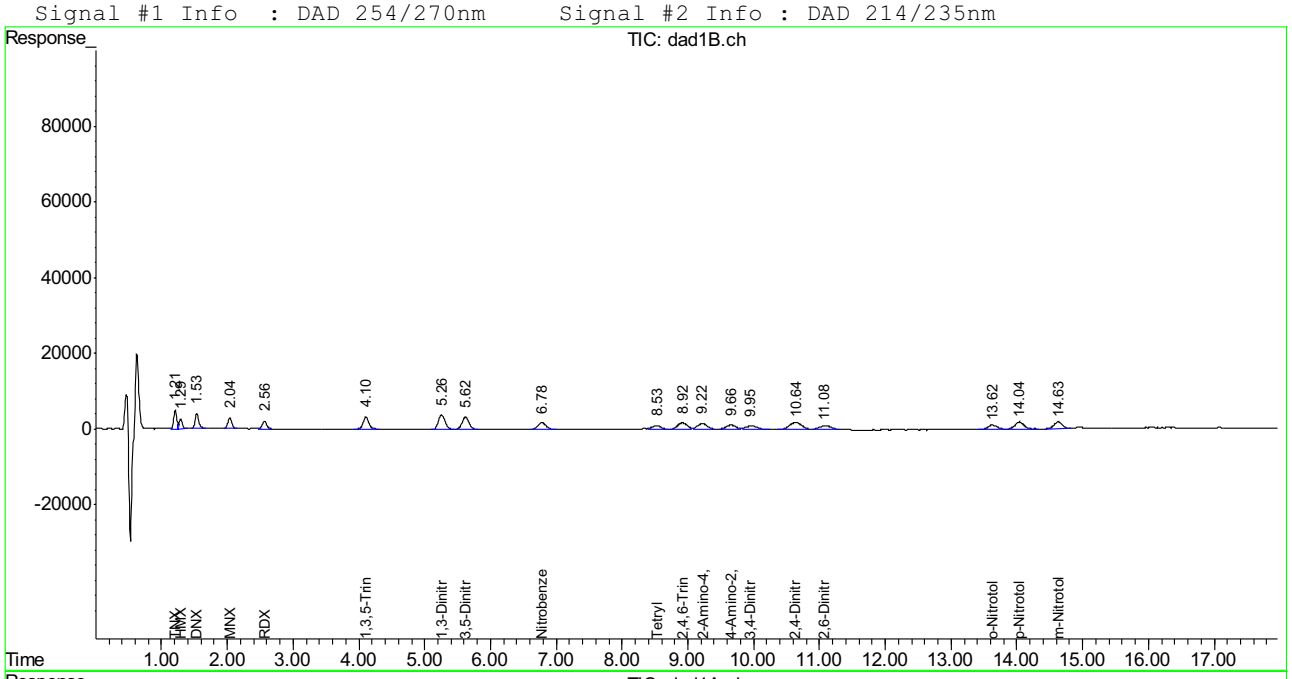
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380268.D 8330-1003BPLUS.M Tue Oct 04 09:43:18 2016 Page 1

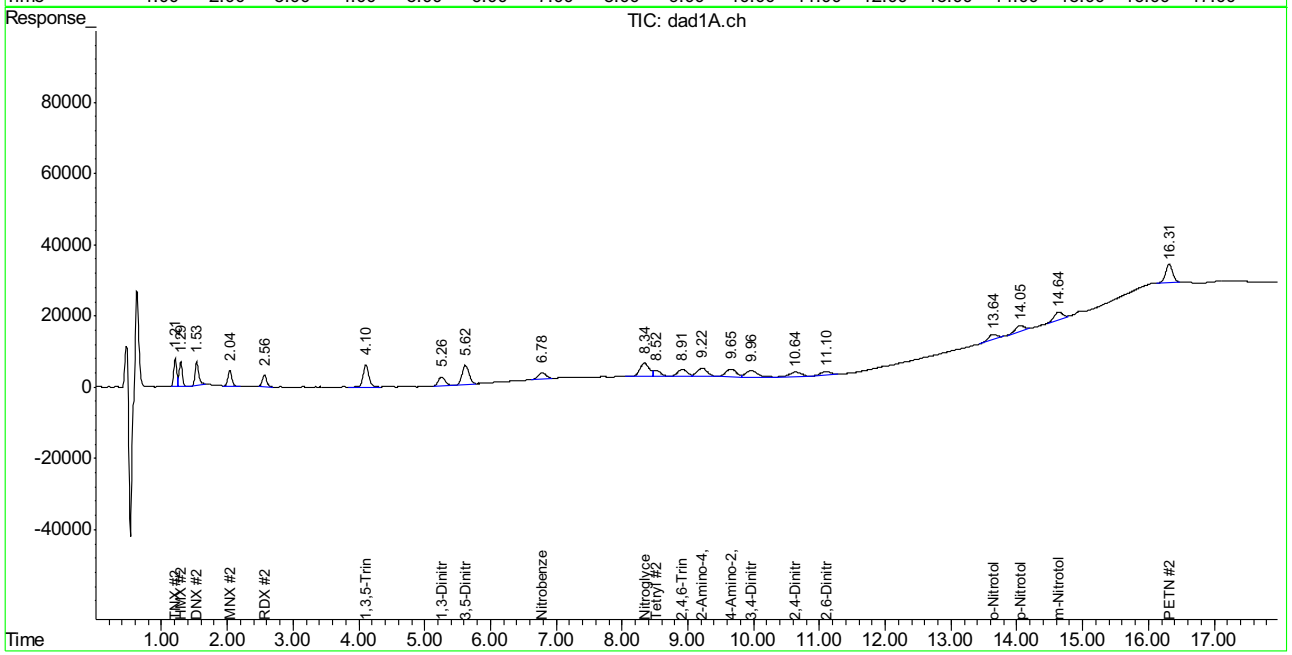
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380268.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\1003BPL\PP380268.D\dad1A.ch
Acq On : 03-Oct-2016, 11:29:29 Operator: kismetl
Sample : ic2032-50 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:27 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380268.D
Injection Time: 10/03/16 11:29
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Missed peak
HMX	2691-41-0	1	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
MNX		1	2.04	Poor instrument integration
MNX		2	2.04	Poor instrument integration
RDX	121-82-4	1	2.56	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.10	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.26	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.62	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Tetryl	479-45-8	1	8.53	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.92	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.22	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.66	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.95	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.64	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.08	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380269.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\1003BPL\PP380269.D\dad1A.ch
Acq On : 03-Oct-2016, 11:54:27 Operator: kismetl
Sample : ic2032-100 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:01 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.97	207936	383019	96.914m	112.540
	Spiked Amount 500.000	Range 70 - 136		Recovery =		19.38%#	22.51%#
	Target Compounds						
1)	TNX	1.21	1.21	307700	494861	98.224m	106.471
2)	HMX	1.29	1.29	157765	436864	95.479m	93.341
3)	DNX	1.54	1.53	293811	505955	101.600	114.095m
4)	MNX	2.04	2.04	226057	349627	95.044	96.119m
5)	RDX	2.57	2.56	177507	267507	97.509	92.671m
6)	1,3,5-Trinitrobe	4.11	4.11	365636	713183	93.228	94.958
7)	1,3-Dinitrobenze	5.26	5.26	498976	333476	99.359	97.532
8)	3,5-Dinitroanili	5.62	5.62	439725	742145	101.325	101.466
9)	Nitrobenzene	6.79	6.78	290919	288365	101.290	100.233m
10)	Nitroglycerin	0.00	8.34	0	727690	N.D.	532.926m#
11)	Tetryl	8.54	8.53	191222	274768	72.496m	64.830
12)	2,4,6-Trinitroto	8.92	8.92	347074	449157	98.714m	104.836
13)	2-Amino-4,6-Dini	9.22	9.23	312626	497020	98.555m	104.177
14)	4-Amino-2,6-Dini	9.67	9.67	238599	486681	100.651m	103.310
16)	2,4-Dinitrotolue	10.64	10.64	458472	282016	105.049m	104.908
17)	2,6-Dinitrotolue	11.10	11.10	268393	269281	108.180m	86.457
18)	o-Nitrotoluene	13.63	13.64	210799	297757	100.668	104.583m
19)	p-Nitrotoluene	14.04	14.04	345557	278357	102.953	104.398m
20)	m-Nitrotoluene	14.63	14.63	318624	369252	102.823	99.710m
21)	PETN	0.00	16.31	0	694623	N.D. d	497.655m

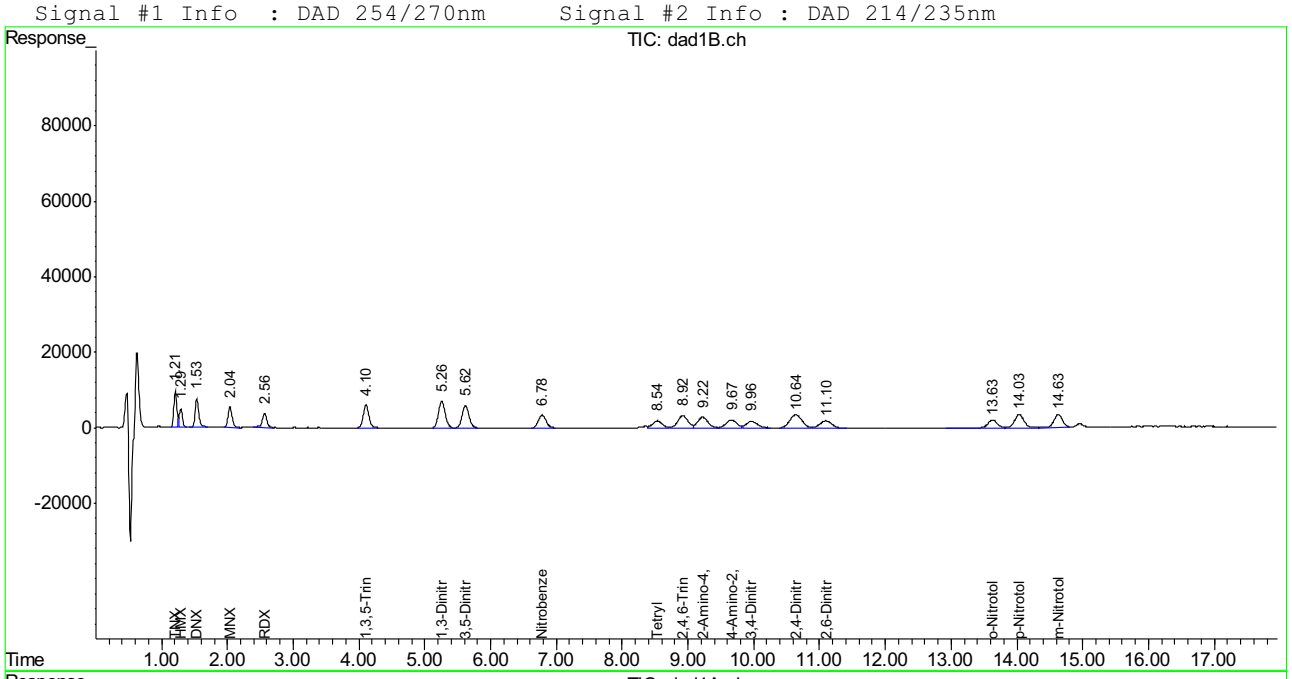
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380269.D 8330-1003BPLUS.M Tue Oct 04 09:43:19 2016 Page 1

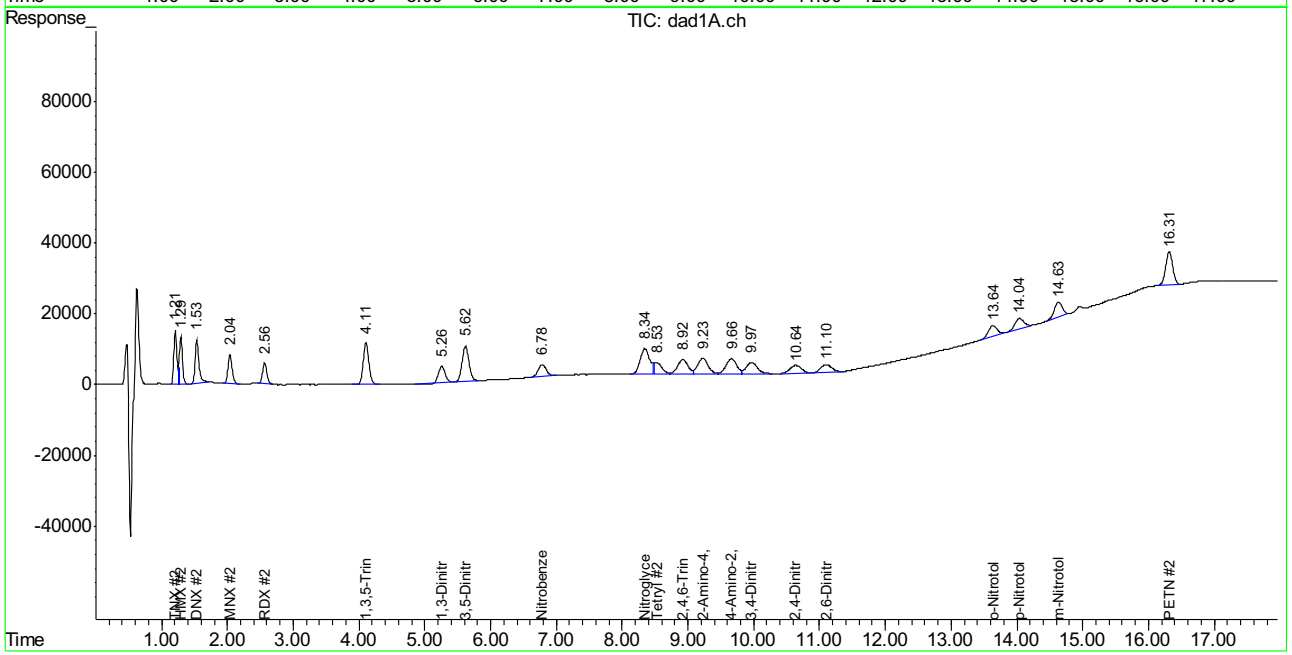
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380269.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\1003BPL\PP380269.D\dad1A.ch
Acq On : 03-Oct-2016, 11:54:27 Operator: kismetl
Sample : ic2032-100 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:30 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380269.D
Injection Time: 10/03/16 11:54
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
MNX		2	2.04	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Nitroglycerine	55-63-0	2	8.34	Poor instrument integration
Tetryl	479-45-8	1	8.54	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.92	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.22	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.67	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.64	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.10	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.63	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380270.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\1003BPL\PP380270.D\dad1A.ch
Acq On : 03-Oct-2016, 12:19:21 Operator: kismetl
Sample : ic2032-200 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:02 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.98	9.98	422623	781374	196.975m	228.520
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.39%#	45.70%#
	Target Compounds						
1)	TNX	1.21	1.21	635316	1080592	202.806m	232.493m
2)	HMX	1.29	1.29	325735	901054	197.133m	192.521m
3)	DNX	1.54	1.53	589123	929478	203.718	209.427m
4)	MNX	2.04	2.04	470485	744468	197.812	204.668
5)	RDX	2.56	2.56	379907	589162	208.693m	204.099m
6)	1,3,5-Trinitrobe	4.11	4.11	753952	1454579	192.238	193.673
7)	1,3-Dinitrobenze	5.27	5.27	1028778	686057	204.857	200.652
8)	3,5-Dinitroanili	5.63	5.63	891990	1504299	205.540	205.667
9)	Nitrobenzene	6.79	6.79	574978	574674	200.191	199.752m
10)	Nitroglycerin	0.00	8.35	0	1487514	N.D. d	1089.385
11)	Tetryl	8.54	8.54	358338	559273	135.518m	131.585
12)	2,4,6-Trinitroto	8.93	8.93	666007	903719	189.424	210.933
13)	2-Amino-4,6-Dini	9.23	9.23	608023	1008414	191.678	211.366
14)	4-Amino-2,6-Dini	9.67	9.67	440217	993300	185.703m	210.852
16)	2,4-Dinitrotolue	10.65	10.65	948112	589214	217.239	219.184
17)	2,6-Dinitrotolue	11.12	11.12	518885	574909	209.144	184.583
18)	o-Nitrotoluene	13.64	13.64	435406	613173	207.931	215.368m
19)	p-Nitrotoluene	14.04	14.04	685378	569940	204.197	213.756m
20)	m-Nitrotoluene	14.64	14.63	630981	781272	203.625	210.969m
21)	PETN	0.00	16.31	0	1451520	N.D. d	1039.926m

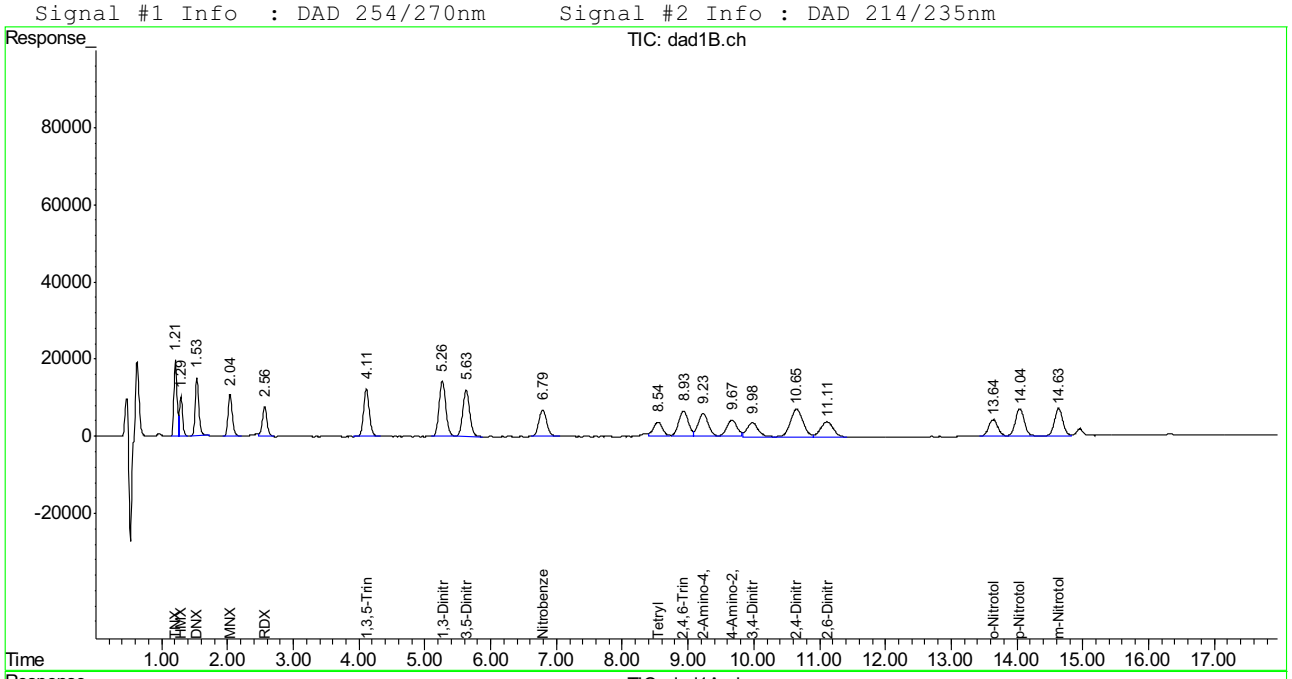
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380270.D 8330-1003BPLUS.M Tue Oct 04 09:43:20 2016 Page 1

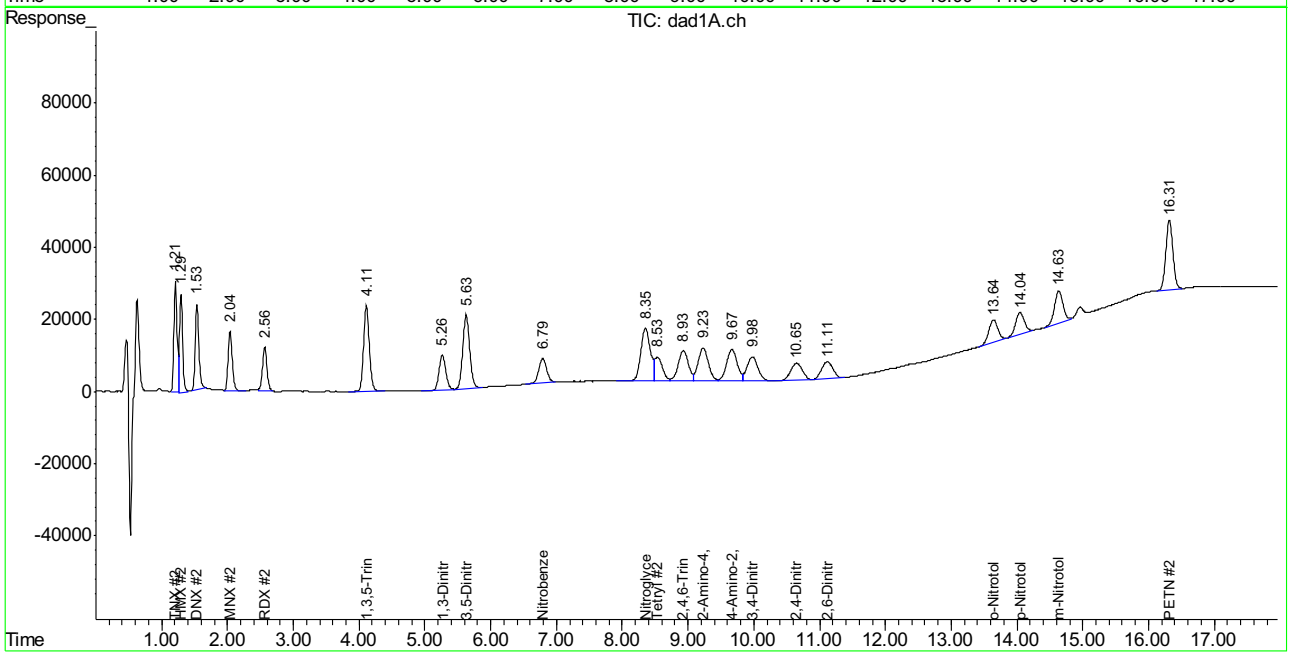
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380270.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\1003BPL\PP380270.D\dad1A.ch
Acq On : 03-Oct-2016, 12:19:21 Operator: kismetl
Sample : ic2032-200 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:38 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380270.D
Injection Time: 10/03/16 12:19
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Missed peak
TNX		2	1.21	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
HMX	2691-41-0	2	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
RDX	121-82-4	1	2.56	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
Tetryl	479-45-8	1	8.54	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.67	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.98	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.63	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380271.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\1003BPL\PP380271.D\dad1A.ch
Acq On : 03-Oct-2016, 12:45:17 Operator: kismetl
Sample : icc2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:06 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	1012178	1897790	471.753	548.016
	Spiked Amount 500.000	Range 70 - 136		Recovery =		94.35%	109.60%
	Target Compounds						
1)	TNX	1.21	1.21	1621002	2476862	517.458m	532.905m
2)	HMX	1.30	1.30	816660	2194366	494.239m	468.853m
3)	DNX	1.54	1.54	1416434	2336028	489.802	524.908
4)	MNX	2.04	2.04	1137451	1755463	478.232	482.610
5)	RDX	2.57	2.57	950756	1452643	522.275m	503.229m
6)	1,3,5-Trinitrobe	4.12	4.12	1820360	3576558	464.145	476.209
7)	1,3-Dinitrobenze	5.27	5.27	2505854	1676154	498.981	490.228m
8)	3,5-Dinitroanili	5.64	5.64	2188372	3650446	504.264	499.086
9)	Nitrobenzene	6.80	6.80	1449435	1436104	504.651	499.178m
10)	Nitroglycerin	0.00	8.37	0	3551451	N.D. d	2600.915
11)	Tetryl	8.56	8.55	924011	1345853	346.588m	314.229
12)	2,4,6-Trinitroto	8.95	8.95	1695421	2186222	482.208	510.276
13)	2-Amino-4,6-Dini	9.25	9.25	1574425	2421457	496.335	507.543
14)	4-Amino-2,6-Dini	9.69	9.69	1158568	2393727	488.734	508.126
16)	2,4-Dinitrotolue	10.67	10.67	2259839	1475394	517.792	548.837
17)	2,6-Dinitrotolue	11.13	11.13	1281685	1563982	516.600	502.141
18)	o-Nitrotoluene	13.65	13.65	1065209	1517756	508.697	533.088m
19)	p-Nitrotoluene	14.06	14.06	1668268	1451716	497.033	544.465m
20)	m-Nitrotoluene	14.65	14.65	1539869	1935732	496.933	522.710m
21)	PETN	0.00	16.33	0	3505530	N.D. d	2511.498m

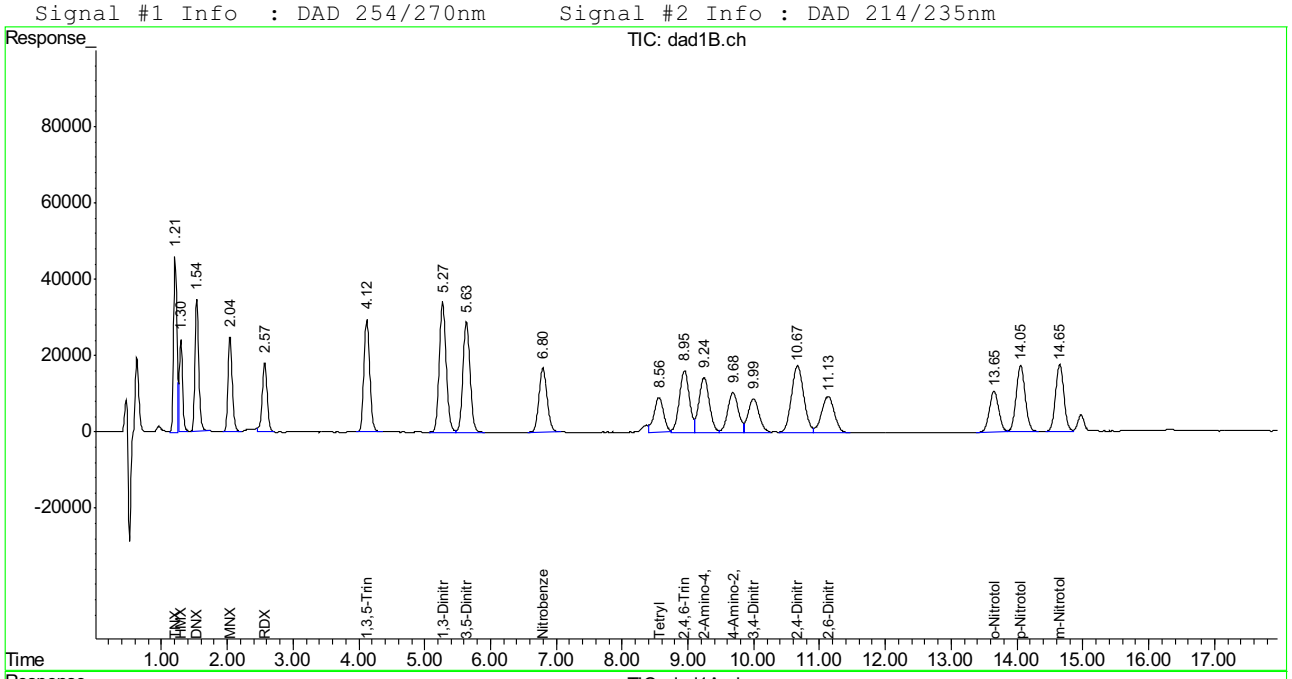
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380271.D 8330-1003BPLUS.M Tue Oct 04 09:43:21 2016 Page 1

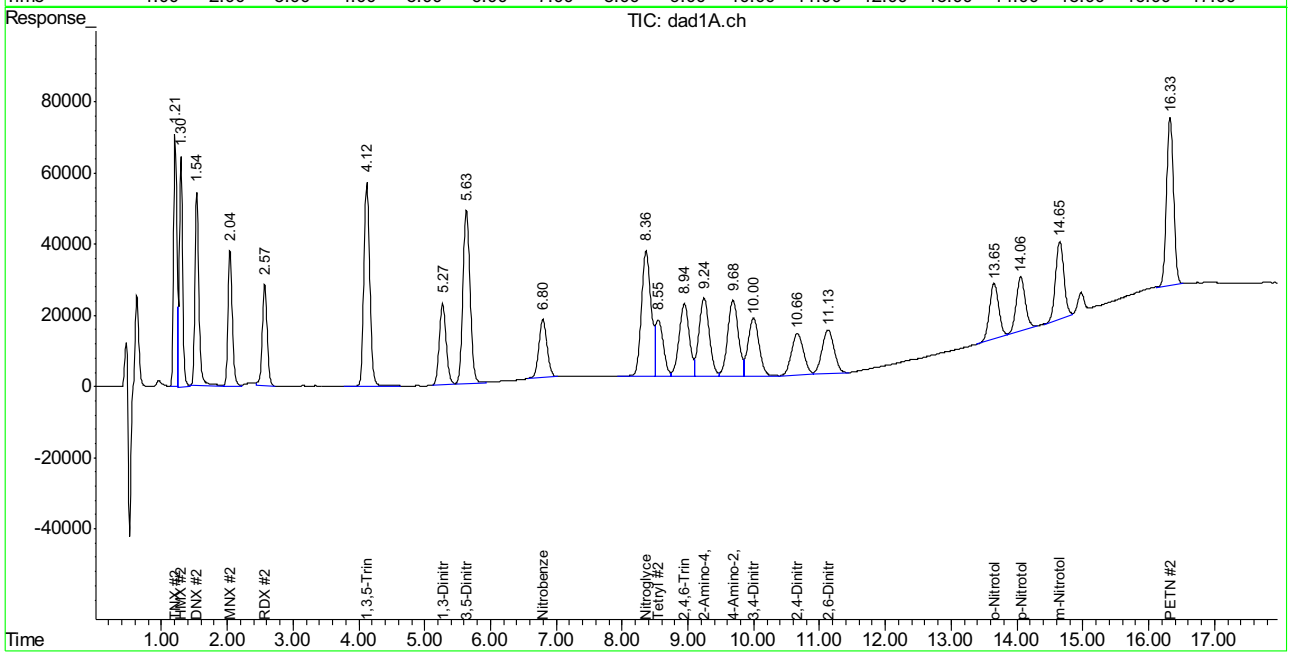
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380271.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\1003BPL\PP380271.D\dad1A.ch
Acq On : 03-Oct-2016, 12:45:17 Operator: kismetl
Sample : icc2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:39 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2032-ICC2032 **Method:** SW846 8330A
Lab FileID: PP380271.D **Analyst approved:** 10/04/16 11:15 Kismet Lugo
Injection Time: 10/03/16 12:45 **Supervisor approved:** 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Missed peak
TNX		2	1.21	Poor instrument integration
HMX	2691-41-0	1	1.30	Poor instrument integration
HMX	2691-41-0	2	1.30	Poor instrument integration
RDX	121-82-4	1	2.57	Poor instrument integration
RDX	121-82-4	2	2.57	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.27	Poor instrument integration
Nitrobenzene	98-95-3	2	6.80	Poor instrument integration
Tetryl	479-45-8	1	8.56	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380272.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\1003BPL\PP380272.D\dad1A.ch
Acq On : 03-Oct-2016, 13:10:12 Operator: kismetl
Sample : ic2032-1000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:36:38 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	2015598	3727201	939.424	1055.137
	Spiked Amount 500.000	Range 70 - 136		Recovery =		187.88%#	211.03%#
	Target Compounds						
1)	TNX	1.20	1.20	3260177	4884146	1040.718m	1050.841m
2)	HMX	1.29	1.29	1629220	4268355	985.997m	911.986m
3)	DNX	1.53	1.53	2779389	4410068	961.112	986.997
4)	MNX	2.03	2.03	2155213	3451694	906.142	948.936
5)	RDX	2.56	2.56	1802268	2829947	990.032	980.358m
6)	1,3,5-Trinitrobe	4.11	4.11	3588843	6969280	915.062	927.940
7)	1,3-Dinitrobenze	5.27	5.27	4936613	3257811	983.009	952.817
8)	3,5-Dinitroanili	5.63	5.63	4291189	7164858	988.814	979.574
9)	Nitrobenzene	6.79	6.79	2865899	2862128	997.824	994.852
10)	Nitroglycerin	0.00	8.36	0	6941647	N.D. d	5083.736
11)	Tetryl	8.55	8.54	1827986	2615485	676.991m	603.359
12)	2,4,6-Trinitroto	8.94	8.94	3355676	4265146	954.414	995.508
13)	2-Amino-4,6-Dini	9.23	9.23	3107739	4719260	979.710	989.168
14)	4-Amino-2,6-Dini	9.68	9.68	2274321	4661207	959.407	989.453
16)	2,4-Dinitrotolue	10.66	10.66	4435267	2934733	1016.242	1091.701
17)	2,6-Dinitrotolue	11.12	11.12	2535541	3183961	1021.984	1022.260
18)	o-Nitrotoluene	13.65	13.64	2075957	2987691	991.386	1049.381m
19)	p-Nitrotoluene	14.05	14.05	3289102	2867542	979.935	1075.469m
20)	m-Nitrotoluene	14.65	14.64	3036728	3819184	979.986	1031.303m
21)	PETN	0.00	16.32	0	6953888	N.D. d	4982.036m

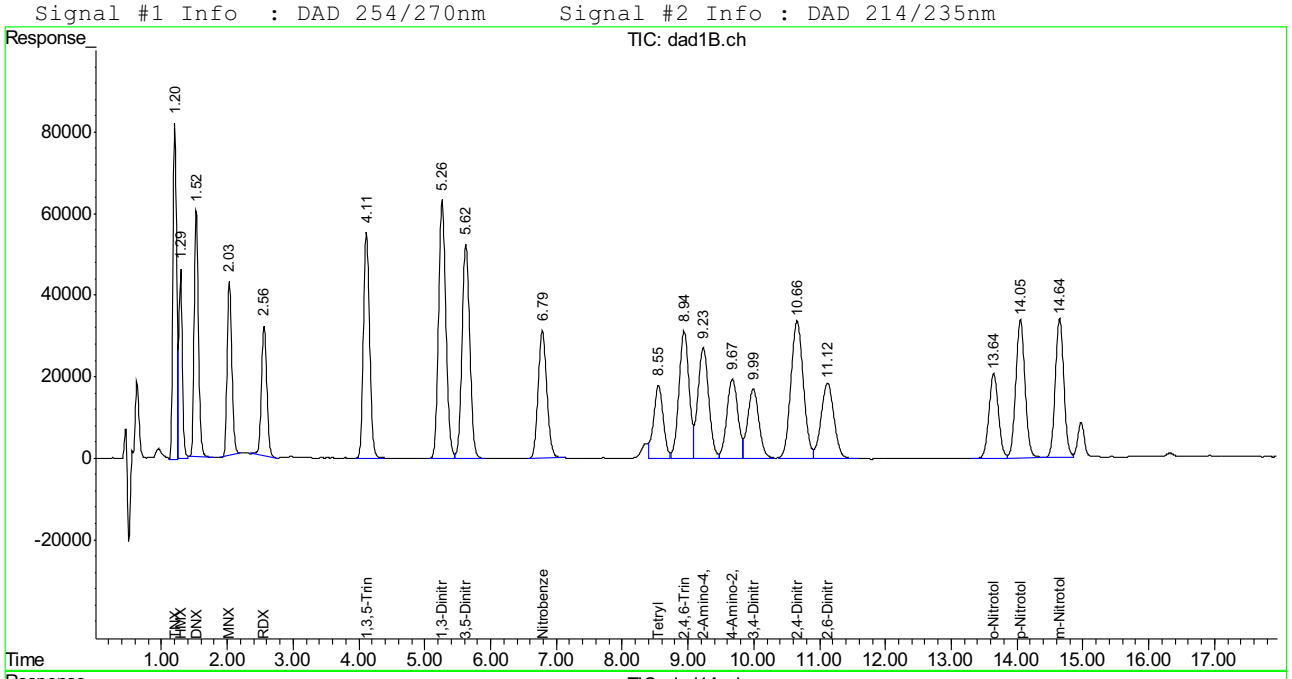
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380272.D 8330-1003BPLUS.M Tue Oct 04 09:45:31 2016 Page 1

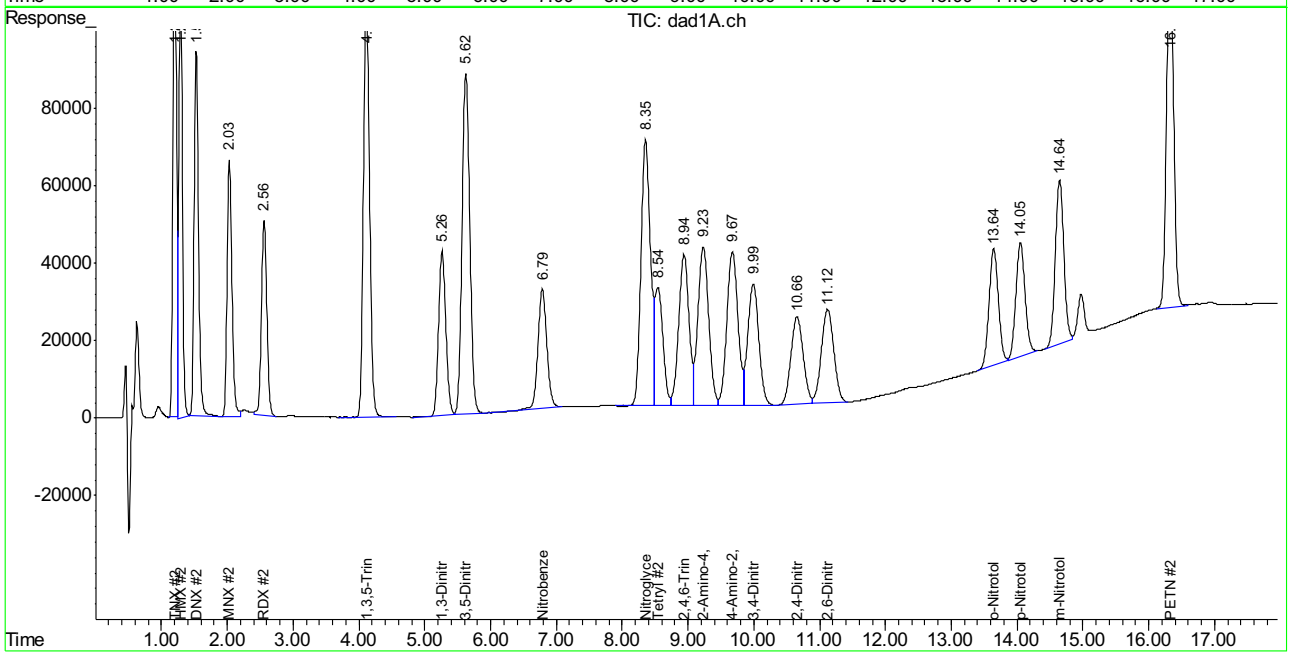
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380272.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\1003BPL\PP380272.D\dad1A.ch
Acq On : 03-Oct-2016, 13:10:12 Operator: kismetl
Sample : ic2032-1000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:38 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380272.D
Injection Time: 10/03/16 13:10
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
HMX	2691-41-0	2	1.29	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Tetryl	479-45-8	1	8.55	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.32	Poor instrument integration

PP380273.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380273.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\1003BPL\PP380273.D\dad1A.ch
Acq On : 03-Oct-2016, 13:35:09 Operator: kismetl
Sample : ic2032-2000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:54:03 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	4231933	7677956	1972.408	2089.781
	Spiked Amount 500.000	Range 70 - 136		Recovery =		394.48%#	417.96%#
	Target Compounds						
1)	TNX	1.19	1.19	6714942	9084024	2143.552m	1954.459m
2)	HMX	1.28	1.28	3243317	8923366	1962.841m	1906.586m
3)	DNX	1.52	1.52	5692630	8864110	1968.510	1967.202
4)	MNX	2.02	2.02	4623831	7125253	1944.052	1958.868
5)	RDX	2.55	2.55	3708738	5946973	2037.304	2060.167
6)	1,3,5-Trinitrobe	4.09	4.09	7415269	14374676	1890.701	1913.948
7)	1,3-Dinitrobenze	5.24	5.24	10205579	6831582	2032.197	1998.044
8)	3,5-Dinitroanili	5.60	5.60	8923154	14981072	2056.152	2048.202
9)	Nitrobenzene	6.76	6.75	5916198	5918810	2059.850	2057.328m
10)	Nitroglycerin	0.00	8.33	0	14565961	N.D. d	10667.424m
11)	Tetryl	8.52	8.47	4242741	4888669	1522.068	1104.837m
12)	2,4,6-Trinitroto	8.92	8.91	7299741	9166648	2076.177	2139.546
13)	2-Amino-4,6-Dini	9.19	9.19	6157195	9501487	1941.047	1991.535
14)	4-Amino-2,6-Dini	9.64	9.64	4747036	9656704	2002.506	2049.868
16)	2,4-Dinitrotolue	10.62	10.62	9267483	6174967	2123.436	2297.048
17)	2,6-Dinitrotolue	11.08	11.08	5234610	6782715	2109.881	2177.695
18)	o-Nitrotoluene	13.62	13.61	4236492	6172504	2023.164	2167.998m
19)	p-Nitrotoluene	14.02	14.02	6784402	5913837	2021.303	2217.979m
20)	m-Nitrotoluene	14.62	14.62	6284148	7746277	2027.966	2091.744m
21)	PETN	0.00	16.31	0	14320957	N.D. d	10260.091m

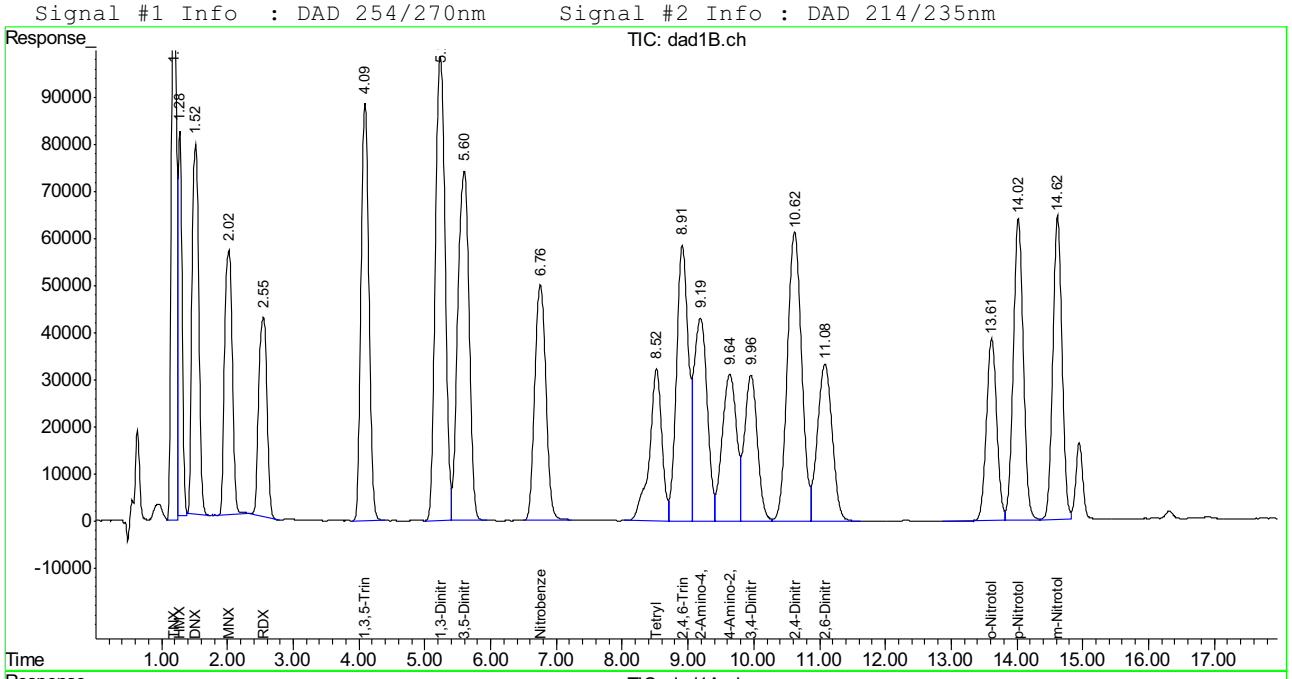
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380273.D 8330-1003BPLUS.M Tue Oct 04 09:43:23 2016 Page 1

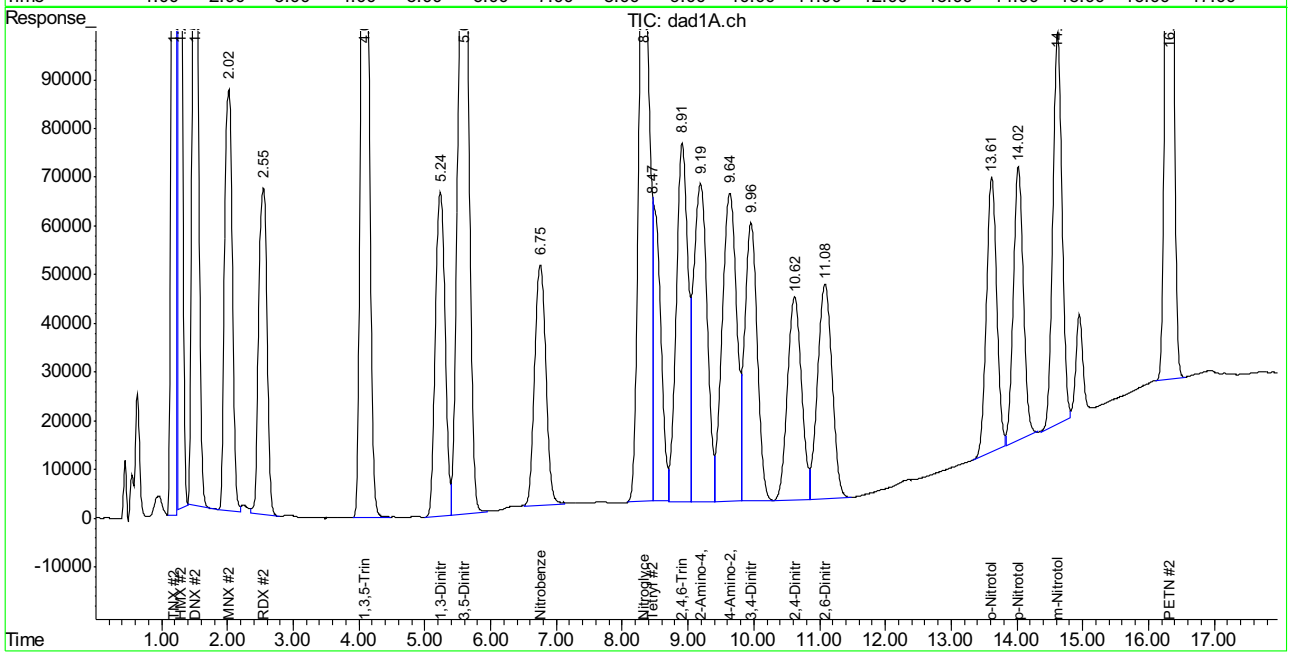
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380273.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\1003BPL\PP380273.D\dad1A.ch
Acq On : 03-Oct-2016, 13:35:09 Operator: kismetl
Sample : ic2032-2000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:57 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380273.D
Injection Time: 10/03/16 13:35
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.19	Poor instrument integration
TNX		2	1.19	Poor instrument integration
HMX	2691-41-0	1	1.28	Poor instrument integration
HMX	2691-41-0	2	1.28	Poor instrument integration
Nitrobenzene	98-95-3	2	6.75	Poor instrument integration
Nitroglycerine	55-63-0	2	8.33	Poor instrument integration
Tetryl	479-45-8	2	8.47	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.61	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.02	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.62	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED
(compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380274.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\1003BPL\PP380274.D\dad1A.ch
Acq On : 03-Oct-2016, 14:06:46 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 14:35:15 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.20	1.20	1498339	2349531	484.073m	476.114m
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	1.53	1.53	1397559	2310547	482.342	483.431
4)	MNX	2.03	2.03	1179841	1839624	520.039	520.026
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	8.35	0	3369615	N.D. d	2327.251
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	16.32	0	3736279	N.D. d	2561.573m

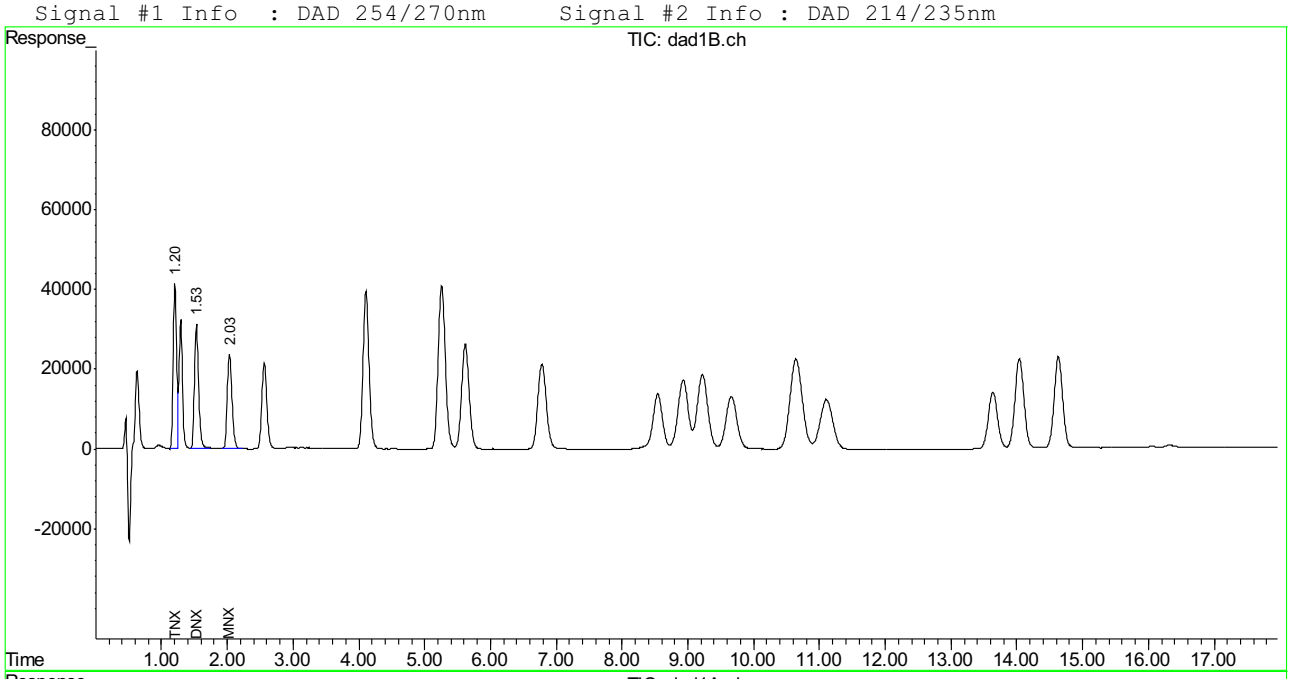
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380274.D 8330-1003BPLUS.M Tue Oct 04 11:26:00 2016 Page 1

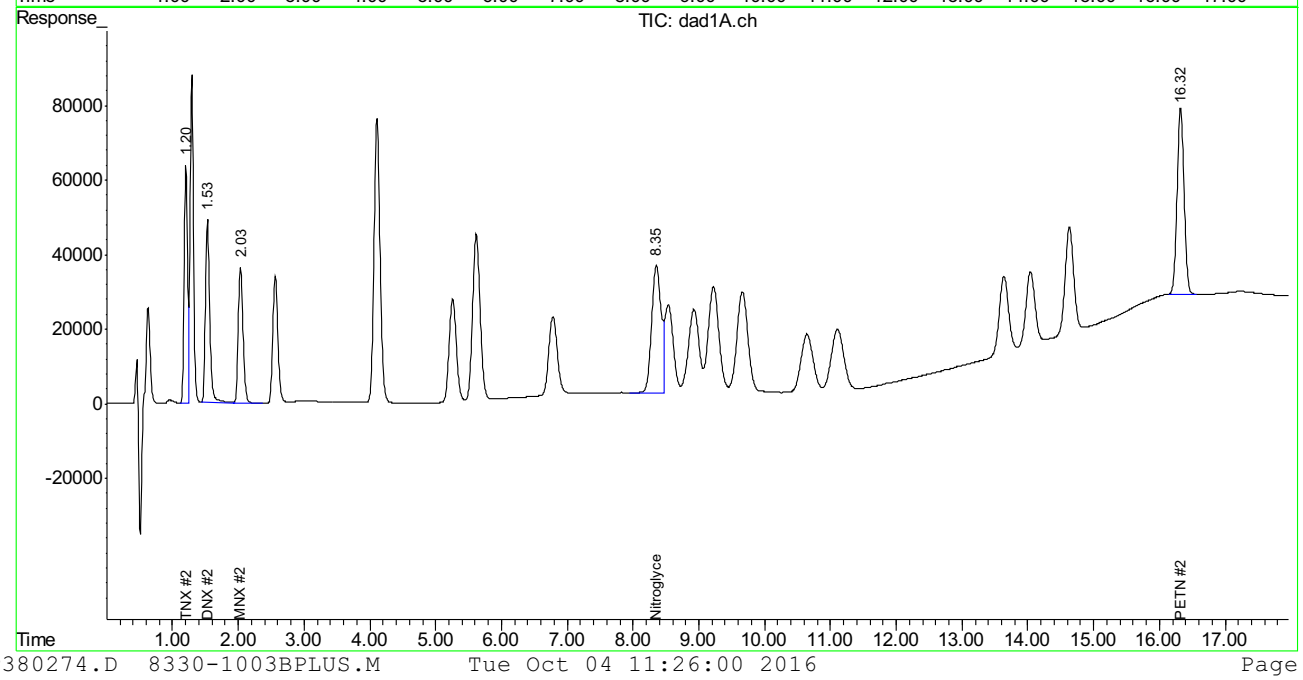
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380274.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\1003BPL\PP380274.D\dad1A.ch
Acq On : 03-Oct-2016, 14:06:46 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 4 9:22 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2032-ICV2032
Lab FileID: PP380274.D
Injection Time: 10/03/16 14:06
Method: SW846 8330A
Analyst approved: 10/04/16 11:26 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
PETN	78-11-5	2	16.32	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380275.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\1003BPL\PP380275.D\dad1A.ch
Acq On : 03-Oct-2016, 14:57:09 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 15:19:45 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.30	1.30	814423	2227340	507.406	507.386
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.57	2.57	917388	1449572	499.915	499.539
6)	1,3,5-Trinitrobe	4.12	4.12	1975988	3832384	528.353	528.905
7)	1,3-Dinitrobenze	5.27	5.27	2463900	1653877	485.088	485.586
8)	3,5-Dinitroanili	5.63	5.63	1981503	3319565	442.393	440.057
9)	Nitrobenzene	6.79	6.79	1530185	1541080	508.240	547.705m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	8.55	8.55	1435727	2420012	745.532	935.831
12)	2,4,6-Trinitroto	8.94	8.94	1641124	2065145	475.950	478.647
13)	2-Amino-4,6-Dini	9.24	9.24	1645185	2555363	524.433	519.347
14)	4-Amino-2,6-Dini	9.68	9.68	1184799	2525365	514.194	526.673
16)	2,4-Dinitrotolue	10.66	10.66	2343221	1482603	512.398	498.467
17)	2,6-Dinitrotolue	11.12	11.12	1338663	1620600	534.602	525.655
18)	o-Nitrotoluene	13.65	13.65	1121322	1608600	520.022	525.429m
19)	p-Nitrotoluene	14.05	14.06	1697462	1458582	500.434	508.328
20)	m-Nitrotoluene	14.64	14.64	1620168	1985747	511.280m	520.146m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

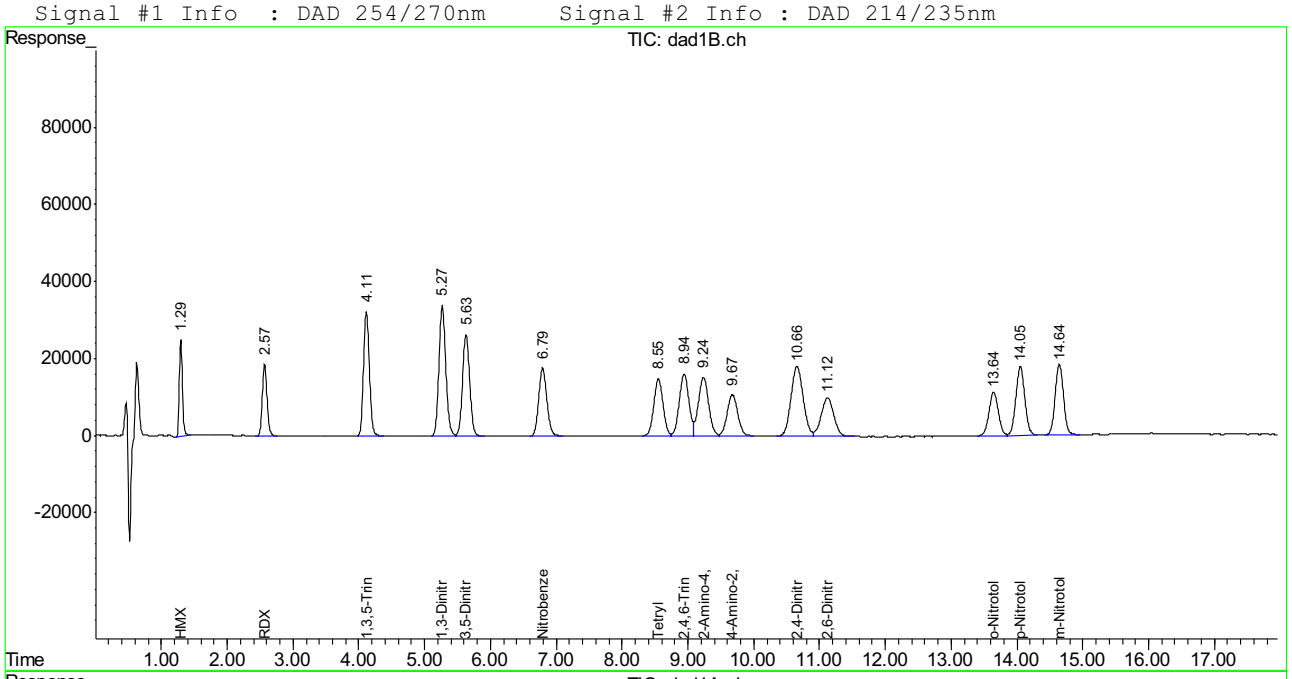
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380275.D 8330-1003BPLUS.M Tue Oct 04 11:26:01 2016 Page 1

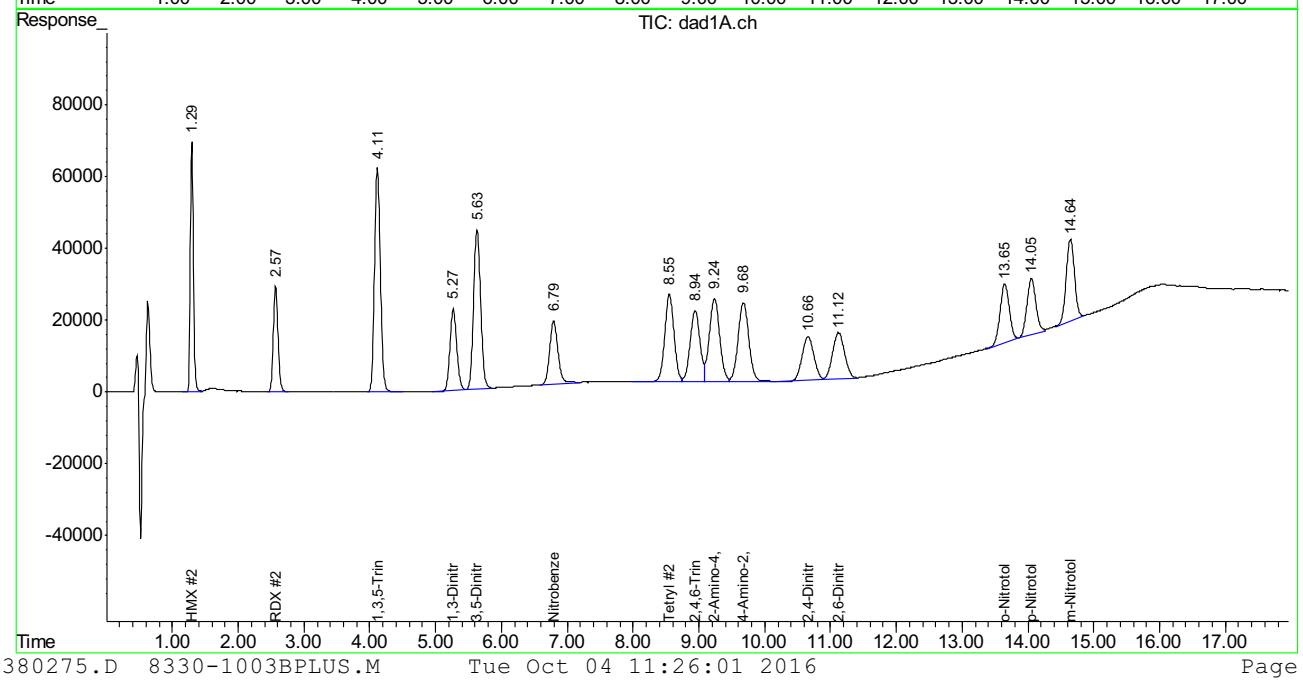
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380275.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\1003BPL\PP380275.D\dad1A.ch
Acq On : 03-Oct-2016, 14:57:09 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 4 9:24 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2032-ICV2032
Lab FileID: PP380275.D
Injection Time: 10/03/16 14:57
Method: SW846 8330A
Analyst approved: 10/04/16 11:26 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380389.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380389.D\dad1A.ch
Acq On : 21-Oct-2016, 12:50:32 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:48 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.03	10.03	2007511	3664450	970.791	939.906
	Spiked Amount 500.000	Range 70 - 136		Recovery =		194.16%#	187.98%#
	Target Compounds						
1)	TNX	1.20	1.20	3345266	4981360	1080.765m	1009.434m
2)	HMX	1.30	1.30	1602413	4342087	998.343	989.123
3)	DNX	1.53	1.53	2786775	4559907	961.805	954.061
4)	MNX	2.03	2.03	2255058	3566239	993.963	1008.106
5)	RDX	2.56	2.56	2170061	3193311	1182.538m	1100.453m
6)	1,3,5-Trinitrobe	4.12	4.12	3593141	6919222	960.758	954.918
7)	1,3-Dinitrobenze	5.27	5.27	4926737	3250225	969.966	954.281
8)	3,5-Dinitroanili	5.62	5.62	4328636	7284464	966.418	965.662
9)	Nitrobenzene	6.80	6.79	2676374	2878008	888.939	1022.854m
10)	Nitroglycerin	0.00	8.37	0	6955105	N.D. d	4803.597
11)	Tetryl	8.58	8.57	1644873	2385958	854.135m	922.662
12)	2,4,6-Trinitroto	8.97	8.97	3341666	4262057	969.131	987.834
13)	2-Amino-4,6-Dini	9.25	9.25	3133499	4795790	998.860	974.687
14)	4-Amino-2,6-Dini	9.69	9.69	2341857	4791223	1016.348	999.226
16)	2,4-Dinitrotolue	10.68	10.68	4518873	3060099	988.154	1028.837
17)	2,6-Dinitrotolue	11.15	11.16	2503733	3185757	999.879	1000.969
18)	o-Nitrotoluene	13.67	13.67	1927961	2760964	894.107	901.835m
19)	p-Nitrotoluene	14.08	14.07	3245519	2868133	956.821	999.569m
20)	m-Nitrotoluene	14.67	14.66	2957475	3376632	933.296	884.473m
21)	PETN	0.00	16.35	0	7031947	N.D. d	4821.066m

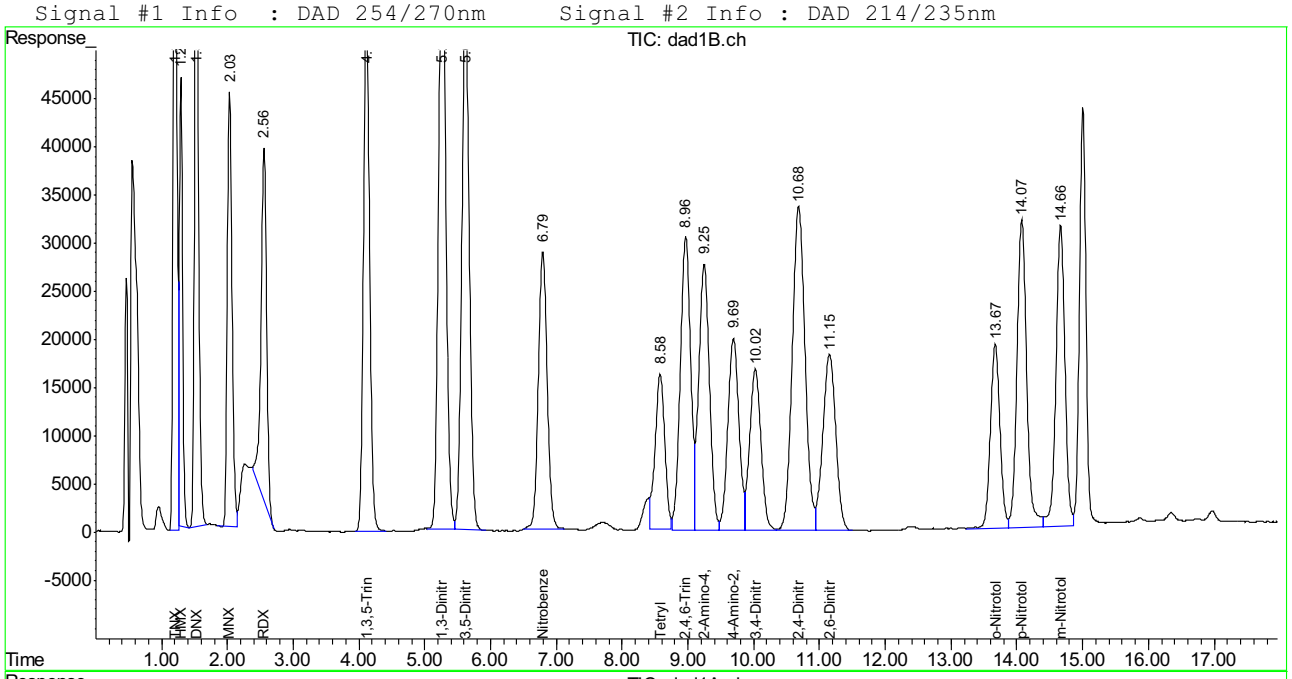
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380389.D 8330-1003BPLUS.M Mon Oct 24 09:19:42 2016 Page 1

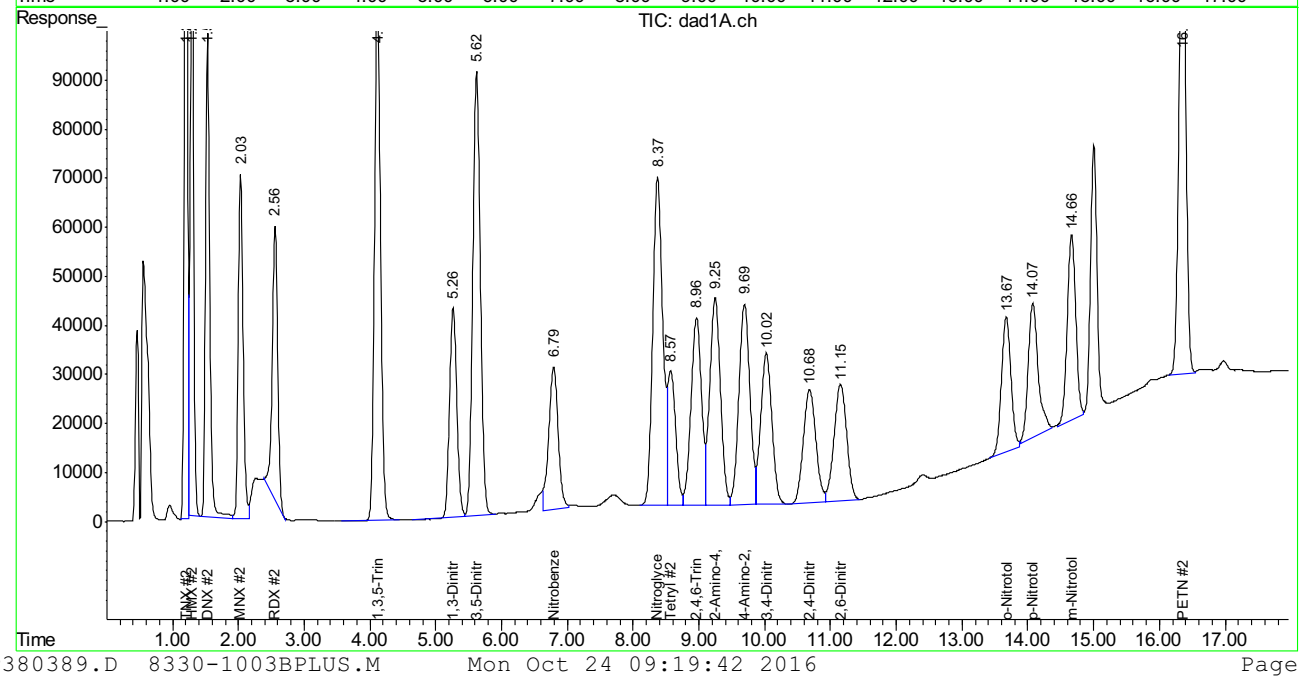
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380389.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380389.D\dad1A.ch
Acq On : 21-Oct-2016, 12:50:32 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 6:50 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2037-CC2032 **Method:** SW846 8330A
Lab FileID: PP380389.D **Analyst approved:** 10/24/16 10:01 Kismet Lugo
Injection Time: 10/21/16 12:50 **Supervisor approved:** 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
RDX	121-82-4	1	2.56	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Overlapping peak
Tetryl	479-45-8	1	8.58	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.67	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.07	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Poor instrument integration
PETN	78-11-5	2	16.35	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380401.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380401.D\dad1A.ch
Acq On : 21-Oct-2016, 17:55:19 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:32:00 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	1999547	3665979	966.940	940.298
	Spiked Amount 500.000	Range 70 - 136		Recovery =		193.39%#	188.06%#
	Target Compounds						
1)	TNX	1.20	1.20	3293479	4908593	1064.035m	994.688m
2)	HMX	1.29	1.29	1580328	4309337	984.583	981.663
3)	DNX	1.53	1.53	2812483	4553619	970.678	952.745
4)	MNX	2.03	2.03	2219193	3478646	978.154	983.345
5)	RDX	2.55	2.55	2132486	3187426	1162.062m	1098.424m
6)	1,3,5-Trinitrobe	4.10	4.10	3559592	6873681	951.787	948.632
7)	1,3-Dinitrobenze	5.25	5.25	4890501	3215612	962.832	944.118
8)	3,5-Dinitroanili	5.61	5.61	4312434	7235231	962.801	959.136
9)	Nitrobenzene	6.78	6.78	2681012	2859278	890.479	1016.197m
10)	Nitroglycerin	0.00	8.35	0	7011061	N.D. d	4842.244
11)	Tetryl	8.55	8.54	1665626	2306463	864.912m	891.920
12)	2,4,6-Trinitroto	8.94	8.94	3313253	4238731	960.891	982.428
13)	2-Amino-4,6-Dini	9.22	9.22	3112261	4777083	992.090	970.885
14)	4-Amino-2,6-Dini	9.67	9.66	2325665	4771406	1009.321	995.093
16)	2,4-Dinitrotolue	10.66	10.66	4477406	3050385	979.086	1025.571
17)	2,6-Dinitrotolue	11.12	11.12	2500457	3199308	998.571	1004.963
18)	o-Nitrotoluene	13.65	13.65	1963309	2722911	910.500	889.405m
19)	p-Nitrotoluene	14.06	14.06	3224195	2888162	950.535	1006.549m
20)	m-Nitrotoluene	14.65	14.65	2865808	3406172	904.369	892.211m
21)	PETN	0.00	16.33	0	6932198	N.D. d	4752.678m

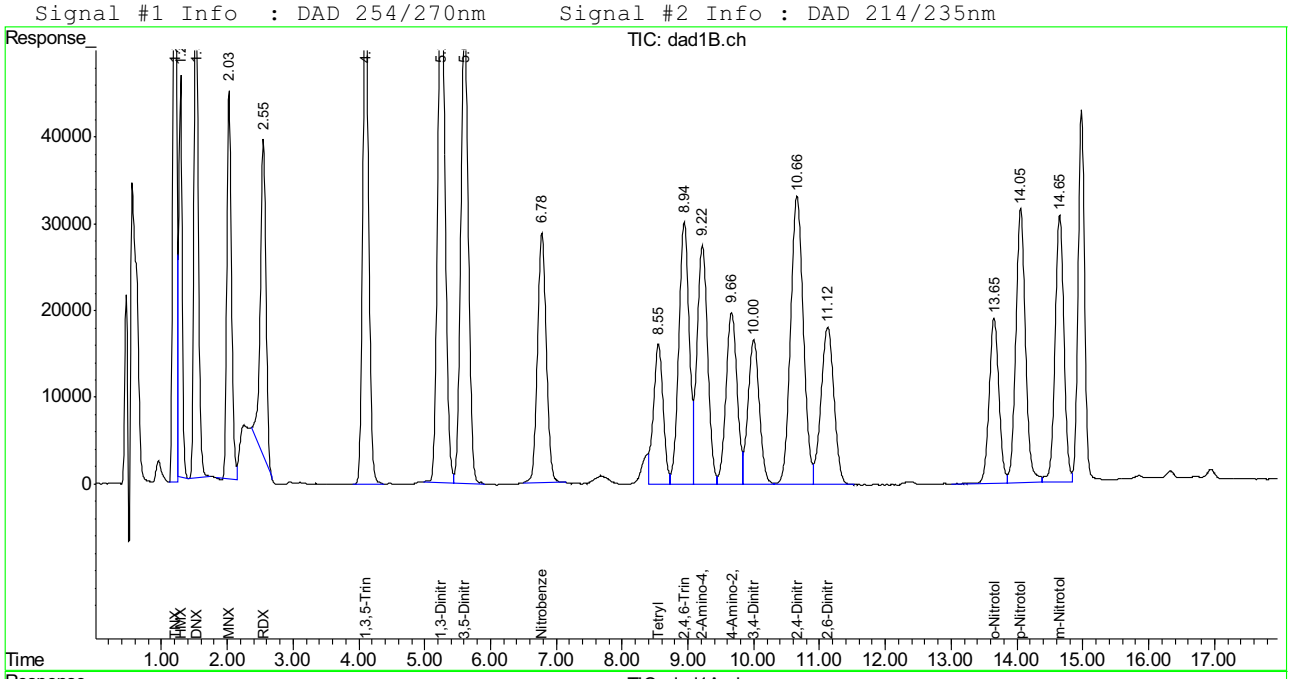
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380401.D 8330-1003BPLUS.M Mon Oct 24 09:19:54 2016 Page 1

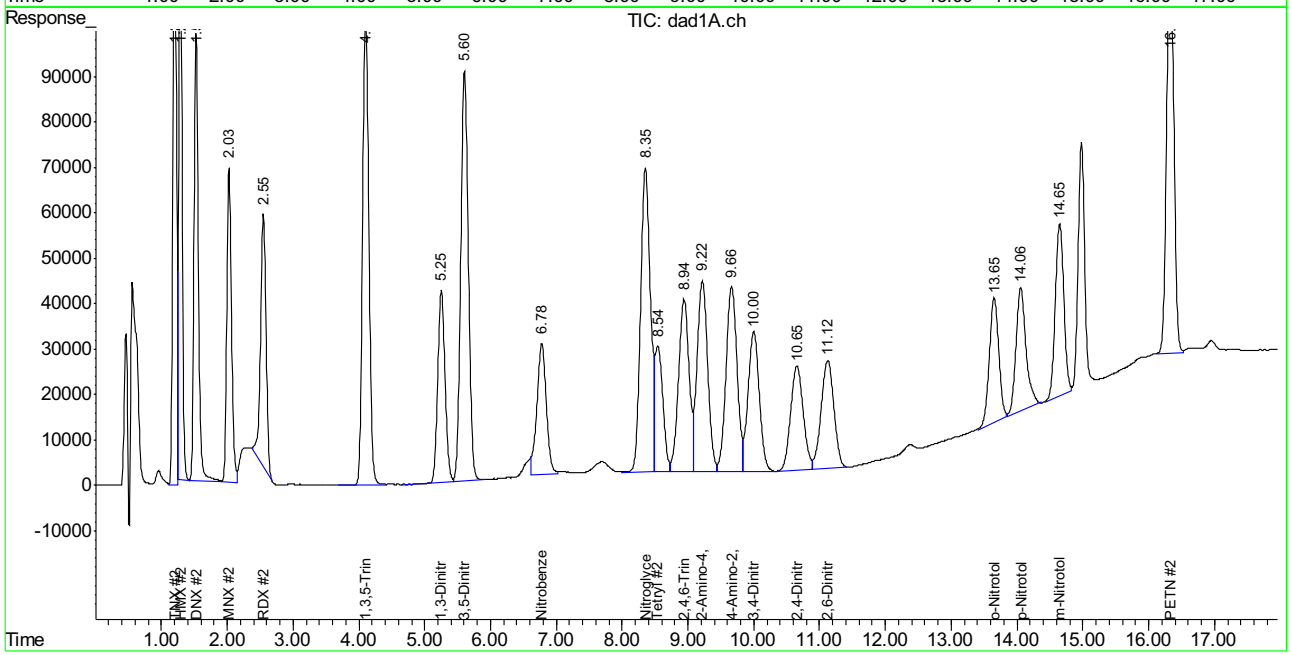
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380401.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380401.D\dad1A.ch
Acq On : 21-Oct-2016, 17:55:19 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 7:42 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2037-CC2032 **Method:** SW846 8330A
Lab FileID: PP380401.D **Analyst approved:** 10/24/16 10:01 Kismet Lugo
Injection Time: 10/21/16 17:55 **Supervisor approved:** 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
RDX	121-82-4	1	2.55	Poor instrument integration
RDX	121-82-4	2	2.55	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Overlapping peak
Tetryl	479-45-8	1	8.55	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380485.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380485.D\dad1A.ch
Acq On : 27-Oct-2016, 17:10:41 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:27 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.95	1983553	3675711	959.205	942.794
	Spiked Amount 500.000	Range 70 - 136		Recovery =		191.84%#	188.56%#
	Target Compounds						
1)	TNX	1.20	1.20	3103188	4644762	1002.557	941.225
2)	HMX	1.28	1.29	1545829	4320324	963.090	984.166
3)	DNX	1.52	1.52	2652016	4203802	915.296	879.554
4)	MNX	2.01	2.01	2238430	3466866	986.634	980.015
5)	RDX	2.54	2.54	1746242	2772684	951.585	955.499
6)	1,3,5-Trinitrobe	4.09	4.09	3795788	7383143	1014.943	1018.943
7)	1,3-Dinitrobenze	5.23	5.23	4979177	3265620	980.290	958.801
8)	3,5-Dinitroanili	5.56	5.56	4223836	7128062	943.020	944.929
9)	Nitrobenzene	6.75	6.75	2893586	2895791	961.084	1029.174
10)	Nitroglycerin	0.00	8.33	0	6619303	N.D. d	4571.673
11)	Tetryl	8.50	8.49	2899862	4419087	1505.815	1708.883
12)	2,4,6-Trinitroto	8.91	8.91	3523710	4278791	1021.926	991.712
13)	2-Amino-4,6-Dini	9.15	9.15	3080033	4782125	981.817	971.910
14)	4-Amino-2,6-Dini	9.59	9.59	2288653	4732660	993.258	987.012
16)	2,4-Dinitrotolue	10.60	10.60	4467058	2939606	976.823	988.326
17)	2,6-Dinitrotolue	11.06	11.06	2483342	3181814	991.736	999.807
18)	o-Nitrotoluene	13.62	13.62	2101433	3018673	974.556	986.012m
19)	p-Nitrotoluene	14.03	14.03	3250710	2724474	958.352	949.503
20)	m-Nitrotoluene	14.62	14.62	3133771	3825153	988.930	1001.959m
21)	PETN	0.00	16.33	0	6928923	N.D. d	4750.432m

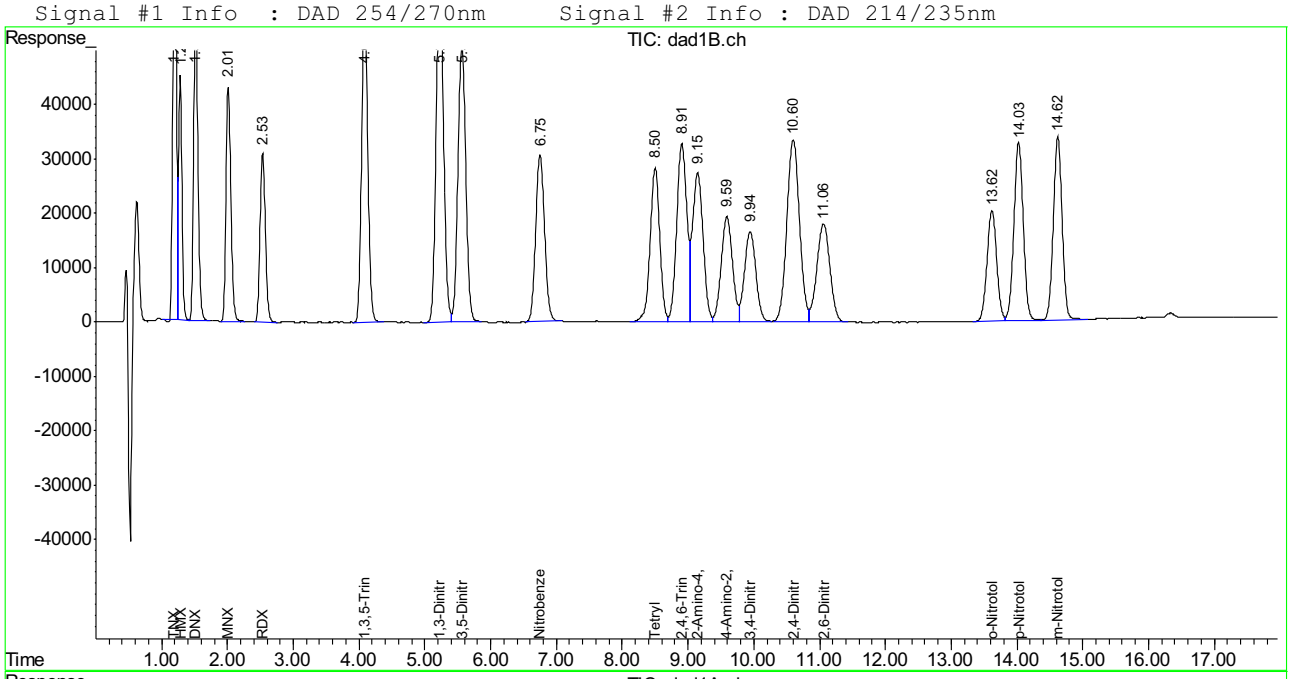
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380485.D 8330-1003BPLUS.M Fri Oct 28 12:01:17 2016 Page 1

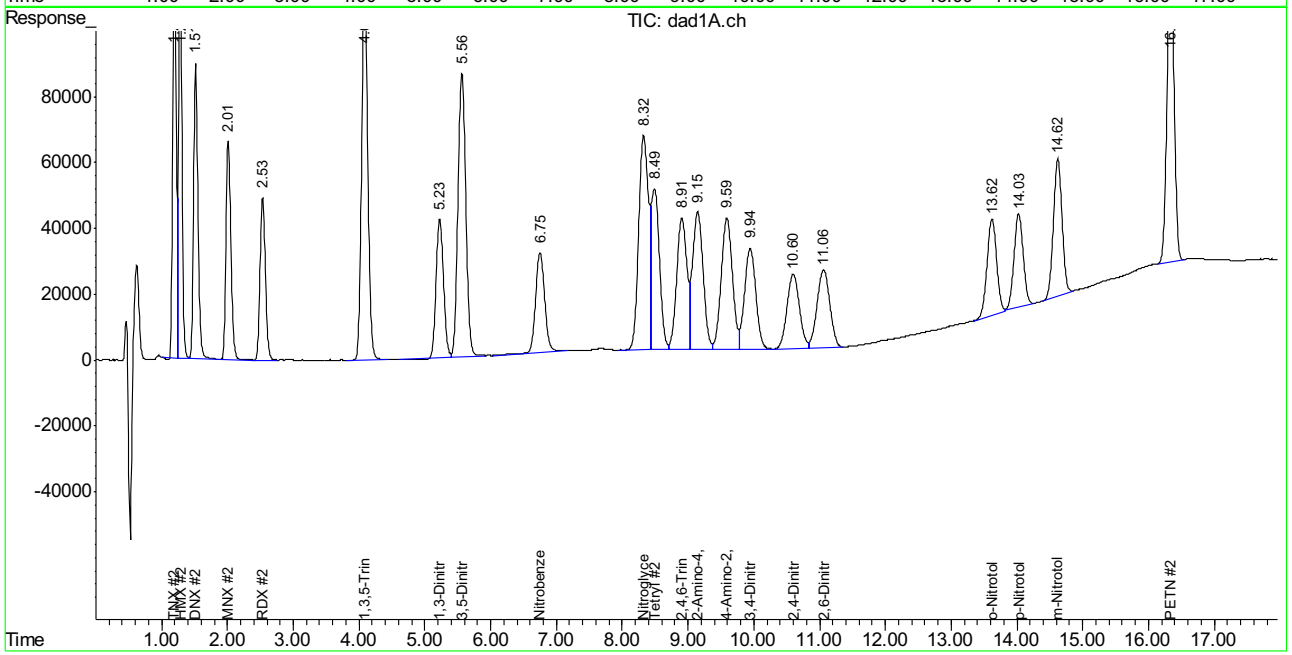
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380485.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380485.D\dad1A.ch
Acq On : 27-Oct-2016, 17:10:41 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 9:59 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2041-CC2032
Lab FileID: PP380485.D
Injection Time: 10/27/16 17:10
Method: SW846 8330B
Analyst approved: 10/28/16 12:19 Kismet Lugo
Supervisor approved: 10/28/16 17:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.62	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.62	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380493.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380493.D\dad1A.ch
Acq On : 27-Oct-2016, 20:30:15 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:35 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.89	9.89	1984730	3696584	959.775	948.148
	Spiked Amount 500.000	Range 70 - 136		Recovery =		191.95%#	189.63%#
	Target Compounds						
1)	TNX	1.19	1.19	3095364	4633397	1000.029	938.922
2)	HMX	1.28	1.28	1550901	4325619	966.249	985.372
3)	DNX	1.52	1.52	2650483	4189082	914.766	876.474
4)	MNX	2.01	2.01	2241409	3449394	987.947	975.076
5)	RDX	2.53	2.53	1739486	2764635	947.904	952.726
6)	1,3,5-Trinitrobe	4.07	4.07	3804623	7370290	1017.305	1017.169
7)	1,3-Dinitrobenze	5.21	5.21	4983946	3293748	981.229	967.060
8)	3,5-Dinitroanili	5.54	5.54	4238880	7119299	946.379	943.768
9)	Nitrobenzene	6.73	6.73	2898304	2830221	962.651	1005.870
10)	Nitroglycerin	0.00	8.29	0	6700425	N.D. d	4627.701
11)	Tetryl	8.46	8.45	2913954	4343066	1513.133	1679.485
12)	2,4,6-Trinitroto	8.86	8.86	3540246	4297186	1026.722	995.976
13)	2-Amino-4,6-Dini	9.11	9.11	3083935	4800429	983.061	975.630
14)	4-Amino-2,6-Dini	9.54	9.54	2291280	4749770	994.398	990.581
16)	2,4-Dinitrotolue	10.54	10.55	4480728	2976856	979.812	1000.850
17)	2,6-Dinitrotolue	11.00	11.00	2502026	3227958	999.198	1013.399
18)	o-Nitrotoluene	13.58	13.57	2208437	3009309	1024.180	982.954m
19)	p-Nitrotoluene	13.98	13.98	3420956	2842776	1008.543	990.732m
20)	m-Nitrotoluene	14.58	14.58	3154018	3843871	995.320	1006.862m
21)	PETN	0.00	16.30	0	6925088	N.D. d	4747.804m

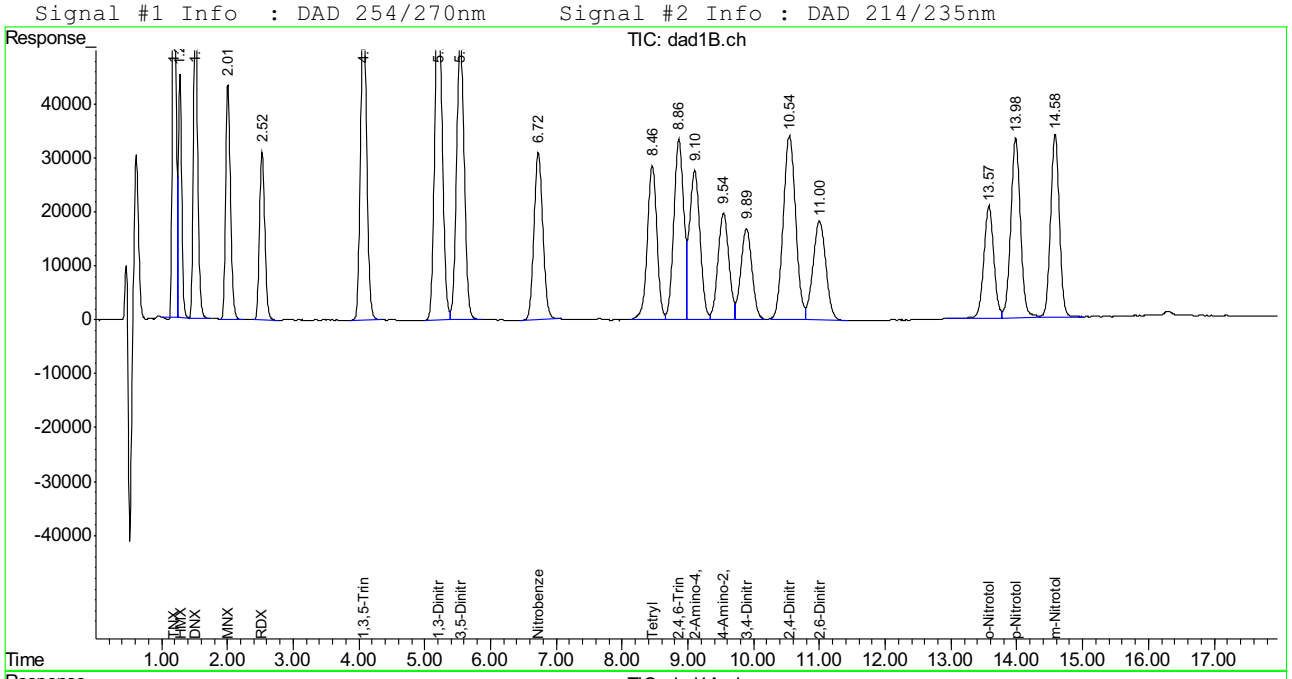
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380493.D 8330-1003BPLUS.M Fri Oct 28 12:01:25 2016 Page 1

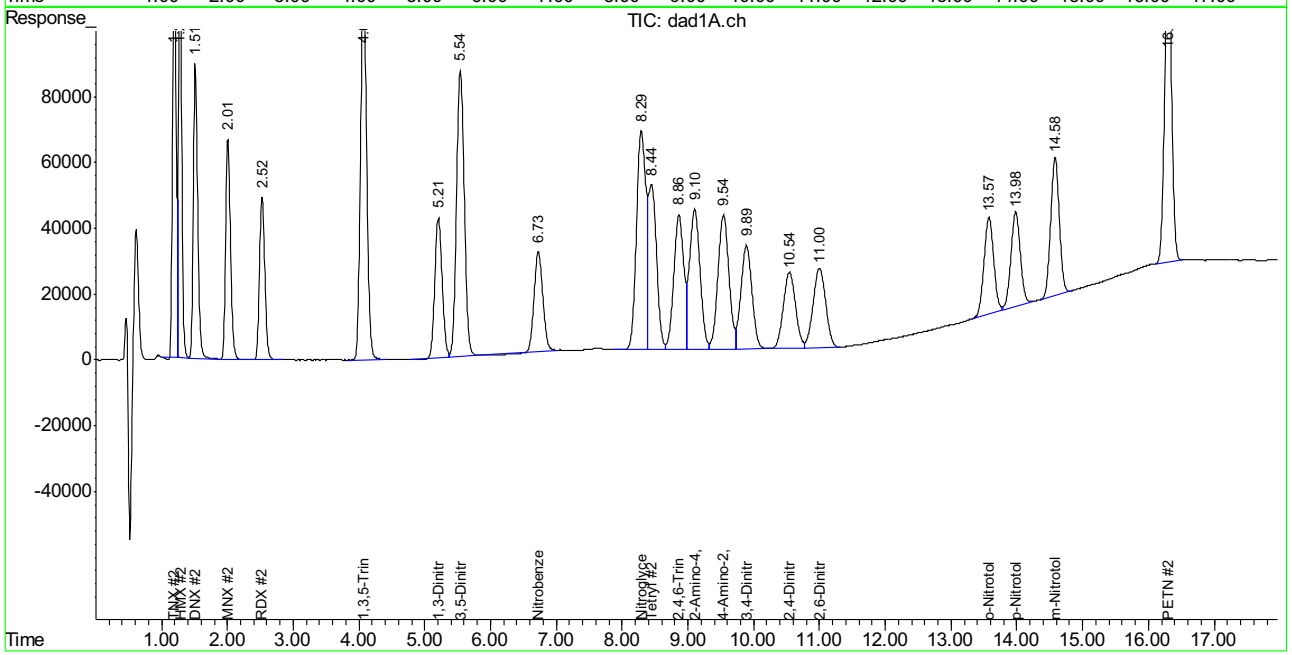
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380493.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380493.D\dad1A.ch
Acq On : 27-Oct-2016, 20:30:15 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 10:01 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37760

Manual Integration Approval Summary

Sample Number: GPP2041-CC2032
Lab FileID: PP380493.D
Injection Time: 10/27/16 20:30
Method: SW846 8330B
Analyst approved: 10/28/16 12:19 Kismet Lugo
Supervisor approved: 10/28/16 17:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.57	Poor instrument integration
p-Nitrotoluene	99-99-0	2	13.98	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.58	Poor instrument integration
PETN	78-11-5	2	16.30	Poor instrument integration

ACCUTEST LABORATORIES SE

DATE:	10/27/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330RPB 0727 1027
CALIB. DATE:	07/27/16 10/27/16
RUN BATCH: GGG	2478 10/28/16

ANALYST:	IK / ME
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	228

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060202	1	solvent	8330				test
GG 03	2	test 21					
GG 04		test 22					
GG 05		test 23					
GG 06		test 24					
GG 07		test 21, 22 deg					
GG 08		test 21, 21 deg					
GG 09		↓					
GG 10		24c 14m 55%					
GG 11		24c 13m 55%					
GG 12		13m 55% 60% 19m					
GG 13		55-58 25m					
GG 14		51/50 58-62					
GG 15		↓					
GG 16		new method					
GG 17		s					
GG 18		s					
GG 19		18-51%					
GG 20		55%					
GG 21	↓	50	↓				↓

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

Analyst's Signature: Kismet Ly

ACCUTEST LABORATORIES SE

DATE:	10/27/16
COLUMN TYPE:	Bowie PP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 ICPB3
PROC. METHOD:	8330 ICPB ~~07/21/16~~ 10/27
CALIB. DATE:	~~07/21/16~~ 10/27/16
RUN BATCH: GGG	2478

ICV 10/27/16

ANALYST:	IC / ME
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	228

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060222	2	51	8330				test
GG 23	|	53	|	|	|	|	|
GG 24	|	55	|	|	|	|	|
GG 25	|	51	|	|	|	|	|
GG 26	↓	80, .8min	↓	|	|	|	↓
GG 27	3	IC2478-20	|	LC776	50+450 50+450	PII 0-3.50P	✓
GG 28	4	IC2478-50	|	|	10+390	PII	✓
GG 29	5	IC2478-100	|	|	25+375	PII	✓
GG 30	6	IC2478-200	|	|	50+450	PII	✓
GG 31	7	ICC2478-500	|	|	1+3	PII	✓
GG 32	8	IC2478-1000	|	|	1:1	PII	✓ Pass only to 1000
GG 33	9	IC2478-2000	|	|	1X	PII	✓ ff flags run tet → int
GG 34	10	ICV2478-500	|	ES623 ES623 LC764	*	2.160P PII 0-3.50P	ICV 10/27/16 ~~Hmct 2.96, tet~~ Pass
GG 35	11	ICV2478-500	|	E5717	10+390 *		0.1P 52 246.52
GG 36	3	CC2478-20	|	LC776	50+450 50+450	PII	Pass 51 PETN, NG ~~Pass~~ ICIOR
GG 37	12	op62296-mb	|	op62296	1X		ND
GG 38	13	FA37729-1ct	|	|	|	PII	✓ 1,3 3,5 DNC
GG 39	14	FA37729-2ct	|	|	|	2AOP PII	✓ 1,3, 3,5 ON DNC
GG 40	15	FA37729-3ct	|	|	|	PII 2AOP	✓ 1,3 3,5 ~~RR~~
GG 41	16	op62253-mb	↓	op62253	↓		ND

* For NELAC purposes, Method 8332 includes analytes by SOP GC020
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

*ES624 20ml
LC764 25ml
E5623 10ml
LC742 25ml
} + 920ml

Analyst's Signature: Kimmet Lyp

ACCUTEST LABORATORIES SE

HPLC3-GG ANALYSIS LOG

DATE:	10/27/16
COLUMN TYPE:	Bowie RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

METHODS*:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB ~~0721~~ 1027
CALIB. DATE:	~~07/21/16~~ ~~10/28/16~~ 10/27/16
RUN BATCH: GGG	2478

MJ 10/28/16

ANALYST:	KL / ME
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	228

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060242	17	FA37760-2ct	8330	op62253	1X		✓ ~~MM >1000 hit~~ reprint
GG 43	18	FA37761-1ct					✓ ~~MM >1000 hit~~ moved MM
GG 44	19	FA37761-2ct					✓ moved MM
GG 45	20	FA37761-3ct				2A OP PII	✓
GG 46	21	FA37761-4ct		↓	↓		ND MNX 1,35 11/10/16
GG 47	30	cc2478-1000		LC776	1:1	PII 0-3,5 OP	Pass
GG 48	1	clb		—	—		ND
GG 49	22	op62312-mb		op62312	1X		ND DNC RPX
GG 50	23	FA37828-7ct			↓	PII	✓ ~~MM >1000 hit~~ MNX rep.
GG 51	24	FA37828-7cf			1+4	PII	✓ ↓ ↓
GG 52	25	op62352-mb		op62352	1X		ND > DNR
GG 53	26	FA37900-8ct		↓			ND
GG 54	27	op62386-mb		op62386			ND
GG 55	28	FA37897-1cf				PII	✓
GG 56	29	FA37897-2ct		↓	↓	PII	✓
GG 57	30	~~ccc2478-1000~~ ccc2478-1000	↓	LC776	1:1	PII 0-3,5 OP	Pass
GG							
GG							
GG							
GG							

11/10/28/16

MJ 10/28/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

Analyst's Signature: Kamil Lyp

ACCUTEST LABORATORIES SE

DATE:	10/03/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 B Plus
CALIB. DATE:	~~10/06/16~~ 10/03/16
RUN BATCH: GPP	2032

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	184

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380265	1	solvent	8330	——	—		ND
PP 66	2	lcs	↓	LC761	1:1		lcs ↓ run curve
PP 67	3	IC2032-20	↓	↓	50+450 50+450	PII o,m,p MPS2	✓
PP 68	4	IC2032-50	↓	↓	10+390	TNX MPS1 PII lcs 2µg/g UA sm MPS1 1,3,5 MPS1 3,5-ND MPS1	✓
PP 69	5	IC2032-100	↓	↓	25+475	↓	✓
PP 70	6	IC2032-200	↓	↓	50+450	TNX MPS1 PII lcs OPS1	✓
PP 71	7	ICC2032-500	↓	↓	1+3	TNX MPS1 PII ↓	✓
PP 72	8	IC2032-1000	↓	↓	1:1	PII	✓
PP 73	9	IC2032-2000	↓	↓	1X	PII	✓ Pass
PP 74	10	ICV2032-500	↓	E5624 LC746 LC764 E5623	*	PII	Pass
PP 75	11	ICV2032-500	↓	E5717	10+390	PII	lcs P
PP 76	3	CC2032-20	↓	LC761	50+450 50+450	PII	TNX 1,3,5 MPS1 2,4 MPS1, 2,6 ↓ S2 0 ↓ S2 KL 10/04/16
PP 77	12	op62051-lbs	↓	op62051	1X	PII	~~N~~ ✓
PP 78	13	op62051-lb	↓	↓	↓		ND
PP 79	14	PA 37159-1L	↓	↓	↓	TOX MPS1 PII	✓
PP 80	15	op62051-MS	↓	↓	↓	PII	✓
PP 81	16	op62051-MSd	↓	↓	↓	PII	✓
PP 82	2	CC2032-1000	↓	LC761	1:1	PII lcs OPS1 TNX MPS1	Pass
PP 83	1	calb	↓	K —	—		ND
PP 84	17	op62072-bs	↓	op62072	1X	PII	✓

IC 10/04/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC018
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 08/09

Analyst's Signature: Kismet Lyp

ACCUTEST LABORATORIES SE

DATE:	10/03/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 B Plus
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2032

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	184

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380285	18	op62072-mb	8330	op62072	1x		ND
PP 86	19	FA37332-1	↓	↓	↓	HMX MP PDBxMPS1, PII	✓
PP 87	20	op62072-ms				PII	✓
PP 88	21	op62072-msd				PII	✓
PP 89	22	FA37333-1					ND
PP 90	2	ecc2032-1000	↓	LC761	1:1	TNTxMPS1 PII 4etOPS1	Pass
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

KL 10/04/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC018
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 08/09

Analyst's Signature: Kimmit Lye

SGS ACCUTEST-ORLANDO

DATE:	10/21/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330BPLW5
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2037

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	206

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380377	1	solvent	8330	—	—		ND
PP 78	2	CC2032-1000		LC761	1:1	PII letOPS1 NBOPSV	RDXTS1
PP 79	3	~~op62296-bs~~ bs		—	1X		Seq. error (spike)
PP 80	4	op62296-~~mb~~ bs		op62296		PII	✓
PP 81	5	op62296-mb					ND
PP 82	6	FA37729-1				PII	✓
PP 83	7	FA37729-2				PII	✓
PP 84	8	FA37729-3				PII	✓
PP 85	9	op62296-ms				PII	✓
PP 86	10	op62296-msd				PII	✓
PP 87	11	FA37729-4					ND
PP 88	12	FA37729-5		↓	↓		ND
PP 89	2	CC2032-1000		LC761	1:1	PII NBOPSV letOPS9	RDXTS1
PP 90	1	calb		—	—		ND
PP 91	13	~~M48305-1~~		op62296	1X		ND MC48305-1
PP 92	14	~~M48305-2~~					ND MC48305-2
PP 93	15	~~M48305-5~~					ND MC48305-5
PP 94	16	~~M48305-7~~		↓			ND MC48305-7
PP 95	17	op62253-bs		op62296		PII	✓
PP 96	18	op62253-mb	↓	↓	↓		ND

10/24/16

10/24/16

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: Kismet Lyn

SGS ACCUTEST-ORLANDO

DATE:	10/21/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330BPL
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2037

ANALYST:	LL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	206

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380397	19	FA37760-1	8330	OP62253	1X		ND
PP 98	20	FA37760-2				PII	✓
PP 99	21	OP62253-MS				PII	✓
PP 380400	22	OP62253-MSD				PII	✓
PP 01	2	CCV2032-1000		LC761	1:1	PII NB OPS2 1st OPS1	RDX TS1
PP 02	1	CCB		—	—		ND
PP 03	23	FA37761-1		OP62253	1X	RDX MPS1 4A MPS1 PII	✓
PP 04	24	FA37761-2				PII	✓
PP 05	25	FA37761-3				RDX MPS1 3,5 MPS1 PII	✓
PP 06	26	FA37761-4				OP	✓
PP 07	27	OP62312-BS		OP62312		PII	✓
PP 08	28	OP62312-MB					ND
PP 09	29	FA37828-5					ND
PP 10	30	OP62312-MS				PII	✓
PP 11	31	OP62312-MSD				PII	✓
PP 12	32	FA37828-6				PII	✓ possible PEAK
PP 13	2	CCV2032-1000		LC761		PII NB OPS2 1st OPS1	RDX TS1
PP 14	1	CCB		—	—		ND
PP 15	33	FA37828-7		OP62312	1X	PII	✓ RM (SX)
PP 16	2	CCV2032-1000		LC761	1:1	PII NB OPS2 1st OPS1	RDX TS1

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: Kimut Lyp

SGS ACCUTEST-ORLANDO

DATE:	10/27/16
COLUMN TYPE:	Ext-C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330 BPlus
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2041

ANALYST:	LL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	235

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380463	1	solvent	8330	—	—		ND
PP 64	2	CC2032-1000		LC776	1:1	PII	let ↑
PP 65	41	op62404-bs		op62404	1X	PII	✓
PP 66	42	op62404-mb				PII	ND
PP 67	43	FA37952-2				PII	ND ✓
PP 68	44	FA37952-1				PII	✓
PP 69	45	op62404-ms				PII	✓
PP 70	46	op62404-msd		↓		PII	✓
PP 71	52	op62405-bs		op62405		PII	✓
PP 72	53	op62405-mb					ND
PP 73	54	MC48305-4					ND
PP 74	55	MC48305-6		↓	↓		ND
PP 75	2	CC2032-1000		LC776	1:1	PII	let ↑
PP 76	1	cib		—	—		ND
PP 77	59	~~LC~~LA26609-4		op62405	1X		ND ✓
PP 78	60	LA26609-3				PII	✓
PP 79	61	LA26609 2		↓	↓	PII 246 MRS1	✓
PP 80	1	solvent		—	—		ND
PP 81	1	solvent		—	—		ND
PP 82	56	MC48305-3	↓	op62405	1X		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: Kismet Lyp

SGS ACCUTEST FA37760 201 of 203

SGS ACCUTEST-ORLANDO

DATE:	10/27/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 BPlus
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2041

ANALYST:	LL
ACETONITRILE LOT #:	3242
MEOH LOT #:	167838
HEAD PRESSURE:	235

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380483	57	op62405-ms	8330	op62405	1X	PII	✓
PP 84	58	op62405-msd	↓	↓	↓	PII	✓
PP 85	2	cc2032-1000		LC776	1:1	PII	let↑
PP 86	1	cb		—	—		ND
PP 87	62	FA37760-2		op62253	1X	PII	✓
PP 88	63	FA37761-1				PII 214 & 220 nm (AMPS)	✓
PP 89	64	FA37761-2				PII	✓
PP 90	65	FA37761-3		↓		PII (AMPS)	✓
PP 91	66	~~FA37788-7~~		op62312	↓	PII	~~N~~ ✓ FA37824-7
PP 92	67	~~FA37788-7~~		↓	1+4	PII	✓ ↓
PP 93	2	cc2032-1000		LC776	1:1	PII	let↑
PP 94	1	cb		—	—		ND
PP 95	47	op62406-16		op62406	1X	PII	✓
PP 96	48	op62406-16					✓↑
PP 97	49	FA37808-1L				PII	ND
PP 98	50	op62406-ms				PII	✓
PP 99	51	op62406-msd		↓	↓	PII	✓
PP 380500	2	cc2032-1000	↓	LC776	1:1	PII	let↑
PP						LL 10/28/16	
PP							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimmet Lyo

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 10/17/16 1400 {mm/dd/yy 24:00}

Date/Time Finished: 10/18/16 0900 {mm/dd/yy 24:00}

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP62253 Ext. By: MB Conc. By: / Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP62253 MB	X	1000	6	N/A	250ul		10ml	
OP62253 BS	X	1000	↓	↓	↓	250+200 25+25ul	↓	
FA37760-1	3	1000	6	↓	↓		↓	
-2	5	1000	↓	↓	↓		↓	
FA37761-1	2	1000	↓	↓	↓		↓	
-2	3	1000	↓	↓	↓		↓	
-3	2	1000	↓	↓	↓		↓	
-4	3	1000	↓	↓	↓		↓	
FA37760-2MS	4	500	6	N/A	250ul	250+200 25+25ul	10ml	
-2MSD	4	500	↓	↓	↓	↓	↓	
DUP								

(Unused rows crossed out: MB 10/18/16)

Comments:

Surr.1 ID: ES6345 Conc: 20 ppm Exp. Date: 11/26/16 Inj. By: MB Ver. By MV

~~Surr.2 ID~~ SPIKED: ES717 Conc: 20 ppm Exp. Date: 03/23/17 Inj. By: MB Ver. By MV

Spk.1 ID: ES624 Conc: 25 ppm Exp. Date: 11/9/16 Inj. By: MB Ver. By MV

Spk.2 ID: 8045C / 80468 Conc: 1000 ug/ml / 100B ug/ml Exp. Date: 09/23/17 / 09/23/17 Inj. By: MB Ver. By MV

Initial Bath Temp (Therm ID): / Observed Temp ℃: / Corr. Temp ℃: /

Exchange Bath/N-Evap Temp (Therm ID): / Observed Temp ℃: / Corr. Temp ℃: /

Methanol Lot #: / SPE Lot #: 5214-006 pH Paper #: 224014

Acetonitrile Lot #: 162332 SPE Lot #: / Reagent #: /

Water Lot#: DI H2O Syringe Filter Lot#: / Solvent #: /

Relinquished By: [signature] Date: 10/18/17

Accepted By: [signature] Date: 10/18/17

NF 02/16 extwater_spe 020116.xls

9.7.1

9

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
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Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 374916

Priority: Standard

Status: Final

Project: #122845 EEA-IN / Radford AAP

Samples Submitted: Two groundwater samples and one matrix spike/matrix spike duplicate

Copies to: None

Collected: 10/11/16 By: Client Received: 10/14/16

REPORT SUMMARY

Two groundwater samples and one matrix spike/matrix spike duplicate were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: The samples submitted for analysis were received unpreserved. EDA was added upon receipt at EEA.

Note: Sample containers were provided by the client.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sipe Reporter

Reviewed By	Title	Date
		11/02/2016
Finalized By	Title	Date

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 374916
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3564898	787265 54MW1	300.0	10/11/16 12:30	Client	10/14/16 10:00
3564899	787283 54MW12	300.0	10/11/16 15:30	Client	10/14/16 10:00

Report Summary

Note: See attached page for additional comments.

PO #122845 EEA-IN / Project: RADFORD AAP

Note: Sample containers were provided by the client. The samples were preserved with EDA upon receipt.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature | Title | 11/02/2016 Date

Client Name: CT Laboratories
Report #: 374916

Client Name: CT Laboratories Report #: 374916

Sampling Point: 787265 54MW1 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	10/19/16 16:16	3564898
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	10/19/16 16:16	3564898

Sampling Point: 787283 54MW12 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	10/19/16 16:54	3564899
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	10/19/16 16:54	3564899

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

307550

CT LABORATORIES
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1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

374916

PURCHASE ORDER # 122845 EEA-IN

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT ***RUSH TURNAROUND NEEDED?*** ***Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
787265	10/11/2016 1230	GROUND WATER	54MW1 Bottle shows time of 1311 SS 10-14-16	CHLORATE/CHLORITE 300.1	3564898
787283	10/11/2016 1530	GROUND WATER	54MW12 Designated MS/MSD S=3564899 MS=3564900 MSD=3564901	CHLORATE/CHLORITE 300.1	

Relinquished by: Brett Szymanski Date/Time: 10/13/2016 14:50

Received by: [signature] Date/Time: 10-14-16 1000 Receipt Temperature (C) 0.6°C wet

COMMENTS:

Will use earliest time given

NO EDA listed SS 10-14-16
EDA added upon receipt per Jim Vernon SS 10-14-16

Client Provided Sample Container

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Eurofins Eaton Analytical
Run Log

Run ID: **221798** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3567547		RW	CQ	10/17/2016 14:56	
IPC	3568676		RW	CQ	10/19/2016 11:05	
LRB	3568678		RW	CQ	10/19/2016 12:22	
LFB	3568679		RW	CQ	10/19/2016 13:00	
FS	3564898	787265 54MW1	GW	CQ	10/19/2016 16:16	
FS	3564899	787283 54MW12	GW	CQ	10/19/2016 16:54	
MS	3564900	787283 54MW12	GW	CQ	10/19/2016 17:32	
MSD	3564901	787283 54MW12	GW	CQ	10/19/2016 18:10	
IPC	3568680		RW	CQ	10/19/2016 21:20	
CCB	3568681		RW	CQ	10/19/2016 21:58	
CCB	3568683		RW	CQ	10/20/2016 06:51	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/17/2016 14:56	3567547
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/17/2016 14:56	3567547
IPC	Chlorate	300.0	10	---		248.4290	250	ug/L	99	90 - 110	---	---	1.0	---	10/19/2016 11:05	3568676
IPC	Chlorite	300.0	10	---		250.5150	250	ug/L	100	90 - 110	---	---	1.0	---	10/19/2016 11:05	3568676
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 12:22	3568678
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 12:22	3568678
LFB	Chlorate	300.0	10	---		247.3740	250	ug/L	99	90 - 110	---	---	1.0	---	10/19/2016 13:00	3568679
LFB	Chlorite	300.0	10	---		251.5030	250	ug/L	101	90 - 110	---	---	1.0	---	10/19/2016 13:00	3568679
FS	Chlorate	300.0	10	787265 54MW1	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 16:16	3564898
FS	Chlorite	300.0	10	787265 54MW1	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 16:16	3564898
FS	Chlorate	300.0	10	787283 54MW12	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 16:54	3564899
FS	Chlorite	300.0	10	787283 54MW12	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 16:54	3564899
MS	Chlorate	300.0	10	787283 54MW12		225.4740	250	ug/L	90	90 - 110	---	---	1.0	---	10/19/2016 17:32	3564900
MS	Chlorite	300.0	10	787283 54MW12		230.0220	250	ug/L	92	90 - 110	---	---	1.0	---	10/19/2016 17:32	3564900
MSD	Chlorate	300.0	10	787283 54MW12		232.6210	250	ug/L	93	90 - 110	3.1	10	1.0	---	10/19/2016 18:10	3564901
MSD	Chlorite	300.0	10	787283 54MW12		236.3000	250	ug/L	95	90 - 110	2.7	10	1.0	---	10/19/2016 18:10	3564901
IPC	Chlorate	300.0	10	---		248.2490	250	ug/L	99	90 - 110	---	---	1.0	---	10/19/2016 21:20	3568680
IPC	Chlorite	300.0	10	---		252.3420	250	ug/L	101	90 - 110	---	---	1.0	---	10/19/2016 21:20	3568680
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 21:58	3568681
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 21:58	3568681
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/20/2016 06:51	3568683
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/20/2016 06:51	3568683

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 221798 **Instrument#** CQ

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	148201	8/19/2015	8/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-49b(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-49b(4-6)

Analyst: S. Lovick **Prep Date:** 10/5/2016 **Exp. Date:** 11/5/2016

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	4		10	10
2	20	8		10	10
3	100	40		10	10
4	250	100		10	10
5	500	200		10	10
QCS	250		100	10	10

Analyst: S. Lovick **Prep Date:** 10/17/2016 **Exp. Date:** 10/24/2016

LFB	250	100		10	10

Analyst: S. Lovick **Prep Date:** 10/19/2016 **Exp. Date:** 10/24/2016

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL	Prep ID	IOC47-47b

Analyst: S. Lovick **Prep Date:** 10/4/2016 **Exp. Date:** 11/4/2016

Comments: Dionex IonPac AS19-HC 4mm s/n 160728218 lot#01531178 installed 09/09/2016
EGCIII-Eluent Cartridge s/n 160323012017 installed 05/27/2016

Analyst: [signature] **Date:** OCT 20 2016

Technician Review: (signature) **Date:** 10/20/2016

Summary

Sequence Details		
Name:	**101916A**	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2016**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**20/Oct/16 07:23:45**
No. of Injections:	**38**	**us25_usr_sbnlabpcs**

By Component	Chlorite

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount PPM CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount PPM CD_1 Bromide
1	\ICB\RW\1\	10/17/16 14:56	n.a.	n.a.	0.000	2.935	0.000	1.788
2	\ICS\RW\1\10	10/17/16 15:34	0.011	11.000	0.009	11.175	0.010	11.015
3	\ICS\RW\1\20	10/17/16 16:12	0.023	20.192	0.018	19.960	0.020	19.584
4	\ICS\RW\1\100	10/17/16 16:50	0.123	97.109	0.099	95.065	0.108	97.103
5	\ICS\RW\1\250	10/17/16 17:28	0.324	252.297	0.264	249.799	0.282	249.869
6	\ICS\RW\1\500	10/17/16 18:06	0.645	499.402	0.534	501.066	0.567	500.641
7	\IPC\RW\1\250	10/19/16 11:05	0.322	250.515	0.263	248.429	0.281	249.562
8	\RLC\RW\1\10	10/19/16 11:43	0.011	10.966	0.009	11.138	0.010	10.672
9	\LRB\RW\1\	10/19/16 12:22	0.000	2.210	0.000	2.995	0.000	1.871
10	\LFB\RW\1\250	10/19/16 13:00	0.323	251.503	0.262	247.374	0.279	247.319
11	3564894\FS\GW\1\	10/19/16 13:44	n.a.	n.a.	0.000	3.110	0.030	28.510
12	3564895\FS\GW\1\	10/19/16 14:22	n.a.	n.a.	0.000	3.205	0.030	28.326
13	3564896\FS\GW\1\	10/19/16 15:00	n.a.	n.a.	0.000	3.030	0.035	32.770
14	3564897\FS\GW\1\	10/19/16 15:38	0.001	3.082	0.000	2.930	0.026	24.911
15	3564898\FS\GW\1\	10/19/16 16:16	0.000	2.177	0.000	2.977	0.019	18.079
16	3564899\FS\GW\1\	10/19/16 16:54	n.a.	n.a.	n.a.	n.a.	0.022	21.452
17	3564900\MS\GW\1\250	10/19/16 17:32	0.295	230.022	0.238	225.474	0.290	256.702
18	3564901\MSD\GW\1\250	10/19/16 18:10	0.304	236.300	0.246	232.621	0.295	261.551
19	3565158\FS\DW\1\	10/19/16 18:48	1.183	914.999 X	0.508	476.862	0.016	15.921
20	3565159\FS\DW\1\	10/19/16 19:26	1.070	827.923 X	0.548	514.731 X	0.008	9.141
21	3565160\FS\DW\1\	10/19/16 20:04	0.848	656.513 X	0.654	613.350 X	0.003	4.790
22	3565802\FS\DW\1\	10/19/16 20:42	0.001	3.093	0.165	157.410	0.023	22.277
23	\IPC\RW\1\250	10/19/16 21:20	0.324	252.342	0.263	248.249	0.281	249.191
24	\CCB\RW\1\	10/19/16 21:58	0.000	2.217	0.000	2.954	0.000	1.794
25	3565803\FS\DW\1\	10/19/16 22:36	0.002	3.767	0.169	160.514	0.021	20.686
26	3565803\MS\DW\1\250	10/19/16 23:14	0.319	248.166	0.440	413.379	0.301	266.858
27	3565803\MSD\DW\1\250	10/19/16 23:52	0.326	253.782	0.446	419.484	0.308	272.716
28	3566378\FS\DW\1\	10/20/16 00:30	0.353	274.522	0.171	162.158	0.014	13.802
29	3566379\FS\DW\1\	10/20/16 01:08	0.261	203.460	0.206	195.134	0.008	8.747
30	3566380\FS\DW\1\	10/20/16 01:47	0.219	171.173	0.247	233.597	0.006	7.395
31	3566620\FS\DW\1\	10/20/16 02:25	0.001	2.753	0.529	496.405	0.014	14.146
32	3566621\FS\DW\1\	10/20/16 03:03	0.066	53.173	0.630	591.415 X	0.018	17.867
33	3566622\FS\DW\1\	10/20/16 03:41	0.049	40.036	0.627	588.213 X	0.019	18.674
34	3566629\FS\DW\1\	10/20/16 04:19	0.021	18.191	0.037	37.415	0.025	23.976
35	3566630\FS\DW\1\	10/20/16 04:57	0.015	13.613	0.039	39.131	0.019	18.515
36	3566631\FS\DW\1\	10/20/16 05:35	0.010	9.698	0.037	37.693	0.021	20.472
37	\IPC\RW\1\250	10/20/16 06:13	0.322	250.247	0.262	247.774	0.281	249.043
38	\CCB\RW\1\	10/20/16 06:51	n.a.	n.a.	0.000	2.980	n.a.	n.a.

X= over Cal Range
SL 10/20/16

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0010 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	1.00 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
7.740 [min]	Inhibit Integration	Off	Any	All Channels
8.700 [min]	Inhibit Integration	On	Any	All Channels
15.700 [min]	Inhibit Integration	Off	Any	All Channels
18.600 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	8.130	7.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	16.430	5.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	17.765	5.000 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Group**
Curve Fitting	**Normal**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Missing Peak	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G2	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G3	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G4	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G5	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G6	250.0 [µl]		AS19 4mm	AS19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	10/17/2016 2:56:54 PM		E3BA5E6B-A10E-47C6-	0	0.00
Finished	10/17/2016 3:24:55 PM		CB7FE863-C760-4EE7-	0	0.00
Finished	10/17/2016 4:12:55 PM		40755F76-3F78-4B70-BBE6-	0	0.00
Finished	10/17/2016 4:50:56 PM		47389630-7DBA-44EE-86CB-	0	0.00
Finished	10/17/2016 5:28:58 PM		D6061256-EEE4-42BE-A8BB-	0	0.00
Finished	10/17/2016 6:06:58 PM		8283E07E-546F-42E8-8E88-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**AS19 4mm**
Comment	
Description	**Instrument: ICS2000** **Creation Time: 1/14/2015 12:24:40 PM** **Created by EurofinsEatonAnaly**
Run time	**32.500 [min]**
Instrument	**CQ on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_2	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	3.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		Pump_ECD.Pressure.UpperLimit	3000 [psi]	
		Pump_ECD.%A.Equate	"DI Water"	
		Pump_ECD.Pressure.LowerLimit	200 [psi]	
		Pump_ECD.ColumnTemperature.Nominal	30.0 [°C]	
		Pump_ECD.CellTemperature.Nominal	35.0 [°C]	
		Pump_ECD.Data_Collection_Rate	5.0 [Hz]	
		Pump_ECD.Suppressor_Type	AERS_4mm	
		Pump_ECD.Suppressor_Carbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Bicarbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Hydroxide	30.0 [mM]	
		Pump_ECD.Suppressor_Tetraborate	0.0 [mM]	
		Pump_ECD.Suppressor_OtherEluent	0.0 [mN]	
		Pump_ECD.Suppressor_RecommendedCurrent	75 [mA]	
		Pump_ECD.CR_TC	On	
		Sampler.PunctureOffset	0 [mm]	
		Sampler.InjectWash	BeforeInj	
		Pump_ECD.Flow	1.00	
		Pump_ECD.Suppressor_Current	75 [mA]	
		Pump_ECD.EluentGenerator.Curve	5	

		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_ECD.Channel_Pressure.AcqOn	
		Pump_ECD.Autozero	
		Pump_ECD.ECD_1.AcqOn	
		Pump_ECD.ECD_Total.AcqOn	
Run			Duration = 32.500 [min]
	0.000		
	17.500		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
	23.500		
		Pump_ECD.EluentGenerator.Concentration	40.00 [mM]
		Pump_ECD.EluentGenerator.Curve	6
	24.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	2
Stop Run			
	32.500		
		Pump_ECD.Channel_Pressure.AcqOff	
		Pump_ECD.ECD_1.AcqOff	
		Pump_ECD.ECD_Total.AcqOff	
End			

Sequence Overview

Sequence Details

Name:	**101916A**	*Created On:*	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2016**	*Created By:*	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**20/Oct/16 07:23:45**
No. of Injections:	**38**	*Updated By:*	**us25_usr_sbnlabpcs**

Injection Details

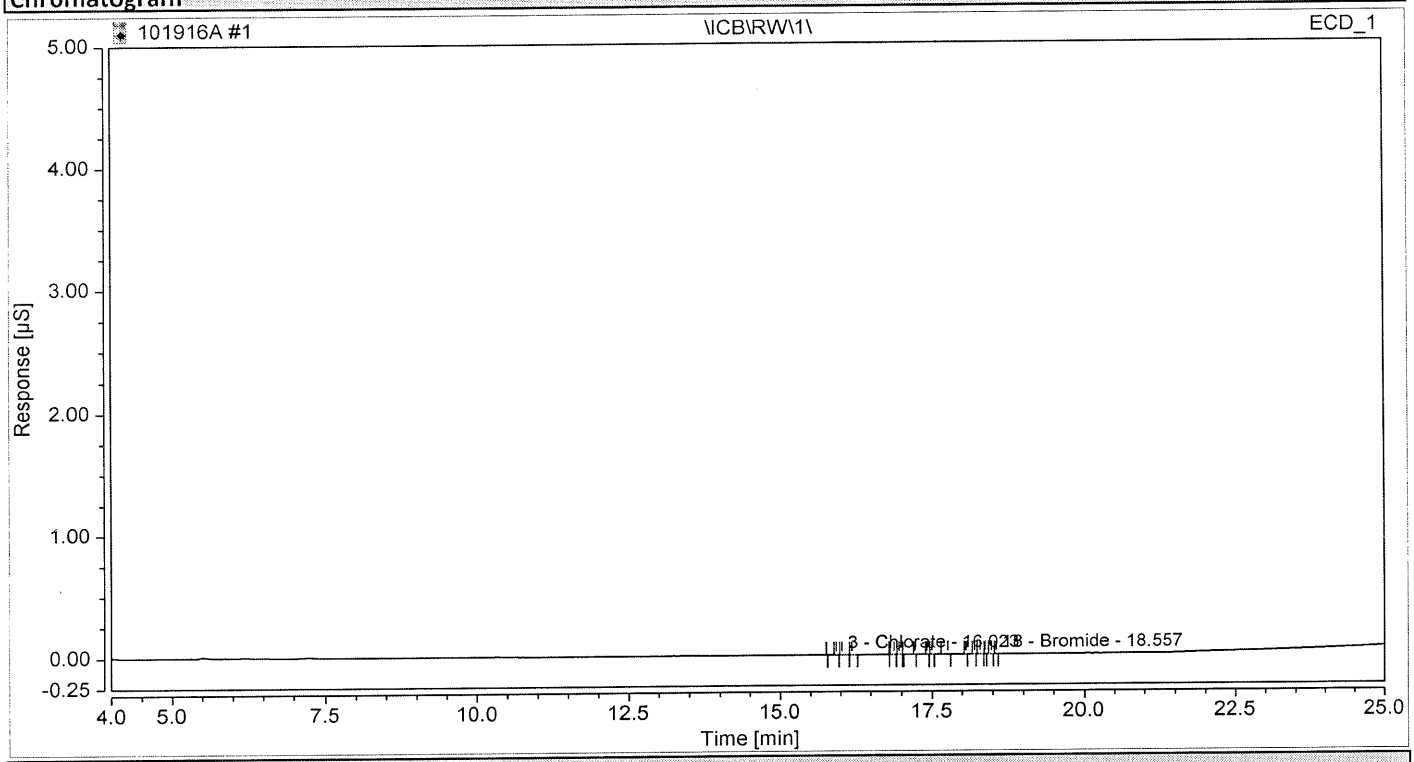
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	\ICB\RW\1\	G1	Calibration Standard	01	17/Oct/16 14:56:54	Finished
2	\ICS\RW\1\10	G2	Calibration Standard	02	17/Oct/16 15:34:55	Finished
3	\ICS\RW\1\20	G3	Calibration Standard	03	17/Oct/16 16:12:55	Finished
4	\ICS\RW\1\100	G4	Calibration Standard	04	17/Oct/16 16:50:56	Finished
5	\ICS\RW\1\250	G5	Calibration Standard	05	17/Oct/16 17:28:58	Finished
6	\ICS\RW\1\500	G6	Calibration Standard	06	17/Oct/16 18:06:58	Finished
7	\IPC\RW\1\250	G5	Unknown		19/Oct/16 11:05:58	Finished
8	\RLC\RW\1\10	GA1	Unknown		19/Oct/16 11:43:59	Finished
9	\LRB\RW\1\	GA2	Unknown		19/Oct/16 12:22:14	Finished
10	\LFB\RW\1\250	GA3	Unknown		19/Oct/16 13:00:15	Finished
11	3564894\FS\GW\1\	GA4	Unknown		19/Oct/16 13:44:24	Finished
12	3564895\FS\GW\1\	GA5	Unknown		19/Oct/16 14:22:29	Finished
13	3564896\FS\GW\1\	GA6	Unknown		19/Oct/16 15:00:33	Finished
14	3564897\FS\GW\1\	GA7	Unknown		19/Oct/16 15:38:37	Finished
15	3564898\FS\GW\1\	GA8	Unknown		19/Oct/16 16:16:39	Finished
16	3564899\FS\GW\1\	GB1	Unknown		19/Oct/16 16:54:40	Finished
17	3564900\MS\GW\1\25	GB2	Unknown		19/Oct/16 17:32:45	Finished
18	3564901\MSD\GW\1\	GB3	Unknown		19/Oct/16 18:10:45	Finished
19	3565158\FS\DW\1\	GB4	Unknown		19/Oct/16 18:48:46	Finished
20	3565159\FS\DW\1\	GB5	Unknown		19/Oct/16 19:26:49	Finished
21	3565160\FS\DW\1\	GB6	Unknown		19/Oct/16 20:04:51	Finished
22	3565802\FS\DW\1\	GB7	Unknown		19/Oct/16 20:42:52	Finished
23	\IPC\RW\1\250	G5	Unknown		19/Oct/16 21:20:53	Finished
24	\CCB\RW\1\	G1	Unknown		19/Oct/16 21:58:53	Finished
25	3565803\FS\DW\1\	GB8	Unknown		19/Oct/16 22:36:55	Finished
26	3565803\MS\DW\1\25	GC1	Unknown		19/Oct/16 23:14:56	Finished
27	3565803\MSD\DW\1\	GC2	Unknown		19/Oct/16 23:52:56	Finished
28	3566378\FS\DW\1\	GC3	Unknown		20/Oct/16 00:30:57	Finished
29	3566379\FS\DW\1\	GC4	Unknown		20/Oct/16 01:08:59	Finished
30	3566380\FS\DW\1\	GC5	Unknown		20/Oct/16 01:47:00	Finished
31	3566620\FS\DW\1\	GC6	Unknown		20/Oct/16 02:25:02	Finished
32	3566621\FS\DW\1\	GC7	Unknown		20/Oct/16 03:03:04	Finished
33	3566622\FS\DW\1\	GC8	Unknown		20/Oct/16 03:41:05	Finished
34	3566629\FS\DW\1\	GD1	Unknown		20/Oct/16 04:19:07	Finished
35	3566630\FS\DW\1\	GD2	Unknown		20/Oct/16 04:57:09	Finished
36	3566631\FS\DW\1\	GD3	Unknown		20/Oct/16 05:35:10	Finished
37	\IPC\RW\1\250	G5	Unknown		20/Oct/16 06:13:10	Finished
38	\CCB\RW\1\	G1	Unknown		20/Oct/16 06:51:10	Finished

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 14:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

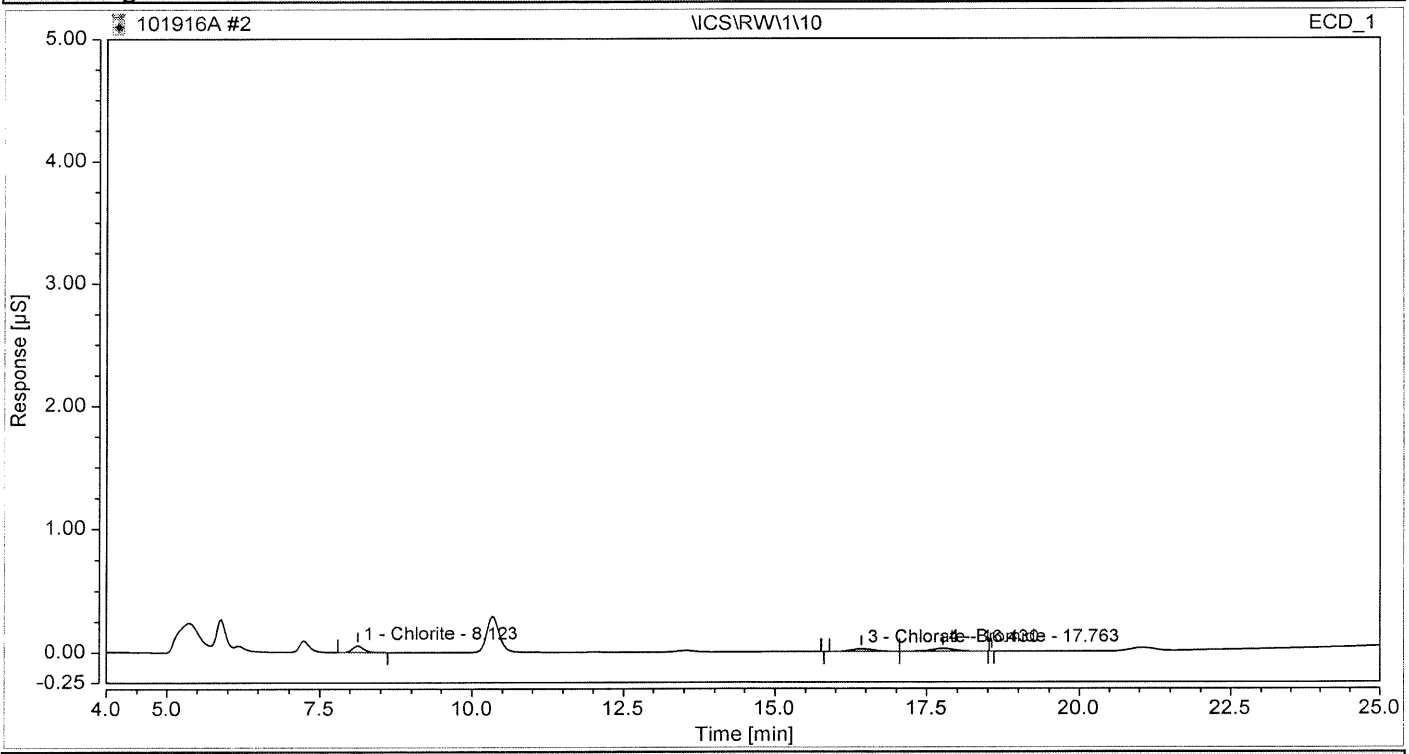
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
3	Chlorate	16.023	0.000	0.000	12.47	7.35	2.9354
18	Bromide	18.557	0.000	0.000	3.46	6.40	1.7882
Total:			**0.000**	**0.000**	**15.93**	**13.75**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**32.50**
Vial Number:	**G2**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 15:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

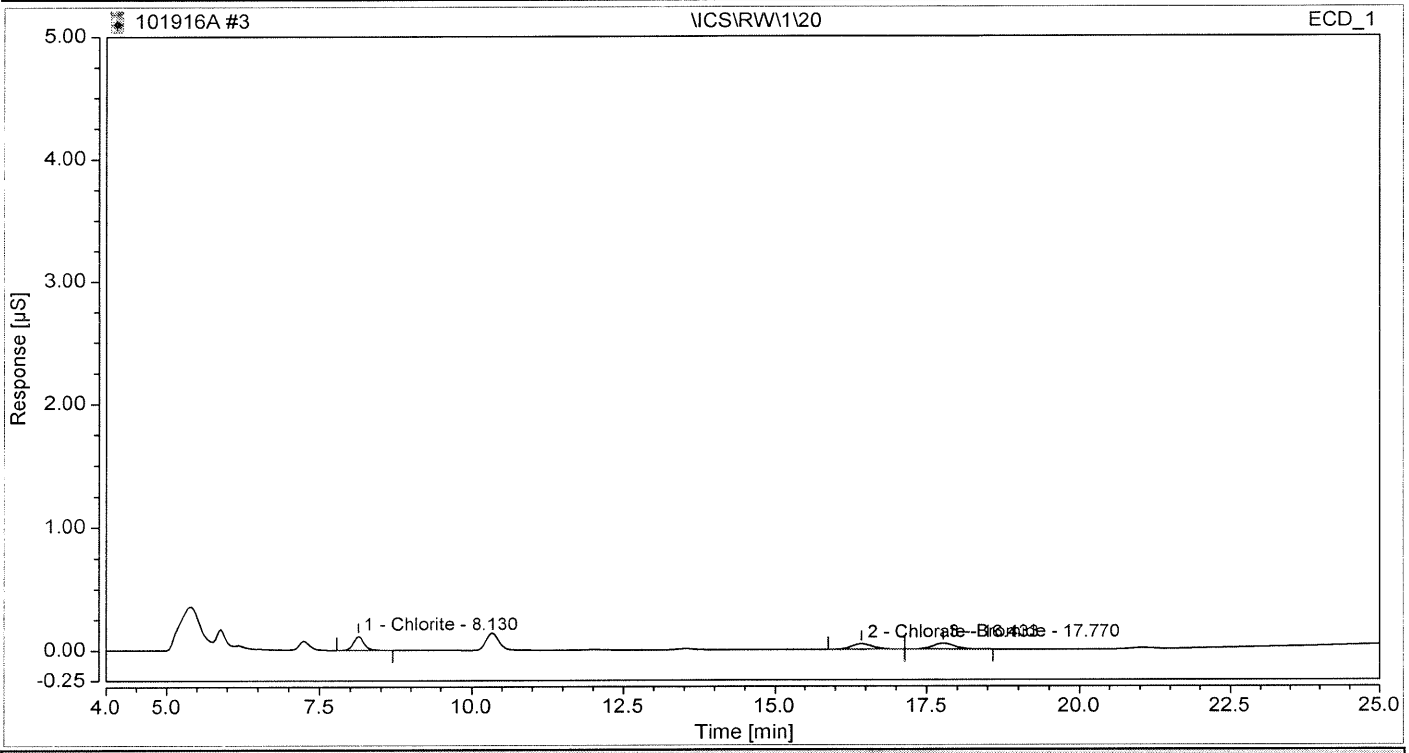
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.123	0.011	0.055	37.26	53.87	10.9998
3	Chlorate	16.430	0.009	0.022	28.69	22.05	11.1746
4	Bromide	17.763	0.010	0.024	34.04	24.00	11.0148
Total:			**0.031**	**0.101**	**99.99**	**99.92**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**32.50**
Vial Number:	**G3**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 16:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

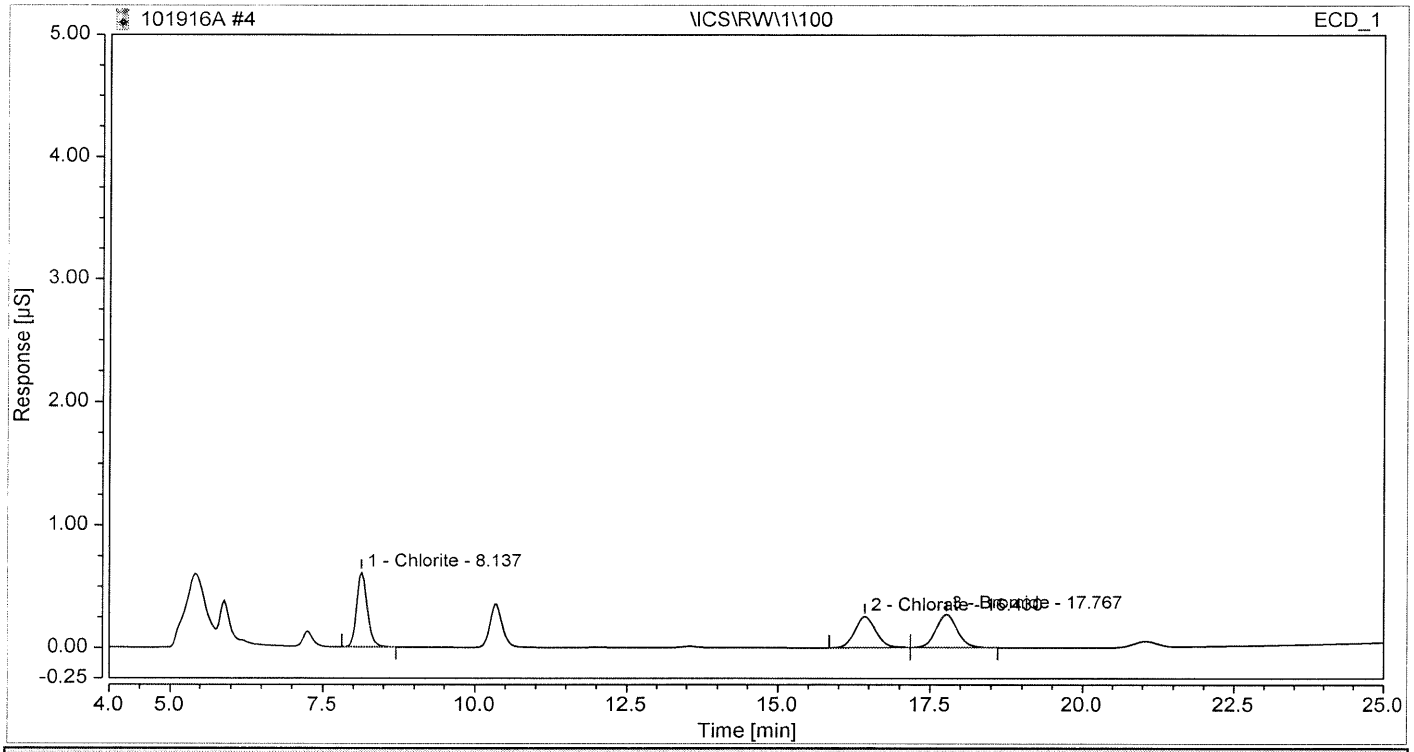
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.130	0.023	0.114	37.81	54.49	20.1919
2	Chlorate	16.433	0.018	0.046	29.50	22.11	19.9605
3	Bromide	17.770	0.020	0.049	32.68	23.40	19.5837
Total:			**0.062**	**0.209**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**32.50**
Vial Number:	**G4**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 16:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

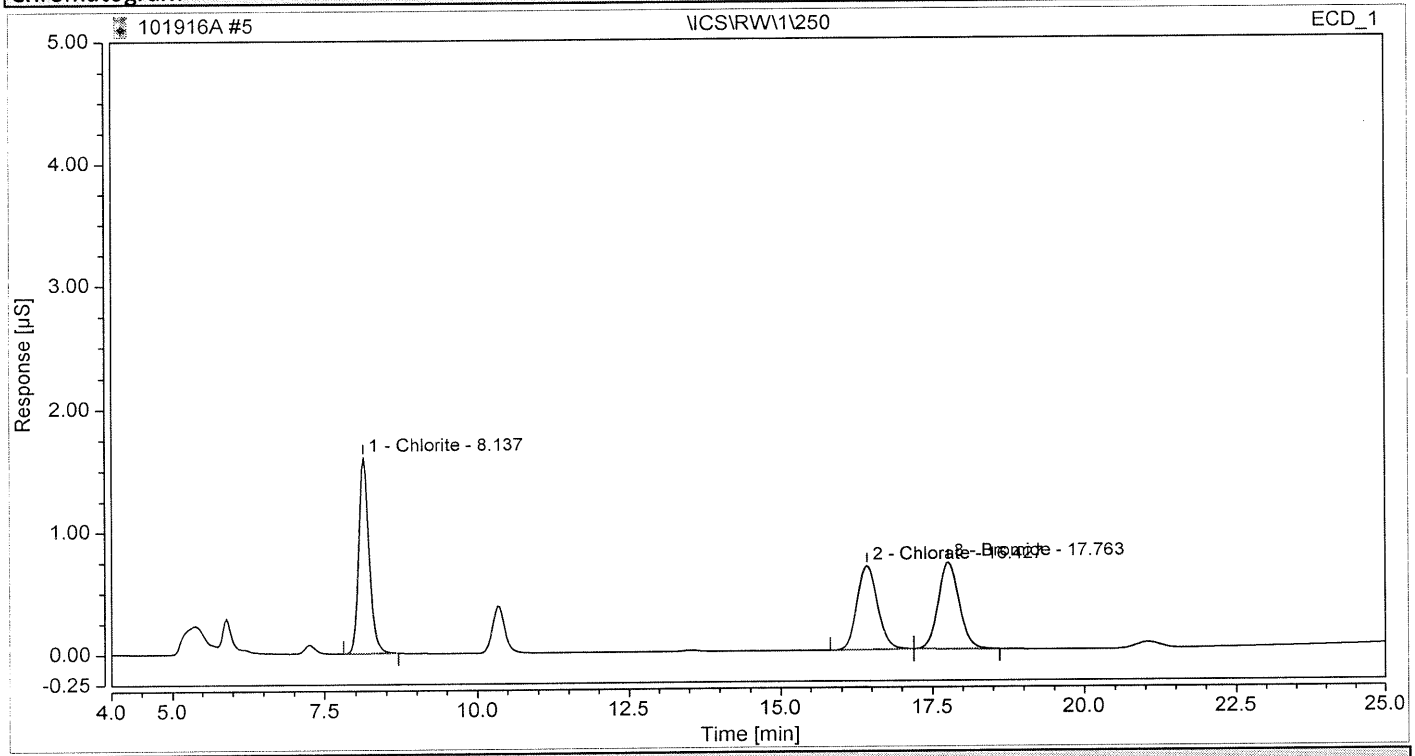
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.137	0.123	0.610	37.29	53.78	97.1090
2	Chlorate	16.430	0.099	0.254	29.91	22.42	95.0652
3	Bromide	17.767	0.108	0.270	32.80	23.80	97.1030
Total:			**0.330**	**1.133**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 17:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

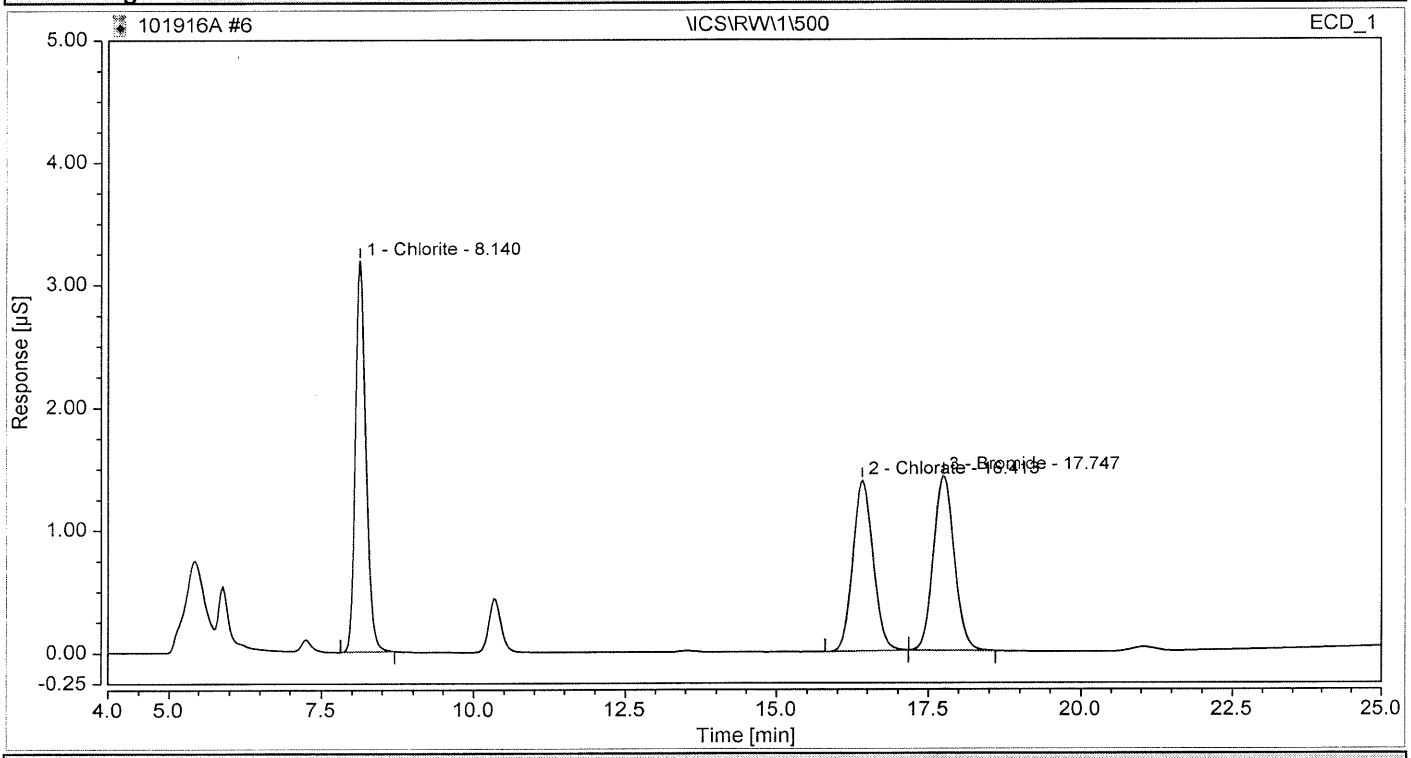
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.137	0.324	1.602	37.25	53.50	252.2974
2	Chlorate	16.427	0.264	0.685	30.38	22.89	249.7986
3	Bromide	17.763	0.282	0.707	32.37	23.61	249.8690
Total:			**0.870**	**2.993**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**32.50**
Vial Number:	**G6**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 18:06**	*Sample Weight:*	**1.0000**

Chromatogram



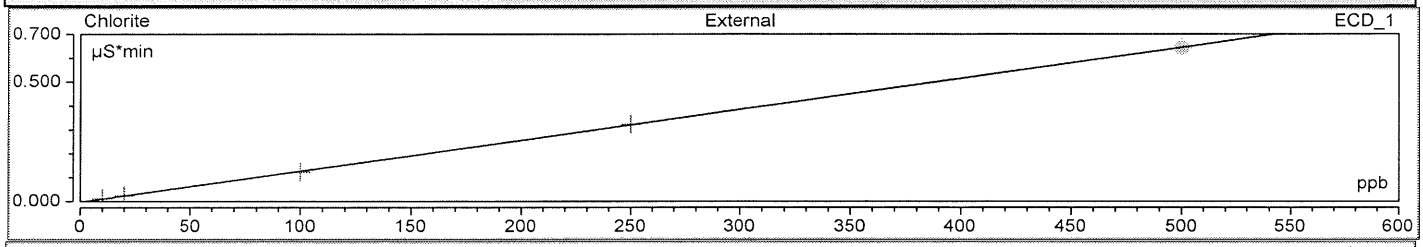
Integration Results

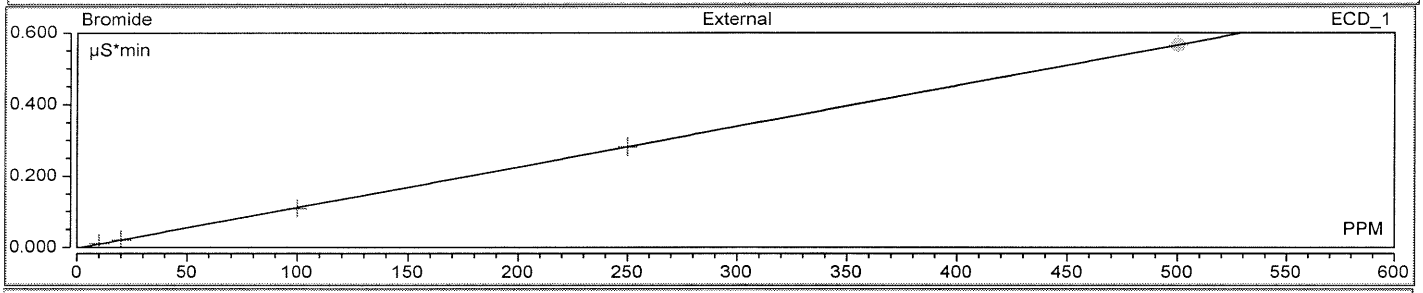
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.140	0.645	3.185	36.94	53.06	499.4018
2	Chlorate	16.413	0.534	1.392	30.58	23.19	501.0657
3	Bromide	17.747	0.567	1.425	32.47	23.75	500.6413
Total:			**1.745**	**6.001**	**100.00**	**100.00**	

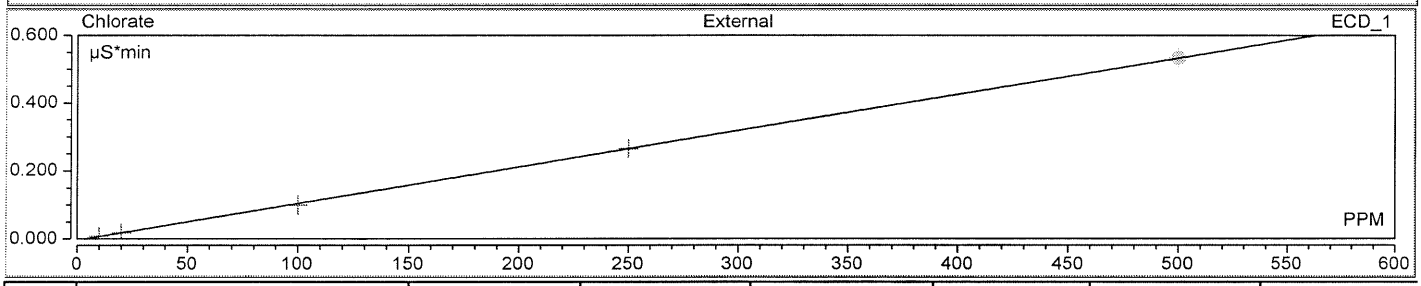
Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	-0.0028
Evaluation Type	Area	*Slope (C1)*	0.0013
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9999

Calibration Plot **Chlorite**







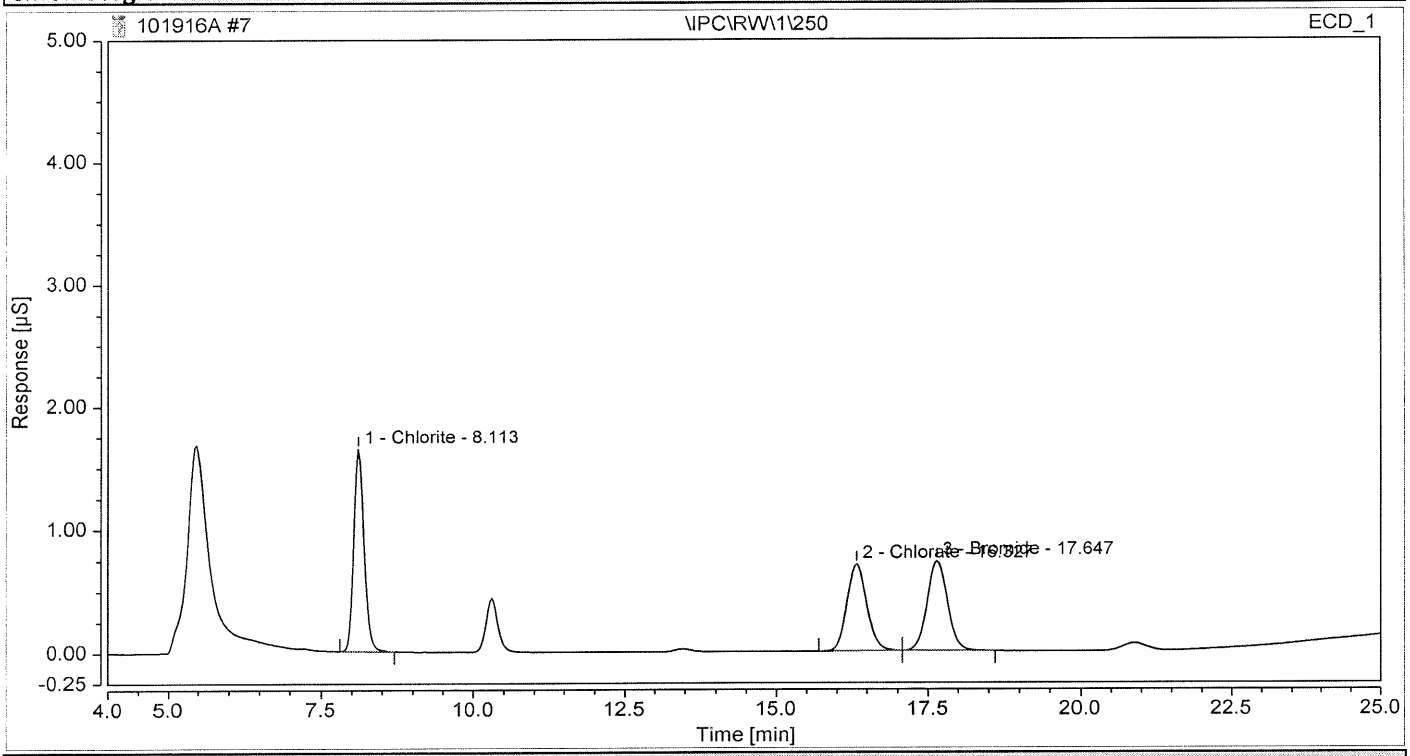
No.	Peak Name	Corr.Coeff. %	Slope	Offset	Weights	Cal. Type	Response Factor
1	Chlorite	99.996	771.44	-0.003	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.991	933.48	-0.003	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.997	880.48	-0.002	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 11:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

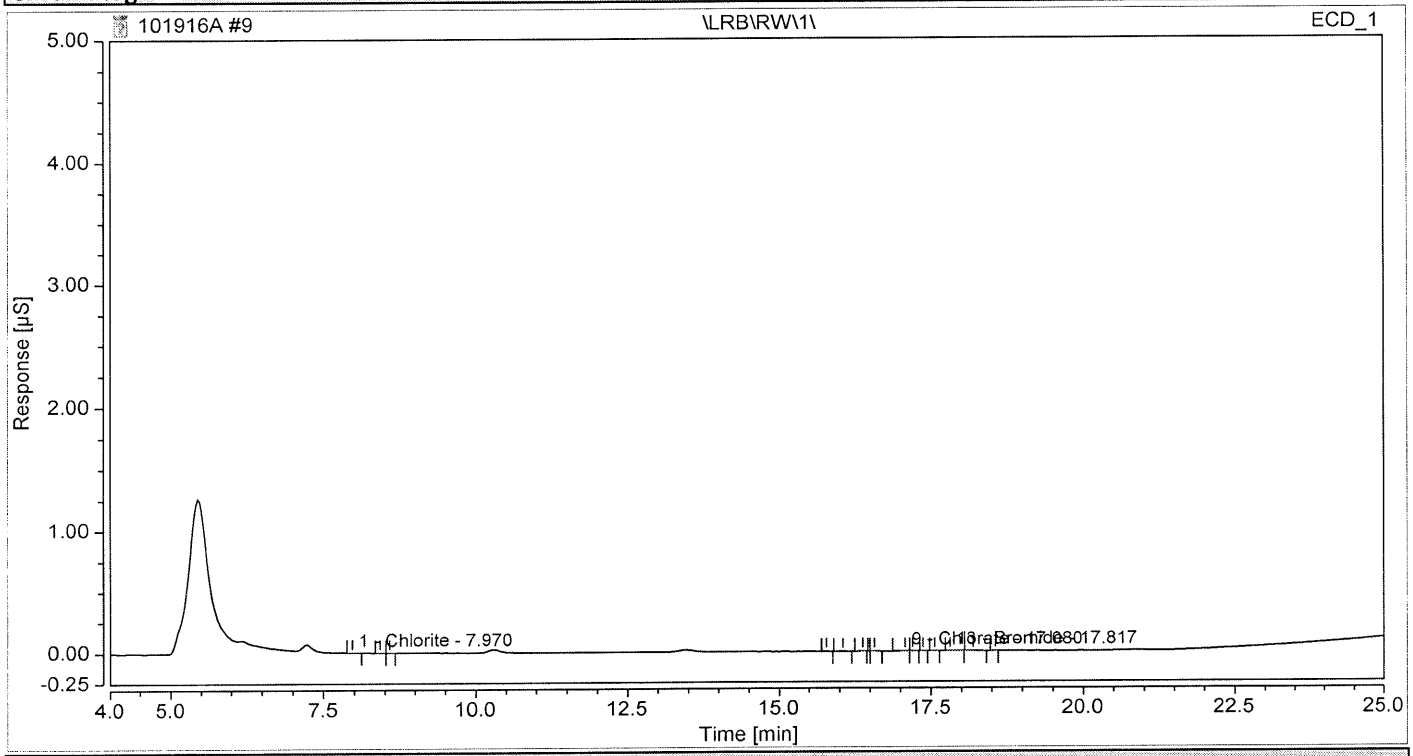
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.113	0.322	1.638	37.16	53.46	250.5148
2	Chlorate	16.327	0.263	0.701	30.36	22.89	248.4292
3	Bromide	17.647	0.281	0.725	32.48	23.65	249.5623
Total:			**0.866**	**3.064**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

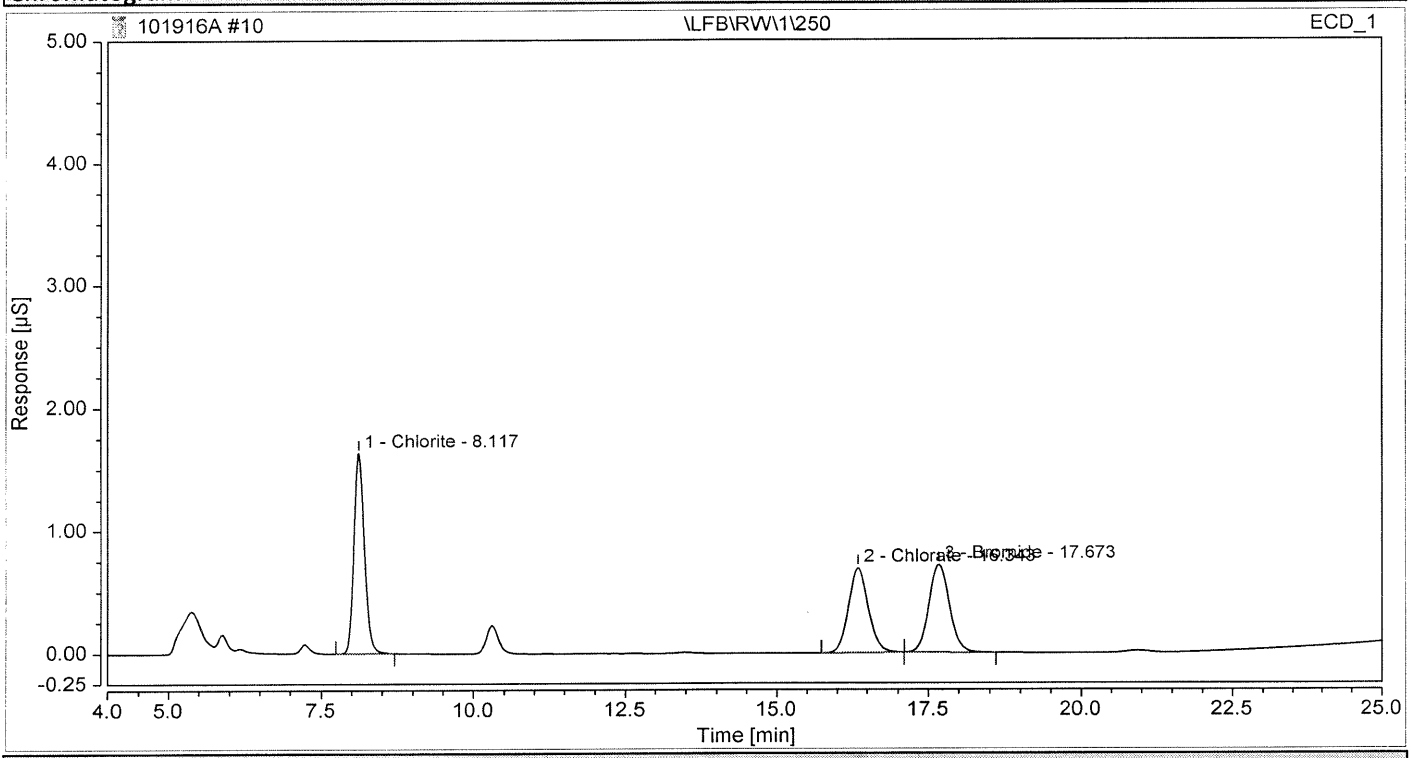
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.970	0.000	0.001	9.76	9.98	2.2102
9	Chlorate	17.080	0.000	0.000	9.10	6.00	2.9949
13	Bromide	17.817	0.000	0.001	12.27	10.32	1.8711
Total:			**0.000**	**0.002**	**31.13**	**26.29**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**GA3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

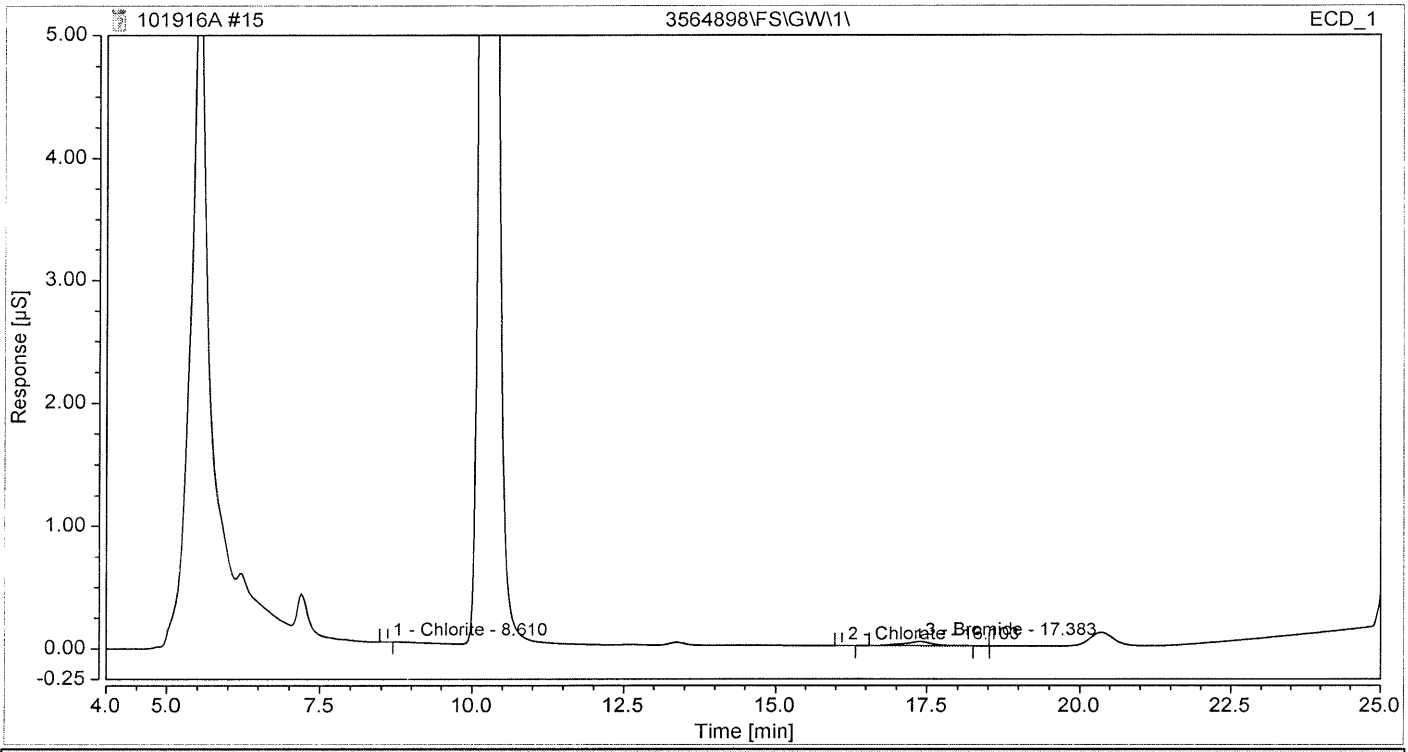
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.117	0.323	1.634	37.41	53.76	251.5034
2	Chlorate	16.343	0.262	0.691	30.31	22.74	247.3735
3	Bromide	17.673	0.279	0.714	32.28	23.50	247.3187
Total:			**0.864**	**3.039**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564898\FS\GW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA8**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 16:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

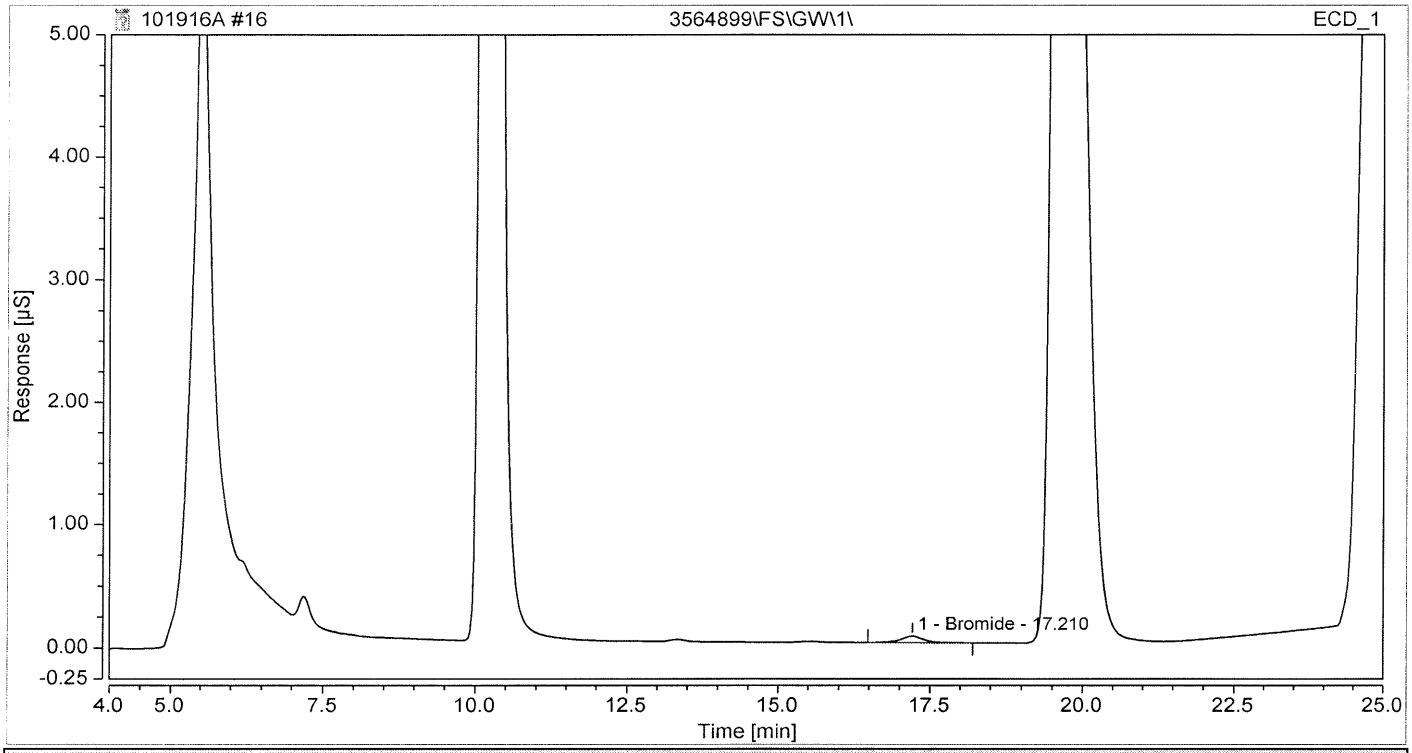
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.610	0.000	0.000	0.18	0.83	2.1767
2	Chlorate	16.103	0.000	0.000	0.28	0.76	2.9768
3	Bromide	17.383	0.019	0.035	99.54	98.41	18.0791
Total:			**0.019**	**0.036**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564899\FS\GW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GB1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 16:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

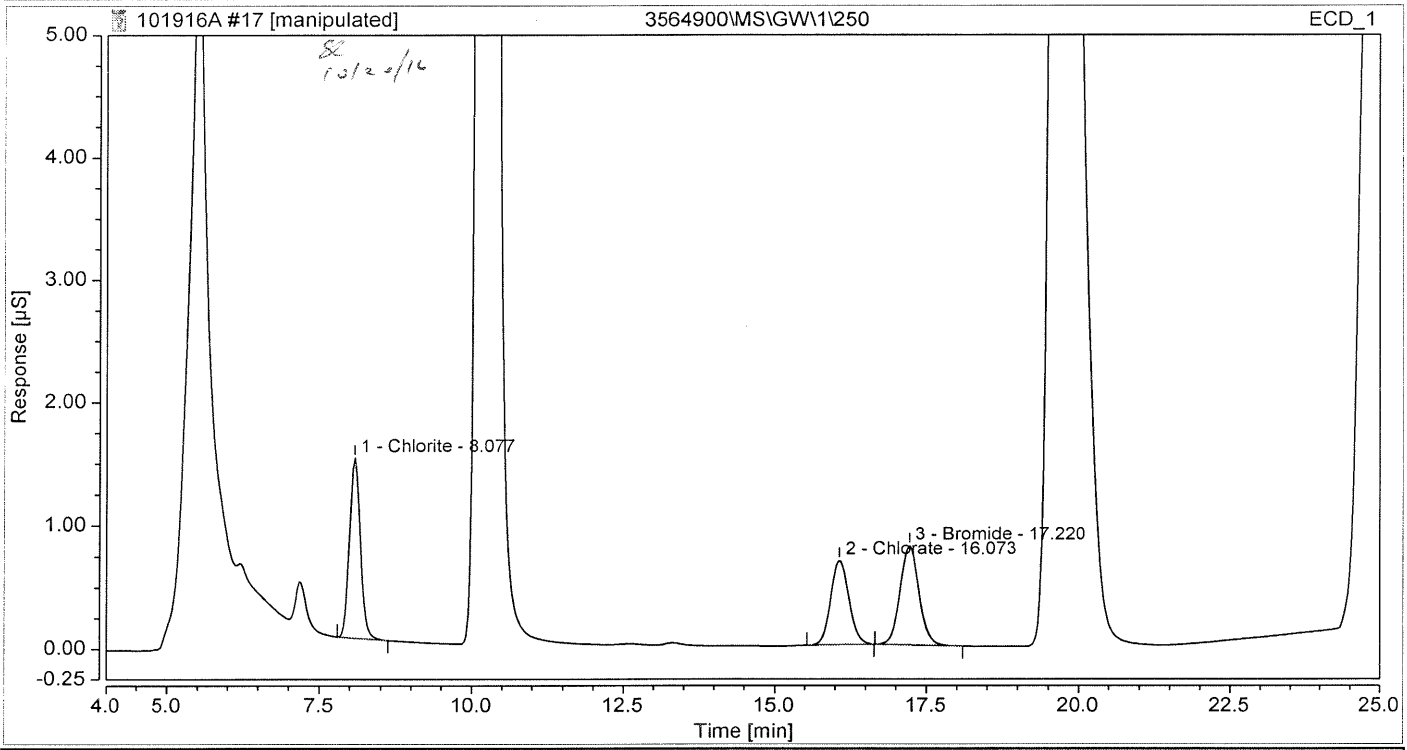
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	17.210	0.022	0.053	100.00	100.00	21.4517
Total:			**0.022**	**0.053**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564900\MS\GW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**GB2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 17:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

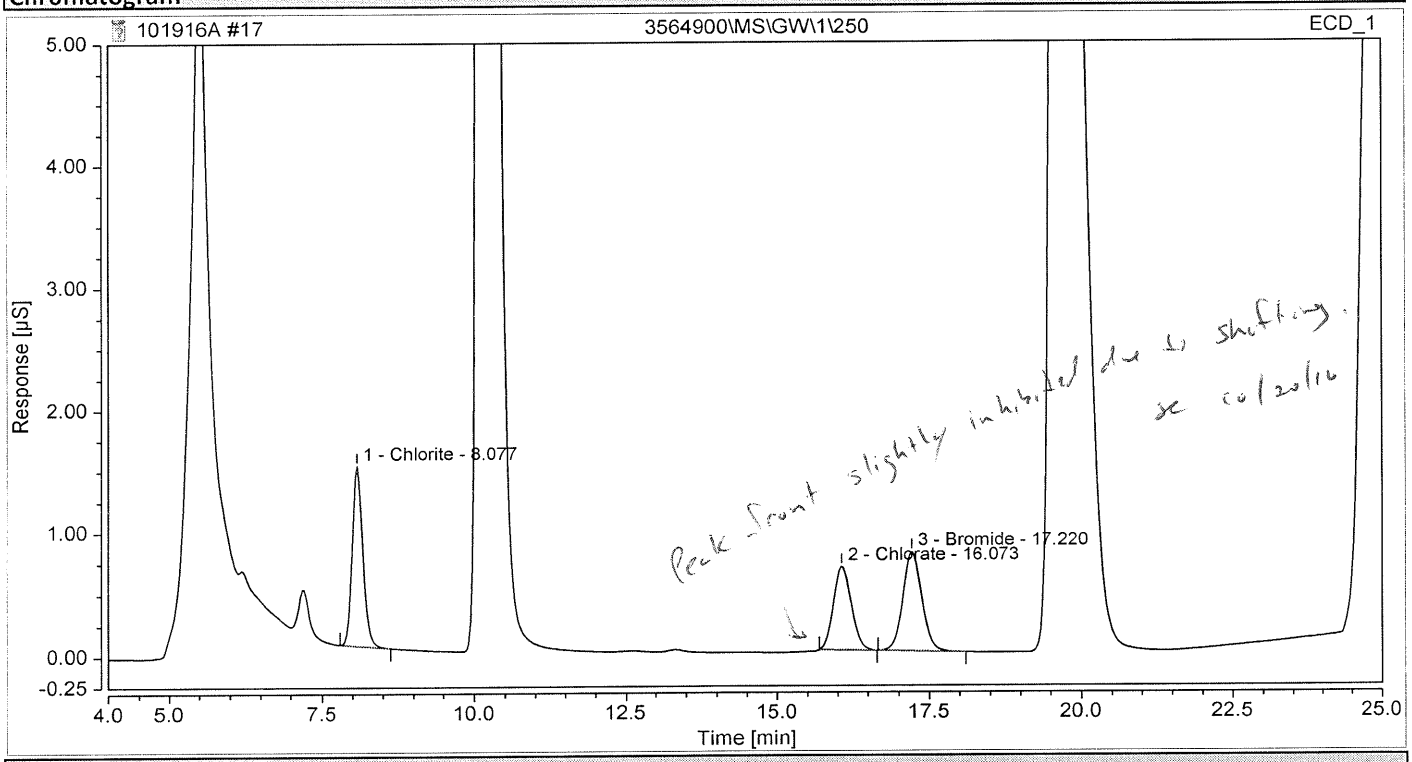
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.077	0.295	1.459	35.88	49.55	230.0215
2	Chlorate	16.073	0.238	0.683	28.96	23.20	225.4737
3	Bromide	17.220	0.290	0.803	35.17	27.26	256.7017
Total:			**0.823**	**2.944**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564900\MS\GW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**GB2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 17:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

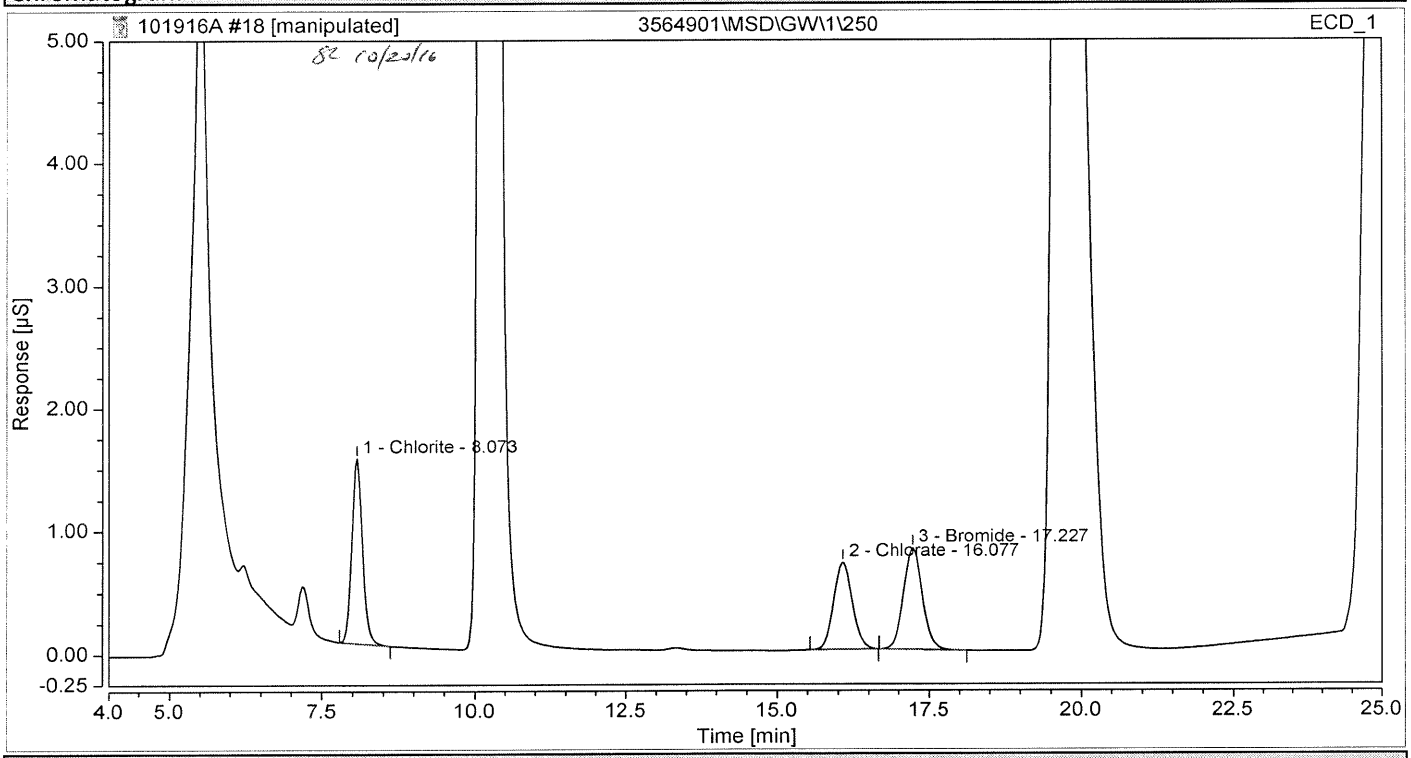
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.077	0.295	1.459	36.15	49.67	230.0215
2	Chlorate	16.073	0.232	0.676	28.41	23.00	219.6062
3	Bromide	17.220	0.290	0.803	35.44	27.33	256.7017
Total:			**0.817**	**2.937**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564901\MSD\GW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**GB3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 18:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

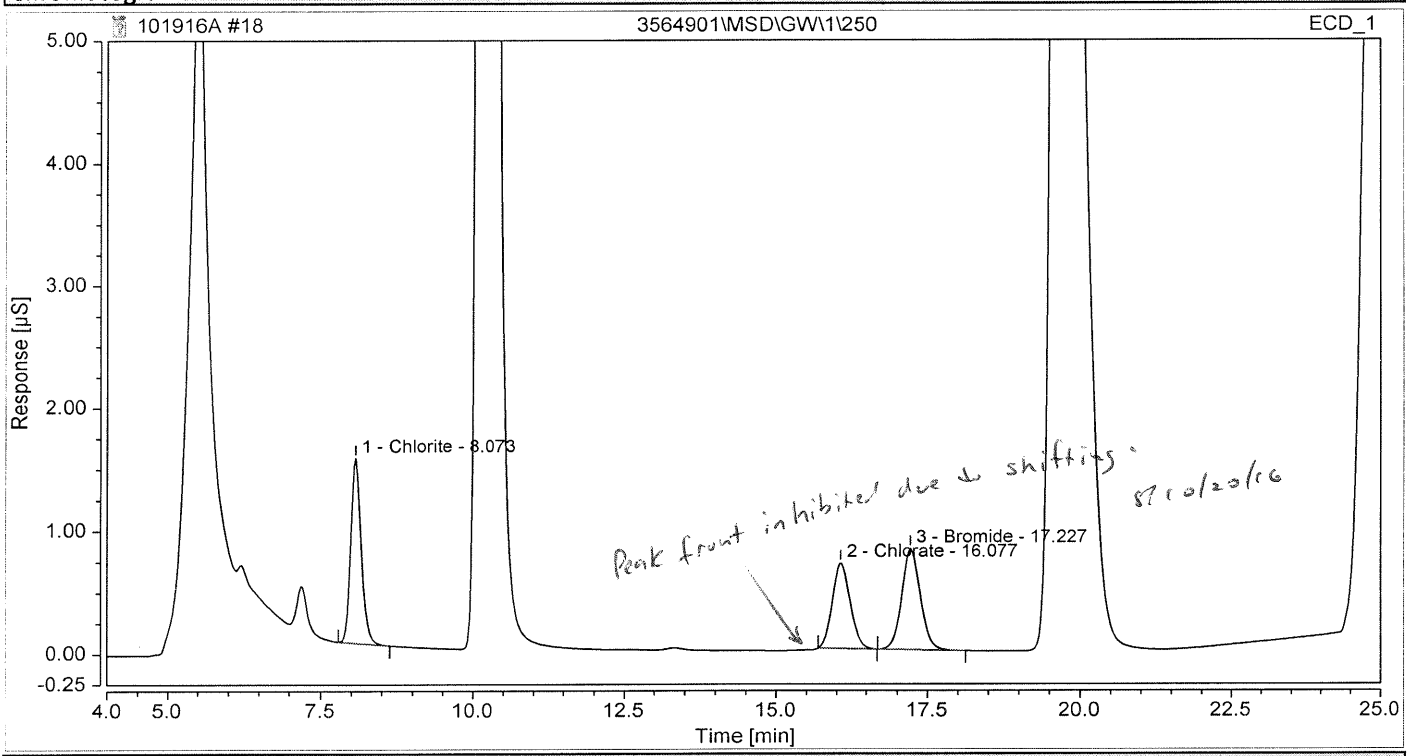
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.073	0.304	1.500	35.94	49.64	236.2997
2	Chlorate	16.077	0.246	0.702	29.13	23.23	232.6205
3	Bromide	17.227	0.295	0.820	34.93	27.13	261.5508
Total:			**0.845**	**3.022**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564901\MSD\GW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**GB3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 18:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

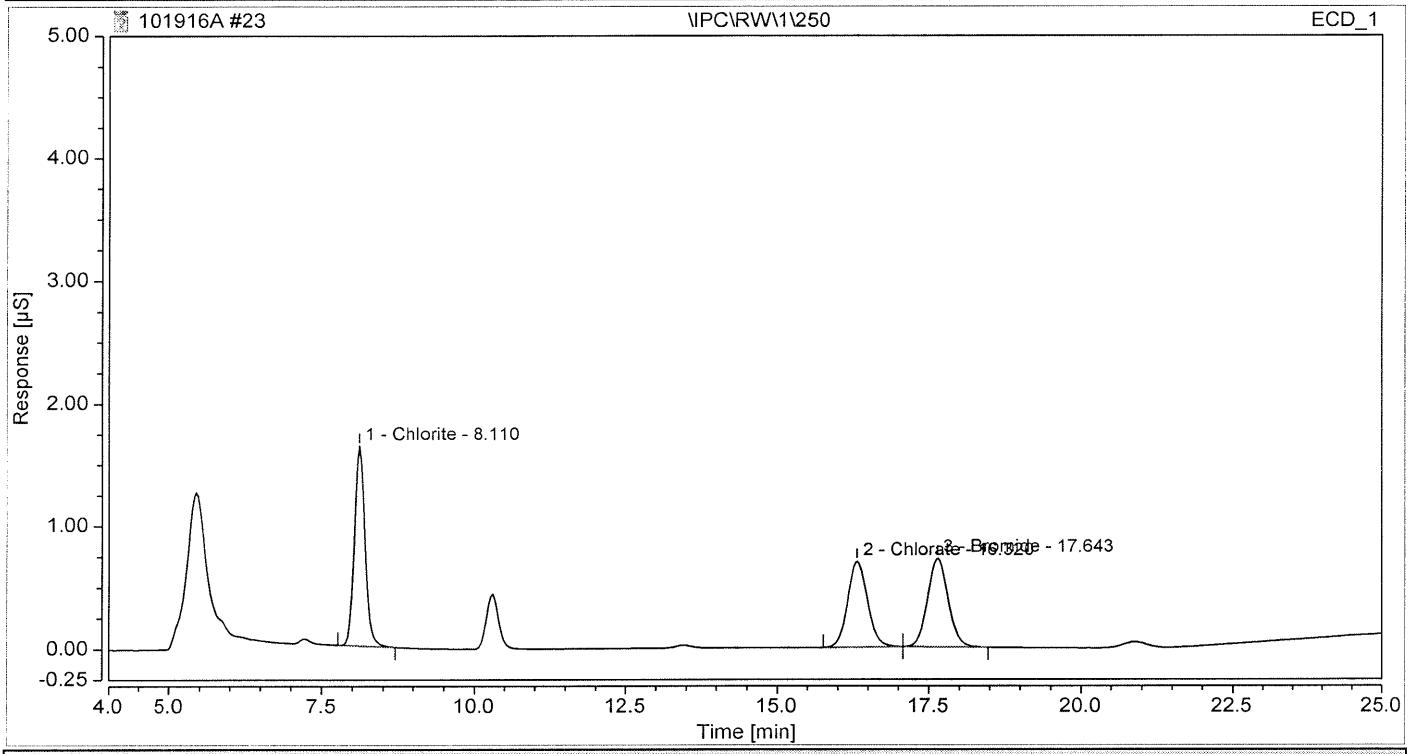
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.073	0.304	1.500	36.21	49.77	236.2997
2	Chlorate	16.077	0.240	0.695	28.60	23.04	226.7139
3	Bromide	17.227	0.295	0.820	35.19	27.20	261.5508
Total:			**0.838**	**3.015**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 21:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

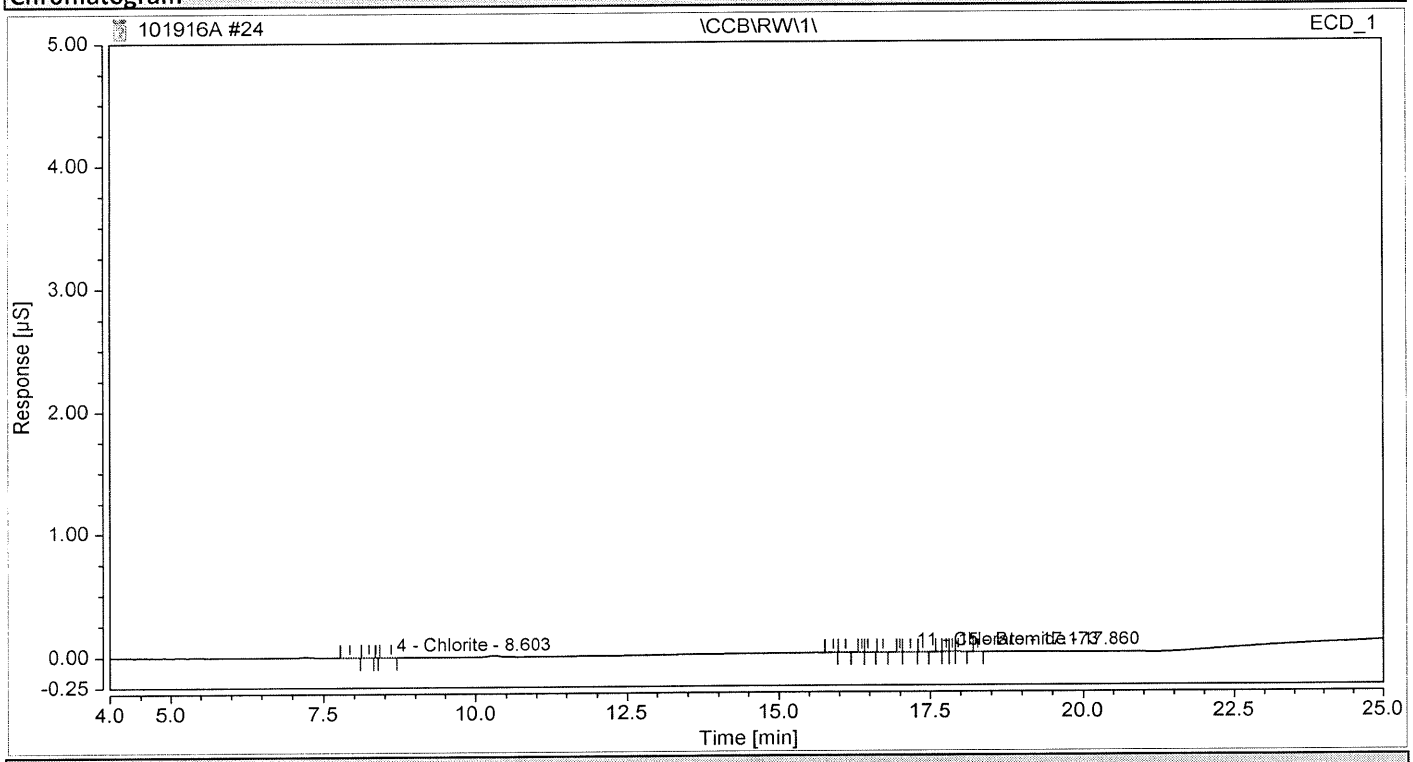
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.110	0.324	1.628	37.36	53.54	252.3417
2	Chlorate	16.320	0.263	0.694	30.27	22.84	248.2492
3	Bromide	17.643	0.281	0.718	32.37	23.63	249.1906
Total:			**0.868**	**3.040**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 21:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

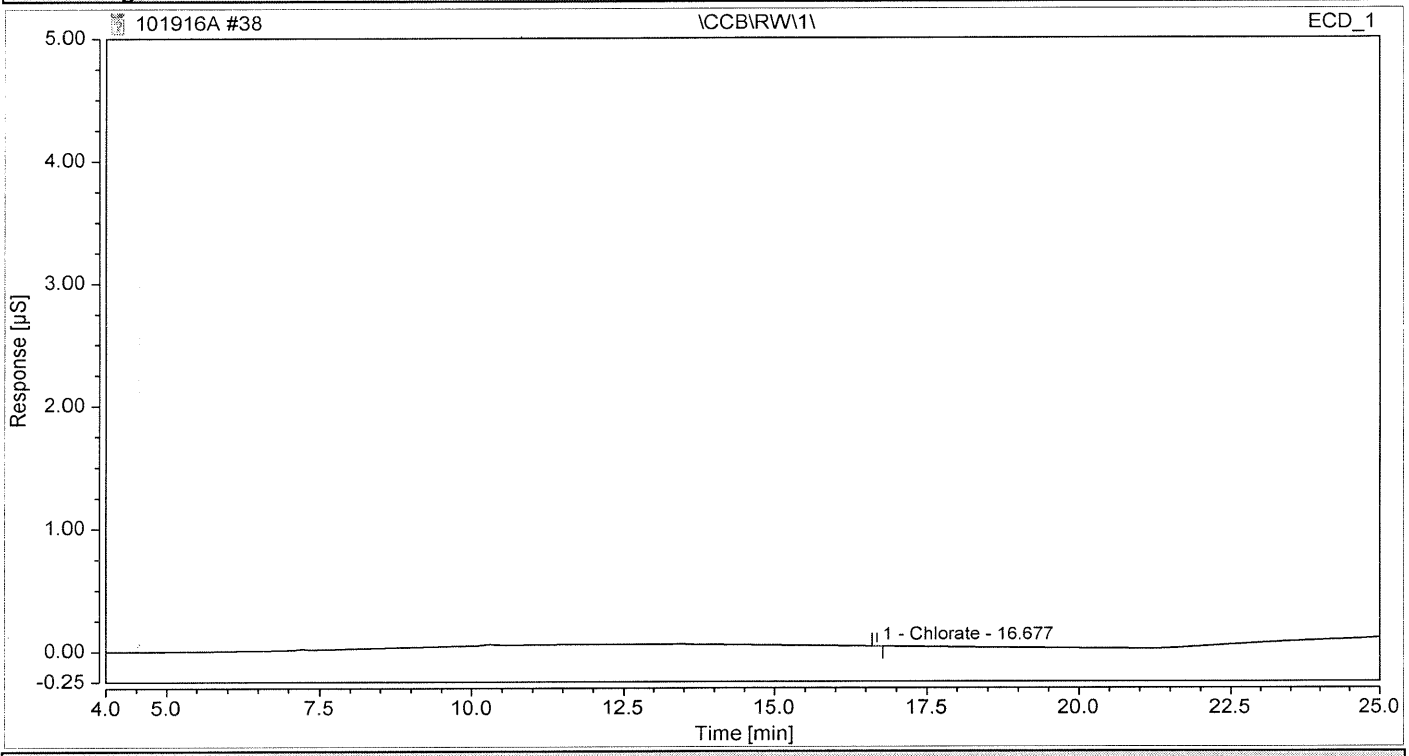
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
4	Chlorite	8.603	0.000	0.001	17.13	13.71	2.2175
11	Chlorate	17.173	0.000	0.000	5.47	4.70	2.9539
15	Bromide	17.860	0.000	0.000	1.77	3.73	1.7942
Total:			**0.000**	**0.001**	**24.37**	**22.14**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Oct/16 06:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	16.677	0.000	0.001	100.00	100.00	2.9795
Total:			**0.000**	**0.001**	**100.00**	**100.00**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj
Instrument:	CQ	Prepped by:	Shep Lovick	Date:	6/21/2016
Units:	ug/L			Comments:	*data taken from 7 consecutive RLC samples.*
Matrix Type:	RW	**Number of months next study due:**	**6**		

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
3/17/2016	Bromide	10	13.11	10.927	11.2	10.761	12.794	10.638	11.5	11.5614	0.995625	3.1292496
3/17/2016	Chlorate	10	12.909	11.518	11.713	11.345	12.513	11.29	12.022	11.9014	0.615053	1.9331101
3/17/2016	Chlorite	10	10.655	12.391	12.075	10.053	7.987	12.824	12.916	11.2716	1.810446	5.6902311

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Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA37761

Sampling Date: 10/12/16

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **278**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177),
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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA37761

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA37761-1	10/12/16	09:25	CTL	10/14/16	AQ	Ground Water	787715/54MW13
FA37761-2	10/12/16	09:55	CTL	10/14/16	AQ	Ground Water	787716/54TM12
FA37761-3	10/12/16	11:16	CTL	10/14/16	AQ	Ground Water	787717/54MW10
FA37761-4	10/12/16	15:30	CTL	10/14/16	AQ	Ground Water	787718/101216R1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA37761

Site: Radford AAP; VA **Report Date:** 10/31/2016 1:40:55

4 Sample(s) were collected on 10/12/2016 and were received at SGS Accutest Southeast (SASE) on 10/14/2016 properly preserved, at 3 Deg. C and intact. These Samples received an SASE job number of FA37761. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP62267

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA37760-2MSD, FA37760-2MS were used as the QC samples indicated.

Matrix Spike /Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Outside control limits due to high level in sample relative to spike amount. % RPD was within control limits in MS/MSD.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP62253

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA37760-2MS, FA37760-2MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Tetryl are outside control limits. % Recovery was above upper control limit, but samples were ND for this compound.

Matrix Spike /Matrix Spike Duplicate Recovery(s) for Tetryl are outside control limits. Probable cause is due to matrix interference. % RPD was within control limits in MS/MSD.

FA37761-1 for Tetryl: Associated BS recovery outside control limits.

FA37761-1: All hits confirmed by reanalysis on a dissimilar column.

FA37761-1: Confirmation run.

FA37761-2 for Tetryl: Associated BS recovery outside control limits.

FA37761-2: All hits confirmed by reanalysis on a dissimilar column.

FA37761-2: Confirmation run.

FA37761-3: All hits confirmed by reanalysis on a dissimilar column.

FA37761-3: Confirmation run.

FA37761-3 for Tetryl: Associated BS recovery outside control limits.

FA37761-4 for Tetryl: Associated BS recovery outside control limits.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: October 31, 2016

Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA37761-1	GCSEMI	PP380488.D	2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, RDX
FA37761-2	GCSEMI	PP380489.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, RDX
FA37761-3	GCSEMI	PP380490.D	1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, HMX, RDX
GGG2478-CC2478	GCSEMI	GG060247.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, MNX, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-ECC2478	GCSEMI	GG060257.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-IC2478	GCSEMI	GG060227.D	2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060228.D	2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060229.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060230.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2478-IC2478	GCSEMI	GG060232.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-ICC2478	GCSEMI	GG060231.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2478-ICV2478	GCSEMI	GG060234.D	Nitroglycerine, PETN, TNX
GGG2478-ICV2478	GCSEMI	GG060235.D	3,5-Dinitroaniline
GGG2479-CC2479	GCSEMI	GG060274.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2479-ECC2479	GCSEMI	GG060280.D	1,3,5-Trinitrobenzene, 2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX
GGG2479-IC2479	GCSEMI	GG060258.D	1,3-Dinitrobenzene, 2,4-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, TNX
GGG2479-IC2479	GCSEMI	GG060259.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, m-Nitrotoluene, Nitroglycerine, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX
GGG2479-IC2479	GCSEMI	GG060260.D	3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, TNX

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
GGG2479-IC2479	GCSEMI	GG060261.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2479-IC2479	GCSEMI	GG060263.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2479-IC2479	GCSEMI	GG060264.D	4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2479-ICC2479	GCSEMI	GG060262.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2479-ICV2479	GCSEMI	GG060265.D	PETN
GGG2479-ICV2479	GCSEMI	GG060266.D	2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene
GPP2032-CC2032	GCSEMI	PP380282.D	HMX, m-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP2032-ECC2032	GCSEMI	PP380290.D	HMX, PETN, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380267.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, Nitroglycerine, PETN, RDX, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380268.D	1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, HMX, MNX, Nitrobenzene, PETN, RDX, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380269.D	2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, Nitroglycerine, PETN, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380270.D	3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, PETN, RDX, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380272.D	HMX, PETN, Tetryl, TNX
GPP2032-IC2032	GCSEMI	PP380273.D	HMX, Nitroglycerine, PETN, TNX
GPP2032-ICC2032	GCSEMI	PP380271.D	HMX, PETN, RDX, Tetryl, TNX
GPP2032-ICV2032	GCSEMI	PP380274.D	PETN, TNX
GPP2032-ICV2032	GCSEMI	PP380275.D	m-Nitrotoluene
GPP2033-CC2032	GCSEMI	PP380292.D	HMX, MNX, PETN, Tetryl, TNX
GPP2033-CC2032	GCSEMI	PP380297.D	HMX, PETN, Tetryl, TNX
GPP2033-CC2032	GCSEMI	PP380309.D	HMX, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP2033-ECC2032	GCSEMI	PP380312.D	HMX, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP2034-CC2032	GCSEMI	PP380314.D	HMX, MNX, PETN, Tetryl, TNX
GPP2034-ECC2032	GCSEMI	PP380323.D	HMX, MNX, PETN, Tetryl, TNX
GPP2035-CC2032	GCSEMI	PP380327.D	MNX, PETN, Tetryl
GPP2035-ECC2032	GCSEMI	PP380338.D	PETN, RDX, Tetryl
GPP2036-CC2032	GCSEMI	PP380341.D	PETN, RDX, Tetryl
GPP2036-CC2032	GCSEMI	PP380352.D	PETN, RDX, Tetryl
GPP2036-CC2032	GCSEMI	PP380364.D	PETN, RDX, Tetryl
GPP2036-ECC2032	GCSEMI	PP380376.D	PETN, RDX, Tetryl
GPP2037-CC2032	GCSEMI	PP380378.D	PETN, RDX, Tetryl, TNX
GPP2037-CC2032	GCSEMI	PP380389.D	PETN, RDX, Tetryl, TNX

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
GPP2037-CC2032	GCSEMI	PP380401.D	PETN, RDX, Tetryl, TNX
GPP2037-CC2032	GCSEMI	PP380413.D	PETN, RDX, Tetryl, TNX
GPP2037-ECC2032	GCSEMI	PP380416.D	m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, Tetryl, TNX
GPP2038-CC2032	GCSEMI	PP380418.D	PETN, RDX, TNX
GPP2038-ECC2032	GCSEMI	PP380426.D	o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, TNX
GPP2039-CC2032	GCSEMI	PP380429.D	PETN
GPP2039-CC2032	GCSEMI	PP380440.D	PETN
GPP2039-ECC2032	GCSEMI	PP380444.D	PETN
GPP2040-CC2032	GCSEMI	PP380447.D	PETN, TNX
GPP2040-CC2032	GCSEMI	PP380458.D	PETN, TNX
GPP2040-ECC2032	GCSEMI	PP380462.D	PETN, TNX
GPP2041-CC2032	GCSEMI	PP380464.D	PETN
GPP2041-CC2032	GCSEMI	PP380475.D	PETN
GPP2041-CC2032	GCSEMI	PP380485.D	PETN
GPP2041-CC2032	GCSEMI	PP380493.D	PETN
GPP2041-ECC2032	GCSEMI	PP380500.D	PETN
OP62253-BS	GCSEMI	PP380395.D	PETN, TNX
OP62253-MS	GCSEMI	PP380399.D	1,3-Dinitrobenzene, 3,5-Dinitroaniline, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX
OP62253-MSD	GCSEMI	PP380400.D	1,3-Dinitrobenzene, 3,5-Dinitroaniline, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX

68 Manual Integrations were found for FA37761

Summary of Hits

Job Number: FA37761
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 10/12/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA37761-1	**787715/54MW13**					
Perchlorate		0.21	0.20	0.10	ug/l	SW846 6850
HMX [a]		5.0	0.20	0.10	ug/l	SW846 8330B
RDX [a]		0.70	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.59	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.5	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		0.92	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		16.1	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		8.0	0.20	0.10	ug/l	SW846 8330B
FA37761-2	**787716/54TM12**					
Perchlorate		0.22	0.20	0.10	ug/l	SW846 6850
HMX [a]		5.2	0.20	0.10	ug/l	SW846 8330B
RDX [a]		0.69	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.43	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.5	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.0	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		17.0	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		8.5	0.20	0.10	ug/l	SW846 8330B
FA37761-3	**787717/54MW10**					
Perchlorate		0.12 J	0.20	0.10	ug/l	SW846 6850
HMX [a]		0.63	0.20	0.10	ug/l	SW846 8330B
RDX [a]		0.40	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.17 J	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		0.35	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		0.31	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		0.62	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		1.6	0.20	0.10	ug/l	SW846 8330B
FA37761-4	**787718/101216R1**					

No hits reported in this sample.

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: 787715/54MW13
Lab Sample ID: FA37761-1
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 10/12/16
Date Received: 10/14/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q26579.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.21	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787715/54MW13		
Lab Sample ID:	FA37761-1	**Date Sampled:**	10/12/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP380488.D	1	10/27/16	KL	10/17/16	OP62253	GPP2041
Run #2 [b]	GG060268.D	1	10/28/16	KL	10/17/16	OP62253	GGG2479

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	5.0	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.70	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.59	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.5	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.92	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl [c]	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	16.1	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	8.0	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	99%	118%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 787716/54TM12
Lab Sample ID: FA37761-2
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 10/12/16
Date Received: 10/14/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q26580.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.22	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787716/54TM12		
Lab Sample ID:	FA37761-2	**Date Sampled:**	10/12/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP380489.D	1	10/27/16	KL	10/17/16	OP62253	GPP2041
Run #2 [b]	GG060269.D	1	10/28/16	KL	10/17/16	OP62253	GGG2479

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	5.2	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.69	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.43	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.5	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.0	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl [c]	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	17.0	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	8.5	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	97%	115%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787717/54MW10		
Lab Sample ID:	FA37761-3	**Date Sampled:**	10/12/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q26584.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.12	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787717/54MW10		
Lab Sample ID:	FA37761-3	**Date Sampled:**	10/12/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP380490.D	1	10/27/16	KL	10/17/16	OP62253	GPP2041
Run #2 [b]	GG060245.D	1	10/28/16	KL	10/17/16	OP62253	GGG2478

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.63	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.40	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.17	0.20	0.10	0.080	ug/l	J
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.35	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.31	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl [c]	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.62	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	1.6	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	98%	115%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787718/101216R1		
Lab Sample ID:	FA37761-4	**Date Sampled:**	10/12/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q26585.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	787718/101216R1		
Lab Sample ID:	FA37761-4	**Date Sampled:**	10/12/16
Matrix:	AQ - Ground Water	**Date Received:**	10/14/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP380406.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl [a]	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	96%		70-136%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

FA37761

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 122887 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
(1)	C 787715	10/12/2016 0925	GROUND WATER	54MW13	Explosives + MNX/DNX/TNX	8330B	
	787715	10/12/2016 0925	GROUND WATER	54MW13	PERCHLORATE	SW6850	
(2)	C 787716	10/12/2016 0955	GROUND WATER	54TM12	Explosives + MNX/DNX/TNX	8330B	
	787716	10/12/2016 0955	GROUND WATER	54TM12	PERCHLORATE	SW6850	
(3)	C 787717	10/12/2016 1116	GROUND WATER	54MW10	Explosives + MNX/DNX/TNX	8330B	
	787717	10/12/2016 1116	GROUND WATER	54MW10	PERCHLORATE	SW6850	
(4)	C 787718	10/12/2016 1530	GROUND WATER	101216R1	Explosives + MNX/DNX/TNX	8330B	
	787718	10/12/2016 1530	GROUND WATER	101216R1	PERCHLORATE	SW6850	

Relinquished by: Brett Szymanski FX Date/Time: 10/13/2016 15:10

Received by: J. Cross (FAST) Date/Time: 10-14-16 10:30 Receipt Temperature (C) _____

COMMENTS: FULL LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX). NO MS/MSD REQUIRED WITH THIS BATCH.

3.0

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

FA37761: Chain of Custody
Page 1 of 3

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA 37761 CLIENT: CT LAB PROJECT: RADFORD AAP

DATE/TIME RECEIVED: 10-14-16 10:30 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 12 1A3 77E 01 4064 3118

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.4
- [ ] OBSERVED TEMPS: 3.4
- [ ] CORRECTED TEMPS: 3.0 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

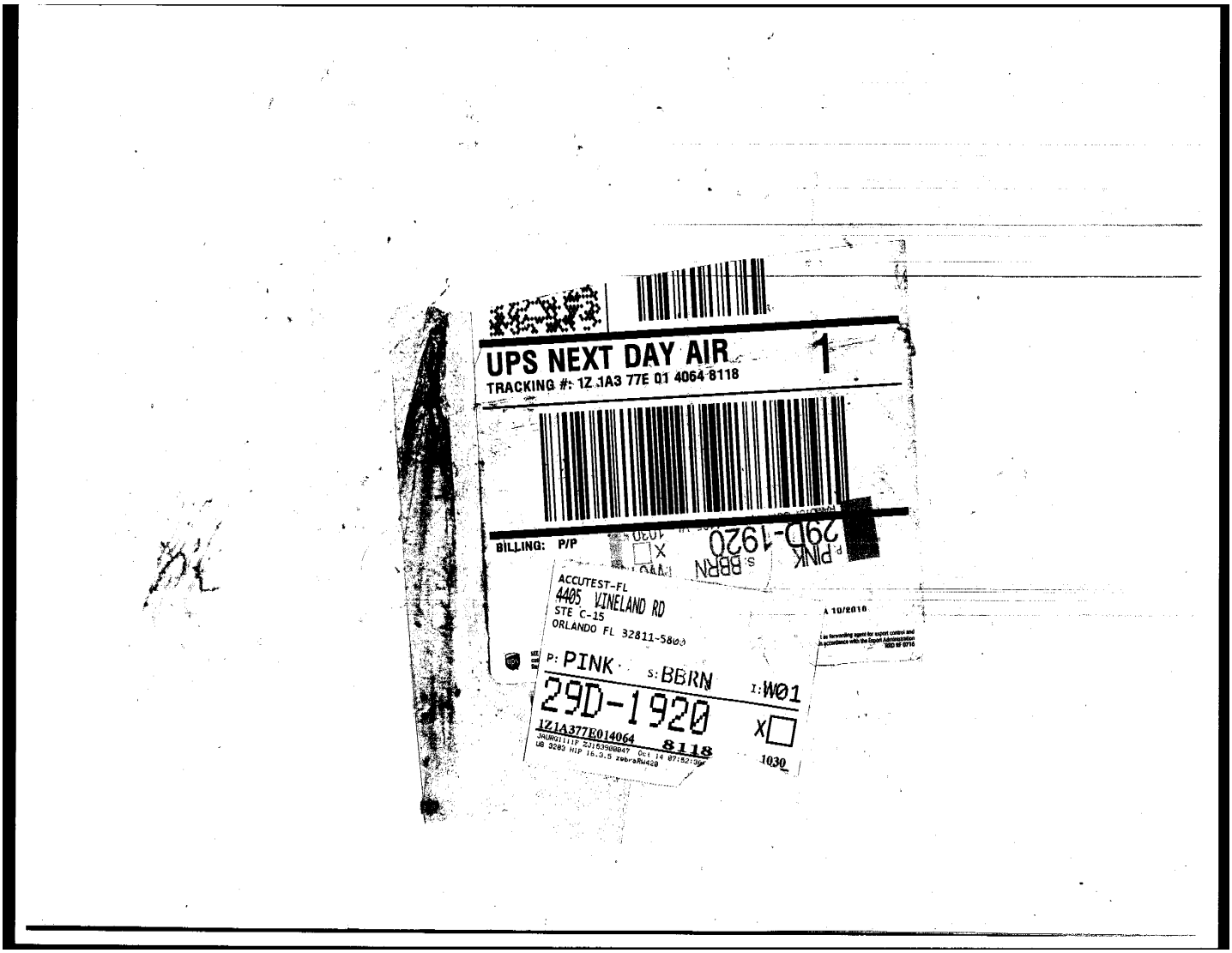
SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 10-14-16 REVIEWER SIGNATURE/DATE KD 10-14-16

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA37761: Chain of Custody
Page 2 of 3



FA37761: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA37761
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 10/12/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP62267	SW846 6850						
OP62267-BS	14797-73-0	Perchlorate	BSP	REC	100	%	84-119
OP62267-MS*	14797-73-0	Perchlorate	MS	REC	50 [a]	%	84-119
OP62267-MSD*	14797-73-0	Perchlorate	MSD	REC	50 [a]	%	84-119
OP62267-MSD*	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP62253	SW846 8330B						
OP62253-BS	2691-41-0	HMX	BSP	REC	104	%	65-135
OP62253-BS	121-82-4	RDX	BSP	REC	96	%	68-130
OP62253-BS		DNX	BSP	REC	86	%	66-119
OP62253-BS		MNX	BSP	REC	98	%	57-132
OP62253-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	86	%	71-117
OP62253-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	96	%	78-120
OP62253-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	108	%	77-127
OP62253-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	102	%	78-120
OP62253-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	104	%	79-120
OP62253-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	102	%	76-125
OP62253-BS	98-95-3	Nitrobenzene	BSP	REC	96	%	65-134
OP62253-BS	88-72-2	o-Nitrotoluene	BSP	REC	102	%	70-127
OP62253-BS	99-08-1	m-Nitrotoluene	BSP	REC	104	%	73-125
OP62253-BS	99-99-0	p-Nitrotoluene	BSP	REC	108	%	71-127
OP62253-BS	479-45-8	Tetryl	BSP	REC	134	%	64-128
OP62253-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	102	%	73-125
OP62253-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	90	%	71-123
OP62253-BS	55-63-0	Nitroglycerine	BSP	REC	99	%	74-127
OP62253-BS	78-11-5	PETN	BSP	REC	117	%	73-127
OP62253-MS*	2691-41-0	HMX	MS	REC	118	%	65-135
OP62253-MS*	121-82-4	RDX	MS	REC	103	%	68-130
OP62253-MS*		DNX	MS	REC	92	%	66-119
OP62253-MS*		MNX	MS	REC	103	%	57-132
OP62253-MS*	618-87-1	3,5-Dinitroaniline	MS	REC	85	%	71-117
OP62253-MS*	99-65-0	1,3-Dinitrobenzene	MS	REC	91	%	78-120
OP62253-MS*	606-20-2	2,6-Dinitrotoluene	MS	REC	115	%	77-127
OP62253-MS*	121-14-2	2,4-Dinitrotoluene	MS	REC	102	%	78-120
OP62253-MS*	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	104	%	79-120
OP62253-MS*	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	102	%	76-125
OP62253-MS*	98-95-3	Nitrobenzene	MS	REC	97	%	65-134
OP62253-MS*	88-72-2	o-Nitrotoluene	MS	REC	100	%	70-127
OP62253-MS*	99-08-1	m-Nitrotoluene	MS	REC	99	%	73-125
OP62253-MS*	99-99-0	p-Nitrotoluene	MS	REC	101	%	71-127
OP62253-MS*	479-45-8	Tetryl	MS	REC	136	%	64-128
OP62253-MS*	99-35-4	1,3,5-Trinitrobenzene	MS	REC	100	%	73-125

* Sample used for QC is not from job FA37761

QC Evaluation: DOD QSM5 Limits

Job Number: FA37761
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 10/12/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP62253-MS*	118-96-7	2,4,6-Trinitrotoluene	MS	REC	88	%	71-123
OP62253-MS*	55-63-0	Nitroglycerine	MS	REC	103	%	74-127
OP62253-MS*	78-11-5	PETN	MS	REC	110	%	73-127
OP62253-MSD*	2691-41-0	HMX	MSD	REC	117	%	65-135
OP62253-MSD*	2691-41-0	HMX	MSD	RPD	0	%	30
OP62253-MSD*	121-82-4	RDX	MSD	REC	98	%	68-130
OP62253-MSD*	121-82-4	RDX	MSD	RPD	3	%	30
OP62253-MSD*		DNX	MSD	REC	89	%	66-119
OP62253-MSD*		DNX	MSD	RPD	3	%	30
OP62253-MSD*		MNX	MSD	REC	99	%	57-132
OP62253-MSD*		MNX	MSD	RPD	4	%	30
OP62253-MSD*	618-87-1	3,5-Dinitroaniline	MSD	REC	94	%	71-117
OP62253-MSD*	618-87-1	3,5-Dinitroaniline	MSD	RPD	10	%	30
OP62253-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	REC	99	%	78-120
OP62253-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	RPD	8	%	30
OP62253-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	REC	118	%	77-127
OP62253-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	RPD	3	%	30
OP62253-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	REC	102	%	78-120
OP62253-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	104	%	79-120
OP62253-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	102	%	76-125
OP62253-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD*	98-95-3	Nitrobenzene	MSD	REC	98	%	65-134
OP62253-MSD*	98-95-3	Nitrobenzene	MSD	RPD	1	%	30
OP62253-MSD*	88-72-2	o-Nitrotoluene	MSD	REC	102	%	70-127
OP62253-MSD*	88-72-2	o-Nitrotoluene	MSD	RPD	2	%	30
OP62253-MSD*	99-08-1	m-Nitrotoluene	MSD	REC	103	%	73-125
OP62253-MSD*	99-08-1	m-Nitrotoluene	MSD	RPD	4	%	30
OP62253-MSD*	99-99-0	p-Nitrotoluene	MSD	REC	103	%	71-127
OP62253-MSD*	99-99-0	p-Nitrotoluene	MSD	RPD	2	%	30
OP62253-MSD*	479-45-8	Tetryl	MSD	REC	137	%	64-128
OP62253-MSD*	479-45-8	Tetryl	MSD	RPD	1	%	30
OP62253-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	98	%	73-125
OP62253-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	1	%	30
OP62253-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	88	%	71-123
OP62253-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	0	%	30
OP62253-MSD*	55-63-0	Nitroglycerine	MSD	REC	103	%	74-127
OP62253-MSD*	55-63-0	Nitroglycerine	MSD	RPD	0	%	30
OP62253-MSD*	78-11-5	PETN	MSD	REC	112	%	73-127
OP62253-MSD*	78-11-5	PETN	MSD	RPD	2	%	30

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FA37761

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62267-MB	Q26574.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742

The QC reported here applies to the following samples: **Method:** SW846 6850

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62267-BS	Q26573.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742

The QC reported here applies to the following samples: **Method:** SW846 6850

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.20	100	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62267-MS	Q26577.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
OP62267-MSD	Q26578.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742
FA37760-2	Q26576.D	1	10/17/16	NAF	10/17/16	OP62267	SQ742

The QC reported here applies to the following samples: **Method:** SW846 6850

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	FA37760-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	1.6		0.2	1.7	50* [a]	0.2	1.7	50* [a]	0	80-120/15

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ742-CC742	**Injection Date:**	10/17/16
Lab File ID:	Q26568.D	**Injection Time:**	18:17
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	28358	4.59
Check Std [b]	33212	4.60
Upper Limit [c]	42537	6.60
Lower Limit [d]	14179	2.60

Lab Sample ID	IS 1 AREA	RT
ZZZZZZ	35824	4.59
OP62267-BS	35929	4.61
OP62267-MB	36069	4.61
ZZZZZZ	24868	4.42
FA37760-2	24186	4.42
OP62267-MS	23915	4.42
OP62267-MSD	24178	4.43
FA37761-1	23154	4.41
FA37761-2	23541	4.42

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ742-ICC742 Q26538.D 10/17/16 14:29. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Semivolatile Internal Standard Area Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ742-CC742	**Injection Date:**	10/17/16
Lab File ID:	Q26581.D	**Injection Time:**	19:54
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	28358	4.59
Check Std [b]	31711	4.59
Upper Limit [c]	42537	6.59
Lower Limit [d]	14179	2.59

Lab Sample ID	IS 1 AREA	RT
FA37761-3	23901	4.40
FA37761-4	33408	4.59
ZZZZZZ	35436	4.60

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ742-ICC742 Q26538.D 10/17/16 14:29. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-ICC742
Lab FileID: Q26538.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2 : D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3 : D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4 : D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5 : D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6 : D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7 : D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8 : D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) Cl18O4	----------ISTD----------										
3) Perchlorate	0.9262	0.8879	0.9087	0.9426	0.9865	1.0059	-----	-----	0.9430	4.826	0.9996

*(value) - Average RF below (value)

6.5.1

6

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-ICV742
Lab FileID: Q26543.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26543
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.255	12.8	112.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26568.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26568
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.909	-4.6	95.4

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26569.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26569
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.177	-11.6	88.4

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26581.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26581
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.771	-11.4	88.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26582.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26582
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.186	-7.0	93.0

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26587.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26587
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.793	-10.3	89.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ742-CC742
Lab FileID: Q26588.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\1017_6850_SQ742\SQ742.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\1017_6850_SQ742\Q26535.d
2:D:\MassHunter\Data\1017_6850_SQ742\Q26536.d
3:D:\MassHunter\Data\1017_6850_SQ742\Q26537.d
4:D:\MassHunter\Data\1017_6850_SQ742\Q26538.d
5:D:\MassHunter\Data\1017_6850_SQ742\Q26539.d
6:D:\MassHunter\Data\1017_6850_SQ742\Q26540.d
7:D:\MassHunter\Data\1017_6850_SQ742\Q26541.d
8:D:\MassHunter\Data\1017_6850_SQ742\Q26542.d

Data File: Q26588
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.167	-16.6	83.4

CC Criteria: +/- 30%

GC/MS Semi-volatiles

Raw Data

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26579.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:39
Sample Name	:	FA37761-1
Vial	:	Vial 40
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

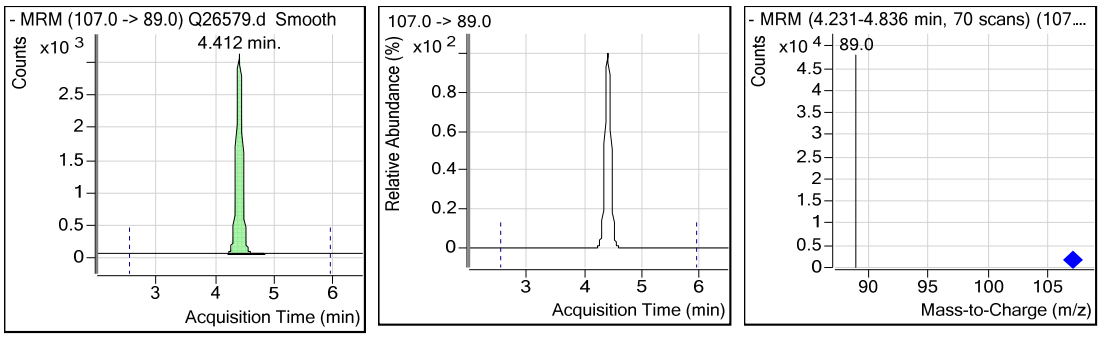
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.412	107.0 -> 89.0	23154	5.000	ng/ml	0.162	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.416	99.0 -> 83.0	989	0.214	ng/ml	88	2.8
		101.0 -> 85.0	359				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

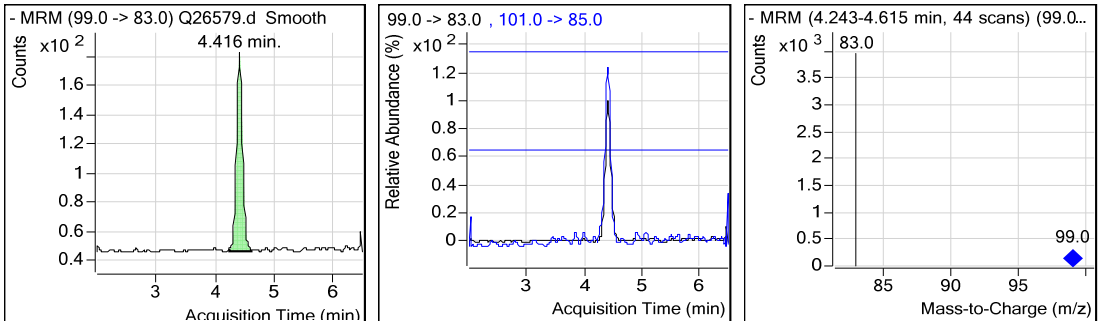
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26579.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:39
Sample Name	:	FA37761-1
Vial	:	Vial 40
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26580.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:46
Sample Name	:	FA37761-2
Vial	:	Vial 41
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

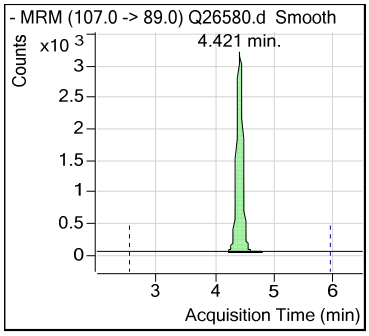
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.421	107.0 -> 89.0	23541	5.000	ng/ml	0.171	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.424	99.0 -> 83.0	1023	0.218	ng/ml	83	2.6
		101.0 -> 85.0	401				

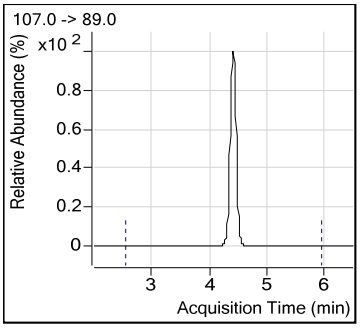
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

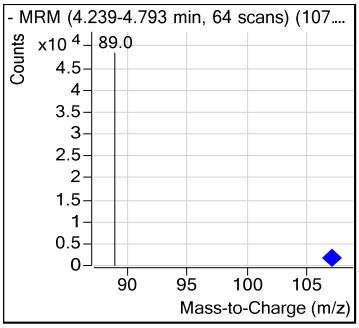
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26580.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:46
Sample Name	:	FA37761-2
Vial	:	Vial 41
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

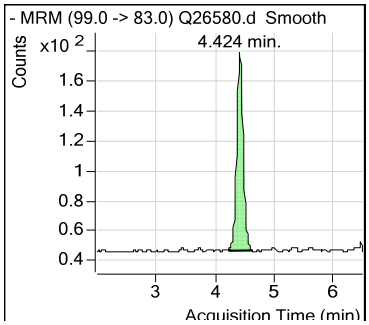
Cl18O4

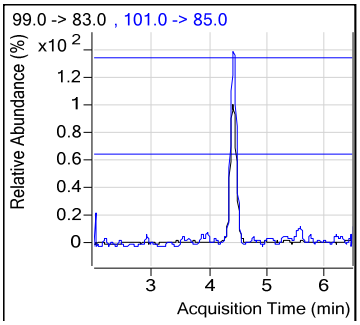


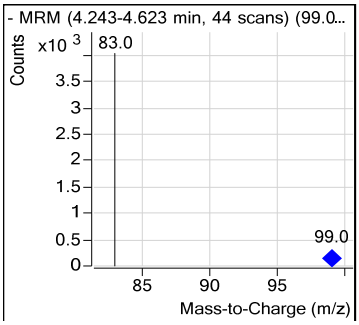




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26584.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:16
Sample Name	:	FA37761-3
Vial	:	Vial 42
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

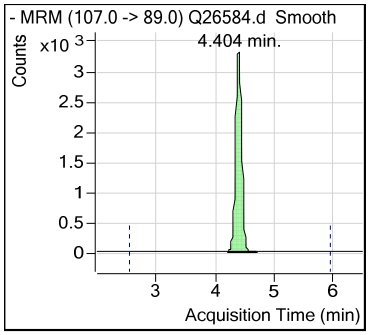
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.404	107.0 -> 89.0	23901	5.000	ng/ml	0.154	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.407	99.0 -> 83.0	558	0.117	ng/ml	94	3.8
		101.0 -> 85.0	148				

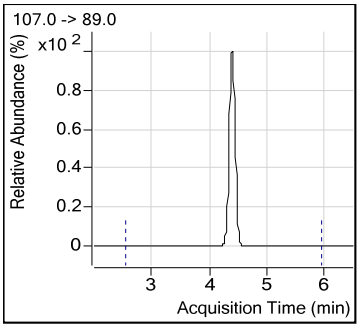
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

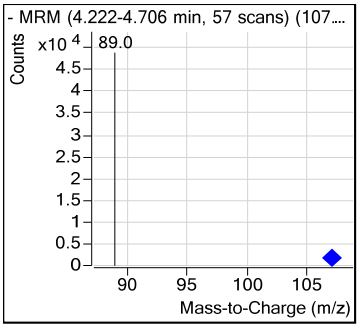
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26584.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:16
Sample Name	:	FA37761-3
Vial	:	Vial 42
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

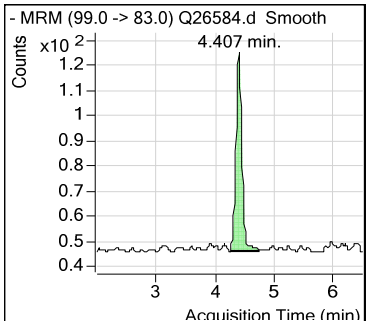
Cl18O4

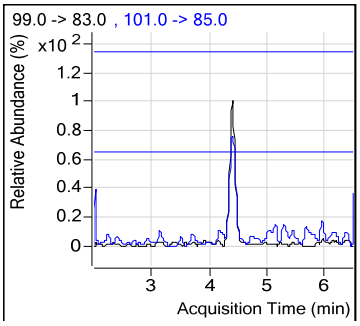


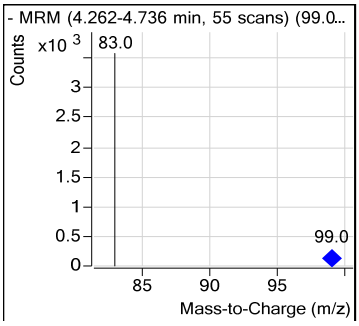




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26585.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:23
Sample Name	:	FA37761-4
Vial	:	Vial 43
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

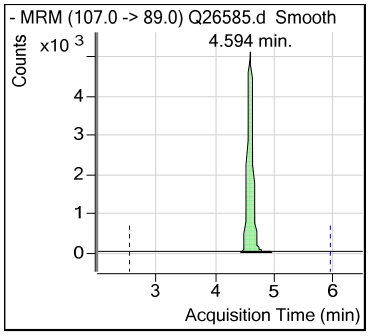
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	33408	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

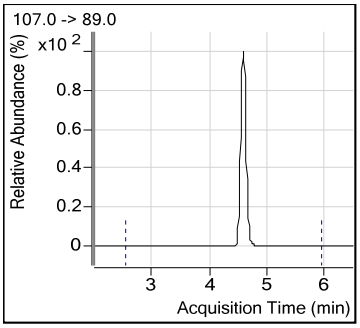
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

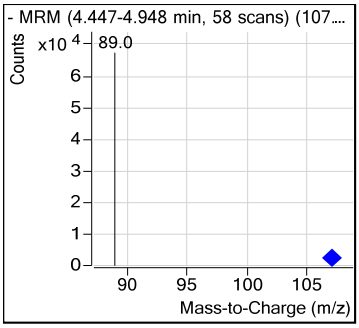
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26585.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:23
Sample Name	:	FA37761-4
Vial	:	Vial 43
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

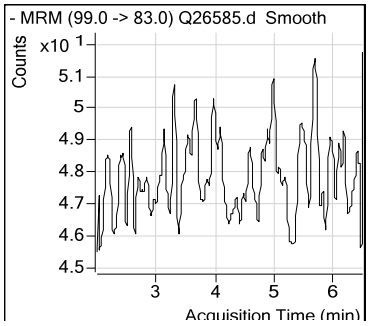
Cl18O4

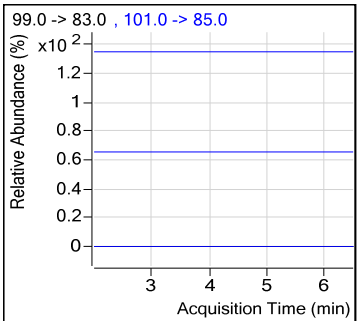


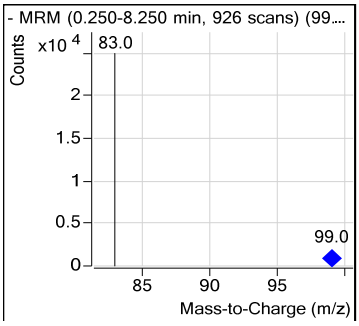




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26574.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:02
Sample Name	:	OP62267-MB
Vial	:	Vial 35
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

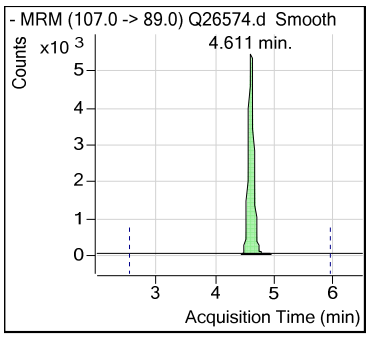
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.611	107.0 -> 89.0	36069	5.000	ng/ml	0.361	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

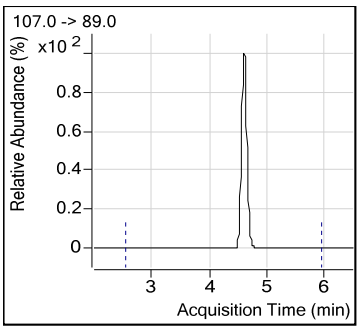
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

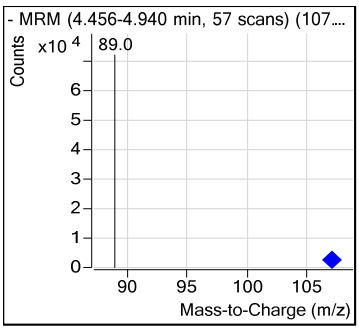
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26574.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:02
Sample Name	:	OP62267-MB
Vial	:	Vial 35
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

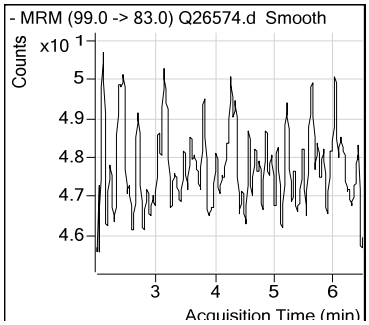
Cl18O4

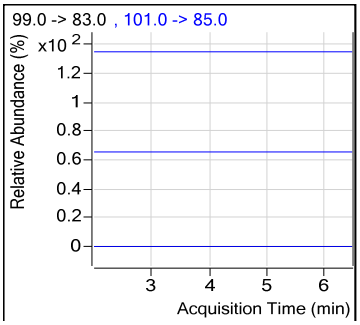


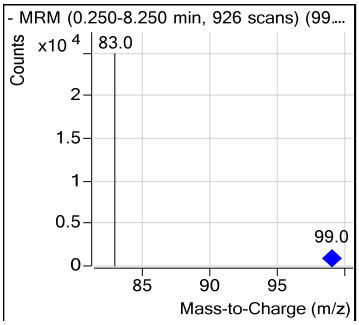




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26573.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:54
Sample Name	:	OP62267-BS
Vial	:	Vial 34
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

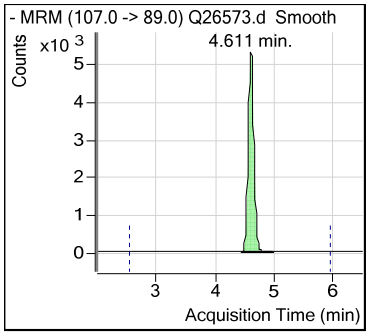
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.611	107.0 -> 89.0	35929	5.000	ng/ml	0.361	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.615	99.0 -> 83.0	1445	0.201	ng/ml	95	3.1
		101.0 -> 85.0	473				

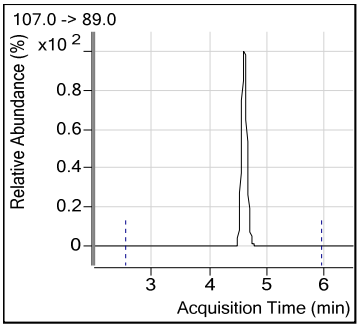
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

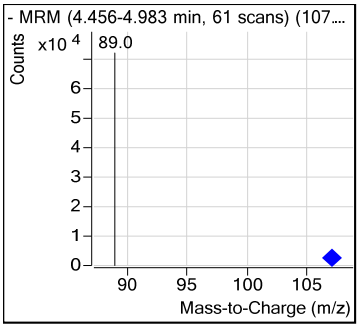
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26573.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:54
Sample Name	:	OP62267-BS
Vial	:	Vial 34
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

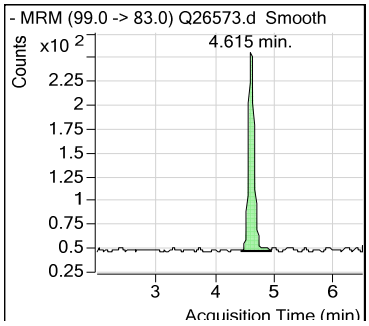
Cl18O4

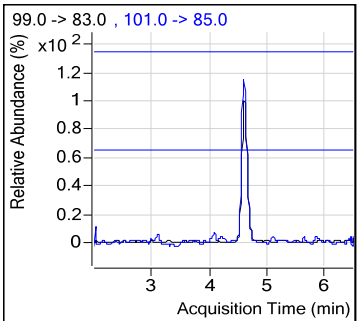


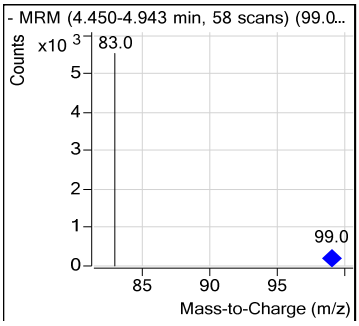




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:24
Sample Name	:	OP62267-MS
Vial	:	Vial 38
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

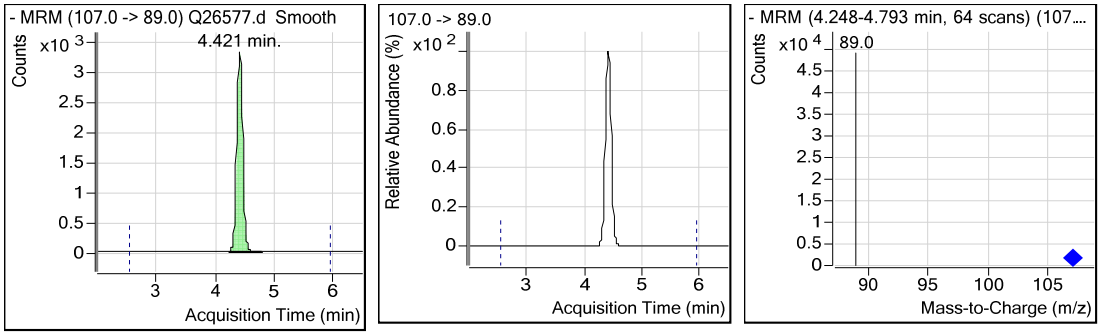
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.421	107.0 -> 89.0	23915	5.000	ng/ml	0.171	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.424	99.0 -> 83.0	8164	1.708	ng/ml	87	2.7
		101.0 -> 85.0	3029				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

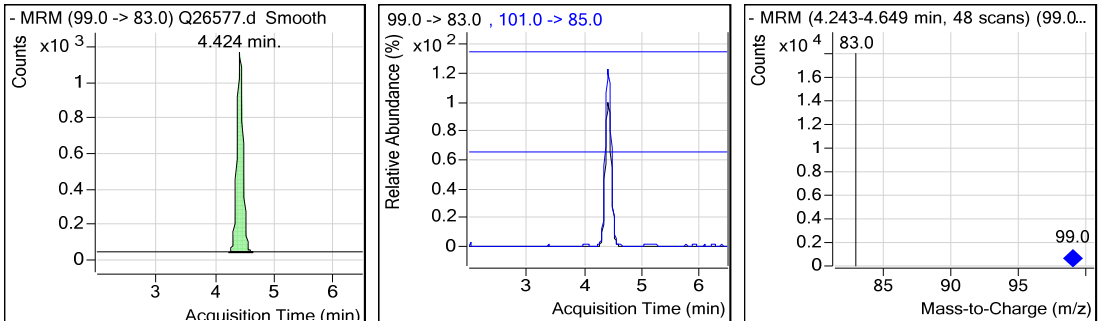
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:24
Sample Name	:	OP62267-MS
Vial	:	Vial 38
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:31
Sample Name	:	OP62267-MSD
Vial	:	Vial 39
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.430	107.0 -> 89.0	24178	5.000	ng/ml	0.180	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.424	99.0 -> 83.0	8260	1.709	ng/ml	88	2.7
		101.0 -> 85.0	3012				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

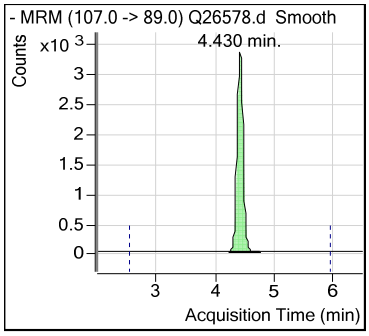
7.4.2

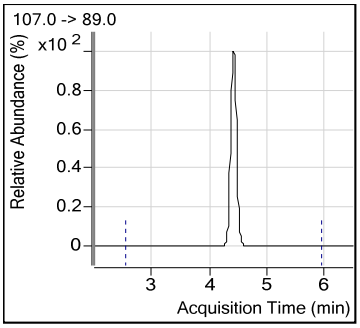
7

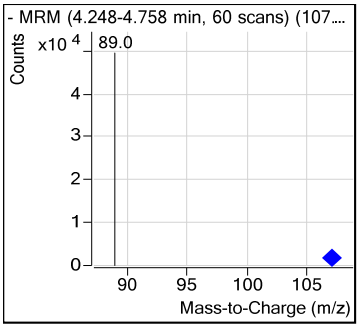
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:31
Sample Name	:	OP62267-MSD
Vial	:	Vial 39
Sample Info	:	OP62267,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

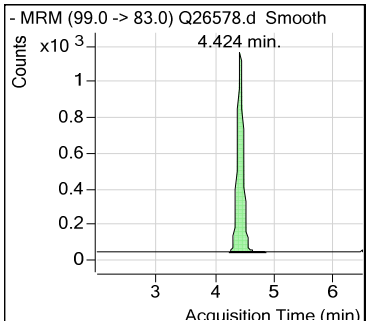
Cl18O4

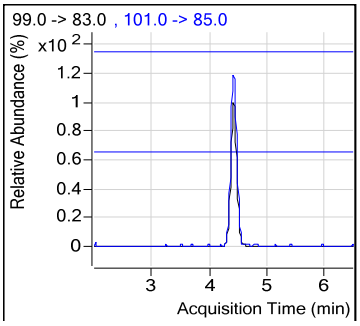


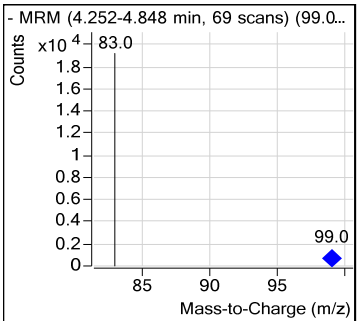




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26535.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:06
Sample Name	:	IC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

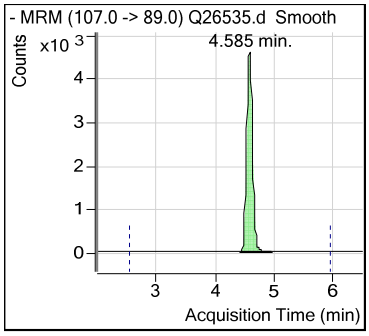
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	31717	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.589	99.0 -> 83.0	1175	0.185	ng/ml	85	2.6
		101.0 -> 85.0	448				

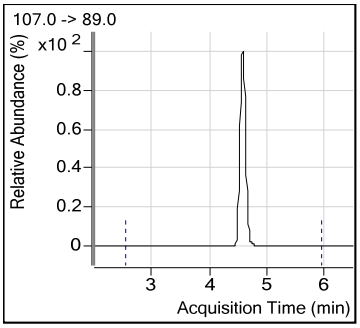
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

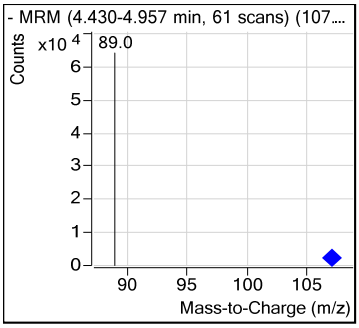
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26535.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:06
Sample Name	:	IC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

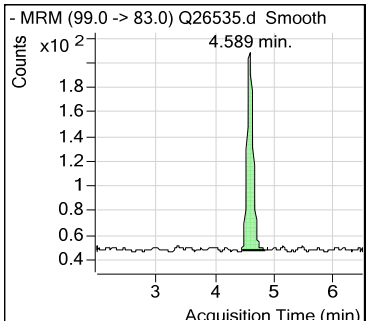
Cl18O4

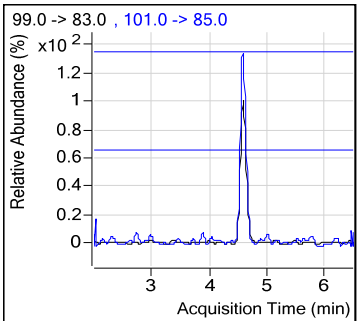


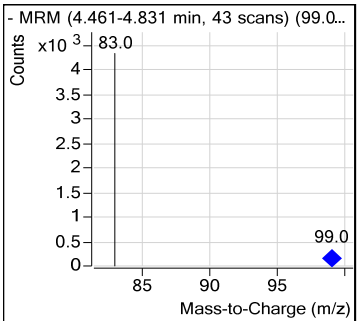




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26536.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:14
Sample Name	:	IC742-0.5
Vial	:	Vial 3
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

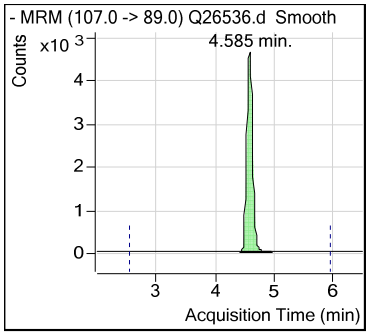
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	32070	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.589	99.0 -> 83.0	2848	0.444	ng/ml	82	2.5
		101.0 -> 85.0	1125				

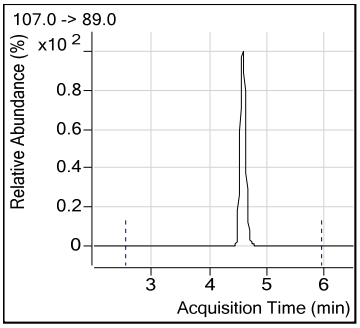
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

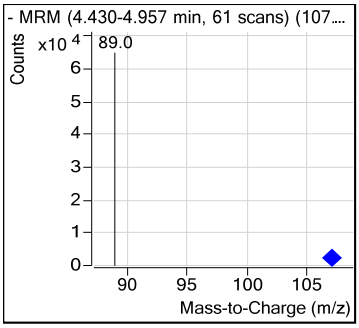
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26536.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:14
Sample Name	:	IC742-0.5
Vial	:	Vial 3
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

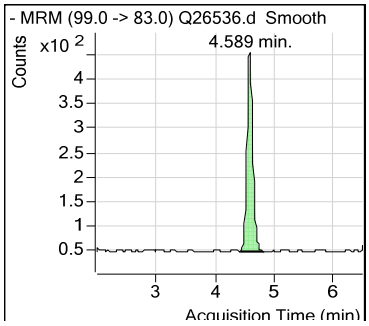
Cl18O4

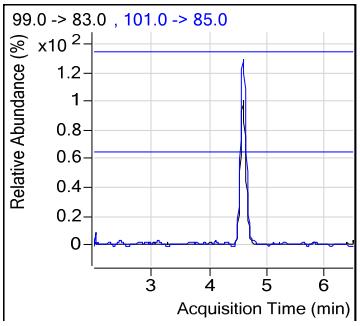


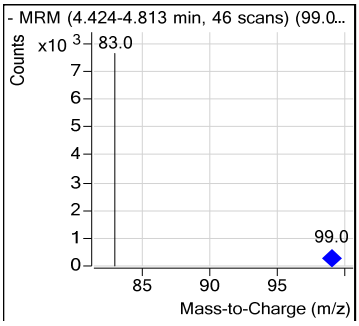




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26537.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:21
Sample Name	:	IC742-1.0
Vial	:	Vial 4
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

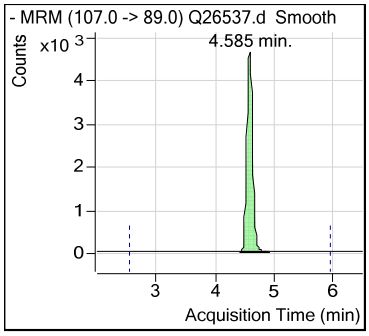
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	31977	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.589	99.0 -> 83.0	5812	0.909	ng/ml	91	2.8
		101.0 -> 85.0	2041				

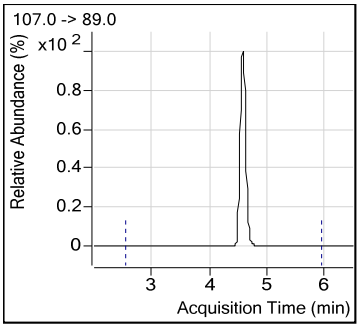
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

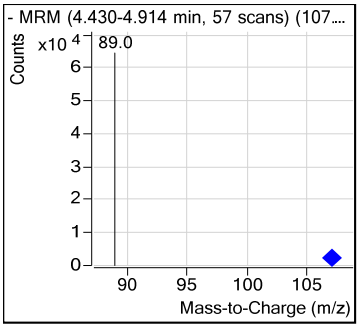
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26537.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:21
Sample Name	:	IC742-1.0
Vial	:	Vial 4
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

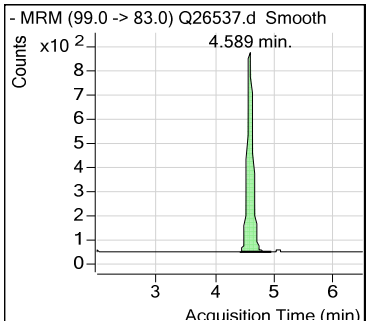
Cl18O4

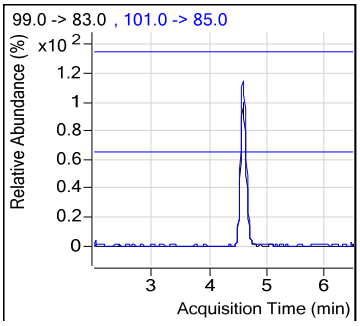


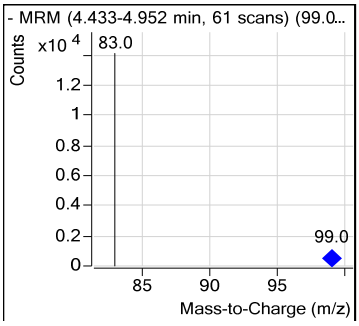




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26538.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:29
Sample Name	:	ICC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	31347	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	11819	1.887	ng/ml	90	2.8
		101.0 -> 85.0	4201				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

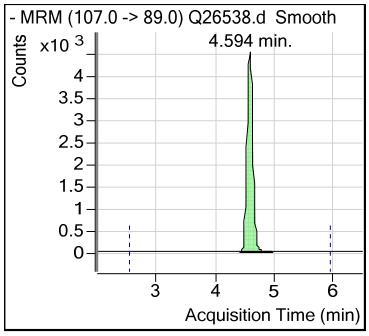
7.5.4

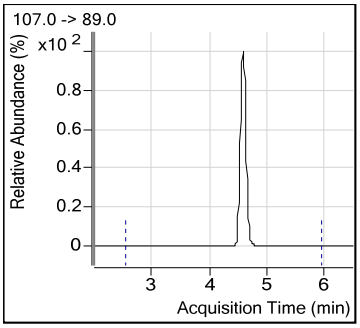
7

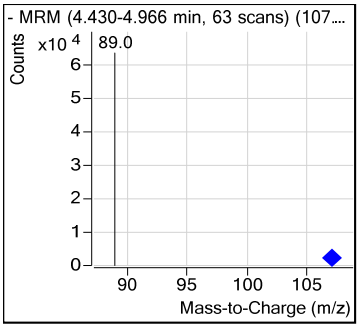
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26538.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:29
Sample Name	:	ICC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

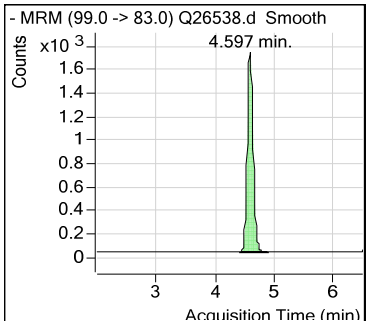
Cl18O4

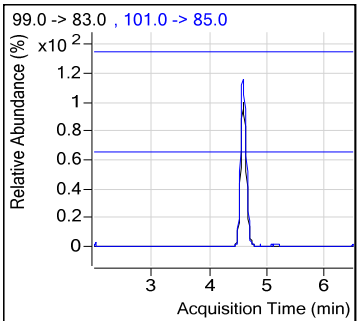


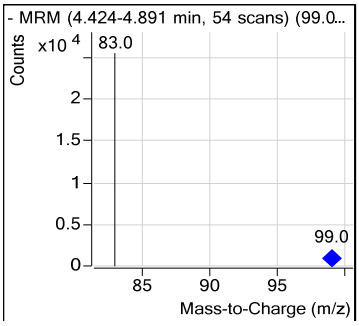




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26539.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:36
Sample Name	:	IC742-5.0
Vial	:	Vial 6
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

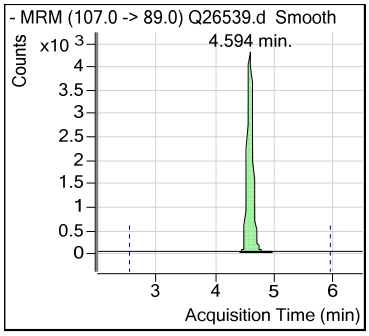
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	29827	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	29426	4.936	ng/ml	91	2.8
		101.0 -> 85.0	10326				

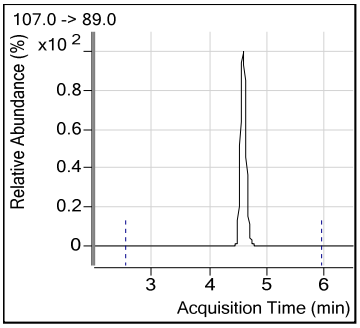
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

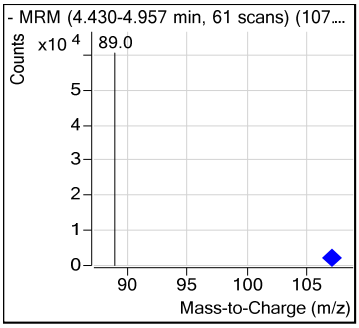
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26539.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:36
Sample Name	:	IC742-5.0
Vial	:	Vial 6
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

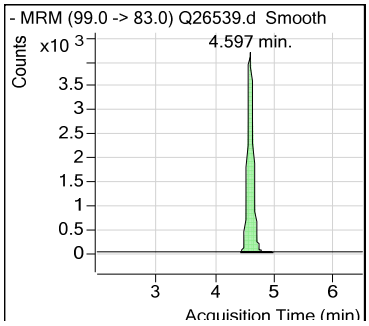
Cl18O4

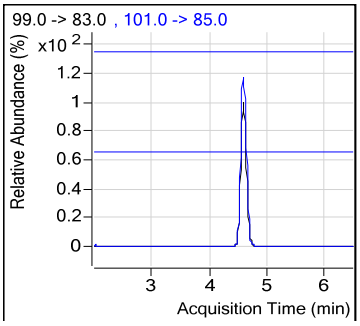


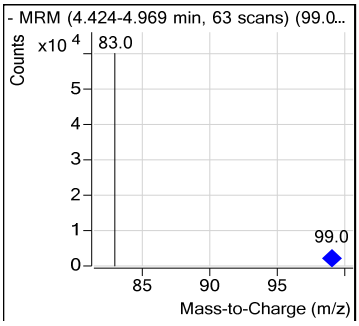




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26540.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:44
Sample Name	:	IC742-10
Vial	:	Vial 7
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

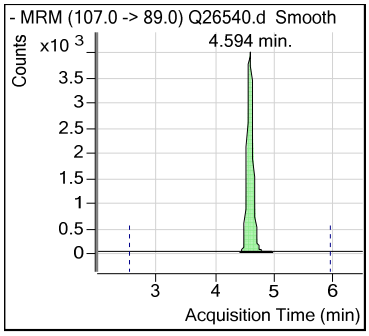
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	28307	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	56952	10.067	ng/ml	93	3.0
		101.0 -> 85.0	19202				

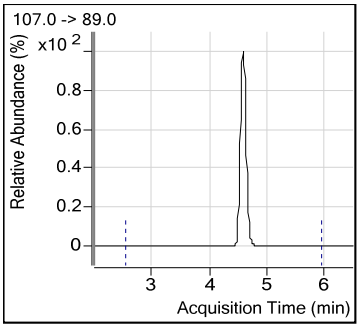
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

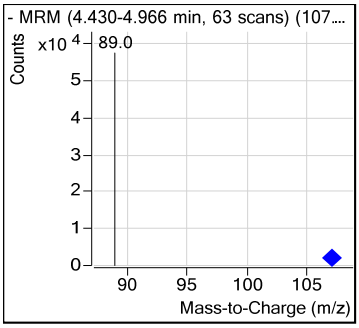
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26540.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:44
Sample Name	:	IC742-10
Vial	:	Vial 7
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

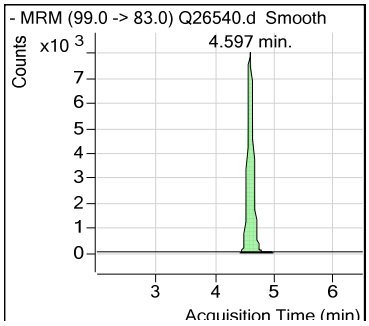
Cl18O4

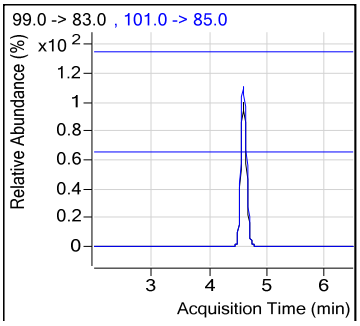


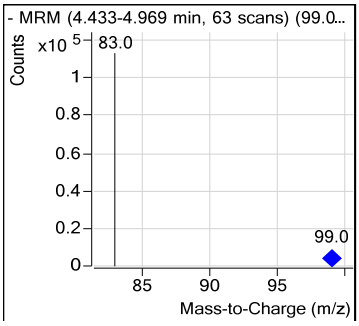




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26541.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:51
Sample Name	:	IC742-25
Vial	:	Vial 8
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

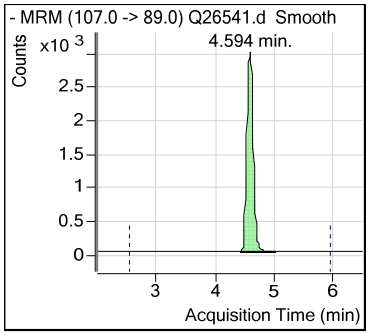
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	22743	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	125061	27.514	ng/ml	95	3.0
		101.0 -> 85.0	41037				

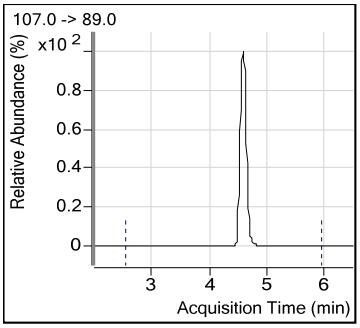
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

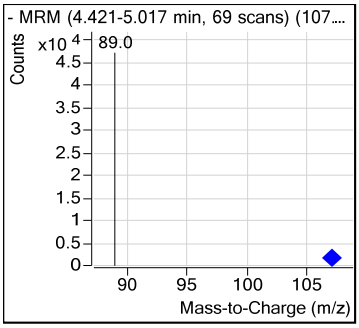
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26541.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:51
Sample Name	:	IC742-25
Vial	:	Vial 8
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

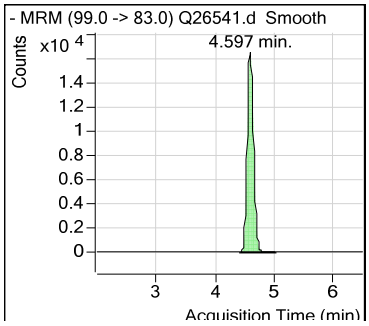
Cl18O4

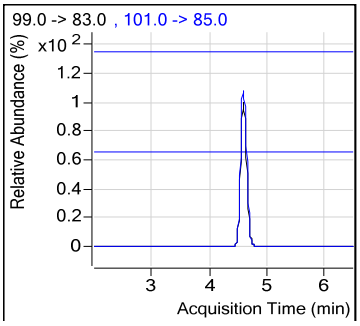


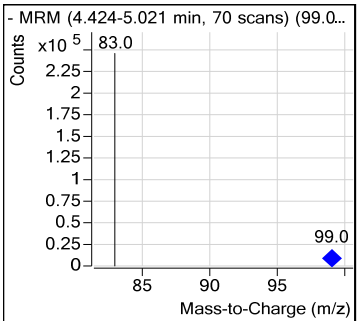




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26542.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:58
Sample Name	:	IC742-50
Vial	:	Vial 9
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

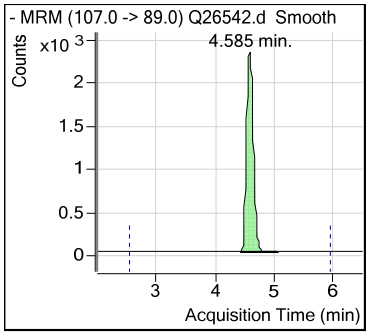
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.585	107.0 -> 89.0	18876	5.000	ng/ml	0.335	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	202303	53.625	ng/ml	95	3.0
		101.0 -> 85.0	66391				

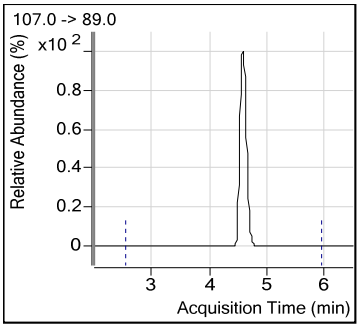
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

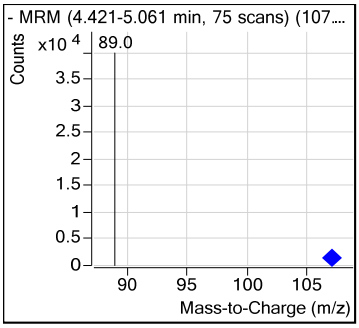
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26542.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 14:58
Sample Name	:	IC742-50
Vial	:	Vial 9
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

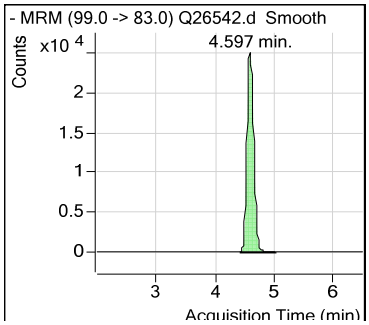
Cl18O4

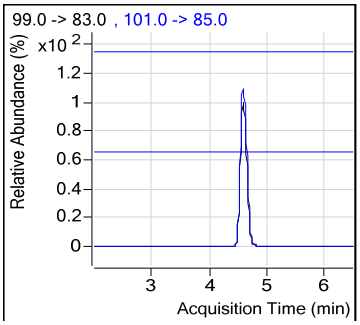


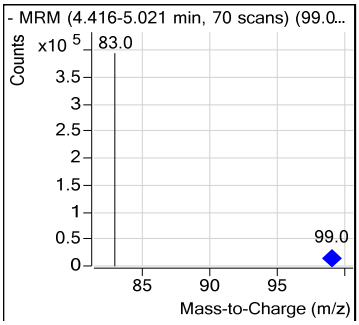




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26543.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 15:11
Sample Name	:	ICV742-2.0
Vial	:	Vial 10
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

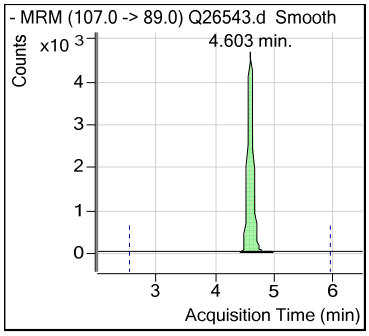
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	32171	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	14500	2.255	ng/ml	88	2.7
		101.0 -> 85.0	5315				

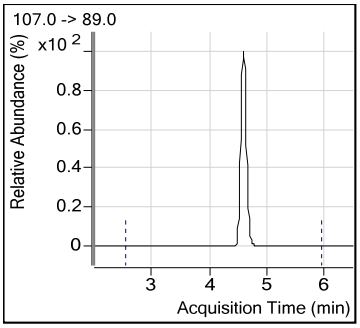
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

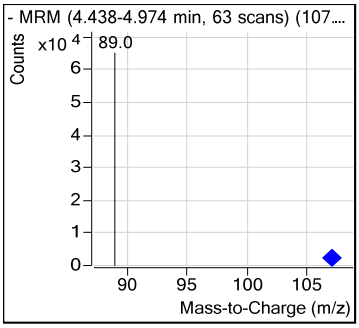
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26543.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 15:11
Sample Name	:	ICV742-2.0
Vial	:	Vial 10
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

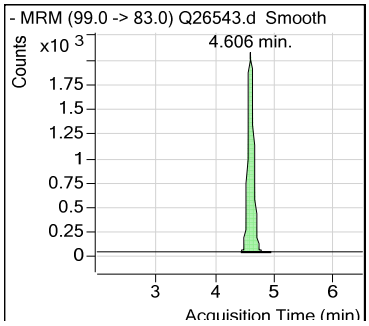
Cl18O4

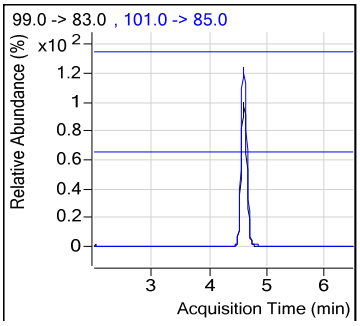


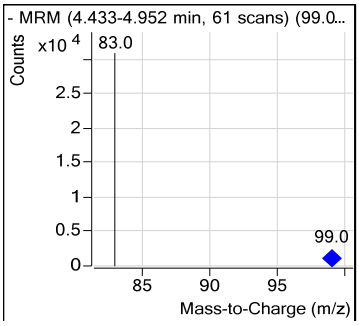




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26568.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:17
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

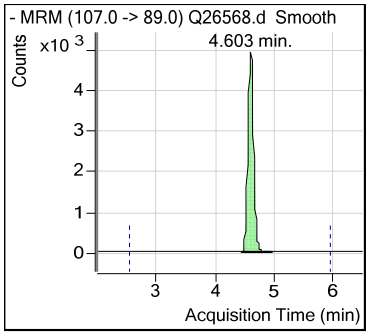
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	33212	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	12668	1.909	ng/ml	94	3.0
		101.0 -> 85.0	4241				

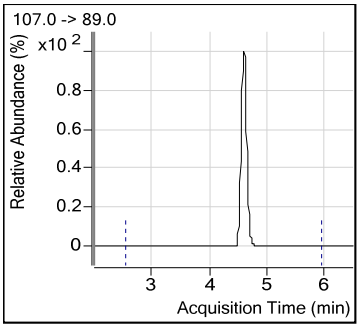
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

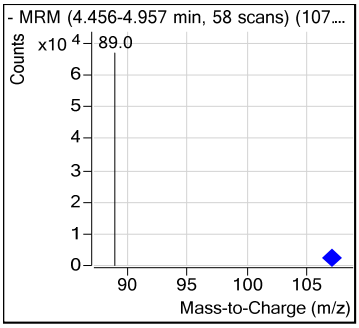
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26568.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:17
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

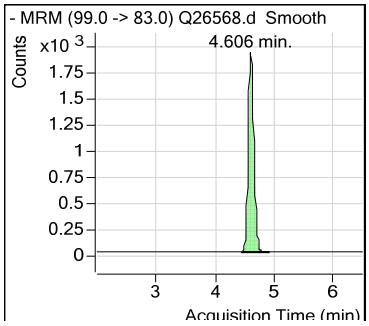
Cl18O4

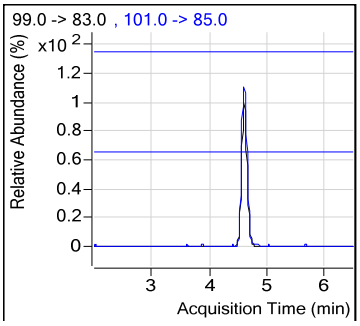


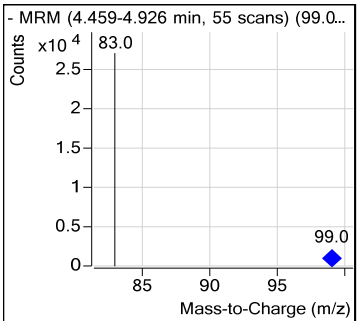




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26569.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:25
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

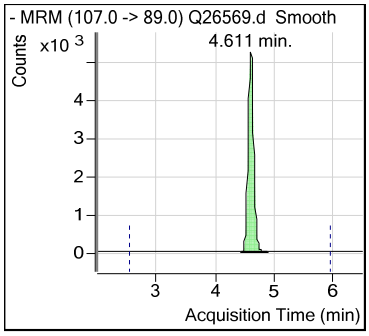
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.611	107.0 -> 89.0	34873	5.000	ng/ml	0.361	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	1232	0.177	ng/ml	86	2.7
		101.0 -> 85.0	463				

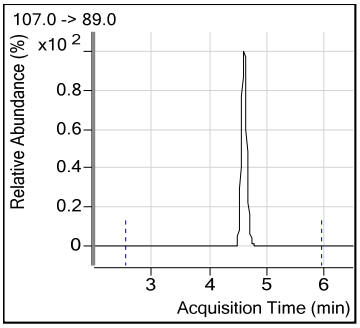
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

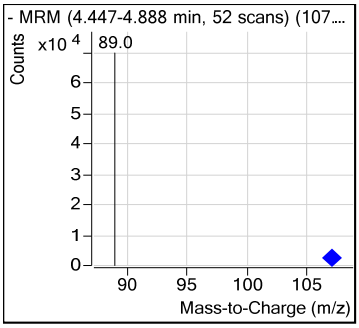
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26569.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 18:25
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

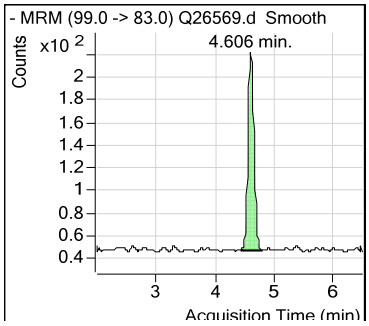
Cl18O4

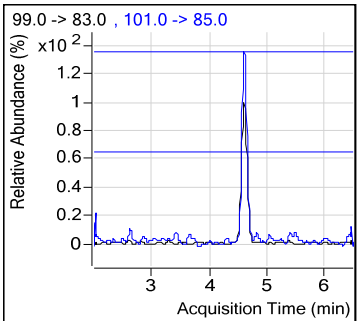


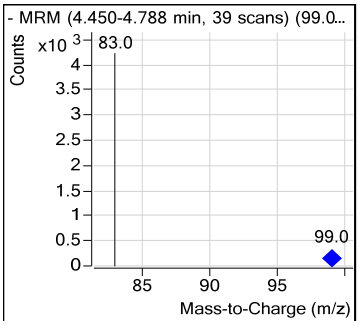




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:54
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

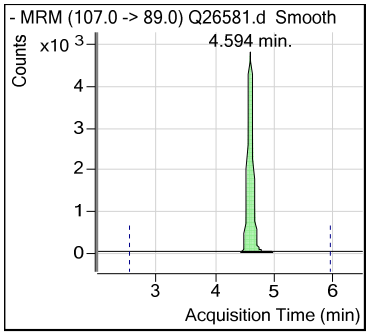
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.594	107.0 -> 89.0	31711	5.000	ng/ml	0.344	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	11224	1.771	ng/ml	95	3.1
		101.0 -> 85.0	3674				

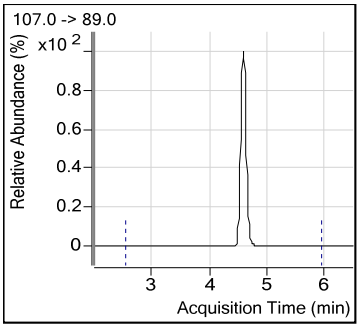
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

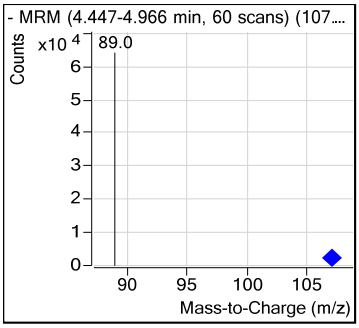
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 19:54
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

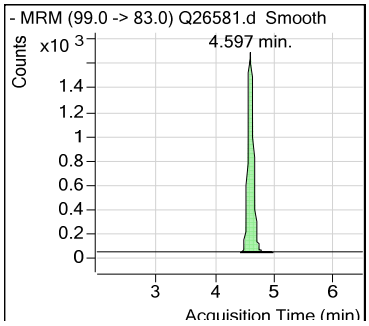
Cl18O4

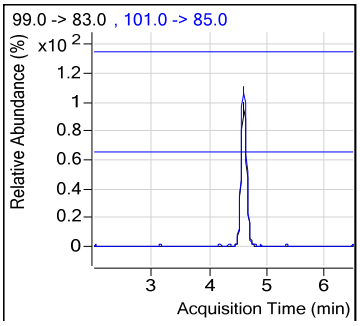


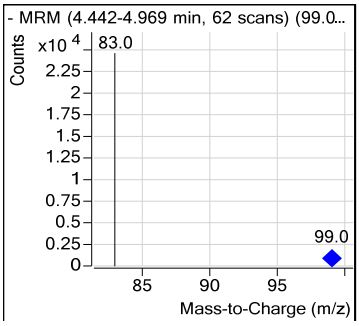




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26582.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:01
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

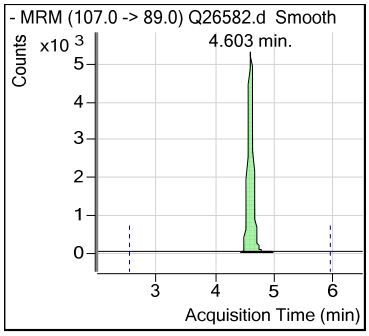
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	34712	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	1291	0.186	ng/ml	95	3.1
		101.0 -> 85.0	422				

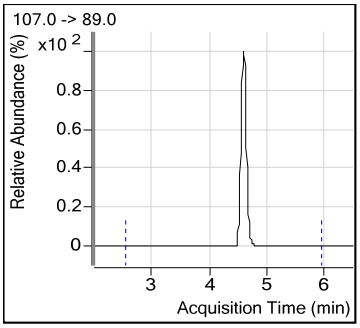
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

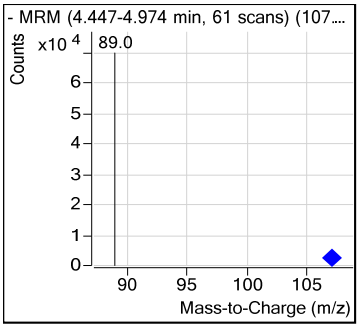
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26582.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:01
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

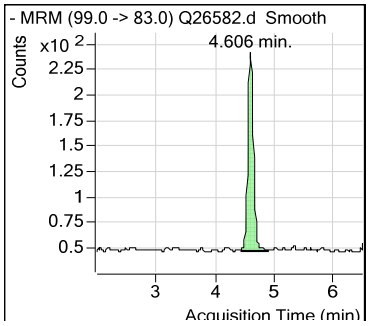
Cl18O4

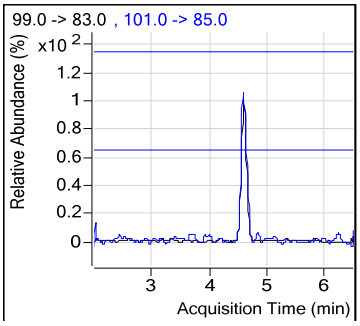


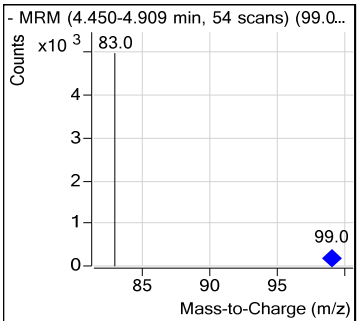




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26587.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:38
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

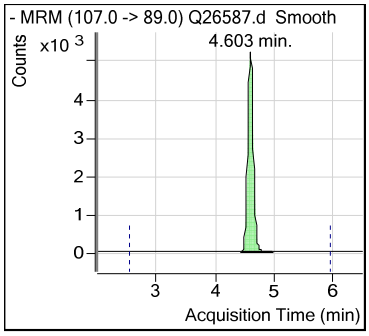
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	34792	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.597	99.0 -> 83.0	12470	1.793	ng/ml	92	2.9
		101.0 -> 85.0	4262				

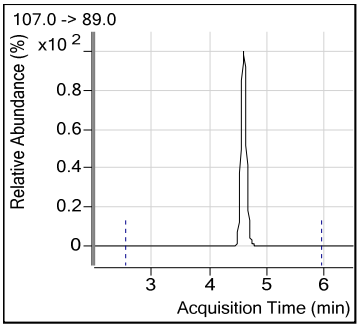
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

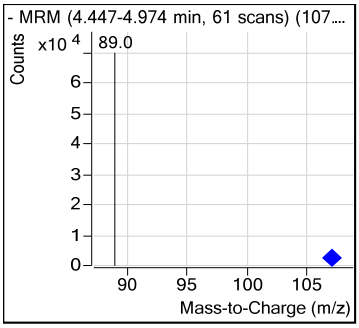
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26587.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:38
Sample Name	:	CC742-2.0
Vial	:	Vial 5
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

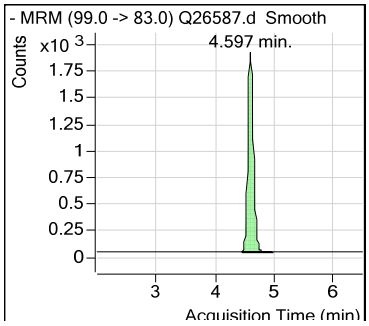
Cl18O4

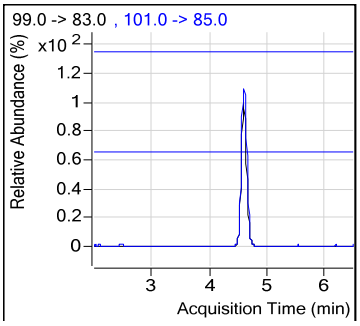


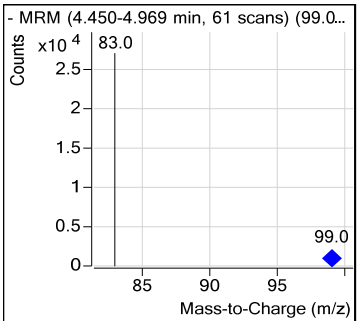




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26588.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:45
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ742.batch.bin
Last Calib Update	:	2016-10-18 08:38

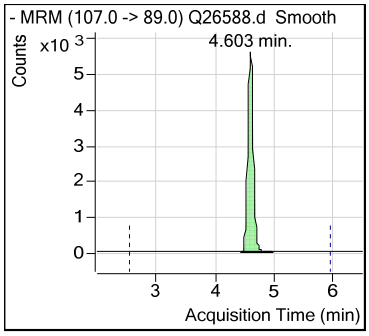
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.603	107.0 -> 89.0	36931	5.000	ng/ml	0.353	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.606	99.0 -> 83.0	1232	0.167	ng/ml	83	2.5
		101.0 -> 85.0	485				

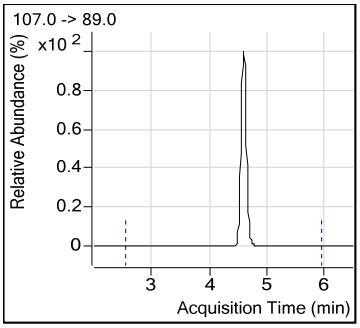
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

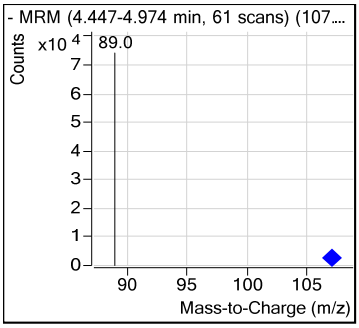
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q26588.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-10-17 20:45
Sample Name	:	CC742-0.2
Vial	:	Vial 2
Sample Info	:	OP61928,SQ742,10,,,10,1,water
Quant Method	:	6850_1017_SQ742.quantmethod.xml
Tune File	:	
Tune Date	:	

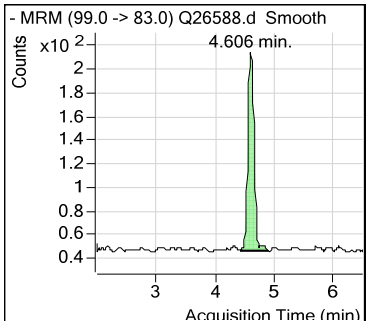
Cl18O4

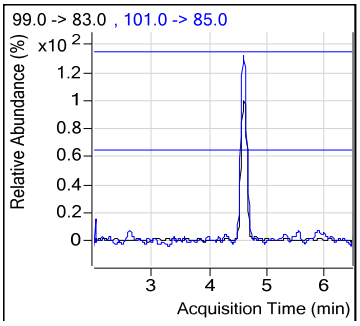


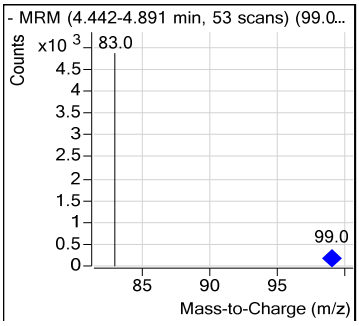




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 1017 SQ 742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	95/5 167396 / 162332
ELUENT B LOT #:	95/5 162332 / 167396
WATER LOT #:	167396
ISTD Lot #:	0064

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	26507	1	CCB	6850						ND
Q	08	1								ND
Q	09	1								ND
Q	10	1								ND
Q	11	1								ND ISTD ↓ in curve
Q	12	2	FCL742-0.2		LC711	20ul 10ml				QR ISTD went high
Q	13	3	-0.5			50ul 10ml				
Q	14	4	-1.0			100ul 10ml				
Q	15	5	-2.0			200ul 10ml				
Q	16	6	-5.0			500ul 10ml				
Q	17	7	-10			1.0ml 10ml				
Q	18	8	-25			2.5ml 10ml				
Q	19	9	-50			5.0ml 10ml				
Q	20	10	FCV742-2.0		LC734	200ul 10ml				
Q	21	11	FCS742-0.2			20ul 10ml				
Q	22	11	-0.2			↓				
Q	23	12	OP62262-BS		OP62262	14				
Q	24	13	-MS							
Q	25	14	FMS742-1							
Q	26	15	OP62262-MS							

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 NO7 SQ742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	95/5 165396/162732
ELUENT B LOT #:	95/5 162732/165396
WATER LOT #:	165396
ISTD Lot #:	8064

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26527	16	OP62262-MB	PFC	OP62262					RA ISTD wint ↑
Q 28	17	FA37412-2							
Q 29	18	-3							
Q 30	5	CC742-2.0		LC711	200ul 10ml				
Q 31	2	-0.2			20ul 10ml				
Q 32	1	CCA			—				
Q 33	1	CCB			—				
Q 34	1	CCB			—			L10K	
Q 35	2	IC742-0.2		LC711	20ul 10ml	2.6		~~L10K~~	✓
Q 36	3	0.5			50ul 10ml	2.5			✓
Q 37	4	-1.0			100ul 10ml	2.8			✓
Q 38	5	ICC742-2.0			200ul 10ml	2.8			✓
Q 39	6	IC742-5.0			500ul 10ml	2.8			✓
Q 40	7	-10			1.0ml 10ml	3.0			✓
Q 41	8	-25			2.5ml 10ml	3.0			✓ Drop
Q 42	9	-50			5.0ml 10ml	3.0			✓ ↓
Q 43	10	FCV742-2.0		LC734	200ul 10ml	2.7			Poss
Q 44	11	FCS742-0.2		↓	20ul 10ml	2.8		~~L10K~~ L15K	Poss 2016 Poss
Q 45	12	OP62262-BS		OP62262	1X	2.5		L10K	~~L10K~~ ✓
Q 46	13	-MB	↓	↓	↓	—		↓	ND

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K-Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	95% 165396 / 162332
ELUENT B LOT #:	95% 162332 / 165396
WATER LOT #:	165396
ISTD Lot #:	80621

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26547	14	FA37412-1	6850	OP62262	1x	2.6	MP	LOW	ND
Q 48	15	OP62262-MS				2.7			✓
Q 49	16	-MSD				2.5			✓
Q 50	17	FA37412-2				1.6	MP		ND
Q 51	18	-3				—			ND
Q 52	19	FA37413-1				2.3	MP		ND
Q 53	20	-2				—			ND
Q 54	21	-3				—			ND
Q 55	5	CC742-2.0		LC711	2over 10ml	2.8			Pass
Q 56	2	-0.2		↓	2over 10ml	2.8			Pass
Q 57	1	CCB		—	—	—			ND
Q 58	22	FA37414-1		OP62262	1x	2.5	MP		ND
Q 59	23	-2				3.3	MP		ND
Q 60	24	-3				3.0			✓
Q 61	25	FA37415-1				—			ND
Q 62	26	-2				2.5			✓
Q 63	27	-3				2.5			✓
Q 64	28	FA37416-1				2.6			✓
Q 65	29	-2				3.0			✓ Run 2x
Q 66	30	-3	↓	↓	↓	1.9	MP	↓	ND

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH: SQ	742

ANALYST:	NAS
ELUENT A LOT #:	9F1F 165396/162732
ELUENT B LOT #:	9F1F 162732/165396
WATER LOT #:	165396
ISTD Lot #:	8062

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26567	31	FA37416-4	6850	OP62262	1X	3.0	MP	LIW	ND
Q 68	5	CC742-2.0	↓	LC711	200uL 10ml	3.0		↓	Pos
Q 69	2	-0.2	↓	↓	20uL 10ml	2.7		↓	Poss
Q 70	1	CCB	↓	—	—	—		↓	ND
Q 71	32	FA37416-5	↓	OP62262	1X	3.0		↓	✓ Run 2x
Q 72	33	-6	↓	↓	↓	2.4		↓	ND
Q 73	34	OP62276-BS	↓	OP62276	1X	3.1		↓	✓
Q 74	35	-MB	↓	↓	↓	—		↓	ND
Q 75	36	FA37760-1	↓	↓	↓	ND		↓	ND
Q 76	37	-2	↓	↓	↓	2.9		↓	✓
Q 77	38	OP62276-MS	↓	↓	↓	2.7		↓	✓
Q 78	39	-MSD	↓	↓	↓	2.7		↓	✓
Q 79	40	FA37761-1	↓	↓	↓	2.8		↓	✓
Q 80	41	-2	↓	↓	↓	2.6		↓	✓
Q 81	5	CC742-2.0	↓	LC711	200uL 10ml	3.1		↓	Pos
Q 82	2	-0.2	↓	↓	20uL 10ml	3.1		↓	Poss
Q 83	1	CCB	↓	—	—	—		↓	ND
Q 84	42	FA37761-3	↓	OP62276	1X	3.8		↓	✓
Q 85	43	-4	↓	↓	↓	—		↓	ND
Q 86	44	FA37708-79	↓	↓	↓	3.2		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	10-17-16
COLUMN TYPE:	R Prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	106

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	perchlorate 2
PROC. METHOD:	6850 1017 SQ742
CALIB. DATE:	10-17-16
RUN BATCH:	SQ 742

ANALYST:	NAS NAS 10/18/16
ELUENT A LOT #:	95/5 LC4 165396/162732
ELUENT B LOT #:	95/5 162732/165396
WATER LOT #:	165396
ISTD Lot #:	80621

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 26587	5	CC742-2.0	PFC	LC711	2wve 10ml	2.9		<10K	Pass
Q 88	2	0.2		↓	2wve 10ml	2.5			Pass
Q 89	1	CCB		—	—	—			ND
Q 90	45	OA62263-BS		OP62263	1X	2.4			✓
Q 91	46	-MB				—			ND
Q 92	47	FA37707-BT				2.3			✓
Q 93	48	FA37415-4				—			ND
Q 94	49	OP62263-MS				2.5			✓
Q 95	50	-MSD				3.1			✓
Q 96	51	FA37415-5				—			ND
Q 97	52	FA37614-1				2.9			✓
Q 98	53	-2		↓	↓	2.9			✓
Q 99	5	CC742-2.0		LC714	2wve 10ml	2.9			Pass
Q 600	2	-0.2		↓	2wve 10ml	2.9			Pass
Q 601	1	CCB	↓	—	—	—		↓	ND
Q									
Q									
Q									
Q									
Q							NAS 10-18-16		

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST - ORLANDO | **LIQUID SAMPLE PREP REPORT**

Date/Time: 10-17-16 1000
Started {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Date/Time: 10-17-16 1500
Finished {mm/dd/yy 24:00}

Analytical Method: 6850

Batch#: OP62267 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 62267- MB	/	10.0					10.0	
OP - BS						20ul		
FA37760-1	1							
-2								MS/MSD
FA37761-1								
-2								
-3								
-4								
FA37708-79	/	10.0				10ul	10.0	LC711
OP62267- MS	1	10.0				20ul	10.0	FA37760-2
- MSD	1	↓				↓	↓	-2
DUP								

NAS 10-17-16

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —
Spk. ID: LC734 Conc: 100ppb Exp. Date: 12-04-16 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): ______ Exchange Bath/N-Evap Temp (Therm ID): ______
Observed Temp ℃: ______ Corr. Temp ℃: ______ Observed Temp ℃: ______ Corr. Temp ℃: ______

CH2CL2 Lot # — Hexane Lot # — Na2SO4 Lot# —
Acetonitrile Lot # — Methanol Lot # — Acetone Lot# —
~~Syringe~~ vial Filter Lot# 922647 pH Paper # — Reagent # —
Copper Lot # ______ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: [signature] Date: 10-17-16
Accepted By: [signature] Date: 10-17-16

NF 02/16 extwater 020116.xls

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-MB	PP380396.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	103%	70-136%

Method Blank Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-MB	GG060241.D	1	10/28/16	KL	10/17/16	OP62253	GGG2478

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	119%	70-136%

Blank Spike Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-BS	PP380395.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.2	104	77-144
121-82-4	RDX	5	4.8	96	77-125
	DNX	5	4.3	86	66-127
	MNX	5	4.9	98	71-137
	TNX	5	3.9	78	60-126
618-87-1	3,5-Dinitroaniline	5	4.3	86	77-115
99-65-0	1,3-Dinitrobenzene	5	4.8	96	79-122
606-20-2	2,6-Dinitrotoluene	5	5.4	108	81-131
121-14-2	2,4-Dinitrotoluene	5	5.1	102	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	5.2	104	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	5.1	102	79-119
98-95-3	Nitrobenzene	5	4.8	96	78-130
88-72-2	o-Nitrotoluene	5	5.1	102	76-131
99-08-1	m-Nitrotoluene	5	5.2	104	78-122
99-99-0	p-Nitrotoluene	5	5.4	108	79-124
479-45-8	Tetryl	5	6.7	134*	65-124
99-35-4	1,3,5-Trinitrobenzene	5	5.1	102	79-128
118-96-7	2,4,6-Trinitrotoluene	5	4.5	90	72-112
55-63-0	Nitroglycerine	25	24.8	99	69-123
78-11-5	PETN	25	29.3	117	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	103%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP62253-MS	PP380399.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037
OP62253-MSD	PP380400.D	1	10/21/16	KL	10/17/16	OP62253	GPP2037
FA37760-2 [a]	PP380487.D	1	10/27/16	KL	10/17/16	OP62253	GPP2041
FA37760-2 [b]	GG060242.D	1	10/28/16	KL	10/17/16	OP62253	GGG2478

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA37761-1, FA37761-2, FA37761-3, FA37761-4

CAS No.	Compound	FA37760-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	12.1		10	23.9	118	10	23.8	117	0	77-144/21
121-82-4	RDX	6.0		10	16.3	103	10	15.8	98	3	77-125/19
	DNX	0.20 U		10	9.2	92	10	8.9	89	3	66-127/25
	MNX	0.20 U		10	10.3	103	10	9.9	99	4	71-137/20
	TNX	0.20 U		10	9.0	90	10	8.4	84	7	60-126/18
618-87-1	3,5-Dinitroaniline	0.41		10	8.9	85	10	9.8	94	10	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		10	9.1	91	10	9.9	99	8	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		10	11.5	115	10	11.8	118	3	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		10	10.2	102	10	10.2	102	0	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	4.1		10	14.5	104	10	14.5	104	0	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	2.0		10	12.2	102	10	12.2	102	0	79-119/20
98-95-3	Nitrobenzene	0.20 U		10	9.7	97	10	9.8	98	1	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		10	10.0	100	10	10.2	102	2	76-131/20
99-08-1	m-Nitrotoluene	0.20 U		10	9.9	99	10	10.3	103	4	78-122/18
99-99-0	p-Nitrotoluene	0.20 U		10	10.1	101	10	10.3	103	2	79-124/18
479-45-8	Tetryl	0.20 U		10	13.6	136*	10	13.7	137*	1	65-124/20
99-35-4	1,3,5-Trinitrobenzene	19.1		10	29.1	100	10	28.9	98	1	79-128/16
118-96-7	2,4,6-Trinitrotoluene	10.6		10	19.4	88	10	19.4	88	0	72-112/16
55-63-0	Nitroglycerine	2.0 U		50	51.3	103	50	51.4	103	0	69-123/18
78-11-5	PETN	2.0 U		50	54.8	110	50	55.8	112	2	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA37760-2	FA37760-2	Limits
610-39-9	3,4-Dinitrotoluene	99%	99%	101%	120%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA37761-1	PP380488.D	99
FA37761-1	GG060268.D	118
FA37761-2	PP380489.D	97
FA37761-2	GG060269.D	115
FA37761-3	GG060245.D	115
FA37761-3	PP380490.D	98
FA37761-4	PP380406.D	96
OP62253-BS	PP380395.D	103
OP62253-MB	PP380396.D	103
OP62253-MB	GG060241.D	119
OP62253-MS	PP380399.D	99
OP62253-MSD	PP380400.D	99

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2478-ICC2478	**Injection Date:**	10/27/16
Lab File ID:	GG060231.D	**Injection Time:**	19:43
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	20.97

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP62296-MB	GG060237.D	10/27/16	23:10	20.96
ZZZZZZ	GG060238.D	10/27/16	23:45	20.91
ZZZZZZ	GG060239.D	10/28/16	00:19	20.93
FA37729-3	GG060240.D	10/28/16	00:54	20.94
OP62253-MB	GG060241.D	10/28/16	01:28	20.92
FA37760-2	GG060242.D	10/28/16	02:03	20.92
FA37761-3	GG060245.D	10/28/16	03:47	20.97

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2479-ICC2479	**Injection Date:**	10/28/16
Lab File ID:	GG060262.D	**Injection Time:**	14:10
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	21.00

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FA37761-1	GG060268.D	10/28/16	17:45	20.98
FA37761-2	GG060269.D	10/28/16	18:19	21.01
OP62404-MB	GG060272.D	10/28/16	20:03	20.92
FA37952-1	GG060273.D	10/28/16	20:38	20.87

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2037-CC2032	**Injection Date:**	10/21/16
Lab File ID:	PP380389.D	**Injection Time:**	12:50
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.03

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	PP380391.D	10/21/16	13:46	10.02
ZZZZZZ	PP380392.D	10/21/16	14:10	10.01
ZZZZZZ	PP380393.D	10/21/16	14:35	10.00
ZZZZZZ	PP380394.D	10/21/16	15:00	10.00
OP62253-BS	PP380395.D	10/21/16	15:25	10.00
OP62253-MB	PP380396.D	10/21/16	15:50	9.99
ZZZZZZ	PP380397.D	10/21/16	16:15	10.01
OP62253-MS	PP380399.D	10/21/16	17:05	9.99
OP62253-MSD	PP380400.D	10/21/16	17:30	9.99

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2037-CC2032	**Injection Date:**	10/21/16
Lab File ID:	PP380401.D	**Injection Time:**	17:55
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.00

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FA37761-4	PP380406.D	10/21/16	19:59	9.99
OP62312-BS	PP380407.D	10/21/16	20:24	9.99
OP62312-MB	PP380408.D	10/21/16	20:49	9.98
FA37828-5	PP380409.D	10/21/16	21:14	9.97
OP62312-MS	PP380410.D	10/21/16	21:39	9.97
OP62312-MSD	PP380411.D	10/21/16	22:04	9.97
ZZZZZZ	PP380412.D	10/21/16	22:29	9.97

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2041-CC2032	**Injection Date:**	10/27/16
Lab File ID:	PP380485.D	**Injection Time:**	17:10
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	9.95

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FA37760-2	PP380487.D	10/27/16	18:00	9.91
FA37761-1	PP380488.D	10/27/16	18:25	9.92
FA37761-2	PP380489.D	10/27/16	18:50	9.91
FA37761-3	PP380490.D	10/27/16	19:15	9.91
ZZZZZZ	PP380491.D	10/27/16	19:40	9.91
ZZZZZZ	PP380492.D	10/27/16	20:05	9.90

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

8.5.5

8

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICC2478
Lab FileID: GG060231.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 17:19:29 2016
Response via : Initial Calibration

Calibration Files
20 =GG060227.D 50 =GG060228.D 100 =GG060229.D 200 =GG060230.D
500 =GG060231.D 1000 =GG060232.D

		Compound	20	50	100	200	500	1000	Avg		%RSD
1)		TNX	8.661	8.323	8.509	8.170	8.018	7.770	8.242	E3	3.96
2)		HMX	2.280	2.455	2.645	2.816	2.879	2.804	2.646	E3	8.93
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
		Response Ratio = 0.00000 + 2874.72922 *A + -0.06629 *A^2									
3)		DNX	6.391	6.206	6.329	6.528	6.585	6.467	6.418	E3	2.16
4)		MNX	5.287	5.250	5.232	5.313	5.300	5.173	5.259	E3	0.99
5)		1,3,5-Trinitrobenze	8.381	8.482	8.729	8.850	8.784	8.549	8.629	E3	2.15
6)		RDX	3.685	3.681	3.941	4.012	4.033	3.921	3.879	E3	4.06
7)		1,3-Dinitrobenzene	1.244	1.175	1.219	1.218	1.195	1.167	1.203	E4	2.44
8)		Nitrobenzene	7.922	7.703	7.953	7.885	7.853	7.762	7.846	E3	1.23
9)		2,4,6-Trinitrotolue	8.289	7.975	8.310	8.306	8.267	8.102	8.208	E3	1.68
10)		Nitroglycerin							0.000		-1.00
11)		Tetryl	6.096	5.903	5.949	6.276	6.331	6.203	6.126	E3	2.85
12)	S	3,4-Dinitrotoluene	3.956	4.124	4.414	4.583	4.547	4.452	4.346	E3	5.76
13)		2,6-Dinitrotoluene	4.631	5.078	5.622	5.777	5.845	5.777	5.455	E3	9.01
14)		2,4-Dinitrotoluene	1.078	1.161	1.122	1.128	1.093	1.070	1.109	E4	3.12
15)		o-Nitrotoluene	4.685	4.663	4.966	5.011	4.873	4.723	4.820	E3	3.12
16)		3,5-Dinitroaniline	0.953	0.957	1.008	1.034	0.983	0.990	0.987	E4	3.11
17)		p-Nitrotoluene	4.391	4.325	4.338	4.390	4.298	4.293	4.339	E3	0.99
18)		4-Amino-2,6-Dinitro	6.267	5.882	5.617	5.771	5.749	6.090	5.896	E3	4.09
19)		m-Nitrotoluene	5.643	5.273	5.554	5.655	5.618	5.680	5.571	E3	2.73
20)		2-Amino-4,6-Dinitro	8.068	8.208	7.895	7.984	8.058	7.850	8.010	E3	1.62
21)		PETN							0.000		-1.00

Signal #2

1)		TNX	8.607	8.449	8.503	8.141	8.061	7.777	8.256	E3	3.84
2)		HMX	2.280	2.454	2.637	2.814	2.876	2.802	2.644	E3	8.90
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
		Response Ratio = 0.00000 + 2871.30196 *A + -0.06543 *A^2									
3)		DNX	6.391	6.207	6.293	6.531	6.588	6.470	6.413	E3	2.26
4)		MNX	7.241	7.234	7.673	8.202	8.067	7.943	7.727	E3	5.40
5)		1,3,5-Trinitrobenze	1.432	1.421	1.480	1.576	1.543	1.512	1.494	E4	4.10
6)		RDX	8.321	6.799	8.279	7.437	7.505	7.661	7.667	E3	7.46
7)		1,3-Dinitrobenzene	8.378	8.926	9.394	9.606	8.979	8.818	9.017	E3	4.82
8)		Nitrobenzene	7.777	7.324	7.845	7.130	7.211	7.215	7.417	E3	4.21
9)		2,4,6-Trinitrotolue	1.236	1.052	1.152	1.121	1.119	1.059	1.123	E4	6.00
10)		Nitroglycerin	2.449	2.937	3.091	2.990	3.009	2.968	2.907	E3	7.93
11)		Tetryl	1.129	1.102	1.049	1.143	1.121	1.094	1.106	E4	3.02
12)	S	3,4-Dinitrotoluene	4.938	6.920	8.081	8.991	8.693	8.654	7.713	E3	20.04
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998									
		Response Ratio = 0.00000 + 8701.87459 *A + -0.04462 *A^2									
13)		2,6-Dinitrotoluene	1.118	4.167	6.171	6.941	7.850	7.932	5.697	E3	46.26
		---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9992									

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICC2478
Lab FileID: GG060231.D

```
              Response Ratio = 0.00000 + 7209.13322 *A + 0.75155 *A^2

14)     2,4-Dinitrotoluene  7.043 5.769 7.355 7.399 7.804 7.492 7.144 E3  10.03
15)     o-Nitrotoluene      4.349 5.977 6.764 6.931 6.903 6.701 6.271 E3  16.02
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 7006.46991 *A + -0.30023 *A^2

16)     3,5-Dinitroaniline  0.803 1.294 1.623 1.578 1.719 1.633 1.442 E4  23.92
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 17083.75942 *A + -0.70771 *A^2

17)     p-Nitrotoluene      5.709 5.411 7.747 7.537 7.033 7.112 6.758 E3  14.34
18)     4-Amino-2,6-Dinitro 0.989 1.013 1.004 1.192 1.167 1.131 1.083 E4   8.38
19)     m-Nitrotoluene      1.185 0.729 0.904 1.006 0.965 0.926 0.952 E4  15.55
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 9954.10951 *A + -0.69119 *A^2

20)     2-Amino-4,6-Dinitro 1.117 1.304 1.083 1.163 1.154 1.136 1.159 E4   6.60
21)     PETN                2.701 2.828 3.245 3.208 3.146 3.159 3.048 E3   7.41
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_1027.M        Fri Oct 28 17:19:48 2016
```

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060234.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1025RPB3\GG060234.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1025RPB3\GG060234.D\dad1A.ch
Acq On : 27-Oct-2016, 21:26:53 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	494.395	1.1	102	0.02	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	500.000	574.616	-14.9	113	0.05	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	500.000	542.313	-8.5	106	0.04	7.00- 8.00
4	MNX	500.000	530.038	-6.0	105	0.07	8.82- 9.82
5	1,3,5-Trinitrobenzene	----------NA----------					
6	RDX	----------NA----------					
7	1,3-Dinitrobenzene	----------NA----------					
8	Nitrobenzene	----------NA----------					
9	2,4,6-Trinitrotoluene	----------NA----------					
10	Nitroglycerin	----------NA----------					
11	Tetryl	----------NA----------					
12 S	3,4-Dinitrotoluene	----------NA----------					
13	2,6-Dinitrotoluene	----------NA----------					
14	2,4-Dinitrotoluene	----------NA----------					
15	o-Nitrotoluene	----------NA----------					
16	3,5-Dinitroaniline	----------NA----------					
17	p-Nitrotoluene	----------NA----------					
18	4-Amino-2,6-Dinitrotoluen	----------NA----------					
19	m-Nitrotoluene	----------NA----------					
20	2-Amino-4,6-Dinitrotoluen	----------NA----------					
21	PETN	----------NA----------					

***** Signal #2 *****

1	TNX	500.000	496.331	0.7	102	0.02	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	500.000	574.690	-14.9	113	0.05	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	500.000	542.912	-8.6	106	0.04	7.00- 8.00
4	MNX	500.000	553.462	-10.7	106	0.07	8.82- 9.82
5	1,3,5-Trinitrobenzene	----------NA----------					
6	RDX	----------NA----------					
7	1,3-Dinitrobenzene	----------NA----------					
8	Nitrobenzene	----------NA----------					
9	2,4,6-Trinitrotoluene	----------NA----------					

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060234.D

10		Nitroglycerin	2500.000	2643.314	-5.7	102	0.17	17.36-18.36
11		Tetryl		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
14		2,4-Dinitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
15		o-Nitrotoluene		----------NA----------				
16		3,5-Dinitroaniline		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
17		p-Nitrotoluene		----------NA----------				
18		4-Amino-2,6-Dinitrotoluen		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
19		m-Nitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
20		2-Amino-4,6-Dinitrotoluen		----------NA----------				
21		PETN	2500.000	2717.369	-8.7	105	0.14	28.07-29.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060231.D 8330RPB.M_1027.M Fri Oct 28 08:25:12 2016

8.6.2

8

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060235.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1025RPB3\GG060235.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1025RPB3\GG060235.D\dad1A.ch
Acq On : 27-Oct-2016, 22:01:30 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
	---------- Amount		Calc.	%Drift			
2	HMX		----------NA----------				
	---------- Amount		Calc.	%Drift			
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	500.000	528.101	-5.6	104	0.00	10.03-11.03
6	RDX	500.000	541.731	-8.3	104	0.02	10.80-11.80
7	1,3-Dinitrobenzene	500.000	490.495	1.9	99	0.03	13.56-14.56
8	Nitrobenzene	500.000	537.180	-7.4	107	0.04	15.03-16.03
9	2,4,6-Trinitrotoluene	500.000	427.245	14.6	85	0.03	16.29-17.29
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	509.076	-1.8	99	0.06	18.70-19.70
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	549.721	-9.9	103	0.07	20.92-21.92
14	2,4-Dinitrotoluene	500.000	504.797	-1.0	102	0.06	21.90-22.90
15	o-Nitrotoluene	500.000	562.056	-12.4	111	0.06	23.85-24.85
16	3,5-Dinitroaniline	500.000	492.465	1.5	99	0.06	23.60-24.60
17	p-Nitrotoluene	500.000	556.507	-11.3	112	0.06	24.89-25.89
18	4-Amino-2,6-Dinitrotol	500.000	524.735	-4.9	108	0.07	25.29-26.29
19	m-Nitrotoluene	500.000	551.297	-10.3	109	0.06	26.00-27.00
20	2-Amino-4,6-Dinitrotol	500.000	532.680	-6.5	106	0.07	27.12-28.12
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
	---------- Amount		Calc.	%Drift			
2	HMX		----------NA----------				
	---------- Amount		Calc.	%Drift			
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	500.000	532.627	-6.5	103	0.00	10.03-11.03
6	RDX	500.000	505.212	-1.0	103	0.02	10.80-11.80
7	1,3-Dinitrobenzene	500.000	487.432	2.5	98	0.03	13.56-14.56
8	Nitrobenzene	500.000	541.673	-8.3	111	0.04	15.03-16.03
9	2,4,6-Trinitrotoluene	500.000	421.133	15.8#	85	0.03	16.28-17.28

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-ICV2478
Lab FileID: GG060235.D

10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	503.646	-0.7	99	0.06	18.70-19.70
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	536.278	-7.3	104	0.07	20.92-21.92
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	500.000	549.570	-9.9	101	0.06	21.92-22.92
		Amount	Calc.	%Drift			
15	o-Nitrotoluene	500.000	588.072	-17.6#	116	0.07	23.84-24.84
16	3,5-Dinitroaniline	500.000	460.650	7.9	90	0.06	23.61-24.61
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	580.478	-16.1#	112	0.05	24.89-25.89
18	4-Amino-2,6-Dinitrotol	500.000	554.624	-10.9	103	0.06	25.29-26.29
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	500.000	537.776	-7.6	107	0.06	26.00-27.00
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	500.000	532.740	-6.5	107	0.07	27.12-28.12
21	PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060231.D 8330RPB.M_1027.M Fri Oct 28 08:25:13 2016

8.6.3

8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-CC2478
Lab FileID: GG060247.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1025RPB3\GG060247.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1025RPB3\GG060247.D\dad1A.ch
Acq On : 28-Oct-2016, 04:56:31 Operator: kismetl
Sample : cc2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	960.089	4.0	102	0.00	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	1000.000	992.059	0.8	99	-0.01	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	1000.000	999.881	0.0	99	-0.02	7.00- 8.00
4	MNX	1000.000	1019.709	-2.0	104	-0.03	8.82- 9.82
5	1,3,5-Trinitrobenzene	1000.000	1019.224	-1.9	103	-0.02	10.03-11.03
6	RDX	1000.000	1012.309	-1.2	100	-0.02	10.80-11.80
7	1,3-Dinitrobenzene	1000.000	962.529	3.7	99	-0.01	13.56-14.56
8	Nitrobenzene	1000.000	991.023	0.9	100	0.00	15.03-16.03
9	2,4,6-Trinitrotoluene	1000.000	981.376	1.9	99	0.00	16.29-17.29
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1013.415	-1.3	100	0.00	18.70-19.70
12 S	3,4-Dinitrotoluene	1000.000	1021.440	-2.1	100	0.01	20.48-21.48
13	2,6-Dinitrotoluene	1000.000	1052.626	-5.3	99	0.01	20.92-21.92
14	2,4-Dinitrotoluene	1000.000	956.619	4.3	99	0.01	21.90-22.90
15	o-Nitrotoluene	1000.000	1006.578	-0.7	103	-0.03	23.85-24.85
16	3,5-Dinitroaniline	1000.000	1008.617	-0.9	101	0.03	23.60-24.60
17	p-Nitrotoluene	1000.000	973.222	2.7	98	0.03	24.89-25.89
18	4-Amino-2,6-Dinitrotol	1000.000	947.921	5.2	92	0.03	25.29-26.29
19	m-Nitrotoluene	1000.000	997.911	0.2	98	0.03	26.00-27.00
20	2-Amino-4,6-Dinitrotol	1000.000	977.092	2.3	100	0.04	27.12-28.12
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	941.109	5.9	100	0.00	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	1000.000	992.105	0.8	99	-0.01	6.70- 7.70
	Amount	Calc.	%Drift				
3	DNX	1000.000	1000.938	-0.1	99	-0.02	7.00- 8.00
4	MNX	1000.000	1034.117	-3.4	101	-0.02	8.82- 9.82
5	1,3,5-Trinitrobenzene	1000.000	1003.584	-0.4	99	-0.02	10.03-11.03
6	RDX	1000.000	1005.633	-0.6	101	-0.02	10.80-11.80
7	1,3-Dinitrobenzene	1000.000	1023.661	-2.4	105	-0.01	13.56-14.56
8	Nitrobenzene	1000.000	976.453	2.4	100	0.00	15.03-16.03
9	2,4,6-Trinitrotoluene	1000.000	934.574	6.5	99	0.00	16.28-17.28

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2478-CC2478
Lab FileID: GG060247.D

10	Nitroglycerin	5000.000	5031.351	-0.6	99	0.00	17.36-18.36
11	Tetryl	1000.000	973.927	2.6	98	0.00	18.70-19.70
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	1000.000	994.247	0.6	99	0.01	20.47-21.47
13	2,6-Dinitrotoluene	1000.000	985.019	1.5	99	0.01	20.92-21.92
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	1030.780	-3.1	98	0.00	21.92-22.92
		Amount	Calc.	%Drift			
15	o-Nitrotoluene	1000.000	1029.197	-2.9	103	-0.02	23.84-24.84
16	3,5-Dinitroaniline	1000.000	1004.695	-0.5	101	0.02	23.61-24.61
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	1000.000	1029.312	-2.9	98	0.02	24.89-25.89
18	4-Amino-2,6-Dinitrotol	1000.000	1040.560	-4.1	100	0.03	25.29-26.29
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	1000.000	1004.005	-0.4	100	0.03	26.00-27.00
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	950.303	5.0	97	0.04	27.12-28.12
21	PETN	5000.000	5114.133	-2.3	99	0.00	28.07-29.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060232.D 8330RPB.M_1027.M Fri Oct 28 13:34:24 2016

8.6.4

8

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-ICC2479
Lab FileID: GG060262.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Initial Calibration

Calibration Files
20 =GG060258.D 50 =GG060259.D 100 =GG060260.D 200 =GG060261.D
500 =GG060262.D 1000=GG060263.D 2000=GG060264.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	8.514	8.250	8.214	8.243	8.022	7.750	8.146	8.163	E3	2.87
2)	HMX	1.827	2.300	2.645	2.793	2.870	2.808	2.862	2.586	E3	15.06
	---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 2851.01148 *A										
3)	DNX	5.662	5.974	6.281	6.457	6.518	6.397	6.850	6.305	E3	6.13
4)	MNX	5.313	5.084	5.203	5.270	5.258	5.127	5.455	5.244	E3	2.35
5)	1,3,5-Trinitroben	8.947	8.401	8.642	8.809	8.762	8.527	8.988	8.725	E3	2.46
6)	RDX	4.249	3.559	3.830	4.052	4.041	3.905	4.113	3.964	E3	5.66
7)	1,3-Dinitrobenzen	1.210	1.149	1.212	1.213	1.191	1.164	1.221	1.194	E4	2.30
8)	Nitrobenzene	7.900	7.618	7.787	7.745	7.833	7.634	7.951	7.781	E3	1.62
9)	2,4,6-Trinitrotol	8.345	7.976	8.145	8.204	8.277	8.063	8.499	8.215	E3	2.15
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	6.372	6.088	6.214	6.244	6.364	6.200	6.544	6.289	E3	2.37
12)S	3,4-Dinitrotoluen	4.086	4.214	4.423	4.523	4.538	4.470	4.619	4.410	E3	4.34
13)	2,6-Dinitrotoluen	4.849	5.175	5.522	5.728	5.726	5.736	6.157	5.556	E3	7.70
14)	2,4-Dinitrotoluen	1.059	1.074	1.122	1.119	1.082	1.064	1.116	1.091	E4	2.50
15)	o-Nitrotoluene	4.484	4.681	4.711	4.732	4.895	4.613	5.030	4.735	E3	3.80
16)	3,5-Dinitroanilin	0.965	0.953	1.019	1.019	1.010	0.988	1.062	1.002	E4	3.70
17)	p-Nitrotoluene	4.592	4.490	4.403	4.221	4.311	4.174	4.349	4.363	E3	3.36
18)	4-Amino-2,6-Dinit	6.371	5.794	5.767	5.688	5.691	5.739	5.908	5.851	E3	4.12
19)	m-Nitrotoluene	5.713	5.630	5.639	5.608	5.613	5.457	5.882	5.649	E3	2.27
20)	2-Amino-4,6-Dinit	7.951	7.744	7.920	8.148	7.954	7.824	8.418	7.994	E3	2.81
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	8.226	8.172	8.308	8.245	8.067	7.748	8.146	8.130	E3	2.28
2)	HMX	1.944	2.298	2.642	2.790	2.867	2.806	2.860	2.601	E3	13.50
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 2786.98799 *A + 0.03571 *A^2										
3)	DNX	5.543	5.827	6.283	6.459	6.521	6.399	6.853	6.269	E3	7.07
4)	MNX	7.007	7.225	7.617	8.270	7.908	7.825	8.365	7.745	E3	6.51
5)	1,3,5-Trinitroben	1.931	1.417	1.493	1.522	1.539	1.508	1.587	1.571	E4	10.63
6)	RDX	8.015	7.925	8.683	7.680	7.742	7.579	7.944	7.938	E3	4.58
7)	1,3-Dinitrobenzen	9.549	9.615	9.633	9.370	8.931	8.889	9.285	9.325	E3	3.33
8)	Nitrobenzene	8.231	6.651	6.629	7.268	7.247	7.108	7.380	7.216	E3	7.45
9)	2,4,6-Trinitrotol	0.883	1.037	1.064	1.067	1.085	1.049	1.111	1.042	E4	7.13
10)	Nitroglycerin	2.757	2.801	3.084	2.990	2.975	2.921	3.078	2.944	E3	4.31
11)	Tetryl	1.414	1.226	0.956	1.063	1.108	1.074	1.131	1.139	E4	12.80
12)S	3,4-Dinitrotoluen	5.119	7.223	7.350	8.239	8.615	8.700	9.097	7.763	E3	17.49
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 8309.19200 *A + 0.39421 *A^2										
13)	2,6-Dinitrotoluen	4.664	5.276	5.611	7.003	7.518	7.827	8.491	6.627	E3	21.83
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-ICC2479
Lab FileID: GG060262.D

```
              Response Ratio = 0.00000 + 7096.82455 *A + 0.69931 *A^2

 14)  2,4-Dinitrotoluen 6.735 6.123 7.049 7.550 7.417 7.470 7.691 7.148 E3   7.80
 15)  o-Nitrotoluene    5.681 6.358 6.954 6.858 6.934 6.984 7.102 6.696 E3   7.57
 16)  3,5-Dinitroanilin 1.644 1.407 1.587 1.653 1.649 1.670 1.748 1.623 E4   6.54
 17)  p-Nitrotoluene    6.647 6.176 8.299 7.129 7.323 6.868 7.045 7.070 E3   9.31
 18)  4-Amino-2,6-Dinit 0.903 0.876 1.359 1.211 1.158 1.146 1.174 1.118 E4  15.37
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 11405.21839 *A + 0.16280 *A^2

 19)  m-Nitrotoluene    1.018 1.264 0.963 0.938 0.954 0.905 0.956 1.000 E4  12.14
 20)  2-Amino-4,6-Dinit 0.980 1.020 1.229 1.182 1.151 1.123 1.188 1.125 E4   8.18
 21)  PETN              3.121 2.812 3.627 3.289 3.095 3.142 3.286 3.196 E3   7.76
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_1028.M        Mon Oct 31 08:11:01 2016
```

8.6.5

8

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-ICV2479
Lab FileID: GG060265.D

Evaluate Continuing Calibration Report

```
Signal #1 : G:\DATA\1028RPB3\GG060265.D\dad1B.ch         Vial: 10
Signal #2 : G:\DATA\1028RPB3\GG060265.D\dad1A.ch
Acq On    : 28-Oct-2016, 16:01:19                    Operator: kismetl
Sample    : icv2479-500                              Inst    : G1315B
Misc      : OP62296,GGG2479,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_1028.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	501.476	-0.3	102	0.00	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	500.000	571.273	-14.3	114	0.00	6.68- 7.68
	Amount	Calc.	%Drift				
3	DNX	500.000	539.077	-7.8	104	0.00	6.98- 7.98
4	MNX	500.000	532.228	-6.4	106	0.00	8.80- 9.80
5	1,3,5-Trinitrobenzene	----------NA----------					
6	RDX	----------NA----------					
7	1,3-Dinitrobenzene	----------NA----------					
8	Nitrobenzene	----------NA----------					
9	2,4,6-Trinitrotoluene	----------NA----------					
10	Nitroglycerin	----------NA----------					
11	Tetryl	----------NA----------					
12 S	3,4-Dinitrotoluene	----------NA----------					
13	2,6-Dinitrotoluene	----------NA----------					
14	2,4-Dinitrotoluene	----------NA----------					
15	o-Nitrotoluene	----------NA----------					
16	3,5-Dinitroaniline	----------NA----------					
17	p-Nitrotoluene	----------NA----------					
18	4-Amino-2,6-Dinitrotoluen	----------NA----------					
19	m-Nitrotoluene	----------NA----------					
20	2-Amino-4,6-Dinitrotoluen	----------NA----------					
21	PETN	----------NA----------					

***** Signal #2 *****

1	TNX	500.000	502.933	-0.6	101	0.00	6.02- 7.02
	Amount	Calc.	%Drift				
2	HMX	500.000	579.575	-15.9#	114	0.00	6.68- 7.68
	Amount	Calc.	%Drift				
3	DNX	500.000	542.359	-8.5	104	0.00	6.98- 7.98
4	MNX	500.000	545.719	-9.1	107	0.00	8.79- 9.79
5	1,3,5-Trinitrobenzene	----------NA----------					
6	RDX	----------NA----------					
7	1,3-Dinitrobenzene	----------NA----------					
8	Nitrobenzene	----------NA----------					
9	2,4,6-Trinitrotoluene	----------NA----------					

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-ICV2479
Lab FileID: GG060265.D

10		Nitroglycerin	2500.000	2535.691	-1.4	100	0.00	17.34-18.34
11		Tetryl		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
14		2,4-Dinitrotoluene		----------NA----------				
15		o-Nitrotoluene		----------NA----------				
16		3,5-Dinitroaniline		----------NA----------				
17		p-Nitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
18		4-Amino-2,6-Dinitrotoluen		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
19		m-Nitrotoluene		----------NA----------				
20		2-Amino-4,6-Dinitrotoluen		----------NA----------				
21		PETN	2500.000	2548.446	-1.9	105	0.02	28.06-29.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060262.D 8330RPB.M_1028.M Mon Oct 31 08:11:34 2016

8.6.6

8

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-ICV2479
Lab FileID: GG060266.D

Evaluate Continuing Calibration Report

```
Signal #1 : G:\DATA\1028RPB3\GG060266.D\dad1B.ch         Vial: 11
Signal #2 : G:\DATA\1028RPB3\GG060266.D\dad1A.ch
Acq On    : 28-Oct-2016, 16:35:58                    Operator: kismetl
Sample    : icv2479-500                              Inst    : G1315B
Misc      : OP62296,GGG2479,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_1028.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
	---------- Amount		Calc.	%Drift			
2	HMX		----------NA----------				
	---------- Amount		Calc.	%Drift			
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	500.000	517.078	-3.4	103	0.00	10.01-11.01
6	RDX	500.000	519.627	-3.9	102	0.01	10.77-11.77
7	1,3-Dinitrobenzene	500.000	488.208	2.4	98	0.02	13.55-14.55
8	Nitrobenzene	500.000	531.575	-6.3	106	0.02	15.03-16.03
9	2,4,6-Trinitrotoluene	500.000	421.279	15.7#	84	0.01	16.27-17.27
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	486.412	2.7	96	0.01	18.68-19.68
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	542.133	-8.4	105	0.03	20.92-21.92
14	2,4-Dinitrotoluene	500.000	515.320	-3.1	104	0.02	21.91-22.91
15	o-Nitrotoluene	500.000	558.093	-11.6	108	0.02	23.88-24.88
16	3,5-Dinitroaniline	500.000	455.936	8.8	91	0.00	23.59-24.59
17	p-Nitrotoluene	500.000	537.138	-7.4	109	0.01	24.91-25.91
18	4-Amino-2,6-Dinitrotol	500.000	521.216	-4.2	107	0.00	25.29-26.29
19	m-Nitrotoluene	500.000	516.996	-3.4	104	0.00	26.02-27.02
20	2-Amino-4,6-Dinitrotol	500.000	522.632	-4.5	105	0.00	27.12-28.12
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX		----------NA----------				
	---------- Amount		Calc.	%Drift			
2	HMX		----------NA----------				
	---------- Amount		Calc.	%Drift			
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	500.000	503.353	-0.7	103	0.00	10.01-11.01
6	RDX	500.000	486.806	2.6	100	0.00	10.77-11.77
7	1,3-Dinitrobenzene	500.000	478.253	4.3	100	0.01	13.55-14.55
8	Nitrobenzene	500.000	545.615	-9.1	109	0.02	15.03-16.03
9	2,4,6-Trinitrotoluene	500.000	434.057	13.2	83	0.01	16.27-17.27

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-ICV2479
Lab FileID: GG060266.D

10	Nitroglycerin			----------NA----------				
11	Tetryl	500.000	463.488	7.3	95	0.00	18.68-19.68	
		Amount	Calc.	%Drift				
12 S	3,4-Dinitrotoluene			----------NA----------				
13	2,6-Dinitrotoluene	500.000	537.210	-7.4	107	0.03	20.92-21.92	
		Amount	Calc.	%Drift				
14	2,4-Dinitrotoluene	500.000	543.773	-8.8	105	0.01	21.92-22.92	
15	o-Nitrotoluene	500.000	572.180	-14.4	110	0.02	23.89-24.89	
16	3,5-Dinitroaniline	500.000	464.108	7.2	91	0.00	23.59-24.59	
17	p-Nitrotoluene	500.000	548.281	-9.7	106	0.00	24.92-25.92	
		Amount	Calc.	%Drift				
18	4-Amino-2,6-Dinitrotol	500.000	523.977	-4.8	104	0.00	25.29-26.29	
		Amount	Calc.	%Drift				
19	m-Nitrotoluene	500.000	493.489	1.3	103	0.00	26.02-27.02	
20	2-Amino-4,6-Dinitrotol	500.000	536.111	-7.2	105	0.00	27.12-28.12	
21	PETN			----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060262.D 8330RPB.M_1028.M Mon Oct 31 08:11:35 2016

8.6.7

8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-CC2479
Lab FileID: GG060274.D

Evaluate Continuing Calibration Report

```
Signal #1 : G:\DATA\1028RPB3\GG060274.D\dad1B.ch         Vial: 30
Signal #2 : G:\DATA\1028RPB3\GG060274.D\dad1A.ch
Acq On    : 28-Oct-2016, 21:12:37                    Operator: kismetl
Sample    : cc2479-1000                              Inst    : G1315B
Misc      : OP62296,GGG2479,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_1028.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	951.254	4.9	100	-0.01	6.02- 7.02
	Amount Calc. %Drift						
2	HMX	1000.000	983.428	1.7	100	-0.02	6.68- 7.68
	Amount Calc. %Drift						
3	DNX	1000.000	1017.060	-1.7	100	-0.02	6.98- 7.98
4	MNX	1000.000	1084.388	-8.4	111	-0.03	8.80- 9.80
5	1,3,5-Trinitrobenzene	1000.000	987.344	1.3	101	-0.03	10.01-11.01
6	RDX	1000.000	988.017	1.2	100	-0.03	10.77-11.77
7	1,3-Dinitrobenzene	1000.000	976.633	2.3	100	-0.03	13.55-14.55
8	Nitrobenzene	1000.000	986.808	1.3	101	-0.04	15.03-16.03
9	2,4,6-Trinitrotoluene	1000.000	981.938	1.8	100	-0.04	16.27-17.27
10	Nitroglycerin		NA				
11	Tetryl	1000.000	986.661	1.3	100	-0.05	18.68-19.68
12 S	3,4-Dinitrotoluene	1000.000	1015.940	-1.6	100	-0.05	20.47-21.47
13	2,6-Dinitrotoluene	1000.000	1032.894	-3.3	100	-0.04	20.92-21.92
14	2,4-Dinitrotoluene	1000.000	976.012	2.4	100	-0.03	21.91-22.91
15	o-Nitrotoluene	1000.000	994.757	0.5	102	-0.04	23.88-24.88
16	3,5-Dinitroaniline	1000.000	995.066	0.5	101	-0.02	23.59-24.59
17	p-Nitrotoluene	1000.000	955.907	4.4	100	-0.03	24.91-25.91
18	4-Amino-2,6-Dinitrotol	1000.000	973.210	2.7	99	-0.03	25.29-26.29
19	m-Nitrotoluene	1000.000	994.772	0.5	103	-0.03	26.02-27.02
20	2-Amino-4,6-Dinitrotol	1000.000	981.332	1.9	100	-0.03	27.12-28.12
21	PETN		NA				
*****	Signal #2 *****						
1	TNX	1000.000	955.603	4.4	100	-0.01	6.02- 7.02
	Amount Calc. %Drift						
2	HMX	1000.000	992.448	0.8	100	-0.02	6.68- 7.68
	Amount Calc. %Drift						
3	DNX	1000.000	1023.321	-2.3	100	-0.02	6.98- 7.98
4	MNX	1000.000	1037.820	-3.8	103	-0.03	8.79- 9.79
5	1,3,5-Trinitrobenzene	1000.000	958.242	4.2	100	-0.03	10.01-11.01
6	RDX	1000.000	955.781	4.4	100	-0.03	10.77-11.77
7	1,3-Dinitrobenzene	1000.000	952.969	4.7	100	-0.03	13.55-14.55
8	Nitrobenzene	1000.000	976.766	2.3	99	-0.04	15.03-16.03
9	2,4,6-Trinitrotoluene	1000.000	997.942	0.2	99	-0.04	16.27-17.27

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2479-CC2479
Lab FileID: GG060274.D

10	Nitroglycerin	5000.000	4958.577	0.8	100	-0.04	17.34-18.34
11	Tetryl	1000.000	947.145	5.3	100	-0.05	18.68-19.68
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	1000.000	1007.527	-0.8	101	-0.05	20.47-21.47
13	2,6-Dinitrotoluene	1000.000	1016.839	-1.7	101	-0.04	20.92-21.92
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	1037.081	-3.7	99	-0.04	21.92-22.92
15	o-Nitrotoluene	1000.000	963.729	3.6	92	-0.05	23.89-24.89
16	3,5-Dinitroaniline	1000.000	1054.569	-5.5	102	-0.03	23.59-24.59
17	p-Nitrotoluene	1000.000	958.486	4.2	99	-0.04	24.92-25.92
		Amount	Calc.	%Drift			
18	4-Amino-2,6-Dinitrotol	1000.000	948.666	5.1	96	-0.03	25.29-26.29
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	1000.000	931.971	6.8	103	-0.03	26.02-27.02
20	2-Amino-4,6-Dinitrotol	1000.000	998.398	0.2	100	-0.03	27.12-28.12
21	PETN	5000.000	4820.850	3.6	98	-0.05	28.06-29.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060263.D 8330RPB.M_1028.M Mon Oct 31 09:27:40 2016

8.6.8

8

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICC2032
Lab FileID: PP380271.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Initial Calibration

Calibration Files
20 =PP380267.D 50 =PP380268.D 100 =PP380269.D 200 =PP380270.D
500 =PP380271.D 1000=PP380272.D 2000=PP380273.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	2.343	3.211	3.077	3.177	3.242	3.260	3.357	3.095	E3	11.06
2)	HMX	1.440	1.705	1.578	1.629	1.633	1.629	1.622	1.605	E3	5.11
3)	DNX	2.861	3.079	2.938	2.946	2.833	2.779	2.846	2.897	E3	3.42
4)	MNX	2.255	2.271	2.261	2.352	2.275	2.155	2.312	2.269	E3	2.67
5)	RDX	1.640	1.973	1.775	1.900	1.902	1.802	1.854	1.835	E3	5.91
6)	1,3,5-Trinitroben	3.697	4.119	3.656	3.770	3.641	3.589	3.708	3.740	E3	4.73
7)	1,3-Dinitrobenzen	5.051	5.319	4.990	5.144	5.012	4.937	5.103	5.079	E3	2.49
8)	3,5-Dinitroanilin	4.688	4.679	4.397	4.460	4.377	4.291	4.462	4.479	E3	3.37
9)	Nitrobenzene	3.397	3.172	2.909	2.875	2.899	2.866	2.958	3.011	E3	6.64
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	1.939	2.041	1.912	1.792	1.848	1.828	2.121	1.926	E3	6.19
12)	2,4,6-Trinitrotol	3.352	3.587	3.471	3.330	3.391	3.356	3.650	3.448	E3	3.66
13)	2-Amino-4,6-Dinit	3.075	3.383	3.126	3.040	3.149	3.108	3.079	3.137	E3	3.64
14)	4-Amino-2,6-Dinit	2.148	2.429	2.386	2.201	2.317	2.274	2.374	2.304	E3	4.45
15)S	3,4-Dinitrotoluen	1.786	2.341	2.079	2.113	2.024	2.016	2.116	2.068	E3	7.98
16)	2,4-Dinitrotoluen	4.187	4.911	4.585	4.741	4.520	4.435	4.634	4.573	E3	5.03
17)	2,6-Dinitrotoluen	2.082	2.452	2.684	2.594	2.563	2.536	2.617	2.504	E3	7.97
18)	o-Nitrotoluene	2.218	2.266	2.108	2.177	2.130	2.076	2.118	2.156	E3	3.13
19)	p-Nitrotoluene	3.299	3.545	3.456	3.427	3.337	3.289	3.392	3.392	E3	2.72
20)	m-Nitrotoluene	3.310	3.272	3.186	3.155	3.080	3.037	3.142	3.169	E3	3.08
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	4.614	5.199	4.949	5.403	4.954	4.884	4.542	4.935	E3	6.13
2)	HMX	4.220	4.516	4.369	4.505	4.389	4.268	4.462	4.390	E3	2.61
3)	DNX	4.967	5.268	5.060	4.647	4.672	4.410	4.432	4.779	E3	6.83
4)	MNX	3.328	3.691	3.496	3.722	3.511	3.452	3.563	3.538	E3	3.86
5)	RDX	2.764	3.219	2.675	2.946	2.905	2.830	2.973	2.902	E3	6.02
6)	1,3,5-Trinitroben	7.243	7.764	7.132	7.273	7.153	6.969	7.187	7.246	E3	3.43
7)	1,3-Dinitrobenzen	3.272	3.778	3.335	3.430	3.352	3.258	3.416	3.406	E3	5.19
8)	3,5-Dinitroanilin	7.972	7.933	7.421	7.521	7.301	7.165	7.491	7.543	E3	4.04
9)	Nitrobenzene	2.420	2.825	2.884	2.873	2.872	2.862	2.959	2.814	E3	6.33
10)	Nitroglycerin	1.370	1.557	1.455	1.488	1.421	1.388	1.457	1.448	E3	4.36
11)	Tetryl	2.091	2.715	2.748	2.796	2.692	2.615	2.444	2.586	E3	9.52
12)	2,4,6-Trinitrotol	3.528	4.442	4.492	4.519	4.372	4.265	4.583	4.315	E3	8.38
13)	2-Amino-4,6-Dinit	4.617	5.500	4.970	5.042	4.843	4.719	4.751	4.920	E3	5.99
14)	4-Amino-2,6-Dinit	4.502	4.952	4.867	4.966	4.787	4.661	4.828	4.795	E3	3.45
15)S	3,4-Dinitrotoluen	4.016	4.177	3.830	3.907	3.796	3.727	3.839	3.899	E3	3.91
16)	2,4-Dinitrotoluen	2.900	3.181	2.820	2.946	2.951	2.935	3.087	2.974	E3	4.06
17)	2,6-Dinitrotoluen	1.779	2.243	2.693	2.875	3.128	3.184	3.391	2.756	E3	20.74
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 2972.79609 *A + 0.20967 *A^2										
18)	o-Nitrotoluene	3.133	3.144	2.978	3.066	3.036	2.988	3.086	3.061	E3	2.14
19)	p-Nitrotoluene	2.589	3.136	2.784	2.850	2.903	2.868	2.957	2.869	E3	5.80
20)	m-Nitrotoluene	4.047	3.515	3.693	3.906	3.871	3.819	3.873	3.818	E3	4.46

Initial Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICC2032
Lab FileID: PP380271.D

```
21)  PETN              1.582 1.562 1.389 1.452 1.402 1.391 1.432 1.459 E3   5.55
--------------------------------------------------------------------------------
(#) = Out of Range

          8330-1003BPLUS.M        Tue Oct 04 11:25:12 2016
```

8.6.9

8

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380274.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1003BPL\PP380274.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\1003BPL\PP380274.D\dad1A.ch
Acq On : 03-Oct-2016, 14:06:46 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	500.000	484.073	3.2	92	0.00	0.90- 1.50
2		HMX		----------NA----------				
3		DNX	500.000	482.342	3.5	99	0.00	1.23- 1.83
4		MNX	500.000	520.039	-4.0	104	0.00	1.74- 2.34
5		RDX		----------NA----------				
6		1,3,5-Trinitrobenzene		----------NA----------				
7		1,3-Dinitrobenzene		----------NA----------				
8		3,5-Dinitroaniline		----------NA----------				
9		Nitrobenzene		----------NA----------				
10		Nitroglycerin		----------NA----------				
11		Tetryl		----------NA----------				
12		2,4,6-Trinitrotoluene		----------NA----------				
13		2-Amino-4,6-Dinitrotoluen		----------NA----------				
14		4-Amino-2,6-Dinitrotoluen		----------NA----------				
15	S	3,4-Dinitrotoluene		----------NA----------				
16		2,4-Dinitrotoluene		----------NA----------				
17		2,6-Dinitrotoluene		----------NA----------				
18		o-Nitrotoluene		----------NA----------				
19		p-Nitrotoluene		----------NA----------				
20		m-Nitrotoluene		----------NA----------				
21		PETN		----------NA----------				

***** Signal #2 *****

1		TNX	500.000	476.114	4.8	95	0.00	0.90- 1.50
2		HMX		----------NA----------				
3		DNX	500.000	483.431	3.3	99	0.00	1.23- 1.83
4		MNX	500.000	520.026	-4.0	105	0.00	1.73- 2.33
5		RDX		----------NA----------				
6		1,3,5-Trinitrobenzene		----------NA----------				
7		1,3-Dinitrobenzene		----------NA----------				
8		3,5-Dinitroaniline		----------NA----------				
9		Nitrobenzene		----------NA----------				
10		Nitroglycerin	2500.000	2327.251	6.9	95	0.00	7.85- 8.85
11		Tetryl		----------NA----------				
12		2,4,6-Trinitrotoluene		----------NA----------				
13		2-Amino-4,6-Dinitrotoluen		----------NA----------				
14		4-Amino-2,6-Dinitrotoluen		----------NA----------				
15	S	3,4-Dinitrotoluene		----------NA----------				
16		2,4-Dinitrotoluene		----------NA----------				

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380274.D

		Amount	Calc.	%Drift		
17	2,6-Dinitrotoluene		----------NA----------			
		Amount	Calc.	%Drift		
18	o-Nitrotoluene		----------NA----------			
19	p-Nitrotoluene		----------NA----------			
20	m-Nitrotoluene		----------NA----------			
21	PETN	2500.000	2561.573	-2.5	107	0.00 15.82-16.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380271.D 8330-1003BPLUS.M Tue Oct 04 11:28:28 2016

8.6.10

8

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380275.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1003BPL\PP380275.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\1003BPL\PP380275.D\dad1A.ch
Acq On : 03-Oct-2016, 14:57:09 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX	500.000	507.406	-1.5	100	0.00	0.99- 1.59
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	500.000	499.915	0.0	96	0.00	2.16- 2.96
6	1,3,5-Trinitrobenzene	500.000	528.353	-5.7	109	0.00	3.71- 4.51
7	1,3-Dinitrobenzene	500.000	485.088	3.0	98	0.00	4.86- 5.66
8	3,5-Dinitroaniline	500.000	442.393	11.5	91	0.00	5.22- 6.02
9	Nitrobenzene	500.000	508.240	-1.6	106	0.01	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	745.532	-49.1#	155	0.01	8.14- 8.94
12	2,4,6-Trinitrotoluene	500.000	475.950	4.8	97	0.01	8.53- 9.33
13	2-Amino-4,6-Dinitrotol	500.000	524.433	-4.9	104	0.02	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	500.000	514.194	-2.8	102	0.01	9.26-10.06
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	512.398	-2.5	104	0.01	10.25-11.05
17	2,6-Dinitrotoluene	500.000	534.602	-6.9	104	0.02	10.71-11.51
18	o-Nitrotoluene	500.000	520.022	-4.0	105	0.01	13.14-14.14
19	p-Nitrotoluene	500.000	500.434	-0.1	102	0.01	13.54-14.54
20	m-Nitrotoluene	500.000	511.280	-2.3	105	0.00	14.14-15.14
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX	500.000	507.386	-1.5	102	0.00	0.99- 1.59
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	500.000	499.539	0.1	100	0.00	2.16- 2.96
6	1,3,5-Trinitrobenzene	500.000	528.905	-5.8	107	0.00	3.71- 4.51
7	1,3-Dinitrobenzene	500.000	485.586	2.9	99	0.01	4.86- 5.66
8	3,5-Dinitroaniline	500.000	440.057	12.0	91	0.00	5.22- 6.02
9	Nitrobenzene	500.000	547.705	-9.5	107	0.01	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	935.831	-87.2#	180	0.03	8.12- 8.92
12	2,4,6-Trinitrotoluene	500.000	478.647	4.3	94	0.01	8.53- 9.33
13	2-Amino-4,6-Dinitrotol	500.000	519.347	-3.9	106	0.02	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	500.000	526.673	-5.3	105	0.01	9.27-10.07
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	498.467	0.3	100	0.01	10.25-11.05

Initial Calibration Verification

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2032-ICV2032
Lab FileID: PP380275.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	500.000	525.655	-5.1	104	0.01	10.71-11.51
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	500.000	525.429	-5.1	106	0.00	13.14-14.14
19	p-Nitrotoluene	500.000	508.328	-1.7	100	0.00	13.55-14.55
20	m-Nitrotoluene	500.000	520.146	-4.0	103	0.00	14.14-15.14
21	PETN			NA			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380271.D 8330-1003BPLUS.M Tue Oct 04 11:28:29 2016

8.6.11
8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380389.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1021BPL\PP380389.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380389.D\dad1A.ch
Acq On : 21-Oct-2016, 12:50:32 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1080.765	-8.1	103	0.00	0.90- 1.50
2	HMX	1000.000	998.343	0.2	98	0.00	0.99- 1.59
3	DNX	1000.000	961.805	3.8	100	0.00	1.22- 1.82
4	MNX	1000.000	993.963	0.6	105	0.00	1.72- 2.32
5	RDX	1000.000	1182.538	-18.3#	120	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	960.758	3.9	100	0.02	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	969.966	3.0	100	0.01	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	966.418	3.4	101	0.02	5.20- 6.00
9	Nitrobenzene	1000.000	888.939	11.1	93	0.02	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	854.135	14.6	90	0.03	8.15- 8.95
12	2,4,6-Trinitrotoluene	1000.000	969.131	3.1	100	0.03	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	998.860	0.1	101	0.03	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	1016.348	-1.6	103	0.03	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	970.791	2.9	100	0.03	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	988.154	1.2	102	0.03	10.26-11.06
17	2,6-Dinitrotoluene	1000.000	999.879	0.0	99	0.03	10.72-11.52
18	o-Nitrotoluene	1000.000	894.107	10.6	93	0.02	13.15-14.15
19	p-Nitrotoluene	1000.000	956.821	4.3	99	0.02	13.55-14.55
20	m-Nitrotoluene	1000.000	933.296	6.7	97	0.02	14.15-15.15
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	1009.434	-0.9	102	0.00	0.90- 1.50
2	HMX	1000.000	989.123	1.1	102	0.00	0.99- 1.59
3	DNX	1000.000	954.061	4.6	103	0.00	1.22- 1.82
4	MNX	1000.000	1008.106	-0.8	103	0.00	1.72- 2.32
5	RDX	1000.000	1100.453	-10.0	113	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	954.918	4.5	99	0.02	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	954.281	4.6	100	0.01	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	965.662	3.4	102	0.02	5.20- 6.00
9	Nitrobenzene	1000.000	1022.854	-2.3	101	0.01	6.38- 7.18
10	Nitroglycerin	5000.000	4803.597	3.9	100	0.02	7.85- 8.85
11	Tetryl	1000.000	922.662	7.7	91	0.03	8.14- 8.94
12	2,4,6-Trinitrotoluene	1000.000	987.834	1.2	100	0.03	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	974.687	2.5	102	0.03	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	999.226	0.1	103	0.03	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	939.906	6.0	98	0.03	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	1028.837	-2.9	104	0.03	10.26-11.06

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380389.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1000.969	-0.1	100	0.03	10.72-11.52

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	901.835	9.8	92	0.02	13.15-14.15
19	p-Nitrotoluene	1000.000	999.569	0.0	100	0.02	13.56-14.56
20	m-Nitrotoluene	1000.000	884.473	11.6	88	0.02	14.15-15.15
21	PETN	5000.000	4821.066	3.6	101	0.02	15.83-16.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Mon Oct 24 09:16:39 2016

8.6.12

8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380401.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1021BPL\PP380401.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380401.D\dad1A.ch
Acq On : 21-Oct-2016, 17:55:19 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1064.035	-6.4	101	0.00	0.90- 1.50
2	HMX	1000.000	984.583	1.5	97	0.00	0.99- 1.59
3	DNX	1000.000	970.678	2.9	101	0.00	1.22- 1.82
4	MNX	1000.000	978.154	2.2	103	0.00	1.72- 2.32
5	RDX	1000.000	1162.062	-16.2#	118	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	951.787	4.8	99	0.00	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	962.832	3.7	99	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	962.801	3.7	100	0.00	5.20- 6.00
9	Nitrobenzene	1000.000	890.479	11.0	94	0.00	6.38- 7.18
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	864.912	13.5	91	0.00	8.15- 8.95
12	2,4,6-Trinitrotoluene	1000.000	960.891	3.9	99	0.00	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	992.090	0.8	100	0.00	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	1009.321	-0.9	102	0.00	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	966.940	3.3	99	0.00	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	979.086	2.1	101	0.00	10.26-11.06
17	2,6-Dinitrotoluene	1000.000	998.571	0.1	99	0.00	10.72-11.52
18	o-Nitrotoluene	1000.000	910.500	8.9	95	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	950.535	4.9	98	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	904.369	9.6	94	0.00	14.15-15.15
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	994.688	0.5	101	0.00	0.90- 1.50
2	HMX	1000.000	981.663	1.8	101	0.00	0.99- 1.59
3	DNX	1000.000	952.745	4.7	103	0.00	1.22- 1.82
4	MNX	1000.000	983.345	1.7	101	0.00	1.72- 2.32
5	RDX	1000.000	1098.424	-9.8	113	0.00	2.15- 2.95
6	1,3,5-Trinitrobenzene	1000.000	948.632	5.1	99	0.00	3.70- 4.50
7	1,3-Dinitrobenzene	1000.000	944.118	5.6	99	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	959.136	4.1	101	0.00	5.20- 6.00
9	Nitrobenzene	1000.000	1016.197	-1.6	100	0.00	6.38- 7.18
10	Nitroglycerin	5000.000	4842.244	3.2	101	0.00	7.85- 8.85
11	Tetryl	1000.000	891.920	10.8	88	0.00	8.14- 8.94
12	2,4,6-Trinitrotoluene	1000.000	982.428	1.8	99	0.00	8.54- 9.34
13	2-Amino-4,6-Dinitrotol	1000.000	970.885	2.9	101	0.00	8.82- 9.62
14	4-Amino-2,6-Dinitrotol	1000.000	995.093	0.5	102	0.00	9.26-10.06
15 S	3,4-Dinitrotoluene	1000.000	940.298	6.0	98	0.00	9.60-10.40
16	2,4-Dinitrotoluene	1000.000	1025.571	-2.6	104	0.00	10.26-11.06

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380401.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1004.963	-0.5	100	0.00	10.72-11.52
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	889.405	11.1	91	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	1006.549	-0.7	101	0.00	13.56-14.56
20	m-Nitrotoluene	1000.000	892.211	10.8	89	0.00	14.15-15.15
21	PETN	5000.000	4752.678	4.9	100	0.00	15.83-16.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Mon Oct 24 09:16:40 2016

8.6.13

8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380413.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1021BPL\PP380413.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380413.D\dad1A.ch
Acq On : 21-Oct-2016, 22:54:31 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	1000.000	1086.444	-8.6	103	0.00	0.90- 1.50
2		HMX	1000.000	988.511	1.1	97	0.00	0.99- 1.59
3		DNX	1000.000	955.800	4.4	100	0.00	1.22- 1.82
4		MNX	1000.000	972.465	2.8	102	0.00	1.72- 2.32
5		RDX	1000.000	1201.619	-20.2#	122	0.00	2.15- 2.95
6		1,3,5-Trinitrobenzene	1000.000	945.442	5.5	99	0.00	3.70- 4.50
7		1,3-Dinitrobenzene	1000.000	957.514	4.2	99	0.00	4.85- 5.65
8		3,5-Dinitroaniline	1000.000	953.803	4.6	100	0.00	5.20- 6.00
9		Nitrobenzene	1000.000	877.221	12.3	92	-0.01	6.38- 7.18
10		Nitroglycerin		----------NA----------				
11		Tetryl	1000.000	855.161	14.5	90	-0.03	8.15- 8.95
12		2,4,6-Trinitrotoluene	1000.000	951.473	4.9	98	-0.02	8.54- 9.34
13		2-Amino-4,6-Dinitrotol	1000.000	984.294	1.6	99	-0.02	8.82- 9.62
14		4-Amino-2,6-Dinitrotol	1000.000	995.339	0.5	101	-0.02	9.26-10.06
15	S	3,4-Dinitrotoluene	1000.000	948.034	5.2	97	-0.02	9.60-10.40
16		2,4-Dinitrotoluene	1000.000	968.116	3.2	100	-0.02	10.26-11.06
17		2,6-Dinitrotoluene	1000.000	988.681	1.1	98	-0.03	10.72-11.52
18		o-Nitrotoluene	1000.000	927.567	7.2	96	-0.01	13.15-14.15
19		p-Nitrotoluene	1000.000	969.733	3.0	100	0.00	13.55-14.55
20		m-Nitrotoluene	1000.000	897.543	10.2	94	0.00	14.15-15.15
21		PETN		----------NA----------				

***** Signal #2 *****

1		TNX	1000.000	1018.374	-1.8	103	0.00	0.90- 1.50
2		HMX	1000.000	991.077	0.9	102	0.00	0.99- 1.59
3		DNX	1000.000	937.497	6.3	102	0.00	1.22- 1.82
4		MNX	1000.000	969.968	3.0	99	0.00	1.72- 2.32
5		RDX	1000.000	1082.150	-8.2	111	0.00	2.15- 2.95
6		1,3,5-Trinitrobenzene	1000.000	943.615	5.6	98	0.00	3.70- 4.50
7		1,3-Dinitrobenzene	1000.000	958.801	4.1	100	0.00	4.85- 5.65
8		3,5-Dinitroaniline	1000.000	953.623	4.6	100	0.00	5.20- 6.00
9		Nitrobenzene	1000.000	1026.093	-2.6	101	-0.01	6.38- 7.18
10		Nitroglycerin	5000.000	4819.482	3.6	101	-0.02	7.85- 8.85
11		Tetryl	1000.000	874.997	12.5	87	-0.03	8.14- 8.94
12		2,4,6-Trinitrotoluene	1000.000	971.388	2.9	98	-0.02	8.54- 9.34
13		2-Amino-4,6-Dinitrotol	1000.000	961.626	3.8	100	-0.02	8.82- 9.62
14		4-Amino-2,6-Dinitrotol	1000.000	983.437	1.7	101	-0.02	9.26-10.06
15	S	3,4-Dinitrotoluene	1000.000	926.617	7.3	97	-0.02	9.60-10.40
16		2,4-Dinitrotoluene	1000.000	1017.845	-1.8	103	-0.03	10.26-11.06

8.6.14

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Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2037-CC2032
Lab FileID: PP380413.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1000.079	-0.0	100	-0.03	10.72-11.52
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	887.801	11.2	91	-0.01	13.15-14.15
19	p-Nitrotoluene	1000.000	1013.888	-1.4	101	-0.01	13.56-14.56
20	m-Nitrotoluene	1000.000	885.564	11.4	89	-0.01	14.15-15.15
21	PETN	5000.000	4689.383	6.2	98	0.00	15.83-16.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Mon Oct 24 09:16:41 2016

8.6.14
8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380485.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1027BPL\PP380485.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380485.D\dad1A.ch
Acq On : 27-Oct-2016, 17:10:41 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1002.557	-0.3	95	0.00	0.90- 1.50
2	HMX	1000.000	963.090	3.7	95	0.00	0.98- 1.58
3	DNX	1000.000	915.296	8.5	95	0.00	1.22- 1.82
4	MNX	1000.000	986.634	1.3	104	0.00	1.71- 2.31
5	RDX	1000.000	951.585	4.8	97	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1014.943	-1.5	106	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	980.290	2.0	101	0.00	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	943.020	5.7	98	0.00	5.17- 5.97
9	Nitrobenzene	1000.000	961.084	3.9	101	0.00	6.35- 7.15
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1505.815	-50.6#	159	0.00	8.10- 8.90
12	2,4,6-Trinitrotoluene	1000.000	1021.926	-2.2	105	0.00	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	981.817	1.8	99	0.00	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	993.258	0.7	101	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	959.205	4.1	98	0.01	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	976.823	2.3	101	0.01	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	991.736	0.8	98	0.01	10.65-11.45
18	o-Nitrotoluene	1000.000	974.556	2.5	101	0.02	13.10-14.10
19	p-Nitrotoluene	1000.000	958.352	4.2	99	0.02	13.51-14.51
20	m-Nitrotoluene	1000.000	988.930	1.1	103	0.02	14.11-15.11
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	941.225	5.9	95	0.00	0.90- 1.50
2	HMX	1000.000	984.166	1.6	101	0.00	0.99- 1.59
3	DNX	1000.000	879.554	12.0	95	0.00	1.22- 1.82
4	MNX	1000.000	980.015	2.0	100	0.00	1.71- 2.31
5	RDX	1000.000	955.499	4.5	98	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1018.943	-1.9	106	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	958.801	4.1	100	0.00	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	944.929	5.5	99	0.00	5.17- 5.97
9	Nitrobenzene	1000.000	1029.174	-2.9	101	0.00	6.35- 7.15
10	Nitroglycerin	5000.000	4571.673	8.6	95	0.00	7.82- 8.82
11	Tetryl	1000.000	1708.883	-70.9#	169	0.00	8.09- 8.89
12	2,4,6-Trinitrotoluene	1000.000	991.712	0.8	100	0.00	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	971.910	2.8	101	0.00	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	987.012	1.3	102	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	942.794	5.7	99	0.00	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	988.326	1.2	100	0.01	10.19-10.99

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380485.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	999.807	0.0	100	0.01	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	986.012	1.4	101	0.02	13.10-14.10
19	p-Nitrotoluene	1000.000	949.503	5.0	95	0.02	13.51-14.51
20	m-Nitrotoluene	1000.000	1001.959	-0.2	100	0.01	14.11-15.11
21	PETN	5000.000	4750.432	5.0	100	0.01	15.82-16.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Fri Oct 28 11:58:45 2016

8.6.15

8

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380493.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\1027BPL\PP380493.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380493.D\dad1A.ch
Acq On : 27-Oct-2016, 20:30:15 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1000.029	-0.0	95	0.00	0.90- 1.50
2	HMX	1000.000	966.249	3.4	95	0.00	0.98- 1.58
3	DNX	1000.000	914.766	8.5	95	0.00	1.22- 1.82
4	MNX	1000.000	987.947	1.2	104	0.00	1.71- 2.31
5	RDX	1000.000	947.904	5.2	97	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1017.305	-1.7	106	-0.02	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	981.229	1.9	101	-0.02	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	946.379	5.4	99	-0.02	5.17- 5.97
9	Nitrobenzene	1000.000	962.651	3.7	101	-0.02	6.35- 7.15
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1513.133	-51.3#	159	-0.04	8.10- 8.90
12	2,4,6-Trinitrotoluene	1000.000	1026.722	-2.7	106	-0.04	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	983.061	1.7	99	-0.04	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	994.398	0.6	101	-0.04	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	959.775	4.0	98	-0.04	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	979.812	2.0	101	-0.04	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	999.198	0.1	99	-0.05	10.65-11.45
18	o-Nitrotoluene	1000.000	1024.180	-2.4	106	-0.03	13.10-14.10
19	p-Nitrotoluene	1000.000	1008.543	-0.9	104	-0.03	13.51-14.51
20	m-Nitrotoluene	1000.000	995.320	0.5	104	-0.02	14.11-15.11
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	938.922	6.1	95	0.00	0.90- 1.50
2	HMX	1000.000	985.372	1.5	101	0.00	0.99- 1.59
3	DNX	1000.000	876.474	12.4	95	0.00	1.22- 1.82
4	MNX	1000.000	975.076	2.5	100	0.00	1.71- 2.31
5	RDX	1000.000	952.726	4.7	98	0.00	2.14- 2.94
6	1,3,5-Trinitrobenzene	1000.000	1017.169	-1.7	106	-0.02	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	967.060	3.3	101	-0.02	4.83- 5.63
8	3,5-Dinitroaniline	1000.000	943.768	5.6	99	-0.02	5.17- 5.97
9	Nitrobenzene	1000.000	1005.870	-0.6	99	-0.02	6.35- 7.15
10	Nitroglycerin	5000.000	4627.701	7.4	97	-0.03	7.82- 8.82
11	Tetryl	1000.000	1679.485	-67.9#	166	-0.04	8.09- 8.89
12	2,4,6-Trinitrotoluene	1000.000	995.976	0.4	101	-0.04	8.50- 9.30
13	2-Amino-4,6-Dinitrotol	1000.000	975.630	2.4	102	-0.04	8.75- 9.55
14	4-Amino-2,6-Dinitrotol	1000.000	990.581	0.9	102	-0.04	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	948.148	5.2	99	-0.05	9.54-10.34
16	2,4-Dinitrotoluene	1000.000	1000.850	-0.1	101	-0.04	10.19-10.99

Continuing Calibration Summary

Job Number: FA37761
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2041-CC2032
Lab FileID: PP380493.D

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1013.399	-1.3	101	-0.05	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	982.954	1.7	101	-0.03	13.10-14.10
19	p-Nitrotoluene	1000.000	990.732	0.9	99	-0.03	13.51-14.51
20	m-Nitrotoluene	1000.000	1006.862	-0.7	101	-0.03	14.11-15.11
21	PETN	5000.000	4747.804	5.0	100	-0.03	15.82-16.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP380272.D 8330-1003BPLUS.M Fri Oct 28 11:58:46 2016

8.6.16
8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380488.D\dad1B.ch Vial: 63
Signal #2 : P:\DATA\1027BPL\PP380488.D\dad1A.ch
Acq On : 27-Oct-2016, 18:25:26 Operator: kismetl
Sample : fa37761-1 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:30 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.92	9.92	1020024	1903103	493.263	488.133
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.65%	97.63%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.29	1.29	809798	2220740	504.524	505.882
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.53	2.53	128882	195999	70.232m	67.544m
6)	1,3,5-Trinitrobe	4.08	4.08	6007984	11639492	1606.455	1606.359
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	5.56	5.56	262064	405096	58.509m	53.701m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.88	8.88	2752893	3328096	798.378m	771.366m
13)	2-Amino-4,6-Dini	9.12	9.12	471022	724408	150.147m	147.227
14)	4-Amino-2,6-Dini	9.56	9.57	211841	437163	91.938m	91.172
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

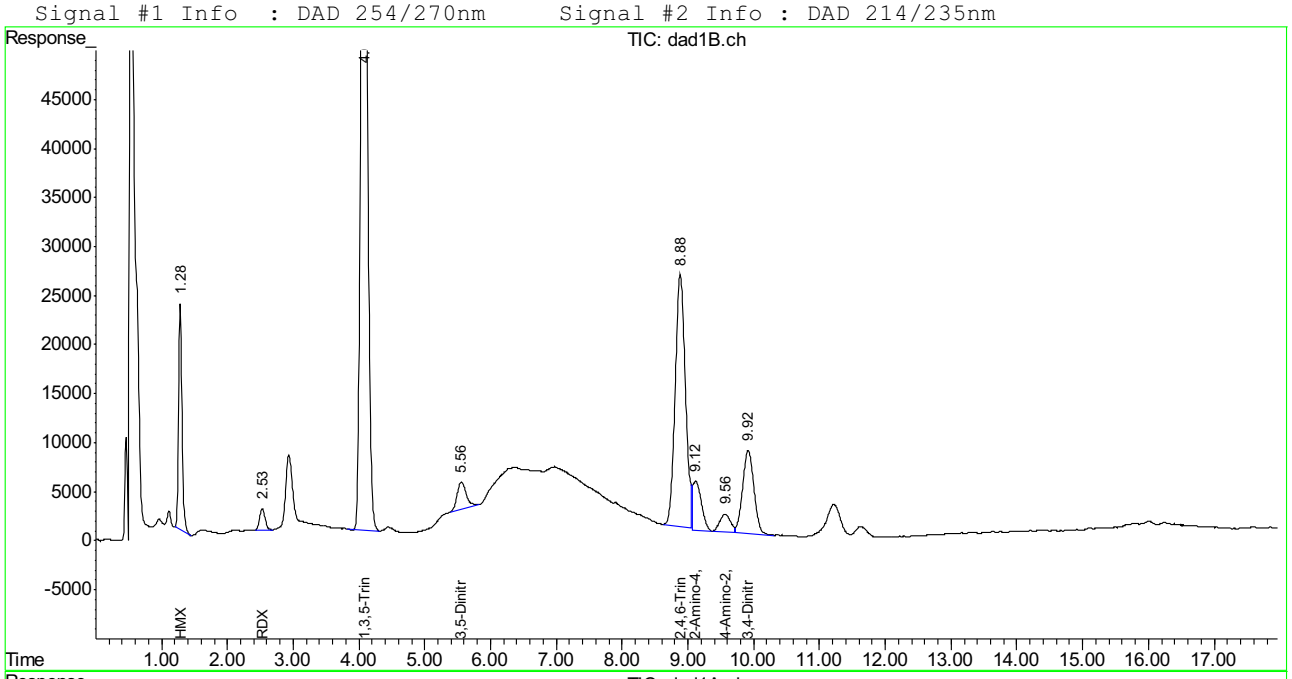
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380488.D 8330-1003BPLUS.M Fri Oct 28 12:01:20 2016 Page 1

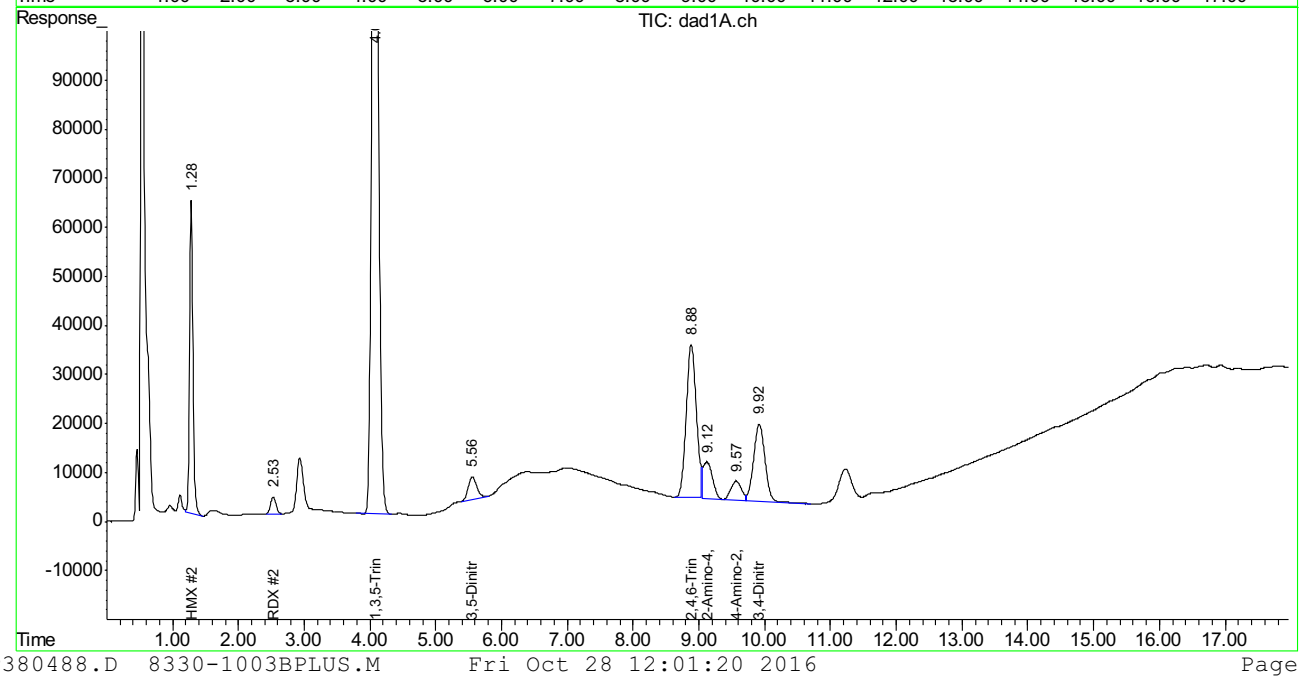
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380488.D\dad1B.ch Vial: 63
Signal #2 : P:\DATA\1027BPL\PP380488.D\dad1A.ch
Acq On : 27-Oct-2016, 18:25:26 Operator: kismetl
Sample : fa37761-1 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 10:37 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA37761-1
Lab FileID: PP380488.D
Injection Time: 10/27/16 18:25
Method: SW846 8330B
Analyst approved: 10/31/16 11:49 Kismet Lugo
Supervisor approved: 10/31/16 12:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.53	Poor instrument integration
RDX	121-82-4	2	2.53	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.56	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.56	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.88	Overlapping peak
2,4,6-Trinitrotoluene	118-96-7	2	8.88	Overlapping peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.12	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.56	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060268.D\dad1B.ch Vial: 18
Signal #2 : G:\DATA\1028RPB3\GG060268.D\dad1A.ch
Acq On : 28-Oct-2016, 17:45:07 Operator: kismetl
Sample : FA37761-1cf Inst : G1315B
Misc : OP62253,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 08:36:36 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.98	20.99	2612912	4811175	592.431	563.931
	Spiked Amount 500.000	Range 70 - 136		Recovery =		118.49%	112.79%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.18	7.18	1719107	1720376	602.981	612.483
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.51	10.51	13871813	24549916	1589.884	1562.616
6)	RDX	11.26	11.26	280279	542052	70.700	68.284
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	16.78	16.78	6451789	8429732	785.320	808.934
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	24.10	24.13	496691	681046	49.550m	41.973m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	25.81	25.81	651945	1371684	111.420m	120.062m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	27.64	27.64	1462543	2030808	182.953m	180.547m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

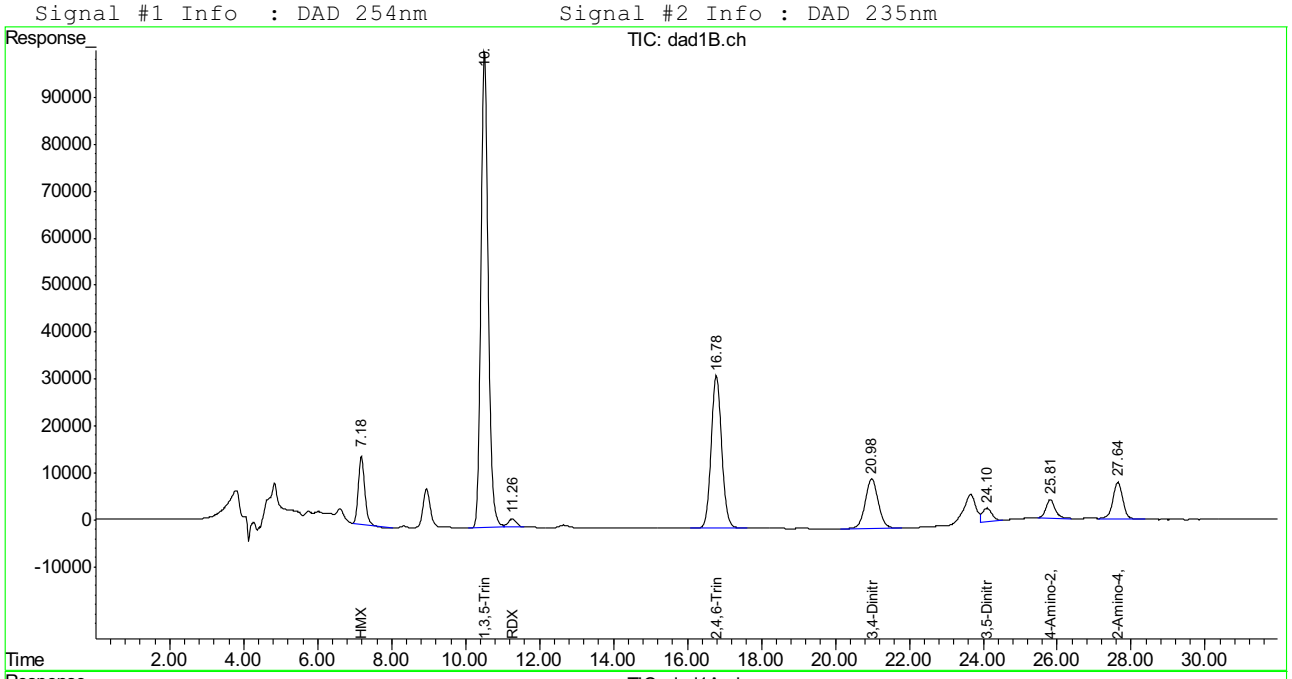
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060268.D 8330RPB.M_1028.M Mon Oct 31 09:28:58 2016 Page 1

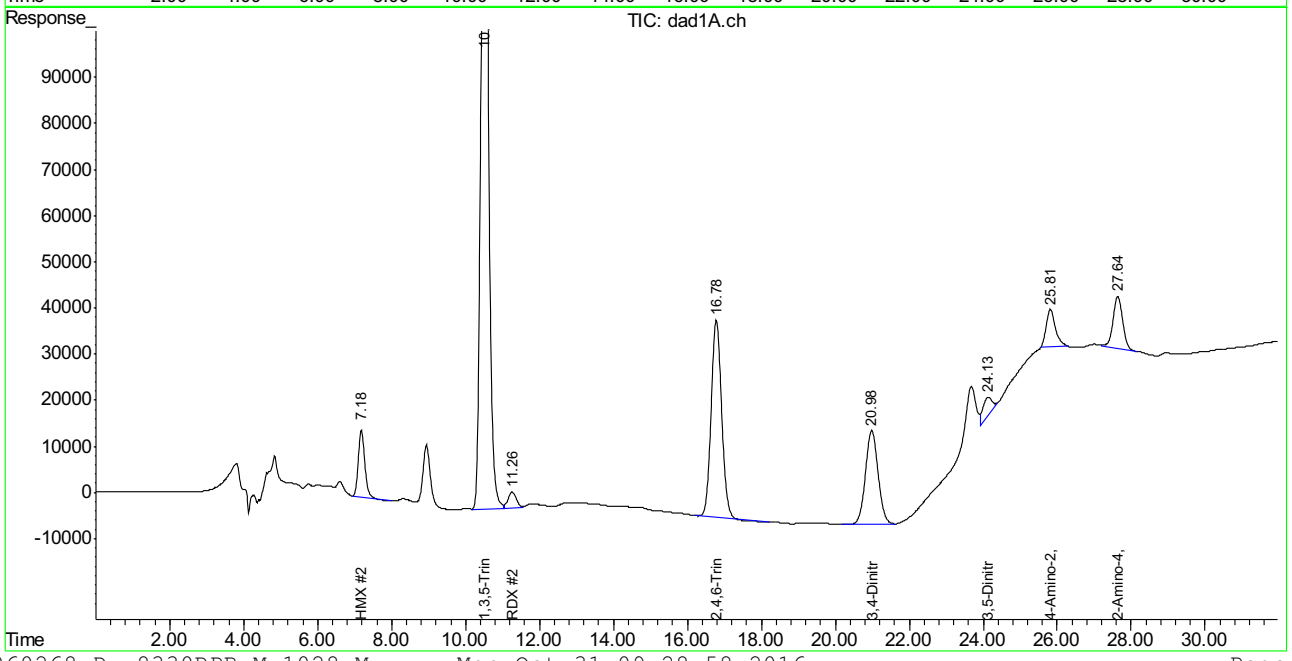
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060268.D\dad1B.ch Vial: 18
Signal #2 : G:\DATA\1028RPB3\GG060268.D\dad1A.ch
Acq On : 28-Oct-2016, 17:45:07 Operator: kismetl
Sample : FA37761-1cf Inst : G1315B
Misc : OP62253,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 9:05 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





GG060268.D 8330RPB.M_1028.M Mon Oct 31 09:28:58 2016 Page 2

Manual Integration Approval Summary

Sample Number: FA37761-1
Lab FileID: GG060268.D
Injection Time: 10/28/16 17:45
Method: SW846 8330B
Analyst approved: 10/31/16 11:49 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	24.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.13	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.81	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.64	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380489.D\dad1B.ch Vial: 64
Signal #2 : P:\DATA\1027BPL\PP380489.D\dad1A.ch
Acq On : 27-Oct-2016, 18:50:22 Operator: kismetl
Sample : fa37761-2 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:31 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.91	9.91	1006662	1904172	486.801	488.407
	Spiked Amount 500.000	Range 70 - 136		Recovery =		97.36%	97.68%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.29	1.29	832977	2251254	518.965	512.833
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.53	2.53	126225	206043	68.784m	71.005m
6)	1,3,5-Trinitrobe	4.08	4.08	6372247	12407472	1703.854	1712.348
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	5.55	5.55	194109	333843	43.337m	44.256m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.88	8.88	2938716	3571524	852.270	827.786
13)	2-Amino-4,6-Dini	9.11	9.12	472350	789624	150.570	160.482
14)	4-Amino-2,6-Dini	9.55	9.56	235039	509373	102.005m	106.231
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

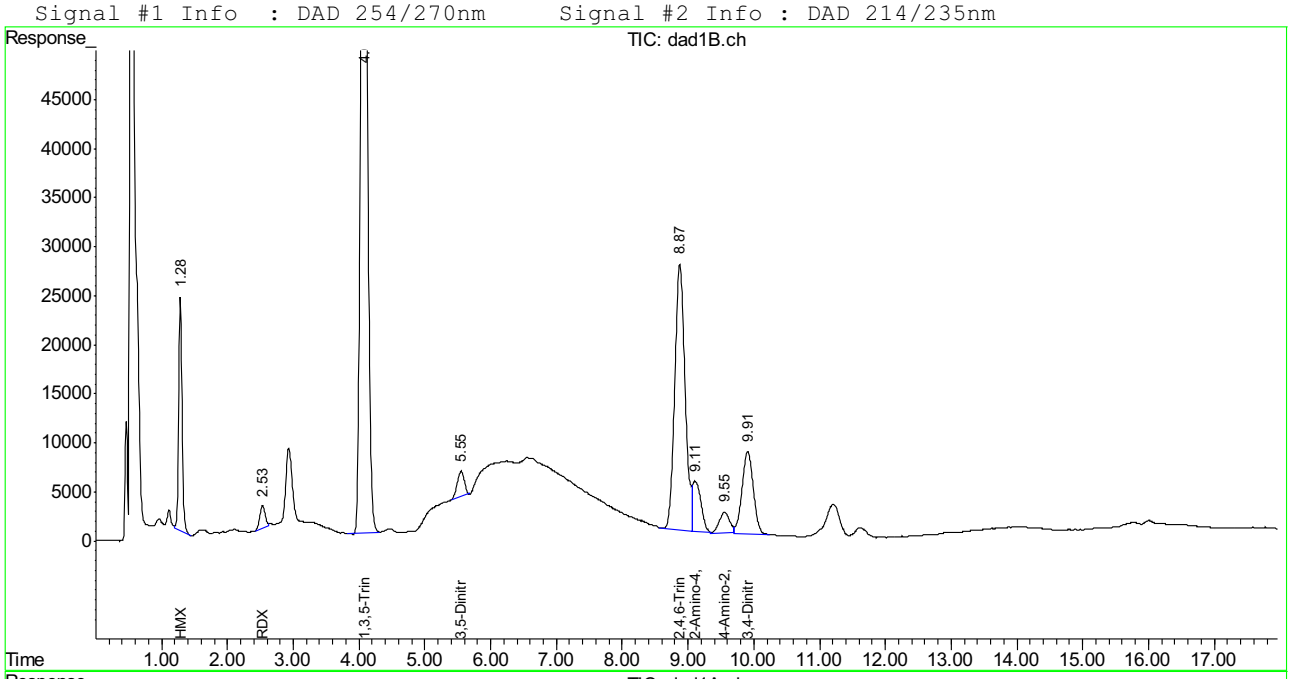
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380489.D 8330-1003BPLUS.M Fri Oct 28 12:01:21 2016 Page 1

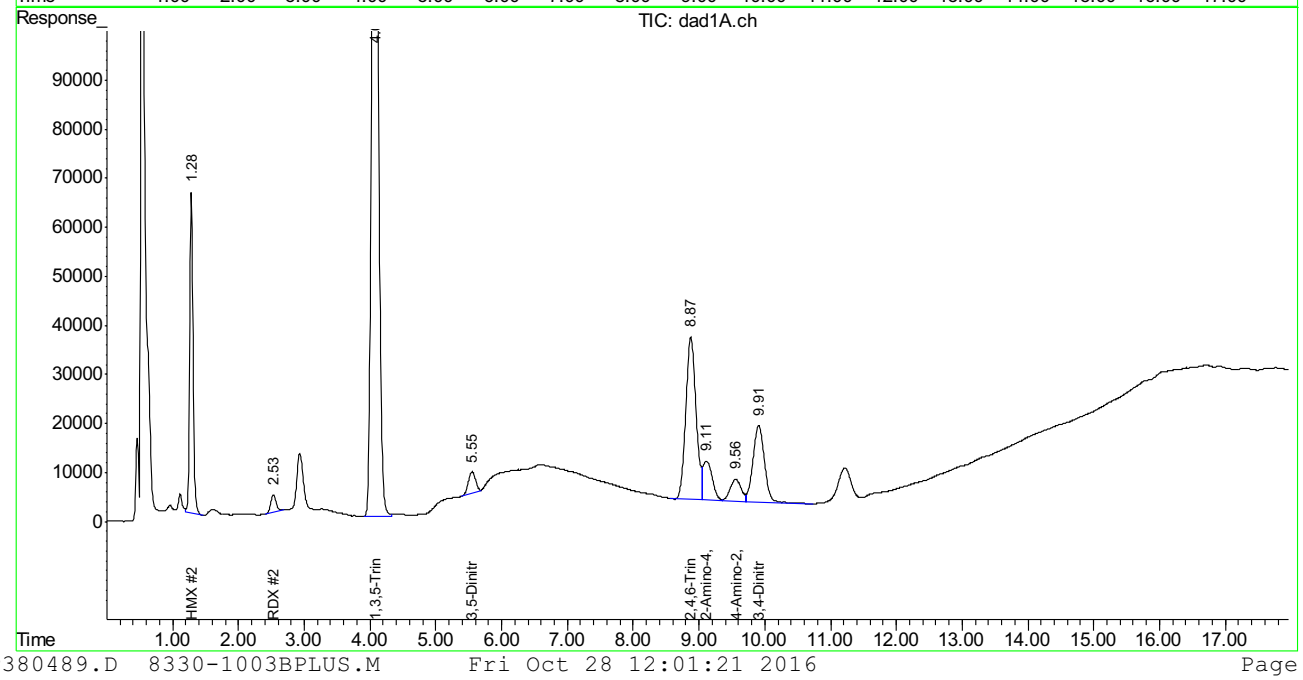
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380489.D\dad1B.ch Vial: 64
Signal #2 : P:\DATA\1027BPL\PP380489.D\dad1A.ch
Acq On : 27-Oct-2016, 18:50:22 Operator: kismetl
Sample : fa37761-2 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 10:38 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA37761-2
Lab FileID: PP380489.D
Injection Time: 10/27/16 18:50
Method: SW846 8330B
Analyst approved: 10/31/16 11:50 Kismet Lugo
Supervisor approved: 10/31/16 12:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.53	Poor instrument integration
RDX	121-82-4	2	2.53	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.55	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.55	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.55	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060269.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\1028RPB3\GG060269.D\dad1A.ch
Acq On : 28-Oct-2016, 18:19:41 Operator: kismetl
Sample : FA37761-2cf Inst : G1315B
Misc : OP62253,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 08:36:37 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.01	21.01	2536312	4730585	575.064	554.721
	Spiked Amount 500.000	Range 70 - 136		Recovery =		115.01%	110.94%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.19	7.19	1769373	1757875	620.612m	625.728m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.51	10.52	14669125	26188891	1681.266m	1666.938
6)	RDX	11.28	11.30	225464	456853	56.873m	57.551
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	16.80	16.80	6778186	9167862	825.050	879.766
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	24.12	24.15	518333	667968	51.709m	41.167m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	25.83	25.83	659561	1223474	112.722m	107.109m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	27.65	27.65	1519732	2291012	190.107m	203.680m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

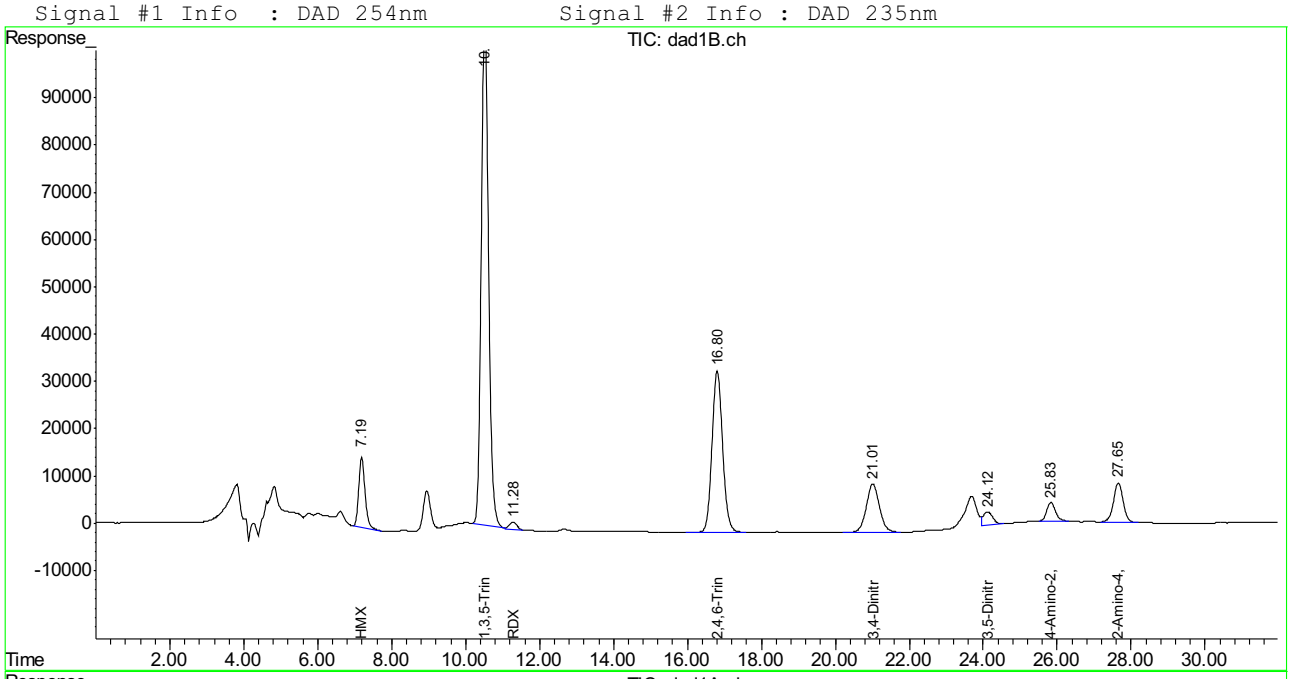
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060269.D 8330RPB.M_1028.M Mon Oct 31 09:28:59 2016 Page 1

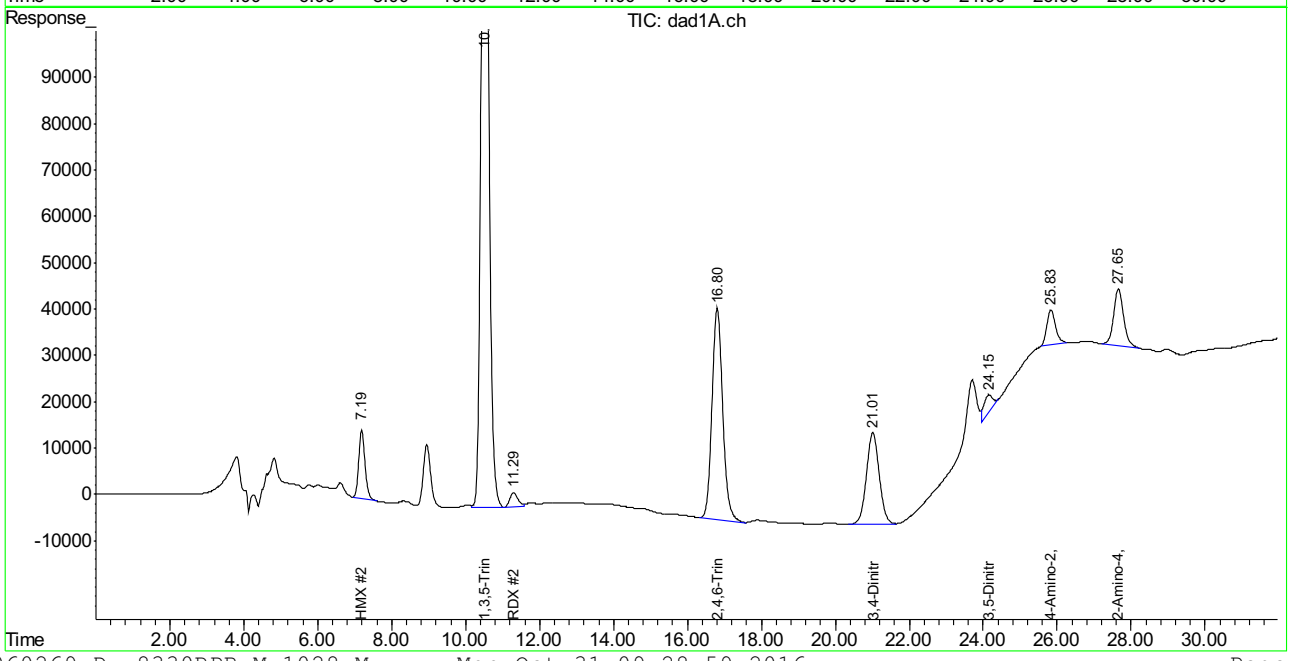
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060269.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\1028RPB3\GG060269.D\dad1A.ch
Acq On : 28-Oct-2016, 18:19:41 Operator: kismetl
Sample : FA37761-2cf Inst : G1315B
Misc : OP62253,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 9:08 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA37761-2
Lab FileID: GG060269.D
Injection Time: 10/28/16 18:19
Method: SW846 8330B
Analyst approved: 10/31/16 11:50 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	7.19	Poor instrument integration
HMX	2691-41-0	2	7.19	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	10.51	Poor instrument integration
RDX	121-82-4	1	11.28	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.12	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.15	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.83	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.83	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.65	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.65	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380490.D\dad1B.ch Vial: 65
Signal #2 : P:\DATA\1027BPL\PP380490.D\dad1A.ch
Acq On : 27-Oct-2016, 19:15:23 Operator: kismetl
Sample : fa37761-3 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:32 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.91	9.91	1016196	1933005	491.411m	495.802
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.28%	99.16%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.28	1.28	101350	281127	63.144m	64.041m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.53	2.53	74030	112296	40.342m	38.698m
6)	1,3,5-Trinitrobe	4.08	4.07	230642	437969	61.670m	60.444m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	5.55	5.55	76130	117742	16.997m	15.608m
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	8.88	8.88	546895	662732	158.607m	153.604m
13)	2-Amino-4,6-Dini	9.11	9.11	110278	191972	35.153m	39.016
14)	4-Amino-2,6-Dini	9.56	9.56	71377	186892	30.977m	38.977
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

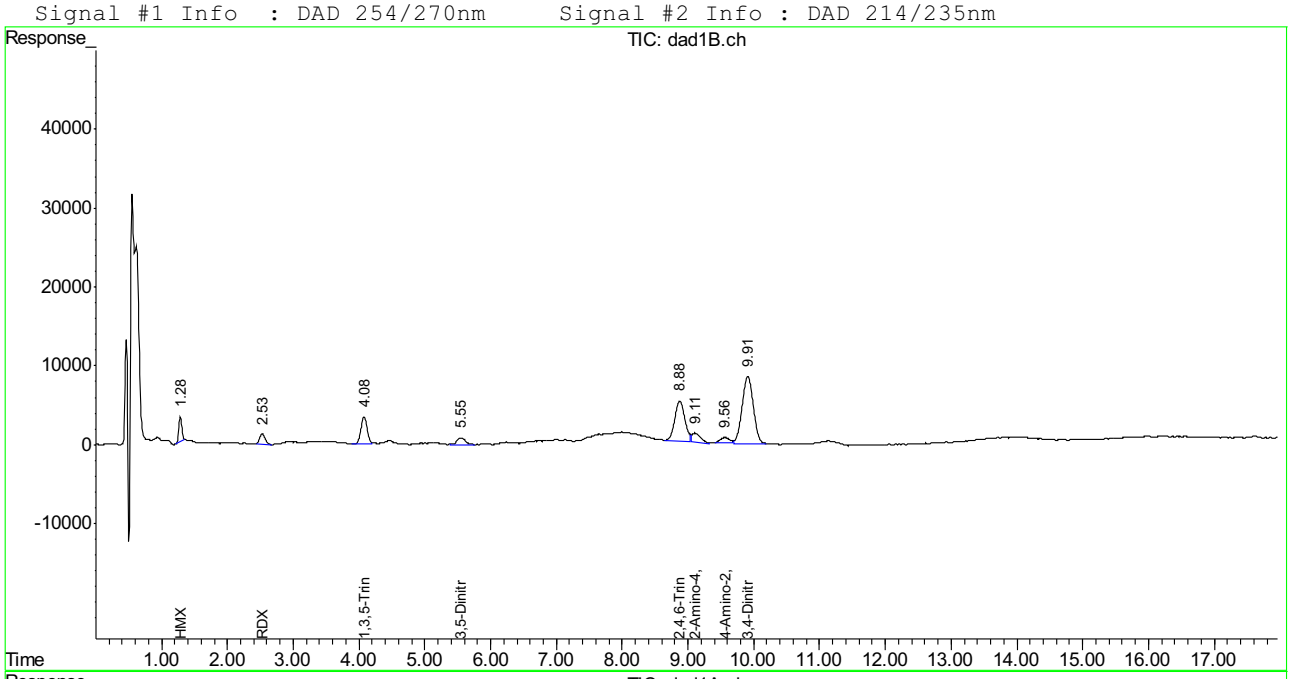
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380490.D 8330-1003BPLUS.M Fri Oct 28 14:24:04 2016 Page 1

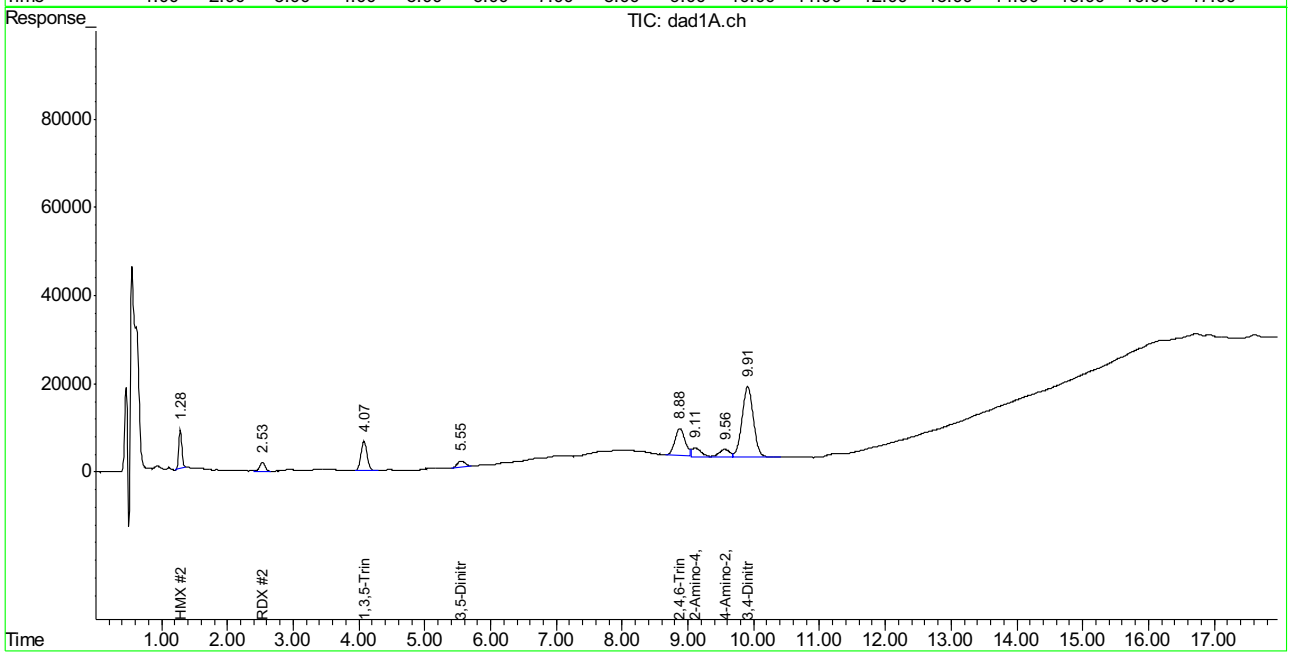
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380490.D\dad1B.ch Vial: 65
Signal #2 : P:\DATA\1027BPL\PP380490.D\dad1A.ch
Acq On : 27-Oct-2016, 19:15:23 Operator: kismetl
Sample : fa37761-3 Inst : G1315B
Misc : OP62253,GPP2041,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 10:40 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA37761-3
Lab FileID: PP380490.D
Injection Time: 10/27/16 19:15

Method: SW846 8330B
Analyst approved: 10/28/16 14:25 Kismet Lugo
Supervisor approved: 10/28/16 17:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.28	Poor instrument integration
HMX	2691-41-0	2	1.28	Poor instrument integration
RDX	121-82-4	1	2.53	Poor instrument integration
RDX	121-82-4	2	2.53	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.07	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.08	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.55	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.55	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.88	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	8.88	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.11	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.56	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.91	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060245.D\dad1B.ch Vial: 20
Signal #2 : G:\DATA\1025RPB3\GG060245.D\dad1A.ch
Acq On : 28-Oct-2016, 03:47:16 Operator: kismetl
Sample : FA37761-3cf Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:53:21 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.97	2489726	4735128	572.886	545.677
	Spiked Amount 500.000	Range 70 - 136		Recovery =		114.58%	109.14%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	7.18	7.18	254454	251771	88.695m	87.861m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.50	10.50	420703	861666	48.754m	57.674m
6)	RDX	11.27	11.27	202028	313914	52.086m	40.945m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	16.77	16.77	1291422	1748102	157.336	155.638m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	24.12	24.10	128572	174432	13.020m	10.215m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	25.81	25.81	240647	475959	40.815m	43.960m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	27.64	27.64	358273	481784	44.726m	41.556m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

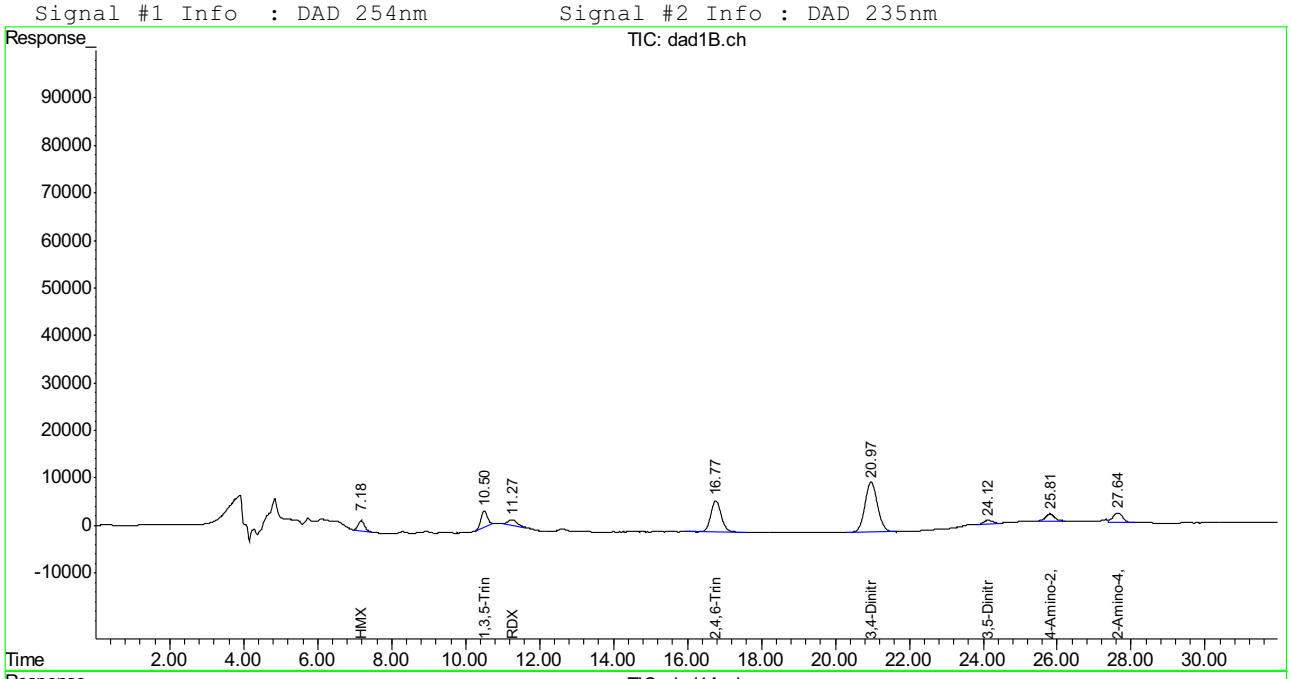
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060245.D 8330RPB.M_1027.M Fri Oct 28 17:18:29 2016 Page 1

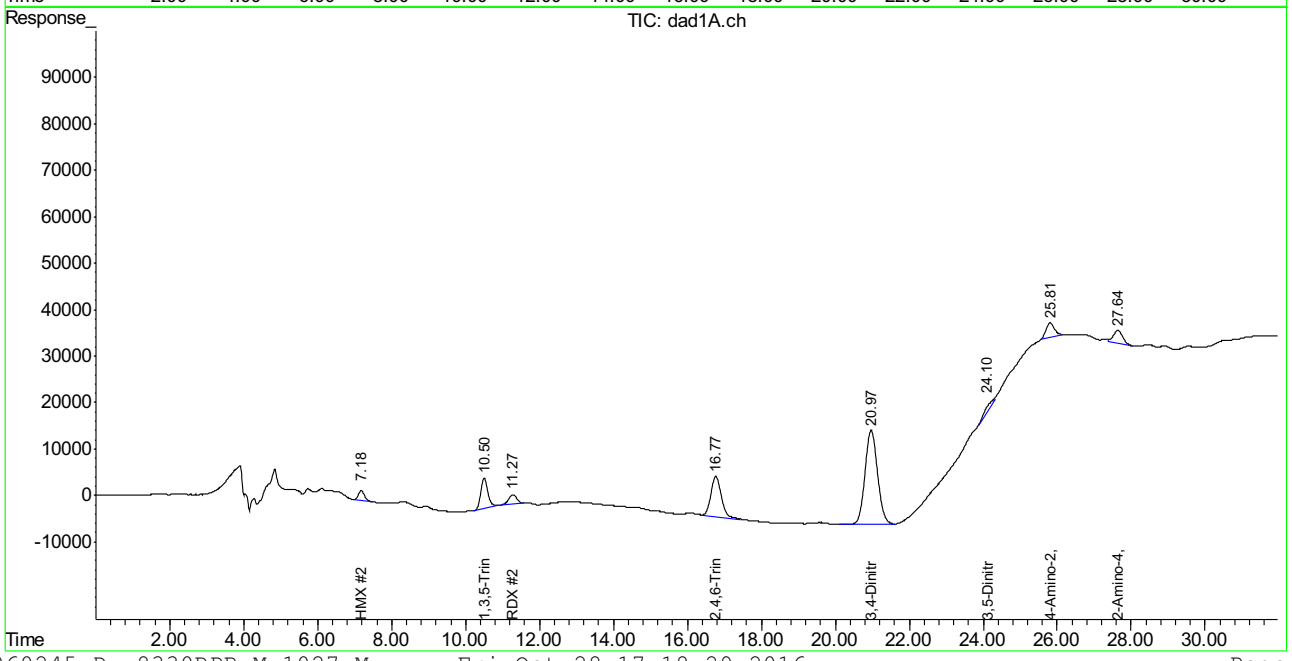
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060245.D\dad1B.ch Vial: 20
Signal #2 : G:\DATA\1025RPB3\GG060245.D\dad1A.ch
Acq On : 28-Oct-2016, 03:47:16 Operator: kismetl
Sample : FA37761-3cf Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 13:25 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA37761-3
Lab FileID: GG060245.D
Injection Time: 10/28/16 03:47
Method: SW846 8330B
Analyst approved: 10/28/16 14:22 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	7.18	Poor instrument integration
HMX	2691-41-0	2	7.18	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	10.50	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.50	Poor instrument integration
RDX	121-82-4	1	11.27	Poor instrument integration
RDX	121-82-4	2	11.27	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.77	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.12	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.81	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.64	Overlapping peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.64	Overlapping peak

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380406.D\dad1B.ch Vial: 26
Signal #2 : P:\DATA\1021BPL\PP380406.D\dad1A.ch
Acq On : 21-Oct-2016, 19:59:56 Operator: kismetl
Sample : FA37761-4 Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:32:05 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	989338	1924584	478.423	493.642
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.68%	98.73%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

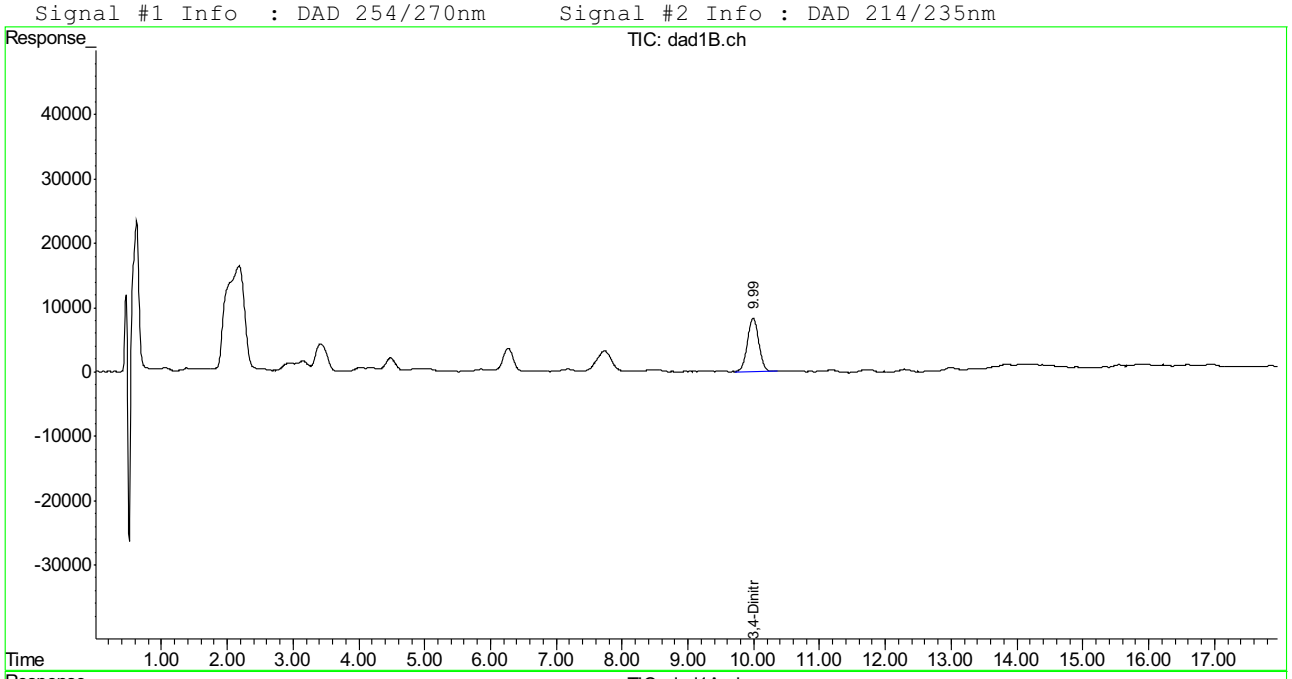
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380406.D 8330-1003BPLUS.M Fri Oct 28 14:28:17 2016 Page 1

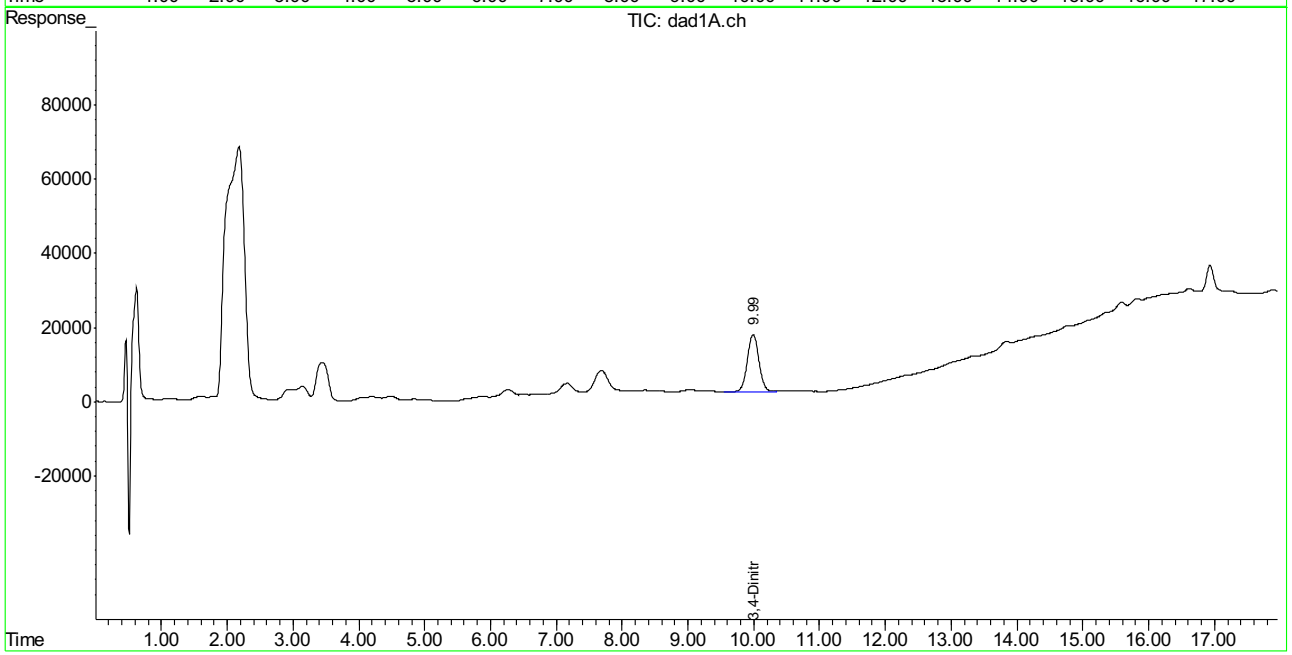
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380406.D\dad1B.ch Vial: 26
Signal #2 : P:\DATA\1021BPL\PP380406.D\dad1A.ch
Acq On : 21-Oct-2016, 19:59:56 Operator: kismetl
Sample : FA37761-4 Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 14:27 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





PP380406.D 8330-1003BPLUS.M Fri Oct 28 14:28:17 2016 Page 2

9.1.7
9

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380396.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\1021BPL\PP380396.D\dad1A.ch
Acq On : 21-Oct-2016, 15:50:39 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:55 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	1062255	1960393	513.684	502.827
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.74%	100.57%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

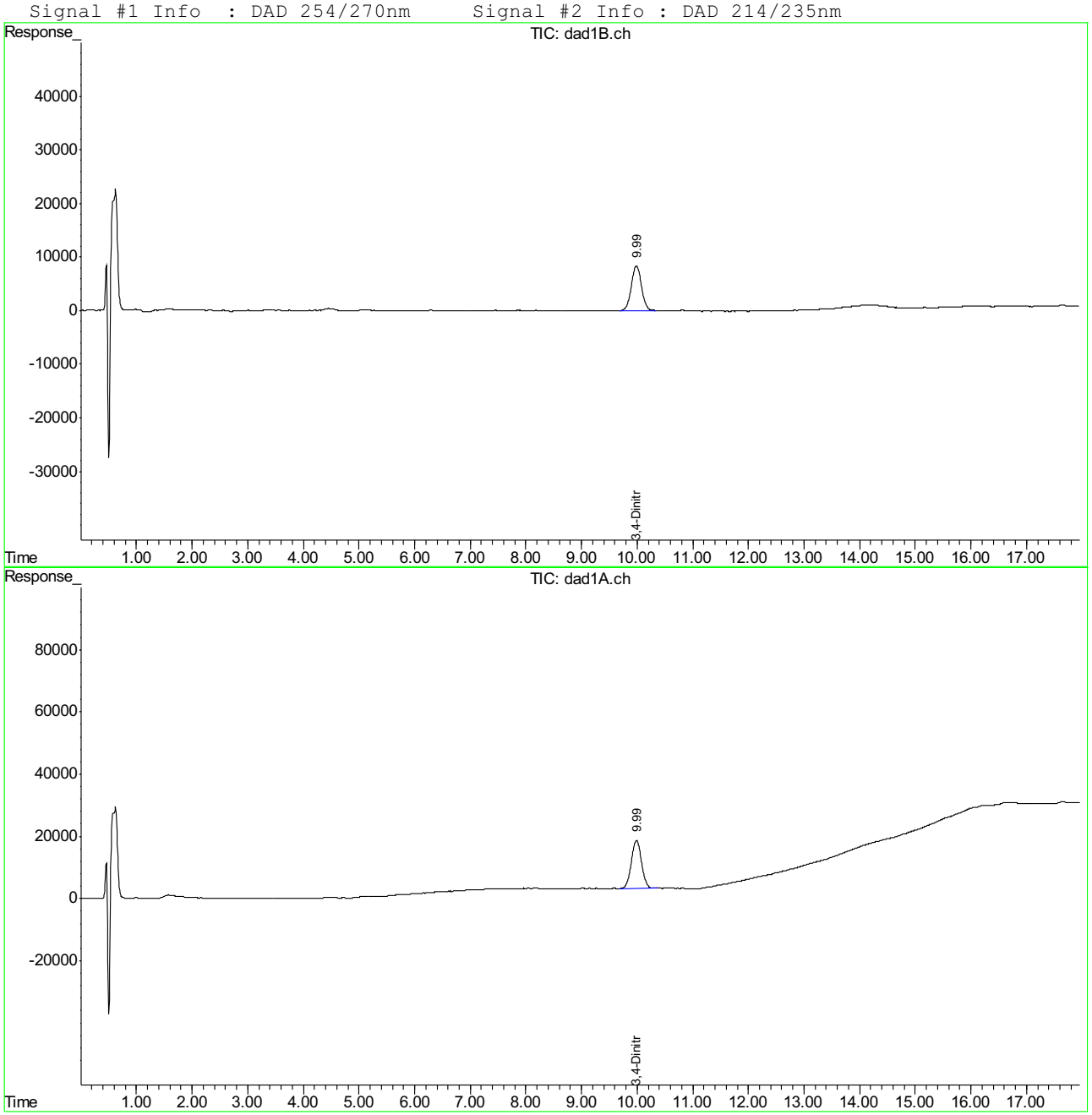
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380396.D 8330-1003BPLUS.M Mon Oct 24 09:19:49 2016 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380396.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\1021BPL\PP380396.D\dad1A.ch
Acq On : 21-Oct-2016, 15:50:39 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:15 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm



SGS ACCUTEST FA37761

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060241.D\dad1B.ch Vial: 16
Signal #2 : G:\DATA\1025RPB3\GG060241.D\dad1A.ch
Acq On : 28-Oct-2016, 01:28:54 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:53:17 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.92	20.92	2577774	4896048	593.146	564.276
	Spiked Amount 500.000	Range 70 - 136		Recovery =		118.63%	112.86%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

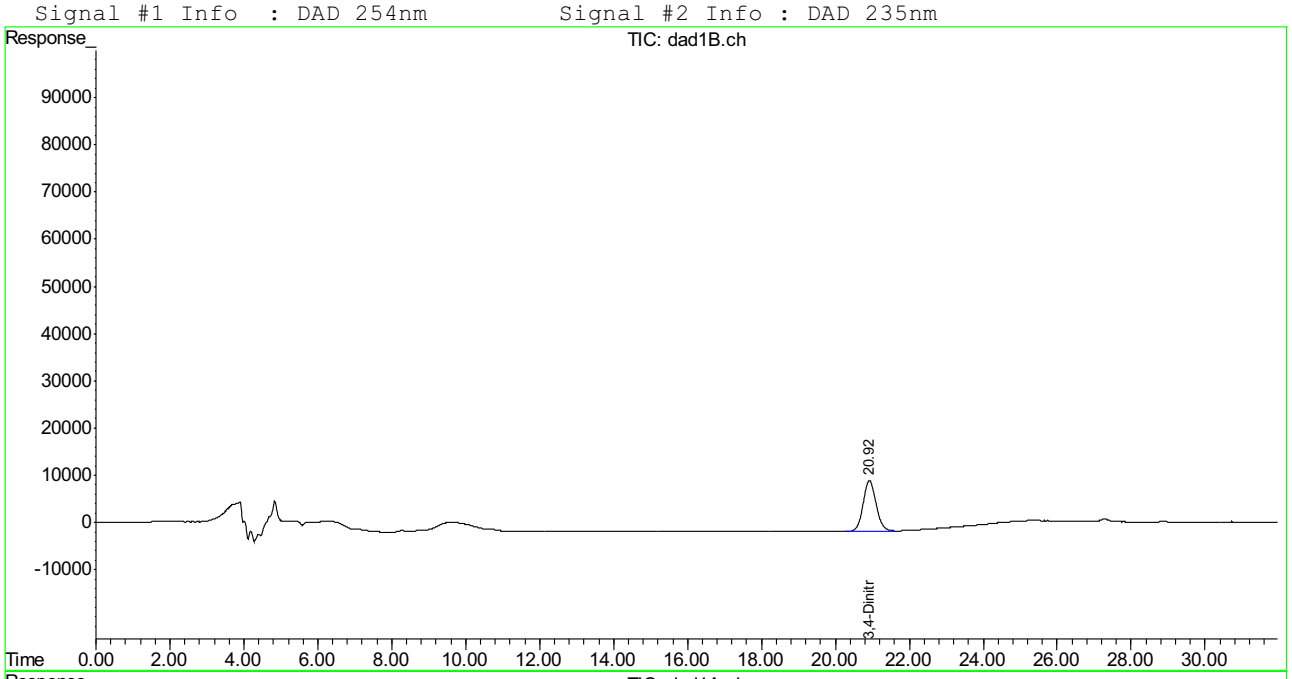
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060241.D 8330RPB.M_1027.M Fri Oct 28 17:18:25 2016 Page 1

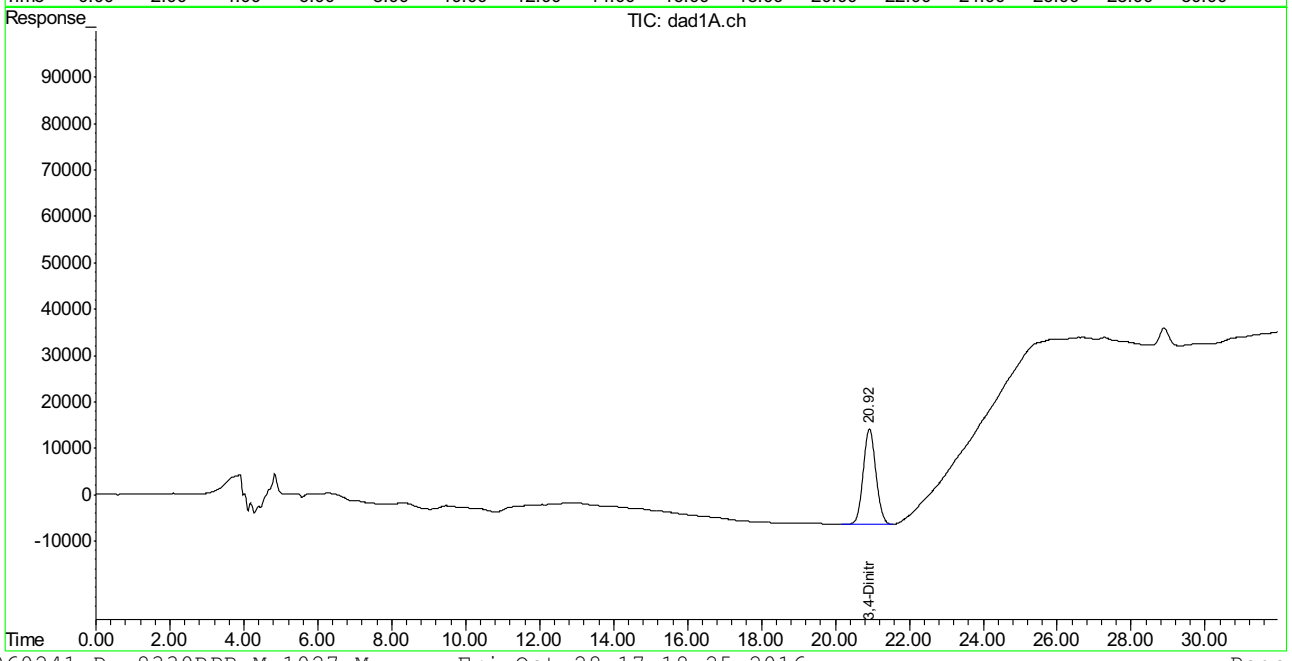
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060241.D\dad1B.ch Vial: 16
Signal #2 : G:\DATA\1025RPB3\GG060241.D\dad1A.ch
Acq On : 28-Oct-2016, 01:28:54 Operator: kismetl
Sample : op62253-mb Inst : G1315B
Misc : OP62253,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 9:18 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380395.D\dad1B.ch Vial: 17
Signal #2 : P:\DATA\1021BPL\PP380395.D\dad1A.ch
Acq On : 21-Oct-2016, 15:25:43 Operator: kismetl
Sample : op62253-bs Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:54 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	1061711	1944053	513.421	498.636
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.68%	99.73%
	Target Compounds						
1)	TNX	1.19	1.19	1221879	1726502	394.756m	349.862
2)	HMX	1.29	1.29	840743	2358048	523.803	537.161
3)	DNX	1.52	1.52	1235721	2147153	426.487	449.245
4)	MNX	2.02	2.01	1121999	1742733	494.544	492.636m
5)	RDX	2.54	2.54	888763	1420417	484.316	489.492
6)	1,3,5-Trinitrobe	4.10	4.10	1920087	3712925	513.406	512.418
7)	1,3-Dinitrobenze	5.24	5.24	2445954	1607867	481.554	472.077
8)	3,5-Dinitroanili	5.59	5.59	1946508	3258522	434.581	431.965
9)	Nitrobenzene	6.77	6.77	1432030	1429421	475.639	508.021
10)	Nitroglycerin	0.00	8.36	0	3583552	N.D. d	2475.008
11)	Tetryl	8.55	8.54	1289283	1869684	669.488	723.016
12)	2,4,6-Trinitroto	8.95	8.95	1552922	1896521	450.370	439.564
13)	2-Amino-4,6-Dini	9.21	9.21	1615656	2529608	515.020	514.113
14)	4-Amino-2,6-Dini	9.66	9.66	1179948	2458868	512.088	512.805
16)	2,4-Dinitrotolue	10.65	10.65	2320548	1467183	507.440	493.282
17)	2,6-Dinitrotolue	11.12	11.12	1357651	1582302	542.185	513.652
18)	o-Nitrotoluene	13.65	13.65	1092316	1443393	506.570	471.467m
19)	p-Nitrotoluene	14.05	14.05	1837199	1384407	541.630	482.478m
20)	m-Nitrotoluene	14.64	14.64	1644661	1849780	519.009	484.530m
21)	PETN	0.00	16.33	0	4276648	N.D. d	2932.047m

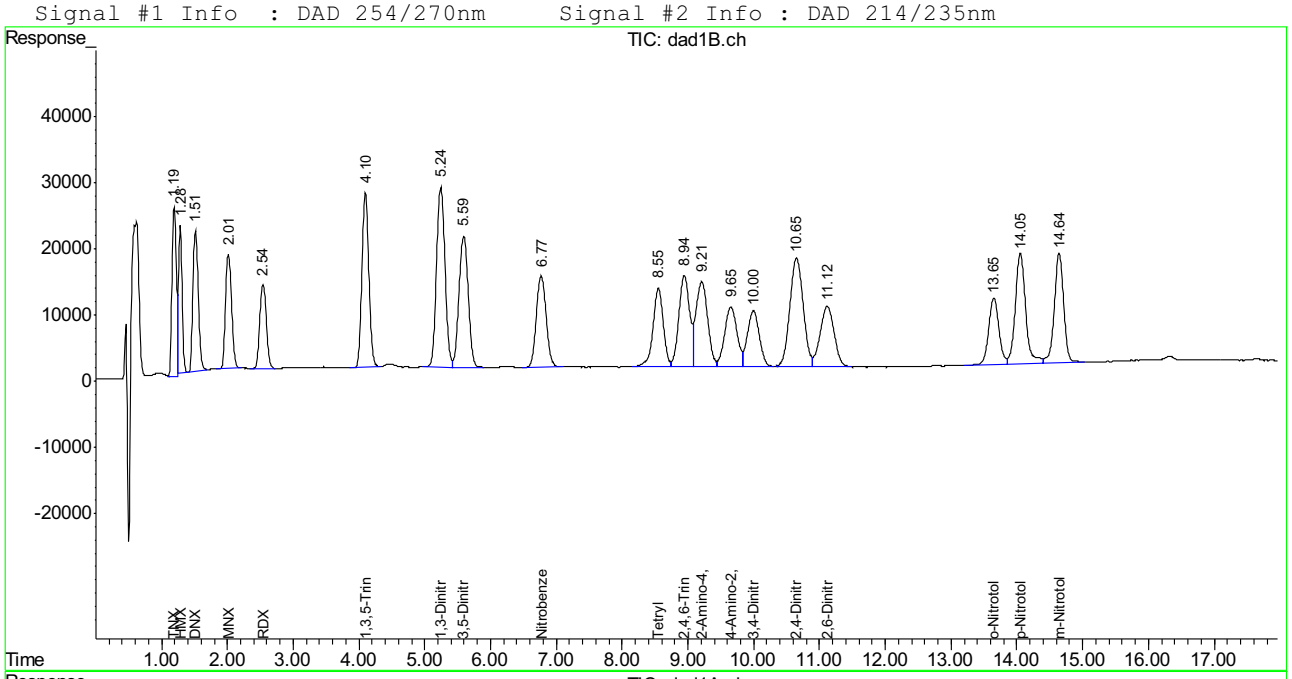
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380395.D 8330-1003BPLUS.M Mon Oct 24 09:19:48 2016 Page 1

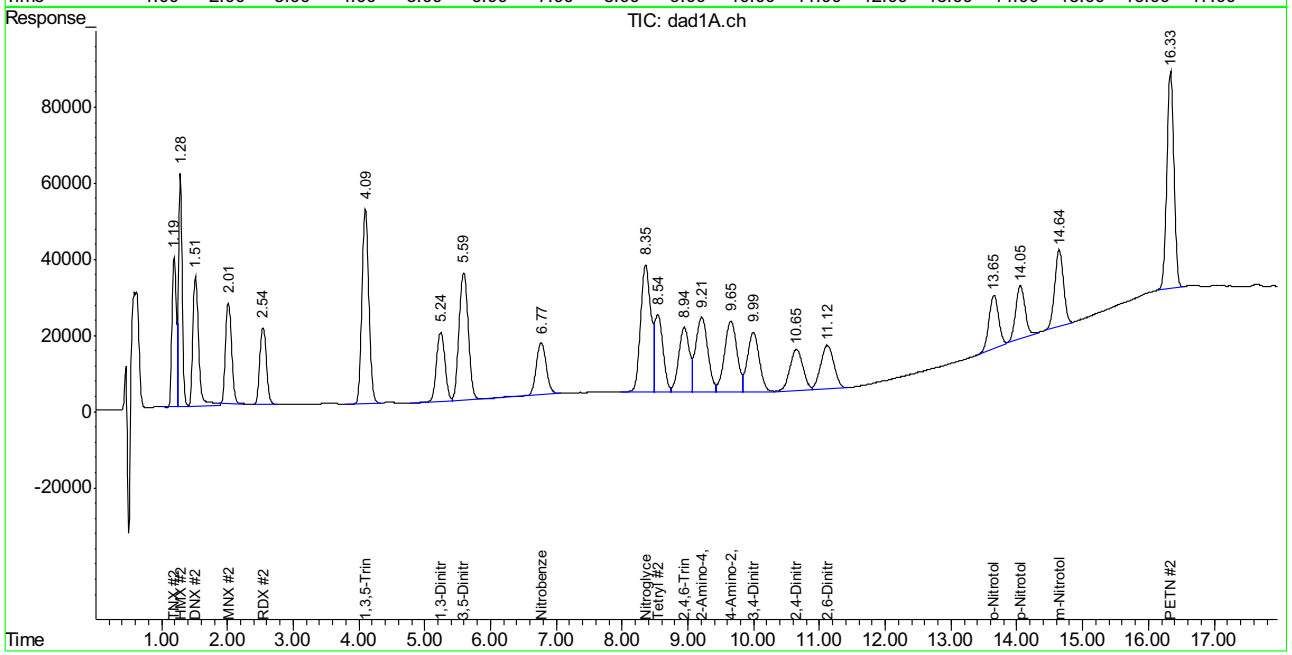
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380395.D\dad1B.ch Vial: 17
Signal #2 : P:\DATA\1021BPL\PP380395.D\dad1A.ch
Acq On : 21-Oct-2016, 15:25:43 Operator: kismetl
Sample : op62253-bs Inst : G1315B
Misc : OP62253,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:13 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: OP62253-BS
Lab FileID: PP380395.D
Injection Time: 10/21/16 15:25
Method: SW846 8330B
Analyst approved: 10/24/16 10:02 Kismet Lugo
Supervisor approved: 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.19	Poor instrument integration
MNX		2	2.01	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380399.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\1021BPL\PP380399.D\dad1A.ch
Acq On : 21-Oct-2016, 17:05:31 Operator: kismetl
Sample : op62253-ms Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:58 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	1028030	1896605	497.134	486.466
Spiked Amount	500.000	Range	70 - 136	Recovery	=	99.43%	97.29%
	Target Compounds						
1)	TNX	1.19	1.19	1394185	2057655	450.424	416.968
2)	HMX	1.29	1.29	1914191	5233397	1192.588	1192.163
3)	DNX	1.52	1.52	1336663	2142312	461.325	448.232
4)	MNX	2.02	2.02	1164639	1805907	513.338	510.494
5)	RDX	2.54	2.54	1497995	2289945	816.307m	789.142m
6)	1,3,5-Trinitrobe	4.09	4.09	5435456	10539050	1453.368	1454.488
7)	1,3-Dinitrobenze	5.24	5.24	2319919	1536078	456.741m	451.000m
8)	3,5-Dinitroanili	5.59	5.59	1991433	3421240	444.611m	453.536m
9)	Nitrobenzene	6.77	6.76	1463524	1382879	486.099	491.480m
10)	Nitroglycerin	0.00	8.35	0	3714698	N.D. d	2565.585
11)	Tetryl	8.54	8.53	1305996	1920771	678.166	742.772
12)	2,4,6-Trinitroto	8.94	8.94	3344950	4087228	970.084	947.313
13)	2-Amino-4,6-Dini	9.20	9.20	2268033	3579249	722.977	727.440
14)	4-Amino-2,6-Dini	9.65	9.65	1406618	2961459	610.461	617.622
16)	2,4-Dinitrotolue	10.65	10.65	2321966	1453518	507.750	488.688
17)	2,6-Dinitrotolue	11.12	11.12	1437975	1773538	574.263	573.400
18)	o-Nitrotoluene	13.65	13.65	1078836	1476064	500.319m	482.138m
19)	p-Nitrotoluene	14.05	14.06	1715029	1358264	505.613m	473.367m
20)	m-Nitrotoluene	14.64	14.64	1573092	1869392	496.424m	489.668m
21)	PETN	0.00	16.34	0	3998885	N.D. d	2741.614m

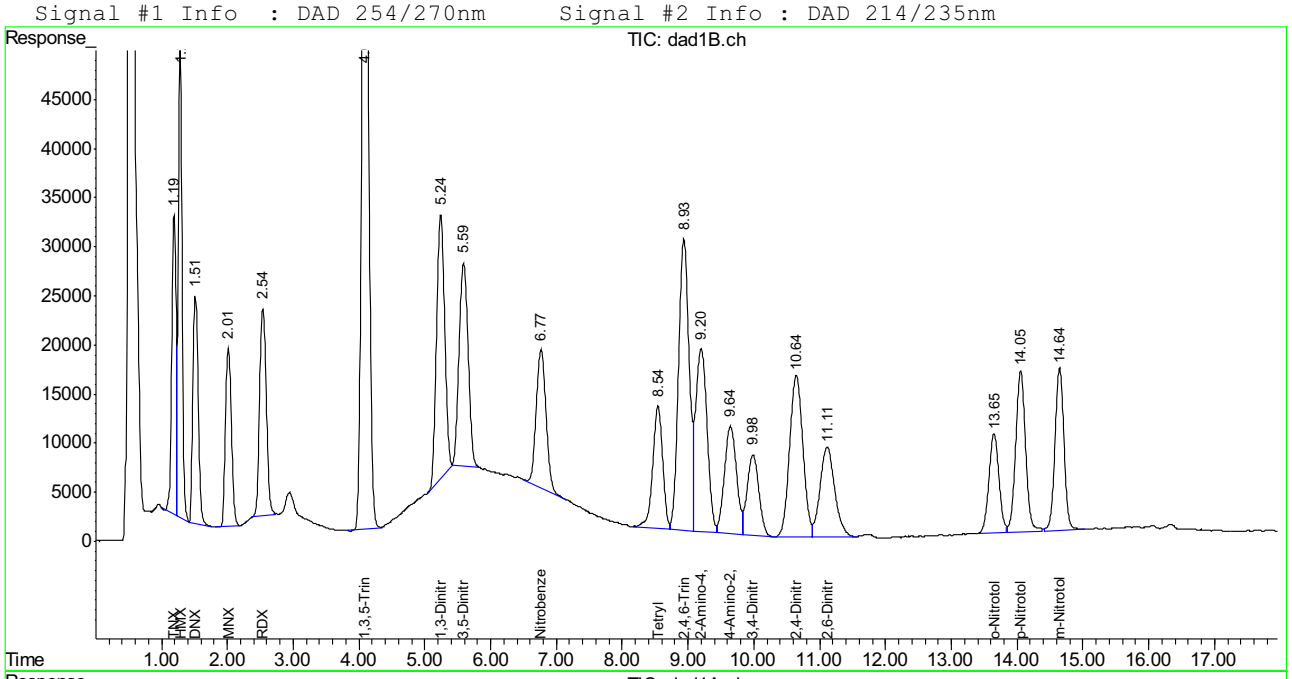
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380399.D 8330-1003BPLUS.M Mon Oct 24 09:19:52 2016 Page 1

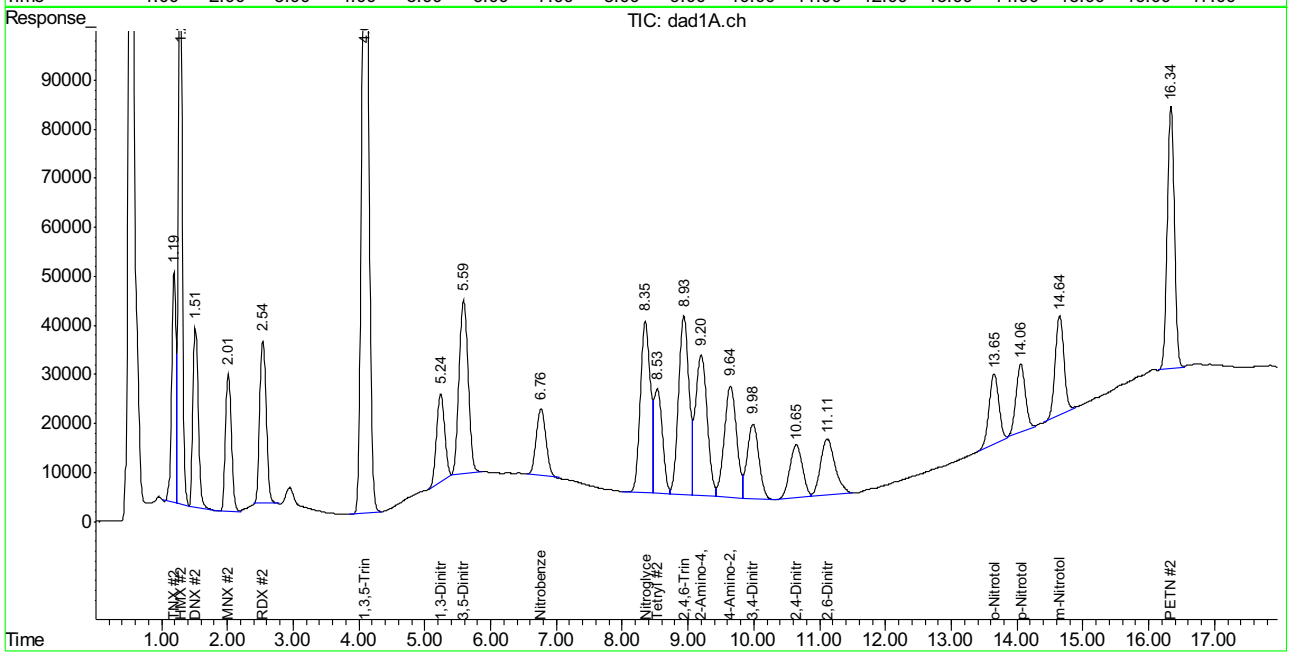
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380399.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\1021BPL\PP380399.D\dad1A.ch
Acq On : 21-Oct-2016, 17:05:31 Operator: kismetl
Sample : op62253-ms Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:25 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: OP62253-MS
Lab FileID: PP380399.D
Injection Time: 10/21/16 17:05
Method: SW846 8330B
Analyst approved: 10/28/16 16:02 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.24	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.24	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.59	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.59	Poor instrument integration
Nitrobenzene	98-95-3	2	6.76	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.05	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.34	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380400.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\1021BPL\PP380400.D\dad1A.ch
Acq On : 21-Oct-2016, 17:30:25 Operator: kismetl
Sample : op62253-msd Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:59 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	1028599	1883504	497.409	483.106
	Spiked Amount 500.000	Range 70 - 136		Recovery =		99.48%	96.62%
	Target Compounds						
1)	TNX	1.19	1.19	1304116	2007343	421.325	406.773
2)	HMX	1.29	1.29	1912063	5149888	1191.262	1173.139
3)	DNX	1.52	1.52	1293735	2054448	446.509	429.848
4)	MNX	2.02	2.02	1124734	1764012	495.749	498.652
5)	RDX	2.54	2.54	1453498	2302285	792.059m	793.394m
6)	1,3,5-Trinitrobe	4.10	4.10	5404926	10479107	1445.205	1446.215
7)	1,3-Dinitrobenze	5.24	5.24	2502360	1658440	492.660m	486.926m
8)	3,5-Dinitroanili	5.59	5.59	2192150	3655957	489.423m	484.651m
9)	Nitrobenzene	6.77	6.76	1480129	1455584	491.614	517.319m
10)	Nitroglycerin	0.00	8.35	0	3717722	N.D. d	2567.674
11)	Tetryl	8.54	8.53	1323564	1927660	687.289	745.436
12)	2,4,6-Trinitroto	8.94	8.94	3351566	4081657	972.002	946.022
13)	2-Amino-4,6-Dini	9.20	9.20	2270173	3566854	723.659	724.921
14)	4-Amino-2,6-Dini	9.65	9.65	1409787	2952509	611.836	615.756
16)	2,4-Dinitrotolue	10.65	10.65	2326595	1466785	508.762	493.148
17)	2,6-Dinitrotolue	11.12	11.12	1482602	1800980	592.085	581.935
18)	o-Nitrotoluene	13.65	13.65	1099464	1460536	509.885m	477.066m
19)	p-Nitrotoluene	14.05	14.05	1743092	1406724	513.886m	490.256m
20)	m-Nitrotoluene	14.64	14.64	1635271	1884818	516.046	493.708m
21)	PETN	0.00	16.33	0	4070550	N.D. d	2790.747m

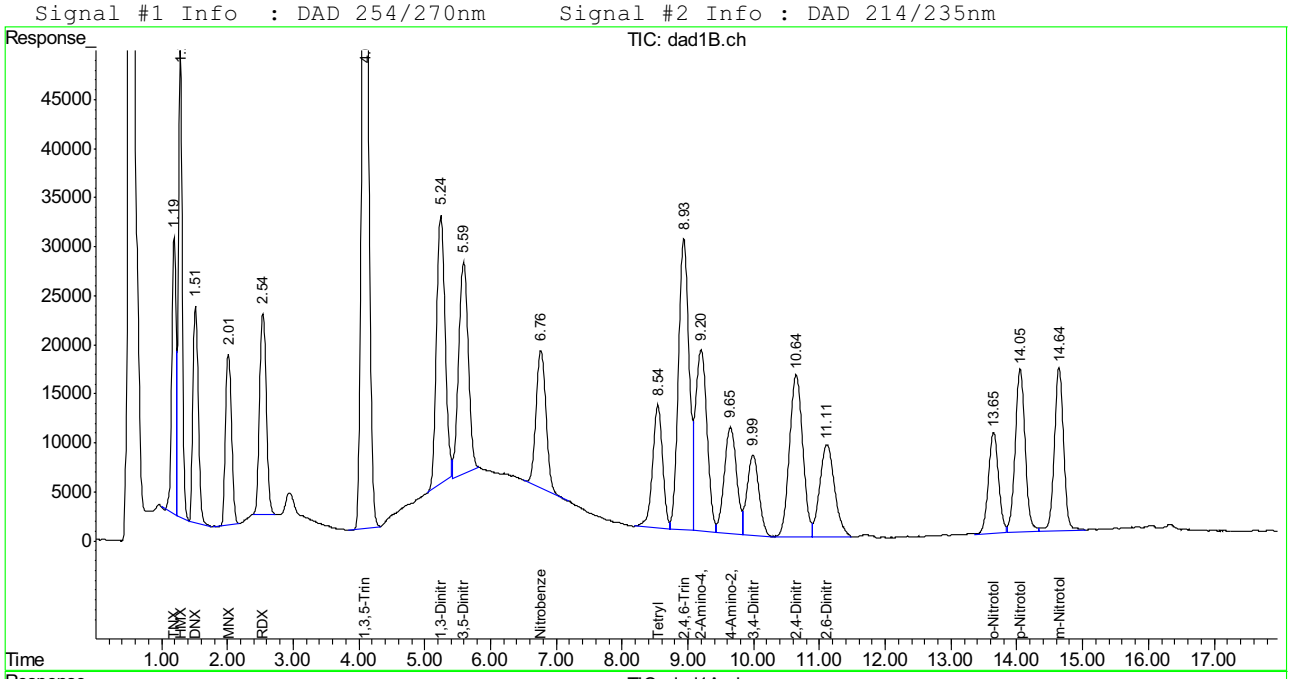
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380400.D 8330-1003BPLUS.M Mon Oct 24 09:19:53 2016 Page 1

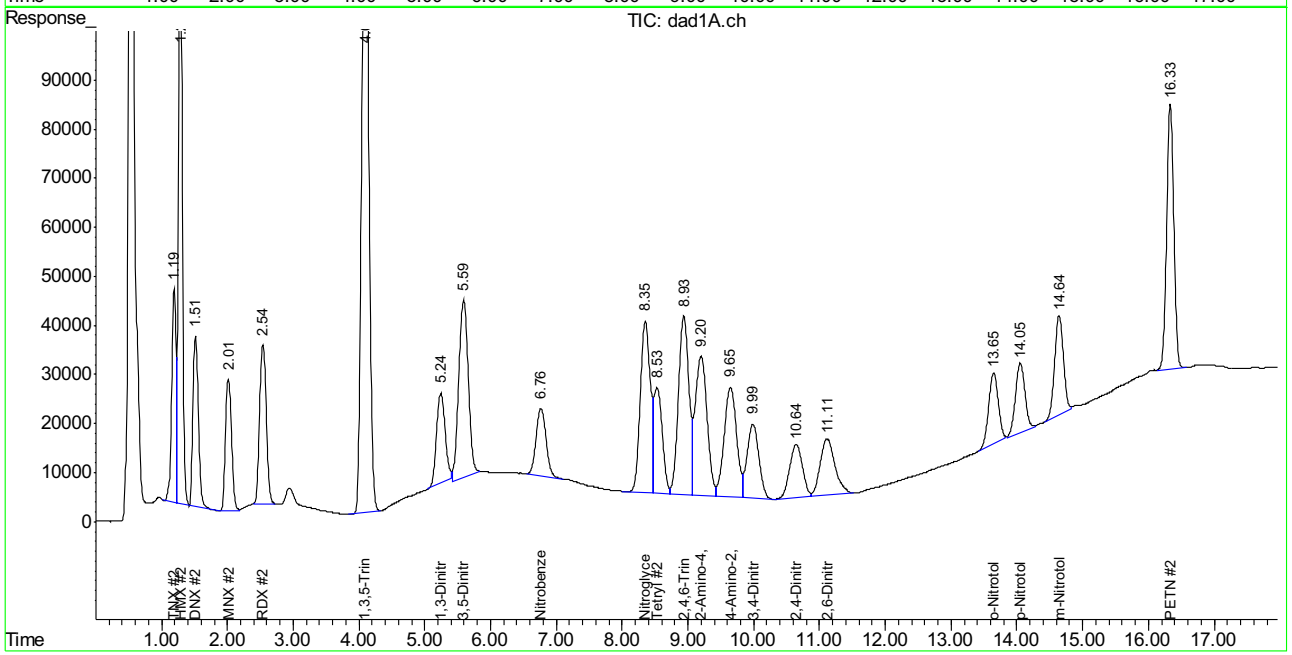
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380400.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\1021BPL\PP380400.D\dad1A.ch
Acq On : 21-Oct-2016, 17:30:25 Operator: kismetl
Sample : op62253-msd Inst : G1315B
Misc : OP62253,GPP2037,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 8:27 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: OP62253-MSD
Lab FileID: PP380400.D
Injection Time: 10/21/16 17:30
Method: SW846 8330B
Analyst approved: 10/28/16 16:02 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.24	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.24	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.59	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.59	Poor instrument integration
Nitrobenzene	98-95-3	2	6.76	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.05	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060227.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\1025RPB3\GG060227.D\dad1A.ch
Acq On : 27-Oct-2016, 17:24:48 Operator: kismetl
Sample : ic2478-20 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:51 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.04	21.05	79123	98762	16.534m	10.432m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.31%#	2.09%#
	Target Compounds						
1)	TNX	6.53	6.53	173230	172133	21.172m	13.474m
2)	HMX	7.22	7.22	45591	45591	16.079	5.316 #
3)	DNX	7.52	7.52	127821	127821	17.735	13.402
4)	MNX	9.35	9.34	105744	144817	19.047	17.392m
5)	1,3,5-Trinitrobe	10.56	10.56	167619	286467	19.182	18.598m
6)	RDX	11.34	11.33	73702	166415	18.432	21.569m
7)	1,3-Dinitrobenze	14.11	14.11	248863	167556	20.861	18.804m
8)	Nitrobenzene	15.59	15.59	158432	155541	20.137	21.670m
9)	2,4,6-Trinitroto	16.85	16.84	165771	247148	19.949	22.922
10)	Nitroglycerin	0.00	17.94	0	244855	N.D.	81.895 #
11)	Tetryl	19.28	19.29	121923	225768	19.349	20.189m
13)	2,6-Dinitrotolue	21.53	21.54	92624	22355	15.572m	2.566m#
14)	2,4-Dinitrotolue	22.49	22.52	215595	140857	19.640m	16.770m
15)	o-Nitrotoluene	24.41	24.40	93707	86983	18.911m	12.886m
16)	3,5-Dinitroanili	24.16	24.13	190520	160639	18.735m	9.939m#
17)	p-Nitrotoluene	25.44	25.47	87817	114186	21.902m	17.867m
18)	4-Amino-2,6-Dini	25.82	25.84	125338	197772	20.536m	16.447m
19)	m-Nitrotoluene	26.54	26.55	112862	236915	20.038m	26.803m
20)	2-Amino-4,6-Dini	27.66	27.66	161356	223310	19.894	18.858m
21)	PETN	0.00	28.61	0	270104	N.D. d	83.279m

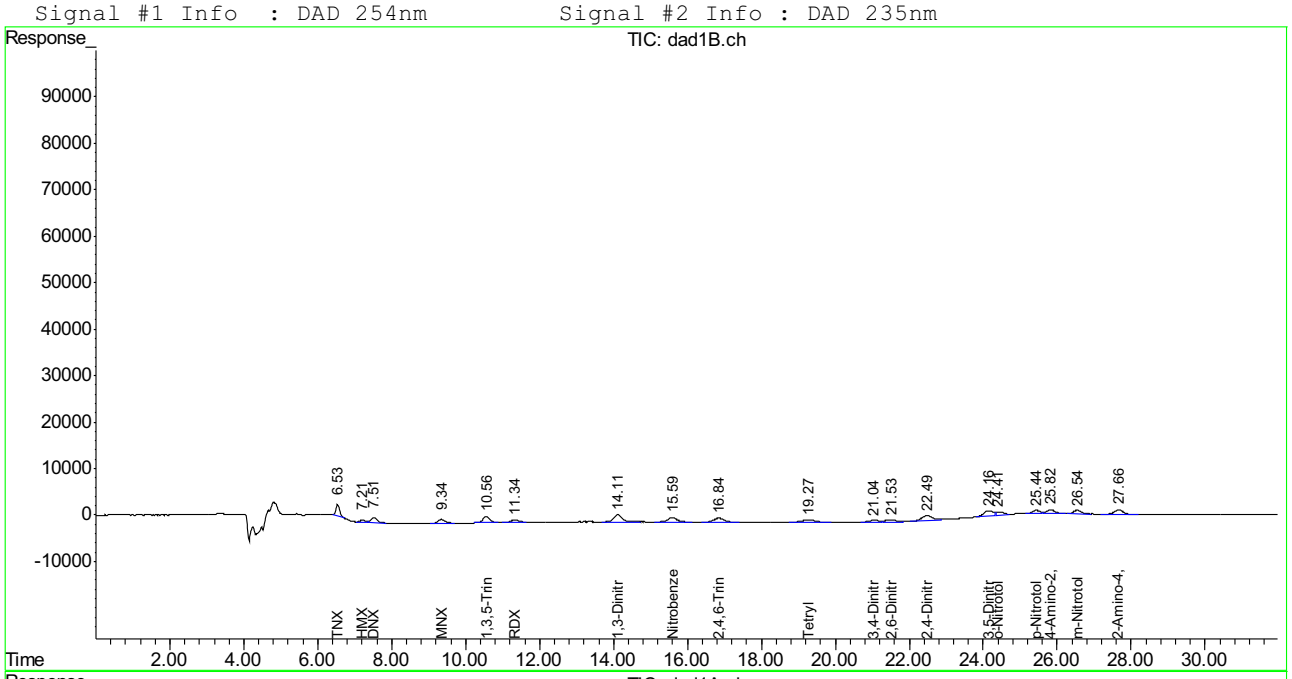
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060227.D 8330RPB.M_1027.M Fri Oct 28 08:28:46 2016 Page 1

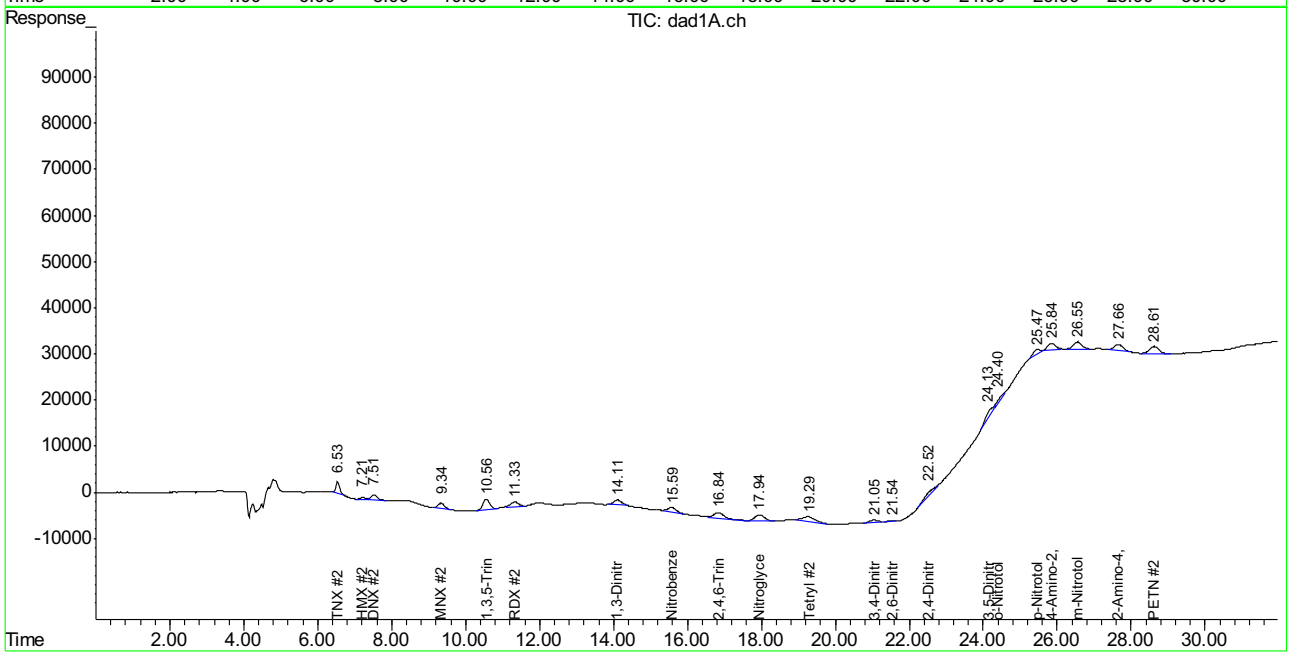
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060227.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\1025RPB3\GG060227.D\dad1A.ch
Acq On : 27-Oct-2016, 17:24:48 Operator: kismetl
Sample : ic2478-20 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 6:45 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060227.D
Injection Time: 10/27/16 17:24
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.53	Poor instrument integration
TNX		2	6.53	Poor instrument integration
MNX		2	9.34	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Poor instrument integration
RDX	121-82-4	2	11.33	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.11	Poor instrument integration
Nitrobenzene	98-95-3	2	15.59	Poor instrument integration
Tetryl	479-45-8	2	19.29	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	21.04	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	21.05	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	21.53	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	21.54	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	22.49	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.52	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
3,5-Dinitroaniline	618-87-1	1	24.16	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.40	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.41	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.44	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.47	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.82	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.84	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.54	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.55	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060228.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\1025RPB3\GG060228.D\dad1A.ch
Acq On : 27-Oct-2016, 17:59:23 Operator: kismetl
Sample : ic2478-50 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:52 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.02	21.02	206212	345983	43.092	36.545m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		8.62%#	7.31%#
	Target Compounds						
1)	TNX	6.53	6.53	416167	422425	50.863m	33.066m
2)	HMX	7.21	7.21	122736	122701	43.287	14.307 #
3)	DNX	7.51	7.51	310298	310334	43.055	32.539
4)	MNX	9.34	9.33	262492	361684	47.281	43.438m
5)	1,3,5-Trinitrobe	10.54	10.54	424119	710463	48.536	46.125
6)	RDX	11.33	11.32	184044	339943	46.027	44.060m
7)	1,3-Dinitrobenze	14.09	14.09	587582	446322	49.253	50.089m
8)	Nitrobenzene	15.57	15.56	385133	366186	48.952	51.005m
9)	2,4,6-Trinitroto	16.82	16.81	398759	525854	47.987	48.770
10)	Nitroglycerin	0.00	17.90	0	734142	N.D.	245.544 #
11)	Tetryl	19.24	19.23	295127	551149	46.837	49.287
13)	2,6-Dinitrotolue	21.46	21.46	253919	208337	42.689	23.913 #
14)	2,4-Dinitrotolue	22.45	22.46	580748	288452	52.905	34.342m
15)	o-Nitrotoluene	24.40	24.47	233127	298832	47.047m	44.269m
16)	3,5-Dinitroanili	24.13	24.16	478710	646896	47.073m	40.025m
17)	p-Nitrotoluene	25.42	25.43	216240	270564	53.931m	42.337m
18)	4-Amino-2,6-Dini	25.81	25.83	294121	506517	48.191m	42.122m
19)	m-Nitrotoluene	26.53	26.53	263644	364728	46.808m	41.263m
20)	2-Amino-4,6-Dini	27.65	27.66	410402	652127	50.600m	55.070m
21)	PETN	0.00	28.61	0	707098	N.D. d	218.014m

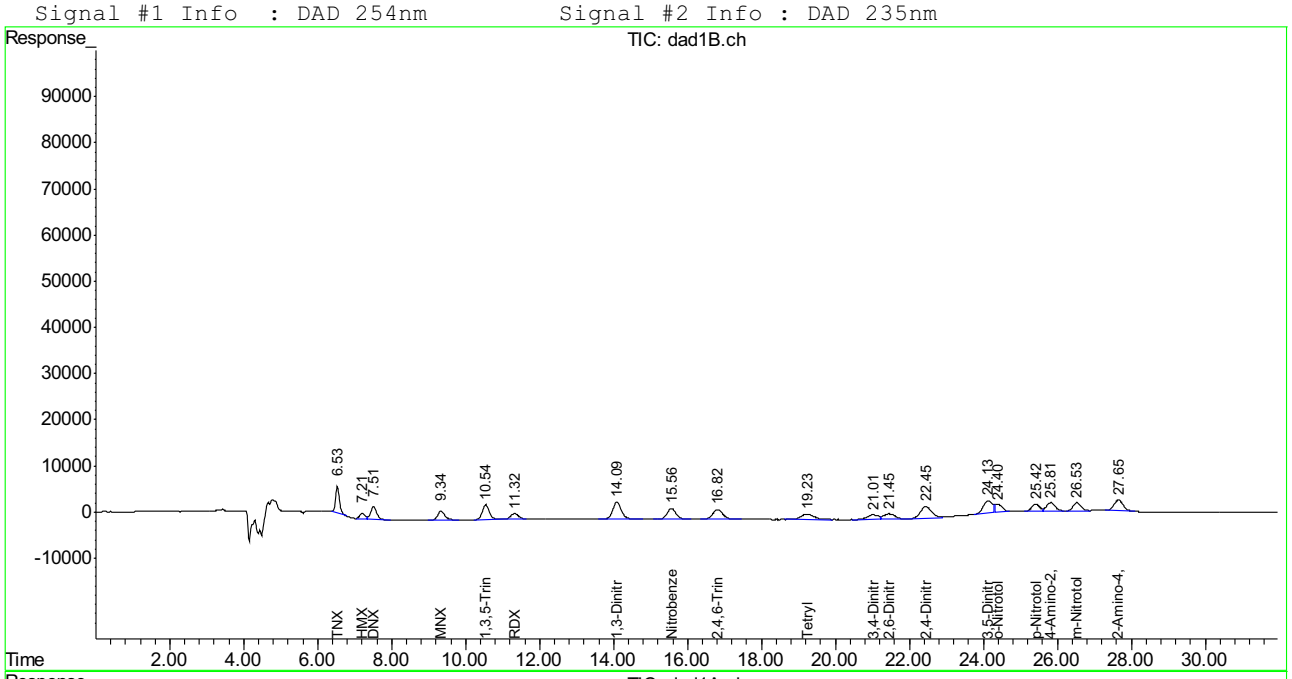
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060228.D 8330RPB.M_1027.M Fri Oct 28 08:29:22 2016 Page 1

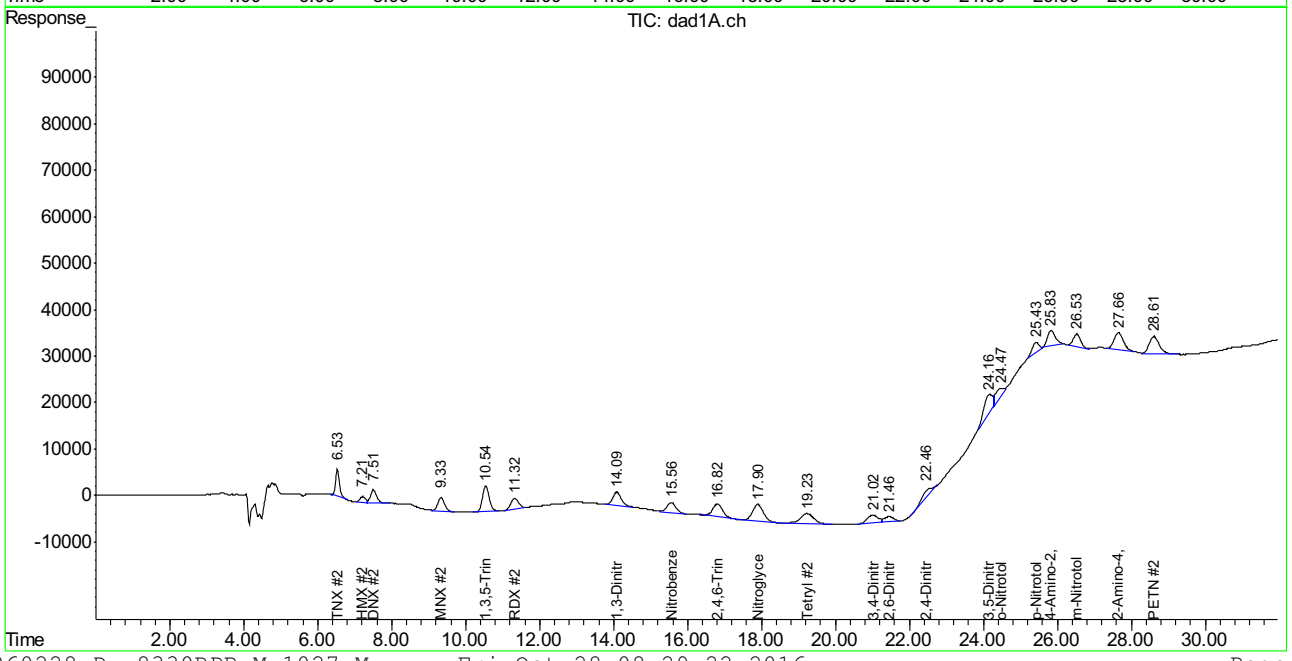
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060228.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\1025RPB3\GG060228.D\dad1A.ch
Acq On : 27-Oct-2016, 17:59:23 Operator: kismetl
Sample : ic2478-50 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:27 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060228.D
Injection Time: 10/27/16 17:59
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.53	Poor instrument integration
TNX		2	6.53	Poor instrument integration
MNX		2	9.33	Poor instrument integration
RDX	121-82-4	2	11.32	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.09	Poor instrument integration
Nitrobenzene	98-95-3	2	15.56	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	21.02	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.46	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.13	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.16	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.40	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.47	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.42	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.43	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.83	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.65	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060229.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\1025RPB3\GG060229.D\dad1A.ch
Acq On : 27-Oct-2016, 18:33:57 Operator: kismetl
Sample : ic2478-100 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:53 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.97	441420	808124	92.242	85.360
	Spiked Amount 500.000	Range 70 - 136		Recovery =		18.45%#	17.07%#
	Target Compounds						
1)	TNX	6.52	6.52	850928	850340	103.999m	66.562m
2)	HMX	7.19	7.19	264483	263748	93.279	30.754 #
3)	DNX	7.49	7.49	632878	629284	87.814	65.982
4)	MNX	9.32	9.31	523155	767301	94.232	92.152
5)	1,3,5-Trinitrobe	10.52	10.52	872851	1480264	99.888	96.102
6)	RDX	11.30	11.30	394092	827882	98.557	107.301
7)	1,3-Dinitrobenze	14.06	14.06	1219339	939357	102.209	105.420m
8)	Nitrobenzene	15.53	15.53	795274	784476	101.083	109.215m
9)	2,4,6-Trinitroto	16.78	16.77	830964	1151909	100.000	106.834m
10)	Nitroglycerin	0.00	17.86	0	1545659	N.D. d	516.968
11)	Tetryl	19.19	19.19	594854	1048725	94.403	93.783
13)	2,6-Dinitrotolue	21.41	21.41	562182	617138	94.514	70.835
14)	2,4-Dinitrotolue	22.40	22.45	1122199	735485	102.230	87.565m
15)	o-Nitrotoluene	24.37	24.40	496574	676448	100.212m	100.209m
16)	3,5-Dinitroanili	24.11	24.13	1008197	1622701	99.139m	100.401m
17)	p-Nitrotoluene	25.40	25.40	433827	774659	108.197m	121.216m
18)	4-Amino-2,6-Dini	25.80	25.80	561698	1004280	92.034m	83.516m
19)	m-Nitrotoluene	26.51	26.51	555380	903933	98.603m	102.264m
20)	2-Amino-4,6-Dini	27.64	27.63	789528	1082664	97.343	91.427m
21)	PETN	0.00	28.59	0	1622649	N.D. d	500.298m

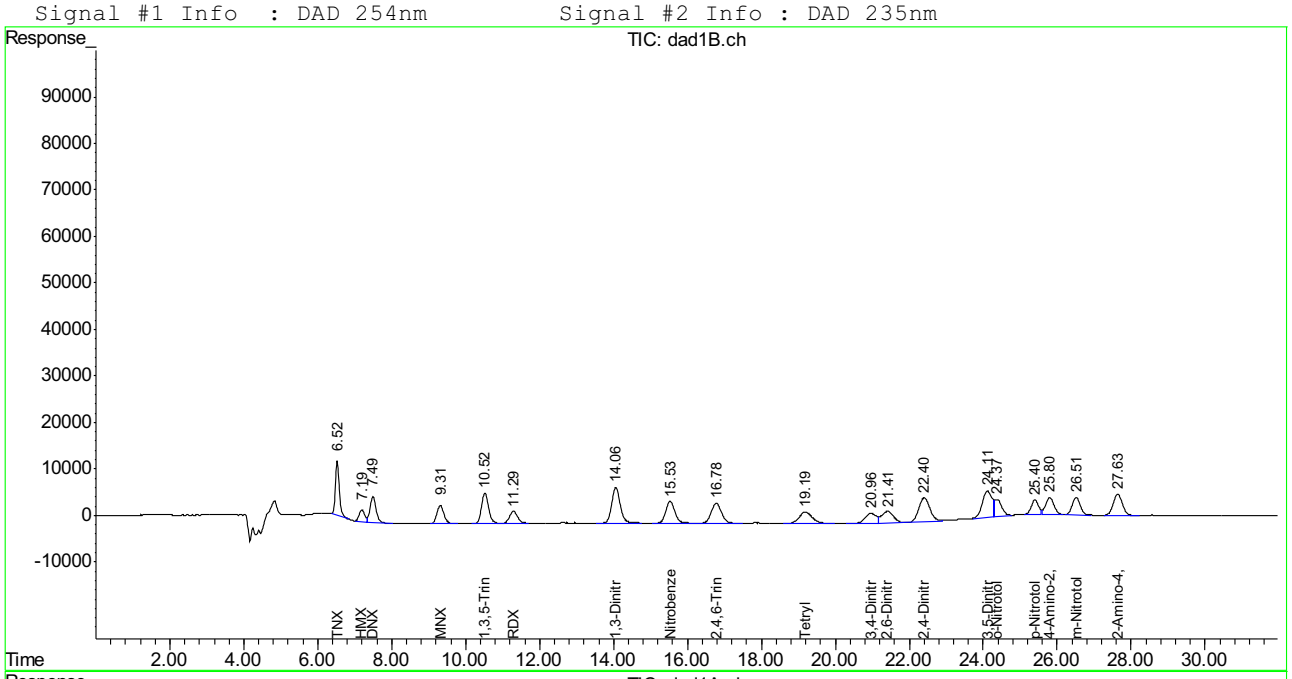
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060229.D 8330RPB.M_1027.M Fri Oct 28 08:29:23 2016 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060229.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\1025RPB3\GG060229.D\dad1A.ch
Acq On : 27-Oct-2016, 18:33:57 Operator: kismetl
Sample : ic2478-100 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:31 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060229.D
Injection Time: 10/27/16 18:33
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.52	Poor instrument integration
TNX		2	6.52	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.06	Poor instrument integration
Nitrobenzene	98-95-3	2	15.53	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.77	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.45	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.11	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.37	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.40	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.40	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.40	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.80	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.80	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.51	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.51	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.63	Poor instrument integration
PETN	78-11-5	2	28.59	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060230.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\1025RPB3\GG060230.D\dad1A.ch
Acq On : 27-Oct-2016, 19:08:31 Operator: kismetl
Sample : ic2478-200 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:54 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.00	21.00	916506	1798164	191.520	189.935
	Spiked Amount 500.000	Range 70 - 136		Recovery =		38.30%#	37.99%#
	Target Compounds						
1)	TNX	6.53	6.53	1634014	1628201	199.707m	127.451m
2)	HMX	7.21	7.21	563225	562867	198.640	65.633 #
3)	DNX	7.51	7.51	1305594	1306276	181.155	136.966
4)	MNX	9.34	9.34	1062516	1640382	191.383	197.009
5)	1,3,5-Trinitrobe	10.54	10.54	1769939	3151903	202.549	204.629
6)	RDX	11.32	11.32	802441	1487328	200.680	192.770
7)	1,3-Dinitrobenze	14.08	14.08	2436921	1921146	204.271	215.601m
8)	Nitrobenzene	15.56	15.55	1577084	1425926	200.455	198.372m
9)	2,4,6-Trinitroto	16.81	16.80	1661235	2242936	199.916	208.022
10)	Nitroglycerin	0.00	17.89	0	2990267	N.D. d	1000.137
11)	Tetryl	19.23	19.23	1255105	2286263	199.185	204.451
13)	2,6-Dinitrotolue	21.44	21.44	1155411	1388169	194.248	159.333
14)	2,4-Dinitrotolue	22.43	22.45	2255635	1479831	205.484	176.184m
15)	o-Nitrotoluene	24.37	24.39	1002206	1386280	202.252m	205.363m
16)	3,5-Dinitroanili	24.12	24.13	2067725	3156646	203.326m	195.311m
17)	p-Nitrotoluene	25.40	25.40	877992	1507379	218.972m	235.869m
18)	4-Amino-2,6-Dini	25.80	25.80	1154274	2383007	189.127m	198.170m
19)	m-Nitrotoluene	26.52	26.52	1131039	2011565	200.806m	227.573m
20)	2-Amino-4,6-Dini	27.64	27.64	1596827	2325575	196.877m	196.387m
21)	PETN	0.00	28.59	0	3208479	N.D. d	989.243m

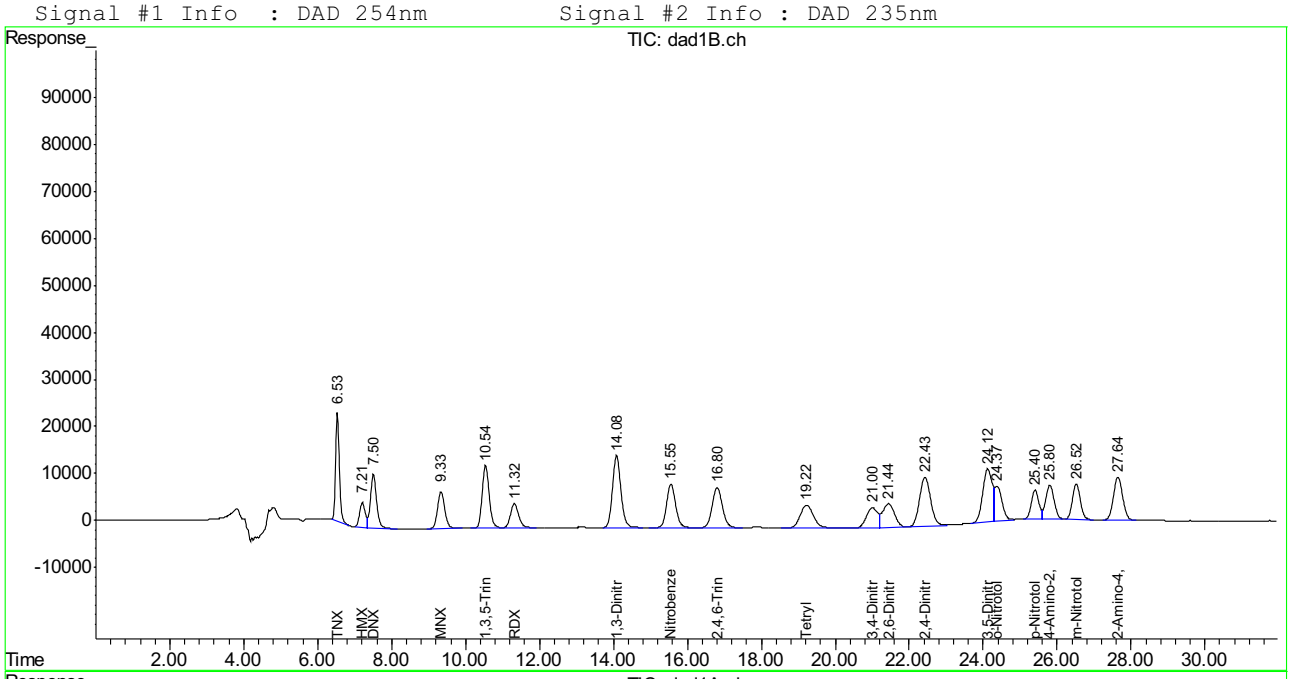
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060230.D 8330RPB.M_1027.M Fri Oct 28 08:29:24 2016 Page 1

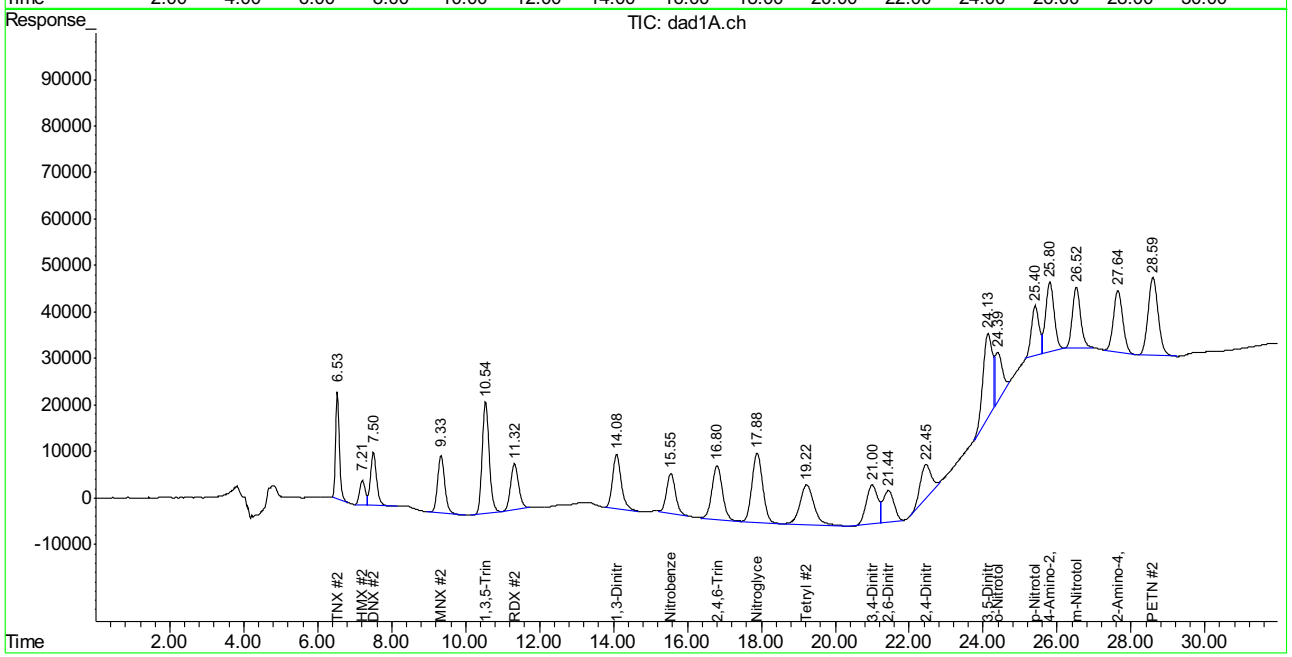
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060230.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\1025RPB3\GG060230.D\dad1A.ch
Acq On : 27-Oct-2016, 19:08:31 Operator: kismetl
Sample : ic2478-200 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:35 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060230.D
Injection Time: 10/27/16 19:08
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.53	Poor instrument integration
TNX		2	6.53	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.08	Poor instrument integration
Nitrobenzene	98-95-3	2	15.55	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.45	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.12	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.37	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.39	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.40	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.40	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.80	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.80	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.52	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.52	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.64	Poor instrument integration
PETN	78-11-5	2	28.59	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060231.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\1025RPB3\GG060231.D\dad1A.ch
Acq On : 27-Oct-2016, 19:43:06 Operator: kismetl
Sample : icc2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:55 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.96	2273258	4346647	475.037	459.125
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.01%	91.83%
	Target Compounds						
1)	TNX	6.52	6.52	4009155	4030340	489.994	315.483
2)	HMX	7.20	7.20	1439524	1437950	507.695	167.671 #
3)	DNX	7.50	7.50	3292462	3294036	456.838	345.386
4)	MNX	9.32	9.32	2649878	4033654	477.302	484.439
5)	1,3,5-Trinitrobe	10.52	10.52	4391864	7715924	502.599	500.936
6)	RDX	11.30	11.30	2016305	3752386	504.252	486.341
7)	1,3-Dinitrobenze	14.06	14.05	5973469	4489665	500.717	503.854m
8)	Nitrobenzene	15.53	15.52	3926656	3605696	499.096	500.364m
9)	2,4,6-Trinitroto	16.78	16.77	4133512	5594686	497.435	518.880
10)	Nitroglycerin	0.00	17.85	0	7521534	N.D. d	2515.685
11)	Tetryl	19.19	19.19	3165443	5605740	502.355	501.297
13)	2,6-Dinitrotolue	21.41	21.41	2922322	3924933	491.301	450.501
14)	2,4-Dinitrotolue	22.39	22.39	5463908	3901806	497.751	464.537m
15)	o-Nitrotoluene	24.34	24.34	2436568	3451528	491.715m	511.308m
16)	3,5-Dinitroanili	24.09	24.09	4914553	8594819	483.264m	531.788m
17)	p-Nitrotoluene	25.38	25.38	2148988	3516648	535.960m	550.271m
18)	4-Amino-2,6-Dini	25.78	25.78	2874263	5837278	470.945m	485.426m
19)	m-Nitrotoluene	26.49	26.49	2809031	4825680	498.719m	545.941m
20)	2-Amino-4,6-Dini	27.61	27.61	4028750	5771230	496.715m	487.361m
21)	PETN	0.00	28.55	0	7864315	N.D. d	2424.739m

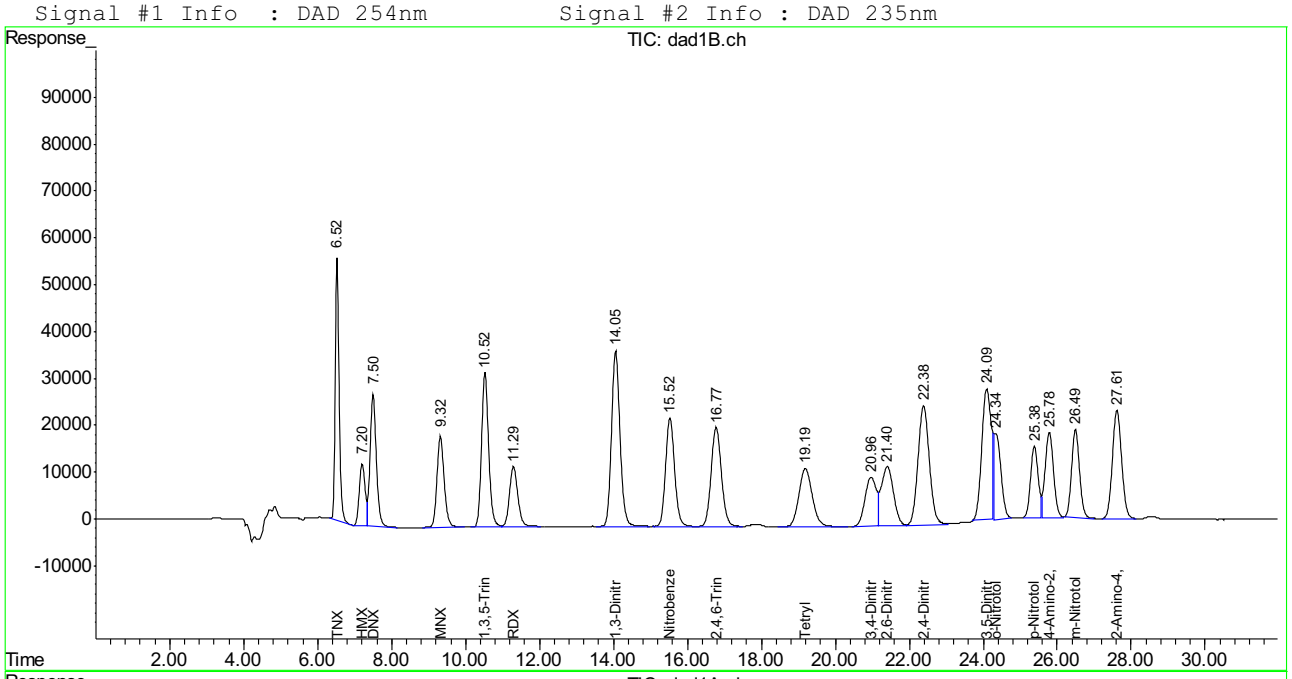
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060231.D 8330RPB.M_1027.M Fri Oct 28 08:29:42 2016 Page 1

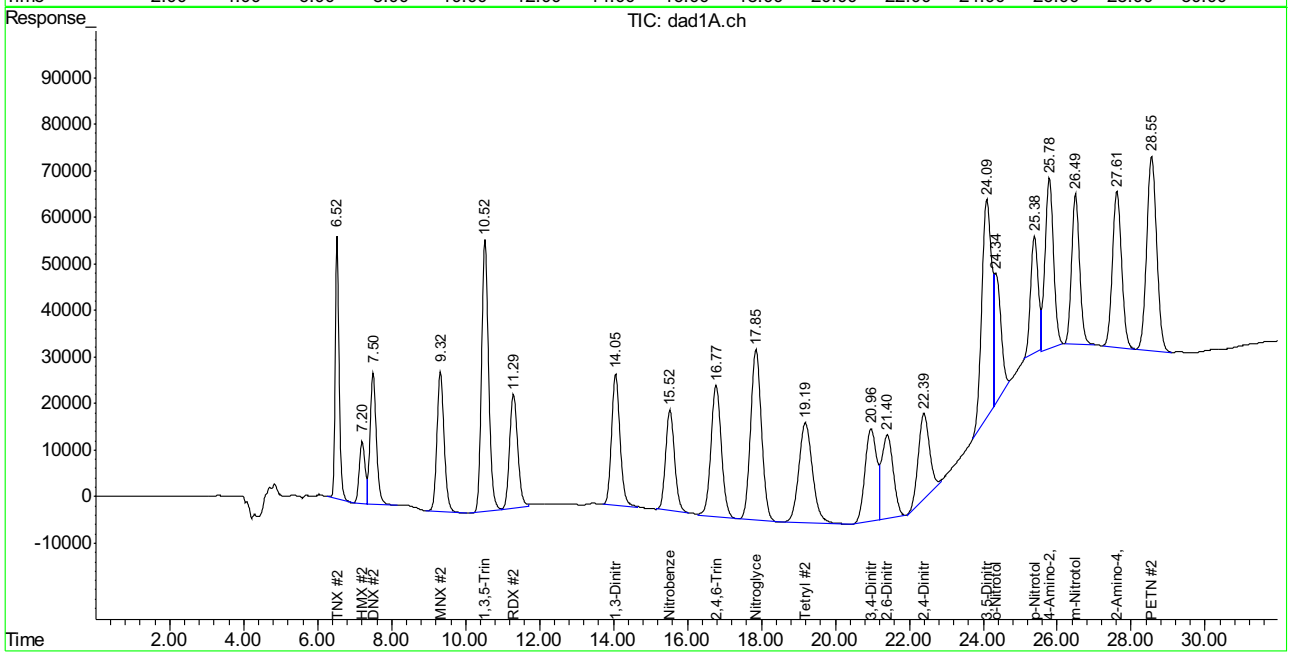
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060231.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\1025RPB3\GG060231.D\dad1A.ch
Acq On : 27-Oct-2016, 19:43:06 Operator: kismetl
Sample : icc2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:37 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-ICC2478 **Method:** SW846 8330A
Lab FileID: GG060231.D **Analyst approved:** 10/28/16 14:04 Kismet Lugo
Injection Time: 10/27/16 19:43 **Supervisor approved:** 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.05	Poor instrument integration
Nitrobenzene	98-95-3	2	15.52	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.39	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.09	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.09	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.34	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.34	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.38	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.38	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.78	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.78	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.49	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.49	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.61	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.61	Poor instrument integration
PETN	78-11-5	2	28.55	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060232.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\1025RPB3\GG060232.D\dad1A.ch
Acq On : 27-Oct-2016, 20:17:42 Operator: kismetl
Sample : ic2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 06:38:56 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.95	20.95	4452014	8654024	930.327	914.102
	Spiked Amount 500.000	Range 70 - 136		Recovery =		186.07%#	182.82%#
	Target Compounds						
1)	TNX	6.52	6.52	7770435	7777087	949.693	608.766
2)	HMX	7.19	7.19	2804400	2801837	989.063	326.706 #
3)	DNX	7.48	7.48	6467046	6469608	897.319	678.351
4)	MNX	9.31	9.31	5172542	7943460	931.690	954.004
5)	1,3,5-Trinitrobe	10.52	10.52	8549323	15115048	978.373	981.305
6)	RDX	11.29	11.29	3920871	7660933	980.559	992.922
7)	1,3-Dinitrobenze	14.05	14.04	11673800	8817950	978.539	989.597m
8)	Nitrobenzene	15.51	15.51	7761663	7215062	986.543	997.142
9)	2,4,6-Trinitroto	16.77	16.77	8101687	10593502	974.973	982.496
10)	Nitroglycerin	0.00	17.84	0	14838095	N.D. d	4962.813
11)	Tetryl	19.18	19.18	6202722	10939539	984.370	978.275
13)	2,6-Dinitrotolue	21.39	21.39	5777099	7932455	971.246	910.482
14)	2,4-Dinitrotolue	22.38	22.39	10703651	7492159	975.081	891.994m
15)	o-Nitrotoluene	24.32	24.29	4723023	6700877	953.137m	992.666m
16)	3,5-Dinitroanili	24.09	24.09	9899875	16329229	973.487m	1010.340m
17)	p-Nitrotoluene	25.37	25.37	4293278	7111812	1070.749m	1112.828m
18)	4-Amino-2,6-Dini	25.78	25.77	6090412	11311270	997.907	940.640m
19)	m-Nitrotoluene	26.48	26.48	5680031	9256783	1008.441m	1047.243m
20)	2-Amino-4,6-Dini	27.60	27.60	7850159	11356283	967.867m	959.000m
21)	PETN	0.00	28.54	0	15796110	N.D. d	4870.282m

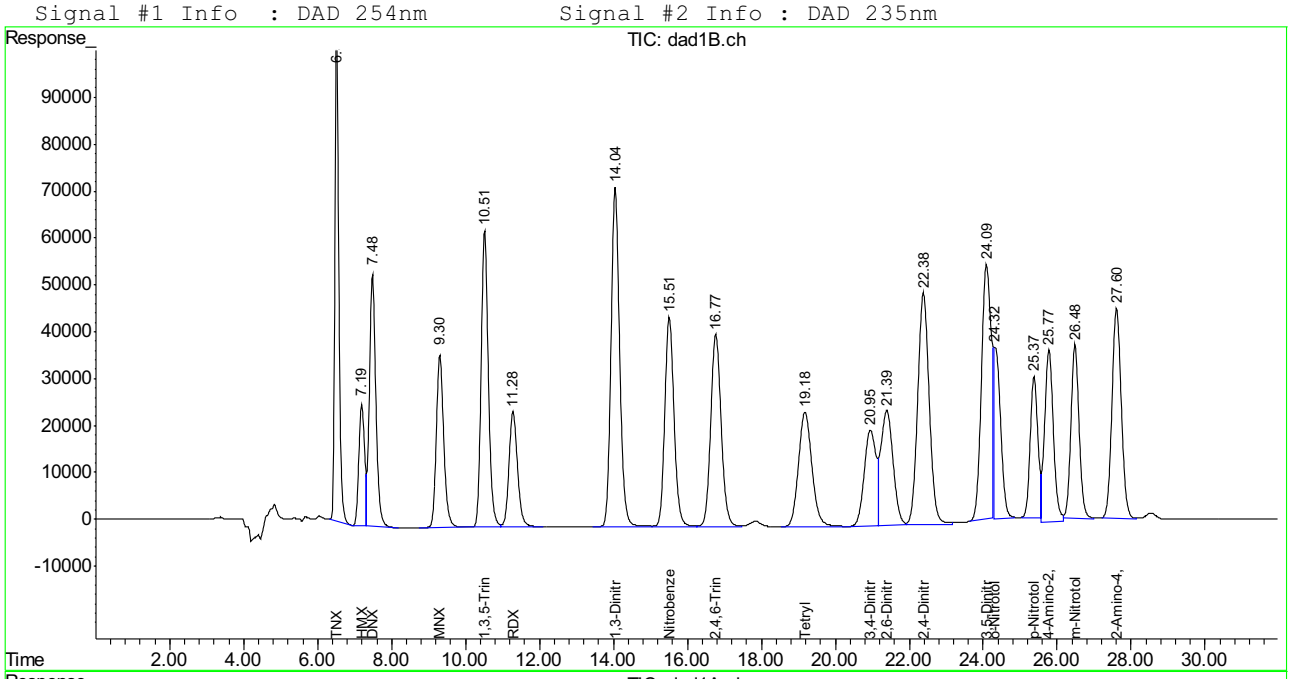
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060232.D 8330RPB.M_1027.M Fri Oct 28 08:29:43 2016 Page 1

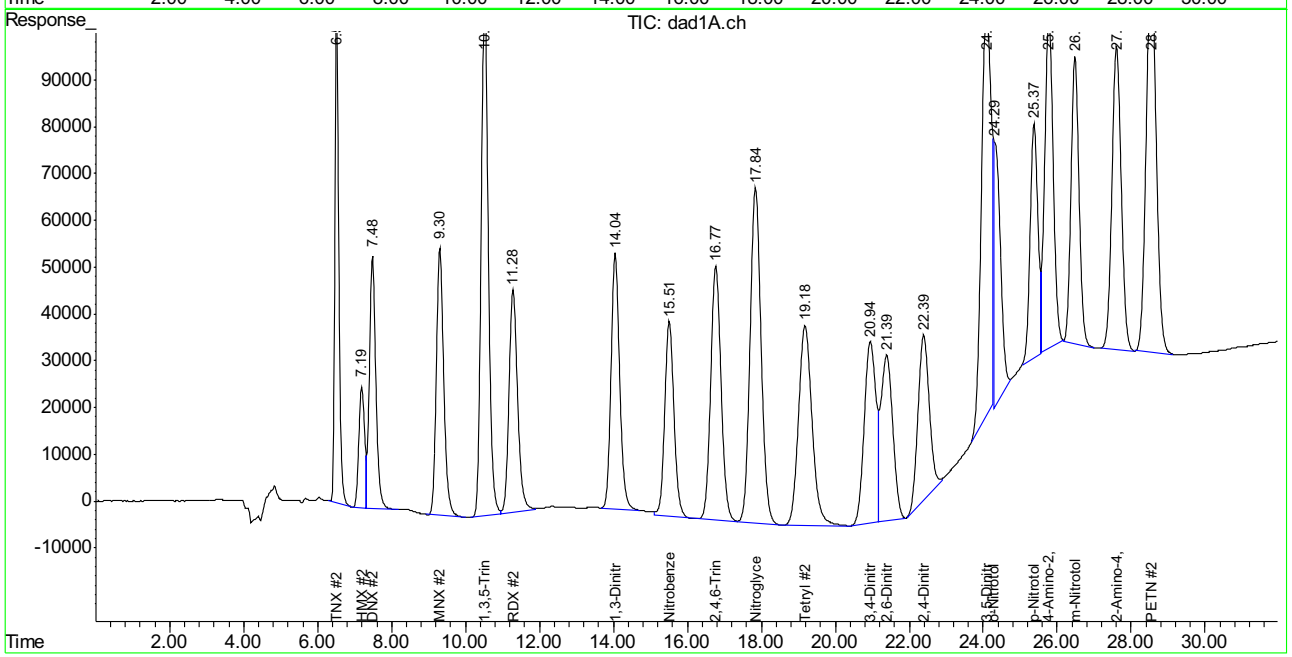
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060232.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\1025RPB3\GG060232.D\dad1A.ch
Acq On : 27-Oct-2016, 20:17:42 Operator: kismetl
Sample : ic2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 7:41 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 06:38:30 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-IC2478
Lab FileID: GG060232.D
Injection Time: 10/27/16 20:17
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.04	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.39	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.09	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.09	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.29	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.32	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.37	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.37	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.77	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.48	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.48	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.60	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.60	Poor instrument integration
PETN	78-11-5	2	28.54	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060234.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1025RPB3\GG060234.D\dad1A.ch
Acq On : 27-Oct-2016, 21:26:53 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:05:39 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	6.55	6.55	4074879	4097814	494.395m	496.331
2)	HMX	7.25	7.25	1629979	1628497	574.616	574.690
3)	DNX	7.54	7.54	3480362	3481844	542.313	542.912
4)	MNX	9.39	9.39	2787424	4276433	530.038	553.462
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	18.03	0	7684524	N.D. d	2643.314m
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	28.71	0	8282613	N.D. d	2717.369m

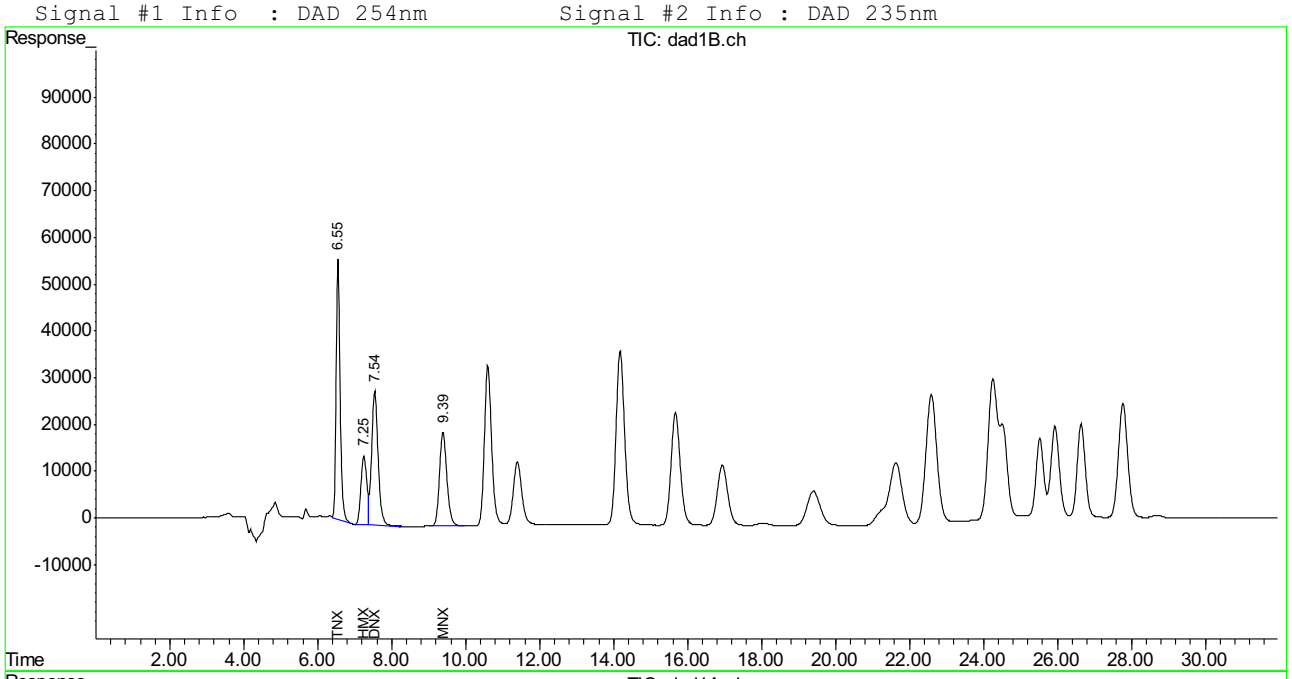
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060234.D 8330RPB.M_1027.M Fri Oct 28 08:30:21 2016 Page 1

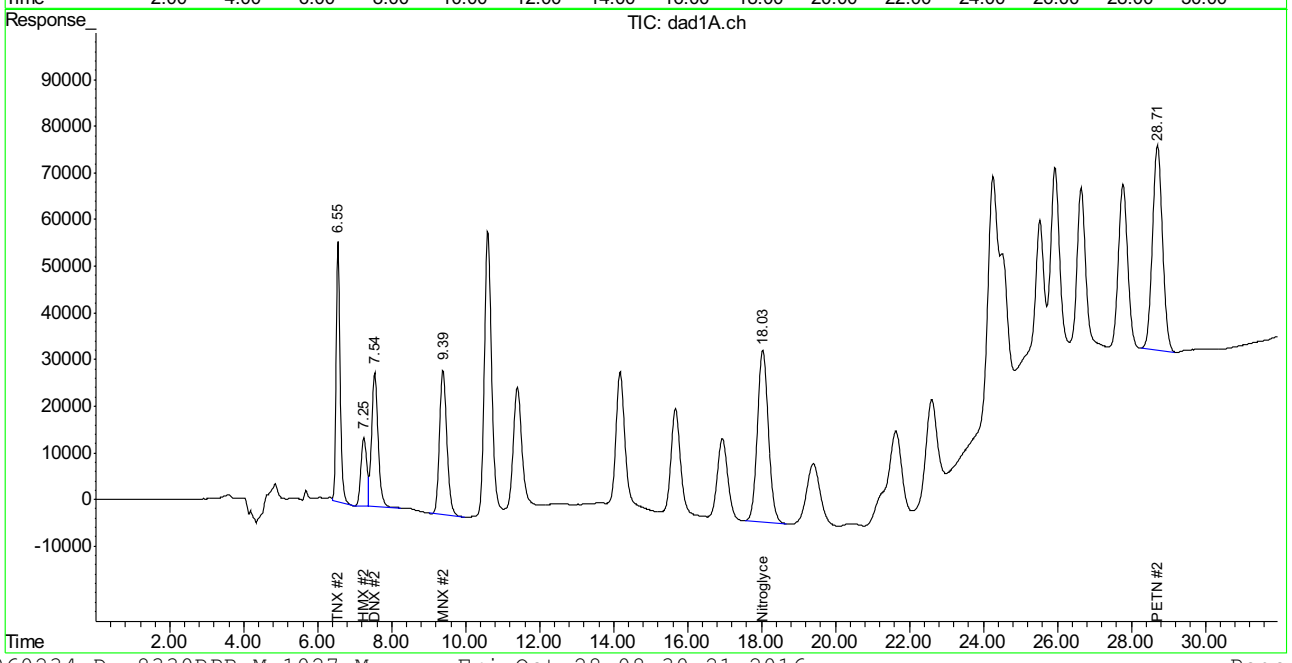
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060234.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1025RPB3\GG060234.D\dad1A.ch
Acq On : 27-Oct-2016, 21:26:53 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 8:11 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-ICV2478
Lab FileID: GG060234.D
Injection Time: 10/27/16 21:26
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.55	Poor instrument integration
Nitroglycerine	55-63-0	2	18.03	Poor instrument integration
PETN	78-11-5	2	28.71	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060235.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1025RPB3\GG060235.D\dad1A.ch
Acq On : 27-Oct-2016, 22:01:30 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:05:40 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.53	10.53	4557037	7957599	528.101	532.627
6)	RDX	11.32	11.32	2101246	3873356	541.731	505.212
7)	1,3-Dinitrobenze	14.09	14.09	5901759	4395079	490.495	487.432m
8)	Nitrobenzene	15.57	15.57	4214837	4017550	537.180	541.673m
9)	2,4,6-Trinitroto	16.82	16.81	3506847	4730110	427.245	421.133m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	19.26	19.26	3118629	5572087	509.076	503.646
13)	2,6-Dinitrotolue	21.49	21.49	2998745	4082243	549.721	536.278
14)	2,4-Dinitrotolue	22.47	22.47	5597044	3925916	504.797	549.570m
15)	o-Nitrotoluene	24.41	24.41	2709184	4016480	562.056	588.072m
16)	3,5-Dinitroanili	24.17	24.17	4863077	7719452	492.465m	460.650m
17)	p-Nitrotoluene	25.45	25.45	2414790	3922985	556.507	580.478m
18)	4-Amino-2,6-Dini	25.86	25.85	3093894	6004965	524.735	554.624m
19)	m-Nitrotoluene	26.56	26.56	3071011	5153186	551.297	537.776m
20)	2-Amino-4,6-Dini	27.70	27.69	4267030	6176346	532.680	532.740m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

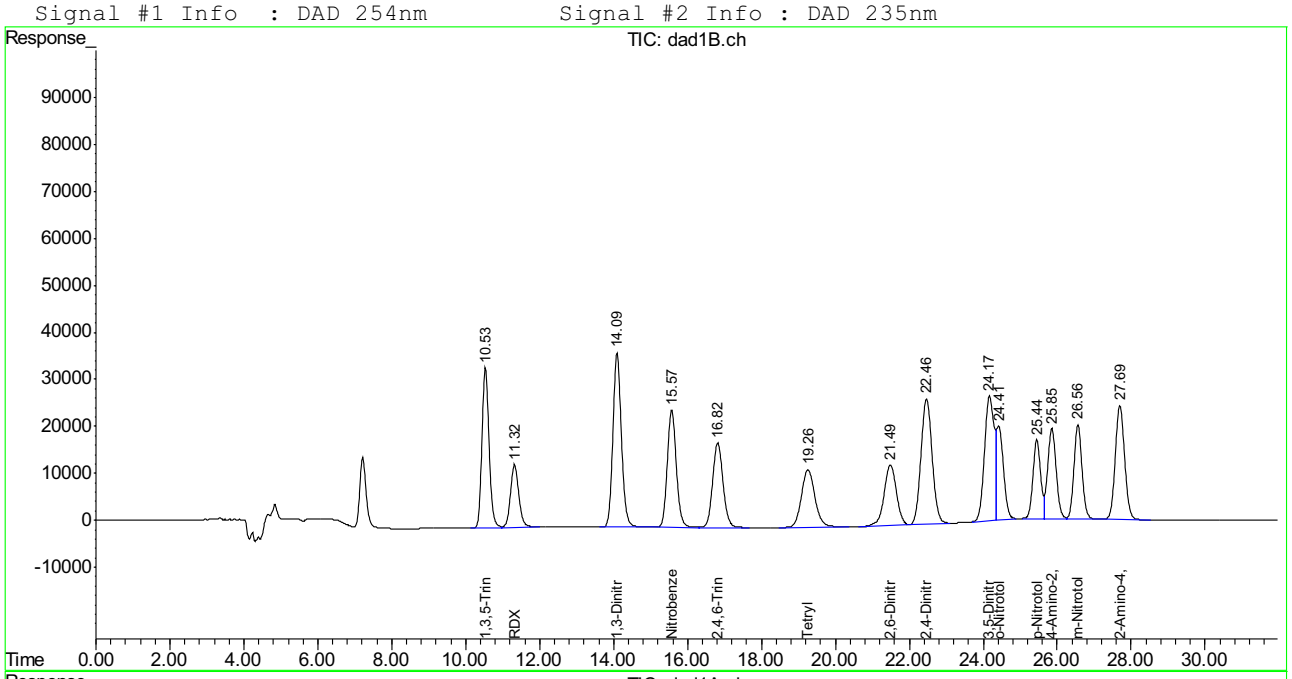
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060235.D 8330RPB.M_1027.M Fri Oct 28 08:30:22 2016 Page 1

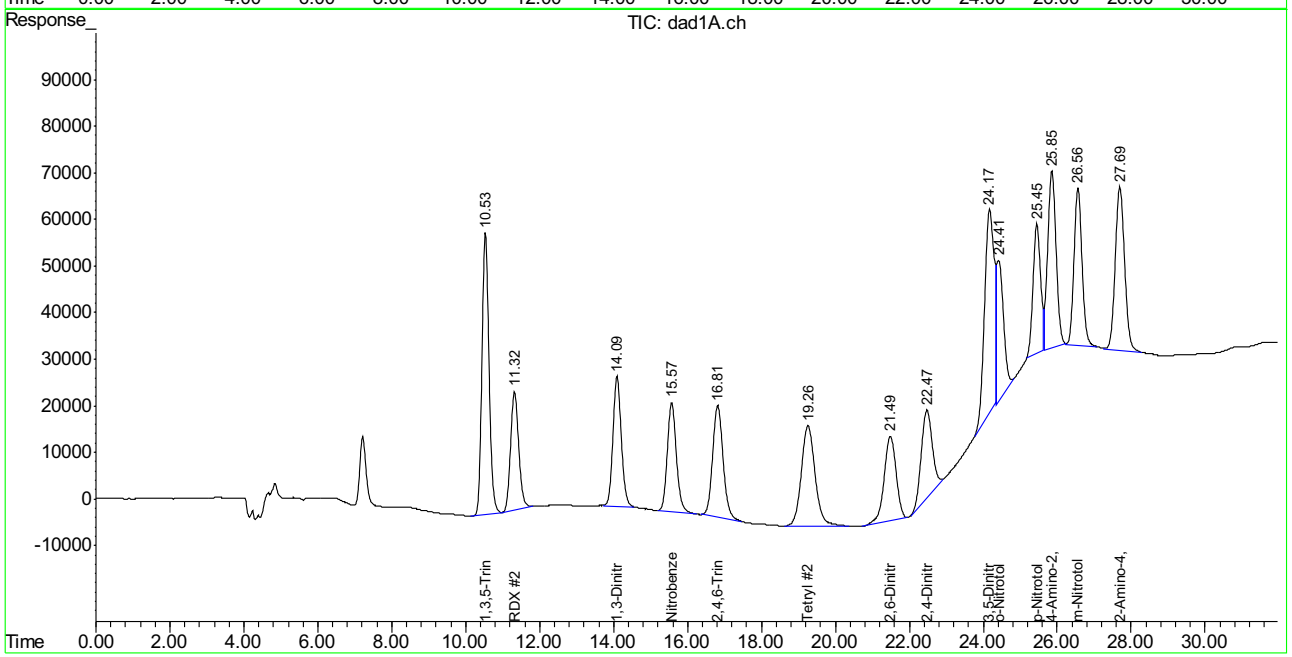
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060235.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1025RPB3\GG060235.D\dad1A.ch
Acq On : 27-Oct-2016, 22:01:30 Operator: kismetl
Sample : icv2478-500 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 8:09 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2478-ICV2478
Lab FileID: GG060235.D
Injection Time: 10/27/16 22:01
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.09	Poor instrument integration
Nitrobenzene	98-95-3	2	15.57	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.81	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.47	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.17	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.17	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.41	Overlapping peak
p-Nitrotoluene	99-99-0	2	25.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.85	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.56	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.69	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:39

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060247.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1025RPB3\GG060247.D\dad1A.ch
Acq On : 28-Oct-2016, 04:56:31 Operator: kismetl
Sample : cc2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 08:53:23 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.99	20.99	4439116	8607707	1021.440	994.247
	Spiked Amount 500.000	Range 70 - 136		Recovery =		204.29%#	198.85%#
	Target Compounds						
1)	TNX	6.52	6.52	7913201	7769999	960.089	941.109
2)	HMX	7.19	7.19	2786659	2784228	992.059	992.105
3)	DNX	7.48	7.48	6416855	6419287	999.881	1000.938
4)	MNX	9.30	9.30	5362560	7990308	1019.709m	1034.117
5)	1,3,5-Trinitrobe	10.50	10.50	8794986	14993828	1019.224	1003.584
6)	RDX	11.28	11.28	3926510	7709981	1012.309	1005.633
7)	1,3-Dinitrobenze	14.05	14.05	11581383	9230153	962.529	1023.661
8)	Nitrobenzene	15.53	15.53	7775797	7242284	991.023	976.453
9)	2,4,6-Trinitroto	16.78	16.78	8055180	10496996	981.376	934.574
10)	Nitroglycerin	0.00	17.85	0	14626920	N.D. d	5031.351
11)	Tetryl	19.20	19.20	6208241	10775031	1013.415	973.927
13)	2,6-Dinitrotolue	21.43	21.43	5742108	7830328	1052.626	985.019
14)	2,4-Dinitrotolue	22.42	22.42	10606722	7363487	956.619	1030.780m
15)	o-Nitrotoluene	24.32	24.32	4851841	6893015	1006.578m	1029.197m
16)	3,5-Dinitroanili	24.13	24.13	9960060	16449599	1008.617m	1004.695m
17)	p-Nitrotoluene	25.41	25.41	4222990	6956294	973.222m	1029.312m
18)	4-Amino-2,6-Dini	25.82	25.82	5589041	11266253	947.921m	1040.560m
19)	m-Nitrotoluene	26.53	26.53	5558876	9297239	997.911m	1004.005m
20)	2-Amino-4,6-Dini	27.66	27.66	7826980	11017391	977.092m	950.303m
21)	PETN	0.00	28.56	0	15588015	N.D. d	5114.133m

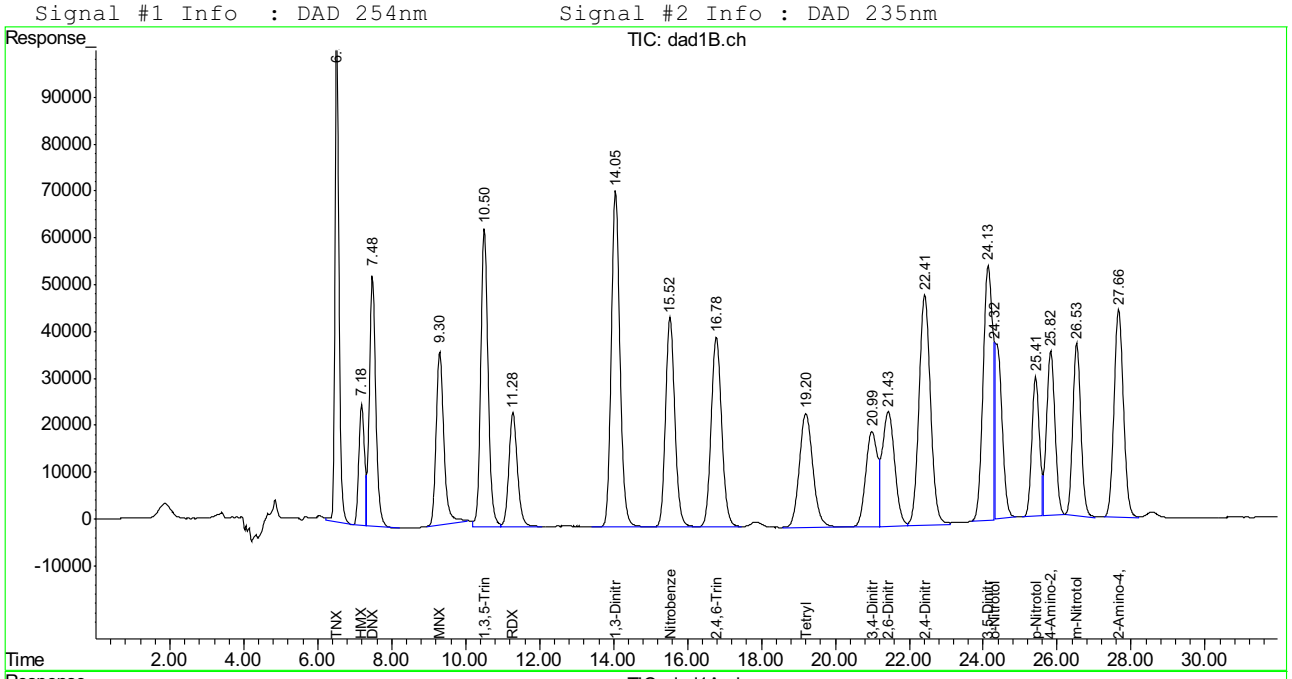
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060247.D 8330RPB.M_1027.M Fri Oct 28 17:18:31 2016 Page 1

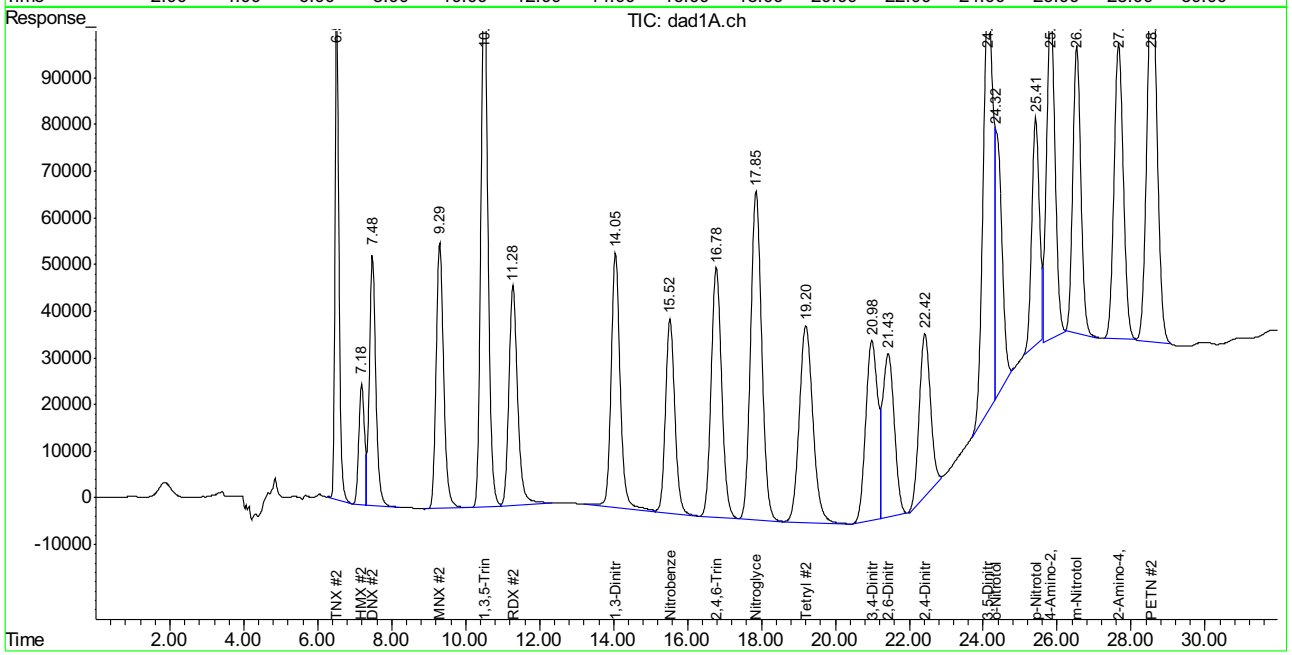
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1025RPB3\GG060247.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1025RPB3\GG060247.D\dad1A.ch
Acq On : 28-Oct-2016, 04:56:31 Operator: kismetl
Sample : cc2478-1000 Inst : G1315B
Misc : OP62296,GGG2478,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 28 8:57 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 28 08:05:14 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2478-CC2478
Lab FileID: GG060247.D
Injection Time: 10/28/16 04:56
Method: SW846 8330A
Analyst approved: 10/28/16 14:04 Kismet Lugo
Supervisor approved: 10/28/16 17:39 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
MNX		1	9.30	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.42	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.13	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	24.13	Overlapping peak
o-Nitrotoluene	88-72-2	1	24.32	Overlapping peak
o-Nitrotoluene	88-72-2	2	24.32	Overlapping peak
p-Nitrotoluene	99-99-0	1	25.41	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.41	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.82	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.82	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.56	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060258.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\1028RPB3\GG060258.D\dad1A.ch
Acq On : 28-Oct-2016, 11:51:56 Operator: kismetl
Sample : ic2479-20 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:47 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.92	20.87	81720	102381	18.804	11.766m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.76%#	2.35%#
	Target Compounds						
1)	TNX	6.51	6.51	170274	164529	20.659m	19.928m
2)	HMX	7.18	7.18	36534	38886	12.713m	13.547m
3)	DNX	7.48	7.48	113245	110866	17.646m	17.287m
4)	MNX	9.28	9.28	106265	140138	20.207	18.137m
5)	1,3,5-Trinitrobe	10.49	10.50	178931	386295	20.736	25.856
6)	RDX	11.26	11.27	84986	160294	21.911m	20.908m
7)	1,3-Dinitrobenze	14.02	14.01	241902	190975	20.104m	21.180m
8)	Nitrobenzene	15.49	15.49	157999	164616	20.137	22.195m
9)	2,4,6-Trinitroto	16.72	16.73	166894	176517	20.333	15.716m
10)	Nitroglycerin	0.00	17.78	0	275662	N.D.	94.822 #
11)	Tetryl	19.12	19.11	127441	282842	20.803	25.565
13)	2,6-Dinitrotolue	21.36	21.37	96974	93275	17.777	12.921m
14)	2,4-Dinitrotolue	22.34	22.37	211795	134692	19.102m	18.855m
15)	o-Nitrotoluene	24.32	24.23	89670	113627	18.603m	16.229m
16)	3,5-Dinitroanili	24.06	24.04	192964	328738	19.541m	19.258m
17)	p-Nitrotoluene	25.35	25.40	91847	132930	21.167m	19.669m
18)	4-Amino-2,6-Dini	25.75	25.76	127417	180514	21.610m	16.672m
19)	m-Nitrotoluene	26.46	26.46	114255	203657	20.511m	20.489m
20)	2-Amino-4,6-Dini	27.57	27.57	159026	196000	19.852	16.906m
21)	PETN	0.00	28.48	0	312077	N.D. d	102.386m

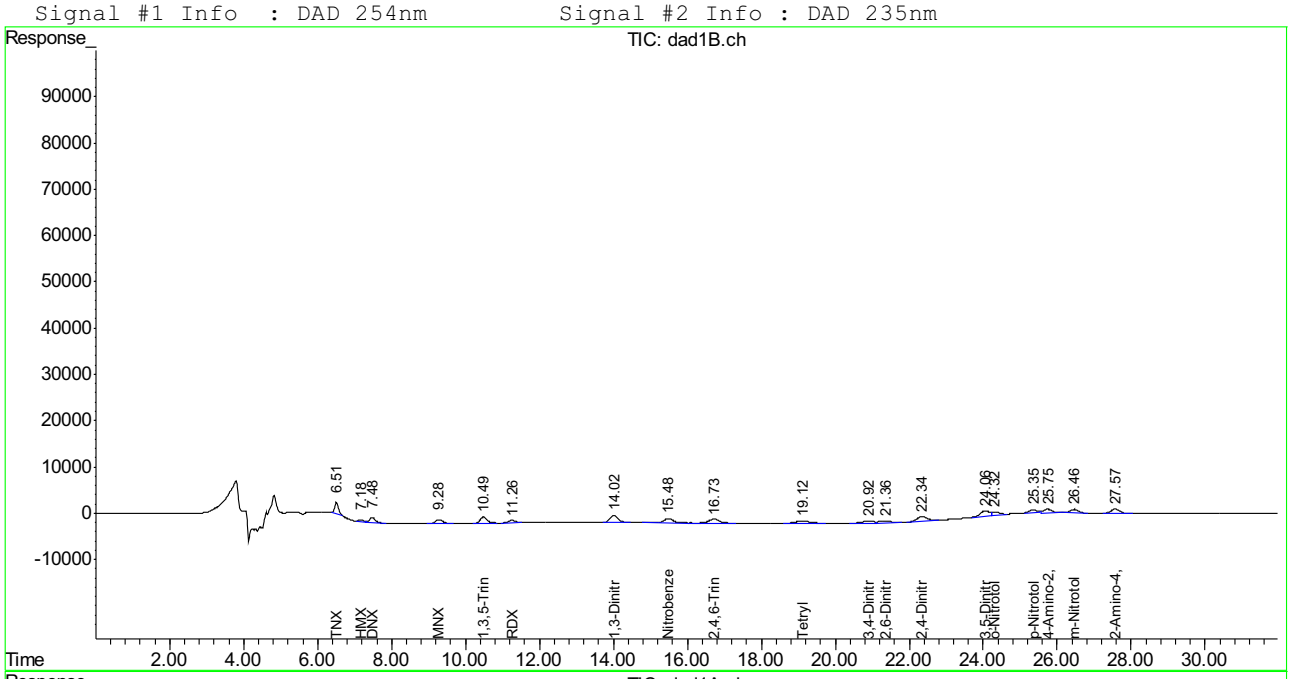
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060258.D 8330RPB.M_1028.M Mon Oct 31 08:14:12 2016 Page 1

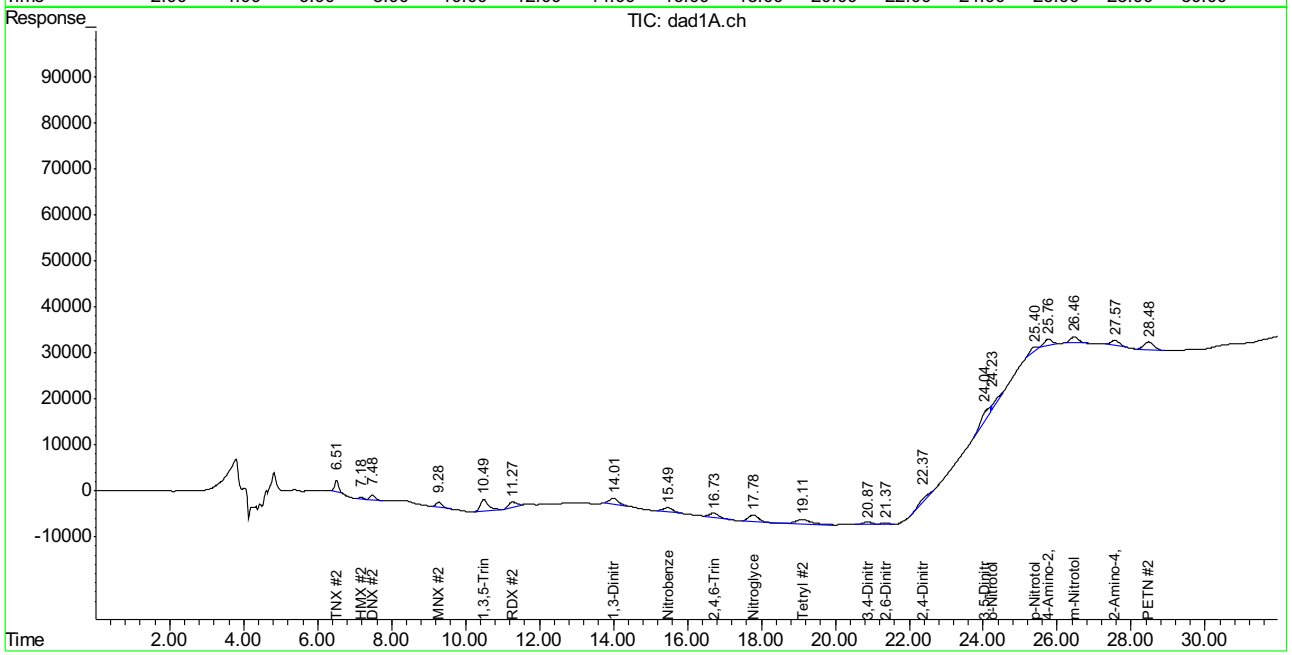
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060258.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\1028RPB3\GG060258.D\dad1A.ch
Acq On : 28-Oct-2016, 11:51:56 Operator: kismetl
Sample : ic2479-20 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 6:37 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2479-IC2479
Lab FileID: GG060258.D
Injection Time: 10/28/16 11:51
Method: SW846 8330A
Analyst approved: 10/31/16 10:43 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.51	Poor instrument integration
TNX		2	6.51	Poor instrument integration
HMX	2691-41-0	1	7.18	Missed peak
HMX	2691-41-0	2	7.18	Missed peak
DNX		1	7.48	Poor instrument integration
DNX		2	7.48	Poor instrument integration
MNX		2	9.28	Poor instrument integration
RDX	121-82-4	1	11.26	Poor instrument integration
RDX	121-82-4	2	11.27	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.01	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	14.02	Poor instrument integration
Nitrobenzene	98-95-3	2	15.49	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.73	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	20.87	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	21.37	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	22.34	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.37	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.04	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.06	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.23	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.32	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.35	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.40	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.75	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.76	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.46	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.46	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.57	Poor instrument integration
PETN	78-11-5	2	28.48	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060259.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\1028RPB3\GG060259.D\dad1A.ch
Acq On : 28-Oct-2016, 12:26:30 Operator: kismetl
Sample : ic2479-50 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:49 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.91	20.91	210704	361145	48.483	41.511
	Spiked Amount 500.000	Range 70 - 136		Recovery =		9.70%#	8.30%#
	Target Compounds						
1)	TNX	6.51	6.51	412508	408577	50.049m	49.487m
2)	HMX	7.18	7.18	115015	114923	40.046	40.061
3)	DNX	7.48	7.48	298681	291340	46.541m	45.428m
4)	MNX	9.29	9.29	254203	361245	48.338	46.753
5)	1,3,5-Trinitrobe	10.49	10.49	420066	708354	48.680	47.412
6)	RDX	11.26	11.27	177972	396240	45.884	51.683
7)	1,3-Dinitrobenze	14.02	14.02	574480	480771	47.745	53.319
8)	Nitrobenzene	15.50	15.50	380887	332559	48.544	44.838m
9)	2,4,6-Trinitroto	16.73	16.73	398797	518745	48.586	46.185m
10)	Nitroglycerin	0.00	17.80	0	700274	N.D.	240.879m#
11)	Tetryl	19.13	19.15	304404	612773	49.690	55.387m
13)	2,6-Dinitrotolue	21.36	21.36	258759	263807	47.435	36.455
14)	2,4-Dinitrotolue	22.36	22.36	537016	306137	48.433	42.855m
15)	o-Nitrotoluene	24.34	24.43	234027	317880	48.552m	45.458m
16)	3,5-Dinitroanili	24.06	24.10	476587	703716	48.262m	41.263m
17)	p-Nitrotoluene	25.36	25.38	224522	308822	51.743m	45.696m
18)	4-Amino-2,6-Dini	25.75	25.75	289697	437941	49.134m	40.449m
19)	m-Nitrotoluene	26.47	26.47	281498	632130	50.534m	63.787m
20)	2-Amino-4,6-Dini	27.58	27.58	387216	510015	48.339	43.991m
21)	PETN	0.00	28.49	0	702950	N.D. d	230.625m

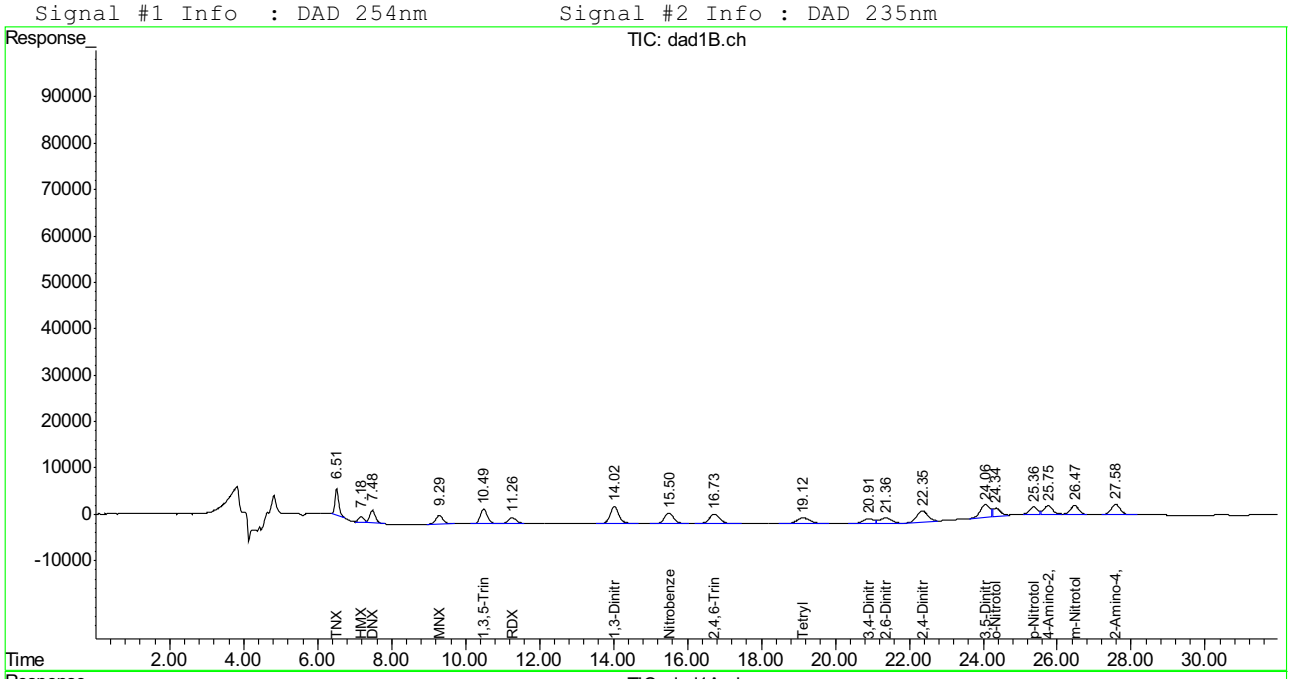
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060259.D 8330RPB.M_1028.M Mon Oct 31 08:14:32 2016 Page 1

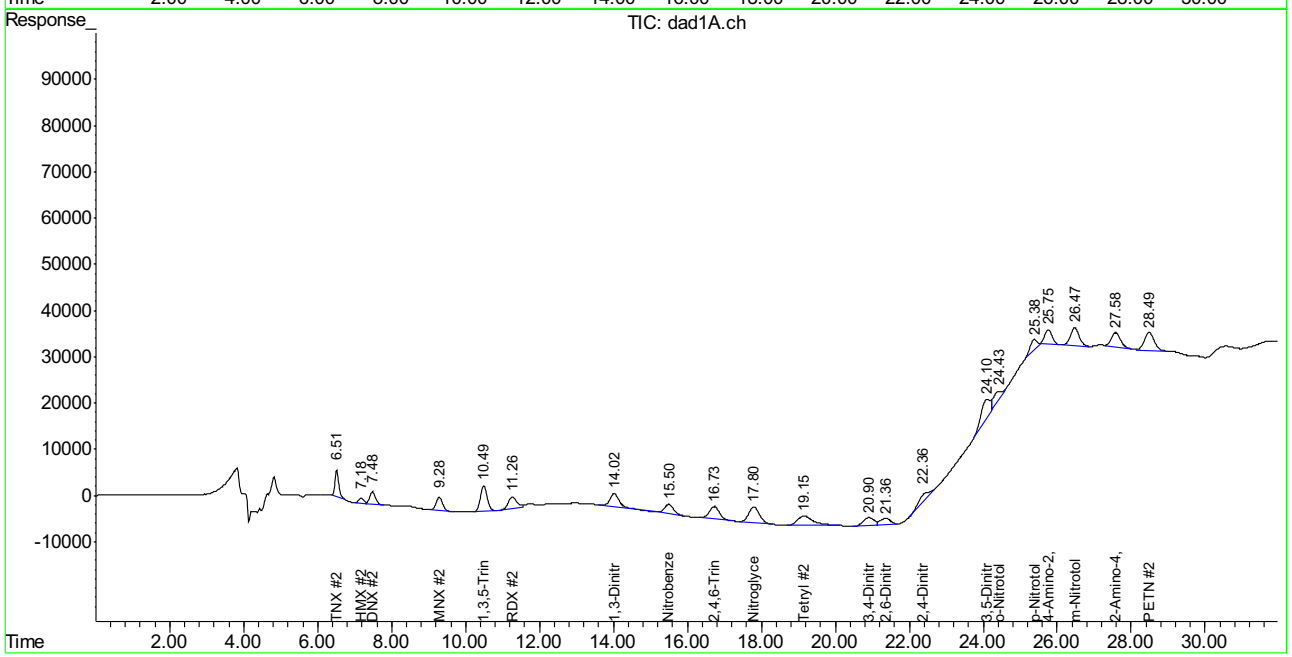
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060259.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\1028RPB3\GG060259.D\dad1A.ch
Acq On : 28-Oct-2016, 12:26:30 Operator: kismetl
Sample : ic2479-50 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 6:41 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2479-IC2479 **Method:** SW846 8330A
Lab FileID: GG060259.D **Analyst approved:** 10/31/16 10:43 Kismet Lugo
Injection Time: 10/28/16 12:26 **Supervisor approved:** 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.51	Poor instrument integration
TNX		2	6.51	Poor instrument integration
DNX		1	7.48	Poor instrument integration
DNX		2	7.48	Poor instrument integration
Nitrobenzene	98-95-3	2	15.50	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.73	Poor instrument integration
Nitroglycerine	55-63-0	2	17.80	Poor instrument integration
Tetryl	479-45-8	2	19.15	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.36	Missed peak
3,5-Dinitroaniline	618-87-1	1	24.06	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.10	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.34	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.43	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.36	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.38	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.75	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.75	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.47	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.47	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.58	Poor instrument integration
PETN	78-11-5	2	28.49	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060260.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\1028RPB3\GG060260.D\dad1A.ch
Acq On : 28-Oct-2016, 13:01:06 Operator: kismetl
Sample : ic2479-100 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:50 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.00	20.99	442261	734952	101.764	84.496
	Spiked Amount 500.000	Range 70 - 136		Recovery =		20.35%#	16.90%#
	Target Compounds						
1)	TNX	6.52	6.52	821367	830767	99.654m	100.623m
2)	HMX	7.20	7.20	264486	264211	92.200	92.212
3)	DNX	7.50	7.50	628054	628329	97.864	97.973
4)	MNX	9.32	9.32	520324	761664	98.941	98.576
5)	1,3,5-Trinitrobe	10.52	10.52	864166	1493290	100.146	99.951
6)	RDX	11.30	11.30	383041	868260	98.753	113.249m
7)	1,3-Dinitrobenze	14.06	14.06	1211605	963305	100.696	106.834m
8)	Nitrobenzene	15.55	15.54	778739	662876	99.250	89.373m
9)	2,4,6-Trinitroto	16.78	16.78	814526	1063737	99.235	94.707m
10)	Nitroglycerin	0.00	17.86	0	1542009	N.D.	530.418 #
11)	Tetryl	19.20	19.19	621394	956071	101.435	86.417
13)	2,6-Dinitrotolue	21.44	21.44	552157	561148	101.220	77.217
14)	2,4-Dinitrotolue	22.43	22.48	1122318	704914	101.222	98.678m
15)	o-Nitrotoluene	24.40	24.43	471084	695398	97.733m	99.677m
16)	3,5-Dinitroanili	24.11	24.13	1019436	1587156	103.234m	93.265m
17)	p-Nitrotoluene	25.42	25.43	440329	829904	101.477m	122.800m
18)	4-Amino-2,6-Dini	25.81	25.81	576726	1358832	97.815m	125.503m
19)	m-Nitrotoluene	26.54	26.54	563860	962546	101.222m	97.356m
20)	2-Amino-4,6-Dini	27.65	27.64	791971	1229142	98.867	106.019m
21)	PETN	0.00	28.57	0	1813557	N.D.	594.994m#

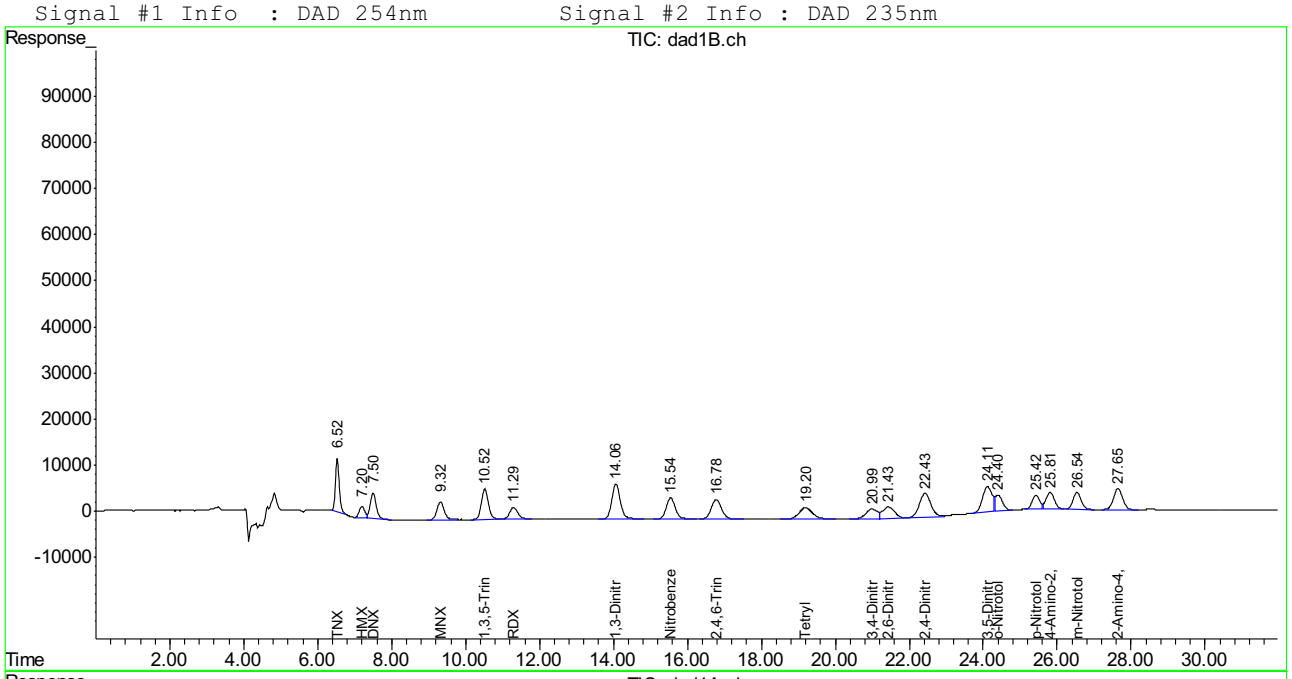
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060260.D 8330RPB.M_1028.M Mon Oct 31 08:14:33 2016 Page 1

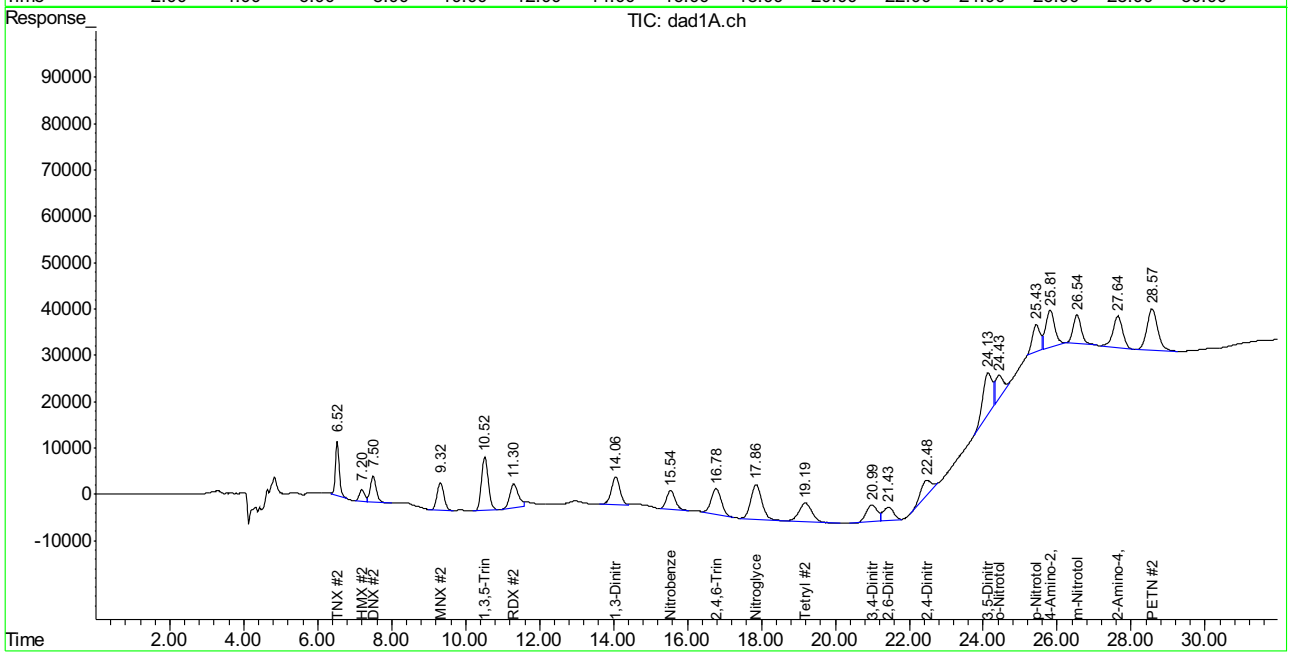
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060260.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\1028RPB3\GG060260.D\dad1A.ch
Acq On : 28-Oct-2016, 13:01:06 Operator: kismetl
Sample : ic2479-100 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 6:58 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2479-IC2479
Lab FileID: GG060260.D
Injection Time: 10/28/16 13:01
Method: SW846 8330A
Analyst approved: 10/31/16 10:43 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.52	Poor instrument integration
TNX		2	6.52	Poor instrument integration
RDX	121-82-4	2	11.30	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.06	Poor instrument integration
Nitrobenzene	98-95-3	2	15.54	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.78	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.48	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.11	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.13	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.40	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.43	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.42	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.43	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.81	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.54	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.54	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.64	Poor instrument integration
PETN	78-11-5	2	28.57	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060261.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\1028RPB3\GG060261.D\dad1A.ch
Acq On : 28-Oct-2016, 13:35:40 Operator: kismetl
Sample : ic2479-200 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:51 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.01	21.01	904680	1647858	208.167	189.552
	Spiked Amount 500.000	Range 70 - 136		Recovery =		41.63%#	37.91%#
	Target Compounds						
1)	TNX	6.53	6.53	1648639	1649010	200.025	199.729m
2)	HMX	7.20	7.20	558566	558075	195.180	195.232
3)	DNX	7.50	7.50	1291389	1291880	201.226	201.439
4)	MNX	9.32	9.32	1053934	1653976	200.409	214.060
5)	1,3,5-Trinitrobe	10.52	10.52	1761830	3044110	204.173	203.752
6)	RDX	11.30	11.30	810488	1536028	208.955	200.348
7)	1,3-Dinitrobenze	14.07	14.07	2426471	1874008	201.664	207.835m
8)	Nitrobenzene	15.55	15.55	1548910	1453606	197.408	195.985
9)	2,4,6-Trinitroto	16.79	16.79	1640821	2133298	199.904	189.933
10)	Nitroglycerin	0.00	17.87	0	2990434	N.D. d	1028.646
11)	Tetryl	19.21	19.21	1248812	2126913	203.852	192.246
13)	2,6-Dinitrotolue	21.46	21.46	1145546	1400527	209.998	190.488
14)	2,4-Dinitrotolue	22.44	22.46	2237066	1509928	201.761	211.368m
15)	o-Nitrotoluene	24.41	24.42	946414	1371559	196.346m	197.426m
16)	3,5-Dinitroanili	24.12	24.13	2038092	3306059	206.390m	195.097m
17)	p-Nitrotoluene	25.43	25.44	844283	1425701	194.572m	210.959m
18)	4-Amino-2,6-Dini	25.82	25.82	1137624	2421684	192.945m	223.669m
19)	m-Nitrotoluene	26.54	26.54	1121686	1876445	201.361m	191.044m
20)	2-Amino-4,6-Dini	27.66	27.66	1629521	2364785	203.424m	203.974m
21)	PETN	0.00	28.58	0	3288624	N.D. d	1078.936m

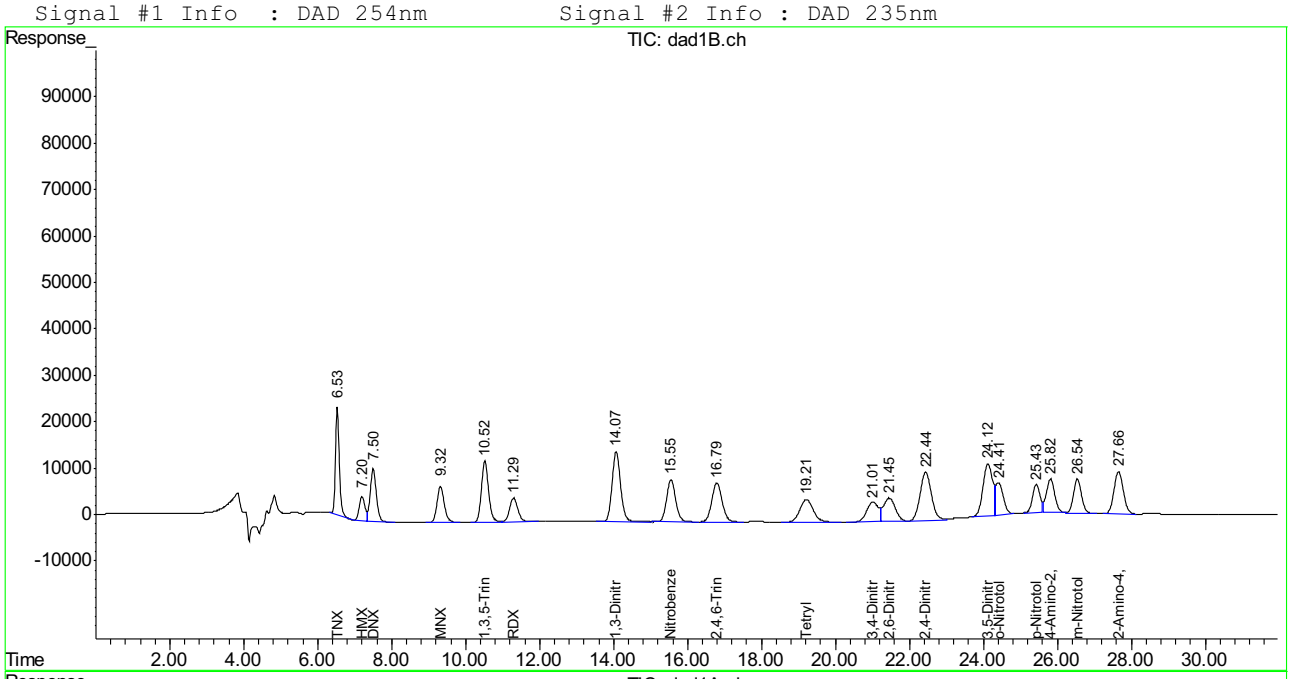
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060261.D 8330RPB.M_1028.M Mon Oct 31 08:14:34 2016 Page 1

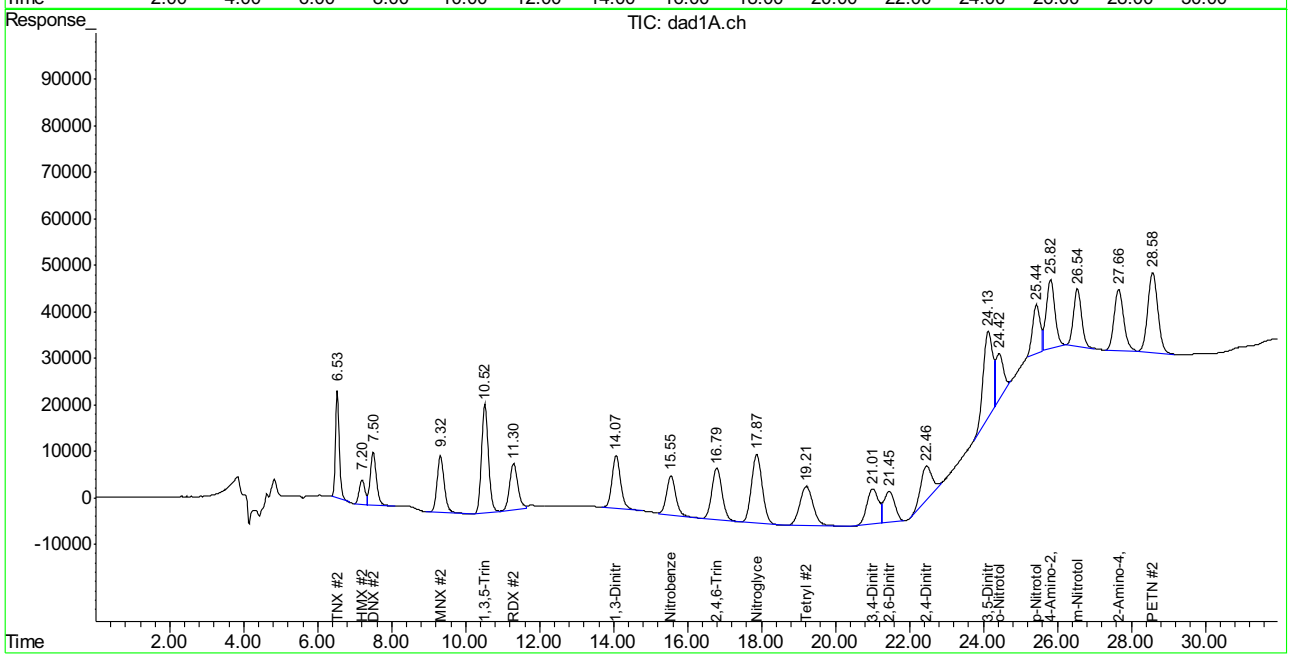
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060261.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\1028RPB3\GG060261.D\dad1A.ch
Acq On : 28-Oct-2016, 13:35:40 Operator: kismetl
Sample : ic2479-200 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 7:01 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2479-IC2479
Lab FileID: GG060261.D
Injection Time: 10/28/16 13:35
Method: SW846 8330A
Analyst approved: 10/31/16 10:43 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.53	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.07	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.46	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.12	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.13	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.41	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.42	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.43	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.44	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.82	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.82	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.54	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.54	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.66	Poor instrument integration
PETN	78-11-5	2	28.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060262.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\1028RPB3\GG060262.D\dad1A.ch
Acq On : 28-Oct-2016, 14:10:16 Operator: kismetl
Sample : icc2479-500 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:52 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	21.00	20.99	2269031	4307607	522.104	496.284
	Spiked Amount 500.000	Range 70 - 136		Recovery =		104.42%	99.26%
	Target Compounds						
1)	TNX	6.52	6.52	4010832	4033310	486.624	488.518
2)	HMX	7.20	7.20	1434845	1433470	505.004	505.053
3)	DNX	7.50	7.50	3259016	3260733	507.823	508.435
4)	MNX	9.31	9.31	2628947	3953787	499.903	511.705
5)	1,3,5-Trinitrobe	10.52	10.52	4380869	7695349	507.686	515.074
6)	RDX	11.29	11.29	2020697	3871036	520.964	504.909
7)	1,3-Dinitrobenze	14.06	14.06	5953594	4465720	494.803	495.266m
8)	Nitrobenzene	15.54	15.54	3916361	3623467	499.139	488.540m
9)	2,4,6-Trinitroto	16.79	16.79	4138415	5423532	504.190	482.870
10)	Nitroglycerin	0.00	17.86	0	7436705	N.D. d	2558.069
11)	Tetryl	19.20	19.19	3181797	5541336	519.387	500.867
13)	2,6-Dinitrotolue	21.44	21.44	2862786	3758929	524.797	495.787
14)	2,4-Dinitrotolue	22.42	22.43	5412253	3708613	488.130	519.151m
15)	o-Nitrotoluene	24.40	24.40	2447339	3467198	507.732m	505.820m
16)	3,5-Dinitroanili	24.10	24.10	5048591	8243956	511.252m	492.614m
17)	p-Nitrotoluene	25.42	25.42	2155530	3661568	496.759m	541.796m
18)	4-Amino-2,6-Dini	25.80	25.80	2845413	5787977	482.592m	534.582m
19)	m-Nitrotoluene	26.53	26.53	2806490	4771217	503.812m	496.434m
20)	2-Amino-4,6-Dini	27.63	27.63	3977232	5753046	496.503m	496.228m
21)	PETN	0.00	28.57	0	7738207	N.D. d	2538.759m

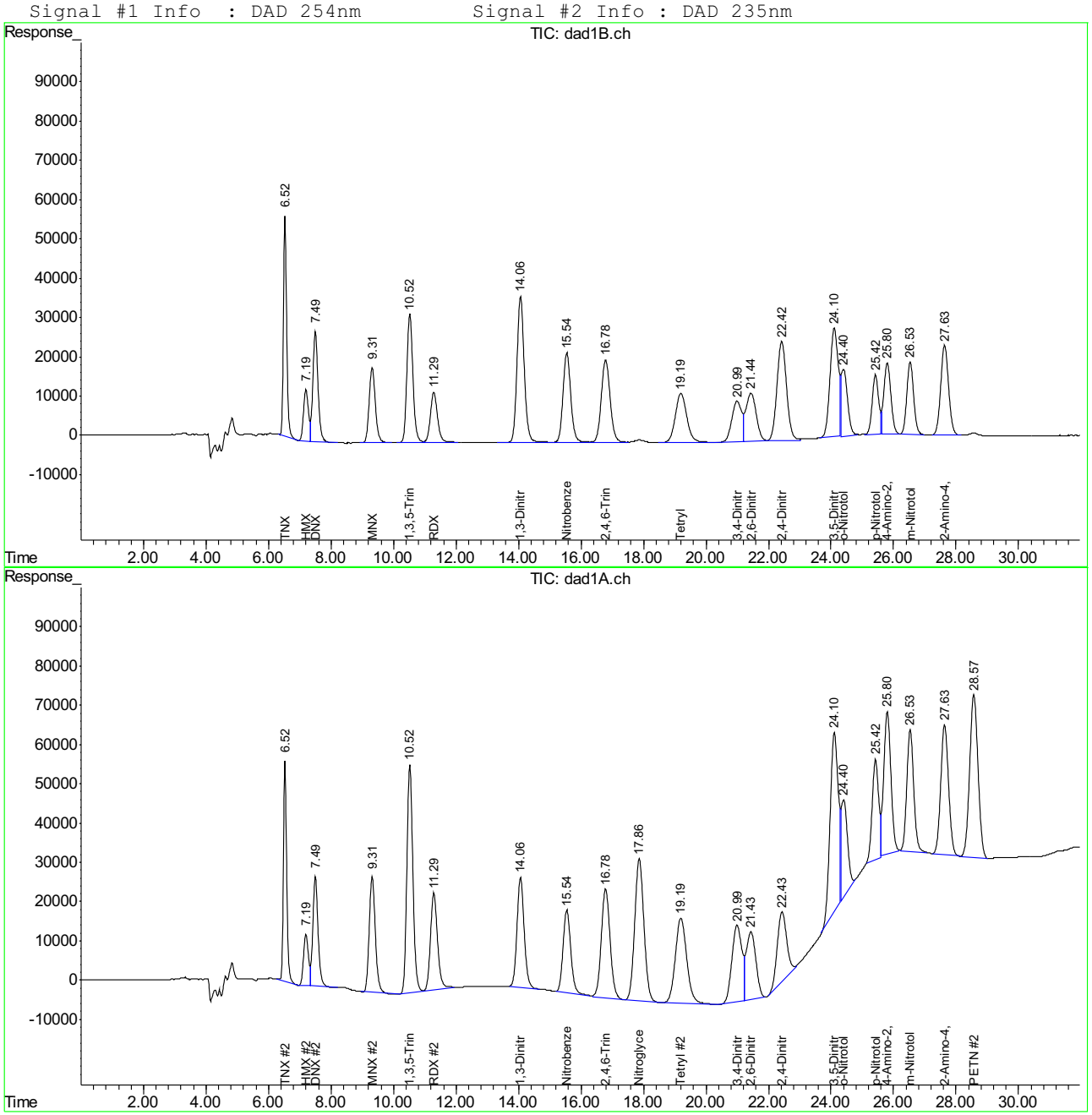
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060262.D 8330RPB.M_1028.M Mon Oct 31 08:14:46 2016 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060262.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\1028RPB3\GG060262.D\dad1A.ch
Acq On : 28-Oct-2016, 14:10:16 Operator: kismetl
Sample : icc2479-500 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 7:05 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GGG2479-ICC2479 **Method:** SW846 8330A
Lab FileID: GG060262.D **Analyst approved:** 10/31/16 10:43 Kismet Lugo
Injection Time: 10/28/16 14:10 **Supervisor approved:** 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.06	Poor instrument integration
Nitrobenzene	98-95-3	2	15.54	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.43	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.10	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.40	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.40	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.42	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.42	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.80	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.80	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.63	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.63	Poor instrument integration
PETN	78-11-5	2	28.57	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060263.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\1028RPB3\GG060263.D\dad1A.ch
Acq On : 28-Oct-2016, 14:44:49 Operator: kismetl
Sample : ic2479-1000 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:53 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.97	4470195	8700180	1028.592	1004.984
	Spiked Amount 500.000	Range 70 - 136		Recovery =		205.72%#	201.00%#
	Target Compounds						
1)	TNX	6.52	6.52	7750264	7747660	940.320	938.403
2)	HMX	7.18	7.18	2807947	2805556	999.820	999.886
3)	DNX	7.48	7.48	6397087	6399001	996.800	997.775
4)	MNX	9.29	9.29	5126755	7824571	974.870	1012.667
5)	1,3,5-Trinitrobe	10.51	10.51	8527228	15080087	988.195	1009.358
6)	RDX	11.27	11.27	3904825	7578897	1006.718	988.535
7)	1,3-Dinitrobenze	14.05	14.05	11644925	8889405	967.809	985.871
8)	Nitrobenzene	15.53	15.52	7633548	7107931	972.894	958.338
9)	2,4,6-Trinitroto	16.77	16.77	8062803	10487747	982.305	933.750
10)	Nitroglycerin	0.00	17.85	0	14604367	N.D. d	5023.593
11)	Tetryl	19.17	19.17	6200185	10742278	1012.100	970.966
13)	2,6-Dinitrotolue	21.41	21.41	5736176	7826754	1051.538	984.607
14)	2,4-Dinitrotolue	22.40	22.40	10638529	7469603	959.487	1045.635m
15)	o-Nitrotoluene	24.38	24.38	4613450	6984024	957.121m	1043.452m
16)	3,5-Dinitroanili	24.08	24.08	9883615	16700615	1000.876m	1020.734m
17)	p-Nitrotoluene	25.41	25.41	4173955	6868438	961.921m	1016.312m
18)	4-Amino-2,6-Dini	25.79	25.79	5739236	11459896	973.395m	1058.445m
19)	m-Nitrotoluene	26.53	26.53	5456709	9054690	979.570m	975.755m
20)	2-Amino-4,6-Dini	27.63	27.63	7823540	11233763	976.662m	968.966m
21)	PETN	0.00	28.58	0	15711160	N.D. d	5154.535m

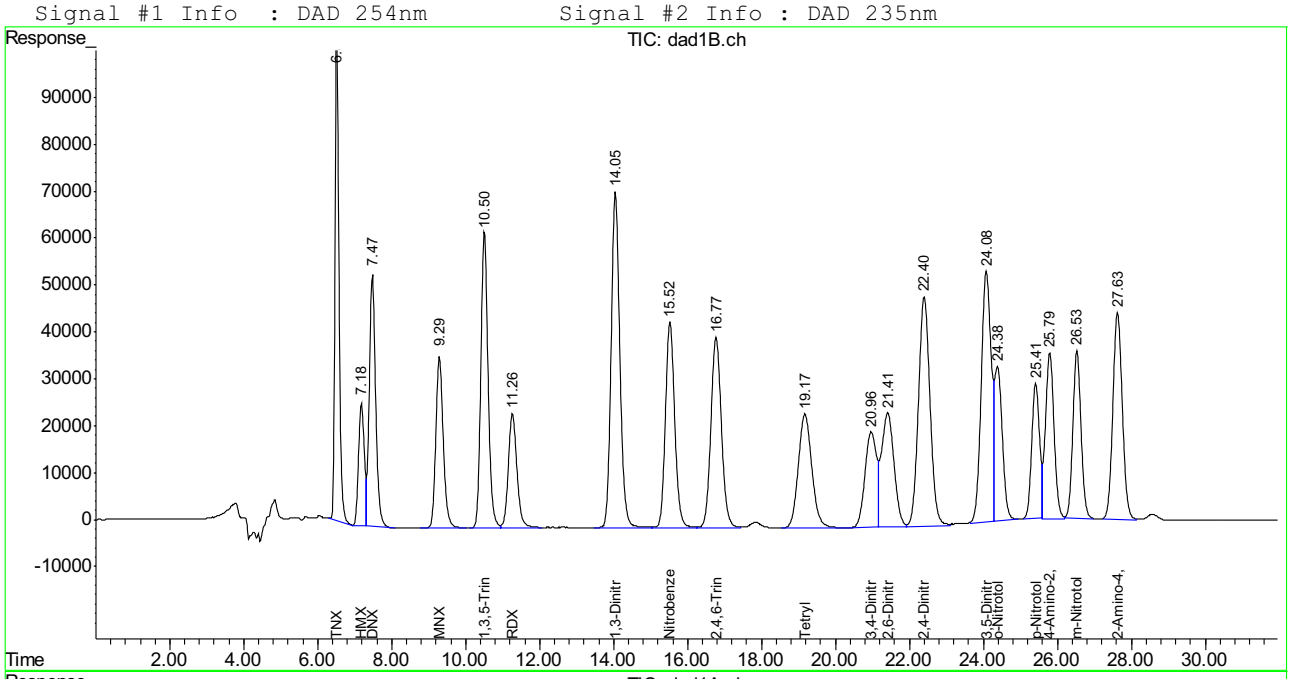
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060263.D 8330RPB.M_1028.M Mon Oct 31 08:14:47 2016 Page 1

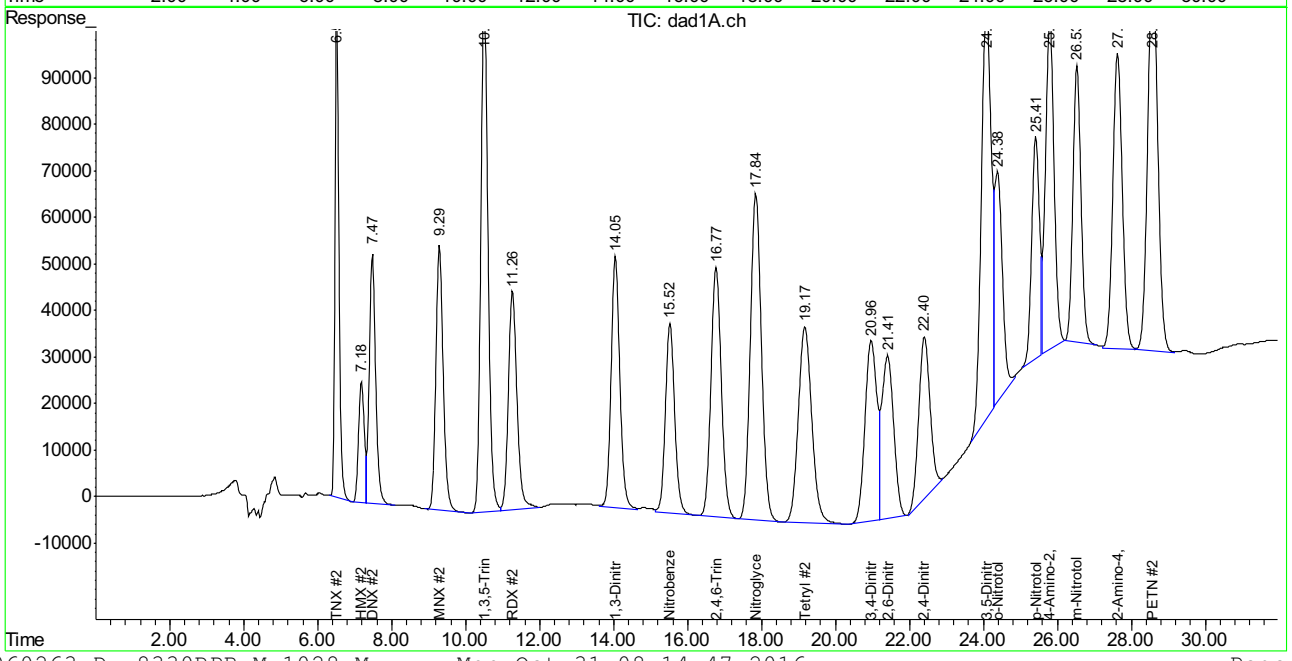
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060263.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\1028RPB3\GG060263.D\dad1A.ch
Acq On : 28-Oct-2016, 14:44:49 Operator: kismetl
Sample : ic2479-1000 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 7:13 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2479-IC2479
Lab FileID: GG060263.D
Injection Time: 10/28/16 14:44
Method: SW846 8330A
Analyst approved: 10/31/16 10:43 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4-Dinitrotoluene	121-14-2	2	22.40	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.08	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.08	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.38	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.38	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.41	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.41	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.79	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.79	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.63	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.63	Poor instrument integration
PETN	78-11-5	2	28.58	Poor instrument integration

GG060264.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060264.D\dad1B.ch Vial: 9
Signal #2 : G:\DATA\1028RPB3\GG060264.D\dad1A.ch
Acq On : 28-Oct-2016, 15:19:26 Operator: kismetl
Sample : ic2479-2000 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 05:44:54 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.97	20.97	9238213	18193232	2125.712	2113.633
	Spiked Amount 500.000	Range 70 - 136		Recovery =		425.14%#	422.73%#
	Target Compounds						
1)	TNX	6.50	6.50	16292648	16292749	1976.746	1973.391
2)	HMX	7.17	7.17	5724308	5719204	2092.188	2091.543
3)	DNX	7.45	7.45	13699449	13706101	2134.662	2137.147
4)	MNX	9.27	9.27	10909003	16729105	2074.384	2165.104
5)	1,3,5-Trinitrobe	10.50	10.50	17975335	31738739	2083.107	2124.374
6)	RDX	11.24	11.24	8225176	15888052	2120.565	2072.320
7)	1,3-Dinitrobenze	14.03	14.03	24414672	18569615	2029.103	2059.446
8)	Nitrobenzene	15.51	15.51	15901341	14759288	2026.621	1989.945
9)	2,4,6-Trinitroto	16.77	16.77	16997548	22212219	2070.841	1977.609
10)	Nitroglycerin	0.00	17.84	0	30776062	N.D. d	10586.314
11)	Tetryl	19.17	19.17	13088649	22624804	2136.553	2044.997
13)	2,6-Dinitrotolue	21.41	21.40	12313602	16981925	2257.292	1956.541
14)	2,4-Dinitrotolue	22.40	22.40	22314605	15382066	2012.551	2153.263m
15)	o-Nitrotoluene	24.38	24.38	10060494	14204004	2087.181m	2242.821m
16)	3,5-Dinitroanili	24.08	24.07	21245391	34957977	2151.439	2257.362m
17)	p-Nitrotoluene	25.41	25.41	8698595	14090885	2004.660m	2085.006m
18)	4-Amino-2,6-Dini	25.78	25.78	11816732	23484100	2004.160m	2169.011m
19)	m-Nitrotoluene	26.52	26.52	11763387	19112768	2111.723m	2281.544m
20)	2-Amino-4,6-Dini	27.61	27.61	16835478	23762541	2101.680	2049.634m
21)	PETN	0.00	28.58	0	32863560	N.D. d	10781.913m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060264.D 8330RPB.M_1028.M Mon Oct 31 08:14:48 2016 Page 1

9.5.16

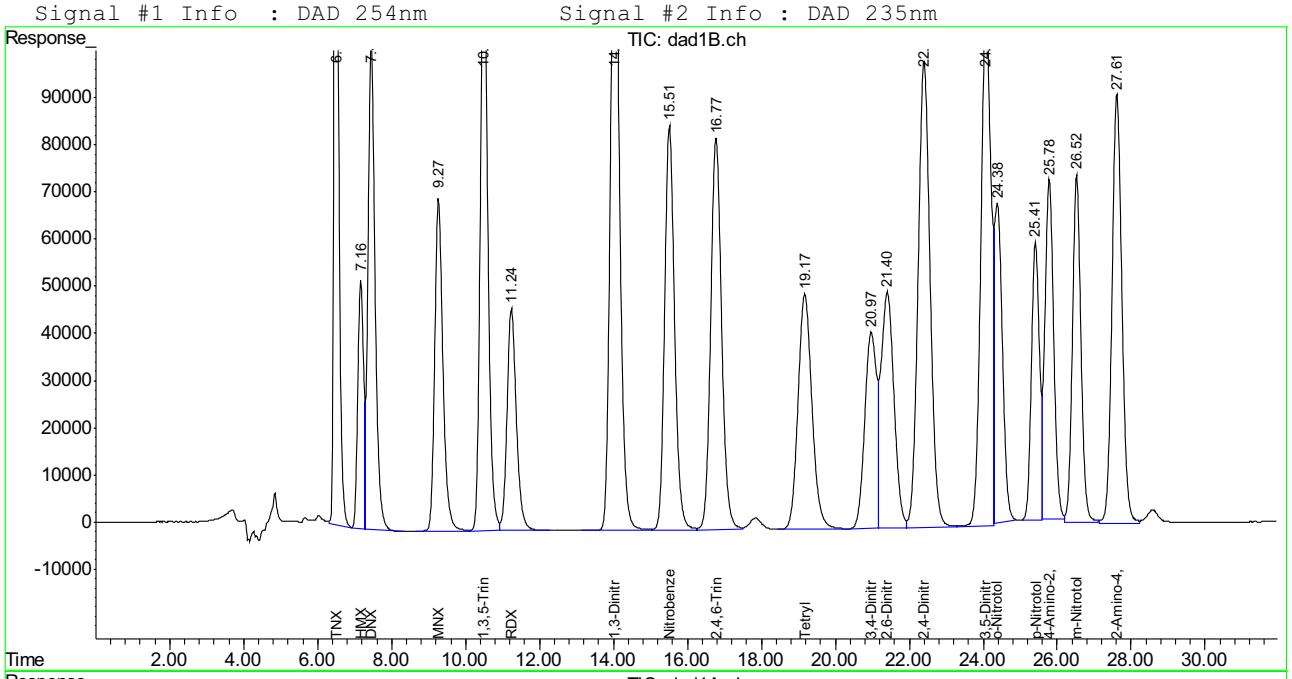
9

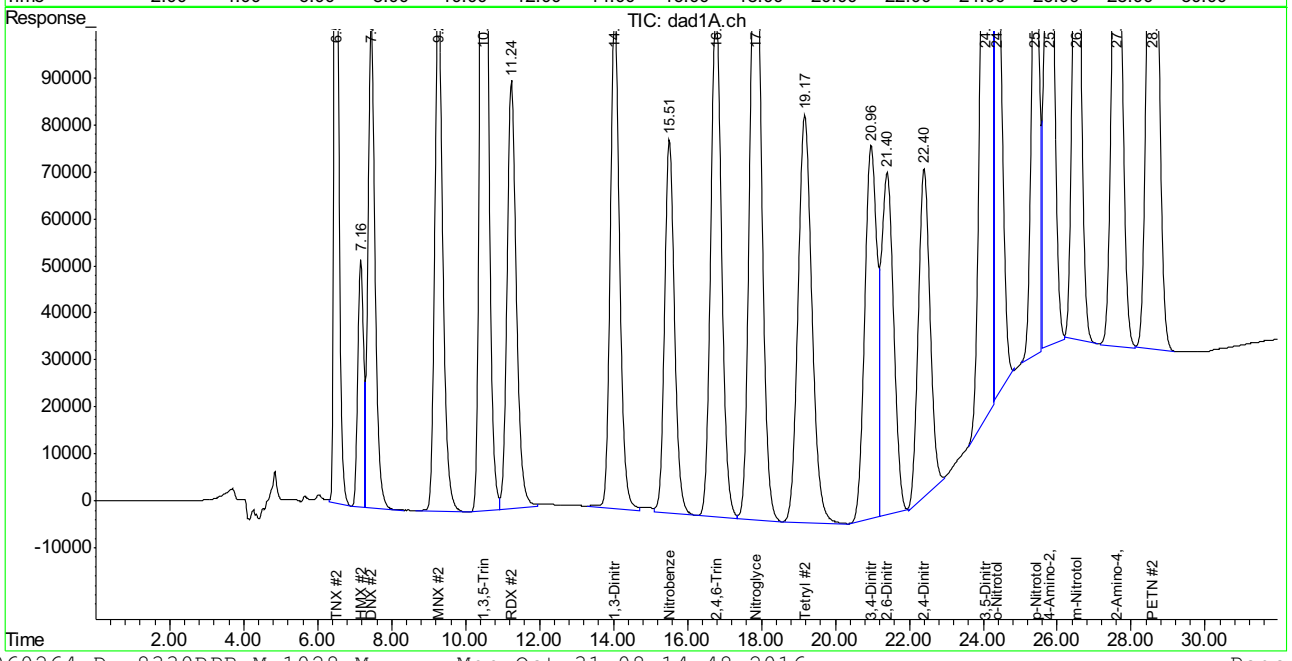
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060264.D\dad1B.ch Vial: 9
Signal #2 : G:\DATA\1028RPB3\GG060264.D\dad1A.ch
Acq On : 28-Oct-2016, 15:19:26 Operator: kismetl
Sample : ic2479-2000 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 7:16 2016 Quant Results File: 8330RPB.M_1027.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1027.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 05:44:32 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2479-IC2479
Lab FileID: GG060264.D
Injection Time: 10/28/16 15:19
Method: SW846 8330A
Analyst approved: 10/31/16 10:43 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4-Dinitrotoluene	121-14-2	2	22.40	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.07	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.38	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.38	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.41	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.41	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.78	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.78	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.52	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.52	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.61	Poor instrument integration
PETN	78-11-5	2	28.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060265.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1028RPB3\GG060265.D\dad1A.ch
Acq On : 28-Oct-2016, 16:01:19 Operator: kismetl
Sample : icv2479-500 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 07:50:16 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	6.52	6.52	4093404	4088941	501.476	502.933
2)	HMX	7.18	7.18	1628706	1627263	571.273	579.575
3)	DNX	7.48	7.48	3399126	3400306	539.077	542.359
4)	MNX	9.29	9.29	2791107	4226593	532.228	545.719
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	17.85	0	7464108	N.D. d	2535.691
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	28.58	0	8144896	N.D. d	2548.446m

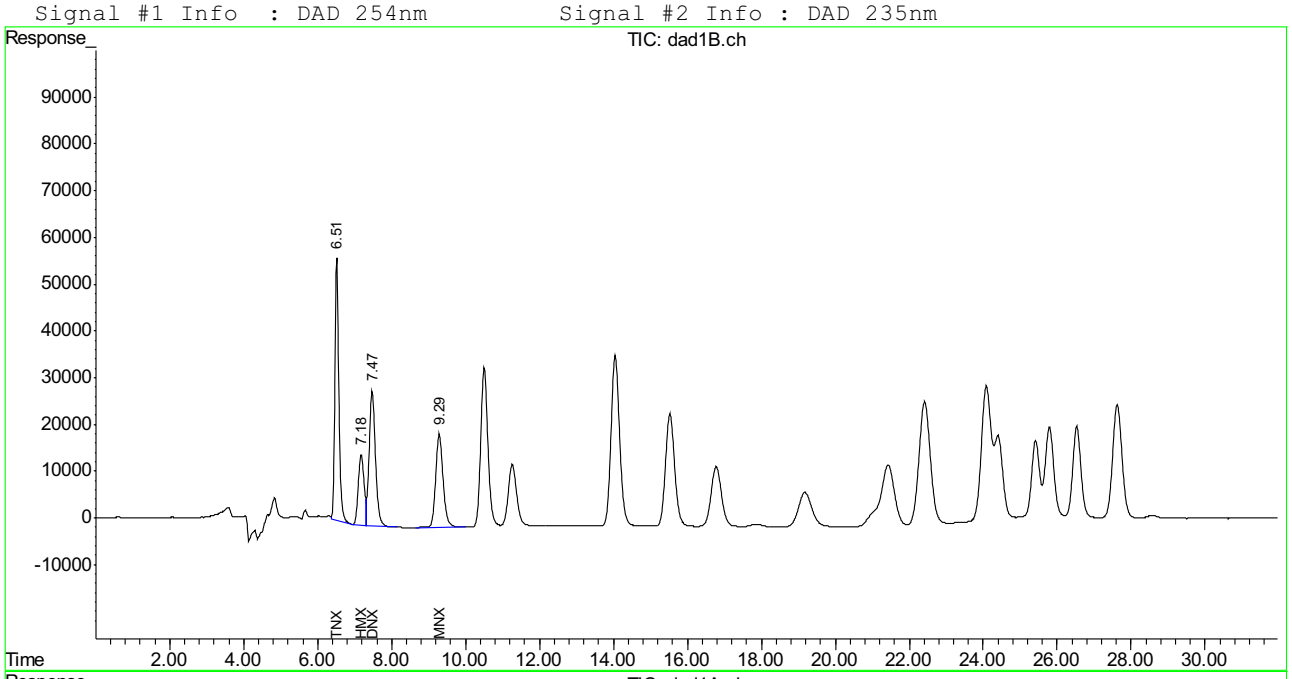
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060265.D 8330RPB.M_1028.M Mon Oct 31 08:33:43 2016 Page 1

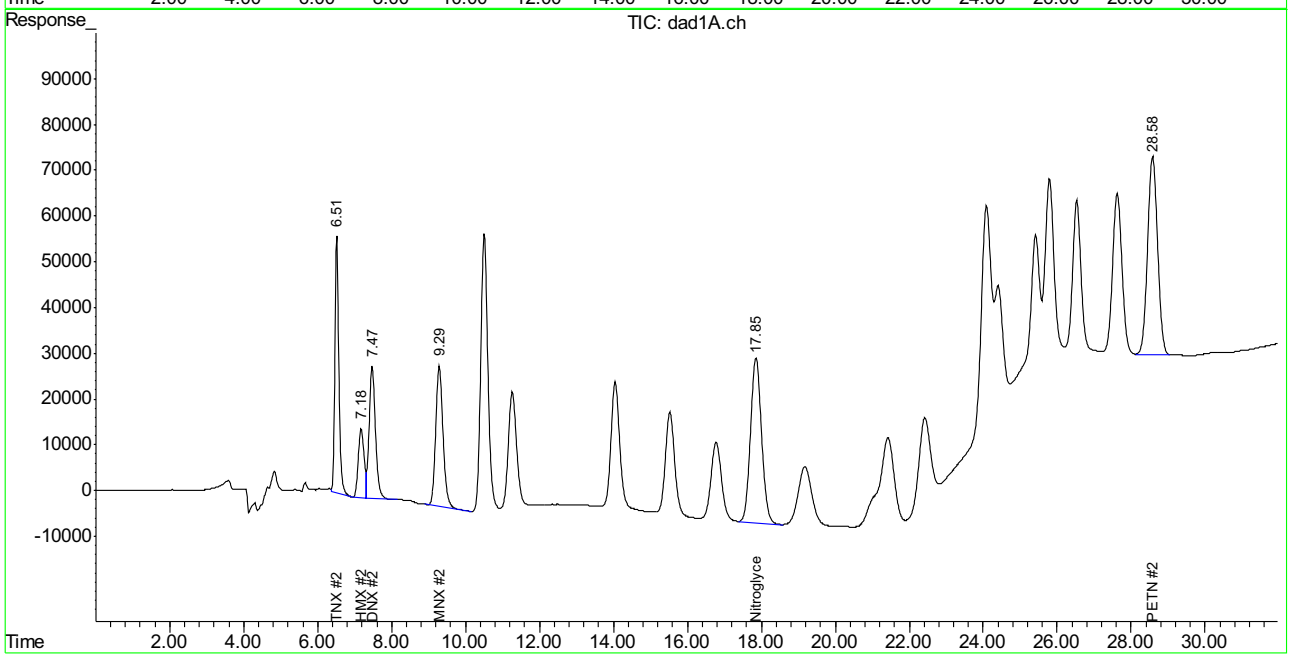
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060265.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\1028RPB3\GG060265.D\dad1A.ch
Acq On : 28-Oct-2016, 16:01:19 Operator: kismetl
Sample : icv2479-500 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 8:00 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2479-ICV2479
Lab FileID: GG060265.D
Injection Time: 10/28/16 16:01
Method: SW846 8330A
Analyst approved: 10/31/16 10:43 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	28.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060266.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1028RPB3\GG060266.D\dad1A.ch
Acq On : 28-Oct-2016, 16:35:58 Operator: kismetl
Sample : icv2479-500 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 07:50:17 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.52	10.52	4511525	7908067	517.078	503.353
6)	RDX	11.28	11.28	2059978	3864354	519.627	486.806m
7)	1,3-Dinitrobenze	14.06	14.06	5830081	4459570	488.208	478.253m
8)	Nitrobenzene	15.54	15.54	4136150	3937255	531.575	545.615m
9)	2,4,6-Trinitroto	16.79	16.78	3461011	4523221	421.279	434.057
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	19.19	19.19	3059267	5279147	486.412	463.488
13)	2,6-Dinitrotolue	21.44	21.44	3012069	4014305	542.133	537.210
14)	2,4-Dinitrotolue	22.42	22.43	5621322	3886733	515.320	543.773m
15)	o-Nitrotoluene	24.41	24.41	2642595	3831244	558.093m	572.180m
16)	3,5-Dinitroanili	24.09	24.10	4570318	7530518	455.936m	464.108m
17)	p-Nitrotoluene	25.42	25.42	2343595	3876149	537.138m	548.281m
18)	4-Amino-2,6-Dini	25.79	25.79	3049753	6020774	521.216m	523.977m
19)	m-Nitrotoluene	26.53	26.53	2920370	4933953	516.996m	493.489m
20)	2-Amino-4,6-Dini	27.62	27.62	4177968	6030238	522.632m	536.111m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

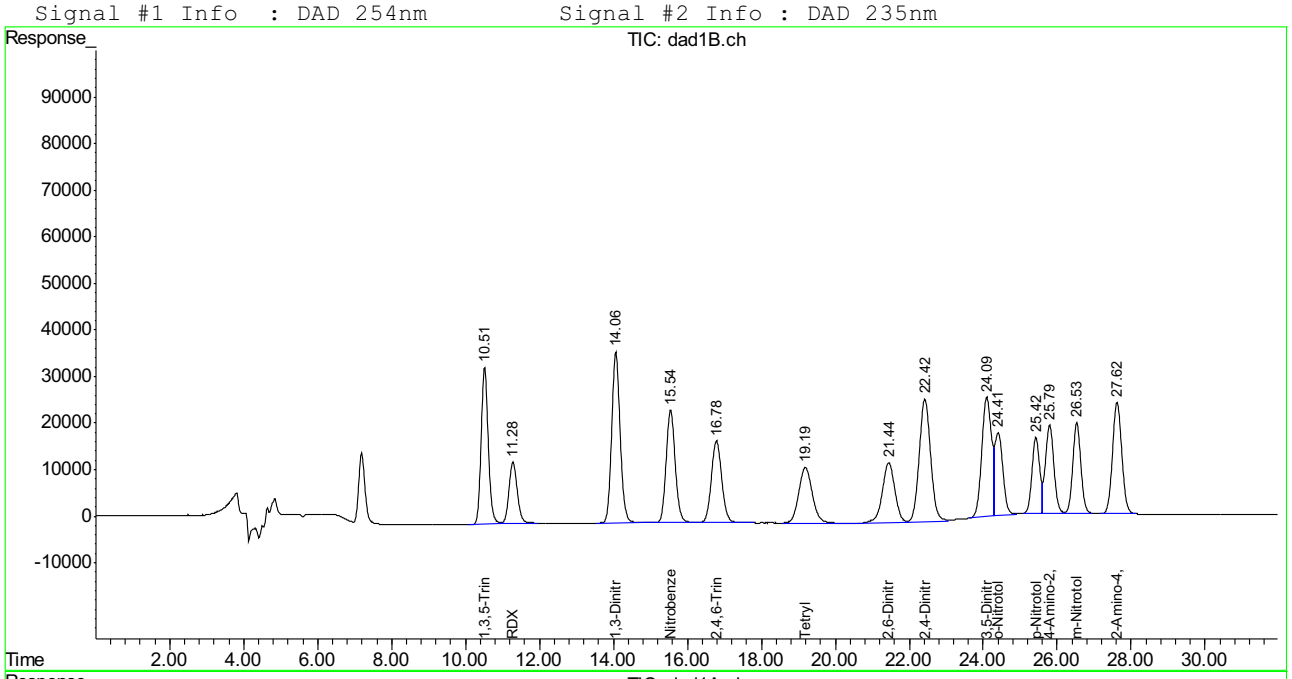
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060266.D 8330RPB.M_1028.M Mon Oct 31 08:33:44 2016 Page 1

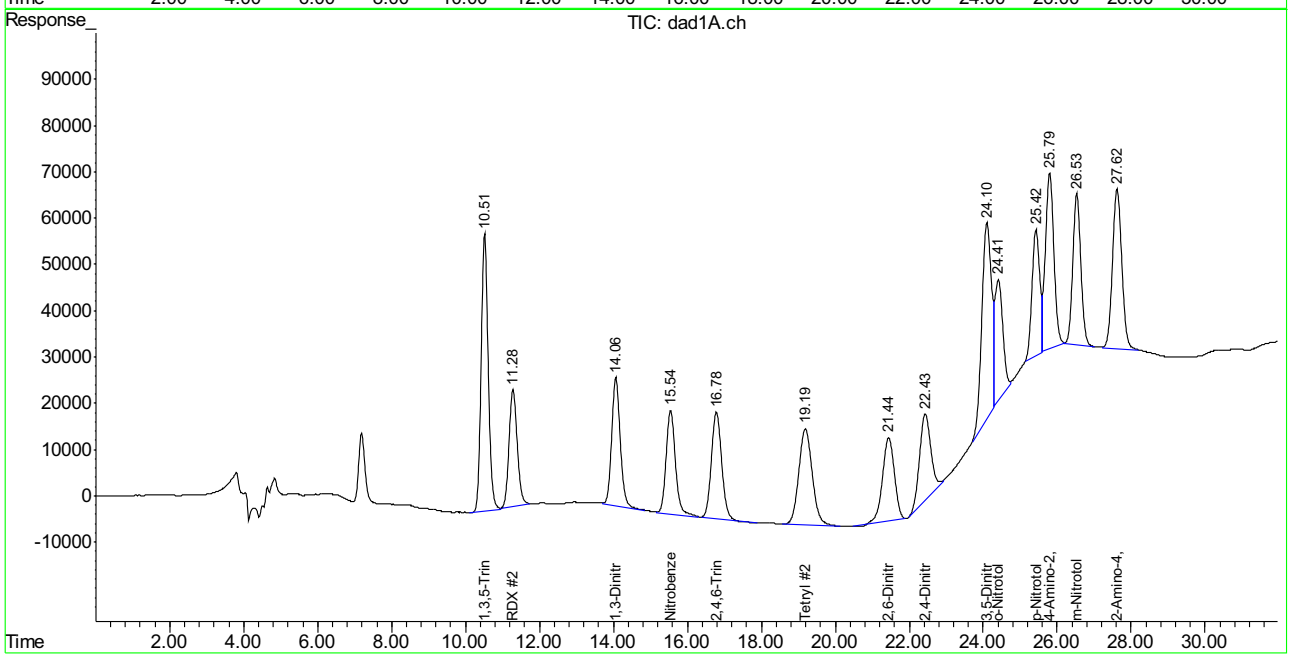
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060266.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\1028RPB3\GG060266.D\dad1A.ch
Acq On : 28-Oct-2016, 16:35:58 Operator: kismetl
Sample : icv2479-500 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 7:59 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2479-ICV2479 **Method:** SW846 8330A
Lab FileID: GG060266.D **Analyst approved:** 10/31/16 10:43 Kismet Lugo
Injection Time: 10/28/16 16:35 **Supervisor approved:** 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	2	11.28	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	14.06	Poor instrument integration
Nitrobenzene	98-95-3	2	15.54	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.43	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.09	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.10	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.41	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.41	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.42	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.42	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.79	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.79	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.53	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.53	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.62	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.62	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/31/16 12:50

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060274.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1028RPB3\GG060274.D\dad1A.ch
Acq On : 28-Oct-2016, 21:12:37 Operator: kismetl
Sample : cc2479-1000 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 08:36:42 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	20.93	20.92	4480790	8771906	1015.940	1007.527
	Spiked Amount 500.000	Range 70 - 136		Recovery =		203.19%#	201.51%#
	Target Compounds						
1)	TNX	6.50	6.50	7764815	7769240	951.254	955.603
2)	HMX	7.17	7.17	2803765	2801109	983.428	992.448
3)	DNX	7.46	7.46	6413025	6415681	1017.060	1023.321
4)	MNX	9.27	9.27	5686740	8037920	1084.388	1037.820
5)	1,3,5-Trinitrobe	10.48	10.48	8614618	15054724	987.344	958.242
6)	RDX	11.24	11.24	3916838	7587153	988.017	955.781
7)	1,3-Dinitrobenze	14.01	14.01	11662753	8886151	976.633	952.969m
8)	Nitrobenzene	15.49	15.49	7678294	7048523	986.808	976.766m
9)	2,4,6-Trinitroto	16.73	16.73	8067100	10399348	981.938	997.942
10)	Nitroglycerin	0.00	17.80	0	14596161	N.D. d	4958.577
11)	Tetryl	19.13	19.13	6205563	10788006	986.661	947.145
13)	2,6-Dinitrotolue	21.38	21.37	5738720	7939387	1032.894	1016.839
14)	2,4-Dinitrotolue	22.37	22.38	10646739	7412753	976.012	1037.081m
15)	o-Nitrotoluene	24.34	24.34	4710223	6453010	994.757m	963.729m
16)	3,5-Dinitroanili	24.06	24.06	9974578	17111219	995.066m	1054.569m
17)	p-Nitrotoluene	25.38	25.38	4170731	6776154	955.907m	958.486m
18)	4-Amino-2,6-Dini	25.76	25.76	5694473	10966266	973.210m	948.666m
19)	m-Nitrotoluene	26.49	26.49	5619199	9317933	994.772m	931.971m
20)	2-Amino-4,6-Dini	27.59	27.59	7844864	11230089	981.332m	998.398m
21)	PETN	0.00	28.52	0	15407557	N.D. d	4820.850m

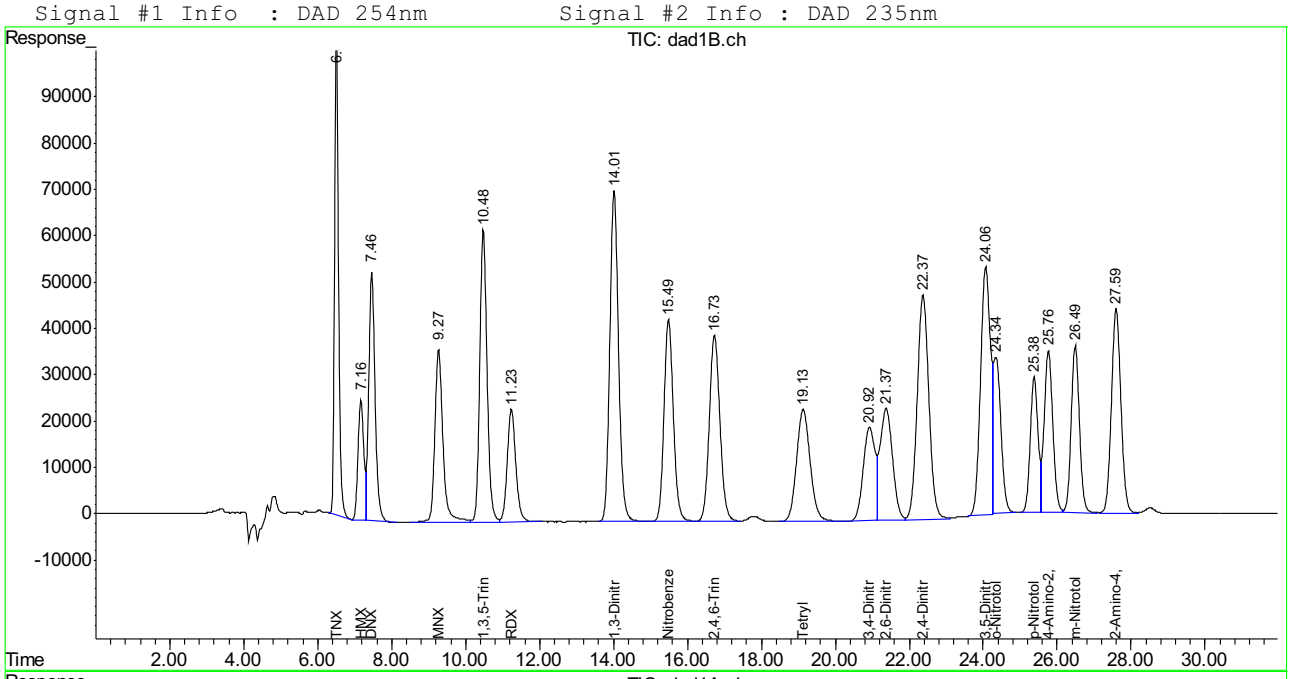
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060274.D 8330RPB.M_1028.M Mon Oct 31 09:29:04 2016 Page 1

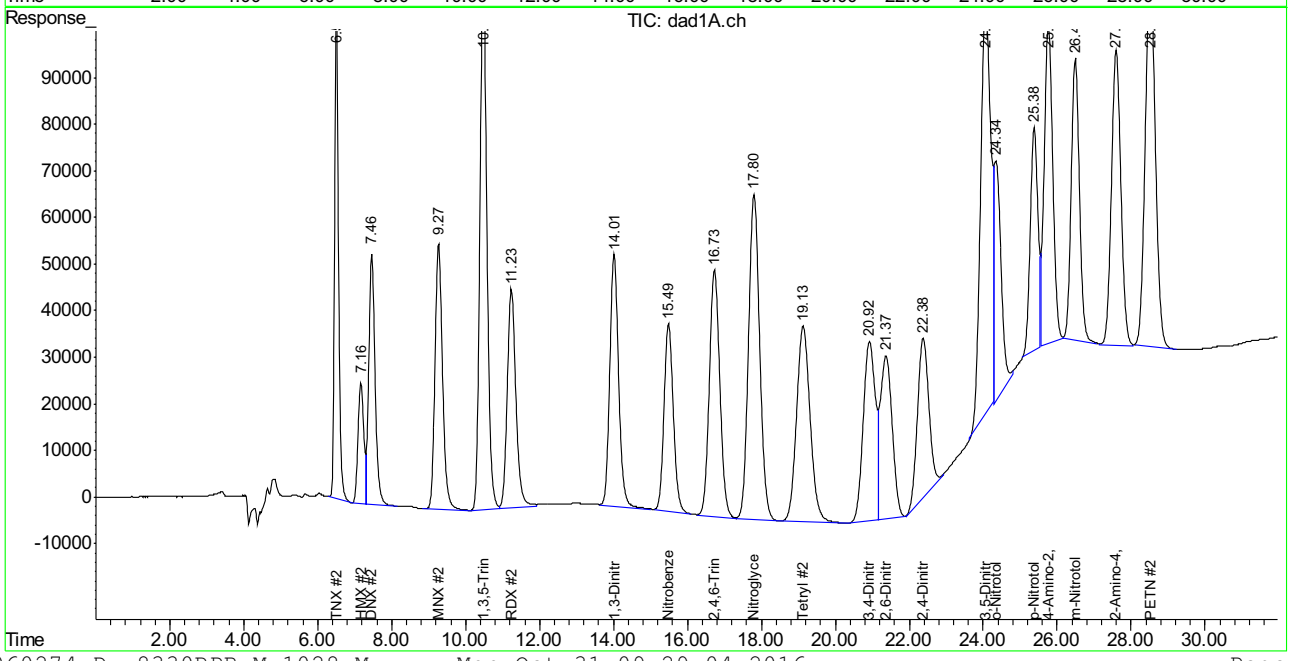
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1028RPB3\GG060274.D\dad1B.ch Vial: 30
Signal #2 : G:\DATA\1028RPB3\GG060274.D\dad1A.ch
Acq On : 28-Oct-2016, 21:12:37 Operator: kismetl
Sample : cc2479-1000 Inst : G1315B
Misc : OP62296,GGG2479,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Oct 31 8:41 2016 Quant Results File: 8330RPB.M_1028.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1028.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 31 07:49:52 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2479-CC2479
Lab FileID: GG060274.D
Injection Time: 10/28/16 21:12
Method: SW846 8330A
Analyst approved: 10/31/16 10:44 Kismet Lugo
Supervisor approved: 10/31/16 12:50 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	14.01	Poor instrument integration
Nitrobenzene	98-95-3	2	15.49	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	22.38	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	24.06	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	24.06	Poor instrument integration
o-Nitrotoluene	88-72-2	1	24.34	Poor instrument integration
o-Nitrotoluene	88-72-2	2	24.34	Poor instrument integration
p-Nitrotoluene	99-99-0	1	25.38	Poor instrument integration
p-Nitrotoluene	99-99-0	2	25.38	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	25.76	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	25.76	Poor instrument integration
m-Nitrotoluene	99-08-1	1	26.49	Poor instrument integration
m-Nitrotoluene	99-08-1	2	26.49	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	27.59	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	27.59	Poor instrument integration
PETN	78-11-5	2	28.52	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380267.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\1003BPL\PP380267.D\dad1A.ch
Acq On : 03-Oct-2016, 11:04:35 Operator: kismetl
Sample : ic2032-20 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:13:59 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.97	9.97	35719	80311	16.648m	23.682m#
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.33%#	4.74%#
	Target Compounds						
1)	TNX	1.21	1.21	46860	92272	14.959m	19.853
2)	HMX	1.29	1.30	28796	84394	17.427m	18.032
3)	DNX	1.54	1.53	57217	99336	19.786m	22.418m
4)	MNX	2.04	2.04	45102	66564	18.963m	18.300m
5)	RDX	2.57	2.57	32799	55282	18.017m	19.151m
6)	1,3,5-Trinitrobe	4.11	4.11	73934	144857	18.851m	19.287
7)	1,3-Dinitrobenze	5.26	5.27	101016	65444	20.115m	19.141m
8)	3,5-Dinitroanili	5.62	5.62	93761	159443	21.605m	21.799m
9)	Nitrobenzene	6.78	6.79	67933	48405	23.652m	16.825m
10)	Nitroglycerin	0.00	8.35	0	137003	N.D.	100.335m#
11)	Tetryl	8.53	8.53	38771	41823	14.732m	9.891m
12)	2,4,6-Trinitroto	8.93	8.93	67047	70570	19.069m	16.471m
13)	2-Amino-4,6-Dini	9.21	9.20	61507	92337	19.390m	19.354m
14)	4-Amino-2,6-Dini	9.65	9.65	42961	90047	18.123m	19.115m
16)	2,4-Dinitrotolue	10.63	10.63	83734	58008	19.186m	21.578m
17)	2,6-Dinitrotolue	11.07	11.08	41636	35572	16.782m	11.421m
18)	o-Nitrotoluene	13.62	13.74	44366	62667	21.187	22.011m
19)	p-Nitrotoluene	14.03	14.13	65971	51771	19.655	19.417m
20)	m-Nitrotoluene	14.63	14.66	66200	80931	21.363m	21.854m
21)	PETN	0.00	16.30	0	158185	N.D. d	113.330m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380267.D 8330-1003BPLUS.M Tue Oct 04 09:42:42 2016 Page 1

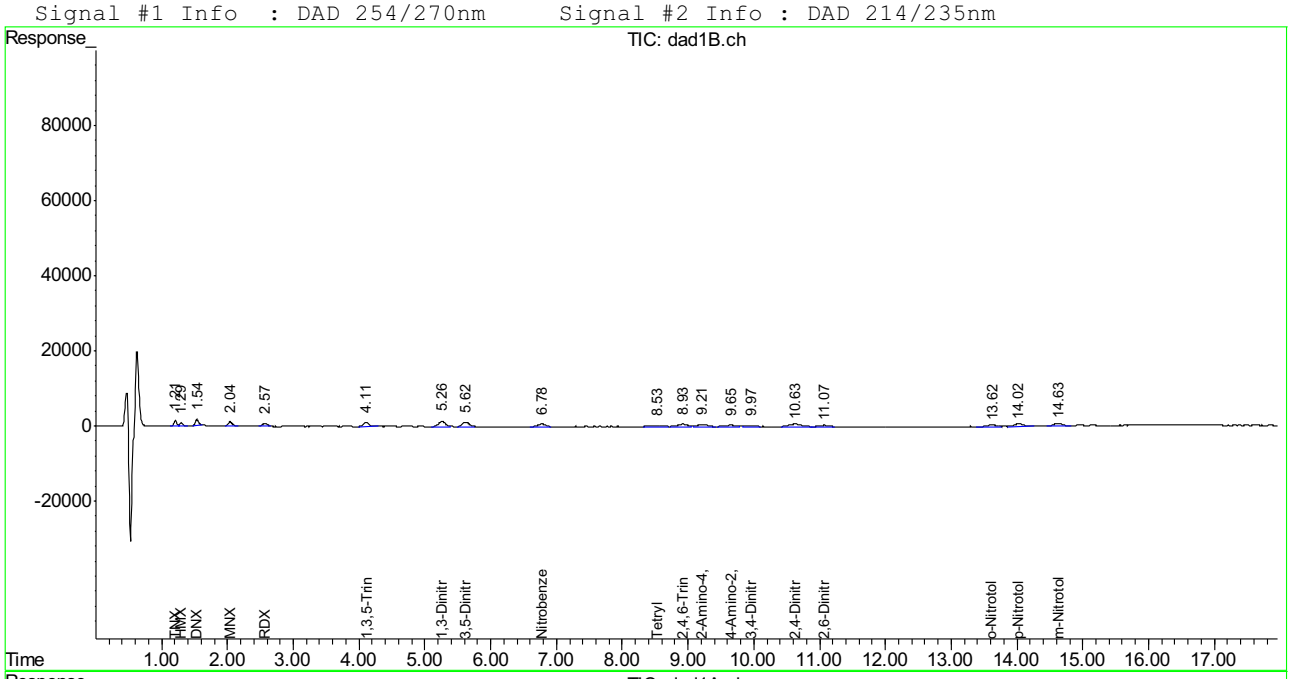
9.5.20
9

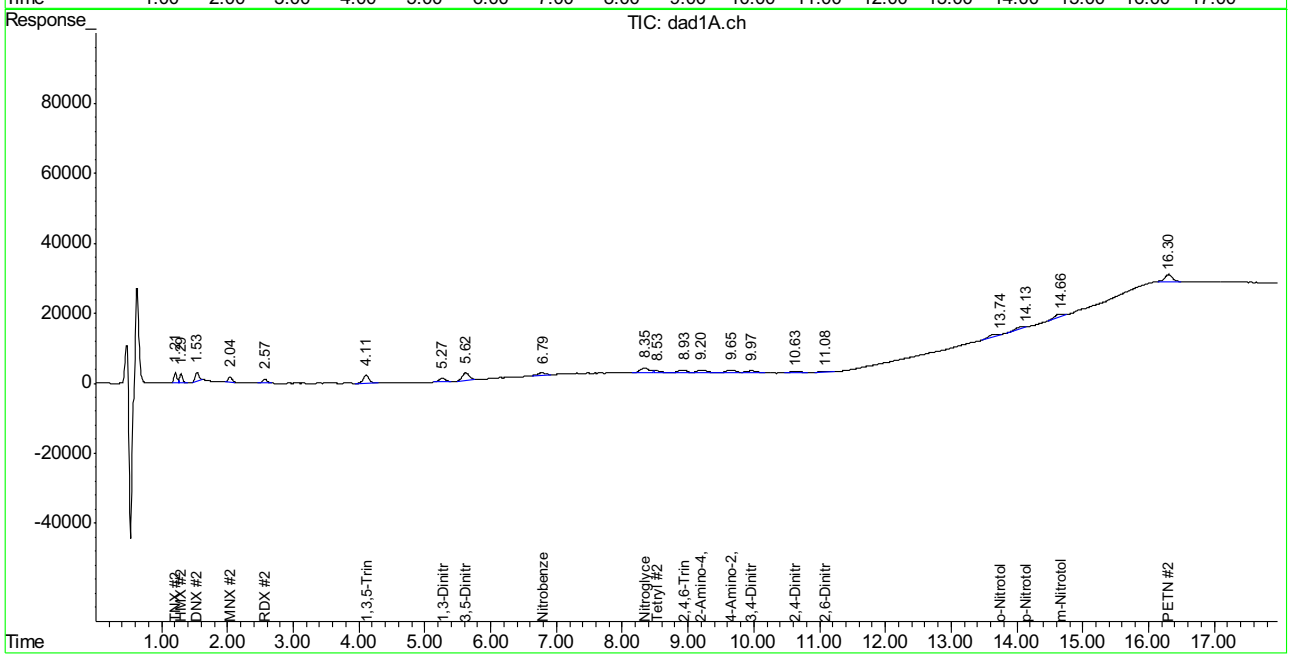
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380267.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\1003BPL\PP380267.D\dad1A.ch
Acq On : 03-Oct-2016, 11:04:35 Operator: kismetl
Sample : ic2032-20 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:22 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380267.D
Injection Time: 10/03/16 11:04
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
DNX		1	1.54	Poor instrument integration
MNX		1	2.04	Poor instrument integration
MNX		2	2.04	Poor instrument integration
RDX	121-82-4	1	2.57	Poor instrument integration
RDX	121-82-4	2	2.57	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.11	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.26	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.27	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.62	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
Nitroglycerine	55-63-0	2	8.35	Poor instrument integration
Tetryl	479-45-8	1	8.53	Poor instrument integration
Tetryl	479-45-8	2	8.53	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.93	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	8.93	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.20	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.21	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.65	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	9.65	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.97	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	9.97	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.63	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	10.63	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.07	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	11.08	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.74	Missed peak
p-Nitrotoluene	99-99-0	2	14.13	Missed peak
m-Nitrotoluene	99-08-1	1	14.63	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Missed peak
PETN	78-11-5	2	16.30	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380268.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\1003BPL\PP380268.D\dad1A.ch
Acq On : 03-Oct-2016, 11:29:29 Operator: kismetl
Sample : ic2032-50 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:00 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.97	117053	208841	54.556m	61.489
	Spiked Amount 500.000	Range 70 - 136		Recovery =		10.91%#	12.30%#
	Target Compounds						
1)	TNX	1.21	1.21	160534	259928	51.246m	55.924
2)	HMX	1.29	1.29	85260	225823	51.599m	48.250
3)	DNX	1.54	1.53	153947	263420	53.235	59.430m
4)	MNX	2.04	2.04	113559	184545	47.745m	50.735m
5)	RDX	2.56	2.56	98645	160951	54.188m	55.757m
6)	1,3,5-Trinitrobe	4.10	4.11	205966	388195	52.516m	51.687
7)	1,3-Dinitrobenze	5.26	5.26	265972	188921	52.962	55.254m
8)	3,5-Dinitroanili	5.62	5.62	233930	396652	53.904m	54.230
9)	Nitrobenzene	6.78	6.78	158585	141247	55.215m	49.096m
10)	Nitroglycerin	0.00	8.34	0	389209	N.D.	285.038 #
11)	Tetryl	8.53	8.52	102029	135746	38.732m	32.073
12)	2,4,6-Trinitroto	8.92	8.92	179361	222114	51.014m	51.843
13)	2-Amino-4,6-Dini	9.22	9.22	169129	275015	53.318m	57.644
14)	4-Amino-2,6-Dini	9.66	9.66	121461	247593	51.238m	52.557
16)	2,4-Dinitrotolue	10.64	10.64	245533	159034	56.258m	59.160
17)	2,6-Dinitrotolue	11.08	11.10	122593	112171	49.413m	36.014
18)	o-Nitrotoluene	13.63	13.64	113308	157212	54.111	55.218m
19)	p-Nitrotoluene	14.04	14.05	177252	156792	52.809	58.805m
20)	m-Nitrotoluene	14.63	14.64	163613	175725	52.800	47.452m
21)	PETN	0.00	16.31	0	390603	N.D. d	279.843m

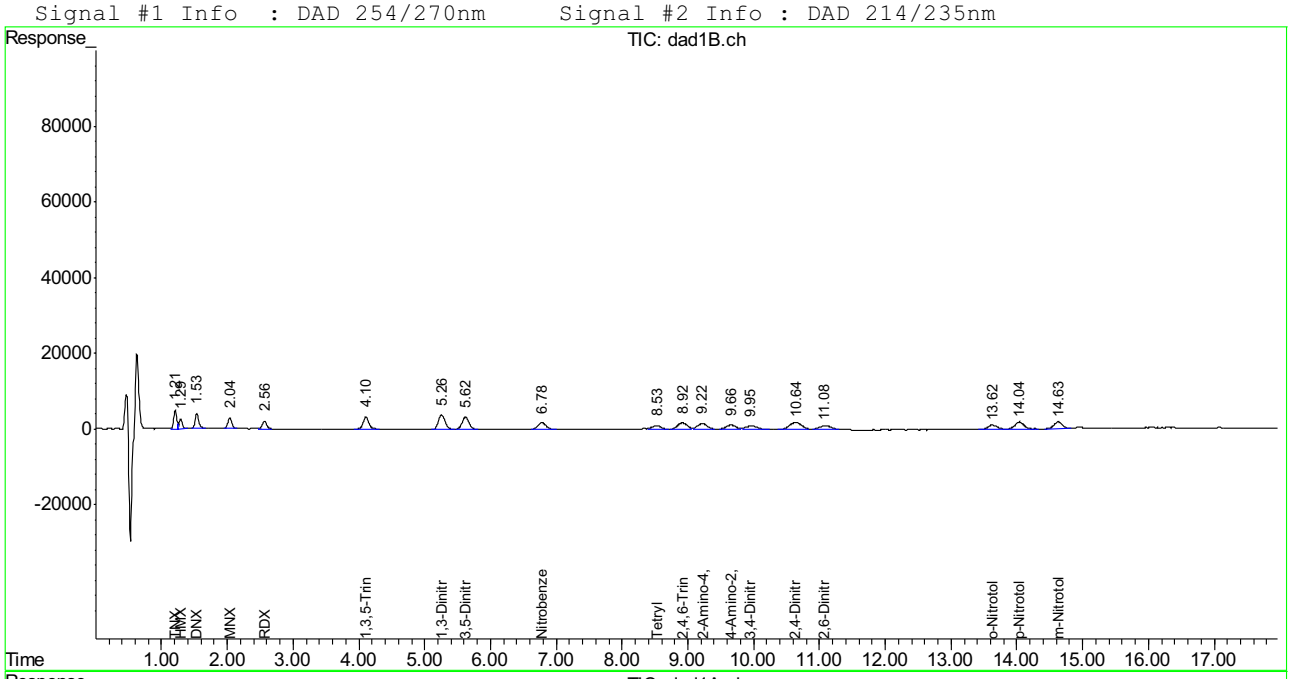
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380268.D 8330-1003BPLUS.M Tue Oct 04 09:43:18 2016 Page 1

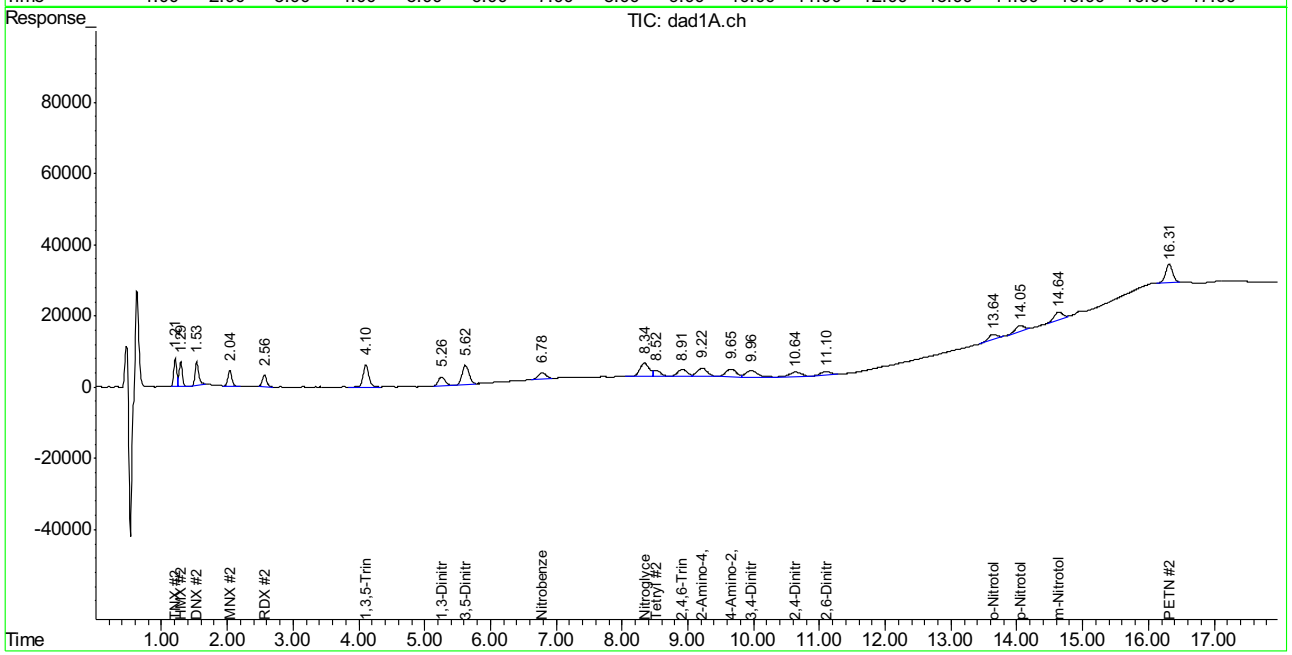
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380268.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\1003BPL\PP380268.D\dad1A.ch
Acq On : 03-Oct-2016, 11:29:29 Operator: kismetl
Sample : ic2032-50 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:27 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380268.D
Injection Time: 10/03/16 11:29
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Missed peak
HMX	2691-41-0	1	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
MNX		1	2.04	Poor instrument integration
MNX		2	2.04	Poor instrument integration
RDX	121-82-4	1	2.56	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.10	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.26	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.62	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Tetryl	479-45-8	1	8.53	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.92	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.22	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.66	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.95	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.64	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.08	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380269.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\1003BPL\PP380269.D\dad1A.ch
Acq On : 03-Oct-2016, 11:54:27 Operator: kismetl
Sample : ic2032-100 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:01 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.97	207936	383019	96.914m	112.540
Spiked Amount	500.000	Range	70 - 136	Recovery	=	19.38%#	22.51%#
	Target Compounds						
1)	TNX	1.21	1.21	307700	494861	98.224m	106.471
2)	HMX	1.29	1.29	157765	436864	95.479m	93.341
3)	DNX	1.54	1.53	293811	505955	101.600	114.095m
4)	MNX	2.04	2.04	226057	349627	95.044	96.119m
5)	RDX	2.57	2.56	177507	267507	97.509	92.671m
6)	1,3,5-Trinitrobe	4.11	4.11	365636	713183	93.228	94.958
7)	1,3-Dinitrobenze	5.26	5.26	498976	333476	99.359	97.532
8)	3,5-Dinitroanili	5.62	5.62	439725	742145	101.325	101.466
9)	Nitrobenzene	6.79	6.78	290919	288365	101.290	100.233m
10)	Nitroglycerin	0.00	8.34	0	727690	N.D.	532.926m#
11)	Tetryl	8.54	8.53	191222	274768	72.496m	64.830
12)	2,4,6-Trinitroto	8.92	8.92	347074	449157	98.714m	104.836
13)	2-Amino-4,6-Dini	9.22	9.23	312626	497020	98.555m	104.177
14)	4-Amino-2,6-Dini	9.67	9.67	238599	486681	100.651m	103.310
16)	2,4-Dinitrotolue	10.64	10.64	458472	282016	105.049m	104.908
17)	2,6-Dinitrotolue	11.10	11.10	268393	269281	108.180m	86.457
18)	o-Nitrotoluene	13.63	13.64	210799	297757	100.668	104.583m
19)	p-Nitrotoluene	14.04	14.04	345557	278357	102.953	104.398m
20)	m-Nitrotoluene	14.63	14.63	318624	369252	102.823	99.710m
21)	PETN	0.00	16.31	0	694623	N.D. d	497.655m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380269.D 8330-1003BPLUS.M Tue Oct 04 09:43:19 2016 Page 1

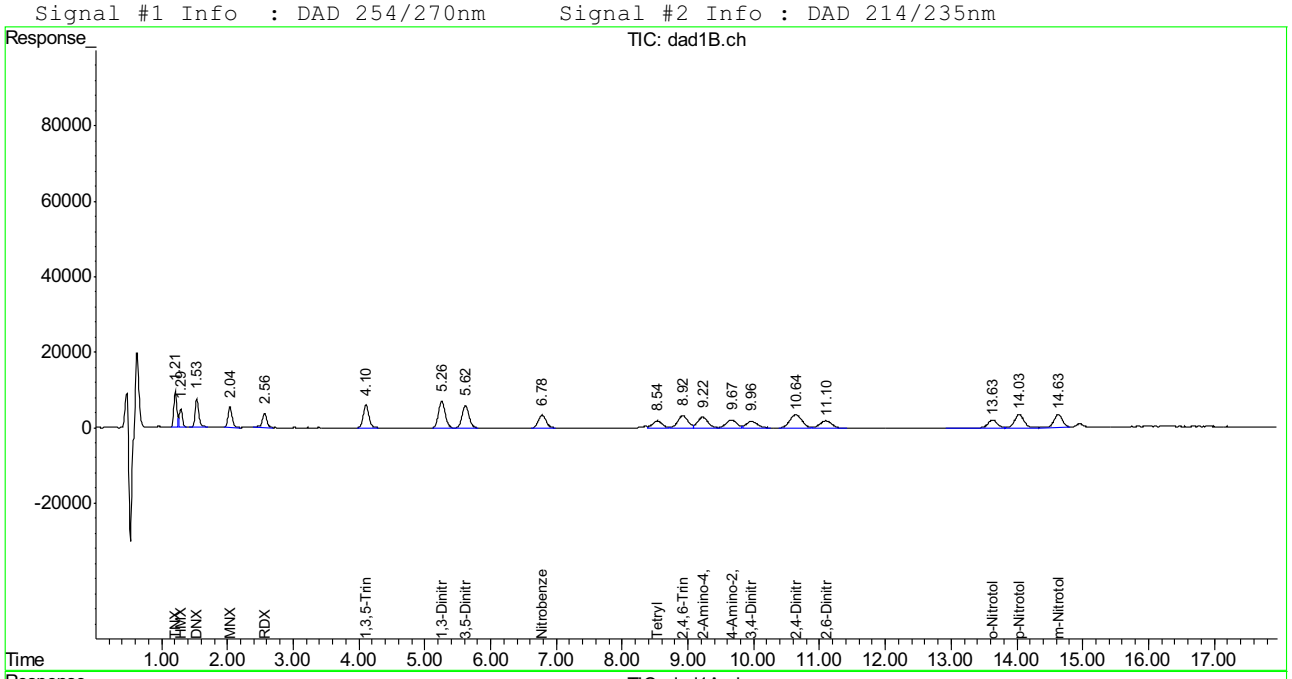
9.5.22
6

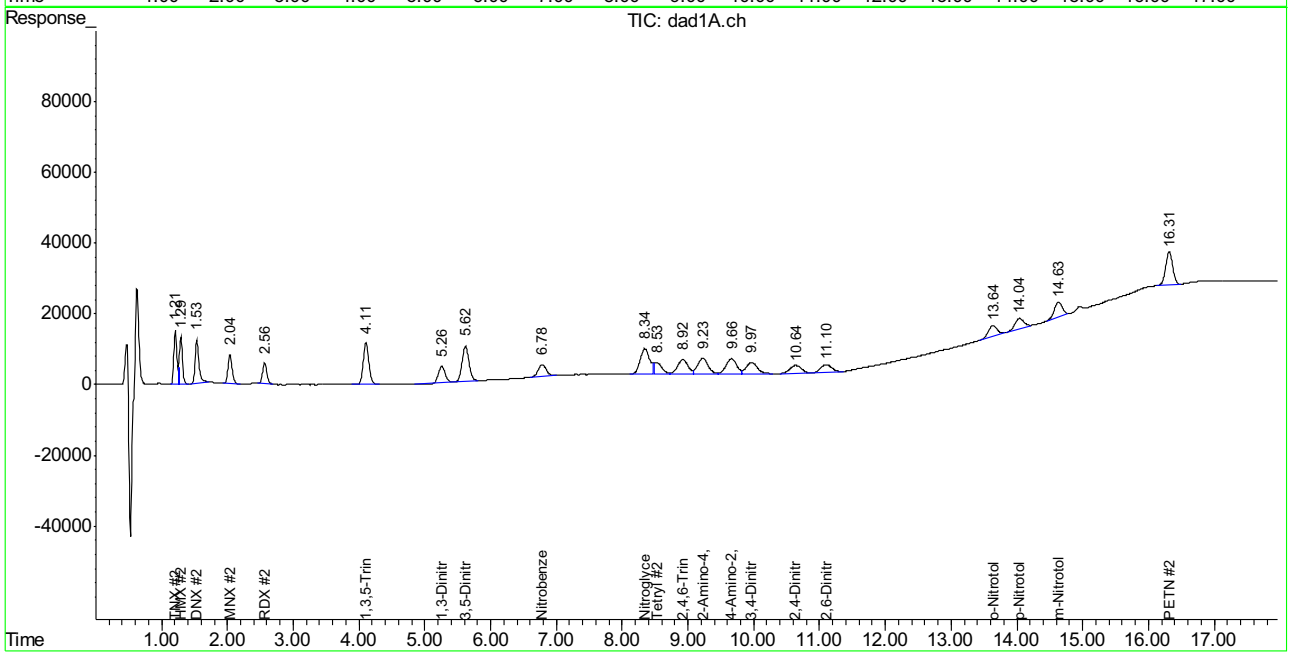
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380269.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\1003BPL\PP380269.D\dad1A.ch
Acq On : 03-Oct-2016, 11:54:27 Operator: kismetl
Sample : ic2032-100 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:30 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380269.D
Injection Time: 10/03/16 11:54
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
MNX		2	2.04	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Nitroglycerine	55-63-0	2	8.34	Poor instrument integration
Tetryl	479-45-8	1	8.54	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.92	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.22	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.67	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.64	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.10	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.63	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380270.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\1003BPL\PP380270.D\dad1A.ch
Acq On : 03-Oct-2016, 12:19:21 Operator: kismetl
Sample : ic2032-200 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:02 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.98	9.98	422623	781374	196.975m	228.520
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.39%#	45.70%#
	Target Compounds						
1)	TNX	1.21	1.21	635316	1080592	202.806m	232.493m
2)	HMX	1.29	1.29	325735	901054	197.133m	192.521m
3)	DNX	1.54	1.53	589123	929478	203.718	209.427m
4)	MNX	2.04	2.04	470485	744468	197.812	204.668
5)	RDX	2.56	2.56	379907	589162	208.693m	204.099m
6)	1,3,5-Trinitrobe	4.11	4.11	753952	1454579	192.238	193.673
7)	1,3-Dinitrobenze	5.27	5.27	1028778	686057	204.857	200.652
8)	3,5-Dinitroanili	5.63	5.63	891990	1504299	205.540	205.667
9)	Nitrobenzene	6.79	6.79	574978	574674	200.191	199.752m
10)	Nitroglycerin	0.00	8.35	0	1487514	N.D. d	1089.385
11)	Tetryl	8.54	8.54	358338	559273	135.518m	131.585
12)	2,4,6-Trinitroto	8.93	8.93	666007	903719	189.424	210.933
13)	2-Amino-4,6-Dini	9.23	9.23	608023	1008414	191.678	211.366
14)	4-Amino-2,6-Dini	9.67	9.67	440217	993300	185.703m	210.852
16)	2,4-Dinitrotolue	10.65	10.65	948112	589214	217.239	219.184
17)	2,6-Dinitrotolue	11.12	11.12	518885	574909	209.144	184.583
18)	o-Nitrotoluene	13.64	13.64	435406	613173	207.931	215.368m
19)	p-Nitrotoluene	14.04	14.04	685378	569940	204.197	213.756m
20)	m-Nitrotoluene	14.64	14.63	630981	781272	203.625	210.969m
21)	PETN	0.00	16.31	0	1451520	N.D. d	1039.926m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380270.D 8330-1003BPLUS.M Tue Oct 04 09:43:20 2016 Page 1

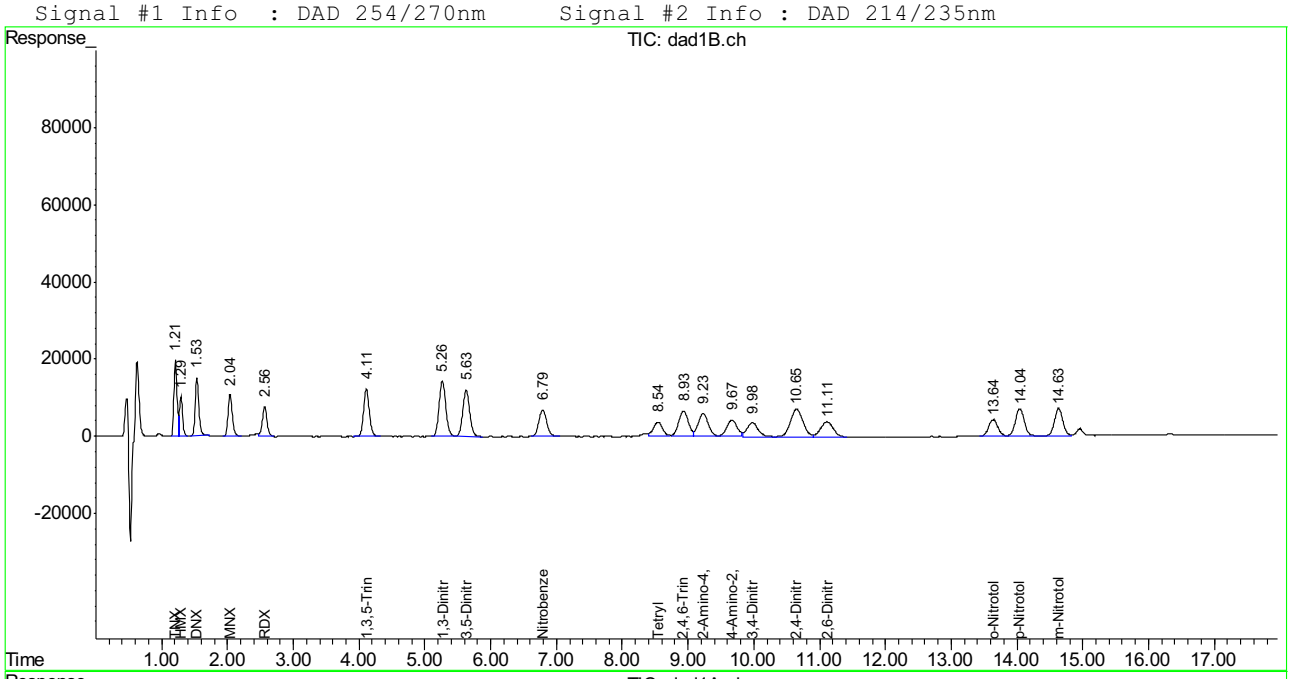
SGS ACCUTEST FA37761

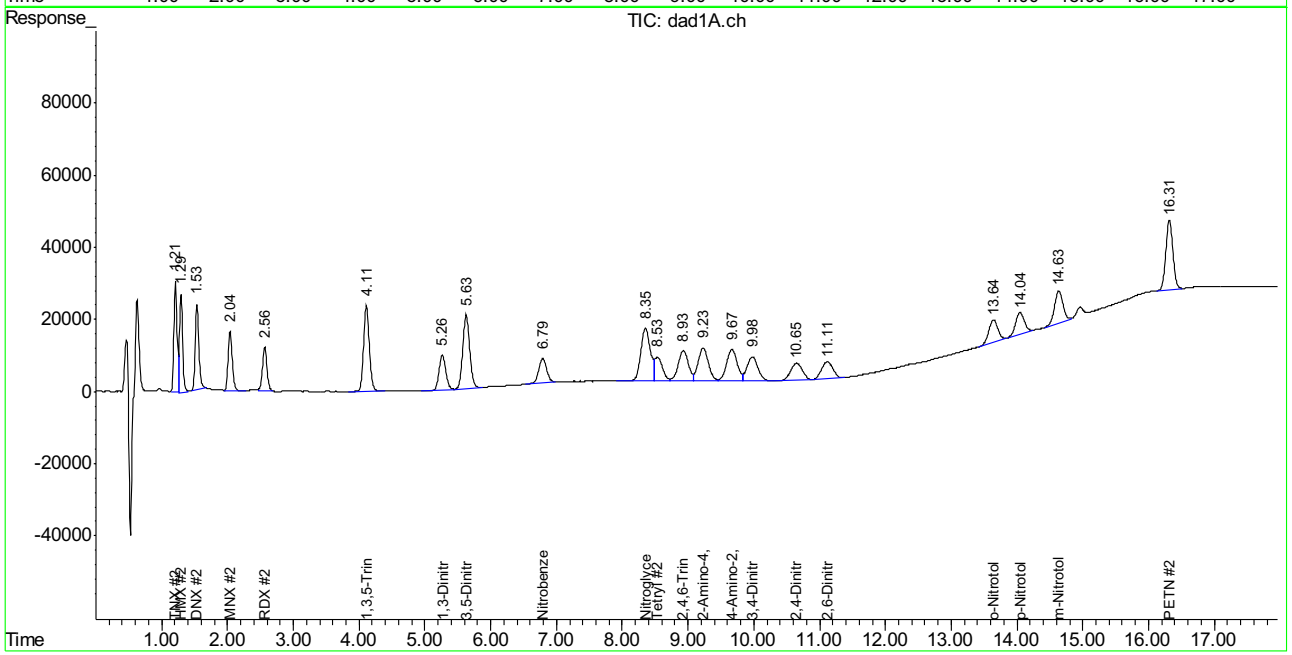
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380270.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\1003BPL\PP380270.D\dad1A.ch
Acq On : 03-Oct-2016, 12:19:21 Operator: kismetl
Sample : ic2032-200 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:38 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380270.D
Injection Time: 10/03/16 12:19
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Missed peak
TNX		2	1.21	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
HMX	2691-41-0	2	1.29	Poor instrument integration
DNX		2	1.53	Poor instrument integration
RDX	121-82-4	1	2.56	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
Tetryl	479-45-8	1	8.54	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.67	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.98	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.63	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380271.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\1003BPL\PP380271.D\dad1A.ch
Acq On : 03-Oct-2016, 12:45:17 Operator: kismetl
Sample : icc2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:14:06 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	1012178	1897790	471.753	548.016
	Spiked Amount 500.000	Range 70 - 136		Recovery =		94.35%	109.60%
	Target Compounds						
1)	TNX	1.21	1.21	1621002	2476862	517.458m	532.905m
2)	HMX	1.30	1.30	816660	2194366	494.239m	468.853m
3)	DNX	1.54	1.54	1416434	2336028	489.802	524.908
4)	MNX	2.04	2.04	1137451	1755463	478.232	482.610
5)	RDX	2.57	2.57	950756	1452643	522.275m	503.229m
6)	1,3,5-Trinitrobe	4.12	4.12	1820360	3576558	464.145	476.209
7)	1,3-Dinitrobenze	5.27	5.27	2505854	1676154	498.981	490.228m
8)	3,5-Dinitroanili	5.64	5.64	2188372	3650446	504.264	499.086
9)	Nitrobenzene	6.80	6.80	1449435	1436104	504.651	499.178m
10)	Nitroglycerin	0.00	8.37	0	3551451	N.D. d	2600.915
11)	Tetryl	8.56	8.55	924011	1345853	346.588m	314.229
12)	2,4,6-Trinitroto	8.95	8.95	1695421	2186222	482.208	510.276
13)	2-Amino-4,6-Dini	9.25	9.25	1574425	2421457	496.335	507.543
14)	4-Amino-2,6-Dini	9.69	9.69	1158568	2393727	488.734	508.126
16)	2,4-Dinitrotolue	10.67	10.67	2259839	1475394	517.792	548.837
17)	2,6-Dinitrotolue	11.13	11.13	1281685	1563982	516.600	502.141
18)	o-Nitrotoluene	13.65	13.65	1065209	1517756	508.697	533.088m
19)	p-Nitrotoluene	14.06	14.06	1668268	1451716	497.033	544.465m
20)	m-Nitrotoluene	14.65	14.65	1539869	1935732	496.933	522.710m
21)	PETN	0.00	16.33	0	3505530	N.D. d	2511.498m

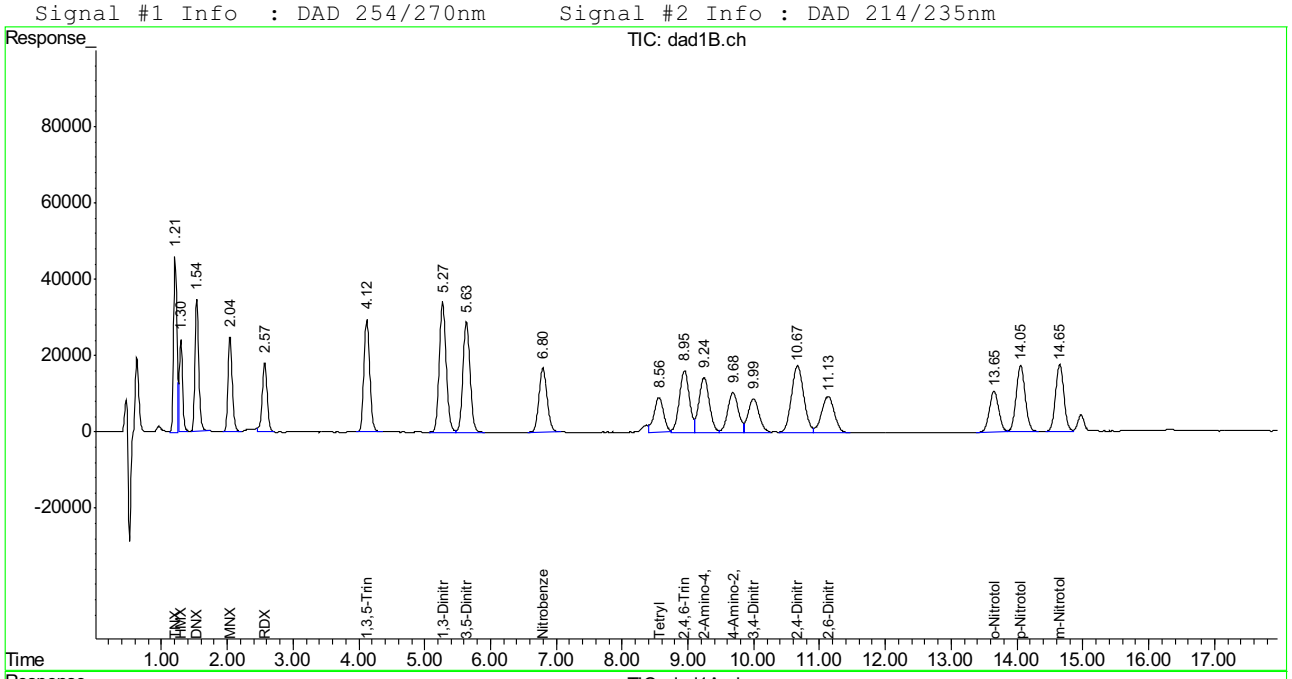
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380271.D 8330-1003BPLUS.M Tue Oct 04 09:43:21 2016 Page 1

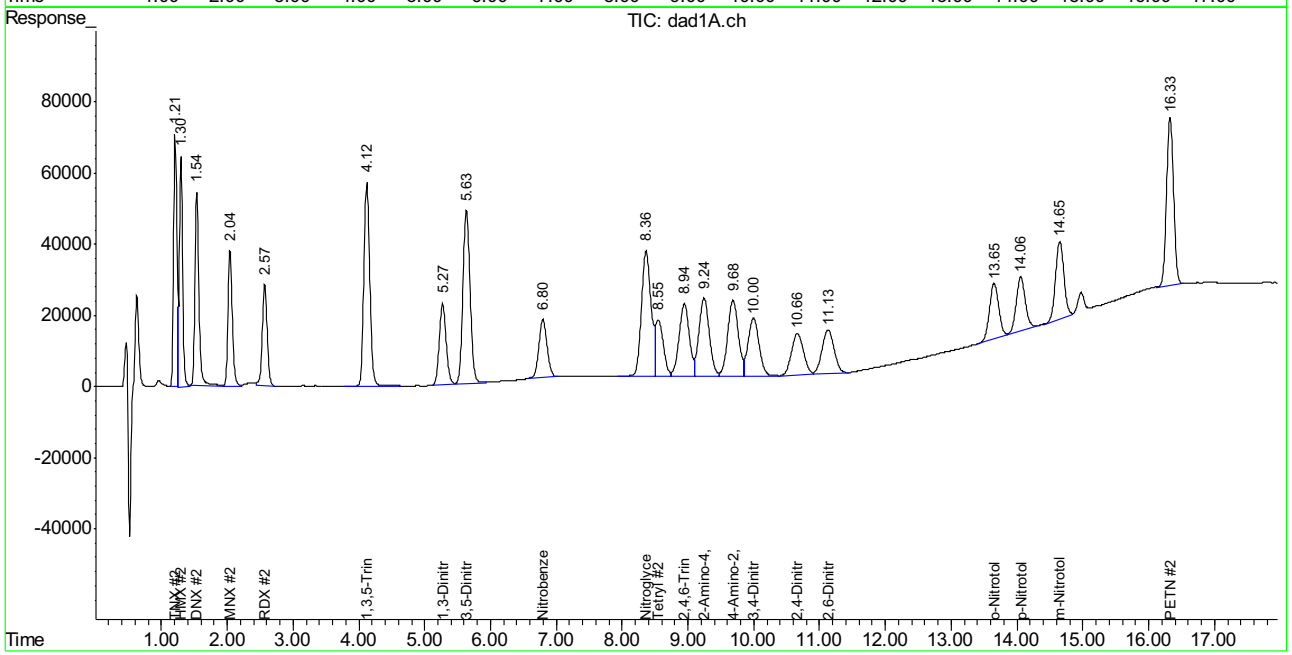
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380271.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\1003BPL\PP380271.D\dad1A.ch
Acq On : 03-Oct-2016, 12:45:17 Operator: kismetl
Sample : icc2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:39 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-ICC2032 **Method:** SW846 8330A
Lab FileID: PP380271.D **Analyst approved:** 10/04/16 11:15 Kismet Lugo
Injection Time: 10/03/16 12:45 **Supervisor approved:** 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.21	Missed peak
TNX		2	1.21	Poor instrument integration
HMX	2691-41-0	1	1.30	Poor instrument integration
HMX	2691-41-0	2	1.30	Poor instrument integration
RDX	121-82-4	1	2.57	Poor instrument integration
RDX	121-82-4	2	2.57	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.27	Poor instrument integration
Nitrobenzene	98-95-3	2	6.80	Poor instrument integration
Tetryl	479-45-8	1	8.56	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380272.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\1003BPL\PP380272.D\dad1A.ch
Acq On : 03-Oct-2016, 13:10:12 Operator: kismetl
Sample : ic2032-1000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:36:38 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.99	9.99	2015598	3727201	939.424	1055.137
	Spiked Amount 500.000	Range 70 - 136		Recovery =		187.88%#	211.03%#
	Target Compounds						
1)	TNX	1.20	1.20	3260177	4884146	1040.718m	1050.841m
2)	HMX	1.29	1.29	1629220	4268355	985.997m	911.986m
3)	DNX	1.53	1.53	2779389	4410068	961.112	986.997
4)	MNX	2.03	2.03	2155213	3451694	906.142	948.936
5)	RDX	2.56	2.56	1802268	2829947	990.032	980.358m
6)	1,3,5-Trinitrobe	4.11	4.11	3588843	6969280	915.062	927.940
7)	1,3-Dinitrobenze	5.27	5.27	4936613	3257811	983.009	952.817
8)	3,5-Dinitroanili	5.63	5.63	4291189	7164858	988.814	979.574
9)	Nitrobenzene	6.79	6.79	2865899	2862128	997.824	994.852
10)	Nitroglycerin	0.00	8.36	0	6941647	N.D. d	5083.736
11)	Tetryl	8.55	8.54	1827986	2615485	676.991m	603.359
12)	2,4,6-Trinitroto	8.94	8.94	3355676	4265146	954.414	995.508
13)	2-Amino-4,6-Dini	9.23	9.23	3107739	4719260	979.710	989.168
14)	4-Amino-2,6-Dini	9.68	9.68	2274321	4661207	959.407	989.453
16)	2,4-Dinitrotolue	10.66	10.66	4435267	2934733	1016.242	1091.701
17)	2,6-Dinitrotolue	11.12	11.12	2535541	3183961	1021.984	1022.260
18)	o-Nitrotoluene	13.65	13.64	2075957	2987691	991.386	1049.381m
19)	p-Nitrotoluene	14.05	14.05	3289102	2867542	979.935	1075.469m
20)	m-Nitrotoluene	14.65	14.64	3036728	3819184	979.986	1031.303m
21)	PETN	0.00	16.32	0	6953888	N.D. d	4982.036m

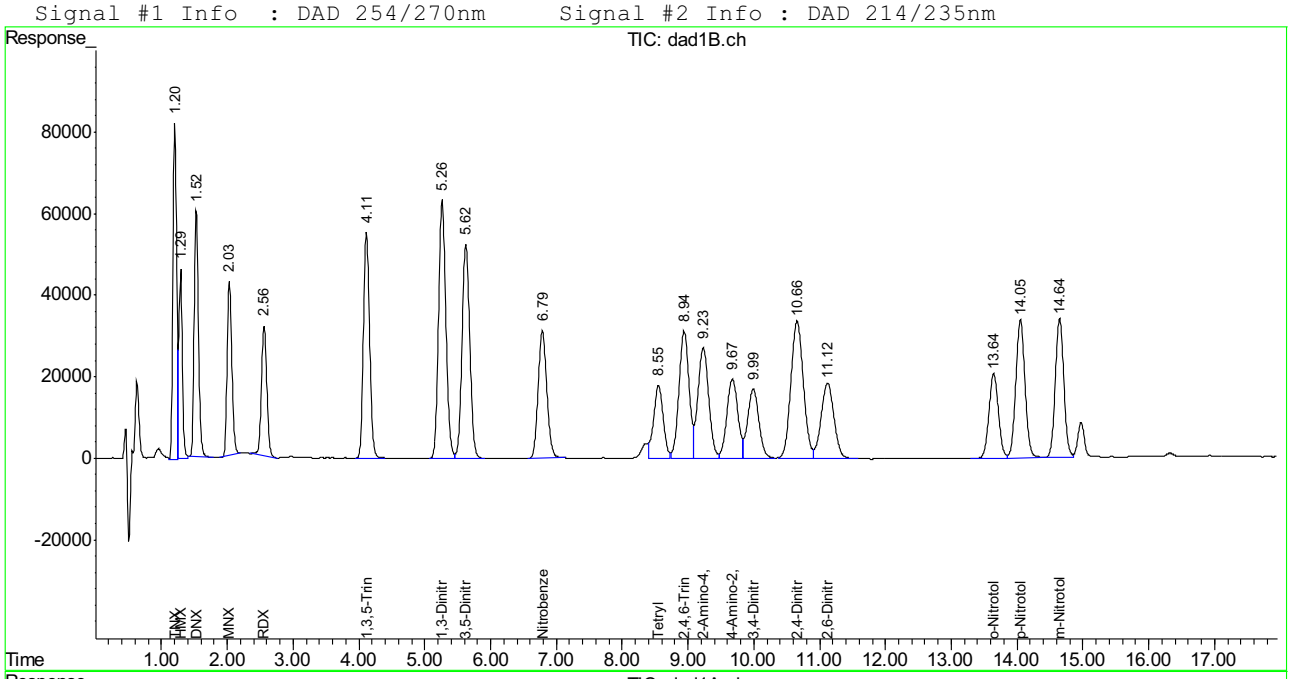
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380272.D 8330-1003BPLUS.M Tue Oct 04 09:45:31 2016 Page 1

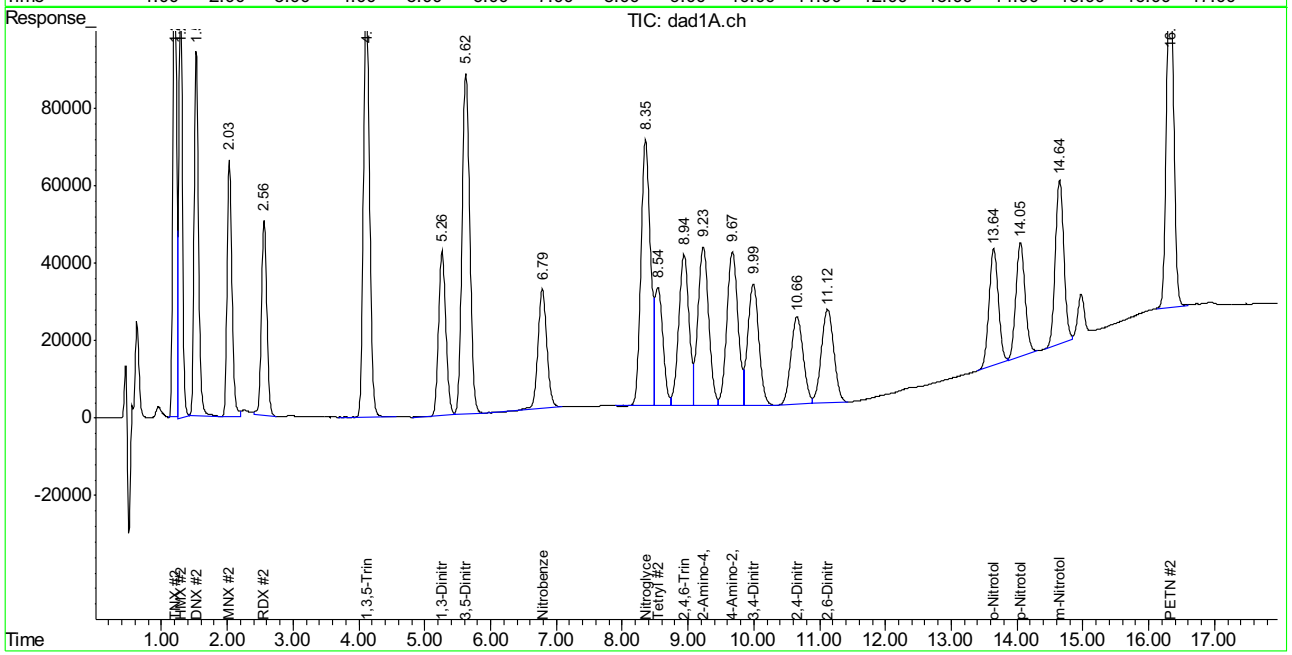
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380272.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\1003BPL\PP380272.D\dad1A.ch
Acq On : 03-Oct-2016, 13:10:12 Operator: kismetl
Sample : ic2032-1000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:38 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380272.D
Injection Time: 10/03/16 13:10
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
HMX	2691-41-0	1	1.29	Poor instrument integration
HMX	2691-41-0	2	1.29	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Tetryl	479-45-8	1	8.55	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.32	Poor instrument integration

PP380273.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380273.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\1003BPL\PP380273.D\dad1A.ch
Acq On : 03-Oct-2016, 13:35:09 Operator: kismetl
Sample : ic2032-2000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 13:54:03 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	4231933	7677956	1972.408	2089.781
	Spiked Amount 500.000	Range 70 - 136		Recovery =		394.48%#	417.96%#
	Target Compounds						
1)	TNX	1.19	1.19	6714942	9084024	2143.552m	1954.459m
2)	HMX	1.28	1.28	3243317	8923366	1962.841m	1906.586m
3)	DNX	1.52	1.52	5692630	8864110	1968.510	1967.202
4)	MNX	2.02	2.02	4623831	7125253	1944.052	1958.868
5)	RDX	2.55	2.55	3708738	5946973	2037.304	2060.167
6)	1,3,5-Trinitrobe	4.09	4.09	7415269	14374676	1890.701	1913.948
7)	1,3-Dinitrobenze	5.24	5.24	10205579	6831582	2032.197	1998.044
8)	3,5-Dinitroanili	5.60	5.60	8923154	14981072	2056.152	2048.202
9)	Nitrobenzene	6.76	6.75	5916198	5918810	2059.850	2057.328m
10)	Nitroglycerin	0.00	8.33	0	14565961	N.D. d	10667.424m
11)	Tetryl	8.52	8.47	4242741	4888669	1522.068	1104.837m
12)	2,4,6-Trinitroto	8.92	8.91	7299741	9166648	2076.177	2139.546
13)	2-Amino-4,6-Dini	9.19	9.19	6157195	9501487	1941.047	1991.535
14)	4-Amino-2,6-Dini	9.64	9.64	4747036	9656704	2002.506	2049.868
16)	2,4-Dinitrotolue	10.62	10.62	9267483	6174967	2123.436	2297.048
17)	2,6-Dinitrotolue	11.08	11.08	5234610	6782715	2109.881	2177.695
18)	o-Nitrotoluene	13.62	13.61	4236492	6172504	2023.164	2167.998m
19)	p-Nitrotoluene	14.02	14.02	6784402	5913837	2021.303	2217.979m
20)	m-Nitrotoluene	14.62	14.62	6284148	7746277	2027.966	2091.744m
21)	PETN	0.00	16.31	0	14320957	N.D. d	10260.091m

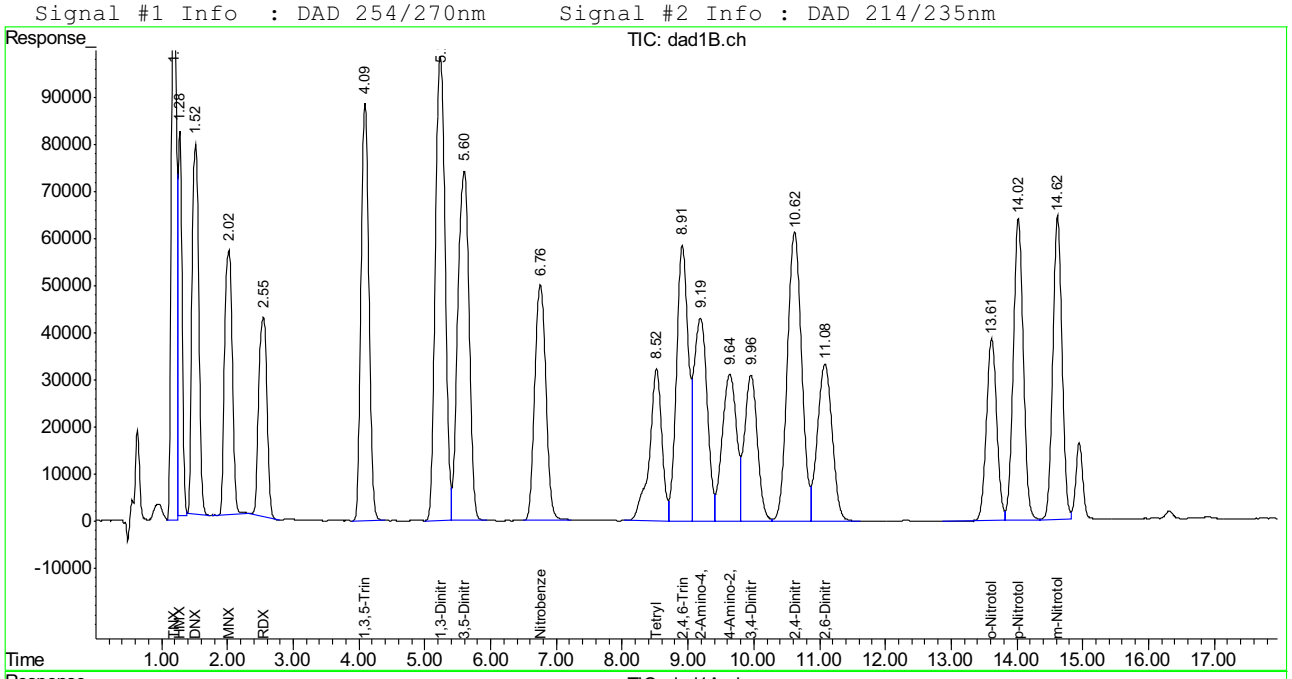
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380273.D 8330-1003BPLUS.M Tue Oct 04 09:43:23 2016 Page 1

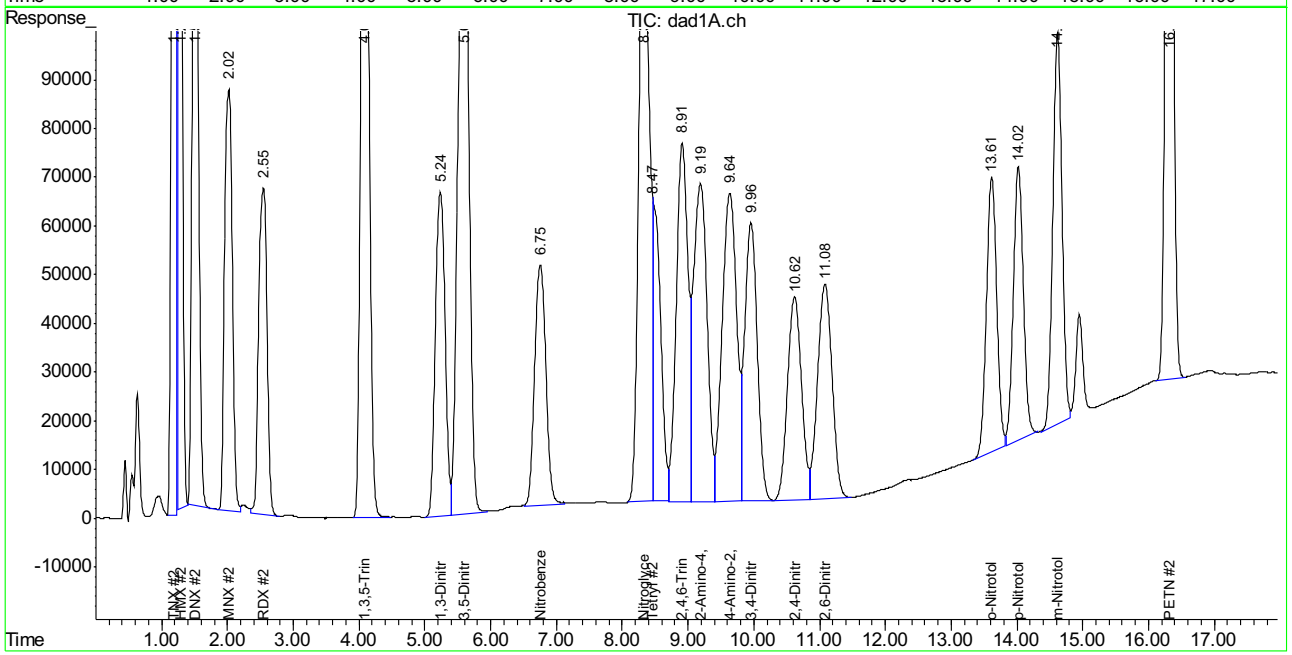
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380273.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\1003BPL\PP380273.D\dad1A.ch
Acq On : 03-Oct-2016, 13:35:09 Operator: kismetl
Sample : ic2032-2000 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 3 13:57 2016 Quant Results File: 8330BPLUS.RES

Quant Method : C:\MSDCHEM\2\METHODS\8330BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 13:13:43 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS 244 of 278 ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-IC2032
Lab FileID: PP380273.D
Injection Time: 10/03/16 13:35
Method: SW846 8330A
Analyst approved: 10/04/16 11:15 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.19	Poor instrument integration
TNX		2	1.19	Poor instrument integration
HMX	2691-41-0	1	1.28	Poor instrument integration
HMX	2691-41-0	2	1.28	Poor instrument integration
Nitrobenzene	98-95-3	2	6.75	Poor instrument integration
Nitroglycerine	55-63-0	2	8.33	Poor instrument integration
Tetryl	479-45-8	2	8.47	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.61	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.02	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.62	Poor instrument integration
PETN	78-11-5	2	16.31	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380274.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\1003BPL\PP380274.D\dad1A.ch
Acq On : 03-Oct-2016, 14:06:46 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 14:35:15 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.20	1.20	1498339	2349531	484.073m	476.114m
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	1.53	1.53	1397559	2310547	482.342	483.431
4)	MNX	2.03	2.03	1179841	1839624	520.039	520.026
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	8.35	0	3369615	N.D. d	2327.251
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	16.32	0	3736279	N.D. d	2561.573m

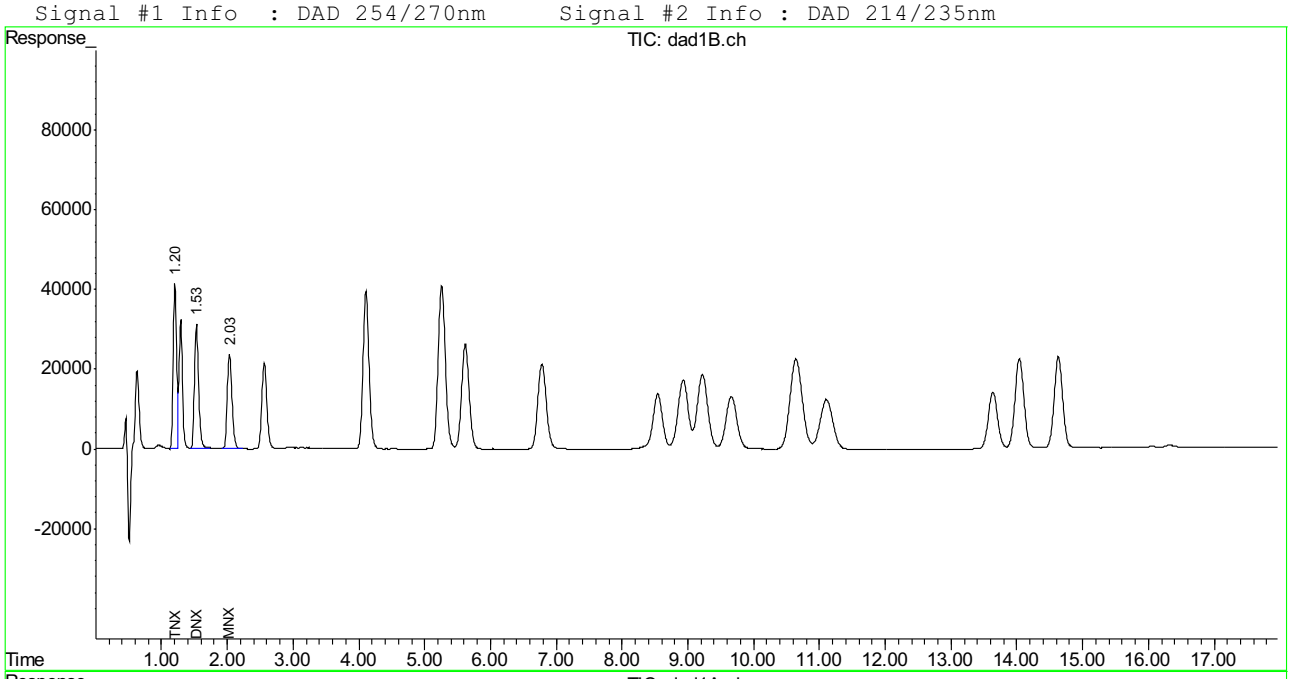
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380274.D 8330-1003BPLUS.M Tue Oct 04 11:26:00 2016 Page 1

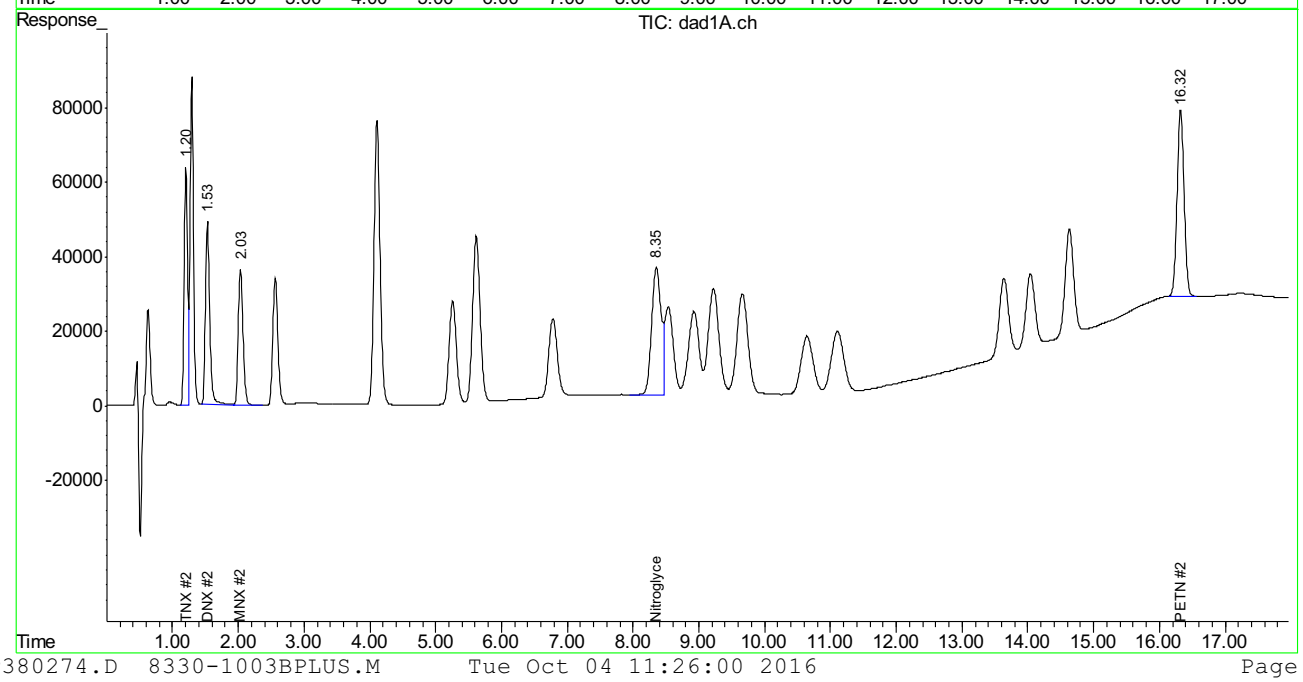
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380274.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\1003BPL\PP380274.D\dad1A.ch
Acq On : 03-Oct-2016, 14:06:46 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 4 9:22 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2032-ICV2032
Lab FileID: PP380274.D
Injection Time: 10/03/16 14:06
Method: SW846 8330A
Analyst approved: 10/04/16 11:26 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
PETN	78-11-5	2	16.32	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/04/16 12:15

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380275.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\1003BPL\PP380275.D\dad1A.ch
Acq On : 03-Oct-2016, 14:57:09 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 03 15:19:45 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.30	1.30	814423	2227340	507.406	507.386
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.57	2.57	917388	1449572	499.915	499.539
6)	1,3,5-Trinitrobe	4.12	4.12	1975988	3832384	528.353	528.905
7)	1,3-Dinitrobenze	5.27	5.27	2463900	1653877	485.088	485.586
8)	3,5-Dinitroanili	5.63	5.63	1981503	3319565	442.393	440.057
9)	Nitrobenzene	6.79	6.79	1530185	1541080	508.240	547.705m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	8.55	8.55	1435727	2420012	745.532	935.831
12)	2,4,6-Trinitroto	8.94	8.94	1641124	2065145	475.950	478.647
13)	2-Amino-4,6-Dini	9.24	9.24	1645185	2555363	524.433	519.347
14)	4-Amino-2,6-Dini	9.68	9.68	1184799	2525365	514.194	526.673
16)	2,4-Dinitrotolue	10.66	10.66	2343221	1482603	512.398	498.467
17)	2,6-Dinitrotolue	11.12	11.12	1338663	1620600	534.602	525.655
18)	o-Nitrotoluene	13.65	13.65	1121322	1608600	520.022	525.429m
19)	p-Nitrotoluene	14.05	14.06	1697462	1458582	500.434	508.328
20)	m-Nitrotoluene	14.64	14.64	1620168	1985747	511.280m	520.146m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

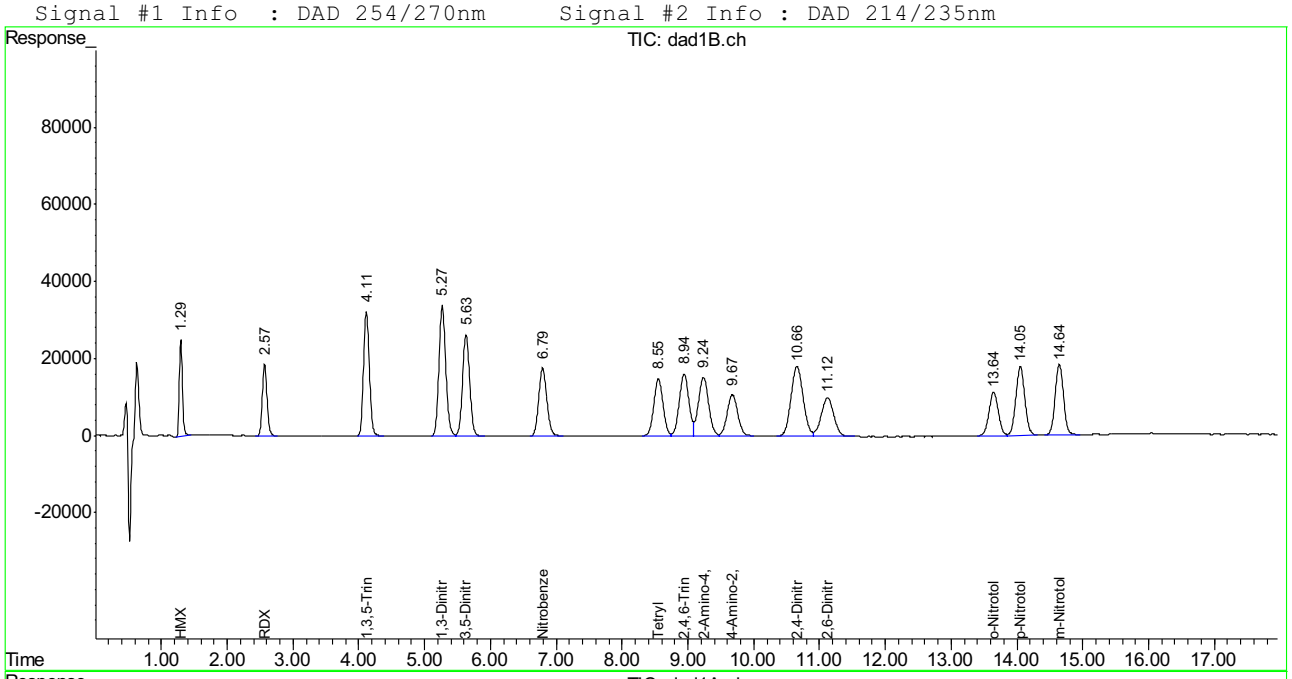
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380275.D 8330-1003BPLUS.M Tue Oct 04 11:26:01 2016 Page 1

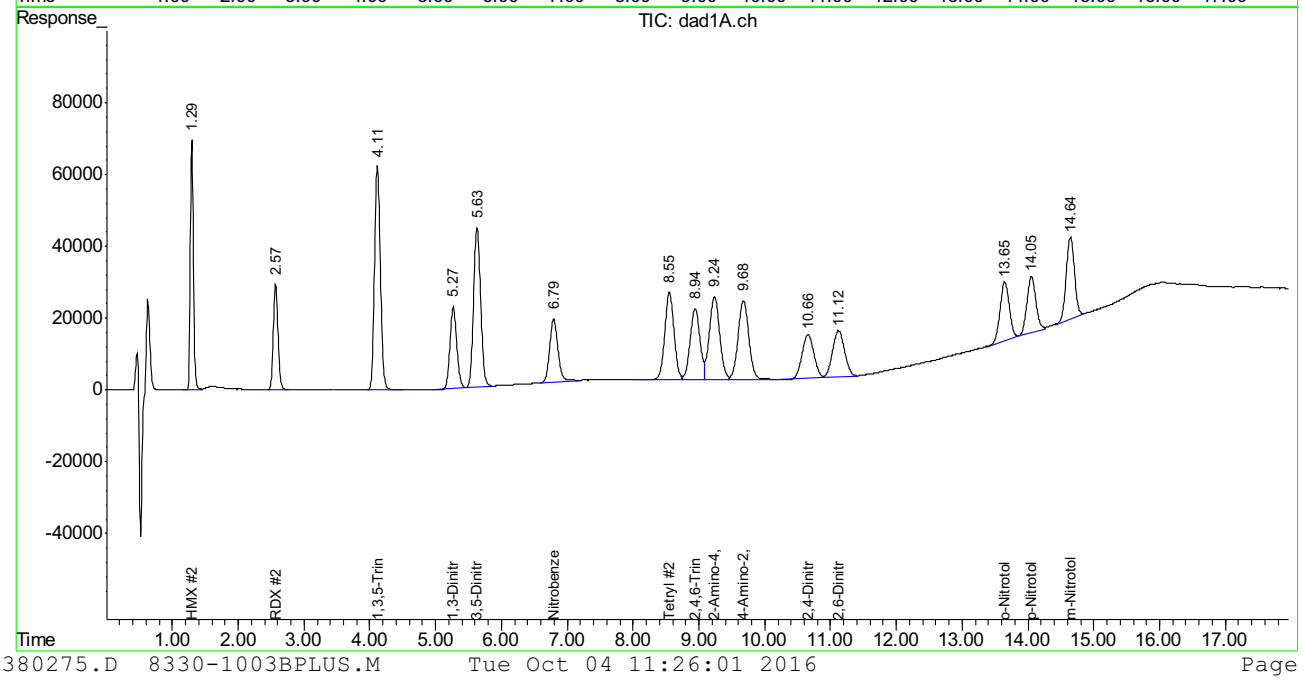
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1003BPL\PP380275.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\1003BPL\PP380275.D\dad1A.ch
Acq On : 03-Oct-2016, 14:57:09 Operator: kismetl
Sample : icv2032-500 Inst : G1315B
Misc : OP62014,GPP2032,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 4 9:24 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 03 14:00:10 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2032-ICV2032
Lab FileID: PP380275.D
Injection Time: 10/03/16 14:57
Method: SW846 8330A
Analyst approved: 10/04/16 11:26 Kismet Lugo
Supervisor approved: 10/04/16 12:15 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380389.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380389.D\dad1A.ch
Acq On : 21-Oct-2016, 12:50:32 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:31:48 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.03	10.03	2007511	3664450	970.791	939.906
	Spiked Amount 500.000	Range 70 - 136		Recovery =		194.16%#	187.98%#
	Target Compounds						
1)	TNX	1.20	1.20	3345266	4981360	1080.765m	1009.434m
2)	HMX	1.30	1.30	1602413	4342087	998.343	989.123
3)	DNX	1.53	1.53	2786775	4559907	961.805	954.061
4)	MNX	2.03	2.03	2255058	3566239	993.963	1008.106
5)	RDX	2.56	2.56	2170061	3193311	1182.538m	1100.453m
6)	1,3,5-Trinitrobe	4.12	4.12	3593141	6919222	960.758	954.918
7)	1,3-Dinitrobenze	5.27	5.27	4926737	3250225	969.966	954.281
8)	3,5-Dinitroanili	5.62	5.62	4328636	7284464	966.418	965.662
9)	Nitrobenzene	6.80	6.79	2676374	2878008	888.939	1022.854m
10)	Nitroglycerin	0.00	8.37	0	6955105	N.D. d	4803.597
11)	Tetryl	8.58	8.57	1644873	2385958	854.135m	922.662
12)	2,4,6-Trinitroto	8.97	8.97	3341666	4262057	969.131	987.834
13)	2-Amino-4,6-Dini	9.25	9.25	3133499	4795790	998.860	974.687
14)	4-Amino-2,6-Dini	9.69	9.69	2341857	4791223	1016.348	999.226
16)	2,4-Dinitrotolue	10.68	10.68	4518873	3060099	988.154	1028.837
17)	2,6-Dinitrotolue	11.15	11.16	2503733	3185757	999.879	1000.969
18)	o-Nitrotoluene	13.67	13.67	1927961	2760964	894.107	901.835m
19)	p-Nitrotoluene	14.08	14.07	3245519	2868133	956.821	999.569m
20)	m-Nitrotoluene	14.67	14.66	2957475	3376632	933.296	884.473m
21)	PETN	0.00	16.35	0	7031947	N.D. d	4821.066m

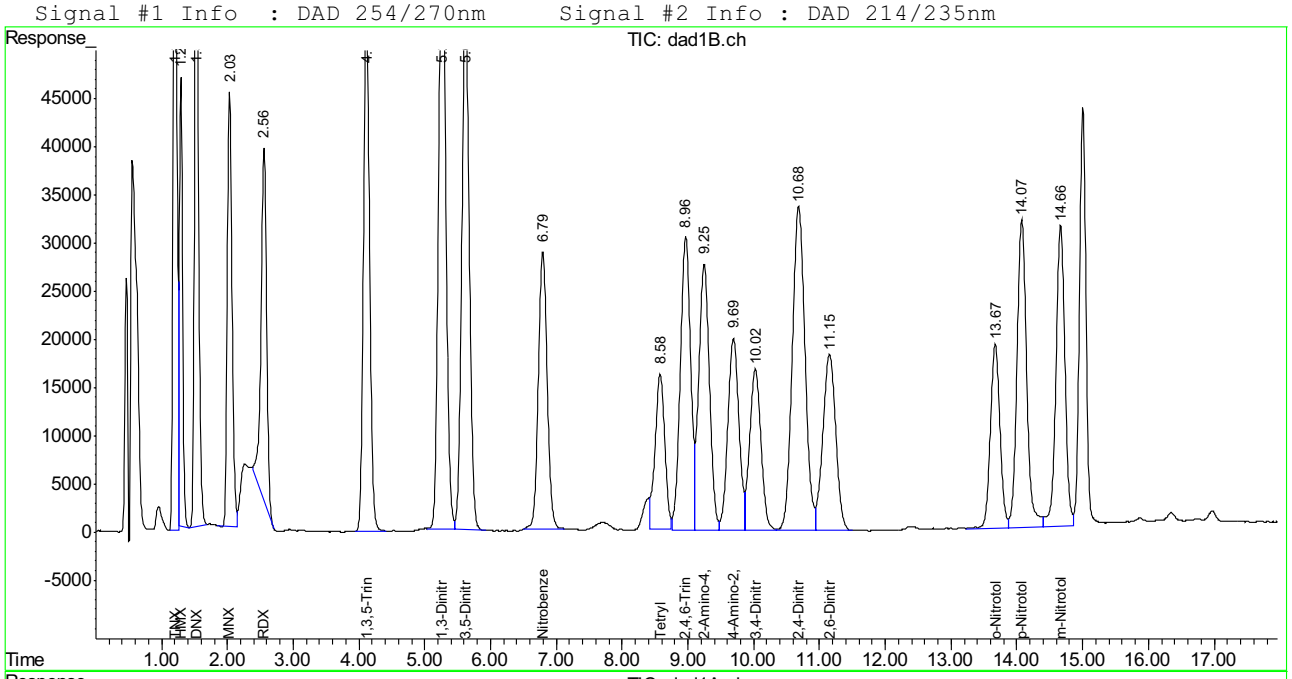
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380389.D 8330-1003BPLUS.M Mon Oct 24 09:19:42 2016 Page 1

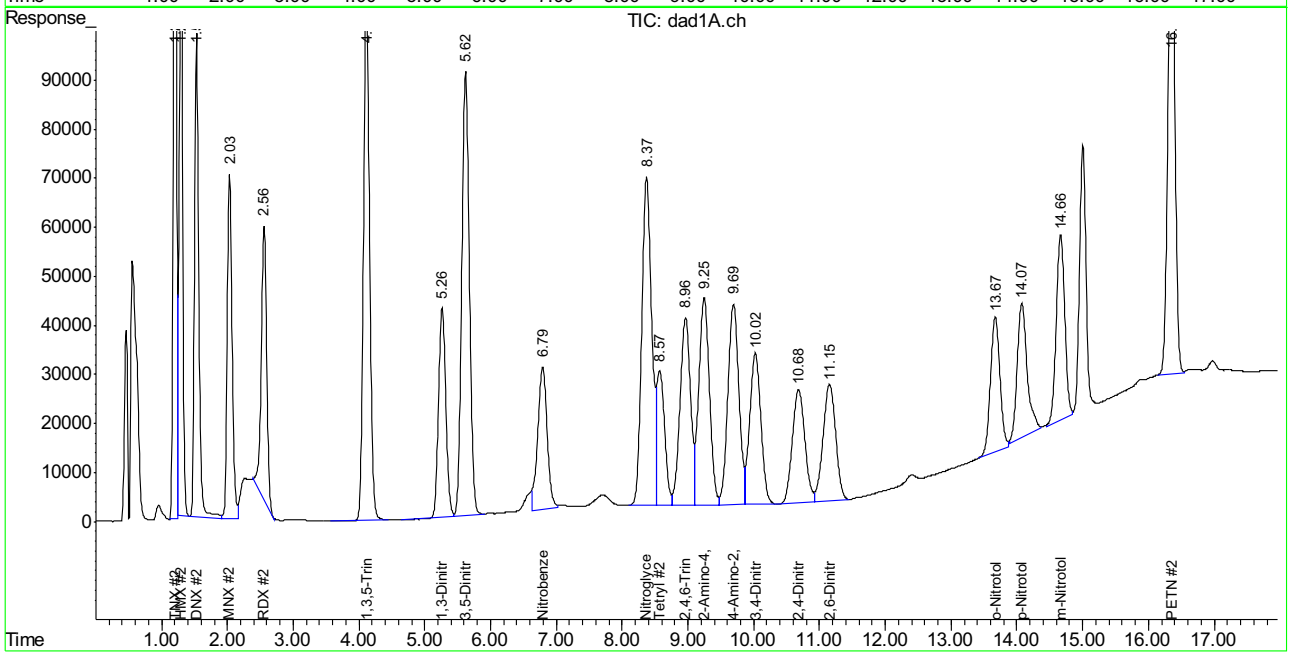
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380389.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380389.D\dad1A.ch
Acq On : 21-Oct-2016, 12:50:32 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 6:50 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2037-CC2032 **Method:** SW846 8330A
Lab FileID: PP380389.D **Analyst approved:** 10/24/16 10:01 Kismet Lugo
Injection Time: 10/21/16 12:50 **Supervisor approved:** 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
RDX	121-82-4	1	2.56	Poor instrument integration
RDX	121-82-4	2	2.56	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Overlapping peak
Tetryl	479-45-8	1	8.58	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.67	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.07	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Poor instrument integration
PETN	78-11-5	2	16.35	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380401.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380401.D\dad1A.ch
Acq On : 21-Oct-2016, 17:55:19 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:32:00 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	1999547	3665979	966.940	940.298
	Spiked Amount 500.000	Range 70 - 136		Recovery =		193.39%#	188.06%#
	Target Compounds						
1)	TNX	1.20	1.20	3293479	4908593	1064.035m	994.688m
2)	HMX	1.29	1.29	1580328	4309337	984.583	981.663
3)	DNX	1.53	1.53	2812483	4553619	970.678	952.745
4)	MNX	2.03	2.03	2219193	3478646	978.154	983.345
5)	RDX	2.55	2.55	2132486	3187426	1162.062m	1098.424m
6)	1,3,5-Trinitrobe	4.10	4.10	3559592	6873681	951.787	948.632
7)	1,3-Dinitrobenze	5.25	5.25	4890501	3215612	962.832	944.118
8)	3,5-Dinitroanili	5.61	5.61	4312434	7235231	962.801	959.136
9)	Nitrobenzene	6.78	6.78	2681012	2859278	890.479	1016.197m
10)	Nitroglycerin	0.00	8.35	0	7011061	N.D. d	4842.244
11)	Tetryl	8.55	8.54	1665626	2306463	864.912m	891.920
12)	2,4,6-Trinitroto	8.94	8.94	3313253	4238731	960.891	982.428
13)	2-Amino-4,6-Dini	9.22	9.22	3112261	4777083	992.090	970.885
14)	4-Amino-2,6-Dini	9.67	9.66	2325665	4771406	1009.321	995.093
16)	2,4-Dinitrotolue	10.66	10.66	4477406	3050385	979.086	1025.571
17)	2,6-Dinitrotolue	11.12	11.12	2500457	3199308	998.571	1004.963
18)	o-Nitrotoluene	13.65	13.65	1963309	2722911	910.500	889.405m
19)	p-Nitrotoluene	14.06	14.06	3224195	2888162	950.535	1006.549m
20)	m-Nitrotoluene	14.65	14.65	2865808	3406172	904.369	892.211m
21)	PETN	0.00	16.33	0	6932198	N.D. d	4752.678m

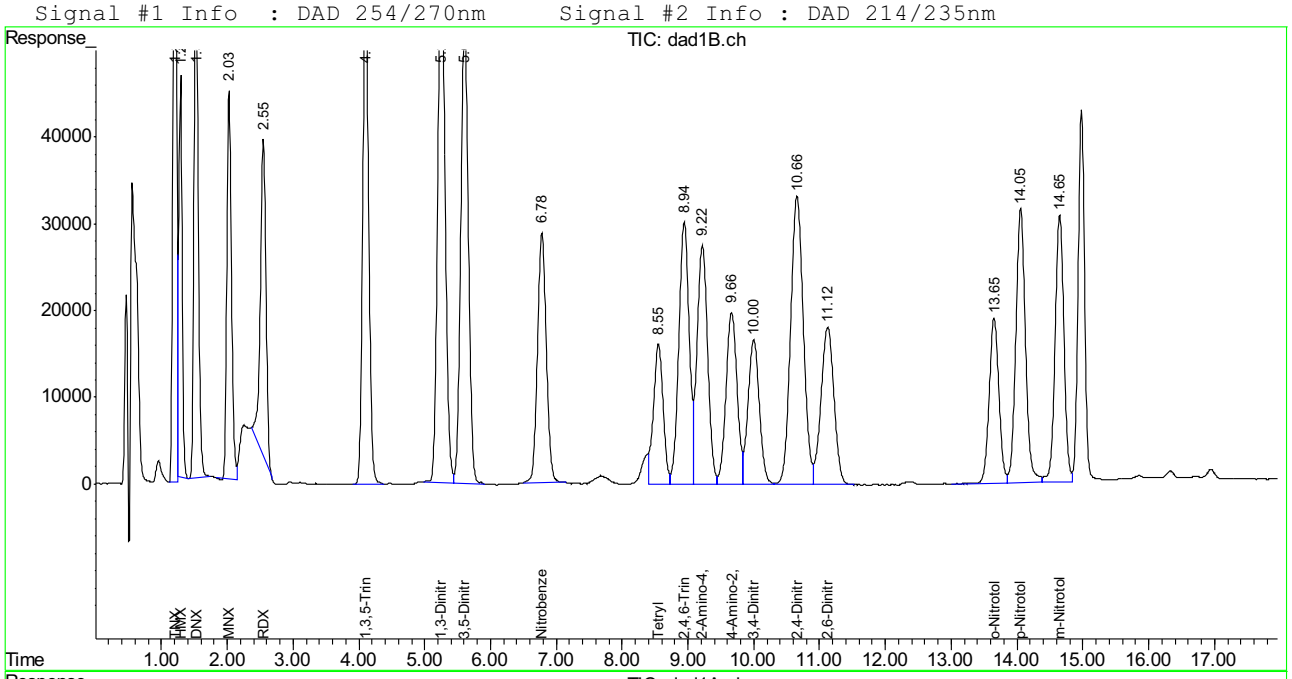
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380401.D 8330-1003BPLUS.M Mon Oct 24 09:19:54 2016 Page 1

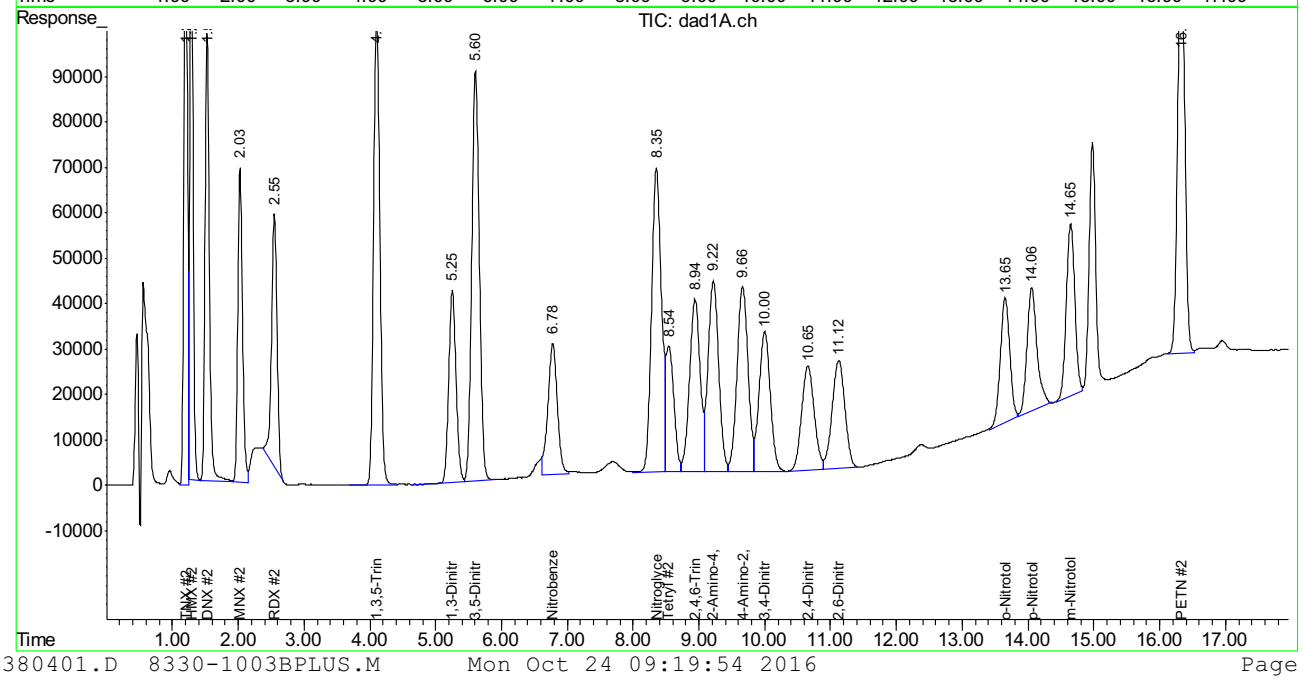
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380401.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380401.D\dad1A.ch
Acq On : 21-Oct-2016, 17:55:19 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 7:42 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2037-CC2032 **Method:** SW846 8330A
Lab FileID: PP380401.D **Analyst approved:** 10/24/16 10:01 Kismet Lugo
Injection Time: 10/21/16 17:55 **Supervisor approved:** 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
RDX	121-82-4	1	2.55	Poor instrument integration
RDX	121-82-4	2	2.55	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Overlapping peak
Tetryl	479-45-8	1	8.55	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/27/16 13:01

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380413.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380413.D\dad1A.ch
Acq On : 21-Oct-2016, 22:54:31 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 06:32:12 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.98	9.98	1960451	3612639	948.034	926.617
	Spiked Amount 500.000	Range 70 - 136		Recovery =		189.61%#	185.32%#
	Target Compounds						
1)	TNX	1.20	1.20	3362842	5025475	1086.444m	1018.374m
2)	HMX	1.29	1.29	1586632	4350665	988.511	991.077
3)	DNX	1.52	1.52	2769376	4480742	955.800	937.497
4)	MNX	2.02	2.02	2206285	3431323	972.465	969.968
5)	RDX	2.54	2.54	2205076	3140200	1201.619m	1082.150m
6)	1,3,5-Trinitrobe	4.10	4.10	3535862	6837322	945.442	943.615
7)	1,3-Dinitrobenze	5.25	5.25	4863488	3265619	957.514	958.801
8)	3,5-Dinitroanili	5.59	5.59	4272131	7193646	953.803	953.623
9)	Nitrobenzene	6.77	6.76	2641094	2887122	877.221	1026.093m
10)	Nitroglycerin	0.00	8.33	0	6978104	N.D. d	4819.482
11)	Tetryl	8.53	8.52	1646848	2262698	855.161m	874.997
12)	2,4,6-Trinitroto	8.92	8.92	3280779	4191099	951.473	971.388
13)	2-Amino-4,6-Dini	9.20	9.20	3087803	4731523	984.294	961.626
14)	4-Amino-2,6-Dini	9.64	9.64	2293449	4715515	995.339	983.437
16)	2,4-Dinitrotolue	10.63	10.63	4427239	3027403	968.116	1017.845
17)	2,6-Dinitrotolue	11.10	11.10	2475692	3182736	988.681	1000.079
18)	o-Nitrotoluene	13.64	13.64	2000110	2717998	927.567	887.801m
19)	p-Nitrotoluene	14.04	14.04	3289315	2909218	969.733	1013.888m
20)	m-Nitrotoluene	14.64	14.64	2844177	3380797	897.543	885.564m
21)	PETN	0.00	16.32	0	6839877	N.D. d	4689.383m

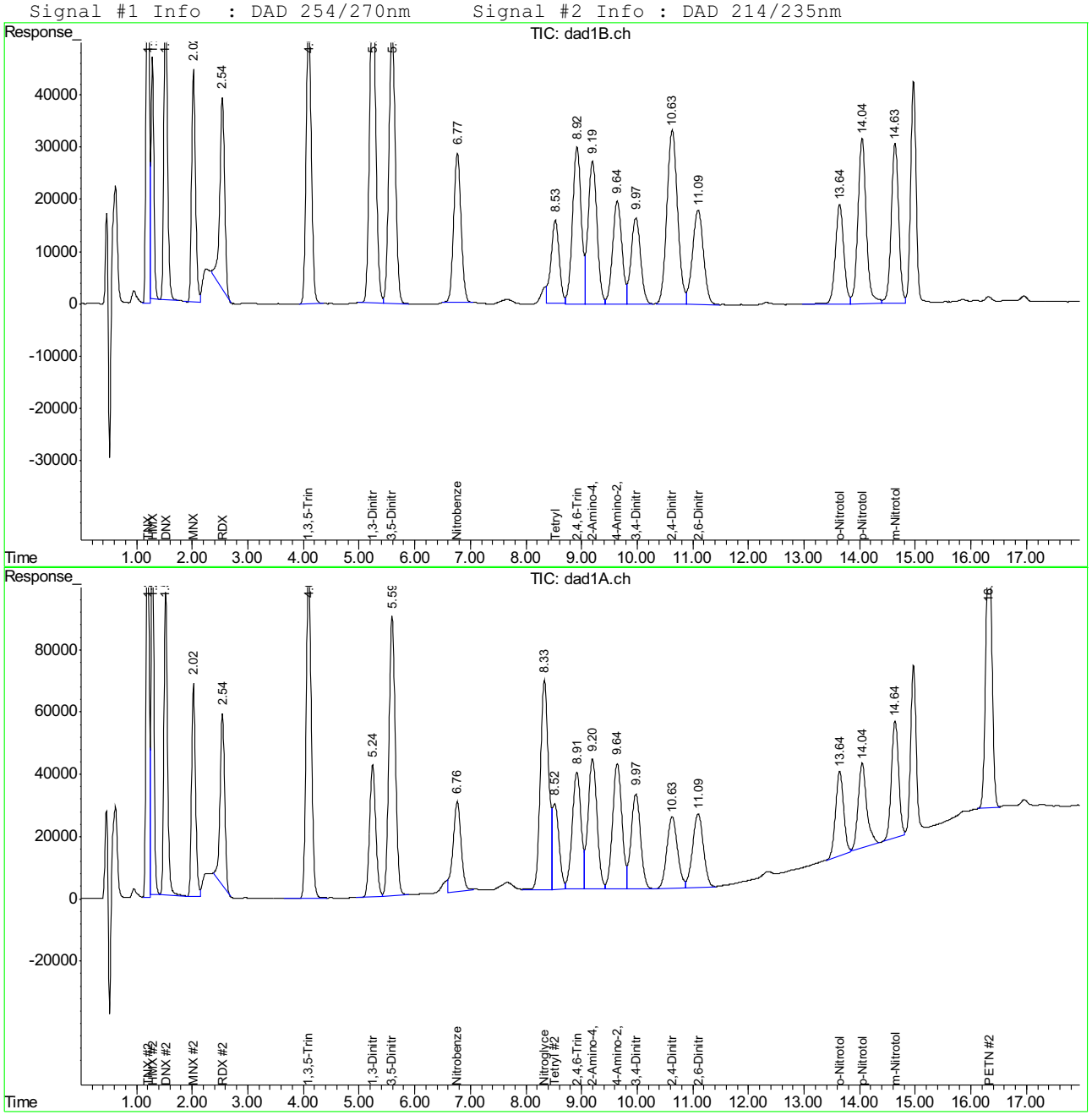
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380413.D 8330-1003BPLUS.M Mon Oct 24 09:20:06 2016 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1021BPL\PP380413.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1021BPL\PP380413.D\dad1A.ch
Acq On : 21-Oct-2016, 22:54:31 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62296,GPP2037,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 7:45 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Mon Oct 24 06:31:15 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm



SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2037-CC2032 **Method:** SW846 8330A
Lab FileID: PP380413.D **Analyst approved:** 10/24/16 10:01 Kismet Lugo
Injection Time: 10/21/16 22:54 **Supervisor approved:** 10/27/16 13:01 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.20	Poor instrument integration
TNX		2	1.20	Poor instrument integration
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
Nitrobenzene	98-95-3	2	6.76	Overlapping peak
Tetryl	479-45-8	1	8.53	Overlapping peak
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.32	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380485.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380485.D\dad1A.ch
Acq On : 27-Oct-2016, 17:10:41 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:27 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.95	1983553	3675711	959.205	942.794
	Spiked Amount 500.000	Range 70 - 136		Recovery =		191.84%#	188.56%#
	Target Compounds						
1)	TNX	1.20	1.20	3103188	4644762	1002.557	941.225
2)	HMX	1.28	1.29	1545829	4320324	963.090	984.166
3)	DNX	1.52	1.52	2652016	4203802	915.296	879.554
4)	MNX	2.01	2.01	2238430	3466866	986.634	980.015
5)	RDX	2.54	2.54	1746242	2772684	951.585	955.499
6)	1,3,5-Trinitrobe	4.09	4.09	3795788	7383143	1014.943	1018.943
7)	1,3-Dinitrobenze	5.23	5.23	4979177	3265620	980.290	958.801
8)	3,5-Dinitroanili	5.56	5.56	4223836	7128062	943.020	944.929
9)	Nitrobenzene	6.75	6.75	2893586	2895791	961.084	1029.174
10)	Nitroglycerin	0.00	8.33	0	6619303	N.D. d	4571.673
11)	Tetryl	8.50	8.49	2899862	4419087	1505.815	1708.883
12)	2,4,6-Trinitroto	8.91	8.91	3523710	4278791	1021.926	991.712
13)	2-Amino-4,6-Dini	9.15	9.15	3080033	4782125	981.817	971.910
14)	4-Amino-2,6-Dini	9.59	9.59	2288653	4732660	993.258	987.012
16)	2,4-Dinitrotolue	10.60	10.60	4467058	2939606	976.823	988.326
17)	2,6-Dinitrotolue	11.06	11.06	2483342	3181814	991.736	999.807
18)	o-Nitrotoluene	13.62	13.62	2101433	3018673	974.556	986.012m
19)	p-Nitrotoluene	14.03	14.03	3250710	2724474	958.352	949.503
20)	m-Nitrotoluene	14.62	14.62	3133771	3825153	988.930	1001.959m
21)	PETN	0.00	16.33	0	6928923	N.D. d	4750.432m

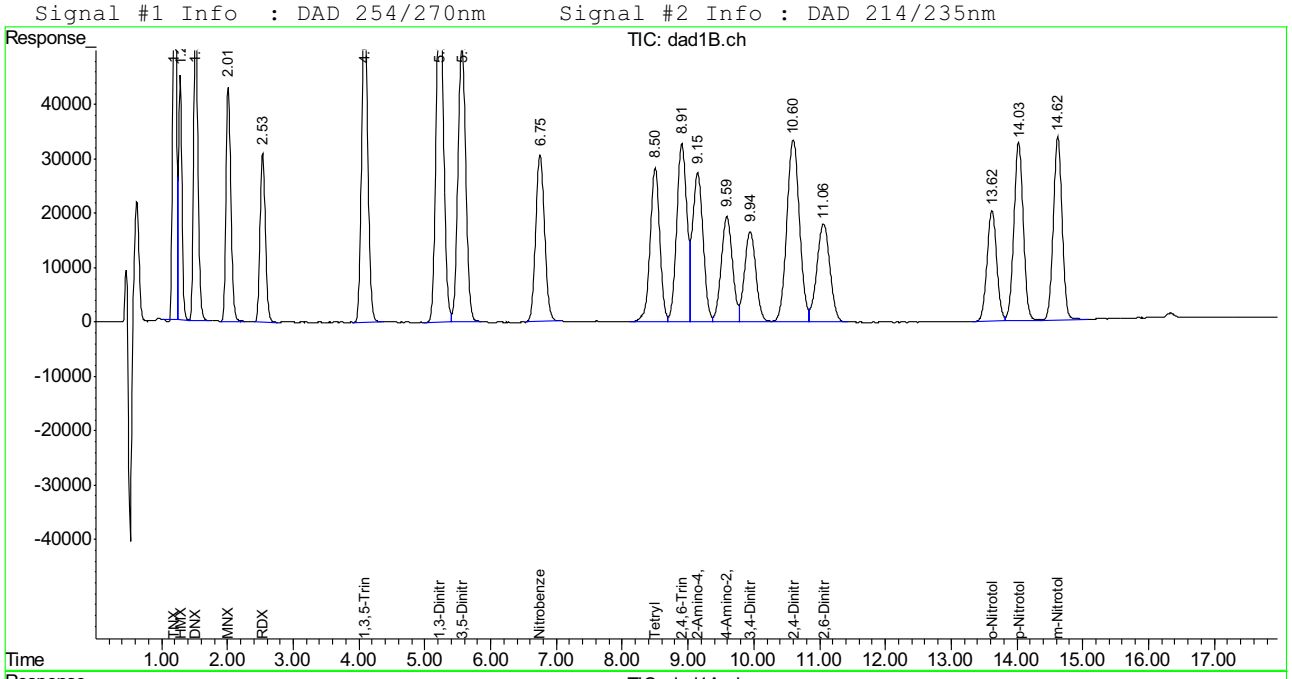
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380485.D 8330-1003BPLUS.M Fri Oct 28 12:01:17 2016 Page 1

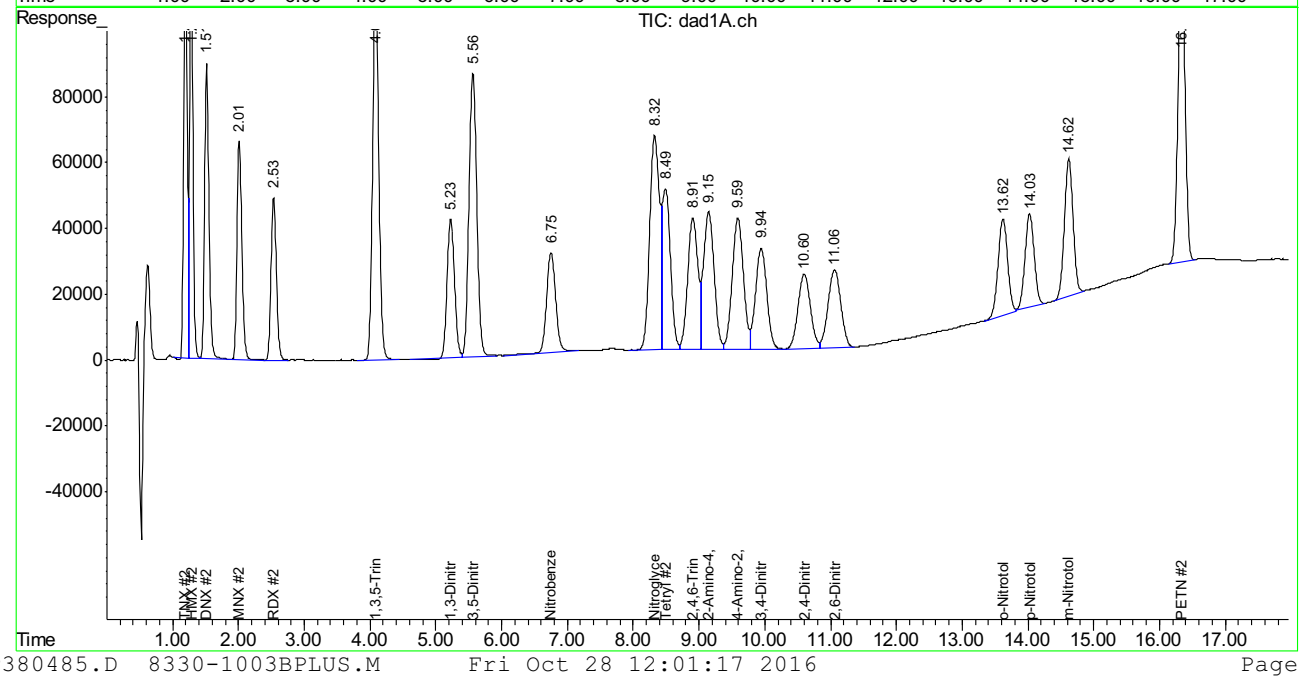
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380485.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380485.D\dad1A.ch
Acq On : 27-Oct-2016, 17:10:41 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 9:59 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2041-CC2032
Lab FileID: PP380485.D
Injection Time: 10/27/16 17:10
Method: SW846 8330B
Analyst approved: 10/28/16 12:19 Kismet Lugo
Supervisor approved: 10/28/16 17:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.62	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.62	Poor instrument integration
PETN	78-11-5	2	16.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
10/28/16 17:48

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380493.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380493.D\dad1A.ch
Acq On : 27-Oct-2016, 20:30:15 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 09:52:35 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.89	9.89	1984730	3696584	959.775	948.148
	Spiked Amount 500.000	Range 70 - 136		Recovery =		191.95%#	189.63%#
	Target Compounds						
1)	TNX	1.19	1.19	3095364	4633397	1000.029	938.922
2)	HMX	1.28	1.28	1550901	4325619	966.249	985.372
3)	DNX	1.52	1.52	2650483	4189082	914.766	876.474
4)	MNX	2.01	2.01	2241409	3449394	987.947	975.076
5)	RDX	2.53	2.53	1739486	2764635	947.904	952.726
6)	1,3,5-Trinitrobe	4.07	4.07	3804623	7370290	1017.305	1017.169
7)	1,3-Dinitrobenze	5.21	5.21	4983946	3293748	981.229	967.060
8)	3,5-Dinitroanili	5.54	5.54	4238880	7119299	946.379	943.768
9)	Nitrobenzene	6.73	6.73	2898304	2830221	962.651	1005.870
10)	Nitroglycerin	0.00	8.29	0	6700425	N.D. d	4627.701
11)	Tetryl	8.46	8.45	2913954	4343066	1513.133	1679.485
12)	2,4,6-Trinitroto	8.86	8.86	3540246	4297186	1026.722	995.976
13)	2-Amino-4,6-Dini	9.11	9.11	3083935	4800429	983.061	975.630
14)	4-Amino-2,6-Dini	9.54	9.54	2291280	4749770	994.398	990.581
16)	2,4-Dinitrotolue	10.54	10.55	4480728	2976856	979.812	1000.850
17)	2,6-Dinitrotolue	11.00	11.00	2502026	3227958	999.198	1013.399
18)	o-Nitrotoluene	13.58	13.57	2208437	3009309	1024.180	982.954m
19)	p-Nitrotoluene	13.98	13.98	3420956	2842776	1008.543	990.732m
20)	m-Nitrotoluene	14.58	14.58	3154018	3843871	995.320	1006.862m
21)	PETN	0.00	16.30	0	6925088	N.D. d	4747.804m

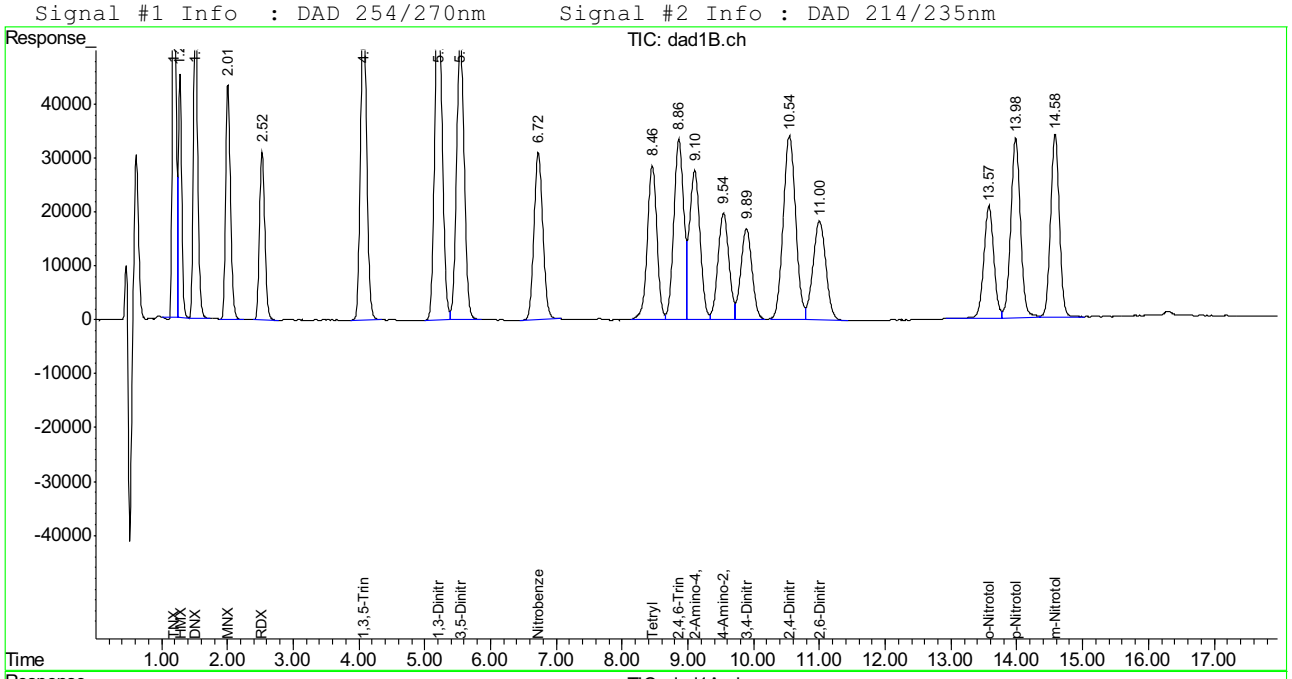
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP380493.D 8330-1003BPLUS.M Fri Oct 28 12:01:25 2016 Page 1

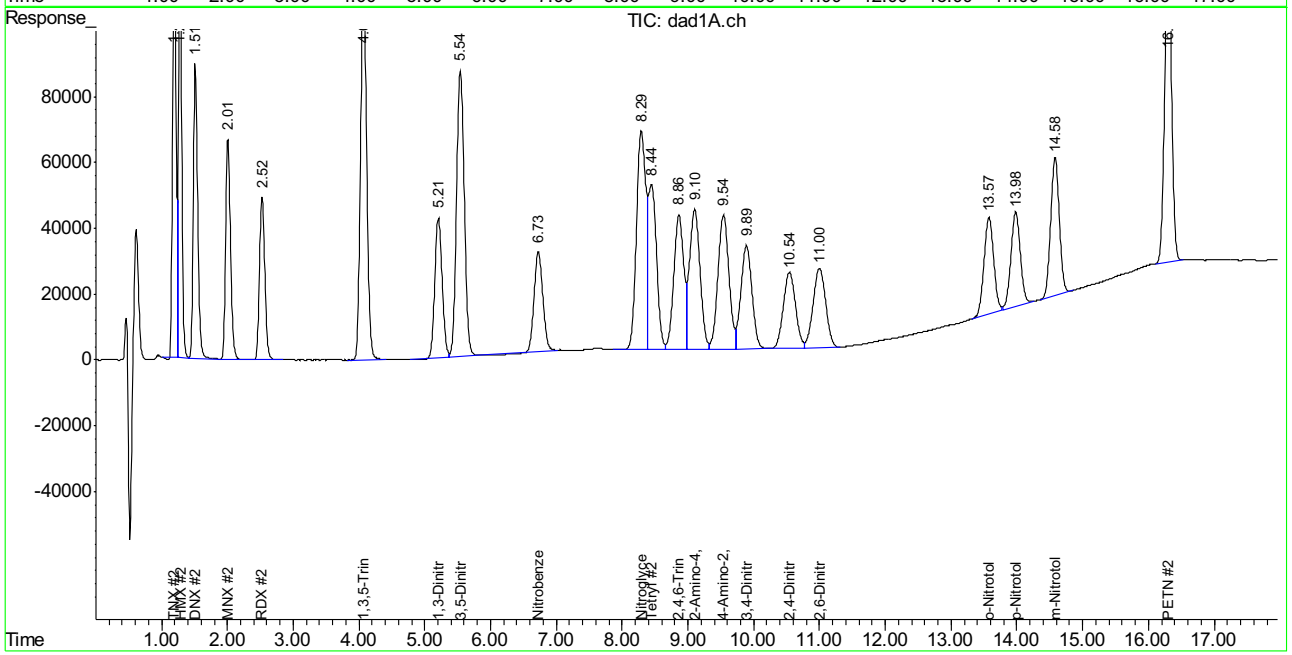
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\1027BPL\PP380493.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\1027BPL\PP380493.D\dad1A.ch
Acq On : 27-Oct-2016, 20:30:15 Operator: kismetl
Sample : cc2032-1000 Inst : G1315B
Misc : OP62404,GPP2041,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 28 10:01 2016 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Fri Oct 28 09:51:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA37761

Manual Integration Approval Summary

Sample Number: GPP2041-CC2032
Lab FileID: PP380493.D
Injection Time: 10/27/16 20:30
Method: SW846 8330B
Analyst approved: 10/28/16 12:19 Kismet Lugo
Supervisor approved: 10/28/16 17:48 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.57	Poor instrument integration
p-Nitrotoluene	99-99-0	2	13.98	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.58	Poor instrument integration
PETN	78-11-5	2	16.30	Poor instrument integration

ACCUTEST LABORATORIES SE

DATE:	10/27/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330RPB 0721
CALIB. DATE:	07/21/16
RUN BATCH: GGG	2478

1027
10/27/16
10/28/16

ANALYST:	IK / ME
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	228

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060202	1	solvent	8330				test
GG 03	2	test 21					
GG 04		test 22					
GG 05		test 23					
GG 06		test 24					
GG 07		test 21, 22 deg					
GG 08		test 21, 21 deg					
GG 09		↓					
GG 10		24c 14m 55%					
GG 11		24c 13m 55%					
GG 12		13m 55% 60% 19m					
GG 13		55-58 25m					
GG 14		51/50 58-62					
GG 15		↓					
GG 16		new method					
GG 17		s					
GG 18		s					
GG 19		18-51%					
GG 20		55%					
GG 21	↓	50	↓				↓

* For NELAC purposes, Method 8332 includes analytes by SOP GC020
Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

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Analyst's Signature: Kismet Ly

ACCUTEST LABORATORIES SE

HPLC3-GG ANALYSIS LOG

DATE:	10/27/16
COLUMN TYPE:	Bowie PP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 HPB3
PROC. METHOD:	8330 HPB ~~07/21/16~~ 10/27
CALIB. DATE:	~~07/21/16~~ 10/27/16
RUN BATCH: GGG	2478

ICV 10/27/16

ANALYST:	IL / ME
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	228

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060222	2	51	8330				test
GG 23	|	53	|	|	|	|	|
GG 24	|	55	|	|	|	|	|
GG 25	|	51	|	|	|	|	|
GG 26	↓	80, .8min	↓	|	|	|	|
GG 27	3	IC2478-20	|	LC776	50+450 50+450	PII 0-3.50P	✓
GG 28	4	IC2478-50	|	|	10+390	PII	✓
GG 29	5	IC2478-100	|	|	25+375	PII	✓
GG 30	6	IC2478-200	|	|	50+450	PII	✓
GG 31	7	ICC2478-500	|	|	1+3	PII	✓
GG 32	8	IC2478-1000	|	|	1:1	PII	✓ Pass only to 1000 ppm
GG 33	9	IC2478-2000	|	|	1X	PII	✓ ff flags run tet → int
GG 34	10	ICV2478-500	|	ES629 ES623 LC764	*	2.160P PII 0-3.50P	ICV 10/27/16 ~~Hmct 2.96, tet~~ Pass
GG 35	11	ICV2478-500	|	E5717	10+390 *		0,1P 52 246,52
GG 36	3	CC2478-20	|	LC776	50+450 50+450	PII	Pass 51 PETN, NG Pass ICIOR
GG 37	12	op62296-mb	|	op62296	1X		ND
GG 38	13	FA37729-1 ct	|	|	|	PII	✓ 1,3 3,5 DNC
GG 39	14	FA37729-2 ct	|	|	|	2AOP PII	✓ 1,3, 3,5 ON DNC
GG 40	15	FA37729-3 ct	|	|	|	PII 2AOP	✓ 1,3 3,5 ~~RA~~
GG 41	16	op62253-mb	↓	op62253	↓		ND

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

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*ES624 20ml
LC764 25ml
E5623 10ml
LC742 25ml
} + 920ml

Analyst's Signature: Kimmet Lyp

ACCUTEST LABORATORIES SE

HPLC3-GG ANALYSIS LOG

DATE:	10/27/16
COLUMN TYPE:	Bowie RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

METHODS*:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB ~~0721~~ 1027
CALIB. DATE:	~~07/21/16~~ ~~10/28/16~~ 10/27/16
RUN BATCH: GGG	2478

MJ 10/28/16

ANALYST:	KL / ME
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	228

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060242	17	FA37760-2ct	8330	op62253	1X		✓ ~~MM >1000 hit~~ reprint
GG 43	18	FA37761-1ct					✓ ~~MM >1000 hit~~ moved MM
GG 44	19	FA37761-2ct					✓ moved MM
GG 45	20	FA37761-3ct				2A OP PII	✓
GG 46	21	FA37761-4ct		↓	↓		ND MNX 1,35 11/10/16
GG 47	30	cc2478-1000		LC776	1:1	PII 0-3,5 OP	Pass
GG 48	1	clb		—	—		ND
GG 49	22	op62312-mb		op62312	1X		ND DNC RPX
GG 50	23	FA37828-7ct			↓	PII	✓ ~~MM >1000 hit~~ MNX rep.
GG 51	24	FA37828-7ct			1+4	PII	✓ ↓ ↓
GG 52	25	op62352-mb		op62352	1X		ND > DNR
GG 53	26	FA37900-8ct		↓			ND
GG 54	27	op62386-mb		op62386			ND
GG 55	28	FA37897-1ct				PII	✓
GG 56	29	FA37897-2ct		↓	↓	PII	✓
GG 57	30	~~ccc2478-1000~~ ccc2478-1000	↓	LC776	1:1	PII 0-3,5 OP	Pass
GG							
GG							
GG							
GG							

LC 10/28/16

MJ 10/28/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

Analyst's Signature: Kamil Lyp

[redacted]

HPLC3-GG ANALYSIS LOG

DATE:	10/28/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

METHODS*:	8330A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB-1027
CALIB. DATE:	10/27/16
RUN BATCH: GGG	2479

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	165480
HEAD PRESSURE:	229

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060258	3	IC2479-20	8330	LC776	50+450 50+450	P11 HMX MP	✓
GG 59	4	IC2479-50			10+390	P11 24MP52	✓
GG 60	5	IC2479-100			25+475	P11	✓
GG 61	6	IC2479-200			50+450	P11	✓
GG 62	7	ICC2479-500			1+3	P11	✓
GG 63	8	IC2479-1000			1:1	P11	✓
GG 64	9	IC2479-2000		↓	1X	P11	✓ Pass
GG 65	10	ICV2479-500		ES624,23 LC764,742	*	10/31/16 1.60Y, P11	HMXT52 (HMX, PNO & NB/PETN)
GG 66	11	ICV2479-500		E5717	10+390	P11	2,4,6,51 (all but HMX)
GG 67	3	CC2479-20		LC776	50+450 50+450	P11 SMM MP51 2,6MP51	~~2,4,6,51~~ 10/31/16 HMX ✓ NGT
GG 68	18	FA37761-1 ct		op62253	1X	P11	✓
GG 69	19	FA37761-2 ct		↓	↓	P11	✓
GG 70	31	op62406-lb		op62406			ND
GG 71	32	~~FA37952-1 ct~~		↓			ND FA37808-1 L ct
GG 72	33	~~cc2479-1000~~		op62404			ND op62404-mb
GG 73	34	~~op62405-mb~~		↓	↓		✓ PETN DNC FA37952-1 ct
GG 74	30	~~LA26609-2 ct~~		LC776	1:1	P11	Pass cc2479-1000
GG 75	35	op62405-mb		op62405	1X		ND
GG 76	36	LA26609-2 ct		↓	↓	HMX MP 8	✓ NB 2,4 14
GG 77	1	solvent	↓	—	—		ND

10/31/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

Analyst's Signature: Kismet Lye

DATE:	10/28/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

METHOD:	8330A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB-1027
CALIB. DATE:	10/27/16
RUN BATCH: GGG	2479

ANALYST:	
ACETONITRILE LOT #:	32412
MEOH LOT #:	165480
HEAD PRESSURE:	229

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060278	1	solvent	8330	—	—		ND
GG 79	37	LA266004-3et	↓	OP62405	1X	Hand integ PII	✓
GG 80	30	ecc2479-1000	↓	LC776	1:1	PII 0-3,50P	ONTS1
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							

10/31/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020
Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

ACCUTEST LABORATORIES SE

DATE:	10/03/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 B Plus
CALIB. DATE:	~~10/06/16~~ 10/03/16
RUN BATCH: GPP	2032

ANALYST:	M
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	184

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380265	1	solvent	8330	——	—		ND
PP 66	2	lcs	↓	LC761	1:1		lcs ↓ run curve
PP 67	3	IC2032-20	↓	↓	50+450 50+450	PII o,m,p MPS2	✓
PP 68	4	IC2032-50	↓	↓	10+390	TNX MPS1 PII lcs 1,3,5 MPS1 3,5 ND MPS1	✓
PP 69	5	IC2032-100	↓	↓	25+475	↓	✓
PP 70	6	IC2032-200	↓	↓	50+450	TNX MPS1 PII lcs OPS1	✓
PP 71	7	ICC2032-500	↓	↓	1+3	TNX MPS1 PII ↓	✓
PP 72	8	IC 2032-1000	↓	↓	1:1	PII	✓
PP 73	9	IC 2032-2000	↓	↓	1X	PII	✓ Pass
PP 74	10	ICV 2032-500	↓	E5624 LC746 LC764 E5623	*	PII	Pass
PP 75	11	ICV 2032-500	↓	E5717	10+390	PII	lcs P
PP 76	3	CC2032-20	↓	LC761	50+450 50+450	PII	TNX 1,5 MPS1 2 MPS1, 2,6 ↓ S2 0 ↓ S2
PP 77	12	op62051-lbs	↓	op62051	1X	PII	~~N~~ ✓ KK 10/04/16
PP 78	13	op62051-lb	↓	↓	↓		ND
PP 79	14	PA 37159-IC	↓	↓	↓	TOX MPS1 PII	✓
PP 80	15	op62051-MS	↓	↓	↓	PII	✓
PP 81	16	op62051-MSd	↓	↓	↓	PII	✓
PP 82	2	CC2032-1000	↓	LC761	1:1	PII lcs OPS1 TNX MPS1	Pass
PP 83	1	calb	↓	K —	—		ND
PP 84	17	op62072-bs	↓	op62072	1X	PII	✓

IC 10/04/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC018
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 08/09

Analyst's Signature: Kimut-Lyp

SGS ACCUTEST FA37761 272 of 278

ACCUTEST LABORATORIES SE

DATE:	10/03/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 B Plus
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2032

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	184

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380285	18	op62072-mb	8330	op62072	1x		ND
PP 86	19	FA37332-1	↓	↓	↓	HMX MP PDBxMPS1, PII	✓
PP 87	20	op62072-ms				PII	✓
PP 88	21	op62072-msd				PII	✓
PP 89	22	FA37333-1					ND
PP 90	2	ecc2032-1000	↓	LC761	1:1	TNTxMPS1 PII 4etOPS1	Pass
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

KL 10/04/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC018
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 08/09

Analyst's Signature: Kismet Lyp

SGS ACCUTEST-ORLANDO

DATE:	10/21/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330BPLUS
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2037

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	206

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
	PP 380377	1	solvent	8330	—	—		ND
	PP 78	2	CC2032-1000		LC761	1:1	PII letOPS1 NBOPSV	RDXTS1
	PP 79	3	~~op62296-bs~~ bs		—	1X		Seq. error (spike)
	PP 80	4	op62296-~~mb~~ bs		op62296		PII	✓
	PP 81	5	op62296-mb					ND
	PP 82	6	FA37729-1				PII	✓
	PP 83	7	FA37729-2				PII	✓
	PP 84	8	FA37729-3				PII	✓
	PP 85	9	op62296-ms				PII	✓
	PP 86	10	op62296-msd				PII	✓
	PP 87	11	FA37729-4					ND
	PP 88	12	FA37729-5		↓	↓		ND
	PP 89	2	CC2032-1000		LC761	1:1	PII NBOPSV letOPS9	RDXTS1
	PP 90	1	clb		—	—		ND
10/24/16	PP 91	13	~~M48305-1~~		op62296	1X		ND MC48305-1
	PP 92	14	~~M48305-2~~					ND MC48305-2
	PP 93	15	~~M48305-5~~					ND MC48305-5
	PP 94	16	~~M48305-7~~		↓			ND MC48305-7
	PP 95	17	op62253-bs		op62296		PII	✓
	PP 96	18	op62253-mb	↓	↓	↓		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: Kismet Lyn

SGS ACCUTEST-ORLANDO

DATE:	10/21/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330BPL
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2037

ANALYST:	LL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	206

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380397	19	FA37760-1	8330	OP62253	1X		ND
PP 98	20	FA37760-2				PII	✓
PP 99	21	OP62253-MS				PII	✓
PP 380400	22	OP62253-MSD				PII	✓
PP 01	2	CC2032-1000		LC761	1:1	PII NB OPS2 1st OPS1	RDX TS1
PP 02	1	CCB		—	—		ND
PP 03	23	FA37761-1		OP62253	1X	RDX MPS1 4A MPS1 PII	✓
PP 04	24	FA37761-2				PII	✓
PP 05	25	FA37761-3				RDX MPS1 3,5 MPS1 PII	✓
PP 06	26	FA37761-4				OP	✓
PP 07	27	OP62312-BS		OP62312		PII	✓
PP 08	28	OP62312-MB					ND
PP 09	29	FA37828-5					ND
PP 10	30	OP62312-MS				PII	✓
PP 11	31	OP62312-MSD				PII	✓
PP 12	32	FA37828-6				PII	✓ possible PEAK
PP 13	2	CC2032-1000		LC761		PII NB OPS2 1st OPS1	RDX TS1
PP 14	1	CCB		—	—		ND
PP 15	33	FA37828-7		OP62312	1X	PII	✓ MM (5X)
PP 16	2	CC2032-1000		LC761	1:1	PII NB OPS2 1st OPS1	RDX TS1

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: Kimut Lyp

SGS ACCUTEST-ORLANDO

DATE:	10/27/16
COLUMN TYPE:	Ext-C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330 BPlus
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2041

ANALYST:	KL
ACETONITRILE LOT #:	3242
MEOH LOT #:	162838
HEAD PRESSURE:	235

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380463	1	solvent	8330	—	—		ND
PP 64	2	CC2032-1000		LC776	1:1	PII	let ↑
PP 65	41	op62404-bs		op62404	1X	PII	✓
PP 66	42	op62404-mb				PII	ND
PP 67	43	FA37952-2				PII	ND ✓
PP 68	44	FA37952-1				PII	✓
PP 69	45	op62404-ms				PII	✓
PP 70	46	op62404-msd		↓		PII	✓
PP 71	52	op62405-bs		op62405		PII	✓
PP 72	53	op62405-mb					ND
PP 73	54	MC48305-4					ND
PP 74	55	MC48305-6		↓	↓		ND
PP 75	2	CC2032-1000		LC776	1:1	PII	let ↑
PP 76	1	cib		—	—		ND
PP 77	59	~~tc~~LA26609-4		op62405	1X		ND ✓
PP 78	60	LA26609-3				PII	✓
PP 79	61	LA26609 2		↓	↓	PII 246 MRS1	✓
PP 80	1	solvent		—	—		ND
PP 81	1	solvent		—	—		ND
PP 82	56	MC48305-3	↓	op62405	1X		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: Kismet Lyp

SGS ACCUTEST-ORLANDO

DATE:	10/27/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 BPlus
CALIB. DATE:	10/03/16
RUN BATCH: GPP	2041

ANALYST:	IL
ACETONITRILE LOT #:	3242
MEOH LOT #:	167838
HEAD PRESSURE:	335

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 380483	57	op62405-ms	8330	op62405	1X	PII	✓
PP 84	58	op62405-msd	↓	↓	↓	PII	✓
PP 85	2	cc2032-1000		LC776	1:1	PII	Let ↑
PP 86	1	clb		—	—		ND
PP 87	62	FA37760-2		op62253	1X	PII	✓
PP 88	63	FA37761-1				PII 214 60R 240R 4AMPS	✓
PP 89	64	FA37761-2				PII	✓
PP 90	65	FA37761-3		↓		PII RDX (MPS)	✓
PP 91	66	~~FA37788-7~~		op62312	↓	PII	~~Acetonitrile~~ ✓ FA37824-7
PP 92	67	~~FA37788-7~~		↓	1+4	PII	✓ ↓
PP 93	2	cc2032-1000		LC776	1:1	PII	Let ↑
PP 94	1	clb		—	—		ND
PP 95	47	op62406-16		op62406	1X	PII	✓
PP 96	48	op62406-16					✓ ↑
PP 97	49	FA37808-1L				PII	ND
PP 98	50	op62406-ms				PII	✓
PP 99	51	op62406-msd		↓	↓	PII	✓
PP 380500	2	cc2032-1000	↓	LC776	1:1	PII	Let ↑
PP						IL 10/28/16	
PP							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimberly Lyo

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 10/17/16 1400 {mm/dd/yy 24:00}

Date/Time Finished: 10/18/16 0900 {mm/dd/yy 24:00}

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP62253 Ext. By: MB Conc. By: / Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP62253 MB	X	1000	6	N/A	250ul		10ml	
OP62253 BS	X	1000	↓			250+200 25+25ul		
FA37760-1	3	1000	6	↓	↓		↓	
-2	5	1000						
FA37761-1	2	1000						
-2	3	1000						
-3	2	1000						
-4	3	1000	↓	↓	↓		↓	
FA37760-2MS	4	500	6	N/A	250ul	250+200 25+25ul	10ml	
-2MSD	4	500	↓	↓	↓	↓	↓	
DUP								

(Unused rows crossed out: MB 10/18/16)

Comments:

Surr.1 ID: ES6345 Conc: 20ppm Exp. Date: 11/26/16 Inj. By: MB Ver. By MV

SPIKED (Surr.2 ID): ES717 Conc: 20ppm Exp. Date: 03/23/17 Inj. By: MB Ver. By MV

Spk.1 ID: ES624 Conc: 25ppm Exp. Date: 11/9/16 Inj. By: MB Ver. By MV

Spk.2 ID: 8046B 8045C Conc: 100B ug/ml 1000 ug/ml Exp. Date: 09/23/17 09/23/17 Inj. By: MB Ver. By MV

Initial Bath Temp (Therm ID): / Observed Temp ℃: / Corr. Temp ℃: /

Exchange Bath/N-Evap Temp (Therm ID): / Observed Temp ℃: / Corr. Temp ℃: /

Methanol Lot #: / SPE Lot #: 5214-006 pH Paper #: 224014

Acetonitrile Lot #: 162332 SPE Lot #: / Reagent #: /

Water Lot#: DI H2O Syringe Filter Lot#: / Solvent #: /

Relinquished By: [signature] Date: 10/18/17

Accepted By: [signature] Date: 10/18/17

NF 02/16 extwater_spe 020116.xls

9.7.1 9

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
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Maine	IN00035	Vermont	VT-8775
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Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 374915

Priority: Standard

Status: Final

Project: #122887 EEA-IN / Radford AAP

Samples Submitted: Four groundwater samples

Copies to: None

Collected: 10/12/16 By: Client Received: 10/14/16

REPORT SUMMARY

Four groundwater samples were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: The samples submitted for analysis were received unpreserved. EDA was added upon receipt at EEA.

Note: Sample containers were provided by the client.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sorg Reporter — 11/02/2016

Reviewed By Title Date

Finalized By Title Date

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 374915
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3564894	787715 54MW13	300.0	10/12/16 09:25	Client	10/14/16 10:00
3564895	787716 54TM12	300.0	10/12/16 09:55	Client	10/14/16 10:00
3564896	787717 54MW10	300.0	10/12/16 11:16	Client	10/14/16 10:00
3564897	787718 101216R1	300.0	10/12/16 15:30	Client	10/14/16 10:00

Report Summary

Note: See attached page for additional comments.

PO #122887 EEA-IN / Project: RADFORD AAP

Note: Sample containers were provided by the client. The samples were preserved with EDA upon receipt.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature | Title | 11/02/2016 Date

Client Name: CT Laboratories
Report #: 374915

Client Name: CT Laboratories Report #: 374915

Sampling Point: 787715 54MW13 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	10/19/16 13:44	3564894
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	10/19/16 13:44	3564894

Sampling Point: 787716 54TM12 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	10/19/16 14:22	3564895
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	10/19/16 14:22	3564895

Sampling Point: 787717 54MW10 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	10/19/16 15:00	3564896
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	10/19/16 15:00	3564896

Sampling Point: 787718 101216R1 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	10/19/16 15:38	3564897
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	10/19/16 15:38	3564897

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

307551

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www.ctlaboratories.com

374915

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 122887 EEA-IN

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT ***RUSH TURNAROUND NEEDED? Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description		Analyses / Method		Cost
787715	10/12/2016 0925	GROUND WATER	54MW13	3564 894	CHLORATE/CHLORITE	300.1	
787716	10/12/2016 0955	GROUND WATER	54TM12	895	CHLORATE/CHLORITE	300.1	
787717	10/12/2016 1116	GROUND WATER	54MW10	896	CHLORATE/CHLORITE	300.1	
787718	10/12/2016 1530	GROUND WATER	101216R1	897	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 10/13/2016 15:10

Received by: [signature] Date/Time: 10-14-16 1000 Receipt Temperature (C) 0.6°C wet

COMMENTS: NO MS/MSD REQUIRED WITH THIS BATCH.

NO EDA listed SS 10-14-16
EDA added upon Receipt per Jim Vernon SS 10-14-16

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Client Provided Sample Container

Eurofins Eaton Analytical
Run Log

Run ID: **221798** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3567547		RW	CQ	10/17/2016 14:56	
IPC	3568676		RW	CQ	10/19/2016 11:05	
LRB	3568678		RW	CQ	10/19/2016 12:22	
LFB	3568679		RW	CQ	10/19/2016 13:00	
FS	3564894	787715 54MW13	GW	CQ	10/19/2016 13:44	
FS	3564895	787716 54TM12	GW	CQ	10/19/2016 14:22	
FS	3564896	787717 54MW10	GW	CQ	10/19/2016 15:00	
FS	3564897	787718 101216R1	GW	CQ	10/19/2016 15:38	
IPC	3568680		RW	CQ	10/19/2016 21:20	
CCB	3568681		RW	CQ	10/19/2016 21:58	
CCB	3568683		RW	CQ	10/20/2016 06:51	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/17/2016 14:56	3567547
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/17/2016 14:56	3567547
IPC	Chlorate	300.0	10	---		248.4290	250	ug/L	99	90 - 110	---	---	1.0	---	10/19/2016 11:05	3568676
IPC	Chlorite	300.0	10	---		250.5150	250	ug/L	100	90 - 110	---	---	1.0	---	10/19/2016 11:05	3568676
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 12:22	3568678
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 12:22	3568678
LFB	Chlorate	300.0	10	---		247.3740	250	ug/L	99	90 - 110	---	---	1.0	---	10/19/2016 13:00	3568679
LFB	Chlorite	300.0	10	---		251.5030	250	ug/L	101	90 - 110	---	---	1.0	---	10/19/2016 13:00	3568679
FS	Chlorate	300.0	10	787715 54MW13	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 13:44	3564894
FS	Chlorite	300.0	10	787715 54MW13	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 13:44	3564894
FS	Chlorate	300.0	10	787716 54TM12	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 14:22	3564895
FS	Chlorite	300.0	10	787716 54TM12	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 14:22	3564895
FS	Chlorate	300.0	10	787717 54MW10	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 15:00	3564896
FS	Chlorite	300.0	10	787717 54MW10	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 15:00	3564896
FS	Chlorate	300.0	10	787718 101216R1	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 15:38	3564897
FS	Chlorite	300.0	10	787718 101216R1	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 15:38	3564897
IPC	Chlorate	300.0	10	---		248.2490	250	ug/L	99	90 - 110	---	---	1.0	---	10/19/2016 21:20	3568680
IPC	Chlorite	300.0	10	---		252.3420	250	ug/L	101	90 - 110	---	---	1.0	---	10/19/2016 21:20	3568680
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 21:58	3568681
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/19/2016 21:58	3568681
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/20/2016 06:51	3568683
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	10/20/2016 06:51	3568683

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 221798 **Instrument#** CQ

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	148201	8/19/2015	8/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-49b(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-49b(4-6)

Analyst: S. Lovick **Prep Date:** 10/5/2016 **Exp. Date:** 11/5/2016

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	4		10	10
2	20	8		10	10
3	100	40		10	10
4	250	100		10	10
5	500	200		10	10
QCS	250		100	10	10

Analyst: S. Lovick **Prep Date:** 10/17/2016 **Exp. Date:** 10/24/2016

LFB	250	100		10	10

Analyst: S. Lovick **Prep Date:** 10/19/2016 **Exp. Date:** 10/24/2016

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL	Prep ID	IOC47-47b

Analyst: S. Lovick **Prep Date:** 10/4/2016 **Exp. Date:** 11/4/2016

Comments: Dionex IonPac AS19-HC 4mm s/n 160728218 lot#01531178 installed 09/09/2016
EGCIII-Eluent Cartridge s/n 160323012017 installed 05/27/2016

Analyst: [signature] **Date:** OCT 20 2016

Technician Review: [signature] **Date:** 10/20/2016

(signature)

Summary

Sequence Details		
Name:	**101916A**	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2016**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**20/Oct/16 07:23:45**
No. of Injections:	**38**	**us25_usr_sbnlabpcs**

By Component	Chlorite

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount PPM CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount PPM CD_1 Bromide
1	\ICB\RW\1\	10/17/16 14:56	n.a.	n.a.	0.000	2.935	0.000	1.788
2	\ICS\RW\1\10	10/17/16 15:34	0.011	11.000	0.009	11.175	0.010	11.015
3	\ICS\RW\1\20	10/17/16 16:12	0.023	20.192	0.018	19.960	0.020	19.584
4	\ICS\RW\1\100	10/17/16 16:50	0.123	97.109	0.099	95.065	0.108	97.103
5	\ICS\RW\1\250	10/17/16 17:28	0.324	252.297	0.264	249.799	0.282	249.869
6	\ICS\RW\1\500	10/17/16 18:06	0.645	499.402	0.534	501.066	0.567	500.641
7	\IPC\RW\1\250	10/19/16 11:05	0.322	250.515	0.263	248.429	0.281	249.562
8	\RLC\RW\1\10	10/19/16 11:43	0.011	10.966	0.009	11.138	0.010	10.672
9	\LRB\RW\1\	10/19/16 12:22	0.000	2.210	0.000	2.995	0.000	1.871
10	\LFB\RW\1\250	10/19/16 13:00	0.323	251.503	0.262	247.374	0.279	247.319
11	3564894\FS\GW\1\	10/19/16 13:44	n.a.	n.a.	0.000	3.110	0.030	28.510
12	3564895\FS\GW\1\	10/19/16 14:22	n.a.	n.a.	0.000	3.205	0.030	28.326
13	3564896\FS\GW\1\	10/19/16 15:00	n.a.	n.a.	0.000	3.030	0.035	32.770
14	3564897\FS\GW\1\	10/19/16 15:38	0.001	3.082	0.000	2.930	0.026	24.911
15	3564898\FS\GW\1\	10/19/16 16:16	0.000	2.177	0.000	2.977	0.019	18.079
16	3564899\FS\GW\1\	10/19/16 16:54	n.a.	n.a.	n.a.	n.a.	0.022	21.452
17	3564900\MS\GW\1\250	10/19/16 17:32	0.295	230.022	0.238	225.474	0.290	256.702
18	3564901\MSD\GW\1\250	10/19/16 18:10	0.304	236.300	0.246	232.621	0.295	261.551
19	3565158\FS\DW\1\	10/19/16 18:48	1.183	914.999 X	0.508	476.862	0.016	15.921
20	3565159\FS\DW\1\	10/19/16 19:26	1.070	827.923 X	0.548	514.731 X	0.008	9.141
21	3565160\FS\DW\1\	10/19/16 20:04	0.848	656.513 X	0.654	613.350 X	0.003	4.790
22	3565802\FS\DW\1\	10/19/16 20:42	0.001	3.093	0.165	157.410	0.023	22.277
23	\IPC\RW\1\250	10/19/16 21:20	0.324	252.342	0.263	248.249	0.281	249.191
24	\CCB\RW\1\	10/19/16 21:58	0.000	2.217	0.000	2.954	0.000	1.794
25	3565803\FS\DW\1\	10/19/16 22:36	0.002	3.767	0.169	160.514	0.021	20.686
26	3565803\MS\DW\1\250	10/19/16 23:14	0.319	248.166	0.440	413.379	0.301	266.858
27	3565803\MSD\DW\1\250	10/19/16 23:52	0.326	253.782	0.446	419.484	0.308	272.716
28	3566378\FS\DW\1\	10/20/16 00:30	0.353	274.522	0.171	162.158	0.014	13.802
29	3566379\FS\DW\1\	10/20/16 01:08	0.261	203.460	0.206	195.134	0.008	8.747
30	3566380\FS\DW\1\	10/20/16 01:47	0.219	171.173	0.247	233.597	0.006	7.395
31	3566620\FS\DW\1\	10/20/16 02:25	0.001	2.753	0.529	496.405	0.014	14.146
32	3566621\FS\DW\1\	10/20/16 03:03	0.066	53.173	0.630	591.415 X	0.018	17.867
33	3566622\FS\DW\1\	10/20/16 03:41	0.049	40.036	0.627	588.213 X	0.019	18.674
34	3566629\FS\DW\1\	10/20/16 04:19	0.021	18.191	0.037	37.415	0.025	23.976
35	3566630\FS\DW\1\	10/20/16 04:57	0.015	13.613	0.039	39.131	0.019	18.515
36	3566631\FS\DW\1\	10/20/16 05:35	0.010	9.698	0.037	37.693	0.021	20.472
37	\IPC\RW\1\250	10/20/16 06:13	0.322	250.247	0.262	247.774	0.281	249.043
38	\CCB\RW\1\	10/20/16 06:51	n.a.	n.a.	0.000	2.980	n.a.	n.a.

X= over Cal Range
SL 10/20/16

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0010 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	1.00 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
7.740 [min]	Inhibit Integration	Off	Any	All Channels
8.700 [min]	Inhibit Integration	On	Any	All Channels
15.700 [min]	Inhibit Integration	Off	Any	All Channels
18.600 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	8.130	7.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	16.430	5.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	17.765	5.000 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Group**
Curve Fitting	**Normal**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Missing Peak	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G2	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G3	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G4	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G5	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G6	250.0 [µl]		AS19 4mm	AS19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	10/17/2016		E3BA5E6B-	0	0.00
Finished	10/17/2016		CB7FE863-	0	0.00
Finished	10/17/2016		40755F76-3F78-	0	0.00
Finished	10/17/2016		47389630-7DBA-	0	0.00
Finished	10/17/2016		D6061256-EEE4-	0	0.00
Finished	10/17/2016		8283E07E-546F-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**AS19 4mm**
Comment	
Description	**Instrument: ICS2000** **Creation Time: 1/14/2015 12:24:40 PM** **Created by EurofinsEatonAnaly**
Run time	**32.500 [min]**
Instrument	**CQ on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_2	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	3.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		Pump_ECD.Pressure.UpperLimit	3000 [psi]	
		Pump_ECD.%A.Equate	"DI Water"	
		Pump_ECD.Pressure.LowerLimit	200 [psi]	
		Pump_ECD.ColumnTemperature.Nominal	30.0 [°C]	
		Pump_ECD.CellTemperature.Nominal	35.0 [°C]	
		Pump_ECD.Data_Collection_Rate	5.0 [Hz]	
		Pump_ECD.Suppressor_Type	AERS_4mm	
		Pump_ECD.Suppressor_Carbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Bicarbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Hydroxide	30.0 [mM]	
		Pump_ECD.Suppressor_Tetraborate	0.0 [mM]	
		Pump_ECD.Suppressor_OtherEluent	0.0 [mN]	
		Pump_ECD.Suppressor_RecommendedCurrent	75 [mA]	
		Pump_ECD.CR_TC	On	
		Sampler.PunctureOffset	0 [mm]	
		Sampler.InjectWash	BeforeInj	
		Pump_ECD.Flow	1.00	
		Pump_ECD.Suppressor_Current	75 [mA]	
		Pump_ECD.EluentGenerator.Curve	5	

		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_ECD.Channel_Pressure.AcqOn	
		Pump_ECD.Autozero	
		Pump_ECD.ECD_1.AcqOn	
		Pump_ECD.ECD_Total.AcqOn	
Run			Duration = 32.500 [min]
	0.000		
	17.500		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
	23.500		
		Pump_ECD.EluentGenerator.Concentration	40.00 [mM]
		Pump_ECD.EluentGenerator.Curve	6
	24.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	2
Stop Run			
	32.500		
		Pump_ECD.Channel_Pressure.AcqOff	
		Pump_ECD.ECD_1.AcqOff	
		Pump_ECD.ECD_Total.AcqOff	
End			

Sequence Overview

Sequence Details

Name:	**101916A**	*Created On:*	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2016**	*Created By:*	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**20/Oct/16 07:23:45**
No. of Injections:	**38**	*Updated By:*	**us25_usr_sbnlabpcs**

Injection Details

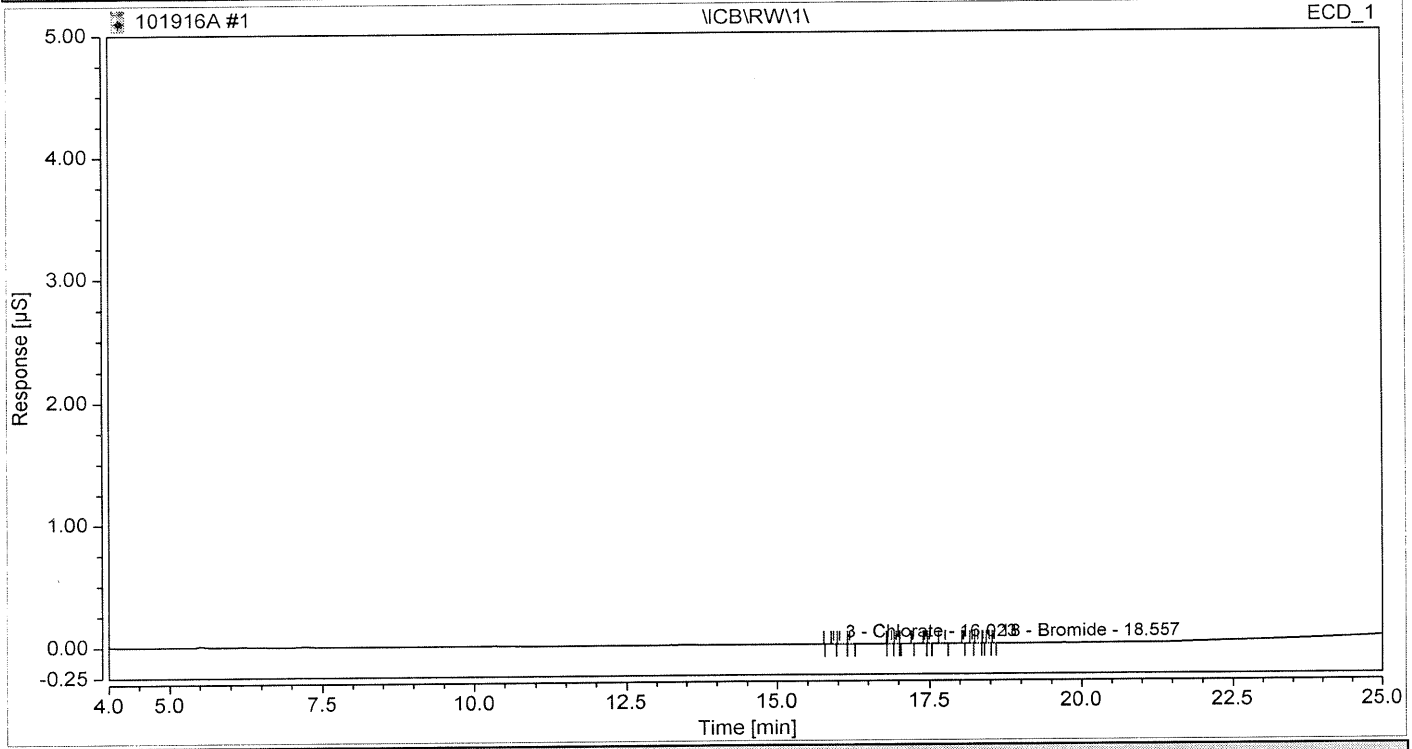
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	\ICB\RW\1\	G1	Calibration Standard	01	17/Oct/16 14:56:54	Finished
2	\ICS\RW\1\10	G2	Calibration Standard	02	17/Oct/16 15:34:55	Finished
3	\ICS\RW\1\20	G3	Calibration Standard	03	17/Oct/16 16:12:55	Finished
4	\ICS\RW\1\100	G4	Calibration Standard	04	17/Oct/16 16:50:56	Finished
5	\ICS\RW\1\250	G5	Calibration Standard	05	17/Oct/16 17:28:58	Finished
6	\ICS\RW\1\500	G6	Calibration Standard	06	17/Oct/16 18:06:58	Finished
7	\IPC\RW\1\250	G5	Unknown		19/Oct/16 11:05:58	Finished
8	\RLC\RW\1\10	GA1	Unknown		19/Oct/16 11:43:59	Finished
9	\LRB\RW\1\	GA2	Unknown		19/Oct/16 12:22:14	Finished
10	\LFB\RW\1\250	GA3	Unknown		19/Oct/16 13:00:15	Finished
11	3564894\FS\GW\1\	GA4	Unknown		19/Oct/16 13:44:24	Finished
12	3564895\FS\GW\1\	GA5	Unknown		19/Oct/16 14:22:29	Finished
13	3564896\FS\GW\1\	GA6	Unknown		19/Oct/16 15:00:33	Finished
14	3564897\FS\GW\1\	GA7	Unknown		19/Oct/16 15:38:37	Finished
15	3564898\FS\GW\1\	GA8	Unknown		19/Oct/16 16:16:39	Finished
16	3564899\FS\GW\1\	GB1	Unknown		19/Oct/16 16:54:40	Finished
17	3564900\MS\GW\1\25	GB2	Unknown		19/Oct/16 17:32:45	Finished
18	3564901\MSD\GW\1\	GB3	Unknown		19/Oct/16 18:10:45	Finished
19	3565158\FS\DW\1\	GB4	Unknown		19/Oct/16 18:48:46	Finished
20	3565159\FS\DW\1\	GB5	Unknown		19/Oct/16 19:26:49	Finished
21	3565160\FS\DW\1\	GB6	Unknown		19/Oct/16 20:04:51	Finished
22	3565802\FS\DW\1\	GB7	Unknown		19/Oct/16 20:42:52	Finished
23	\IPC\RW\1\250	G5	Unknown		19/Oct/16 21:20:53	Finished
24	\CCB\RW\1\	G1	Unknown		19/Oct/16 21:58:53	Finished
25	3565803\FS\DW\1\	GB8	Unknown		19/Oct/16 22:36:55	Finished
26	3565803\MS\DW\1\25	GC1	Unknown		19/Oct/16 23:14:56	Finished
27	3565803\MSD\DW\1\	GC2	Unknown		19/Oct/16 23:52:56	Finished
28	3566378\FS\DW\1\	GC3	Unknown		20/Oct/16 00:30:57	Finished
29	3566379\FS\DW\1\	GC4	Unknown		20/Oct/16 01:08:59	Finished
30	3566380\FS\DW\1\	GC5	Unknown		20/Oct/16 01:47:00	Finished
31	3566620\FS\DW\1\	GC6	Unknown		20/Oct/16 02:25:02	Finished
32	3566621\FS\DW\1\	GC7	Unknown		20/Oct/16 03:03:04	Finished
33	3566622\FS\DW\1\	GC8	Unknown		20/Oct/16 03:41:05	Finished
34	3566629\FS\DW\1\	GD1	Unknown		20/Oct/16 04:19:07	Finished
35	3566630\FS\DW\1\	GD2	Unknown		20/Oct/16 04:57:09	Finished
36	3566631\FS\DW\1\	GD3	Unknown		20/Oct/16 05:35:10	Finished
37	\IPC\RW\1\250	G5	Unknown		20/Oct/16 06:13:10	Finished
38	\CCB\RW\1\	G1	Unknown		20/Oct/16 06:51:10	Finished

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 14:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

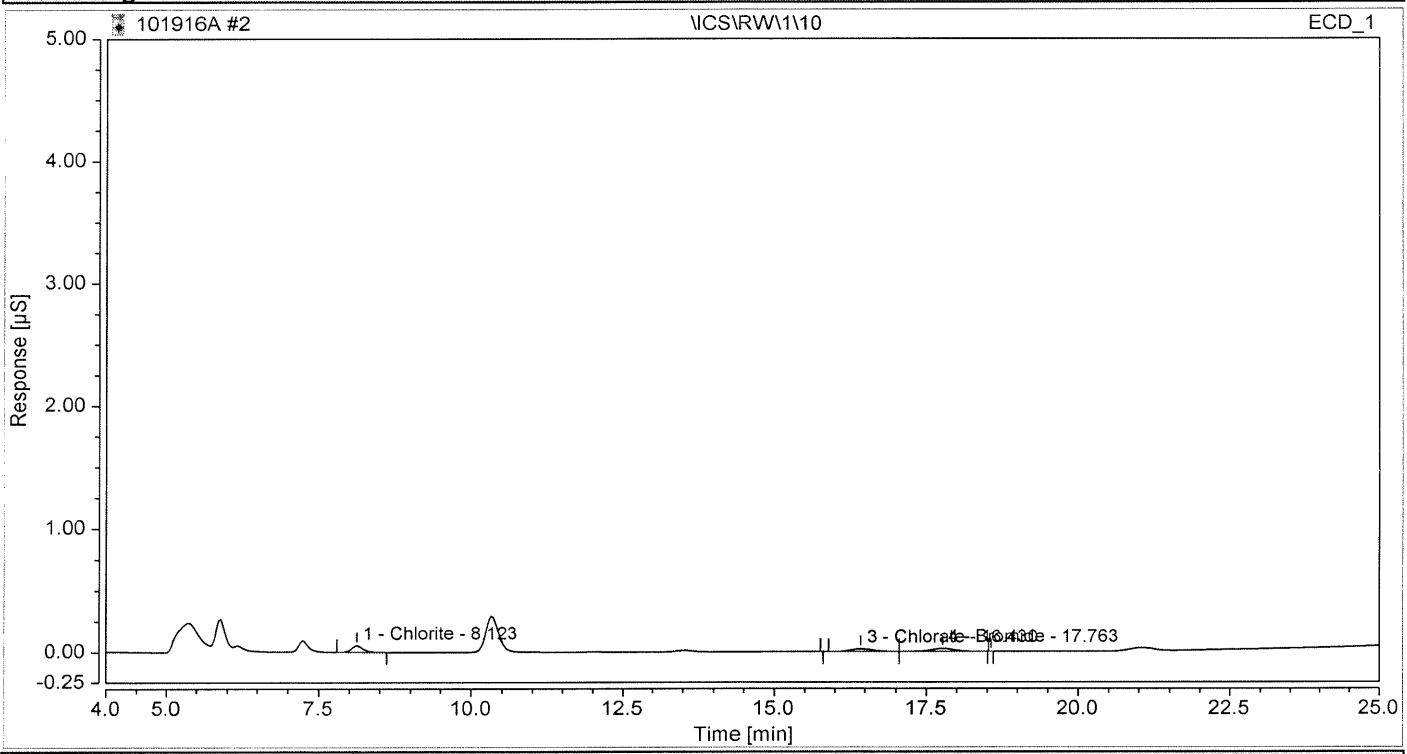
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
3	Chlorate	16.023	0.000	0.000	12.47	7.35	2.9354
18	Bromide	18.557	0.000	0.000	3.46	6.40	1.7882
Total:			**0.000**	**0.000**	**15.93**	**13.75**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**32.50**
Vial Number:	**G2**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 15:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

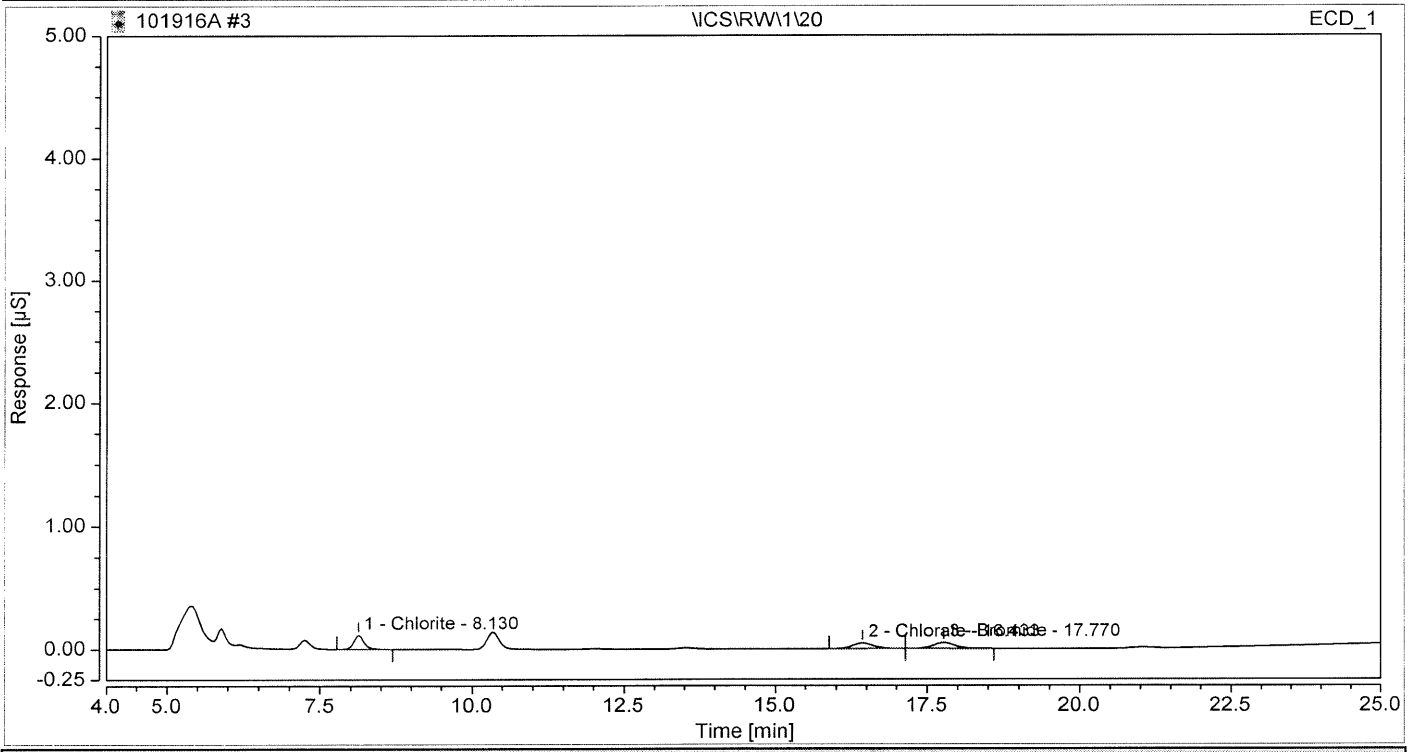
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.123	0.011	0.055	37.26	53.87	10.9998
3	Chlorate	16.430	0.009	0.022	28.69	22.05	11.1746
4	Bromide	17.763	0.010	0.024	34.04	24.00	11.0148
Total:			**0.031**	**0.101**	**99.99**	**99.92**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**32.50**
Vial Number:	**G3**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 16:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

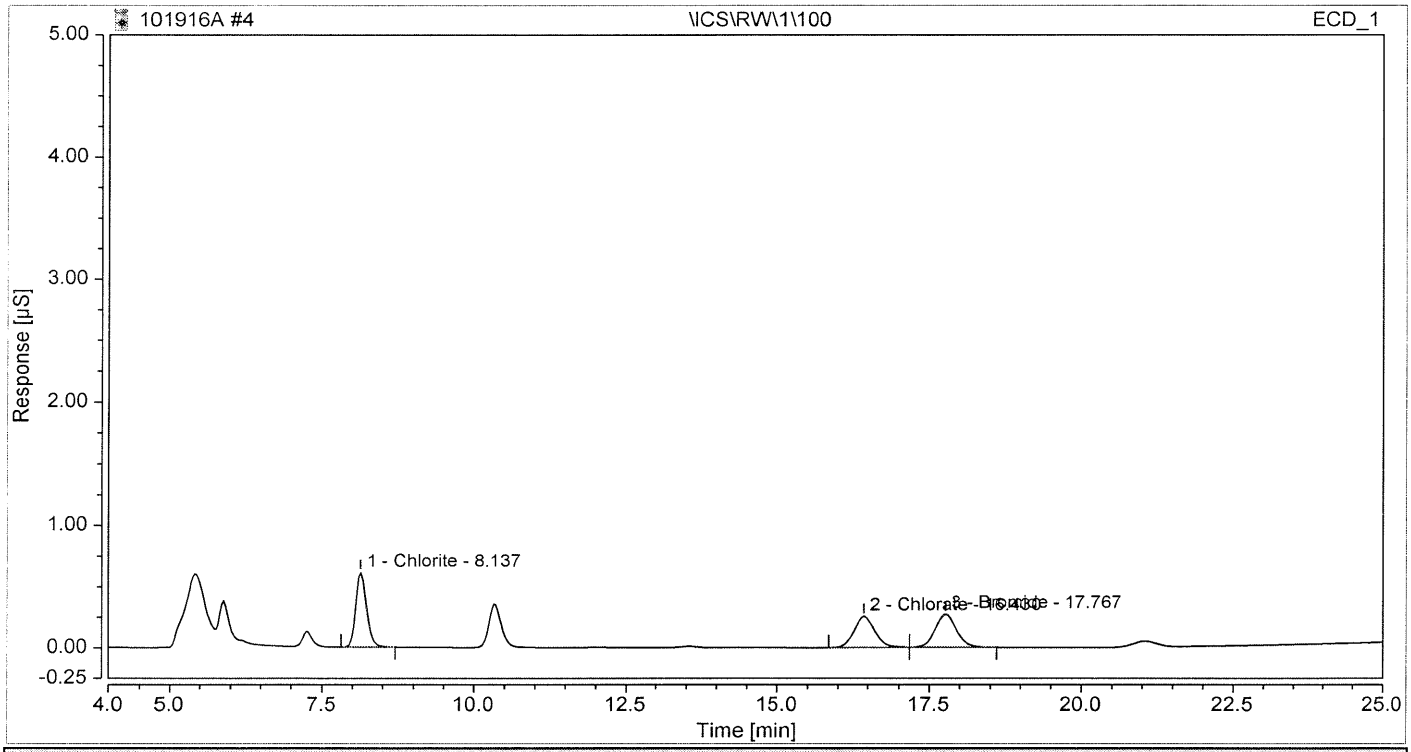
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.130	0.023	0.114	37.81	54.49	20.1919
2	Chlorate	16.433	0.018	0.046	29.50	22.11	19.9605
3	Bromide	17.770	0.020	0.049	32.68	23.40	19.5837
Total:			**0.062**	**0.209**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**32.50**
Vial Number:	**G4**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 16:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

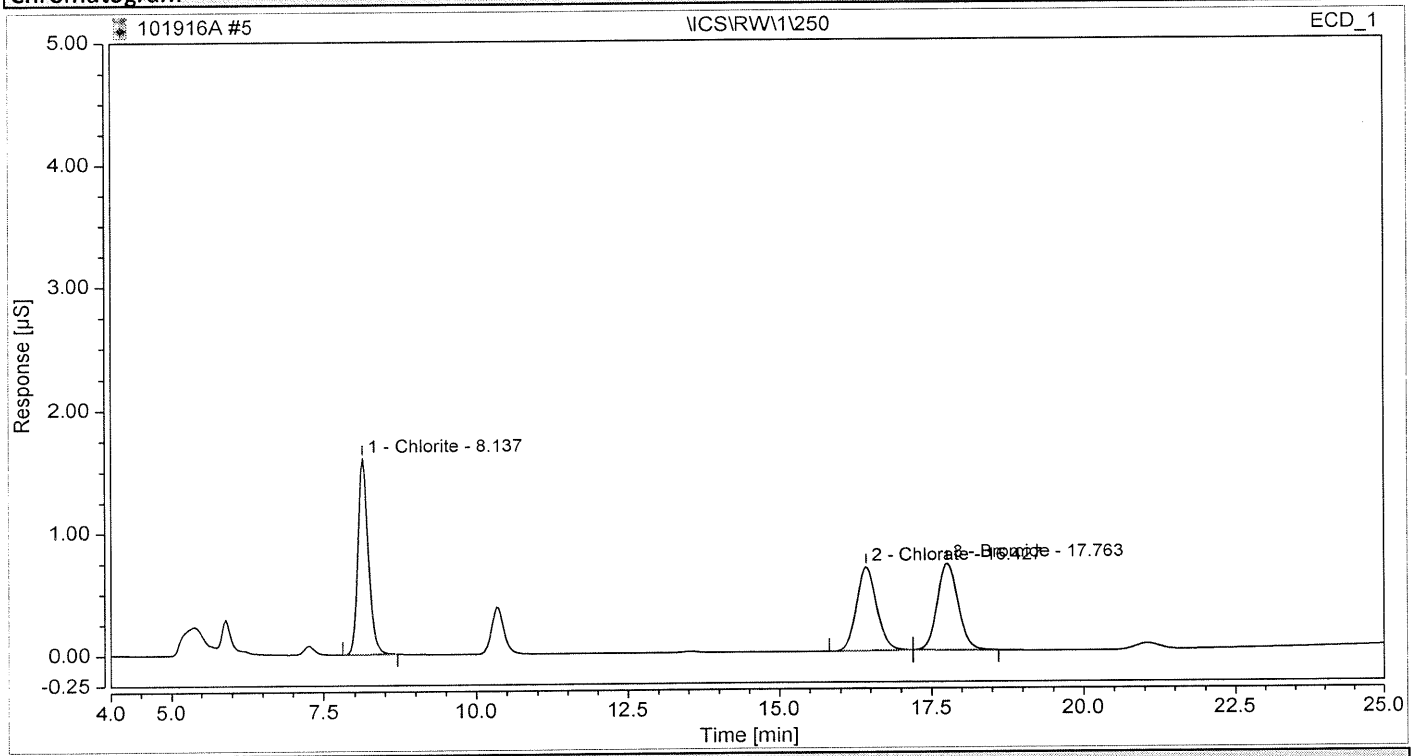
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.137	0.123	0.610	37.29	53.78	97.1090
2	Chlorate	16.430	0.099	0.254	29.91	22.42	95.0652
3	Bromide	17.767	0.108	0.270	32.80	23.80	97.1030
Total:			**0.330**	**1.133**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 17:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

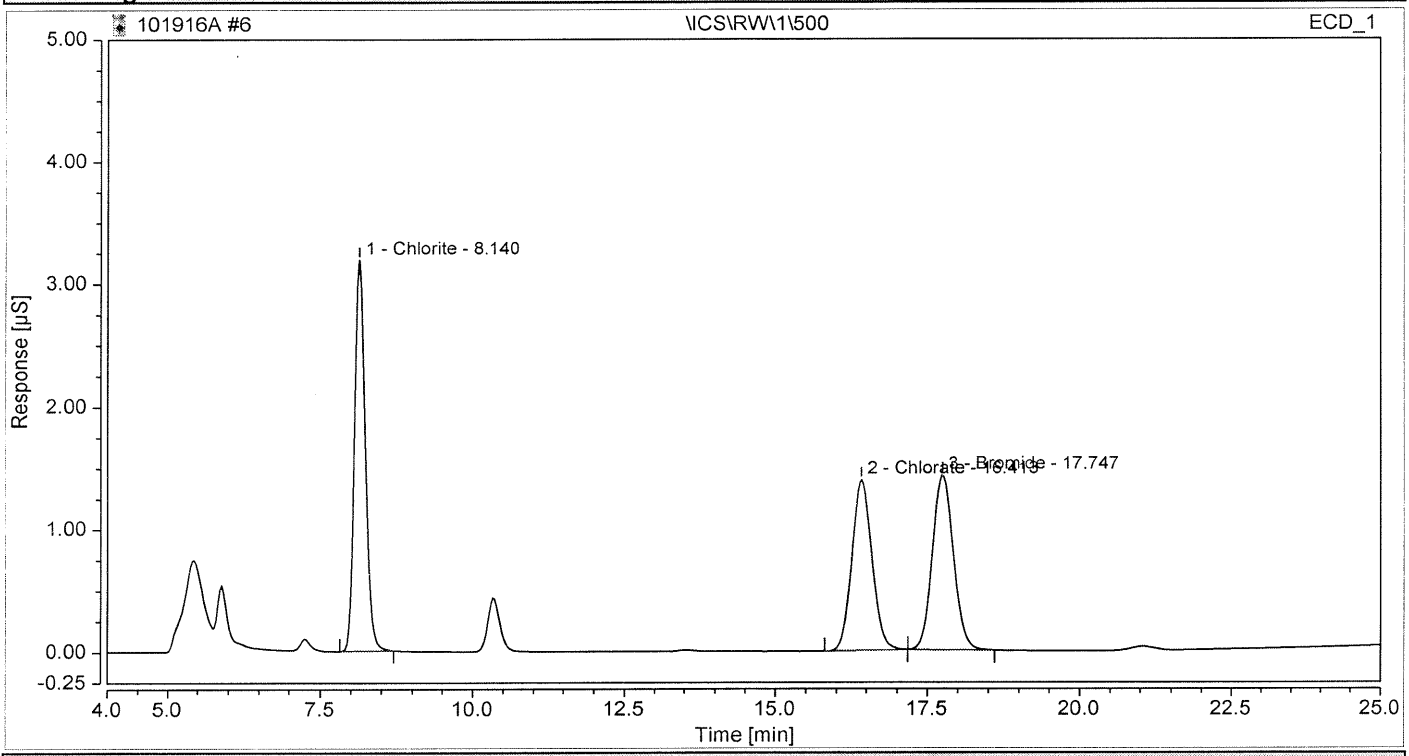
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.137	0.324	1.602	37.25	53.50	252.2974
2	Chlorate	16.427	0.264	0.685	30.38	22.89	249.7986
3	Bromide	17.763	0.282	0.707	32.37	23.61	249.8690
Total:			**0.870**	**2.993**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**32.50**
Vial Number:	**G6**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Oct/16 18:06**	*Sample Weight:*	**1.0000**

Chromatogram



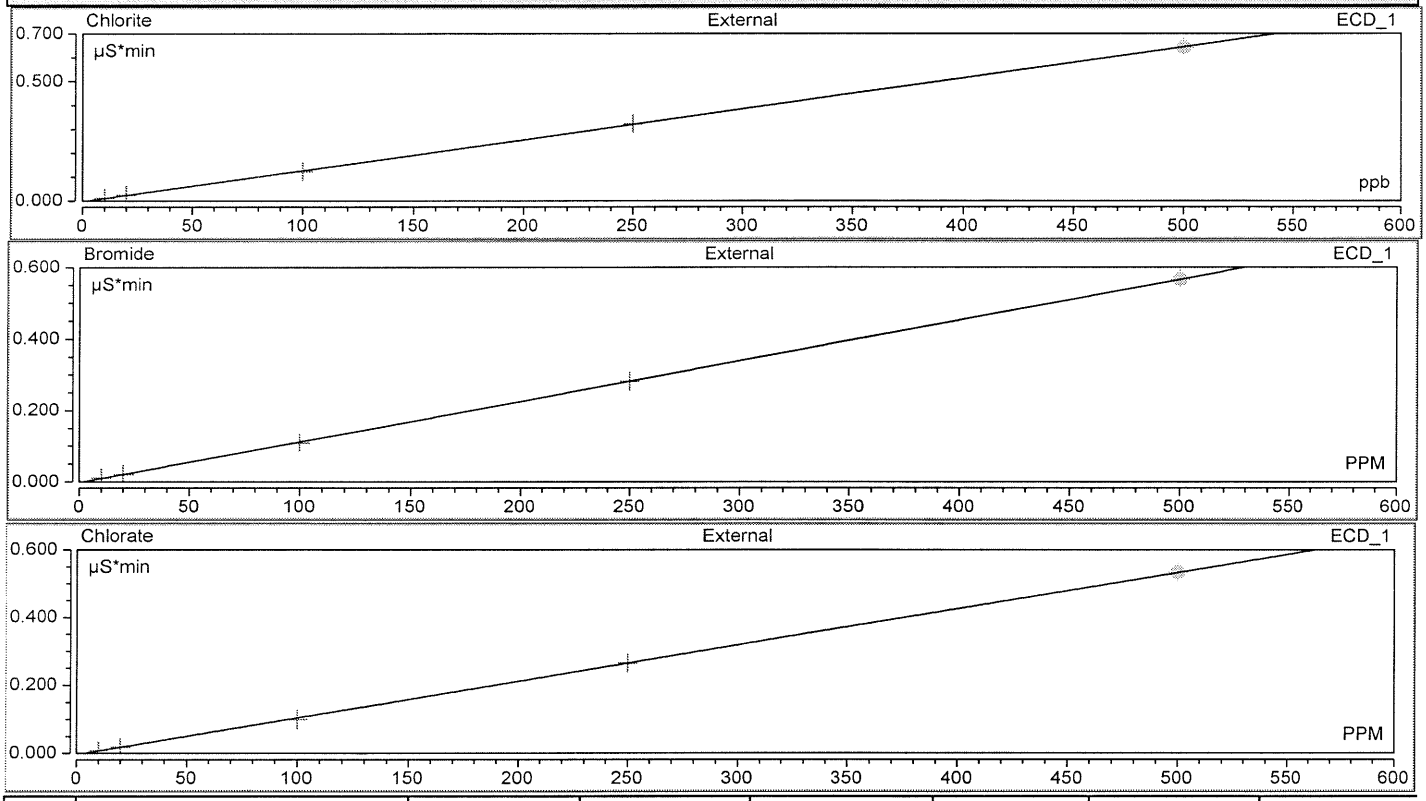
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.140	0.645	3.185	36.94	53.06	499.4018
2	Chlorate	16.413	0.534	1.392	30.58	23.19	501.0657
3	Bromide	17.747	0.567	1.425	32.47	23.75	500.6413
Total:			**1.745**	**6.001**	**100.00**	**100.00**	

Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	-0.0028
Evaluation Type	Area	*Slope (C1)*	0.0013
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9999

Calibration Plot **Chlorite**



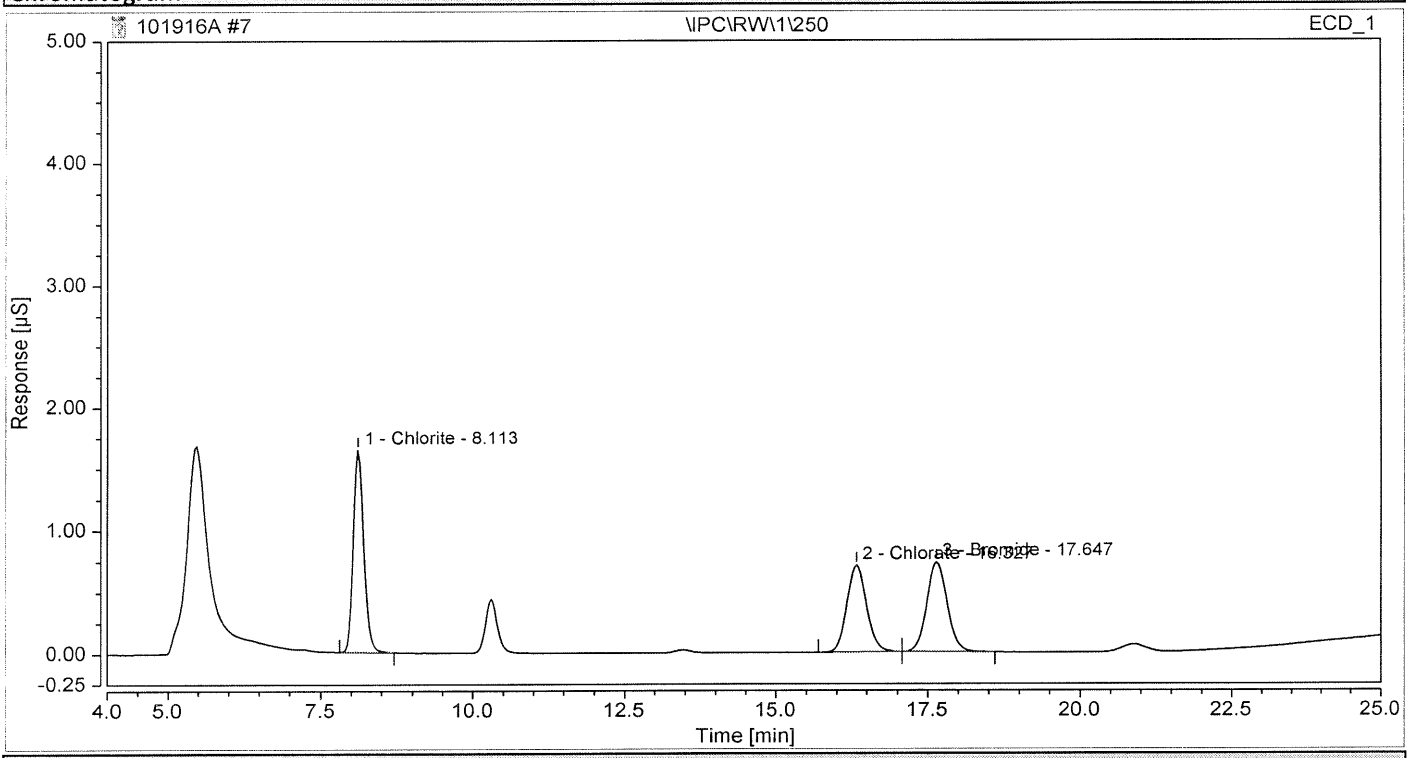
No.	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.996	771.44	-0.003	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.991	933.48	-0.003	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.997	880.48	-0.002	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 11:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

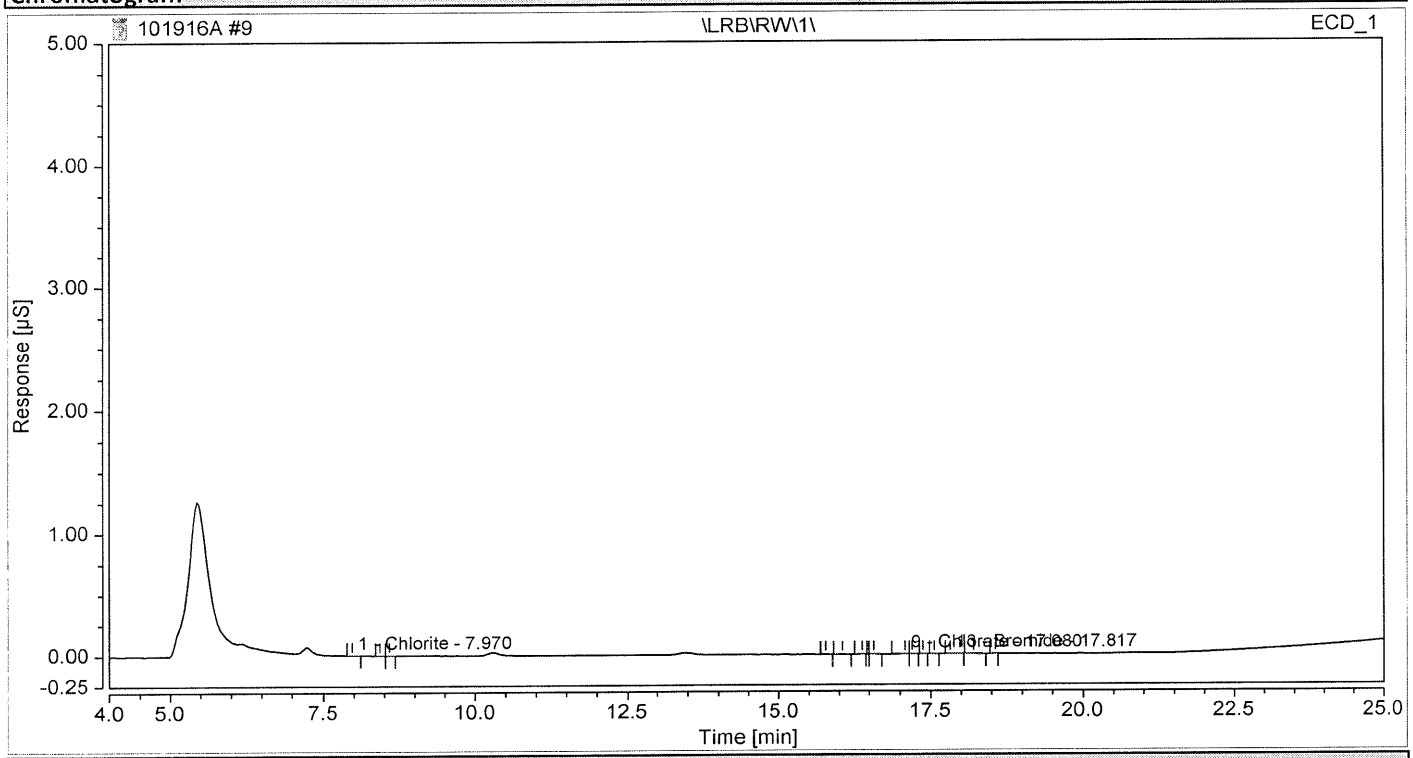
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.113	0.322	1.638	37.16	53.46	250.5148
2	Chlorate	16.327	0.263	0.701	30.36	22.89	248.4292
3	Bromide	17.647	0.281	0.725	32.48	23.65	249.5623
Total:			**0.866**	**3.064**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

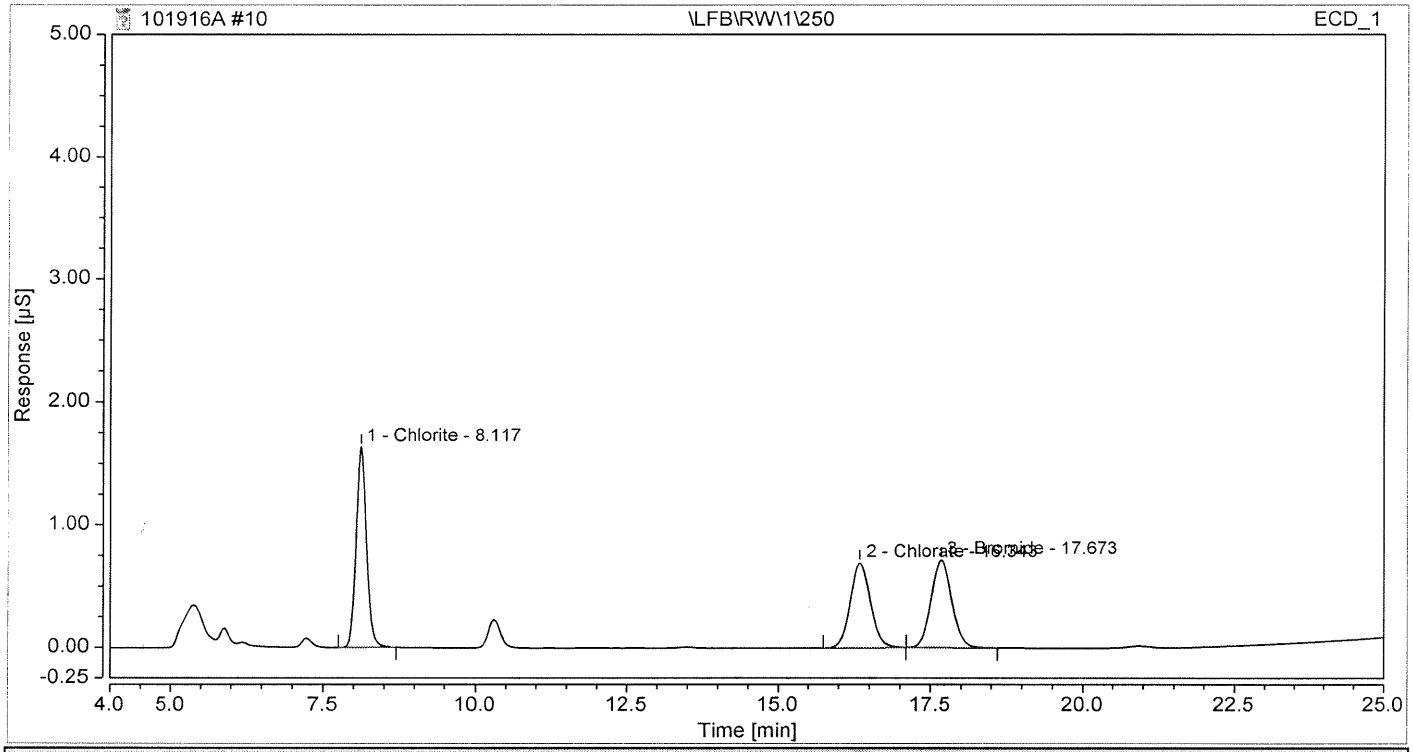
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.970	0.000	0.001	9.76	9.98	2.2102
9	Chlorate	17.080	0.000	0.000	9.10	6.00	2.9949
13	Bromide	17.817	0.000	0.001	12.27	10.32	1.8711
Total:			**0.000**	**0.002**	**31.13**	**26.29**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**GA3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

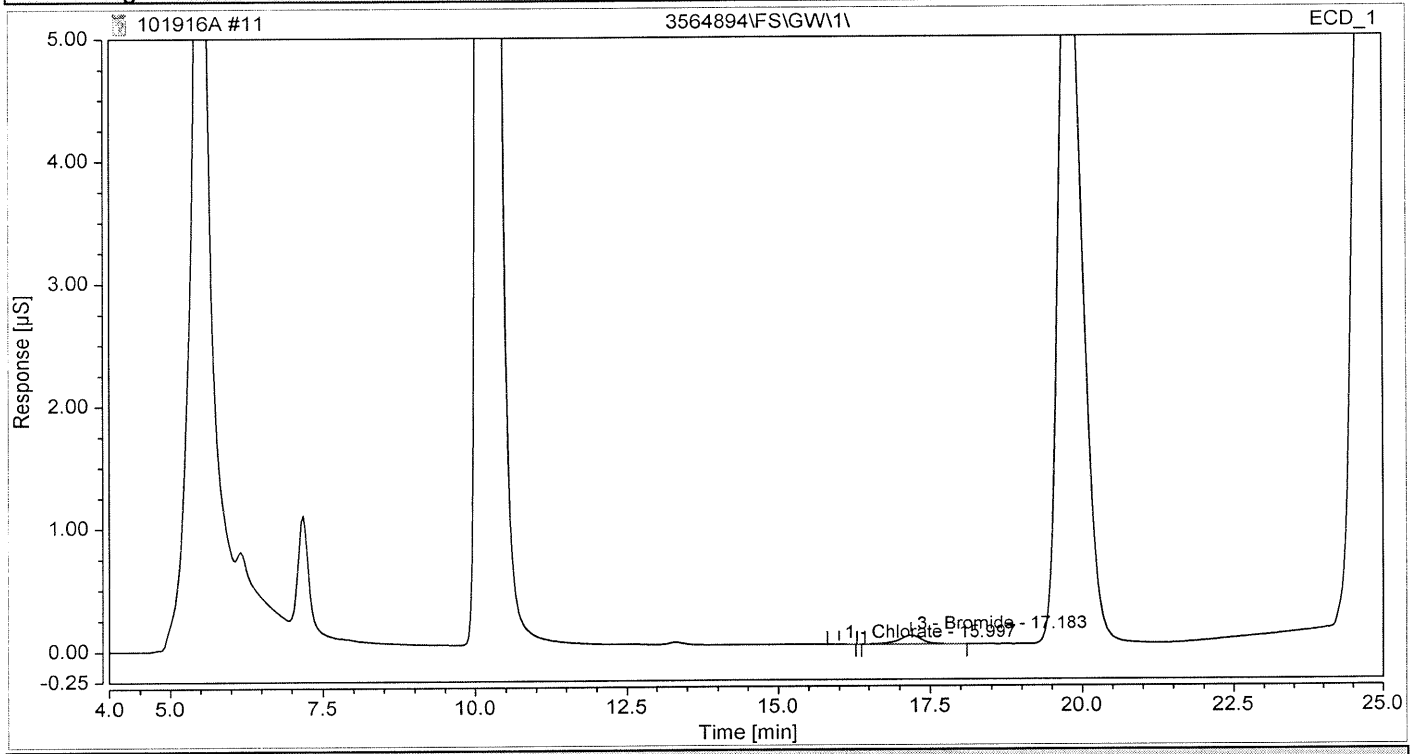
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.117	0.323	1.634	37.41	53.76	251.5034
2	Chlorate	16.343	0.262	0.691	30.31	22.74	247.3735
3	Bromide	17.673	0.279	0.714	32.28	23.50	247.3187
Total:			**0.864**	**3.039**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564894\FS\GW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA4**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 13:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

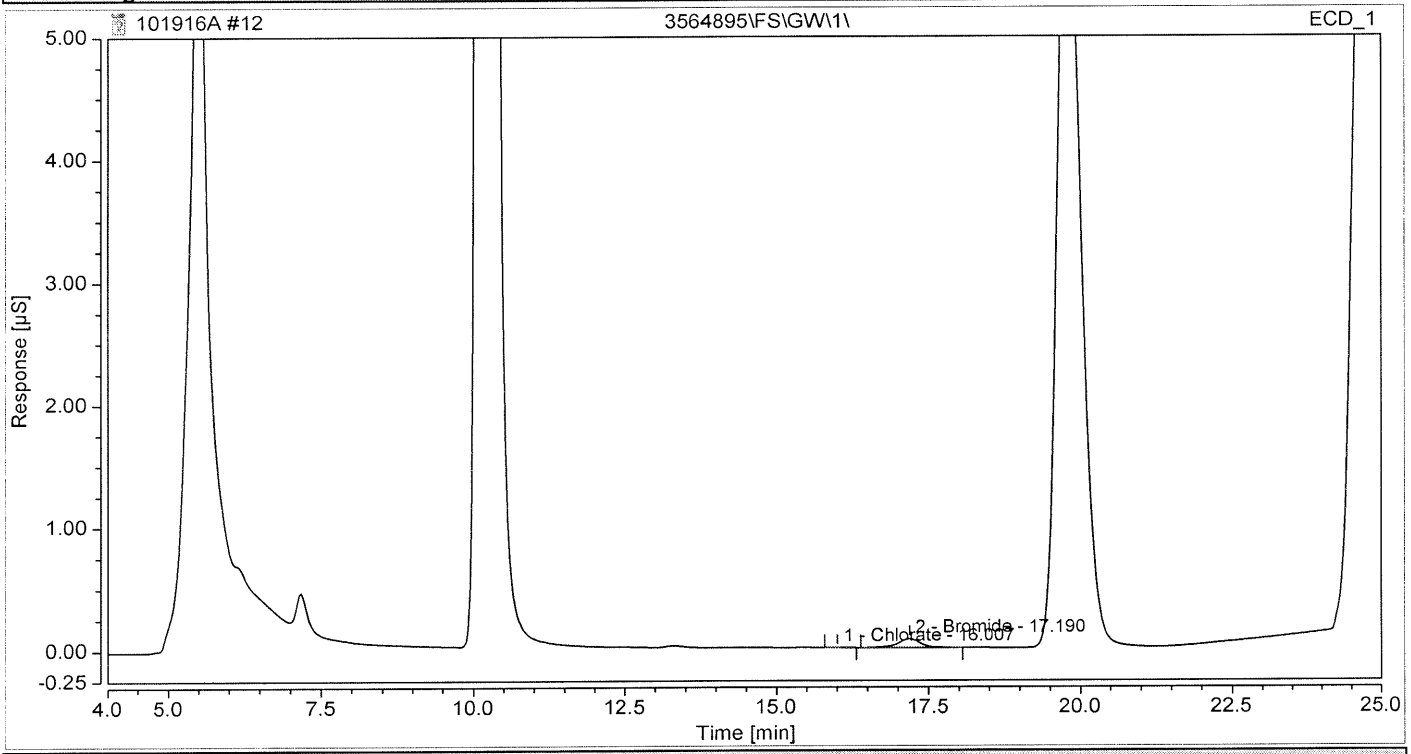
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	15.997	0.000	0.001	0.64	1.07	3.1103
3	Bromide	17.183	0.030	0.070	99.36	98.91	28.5098
Total:			**0.031**	**0.071**	**99.99**	**99.98**	

Chromatogram and Results

Injection Details

Injection Name:	**3564895\FS\GW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 14:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

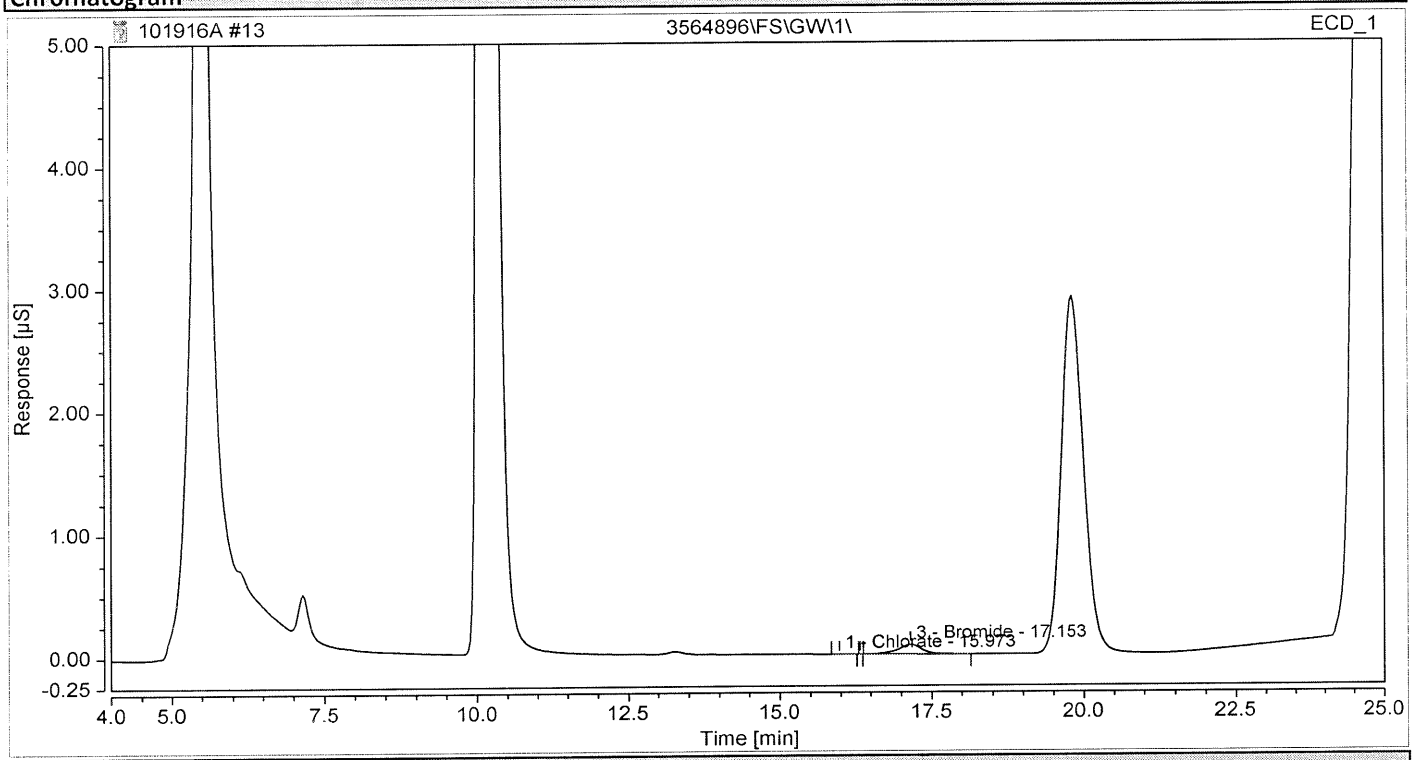
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	16.007	0.000	0.001	0.97	1.38	3.2052
2	Bromide	17.190	0.030	0.070	99.03	98.62	28.3260
Total:			**0.030**	**0.071**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3564896\FS\GW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA6**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 15:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

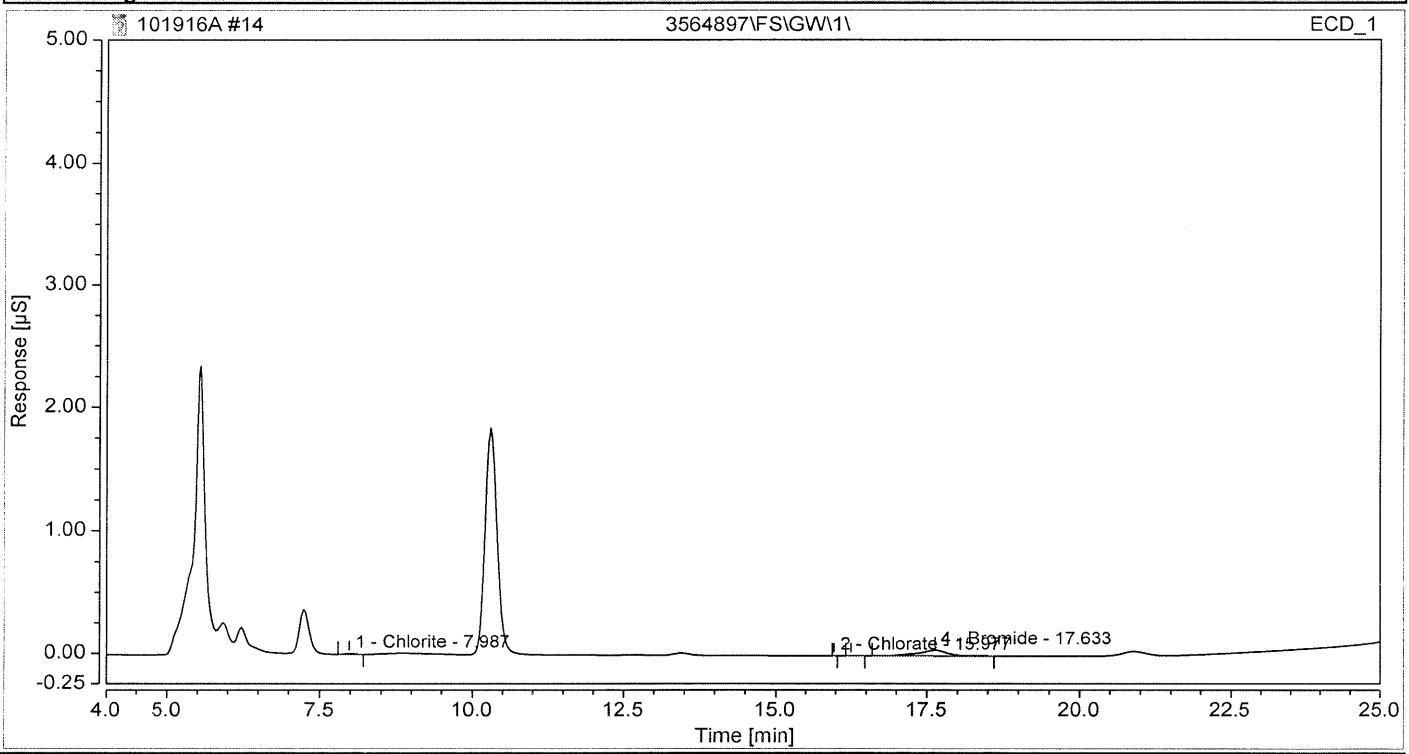
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	15.973	0.000	0.000	0.31	0.59	3.0304
3	Bromide	17.153	0.035	0.078	99.68	99.35	32.7700
Total:			**0.035**	**0.079**	**99.99**	**99.94**	

Chromatogram and Results

Injection Details

Injection Name:	**3564897\FS\GW\1**	*Run Time (min):*	**32.50**
Vial Number:	**GA7**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 15:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

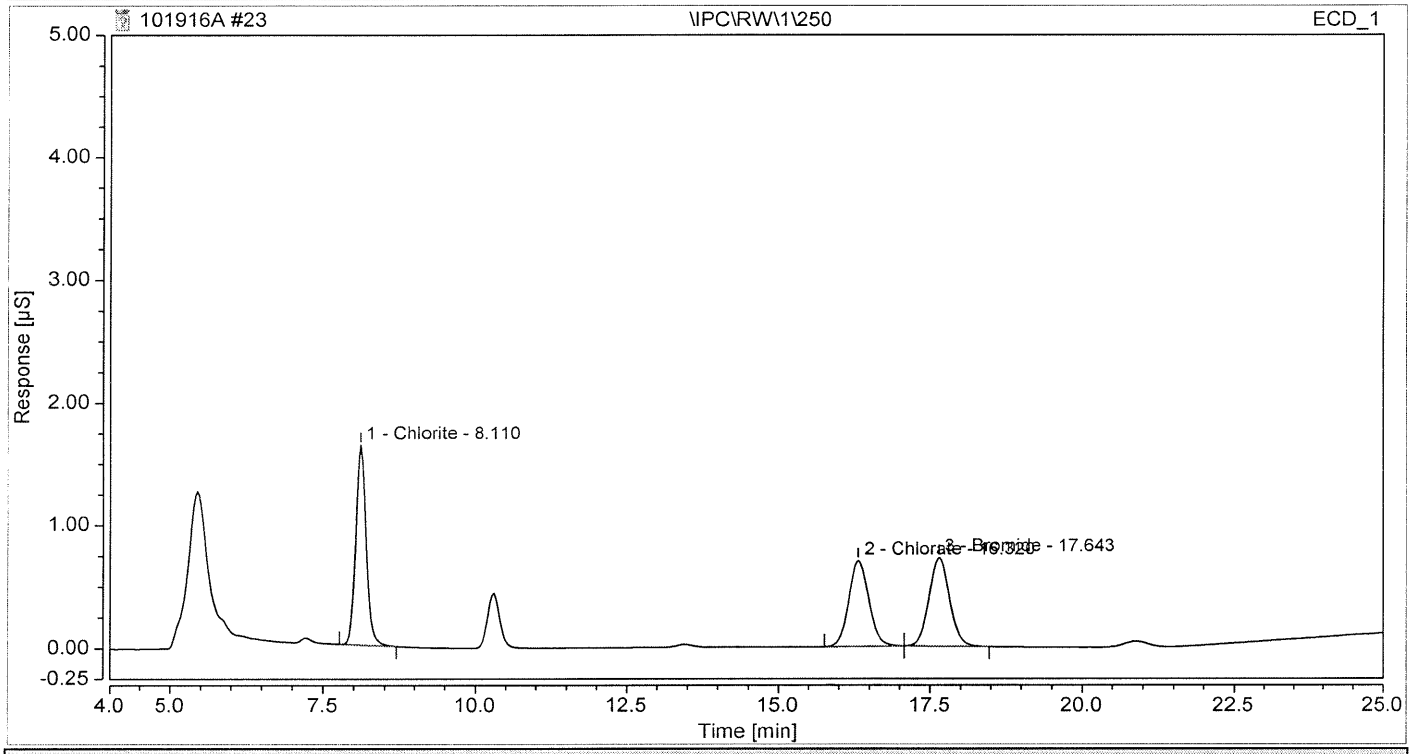
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.987	0.001	0.006	4.39	12.02	3.0823
2	Chlorate	15.977	0.000	0.000	0.01	0.06	2.9297
4	Bromide	17.633	0.026	0.047	95.52	87.66	24.9110
Total:			**0.027**	**0.054**	**99.91**	**99.75**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**32.50**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 21:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

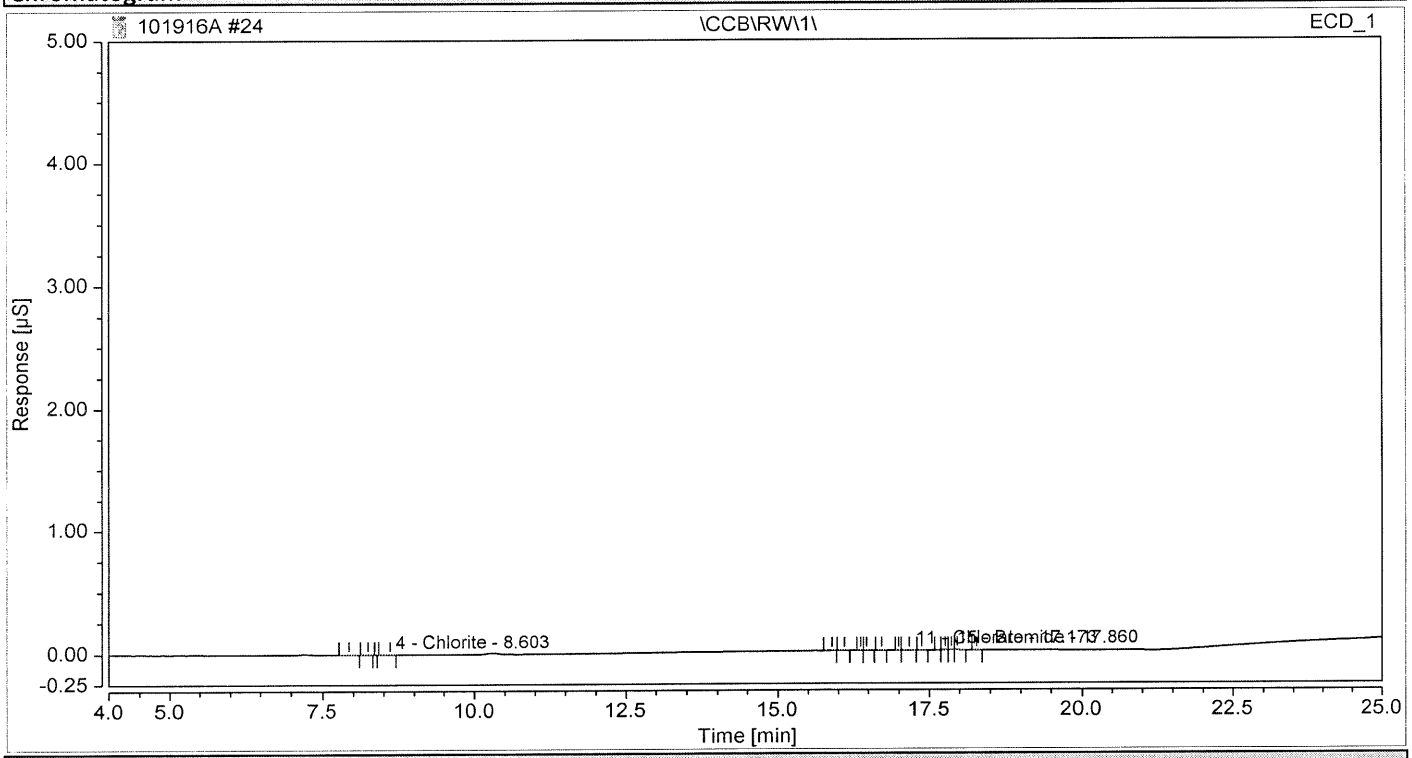
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.110	0.324	1.628	37.36	53.54	252.3417
2	Chlorate	16.320	0.263	0.694	30.27	22.84	248.2492
3	Bromide	17.643	0.281	0.718	32.37	23.63	249.1906
Total:			**0.868**	**3.040**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Oct/16 21:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

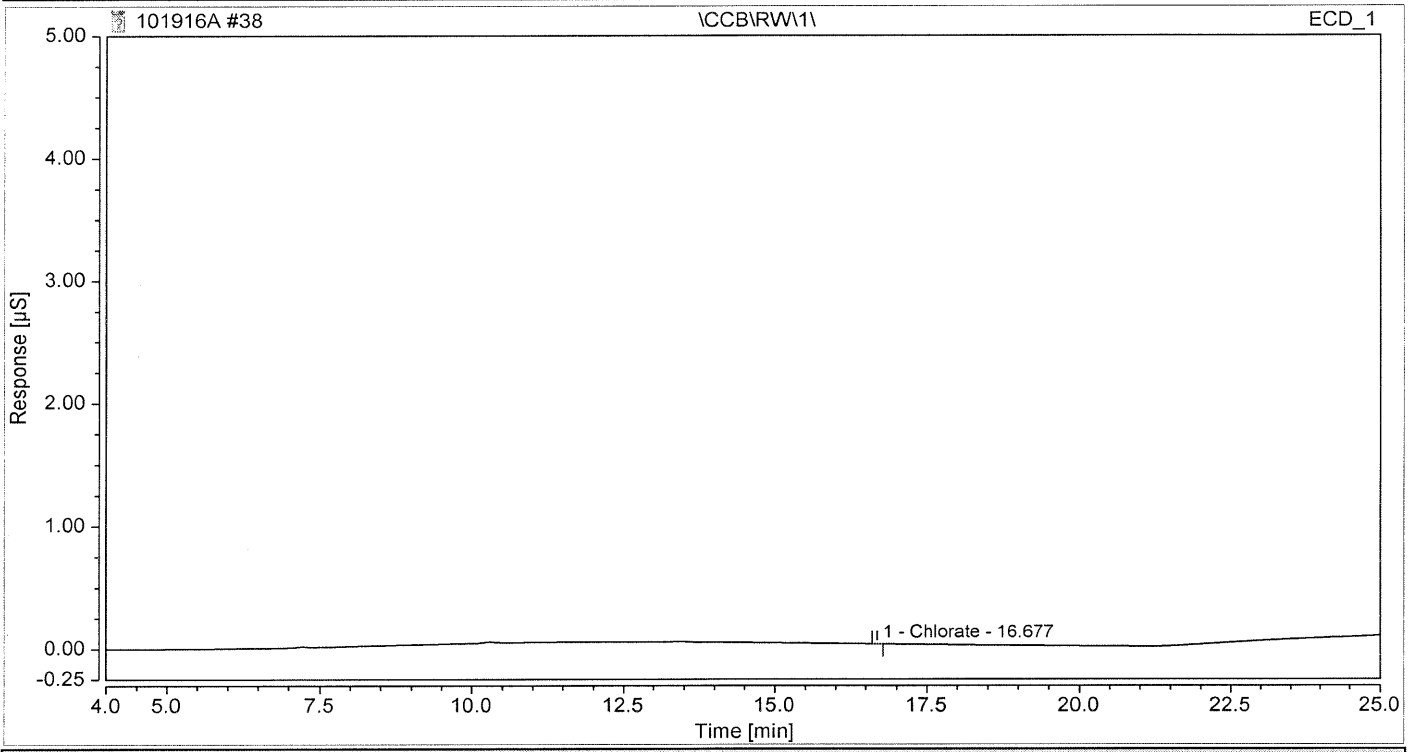
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
4	Chlorite	8.603	0.000	0.001	17.13	13.71	2.2175
11	Chlorate	17.173	0.000	0.000	5.47	4.70	2.9539
15	Bromide	17.860	0.000	0.000	1.77	3.73	1.7942
Total:			**0.000**	**0.001**	**24.37**	**22.14**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**32.50**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Oct/16 06:51**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	16.677	0.000	0.001	100.00	100.00	2.9795
Total:			**0.000**	**0.001**	**100.00**	**100.00**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj
Instrument:	CQ	Prepped by:	Shep Lovick	Date:	6/21/2016
Units:	ug/L			Comments:	*data taken from 7 consecutive RLC samples.*
Matrix Type:	RW	**Number of months next study due:**	**6**		

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
3/17/2016	Bromide	10	13.11	10.927	11.2	10.761	12.794	10.638	11.5	11.5614	0.995625	3.1292496
3/17/2016	Chlorate	10	12.909	11.518	11.713	11.345	12.513	11.29	12.022	11.9014	0.615053	1.9331101
3/17/2016	Chlorite	10	10.655	12.391	12.075	10.053	7.987	12.824	12.916	11.2716	1.810446	5.6902311

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEn
Project Contact: Paul Philemonoff
Telephone: 907-317-3840
Project Name: RAAP
Project #: 313010-001
Location: Radford, VA
Sampled By: PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 122845
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM BM

am:
RCRA SDWA NPDES
/aste Other _____

Report To:
EMAIL: PaulP@bsenv.com
Company: BSEn
Address: 615 E 82nd Ave #200
Anchorage, AK 99518
Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: Explosives	MUX/DNX/TNX	Perchlorate	chlorite/chlorate	TIC/sulfate/pH/alkalinity/chloride	TOC	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
10-11-16	1230	GW	Glal		54 MW 1	N	X	X	X	X	X	X	18	X	787265
10-11-16	1530	GW	Grab		54 MW 12	N	X	X	X	X	X	X	6		787283

#Containers Reversed
MW1 = 6
MW12 = 18

Relinquished By: [signature] Date/Time 10-11-16 1722
Received by: Date/Time

Received By: [signature] Date/Time 12 Oct 2016 13:45
Received for Laboratory by: [signature] Date/Time 10-12-16 1443

Lab Use Only
Ice Present (Yes) No
Temp 5.1 IR Gun # 16
Cooler # 5563

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

CUSTODY SEAL
DATE 10-11-16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 10-11-16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

T= 5.1°C SIT 16

Cooler # 5563

D:WALA (907) 317-3840
LEMONOFF
ND AVE STE 200
E, AK 99518
TATES US

SHIP DATE: 11OCT16
ACTWGT: 56.80 LB
CAD: 6992032/SSFD1722
DIMS: 24x16x15 IN
BILL THIRD PARTY

156297-435 RIT2 10/15

.ABS

) LANGE COURT

ABOO WI 53913
2760 REF:

DEPT:

FedEx Express

J162016070501en

WED - 12 OCT 10:30A
PRIORITY OVERNIGHT

FRK# 0201 7843 2509 6000

XH MSNA

53913
WI-US MSN

Folder #: 122845

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 123385

Project Manager: *BMS* **Date Received:** 10/12/16 **Log Date:** 10/12/2016

Report To: S. JULIA LIU CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 5.1 oC

SAMPLE #: 787265 DESCR: 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/11/2016 Time: 1230**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/24/2016		Logged
759	CARBON, INORG & ORG	(EPA 9060A)				10/25/2016	10/24/2016		Logged
878	SUB PERCHLORATE	(SW6850)				11/08/2016	10/24/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/13/2016	10/24/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/08/2016	10/24/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					10/24/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					10/24/2016		Logged

Folder #: 122845 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 787283 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/11/2016 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)			***DESIGNATED MATRIX SPIKE***		10/24/2016		Logged
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	10/25/2016	10/24/2016		Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	11/08/2016	10/24/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	10/13/2016	10/24/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	11/08/2016	10/24/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		10/24/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)			***DESIGNATED MATRIX SPIKE***		10/24/2016		Logged

Invoice Number: 123385 **Preliminary Invoice Estimate:** $ 748.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	2	$ 10.00	0.00	$ 20.00
CARBON, INORG & ORG	GROUND WATER	2	$ 25.00	0.00	$ 50.00
FILTRATION, SAMPLE	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ORGAN CARBON T QSM 5.0	GROUND WATER	2	$ 25.00	0.00	$ 50.00
SUB CHLORATE/CHLORITE	GROUND WATER	2	$ 90.00	0.00	$ 180.00
SUB MNX/DNX/TNX	GROUND WATER	2	$ 90.00	0.00	$ 180.00
SUB PERCHLORATE	GROUND WATER	2	$ 104.00	0.00	$ 208.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**8**	MNX,DNX,TNK
H2SO4 PL	**4**	TOC
UNPRES GL	**3**	Perchlorate
UNPRES PL	**7**	CHLORATE/CHLORITE
VOA	**2**	CHLORATE/CHLORITE

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Sample Condition Report

Folder #: 122845
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/12/2016 14:43
Received Date / Time / By: 10/12/2016 13:45 DB

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 10/12/2016 14:43 BNA
Project #: 313010-001 PM: BMS

Coolers: 5563
Custody Seals Present : **Y**

Temperature: 5.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 0201784325096000
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT; BOTH DATED 10/11/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
787265 54MW1				
	UNPRES PL	1	/	Anions,TIC
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
787265 54MW1				
	VOA	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	**(*VOA*) = 1**		
787265 54MW1				
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
787265 54MW1				
	AMBER GL	1	/	MNX,DNX,TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
787265 54MW1				
	VOA	1	/	Perchlorate
	Total # of Containers of Type	**(*VOA*) = 1**		
787265 54MW1				
	H2SO4 PL	1 Y	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
787283 54MW12				
	UNPRES GL	1	/	Anions,TIC
	Total # of Containers of Type	**(*UNPRES GL*) = 1**		

787283 54MW12

UNPRES PL	1		/	Anions,TIC
UNPRES PL	1		/	Anions,TIC
Total # of Containers of Type	**(*UNPRES PL*) =**	**2**		

787283 54MW12

UNPRES GL	1		/	CHLORATE/CHLORITE
Total # of Containers of Type	**(*UNPRES GL*) =**	**1**		

787283 54MW12

UNPRES PL	1		/	CHLORATE/CHLORITE
UNPRES PL	1		/	CHLORATE/CHLORITE
Total # of Containers of Type	**(*UNPRES PL*) =**	**2**		

787283 54MW12

AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
Total # of Containers of Type	**(*AMBER GL*) =**	**3**		

787283 54MW12

AMBER GL	1		/	MNX,DNX,TNK
AMBER GL	1		/	MNX,DNX,TNK
AMBER GL	1		/	MNX,DNX,TNK
Total # of Containers of Type	**(*AMBER GL*) =**	**3**		

787283 54MW12

UNPRES GL	1		/	Perchlorate
Total # of Containers of Type	**(*UNPRES GL*) =**	**1**		

787283 54MW12

UNPRES PL	1		/	Perchlorate
UNPRES PL	1		/	Perchlorate
Total # of Containers of Type	**(*UNPRES PL*) =**	**2**		

787283 54MW12

H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) =**	**3**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEn
Project Contact: Paul Philomoroff
Telephone: 907-317-3840
Project Name: RAAP
Project #: 313010-001
Location: Radford, VA
Sampled By: PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 122887
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM BM

ogram:
SM RCRA SDWA NPDES
lid Waste Other _____
) #

Report To:
EMAIL: PaulP@bsenv.com
Company: BSEn
Address: 615 L 82nd Ave #200 Anchorage, AK 99518
Invoice To:*
EMAIL: Same
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	Explosives	MNX/DNX/TNX	TOC	TIC/N nitrate/sulfate/chloride	Perchlorate	Chlorate/chlorite	metals	pH	COD	VOC	Methanol/Ethanol/Ethene	Sulfate/Nitrate/Chloride				Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																		
10-12-16	0923	GW	Grab		54MW13	N	X	X	X	X	X	X											6		787715
10-12-16	0955	GW	Grab		~~101216R1~~ 54TM12	N	X	X	X	X	X	X											6		787716
10-12-16	1116	GW	Grab		54MW10	N	X	X	X	X	X	X											6		787717
10-12-16	1530	GW	Grab		101216R1	N	X	X	X	X	X	X											6		787718
10-12-16	1530	GW	Grab		54AOW01	N							X	X	X								3		787719
10-12-16	1250	GW	Grab		13MW3	N			X							X	X	X					6		787720
10-12-16	1425	GW	Grab		13MW4	N			X							X	X	X					18	X	787721
10-12-16	1513	GW	Grab		13MW2	N			X							X	X	X					6		787722
10-12-16	1620	GW	Grab		49MW04				X							X	X	X					6		787723
10-12-16	1600	GW	Grab		101216T1											X							2		787724

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	10-12-16 1725		10-13-16 1500
Received by:	**Date/Time**	**Received for Laboratory by:**	**Date/Time**
			1:30

Lab Use Only
Ice Present Yes No
Temp 3.9 IR Gun # 10
Cooler # 5624

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the work Order. Ownership of any analytical method, OWQC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Cooler Receipt Form

Ice Present YES NO

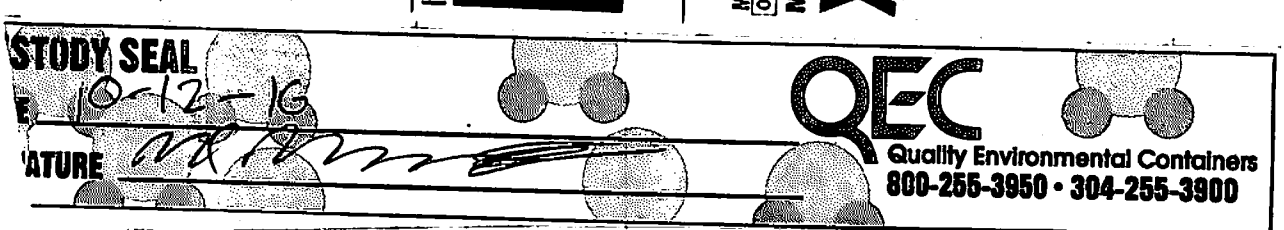
Temperature 3.9

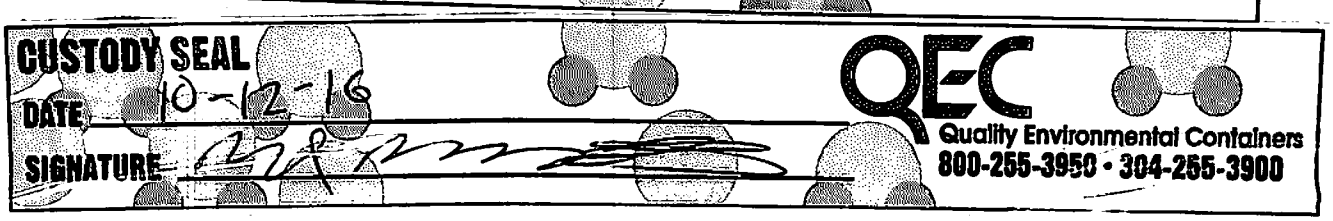
IR Gun # 10

Initials [illegible]

Date 10/13/16 Time 1:30

Cooler #: 5624





Cooler Receipt Form

Ice Present (YES) NO

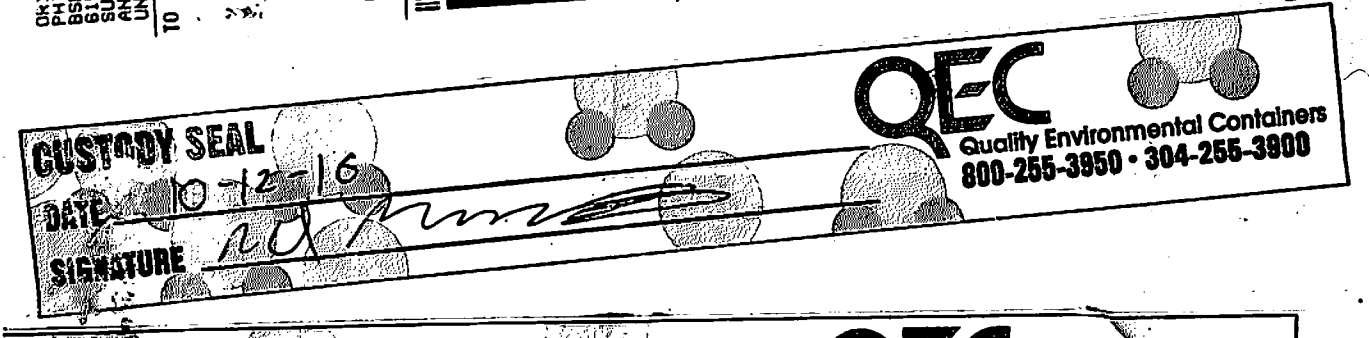
Temperature 2.1

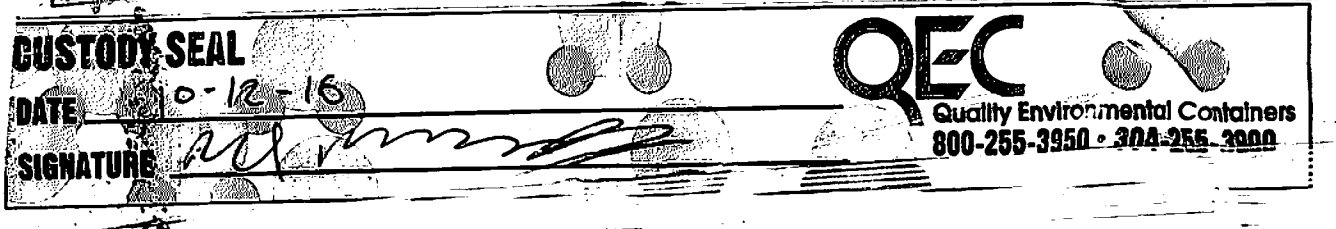
IR Gun # 10

Initials DL

Date 10/13/16 Time 1:30

Cooler #: 5752





Folder #: 122887

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 123423

Project Manager: *BMS* **Date Received:** 10/13/16 **Log Date:** 10/13/2016

Report To: PAUL PHILEMONOFF CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :PAUL PHILEMONOFF CC: SLIU@BSENV.COM
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 3.9 oC

SAMPLE #: 787715 DESCR: 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/12/2016 Time: 0925**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
759	CARBON, INORG & ORG	(EPA 9060A)				10/26/2016	10/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)				11/09/2016	10/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/09/2016	10/25/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					10/25/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					10/25/2016		Logged

Folder #: 122887 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 787716 **DESCR:** 54TM12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 0955

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
759	CARBON, INORG & ORG	(EPA 9060A)				10/26/2016	10/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)				11/09/2016	10/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/09/2016	10/25/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					10/25/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					10/25/2016		Logged

SAMPLE #: 787717 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1116

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
759	CARBON, INORG & ORG	(EPA 9060A)				10/26/2016	10/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)				11/09/2016	10/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered
			Sulfate						
			Chloride						
			Nitrate Nitrogen						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/09/2016	10/25/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					10/25/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					10/25/2016		Logged

Folder #: 122887 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 787718 **DESCR:** 101216R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
759	CARBON, INORG & ORG	(EPA 9060A)				10/26/2016	10/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)				11/09/2016	10/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/09/2016	10/25/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					10/25/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					10/25/2016		Logged

SAMPLE #: 787719 **DESCR:** 54AOW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					10/25/2016		Logged
989	COD QSM	(EPA 410.4)				11/09/2016	10/25/2016		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				04/10/2017	10/25/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				04/10/2017	10/25/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				04/10/2017	10/25/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						

Folder #: 122887 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 787719 **DESCR:** 54AOW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				11/09/2016	10/25/2016		NeedPrep

SAMPLE #: 787720 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1250

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***	10/26/2016	10/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/26/2016	10/25/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered
			Sulfate						
			Chloride						
			Nitrate Nitrogen						

Folder #: 122887 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 787720 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1250

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/09/2016	10/25/2016		Logged

SAMPLE #: 787721 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1425

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)			***DESIGNATED MATRIX SPIKE***		10/25/2016		Entered
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y*** ***DESIGNATED MATRIX SPIKE***	10/26/2016	10/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	10/26/2016	10/25/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	10/14/2016	10/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)			***DESIGNATED MATRIX SPIKE***	11/09/2016	10/25/2016		Logged

SAMPLE #: 787722 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1515

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***	10/26/2016	10/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/26/2016	10/25/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered

Folder #: 122887 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 787722 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1515

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				11/09/2016	10/25/2016		Logged

SAMPLE #: 787723 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/12/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/25/2016		Entered
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/26/2016	10/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/26/2016	10/25/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/14/2016	10/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				11/09/2016	10/25/2016		Logged

SAMPLE #: 787724 **DESCR:** 101216T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 10/12/2016 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/26/2016	10/25/2016		Logged

Folder #: 122887 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 123423 **Preliminary Invoice Estimate:** $ 2,314.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	8	$ 10.00	0.00	$ 80.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	8	$ 10.00	0.00	$ 80.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	8	$ 10.00	0.00	$ 80.00
CARBON, INORG & ORG	GROUND WATER	4	$ 25.00	0.00	$ 100.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	8	$ 10.00	0.00	$ 80.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50

METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	4	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	4	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	4	$ 40.00	0.00	$ 160.00
ORGAN CARBON T QSM 5.0	GROUND WATER	8	$ 25.00	0.00	$ 200.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
SUB CHLORATE/CHLORITE	GROUND WATER	4	$ 90.00	0.00	$ 360.00
SUB MNX/DNX/TNX	GROUND WATER	4	$ 90.00	0.00	$ 360.00
SUB PERCHLORATE	GROUND WATER	4	$ 104.00	0.00	$ 416.00
VOC 8260 QSM 5.0	GROUND WATER	4	$ 55.00	0.00	$ 220.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**8**	MNX/DNX/TNX
H2SO4 PL	**11**	COD
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**19**	Anions
VOA HCL	**26**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 122887
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/13/2016 15:44
Received Date / Time / By: 10/13/2016 13:30 DJL

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 10/13/2016 15:00 BNA
Project #: 313010-001 PM: BMS

Coolers: 5624; 5752
Custody Seals Present : **Y**

Temperature: <3.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 784336563363; 784336563374
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT ON EACH COOLER UPON RECEIPT; ALL DATED 10/12/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
787715 54MW13	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
787715 54MW13	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
787715 54MW13	AMBER GL	1	/	MNX/DNX.TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
787715 54MW13	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
787715 54MW13	UNPRES PL	1	/	SUB
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
787715 54MW13	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
787716 54TM12	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

787716 54TM12

AMBER GL 1 / EXPL
Total # of Containers of Type (*AMBER GL*) = 1

787716 54TM12

AMBER GL 1 / MNX/DNX/TNX
Total # of Containers of Type (*AMBER GL*) = 1

787716 54TM12

UNPRES PL 1 / Perchlorate
Total # of Containers of Type (*UNPRES PL*) = 1

787716 54TM12

UNPRES PL 1 / SUB
Total # of Containers of Type (*UNPRES PL*) = 1

787716 54TM12

H2SO4 PL 1 Y / TOC
Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

787717 54MW10

UNPRES PL 1 / Anions
Total # of Containers of Type (*UNPRES PL*) = 1

787717 54MW10

AMBER GL 1 / EXPL
Total # of Containers of Type (*AMBER GL*) = 1

787717 54MW10

AMBER GL 1 / MNX/DNX/TNX
Total # of Containers of Type (*AMBER GL*) = 1

787717 54MW10

UNPRES PL 1 / Perchlorate
Total # of Containers of Type (*UNPRES PL*) = 1

787717 54MW10

UNPRES PL 1 / SUB
Total # of Containers of Type (*UNPRES PL*) = 1

787717 54MW10

H2SO4 PL 1 Y / TOC
Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

787718 101216R1

UNPRES PL 1 / Anions
Total # of Containers of Type (*UNPRES PL*) = 1

787718 101216R1

AMBER GL 1 / EXPL
Total # of Containers of Type (*AMBER GL*) = 1

787718 101216R1

AMBER GL 1 / MNX/DNX/TNX
Total # of Containers of Type (*AMBER GL*) = 1

787718 101216R1

UNPRES PL 1 / Perchlorate
Total # of Containers of Type (*UNPRES PL*) = 1

787718 101216R1

UNPRES PL 1 / SUB
Total # of Containers of Type (*UNPRES PL*) = 1

787718 101216R1

H2SO4 PL 1 Y / TOC
Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

787719 54AOW01

H2SO4 PL 1 Y / COD
Total # of Containers of Type (*H2SO4 PL*) = 1

787719 54AOW01

HNO3 1 Y / HG,ICP,K,NA
Total # of Containers of Type (*HNO3*) = 1

787719 54AOW01

UNPRES PL 1 / pH
Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

787720 13MW3

UNPRES PL 1 / Anions
Total # of Containers of Type (*UNPRES PL*) = 1

787720 13MW3

VOA HCL 1 / GAS
VOA HCL 1 / GAS
Total # of Containers of Type (*VOA HCL*) = 2

787720 13MW3

H2SO4 PL 1 Y / TOC
Total # of Containers of Type (*H2SO4 PL*) = 1

787720 13MW3

VOA HCL 1 / VOC
VOA HCL 1 / VOC

		Total # of Containers of Type		**(*VOA HCL*) =**	**2**

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
787721 13MW4				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	ANIONS
	UNPRES PL	1	/	ANIONS
	Total # of Containers of Type		**(*UNPRES PL*) =**	**3**
787721 13MW4				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type		**(*VOA HCL*) =**	**6**
787721 13MW4				
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type		**(*H2SO4 PL*) =**	**3**
787721 13MW4				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type		**(*VOA HCL*) =**	**6**

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
787722 13MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type		**(*UNPRES PL*) =**	**1**
787722 13MW2				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type		**(*VOA HCL*) =**	**2**
787722 13MW2				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type		**(*H2SO4 PL*) =**	**1**
787722 13MW2				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type		**(*VOA HCL*) =**	**2**

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

787723	49MW04				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
787723	49MW04				
		VOA HCL	1	/	GAS
		VOA HCL	1	/	GAS
		Total # of Containers of Type	**(*VOA HCL*) = 2**		
787723	49MW04				
		H2SO4 PL	1 Y	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
787723	49MW04				
		VOA HCL	1	/	VOC
		VOA HCL	1	/	VOC
		Total # of Containers of Type	**(*VOA HCL*) = 2**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
787724 101216T1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page _____ of _____

Company: BSEn
Project Contact: Paul Philemonoff
Telephone: 907-317-3840
Project Name: RAAP
Project #: 313010-001
Location: Radford, VA
Sampled By: PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 122907
Company: BERING SEA ENVIRO
Project: RADFORD AAP
Logged By: BNV PM: BM

am:
RCRA SDWA NPDES
Vaste Other _____

Report To: Paul Philemonoff
EMAIL: PaulP@bsenv.com
Company: BSEn
Address: 615 E. 82nd Ave, #200
Invoice To:* Anchorage, AK 99518
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
~~24 hr 200%~~
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	Methane/Ethane/Ethene	Sulfate/Nitrate/Chloride	TOC	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
10-13-16	0835	GW	Grab		50MW02	N	X	X	X	X	6		788209
10-13-16	1005	GW	Grab		49MW02	N	X	X	X	X	6		788216
10-13-16	1205	GW	Grab		48MW3	N	X	X	X	X	6		788211
10-13-16	1210	GW	Grab		49TM01	N	X	X	X	X	6		788212
10-13-16	1345	GW	Grab		48MW2	N	X	X	X	X	6		788213
10-13-16	1550	GW	Grab		49MW01	N	X	X	X	X	6		788214
10-13-16	1700	GW	Grab		101316T1	N	X						788215

Relinquished By:	Date/Time	Received By:	Date/Time
	10-13-16 1700		10-14-16 1147
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			10/14/16 11:05

Lab Use Only
Ice Present (Yes) No
Temp 2.9 IR Gun # 10
Cooler # 5844

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are not 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Cooler Receipt Form

Ice Present (YES) NO

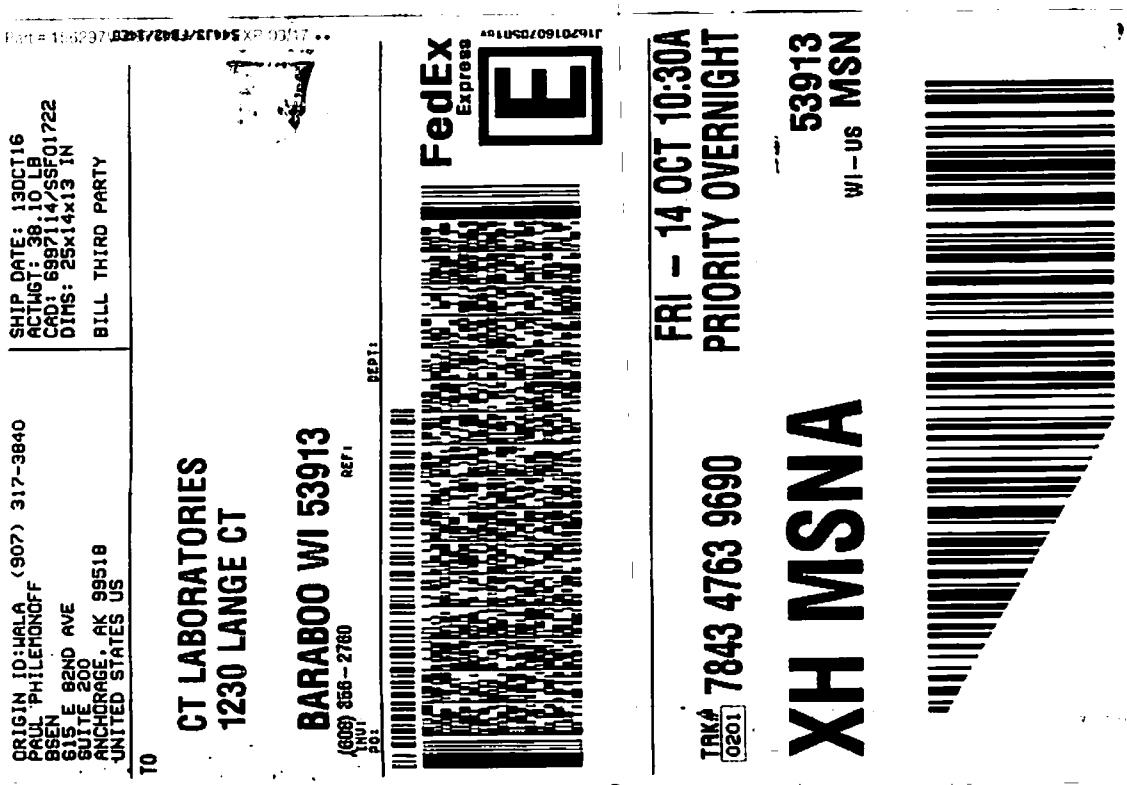
Temperature 2.9

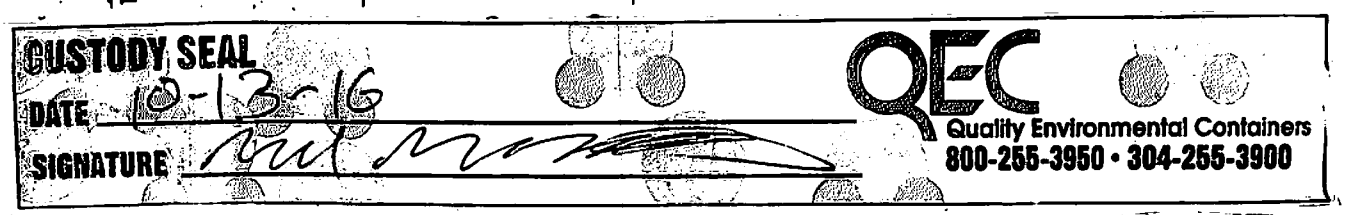
IR Gun # 10

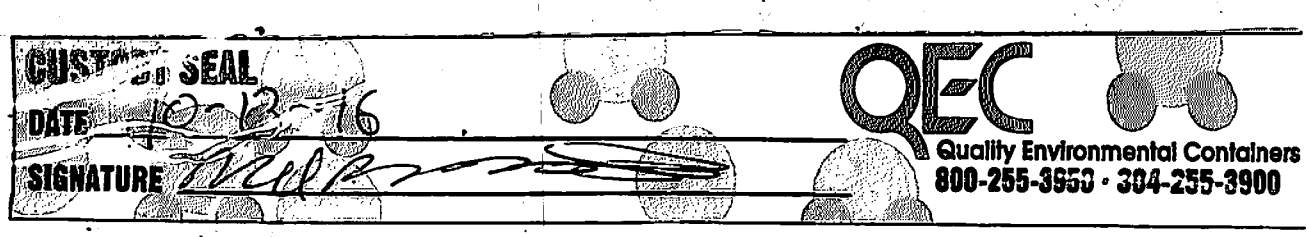
Initials [illegible]

Date 10/14/16 Time 11:05

Cooler #: 5844







Folder #: 122907

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 123443

Project Manager: *BMS* **Date Received:** 10/14/16 **Log Date:** 10/14/2016

Report To: PAUL PHILEMONOFF CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :PAUL PHILEMONOFF CC: SLIU@BSENV.COM
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 2.9 oC

SAMPLE #: 788209 **DESCR: 50MW02** **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/13/2016** **Time: 0835**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/26/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/27/2016	10/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/15/2016	10/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				11/10/2016	10/26/2016		Logged

Folder #: 122907 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 788210 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/13/2016 **Time:** 1005

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/26/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/27/2016	10/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/15/2016	10/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/10/2016	10/26/2016		Logged

SAMPLE #: 788211 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/13/2016 **Time:** 1205

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/26/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/27/2016	10/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/15/2016	10/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/10/2016	10/26/2016		Logged

Folder #: 122907 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 788212 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/13/2016 **Time:** 1210

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/26/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/27/2016	10/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/15/2016	10/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/10/2016	10/26/2016		Logged

SAMPLE #: 788213 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/13/2016 **Time:** 1345

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/26/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/27/2016	10/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/15/2016	10/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/10/2016	10/26/2016		Logged

Folder #: 122907 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 788214 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/13/2016 **Time:** 1550

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/26/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/27/2016	10/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/15/2016	10/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/10/2016	10/26/2016		Logged

SAMPLE #: 788215 **DESCR:** 101316T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 10/13/2016 **Time:** 1700

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/27/2016	10/26/2016		Logged

Folder #: 122907 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 123443 **Preliminary Invoice Estimate:** $ 1,015.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 10.00	0.00	$ 60.00
FILTRATION, SAMPLE	GROUND WATER	6	$ 10.00	0.00	$ 60.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 40.00	0.00	$ 240.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 25.00	0.00	$ 150.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 55.00	0.00	$ 330.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**6**	TOC
UNPRES PL	**6**	Anions
VOA HCL	**26**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 122907
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/14/2016 11:47
Received Date / Time / By: 10/14/2016 11:05 DJL

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 10/14/2016 11:47 BNA
Project #: 313010-001 PM: BMS

Coolers: 5844
Custody Seals Present : **Y**

Temperature: 2.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 0201784347639690
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT, BOTH DATED 10/13/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788209 50MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
788209 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
788209 50MW02				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788210 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
788210 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
788210 49MW02				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788211 48MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
788211 48MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
788211 48MW3				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788212 49TM01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
788212 49TM01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
788212 49TM01				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788213 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
788213 48MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
788213 48MW2				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

788214	49MW01				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

788214	49MW01				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 4**		

788214	49MW01				
		H2SO4 PL	1	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

788215	101316T1				
		VOA HCL	1	/	VOC
		VOA HCL	1	/	VOC
		Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEn
Project Contact: Paul Philemonoff
Telephone: 907-317-3840
Project Name: RAAP
Project #: 313010-001
Location: Radford, VA
Sampled By: PTP

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 122926
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Paul Philemonoff
EMAIL: paulp@bsenv.com
Company: BSEn
Address: 615 E. 82nd Ave #200
Anchorage, AK 99518

Invoice To:*
EMAIL: Same
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	Methane/Ethane/Ethene	TOC	Sulfate/Nitrate/Chloride	pH	Metals	COD	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test									
10-14-16	0835	GW	Grab		48MW06	N	X	X	X	X				6		788654
10-14-16	1020	GW	Grab		48MW1	N	X	X	X	X				6		788655
10-14-16	1100	GW	Grab		101416R1	N	X	X	X	X				6		788656
10-14-16	1105	GW	Grab		49A0W01	N					X	X	X	3		788657
10-14-16	1110	GW	Grab		101416T1	N	X							2		788658

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	10-14-16 1205		
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			10-15-16 1040

Lab Use Only
Ice Present (Yes) No
Temp 2.7 IR Gun # 15
Cooler # 5355 CHB

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate). Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Cooler Receipt Form

Ice Present (YES) NO

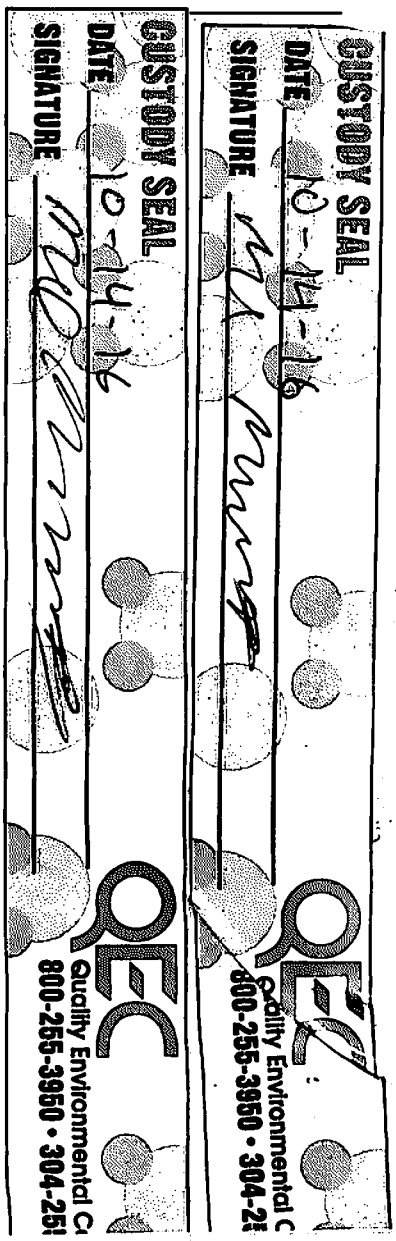
Temperature 2.7

IR Gun # 15

Initials CNB

Date 10/15/16 Time 10:20

Cooler #: 5355



ORIGIN ID:WALA (907) 317-3840
PAUL PHILAMONOFF

615 E 82ND AVE
STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 14OCT16
ACTWGT: 30.30 LB
CAD: 6992832/SSF01722
DIMS: 26x14x14 IN

BILL THIRD PARTY

Part # 156297-435 RIT2 10/15

TO CT LABORATORIES

1230 LANGE COURT

BARABOO WI 53913

(608) 356-2760 REF:

INV:
PO: DEPT:

FedEx Express

TRK# 0201 7843 5447 8097

SATURDAY 10:30A
FIRST OVERNIGHT

XO MSNA

53913
WI-US MSN

SDR FedEx. Express

SDR FedEx. Express

very 151966 10/04 MWI FedEx® Saturday Delivery 151966 10/04 MWI FedEx® Saturd

Folder #: 122926

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 123462

Project Manager: *BMS* **Date Received:** 10/15/16 **Log Date:** 10/15/2016

Report To: PAUL PHILEMONOFF CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :PAUL PHILEMONOFF CC: SLIU@BSENV.COM
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 2.7 oC

SAMPLE #: 788654 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/14/2016 Time: 0835**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/27/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/28/2016	10/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/28/2016	10/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/16/2016	10/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				11/11/2016	10/27/2016		Logged

Folder #: 122926 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 788655 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/14/2016 **Time:** 1020

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/27/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/28/2016	10/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/28/2016	10/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/16/2016	10/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/11/2016	10/27/2016		Logged

SAMPLE #: 788656 **DESCR:** 101416R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/14/2016 **Time:** 1100

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					10/27/2016		Logged
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/28/2016	10/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/28/2016	10/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/16/2016	10/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/11/2016	10/27/2016		Logged

Folder #: 122926 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 788657 **DESCR:** 49AOW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/14/2016 **Time:** 1105

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					10/27/2016		Logged
989	COD QSM	(EPA 410.4)				11/11/2016	10/27/2016		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				04/12/2017	10/27/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				04/12/2017	10/27/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				04/12/2017	10/27/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				11/11/2016	10/27/2016		NeedPrep

Folder #: 122926 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 788658 **DESCR:** 101416T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 10/14/2016 **Time:** 1110

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/28/2016	10/27/2016		Logged

Folder #: 122926 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 123462 **Preliminary Invoice Estimate:** $ 658.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 10.00	0.00	$ 30.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	3	$ 0.00	0.00	$ 0.00

METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	3	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	3	$ 40.00	0.00	$ 120.00
ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 25.00	0.00	$ 75.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	3	$ 55.00	0.00	$ 165.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**4**	COD
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**4**	Anions
VOA AA	**1**	VOC
VOA HCL	**13**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 122926
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/15/2016 10:41
Received Date / Time / By: 10/15/2016 10:20 CHB

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 10/15/2016 10:40 BNA
Project #: 313010-001 PM: BMS

Coolers: 5355
Custody Seals Present : **Y**

Temperature: 2.7 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 0201784354478097
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT; NOTH DATED 10/14/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788654 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
788654 48MW06				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type (*VOA HCL*) = 2			
788654 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
788654 48MW06				
	VOA AA	1	/	VOC
	Total # of Containers of Type (*VOA AA*) = 1			
788654 48MW06				
	VOA HCL	1	/	VOC
	Total # of Containers of Type (*VOA HCL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
788655 48MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
788655 48MW1				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type (*VOA HCL*) = 2			

788655 48MW1

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

788655 48MW1

VOA HCL	1		/	VOC
VOA HCL	1		/	VOC

Total # of Containers of Type (*VOA HCL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

788656 101416R1

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

788656 101416R1

VOA HCL	1		/	GAS
VOA HCL	1		/	GAS

Total # of Containers of Type (*VOA HCL*) = 2

788656 101416R1

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

788656 101416R1

VOA HCL	1		/	VOC
VOA HCL	1		/	VOC

Total # of Containers of Type (*VOA HCL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

788657 49AOW01

H2SO4 PL	1	Y	/	COD

Total # of Containers of Type (*H2SO4 PL*) = 1

788657 49AOW01

HNO3	1	Y	/	HG,ICP,K,NA

Total # of Containers of Type (*HNO3*) = 1

788657 49AOW01

UNPRES PL	1		/	pH

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

788658 101416T1

VOA HCL	1		/	VOC
VOA HCL	1		/	VOC

Total # of Containers of Type (*VOA HCL*) = 2

Condition Code	*Condition Description*
1	Sample Received OK

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE:	RAAP; RADFORD, VA
PROJECT #:	313010-001
SDG:	124700
FOLDERS:	(124700 & 124730)
PREPARED:	February 1, 2017
DOCUMENT PAGES:	1191

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP; Radford, VA
Sample Receipt Date(s): 01/10/2017 & 01/11/2017
SDG #: 124700 (Folders 124700 & 124730)

Seven water samples were received for a variety of analyses, including: pH, COD, Anions, TOC, TIC, Metals, Chlorate/Chlorite, Perchlorate, and Explosives. The Chlorate and Chlorite analyses were subcontracted to Eurofins Eaton Analytical in South Bend, IN. The Explosives analyses (which included the RDX breakdown products: MNX/DNX/TNX) were subcontracted to SGS Accutest Southeast in Orlando, FL. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 134354

Aluminum, calcium, chromium, and vanadium were detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The sample was reported and qualified with a "B" flag for aluminum, chromium, and vanadium because the MB results were greater than 1/10th of the sample results.

The Serial Dilution (L) for sample # 826641 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for beryllium. The parent sample was reported and qualified with an "M" flag for the failing element.

The L for sample # 826641 was not acceptable for calcium because the result exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The Duplicate (DUP) for sample # 826641 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The Matrix Spike (MS) and/or MSD for sample # 826641 exceeded the recovery limit for beryllium and lead. A PDS was analyzed and was unacceptable for beryllium. The parent sample was reported and qualified with an "M" flag for the failing element.

ICP Sodium and Potassium (6010C) Water Analysis

Analytical Run # 134355

The L for sample # 826641 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 826641 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 134409

The DUP for sample # 826641 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The MS and MSD for sample # 826641 exceeded the recovery limit for mercury. The parent sample was reported and qualified with an "M" flag for the failing element.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC, TIC), 9040C (pH), 410.4 (COD) and 9056A (Anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Analysis

Analytical Run # 134294

The MS and the MSD for sample # 826236 had low recoveries for chloride, nitrate, and sulfate. The parent sample results for these analytes were qualified with an "M" flag. Sulfate exceeded Relative Percent Difference (RPD) limits between the spikes. The parent sample result for this analyte was qualified with a "Y" flag.

Analytical Run # 134294

All analytical results for this run met the method/project specified quality control criteria.

COD (410.4) Analysis

Analytical Run # 134513

All analytical results for this run met the method/project specified quality control criteria.

Sample Filtration

Analytical Run #'s 134309 &134310

All associated samples were filtered prior to analysis.

pH (9040C) Analysis

Analytical Run # 134371

All analytical results for this run met the method/project specified quality control criteria.

TOC & TIC (9060A) Analysis

Analytical Run # 134292

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 134293

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 134316

The DUP for sample # 826629 was not applicable because the parent sample result was less than 5 times the LOQ. The DUP was considered invalid and the parent sample result was not qualified for the precision failure.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

124700

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name: RADFORD AAP
Project #: 313010-001

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	826235	124700		54MW10	GROUND WATER	01/09/2017	01/10/2017
2	826236	124700		54MW10	GROUND WATER	01/09/2017	01/10/2017
3	826237	124700		54MW13	GROUND WATER	01/09/2017	01/10/2017
4	826238	124700		54MW13	GROUND WATER	01/09/2017	01/10/2017
5	826239	124700		010917R1	GROUND WATER	01/09/2017	01/10/2017
6	826240	124700		010917R1	GROUND WATER	01/09/2017	01/10/2017
7	826629	124730		54MW1	GROUND WATER	01/10/2017	01/11/2017
8	826633	124730		54MW1	GROUND WATER	01/10/2017	01/11/2017
9	826637	124730		54MW12	GROUND WATER	01/10/2017	01/11/2017
10	826638	124730		54MW12	GROUND WATER	01/10/2017	01/11/2017
11	826639	124730		54TM12	GROUND WATER	01/10/2017	01/11/2017
12	826640	124730		54TM12	GROUND WATER	01/10/2017	01/11/2017
13	826641	124730		54ADW01	GROUND WATER	01/10/2017	01/11/2017

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	02/01/2017
Date Received:	01/11/2017
SDG #:	124700

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826641	pH	EPA 9040C	GROUND WATER		134371

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826236	Sample Filtration	SOP #PR007	GROUND WATER		134309
826238	Sample Filtration	SOP #PR007	GROUND WATER		134309
826240	Sample Filtration	SOP #PR007	GROUND WATER		134309
826633	Sample Filtration	SOP #PR007	GROUND WATER		134310
826638	Sample Filtration	SOP #PR007	GROUND WATER		134310
826640	Sample Filtration	SOP #PR007	GROUND WATER		134310

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826235	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		134292
826237	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		134292
826239	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		134292
826629	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		134292
826637	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		134292
826639	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		134292

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826641	COD QSM	EPA 410.4	GROUND WATER	61049	134513

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826236	Anions QSM 5.0	EPA 9056A	GROUND WATER		134294
826238	Anions QSM 5.0	EPA 9056A	GROUND WATER		134294
826240	Anions QSM 5.0	EPA 9056A	GROUND WATER		134294
826633	Anions QSM 5.0	EPA 9056A	GROUND WATER		134314
826638	Anions QSM 5.0	EPA 9056A	GROUND WATER		134314
826640	Anions QSM 5.0	EPA 9056A	GROUND WATER		134314
826236	Anions QSM 5.0	EPA 9056A	GROUND WATER		134294

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 124700

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826235	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		134293
826237	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		134293
826239	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		134293
826629	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		134316
826637	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		134316
826639	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		134316

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826641	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	60973	134355

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826641	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	60973	134355

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826641	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	60973	134354

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
826641	Mercury, Total QSM	EPA 7470A	GROUND WATER	60990	134409

METALS
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826641
Analytical Method:	EPA 7470A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134409	Analysis Date/Time	01/19/2017 10:05
Analytical Prep Batch #:	60990	Prep. Date/Time:	01/16/2017 10:00
ICAL Calibration #:	01192017	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	M	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826641
Analytical Method:	EPA 6010C	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134355	Analysis Date/Time	01/13/2017 10:24
Analytical Prep Batch #:	60973	Prep. Date/Time:	01/12/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	994		90	250	500	500
7440-23-5	Total Sodium	29900		100	300	600	600

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826641
Analytical Method:	EPA 6010C	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134354	Analysis Date/Time	01/13/2017 13:43
Analytical Prep Batch #:	60973	Prep. Date/Time:	01/12/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	38.5		B	6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	56.6			0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U	M	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	58300			17	50	100	100
7440-47-3	Total Chromium	2.7	J	B	0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	33.3	J		16	50	100	100
7439-92-1	Total Lead	2.0	U		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	19100			6.0	20	40	40
7439-96-5	Total Manganese	3.5	J		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	1.6	J		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U		2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U		2.5	7.5	15	15
7440-62-2	Total Vanadium	1.5	J	B	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	4.2	J		1.6	5.0	10	10

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829003

ICAL Calibration #: 01182017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/19/17 07:59	3.00	3.12	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 827569

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/13/17	10:01	100000	101000	101	90	110
Sodium	1/13/17	10:01	100000	107000	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 827570

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/13/17	10:03	3000	3210	107	80	120
Sodium	1/13/17	10:03	3000	3350	112	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829488

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/13/17	11:18	12000	10900	91	90	110
Antimony	1/13/17	11:18	500.0	462.0	92	90	110
Arsenic	1/13/17	11:18	2000	1820	91	90	110
Barium	1/13/17	11:18	2000	1870	94	90	110
Beryllium	1/13/17	11:18	50.00	45.00	90	90	110
Cadmium	1/13/17	11:18	50.00	46.20	92	90	110
Calcium	1/13/17	11:18	10000	10500	105	90	110
Chromium	1/13/17	11:18	200.0	187.0	94	90	110
Cobalt	1/13/17	11:18	500.0	465.0	93	90	110
Copper	1/13/17	11:18	250.0	231.0	92	90	110
Iron	1/13/17	11:18	5000	4510	90	90	110
Lead	1/13/17	11:18	500.0	451.0	90	90	110
Magnesium	1/13/17	11:18	10000	9970	100	90	110
Manganese	1/13/17	11:18	500.0	464.0	93	90	110
Nickel	1/13/17	11:18	500.0	463.0	93	90	110
Selenium	1/13/17	11:18	2000	1800	90	90	110
Silver	1/13/17	11:18	50.00	46.90	94	90	110
Thallium	1/13/17	11:18	2000	1870	94	90	110
Vanadium	1/13/17	11:18	500.0	499.0	100	90	110
Zinc	1/13/17	11:18	500.0	470.0	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829489

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/13/17	11:24	1200	1230	102	80	120
Antimony	1/13/17	11:24	60.00	60.90	102	80	120
Arsenic	1/13/17	11:24	60.00	61.20	102	80	120
Barium	1/13/17	11:24	30.00	32.00	107	80	120
Beryllium	1/13/17	11:24	12.00	12.80	107	80	120
Cadmium	1/13/17	11:24	15.00	16.80	112	80	120
Calcium	1/13/17	11:24	1500	1710	114	80	120
Chromium	1/13/17	11:24	30.00	32.70	109	80	120
Cobalt	1/13/17	11:24	30.00	31.20	104	80	120
Copper	1/13/17	11:24	30.00	30.80	103	80	120
Iron	1/13/17	11:24	900.0	923.0	103	80	120
Lead	1/13/17	11:24	30.00	24.20	81	80	120
Magnesium	1/13/17	11:24	1500	1600	107	80	120
Manganese	1/13/17	11:24	30.00	31.80	106	80	120
Nickel	1/13/17	11:24	30.00	30.60	102	80	120
Selenium	1/13/17	11:24	60.00	66.20	110	80	120
Silver	1/13/17	11:24	60.00	67.60	113	80	120
Thallium	1/13/17	11:24	60.00	62.70	104	80	120
Vanadium	1/13/17	11:24	30.00	31.10	104	80	120
Zinc	1/13/17	11:24	30.00	33.00	110	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354

Lab Sample ID: 829493

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	1/13/17 12:03	10.00	11.00	110	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 827577

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/13/17	10:46	100000	99300	99	90	110
Sodium	1/13/17	10:46	100000	98700	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829011

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/19/17 09:44	3.00	2.74	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829013

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/19/17	10:10	3.00	2.87	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829015

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/19/17	10:36	3.00	2.91	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829494

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/13/17	13:11	5000	4530	91	90	110
Antimony	1/13/17	13:11	5000	4620	92	90	110
Arsenic	1/13/17	13:11	5000	4750	95	90	110
Barium	1/13/17	13:11	5000	4800	96	90	110
Beryllium	1/13/17	13:11	500.0	464.0	93	90	110
Cadmium	1/13/17	13:11	500.0	458.0	92	90	110
Calcium	1/13/17	13:11	5000	4940	99	90	110
Chromium	1/13/17	13:11	5000	4780	96	90	110
Cobalt	1/13/17	13:11	5000	4900	98	90	110
Copper	1/13/17	13:11	5000	4520	90	90	110
Iron	1/13/17	13:11	5000	4750	95	90	110
Lead	1/13/17	13:11	5000	4760	95	90	110
Magnesium	1/13/17	13:11	5000	4750	95	90	110
Manganese	1/13/17	13:11	5000	4860	97	90	110
Nickel	1/13/17	13:11	5000	4600	92	90	110
Selenium	1/13/17	13:11	5000	4720	94	90	110
Silver	1/13/17	13:11	500.0	452.0	90	90	110
Thallium	1/13/17	13:11	5000	4840	97	90	110
Vanadium	1/13/17	13:11	5000	4780	96	90	110
Zinc	1/13/17	13:11	5000	4910	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829495

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/13/17	13:17	500.0	483.0	97	90	110
Antimony	1/13/17	13:17	500.0	471.0	94	90	110
Arsenic	1/13/17	13:17	500.0	479.0	96	90	110
Barium	1/13/17	13:17	500.0	512.0	102	90	110
Beryllium	1/13/17	13:17	50.00	44.80	90	90	110
Cadmium	1/13/17	13:17	50.00	48.80	98	90	110
Calcium	1/13/17	13:17	500.0	477.0	95	90	110
Chromium	1/13/17	13:17	500.0	457.0	91	90	110
Cobalt	1/13/17	13:17	500.0	507.0	101	90	110
Copper	1/13/17	13:17	500.0	471.0	94	90	110
Iron	1/13/17	13:17	500.0	461.0	92	90	110
Lead	1/13/17	13:17	500.0	458.0	92	90	110
Magnesium	1/13/17	13:17	500.0	456.0	91	90	110
Manganese	1/13/17	13:17	500.0	483.0	97	90	110
Nickel	1/13/17	13:17	500.0	464.0	93	90	110
Selenium	1/13/17	13:17	500.0	519.0	104	90	110
Silver	1/13/17	13:17	50.00	51.90	104	90	110
Thallium	1/13/17	13:17	500.0	508.0	102	90	110
Vanadium	1/13/17	13:17	500.0	484.0	97	90	110
Zinc	1/13/17	13:17	500.0	468.0	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829499

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/13/17	14:37	5000	4610	92	90	110
Antimony	1/13/17	14:37	5000	4690	94	90	110
Arsenic	1/13/17	14:37	5000	4740	95	90	110
Barium	1/13/17	14:37	5000	4860	97	90	110
Beryllium	1/13/17	14:37	500.0	463.0	93	90	110
Cadmium	1/13/17	14:37	500.0	468.0	94	90	110
Calcium	1/13/17	14:37	5000	4900	98	90	110
Chromium	1/13/17	14:37	5000	4760	95	90	110
Cobalt	1/13/17	14:37	5000	4780	96	90	110
Copper	1/13/17	14:37	5000	4480	90	90	110
Iron	1/13/17	14:37	5000	4760	95	90	110
Lead	1/13/17	14:37	5000	4730	95	90	110
Magnesium	1/13/17	14:37	5000	4950	99	90	110
Manganese	1/13/17	14:37	5000	4910	98	90	110
Nickel	1/13/17	14:37	5000	4630	93	90	110
Selenium	1/13/17	14:37	5000	4780	96	90	110
Silver	1/13/17	14:37	500.0	450.0	90	90	110
Thallium	1/13/17	14:37	5000	4830	97	90	110
Vanadium	1/13/17	14:37	5000	4750	95	90	110
Zinc	1/13/17	14:37	5000	4960	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829500

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/13/17	14:43	500.0	488.0	98	90	110
Antimony	1/13/17	14:43	500.0	480.0	96	90	110
Arsenic	1/13/17	14:43	500.0	472.0	94	90	110
Barium	1/13/17	14:43	500.0	516.0	103	90	110
Beryllium	1/13/17	14:43	50.00	45.60	91	90	110
Cadmium	1/13/17	14:43	50.00	49.90	100	90	110
Calcium	1/13/17	14:43	500.0	485.0	97	90	110
Chromium	1/13/17	14:43	500.0	456.0	91	90	110
Cobalt	1/13/17	14:43	500.0	502.0	100	90	110
Copper	1/13/17	14:43	500.0	469.0	94	90	110
Iron	1/13/17	14:43	500.0	460.0	92	90	110
Lead	1/13/17	14:43	500.0	459.0	92	90	110
Magnesium	1/13/17	14:43	500.0	452.0	90	90	110
Manganese	1/13/17	14:43	500.0	500.0	100	90	110
Nickel	1/13/17	14:43	500.0	472.0	94	90	110
Selenium	1/13/17	14:43	500.0	528.0	106	90	110
Silver	1/13/17	14:43	50.00	52.70	105	90	110
Thallium	1/13/17	14:43	500.0	510.0	102	90	110
Vanadium	1/13/17	14:43	500.0	482.0	96	90	110
Zinc	1/13/17	14:43	500.0	476.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 827572

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/13/17	10:09	1000	981.0	98	70	130
Sodium	1/13/17	10:09	1000	1020	102	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829004

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/19/2017 08:01	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 827571

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/13/2017 10:06	99.00		90	250
Sodium	01/13/2017 10:06	64.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829490

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/13/2017 11:37	11.30		6	18
Antimony	01/13/2017 11:37	-0.514	U	2.0	6.0
Arsenic	01/13/2017 11:37	2.02	U	4	12
Barium	01/13/2017 11:37	-0.00700	U	0.29	0.90
Beryllium	01/13/2017 11:37	0.128		0.10	0.30
Cadmium	01/13/2017 11:37	-0.112	U	0.3	1.0
Calcium	01/13/2017 11:37	0.716	U	17	50
Chromium	01/13/2017 11:37	1.39		0.6	2.0
Cobalt	01/13/2017 11:37	0.138	U	0.7	2.0
Copper	01/13/2017 11:37	-0.638	U	1.2	3.5
Iron	01/13/2017 11:37	2.74	U	16	50
Lead	01/13/2017 11:37	-6.66	U	1.4	2.0
Magnesium	01/13/2017 11:37	1.74	U	6	20
Manganese	01/13/2017 11:37	0.00300	U	0.7	2.0
Nickel	01/13/2017 11:37	-1.39	U	1.0	3.0
Selenium	01/13/2017 11:37	-2.67	U	2.2	6.5
Silver	01/13/2017 11:37	0.881		0.7	2.0
Thallium	01/13/2017 11:37	1.72	U	2.5	7.5
Vanadium	01/13/2017 11:37	1.08		0.8	2.5
Zinc	01/13/2017 11:37	-0.287	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829012

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/19/2017 09:46	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829014

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/19/2017 10:12	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 829016

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/19/2017 10:38	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 827578

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/13/2017 10:48	54.00	U	90	250
Sodium	01/13/2017 10:48	82.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829496

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/13/2017 13:23	12.80		6	18
Antimony	01/13/2017 13:23	0.879	U	2.0	6.0
Arsenic	01/13/2017 13:23	-0.840	U	4	12
Barium	01/13/2017 13:23	-0.576	U	0.29	0.90
Beryllium	01/13/2017 13:23	0.0300	U	0.10	0.30
Cadmium	01/13/2017 13:23	-0.0760	U	0.3	1.0
Calcium	01/13/2017 13:23	1.18	U	17	50
Chromium	01/13/2017 13:23	1.04		0.6	2.0
Cobalt	01/13/2017 13:23	0.215	U	0.7	2.0
Copper	01/13/2017 13:23	-0.936	U	1.2	3.5
Iron	01/13/2017 13:23	1.78	U	16	50
Lead	01/13/2017 13:23	-6.52	U	1.4	2.0
Magnesium	01/13/2017 13:23	0.758	U	6	20
Manganese	01/13/2017 13:23	0.0200	U	0.7	2.0
Nickel	01/13/2017 13:23	-0.998	U	1.0	3.0
Selenium	01/13/2017 13:23	1.66	U	2.2	6.5
Silver	01/13/2017 13:23	-0.237	U	0.7	2.0
Thallium	01/13/2017 13:23	-0.876	U	2.5	7.5
Vanadium	01/13/2017 13:23	1.21		0.8	2.5
Zinc	01/13/2017 13:23	-0.549	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 829501

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/13/2017 14:49	0.248	U	6	18
Antimony	01/13/2017 14:49	1.86	U	2.0	6.0
Arsenic	01/13/2017 14:49	-2.07	U	4	12
Barium	01/13/2017 14:49	-0.583	U	0.29	0.90
Beryllium	01/13/2017 14:49	-0.0190	U	0.10	0.30
Cadmium	01/13/2017 14:49	-0.0930	U	0.3	1.0
Calcium	01/13/2017 14:49	1.78	U	17	50
Chromium	01/13/2017 14:49	1.04		0.6	2.0
Cobalt	01/13/2017 14:49	0.104	U	0.7	2.0
Copper	01/13/2017 14:49	-0.831	U	1.2	3.5
Iron	01/13/2017 14:49	1.81	U	16	50
Lead	01/13/2017 14:49	-8.16	U	1.4	2.0
Magnesium	01/13/2017 14:49	1.54	U	6	20
Manganese	01/13/2017 14:49	-0.0660	U	0.7	2.0
Nickel	01/13/2017 14:49	-1.18	U	1.0	3.0
Selenium	01/13/2017 14:49	0.234	U	2.2	6.5
Silver	01/13/2017 14:49	0.620	U	0.7	2.0
Thallium	01/13/2017 14:49	-1.19	U	2.5	7.5
Vanadium	01/13/2017 14:49	1.48		0.8	2.5
Zinc	01/13/2017 14:49	-0.394	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134409 Lab Sample ID: 827382

Analytical Prep Batch # 60990 Preparation Date/Time: 01/16/2017 10:00

ICAL Calibration #: 01192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	01/19/2017 10:03	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134354 Lab Sample ID: 826846

Analytical Prep Batch # 60973 Preparation Date/Time: 01/12/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	01/13/2017 13:36	8.42		6	18	FAIL
Total Antimony	01/13/2017 13:36	0.516	U	2.0	6.0	
Total Arsenic	01/13/2017 13:36	2.58	U	4	12	
Total Barium	01/13/2017 13:36	-0.430	U	0.29	0.90	
Total Beryllium	01/13/2017 13:36	0.0100	U	0.10	0.30	
Total Cadmium	01/13/2017 13:36	-0.281	U	0.3	1.0	
Total Calcium	01/13/2017 13:36	33.60		17	50	FAIL
Total Chromium	01/13/2017 13:36	1.04		0.6	2.0	FAIL
Total Cobalt	01/13/2017 13:36	0.243	U	0.7	2.0	
Total Copper	01/13/2017 13:36	-1.06	U	1.2	3.5	
Total Iron	01/13/2017 13:36	6.41	U	16	50	
Total Lead	01/13/2017 13:36	-8.77	U	1.4	2.0	
Total Magnesium	01/13/2017 13:36	1.20	U	6	20	
Total Manganese	01/13/2017 13:36	-0.0590	U	0.7	2.0	
Total Nickel	01/13/2017 13:36	-1.25	U	1.0	3.0	
Total Selenium	01/13/2017 13:36	-1.45	U	2.2	6.5	
Total Silver	01/13/2017 13:36	-0.0720	U	0.7	2.0	
Total Thallium	01/13/2017 13:36	1.44	U	2.5	7.5	
Total Vanadium	01/13/2017 13:36	1.69		0.8	2.5	FAIL
Total Zinc	01/13/2017 13:36	0.118	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 826846

Analytical Prep Batch # 60973 Preparation Date/Time: 01/12/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	01/13/2017 10:21	11.00	U	90	250
Total Sodium	01/13/2017 10:21	69.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134355 Lab Sample ID: 826846

Analytical Prep Batch # 60973 Preparation Date/Time: 01/12/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	01/13/2017 10:21	11.00	U	90	250
Total Sodium	01/13/2017 10:21	69.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 124700
ICS Source: SPEX

Analytical Run #: 134355
Lab Sample ID: 827573
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/13/2017 10:12	500000	501000	100	80	120
Calcium	01/13/2017 10:12	500000	495000	99	80	120
Iron	01/13/2017 10:12	500000	494000	99	80	120
Magnesium	01/13/2017 10:12	500000	491000	98	80	120
Potassium	01/13/2017 10:12	0	5.00		-170	170
Sodium	01/13/2017 10:12	0	3.00		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 124700
ICS Source: SPEX

Analytical Run #: 134354
Lab Sample ID: 829491
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/13/2017 11:49	500000	476000	95	80	120
Antimony	01/13/2017 11:49	0	0.00600		-5	5
Arsenic	01/13/2017 11:49	0	-0.0200		-6	6
Barium	01/13/2017 11:49	0	0		-0.7	0.7
Beryllium	01/13/2017 11:49	0	0		-0.29	0.29
Cadmium	01/13/2017 11:49	0	0		-0.26	0.26
Calcium	01/13/2017 11:49	500000	509000	102	80	120
Chromium	01/13/2017 11:49	0	0		-1.9	1.9
Cobalt	01/13/2017 11:49	0	0		-1.2	1.2
Copper	01/13/2017 11:49	0	-0.00200		-4	4
Iron	01/13/2017 11:49	500000	457000	91	80	120
Lead	01/13/2017 11:49	0	0		-1.5	1.5
Magnesium	01/13/2017 11:49	500000	514000	103	80	120
Manganese	01/13/2017 11:49	0	0.386		-1.6	1.6
Nickel	01/13/2017 11:49	0	-0.00200		-2.3	2.3
Selenium	01/13/2017 11:49	0	-0.0310		-12	12
Silver	01/13/2017 11:49	0	0		-2.0	2.0
Thallium	01/13/2017 11:49	0	0.00100		-5	5
Vanadium	01/13/2017 11:49	0	0		-1.7	1.7
Zinc	01/13/2017 11:49	0	0		-2.4	2.4

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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 124700
ICS Source: SPEX, Ultra

Analytical Run #: 134355
Lab Sample ID: 827574
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/13/2017 10:15	500000	493000	99	80	120
Calcium	01/13/2017 10:15	500000	477000	95	80	120
Iron	01/13/2017 10:15	500000	488000	98	80	120
Magnesium	01/13/2017 10:15	500000	480000	96	80	120
Potassium	01/13/2017 10:15	100000	109000	109	80	120
Sodium	01/13/2017 10:15	100000	111000	111	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 124700
ICS Source: SPEX, Ultra

Analytical Run #: 134354
Lab Sample ID: 829492
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/13/2017 11:56	500000	460000	92	80	120
Antimony	01/13/2017 11:56	500.0	477.0	95	80	120
Arsenic	01/13/2017 11:56	500.0	442.0	88	80	120
Barium	01/13/2017 11:56	500.0	439.0	88	80	120
Beryllium	01/13/2017 11:56	500.0	486.0	97	80	120
Cadmium	01/13/2017 11:56	500.0	498.0	100	80	120
Calcium	01/13/2017 11:56	500000	493000	99	80	120
Chromium	01/13/2017 11:56	500.0	448.0	90	80	120
Cobalt	01/13/2017 11:56	500.0	437.0	87	80	120
Copper	01/13/2017 11:56	500.0	443.0	89	80	120
Iron	01/13/2017 11:56	500000	436000	87	80	120
Lead	01/13/2017 11:56	500.0	424.0	85	80	120
Magnesium	01/13/2017 11:56	500000	497000	99	80	120
Manganese	01/13/2017 11:56	500.0	437.0	87	80	120
Nickel	01/13/2017 11:56	500.0	435.0	87	80	120
Selenium	01/13/2017 11:56	500.0	457.0	91	80	120
Silver	01/13/2017 11:56	500.0	463.0	93	80	120
Thallium	01/13/2017 11:56	500.0	418.0	84	80	120
Vanadium	01/13/2017 11:56	500.0	462.0	92	80	120
Zinc	01/13/2017 11:56	500.0	482.0	96	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	827385	Parent Sample No.:	826641
Analytical Prep Batch #	60990	Analytical Preparation Date/Time:	01/16/2017 10:00
Analytical Run #:	134409	ICAL Calibration #:	01192017

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/19/2017	Analysis Time: --------	10:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Mercury	82-119	3.7		BDL	U	2.0	185		CV	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solids for Sample:
Concentration Units: ug/L
Sample No: 826849
Parent Sample No.: 826641
Analytical Prep Batch #: 60973
Analytical Preparation Date/Time: 01/12/2017 12:00
Analytical Run #: 134354
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/13/2017 Analysis Time: -------- 14:04

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	812		38.5		800	97		P	
Total Antimony	88-113	208		BDL	U	200	104		P	
Total Arsenic	87-113	766		BDL	U	800	96		P	
Total Barium	88-113	956		56.6		800	112		P	
Total Beryllium	89-112	16.6		BDL	U	20.0	83		P	*FAIL*
Total Cadmium	88-113	18.7		BDL	U	20.0	94		P	
Total Calcium	87-113	252000		58300		200000	97		P	
Total Chromium	90-113	77.0		2.7	J	80.0	93		P	
Total Cobalt	89-114	187		BDL	U	200	94		P	
Total Copper	86-114	95.2		BDL	U	100	95		P	
Total Iron	87-115	406		33.3	J	400	93		P	
Total Lead	86-113	179		BDL	U	200	90		P	
Total Magnesium	85-113	122000		19100		100000	103		P	
Total Manganese	90-114	202		3.5	J	200	99		P	
Total Nickel	88-113	189		1.6	J	200	94		P	
Total Selenium	83-114	851		BDL	U	800	106		P	
Total Silver	84-115	18.6		BDL	U	20.0	93		P	
Total Thallium	85-114	785		BDL	U	800	98		P	
Total Vanadium	90-111	207		1.5	J	200	103		P	
Total Zinc	87-115	209		4.2	J	200	102		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	826849	Parent Sample No.:	826641
Analytical Prep Batch #	60973	Analytical Preparation Date/Time:	01/12/2017 12:00
Analytical Run #:	134355	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/13/2017 Analysis Time: -------- 10:32

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	103000		994		100000	102		P
Total Sodium	87-115	130000		29900		100000	100		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	827576	Parent Sample No.:	826641
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134355	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/13/2017	Analysis Time: --------	10:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	112000		994		100000	111		P
Sodium	80-120.	144000		29900		100000	114		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	829498	Parent Sample No.:	826641
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134354	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/13/2017 Analysis Time: -------- 14:17

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	3790		38.5		4000	94		P	
Antimony	80-120	1010		BDL	U	1000	101		P	
Arsenic	80-120	4190		BDL	U	4000	105		P	
Barium	80-120	4110		56.6		4000	101		P	
Beryllium	80-120	76.8		BDL	U	100	77		P	*FAIL*
Cadmium	80-120	111		BDL	U	100	111		P	
Calcium	80-120	439000		58300		400000	95		P	
Chromium	80-120	351		2.7	J	400	87		P	
Cobalt	80-120	945		BDL	U	1000	94		P	
Copper	80-120	442		BDL	U	500	88		P	
Iron	80-120	1790		33.3	J	2000	88		P	
Lead	80-120	859		BDL	U	1000	86		P	
Magnesium	80-120	221000		19100		200000	101		P	
Manganese	80-120	918		3.5	J	1000	91		P	
Nickel	80-120	876		1.6	J	1000	87		P	
Selenium	80-120	4030		BDL	U	4000	101		P	
Silver	80-120	82.4		BDL	U	100	82		P	
Thallium	80-120	3670		BDL	U	4000	92		P	
Vanadium	80-120	974		1.5	J	1000	97		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	827386	Parent Sample No.:	827385
Analytical Prep Batch #	60990	Analytical Preparation Date/Time:	01/16/2017 10:00
Analytical Run #:	134409	ICAL Calibration #:	01192017

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/19/2017 Analysis Time: -------- 10:16

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Mercury	82-119	3.5		BDL	U	2.0	175		CV	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	826850	Parent Sample No.:	826849
Analytical Prep Batch #	60973	Analytical Preparation Date/Time:	01/12/2017 12:00
Analytical Run #:	134354	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/13/2017 Analysis Time: -------- 14:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	818		38.5		800	97		P	
Total Antimony	88-113	205		BDL	U	200	102		P	
Total Arsenic	87-113	753		BDL	U	800	94		P	
Total Barium	88-113	949		56.6		800	112		P	
Total Beryllium	89-112	16.6		BDL	U	20.0	83		P	*FAIL*
Total Cadmium	88-113	18.2		BDL	U	20.0	91		P	
Total Calcium	87-113	251000		58300		200000	96		P	
Total Chromium	90-113	76.8		2.7	J	80.0	93		P	
Total Cobalt	89-114	181		BDL	U	200	90		P	
Total Copper	86-114	92.4		BDL	U	100	92		P	
Total Iron	87-115	414		33.3	J	400	95		P	
Total Lead	86-113	170		BDL	U	200	85		P	*FAIL*
Total Magnesium	85-113	117000		19100		100000	98		P	
Total Manganese	90-114	203		3.5	J	200	100		P	
Total Nickel	88-113	182		1.6	J	200	90		P	
Total Selenium	83-114	825		BDL	U	800	103		P	
Total Silver	84-115	17.8		BDL	U	20.0	89		P	
Total Thallium	85-114	762		BDL	U	800	95		P	
Total Vanadium	90-111	210		1.5	J	200	104		P	
Total Zinc	87-115	201		4.2	J	200	98		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	ug/L
Sample No	826850	Parent Sample No.:	826849
Analytical Prep Batch #	60973	Analytical Preparation Date/Time:	01/12/2017 12:00
Analytical Run #:	134355	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/13/2017 Analysis Time: -------- 10:35

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	103000		994		100000	102		P
Total Sodium	87-115	128000		29900		100000	98		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 60990

Analytical Run #: 134409

ICAL Calibration #: 01192017

Sample #: 827384

Parent Sample #: 826641

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	01/19/2017	10:08	20	0.030	U	0.030	U	0		CV

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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 60973
Analytical Run #: 134354
ICAL Calibration #:
Sample #: 826848
Parent Sample #: 826641

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	01/13/2017	13:57	20	38.5		43.4		12		P	
Total Antimony	01/13/2017	13:57	20	2.0	U	2.0	U	0		P	
Total Arsenic	01/13/2017	13:57	20	4.0	U	4.0	U	0		P	
Total Barium	01/13/2017	13:57	20	56.6		57.4		1		P	
Total Beryllium	01/13/2017	13:57	20	0.10	U	0.10	U	0		P	
Total Cadmium	01/13/2017	13:57	20	0.30	U	0.30	U	0		P	
Total Calcium	01/13/2017	13:57	20	58300		58300		0		P	
Total Chromium	01/13/2017	13:57	20	2.7	J	2.4	J	12		P	
Total Cobalt	01/13/2017	13:57	20	0.70	U	0.70	U	0		P	
Total Copper	01/13/2017	13:57	20	1.2	U	1.2	U	0		P	
Total Iron	01/13/2017	13:57	20	33.3	J	37.0	J	11		P	
Total Lead	01/13/2017	13:57	20	1.4	U	1.4	U	0		P	
Total Magnesium	01/13/2017	13:57	20	19100		19300		1		P	
Total Manganese	01/13/2017	13:57	20	3.5	J	3.4	J	3		P	
Total Nickel	01/13/2017	13:57	20	1.6	J	1.2	J	29		P	*FAIL*
Total Selenium	01/13/2017	13:57	20	2.2	U	4.3	J	200		P	*FAIL*
Total Silver	01/13/2017	13:57	20	0.70	U	0.70	U	0		P	
Total Thallium	01/13/2017	13:57	20	2.5	U	2.5	U	0		P	
Total Vanadium	01/13/2017	13:57	20	1.5	J	2.0	J	29		P	*FAIL*
Total Zinc	01/13/2017	13:57	20	4.2	J	3.2	J	27		P	*FAIL*

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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 60973

Analytical Run #: 134355

ICAL Calibration #:

Sample #: 826848

Parent Sample #: 826641

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	01/13/2017	10:29	20	994		911		9		P
Total Sodium	01/13/2017	10:29	20	29900		30400		2		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 124700

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 60990 | Analytical Preparation Date/Time: 01/16/2017 10:00

Analytical Run #: 134409 | ICAL Calibration #: 01192017

Sample #: 827386 | Parent Sample #: 827385

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	01/19/2017 10:16	20	3.7		3.5		5		CV

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 124700

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 60973 | Analytical Preparation Date/Time: 01/12/2017 12:00

Analytical Run #: 134354 | ICAL Calibration #:

Sample #: 826850 | Parent Sample #: 826849

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	01/13/2017	14:11	20	812		818		1		P
Total Antimony	01/13/2017	14:11	20	208		205		1		P
Total Arsenic	01/13/2017	14:11	20	766		753		2		P
Total Barium	01/13/2017	14:11	20	956		949		1		P
Total Beryllium	01/13/2017	14:11	20	16.6		16.6		0		P
Total Cadmium	01/13/2017	14:11	20	18.7		18.2		3		P
Total Calcium	01/13/2017	14:11	20	252000		251000		0		P
Total Chromium	01/13/2017	14:11	20	77.0		76.8		0		P
Total Cobalt	01/13/2017	14:11	20	187		181		3		P
Total Copper	01/13/2017	14:11	20	95.2		92.4		3		P
Total Iron	01/13/2017	14:11	20	406		414		2		P
Total Lead	01/13/2017	14:11	20	179		170		5		P
Total Magnesium	01/13/2017	14:11	20	122000		117000		4		P
Total Manganese	01/13/2017	14:11	20	202		203		0		P
Total Nickel	01/13/2017	14:11	20	189		182		4		P
Total Selenium	01/13/2017	14:11	20	851		825		3		P
Total Silver	01/13/2017	14:11	20	18.6		17.8		4		P
Total Thallium	01/13/2017	14:11	20	785		762		3		P
Total Vanadium	01/13/2017	14:11	20	207		210		1		P
Total Zinc	01/13/2017	14:11	20	209		201		4		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 60973
Analytical Preparation Date/Time 01/12/2017 12:00
Analytical Run #: 134355
ICAL Calibration #:
Sample #: 826850
Parent Sample #: 826849

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	01/13/2017	10:35	20	103000		103000		0		P
Total Sodium	01/13/2017	10:35	20	130000		128000		2		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: ug/L

Analytical Run #: 134409 Sample No.:#: 827383

Analytical Prep Batch #: 60990 Preparation Date/Time: 01/16/2017 10:00

ICAL Calibration #: 01192017

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	01/19/2017 10:01	82-119	2.84		3.00	95		CV

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: ug/L

Analytical Run #: 134354 Sample No.:#: 826847

Analytical Prep Batch #: 60973 Preparation Date/Time: 01/12/2017 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	01/13/2017 13:30	86-115	749.0		800.0	94		P
Total Antimony	01/13/2017 13:30	88-113	198.0		200.0	99		P
Total Arsenic	01/13/2017 13:30	87-113	760.0		800.0	95		P
Total Barium	01/13/2017 13:30	88-113	736.0		800.0	92		P
Total Beryllium	01/13/2017 13:30	89-112	19.30		20.00	96		P
Total Cadmium	01/13/2017 13:30	88-113	18.30		20.00	92		P
Total Calcium	01/13/2017 13:30	87-113	192000		200000	96		P
Total Chromium	01/13/2017 13:30	90-113	74.30		80.00	93		P
Total Cobalt	01/13/2017 13:30	89-114	182.0		200.0	91		P
Total Copper	01/13/2017 13:30	86-114	93.10		100.0	93		P
Total Iron	01/13/2017 13:30	87-115	366.0		400.0	92		P
Total Lead	01/13/2017 13:30	86-113	173.0		200.0	86		P
Total Magnesium	01/13/2017 13:30	85-113	92200		100000	92		P
Total Manganese	01/13/2017 13:30	90-114	196.0		200.0	98		P
Total Nickel	01/13/2017 13:30	88-113	181.0		200.0	90		P
Total Selenium	01/13/2017 13:30	83-114	775.0		800.0	97		P
Total Silver	01/13/2017 13:30	84-115	17.50		20.00	88		P
Total Thallium	01/13/2017 13:30	85-114	768.0		800.0	96		P
Total Vanadium	01/13/2017 13:30	90-111	202.0		200.0	101		P
Total Zinc	01/13/2017 13:30	87-115	198.0		200.0	99		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: ug/L

Analytical Run #: 134355 Sample No.:#: 826847

Analytical Prep Batch #: 60973 Preparation Date/Time: 01/12/2017 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	01/13/2017 10:18	86-114	100000		100000	100		P
Total Sodium	01/13/2017 10:18	87-115	97900		100000	98		P

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ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 124700

Concentration Units: ug/L

Sample No.: 827575 Parent Sample No.: 826641

LIMS Run #: 134355 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	01/13/2017 10:26	.994	U	450	U	100		P	*INVALID*
Sodium	01/13/2017 10:26	29.9	U	500	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 124700

Concentration Units: ug/L

Sample No.: 829497 Parent Sample No.: 826641

LIMS Run #: 134354 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	01/13/2017 13:50	38.5	J	59	J	53		P	*INVALID*
Antimony	01/13/2017 13:50	BDL	U	10	U	0		P	*INVALID*
Arsenic	01/13/2017 13:50	BDL	U	20	U	0		P	*INVALID*
Barium	01/13/2017 13:50	56.6		58		2		P	*INVALID*
Beryllium	01/13/2017 13:50	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	01/13/2017 13:50	BDL	U	1.5	U	0		P	*INVALID*
Calcium	01/13/2017 13:50	58300.		71500		23		P	*FAIL*
Chromium	01/13/2017 13:50	2.73	U	7	J	156		P	*INVALID*
Cobalt	01/13/2017 13:50	BDL	U	3.5	U	0		P	*INVALID*
Copper	01/13/2017 13:50	BDL	U	6	U	0		P	*INVALID*
Iron	01/13/2017 13:50	33.3	U	80	U	100		P	*INVALID*
Lead	01/13/2017 13:50	BDL	U	7	U	0		P	*INVALID*
Magnesium	01/13/2017 13:50	19100.		20750		9		P	
Manganese	01/13/2017 13:50	3.54	J	4.415	J	25		P	*INVALID*
Nickel	01/13/2017 13:50	1.57	U	5	U	100		P	*INVALID*
Selenium	01/13/2017 13:50	BDL	U	11	U	0		P	*INVALID*
Silver	01/13/2017 13:50	BDL	U	3.5	U	0		P	*INVALID*
Thallium	01/13/2017 13:50	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	01/13/2017 13:50	1.46	U	4.27	J	192		P	*INVALID*
Zinc	01/13/2017 13:50	4.17	U	8	U	100		P	*INVALID*

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 124700

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	-0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 {452}	☒	1	Ca	0.000022
Ni 231.604 {445}	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 {455}	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 {153}	☒	1	Fe	0.000024
Pb 220.353 {453}	☒	9	Fe	0.000071
			Si	0.000940
			Tl	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 {463}	☒	1	Fe	0.000032
Sb 217.581 {455}	☒	1	Fe	-0.000048
Se 196.090 {172}	☒	1	Fe	-0.000205
Se 196.090 {472}	☒	1	Fe	0.000022
Se 206.279 {463}	☒	1	Fe	0.001119
Tl 276.787 {122}	☒	1	Mg	0.006492
Tl 190.856 {477}	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 {116}	☒	1	Fe	0.000170
V 292.402 {115}	☒	1	Fe	0.000041
Zn 206.200 {463}	☒	1	Fe	0.000173
Zn 213.856 {458}	☒	1	Fe	0.000380
Y 360.073 { 94}*	☒	None		
Na 330.298 {102}	☒	1	Fe	0.000991
Si 251.611 {134}	☒	1	Fe	-0.000042
Ti 334.941 {101}	☒	1	Fe	0.000050
Ti 337.280 {100}	☒	1	Fe	0.000006
Sr 407.771 { 83}	☒	1	Fe	0.000039
Sr 421.552 { 80}	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 350.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 124700

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 124700

Preparation Batch #: 60973

Preparation Date/Time: 01/12/2017 / 12:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
826641	Normal Sample	54ADW01	GROUND WATER	50.0
826846	Method Blank		LIQUID	50.0
826847	Lab Control Spike		LIQUID	50.0
826848	Lab Duplicate	54ADW01	GROUND WATER	50.0
826849	Matrix Spike	54ADW01	GROUND WATER	50.0
826850	Matrix Spike Duplicate	54ADW01	GROUND WATER	50.0

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A

SDG No.: 124700

Preparation Batch #: 60990

Preparation Date/Time: 01/16/2017 / 10:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
826641	Normal Sample	54ADW01	GROUND WATER	25.0
827382	Method Blank		LIQUID	25.0
827383	Lab Control Spike		LIQUID	25.0
827384	Lab Duplicate	54ADW01	GROUND WATER	25.0
827385	Matrix Spike	54ADW01	GROUND WATER	25.0
827386	Matrix Spike Duplicate	54ADW01	GROUND WATER	25.0

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 124700

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 01/19/2017 to 01/19/2017

Analytical Run #: 134409

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
829003	ICV	1.00	1/19 07:59																X													
829004	ICB	1.00	1/19 08:01																X													
829011	CCV	1.00	1/19 09:44																X													
829012	CCB	1.00	1/19 09:46																X													
827383	LCSW	1.00	1/19 10:01																X													
827382	MBW	1.00	1/19 10:03																X													
826641	Initial	1.00	1/19 10:05																X													
827384	DUP	1.00	1/19 10:08																X													
829013	CCV	1.00	1/19 10:10																X													
829014	CCB	1.00	1/19 10:12																X													
827385	MSW	1.00	1/19 10:14																X													
827386	MSDW	1.00	1/19 10:16																X													
829015	CCV	1.00	1/19 10:36																X													
829016	CCB	1.00	1/19 10:38																X													

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 124700

Instrument ID Number: TJA

Method Number: P

Start & End Date: 01/13/2017 to 01/13/2017

Analytical Run #: 134354

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
829488	ICV	1.00	1/13 11:18	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829489	ICVLL	1.00	1/13 11:24	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829490	ICB	1.00	1/13 11:37	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829491	ICSA	1.00	1/13 11:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829492	ICSAB	1.00	1/13 11:56	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829493	ICVLL	1.00	1/13 12:03																							X							
829494	CCV1	1.00	1/13 13:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829495	CCV2	1.00	1/13 13:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829496	CCB	1.00	1/13 13:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
826847	LCSW	1.00	1/13 13:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
826846	MBW	1.00	1/13 13:36	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
826641	Initial	1.00	1/13 13:43	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829497	L	5	1/13 13:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
826848	DUP	1.00	1/13 13:57	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
826849	MSW	1.00	1/13 14:04	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
826850	MSDW	1.00	1/13 14:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829498	PDSW	1.00	1/13 14:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829499	CCV1	1.00	1/13 14:37	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829500	CCV2	1.00	1/13 14:43	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
829501	CCB	1.00	1/13 14:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 124700

Instrument ID Number: TJA
Method Number: P

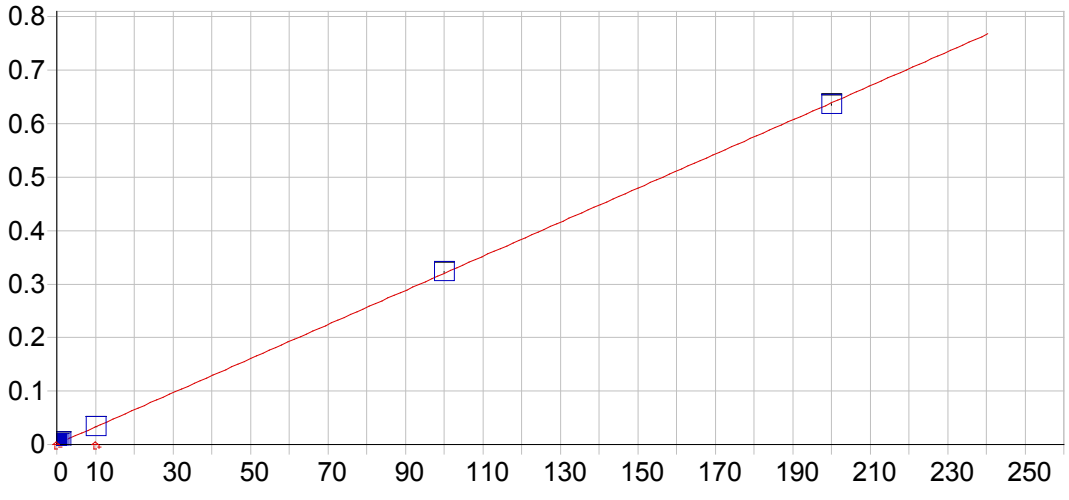
Start & End Date: 01/13/2017 to 01/13/2017
Analytical Run #: 134355

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
827569	ICV	1.00	1/13 10:01																				X				X					
827570	ICVLL	1.00	1/13 10:03																				X				X					
827571	ICB	1.00	1/13 10:06																				X				X					
827572	MRL	1.00	1/13 10:09																				X				X					
827573	ICSA	1.00	1/13 10:12	X							X				X		X						X				X					
827574	ICSAB	1.00	1/13 10:15	X							X				X		X						X				X					
826847	LCSW	1.00	1/13 10:18																				X				X					
826846	MBW	1.00	1/13 10:21																				X				X					
826641	Initial	1.00	1/13 10:24																				X				X					
827575	L	5	1/13 10:26																				X				X					
826848	DUP	1.00	1/13 10:29																				X				X					
826849	MSW	1.00	1/13 10:32																				X				X					
826850	MSDW	1.00	1/13 10:35																				X				X					
827576	PDSW	1.00	1/13 10:37																				X				X					
827577	CCV	1.00	1/13 10:46																				X				X					
827578	CCB	1.00	1/13 10:48																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	01/13/2017 13:21:15	01/13/2017 09:57:55	Linear	1/Conc	0.001098	0.003189	0.000000	1.000000	0.999973	0.000011	0.061053	0.203510
	Na 330.237 {102}	01/13/2017 13:21:15	01/13/2017 09:57:55	Linear	1/Conc	0.000098	0.000076	0.000000	1.000000	0.999934	0.000002	1.585516	5.285054
	Na 589.592 { 57}	01/13/2017 13:21:15	01/13/2017 09:57:55	Linear	1/Conc	-0.000843	0.028752	0.000000	1.000000	0.999829	0.000263	0.012085	0.040283
	Y 360.073 { 94}	01/13/2017 13:21:15	01/13/2017 09:38:40	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	01/13/2017 13:21:15	01/13/2017 09:38:40	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	01/13/2017 13:21:15	01/13/2017 10:01:09	Linear	1/Conc	0.003869	0.000011	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	01/13/2017 13:21:15	01/13/2017 10:01:09	Linear	1/Conc	-0.000270	0.008312	0.000000	1.000000	1.000000	0.000000	0.017496	0.058321
	Mg 285.213 {118}	01/13/2017 13:21:15	01/13/2017 10:01:09	Linear	None	0.000006	0.026677	0.000000	1.000000	1.000000	0.000000	0.002543	0.008476
	Ca 317.933 {106}	01/13/2017 13:21:15	01/13/2017 10:01:09	Linear	None	0.026435	0.008395	0.000000	1.000000	1.000000	0.000000	0.008104	0.027014
	Fe 234.349 {144}	01/13/2017 13:21:15	01/13/2017 10:01:09	Linear	None	0.000034	0.001104	0.000000	1.000000	1.000000	0.000000	0.019978	0.066594

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

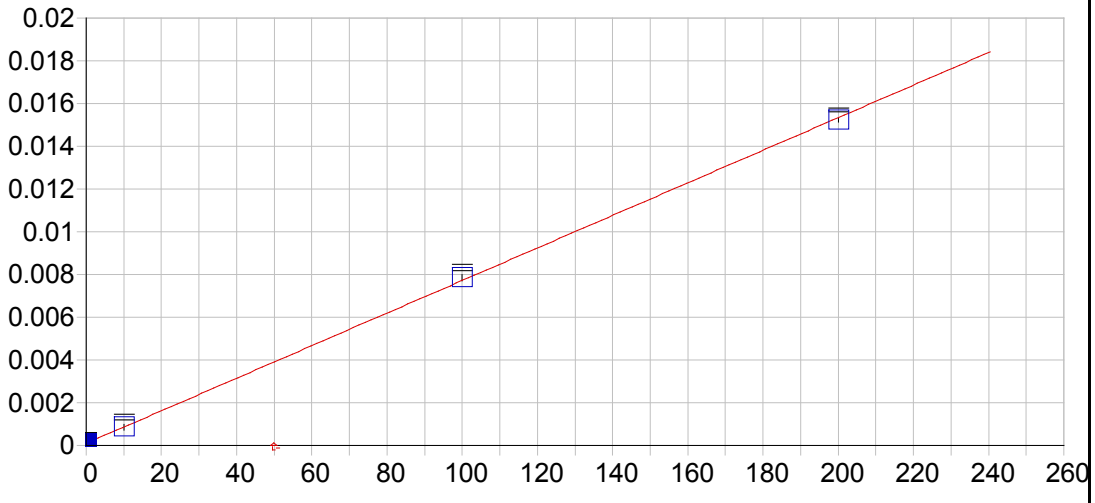


K 766.490 { 44}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001098	Re-Slope:	1.000000
A1 (Gain):	0.003189	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.061053		
Predicted MQL:	0.203510		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00002	.000	.000	.00110	.000	1
CalibStd-1.0	1.0000	1.0354	.035	3.54	.00440	.000	1
CalibStd-10.0	10.000	10.122	.122	1.22	.03338	.000	1
CalibStd-0.5	.50000	.49899	-.001	-.203	.00269	.000	1
CalibStd-200	200.00	198.92	-1.08	-.538	.63550	.001	1
CalibStd-100	100.00	100.92	.920	.920	.32295	.001	1

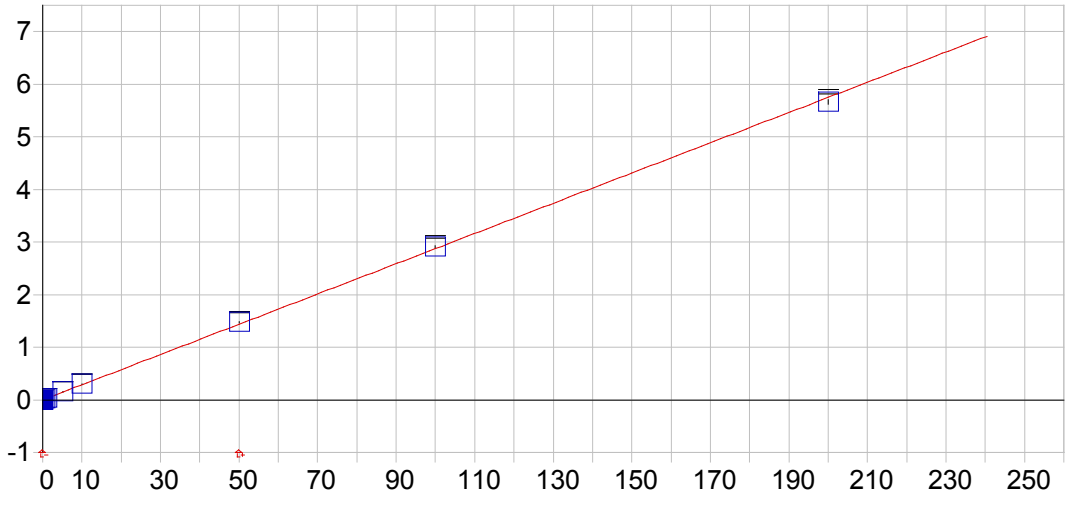


Na 330.237 {102}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000098	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.585516		
Predicted MQL:	5.285054		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00002	.000	.000	.00010	.000	1
CalibStd-200	200.00	198.45	-1.55	-.777	.01522	.000	1
CalibStd-10.0	10.000	9.8889	-.111	-1.11	.00085	.000	1
CalibStd-100	100.00	101.66	1.66	1.66	.00785	.000	1

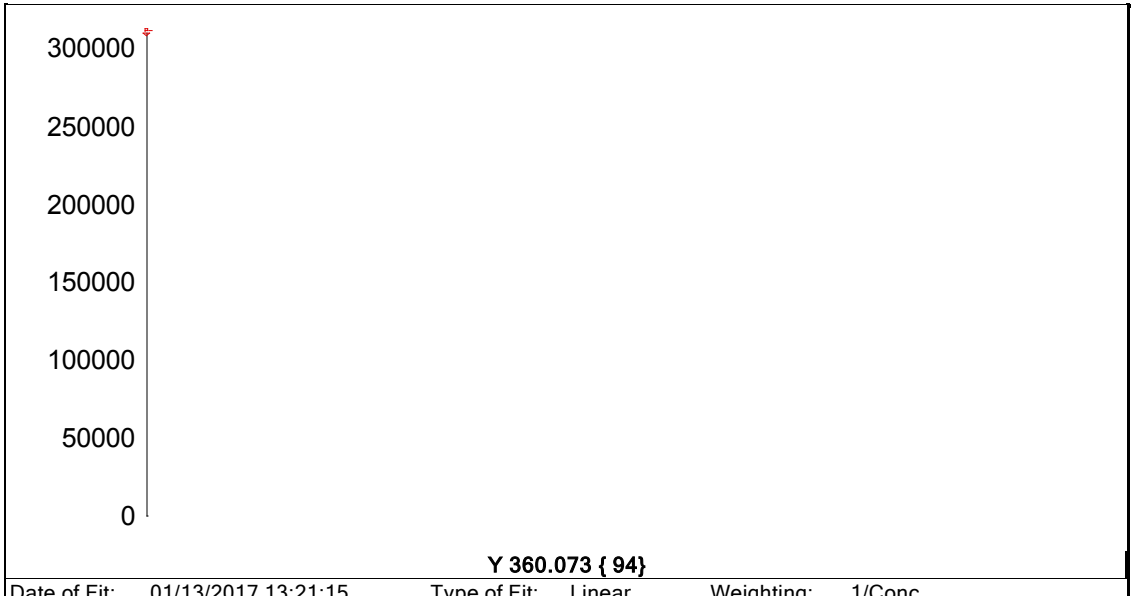


Na 589.592 { 57}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc

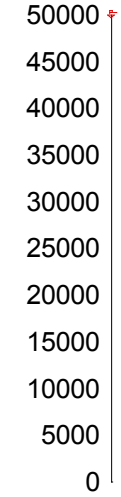
A0 (Offset):	-0.000843	Re-Slope:	1.000000
A1 (Gain):	0.028752	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999829	Status:	OK.
Std Error of Est:	0.000263		
Predicted MDL:	0.012085		
Predicted MQL:	0.040283		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00015	.000	.000	-.00085	.000	1
CalibStd-0.5	.50000	.55242	.052	10.5	.01504	.000	1
CalibStd-1.0	1.0000	1.1075	.108	10.8	.03100	.000	1
CalibStd-5.0	5.0000	5.2280	.228	4.56	.14947	.001	1
CalibStd-10.0	10.000	10.298	.298	2.98	.29525	.002	1
CalibStd-50	50.000	51.201	1.20	2.40	1.4713	.014	1
CalibStd-100	100.00	101.16	1.16	1.16	2.9078	.023	1
CalibStd-200	200.00	196.95	-3.05	-1.53	5.6618	.041	1



Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

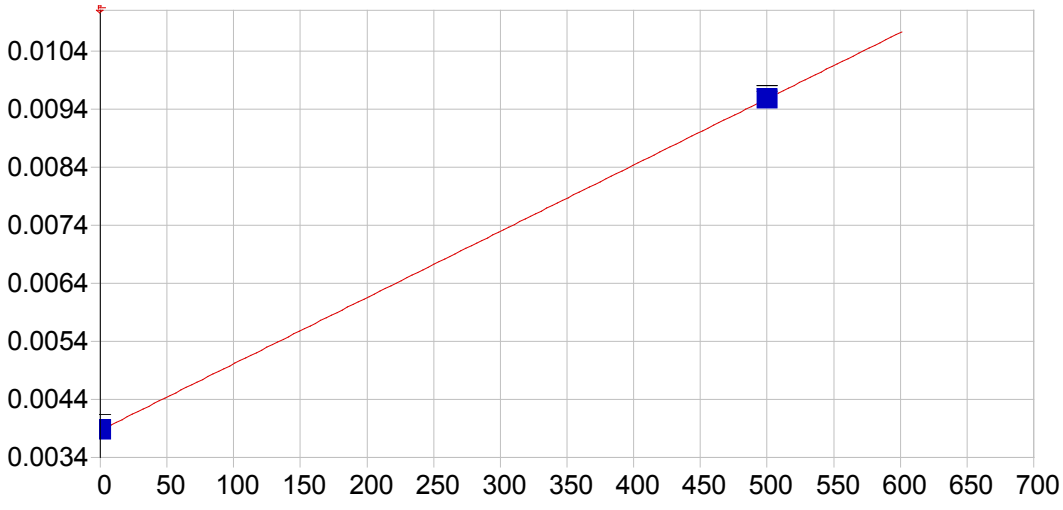
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	291910.	2180.	1



Y 320.332 {105}*

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	38674.	227.	1

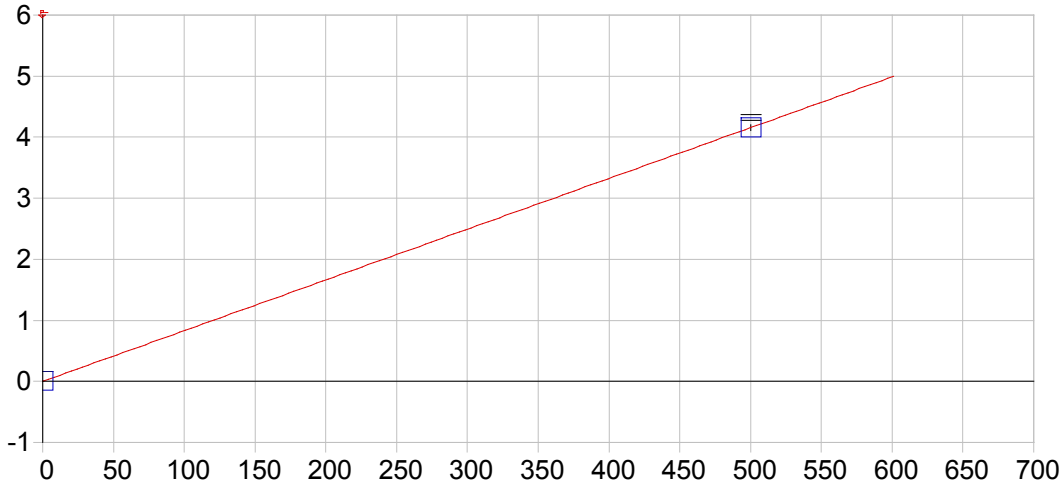


Al 308.215 {109}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003869	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00387	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00958	.000	1

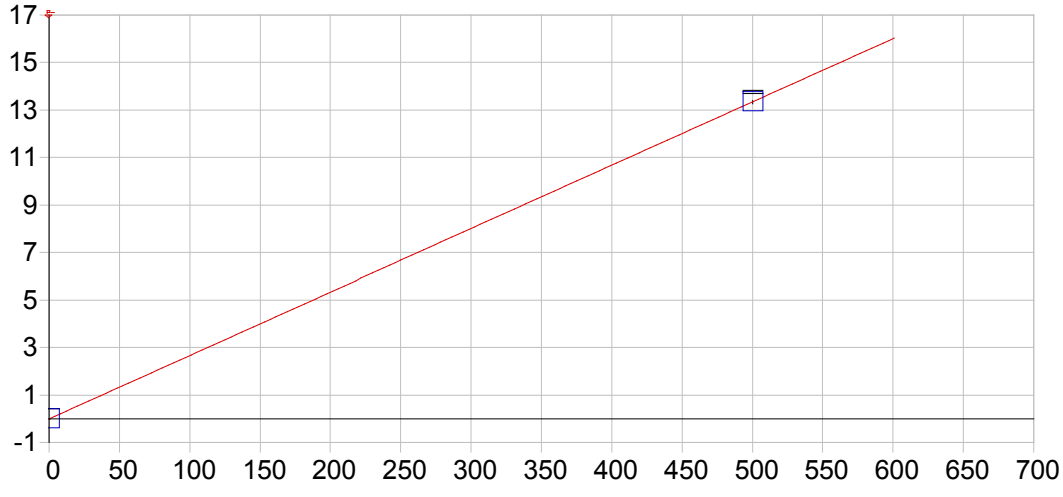


Al 396.152 { 85}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000270	Re-Slope:	1.000000
A1 (Gain):	0.008312	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.017496		
Predicted MQL:	0.058321		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00027	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.1556	.045	1

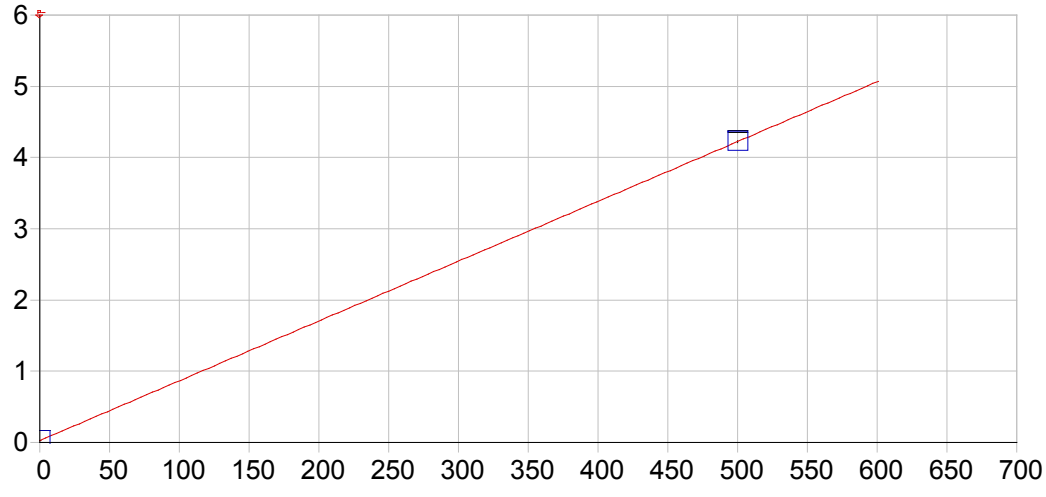


Mg 285.213 {118}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.026677	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002543		
Predicted MQL:	0.008476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00001	.000	1
CalibStd-500	500.00	500.00	.000	.000	13.339	.066	1

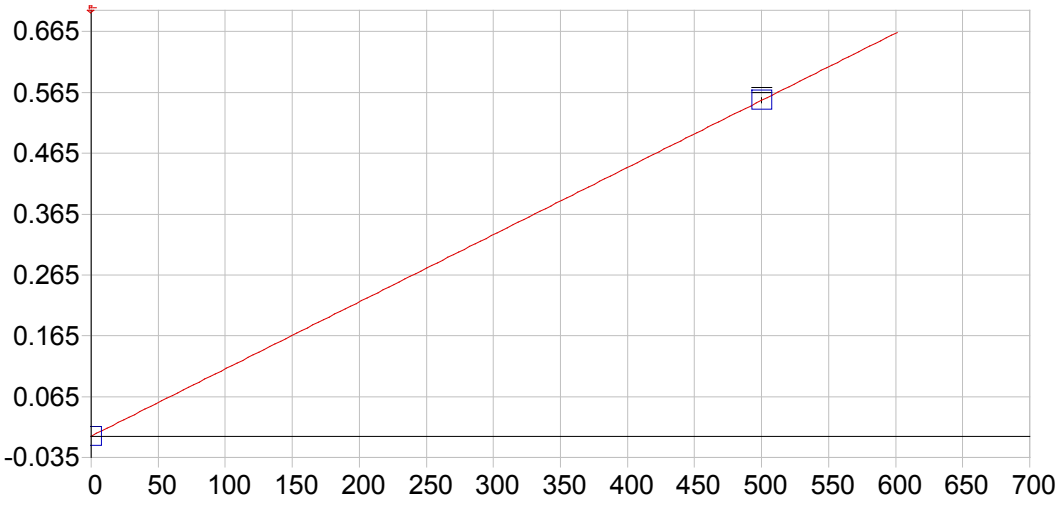


Ca 317.933 {106}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.026435	Re-Slope:	1.000000
A1 (Gain):	0.008395	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.008104		
Predicted MQL:	0.027014		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02644	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.2241	.011	1



Fe 234.349 {144}

Date of Fit:	01/13/2017 13:21:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000034	Re-Slope:	1.000000
A1 (Gain):	0.001104	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.019978		
Predicted MQL:	0.066594		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00003	.000	1
CalibStd-500	500.00	500.00	.000	.000	.55200	.005	1

Sample Name: Blank Acquired: 01/13/2017 09:35:47 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**-.001**	**.000**	**.000**	**.026**	**.000**
Stddev	.000	.000	.000	.00	.000	.000	.000
%RSD	10.4	14.5	30.5	35.9	393.	.473	109.

Int. Std.	Y_3203
Units	Cts/S
Avg	**38674.**
Stddev	227.
%RSD	.58743

Sample Name: CalibStd-0.5 Acquired: 01/13/2017 09:38:43 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.002**	**.015**
Stddev	.000	.000
%RSD	7.00	2.51

Int. Std.	Y_3203
Units	Cts/S
Avg	**38628.**
Stddev	287.
%RSD	.74271

Sample Name: CalibStd-1.0 Acquired: 01/13/2017 09:41:27 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.003**	**.031**
Stddev	.000	.000
%RSD	3.51	1.31

Int. Std.	Y_3203
Units	Cts/S
Avg	**38583.**
Stddev	258.
%RSD	.66888

Sample Name: CalibStd-5.0 Acquired: 01/13/2017 09:44:12 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.149
Stddev	.001
%RSD	.933

Int. Std.	Y_3203
Units	Cts/S
Avg	39085.
Stddev	306.
%RSD	.78247

Sample Name: CalibStd-10.0 Acquired: 01/13/2017 09:46:57 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.033**	**.001**	**.295**
Stddev	.000	.000	.002
%RSD	.477	17.2	.648

Int. Std.	Y_3203
Units	Cts/S
Avg	**38969.**
Stddev	199.
%RSD	.51180

Sample Name: CalibStd-50 Acquired: 01/13/2017 09:49:43 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**1.47**
Stddev	.01
%RSD	.976

Int. Std.	Y_3203
Units	Cts/S
Avg	**38840.**
Stddev	221.
%RSD	.56804

Sample Name: CalibStd-100 Acquired: 01/13/2017 09:52:29 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.323**	**.008**	**2.91**
Stddev	.001	.000	.02
%RSD	.210	1.78	.789

Int. Std.	Y_3203
Units	Cts/S
Avg	**39078.**
Stddev	75.
%RSD	.19232

Sample Name: CalibStd-200 Acquired: 01/13/2017 09:55:14 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.635**	**.015**	**5.66**
Stddev	.001	.000	.04
%RSD	.149	.611	.728

Int. Std.	Y_3203
Units	Cts/S
Avg	**39192.**
Stddev	125.
%RSD	.31951

Sample Name: CalibStd-500 Acquired: 01/13/2017 09:57:58 Type: Cal
Method: Sodium and Potassium 1(v837) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.16**	**13.3**	**4.22**	**.552**
Stddev	.04	.1	.01	.005
%RSD	1.09	.495	.254	.819

Int. Std.	Y_3203
Units	Cts/S
Avg	**37531.**
Stddev	140.
%RSD	.37381

Sample Name: icv Acquired: 01/13/2017 10:01:13 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**107.**	**.102**	**.094**	**.047**	**.286**
Stddev	.	2.	.016	.002	.008	.056
%RSD	.127	1.48	15.7	2.28	16.7	19.6
#1	100.	106.	.120	.094	.058	.367
#2	100.	105.	.095	.094	.044	.275
#3	101.	109.	.109	.096	.045	.259
#4	100.	107.	.083	.091	.040	.241
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39359.**
Stddev	109.
%RSD	.27794
#1	39301.
#2	39478.
#3	39237.
#4	39419.

Sample Name: ICVLL Acquired: 01/13/2017 10:03:58 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.21**	**3.35**	**.031**	**.021**	**-.017**	**.047**
Stddev	.07	.02	.015	.002	.008	.016
%RSD	2.24	.703	46.8	7.84	43.3	32.8
#1	3.16	3.36	.022	.022	-.023	.066
#2	3.24	3.37	.031	.022	-.006	.053
#3	3.15	3.35	.052	.021	-.019	.030
#4	3.30	3.31	.020	.018	-.022	.041
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39327.**
Stddev	208.
%RSD	.53004
#1	39162.
#2	39339.
#3	39190.
#4	39617.

Sample Name: icb Acquired: 01/13/2017 10:06:43 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.099**	**.064**	**.005**	**.007**	**-.048**	**.018**
Stddev	.024	.004	.005	.002	.010	.023
%RSD	24.3	5.68	106.	26.5	21.4	127.
#1	.120	.064	.010	.008	-.039	.050
#2	.065	.063	-.002	.005	-.051	.011
#3	.102	.061	.004	.009	-.040	.015
#4	.108	.069	.008	.009	-.061	-.004
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39625.**
Stddev	43.
%RSD	.10904
#1	39652.
#2	39572.
#3	39667.
#4	39608.

Sample Name: mrl Acquired: 01/13/2017 10:09:28 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.981**	**1.02**	**.022**	**.013**	**-.011**	**.021**
Stddev	.053	.01	.006	.002	.004	.006
%RSD	5.41	.917	27.7	13.2	41.5	30.8
#1	.974	1.03	.025	.011	-.006	.026
#2	.993	1.02	.021	.014	-.008	.026
#3	1.04	1.02	.013	.011	-.012	.013
#4	.914	1.01	.027	.013	-.016	.019
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39969.**
Stddev	169.
%RSD	.42158
#1	39739.
#2	40141.
#3	40023.
#4	39971.

Sample Name: icsa Acquired: 01/13/2017 10:12:13 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.005**	**.003**	**501.**	**491.**	**495.**	**494.**
Stddev	.048	.008	4.	4.	2.	4.
%RSD	993.	234.	.848	.906	.370	.885
#1	-.056	.014	507.	497.	496.	491.
#2	.058	-.005	499.	492.	493.	489.
#3	.018	.001	499.	486.	493.	497.
#4	-.001	.003	498.	488.	496.	498.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**37683.**
Stddev	70.
%RSD	.18599
#1	37638.
#2	37756.
#3	37728.
#4	37610.

Sample Name: icsab Acquired: 01/13/2017 10:15:29 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**109.**	**111.**	**493.**	**480.**	**477.**	**488.**
Stddev	.	1.	4.	4.	2.	1.
%RSD	.195	.662	.860	.743	.377	.299
#1	110.	110.	487.	476.	479.	489.
#2	110.	111.	498.	479.	477.	487.
#3	109.	110.	494.	485.	475.	489.
#4	109.	111.	492.	480.	478.	486.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**37764.**
Stddev	142.
%RSD	.37710
#1	37756.
#2	37739.
#3	37608.
#4	37953.

Sample Name: lcsw60973 Acquired: 01/13/2017 10:18:44 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**100.**	**97.9**	**.833**	**108.**	**189.**	**.555**
Stddev	.	.3	.019	1.	1.	.036
%RSD	.353	.276	2.29	.629	.375	6.44
#1	100.	97.9	.856	108.	190.	.606
#2	99.7	97.5	.823	107.	188.	.548
#3	99.8	98.1	.813	107.	188.	.542
#4	100.	98.1	.840	109.	190.	.523

Int. Std.	Y_3203
Units	Cts/S
Avg	**38571.**
Stddev	150.
%RSD	.38930
#1	38431.
#2	38743.
#3	38651.
#4	38460.

Sample Name: mbw60973 Acquired: 01/13/2017 10:21:27 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.011**	**.069**	**.013**	**.007**	**-.045**	**.014**
Stddev	.028	.007	.008	.003	.013	.006
%RSD	261.	10.6	60.9	44.1	29.0	41.5
#1	.049	.077	.012	.005	-.062	.015
#2	.008	.072	.011	.009	-.040	.021
#3	-.016	.067	.005	.003	-.031	.007
#4	.002	.060	.024	.009	-.047	.012

Int. Std.	Y_3203
Units	Cts/S
Avg	**39879.**
Stddev	165.
%RSD	.41427
#1	39655.
#2	39900.
#3	39906.
#4	40054.

Sample Name: 826641 Acquired: 01/13/2017 10:24:13 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.994**	**29.9**	**.047**	**28.7**	**55.9**	**.038**
Stddev	.045	.1	.010	.2	.3	.024
%RSD	4.58	.420	22.0	.531	.508	63.2
#1	.967	29.9	.044	28.5	55.5	.056
#2	1.03	29.8	.060	28.7	56.2	.032
#3	.945	30.1	.048	28.9	55.9	.057
#4	1.04	29.9	.036	28.6	56.0	.006

Int. Std.	Y_3203
Units	Cts/S
Avg	**40536.**
Stddev	221.
%RSD	.54462
#1	40784.
#2	40346.
#3	40662.
#4	40354.

Sample Name: I826641 Acquired: 01/13/2017 10:26:57 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.204**	**6.74**	**.012**	**6.54**	**12.7**	**-.009**
Stddev	.037	.08	.008	.07	.2	.010
%RSD	18.2	1.16	68.4	1.08	1.50	114.
#1	.236	6.83	.007	6.62	12.9	-.005
#2	.151	6.78	.019	6.58	12.7	-.010
#3	.209	6.70	.019	6.51	12.7	.001
#4	.222	6.66	.003	6.46	12.5	-.023

Int. Std.	Y_3203
Units	Cts/S
Avg	**41077.**
Stddev	110.
%RSD	.26689
#1	40914.
#2	41150.
#3	41128.
#4	41117.

Sample Name: dup826641 Acquired: 01/13/2017 10:29:41 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.911**	**30.4**	**.042**	**29.1**	**55.3**	**.033**
Stddev	.044	.2	.017	.2	.2	.013
%RSD	4.88	.640	41.1	.539	.405	40.3
#1	.859	30.1	.056	28.9	55.2	.043
#2	.891	30.4	.017	29.0	55.0	.013
#3	.937	30.4	.046	29.0	55.4	.040
#4	.957	30.6	.049	29.3	55.6	.036

Int. Std.	Y_3203
Units	Cts/S
Avg	**40612.**
Stddev	167.
%RSD	.41138
#1	40729.
#2	40735.
#3	40377.
#4	40606.

Sample Name: msw826641 Acquired: 01/13/2017 10:32:25 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**130.**	**.857**	**134.**	**239.**	**.450**
Stddev	.	2.	.016	1.	1.	.014
%RSD	.264	1.43	1.90	.552	.387	3.07
#1	103.	131.	.871	135.	239.	.433
#2	103.	127.	.838	133.	238.	.461
#3	103.	130.	.870	135.	240.	.462
#4	103.	131.	.849	134.	239.	.445

Int. Std.	Y_3203
Units	Cts/S
Avg	**39654.**
Stddev	254.
%RSD	.64153
#1	39581.
#2	39978.
#3	39367.
#4	39691.

Sample Name: msdw826641 Acquired: 01/13/2017 10:35:09 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**128.**	**.848**	**132.**	**236.**	**.448**
Stddev	.	2.	.007	1.	1.	.010
%RSD	.262	1.27	.865	.615	.513	2.33
#1	102.	126.	.855	131.	235.	.461
#2	102.	128.	.852	131.	236.	.438
#3	103.	127.	.843	132.	236.	.441
#4	103.	130.	.840	132.	238.	.452

Int. Std.	Y_3203
Units	Cts/S
Avg	**40322.**
Stddev	194.
%RSD	.48220
#1	40449.
#2	40527.
#3	40148.
#4	40164.

Sample Name: pdsw826641 Acquired: 01/13/2017 10:37:52 Type: Unk
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**112.**	**144.**	**.044**	**27.1**	**53.2**	**.030**
Stddev	2.	3.	.011	.1	.2	.013
%RSD	1.63	2.40	24.9	.478	.437	43.7
#1	114.	145.	.034	27.2	53.4	.025
#2	113.	149.	.035	27.1	53.4	.031
#3	112.	141.	.052	27.2	53.2	.047
#4	110.	142.	.054	27.0	52.9	.016

Int. Std.	Y_3203
Units	Cts/S
Avg	**41103.**
Stddev	195.
%RSD	.47362
#1	40969.
#2	40989.
#3	41066.
#4	41388.

Sample Name: ccv Acquired: 01/13/2017 10:46:06 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.3**	**98.7**	**.018**	**.006**	**-.027**	**.006**
Stddev	.1	1.4	.004	.001	.013	.020
%RSD	.088	1.42	22.1	9.10	48.9	323.
#1	99.2	101.	.015	.006	-.036	-.020
#2	99.4	98.4	.020	.006	-.011	.013
#3	99.3	98.2	.015	.005	-.039	.027
#4	99.4	97.5	.023	.007	-.020	.004
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**40343.**
Stddev	234.
%RSD	.58103
#1	40461.
#2	40007.
#3	40537.
#4	40366.

Sample Name: ccb Acquired: 01/13/2017 10:48:52 Type: QC
Method: Sodium and Potassium 1(v837) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.054**	**.082**	**.008**	**.002**	**-.042**	**-.006**
Stddev	.023	.009	.006	.003	.012	.008
%RSD	43.4	10.7	75.6	173.	27.5	139.
#1	.081	.085	.011	.004	-.026	-.003
#2	.036	.077	-.001	-.002	-.044	-.017
#3	.065	.094	.011	.005	-.045	-.006
#4	.033	.074	.010	.001	-.054	.003
Check ?	None	None	None	None	None	None
Value						
Range						

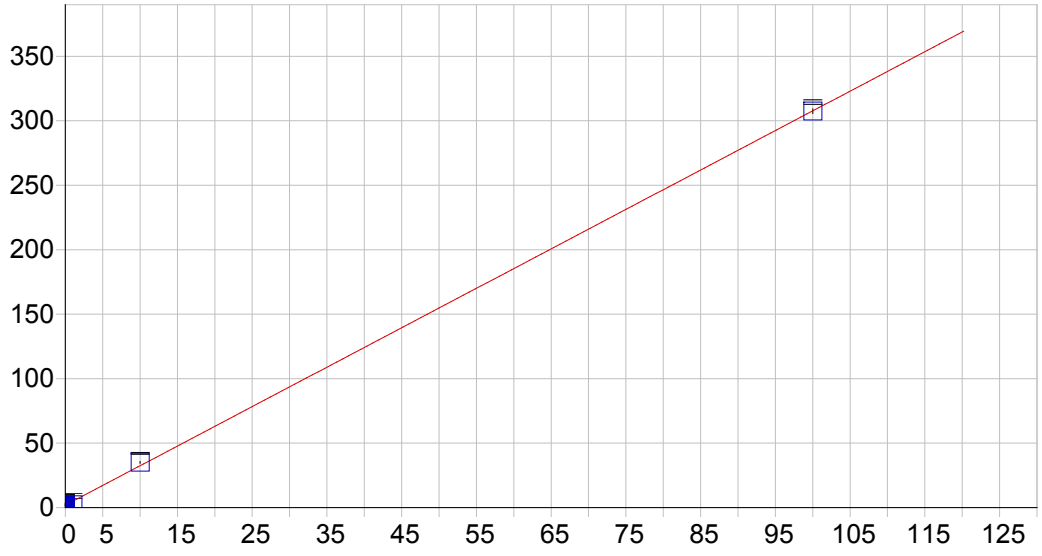
Int. Std.	Y_3203
Units	Cts/S
Avg	**40075.**
Stddev	172.
%RSD	.42989
#1	40294.
#2	40054.
#3	40080.
#4	39874.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	01/16/2017 13:59:57	01/13/2017 10:32:31	Linear	None	1.849630	3.058405	0.000000	1.000000	0.999889	2.698374	1.158444	3.861479	OK.	1.000000
Al 309.271 {109}	01/16/2017 13:59:57	01/13/2017 10:58:09	Curvilin	None	0.000285	0.000001	0.000000	1.000000	1.000000	0.000007	26.847046	89.490152	OK.	1.000000
Al 396.152 { 85}	01/16/2017 13:59:57	01/13/2017 11:11:33	Linear	1/Var	-0.000020	0.000002	0.000000	1.000000	0.998689	0.000269	14.853242	49.510807	OK.	1.000000
Al 167.079 {502}	01/16/2017 13:59:57	01/13/2017 10:38:28	Linear	None	0.000078	0.000004	0.000000	1.000000	0.999999	0.000003	3.854126	12.847087	OK.	1.000000
As 193.759 {474}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Conc	0.029310	0.171853	0.000000	1.000000	0.999916	0.028836	4.036165	13.453884	OK.	1.000000
As 189.042 {479}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Var	-0.000005	0.000002	0.000000	1.000000	0.999994	0.000024	15.586069	51.953563	OK.	1.000000
Ba 233.527 {445}	01/16/2017 13:59:57	01/13/2017 10:38:29	Linear	1/Conc	0.000011	0.000100	0.000000	1.000000	0.999865	0.000002	0.337051	1.123502	OK.	1.000000
Ba 455.403 { 74}	01/16/2017 13:59:57	01/13/2017 10:44:28	Curvilin	1/Conc	0.000688	0.000013	0.000000	1.000000	0.999640	0.000002	2.562812	8.542706	Warnin	1.000000
Ba 493.409 { 68}	01/16/2017 13:59:57	01/13/2017 10:44:28	Curvilin	1/Conc	0.009159	0.000054	0.000000	1.000000	0.999966	0.000031	1.401188	4.670626	Warnin	1.000000
Be 313.042 {108}	01/16/2017 13:59:57	01/13/2017 10:38:29	Linear	1/Conc	-0.000968	0.000831	0.000000	1.000000	0.999881	0.000008	0.032046	0.106821	OK.	1.000000
Be 234.861 {144}	01/16/2017 13:59:57	01/13/2017 10:38:29	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999706	0.000000	0.938065	3.126884	OK.	1.000000
Ca 315.887 {107}	01/16/2017 13:59:57	01/13/2017 11:11:33	Linear	1/Conc	0.000063	0.000000	0.000000	1.000000	0.998570	0.000028	21.229049	70.763497	OK.	1.000000
Ca 317.933 {106}	01/16/2017 13:59:57	01/13/2017 11:11:33	Curvilin	1/Conc	0.004476	0.000001	0.000000	1.000000	0.999660	0.000030	12.237721	40.792403	OK.	1.000000
Ca 393.366 { 86}	01/16/2017 13:59:57	01/13/2017 10:38:29	Linear	None	0.000068	0.000018	0.000000	1.000000	0.999999	0.000015	0.093837	0.312789	OK.	1.000000
Ca 396.847 { 85}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Conc	0.000204	0.000097	0.000000	1.000000	0.999976	0.000031	0.192376	0.641254	OK.	1.000000
Cd 226.502 {449}	01/16/2017 13:59:57	01/13/2017 10:38:29	Linear	1/Conc	-0.000082	0.000294	0.000000	1.000000	0.999883	0.000004	0.175654	0.585512	OK.	1.000000
Cd 228.802 {447}	01/16/2017 13:59:57	01/13/2017 10:38:29	Linear	1/Conc	0.000110	0.000420	0.000000	1.000000	0.998949	0.000006	0.157011	0.523369	OK.	1.000000
Co 228.616 {447}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Conc	-0.000243	0.000245	0.000000	1.000000	0.999970	0.000007	0.242299	0.807663	OK.	1.000000
Co 238.892 {141}	01/16/2017 13:59:57	01/13/2017 10:44:28	Curvilin	1/Conc	0.000001	0.000001	0.000000	1.000000	1.000000	0.000000	1.944254	6.480846	Warnin	1.000000
Cr 205.560 {464}	01/16/2017 13:59:57	01/13/2017 10:51:21	Curvilin	1/Conc	-0.000039	0.000067	-0.000000	1.000000	0.999993	0.000003	0.674754	2.249179	OK.	1.000000
Cr 267.716 {126}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Var	-0.000007	0.000004	0.000000	1.000000	0.999725	0.000009	0.598404	1.994681	OK.	1.000000
Cu 224.700 {450}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999985	0.000000	0.716856	2.389519	OK.	1.000000
Cu 324.754 {104}	01/16/2017 13:59:57	01/13/2017 10:51:21	Linear	None	0.000553	0.000001	0.000000	1.000000	0.999997	0.000143	12.032891	40.109636	OK.	1.000000
Cu 327.396 {103}	01/16/2017 13:59:57	01/13/2017 10:51:21	Curvilin	1/Conc	0.000358	0.000002	0.000000	1.000000	0.999968	0.000001	8.469022	28.230073	OK.	1.000000
Fe 234.349 {144}	01/16/2017 13:59:57	01/13/2017 11:11:33	Full Fit	1/Conc	0.000027	0.000001	0.000000	0.950000	0.999983	0.000004	2.045492	6.818307	OK.	1.000000
Fe 239.562 {140}	01/16/2017 13:59:57	01/13/2017 11:11:33	Curvilin	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999367	0.000003	10.241903	34.139676	OK.	1.000000
Fe 259.940 {129}	01/16/2017 13:59:57	01/13/2017 11:11:33	Linear	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999954	0.000003	5.769311	19.231037	OK.	1.000000
Mg 202.582 {466}	01/16/2017 13:59:57	01/13/2017 11:11:33	Curvilin	1/Conc	-0.000179	0.000014	-0.000000	1.000000	0.999809	0.000452	2.933610	9.778699	OK.	1.000000
Mg 279.079 {121}	01/16/2017 13:59:57	01/13/2017 11:11:33	Linear	1/Conc	0.000004	0.000000	0.000000	1.000000	0.999348	0.000002	125.954157	419.847189	OK.	1.000000
Mg 280.270 {120}	01/16/2017 13:59:57	01/13/2017 10:44:28	Curvilin	1/Conc	0.000166	0.000056	-0.000000	1.000000	1.000000	0.000003	0.031304	0.104348	OK.	1.000000
Mn 257.610 {131}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Conc	0.000001	0.000015	0.000000	1.000000	0.999975	0.000001	0.106718	0.355727	OK.	1.000000
Mn 259.373 {130}	01/16/2017 13:59:57	01/13/2017 10:51:21	Linear	1/Conc	-0.000000	0.000006	0.000000	1.000000	0.999862	0.000050	1.661947	5.539825	OK.	1.000000
Mo 202.030 {466}	01/16/2017 13:59:57	01/13/2017 10:38:30	Linear	1/Conc	-0.000013	0.000080	0.000000	1.000000	0.999868	0.000004	0.423379	1.411264	OK.	1.000000
Mo 204.598 {464}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Var	-0.000000	0.000001	0.000000	1.000000	0.999932	0.000002	0.799495	2.664983	OK.	1.000000
Mo 204.598 {465}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Var	-0.000001	0.000000	0.000000	1.000000	0.999750	0.000001	3.513562	11.711873	OK.	1.000000
Ni 221.647 {452}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Var	-0.000270	0.000126	0.000000	1.000000	0.999985	0.000438	0.628825	2.096082	OK.	1.000000
Ni 231.604 {445}	01/16/2017 13:59:57	01/13/2017 10:44:28	Curvilin	1/Conc	-0.000215	0.000158	0.000000	1.000000	0.999984	0.000004	0.435469	1.451562	Warnin	1.000000
Pb 216.999 {455}	01/16/2017 13:59:57	01/13/2017 10:51:21	Curvilin	1/Conc	0.000009	0.000008	0.000000	1.000000	0.999994	0.000001	8.653538	28.845128	OK.	1.000000
Pb 220.353 {453}	01/16/2017 13:59:57	01/13/2017 10:44:28	Linear	1/Conc	0.000082	0.000028	0.000000	1.000000	0.999853	0.000004	2.499174	8.330579	OK.	1.000000
Pb 220.353 {153}	01/16/2017 13:59:57	01/13/2017 10:51:21	Linear	1/Conc	0.000079	0.000018	0.000000	1.000000	0.999946	0.000026	4.816346	16.054486	OK.	1.000000
Sb 206.833 {463}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Var	0.000052	0.000018	0.000000	1.000000	0.999905	0.000164	2.261572	7.538574	OK.	1.000000
Sb 217.581 {455}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	-0.000039	0.000019	0.000000	1.000000	0.999955	0.000002	2.540009	8.466696	OK.	1.000000
Se 196.090 {472}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	-0.000004	0.000008	0.000000	1.000000	0.999938	0.000001	4.123716	13.745721	OK.	1.000000
Se 206.279 {463}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	-0.000083	0.000001	0.000000	1.000000	0.999689	0.000002	32.995637	109.985455	OK.	1.000000
Se 196.090 {471}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Var	0.000027	0.000006	0.000000	1.000000	0.999974	0.000027	5.338074	17.793579	OK.	1.000000
Tl 190.856 {476}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	0.000054	0.000015	0.000000	1.000000	0.999979	0.000001	2.940583	9.801945	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl
														Slope
Tl 190.856 {477}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	-0.000010	0.000009	0.000000	1.000000	0.999982	0.000001	4.098995	13.663315	OK.	1.000000
V 290.882 {116}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999824	0.000000	6.507592	21.691973	OK.	1.000000
V 292.402 {115}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	-0.000001	0.000003	0.000000	1.000000	0.999905	0.000001	1.357541	4.525137	OK.	1.000000
Zn 206.200 {463}	01/16/2017 13:59:57	01/13/2017 10:51:21	Linear	1/Conc	0.000397	0.000173	0.000000	1.000000	0.999284	0.003092	0.318006	1.060019	OK.	1.000000
Zn 213.856 {458}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Var	0.000137	0.000165	0.000000	1.000000	0.999938	0.000166	0.212672	0.708906	OK.	1.000000
Y 324.228 {104}*	01/16/2017 13:59:57	01/13/2017 09:39:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	01/16/2017 13:59:57	01/13/2017 09:39:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	01/16/2017 13:59:57	01/13/2017 09:39:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	01/16/2017 13:59:57	01/13/2017 10:58:10	Linear	1/Conc	-0.000405	0.000001	0.000000	1.000000	0.961232	0.000522	7.401548	24.671828	OK.	1.000000
Si 251.611 {134}	01/16/2017 13:59:57	01/13/2017 10:58:10	Linear	1/Conc	0.000021	0.000001	0.000000	1.000000	0.999292	0.000005	11.527961	38.426537	OK.	1.000000
Ti 334.941 {101}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	0.000011	0.000003	0.000000	1.000000	0.999721	0.000001	3.829316	12.764387	OK.	1.000000
Sr 407.771 { 83}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Var	-0.000095	0.000128	0.000000	1.000000	0.999466	0.000072	0.173308	0.577692	OK.	1.000000
Sn 189.989 {478}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	0.000000	0.000009	0.000000	1.000000	0.990230	0.000038	2.432493	8.108310	OK.	1.000000
B 249.678 {135}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	-0.000002	0.000002	0.000000	1.000000	0.999851	0.000000	1.295098	4.316993	OK.	1.000000
B 249.773 {135}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Conc	0.000008	0.000004	0.000000	1.000000	0.999951	0.000001	0.693682	2.312273	OK.	1.000000
Li 670.784 { 50}	01/16/2017 13:59:57	01/13/2017 10:44:29	Linear	1/Var	-0.000193	0.000035	0.000000	1.000000	0.999742	0.000191	1.806708	6.022361	OK.	1.000000
K 766.490 { 44}	01/16/2017 13:59:57	01/13/2017 10:58:10	Linear	1/Conc	0.000565	0.000002	0.000000	1.000000	0.961326	0.000873	39.298230	130.994101	OK.	1.000000
P 213.618 {457}	01/16/2017 13:59:57	01/13/2017 10:58:10	Linear	1/Conc	-0.000002	0.000000	0.000000	1.000000	1.000000	0.000000	3.664991	12.216637	OK.	1.000000
S 182.034 {485}	01/16/2017 13:59:57	01/13/2017 10:58:10	Linear	1/Var	-0.000011	0.000007	0.000000	1.000000	0.999781	0.000231	4.012524	13.375081	OK.	1.000000
W 239.709 {140}	01/16/2017 13:59:57	01/13/2017 10:58:10	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.397634	0.000001	412.899161	1376.33053	OK.	1.000000
Hg 184.950 {482}	01/16/2017 13:59:57	01/13/2017 10:38:31	Linear	1/Conc	0.000058	0.000004	0.000000	1.000000	0.365631	0.000195	7.311157	24.370523	OK.	1.000000
Hg 194.227 {473}	01/16/2017 13:59:57	01/13/2017 10:38:31	Linear	1/Conc	-0.000004	0.000004	0.000000	1.000000	0.368785	0.000160	8.737535	29.125116	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0
Hg 184.950 {482}	0.000000	1	0
Hg 194.227 {473}	0.000000	1	0

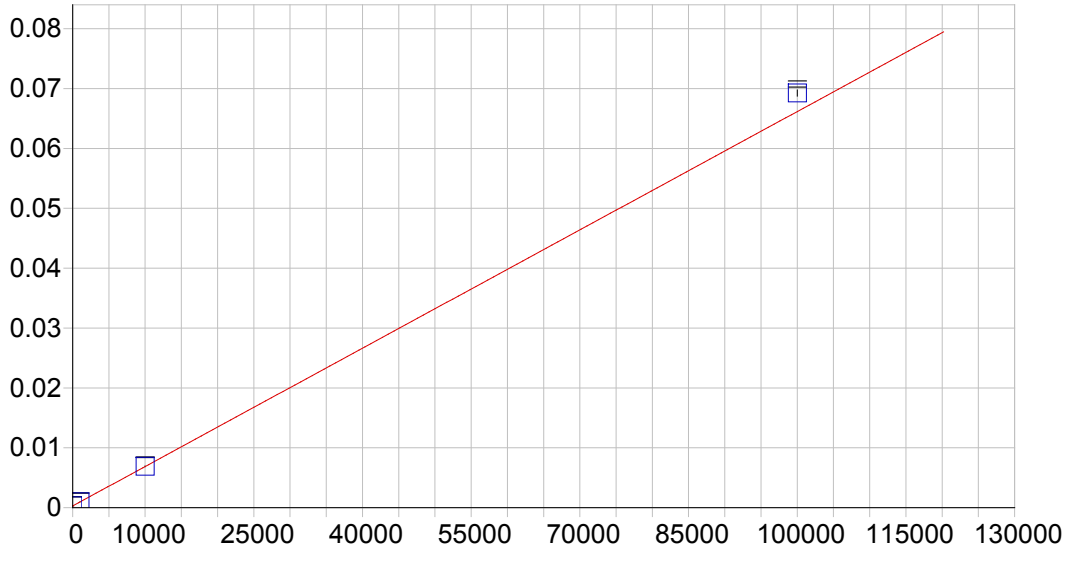


Ag 328.068 {103}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	1.849630	Re-Slope:	1.000000
A1 (Gain):	3.058405	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	2.698374		
Predicted MDL:	1.158444		
Predicted MQL:	3.861479		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.12110	.121	.000	2.2200	1.06	1
CalStd5=10	10.000	10.854	.854	8.54	35.045	.701	1
CalStd8=100	100.00	99.924	-.076	-.076	307.46	1.73	1
CalStd3=1	1.0000	.10148	-.899	-89.9	2.1600	1.97	1

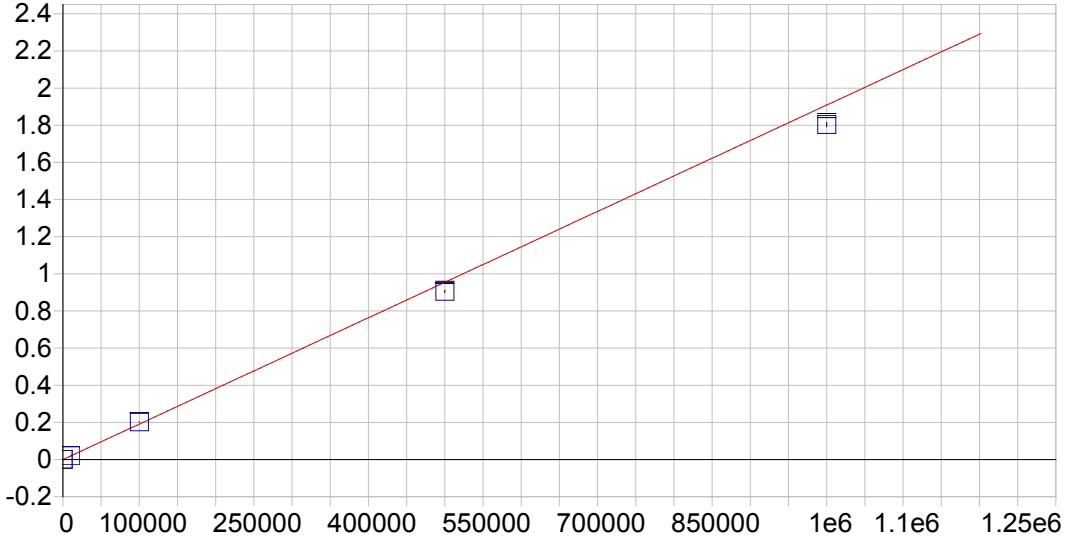


Al 309.271 {109}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000285	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	26.847046		
Predicted MQL:	89.490152		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.1022	-7.10	.000	.00028	.000	1
CalStd10=10	10000.	10046.	46.0	.460	.00690	.000	1
CalStd9=100	1000.0	1008.4	8.44	.844	.00095	.000	1
CalStd12-100	100000.	104690.	4690.	4.69	.06925	.001	1

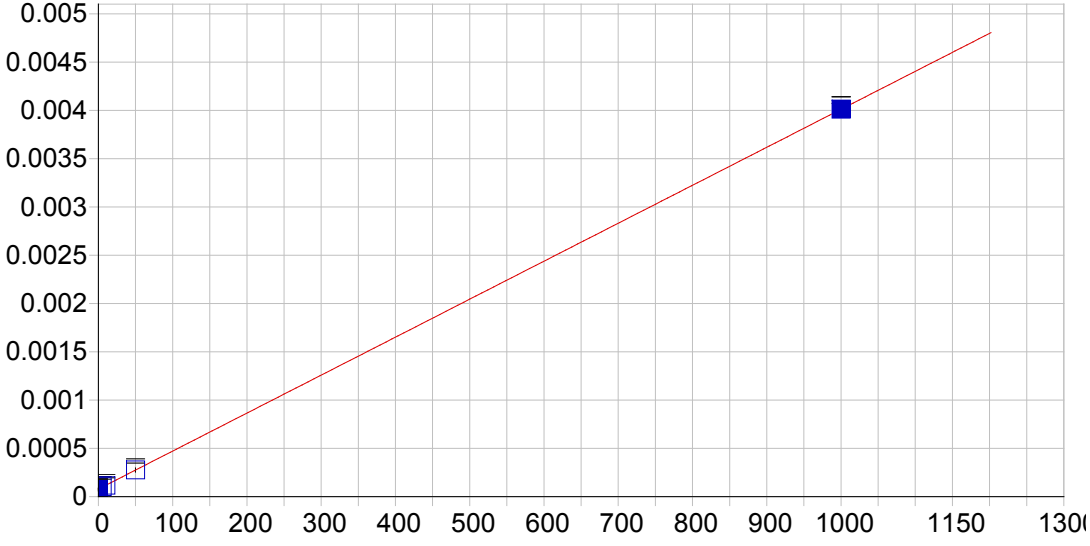


Al 396.152 { 85}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998689	Status:	OK.
Std Error of Est:	0.000269		
Predicted MDL:	14.853242		
Predicted MQL:	49.510807		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.6375	-5.64	.000	-.00003	.000	1
CalStd14-100	1000000.	944810.	-55200.	-5.52	1.8033	.011	1
CalStd13=50	500000.	474170.	-25800.	-5.17	.90499	.006	1
CalStd10=10	10000.	10242.	242.	2.42	.01953	.000	1
CalStd12-100	100000.	106080.	6080.	6.08	.20246	.001	1
CalStd9=100	1000.0	1011.6	11.6	1.16	.00191	.000	1

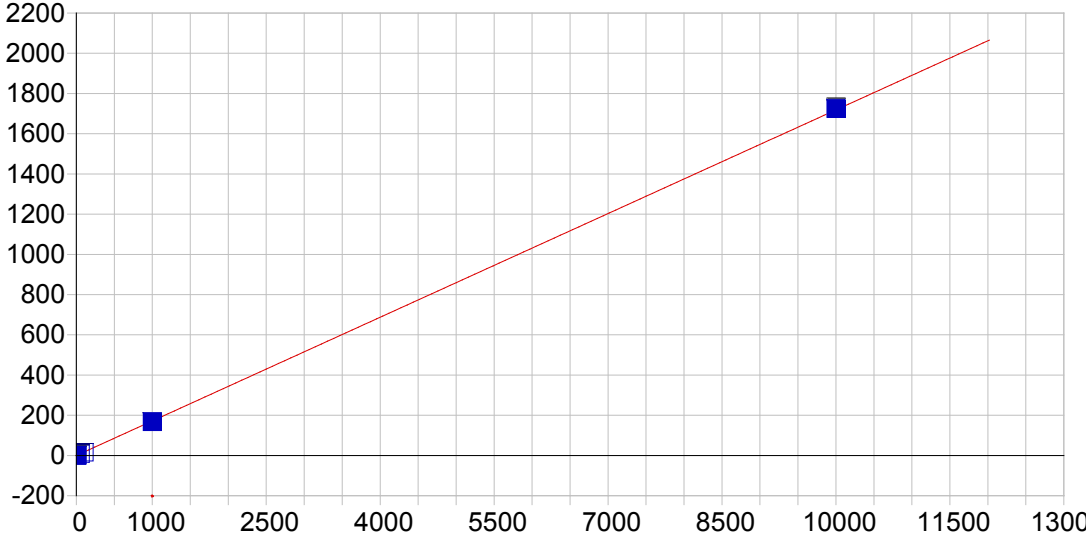


Al 167.079 {502}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000078	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	3.854126		
Predicted MQL:	12.847087		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0069	-1.01	.000	.00007	.000	1
CalStd9=100	1000.0	999.99	-.011	-.001	.00401	.000	1
CalStd5=10	10.000	9.9359	-.064	-.641	.00012	.000	1
CalStd4=5	5.0000	5.9341	.934	18.7	.00010	.000	1
CalStd7=50	50.000	50.148	.148	.297	.00028	.000	1

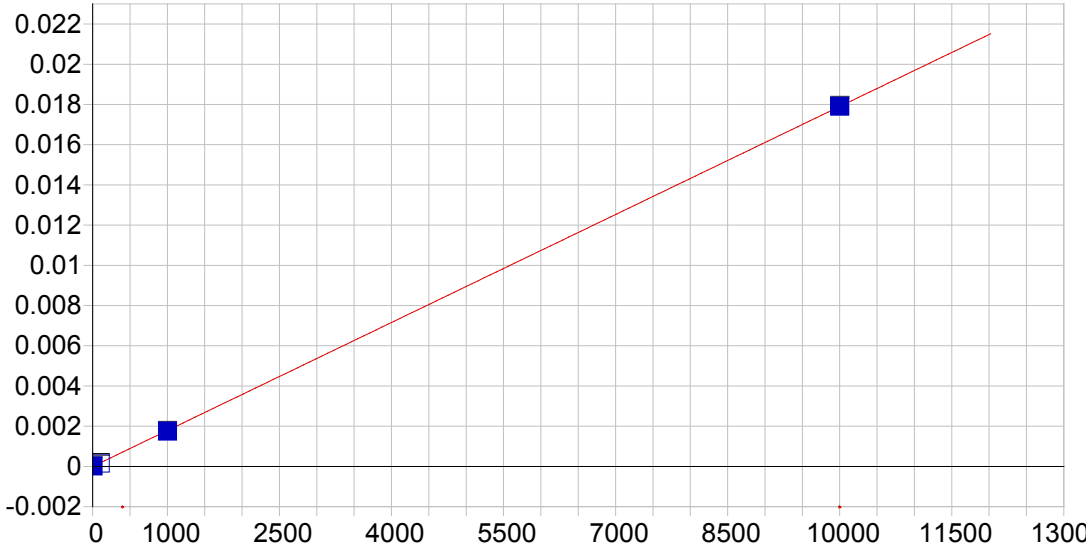


As 193.759 {474}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.029310	Re-Slope:	1.000000
A1 (Gain):	0.171853	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.028836		
Predicted MDL:	4.036165		
Predicted MQL:	13.453884		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00377	.004	.000	.02996	.295	1
CalStd9=100	1000.0	975.22	-24.8	-2.48	167.84	.440	1
CalStd7=50	50.000	46.102	-3.90	-7.80	7.9521	.512	1
CalStd5=10	10.000	7.8039	-2.20	-22.0	1.3704	.304	1
CalStd8=100	100.00	94.142	-5.86	-5.86	16.208	.369	1
CalStd10=10	10000.	10037.	36.7	.367	1727.0	5.20	1

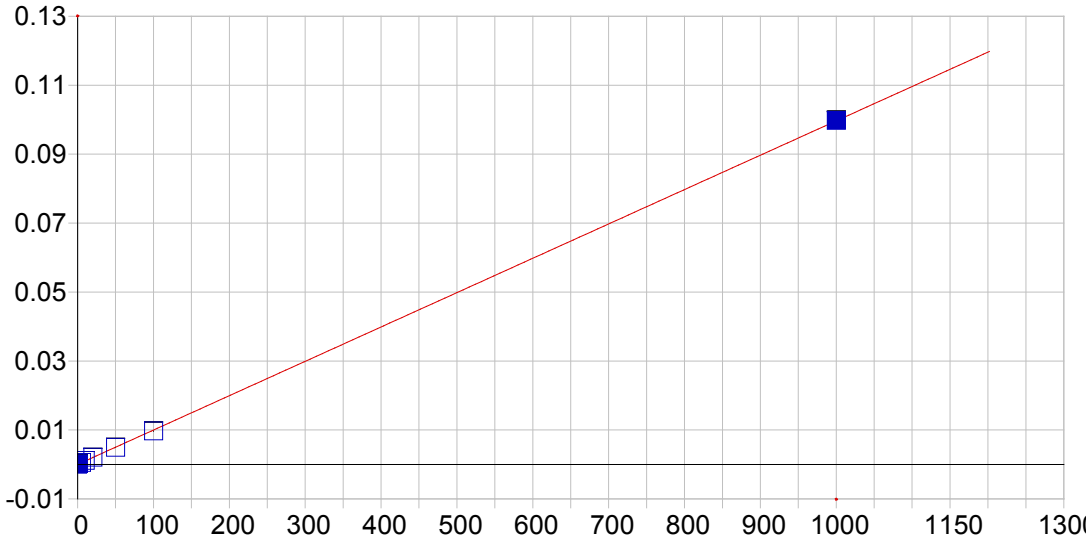


As 189.042 {479}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000024		
Predicted MDL:	15.586069		
Predicted MQL:	51.953563		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	15.461	15.5	.000	.00002	.000	1
CalStd9=100	1000.0	977.15	-22.9	-2.29	.00175	.000	1
CalStd10=10	10000.	10003.	2.77	.028	.01791	.000	1
CalStd8=100	100.00	88.958	-11.0	-11.0	.00015	.000	1
CalStd4=5	5.0000	7.9528	2.95	59.1	.00001	.000	1

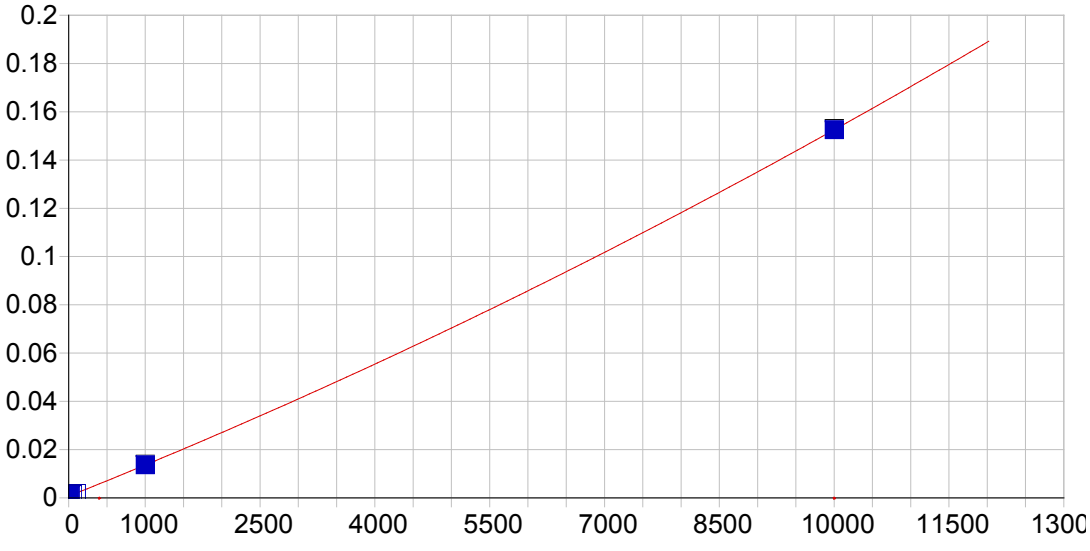


Ba 233.527 {445}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000100	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.337051		
Predicted MQL:	1.123502		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00033	.000	.000	.00001	.000	1
CalStd7=50	50.000	49.527	-.473	-.945	.00495	.000	1
CalStd5=10	10.000	11.309	1.31	13.1	.00114	.000	1
CalStd6=20	20.000	20.556	.556	2.78	.00206	.000	1
CalStd8=100	100.00	96.990	-3.01	-3.01	.00968	.000	1
CalStd4=5	5.0000	5.2104	.210	4.21	.00053	.000	1
CalStd9=100	1000.0	1001.2	1.24	.124	.09978	.000	1
CalStd3=1	1.0000	1.1640	.164	16.4	.00013	.000	1

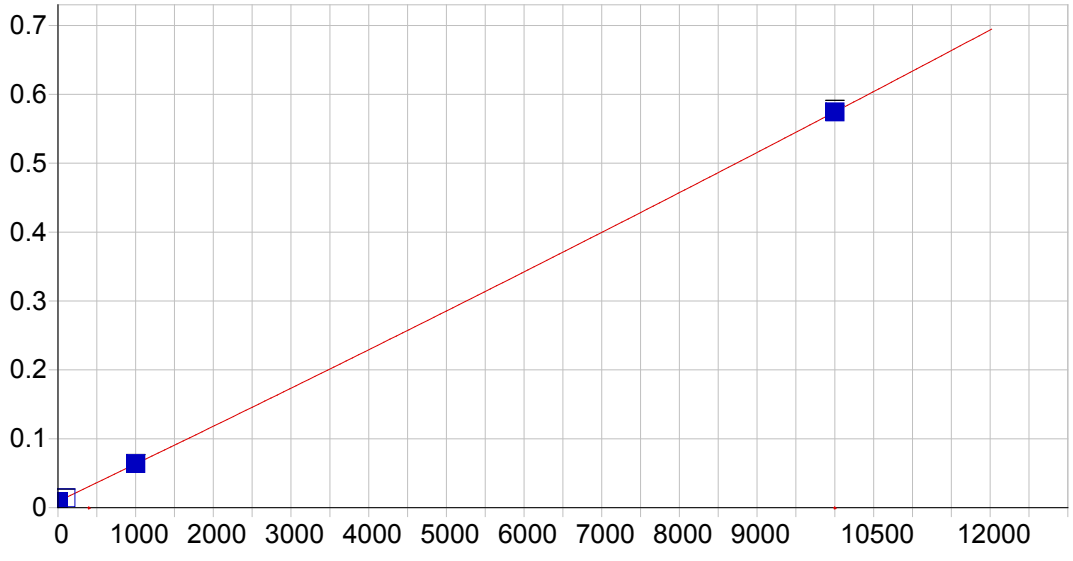


Ba 455.403 { 74}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000688	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999640	Status:	Warning Positive Curvature
Std Error of Est:	0.000002		
Predicted MDL:	2.562812		
Predicted MQL:	8.542706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00350	-.003	.000	.00069	.000	1
CalStd7=50	50.000	48.216	-1.78	-3.57	.00130	.000	1
CalStd5=10	10.000	12.867	2.87	28.7	.00085	.000	1
CalStd6=20	20.000	21.273	1.27	6.37	.00096	.000	1
CalStd8=100	100.00	91.900	-8.10	-8.10	.00186	.000	1
CalStd4=5	5.0000	6.0161	1.02	20.3	.00076	.000	1
CalStd9=100	1000.0	1001.7	1.73	.173	.01365	.000	1
CalStd3=1	1.0000	4.0576	3.06	306.	.00074	.000	1
CalStd10=10	10000.	9999.9	-.069	-.001	.15253	.000	1

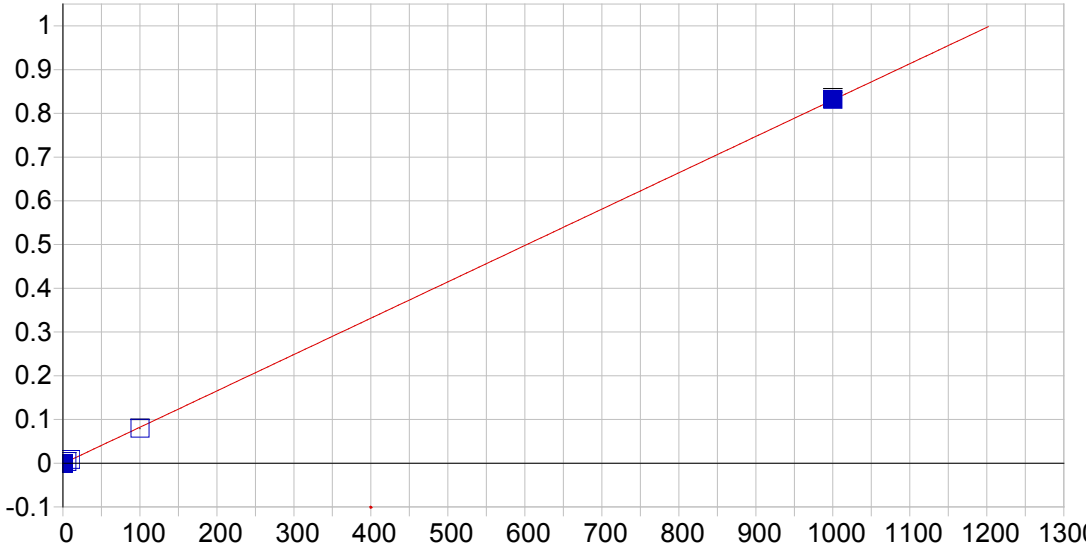


Ba 493.409 { 68}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.009159	Re-Slope:	1.000000
A1 (Gain):	0.000054	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	Warning Positive Curvature
Std Error of Est:	0.000031		
Predicted MDL:	1.401188		
Predicted MQL:	4.670626		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00766	.008	.000	.00916	.000	1
CalStd9=100	1000.0	1009.4	9.36	.936	.06393	.000	1
CalStd8=100	100.00	91.413	-8.59	-8.59	.01410	.000	1
CalStd10=10	10000.	9999.2	-.786	-.008	.57445	.004	1

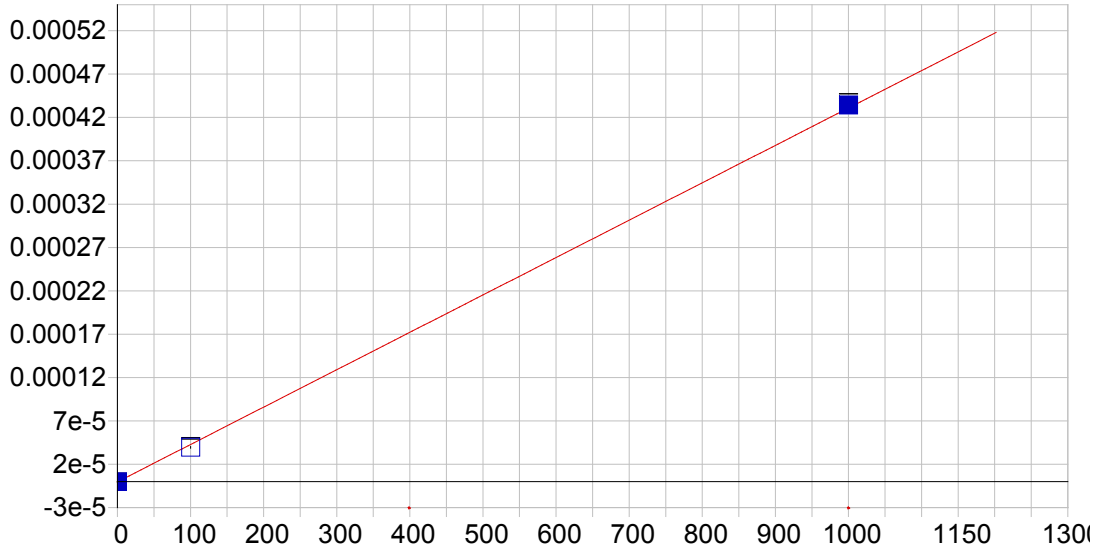


Be 313.042 {108}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000968	Re-Slope:	1.000000
A1 (Gain):	0.000831	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999881	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.032046		
Predicted MQL:	0.106821		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00016	.000	.000	-.00097	.000	1
CalStd5=10	10.000	11.077	1.08	10.8	.00824	.000	1
CalStd8=100	100.00	96.917	-3.08	-3.08	.07961	.001	1
CalStd2=0.5	.50000	.55559	.056	11.1	-.00051	.000	1
CalStd4=5	5.0000	5.1878	.188	3.76	.00335	.000	1
CalStd1=0.25	.25000	.32418	.074	29.7	-.00070	.000	1
CalStd9=100	1000.0	1001.6	1.56	.156	.83169	.004	1
CalStd3=1	1.0000	1.1319	.132	13.2	-.00003	.000	1

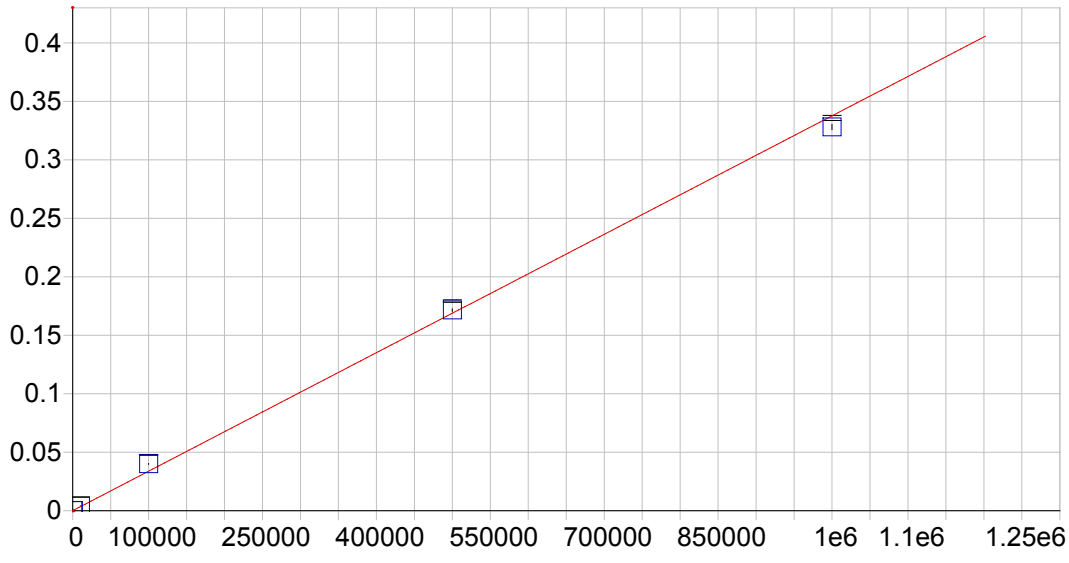


Be 234.861 {144}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999706	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.938065		
Predicted MQL:	3.126884		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00690	.007	.000	.00000	.000	1
CalStd9=100	1000.0	1007.7	7.67	.767	.00043	.000	1
CalStd8=100	100.00	92.330	-7.67	-7.67	.00004	.000	1

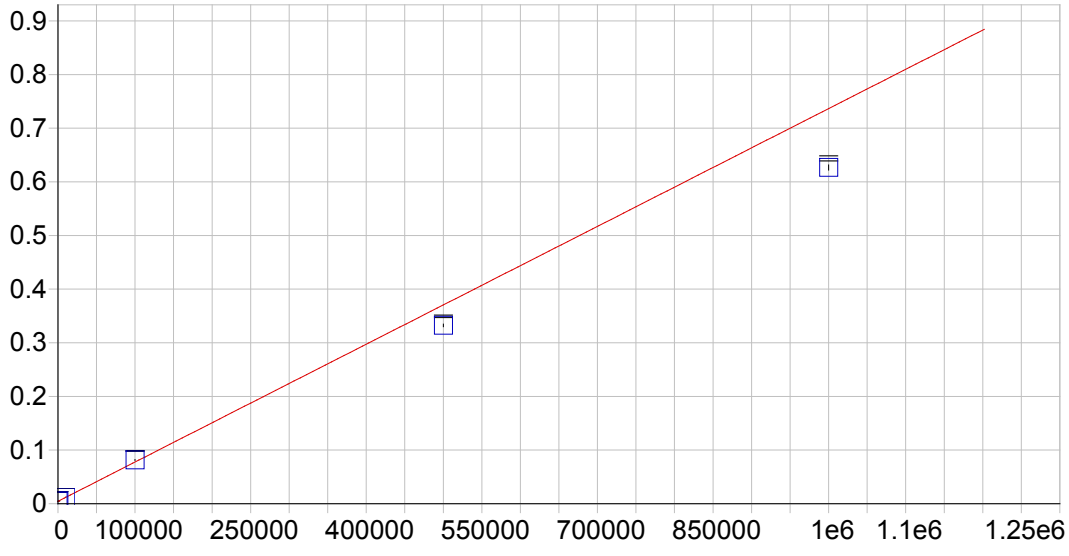


Ca 315.887 {107}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000063	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998570	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	21.229049		
Predicted MQL:	70.763497		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.45929	-.459	.000	.00006	.000	1
CalStd10=10	10000.	11656.	1660.	16.6	.00400	.000	1
CalStd13=50	500000.	507910.	7910.	1.58	.17151	.001	1
CalStd14-100	1000000.	971850.	-28200.	-2.82	.32811	.002	1
CalStd9=100	1000.0	1121.4	121.	12.1	.00044	.000	1
CalStd12-100	100000.	118470.	18500.	18.5	.04005	.000	1

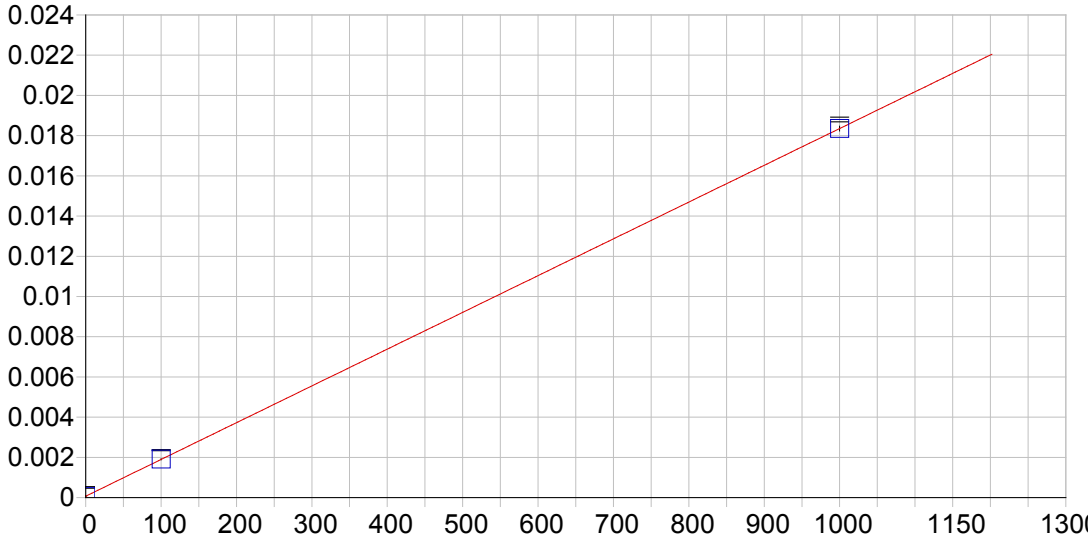


Ca 317.933 {106}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.004476	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999660	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	12.237721		
Predicted MQL:	40.792403		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.11578	-.116	.000	.00448	.000	1
CalStd10=10	10000.	10333.	333.	3.33	.01204	.000	1
CalStd13=50	500000.	448050.	-51900.	-10.4	.33248	.002	1
CalStd14-100	1000000.	850010.	-150000.	-15.0	.62674	.005	1
CalStd9=100	1000.0	1032.9	32.9	3.29	.00523	.000	1
CalStd12-100	100000.	105240.	5240.	5.24	.08152	.001	1

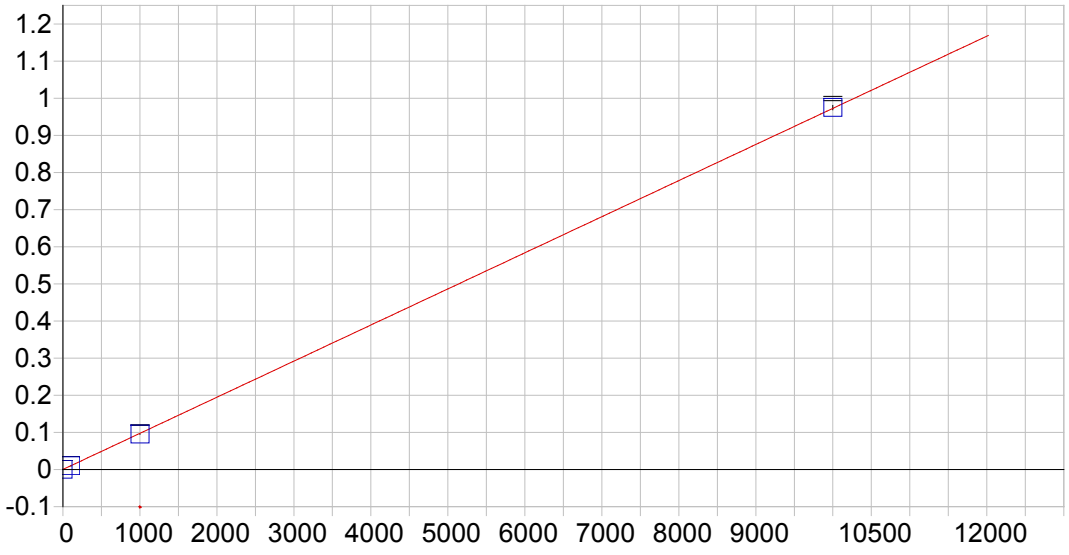


Ca 393.366 { 86}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000068	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.093837		
Predicted MQL:	0.312789		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.53707	-.537	.000	.00006	.000	1
CalStd9=100	1000.0	999.94	-.060	-.006	.01835	.000	1
CalStd8=100	100.00	100.60	.597	.597	.00191	.000	1

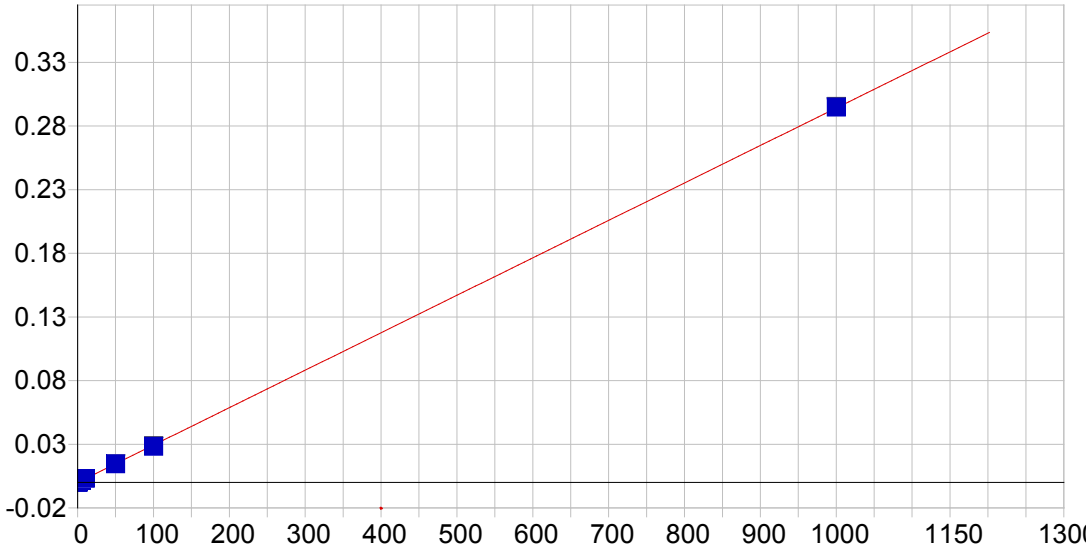


Ca 396.847 { 85}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000204	Re-Slope:	1.000000
A1 (Gain):	0.000097	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	0.192376		
Predicted MQL:	0.641254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00174	.002	.000	.00020	.000	1
CalStd10=10	10000.	10022.	21.6	.216	.97476	.006	1
CalStd8=100	100.00	100.23	.229	.229	.00995	.000	1
CalStd9=100	1000.0	978.20	-21.8	-2.18	.09533	.000	1

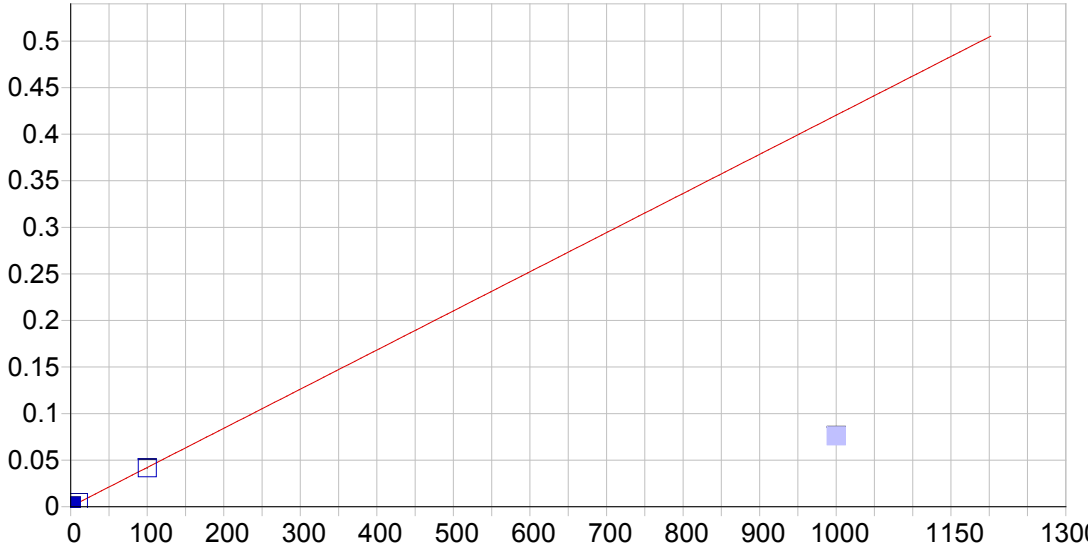


Cd 226.502 {449}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000294	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999883	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.175654		
Predicted MQL:	0.585512		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00025	.000	.000	-.00008	.000	1
CalStd7=50	50.000	49.635	-.365	-.730	.01452	.000	1
CalStd3=1	1.0000	1.1592	.159	15.9	.00026	.000	1
CalStd2=0.5	.50000	.61747	.117	23.5	.00010	.000	1
CalStd4=5	5.0000	5.2169	.217	4.34	.00145	.000	1
CalStd8=100	100.00	96.679	-3.32	-3.32	.02836	.000	1
CalStd5=10	10.000	10.969	.969	9.69	.00314	.000	1
CalStd9=100	1000.0	1002.2	2.22	.222	.29478	.001	1

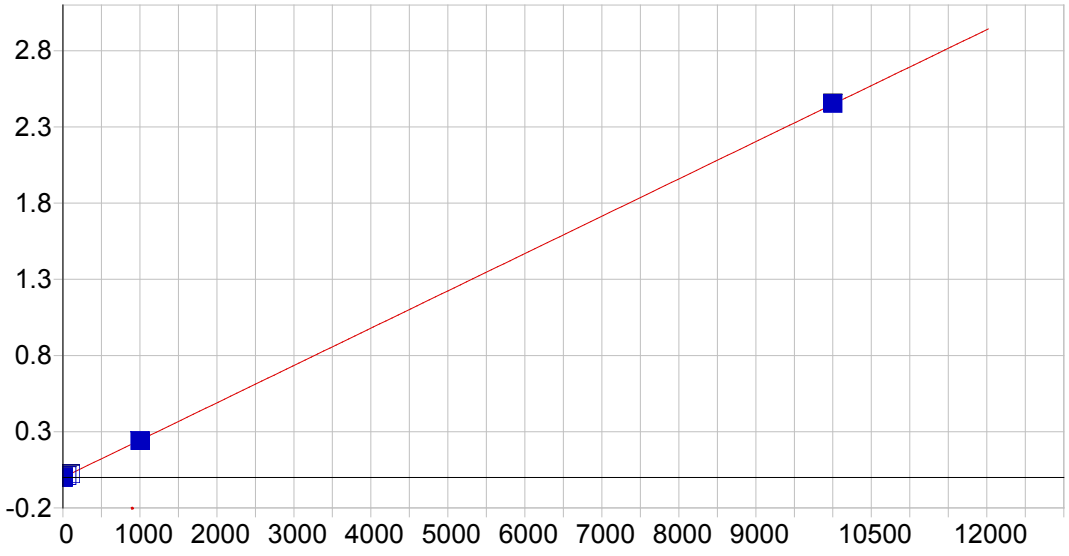


Cd 228.802 {447}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000110	Re-Slope:	1.000000
A1 (Gain):	0.000420	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998949	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.157011		
Predicted MQL:	0.523369		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	.000	.000	.00011	.000	1
CalStd9=100	1000.0	180.41	-820.	-82.0	.07593	.001	0
CalStd8=100	100.00	98.514	-1.49	-1.49	.04152	.000	1
CalStd2=0.5	.50000	.54206	.042	8.41	.00034	.000	1
CalStd3=1	1.0000	1.2642	.264	26.4	.00064	.000	1
CalStd5=10	10.000	11.180	1.18	11.8	.00481	.000	1

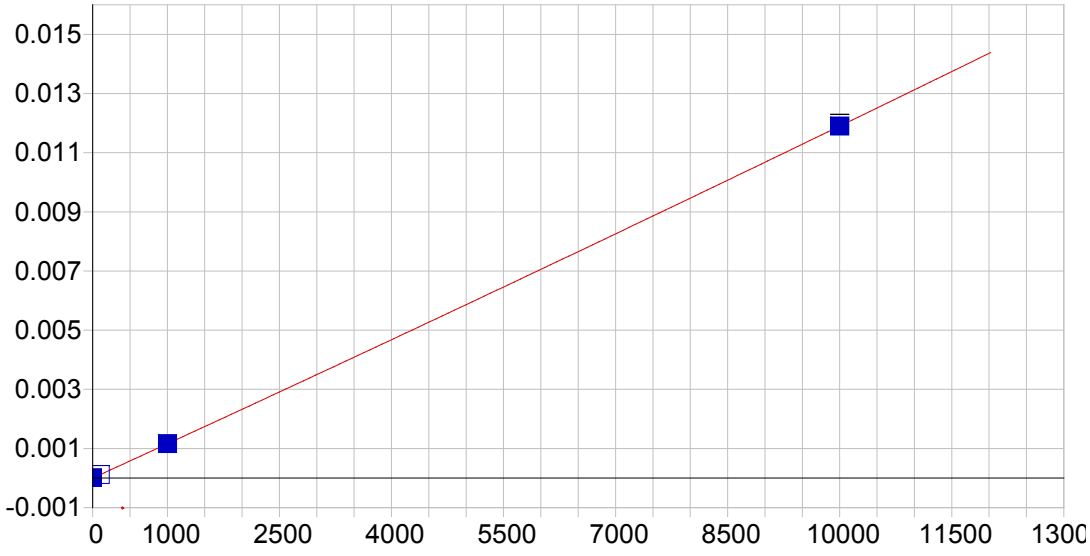


Co 228.616 {447}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000243	Re-Slope:	1.000000
A1 (Gain):	0.000245	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.242299		
Predicted MQL:	0.807663		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00005	.000	.000	-.00024	.000	1
CalStd7=50	50.000	48.470	-1.53	-3.06	.01163	.000	1
CalStd5=10	10.000	10.796	.796	7.96	.00240	.000	1
CalStd4=5	5.0000	4.8713	-.129	-2.57	.00095	.000	1
CalStd8=100	100.00	94.948	-5.05	-5.05	.02301	.000	1
CalStd9=100	1000.0	984.13	-15.9	-1.59	.24077	.001	1
CalStd3=1	1.0000	1.0914	.091	9.14	.00002	.000	1
CalStd10=10	10000.	10022.	21.7	.217	2.4540	.001	1

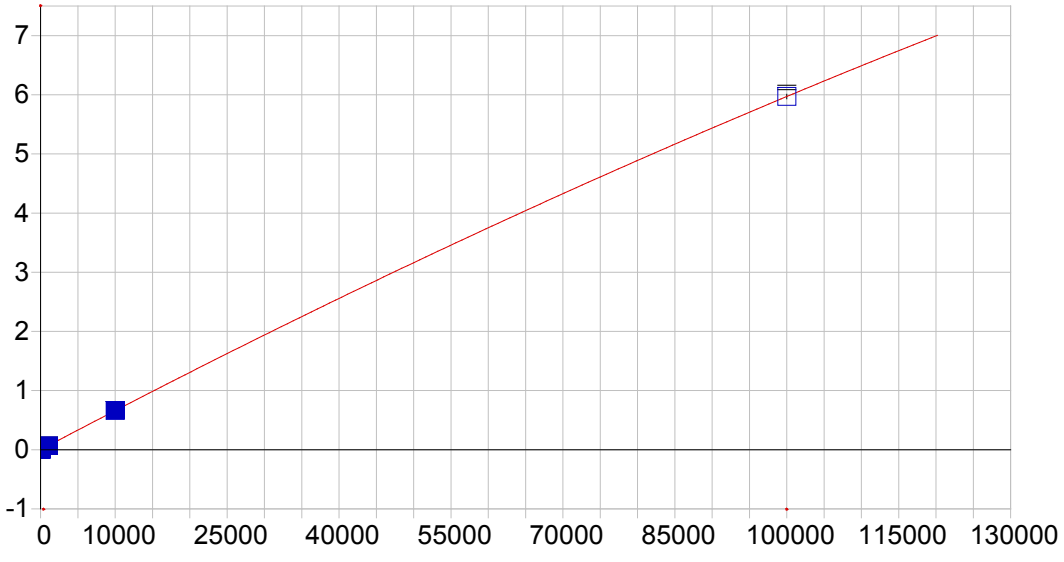


Co 238.892 {141}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Positive Curvature
Std Error of Est:	0.000000		
Predicted MDL:	1.944254		
Predicted MQL:	6.480846		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00008	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.1	.095	.009	.00116	.000	1
CalStd10=10	10000.	10000.0	-.008	.000	.01190	.000	1
CalStd8=100	100.00	99.913	-.087	-.087	.00012	.000	1

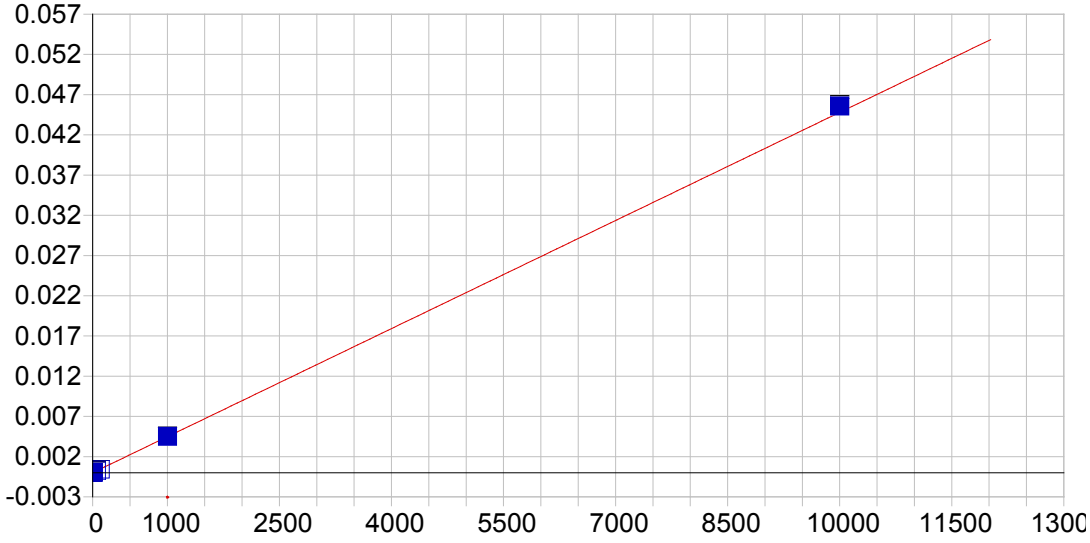


Cr 205.560 {464}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000067	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.674754		
Predicted MQL:	2.249179		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00047	.000	.000	-.00004	.000	1
CalStd5=10	10.000	10.873	.873	8.73	.00069	.000	1
CalStd7=50	50.000	49.530	-.470	-.941	.00327	.000	1
CalStd9=100	1000.0	977.15	-22.9	-2.29	.06512	.000	1
CalStd8=100	100.00	94.090	-5.91	-5.91	.00624	.000	1
CalStd4=5	5.0000	5.9765	.977	19.5	.00036	.000	1
CalStd3=1	1.0000	1.2718	.272	27.2	.00005	.000	1
CalStd11-100	100000.	99997.	-3.48	-.003	5.9704	.037	1
CalStd10=10	10000.	10030.	30.5	.305	.66239	.000	1

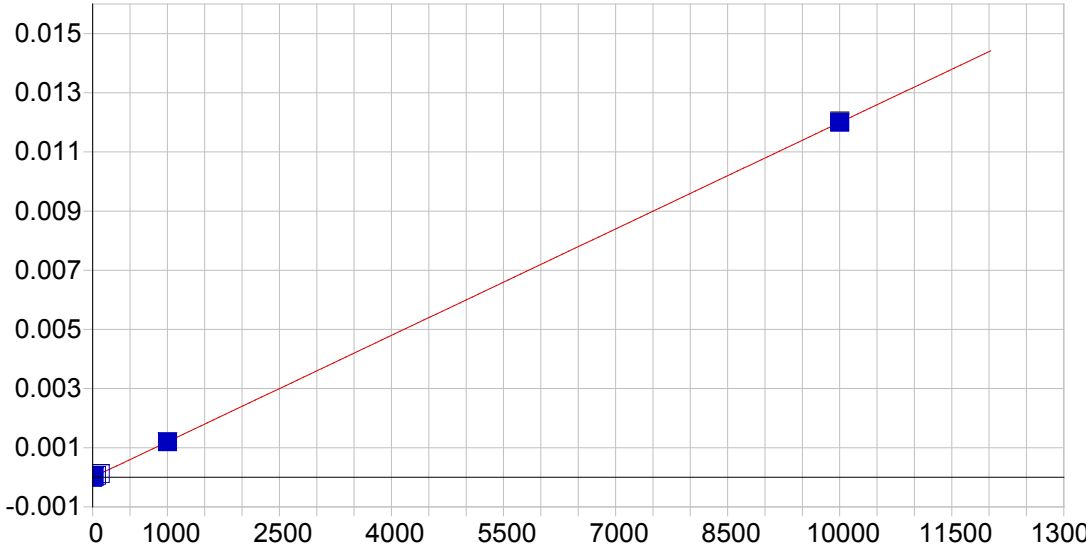


Cr 267.716 {126}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999725	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.598404		
Predicted MQL:	1.994681		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2568	1.26	.000	.00000	.000	1
CalStd5=10	10.000	12.395	2.40	24.0	.00005	.000	1
CalStd7=50	50.000	50.303	.303	.606	.00022	.000	1
CalStd9=100	1000.0	1007.4	7.41	.741	.00451	.000	1
CalStd8=100	100.00	98.262	-1.74	-1.74	.00043	.000	1
CalStd4=5	5.0000	6.8256	1.83	36.5	.00002	.000	1
CalStd10=10	10000.	10173.	173.	1.73	.04557	.000	1

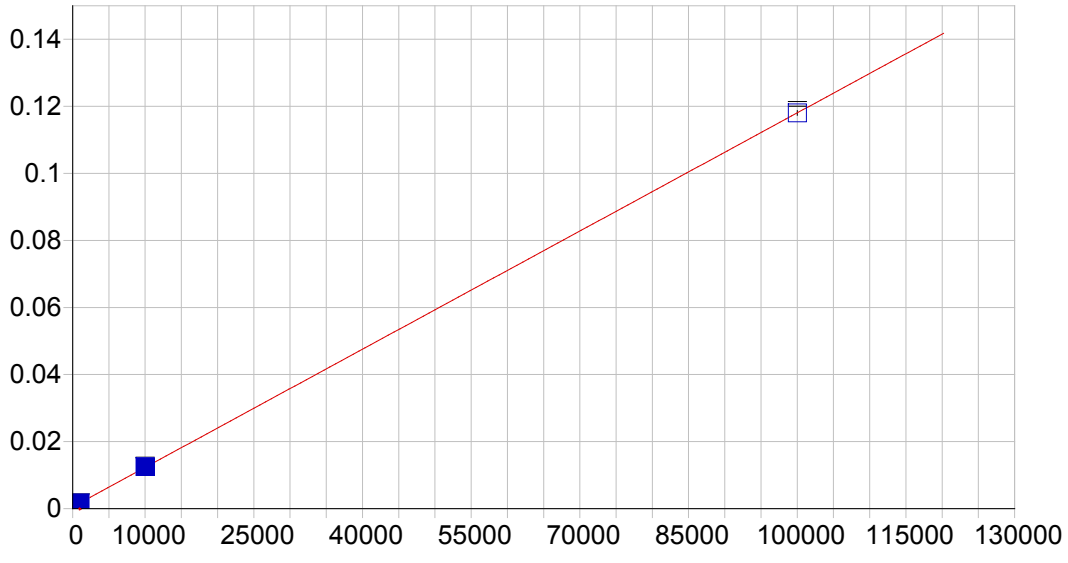


Cu 224.700 {450}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.716856		
Predicted MQL:	2.389519		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00027	.000	.000	.00000	.000	1
CalStd9=100	1000.0	999.33	-.669	-.067	.00120	.000	1
CalStd7=50	50.000	49.176	-.824	-1.65	.00006	.000	1
CalStd8=100	100.00	95.928	-4.07	-4.07	.00011	.000	1
CalStd5=10	10.000	10.439	.439	4.39	.00001	.000	1
CalStd10=10	10000.	10005.	4.70	.047	.01200	.000	1
CalStd4=5	5.0000	5.1936	.194	3.87	.00001	.000	1
CalStd6=20	20.000	20.552	.552	2.76	.00002	.000	1
CalStd3=1	1.0000	.68054	-.319	-31.9	.00000	.000	1

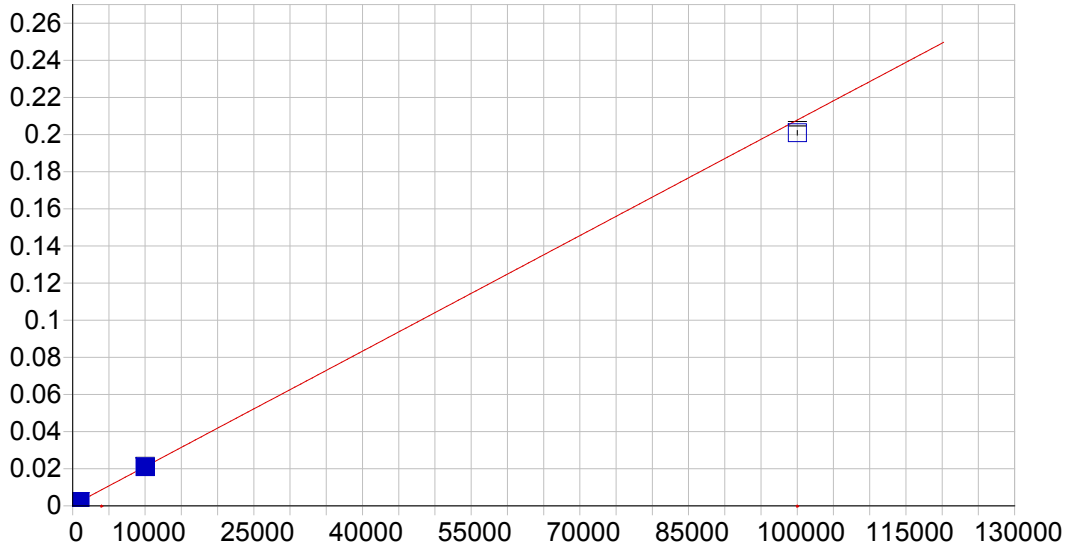


Cu 324.754 {104}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000553	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000143		
Predicted MDL:	12.032891		
Predicted MQL:	40.109636		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-67.980	-68.0	.000	.00047	.000	1
CalStd9=100	1000.0	949.63	-50.4	-5.04	.00167	.000	1
CalStd8=100	100.00	50.773	-49.2	-49.2	.00061	.000	1
CalStd10=10	10000.	10186.	186.	1.86	.01252	.000	1
CalStd11-100	100000.	99982.	-18.0	-.018	.11804	.001	1

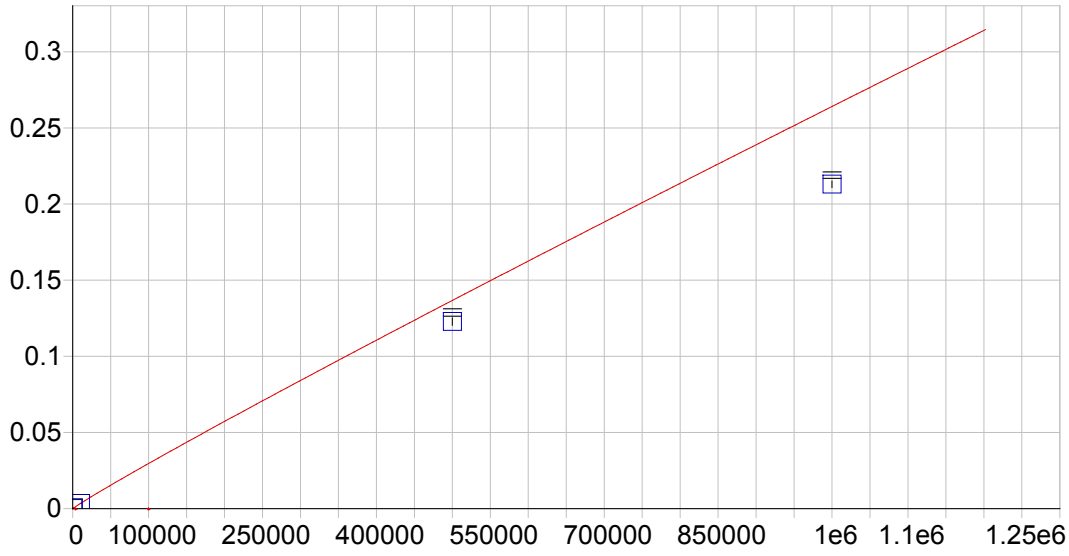


Cu 327.396 {103}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000358	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	8.469022		
Predicted MQL:	28.230073		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01226	-.012	.000	.00036	.000	1
CalStd6=20	20.000	25.216	5.22	26.1	.00041	.000	1
CalStd7=50	50.000	64.668	14.7	29.3	.00049	.000	1
CalStd8=100	100.00	108.03	8.03	8.03	.00058	.000	1
CalStd9=100	1000.0	978.85	-21.2	-2.12	.00239	.000	1
CalStd10=10	10000.	9958.8	-41.2	-.412	.02101	.000	1
CalStd11-100	100000.	96690.	-3310.	-3.31	.20090	.001	1

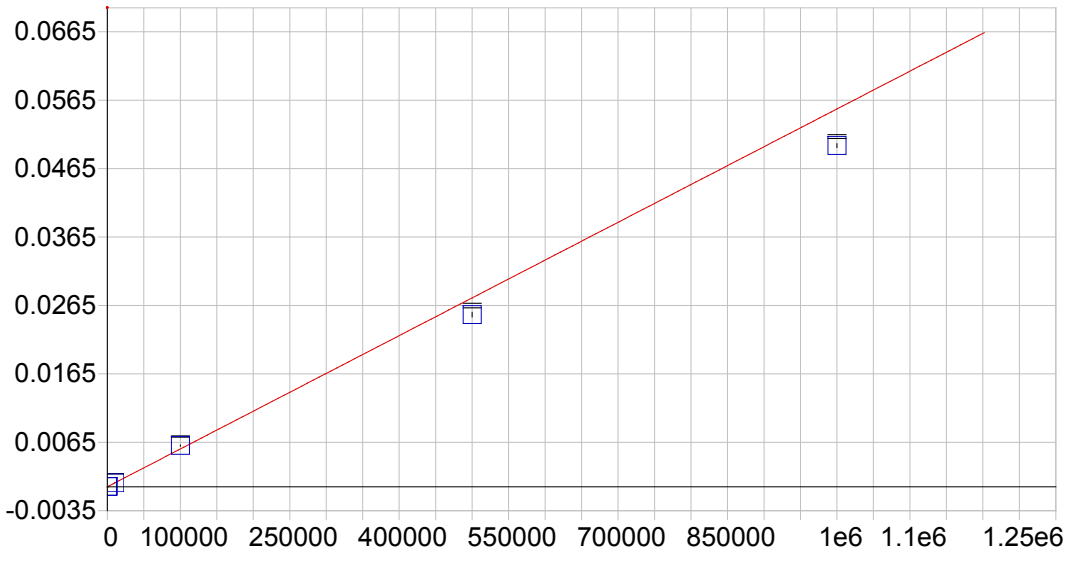


Fe 234.349 {144}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.950000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	2.045492		
Predicted MQL:	6.818307		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04435	.044	.000	.00003	.000	1
CalStd10=10	10000.	10315.	315.	3.15	.00345	.000	1
CalStd13=50	500000.	446790.	-53200.	-10.6	.12285	.002	1
CalStd14-100	1000000.	797670.	-202000.	-20.2	.21304	.002	1
CalStd9=100	1000.0	893.32	-107.	-10.7	.00036	.000	1

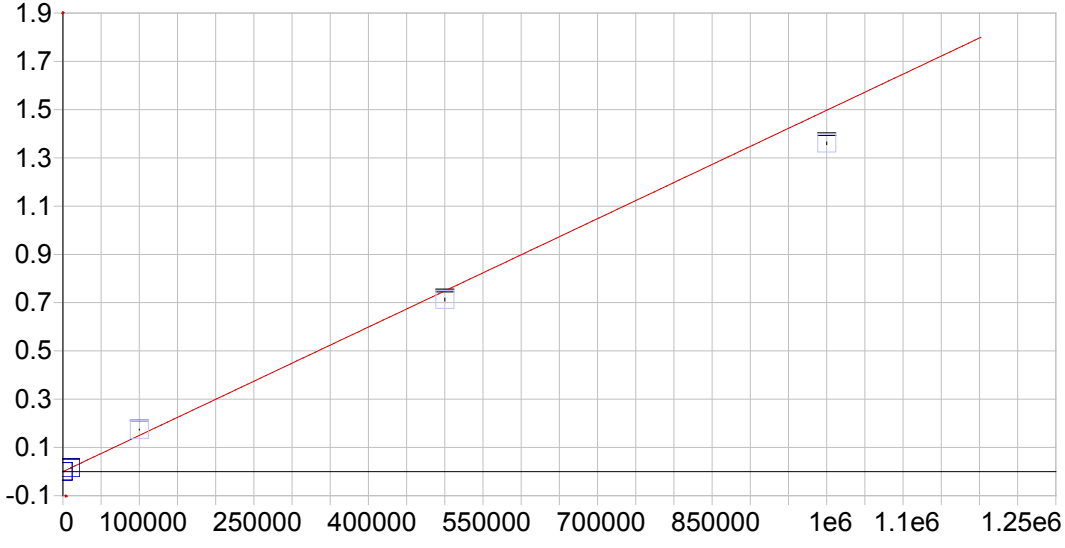


Fe 239.562 {140}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999367	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	10.241903		
Predicted MQL:	34.139676		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04685	-.047	.000	.00000	.000	1
CalStd10=10	10000.	10158.	158.	1.58	.00056	.000	1
CalStd13=50	500000.	455510.	-44500.	-8.90	.02515	.000	1
CalStd14-100	1000000.	902790.	-97200.	-9.72	.04985	.000	1
CalStd9=100	1000.0	958.61	-41.4	-4.14	.00005	.000	1
CalStd12-100	100000.	108900.	8900.	8.90	.00601	.000	1

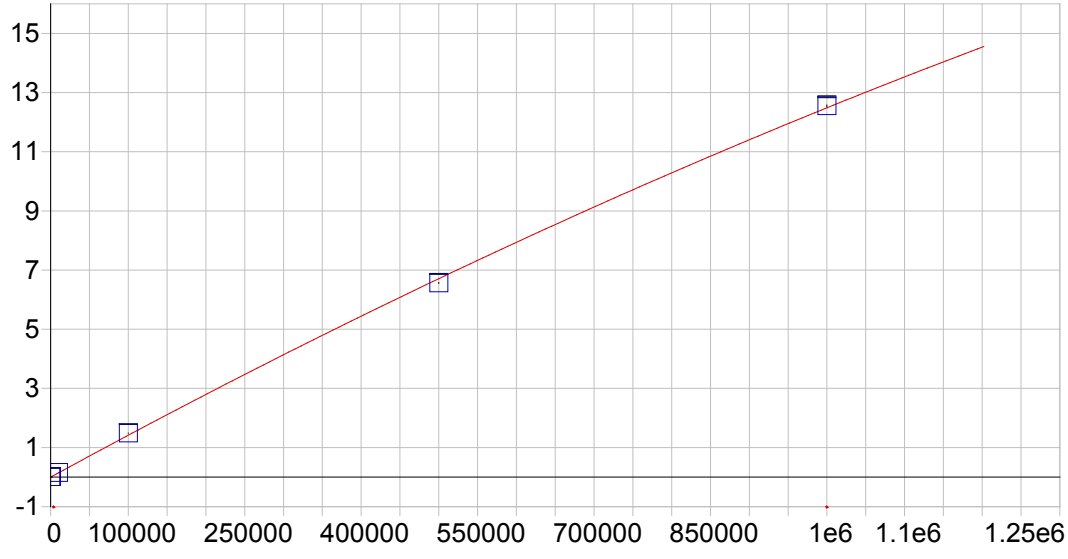


Fe 259.940 {129}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	5.769311		
Predicted MQL:	19.231037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02733	.027	.000	.00000	.000	1
CalStd10=10	10000.	10030.	30.4	.304	.01502	.000	1
CalStd13=50	500000.	476040.	-24000.	-4.79	.71274	.006	0
CalStd14-100	1000000.	908890.	-91100.	-9.11	1.3608	.005	0
CalStd9=100	1000.0	969.63	-30.4	-3.04	.00145	.000	1
CalStd12-100	100000.	116250.	16200.	16.2	.17405	.001	0

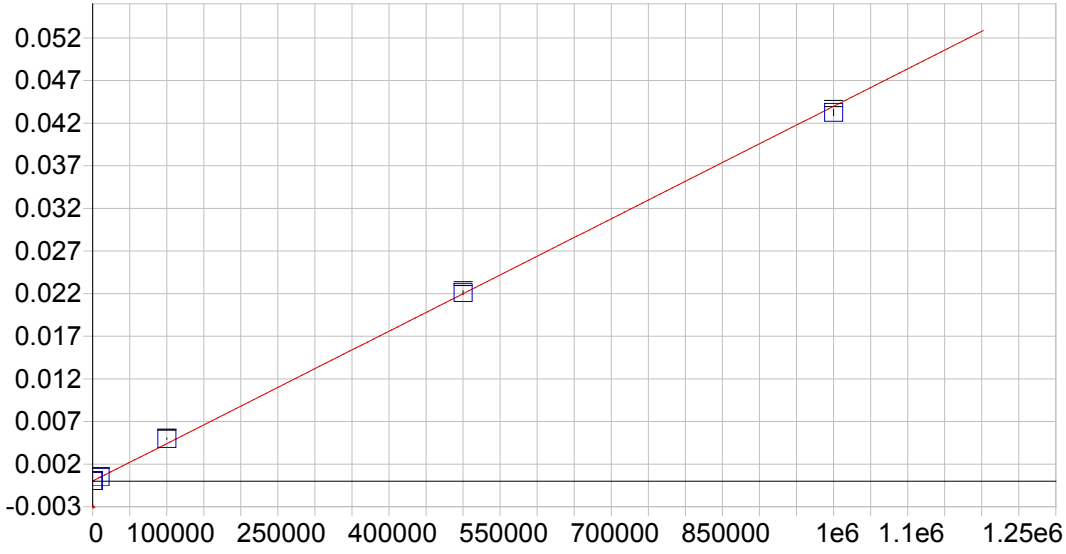


Mg 202.582 {466}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000179	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999809	Status:	OK.
Std Error of Est:	0.000452		
Predicted MDL:	2.933610		
Predicted MQL:	9.778699		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.13646	-.136	.000	-.00018	.000	1
CalStd13=50	500000.	488480.	-11500.	-2.30	6.5636	.014	1
CalStd10=10	10000.	10570.	570.	5.70	.15125	.000	1
CalStd14-100	1000000.	1006100.	6120.	.612	12.550	.028	1
CalStd12-100	100000.	105040.	5040.	5.04	1.4862	.003	1
CalStd9=100	1000.0	1046.1	46.1	4.61	.01483	.000	1

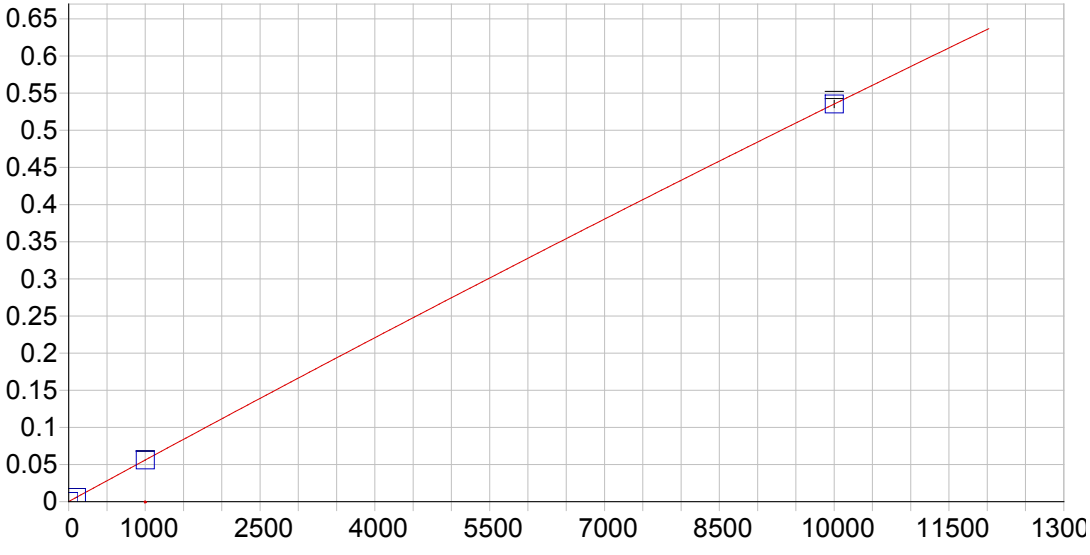


Mg 279.079 {121}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999348	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	125.954157		
Predicted MQL:	419.847189		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.24048	-.240	.000	.00000	.000	1
CalStd13=50	500000.	502570.	2570.	.513	.02210	.000	1
CalStd10=10	10000.	10733.	733.	7.33	.00048	.000	1
CalStd14-100	1000000.	983400.	-16600.	-1.66	.04324	.000	1
CalStd12-100	100000.	113260.	13300.	13.3	.00498	.000	1
CalStd9=100	1000.0	1046.1	46.1	4.61	.00005	.000	1

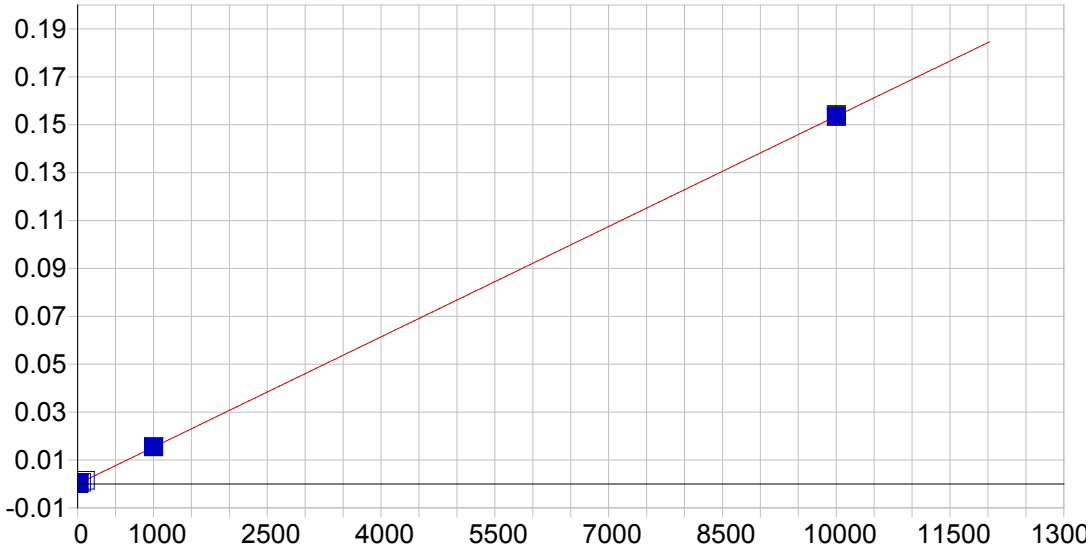


Mg 280.270 {120}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000166	Re-Slope:	1.000000
A1 (Gain):	0.000056	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.031304		
Predicted MQL:	0.104348		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00081	-.001	.000	.00017	.000	1
CalStd9=100	1000.0	998.99	-1.01	-.101	.05606	.000	1
CalStd10=10	10000.	10000.	.100	.001	.53534	.005	1
CalStd8=100	100.00	100.91	.907	.907	.00584	.000	1

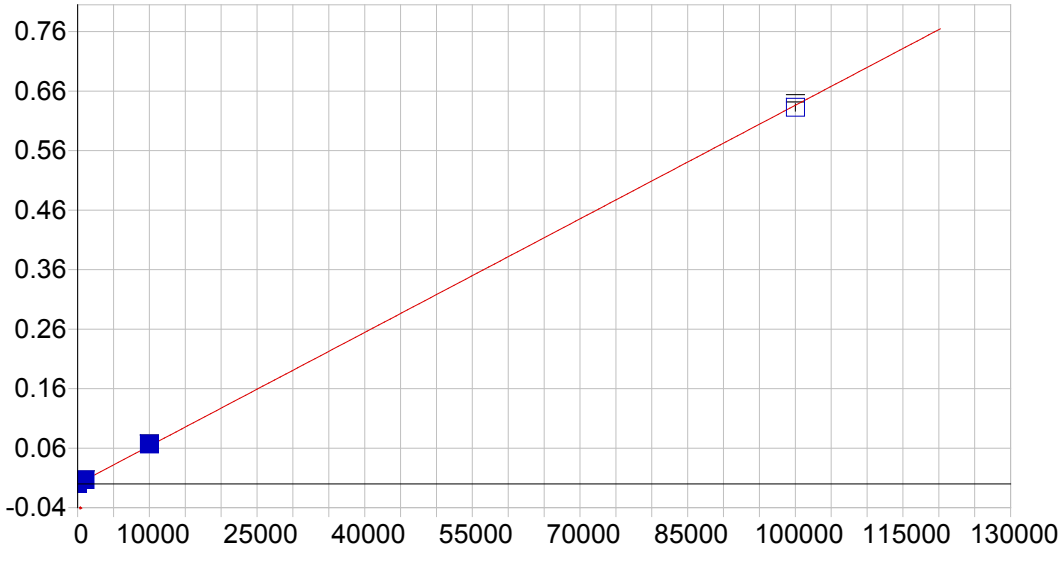


Mn 257.610 {131}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.106718		
Predicted MQL:	0.355727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00179	-.002	.000	.00000	.000	1
CalStd5=10	10.000	11.651	1.65	16.5	.00018	.000	1
CalStd7=50	50.000	50.836	.836	1.67	.00078	.000	1
CalStd6=20	20.000	21.415	1.41	7.07	.00033	.000	1
CalStd8=100	100.00	99.013	-.987	-.987	.00152	.000	1
CalStd4=5	5.0000	5.5341	.534	10.7	.00009	.000	1
CalStd9=100	1000.0	1009.6	9.58	.958	.01551	.000	1
CalStd10=10	10000.	9987.0	-13.0	-.130	.15341	.001	1

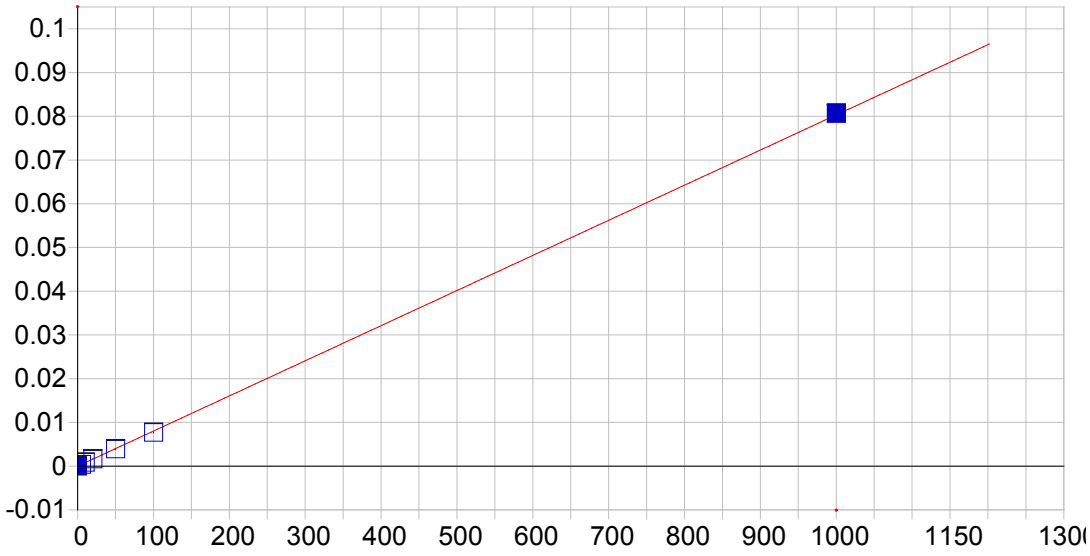


Mn 259.373 {130}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999862	Status:	OK.
Std Error of Est:	0.000050		
Predicted MDL:	1.661947		
Predicted MQL:	5.539825		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08420	-.084	.000	.00000	.000	1
CalStd10=10	10000.	10512.	512.	5.12	.06696	.001	1
CalStd11-100	100000.	99449.	-551.	-.551	.63260	.006	1
CalStd9=100	1000.0	1038.5	38.5	3.85	.00662	.000	1

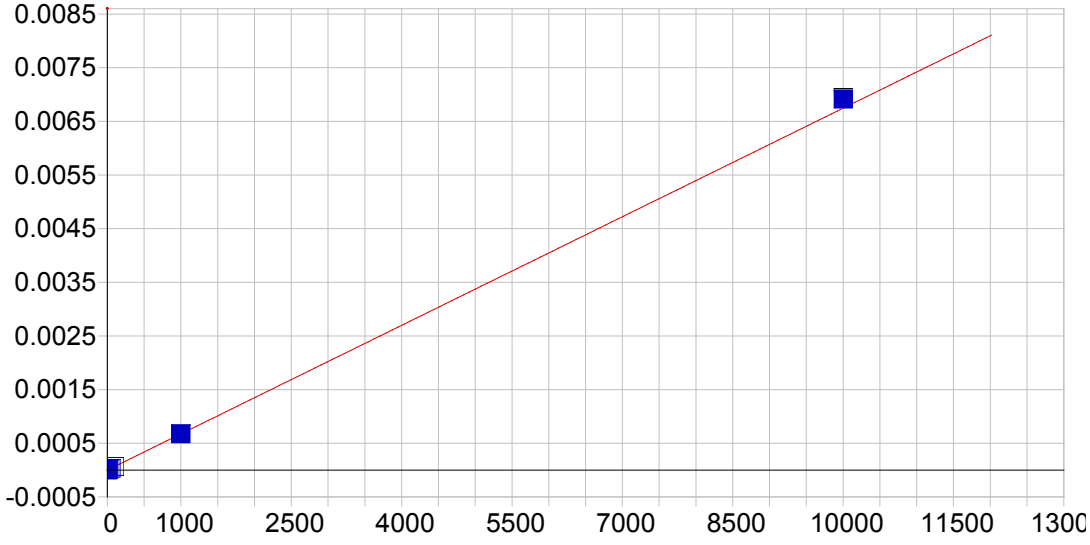


Mo 202.030 {466}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000080	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999868	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.423379		
Predicted MQL:	1.411264		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00029	.000	.000	-.00001	.000	1
CalStd7=50	50.000	48.769	-1.23	-2.46	.00390	.000	1
CalStd6=20	20.000	20.345	.345	1.73	.00162	.000	1
CalStd5=10	10.000	11.046	1.05	10.5	.00087	.000	1
CalStd8=100	100.00	96.081	-3.92	-3.92	.00770	.000	1
CalStd4=5	5.0000	4.9819	-.018	-.362	.00039	.000	1
CalStd9=100	1000.0	1003.8	3.78	.378	.08062	.000	1

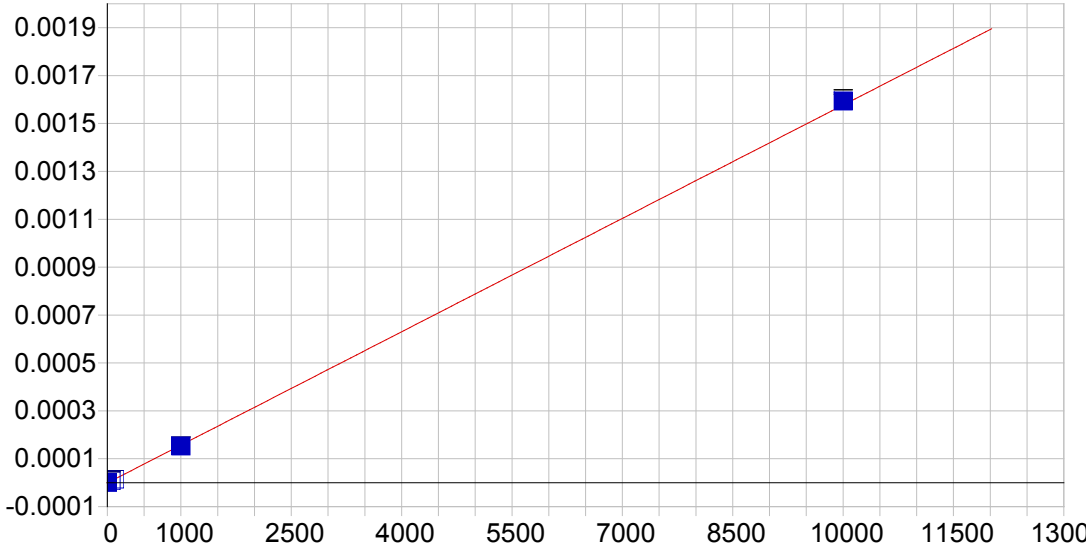


Mo 204.598 {464}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.799495		
Predicted MQL:	2.664983		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.36849	-.368	.000	.00000	.000	1
CalStd7=50	50.000	48.963	-1.04	-2.07	.00003	.000	1
CalStd6=20	20.000	20.443	.443	2.21	.00001	.000	1
CalStd5=10	10.000	12.053	2.05	20.5	.00001	.000	1
CalStd8=100	100.00	95.761	-4.24	-4.24	.00006	.000	1
CalStd4=5	5.0000	5.6981	.698	14.0	.00000	.000	1
CalStd9=100	1000.0	998.28	-1.72	-.172	.00067	.000	1
CalStd10=10	10000.	10249.	249.	2.49	.00691	.000	1

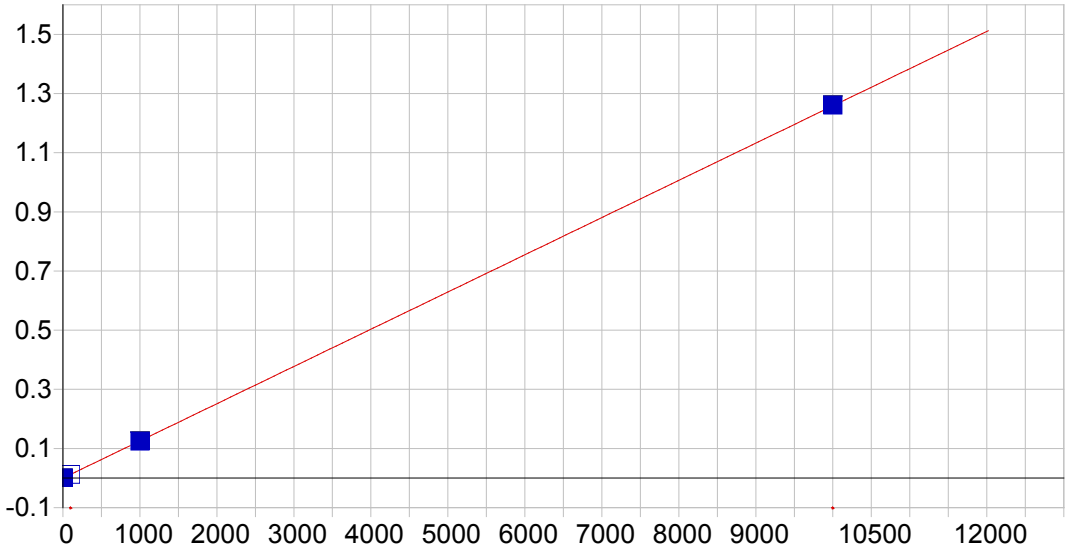


Mo 204.598 {465}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999750	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.513562		
Predicted MQL:	11.711873		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.0527	7.05	.000	.00000	.000	1
CalStd9=100	1000.0	972.40	-27.6	-2.76	.00015	.000	1
CalStd10=10	10000.	10105.	105.	1.05	.00159	.000	1
CalStd7=50	50.000	52.287	2.29	4.57	.00001	.000	1
CalStd8=100	100.00	95.802	-4.20	-4.20	.00001	.000	1

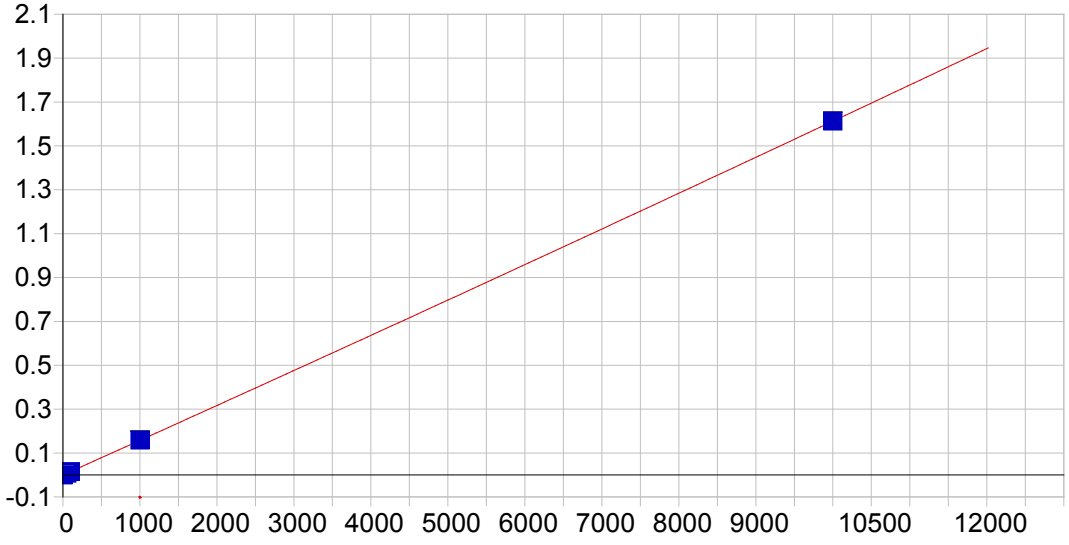


Ni 221.647 {452}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000270	Re-Slope:	1.000000
A1 (Gain):	0.000126	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000438		
Predicted MDL:	0.628825		
Predicted MQL:	2.096082		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.6506	1.65	.000	-.00006	.000	1
CalStd10=10	10000.	10018.	18.0	.180	1.2605	.002	1
CalStd8=100	100.00	97.353	-2.65	-2.65	.01198	.000	1
CalStd9=100	1000.0	993.36	-6.64	-.664	.12475	.000	1



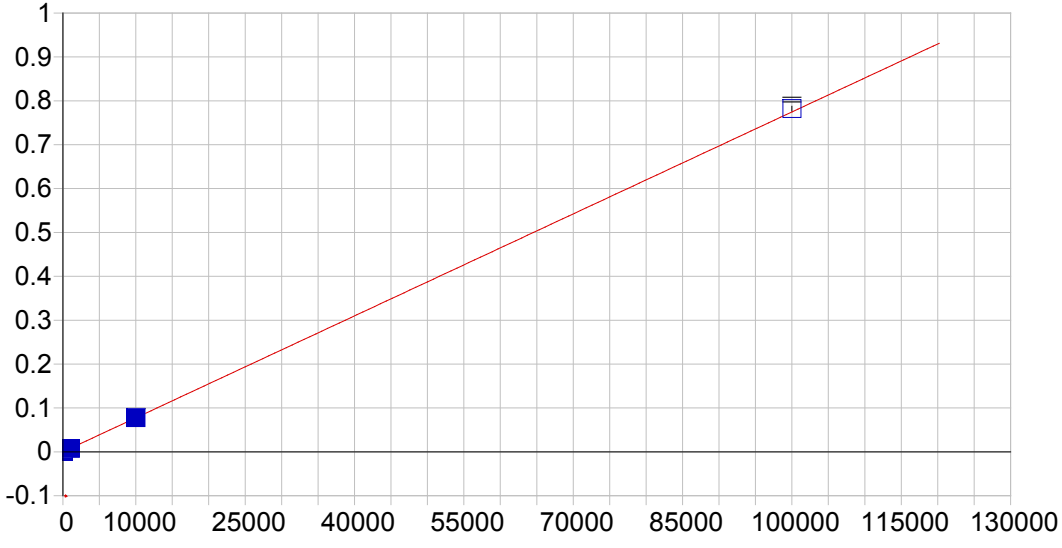
Ni 231.604 {445}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000215	Re-Slope:	1.000000
A1 (Gain):	0.000158	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	Warning
Std Error of Est:	0.000004		
Predicted MDL:	0.435469		
Predicted MQL:	1.451562		

Positive Curvature

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00038	.000	.000	-.00021	.000	1
CalStd7=50	50.000	48.656	-1.34	-2.69	.00746	.000	1
CalStd5=10	10.000	10.488	.488	4.88	.00144	.000	1
CalStd8=100	100.00	96.048	-3.95	-3.95	.01493	.000	1
CalStd4=5	5.0000	4.4602	-.540	-10.8	.00049	.000	1
CalStd9=100	1000.0	1006.1	6.15	.615	.15881	.000	1
CalStd3=1	1.0000	.74352	-.256	-25.6	-.00010	.000	1
CalStd10=10	10000.	9999.5	-.547	-.005	1.6124	.001	1

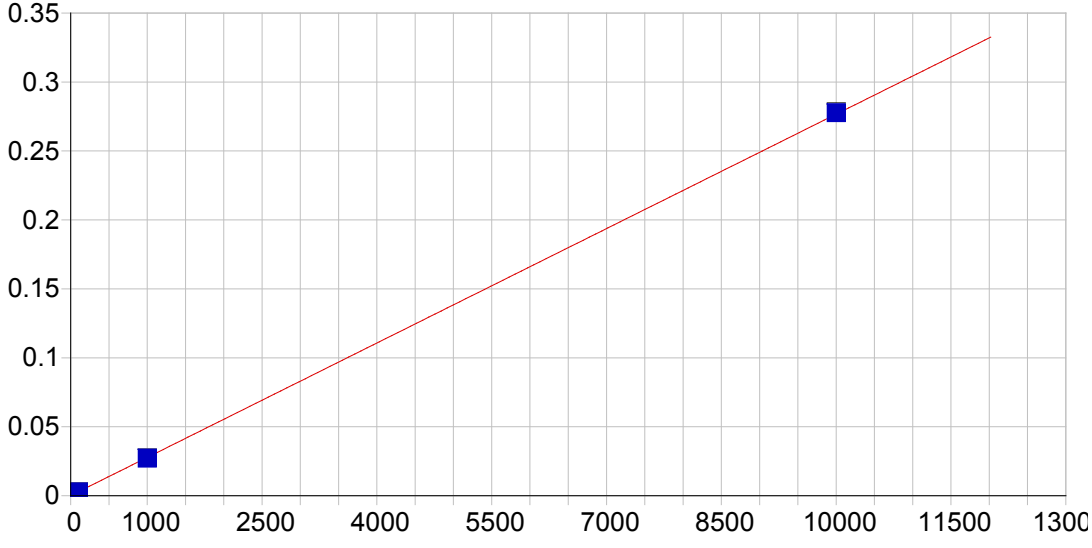


Pb 216.999 {455}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	8.653538		
Predicted MQL:	28.845128		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00348	-.003	.000	.00001	.000	1
CalStd9=100	1000.0	989.05	-11.0	-1.10	.00772	.000	1
CalStd10=10	10000.	10011.	11.0	.110	.07803	.000	1
CalStd11-100	100000.	100980.	979.	.979	.78220	.005	1
CalStd8=100	100.00	107.00	7.00	7.00	.00084	.000	1
CalStd5=10	10.000	12.889	2.89	28.9	.00011	.000	1

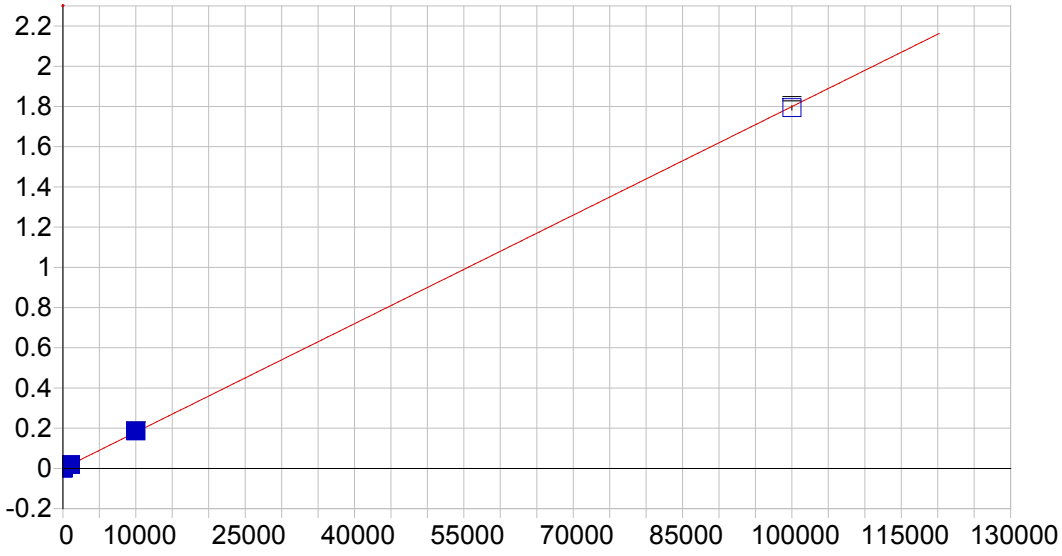


Pb 220.353 {453}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999853	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	2.499174		
Predicted MQL:	8.330579		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00437	.004	.000	.00008	.000	1
CalStd5=10	10.000	6.8212	-3.18	-31.8	.00027	.000	1
CalStd8=100	100.00	92.442	-7.56	-7.56	.00264	.000	1
CalStd4=5	5.0000	2.6933	-2.31	-46.1	.00016	.000	1
CalStd9=100	1000.0	977.93	-22.1	-2.21	.02713	.000	1
CalStd10=10	10000.	10035.	35.1	.351	.27764	.000	1

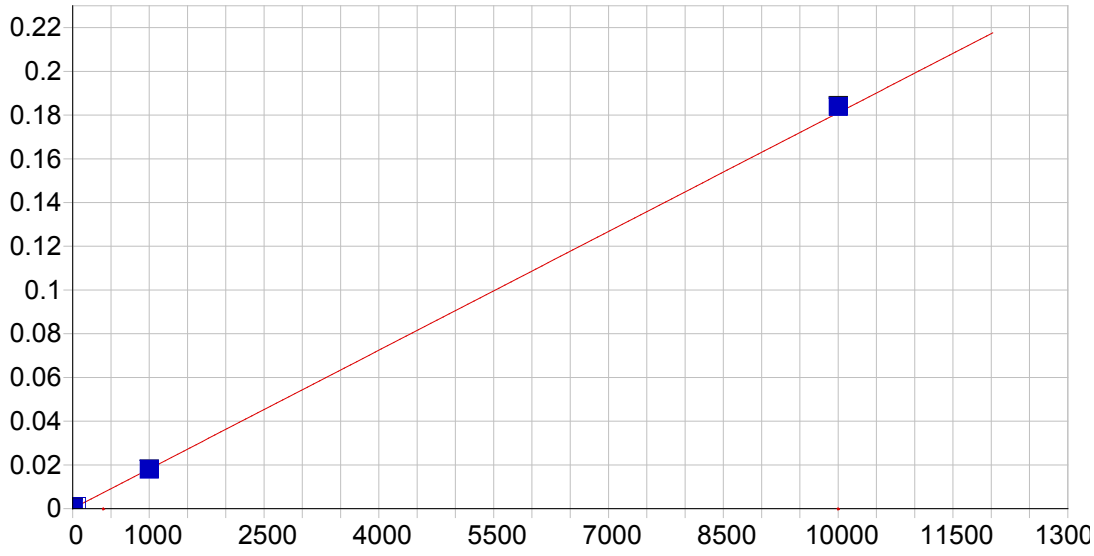


Pb 220.353 {153}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000079	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999946	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	4.816346		
Predicted MQL:	16.054486		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00494	-.005	.000	.00008	.000	1
CalStd9=100	1000.0	1019.5	19.5	1.95	.01842	.000	1
CalStd10=10	10000.	10325.	325.	3.25	.18585	.001	1
CalStd8=100	100.00	100.08	.081	.081	.00188	.000	1
CalStd11-100	100000.	99656.	-344.	-.344	1.7933	.011	1

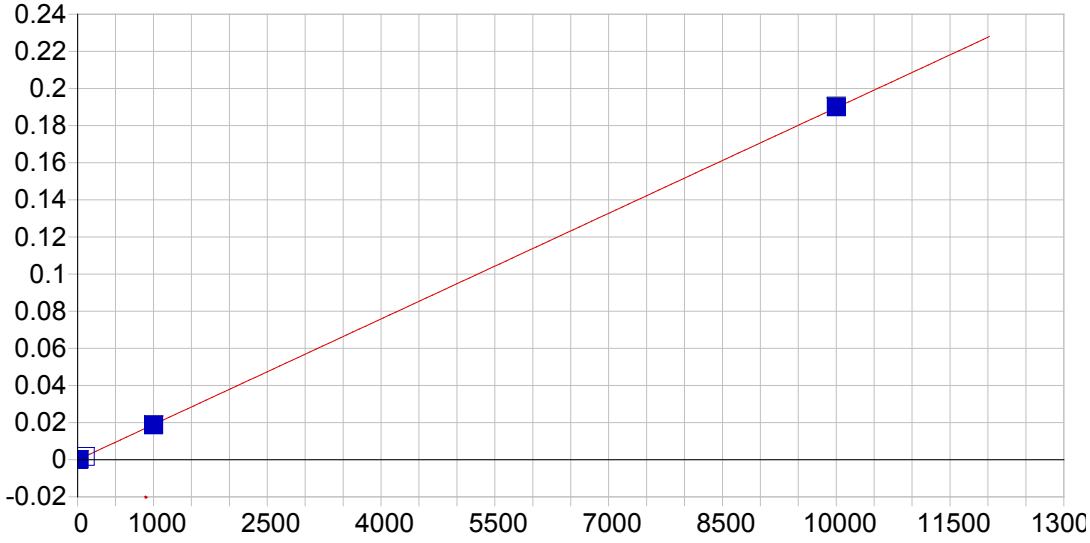


Sb 206.833 {463}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000164		
Predicted MDL:	2.261572		
Predicted MQL:	7.538574		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2563	1.26	.000	.00007	.000	1
CalStd9=100	1000.0	990.73	-9.27	-.927	.01799	.000	1
CalStd5=10	10.000	12.739	2.74	27.4	.00028	.000	1
CalStd7=50	50.000	47.900	-2.10	-4.20	.00092	.000	1
CalStd10=10	10000.	10155.	155.	1.55	.18395	.000	1

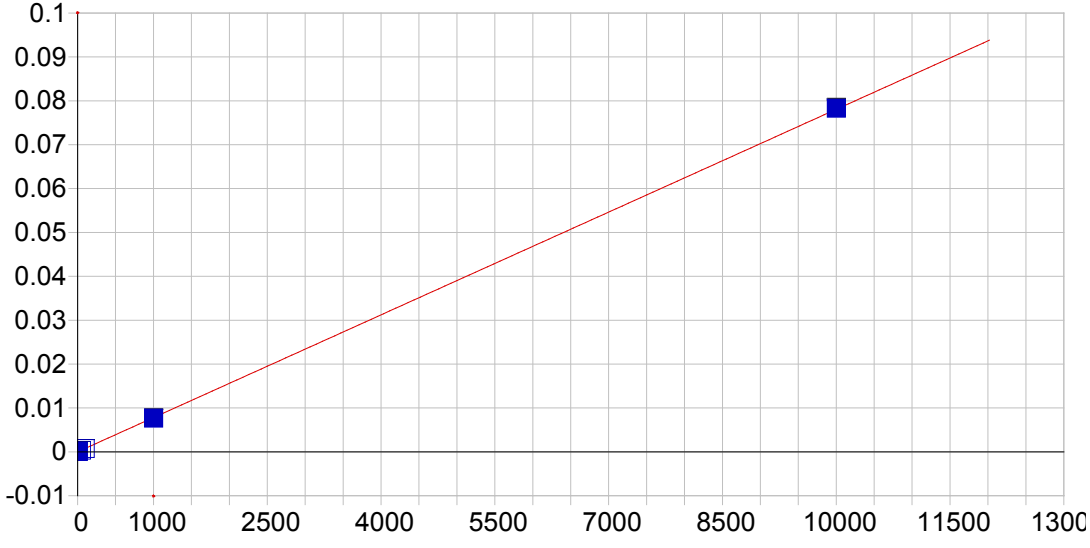


Sb 217.581 {455}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999955	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.540009		
Predicted MQL:	8.466696		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00152	.002	.000	-.00004	.000	1
CalStd9=100	1000.0	987.39	-12.6	-1.26	.01868	.000	1
CalStd6=20	20.000	18.931	-1.07	-5.34	.00032	.000	1
CalStd5=10	10.000	10.131	.131	1.31	.00015	.000	1
CalStd8=100	100.00	92.327	-7.67	-7.67	.00171	.000	1
CalStd4=5	5.0000	4.1189	-.881	-17.6	.00004	.000	1
CalStd10=10	10000.	10022.	22.1	.221	.19000	.000	1

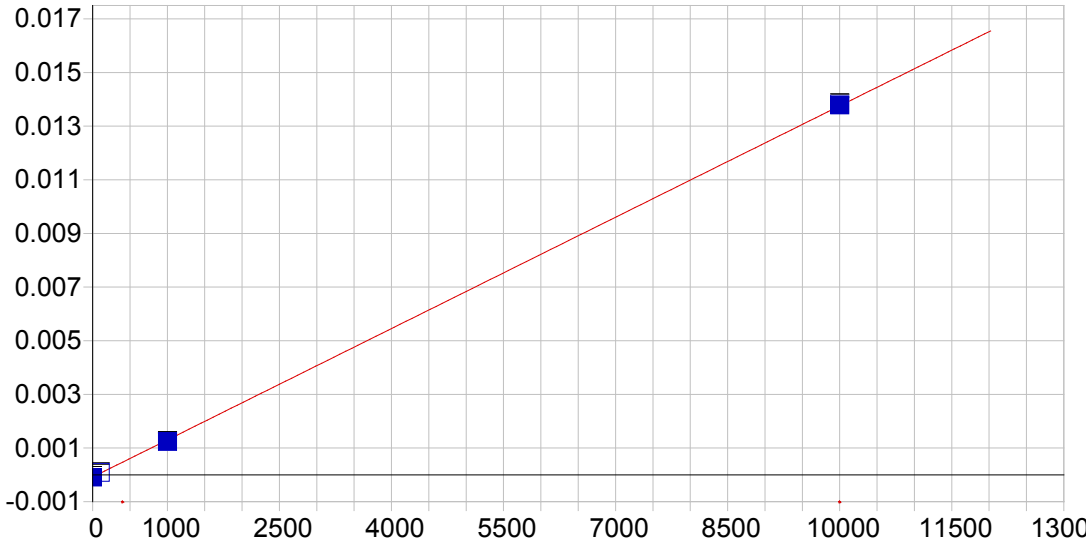


Se 196.090 {472}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.123716		
Predicted MQL:	13.745721		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00187	.002	.000	.00000	.000	1
CalStd7=50	50.000	47.085	-2.91	-5.83	.00036	.000	1
CalStd9=100	1000.0	981.15	-18.9	-1.89	.00765	.000	1
CalStd5=10	10.000	9.7453	-.255	-2.55	.00007	.000	1
CalStd8=100	100.00	91.298	-8.70	-8.70	.00071	.000	1
CalStd10=10	10000.	10031.	30.7	.307	.07827	.000	1

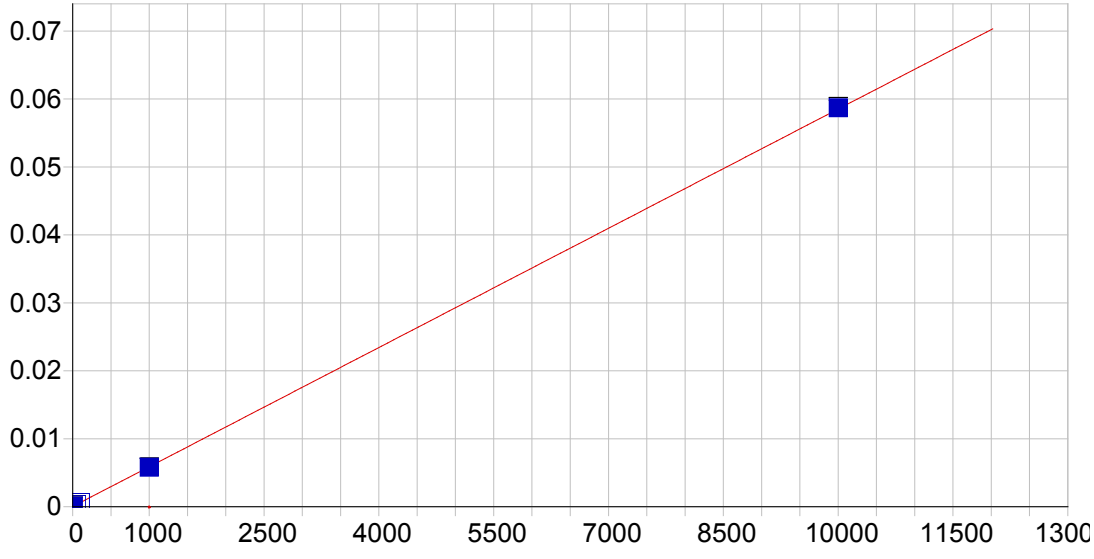


Se 206.279 {463}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000083	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999689	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	32.995637		
Predicted MQL:	109.985455		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01777	-.018	.000	-.00008	.000	1
CalStd9=100	1000.0	955.04	-45.0	-4.50	.00124	.000	1
CalStd10=10	10000.	10023.	23.0	.230	.01381	.000	1
CalStd8=100	100.00	122.04	22.0	22.0	.00009	.000	1

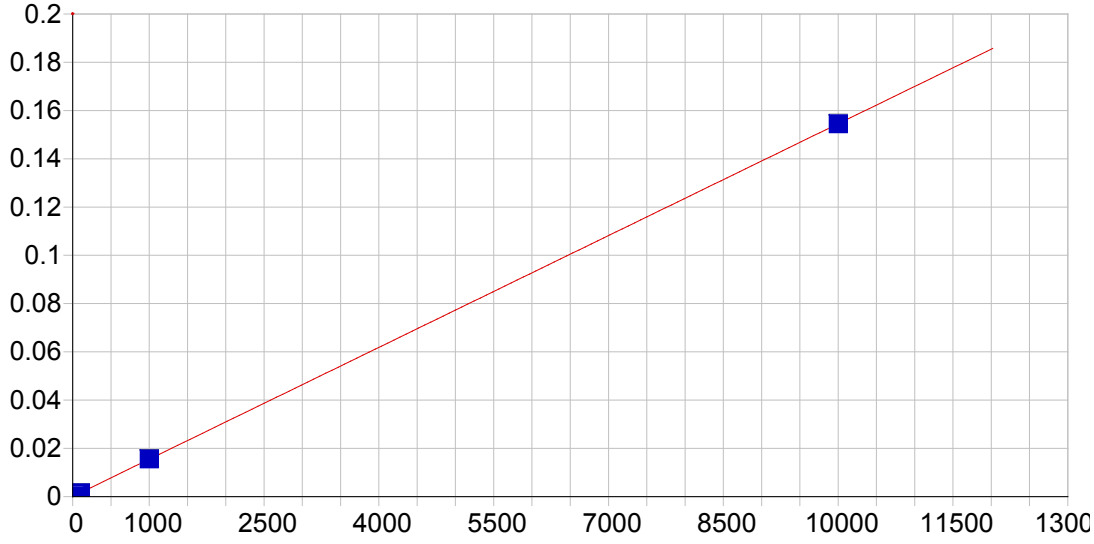


Se 196.090 {471}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	5.338074		
Predicted MQL:	17.793579		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.4204	2.42	.000	.00004	.000	1
CalStd7=50	50.000	50.764	.764	1.53	.00032	.000	1
CalStd9=100	1000.0	985.02	-15.0	-1.50	.00579	.000	1
CalStd5=10	10.000	10.218	.218	2.18	.00009	.000	1
CalStd8=100	100.00	97.720	-2.28	-2.28	.00060	.000	1
CalStd10=10	10000.	10028.	28.3	.283	.05868	.000	1

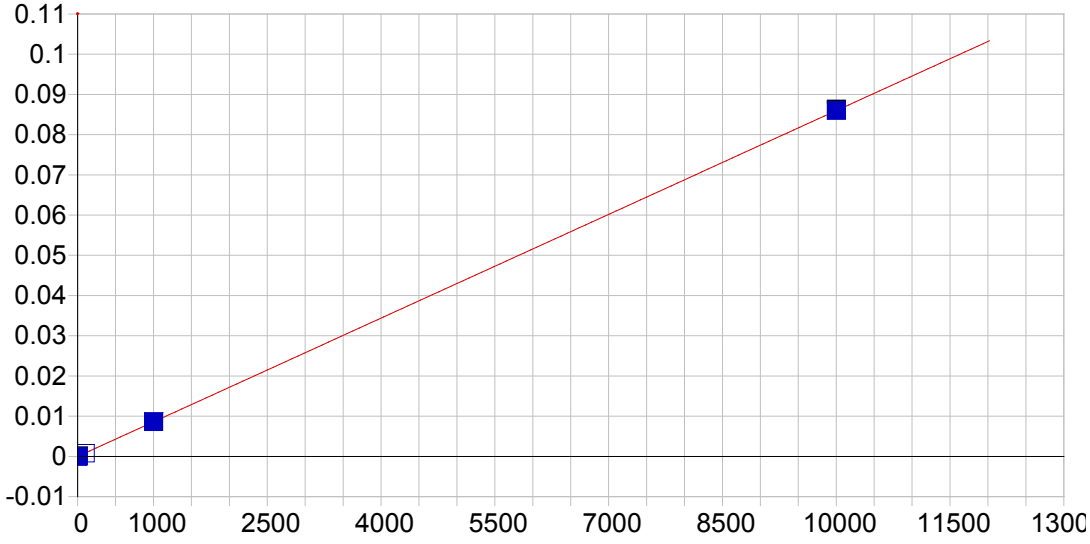


Tl 190.856 {476}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.940583		
Predicted MQL:	9.801945		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00139	-.001	.000	.00005	.000	1
CalStd9=100	1000.0	1006.6	6.57	.657	.01561	.000	1
CalStd8=100	100.00	96.293	-3.71	-3.71	.00154	.000	1
CalStd5=10	10.000	11.699	1.70	17.0	.00023	.000	1
CalStd10=10	10000.	9995.4	-4.56	-.046	.15452	.000	1

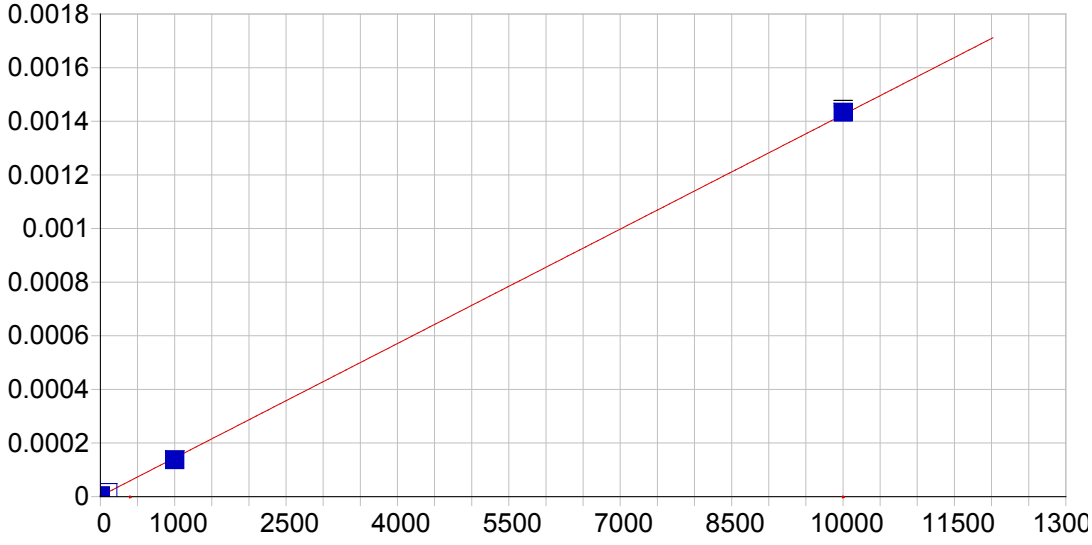


Tl 190.856 {477}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.098995		
Predicted MQL:	13.663315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00084	.001	.000	-.00001	.000	1
CalStd9=100	1000.0	1003.3	3.33	.333	.00861	.000	1
CalStd8=100	100.00	93.766	-6.23	-6.23	.00080	.000	1
CalStd5=10	10.000	9.7459	-.254	-2.54	.00007	.000	1
CalStd10=10	10000.	10003.	3.16	.032	.08597	.000	1

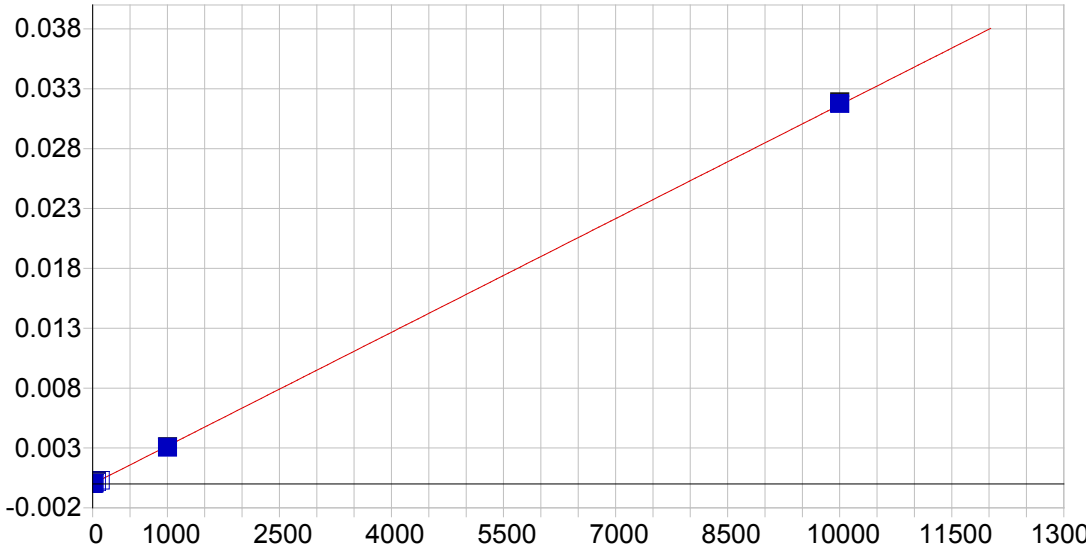


V 290.882 {116}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999824	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.507592		
Predicted MQL:	21.691973		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01421	.014	.000	.00000	.000	1
CalStd9=100	1000.0	949.08	-50.9	-5.09	.00014	.000	1
CalStd10=10	10000.	10061.	60.6	.606	.00143	.000	1
CalStd8=100	100.00	90.275	-9.72	-9.72	.00002	.000	1

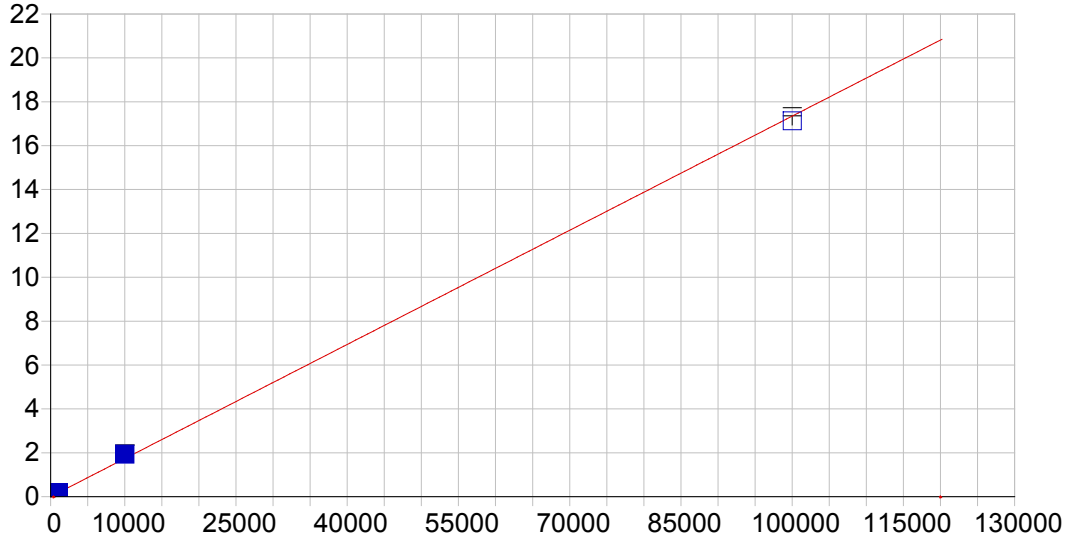


V 292.402 {115}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.357541		
Predicted MQL:	4.525137		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00220	-.002	.000	.00000	.000	1
CalStd7=50	50.000	50.162	.162	.324	.00016	.000	1
CalStd9=100	1000.0	967.57	-32.4	-3.24	.00306	.000	1
CalStd6=20	20.000	21.478	1.48	7.39	.00007	.000	1
CalStd5=10	10.000	12.284	2.28	22.8	.00004	.000	1
CalStd8=100	100.00	94.350	-5.65	-5.65	.00030	.000	1
CalStd10=10	10000.	10034.	34.2	.342	.03176	.000	1

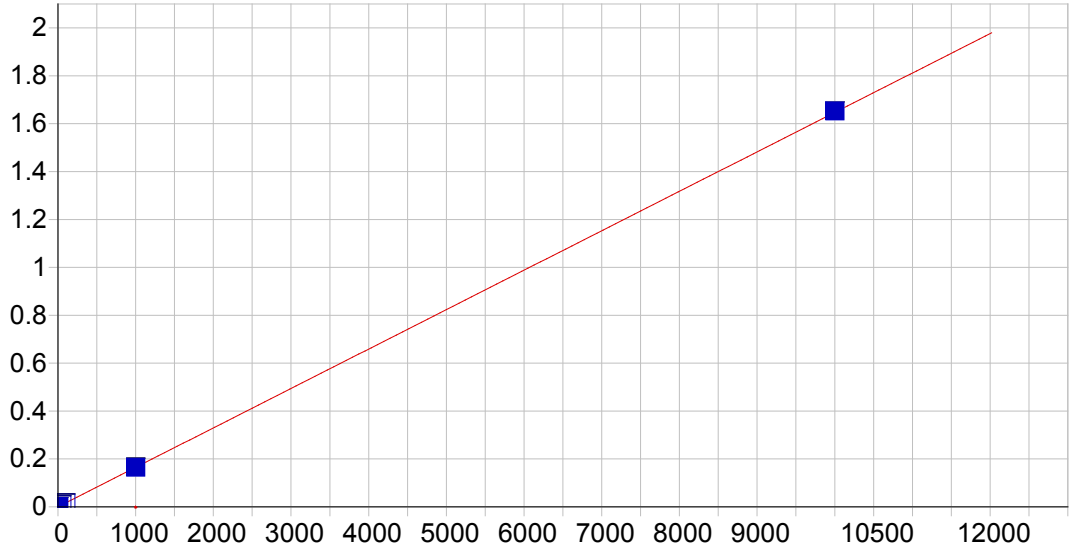


Zn 206.200 {463}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000397	Re-Slope:	1.000000
A1 (Gain):	0.000173	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999284	Status:	OK.
Std Error of Est:	0.003092		
Predicted MDL:	0.318006		
Predicted MQL:	1.060019		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	11154.	1150.	11.5	1.9352	.003	1
Blank	.00000	-.20301	-.203	.000	.00036	.000	1
CalStd9=100	1000.0	1100.1	100.	10.0	.19122	.001	1
CalStd11-100	100000.	98746.	-1250.	-1.25	17.128	.185	1

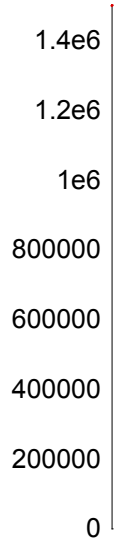


Zn 213.856 {458}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000137	Re-Slope:	1.000000
A1 (Gain):	0.000165	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000166		
Predicted MDL:	0.212672		
Predicted MQL:	0.708906		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.1773	1.18	.000	.00033	.000	1
CalStd8=100	100.00	96.584	-3.42	-3.42	.01604	.000	1
CalStd7=50	50.000	49.662	-.338	-.675	.00832	.000	1
CalStd5=10	10.000	10.711	.711	7.11	.00190	.000	1
CalStd9=100	1000.0	1001.9	1.86	.186	.16516	.000	1
CalStd4=5	5.0000	4.8776	-.122	-2.45	.00094	.000	1
CalStd10=10	10000.	10035.	34.6	.346	1.6530	.002	1

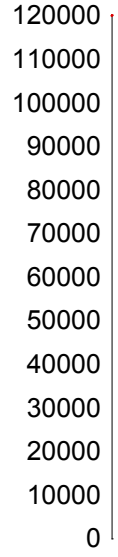


Y 324.228 {104}*

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1346300.	3610.	1

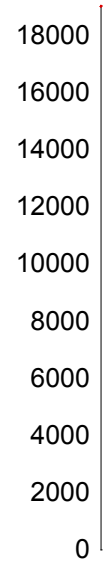


Y 371.030 { 91}*

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	113210.	509.	1

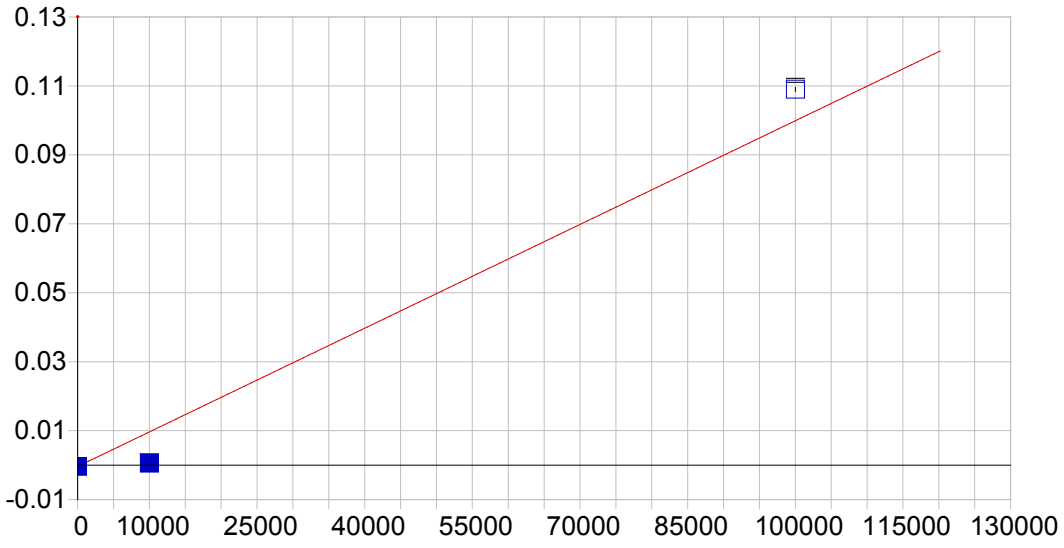


Y 224.306 {451}*

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	17731.	22.7	1

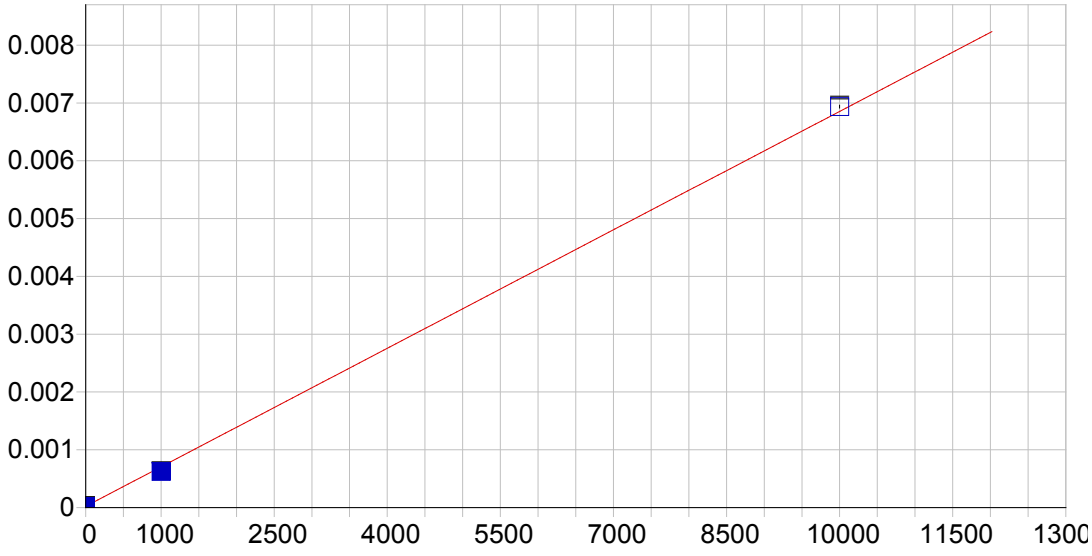


Na 588.995 { 57}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000405	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.961232	Status:	OK.
Std Error of Est:	0.000522		
Predicted MDL:	7.401548		
Predicted MQL:	24.671828		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.1597	8.16	.000	-.00040	.000	1
CalStd9=100	10000.	933.62	-9070.	-90.7	.00053	.000	1
CalStd12-100	100000.	109070.	9070.	9.07	.10899	.001	1

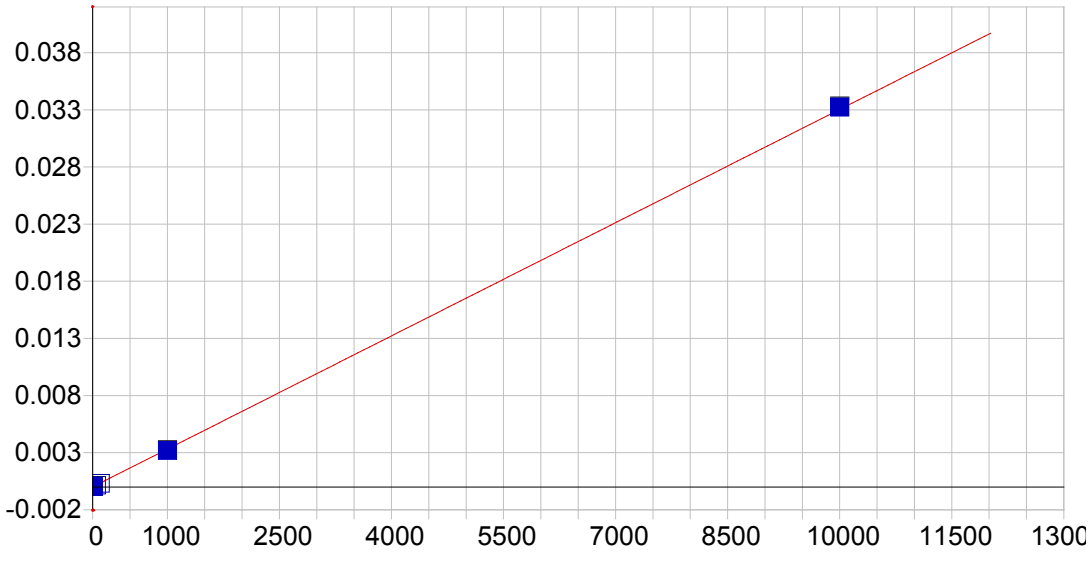


Si 251.611 {134}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999292	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	11.527961		
Predicted MQL:	38.426537		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.10708	.107	.000	.00002	.000	1
CalStd9=100	1000.0	881.02	-119.	-11.9	.00062	.000	1
CalStd12-100	10000.	10119.	119.	1.19	.00694	.000	1

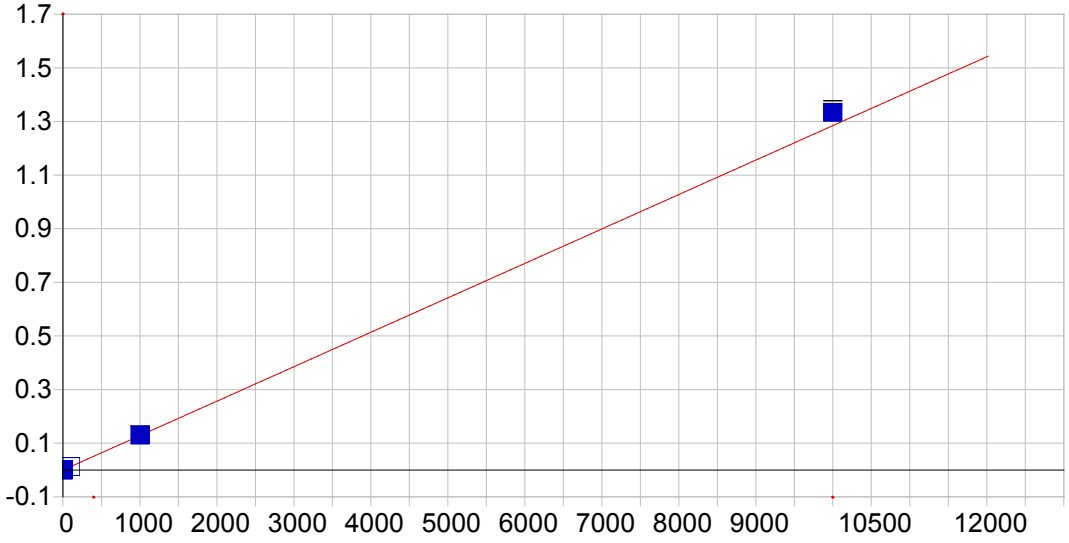


Ti 334.941 {101}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999721	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.829316		
Predicted MQL:	12.764387		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00583	.006	.000	.00001	.000	1
CalStd5=10	10.000	6.4313	-3.57	-35.7	.00003	.000	1
CalStd8=100	100.00	91.459	-8.54	-8.54	.00031	.000	1
CalStd9=100	1000.0	962.17	-37.8	-3.78	.00319	.000	1
CalStd10=10	10000.	10059.	59.4	.594	.03323	.000	1
CalStd7=50	50.000	43.374	-6.63	-13.3	.00015	.000	1
CalStd4=5	5.0000	2.2030	-2.80	-55.9	.00002	.000	1

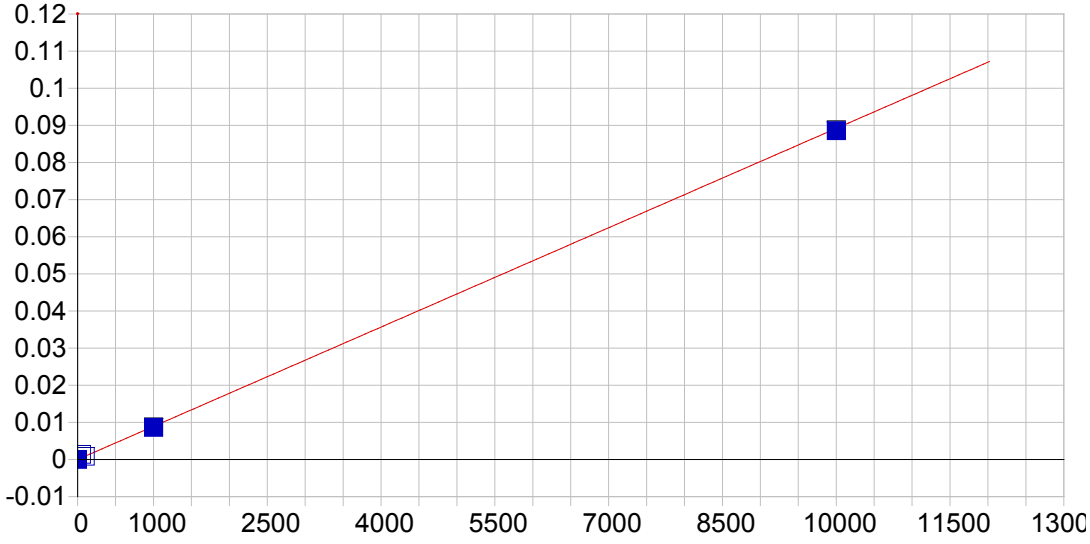


Sr 407.771 { 83}

Date of Fit: 01/16/2017 13:59:57 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000095	Re-Slope:	1.000000
A1 (Gain):	0.000128	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999466	Status:	OK.
Std Error of Est:	0.000072		
Predicted MDL:	0.173308		
Predicted MQL:	0.577692		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04082	-.041	.000	-.00010	.000	1
CalStd3=1	1.0000	1.0445	.044	4.45	.00004	.000	1
CalStd4=5	5.0000	4.9537	-.046	-.926	.00054	.000	1
CalStd5=10	10.000	10.755	.755	7.55	.00129	.000	1
CalStd8=100	100.00	96.019	-3.98	-3.98	.01224	.000	1
CalStd9=100	1000.0	1012.5	12.5	1.25	.12996	.001	1
CalStd10=10	10000.	10381.	381.	3.81	1.3334	.010	1

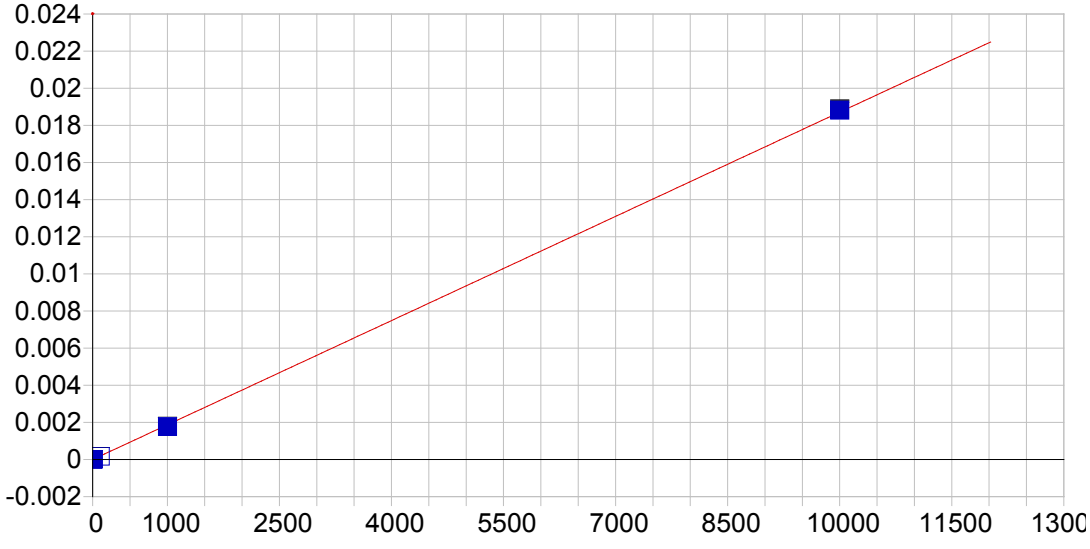


Sn 189.989 {478}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.990230	Status:	OK.
Std Error of Est:	0.000038		
Predicted MDL:	2.432493		
Predicted MQL:	8.108310		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.10101	-.101	.000	.00000	.000	1
CalStd10=10	10000.	9929.5	-70.5	-.705	.08856	.000	1
CalStd9=100	1000.0	969.41	-30.6	-3.06	.00865	.000	1
CalStd8=100	100.00	96.349	-3.65	-3.65	.00086	.000	1
CalStd7=50	50.000	154.72	105.	209.	.00138	.000	1

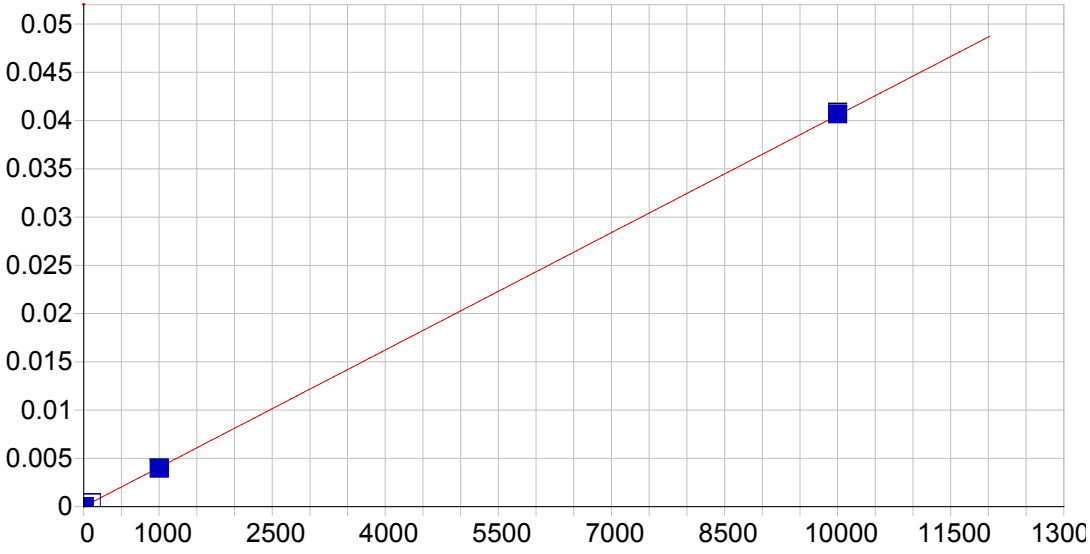


B 249.678 {135}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999851	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.295098		
Predicted MQL:	4.316993		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00018	.000	.000	.00000	.000	1
CalStd8=100	100.00	95.105	-4.90	-4.90	.00018	.000	1
CalStd5=10	10.000	10.774	.774	7.74	.00002	.000	1
CalStd9=100	1000.0	948.14	-51.9	-5.19	.00177	.000	1
CalStd10=10	10000.	10056.	56.0	.560	.01881	.000	1

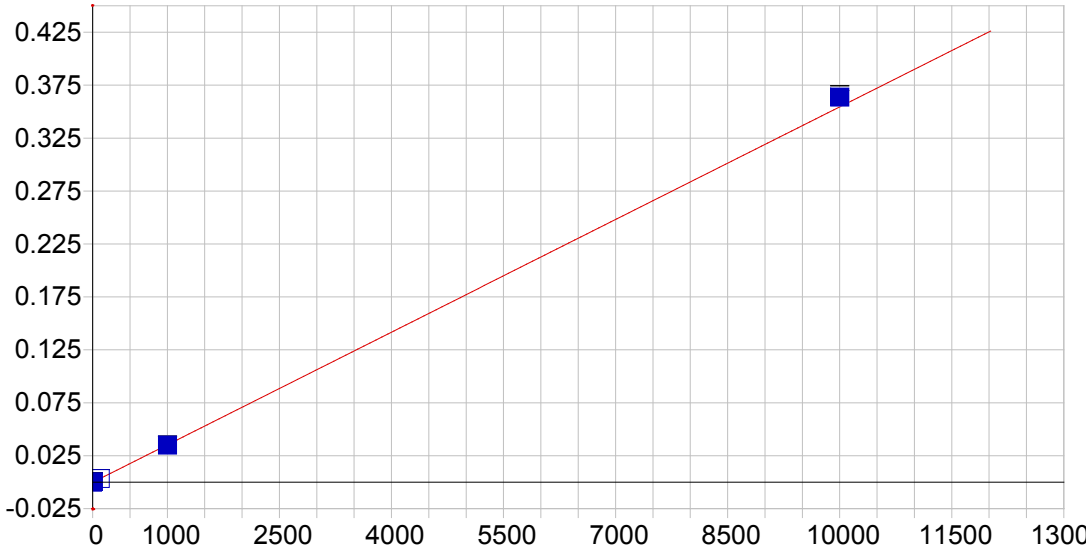


B 249.773 {135}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.693682		
Predicted MQL:	2.312273		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00050	.001	.000	.00001	.000	1
CalStd8=100	100.00	93.707	-6.29	-6.29	.00039	.000	1
CalStd5=10	10.000	10.337	.337	3.37	.00005	.000	1
CalStd9=100	1000.0	975.87	-24.1	-2.41	.00397	.000	1
CalStd10=10	10000.	10030.	30.1	.301	.04069	.000	1

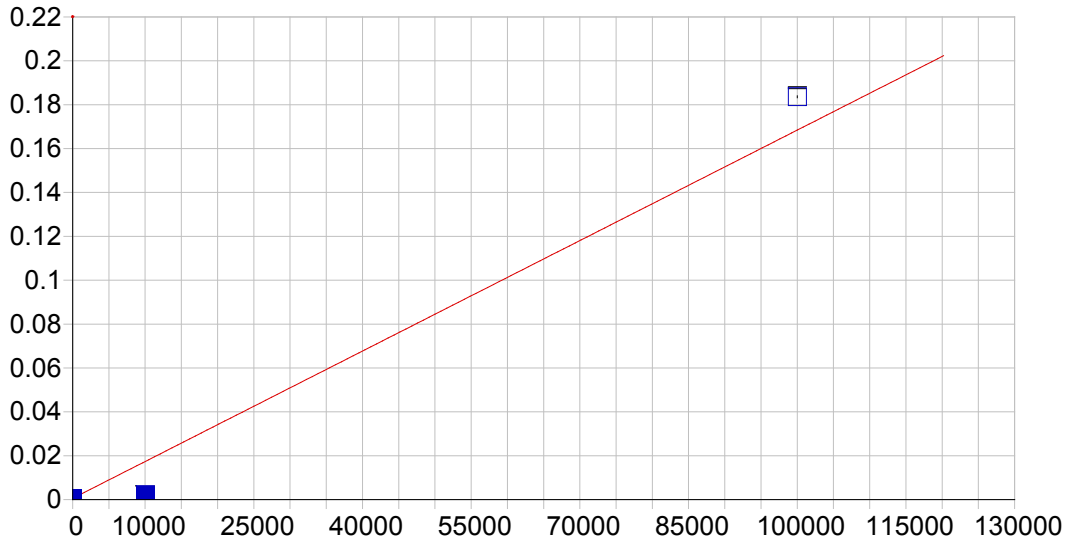


Li 670.784 { 50}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000193	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999742	Status:	OK.
Std Error of Est:	0.000191		
Predicted MDL:	1.806708		
Predicted MQL:	6.022361		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.1452	1.15	.000	-.00015	.000	1
CalStd5=10	10.000	12.005	2.00	20.0	.00023	.000	1
CalStd8=100	100.00	96.759	-3.24	-3.24	.00324	.000	1
CalStd9=100	1000.0	987.95	-12.0	-1.20	.03485	.000	1
CalStd10=10	10000.	10257.	257.	2.57	.36363	.002	1

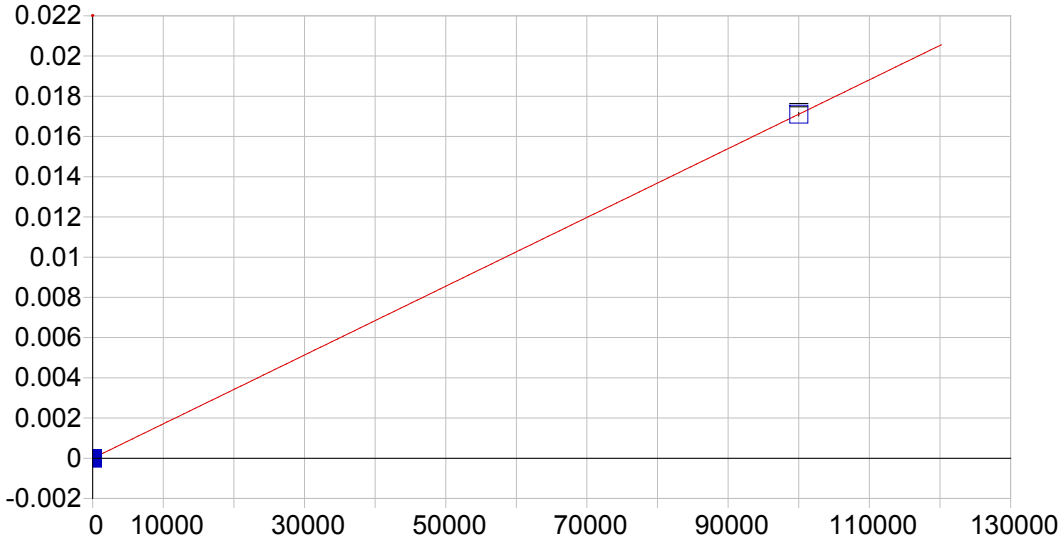


K 766.490 { 44}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000565	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.961326	Status:	OK.
Std Error of Est:	0.000873		
Predicted MDL:	39.298230		
Predicted MQL:	130.994101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.1493	8.15	.000	.00058	.000	1
CalStd9=100	10000.	945.23	-9050.	-90.5	.00215	.000	1
CalStd12-100	100000.	109050.	9050.	9.05	.18362	.000	1

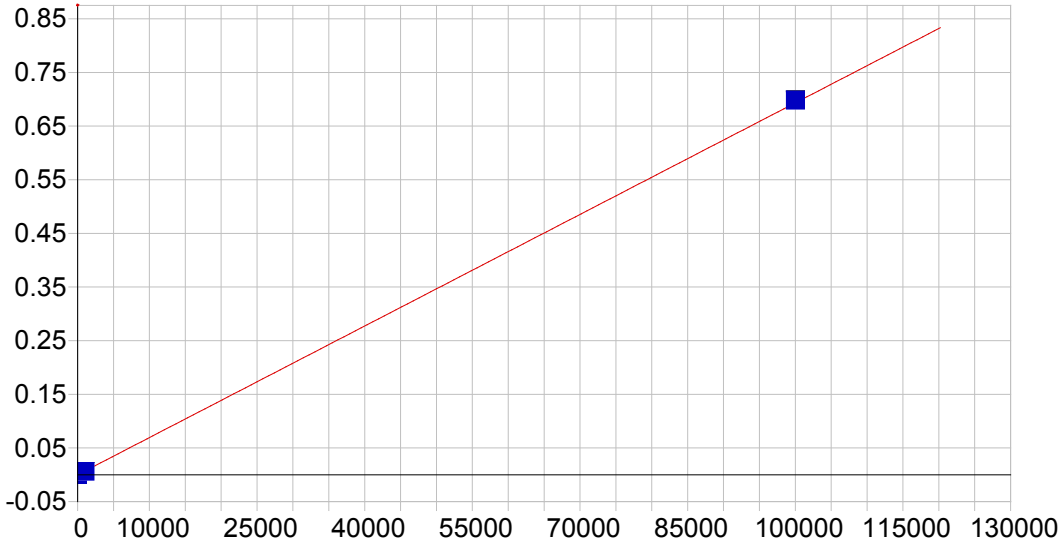


P 213.618 {457}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.664991		
Predicted MQL:	12.216637		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd12-100	100000.	100000.	.000	.000	.01711	.000	1

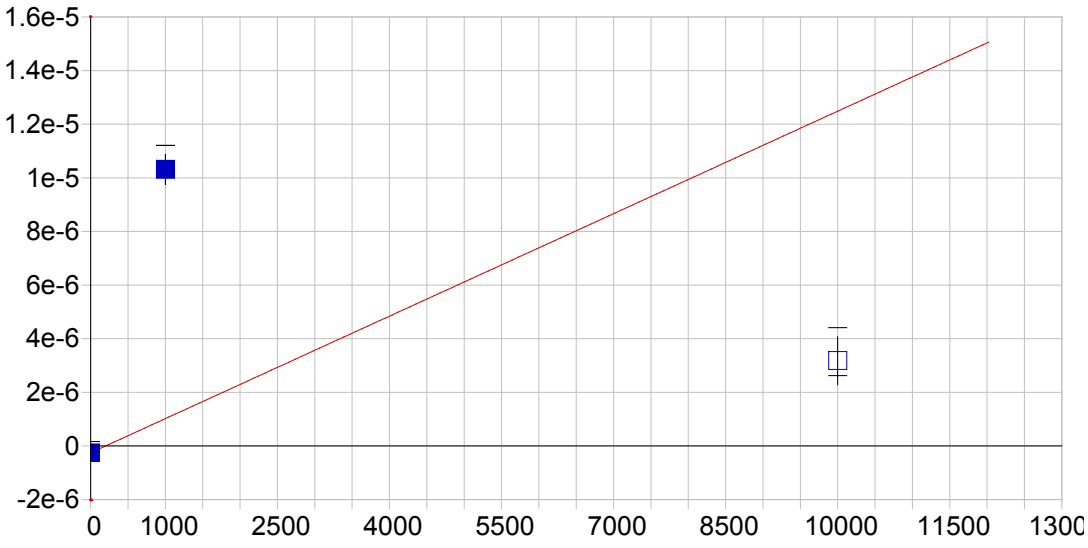


S 182.034 {485}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999781	Status:	OK.
Std Error of Est:	0.000231		
Predicted MDL:	4.012524		
Predicted MQL:	13.375081		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.8074	5.81	.000	.00003	.000	1
CalStd12-100	100000.	100700.	702.	.702	.69817	.001	1
CalStd9=100	1000.0	943.38	-56.6	-5.66	.00653	.000	1

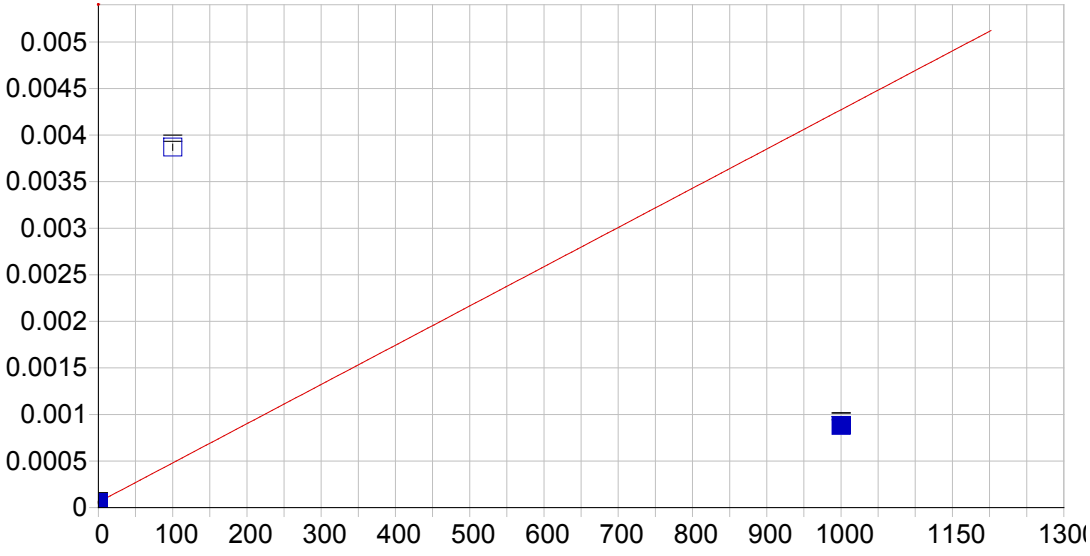


W 239.709 {140}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.397634	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	412.899161		
Predicted MQL:	1376.330535		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.5625	-6.56	.000	.00000	.000	1
CalStd9=100	1000.0	8293.0	7290.	729.	.00001	.000	1
CalStd12-100	10000.	2695.2	-7300.	-73.0	.00000	.000	1

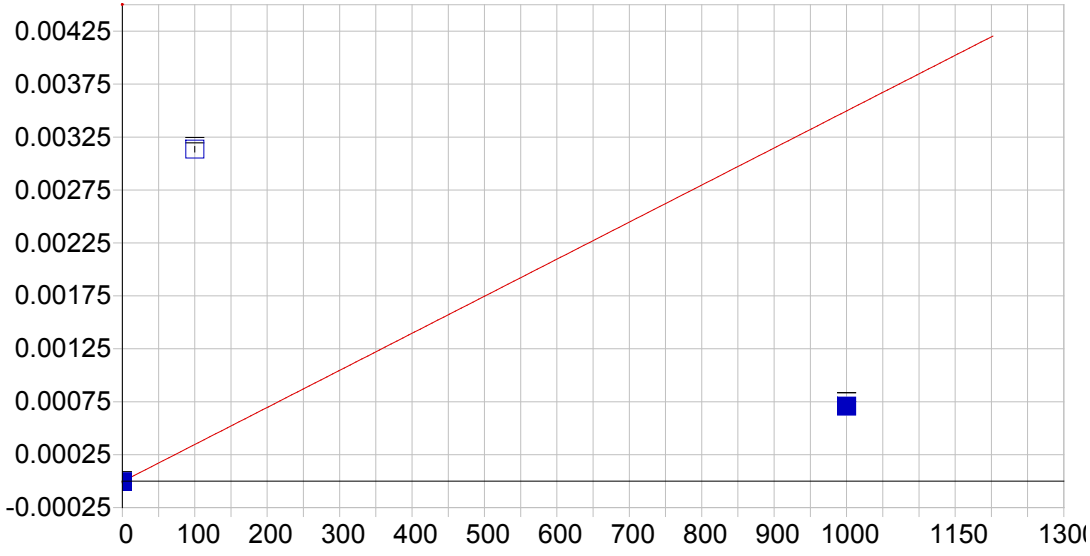


Hg 184.950 {482}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000058	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.365631	Status:	OK.
Std Error of Est:	0.000195		
Predicted MDL:	7.311157		
Predicted MQL:	24.370523		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.72410	-.724	.000	.00006	.000	1
CalStd8=100	100.00	904.56	805.	805.	.00387	.000	1
CalStd9=100	1000.0	195.44	-805.	-80.5	.00088	.000	1



Hg 194.227 {473}

Date of Fit:	01/16/2017 13:59:57	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.368785	Status:	OK.
Std Error of Est:	0.000160		
Predicted MDL:	8.737535		
Predicted MQL:	29.125116		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.71695	-.717	.000	-.00001	.000	1
CalStd8=100	100.00	896.61	797.	797.	.00313	.000	1
CalStd9=100	1000.0	203.39	-797.	-79.7	.00071	.000	1

Sample Name: Blank Acquired: 01/13/2017 09:33:10 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.22**	**.000**	**.030**	**.000**	**.000**	**.009**	**-.001**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	1.06	.00	.295	.000	.000	.000	.000	.00	.000	.000	.00	.000
%RSD	47.8	43.7	986.	172.	325.	.686	2.74	106.	7.29	112.	28.1	32.5

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Fe2343	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.00	.00	.000	.00	.00	.000	.000	.000	.00
%RSD	19.9	382.	162.	200.	366.	1.25	2940.	15.7	200.	.617	192.	1200.

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.000	.000	.00	.00	.00	.000	.00	.000
%RSD	167.	134.	29.6	879.	13.8	73.2	89.6	374.	64.3	81.5	149.	74.6

Elem	Zn2138
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	58.8

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1346300.**	**113210.**	**17731.**
Stddev	3612.	509.	23.
%RSD	.26833	.44950	.12806

Sample Name: CalStd1=0.25 Acquired: 01/13/2017 09:39:46 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**-.001**
Stddev	.000
%RSD	3.95

Int. Std.	Y_3710
Units	Cts/S
Avg	**113970.**
Stddev	639.
%RSD	.56041

Sample Name: CalStd2=0.5 Acquired: 01/13/2017 09:46:24 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**-.001**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	2.75	62.5	15.5

Int. Std.	Y_3710	Y_2243
Units	Cts/S	Cts/S
Avg	**114190.**	**17633.**
Stddev	467.	15.
%RSD	.40860	.08364

Sample Name: CalStd3=1 Acquired: 01/13/2017 09:53:03 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.16**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	1.97	.000	.00	.000	.000	.000	.000	.000	.00
%RSD	91.3	17.0	32.2	7.37	7.89	294.	47.4	199.	58.3

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1332000.**	**114980.**	**17552.**
Stddev	4611.	155.	17.
%RSD	.34619	.13437	.09602

Sample Name: CalStd4=5 Acquired: 01/13/2017 09:59:43 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1890	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.003**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	184.	1.58	.466	1.78	1.56	7.93	12.8	14.0	2.19	9.62	14.9	21.3

Elem	Sb2175	Zn2138
Units	Cts/S	Cts/S
Avg	**.000**	**.001**
Stddev	.000	.000
%RSD	64.9	2.48

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1338400.**	**115090.**	**17560.**
Stddev	7676.	515.	37.
%RSD	.57350	.44768	.20878

Sample Name: CalStd5=10 Acquired: 01/13/2017 10:06:24 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**35.0**	**1.37**	**.001**	**.008**	**.003**	**.005**	**.002**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.7	.30	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.00	22.2	4.00	1.08	.905	1.79	3.32	4.02	5.25	5.65	.795	5.51

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.37	22.2	33.1	6.92	11.8	29.0	8.87	8.56	1.11

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1326600.**	**115630.**	**17416.**
Stddev	3618.	176.	56.
%RSD	.27269	.15190	.31884

Sample Name: CalStd6=20 Acquired: 01/13/2017 10:13:01 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	1.23	1.28	1.15	1.82	11.0	1.90

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1323300.**	**115790.**	**17283.**
Stddev	7517.	285.	18.
%RSD	.56808	.24571	.10186

Sample Name: CalStd7=50 Acquired: 01/13/2017 10:19:37 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1937	Ba2335	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.95**	**.005**	**.015**	**.012**	**.003**	**.000**	**.000**	**.001**	**.000**	**.007**	**.001**	**.000**
Stddev	.51	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	6.43	.443	.536	.456	.479	.557	1.34	.903	1.21	.925	5.24	10.5

Elem	V_2924	Zn2138
Units	Cts/S	Cts/S
Avg	**.000**	**.008**
Stddev	.000	.000
%RSD	1.86	.282

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1325300.**	**115690.**	**17339.**
Stddev	6625.	363.	27.
%RSD	.49993	.31357	.15332

Sample Name: CalStd8=100 Acquired: 01/13/2017 10:26:08 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3968	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**307.**	**16.2**	**.000**	**.010**	**.014**	**.080**	**.000**	**.010**	**.028**	**.042**	**.023**	**.000**
Stddev	2.	.4	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
%RSD	.564	2.28	27.5	.514	.761	.658	2.13	.629	.328	.154	.559	.506

Elem	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.000**	**.000**	**.006**	**.002**	**.000**	**.012**	**.015**	**.001**	**.003**	**.002**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.926	.306	.975	.461	.732	.857	.983	.715	1.41	1.21	1.76	3.13

Elem	Se2062	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.000**	**.016**
Stddev	.000	.000	.000	.000
%RSD	30.2	3.05	1.05	.406

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1315600.**	**114860.**	**17186.**
Stddev	7868.	655.	41.
%RSD	.59807	.57048	.24007

Sample Name: CalStd9=1000 Acquired: 01/13/2017 10:32:36 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**168.**	**.002**	**.100**	**.064**	**.832**	**.000**	**.000**	**.095**	**.295**	*****	**.241**
Stddev	.000	.	.000	.000	.000	.004	.000	.000	.000	.001	-----	.001
%RSD	1.79	.262	2.23	.116	.350	.513	.592	1.19	.428	.183	-----	.379

Elem	Co2388	Cr2055	Cr2677	Cu2247	Fe2343	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.065**	**.005**	**.001**	**.000**	**.001**	**.015**	**.000**	**.056**	**.016**	**.007**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.624	.646	.434	.272	1.28	1.29	.401	6.60	.428	.558	.622	.129

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.125**	**.159**	**.008**	**.027**	**.018**	**.019**	**.008**	**.001**	**.016**	**.003**	**.191**	**.165**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
%RSD	.294	.120	.618	.256	.197	.489	.877	2.27	.187	1.44	.432	.182

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1309000.**	**116240.**	**17154.**
Stddev	3446.	451.	60.
%RSD	.26328	.38841	.35053

Sample Name: CalStd10=10000 Acquired: 01/13/2017 10:38:34 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**1730.**	**.018**	**.574**	**.004**	**.975**	**2.45**	**.012**	**.662**	**.046**	**.012**	**.003**
Stddev	.000	5.	.000	.004	.000	.006	.00	.000	.000	.000	.000	.000
%RSD	.617	.301	.234	.652	1.12	.602	.031	.747	.067	.360	.295	.599

Elem	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.015**	**.151**	**.000**	**.535**	**.153**	**.067**	**.007**	**1.26**	**1.61**	**.078**	**.278**	**.184**
Stddev	.000	.000	.000	.005	.001	.001	.000	.00	.00	.000	.000	.000
%RSD	.578	.181	.992	.894	.428	1.12	.373	.129	.070	.219	.164	.249

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.190**	**.078**	**.014**	**.155**	**.032**	**1.94**	**1.65**
Stddev	.000	.000	.000	.000	.000	.00	.00
%RSD	.171	.261	.396	.095	.394	.160	.129

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1290000.**	**117300.**	**16857.**
Stddev	4307.	381.	23.
%RSD	.33386	.32479	.13572

Sample Name: CalStd11-100k Acquired: 01/13/2017 10:44:33 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.97**	**.633**	**.782**	**17.1**
Stddev	.04	.006	.005	.2
%RSD	.620	.976	.693	1.08

Int. Std.	Y_3710	Y_2243
Units	Cts/S	Cts/S
Avg	**117530.**	**16956.**
Stddev	461.	80.
%RSD	.39198	.47425

Sample Name: CalStd12-100000 Acquired: 01/13/2017 10:51:25 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.202**	**.040**	*****	**1.49**	**.005**
Stddev	.001	.000	-----	.00	.000
%RSD	.481	.855	-----	.175	1.19

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1244500.**	**117000.**	**16474.**
Stddev	5718.	208.	20.
%RSD	.45948	.17747	.12184

Sample Name: CalStd13=500000 Acquired: 01/13/2017 10:58:14 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.905**	**.172**	**.123**	*****	**6.56**	**.022**
Stddev	.006	.001	.002	-----	.01	.000
%RSD	.632	.611	1.97	-----	.213	1.01

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1179900.**	**113980.**	**15330.**
Stddev	3706.	532.	39.
%RSD	.31409	.46671	.25264

Sample Name: CalStd14-1000k Acquired: 01/13/2017 11:05:01 Type: Cal
Method: DOD Calibration Updated 060614(v1832) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.80**	**.328**	**.213**	*****	**12.6**	**.043**
Stddev	.01	.002	.002	-----	.0	.000
%RSD	.633	.671	.975	-----	.226	.832

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1118700.**	**111800.**	**14472.**
Stddev	2820.	423.	30.
%RSD	.25209	.37841	.20470

Sample Name: icv Acquired: 01/13/2017 11:18:12 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2025
Avg	**46.9**	**10900.**	**1820.**	**1870.**	**45.0**	**10500.**	**46.2**	**465.**	**187.**	**231.**	**4510.**	**9970.**
Stddev	.5	83.	28.	14.	.3	30.	.1	3.	1.	2.	22.	101.
%RSD	1.00	.756	1.52	.774	.676	.284	.252	.684	.535	.816	.490	1.01
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2908	Zn2138
Avg	**464.**	**466.**	**463.**	**451.**	**462.**	**1800.**	**1870.**	**499.**	**470.**
Stddev	.	3.	1.	3.	7.	18.	11.	6.	1.
%RSD	.078	.636	.297	.746	1.47	.994	.572	1.16	.245
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1292800.**	**115810.**	**16968.**
Stddev	4075.	410.	33.
%RSD	.31520	.35422	.19266

Sample Name: icv Acquired: 01/13/2017 11:18:12 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1292800.**	**115810.**	**16968.**
Stddev	4075.	410.	33.
%RSD	.31520	.35422	.19266

Sample Name: ICVLL Acquired: 01/13/2017 11:24:25 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Avg	**67.6**	**1230.**	**61.2**	**32.0**	**12.8**	**1710.**	**16.4**	**16.8**	**31.2**	**32.7**	**30.8**	**923.**
Stddev	.5	4.	1.9	.0	.0	10.	.1	.2	.3	.3	.2	11.
%RSD	.715	.353	3.02	.097	.335	.569	.795	1.11	.995	.770	.759	1.15
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1600.**	**31.8**	**31.4**	**30.6**	**24.2**	**60.9**	**66.2**	**62.7**	**31.1**	**33.0**
Stddev	84.	.2	.7	.5	.9	2.7	2.3	3.1	1.2	.5
%RSD	5.23	.480	2.19	1.61	3.86	4.44	3.40	5.00	3.84	1.60
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1311000.**	**121380.**	**16993.**
Stddev	6886.	678.	17.
%RSD	.52526	.55894	.09856

Sample Name: icb Acquired: 01/13/2017 11:37:35 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.881**	**11.3**	**2.02**	**-.007**	**.128**	**.716**	**.087**	**-.112**	**.138**	**1.39**	**-.638**	**2.74**
Stddev	.689	7.8	.99	.086	.027	.595	.128	.105	.102	.37	.623	2.54
%RSD	78.2	69.7	49.2	1280.	20.8	83.0	147.	94.1	73.5	26.2	97.6	92.6
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1.74**	**.003**	**.517**	**-1.39**	**-6.66**	**-.514**	**-2.67**	**1.72**	**1.08**	**-.287**
Stddev	.03	.114	.615	.49	2.05	2.26	1.77	2.06	.49	.190
%RSD	1.71	3310.	119.	35.2	30.8	440.	66.1	120.	45.7	66.1
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1321900.**	**121430.**	**17167.**
Stddev	4406.	346.	38.
%RSD	.33330	.28467	.22258

Sample Name: icsa Acquired: 01/13/2017 11:49:48 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2677	Cu2247
Avg	**.000**	**476000.**	**-.020**	**.000**	**.000**	**509000.**	**.002**	**.000**	**.000**	**.000**	**-.002**
Stddev	.484	3970.	9.94	.42	.02	4820.	.561	.07	.394	.484	.741
%RSD	.000	.834	50800.	252000.	3910000.	.947	23700.	4663e12	6050000.	295000.	36800.
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Fe2395	Mg2025	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**457000.**	**498000.**	**.386**	**.000**	**-.002**	**.000**	**.006**	**-.031**	**.001**	**.000**	**.000**
Stddev	2010.	2470.	.330	1.64	.526	4.53	5.47	9.89	7.24	1.61	.536
%RSD	.439	.496	85.5	728000.	28100.	927000.	93100.	31600.	548000.	1360000.	125000.
Check ?	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1191900.**	**117940.**	**15469.**
Stddev	5300.	178.	44.
%RSD	.44463	.15114	.28646

Sample Name: icsab Acquired: 01/13/2017 11:56:36 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be2348	Ca3158	Cd2288	Co2286	Cr2055	Cr2677
Avg	**463.**	**460000.**	**442.**	**461.**	**439.**	**486.**	**493000.**	**498.**	**437.**	**466.**	**448.**
Stddev	3.	2530.	10.	1.	3.	4.	3020.	1.	1.	1.	1.
%RSD	.710	.549	2.22	.229	.764	.737	.613	.219	.252	.220	.261
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cu2247	Fe2395	Mg2025	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Avg	**443.**	**436000.**	**477000.**	**470.**	**437.**	**455.**	**461.**	**435.**	**424.**	**477.**	**457.**
Stddev	1.	2720.	1830.	3.	2.	1.	1.	1.	5.	1.	3.
%RSD	.208	.623	.383	.554	.390	.305	.207	.338	1.29	.144	.633
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Tl1908	V_2924	Zn2062	Zn2138
Avg	**418.**	**462.**	**454.**	**482.**
Stddev	2.	7.	1.	2.
%RSD	.459	1.61	.250	.324
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: icsab Acquired: 01/13/2017 11:56:36 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1194300.**	**117790.**	**15553.**
Stddev	749.	337.	22.
%RSD	.06272	.28608	.14409

Sample Name: icsab Acquired: 01/13/2017 11:56:36 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1194300.**	**117790.**	**15553.**
Stddev	749.	337.	22.
%RSD	.06272	.28608	.14409

Sample Name: ICVLL ag Acquired: 01/13/2017 12:03:55 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**11.0**	**198.**	**.110**	**-.276**	**.101**	**151.**	**.038**	**-.113**	**.008**	**1.52**	**-.605**	**563.**
Stddev	1.4	72.	2.43	.184	.035	21.	.084	.061	.097	.30	.457	447.
%RSD	12.5	36.5	2210.	66.5	34.8	13.7	221.	54.0	1140.	20.0	75.6	79.3

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**73.5**	**.087**	**.662**	**-1.24**	**-5.96**	**-.901**	**.953**	**1.20**	**.893**	**-.016**
Stddev	14.2	.039	.280	.46	1.48	1.32	1.04	3.13	1.02	.142
%RSD	19.3	45.5	42.3	37.0	24.9	147.	110.	261.	114.	913.

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1327800.**	**120320.**	**17460.**
Stddev	3018.	631.	55.
%RSD	.22731	.52452	.31586

Sample Name: ccv1 Acquired: 01/13/2017 13:11:29 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2288	Co2388	Cr2055	Cu2247	Fe2343	Mg2025
Avg	**452.**	**4530.**	**4750.**	**4800.**	**464.**	**4940.**	**458.**	**4900.**	**4780.**	**4520.**	**4750.**	**4890.**
Stddev	1.	50.	36.	34.	4.	46.	2.	28.	14.	17.	41.	12.
%RSD	.167	1.09	.754	.705	.886	.922	.392	.562	.300	.368	.862	.246
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2924	Zn2062
Avg	**4750.**	**4580.**	**4860.**	**4520.**	**4600.**	**4760.**	**4620.**	**4720.**	**4840.**	**4780.**	**4910.**
Stddev	128.	16.	73.	23.	12.	20.	11.	55.	10.	42.	11.
%RSD	2.69	.358	1.50	.511	.268	.409	.233	1.17	.207	.882	.220
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1376200.**	**130010.**	**17852.**
Stddev	3037.	407.	29.
%RSD	.22070	.31274	.16378

Sample Name: ccv2 Acquired: 01/13/2017 13:17:15 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Co2388
Avg	**51.9**	**483.**	**479.**	**479.**	**462.**	**512.**	**44.8**	**477.**	**48.6**	**48.8**	**453.**	**507.**
Stddev	.5	2.	5.	5.	1.	4.	.1	2.	.1	.2	1.	5.
%RSD	.926	.371	1.03	1.04	.123	.820	.309	.451	.155	.355	.201	.889
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2055	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**485.**	**457.**	**471.**	**461.**	**456.**	**483.**	**510.**	**461.**	**475.**	**464.**	**471.**	**458.**
Stddev	2.	2.	2.	3.	1.	1.	7.	2.	1.	.	2.	3.
%RSD	.513	.445	.405	.727	.205	.291	1.42	.489	.174	.103	.326	.712
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**472.**	**471.**	**464.**	**519.**	**508.**	**484.**	**507.**	**468.**
Stddev	3.	3.	6.	12.	7.	3.	1.	1.
%RSD	.699	.711	1.27	2.34	1.33	.708	.150	.144
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ccv2 Acquired: 01/13/2017 13:17:15 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1374800.**	**128550.**	**17815.**
Stddev	1382.	422.	45.
%RSD	.10054	.32830	.25200

Sample Name: ccb Acquired: 01/13/2017 13:23:25 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Avg	**-.237**	**12.8**	**-.840**	**-.576**	**.030**	**1.18**	**.079**	**-.076**	**.215**	**1.04**	**-.936**	**1.78**
Stddev	.773	8.8	.917	.165	.017	1.12	.233	.374	.127	.71	1.01	3.83
%RSD	326.	68.2	109.	28.6	57.7	94.8	296.	491.	58.9	68.3	108.	215.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.758**	**.020**	**.965**	**-.998**	**-6.52**	**.879**	**1.66**	**-.876**	**1.21**	**-.549**
Stddev	.042	.090	.345	.304	1.26	1.60	2.74	1.72	.32	.045
%RSD	5.55	450.	35.8	30.4	19.3	182.	165.	196.	26.4	8.18
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1382200.**	**128520.**	**17898.**
Stddev	3043.	716.	14.
%RSD	.22013	.55719	.07626

Sample Name: LCSW60973 Acquired: 01/13/2017 13:30:04 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be2348	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**17.5**	**749.**	**760.**	**736.**	**19.3**	**192000.**	**18.3**	**182.**	**74.3**	**93.1**	**366.**
Stddev	1.1	26.	6.	3.	1.4	2050.	.2	1.	.4	1.1	9.
%RSD	6.52	3.50	.791	.376	7.29	1.07	1.04	.493	.572	1.15	2.43

Elem	Mg2025	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**92200.**	**196.**	**.936**	**193.**	**181.**	**173.**	**198.**	**775.**	**768.**	**202.**	**198.**
Stddev	415.	1.	.480	1.	.	3.	3.	5.	5.	3.	1.
%RSD	.450	.654	51.3	.473	.179	1.55	1.42	.632	.701	1.35	.315

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1285000.**	**125880.**	**16560.**
Stddev	4526.	407.	35.
%RSD	.35223	.32299	.20880

Sample Name: MBW60973 Acquired: 01/13/2017 13:36:47 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.072**	**8.42**	**2.58**	**-.430**	**.010**	**33.6**	**-.066**	**-.281**	**.243**	**1.04**	**-1.06**	**6.41**
Stddev	.402	5.31	.34	.256	.021	41.1	.108	.104	.150	.30	.68	3.71
%RSD	560.	63.1	13.1	59.6	214.	123.	164.	37.0	61.6	29.5	63.7	57.9

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.20**	**-.059**	**-.019**	**-1.25**	**-8.77**	**.516**	**-1.45**	**1.44**	**1.69**	**.118**
Stddev	.12	.107	.355	.45	3.02	1.20	3.63	1.89	.13	.109
%RSD	9.97	180.	1880.	36.2	34.4	231.	251.	131.	7.67	92.0

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1385800.**	**128030.**	**17786.**
Stddev	6682.	699.	16.
%RSD	.48213	.54596	.08968

Sample Name: 826641 Acquired: 01/13/2017 13:43:26 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.471**	**38.5**	**1.18**	**56.6**	**.007**	**58300.**	**.107**	**-.026**	**.256**	**2.73**	**-.603**	**33.3**
Stddev	.792	6.0	1.95	37.7	.021	397.	.083	.217	.224	.29	1.85	3.5
%RSD	168.	15.6	165.	66.6	287.	.681	77.6	825.	87.4	10.5	308.	10.5

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**19100.**	**25500.**	**3.54**	**4.84**	**1.57**	**-6.09**	**1.78**	**.666**	**-1.01**	**1.46**	**4.17**
Stddev	12700.	257.	.06	2.96	1.23	2.43	1.48	2.30	3.22	.73	3.29
%RSD	66.7	1.01	1.79	61.2	78.2	39.9	83.5	345.	318.	50.2	78.8

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1340100.**	**129730.**	**22302.**
Stddev	3821.	896.	9931.
%RSD	.28512	.69076	44.530

Sample Name: L826641 Acquired: 01/13/2017 13:50:29 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.433**	**11.8**	**-.733**	**11.6**	**-.026**	**14300.**	**.096**	**-.170**	**.309**	**1.40**	**-1.06**	**8.87**
Stddev	.802	12.1	2.51	1.0	.027	1190.	.140	.052	.136	.31	.14	1.59
%RSD	185.	103.	342.	8.89	105.	8.29	145.	30.6	44.0	22.2	13.6	18.0

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4150.**	**6350.**	**.883**	**.793**	**-.767**	**-8.18**	**1.52**	**-1.18**	**.569**	**.854**	**.889**
Stddev	353.	580.	.149	.485	.257	.59	2.20	3.11	1.26	.780	.077
%RSD	8.52	9.14	16.9	61.2	33.5	7.22	145.	263.	222.	91.3	8.65

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1378200.**	**128450.**	**17849.**
Stddev	4675.	591.	25.
%RSD	.33924	.46010	.13954

Sample Name: DUP826641 Acquired: 01/13/2017 13:57:31 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.522**	**43.4**	**.891**	**57.4**	**.033**	**58300.**	**.018**	**.105**	**.184**	**2.40**	**-.272**	**37.0**
Stddev	1.59	12.3	2.31	38.4	.031	218.	.169	.226	.306	.66	1.18	3.2
%RSD	306.	28.2	260.	66.9	93.5	.373	954.	216.	166.	27.6	435.	8.72

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**19300.**	**25500.**	**3.42**	**4.28**	**1.17**	**-5.57**	**1.02**	**4.31**	**-1.97**	**2.02**	**3.18**
Stddev	12900.	178.	.14	3.14	1.02	.63	2.68	4.57	2.15	1.64	2.60
%RSD	66.7	.698	4.09	73.3	87.3	11.3	263.	106.	109.	81.3	81.6

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1335600.**	**129370.**	**21979.**
Stddev	2974.	1285.	9860.
%RSD	.22265	.99322	44.862

Sample Name: MSW826641 Acquired: 01/13/2017 14:04:34 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.6**	**812.**	**766.**	**868.**	**835.**	**956.**	**16.6**	**252000.**	**18.7**	**24.0**	**187.**
Stddev	.2	17.	5.	6.	2.	21.	.1	4610.	.2	.1	1.
%RSD	1.31	2.04	.650	.730	.278	2.16	.791	1.83	.933	.329	.420

Elem	Cr2677	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**77.0**	**95.2**	**406.**	**122000.**	**123000.**	**202.**	**6.24**	**226.**	**189.**	**179.**	**208.**
Stddev	.8	.6	14.	279.	2990.	.	.45	1.	1.	3.	3.
%RSD	.992	.657	3.54	.229	2.44	.246	7.22	.321	.510	1.88	1.41

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**807.**	**851.**	**785.**	**207.**	**209.**
Stddev	5.	25.	3.	.	1.
%RSD	.639	2.97	.363	.217	.339

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1254800.**	**124990.**	**15949.**
Stddev	3750.	892.	28.
%RSD	.29885	.71380	.17298

Sample Name: MSDW826641 Acquired: 01/13/2017 14:11:11 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**17.8**	**818.**	**753.**	**831.**	**805.**	**949.**	**16.6**	**251000.**	**18.2**	**23.1**	**181.**
Stddev	1.2	9.	34.	70.	65.	7.	.1	2000.	1.5	1.9	14.
%RSD	6.82	1.07	4.50	8.38	8.08	.754	.400	.797	8.27	8.02	7.86

Elem	Cr2677	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**76.8**	**92.4**	**414.**	**117000.**	**123000.**	**203.**	**5.87**	**219.**	**182.**	**170.**	**205.**
Stddev	.2	4.7	3.	8920.	780.	1.	.43	17.	14.	16.	16.
%RSD	.315	5.05	.766	7.59	.632	.586	7.33	7.67	7.88	9.18	7.69

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**775.**	**825.**	**762.**	**210.**	**201.**
Stddev	57.	74.	65.	3.	16.
%RSD	7.42	8.96	8.55	1.21	8.07

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1259900.**	**125070.**	**16236.**
Stddev	4975.	507.	598.
%RSD	.39486	.40559	3.6817

Sample Name: PDSW826641 Acquired: 01/13/2017 14:17:49 Type: Unk
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Co2388	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**82.4**	**3790.**	**4190.**	**4110.**	**76.8**	**439000.**	**87.9**	**111.**	**880.**	**945.**	**351.**
Stddev	.9	24.	38.	26.	1.6	1430.	.8	1.	7.	7.	2.
%RSD	1.15	.625	.911	.642	2.08	.326	.894	.698	.793	.734	.588

Elem	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**442.**	**1790.**	**221000.**	**222000.**	**918.**	**651.**	**6.65**	**945.**	**876.**	**991.**	**859.**
Stddev	7.	19.	2070.	1080.	4.	11.	.56	8.	8.	12.	5.
%RSD	1.50	1.06	.936	.486	.465	1.67	8.48	.811	.939	1.25	.525

Elem	Sb2068	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1010.**	**4030.**	**3670.**	**974.**	**973.**	**979.**
Stddev	9.	48.	29.	4.	7.	8.
%RSD	.884	1.18	.793	.439	.768	.836

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1234600.**	**123410.**	**15529.**
Stddev	11103.	1141.	65.
%RSD	.89927	.92477	.41541

Sample Name: ccv1 Acquired: 01/13/2017 14:37:17 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2288	Co2388	Cr2055	Cu2247	Fe2343	Mg2025
Avg	**450.**	**4610.**	**4740.**	**4860.**	**463.**	**4900.**	**468.**	**4780.**	**4760.**	**4480.**	**4760.**	**4950.**
Stddev	2.	39.	41.	27.	5.	35.	1.	16.	26.	14.	13.	9.
%RSD	.491	.837	.871	.553	1.17	.703	.280	.338	.550	.312	.267	.186
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2924	Zn2062
Avg	**4910.**	**4580.**	**4910.**	**4510.**	**4630.**	**4730.**	**4690.**	**4780.**	**4830.**	**4750.**	**4960.**
Stddev	79.	8.	23.	10.	19.	22.	18.	32.	33.	39.	13.
%RSD	1.61	.167	.476	.211	.420	.472	.380	.663	.686	.815	.254
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1363400.**	**125860.**	**17390.**
Stddev	1308.	195.	45.
%RSD	.09595	.15514	.25917

Sample Name: ccv2 Acquired: 01/13/2017 14:43:02 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Co2388
Avg	**52.7**	**488.**	**472.**	**479.**	**468.**	**516.**	**45.6**	**485.**	**49.1**	**49.9**	**461.**	**502.**
Stddev	.1	7.	10.	17.	1.	3.	.2	2.	.1	.1	.	2.
%RSD	.238	1.44	2.03	3.52	.219	.656	.480	.456	.148	.260	.079	.454
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2055	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**493.**	**456.**	**469.**	**460.**	**452.**	**481.**	**500.**	**463.**	**485.**	**472.**	**488.**	**459.**
Stddev	1.	3.	1.	3.	2.	2.	4.	1.	2.	.	14.	1.
%RSD	.267	.606	.296	.561	.364	.472	.817	.209	.357	.050	2.94	.234
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**480.**	**480.**	**470.**	**528.**	**510.**	**482.**	**517.**	**476.**
Stddev	2.	3.	3.	38.	2.	7.	1.	.
%RSD	.374	.529	.619	7.10	.476	1.40	.138	.051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ccv2 Acquired: 01/13/2017 14:43:02 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1372400.**	**125690.**	**17477.**
Stddev	6394.	267.	33.
%RSD	.46585	.21250	.18946

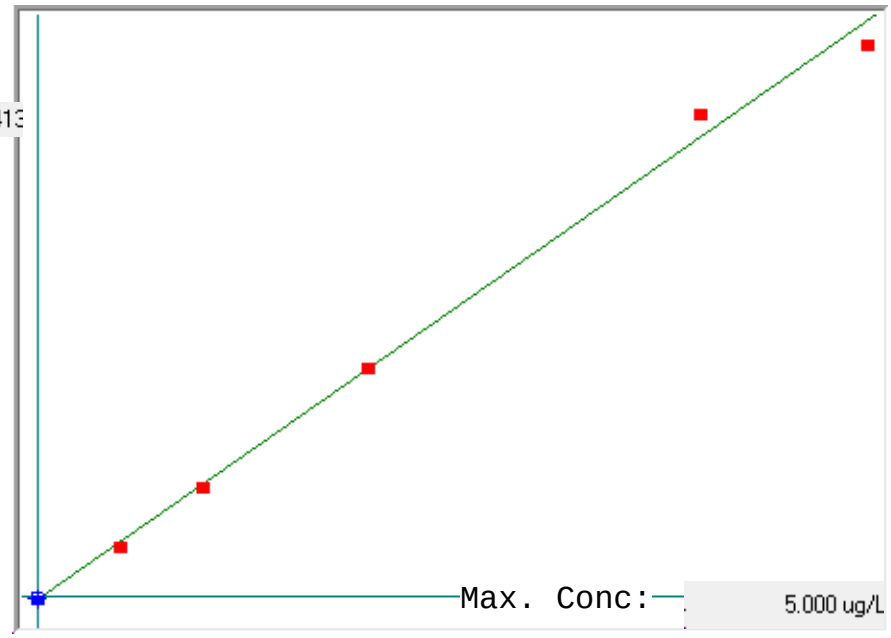
Sample Name: ccb Acquired: 01/13/2017 14:49:12 Type: QC
Method: DOD Calibration Updated 060614(v1832) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.620**	**.248**	**-2.07**	**-.583**	**-.019**	**1.78**	**.137**	**-.093**	**.104**	**1.04**	**-.831**	**1.81**
Stddev	.212	1.46	4.05	.221	.015	.59	.055	.093	.146	.61	.527	3.33
%RSD	34.1	587.	196.	37.9	82.3	33.1	39.8	99.8	140.	58.7	63.5	184.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1.54**	**-.066**	**1.33**	**-1.18**	**-8.16**	**1.86**	**.234**	**-1.19**	**1.48**	**-.394**
Stddev	.02	.084	.28	.30	.85	2.34	.901	1.97	.58	.104
%RSD	1.29	126.	21.0	25.5	10.4	126.	386.	166.	39.3	26.4
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1378300.**	**125660.**	**17526.**
Stddev	9459.	462.	44.
%RSD	.68625	.36766	.25196

CVAA water



A= 0.0000e+000

B= 3.8521e-004

C= 2.6112e-002

Rho= 0.9978895

Accept= Accepted

Accepted Date=

01/19/17 07:56

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	0.001	0.001	-65	2.586	-62	-64	-69	-66	
0.5	0.500	0.465	-0.035	1140	5.2 %	1058	1114	1174	1216	
1.0	1.000	0.991	-0.009	2504	3.4 %	2386	2474	2543	2613	
2.0	2.000	2.019	0.019	5173	4.1 %	4888	5080	5278	5448	
4.0	4.000	4.216	0.216	10876	3.9 %	10301	10698	11083	11425	
5.0	5.000	4.808	-0.192	12413	4.4 %	11650	12182	12702	13119	

Method: CVAA water Operator: Admin Date of Analysis: 19 Jan 2017 06:52:52

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	19 Jan 2017 07:42:58	Hg	ug/L		-65.250
0.5	19 Jan 2017 07:45:07	Hg	ug/L		1140.500
1.0	19 Jan 2017 07:47:19	Hg	ug/L		2504.000
2.0	19 Jan 2017 07:49:31	Hg	ug/L		5173.500
4.0	19 Jan 2017 07:51:42	Hg	ug/L		10876.750
5.0	19 Jan 2017 07:53:54	Hg	ug/L		12413.250
ICV	19 Jan 2017 07:59:37	Hg	ug/L		3.122
ICB	19 Jan 2017 08:01:47	Hg	ug/L		-0.158
827530 MBW60992	19 Jan 2017 08:06:07	Hg	ug/L		-0.230
827435	19 Jan 2017 08:08:18	Hg	ug/L		0.012
DUP827435	19 Jan 2017 08:10:27	Hg	ug/L		0.017
MSW827435	19 Jan 2017 08:12:37	Hg	ug/L		3.723
MSDW827435	19 Jan 2017 08:14:46	Hg	ug/L		3.461
827535 MBW60993	19 Jan 2017 08:19:10	Hg	ug/L		-0.227
827460	19 Jan 2017 08:21:22	Hg	ug/L		0.022
827461	19 Jan 2017 08:23:33	Hg	ug/L		0.035
CCV	19 Jan 2017 08:25:44	Hg	ug/L		3.016
CCB	19 Jan 2017 08:27:52	Hg	ug/L		-0.111
DUP827461	19 Jan 2017 08:30:03	Hg	ug/L		0.047
MSW827461	19 Jan 2017 08:32:14	Hg	ug/L		3.631
MSDW827461	19 Jan 2017 08:34:25	Hg	ug/L		3.607
827815 MBW60995	19 Jan 2017 08:38:46	Hg	ug/L		-0.208
827813	19 Jan 2017 08:40:57	Hg	ug/L		0.026
DUP827813	19 Jan 2017 08:43:07	Hg	ug/L		0.032
MSW827813	19 Jan 2017 08:45:16	Hg	ug/L		3.639
MSDW827813	19 Jan 2017 08:47:26	Hg	ug/L		3.620
827814	19 Jan 2017 08:49:36	Hg	ug/L		-0.174
CCV	19 Jan 2017 08:51:48	Hg	ug/L		2.879
CCB	19 Jan 2017 08:53:57	Hg	ug/L		-0.121
827794 MBW61000	19 Jan 2017 08:58:18	Hg	ug/L		-0.171
827780	19 Jan 2017 09:00:31	Hg	ug/L		0.021
DUP827780	19 Jan 2017 09:02:42	Hg	ug/L		0.033
MSW827780	19 Jan 2017 09:04:53	Hg	ug/L		3.544
MSDW827780	19 Jan 2017 09:07:03	Hg	ug/L		3.781
827782 MBW60997	19 Jan 2017 09:11:24	Hg	ug/L		-0.163
826973	19 Jan 2017 09:13:35	Hg	ug/L		0.009
MSW826973	19 Jan 2017 09:15:45	Hg	ug/L		3.638
CCV	19 Jan 2017 09:17:55	Hg	ug/L		2.772
CCB	19 Jan 2017 09:20:04	Hg	ug/L		-0.140
MSDW826973	19 Jan 2017 09:22:15	Hg	ug/L		3.632
PDSW826973	19 Jan 2017 09:24:25	Hg	ug/L		3.610
827398	19 Jan 2017 09:26:36	Hg	ug/L		-0.196
827790 MBW60999	19 Jan 2017 09:31:00	Hg	ug/L		-0.172
826191	19 Jan 2017 09:33:12	Hg	ug/L		0.016
MSW826191	19 Jan 2017 09:35:24	Hg	ug/L		3.373
MSDW826191	19 Jan 2017 09:37:34	Hg	ug/L		3.424
PDSW826191	19 Jan 2017 09:39:45	Hg	ug/L		3.903
827373 LCSW60988	19 Jan 2017 09:41:56	Hg	ug/L		2.919
CCV	19 Jan 2017 09:44:08	Hg	ug/L		2.742
CCB	19 Jan 2017 09:46:18	Hg	ug/L		-0.122
827372 MBW60988	19 Jan 2017 09:48:29	Hg	ug/L		0.022
826978	19 Jan 2017 09:50:39	Hg	ug/L		0.046
826981	19 Jan 2017 09:52:49	Hg	ug/L		0.082
DUP826981	19 Jan 2017 09:54:59	Hg	ug/L		0.074
MSW826981	19 Jan 2017 09:57:09	Hg	ug/L		3.768
MSDW826981	19 Jan 2017 09:59:21	Hg	ug/L		3.563
827383 LCSW60990	19 Jan 2017 10:01:33	Hg	ug/L		2.839
827382 MBW60990	19 Jan 2017 10:03:45	Hg	ug/L		-0.137
826641	19 Jan 2017 10:05:58	Hg	ug/L		0.014
DUP826641	19 Jan 2017 10:08:08	Hg	ug/L		0.018
CCV	19 Jan 2017 10:10:18	Hg	ug/L		2.868
CCB	19 Jan 2017 10:12:27	Hg	ug/L		-0.140
MSW826641	19 Jan 2017 10:14:38	Hg	ug/L		3.724
MSDW826641	19 Jan 2017 10:16:48	Hg	ug/L		3.541
827377 MBW60989	19 Jan 2017 10:21:11	Hg	ug/L		-0.109

011917WA PDF

Method: CVAA water Operator: Admin Date of Analysis: 19 Jan 2017 06:52:52

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
826217	19 Jan 2017 10:23:22	Hg	ug/L		0.029
826219	19 Jan 2017 10:25:32	Hg	ug/L		0.027
DUP826219	19 Jan 2017 10:27:42	Hg	ug/L		0.037
MSW826219	19 Jan 2017 10:29:52	Hg	ug/L		3.740
MSDW826219	19 Jan 2017 10:32:03	Hg	ug/L		3.587
CCV	19 Jan 2017 10:36:28	Hg	ug/L		2.905
CCB	19 Jan 2017 10:38:37	Hg	ug/L		-0.121
827536 LCSW60993	19 Jan 2017 10:40:48	Hg	ug/L		3.053
827816 LCSW60995	19 Jan 2017 10:42:58	Hg	ug/L		3.018
827795 LCSW61000	19 Jan 2017 10:45:08	Hg	ug/L		2.915
827783 LCSW60997	19 Jan 2017 10:47:19	Hg	ug/L		2.832
827791 LCSW60999	19 Jan 2017 10:49:31	Hg	ug/L		2.822
827378 LCSW60989	19 Jan 2017 10:51:42	Hg	ug/L		2.750
827531 LCSW60992	19 Jan 2017 10:53:53	Hg	ug/L		2.747
CCV	19 Jan 2017 10:59:02	Hg	ug/L		2.912
CCB	19 Jan 2017 11:01:10	Hg	ug/L		-0.147

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
134354 on 01/23/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	829488								MICP WATER QSM				
					ICV					0			
	829489								MICP WATER QSM				
					ICVLL					0			
	829490								MICP WATER QSM				
					ICB					0			
	829491								MICP WATER QSM				
					ICSA					0			
	829492								MICP WATER QSM				
					ICSAB					0			
	829493								MICP WATER QSM				
					ICVLL					0			
	829494								MICP WATER QSM				
					CCV1					0			
	829495								MICP WATER QSM				
					CCV2					0			
	829496								MICP WATER QSM				
					CCB					0			
	826847								ICP TOTAL QSM 5.0				
					LCSW					60973			
	826846								ICP TOTAL QSM 5.0				
					MBW					60973			
124730	826641		01/10/2017	1130			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		54ADW01								60973			
	829497								ICP TOTAL QSM 5.0				
					L	826641				0			
	826848		01/10/2017	1130					ICP TOTAL QSM 5.0				
		54ADW01			DUP	826641				60973			
	826849		01/10/2017	1130					ICP TOTAL QSM 5.0				
		54ADW01			MSW	826641				60973			
	826850		01/10/2017	1130					ICP TOTAL QSM 5.0				
		54ADW01			MSDW	826849				60973			
	829498								ICP TOTAL QSM 5.0				
					PDSW	826641				0			
	829499								MICP WATER QSM				
					CCV1					0			
	829500								MICP WATER QSM				
					CCV2					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
134354 on 01/23/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	829501						MICP WATER QSM				
				CCB				0			

20 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
134355 on 01/23/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	827569								MICP WATER QSM K&Na				
					ICV					0			
	827570								MICP WATER QSM K&Na				
					ICVLL					0			
	827571								MICP WATER QSM K&Na				
					ICB					0			
	827572								MICP WATER QSM K&Na				
					MRL					0			
	827573								MICP WATER QSM K&Na				
					ICSA					0			
	827574								MICP WATER QSM K&Na				
					ICSAB					0			
	826847								ICP K TOTAL QSM 5.0				
					LCSW					60973			
	826847								ICP NA TOTAL QSM 5.0				
					LCSW					60973			
	826846								ICP K TOTAL QSM 5.0				
					MBW					60973			
	826846								ICP NA TOTAL QSM 5.0				
					MBW					60973			
124730	826641		01/10/2017	1130			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		54ADW01								60973			
124730	826641		01/10/2017	1130			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		54ADW01								60973			
	827575								ICP K TOTAL QSM 5.0				
					L	826641				0			
	827575								ICP NA TOTAL QSM 5.0				
					L	826641				0			
	826848		01/10/2017	1130					ICP K TOTAL QSM 5.0				
		54ADW01			DUP	826641				60973			
	826848		01/10/2017	1130					ICP NA TOTAL QSM 5.0				
		54ADW01			DUP	826641				60973			
	826849		01/10/2017	1130					ICP K TOTAL QSM 5.0				
		54ADW01			MSW	826641				60973			
	826849		01/10/2017	1130					ICP NA TOTAL QSM 5.0				
		54ADW01			MSW	826641				60973			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
134355 on 01/23/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826850		01/10/2017 1130					ICP K TOTAL QSM 5.0				
		54ADW01		MSDW	826849				60973			
	826850		01/10/2017 1130					ICP NA TOTAL QSM 5.0				
		54ADW01		MSDW	826849				60973			
	827576							ICP K TOTAL QSM 5.0				
				PDSW	826641				0			
	827576							ICP NA TOTAL QSM 5.0				
				PDSW	826641				0			
	827577							MICP WATER QSM K&Na				
				CCV					0			
	827578							MICP WATER QSM K&Na				
				CCB					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
134409 on 01/23/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	829003								MERCURY QSM 5.0				
					ICV					0			
	829004								MERCURY QSM 5.0				
					ICB					0			
	829011								MERCURY QSM 5.0				
					CCV					0			
	829012								MERCURY QSM 5.0				
					CCB					0			
	827383								MERCURY TOTAL QSM 5.0				
					LCSW					60990			
	827382								MERCURY TOTAL QSM 5.0				
					MBW					60990			
124730	826641		01/10/2017	1130			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		54ADW01								60990			
	827384		01/10/2017	1130					MERCURY TOTAL QSM 5.0				
		54ADW01			DUP	826641				60990			
	829013								MERCURY QSM 5.0				
					CCV					0			
	829014								MERCURY QSM 5.0				
					CCB					0			
	827385		01/10/2017	1130					MERCURY TOTAL QSM 5.0				
		54ADW01			MSW	826641				60990			
	827386		01/10/2017	1130					MERCURY TOTAL QSM 5.0				
		54ADW01			MSDW	827385				60990			
	829015								MERCURY QSM 5.0				
					CCV					0			
	829016								MERCURY QSM 5.0				
					CCB					0			

14 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 01/23/2017

Prep Batch **60,973** Date Prepped: 01/12/2017 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	826846	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	826846	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	826846	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	826847	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	826847	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	826847	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
124730	826641			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	826641			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	826641			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	826848	DUP	826641	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826848	DUP	826641	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826848	DUP	826641	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826849	MSW	826641	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826849	MSW	826641	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826849	MSW	826641	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826850	MSDW	826849	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	826850	MSDW	826849	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 01/23/2017

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	826850	MSDW	826849	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 01/23/2017

Prep Batch **60,990** Date Prepped: 01/16/2017 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	827382	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	827383	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
124730	826641			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	827384	DUP	826641	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	827385	MSW	826641	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	827386	MSDW	827385	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	60973
Prep Method:	3010
Analyst:	LJF
Date:	01/12/2017
Start Time:	12:00

Prep Analyst: LJF

Balance ID:

End Date: 01/12/2017

End Time: 17:00

Digestion Tube Lot #: 252532-0026

Block Used: B

Cell Position for Temp. Check: C-4

Initial-DigestionTemp (ºC): 93.4

Final-Digestion Temp (ºC): 93.4

Reagent:	Ref. #
Nitric Acid:	AB.635
Hydrochloric Acid:	AB.634
Hydrogen Peroxide:	

Sample			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
826846	(MB)			50.0	50
826847	(LCS)			50.0	50
826641				50.0	50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
826848	(DUP) if applicable			50.0	50
826849	(MS)	Parent Sample		50.0	50
826850	(MSD)	826641		50.0	50
	(DUP) if applicable				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.5	M12946
0.5	M12951
0.2	M13041

LCS Spike Amount (ml)	Spike Ref. #
0.5	M12946
0.5	M12951
0.2	M13041

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M13064
ICV/LCSW ID: M13063

*Matrix: GW
Balance ID:

Prep Batch #:	60990
Prep Method:	7470A
Analyst:	LJF
Date:	01/16/2017
Start Time:	10:00

7470A= Hg Liquids
7471A= Hg Solids

End Date: 01/16/2017
End Time: 12:00

Digestion Tube Lot #: 6416053
Block Used: A
Cell Position for Temp. Check: D-2
Initial-DigestionTemp (ºC): 90.9
Final-Digestion Temp (ºC): 90.9
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M13061

Reagent:	Ref. #
HNO3:	AB.636
H2SO4:	AB.612
NaCl/Hydrox.SO4:	M13069
KMnO4:	M13068
K2S2O8:	M12830
Aqua-Regia:	

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	827382	(MB)			25.0	25
	827383	(LCS)			25.0	25
	826641				25.0	25
		Comments:				25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
	827384	(DUP)			25.0	25
	827385	(MS)	Parent Sample		25.0	25
	827386	(MSD)	826641		25.0	25
Leave >>		(DUP)				25
blank		(MS)	Parent Sample			25
		(MSD)				25
		(DUP)				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M13062

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 1-13-17		Data File: 200results		Date of review: 1/20/17
Cal Std ID: 111317 LIMS #: 134354	Analyst: [illegible]		Reviewer: MDS		Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: (90-110%) 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%)	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 60973 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓		Al, Ca, Cr, V >100 <½ RL "B"
Spiked samples in batch:					
a) 826641 matrix = GW	✓	✓	✓	✓	L fail invalid,
b) _____ matrix = _____					Dup invalid MS, MSD features.
c) _____ matrix = _____					Be rm".
PDS: ±15% / 20% / 25% Sample#: a			✓	✓	
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 1/13/17		Data File: NAK011317 v837	Date of review: 1-16-17	
Cal Std ID: M13055 LIMS #: 134355	Analyst: DMS		Reviewer:	Approved? Yes No	
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					

QC Parameters : 6010 / ~~200.7~~ / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration ~~linearity~~: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 60973 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 871641 matrix = GW	✓	✓	✓	✓	1- invalid
b) _____ matrix = _____					Dup invalid K
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: 9	✓		✓		
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA			CETAC Hg ANALYZER		
Analysis Date: 01/19/17	Data File: 01187w2a		Date Review: 1-19-17	Analyte: Hg		
Cal Std ID: M130601	LIMS #: 134409	Analyst: SF	Reviewer: [illegible]	Approved?	Yes	No

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		/		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		/		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 60770 Dig. Meth. 7470A	✓		/		
LCS - generated limits or project specific limits	✓		/		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		/		
Spiked samples in batch:					
a) 826641 matrix = GW	✓	✓	/	✓	"M"
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std ID	Comments	Pressure (kPa)
1/10/17	1435 / 1710	MDS	S IDL MDL	134138, 134131	S011017	M13057	v96	320
1/11/17	0853 / 1032	MDS	NaK	134218, 134268	NaK011117	M13055	v836	320
1/12/17	0939 / 1249	MDS	Li	134139, 134129	Li011217	M13009	v219, v220	270
1/13/17	0935 / 1124	MDS	NaK	134355, 134348	NaK011317	M13055	v837	320
1/16/17	0755 / 1517	MDS	POD IDL MDL	134140, 134130	POD011617	M		320
1/18/17	0759 / 1126	MDS	NaK MDL	134457, ~~134452~~ 134420, 134353, 134449, 134450	NaK011817	M13055	v839	320
1/18/17	1130 / 1430	MDS	NaK MDL	134451, 134452, 134449	NaK011817b	M13055	v840	320
1/19/17	1025 / 1311	MDS	NaK	134485, 134484	NaK011917	M13055	v841	320
1/20/17	0815 / 1026	MDS MDL High	BtSi MDL High	134500	BtSi012017	M12995	v186	320
1/20/17	1223 / 1444	MDS	S MDL High	MDLS, MDLW, High STD	S012017	M13057	v98	320
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Checked by: _____ Verified by: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	/ Version	Comments
1-10-17	1355 / 2047	ZA	~~134217~~ #1-11-17 D01 10 17	DODCalu	134217 134303 134220 134267 134219	300	M13017	V1822	
1-11-17	1217 / 1824	ZA	D0111 17	DODCalu	134304	310	M13017	V1825 V1827 V1824 V1826	
1-12-17	0952 / 1434	ZA	D0112 17	DODCalu	Dil on DL 134326	310	M13017	V1829 V1830	
1-13-17	0933/ 1904	ZA	D0113 17	DODCalu	100, 100 134134 134135 134353 134350 49 134354	310	M13017	V1835	
1-18-17	0949 / 2345	ZA	D0118 17	DODCalu	134447 134448 134449 134445 134446 134450 134446 134446 134450 134467	310	M13017	V1839 V1837 V1838	
1-20-17	1221 / 2117	ZA	D0120 17	DODCalu	134486 134542 134483 134540	260	M13017	V1843	
1-23-17	/	ZA	D0123 17	DODCalu					
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Comments: _____

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Checked By / Date: _____

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: ~~Cetac M-6000A~~ 09/11/16 LSF Teledyne Hydra II

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
~~12-28-16~~ 12-29-16	~~11:19~~ 08:19	1541	[illegible]	133741 133743 133744 133740	121916So	M13003	22.86	256764	$SnCl_2$: M13008
12-20-16	0844	0930	[illegible]	133731, 133732, 133674	122016Wa	M13003	22.86	256764	$SnCl_2$: M13008
12-22-16	0736	0920	[illegible]	133860, 133858, 133859	122216Wa	M13003	22.86	256764	$SnCl_2$: M13008
12/28/16	06:48	09:36	LSF	~~1336~~ 133969, 133970 133971, 133974, 133973, 133972	122816Wa	M13003	22.86	256764	$SnCl_2$: M13008
01/03/17	07:49	11:32	LSF	134052, 134054, 134053	010317So	M13003	22.86	256764	$SnCl_2$: M13008
01/04/17	07:31	10:26	LSF	134051, 134048	010417So	M13003	22.86	256764	$SnCl_2$: M13008
01/09/17	08:30	10:27	LSF	134208, 134207, 134206, 134205	010917Wa	M13061	22.86	256764	$SnCl_2$: M13067
01/10/17	07:00	08:35	LSF	134209, 134204	011017So	M13061	22.86	256764	$SnCl_2$: M13067
01/10/17	08:47	09:24	LSF	134239	011017Wa	M13061	22.86	256764	$SnCl_2$: M13067
01/19/17	07:42	11:01	LSF	134392, 134407, 134408, 134409, 134410 134395, 134397, 134396, 134394	011917Wa	M13061	22.86	256764	$SnCl_2$: M13067
01/20/17	08:13	11:45	LSF	134539, 134538	012017So	M13061	22.86	256764	$SnCl_2$: M13067

Reviewed By/Date:_____

Type	Date/Time	Message	User name	Application	Sequence Name
	01/12/2017 11:12:53	Running ccv (12)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:16:53	Running ccb (13)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:20:56	Running IDL1 (11)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:25:01	Running IDL2 (12)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:29:04	Running IDL3 (13)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:33:07	Running IDL4 (14)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:37:10	Running IDL5 (15)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:41:13	Running IDL6 (16)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:45:16	Running IDL7 (17)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:49:19	Running IDL8 (18)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:53:22	Running IDL9 (19)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 11:57:25	Running IDL10 (20)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:01:29	Running ccv (12)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:05:29	Running ccb (13)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:09:33	Running DISS MBW (21)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:13:37	Running DISS MDLW1 (22)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:17:39	Running DISS MDLW2 (23)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:21:43	Running DISS MDLW3 (24)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:25:45	Running DISS MDLW4 (25)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:29:47	Running DISS MDLW5 (26)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:33:49	Running DISS MDLW6 (27)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:37:51	Running DISS MDLW7 (28)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:41:53	Running DISS MDLW8 (29)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:45:54	Running ccv (12)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:49:54	Running ccb (13)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 12:53:54	Autosampler Run Completed	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	01/12/2017 14:03:56	Plasma extinguished successfully	MDS	Analyst	
	01/12/2017 14:03:56	Plasma off	MDS	iTEVA Control Center	
	01/13/2017 09:20:21	Plasma On	MDS	iTEVA Control Center	
	01/13/2017 09:20:27	Plasma ignition successful	MDS	Analyst	
	01/13/2017 09:21:13	D33534 - Debug:Wavelength check : x = -0.770, y =-0.373	MDS	Analyst	
	01/13/2017 09:35:26	Sequence Started	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:35:26	Autosampler Run Started	MDS	Analyst	
	01/13/2017 09:35:47	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:38:42	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:41:27	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:44:12	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:46:57	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:49:43	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:52:29	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:55:14	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 09:57:58	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:01:13	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:03:58	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:06:43	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:09:28	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:12:13	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:15:29	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:18:44	Running lcsw60973 (1)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:21:27	Running mbw60973 (2)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:24:13	Running 826641 (3)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:26:57	Running l826641 (4)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	01/13/2017 10:29:41	Running dup826641 (5)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:32:25	Running msw826641 (6)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:35:09	Running msdw826641 (7)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:37:52	Running pdsw826641 (8)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:40:36	Running lcsw60972 (16)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:43:20	Running mbw60972 (17)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:46:06	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:48:52	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:51:37	Running 826423 (18)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:54:19	Running msw826423 (19)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:57:02	Running msdw826423 (20)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 10:59:45	Running pdsw826423 (21)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:02:28	Running 826424 (22)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:05:12	Running 826426 (23)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:08:09	Running 826427 (24)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:10:53	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:13:38	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:16:23	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:19:05	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	01/13/2017 11:26:19	Plasma off	MDS	iTEVA Control Center	
	01/13/2017 11:26:19	Plasma extinguished successfully	MDS	Analyst	
	01/16/2017 07:34:14	Plasma On	MDS	iTEVA Control Center	
	01/16/2017 07:34:19	Plasma ignition successful	MDS	Analyst	
	01/16/2017 07:35:06	D33534 - Debug:Wavelength check : x = -0.538, y =-0.342	MDS	Analyst	
	01/16/2017 07:55:06	Autosampler Run Started	MDS	Analyst	
	01/16/2017 07:55:06	Sequence Started	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 07:55:27	Running Blank (1)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:00:59	Running CalibStd=0.25 (2)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:06:31	Running CalibStd=0.5 (3)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:12:04	Running CalibStd=1 (4)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:17:36	Running CalibStd=5 (5)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:23:10	Running CalibStd=10 (6)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:28:43	Running CalibStd=20 (7)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:34:15	Running CalibStd=50 (8)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:39:46	Running CalibStd=100 (9)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:45:17	Running CalibStd=1000 (10)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:50:18	Running CalibStd=10000 (11)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 08:55:51	Running CalibStd-100k (12)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:01:27	Running CalibStd-100000 (13)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:07:07	Running CalibStd=500000 (14)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:12:54	Running CalibStd-1000k (15)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:19:06	Running blkrinse (22)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:24:37	Running icv (16)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:30:04	Running ICVLL (24)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:35:31	Running icb (17)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:41:03	Running icb (17)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:46:36	Running icsa (20)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:52:24	Running icsab (21)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 09:57:52	Running blank (1)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 10:03:24	Running blank (2)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 10:08:57	Running mbw60861 (3)	MDS	Analyst	S_DOD Calibration 1
	01/16/2017 10:14:30	Running 824619 (4)	MDS	Analyst	S_DOD Calibration 1

Type	Date/Time	Message	User name	Application	Sequence Name
	01/12/2017 13:42:04	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/12/2017 13:48:43	Running lcsw tclp (11)	NAH	Analyst	S_DOD Calibration
	01/12/2017 13:55:00	Running mbw tclp (12)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:01:38	Running 825131 (13)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:08:57	Running msw825131 (14)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:15:56	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:22:28	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:28:13	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:34:21	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/12/2017 14:40:59	Plasma off	NAH	iTEVA Control Center	
	01/12/2017 14:41:00	Plasma extinguished successfully	NAH	Analyst	
	01/12/2017 14:41:02	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/13/2017 06:48:35	Plasma On	NAH	iTEVA Control Center	
	01/13/2017 06:48:40	Plasma ignition successful	NAH	Analyst	
	01/13/2017 06:49:20	D33534 - Debug:Wavelength check : x = 1.693, y =2.302	NAH	Analyst	
	01/13/2017 08:48:29	Autosampler Run Started	NAH	Analyst	
	01/13/2017 08:48:29	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/13/2017 08:48:49	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/13/2017 08:55:33	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:00:37	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:02:54	E9000 - : Plasma went out unexpectedly; please refer to error message	NAH	iTEVA Control Center	
	01/13/2017 09:04:43	Plasma On	NAH	iTEVA Control Center	
	01/13/2017 09:04:49	Plasma ignition successful	NAH	Analyst	
	01/13/2017 09:05:35	D33534 - Debug:Wavelength check : x = 1.353, y =2.322	NAH	Analyst	
	01/13/2017 09:32:49	Autosampler Run Started	NAH	Analyst	
	01/13/2017 09:32:49	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:33:10	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:39:46	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:46:24	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:53:03	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/13/2017 09:59:43	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:06:24	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:13:01	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:19:37	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:26:08	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:32:36	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:38:34	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:44:33	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:51:25	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	01/13/2017 10:58:14	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:05:01	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:11:37	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:18:12	Running icv (16)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:24:25	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:30:57	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:37:35	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:44:24	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:49:48	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	01/13/2017 11:56:36	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:03:55	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:10:30	Running LCSW60975 (2)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:16:51	Running MBW60975 (3)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:23:28	Running 826217 (4)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	01/13/2017 12:30:35	Running 826219 (5)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:37:29	Running L826219 (6)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:44:44	Running DUP826219 (7)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:51:38	Running MSW826219 (8)	NAH	Analyst	S_DOD Calibration
	01/13/2017 12:58:20	Running MSDW826219 (9)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:05:01	Running PDSW826219 (10)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:11:29	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:17:15	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:23:25	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:30:04	Running LCSW60973 (11)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:36:47	Running MBW60973 (12)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:43:26	Running 826641 (13)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:50:29	Running L826641 (14)	NAH	Analyst	S_DOD Calibration
	01/13/2017 13:57:31	Running DUP826641 (15)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:04:34	Running MSW826641 (16)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:11:11	Running MSDW826641 (17)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:17:49	Running PDSW826641 (18)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:23:59	Running LCSW60972 74 (19)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:30:42	Running MBW60972 74 (20)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:37:17	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:43:02	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:49:12	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/13/2017 14:55:51	Running 826191 (21)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:02:57	Running MSW826191 (22)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:09:39	Running MSDW826191 (23)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:16:22	Running PDSW826191 (24)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:22:42	Running 826394 (25)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:29:36	Running 826395 (26)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:36:31	Running MBS 60864 (27)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:43:09	Running LOQ W s1 (28)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:49:48	Running LOQ tl ag1 (29)	NAH	Analyst	S_DOD Calibration
	01/13/2017 15:56:31	Running mbs 3050 (30)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:03:10	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:08:57	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:15:06	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:21:46	Running mdl1 (31)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:28:21	Running mdl2 (32)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:34:56	Running mdl3 (33)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:41:32	Running mdl4 (34)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:48:08	Running mdl5 (35)	NAH	Analyst	S_DOD Calibration
	01/13/2017 16:54:44	Running mdl6 (36)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:01:20	Running mdl7 (37)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:07:55	Running mdl8 (38)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:14:30	Running mbw 3010 (39)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:21:11	Running mdl1 (40)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:27:45	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:33:33	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:39:43	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:46:22	Running mdl2 (41)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:52:57	Running mdl3 (42)	NAH	Analyst	S_DOD Calibration
	01/13/2017 17:59:33	Running mdl4 (43)	NAH	Analyst	S_DOD Calibration
	01/13/2017 18:06:07	Running mdl5 (44)	NAH	Analyst	S_DOD Calibration
	01/13/2017 18:12:44	Running mdl6 (45)	NAH	Analyst	S_DOD Calibration

Standard Log #:	M13078	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/23/2017	Expiration Date:	07/23/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13076	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/2017	Expiration Date:	01/19/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.636 in a hood.		

Standard Log #:	M13077	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	01/20/2017	Expiration Date:	07/20/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12877 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13075	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/16/2017	Expiration Date:	01/16/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.636 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13072	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/11/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13073	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/11/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13074	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/11/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13071	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/10/2017	Expiration Date:	01/10/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13053. Dilute to 20 L and mix.		

Standard Log #:	M13070	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/06/2017	Expiration Date:	02/10/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M12599	1000	0.01
As	2	M12958	1000	0.1
Pb	2	M12861	10000	0.01
Sb	2	M12602	1000	0.1
Se	2	M12600	1000	0.1
Tl	2	M12668	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13067	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/06/2016	Expiration Date:	07/06/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.635 and dissolved **100 g** Stannous chloride M12998 and brought up to volume.		

Standard Log #:	M13068	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/06/2017	Expiration Date:	07/06/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13069	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	01/06/2017	Expiration Date:	07/06/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12877 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13064	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/06/2017	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13065	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/06/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13066	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/06/2017	Expiration Date:	01/06/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.636 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13061	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/06/2017	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13062	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/06/2017	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13063	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/06/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13060	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/30/2016	Expiration Date:	12/30/2016
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

		Instrument:	ICP 6000
Standard Log #:	M13057	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	12/23/2016	Expiration Date:	05/30/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12876 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13058	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	12/23/2016	Expiration Date:	09/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12872 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13056	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	12/21/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **2.5 mL** of K (10,000 mg/L) M12946, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12949 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13052	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	12/20/2016	Expiration Date:	12/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M12878. Dilute to 20 L and mix.		

Standard Log #:	M13053	Reagent:	10N NaOH
Analyst:	MDS		
Prep Date:	12/20/2016	Expiration Date:	12/20/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W39893 and brought up to volume.		

Standard Log #:	M13054	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	12/20/2016	Expiration Date:	12/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13053. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13055	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/20/2016	Expiration Date:	11/27/2017
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12873 and K (1000 µg/mL) M12956 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	CETAC
Standard Log #:	M13051	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/15/2016	Expiration Date:	12/15/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13047	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000
Date Received:	12/15/2016	Lot #:	16I001
Expiration Date (if any):	06/08/2018	Catalog #:	S4400-1000504F

Standard ID#:	M13048	Vendor:	CPI
Analyst:	NAH	Chemical:	B 1000 mg/L
Date Received:	12/15/2016	Lot #:	16H060
Expiration Date (if any):	06/08/2018	Catalog #:	S4400-100074

Standard ID#:	M13049	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	12/15/2016	Lot #:	16I124
Expiration Date (if any):	06/08/2016	Catalog #:	S4400-1000343

Standard ID#:	M13050	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	12/15/2016	Lot #:	16K094
Expiration Date (if any):	06/08/2016	Catalog #:	4400-1000521

		Instrument:	CETAC
Standard Log #:	M13046	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/13/2016	Expiration Date:	12/13/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.634 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13044	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/07/2016	Expiration Date:	12/07/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13045	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	12/07/2016	Lot #:	40-062CR
Expiration Date (if any):	12/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13042	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2016	Expiration Date:	11/29/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.633 in a hood.		

Standard ID#:	M13043	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	11/29/2016	Lot #:	166218
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13040	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	11/18/2016	Lot #:	2-124MKBX
Expiration Date (if any):	11/30/2017	Catalog #:	INT-A1

Standard ID#:	M13041	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/18/2016	Lot #:	39-200CR
Expiration Date (if any):	11/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13037	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/17/2016	Expiration Date:	11/17/2017
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard Log #:	M13038	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/18/2016	Expiration Date:	05/18/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13039	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/18/2016	Expiration Date:	05/18/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12629 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

Standard ID#:	M13036	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	11/10/2016	Lot #:	138905AH
Expiration Date (if any):	05/31/2018	Catalog #:	39043

Standard ID#:	M13031	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I168
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M311

Standard ID#:	M13032	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I091
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M91

Standard ID#:	M13033	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I080
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M261

Standard ID#:	M13034	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	11/09/2016	Lot #:	16F134
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M11

Standard ID#:	M13035	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	11/09/2018	Lot #:	16I165
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10m411

		Instrument:	CETAC
Standard Log #:	M13027	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/09/2016	Expiration Date:	11/09/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard ID#:	M13028	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	11/09/2016	Lot #:	1623223
Expiration Date (if any):	05/04/2018	Catalog #:	HP10M67-1

Standard ID#:	M13029	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	11/09/2016	Lot #:	16H058
Expiration Date (if any):	05/03/2018	Catalog #:	S4400-100041

Standard ID#:	M13030	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I092
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M671

Standard Log #:	M13025	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/07/2016	Expiration Date:	11/07/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard ID#:	M13026	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurrance Standard
Date Received:	11/07/2016	Lot #:	2-150MKB
Expiration Date (if any):	11/30/2017	Catalog #:	XCTIWI-5-500

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

MRL BASE STD M13023

Analyst NAH

Prep Date 11/01/2016

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	02/10/2017
Al	400	M12948	10000	2	01/29/2018
Ba	10	M12473	1000	0.5	10/16/2016
Be	4	M12667	1000	0.2	04/15/2017
Cd	5	M12674	1000	0.25	04/15/2017
Co	10	M12678	1000	0.5	04/15/2017
Cr	10	M12941	10000	0.05	01/29/2018
Cu	10	M12945	10000	0.05	01/29/2018
Mg	500	M12947	10000	2.5	01/29/2018
Mn	10	M12944	10000	0.05	01/29/2018
Mo	10	M12677	1000	0.5	04/15/2017
Ni	10	M12681	1000	0.5	04/15/2017
Pb	10	M12861	10000	0.05	11/11/2017
Sb	20	M12602	1000	1	02/10/2017
V	10	M12676	1000	0.5	04/15/2017
Zn	10	M12989	10000	0.05	04/07/2018
K	1000	M12946	10000	5	01/29/2018
Na	1000	M12679	10000	5	04/15/2017
As	20	M12958	1000	1	02/23/2018
Ca	500	M12942	10000	2.5	01/29/2018
Fe	300	M12949	10000	1.5	01/29/2018
Se	20	M12600	1000	1	02/10/2017
Tl	20	M12668	1000	1	04/15/2017
Si	100	M12943	1000	5	01/29/2018
B	20	M12957	1000	1	02/23/2018
Li	20	M12672	1000	1	04/15/2017
W	50	M12673	1000	2.5	04/15/2017
Ti	10	M12671	1000	0.5	04/15/2017
Sr	10	M12670	1000	0.5	04/15/2017
Sn	50	M12669	1000	2.5	04/15/2017
S	300	M12872	10000	1.5	11/30/2017

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	ICP 6500
Standard Log #:	M13021	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910 and **15 mL** Fe (10000 mg/L) M12992 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13022	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12977, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12957, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

		Instrument:	ICP 6500
Standard Log #:	M13018	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13019	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13020	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	11/01/2016	Expiration Date:	6/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910 , **15 mL** Fe (10,000 mg/L) M12992 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12964 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13017	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	11/01/2016	Expiration Date:	06/30/2017

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12882 and **1 mL** of Si (1000 mg/L) M12943.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12946.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12945, **10 mL** of Mn (10,000 mg/L) M12944, **10 mL** of Cr (10,000 mg/L) M12944, **10 mL** Pb (10,000 mg/L) M12861, **10 mL** of Zn (10,000 mg/L) M12989 and **10 mL** of Na (10,000 mg/L) M12679.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12947, **10 mL** of Fe (10,000 mg/L) M12992, **10 mL** of Ca (10,000 mg/L) M12991 and **10 mL** Al (10,000 mg/L) M12948.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard ID#:	M13015	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	10/31/2016	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13016	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/31/2016	Expiration Date:	10/31/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard Log #:	M13013	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/26/2016	Expiration Date:	04/26/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13014	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/26/2016	Expiration Date:	04/26/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12629 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13011	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12673		

		Instrument:	ICP 6000
Standard Log #:	M13012	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12673	1000	5	04/15/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13009	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	10/26/2016	Expiration Date:	06/30/2017

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.001 mL** W (1000 µg/mL) M12784 into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.01 mL** W (1000 µg/mL) M12784 into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.1 mL** W (1000 µg/mL) M12784 into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.2 mL** W (1000 µg/mL) M12784 into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **2 mL** W (1000 µg/mL) M12784 into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13010	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017

Prep:

Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **6 mL** of Fe (10,000 mg/L) M12949, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12784 and brought up to volume using Milli-Q H_2O.
(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13006	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/25/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13007	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/25/2016	Expiration Date:	10/25/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13008	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/25/2016	Expiration Date:	04/25/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.631 and dissolved **100 g** Stannous chloride M12926 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13003	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/25/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13004	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/25/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13005	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/25/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M13000	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13001	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13002	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12999	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Pd Matrix Modifier
Date Received:	10/20/2016	Lot #:	1616501
Expiration Date (if any):	10/17/2017	Catalog #:	HP1900-100

Standard ID#:	M12998	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/19/2016	Lot #:	F267-16
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M12995	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/17/2016	Expiration Date:	04/15/2017
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12957 and Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12996	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/17/2016	Expiration Date:	04/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **0.05 mL** of B (1000 µg/mL) M12957, **0.05 mL** of Si (1000 µg/mL) M12675 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12997	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/17/2016	Expiration Date:	10/17/2016
Prep:	Carefully mixed **3** parts HCl AB.629 with **1** part HNO_3 AB.628 in a hood.		

Standard ID#:	M12992	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I080
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M261

Standard ID#:	M12993	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	10/13/2016	Lot #:	16B102
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M11

Standard ID#:	M12994	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I092
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M671

Standard ID#:	M12988	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I165
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M411

Standard ID#:	M12989	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn
Date Received:	10/13/2016	Lot #:	16H186
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M411

Standard ID#:	M12990	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	1013/2016	Lot #:	16I168
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10311

Standard ID#:	M12991	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I091
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M91

		Instrument:	CETAC
Standard Log #:	M12987	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/12/2016	Expiration Date:	10/12/2016
Prep:	Carefully mixed **3** parts HCl AB.629 with **1** part HNO_3 AB.628 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M12984	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12946 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12985	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12946 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12986	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/11/2016	Expiration Date:	10/11/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12981	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	02/12/2017
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12982	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **2.5 mL** of K (10,000 mg/L) M12946, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12949 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12983	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	02/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12607 and **0.5 mL** K (1000 µg/mL) M12608 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12979	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/10/2016	Expiration Date:	04/10/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12980	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/10/2016	Expiration Date:	10/10/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard Log #:	M12978	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/07/2016	Expiration Date:	07/31/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier MM12584 and **10 mL** Mg (10,000 mg/L) M12884 and brought up to volume.		

Standard ID#:	M12977	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09/23/2016	Lot #:	39-001CR
Expiration Date (if any):	09/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12964	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	09/13/2016	Lot #:	1-136WG
Expiration Date (if any):	09/30/2017	Catalog #:	XCTWI-5-500

Standard ID#:	M12956	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	08/31/2016	Lot #:	16E154
Expiration Date (if any):	02/23/2018	Catalog #:	P/N4400-1000411

Standard ID#:	M12957	Vendor:	CPI
Analyst:	NAH	Chemical:	B 1000 mg/L
Date Received:	08/31/2016	Lot #:	16D064
Expiration Date (if any):	02/23/2018	Catalog #:	P/N S4400-100074

Standard ID#:	M12958	Vendor:	CPI
Analyst:	NAH	Chemical:	AS 1000 mg/L
Date Received:	08/31/2016	Lot #:	16H061
Expiration Date (if any):	02/23/2018	Catalog #:	P/N S4400-100031

		Instrument:	ICP
Standard Log #:	M12954	Standard:	As Pb ICV1
Analyst:	NAH	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	08/22/2016	Expiration Date:	11/11/2017
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12860 and **0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M12951	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std Ca, Mg, & Na
Date Received:	08/11/2016	Lot #:	38-096CR
Expiration Date (if any):	08/30/2017	Catalog #:	XCTWI-1-500

Standard ID#:	M12945	Vendor:	CPI
Analyst:	NAH	Chemical:	Copper 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16C137
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M141

Standard ID#:	M12946	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16D218
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M411

Standard ID#:	M12947	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16E106
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M311

Standard ID#:	M12948	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16B102
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M11

Standard ID#:	M12949	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16F173
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M261

		Instrument:	CETAC
Standard Log #:	M12940	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/04/2016	Expiration Date:	08/04/2016
Prep:	Carefully mixed **3** parts HCl AB.623 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12941	Vendor:	CPI
Analyst:	NAH	Chemical:	Chromium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	13D123
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M121

Standard ID#:	M12942	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16E067
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M91

Standard ID#:	M12943	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	08/04/2016	Lot #:	16D134
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-1000504F

Standard ID#:	M12944	Vendor:	CPI
Analyst:	NAH	Chemical:	Manganese 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16B024
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M321

Standard ID#:	M12938	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/27/2016	Lot #:	2-46MKB
Expiration Date (if any):	07/20/2017	Catalog #:	XSPIKE-1-250

Standard Log #:	M12934	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12933	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12876	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12932	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12883	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12931	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12883	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929B	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12928	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12876	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12927	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M12921	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12860 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12861 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12922	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/12/2016	Expiration Date:	01/12/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12920	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12860 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12861 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard ID#:	M12909	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard 23 meta
Date Received:	06/27/2016	Lot #:	2-18MKB
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-5-500

Standard ID#:	M12910	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	06/27/2016	Lot #:	12-165YPX
Expiration Date (if any):	06/30/2016	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M12906	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	06/21/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12907	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.621 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

Standard ID#:	M12908	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	Amco clear turbidity std 2.0 NTU
Date Received:	06/21/2016	Lot #:	C583585
Expiration Date (if any):	7/2017	Catalog #:	#8008

Standard ID#:	M12900	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard, 200 NTU or FNU
Date Received:	06/17/2016	Lot #:	A6036
Expiration Date (if any):	02/2018	Catalog #:	2660449

Standard ID#:	M12886	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E067
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M91

Standard ID#:	M12887	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D220
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M261

Standard ID#:	M12888	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/01/2016	Lot #:	16E033
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M671

Standard ID#:	M12882	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/08/2016	Lot #:	37-058CR
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-4-500

Standard ID#:	M12883	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D014
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M411

Standard ID#:	M12884	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E106
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M311

Standard ID#:	M12885	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16B102
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M11

Standard ID#:	M12876	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/06/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	05/30/2016	Catalog #:	PLS9-3Y

Standard ID#:	M12877	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/06/2016	Lot #:	158648
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M12878	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W38729 and brought up to volume.		

Standard Log #:	M12875	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	06/03/16	Expiration Date:	02/10/17

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12860	10,000
Pb	0.1	10,000	M12861	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

Standard ID#:	M12873	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 1000 mg/L
Date Received:	06/03/16	Lot #:	16D063
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000521

Standard ID#:	M12874	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 1000 mg/L
Date Received:	06/03/16	Lot #:	16B100
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000411

		Instrument:	ICP 6000
Standard Log #:	M12871	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	06/02/16	Expiration Date:	02/12/17
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

Standard ID#:	M12872	Vendor:	SCP Science Plasma Cal
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/02/16	Lot #:	S160222009
Expiration Date (if any):	11/2017	Catalog #:	140-060-161

Standard ID#:	M12867	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-27-2016	Lot #:	37-024CR
Expiration Date (if any):	05/20/2017	Catalog #:	XSPIKE-1-250

Standard ID#:	M12866	Vendor:	Fisher, distributer (saint-gobain, manu
Analyst:	NAH	Chemical:	Chemware Ultra pure PTFE Boiling St
Date Received:	05/23/2016	Lot #:	5608-6E001
Expiration Date (if any):		Catalog #:	0919120

Standard ID#:	M12864	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/19/2016	Lot #:	F120-15
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12865	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/20/2016	Expiration Date:	05/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12862	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	05/19/2016	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-SPK-1

Standard ID#:	M12863	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	05/19/2016	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-GFCAL-1

Standard ID#:	M12860	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 mg/L
Date Received:	05/17/2016	Lot #:	16B070
Expiration Date (if any):	11/11/2017	Catalog #:	S4400-100031

Standard ID#:	M12861	Vendor:	CPI
Analyst:	NAH	Chemical:	Lead 10,000 mg/L
Date Received:	05/17/2016	Lot #:	16D240
Expiration Date (if any):	11/11/2017	Catalog #:	4400-10M281

Standard ID#:	M12856	Vendor:	SPEX CertPrep
Analyst:	LJF	Chemical:	Hg
Date Received:	05/10/2016	Lot #:	CL8-144HGY
Expiration Date (if any):	05/30/2017	Catalog #:	CLHG4-2Y

Standard Log #:	M12857	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12858	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

Standard ID#:	M12843	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/28/16	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	ICP 6000
Standard Log #:	M12844	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/29/16	Expiration Date:	02/28/17
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **1.0 mL** Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M12845	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard ID#:	M12802	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/09/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12803	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/09/16	Expiration Date:	09/09/17
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12804	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 10,000 mg/L
Date Received:	03/09/16	Lot #:	14A276
Expiration Date (if any):	09/03/17	Catalog #:	S4400-10M31

		Instrument:	ICP 6000
Standard Log #:	M12800	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M12801	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M12787	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	02/24/2016	Lot #:	16A118
Expiration Date (if any):	08/18/2017	Catalog #:	4400-10M671

Standard ID#:	M12788	Vendor:	CPI
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	02/24/2016	Lot #:	15J139
Expiration Date (if any):	08/18/2017	Catalog #:	S4400-1000331

Standard ID#:	M12789	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	02/24/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12783	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/16/16	Expiration Date:	08/16/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12784	Vendor:	CPI
Analyst:	NAH	Chemical:	Tungsten
Date Received:	02/16/2016	Lot #:	15k204
Expiration Date (if any):	08/11/2017	Catalog #:	S4400-1000633

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

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INORGANIC ANALYSIS DATA SHEET

Sample Description

010917R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826240
Analytical Method:	EPA 9056A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134294	Analysis Date/Time	01/10/2017 18:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.4	J	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

010917R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826239
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/11/2017 18:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TC		0.81		0.50	1.5	3.0	
TIC	Total Inorganic Carbon	0.81	J	0.50	1.5	3.0	3.0
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

010917R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826239
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134293	Analysis Date/Time	01/10/2017 19:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826641
Analytical Method:	EPA 9040C	Date Received:	01/11/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134371	Analysis Date/Time	01/13/2017 13:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.06		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826641
Analytical Method:	EPA 410.4	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134513	Analysis Date/Time	01/19/2017 14:30
Analytical Prep Batch #:	61049	Prep. Date/Time:	01/19/2017 11:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	64	J	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826629
Analytical Method:	EPA 9060A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134316	Analysis Date/Time	01/12/2017 13:28
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.56	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826633
Analytical Method:	EPA 9056A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134314	Analysis Date/Time	01/11/2017 17:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	31		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826629
Analytical Method:	EPA 9060A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/11/2017 18:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TC		64		0.50	1.5	3.0	
TIC	Total Inorganic Carbon	64		0.50	1.5	3.0	3.0
TOC	Total Organic Carbon	0.56	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826236
Analytical Method:	EPA 9056A	Date Received:	01/10/2017
Dilution Factor:	2.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134294	Analysis Date/Time	01/11/2017 02:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110	M,Y	2.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826236
Analytical Method:	EPA 9056A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134294	Analysis Date/Time	01/10/2017 16:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	5.3		M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.38	J	M	0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826235
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/11/2017 17:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	88		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826235
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134293	Analysis Date/Time	01/10/2017 18:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826637
Analytical Method:	EPA 9060A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134316	Analysis Date/Time	01/12/2017 14:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.4	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826637
Analytical Method:	EPA 9060A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/11/2017 19:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TC		97		0.50	1.5	3.0	
TIC	Total Inorganic Carbon	96		0.50	1.5	3.0	3.0
TOC	Total Organic Carbon	1.4	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826638
Analytical Method:	EPA 9056A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134314	Analysis Date/Time	01/11/2017 19:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.8		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.94		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	38		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826237
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/12/2017 10:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	110		0.50	1.5	3.0	3.0
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826237
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	2.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/12/2017 10:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TC		110		1.0	3.0	6.0	

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826238
Analytical Method:	EPA 9056A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134294	Analysis Date/Time	01/10/2017 18:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.6		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.48		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	42		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826237
Analytical Method:	EPA 9060A	Date Received:	01/10/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134293	Analysis Date/Time	01/10/2017 19:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826639
Analytical Method:	EPA 9060A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134316	Analysis Date/Time	01/12/2017 14:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.4	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826639
Analytical Method:	EPA 9060A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134292	Analysis Date/Time	01/11/2017 19:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TC		100		0.50	1.5	3.0	
TIC	Total Inorganic Carbon	98		0.50	1.5	3.0	3.0
TOC	Total Organic Carbon	1.4	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	124700
% Solids:		Lab Sample ID:	826640
Analytical Method:	EPA 9056A	Date Received:	01/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	134314	Analysis Date/Time	01/11/2017 19:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0945	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.8		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.93		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	39		1.3	2.5	5.0	5.0

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294

Lab Sample ID: 826457

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/3/17	15:19	15.00	15.51	103	90	110
Nitrate Nitrogen	1/3/17	15:19	3.500	3.231	92	90	110
Sulfate	1/3/17	15:19	25.00	24.99	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134513 Lab Sample ID: 829653

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	1/19/17 14:30	400.0	391.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 831519

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/2/16	18:07	50.00	51.21	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826354

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/11/17	02:43	15.00	16.49	110	90	110
Nitrate Nitrogen	1/11/17	02:43	3.500	3.545	101	90	110
Sulfate	1/11/17	02:43	25.00	27.29	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826358

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/10/17	21:14	15.00	16.48	110	90	110
Nitrate Nitrogen	1/10/17	21:14	3.500	3.583	102	90	110
Sulfate	1/10/17	21:14	25.00	27.38	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826366

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/10/17	15:28	15.00	16.42	109	90	110
Nitrate Nitrogen	1/10/17	15:28	3.500	3.662	105	90	110
Sulfate	1/10/17	15:28	25.00	27.40	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826367

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/10/17	19:54	15.00	16.48	110	90	110
Nitrate Nitrogen	1/10/17	19:54	3.500	3.626	104	90	110
Sulfate	1/10/17	19:54	25.00	27.42	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826368

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/11/17	04:22	15.00	16.48	110	90	110
Nitrate Nitrogen	1/11/17	04:22	3.500	3.549	101	90	110
Sulfate	1/11/17	04:22	25.00	27.49	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 826741

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/10/17 15:01	50.00	45.72	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 826749

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/10/17	17:56	50.00	46.88	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 826755

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/10/17 19:48	50.00	46.75	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134314

Lab Sample ID: 826927

ICAL Calibration #: IC0945

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/11/17	15:24	15.00	16.48	110	90	110
Nitrate Nitrogen	1/11/17	15:24	3.500	3.571	102	90	110
Sulfate	1/11/17	15:24	25.00	27.44	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134314 Lab Sample ID: 826928

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/11/17	19:50	15.00	16.47	110	90	110
Nitrate Nitrogen	1/11/17	19:50	3.500	3.577	102	90	110
Sulfate	1/11/17	19:50	25.00	27.44	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 826963

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/11/17	16:33	50.00	52.27	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 826968

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/11/17 19:39	50.00	53.41	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 827118

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/12/17	10:13	50.00	53.46	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 827120

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/12/17	11:04	50.00	54.29	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134316 Lab Sample ID: 827388

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/12/17	12:47	50.00	52.07	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134316 Lab Sample ID: 827394

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/12/17	14:49	50.00	51.97	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134513

Lab Sample ID: 829650

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	1/19/17 14:30	400.0	377.0	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134513 Lab Sample ID: 829651

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	1/19/17 14:30	400.0	384.0	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134513

Lab Sample ID: 829654

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	01/19/2017 14:30	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293

Lab Sample ID: 831520

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/02/2016 18:21	0.2900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826458

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/03/2017 15:39	0	U	1.1	2.0
Nitrate Nitrogen	01/03/2017 15:39	0	U	0.08	0.20
Sulfate	01/03/2017 15:39	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826353

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/10/2017 20:34	0	U	1.1	2.0
Nitrate Nitrogen	01/10/2017 20:34	0	U	0.08	0.20
Sulfate	01/10/2017 20:34	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826356

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/10/2017 21:54	0	U	1.1	2.0
Nitrate Nitrogen	01/10/2017 21:54	0	U	0.08	0.20
Sulfate	01/10/2017 21:54	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826357

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/11/2017 05:02	0	U	1.1	2.0
Nitrate Nitrogen	01/11/2017 05:02	0	U	0.08	0.20
Sulfate	01/11/2017 05:02	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826362

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/11/2017 03:23	0	U	1.1	2.0
Nitrate Nitrogen	01/11/2017 03:23	0	U	0.08	0.20
Sulfate	01/11/2017 03:23	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 826750

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/10/2017 18:10	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 826756

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/10/2017 20:02	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134314 Lab Sample ID: 826923

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/11/2017 20:30	0	U	1.1	2.0
Nitrate Nitrogen	01/11/2017 20:30	0	U	0.08	0.20
Sulfate	01/11/2017 20:30	1.642		1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 826969

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/11/2017 19:54	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 827119

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/12/2017 10:28	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 827121

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/12/2017 11:19	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134316 Lab Sample ID: 827395

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/12/2017 15:04	0.4900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134513 Lab Sample ID: 829652

Analytical Prep Batch # Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	01/19/2017 14:30	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134294 Lab Sample ID: 826361

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/10/2017 16:35	0	U	1.1	2.0
Nitrate Nitrogen	01/10/2017 16:35	0	U	0.08	0.20
Sulfate	01/10/2017 16:35	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134293 Lab Sample ID: 826746

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/10/2017 15:29	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134314 Lab Sample ID: 826925

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0945 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/11/2017 16:31	0	U	1.1	2.0
Nitrate Nitrogen	01/11/2017 16:31	0	U	0.08	0.20
Sulfate	01/11/2017 16:31	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134292 Lab Sample ID: 826964

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/11/2017 17:03	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134316 Lab Sample ID: 827390

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/12/2017 13:17	0.2000	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 124700

Analytical Run #: 134513 Lab Sample ID: 828826

Analytical Prep Batch # 61049 Preparation Date/Time: 01/19/2017 11:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	01/19/2017 14:30	0	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	826364	Parent Sample No.:	826236
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134294	ICAL Calibration #:	IC0945

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/10/2017	Analysis Time: --------	17:35

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	7.87		5.3		8.00	32			*FAIL*
Nitrate Nitrogen	88-111	0.981		0.38	J	2.00	30			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	826364	Parent Sample No.:	826236
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134294	ICAL Calibration #:	IC0945

ReRun *Re-Analysis #1* Analysis Date: ----- 01/11/2017 Analysis Time: -------- 03:43

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Sulfate	87-112	51.5		110		16.0	0			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	826753	Parent Sample No.:	826235
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134293	ICAL Calibration #:	ICAL TOC0092A

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/10/2017	Analysis Time: --------	18:54

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	49.4		BDL	U	50.0	99		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	827392	Parent Sample No.:	826629
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134316	ICAL Calibration #:	ICAL TOC0092A

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/12/2017	Analysis Time: --------	13:57

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	52.2		0.56	J	50.0	103		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	828829	Parent Sample No.:	826641
Analytical Prep Batch #	61049	Analytical Preparation Date/Time:	01/19/2017 11:00
Analytical Run #:	134513	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/19/2017 Analysis Time: -------- 14:30

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	202		64	J	148	93		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	826990	Parent Sample No.:	826633
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	134314	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/11/2017	Analysis Time: --------	18:30

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	47.1		3.1	U	40.0	110		IC
Nitrate Nitrogen	88-111	9.67		BDL	U	10.0	97		IC
Sulfate	87-112	74.8		31		40.0	110		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	826754	Parent Sample No.:	826753
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134293	ICAL Calibration #:	ICAL TOC0092A

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/10/2017	Analysis Time: --------	19:08

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	50.3		BDL	U	50.0	101		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	827393	Parent Sample No.:	827392
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	134316	ICAL Calibration #:	ICAL TOC0092A

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/12/2017	Analysis Time: --------	14:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.7		0.56	J	50.0	102		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	828830	Parent Sample No.:	828829
Analytical Prep Batch #	61049	Analytical Preparation Date/Time:	01/19/2017 11:00
Analytical Run #:	134513	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/19/2017 Analysis Time: -------- 14:30

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	197		64	J	148	90		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	124700
% Solids for Sample:		Concentration Units:	mg/L
Sample No	826991	Parent Sample No.:	826990
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	134314	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/11/2017	Analysis Time: --------	18:50

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	47.1		3.1	J	40.0	110		IC
Nitrate Nitrogen	88-111	9.70		BDL	U	10.0	97		IC
Sulfate	87-112	74.9		31		40.0	110		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

54MW10

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 134294
ICAL Calibration #: IC0945
Sample #: 826359
Parent Sample #: 826236

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/10/2017	17:15	10	5.3		5.15		3		
Nitrate Nitrogen	01/10/2017	17:15	10	0.38	J	0.365	J	4		

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW10

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 2

Analytical Preparation Date/Time 0

Analytical Run #: 134294

ICAL Calibration #: IC0945

Sample #: 826359

Parent Sample #: 826236

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	01/11/2017	02:23	10	110		113		3		

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW10

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 134293
ICAL Calibration #: ICAL TOC0092A
Sample #: 826752
Parent Sample #: 826235

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	01/10/2017	18:40	20	0.50	U	0.50	U	0		TOC

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 134314

ICAL Calibration #: IC0945

Sample #: 826926

Parent Sample #: 826633

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/11/2017	18:10	10	3.1	J	3.12	J	1		
Nitrate Nitrogen	01/11/2017	18:10	10	0.080	U	0.080	U	0		
Sulfate	01/11/2017	18:10	10	31		30.7		1		

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 134316

ICAL Calibration #: ICAL TOC0092A

Sample #: 827391

Parent Sample #: 826629

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	01/12/2017	13:43	20	0.56	J	0.50	U	200		TOC	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 134371

ICAL Calibration #:

Sample #: 827951

Parent Sample #: 826641

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	01/13/2017	13:55	1	7.06		7.02		1		ELEC

CT LABORATORIES
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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 124700

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 61049

Analytical Run #: 134513

ICAL Calibration #:

Sample #: 828828

Parent Sample #: 826641

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	01/19/2017	14:30	20	64	J	61.0	J	5		SP

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW10**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 134293
ICAL Calibration #: ICAL TOC0092A
Sample #: 826754
Parent Sample #: 826753

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	01/10/2017	19:08	20	49.4		50.3		2		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 134316
ICAL Calibration #: ICAL TOC0092A
Sample #: 827393
Parent Sample #: 827392

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	01/12/2017	14:11	20	52.2		51.7		1		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 61049
Analytical Preparation Date/Time: 01/19/2017 11:00
Analytical Run #: 134513
ICAL Calibration #:
Sample #: 828830
Parent Sample #: 828829

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	01/19/2017	14:30	20	202		197		3		SP

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 124700
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 134314
ICAL Calibration #:
Sample #: 826991
Parent Sample #: 826990

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/11/2017	18:50	15	47.1		47.1		0		IC
Nitrate Nitrogen	01/11/2017	18:50	15	9.67		9.70		0		IC
Sulfate	01/11/2017	18:50	15	74.8		74.9		0		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: mg/L

Analytical Run #: 134294 Sample No.:#: 826360

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0945

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/10/2017 16:15	87-111	15.93		15.00	106		
Nitrate Nitrogen	01/10/2017 16:15	88-111	3.263		3.500	93		
Sulfate	01/10/2017 16:15	87-112	26.53		25.00	106		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: mg/L

Analytical Run #: 134293 Sample No.:#: 826745

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	01/10/2017 15:15	85-111	45.52		50.00	91		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: mg/L

Analytical Run #: 134314 Sample No.:#: 826924

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0945

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/11/2017 16:11	87-111	15.85		15.00	106		
Nitrate Nitrogen	01/11/2017 16:11	88-111	3.155		3.500	90		
Sulfate	01/11/2017 16:11	87-112	26.34		25.00	105		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: mg/L

Analytical Run #: 134292 Sample No.:#: 827127

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	01/11/2017 16:48	85-111	53.99		50.00	108		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: mg/L

Analytical Run #: 134316 Sample No.:#: 827389

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	01/12/2017 13:02	85-111	52.90		50.00	106		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 124700

Concentration Units: mg/L

Analytical Run #: 134513 Sample No.:#: 828827

Analytical Prep Batch #: 61049 Preparation Date/Time: 01/19/2017 11:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	01/19/2017 14:30	90-110	375.0		400.0	94		SP

INORGANICS
RAW DATA
DOCUMENTS

Sample table - IC0945

	Method	Ident	Sample type	Position	Inje...	Status	Dil...	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0945	Std 1	Standard 1	150	1	READY 0 / 1	1	(01) Reset to First ...	(02) No i-Dilution		1	84
2	IC0945	Std 2	Standard 2	1	1	READY 0 / 1	1		(02) No i-Dilution		100	84
3	IC0945	Std 3	Standard 3	1	1	READY 0 / 1	1		(02) No i-Dilution		40	84
4	IC0945	Std 4	Standard 4	1	1	READY 0 / 1	1		(02) No i-Dilution		20	84
5	IC0945	Std 5	Standard 5	1	1	READY 0 / 1	1		(02) No i-Dilution		10	84
6	IC0945	Std 6	Standard 6	1	1	READY 0 / 1	1		(02) No i-Dilution		5	84
7	IC0945	Std 7	Standard 7	2	1	READY 0 / 1	1		(02) No i-Dilution		2	84
8	IC0945	Std 8	Standard 8	2	1	READY 0 / 1	1		(02) No i-Dilution		1.3333333	84
9	IC0945	Std 9	Standard 9	3	1	READY 0 / 1	1		(02) No i-Dilution		1	84
10	IC0945	ICV IC0926 IC0905	Check standard 2	4	1	READY 0 / 1	1		(02) No i-Dilution		1	84
11	IC0945	ICB	Sample	150	1	READY 0 / 1	1		(02) No i-Dilution		1	84

Calibration Concentrations

Analyte	ICV (mg/L)
Fluoride	3.50
Chloride	15.00
Nitrite	3.50
Bromide	3.50
Nitrate	3.50
O-Phoshorous	3.50
Sulfate	25.00

Instrument:	Metrohm (3)
Cal. File:	IC0945
ICV:	IC0941
	IC0942
Analyst:	AGK
Date:	01/03/16

RJ01/11/2017

Sample data

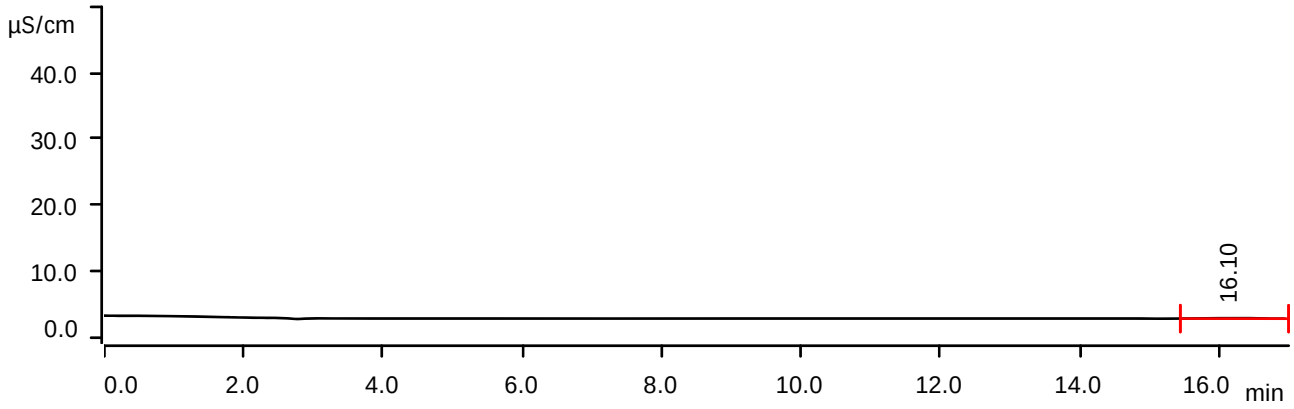
Ident	Std 1	
Determination start	2017-01-03 12:15:16 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.91	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	16.103	0.0488	0.088	invalid	

Sample data

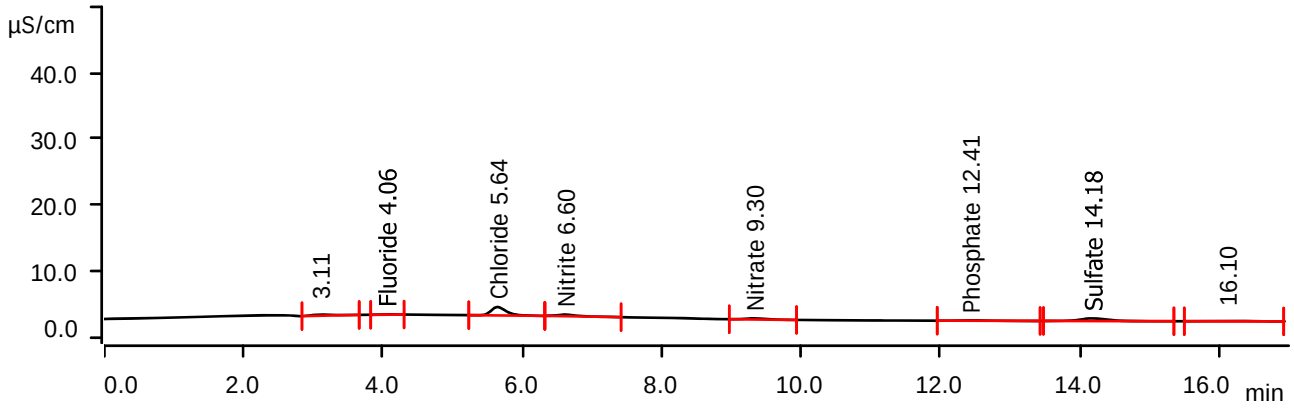
Ident	Std 2	
Determination start	2017-01-03 12:42:12 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.74	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.105	0.0606	0.186	invalid	
2	4.063	0.0137	0.058	0.259	Fluoride
3	5.640	0.3234	1.287	1.752	Chloride
4	6.600	0.0766	0.252	0.181	Nitrite
5	9.303	0.0594	0.164	0.264	Nitrate
6	12.408	0.0296	0.066	0.287	Phosphate
7	14.178	0.1890	0.409	2.244	Sulfate
8	16.095	0.0304	0.057	invalid	

Sample data

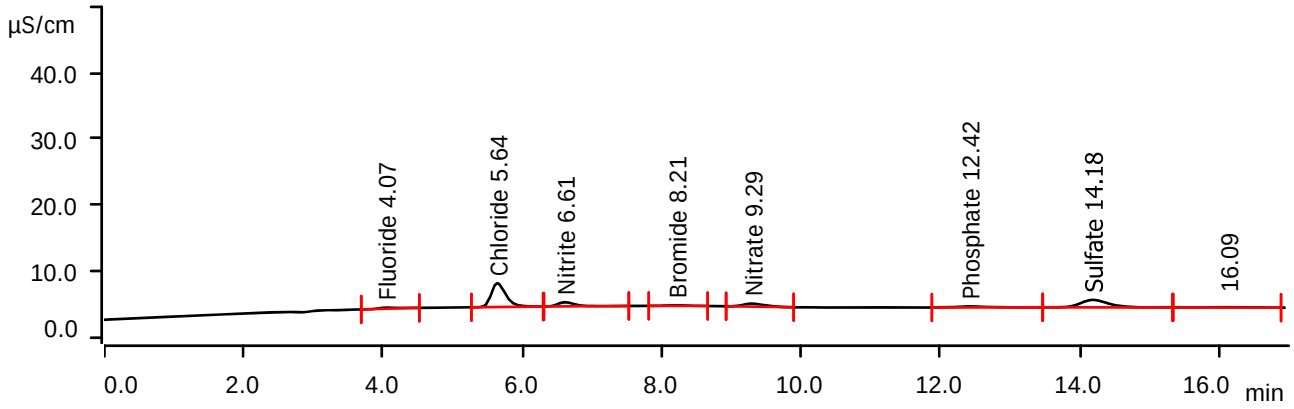
Ident	Std 3	
Determination start	2017-01-03 13:01:50 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.74	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.065	0.0504	0.165	0.322	Fluoride
2	5.640	0.8803	3.626	3.153	Chloride
3	6.608	0.1809	0.643	0.301	Nitrite
4	8.205	0.0365	0.104	0.335	Bromide
5	9.292	0.1666	0.459	0.369	Nitrate
6	12.415	0.0735	0.160	0.407	Phosphate
7	14.182	0.5228	1.136	3.389	Sulfate
8	16.085	0.0226	0.040	invalid	

Sample data

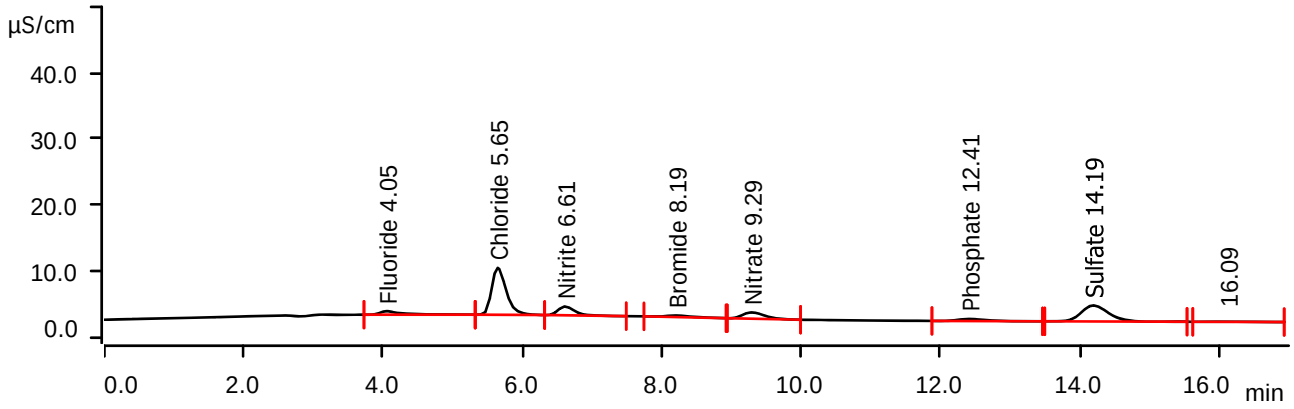
Ident	Std 4	
Determination start	2017-01-03 13:21:27 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.91	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.052	0.1958	0.543	0.574	Fluoride
2	5.645	1.7329	7.119	5.298	Chloride
3	6.610	0.3691	1.335	0.516	Nitrite
4	8.187	0.1008	0.235	0.722	Bromide
5	9.287	0.3509	0.954	0.549	Nitrate
6	12.412	0.1401	0.317	0.589	Phosphate
7	14.188	1.1060	2.435	5.391	Sulfate
8	16.087	0.0168	0.032	invalid	

Sample data

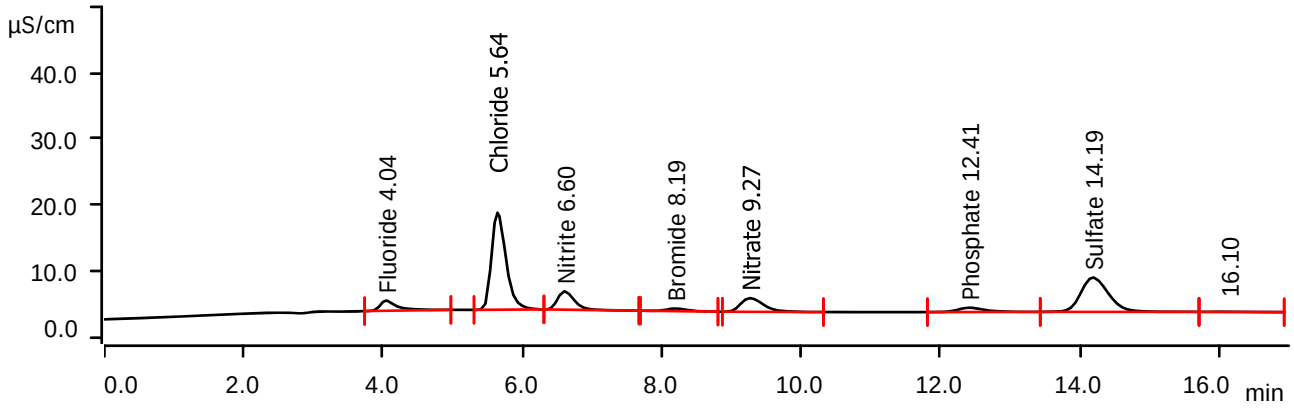
Ident	Std 5	
Determination start	2017-01-03 13:41:06 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.68	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.043	0.4431	1.546	1.001	Fluoride
2	5.642	3.5772	14.716	9.938	Chloride
3	6.603	0.7839	2.789	0.992	Nitrite
4	8.185	0.1326	0.396	0.912	Bromide
5	9.265	0.7853	2.072	0.973	Nitrate
6	12.410	0.2843	0.648	0.984	Phosphate
7	14.185	2.3971	5.204	9.822	Sulfate
8	16.095	0.0152	0.029	invalid	

Sample data

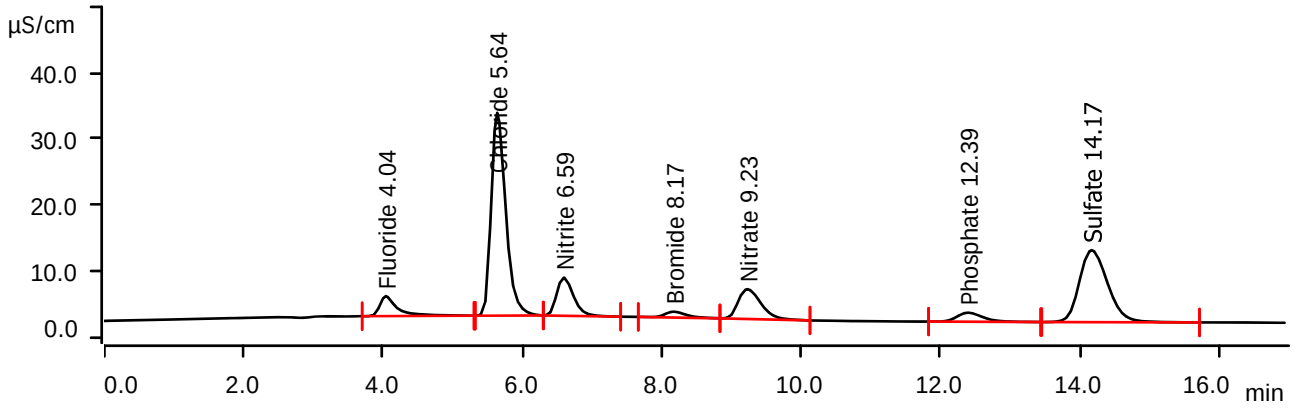
Ident	Std 6	
Determination start	2017-01-03 14:00:46 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.63	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.040	0.8939	3.021	1.781	Fluoride
2	5.638	7.4474	30.770	19.675	Chloride
3	6.593	1.6267	5.773	1.957	Nitrite
4	8.168	0.3084	0.882	1.968	Bromide
5	9.228	1.7123	4.514	1.878	Nitrate
6	12.392	0.5910	1.379	1.824	Phosphate
7	14.167	5.1327	10.923	19.211	Sulfate

Sample data

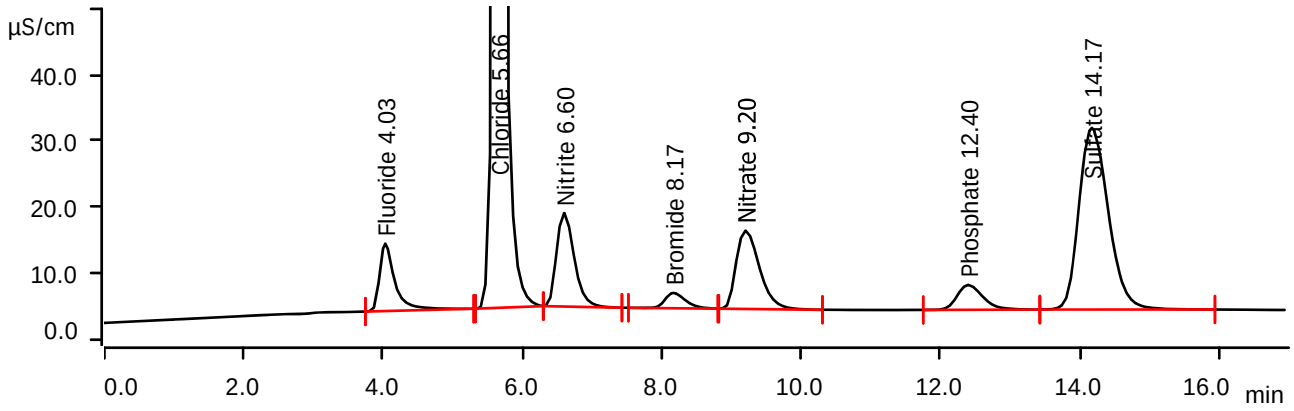
Ident	Std 7	
Determination start	2017-01-03 14:20:25 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.97	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.032	2.6205	10.220	4.766	Fluoride
2	5.660	18.9065	78.519	48.504	Chloride
3	6.597	4.1888	14.168	4.892	Nitrite
4	8.167	0.7925	2.327	4.875	Bromide
5	9.202	4.6249	11.883	4.724	Nitrate
6	12.395	1.6153	3.776	4.628	Phosphate
7	14.168	13.4906	27.558	47.896	Sulfate

Sample data

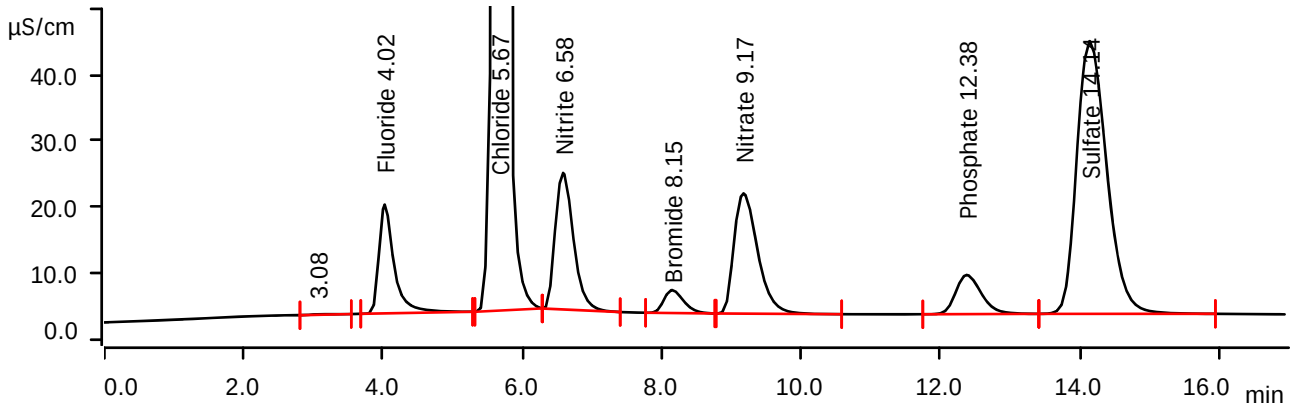
Ident	Std 8	
Determination start	2017-01-03 14:40:05 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.68	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.083	0.0271	0.100	invalid	
2	4.023	4.1890	16.505	7.478	Fluoride
3	5.665	28.4832	118.693	72.597	Chloride
4	6.583	6.2926	20.712	7.301	Nitrite
5	8.147	1.1448	3.490	6.991	Bromide
6	9.172	7.2031	18.244	7.242	Nitrate
7	12.375	2.5446	5.948	7.172	Phosphate
8	14.140	20.6581	41.381	72.495	Sulfate

Sample data

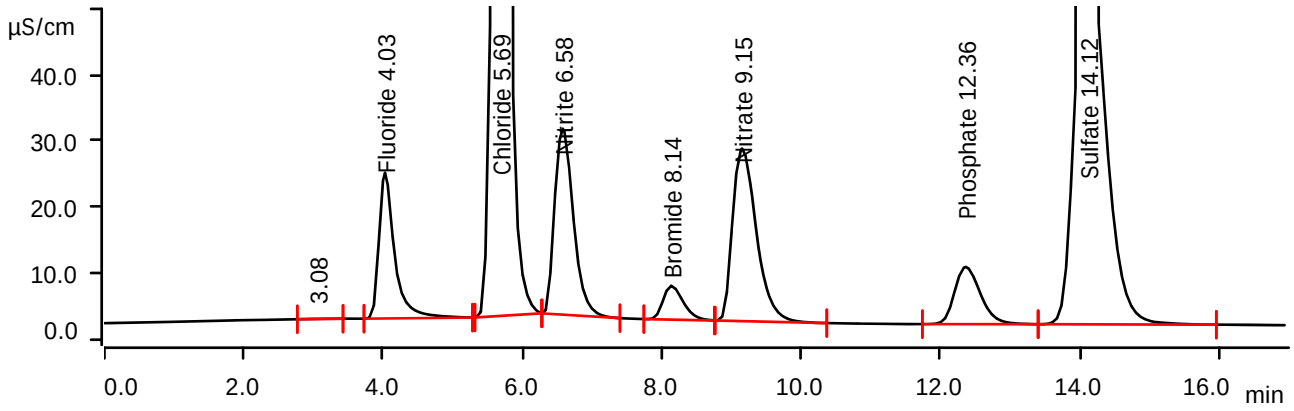
Ident	Std 9	
Determination start	2017-01-03 14:59:45 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.80	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.078	0.0150	0.059	invalid	
2	4.028	5.7467	22.118	10.171	Fluoride
3	5.685	40.4021	166.674	102.583	Chloride
4	6.578	8.8319	28.222	10.210	Nitrite
5	8.137	1.7200	5.134	10.446	Bromide
6	9.152	10.3862	26.173	10.352	Nitrate
7	12.360	3.7449	8.688	10.458	Phosphate
8	14.115	29.5613	58.429	103.052	Sulfate

Sample data

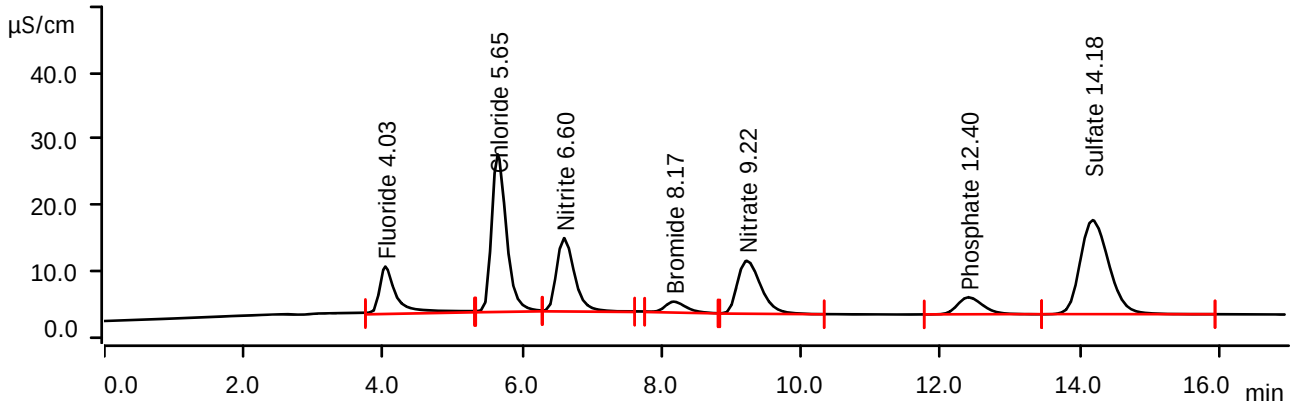
Ident . . . . . ICV IC0926 IC0905
Determination start 2017-01-03 15:19:40 UTC-6
Method IC0945
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 17.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 12.97 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.033	1.8088	6.967	3.362	Fluoride
2	5.645	5.7919	23.755	15.510	Chloride
3	6.597	3.2310	11.001	3.794	Nitrite
4	8.170	0.5431	1.596	3.378	Bromide
5	9.218	3.0965	8.001	3.231	Nitrate
6	12.400	1.1127	2.604	3.252	Phosphate
7	14.182	6.8150	14.277	24.985	Sulfate

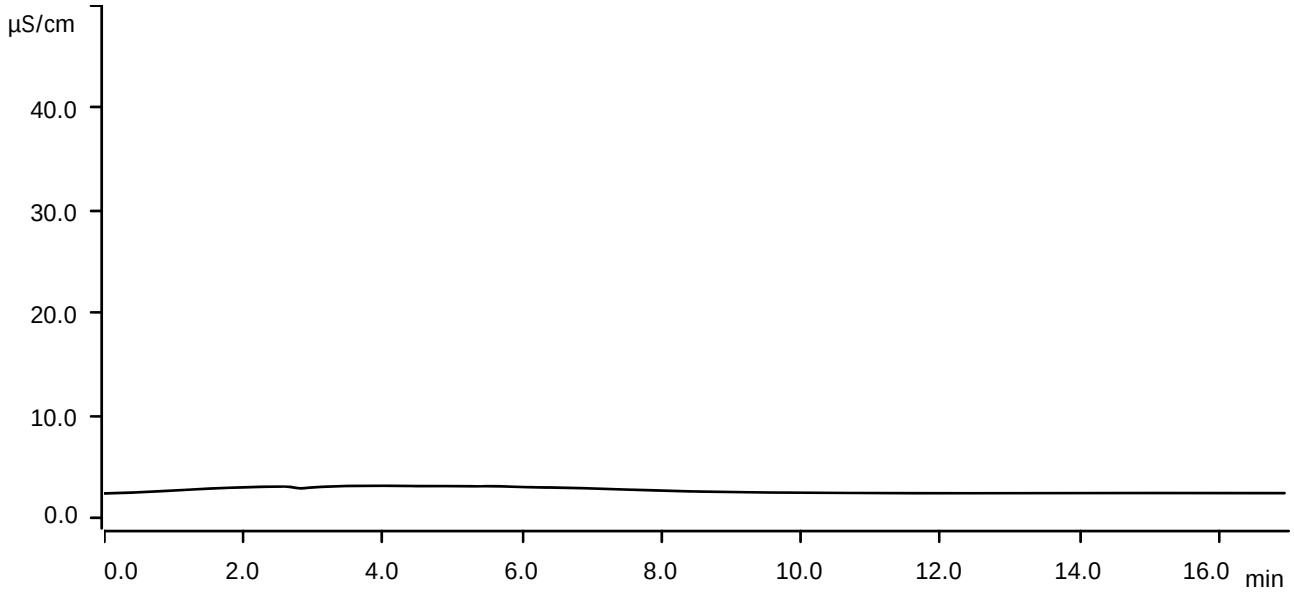
Sample data

Ident	ICB	
Sample type	Sample	
Determination start	2017-01-03 15:39:34 UTC-6	
Method	IC0945	
Operator	AGK	

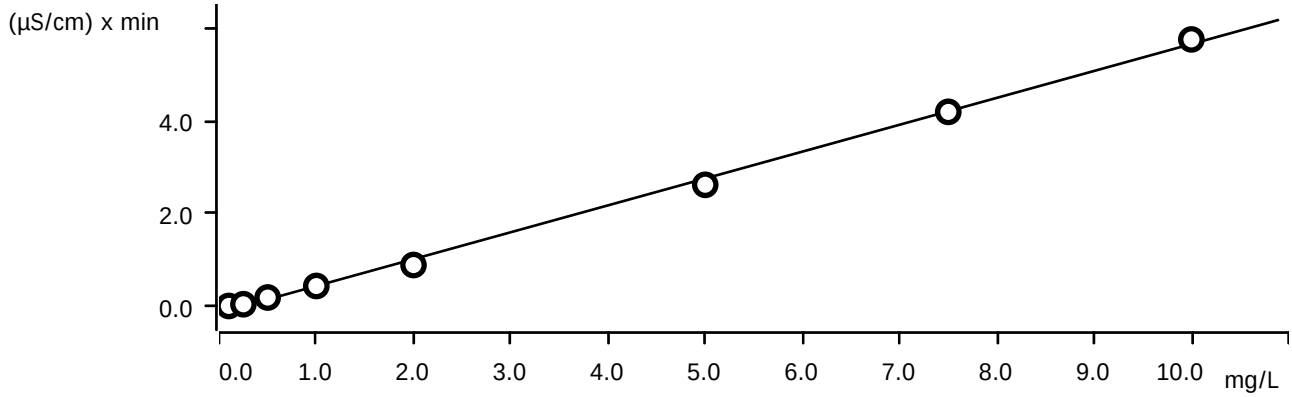
Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.74	MPa
Temperature	30.0	°C

Anions



Fluoride (Anions)



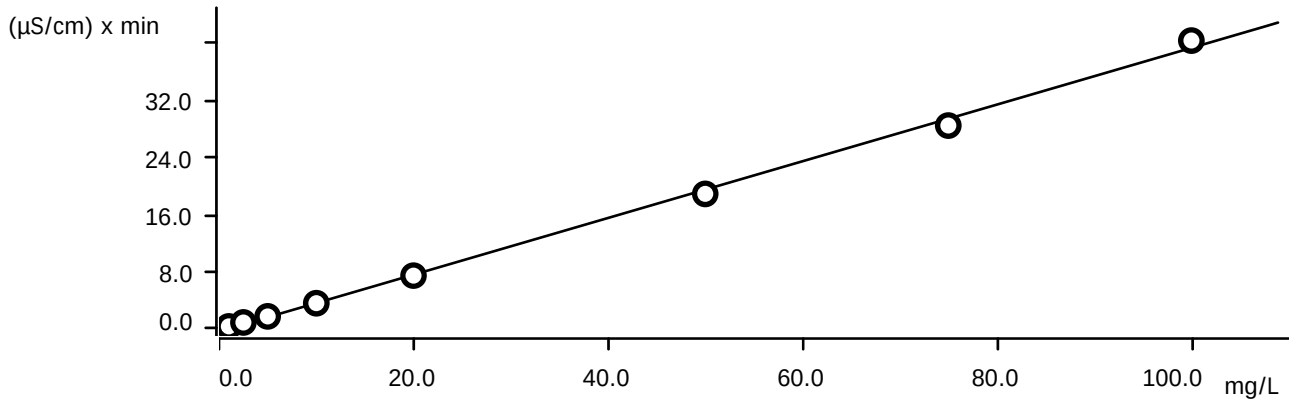
Function: . . . . . *A = - 0.135935 + 0.0289195× Q*

Relative standard deviation . . . . . *5.478623 %*

Correlation coefficient *0.999157*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	0.1000	20.0	1.0	1.0	0.0137	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	0.2500	20.0	1.0	1.0	0.0504	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	0.5000	20.0	1.0	1.0	0.1958	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	1.0000	20.0	1.0	1.0	0.4431	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	2.0000	20.0	1.0	1.0	0.8939	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	5.0000	20.0	1.0	1.0	2.6205	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	7.5000	20.0	1.0	1.0	4.1890	Std 8	2017-01-03 14:40:05 UTC-6
Standard 9	1	10.0000	20.0	1.0	1.0	5.7467	Std 9	2017-01-03 14:59:45 UTC-6

Chloride (Anions)



RJ01/11/2017

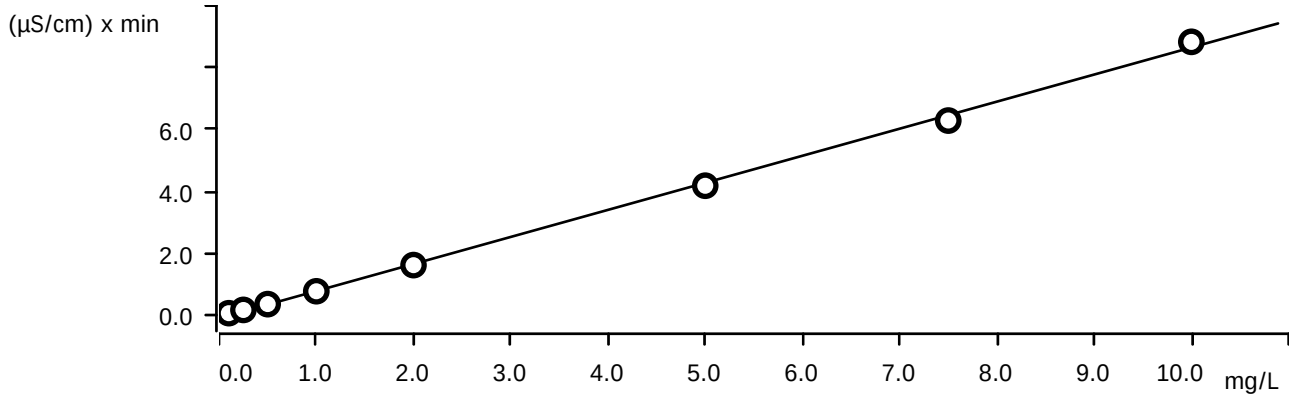
Function: . . . . . *A = - 0.373047 + 0.0198743× Q*

Relative standard deviation . . . . . *5.083251 %*

Correlation coefficient *0.999205*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	1.0000	20.0	1.0	1.0	0.3234	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	2.5000	20.0	1.0	1.0	0.8803	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	5.0000	20.0	1.0	1.0	1.7329	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	10.0000	20.0	1.0	1.0	3.5772	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	20.0000	20.0	1.0	1.0	7.4474	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	50.0000	20.0	1.0	1.0	18.9065	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	75.0000	20.0	1.0	1.0	28.4832	Std 8	2017-01-03 14:40:05 UTC-6
Standard 9	1	100.0000	20.0	1.0	1.0	40.4021	Std 9	2017-01-03 14:59:45 UTC-6

Nitrite (Anions)



Function: . . . . . *A = - 0.0818116 + 0.0436527× Q*

Relative standard deviation . . . . . *4.166740 %*

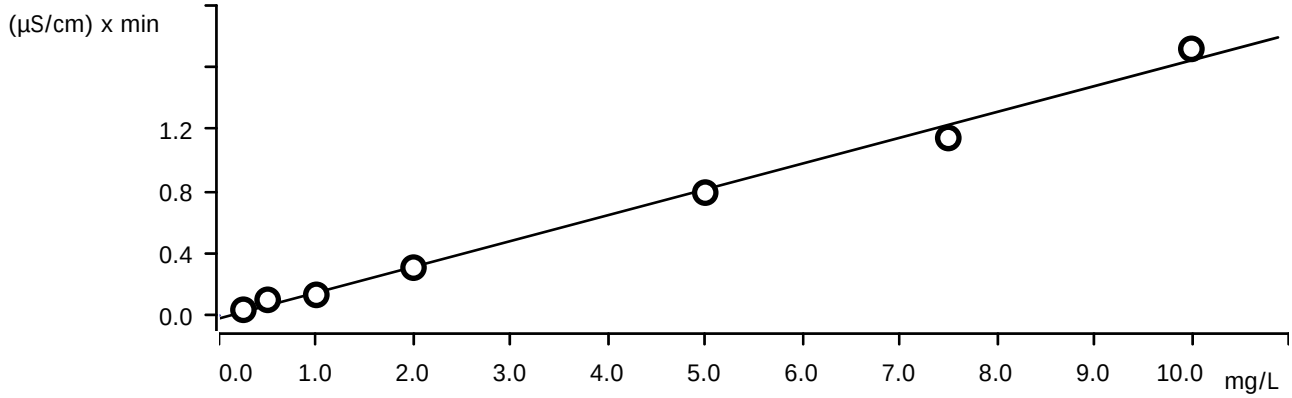
Correlation coefficient *0.999466*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	0.1000	20.0	1.0	1.0	0.0766	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	0.2500	20.0	1.0	1.0	0.1809	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	0.5000	20.0	1.0	1.0	0.3691	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	1.0000	20.0	1.0	1.0	0.7839	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	2.0000	20.0	1.0	1.0	1.6267	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	5.0000	20.0	1.0	1.0	4.1888	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	7.5000	20.0	1.0	1.0	6.2926	Std 8	2017-01-03 14:40:05 UTC-6

RJ01/11/2017

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 9	1	10.0000	20.0	1.0	1.0	8.8319	Std 9	2017-01-03 14:59:45 UTC-6

Bromide (Anions)



Function: . . . . . *A = - 0.0193355 + 8.32565E-3× Q*

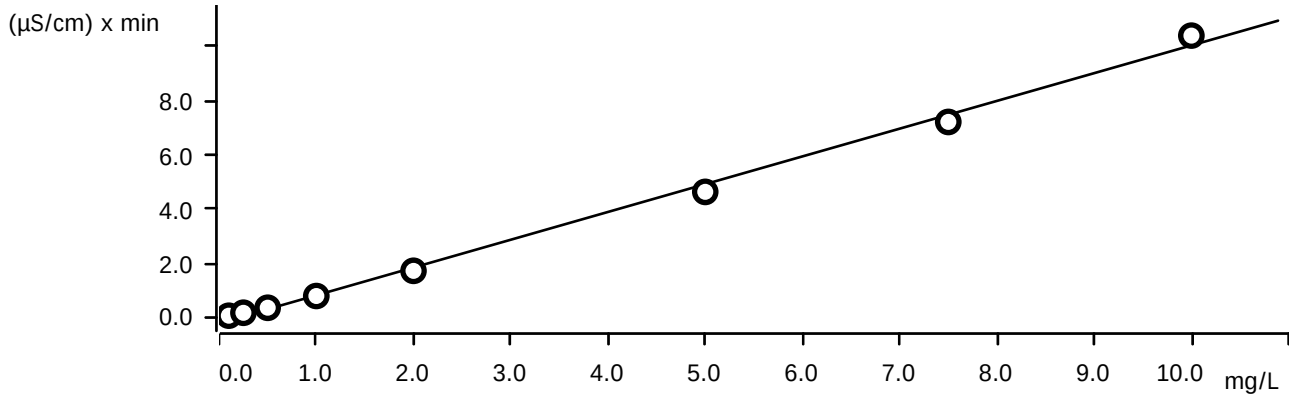
Relative standard deviation . . . . . *9.029083 %*

Correlation coefficient *0.996960*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	0.1000	20.0	1.0	1.0	n. d.	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	0.2500	20.0	1.0	1.0	0.0365	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	0.5000	20.0	1.0	1.0	0.1008	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	1.0000	20.0	1.0	1.0	0.1326	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	2.0000	20.0	1.0	1.0	0.3084	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	5.0000	20.0	1.0	1.0	0.7925	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	7.5000	20.0	1.0	1.0	1.1448	Std 8	2017-01-03 14:40:05 UTC-6
Standard 9	1	10.0000	20.0	1.0	1.0	1.7200	Std 9	2017-01-03 14:59:45 UTC-6

RJ01/11/2017

Nitrate (Anions)



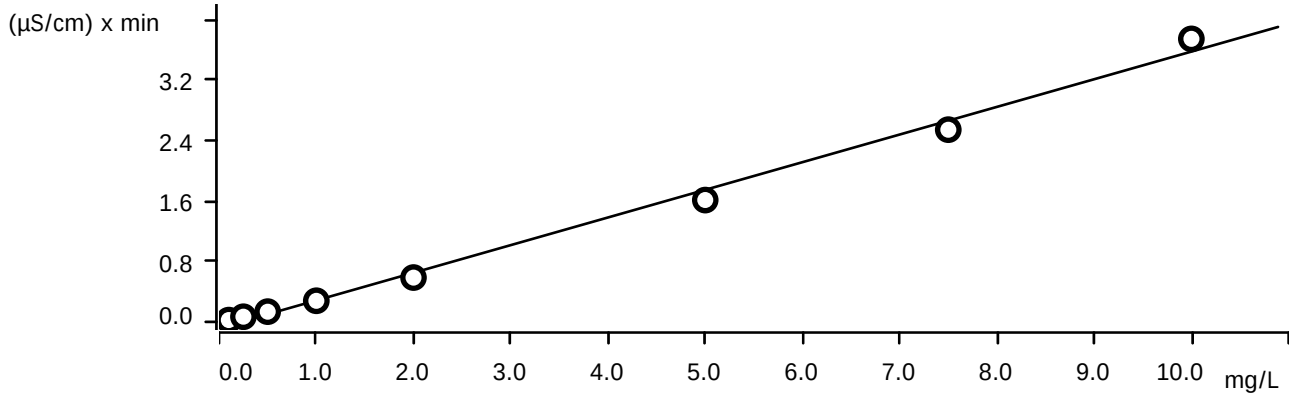
Function: . . . . . *A = - 0.210790 + 0.0511859× Q*

Relative standard deviation . . . . . *7.539358 %*

Correlation coefficient *0.998374*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	0.1000	20.0	1.0	1.0	0.0594	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	0.2500	20.0	1.0	1.0	0.1666	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	0.5000	20.0	1.0	1.0	0.3509	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	1.0000	20.0	1.0	1.0	0.7853	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	2.0000	20.0	1.0	1.0	1.7123	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	5.0000	20.0	1.0	1.0	4.6249	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	7.5000	20.0	1.0	1.0	7.2031	Std 8	2017-01-03 14:40:05 UTC-6
Standard 9	1	10.0000	20.0	1.0	1.0	10.3862	Std 9	2017-01-03 14:59:45 UTC-6

Phosphate (Anions)



RJ01/11/2017

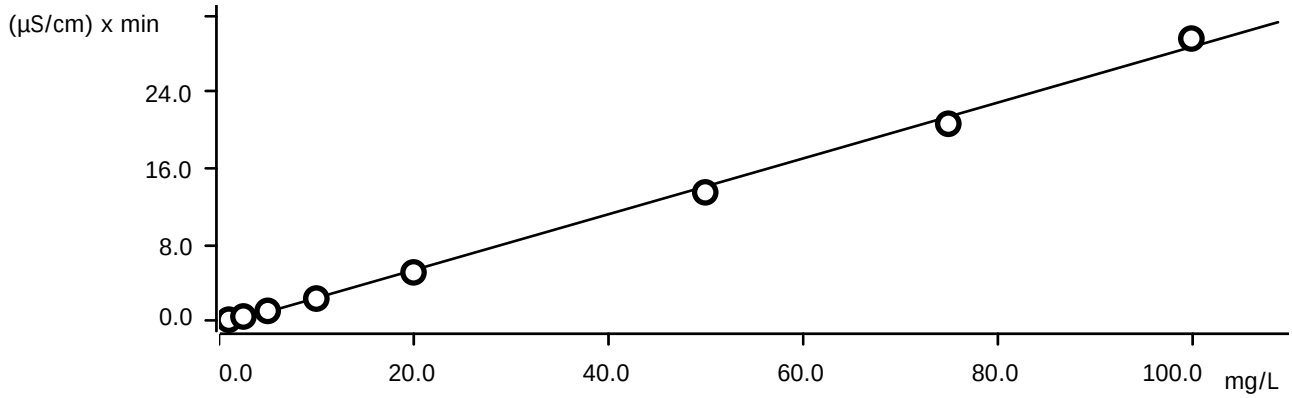
Function: . . . . . *A = - 0.0751815 + 0.0182633× Q*

Relative standard deviation . . . . . *9.845409 %*

Correlation coefficient *0.997233*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	0.1000	20.0	1.0	1.0	0.0296	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	0.2500	20.0	1.0	1.0	0.0735	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	0.5000	20.0	1.0	1.0	0.1401	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	1.0000	20.0	1.0	1.0	0.2843	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	2.0000	20.0	1.0	1.0	0.5910	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	5.0000	20.0	1.0	1.0	1.6153	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	7.5000	20.0	1.0	1.0	2.5446	Std 8	2017-01-03 14:40:05 UTC-6
Standard 9	1	10.0000	20.0	1.0	1.0	3.7449	Std 9	2017-01-03 14:59:45 UTC-6

Sulfate (Anions)



Function: . . . . . *A = - 0.464725 + 0.0145684× Q*

Relative standard deviation . . . . . *6.268190 %*

Correlation coefficient *0.998842*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-01-03 12:15:16 UTC-6
Standard 2	1	1.0000	20.0	1.0	1.0	0.1890	Std 2	2017-01-03 12:42:12 UTC-6
Standard 3	1	2.5000	20.0	1.0	1.0	0.5228	Std 3	2017-01-03 13:01:50 UTC-6
Standard 4	1	5.0000	20.0	1.0	1.0	1.1060	Std 4	2017-01-03 13:21:27 UTC-6
Standard 5	1	10.0000	20.0	1.0	1.0	2.3971	Std 5	2017-01-03 13:41:06 UTC-6
Standard 6	1	20.0000	20.0	1.0	1.0	5.1327	Std 6	2017-01-03 14:00:46 UTC-6
Standard 7	1	50.0000	20.0	1.0	1.0	13.4906	Std 7	2017-01-03 14:20:25 UTC-6
Standard 8	1	75.0000	20.0	1.0	1.0	20.6581	Std 8	2017-01-03 14:40:05 UTC-6

RJ01/11/2017

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 9	1	100.0000	20.0	1.0	1.0	29.5613	Std 9	2017-01-03 14:59:45 UTC-6

RJ01/11/2017

Sample table - 011017 - 134281 134294

	Method	Ident	Sample type	Position	Inje...	Status	Dil...	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0945	CCV IC0939 IC0940	Check standard 1	149	1	READY 0 / 1	1	(01) Reset to First Emp...	(02) No i-Dilution		1	84
2	IC0945	LCSW IC0941 IC0942	Check standard 2	1	1	READY 0 / 1	1		(02) No i-Dilution		1	84
3	IC0945	MBW	Sample	150	1	READY 0 / 1	1		(02) No i-Dilution		1	84
4	IC0945	826236	Sample	2	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
5	IC0945	DUP826236	Sample	3	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
6	IC0945	MSW826236	Sample	4	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
7	IC0945	MSDW826236	Sample	5	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
8	IC0945	826238	Sample	6	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
9	IC0945	826240	Sample	7	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
13	IC0945	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
14	IC0945	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84
16	IC0945	CCV	Check standard 1	149	1	READY 0 / 1	1				1	84
17	IC0945	CCB	Sample	150	1	READY 0 / 1	1				1	84
29	IC0945	826236	Sample	2	1	READY 0 / 1	1.0	Intelligent Dilution			2.0	84
30	IC0945	DUP826236	Sample	3	1	READY 0 / 1	1.0	Intelligent Dilution			2.0	84
31	IC0945	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
32	IC0945	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84
33	IC0945	MSW826236	Sample	4	1	READY 0 / 1	1.0	Intelligent Dilution			2.0	84

Sample table - 011017 - 134281 134294

	Method	Ident	Sample type	Position	Inje...	Status	Dil...	Info 1	Info 2	Info 4	Value 1	Value 2
34	IC0945	MSDW826236	Sample	5	1	READY 0 / 1	1.0	Intelligent Dilution			2.0	84
35	IC0945	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
36	IC0945	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84

Over-range

Report

Sample data

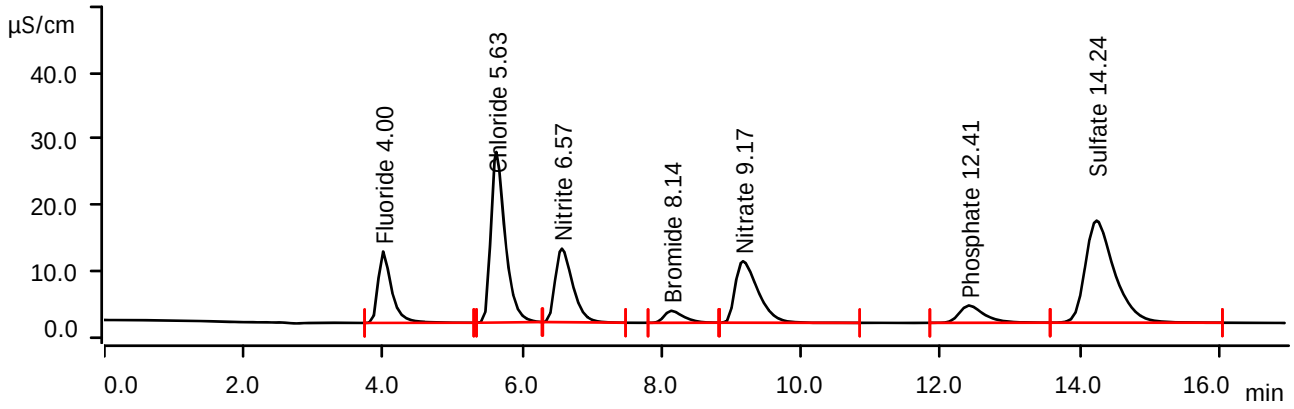
Ident . . . . . CCV IC0939 IC0940
Determination start 2017-01-10 15:28:45 UTC-6
Method IC0945
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 17.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 12.46 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.002	2.4686	10.825	4.503	Fluoride
2	5.625	6.1547	25.874	16.423	Chloride
3	6.565	3.2354	11.147	3.800	Nitrite
4	8.137	0.5919	1.826	3.671	Bromide
5	9.165	3.5381	9.322	3.662	Nitrate
6	12.407	1.1015	2.626	3.221	Phosphate
7	14.237	7.5197	15.487	27.403	Sulfate

Sample data

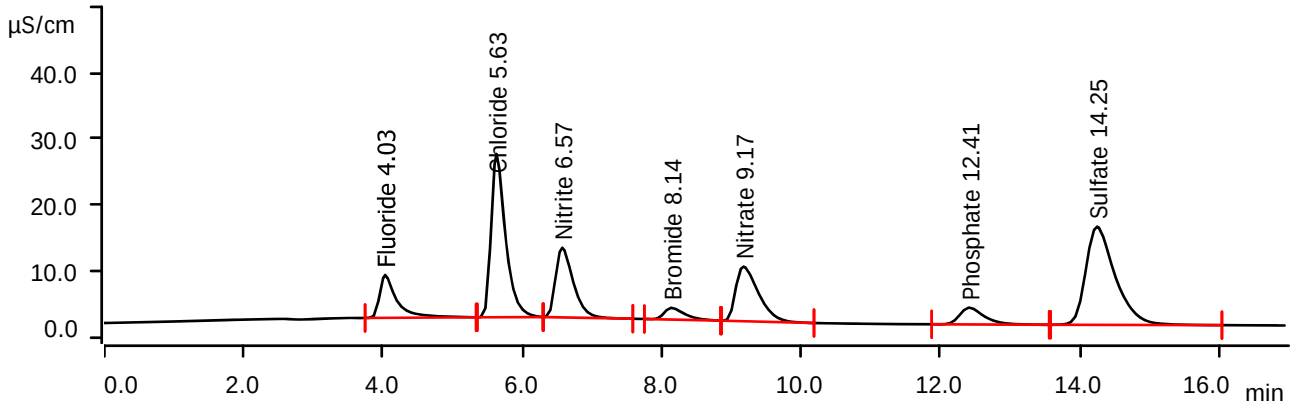
Ident	LCSW IC0941 IC0942
Determination start	2017-01-10 16:15:44 UTC-6
Method	IC0945
Operator	AGK

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.18	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.030	1.8624	6.502	3.455	Fluoride
2	5.628	5.9606	24.781	15.934	Chloride
3	6.572	3.1085	10.572	3.654	Nitrite
4	8.138	0.6060	1.782	3.756	Bromide
5	9.172	3.1293	8.288	3.263	Nitrate
6	12.413	1.0460	2.550	3.069	Phosphate
7	14.245	7.2647	14.902	26.528	Sulfate

Sample data

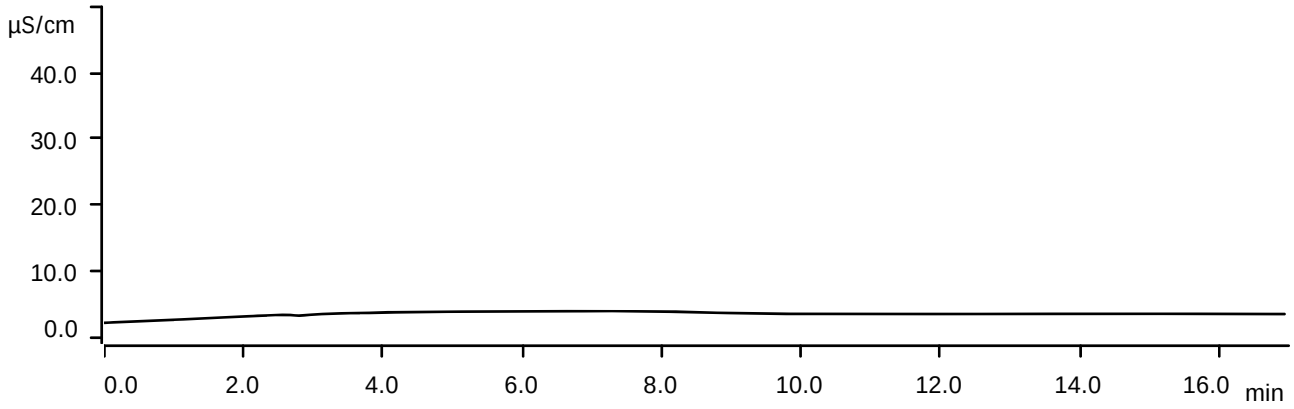
Ident	MBW	
Determination start	2017-01-10 16:35:42 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.40	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Sample data

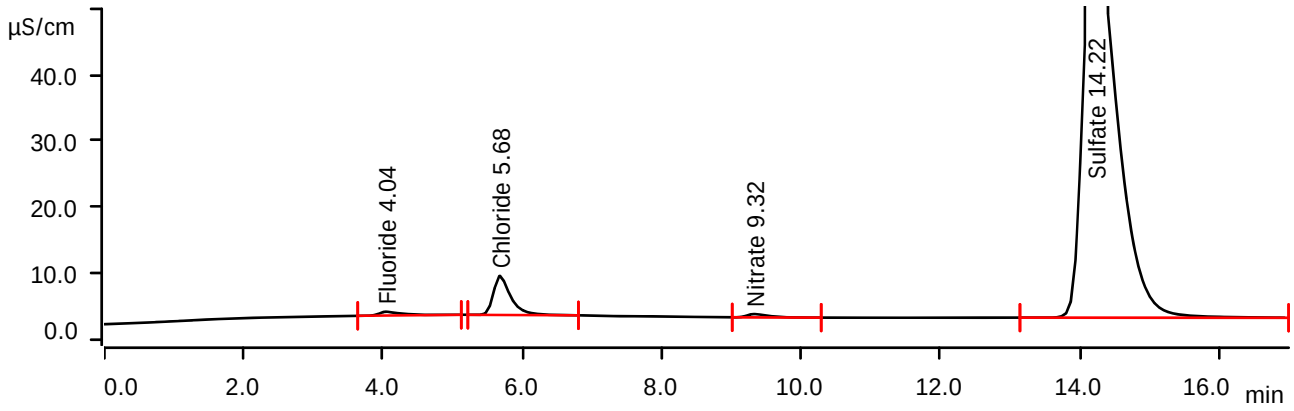
Ident	826236	
Determination start	2017-01-10 16:55:39 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.23	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.043	0.2152	0.575	0.607	Fluoride
2	5.677	1.7175	5.933	5.259	Chloride
3	9.322	0.1779	0.509	0.380	Nitrate
4	14.220	33.6822	59.488	117.195	Sulfate

Sample data

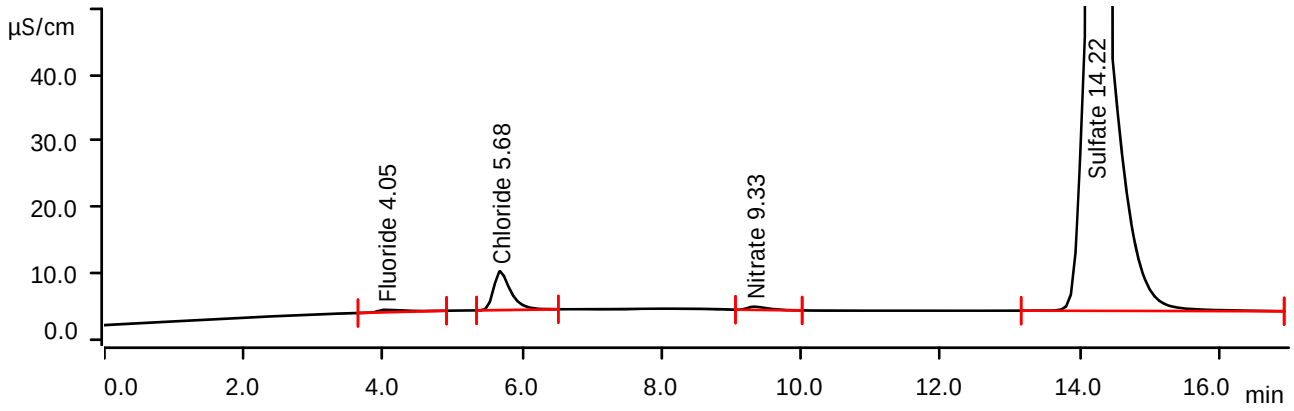
Ident	DUP826236	
Determination start	2017-01-10 17:15:35 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.29	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.052	0.1614	0.410	0.514	Fluoride
2	5.680	1.6749	5.888	5.152	Chloride
3	9.325	0.1631	0.494	0.365	Nitrate
4	14.220	33.6901	59.252	117.222	Sulfate

Sample data

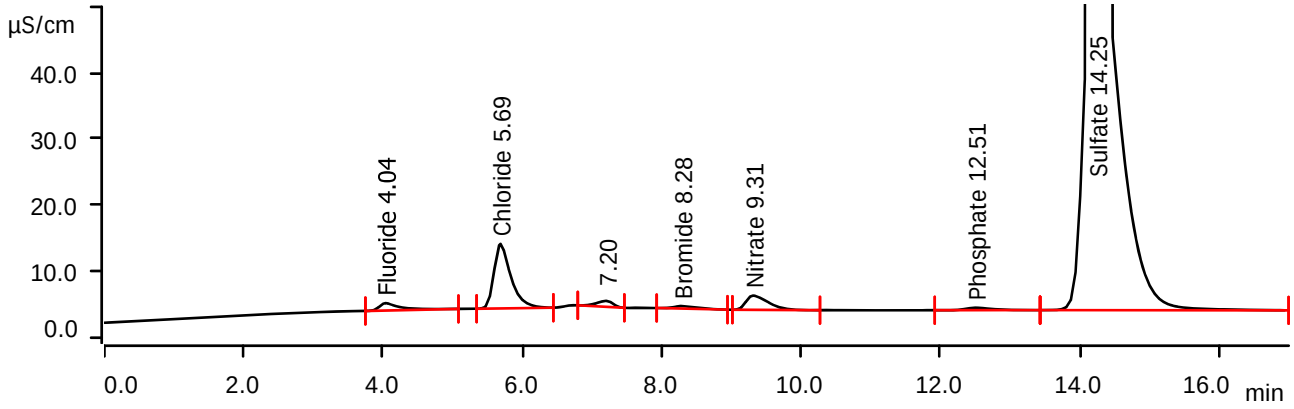
Ident	MSW826236	
Determination start	2017-01-10 17:35:31 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.51	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.040	0.3816	1.121	0.895	Fluoride
2	5.685	2.7567	9.786	7.874	Chloride
3	7.200	0.2475	0.913	invalid	
4	8.282	0.1388	0.384	0.949	Bromide
5	9.312	0.7933	2.163	0.981	Nitrate
6	12.507	0.1586	0.371	0.640	Phosphate
7	14.247	33.7675	59.294	117.488	Sulfate

Sample data

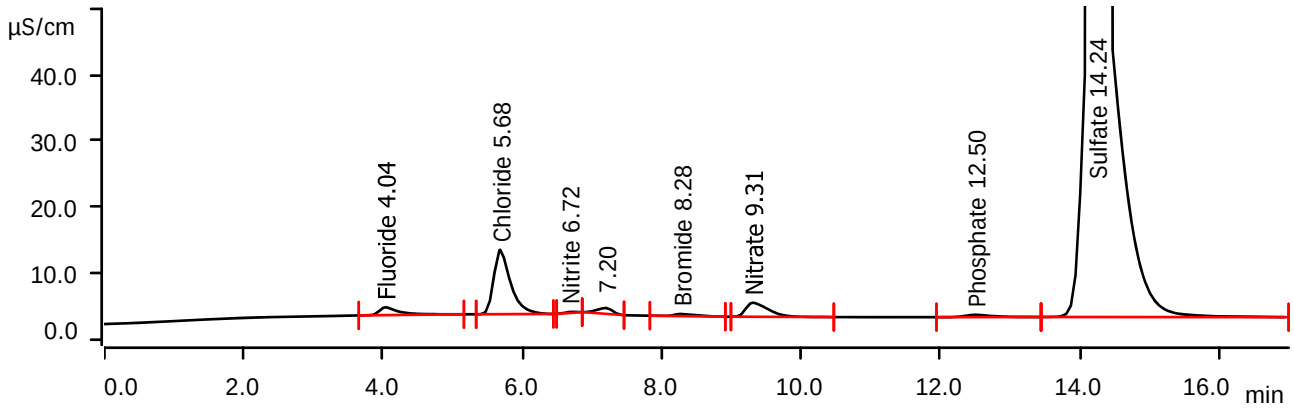
Ident	MSDW826236	
Determination start	2017-01-10 17:55:26 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.18	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.035	0.4022	1.194	0.930	Fluoride
2	5.682	2.7435	9.764	7.841	Chloride
3	6.720	0.0292	0.134	0.127	Nitrite
4	7.195	0.2324	0.889	invalid	
5	8.277	0.1103	0.335	0.778	Bromide
6	9.307	0.7923	2.136	0.980	Nitrate
7	12.503	0.1497	0.348	0.616	Phosphate
8	14.240	33.7237	58.983	117.338	Sulfate

Sample data

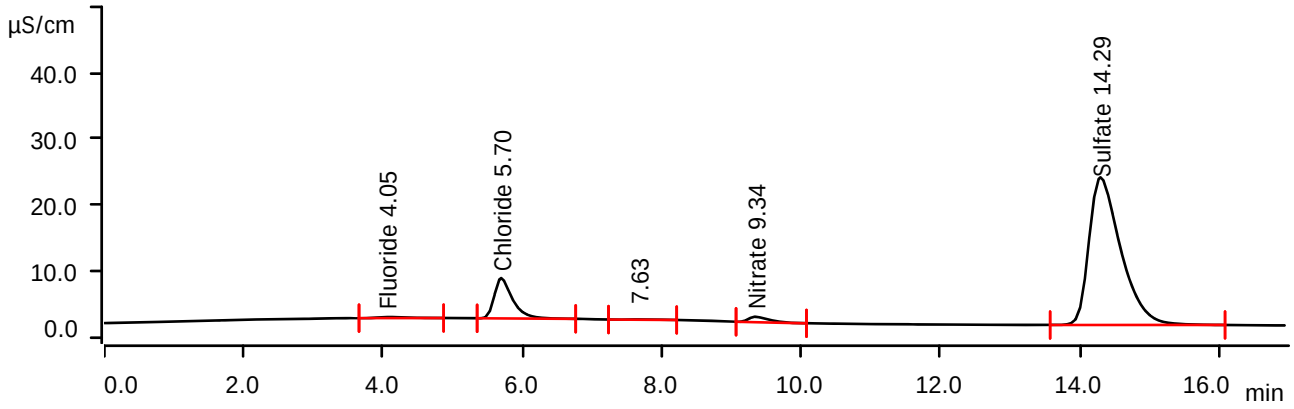
Ident	826238	
Determination start	2017-01-10 18:15:21 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.34	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.048	0.0726	0.176	0.361	Fluoride
2	5.695	1.8428	6.117	5.575	Chloride
3	7.628	0.0214	0.044	invalid	
4	9.340	0.2767	0.829	0.476	Nitrate
5	14.293	11.8546	22.399	42.281	Sulfate

Sample data

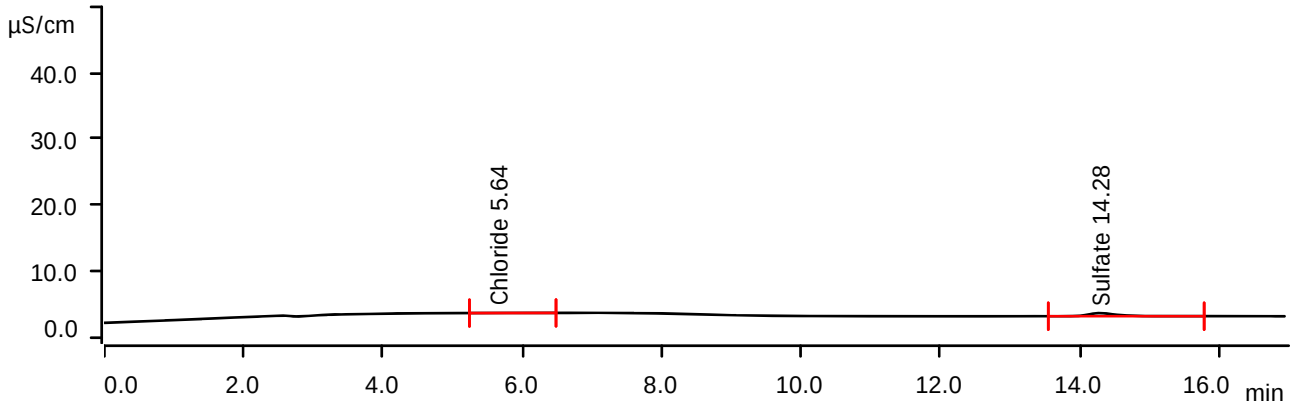
Ident	826240	
Determination start	2017-01-10 18:35:15 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.57	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.643	0.0173	0.041	0.982	Chloride
2	14.280	0.2203	0.468	2.351	Sulfate

Sample data

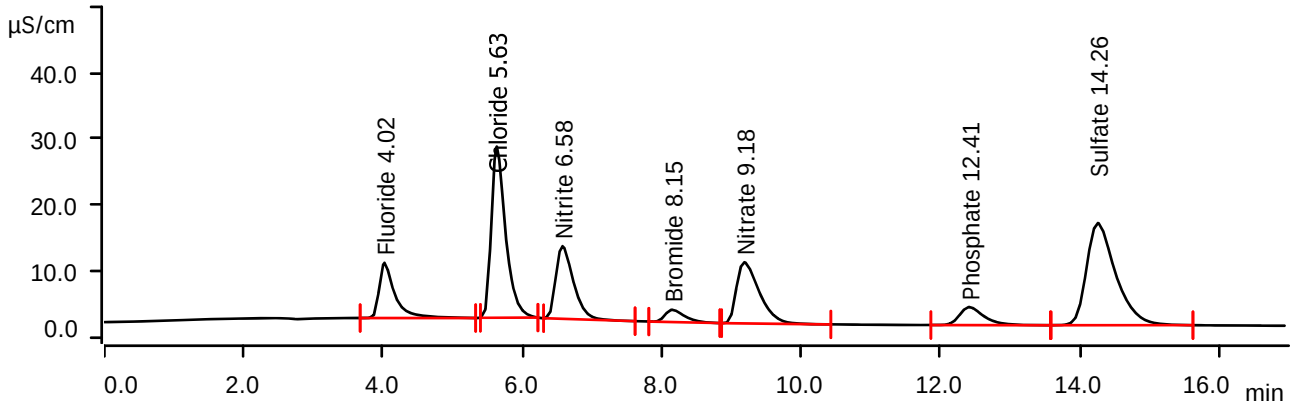
Ident	CCV	
Determination start	2017-01-10 19:54:55 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.34	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.020	2.1861	8.370	4.015	Fluoride
2	5.632	6.1760	25.971	16.476	Chloride
3	6.575	3.2376	11.019	3.802	Nitrite
4	8.148	0.6070	1.869	3.761	Bromide
5	9.183	3.5010	9.269	3.626	Nitrate
6	12.412	1.1130	2.738	3.253	Phosphate
7	14.257	7.5244	15.495	27.419	Sulfate

Sample data

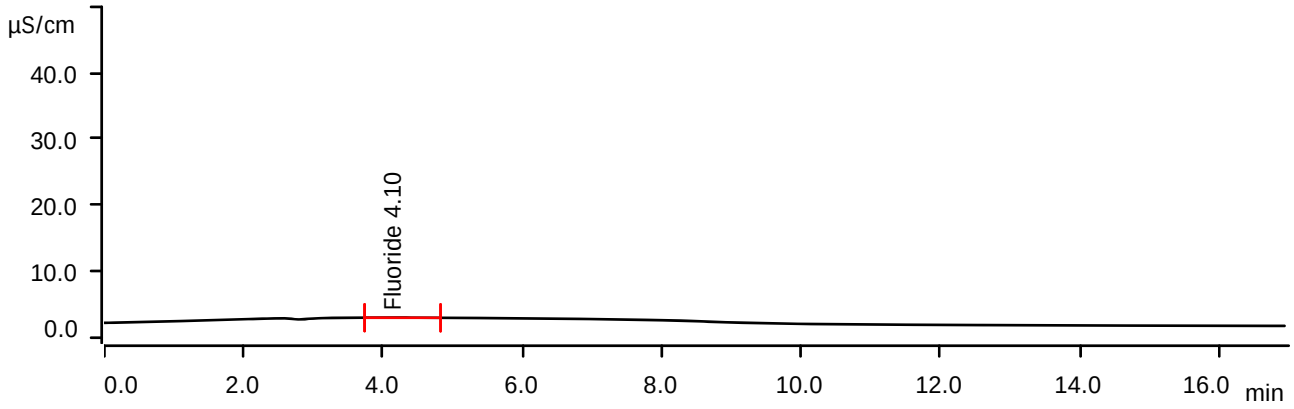
Ident	CCB	
Determination start	2017-01-10 20:34:51 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.68	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.095	0.0204	0.045	0.270	Fluoride

Sample data

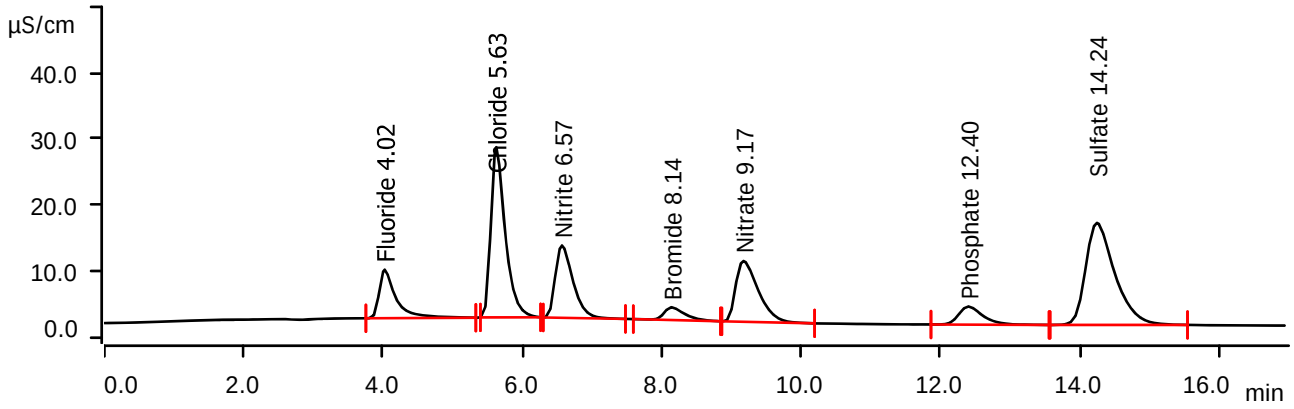
Ident CCV
Determination start 2017-01-10 21:14:49 UTC-6
Method IC0945
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 17.0 min
Integration . . . . . Manual
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 12.51 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.023	2.0525	7.352	3.784	Fluoride
2	5.625	6.1778	25.827	16.481	Chloride
3	6.567	3.2237	10.972	3.786	Nitrite
4	8.138	0.6589	1.935	4.073	Bromide
5	9.172	3.4568	9.222	3.583	Nitrate
6	12.398	1.1156	2.756	3.260	Phosphate
7	14.243	7.5124	15.478	27.378	Sulfate

Sample data

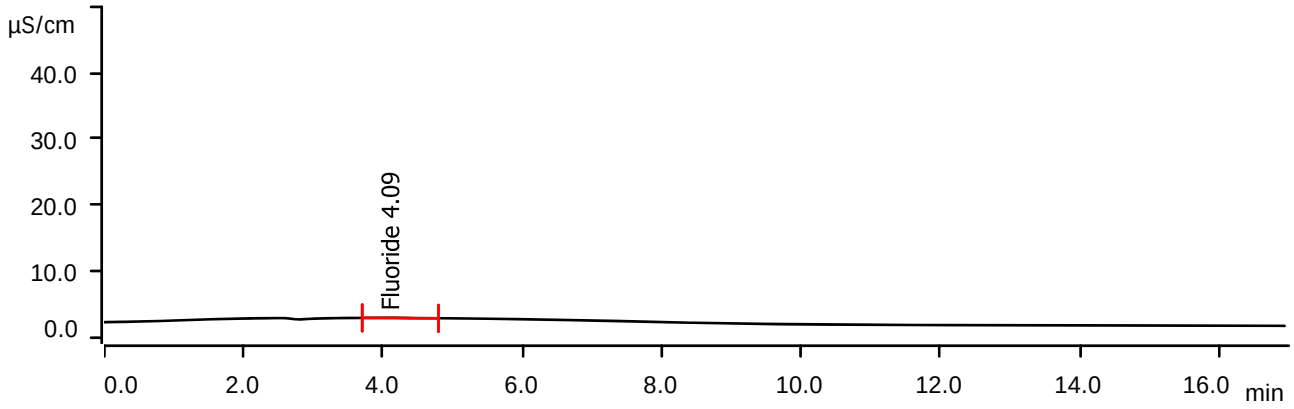
Ident	CCB	
Determination start	2017-01-10 21:54:46 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.63	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.087	0.0240	0.058	0.277	Fluoride

Sample data

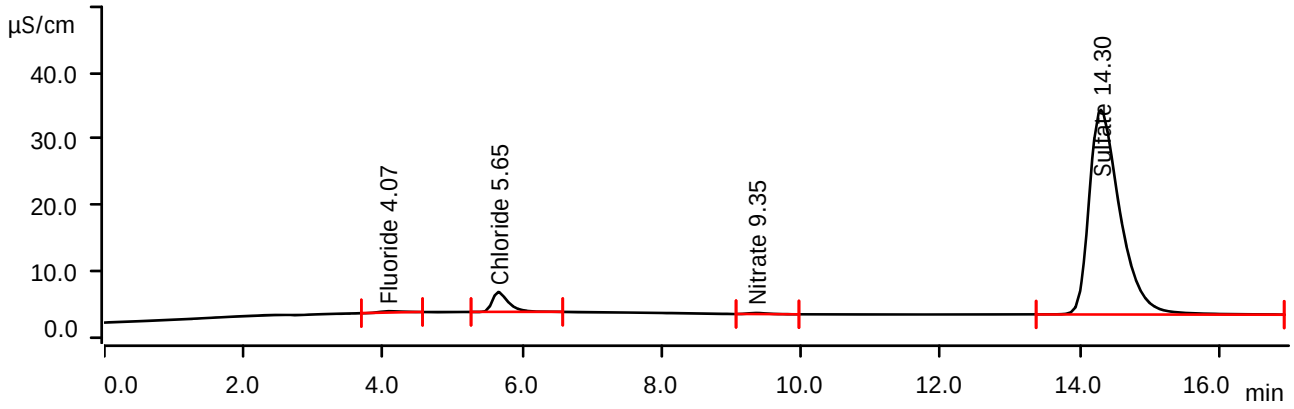
Ident	826236	
Determination start	2017-01-11 02:04:17 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.02	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **2.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.073	0.0801	0.233	0.373	Fluoride
2	5.653	0.8147	3.027	2.988	Chloride
3	9.345	0.0521	0.169	0.257	Nitrate
4	14.298	15.9490	31.036	56.333	Sulfate

Sample data

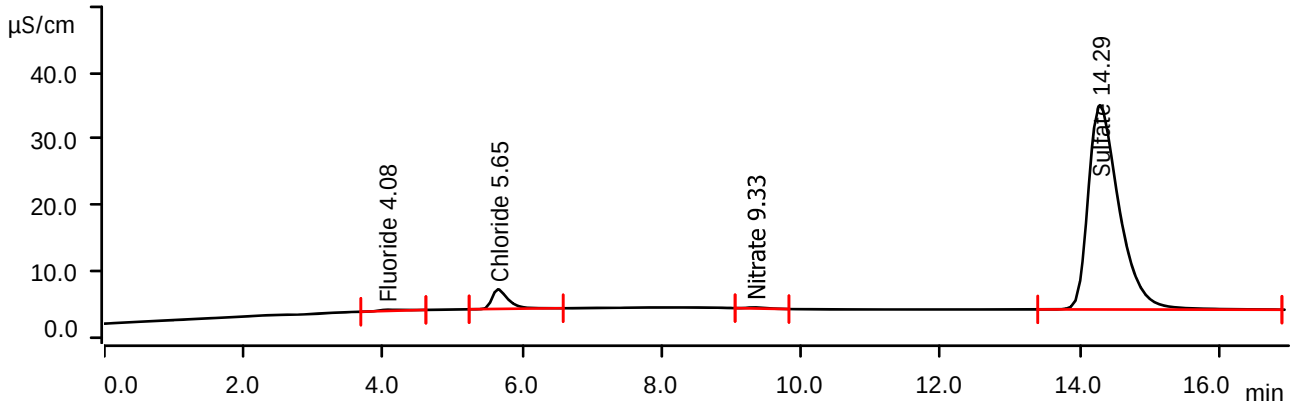
Ident	DUP826236	
Determination start	2017-01-11 02:23:57 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	12.91	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **2.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.082	0.0677	0.182	0.352	Fluoride
2	5.650	0.7964	2.989	2.942	Chloride
3	9.327	0.0477	0.162	0.252	Nitrate
4	14.285	15.9423	30.997	56.310	Sulfate

Sample data

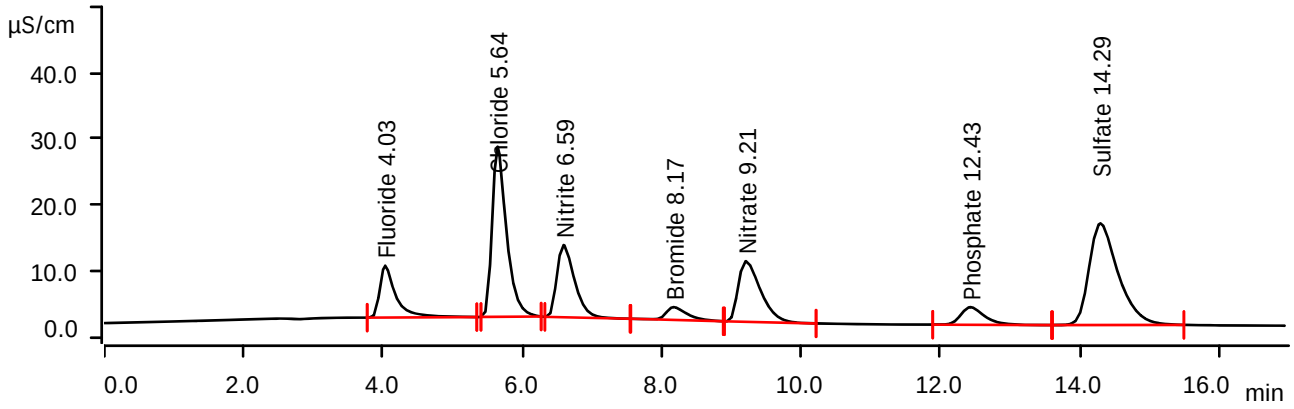
Ident	CCV	
Determination start	2017-01-11 02:43:38 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.36	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.030	2.1085	7.859	3.880	Fluoride
2	5.643	6.1832	25.801	16.494	Chloride
3	6.590	3.2214	10.950	3.783	Nitrite
4	8.170	0.6737	1.945	4.162	Bromide
5	9.208	3.4185	9.191	3.545	Nitrate
6	12.428	1.0665	2.680	3.126	Phosphate
7	14.293	7.4853	15.426	27.285	Sulfate

Sample data

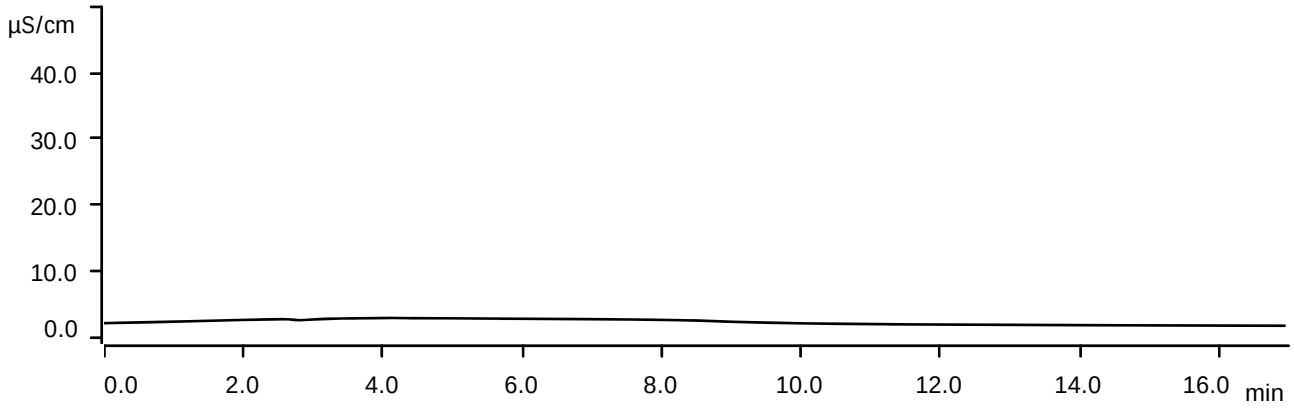
Ident	CCB	
Determination start	2017-01-11 03:23:19 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.19	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Sample data

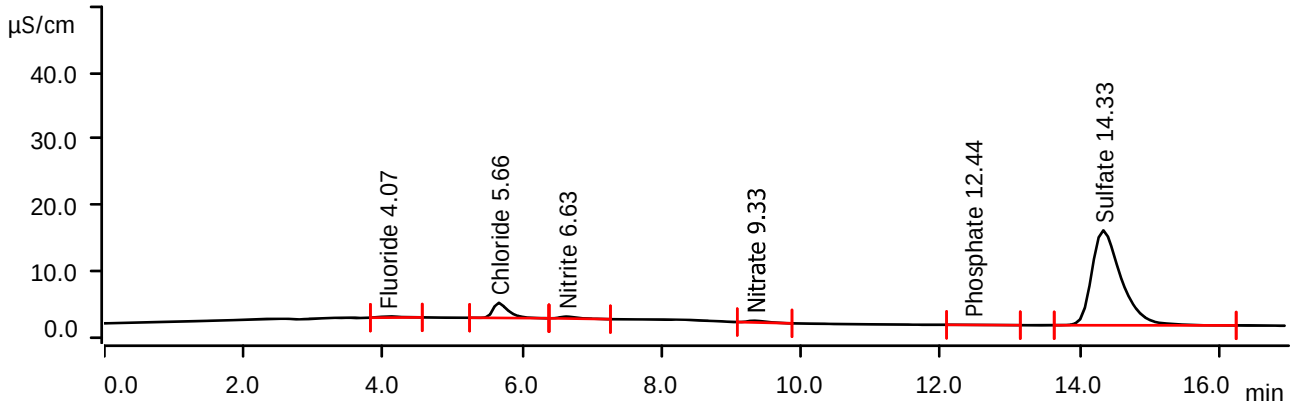
Ident	MSW826236	
Determination start	2017-01-11 03:43:15 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.36	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **2.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.065	0.0553	0.178	0.331	Fluoride
2	5.658	0.5826	2.285	2.404	Chloride
3	6.627	0.0835	0.294	0.189	Nitrite
4	9.328	0.0799	0.271	0.284	Nitrate
5	12.437	0.0118	0.033	0.238	Phosphate
6	14.332	7.0445	14.399	25.772	Sulfate

Sample data

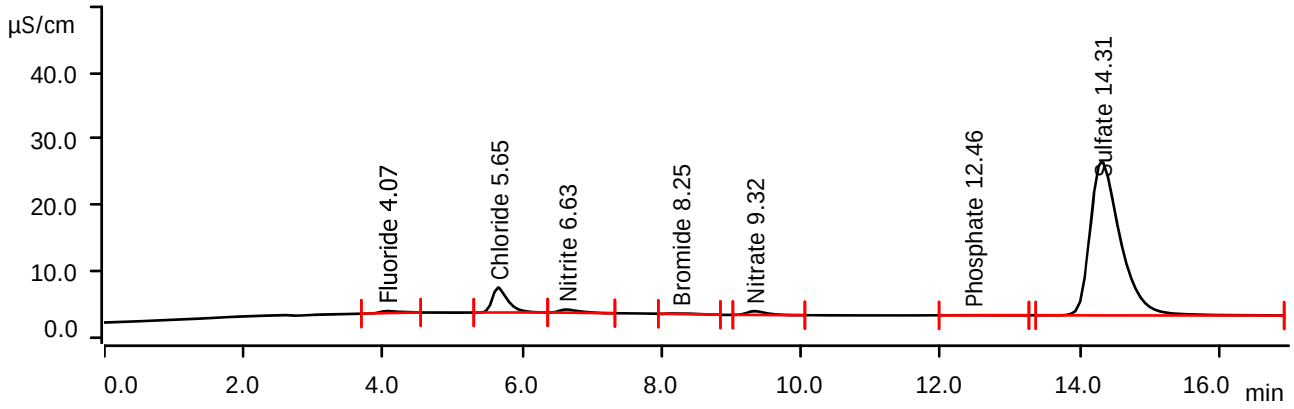
Ident MSDW826236
Determination start 2017-01-11 04:02:55 UTC-6
Method IC0945
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 17.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 13.25 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **2.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.065	0.1026	0.330	0.412	Fluoride
2	5.650	0.9742	3.787	3.389	Chloride
3	6.628	0.1563	0.490	0.273	Nitrite
4	8.247	0.0416	0.131	0.366	Bromide
5	9.323	0.1817	0.577	0.383	Nitrate
6	12.458	0.0246	0.065	0.273	Phosphate
7	14.310	11.7368	23.337	41.877	Sulfate

Sample data

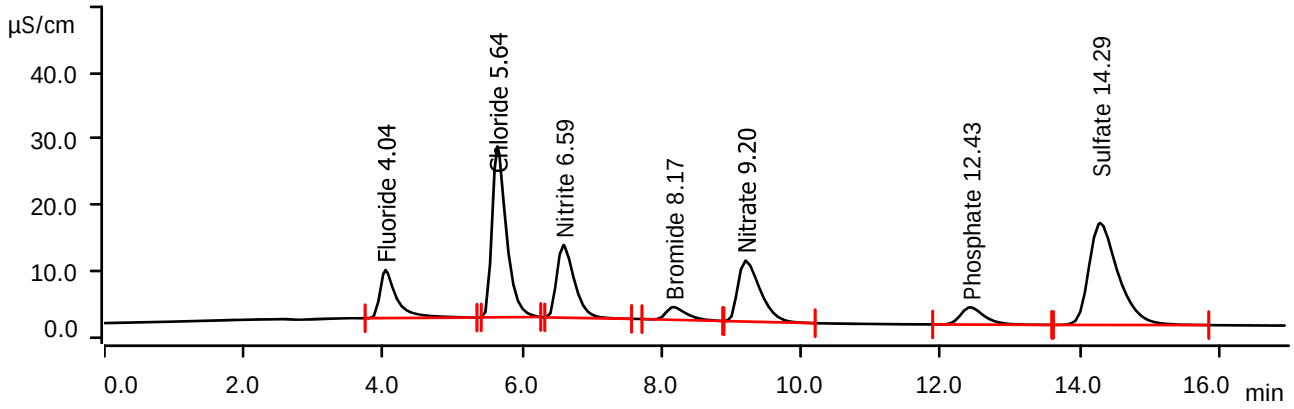
Ident	CCV	
Determination start	2017-01-11 04:22:36 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.36	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.035	2.0405	7.295	3.763	Fluoride
2	5.642	6.1789	25.921	16.484	Chloride
3	6.588	3.2230	11.010	3.785	Nitrite
4	8.167	0.6554	1.934	4.052	Bromide
5	9.203	3.4220	9.237	3.549	Nitrate
6	12.425	1.0451	2.628	3.067	Phosphate
7	14.290	7.5445	15.463	27.488	Sulfate

Sample data

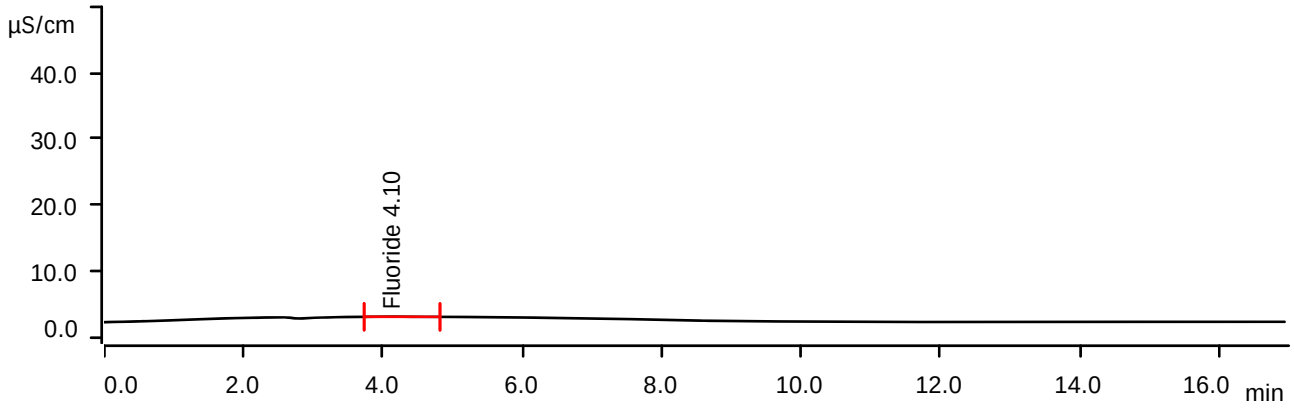
Ident	CCB	
Determination start	2017-01-11 05:02:30 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.25	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.095	0.0229	0.055	0.275	Fluoride

Sample table - 011117 - 134314 134315

	Method	Ident	Sample type	Position	Inje...	Status	Dil...	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0945	CCV IC0939 IC0940	Check standard 1	149	1	READY 0 / 1	1	(01) Reset to First Emp...	(02) No i-Dilution		1	84
2	IC0945	LCSW IC0941 IC0942	Check standard 2	1	1	READY 0 / 1	1		(02) No i-Dilution		1	84
3	IC0945	MBW	Sample	150	1	READY 0 / 1	1		(02) No i-Dilution		1	84
7	IC0945	826633	Sample	5	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
8	IC0945	DUP826633	Sample	6	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
9	IC0945	MSW826663X5	Sample	7	1	READY 0 / 1	1		(02) No i-Dilution		1	84
10	IC0945	MSDW82633X5	Sample	8	1	READY 0 / 1	1		(02) No i-Dilution		1	84
11	IC0945	826638	Sample	9	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
12	IC0945	826640	Sample	10	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
13	IC0945	CCV	Check standard 1	149	1	READY 0 / 1	1	(01) Reset to First Emp...	(02) No i-Dilution		1	84
14	IC0945	CCB	Sample	150	1	READY 0 / 1	1		(02) No i-Dilution		1	84

Sample data

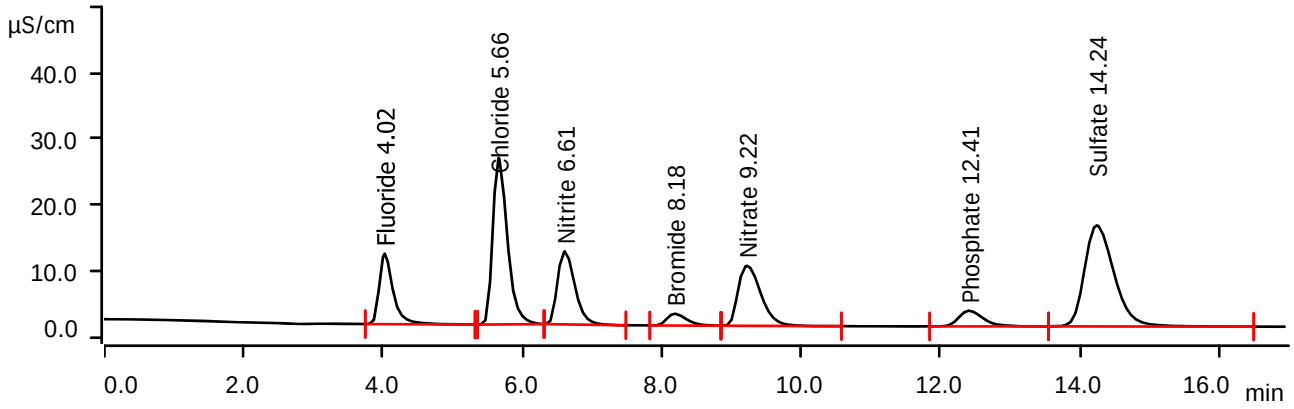
Ident	CCV IC0939 IC0940
Determination start	2017-01-11 15:24:21 UTC-6
Method	IC0945
Operator	AGK

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.47	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.023	2.4753	10.702	4.515	Fluoride
2	5.657	6.1771	25.291	16.479	Chloride
3	6.607	3.2218	11.076	3.784	Nitrite
4	8.183	0.5892	1.780	3.654	Bromide
5	9.222	3.4451	9.107	3.571	Nitrate
6	12.407	0.9733	2.386	2.871	Phosphate
7	14.240	7.5314	15.348	27.443	Sulfate

Sample data

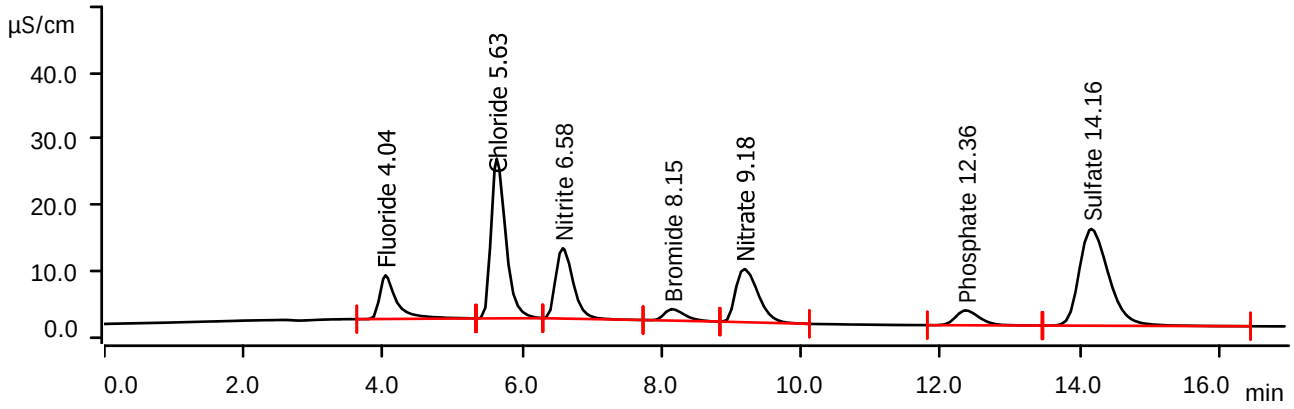
Ident	LCSW IC0941 IC0942
Determination start	2017-01-11 16:11:19 UTC-6
Method	IC0945
Operator	AGK

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.30	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.035	1.8628	6.612	3.456	Fluoride
2	5.632	5.9283	24.211	15.853	Chloride
3	6.578	3.1059	10.660	3.651	Nitrite
4	8.145	0.5963	1.736	3.697	Bromide
5	9.183	3.0188	8.049	3.155	Nitrate
6	12.360	0.9026	2.264	2.677	Phosphate
7	14.162	7.2106	14.688	26.342	Sulfate

Sample data

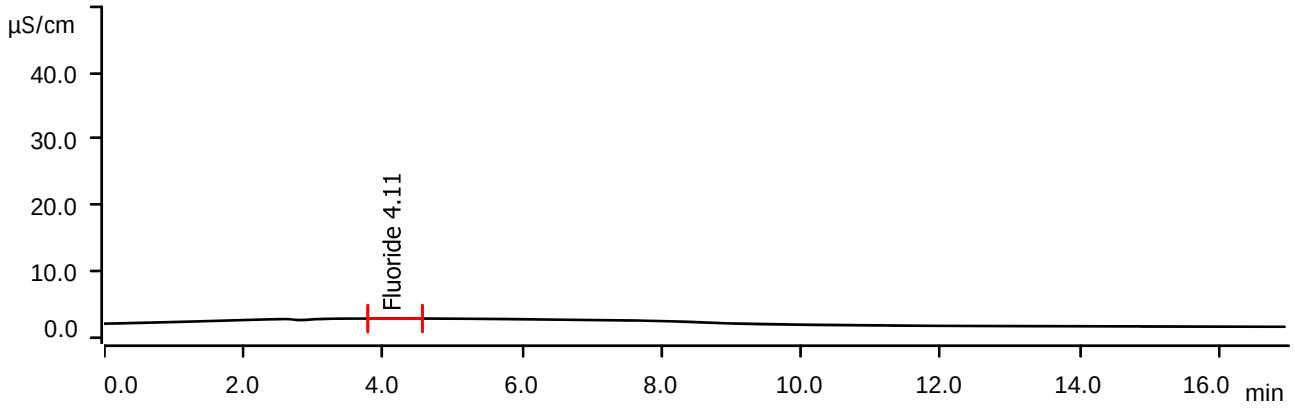
Ident	MBW	
Determination start	2017-01-11 16:31:17 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.110	0.0147	0.041	0.260	Fluoride

Sample data

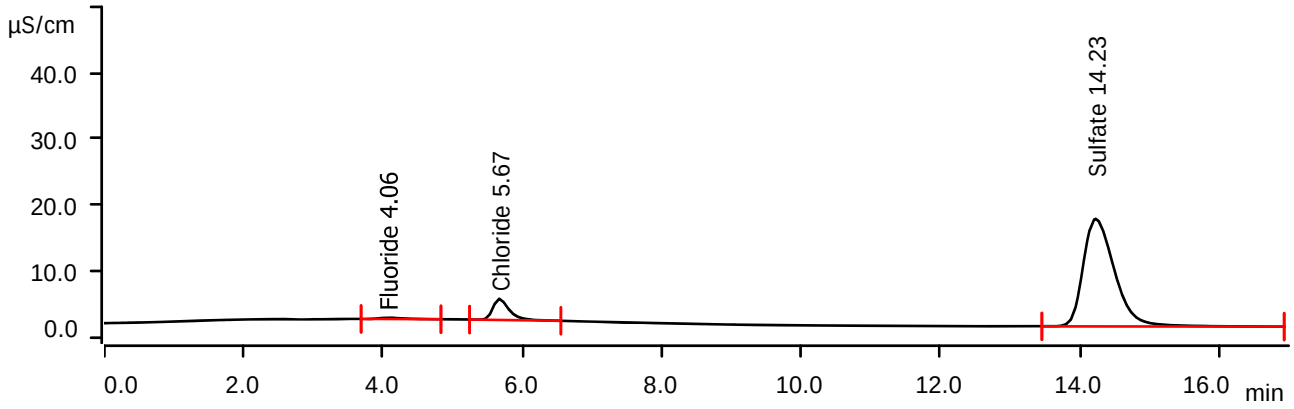
Ident	826633	
Determination start	2017-01-11 17:50:59 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.47	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.062	0.0720	0.196	0.359	Fluoride
2	5.668	0.8774	3.204	3.146	Chloride
3	14.225	8.5259	16.319	30.857	Sulfate

Sample data

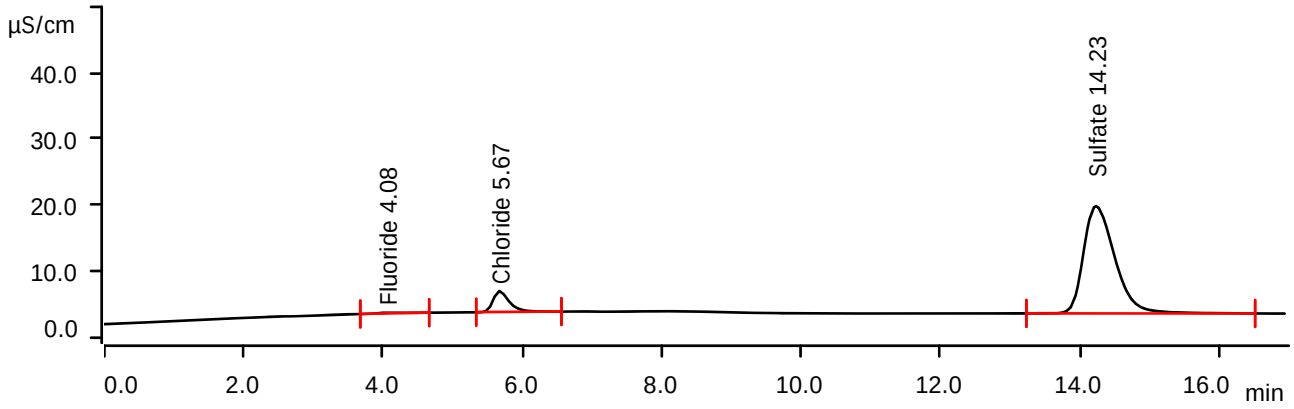
Ident	DUP826633	
Determination start	2017-01-11 18:10:54 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.42	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.080	0.0512	0.140	0.324	Fluoride
2	5.672	0.8666	3.187	3.119	Chloride
3	14.230	8.4911	16.290	30.737	Sulfate

Sample data

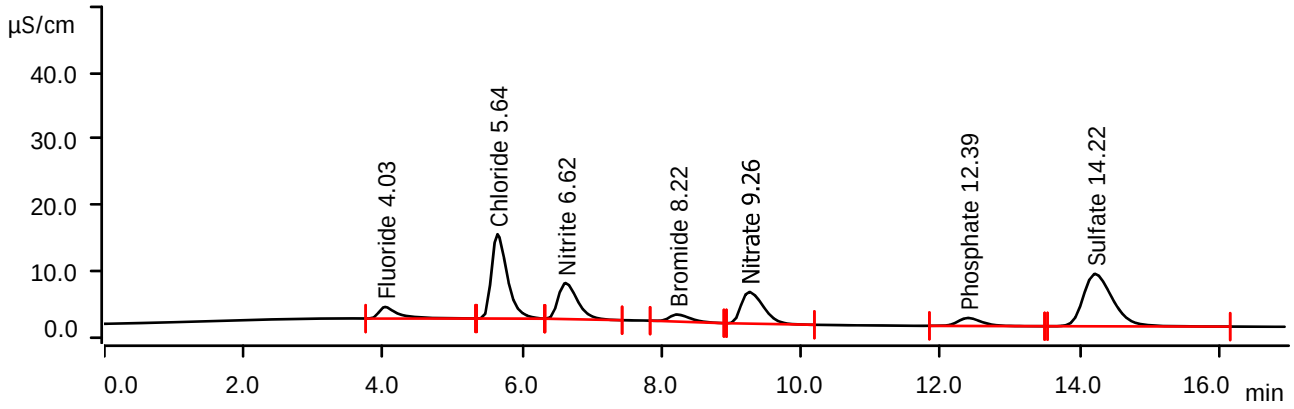
Ident MSW826663X5
Determination start 2017-01-11 18:30:49 UTC-6
Method IC0945
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 17.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 13.70 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.030	0.5835	1.771	1.244	Fluoride
2	5.642	3.3734	12.799	9.425	Chloride
3	6.620	1.7561	5.466	2.105	Nitrite
4	8.215	0.3684	1.075	2.329	Bromide
5	9.255	1.7684	4.803	1.933	Nitrate
6	12.392	0.4800	1.220	1.520	Phosphate
7	14.217	3.8915	7.960	14.951	Sulfate

Sample data

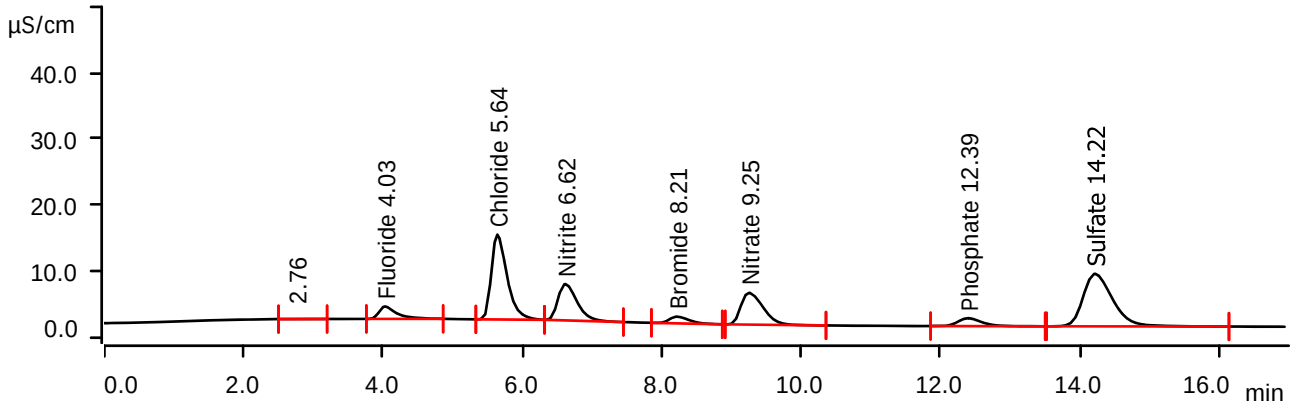
Ident	MSDW82633X5	
Determination start	2017-01-11 18:50:44 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.53	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.763	0.0100	0.037	invalid	
2	4.030	0.5561	1.885	1.197	Fluoride
3	5.640	3.3701	12.867	9.417	Chloride
4	6.617	1.7569	5.521	2.106	Nitrite
5	8.212	0.3293	1.017	2.094	Bromide
6	9.252	1.7756	4.820	1.940	Nitrate
7	12.393	0.4754	1.209	1.507	Phosphate
8	14.215	3.9015	7.984	14.985	Sulfate

Sample data

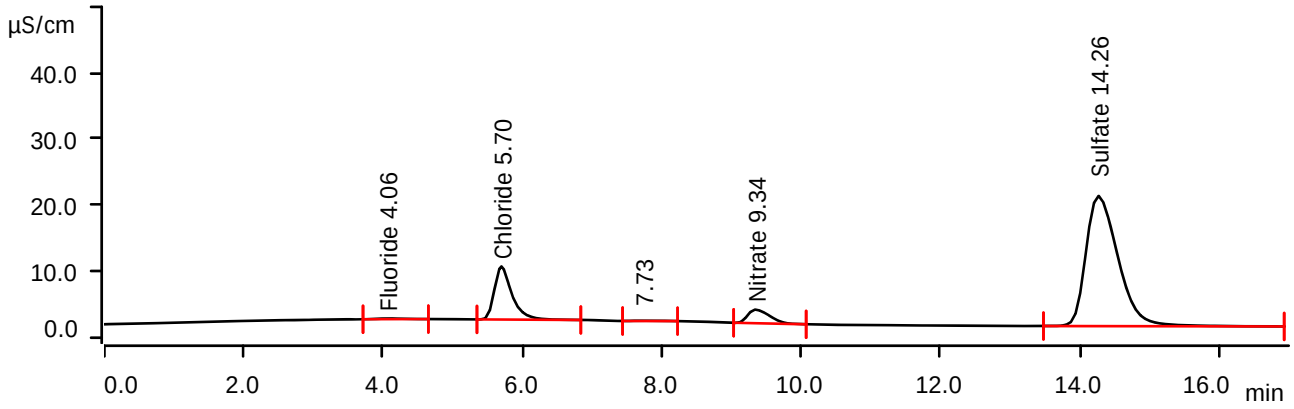
Ident	826638	
Determination start	2017-01-11 19:10:38 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.64	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.063	0.0434	0.122	0.310	Fluoride
2	5.698	2.3402	8.044	6.826	Chloride
3	7.727	0.0247	0.055	invalid	
4	9.343	0.7464	2.069	0.935	Nitrate
5	14.263	10.5644	19.742	37.853	Sulfate

Sample data

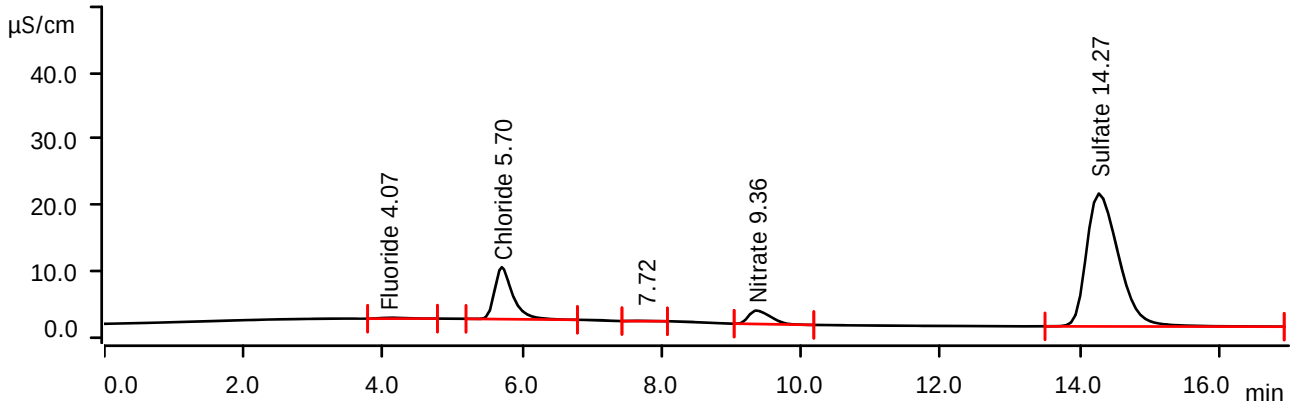
Ident	826640	
Determination start	2017-01-11 19:30:33 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.068	0.0574	0.151	0.334	Fluoride
2	5.703	2.3462	7.880	6.841	Chloride
3	7.715	0.0186	0.046	invalid	
4	9.357	0.7417	2.045	0.930	Nitrate
5	14.272	10.7886	20.146	38.622	Sulfate

Sample data

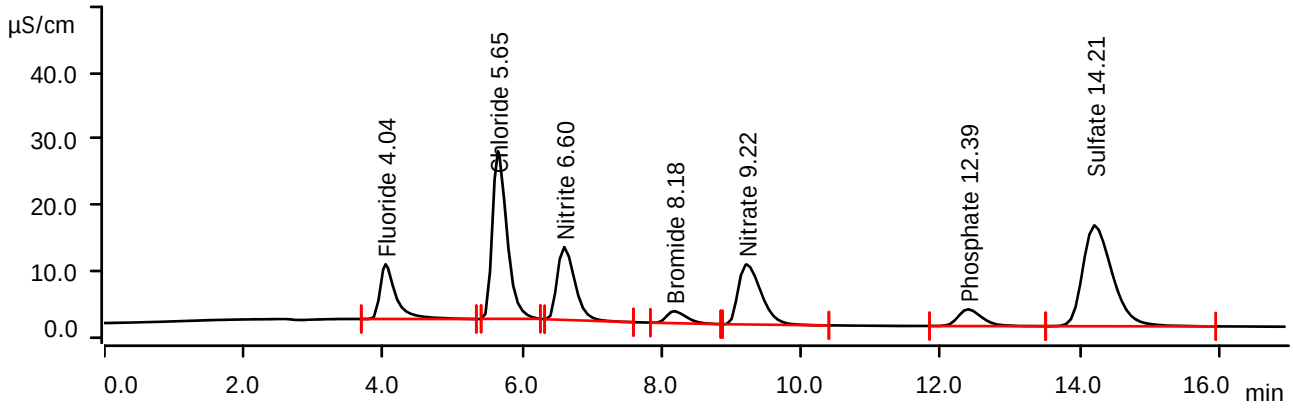
Ident	CCV	
Determination start	2017-01-11 19:50:28 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Manual	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.59	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.037	2.1877	8.299	4.017	Fluoride
2	5.648	6.1748	25.433	16.473	Chloride
3	6.598	3.2500	11.037	3.816	Nitrite
4	8.177	0.5995	1.820	3.717	Bromide
5	9.217	3.4510	9.101	3.577	Nitrate
6	12.393	1.0095	2.552	2.969	Phosphate
7	14.210	7.5304	15.287	27.440	Sulfate

Sample data

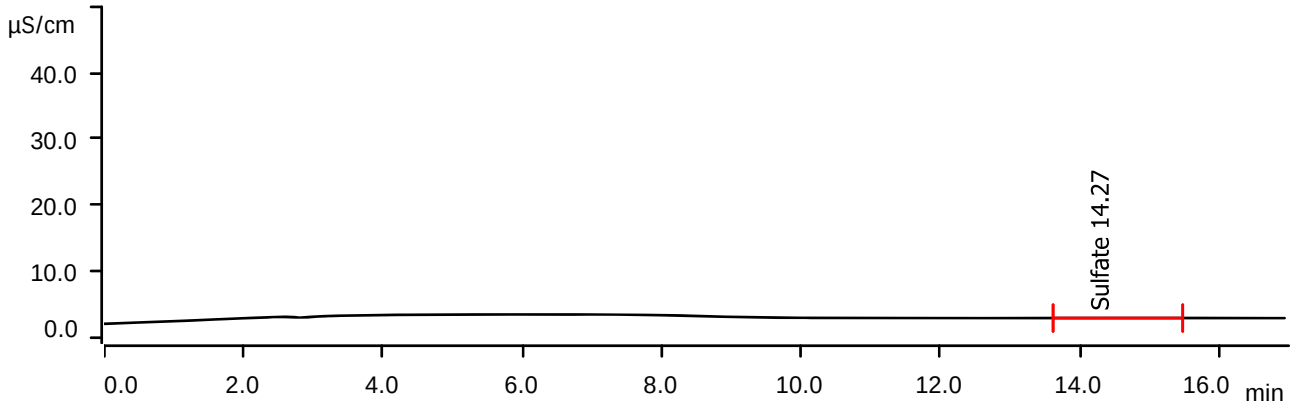
Ident	CCB	
Determination start	2017-01-11 20:30:24 UTC-6	
Method	IC0945	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	17.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	13.87	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	14.268	0.0138	0.023	1.642	Sulfate

W38914

TEST 31
04/29/16

LINEAR{32}CURVE{32}FIT{13}{10}
NOT{32}THROUGH{32}0{13}{10}
{13}{10}
{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}ENTERED{32}{32}{32}{32}
CALCULATED{13}{10}
STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32
}{32}{32}CONC{32}{32}{32}{32}ERROR{13}{10}
{32}1{32}{32}{32}0.000{32}{32}{32}{32}0.000{32}{32}{32}{32}{32}{32}-
0.986{32}{32}{32}-0.986{13}{10}
{32}2{32}{32}{32}0.004{32}{32}{32}{32}{32}10.0{32}{32}{32}{32}{32}{32}{32}
{32}{32}7.2{32}{32}{32}{32}{32}-2.8{13}{10}
{32}3{32}{32}{32}0.011{32}{32}{32}{32}{32}25.0{32}{32}{32}{32}{32}{32}{32}
{32}24.3{32}{32}{32}{32}{32}-0.7{13}{10}
{32}4{32}{32}{32}0.023{32}{32}{32}{32}{32}50.0{32}{32}{32}{32}{32}{32}{32}
{32}51.1{32}{32}{32}{32}{32}{32}1.1{13}{10}
{32}5{32}{32}{32}0.044{32}{32}{32}{32}{32}100.{32}{32}{32}{32}{32}{32}{32}
{32}101.{32}{32}{32}{32}{32}{32}{32}1.{13}{10}
{32}6{32}{32}{32}0.221{32}{32}{32}{32}{32}500.{32}{32}{32}{32}{32}{32}{32}
{32}508.{32}{32}{32}{32}{32}{32}{32}8.{13}{10}
{32}7{32}{32}{32}0.323{32}{32}{32}{32}{32}750.{32}{32}{32}{32}{32}{32}{32}
{32}744.{32}{32}{32}{32}{32}{32}-6.{13}{10}
----------{13}{10}
{13}{10}
SLOPE{32}{32}{32}{32}{32}{32}{32}{32}0.0004{13}{10}
INTERCEPT{32}{32}{32}{32}{32}0.001{13}{10}
CORR{32}COEFF{32}{32}{32}0.9998{13}{10}
----------{13}{10}
{13}{10}

ICV W38788
391.
ICB
0.

1
377.
2
375.
3
-1.
4
64.
5
61.
6
202.
7
197.
8
21.
9
93.
10
5.
11
145.
12
143.
13
6.
14
384.
15
-1.
16
21.
17
-0.
18
-4.
19
-3.
20
2.
21
362.
22
3.

Chemical Oxygen Demand (COD)

Analyst: MER **Runs:** 134513 **Date:** 01/19/2017

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1	1	**CCV**			377
2	2	**LCS**			375
3	3	**MBW**			0
4	4	826641			~~71~~ 64
5	5	DUP826641			61
6	6	MSW826641			202
7	7	MSDW826641			197
8	8	827780			21
9	9	827760 MER BS			93
10	10	827930			5
11	11	MSW827930			145
12	12	MSDW827930			143
13	13	827931			6
1	14	**CCV**			384
3	15	**CCB**			Ø
14	16	827932			21
15	17	827933			Ø
16	18	827934			Ø
17	19	827935			Ø
18	20	827936			2
19	21	**LCSW**			362
20	22	**MBW**			3
21	23	826228			351
22	24	MSW826228			478
23	25	MSDW826228			480
1	26	**CCV**			369
3	27	**CCB**			Ø

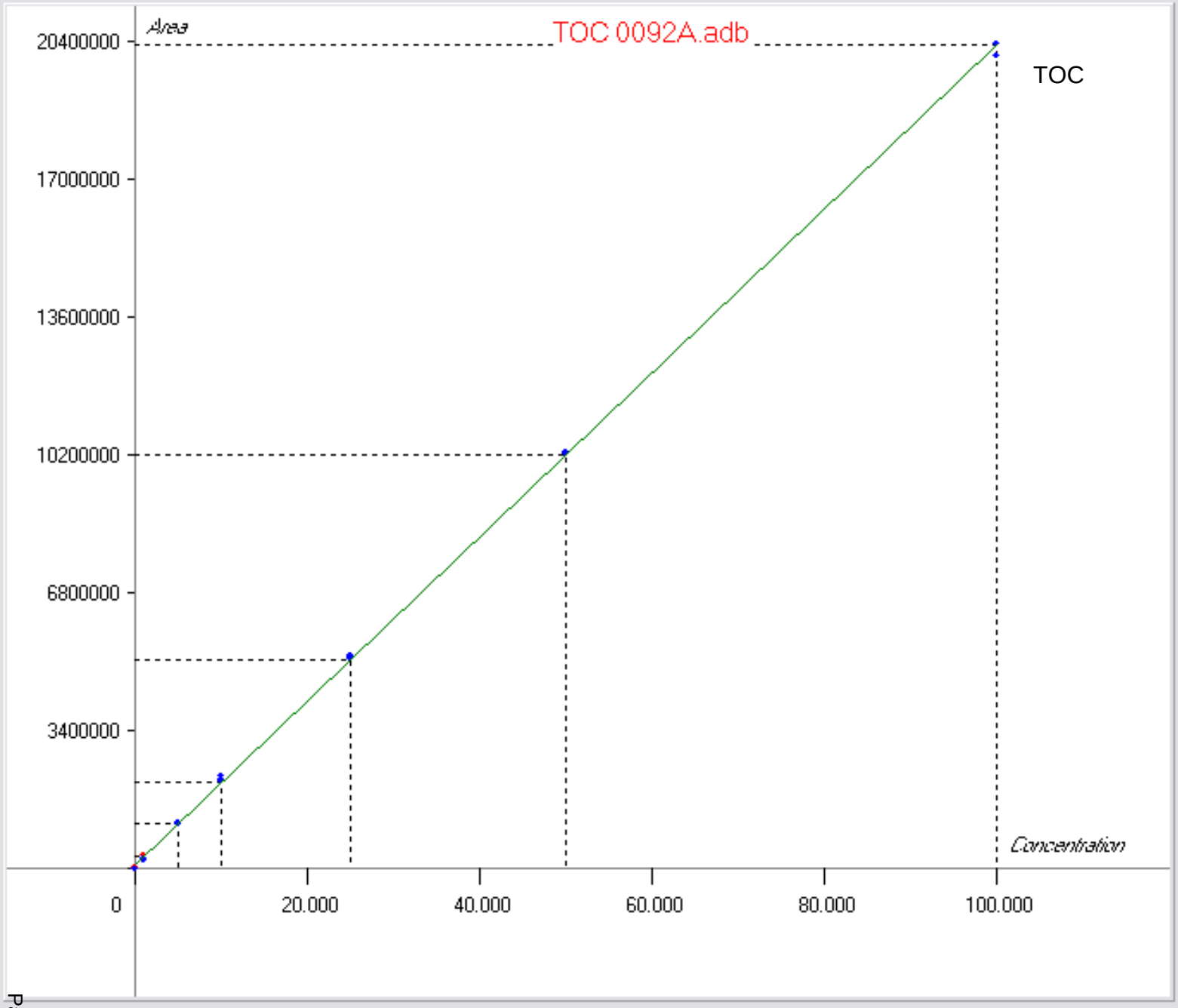
pH Bench Sheet

Date: 01/13/2017 Analyst: SAW

Instrument: ***Mettler Toledo Seven Easy*** LIMS#: 134371

Time: 1355 Slope (%): 96%

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	826641	GW	7.06	19.1	
2	DUP826641	GW	7.02	19.0	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					



Cursor Position

Concentration	Area
83.600 mg/l	-3060000

A2	0
A1	202300
A0	123265
Correlation	0.99991
Order	1
Volume	100 µl
Conc.	100.00
Area	20385142

☐ Confidence Intervals 95%

☐ Detection/Determination 95%

Conc.	Area	Sel.
0	67055	☐
0	6502	☑
0	15479	☑
0	13498	☑
0	10812	☑
1	355611	☐
1	256541	☑
1	249342	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

RJ05/05/2016

Analysis Name TOC 0092A.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator JJF

Date Monday, May 2, 2016
Time 15:47

Start Oven Temp. 756 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092
ICV TOC0089

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification		Dilution Factor
1	1	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**ZERO !**	**74051**	**84.37**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 15:58:37	2.80	689752	1	761	2	-	-
2	5 2 2016 16:02:41	0.00	0	0	761	2	-	Yes
3	5 2 2016 16:06:43	ZERO !	121725	1	762	2	-	Yes
4	5 2 2016 16:09:13	0.03	129696	1	761	2	-	Yes
5	5 2 2016 16:13:04	ZERO !	44784	1	762	2	-	Yes

2	2	Unknown	BLANK		1 x
		TC	**ZERO !**	**20752**	**59.27**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:16:34	ZERO !	36830	1	762	2	-	Yes
2	5 2 2016 16:17:40	ZERO !	73204	1	763	2	-	-
3	5 2 2016 16:19:56	ZERO !	23805	1	760	2	-	Yes
4	5 2 2016 16:22:45	ZERO !	9954	1	761	2	-	Yes
5	5 2 2016 16:25:39	ZERO !	12421	1	762	2	-	Yes

3	S1	Standard	TC Std	0.00 mg/l	1 x
		TC	**ZERO !**	**11572**	**33.56**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:29:33	ZERO !	67055	1	762	2	-	-
2	5 2 2016 16:32:56	ZERO !	6502	1	761	2	-	Yes
3	5 2 2016 16:36:03	ZERO !	15479	1	761	2	-	Yes
4	5 2 2016 16:39:01	ZERO !	13498	1	761	2	-	Yes
5	5 2 2016 16:41:59	ZERO !	10812	1	761	2	-	Yes

4	S2	Standard	TC Std	1.00 mg/l	1 x
		TC	**0.68**	**261045**	**4.26**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:45:43	1.15	355611	1	761	2	-	-
2	5 2 2016 16:48:46	0.66	256541	1	760	2	-	Yes
3	5 2 2016 16:51:01	0.62	249342	1	759	2	-	Yes
4	5 2 2016 16:53:17	0.69	262751	1	758	2	-	Yes
5	5 2 2016 16:55:31	0.75	275546	1	758	2	-	Yes

5 S3 Standard TC Std. 5.00 mg/l 1 x

	TC	5.05	1145745	1.97		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:58:52	5.18	1171891	1	759	2	-	Yes
2	5 2 2016 17:02:02	4.95	1125467	1	758	2	-	Yes
3	5 2 2016 17:04:49	4.97	1128514	1	758	2	-	Yes
4	5 2 2016 17:07:40	5.11	1157109	1	758	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	10.47	2240681	2.39		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:11:19	10.86	2320542	1	758	2	-	Yes
2	5 2 2016 17:14:55	10.31	2208918	1	758	2	-	Yes
3	5 2 2016 17:17:46	10.38	2223049	1	757	2	-	Yes
4	5 2 2016 17:20:40	10.32	2210215	1	757	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	25.34	5250145	0.93		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:24:28	25.63	5308682	1	757	2	-	Yes
2	5 2 2016 17:28:13	25.23	5227580	1	757	2	-	Yes
3	5 2 2016 17:31:18	25.43	5267780	1	757	2	-	Yes
4	5 2 2016 17:34:22	25.08	5196538	1	757	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	50.28	10294470	0.15		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:38:19	50.21	10279869	1	756	2	-	Yes
2	5 2 2016 17:42:17	50.36	10310763	1	756	2	-	Yes
3	5 2 2016 17:45:32	50.22	10281823	1	756	2	-	Yes
4	5 2 2016 17:48:42	50.33	10305425	1	756	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	99.73	20298418	0.77		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:52:45	100.02	20357592	1	756	2	-	Yes
2	5 2 2016 17:56:37	98.58	20066104	1	756	2	-	Yes
3	5 2 2016 17:59:45	100.16	20385142	1	755	2	-	Yes
4	5 2 2016 18:02:41	100.16	20384837	1	755	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	51.21	10483878	0.72		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:07:08	51.67	10575523	1	755	2	-	Yes
2	5 2 2016 18:10:58	50.76	10392416	1	755	2	-	Yes
3	5 2 2016 18:14:12	51.17	10474795	1	755	2	-	Yes
4	5 2 2016 18:17:32	51.26	10492781	1	754	2	-	Yes

11 S9 Unknown ICB 1 x

	TC	0.29	182348	2.43		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:21:43	0.70	264811	1	755	2	-	-
2	5 2 2016 18:24:53	0.32	187637	1	753	2	-	Yes
3	5 2 2016 18:27:13	0.26	176792	1	753	2	-	Yes
4	5 2 2016 18:29:34	0.29	182491	1	753	2	-	Yes
5	5 2 2016 18:31:58	0.29	182473	1	753	2	-	Yes

Analysis Name 011117 - 134292.adb

Template Name 011117 - 134292.tdb
Method Name N / A
Operator agk

Date Wednesday, January 11, 2017
Time 16:15

Start Oven Temp. 781 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A SPIKE TOC 0082
CCV TOC0147
LCS TOC0148

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**52390**	**116.81**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 11 2017 16:16:04	2.19	565554	1	781	2	-	-
2	1 11 2017 16:19:45	ZERO !	116114	1	780	2	-	Yes
3	1 11 2017 16:22:18	0	0	0	780	2	-	Yes
4	1 11 2017 16:26:19	ZERO !	93449	1	779	2	-	Yes
5	1 11 2017 16:28:49	0	0	0	779	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S2	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**52.27**	**10697591**	**0.71**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 11 2017 16:33:42	51.78	10598756	1	778	2	-	Yes
2	1 11 2017 16:37:40	52.19	10681105	1	777	2	-	Yes
3	1 11 2017 16:41:05	52.47	10738829	1	776	2	-	Yes
4	1 11 2017 16:44:27	52.64	10771675	1	775	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCS	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**53.99**	**11045117**	**1.84**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 11 2017 16:48:37	52.89	10823448	1	774	2	-	Yes
2	1 11 2017 16:52:36	55.28	11306674	1	772	2	-	Yes
3	1 11 2017 16:55:54	54.14	11075684	1	770	2	-	Yes
4	1 11 2017 16:59:12	53.64	10974664	1	770	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S8	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 11 2017 17:03:26	0	0	0	769	2	-	Yes
2	1 11 2017 17:08:03	0	0	0	768	2	-	Yes
3	1 11 2017 17:12:04	0	0	0	767	2	-	Yes
4	1 11 2017 17:16:04	0	0	0	766	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	2	Unknown	826235	1 x

		TC	**88.37**	**17999916**	**0.45**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 17:20:56	88.92	18111469	1	765	2	-	Yes
	2	1 11 2017 17:25:14	88.39	18003909	1	764	2	-	Yes
	3	1 11 2017 17:28:46	88.15	17955269	1	763	2	-	Yes
	4	1 11 2017 17:32:00	88.02	17929018	1	762	2	-	Yes

6	3	Unknown	DUP826235	1 x

		TC	**88.12**	**17949430**	**0.43**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 17:36:18	88.22	17970886	1	761	2	-	Yes
	2	1 11 2017 17:40:31	87.96	17916651	1	761	2	-	Yes
	3	1 11 2017 17:44:10	87.70	17864229	1	760	2	-	Yes
	4	1 11 2017 17:47:32	88.59	18045956	1	759	2	-	Yes

7	4	Unknown	MSW826235	1 x

		TC	**130.23**	**26468342**	**0.32**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 17:51:52	130.64	26551049	1	759	2	-	Yes
	2	1 11 2017 17:56:25	129.96	26414131	1	758	2	-	Yes
	3	1 11 2017 18:00:03	130.53	26528451	1	758	2	-	Yes
	4	1 11 2017 18:03:33	129.79	26379737	1	757	2	-	Yes

8	5	Unknown	MSDW826235	1 x

		TC	**129.95**	**26412179**	**0.80**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 18:08:18	131.36	26697593	1	756	2	-	Yes
	2	1 11 2017 18:12:33	128.93	26205588	1	756	2	-	Yes
	3	1 11 2017 18:16:23	130.06	26433711	1	756	2	-	Yes
	4	1 11 2017 18:20:24	129.45	26311824	1	755	2	-	Yes

9	6	Unknown	826237	1 x

		TC	**102.25**	**20808721**	**0.57**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 18:24:57	103.04	20967566	1	755	2	-	Yes
	2	1 11 2017 18:29:07	102.34	20827092	1	754	2	-	Yes
	3	1 11 2017 18:32:35	101.92	20740715	1	754	2	-	Yes
	4	1 11 2017 18:36:01	101.71	20699514	1	754	2	-	Yes

10	7	Unknown	826239	1 x

		TC	**0.81**	**286859**	**5.75**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 18:40:53	0.69	262442	1	754	2	-	Yes
	2	1 11 2017 18:44:07	0.84	292924	1	753	2	-	Yes
	3	1 11 2017 18:46:45	0.84	293221	1	753	2	-	Yes
	4	1 11 2017 18:49:17	0.87	298852	1	753	2	-	Yes

11	8	Unknown	826629	1 x

		TC	**64.37**	**13145959**	**0.24**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 18:52:44	64.20	13109905	1	754	2	-	Yes
	2	1 11 2017 18:56:41	64.32	13135193	1	753	2	-	Yes
	3	1 11 2017 19:00:07	64.56	13184471	1	753	2	-	Yes
	4	1 11 2017 19:03:36	64.41	13154268	1	753	2	-	Yes

12	9	Unknown	826637	1 x

		TC	**97.14**	**19775490**	**0.53**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 19:07:40	97.85	19917695	1	753	2	-	Yes
	2	1 11 2017 19:11:41	96.85	19716133	1	753	2	-	Yes
	3	1 11 2017 19:15:15	97.21	19789380	1	752	2	-	Yes
	4	1 11 2017 19:18:50	96.67	19678755	1	753	2	-	Yes

13	10	Unknown	826639	1 x

		TC	**99.88**	**20327884**	**0.81**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 19:23:13	100.69	20492720	1	752	2	-	Yes
	2	1 11 2017 19:27:48	100.45	20444073	1	753	2	-	Yes
	3	1 11 2017 19:31:19	99.31	20213099	1	753	2	-	Yes
	4	1 11 2017 19:35:17	99.05	20161644	1	753	2	-	Yes

14	S2	Unknown	CCV		1 x

		TC	**53.41**	**10928198**	**0.46**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 19:39:40	53.39	10923246	1	752	2	-	Yes
	2	1 11 2017 19:43:48	53.66	10977800	1	752	2	-	Yes
	3	1 11 2017 19:47:06	53.08	10861423	1	752	2	-	Yes
	4	1 11 2017 19:50:24	53.52	10950324	1	752	2	-	Yes

15	S8	Unknown	CCB		1 x

		TC	**ZERO !**	**81088**	**70.37**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 11 2017 19:54:37	ZERO !	112305	1	752	2	-	Yes
	2	1 11 2017 19:57:54	0	0	0	752	2	-	Yes
	3	1 11 2017 20:01:55	0	0	0	752	2	-	-
	4	1 11 2017 20:05:57	0.02	128114	1	752	2	-	Yes
	5	1 11 2017 20:08:27	ZERO !	83934	1	752	2	-	Yes

Analysis Name 011217 - RR134292.adb

Template Name 011217 - RR134292.tdb
Method Name N / A
Operator agk

Date Thursday, January 12, 2017
Time 9:54

Start Oven Temp. 763 °C
Start Cooler Temp. 3 °C

Version 2.55 Release
Info ICAL TOC0092A SPIKE TOC0082
CCV TOC0147
LCSW TOC0148

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**80418**	**139.93**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 9:54:47	0.57	238682	1	764	3	-	Yes
2	1 12 2017 9:58:23	0	0	0	769	2	-	Yes
3	1 12 2017 10:02:24	0	0	0	773	2	-	Yes
4	1 12 2017 10:06:25	ZERO !	82992	1	776	2	-	Yes
5	1 12 2017 10:08:52	0	0	0	776	2	-	-

Inj. Order	Position	Type	Identification	Dilution Factor
2	S2	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**53.46**	**10938511**	**0.84**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 10:13:43	53.64	10974471	1	778	2	-	Yes
2	1 12 2017 10:17:38	53.77	10999947	1	778	2	-	Yes
3	1 12 2017 10:20:56	52.78	10801123	1	777	2	-	Yes
4	1 12 2017 10:24:28	53.66	10978503	1	777	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S8	Unknown	CCB	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 10:28:41	ZERO !	88326	1	777	2	-	-
2	1 12 2017 10:31:57	0	0	0	776	2	-	Yes
3	1 12 2017 10:35:58	0	0	0	776	2	-	Yes
4	1 12 2017 10:39:59	0	0	0	774	2	-	Yes
5	1 12 2017 10:44:02	0	0	0	774	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	2	Unknown	826237	2 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**108.96**	**11144609**	**6.73**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 10:48:56	118.75	12134620	1	772	2	-	Yes
2	1 12 2017 10:53:05	109.84	11233271	1	771	2	-	Yes
3	1 12 2017 10:56:38	106.02	10847273	1	770	2	-	Yes
4	1 12 2017 10:59:53	101.24	10363273	1	769	2	-	Yes

5 S2 Unknown CCV 1 x

	TC	54.29	11105847	0.58		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 11:04:12	54.18	11083015	1	768	2	-	Yes
2	1 12 2017 11:08:12	53.99	11045043	1	766	2	-	Yes
3	1 12 2017 11:11:35	54.74	11196743	1	765	2	-	Yes
4	1 12 2017 11:14:57	54.25	11098590	1	765	2	-	Yes

---

6 S8 Unknown CCB 1 x

	TC	0.00	0	0.00		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 11:19:08	ZERO !	100493	1	764	2	-	-
2	1 12 2017 11:22:25	0	0	0	764	2	-	Yes
3	1 12 2017 11:26:26	0	0	0	763	2	-	Yes
4	1 12 2017 11:30:28	0	0	0	762	2	-	Yes
5	1 12 2017 11:34:28	0	0	0	761	2	-	Yes

Analysis Name 170110A.adb

Template Name 011017 - 134289 134290.tdb
Method Name N / A
Operator agk

Date Tuesday, January 10, 2017
Time 14:37

Start Oven Temp. 730 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A SPIKE TOC 0082
CCV TOC0145
LCSW TOC0146

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.43**	**209539**	**33.05**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 14:47:49	0.74	272445	1	743	2	-	Yes
2	1 10 2017 14:51:07	0.68	261538	1	745	2	-	Yes
3	1 10 2017 14:53:38	0.26	175776	1	746	2	-	Yes
4	1 10 2017 14:56:05	ZERO !	87370	1	747	2	-	-
5	1 10 2017 14:58:25	0.03	128400	1	749	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S2	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**45.72**	**9372924**	**0.63**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 15:01:34	45.34	9295456	1	750	2	-	Yes
2	1 10 2017 15:05:20	45.69	9366923	1	753	2	-	Yes
3	1 10 2017 15:08:30	45.82	9393604	1	754	2	-	Yes
4	1 10 2017 15:11:39	46.03	9435713	1	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**45.52**	**9332542**	**0.63**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 15:15:35	45.25	9277515	1	757	2	-	Yes
2	1 10 2017 15:19:25	45.65	9357691	1	757	2	-	Yes
3	1 10 2017 15:22:34	45.87	9403361	1	758	2	-	Yes
4	1 10 2017 15:25:41	45.32	9291603	1	758	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S7	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 15:29:44	0.03	129987	1	760	2	-	-
2	1 10 2017 15:32:47	0	0	0	758	2	-	Yes
3	1 10 2017 15:36:49	0	0	0	759	2	-	Yes
4	1 10 2017 15:40:51	0	0	0	760	2	-	Yes
5	1 10 2017 15:44:53	0	0	0	760	2	-	Yes

5 2 Unknown 824618 1 x

TC **1.89** **505533** **3.77** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 15:49:46	2.03	532923	1	760	2	-	Yes
2	1 10 2017 15:53:09	1.82	491083	1	759	2	-	Yes
3	1 10 2017 15:55:42	1.83	494216	1	758	2	-	Yes
4	1 10 2017 15:58:16	1.88	503912	1	758	2	-	Yes

---

6 3 Unknown LQCKW 1 x

TC **3.28** **786043** **2.03** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 16:01:43	3.39	809543	1	758	2	-	Yes
2	1 10 2017 16:05:01	3.23	776608	1	758	2	-	Yes
3	1 10 2017 16:07:46	3.26	782581	1	758	2	-	Yes
4	1 10 2017 16:10:29	3.22	775441	1	757	2	-	Yes

---

7 4 Unknown 823942 1 x

TC **12.51** **2653356** **2.25** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 16:14:03	12.85	2723422	1	758	2	-	Yes
2	1 10 2017 16:17:34	12.13	2578029	1	758	2	-	Yes
3	1 10 2017 16:20:18	12.55	2662386	1	758	2	-	Yes
4	1 10 2017 16:23:03	12.49	2649589	1	757	2	-	Yes

---

8 5 Unknown 823944 1 x

TC **13.11** **2775563** **1.17** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 16:26:41	13.28	2808917	1	757	2	-	Yes
2	1 10 2017 16:30:11	13.22	2797745	1	757	2	-	Yes
3	1 10 2017 16:33:01	12.97	2747686	1	757	2	-	Yes
4	1 10 2017 16:35:53	12.97	2747906	1	757	2	-	Yes

---

9 6 Unknown DUP823944 1 x

TC **13.10** **2772622** **0.51** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 16:39:29	13.19	2790980	1	756	2	-	Yes
2	1 10 2017 16:42:56	13.09	2771471	1	756	2	-	Yes
3	1 10 2017 16:45:45	13.01	2756178	1	756	2	-	Yes
4	1 10 2017 16:48:32	13.09	2771860	1	756	2	-	Yes

---

10 7 Unknown MSW823944 1 x

TC **60.89** **12440919** **1.26** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 16:52:07	61.58	12580176	1	755	2	-	Yes
2	1 10 2017 16:55:50	60.20	12302672	1	755	2	-	Yes
3	1 10 2017 16:59:02	61.54	12572862	1	755	2	-	Yes
4	1 10 2017 17:02:02	60.23	12307968	1	755	2	-	Yes

---

11 8 Unknown MSDW823944 1 x

TC **61.96** **12656982** **1.55** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 17:06:00	60.96	12454572	1	755	2	-	Yes
2	1 10 2017 17:09:48	61.30	12523446	1	755	2	-	Yes
3	1 10 2017 17:12:56	62.83	12833556	1	754	2	-	Yes
4	1 10 2017 17:16:02	62.74	12816356	1	754	2	-	Yes

---

12 9 Unknown 823948 1 x

TC **7.07** **1553335** **1.79** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 17:19:59	7.23	1585174	1	754	2	-	Yes
2	1 10 2017 17:23:24	7.14	1567838	1	754	2	-	Yes
3	1 10 2017 17:26:07	6.94	1527616	1	753	2	-	Yes
4	1 10 2017 17:28:48	6.97	1532714	1	754	2	-	Yes

13 10 Unknown 825425 1 x

TC **2.50** **627798** **3.22** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 17:32:21	2.60	648507	1	754	2	-	Yes
2	1 10 2017 17:35:34	2.38	604106	1	753	2	-	Yes
3	1 10 2017 17:38:04	2.45	618481	1	753	2	-	Yes
4	1 10 2017 17:40:39	2.55	640100	1	753	2	-	Yes

---

14 11 Unknown 825426 1 x

TC **10.42** **2231517** **1.42** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 17:44:11	10.61	2270564	1	753	2	-	Yes
2	1 10 2017 17:47:42	10.26	2197851	1	752	2	-	Yes
3	1 10 2017 17:50:25	10.34	2216038	1	753	2	-	Yes
4	1 10 2017 17:53:06	10.47	2241616	1	753	2	-	Yes

---

15 S2 Unknown CCV 1 x

TC **46.88** **9608722** **0.84** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 17:56:40	47.44	9721092	1	753	2	-	Yes
2	1 10 2017 18:00:26	46.91	9613514	1	753	2	-	Yes
3	1 10 2017 18:03:33	46.54	9538874	1	753	2	-	Yes
4	1 10 2017 18:06:45	46.65	9561409	1	753	2	-	Yes

---

16 S7 Unknown CCB 1 x

TC **ZERO !** **53382** **129.03** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 18:10:48	0.10	144405	1	753	2	-	Yes
2	1 10 2017 18:14:06	ZERO !	69123	1	753	2	-	Yes
3	1 10 2017 18:16:26	0	0	0	752	2	-	Yes
4	1 10 2017 18:20:28	0	0	0	753	2	-	Yes
5	1 10 2017 18:24:30	0	0	0	752	2	-	-

---

17 12 Unknown 826235 1 x

TC **0.36** **196158** **5.56** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 18:29:24	0.42	207370	1	752	2	-	Yes
2	1 10 2017 18:32:34	0.34	192701	1	752	2	-	Yes
3	1 10 2017 18:34:58	0.29	182569	1	752	2	-	Yes
4	1 10 2017 18:37:23	0.39	201992	1	752	2	-	Yes

---

18 13 Unknown DUP826235 1 x

TC **0.14** **151201** **7.20** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 18:40:38	0.37	198216	1	752	2	-	-
2	1 10 2017 18:43:44	0.09	142256	1	752	2	-	Yes
3	1 10 2017 18:46:09	0.19	161448	1	752	2	-	Yes
4	1 10 2017 18:48:32	0.18	159771	1	752	2	-	Yes
5	1 10 2017 18:51:06	0.09	141332	1	752	2	-	Yes

---

19 14 Unknown MSW826235 1 x

TC **49.39** **10114501** **0.93** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 18:54:19	48.90	10016572	1	752	2	-	Yes
2	1 10 2017 18:58:06	49.68	10174172	1	752	2	-	Yes
3	1 10 2017 19:01:12	49.88	10213152	1	752	2	-	Yes
4	1 10 2017 19:04:16	49.09	10054109	1	752	2	-	Yes

---

20 15 Unknown MSDW826235 1 x

TC **50.30** **10298971** **0.72** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 19:08:12	49.96	10230388	1	752	2	-	Yes
2	1 10 2017 19:11:54	50.81	10402781	1	752	2	-	Yes
3	1 10 2017 19:14:56	50.13	10264790	1	751	2	-	Yes

4	1 10 2017 19:17:57	50.30	10297928	1	752	2	-	Yes

---

21 16 Unknown 826237 1 x

	TC	**0.21**	**167331**	**4.65**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 19:21:53	0.55	235240	1	752	2	-	-
2	1 10 2017 19:24:58	0.23	170477	1	751	2	-	Yes
3	1 10 2017 19:27:21	0.25	174667	1	751	2	-	Yes
4	1 10 2017 19:29:41	0.22	167718	1	752	2	-	Yes
5	1 10 2017 19:32:00	0.16	156462	1	751	2	-	Yes

---

22 17 Unknown 826239 1 x

	TC	**ZERO !**	**102256**	**7.62**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 19:35:14	0.09	140519	1	751	2	-	-
2	1 10 2017 19:38:17	ZERO !	91465	1	752	2	-	Yes
3	1 10 2017 19:40:34	ZERO !	106145	1	752	2	-	Yes
4	1 10 2017 19:42:51	ZERO !	102063	1	752	2	-	Yes
5	1 10 2017 19:45:10	ZERO !	109353	1	751	2	-	Yes

---

23 S2 Unknown CCV 1 x

	TC	**46.75**	**9580714**	**0.79**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 19:48:20	46.44	9517278	1	752	2	-	Yes
2	1 10 2017 19:52:08	46.88	9607666	1	752	2	-	Yes
3	1 10 2017 19:55:21	47.22	9676127	1	752	2	-	Yes
4	1 10 2017 19:58:31	46.46	9521788	1	752	2	-	Yes

---

24 S7 Unknown CCB 1 x

	TC	**ZERO !**	**110841**	**27.32**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 20:02:43	0.10	143865	1	752	2	-	Yes
2	1 10 2017 20:05:52	ZERO !	108734	1	751	2	-	Yes
3	1 10 2017 20:08:09	0	0	0	751	2	-	-
4	1 10 2017 20:12:10	ZERO !	71120	1	752	2	-	Yes
5	1 10 2017 20:14:34	ZERO !	119648	1	751	2	-	Yes

---

25 139 Unknown BLANK 1 x

	TC	**0.19**	**161158**	**13.43**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 20:17:52	0.34	191635	1	751	2	-	Yes
2	1 10 2017 20:21:04	0.09	140863	1	751	2	-	Yes
3	1 10 2017 20:23:26	0.18	158696	1	751	2	-	Yes
4	1 10 2017 20:25:54	0.15	153441	1	751	2	-	Yes
5	1 10 2017 20:28:17	0	0	0	751	2	-	-

---

26 140 Unknown BLANK 1 x

	TC	**ZERO !**	**123879**	**17.43**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 20:33:11	0.37	198152	1	752	2	-	-
2	1 10 2017 20:36:38	0.13	149242	1	751	2	-	Yes
3	1 10 2017 20:39:03	0.04	131441	1	751	2	-	Yes
4	1 10 2017 20:41:25	ZERO !	98583	1	751	2	-	Yes
5	1 10 2017 20:43:48	ZERO !	116252	1	751	2	-	Yes

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27 141 Unknown BLANK 1 x

	TC	**ZERO !**	**141635**	**13.88**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 10 2017 20:47:06	0.36	196875	1	751	2	-	-
2	1 10 2017 20:50:16	0.08	138445	1	751	2	-	Yes
3	1 10 2017 20:52:40	0.23	168799	1	752	2	-	Yes
4	1 10 2017 20:55:07	0.07	137503	1	752	2	-	Yes
5	1 10 2017 20:57:31	ZERO !	121796	1	751	2	-	Yes

Analysis Name 011217B- 134316.adb

Template Name 011217B - 134316.tdb
Method Name N / A
Operator agk

Date Thursday, January 12, 2017
Time 12:21

Start Oven Temp. 738 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A SPIKE TOC0082
CCV TOC0147
LCS TOC0148

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.22**	**168271**	**6.44**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 12:32:23	2.28	585097	1	758	2	-	-
2	1 12 2017 12:36:28	0.30	184495	1	760	2	-	Yes
3	1 12 2017 12:39:04	0.20	163455	1	761	2	-	Yes
4	1 12 2017 12:41:35	0.20	163344	1	761	2	-	Yes
5	1 12 2017 12:44:07	0.19	161792	1	761	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S2	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**52.07**	**10656667**	**0.45**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 12:47:28	51.99	10639901	1	763	2	-	Yes
2	1 12 2017 12:51:32	52.41	10725803	1	764	2	-	Yes
3	1 12 2017 12:54:44	51.87	10616252	1	764	2	-	Yes
4	1 12 2017 12:58:05	52.01	10644713	1	764	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**52.90**	**10823624**	**0.15**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 13:02:27	52.83	10809872	1	764	2	-	Yes
2	1 12 2017 13:06:27	52.93	10830370	1	764	2	-	Yes
3	1 12 2017 13:09:54	52.83	10810172	1	764	2	-	Yes
4	1 12 2017 13:13:10	52.99	10844083	1	764	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S7	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.20**	**163549**	**7.44**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 13:17:29	0.20	163876	1	763	2	-	Yes
2	1 12 2017 13:20:39	0.11	146320	1	762	2	-	Yes
3	1 12 2017 13:23:02	0.25	173449	1	761	2	-	Yes
4	1 12 2017 13:25:26	0.23	170552	1	761	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	2	Unknown	826629	1 x

		TC	**0.56**	**237914**	**1.66**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 13:28:50	1.00	326348	1	761	2	-	-
2		1 12 2017 13:32:26	0.59	243048	1	761	2	-	Yes
3		1 12 2017 13:34:56	0.57	238982	1	761	2	-	Yes
4		1 12 2017 13:37:27	0.55	234825	1	760	2	-	Yes
5		1 12 2017 13:39:57	0.55	234801	1	760	2	-	Yes

6	3	Unknown	DUP826629	1 x

		TC	**0.47**	**219047**	**2.91**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 13:43:12	0.47	217830	1	760	2	-	Yes
2		1 12 2017 13:46:31	0.44	212846	1	760	2	-	Yes
3		1 12 2017 13:48:57	0.69	263151	1	759	2	-	-
4		1 12 2017 13:51:25	0.47	217549	1	759	2	-	Yes
5		1 12 2017 13:53:54	0.52	227965	1	759	2	-	Yes

7	4	Unknown	MSW826629	1 x

		TC	**52.18**	**10679783**	**0.60**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 13:57:15	52.45	10733964	1	758	2	-	Yes
2		1 12 2017 14:01:04	51.97	10637363	1	758	2	-	Yes
3		1 12 2017 14:04:11	51.85	10612185	1	758	2	-	Yes
4		1 12 2017 14:07:27	52.46	10735620	1	757	2	-	Yes

8	5	Unknown	MSDW826629	1 x

		TC	**51.69**	**10580839**	**1.20**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 14:11:25	50.84	10407786	1	757	2	-	Yes
2		1 12 2017 14:15:19	51.80	10602523	1	757	2	-	Yes
3		1 12 2017 14:18:28	52.35	10714114	1	756	2	-	Yes
4		1 12 2017 14:21:38	51.78	10598935	1	756	2	-	Yes

9	6	Unknown	826637	1 x

		TC	**1.40**	**405663**	**3.27**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 14:25:37	1.47	420275	1	756	2	-	Yes
2		1 12 2017 14:28:56	1.31	388436	1	755	2	-	Yes
3		1 12 2017 14:31:26	1.42	409775	1	755	2	-	Yes
4		1 12 2017 14:34:06	1.39	404167	1	755	2	-	Yes

10	7	Unknown	826639	1 x

		TC	**1.41**	**408282**	**2.72**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 14:37:28	1.49	424415	1	755	2	-	Yes
2		1 12 2017 14:40:44	1.39	404400	1	755	2	-	Yes
3		1 12 2017 14:43:15	1.36	399070	1	755	2	-	Yes
4		1 12 2017 14:45:48	1.39	405244	1	754	2	-	Yes

11	S2	Unknown	CCV	1 x

		TC	**51.97**	**10636823**	**0.80**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 14:49:21	52.44	10732039	1	754	2	-	Yes
2		1 12 2017 14:53:23	51.42	10525975	1	754	2	-	Yes
3		1 12 2017 14:56:29	51.99	10641584	1	754	2	-	Yes
4		1 12 2017 14:59:49	52.02	10647697	1	754	2	-	Yes

12	S7	Unknown	CCB	1 x

		TC	**0.49**	**223317**	**4.86**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 12 2017 15:04:00	0.56	236094	1	753	2	-	Yes
2		1 12 2017 15:07:18	0.51	227258	1	753	2	-	Yes
3		1 12 2017 15:09:46	0.43	210779	1	753	2	-	Yes
4		1 12 2017 15:12:14	0.47	219137	1	753	2	-	Yes

13 8 Unknown MDL1 1 x

	TC	2.22	572395	3.58		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 15:15:37	2.13	553419	1	753	2	-	Yes
2	1 12 2017 15:19:01	2.14	556347	1	753	2	-	Yes
3	1 12 2017 15:21:38	2.33	593869	1	753	2	-	Yes
4	1 12 2017 15:24:16	2.29	585945	1	752	2	-	Yes

14 9 Unknown MDL2 1 x

	TC	2.12	552234	5.86		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 15:27:45	2.36	600204	1	753	2	-	Yes
2	1 12 2017 15:31:10	2.01	529449	1	753	2	-	Yes
3	1 12 2017 15:33:47	2.06	539396	1	752	2	-	Yes
4	1 12 2017 15:36:33	2.06	539888	1	752	2	-	Yes

15 10 Unknown MDL3 1 x

	TC	2.25	578313	2.34		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 15:40:11	2.16	560399	1	753	2	-	Yes
2	1 12 2017 15:43:35	2.29	586355	1	752	2	-	Yes
3	1 12 2017 15:46:19	2.24	575663	1	752	2	-	Yes
4	1 12 2017 15:49:03	2.31	590838	1	752	2	-	Yes

16 11 Unknown MDL4 1 x

	TC	2.05	537560	0.63		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 15:52:39	2.05	537302	1	752	2	-	Yes
2	1 12 2017 15:56:06	2.03	534687	1	752	2	-	Yes
3	1 12 2017 15:58:48	2.07	542369	1	752	2	-	Yes
4	1 12 2017 16:01:29	2.04	535885	1	752	2	-	Yes

17 12 Unknown MDL5 1 x

	TC	2.57	642298	2.33		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 16:05:01	2.54	636241	1	753	2	-	Yes
2	1 12 2017 16:08:21	2.63	656156	1	752	2	-	Yes
3	1 12 2017 16:11:04	3.68	868348	1	752	2	-	-
4	1 12 2017 16:13:47	2.62	652796	1	752	2	-	Yes
5	1 12 2017 16:16:24	2.48	624001	1	752	2	-	Yes

18 13 Unknown MDL6 1 x

	TC	2.10	547610	2.98		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 16:19:56	2.13	553292	1	752	2	-	Yes
2	1 12 2017 16:23:25	2.00	528398	1	752	2	-	Yes
3	1 12 2017 16:26:06	2.07	542058	1	752	2	-	Yes
4	1 12 2017 16:28:47	2.19	566695	1	752	2	-	Yes

19 14 Unknown MDL7 1 x

	TC	2.35	598338	1.98		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 16:32:18	2.36	601197	1	752	2	-	Yes
2	1 12 2017 16:35:47	2.38	604658	1	751	2	-	Yes
3	1 12 2017 16:38:29	2.39	606571	1	751	2	-	Yes
4	1 12 2017 16:41:10	2.26	580926	1	752	2	-	Yes

20 15 Unknown MDL8 1 x

	TC	2.35	599017	2.75		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 12 2017 16:44:40	2.34	595788	1	752	2	-	Yes
2	1 12 2017 16:48:12	2.38	604539	1	752	2	-	Yes
3	1 12 2017 16:50:58	2.44	617472	1	752	2	-	Yes
4	1 12 2017 16:53:43	2.25	578269	1	751	2	-	Yes

21	S2	Unknown	CCV				1 x		
		TC	**51.89**	**10621048**		**1.16**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 12 2017 16:57:16	52.44	10731389	1	752	2	-	Yes
	2	1 12 2017 17:01:15	51.32	10505639	1	752	2	-	Yes
	3	1 12 2017 17:04:32	51.41	10523741	1	752	2	-	Yes
	4	1 12 2017 17:07:47	52.40	10723424	1	752	2	-	Yes

22	S7	Unknown	CCB				1 x		
		TC	**ZERO !**	**74723**		**68.54**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 12 2017 17:11:58	ZERO !	113268	1	752	2	-	Yes
	2	1 12 2017 17:15:14	ZERO !	101323	1	752	2	-	Yes
	3	1 12 2017 17:17:46	0	0	0	752	2	-	Yes
	4	1 12 2017 17:21:47	0	0	0	752	2	-	-
	5	1 12 2017 17:25:49	ZERO !	84304	1	752	2	-	Yes

23	139	Unknown	BLANK				1 x		
		TC	**2.12**	**551572**		**1.94**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 12 2017 17:29:10	2.07	541588	1	752	2	-	Yes
	2	1 12 2017 17:32:35	2.09	546513	1	752	2	-	Yes
	3	1 12 2017 17:35:16	2.12	551796	1	752	2	-	Yes
	4	1 12 2017 17:37:48	2.19	566393	1	752	2	-	Yes

24	140	Unknown	BLANK				1 x		
		TC	**1.51**	**428239**		**3.81**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 12 2017 17:41:29	1.47	421495	1	752	2	-	Yes
	2	1 12 2017 17:44:57	1.45	415840	1	752	2	-	Yes
	3	1 12 2017 17:47:32	1.48	423422	1	752	2	-	Yes
	4	1 12 2017 17:50:00	1.63	452202	1	752	2	-	Yes

25	141	Unknown	BLANK				1 x		
		TC	**1.63**	**452660**		**4.10**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 12 2017 17:53:32	1.53	432060	1	752	2	-	Yes
	2	1 12 2017 17:56:48	1.60	446192	1	752	2	-	Yes
	3	1 12 2017 17:59:22	1.65	456126	1	752	2	-	Yes
	4	1 12 2017 18:01:57	1.74	476262	1	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
134294 on 01/11/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826457						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	826458						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	826366						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	826360						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	826361						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
134294 on 01/11/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124700	826236		01/09/2017	1310		BERING SEA ENVIRONMENTAL		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*								
		Nitrate Nitrogen			*								
		Sulfate			*								
	826359		01/09/2017	1310					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	826236				0			
		Chloride			DUP	826236				0			
		Sulfate			DUP	826236				0			
	826364		01/09/2017	1310					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	826236				0			
		Chloride			MSW	826236				0			
		Sulfate			MSW	826236				0			
	826363		01/09/2017	1310					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	826355				0			
		Chloride			MSDW	826355				0			
		Sulfate			MSDW	826355				0			
124700	826238		01/09/2017	1545		BERING SEA ENVIRONMENTAL		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
134294 on 01/11/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124700	826240		01/09/2017 1600		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	826367						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	826353						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	826358						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	826356						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
134294 on 01/11/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124700	826236		01/09/2017 1310		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***	*							
		Nitrate Nitrogen	***RERUN***	*							
		Sulfate	***RERUN***	*							
	826359		01/09/2017 1310				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	DUP	826236			0			
		Chloride	***RERUN***	DUP	826236			0			
		Sulfate	***RERUN***	DUP	826236			0			
	826354						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	826362						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	826364		01/09/2017 1310				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	MSW	826236			0			
		Chloride	***RERUN***	MSW	826236			0			
		Sulfate	***RERUN***	MSW	826236			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
134294 on 01/11/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826363		01/09/2017 1310				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	MSDW 826355				0			
		Chloride	***RERUN***	MSDW 826355				0			
		Sulfate	***RERUN***	MSDW 826355				0			
	826368						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	826357						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 134281 134294	Method: Anions by Ion Chromatography 300.0/9056		Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
01/10/2017	AGK	RLD	01/11/2017	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits		No		No	If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
134314 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826927							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	826924							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	826925							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
124730	826633		01/10/2017	0905		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	826926		01/10/2017	0905				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	826633			0			
		Chloride			DUP	826633			0			
		Sulfate			DUP	826633			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
134314 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826990		01/10/2017	0905					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	826633							
		Chloride			MSW	826633							
		Sulfate			MSW	826633							
	826991		01/10/2017	0905					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	826990							
		Chloride			MSDW	826990							
		Sulfate			MSDW	826990							
124730	826638		01/10/2017	1045			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
124730	826640		01/10/2017	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	826928								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
134314 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826923						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 134314 134315		Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
01/11/2017	AGK	RLD	01/13/2017	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Metrohm Run Log - System 3													
Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
11/23/16	8:49	11/23/16	15:53	JJF	133054 132990 133134	IC0899	112316-RUN#	IC0886 IC0887	1.63	9.6	0.7		
11/29/16	10:56	11/29/16	17:38	JJF	133124	IC0899	112916-RUN#	IC0906 IC0908	1.5	9.5	0.7		
11/30/16	10:05	11/30/16	16:31	JJF	133182 133183	IC0899	113016-RUN#	IC0906 IC0908	2.35	9.8	0.7		
12/02/16	8:58	12/02/16	18:01	JJF	133236 133252 133253	IC0899	120216-RUN#	IC0906 IC0908	1.74	9.6	0.7		
12/05/16	9:52	12/05/16	15:43	JJF	133276 133289 RR133253	IC0899	120516-RUN#	IC0906 IC0908	1.85	9.7	0.7		
12/06/16	14:55	12/06/16	21:50	JJF		IC0919 NO2 IC0920	IC0919		1.51	8.6	0.7		
12/07/16	10:52	12/08/16	00:55	JJF	133370 133392	IC0919	120716-RUN#	IC0906 IC0908	1.64	9.5	0.7		
12/08/16	9:31	12/09/16	03:10	JJF	133419 133428	IC0919	120816-RUN#	IC0906 IC0908	1.63	9.8	0.7		
12/09/16	8:25	12/10/16	07:39	JJF	133492 133493	IC0919	120916-RUN#	IC0906 IC0908	1.96	10.1	0.7		
12/12/16	12:09	12/13/16	07:22	JJF	133536 133535	IC0919	121216-RUN#	IC0906 IC0908	2.03	12.3	0.7		
12/13/16	10:03	12/14/16	02:45	JJF	IC0927 RR133535 133596	IC0927	121316-RUN#	IC0906 IC0908	2.73	12	0.7		
12/14/16	10:06	12/14/16	20:43	JJF	133639	IC0927	121416-RUN#	IC0906 IC0908	2.72	12	0.7	CHANGED OUT FRIT AND DISC ON RP2 GUARD	
12/15/16	9:32	12/16/16	05:36	JJF	133681 133700 133722 133548	IC0927	121516-RUN#	IC0906 IC0908	2.85	11.1	0.7	CHANGED OUT IN LINE FILTER	
12/16/16	9:21	12/17/16	00:24	JJF	133722 133745 133737 133752	IC0927 NO2 IC0920	121616-RUN#	IC0906 IC0908	2.99	11	0.7		
12/19/16	10:36	12/20/16	11:30	JJF	133640 133794	IC0927	121916-RUN#	IC0906 IC0908	3.25	10.8	0.7		
12/20/16				JJF	133839	IC0927	122016-RUN#	IC0906 IC0908	20.26	10.5	0.7		
12/28/16	18:28	12/29/16	01:33	AGK	133978 134006	IC0927	122716	IC0906 IC0908	14.68	11.8	0.7	ELUENT IC0920	
12/31/16	20:24	01/01/17	01:43	AGK	134050 134057	IC0943	123016-RUN#	IC0937 IC0938	6.54	10.9	0.7	ELUENT IC0935	
01/04/17	12:04	01/05/17	00:22	AGK	134112 134114	IC0945	10417	IC0937 IC0938	1.04	12	0.7	ELUENT IC0946	
01/05/17	14:24	01/06/17	14:29	AGK	134170 134171	IC0945	10517	IC0937 IC0938	1.97	12.63	0.7	ELUENT IC0946	
01/06/17	15:53	01/06/17	19:02	AGK	134215	IC0945	10617	IC0937 IC0938	2.12	12.4	0.7	ELUENT IC0956	
01/10/17	15:28	01/11/17	05:02	AGK	134281 134294	IC0945	011017 -RUN #	IC0937 IC0938	2.35	12.46	0.7	ELUENT IC0956	
01/17/17		01/18/17		AGK	134376 134439 134442 134463	IC0963	011617-ICO963 ML0964	IC0937 IC0938	9.84	11.24	0.7	ELUENT IC0962	
01/19/17	15:59	01/20/17	00:38	AGK	134535 134536	IC0963	011917 - 134535 134536	IC0937 IC0938	3.65	10.4	0.7	ELUENT IC0962	
01/24/17	10:18	01/24/17	18:24	AGK	134608 134618	IC0963	012417-134608	IC0937 IC0938	3.5	10.5	0.7	ELUENT IC0970	
01/25/17	13:24	01/25/17	18:36	AGK	134647	IC0963	012517-134647	IC0937 IC0938	2.69	10.5	0.7	ELUENT IC0970	
01/26/17	11:57	01/26/17	16:03	AGK	134691	IC0963	012617 - 134691	IC0937 IC0938	1.92	10.5	0.7	ELUENT IC0970	
01/27/17	9:39	01/27/17	18:12	AGK	131114 134157 134711 134720	ICO963/ ML IC0788 /LL IC0889	012716 -RUNS	IC0937 IC0938	2	10.3	0.7	ELUENT IC0970	

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 93
Page is Locked
Author: akurth on: 20.01.2017 13:31:39
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0962	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/16/17	Expiration Date (1 Year):	01/16/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0963	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0964	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	AGK	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0844 (2) IC0843		

Standard Log #:	IC0965	Standard/Reagent:	Mixed NO2/NO3 STD Dione
Analyst:	AGK	Final Concentration:	50.0 mg/L
Prep Date:	01/16/17	Expiration Date:	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of Nitrite 1000 mg/L(IC0822) and 5mL of Nitrate 1000mg/L. Brought to volume with Milli-Q water.		

Standard Log #:	IC0966	Standard/Reagent:	NO2/NO3 Ical Dionex
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/16/17	Expiration Date:	01/18/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0953) and brought to volume with Milli-Q H20.		

Standard Log #:	IC0967	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0968	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0968	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/16/17	Expiration Date (48 Hours):	01/18/17

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0969	Standard:	IC CCV Mid Level
Analyst:	AGK	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	01/16/17	Expiration Date (1 Month):	02/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0843 (2) IC0844		

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CT Laboratories, LLC

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 92
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Author: AKURTH on: 16.01.2017 10:01:35
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0958	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/13/17	Expiration Date (48 hours):	01/15/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0959	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0959	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/13/17	Expiration Date (48 Hours):	01/15/17

Prep:

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0960	Standard/Reagent:	IC Mixed Cal NO2/NO3

Analyst:	AGK	Final Concentration:	50 mg/L
Prep Date:	01/13/17	Expiration Date:	01/15/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0961	Standard/Reagent:	NO2/NO3 Calibration Dilutes
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/13/17	Expiration Date:	01/15/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0960) and brought to volume with Milli-Q H20.		

1

CT Laboratories, LLC

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 91
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Author: AKURTH on: 13.01.2017 10:43:06
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0955	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/17	Expiration Date (1 Year):	01/06/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0956	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/17	Expiration Date (1 Year):	01/06/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0957	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/06/17	Expiration Date (6 months):	07/06/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 90
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Author: AKURTH on: 06.01.2017 09:06:42
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0950	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/05/17	Expiration Date (48 Hours):	01/07/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0951	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/05/17	Expiration Date (48 hours):	01/07/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0950	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0952	Standard/Reagent:	Nitrate CCV Standard

Analyst:	AGK	Final Concentration:	7.0 mg/L
Prep Date:	01/05/17	Expiration Date:	02/05/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrate CCV Stock Std. IC0839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0953	Standard/Reagent:	IC Mixed NO2/NO3 Cal Std.
Analyst:	AGK	Final Concentration:	50 mg/L- NO2, NO3
Prep Date:	01/05/17	Expiration Date:	01/07/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0954	Standard/Reagent:	ICAL Dionex NO2/NO3
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/05/17	Expiration Date:	01/07/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0953) and brought to volume with Milli-Q H20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 88
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Author: AKURTH on: 04.01.2017 11:37:10
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0944	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/03/17	Expiration Date (1 Year):	01/03/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0945	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/03/17	Expiration Date (48 hours):	01/05/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0946	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/03/17	Expiration Date (48 Hours):	01/05/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0947	Standard:	IC Calibration Dionex
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/03/17	Expiration Date (48 hours):	01/05/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Mixed Std (50mg/L) IC0946	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 87
Page is Locked
Author: AKURTH on: 30.12.2016 15:33:27
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0935	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/30/16	Expiration Date (1 Year):	12/30/17
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0936	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/30/16	Expiration Date (6 months):	06/30/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0937	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0822, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with		

	Milli-Q DI H_20.

Standard Log #:	IC0938	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0939	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0940	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0941	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/16

Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0942	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0943	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/30/16	Expiration Date (48 hours):	01/01/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 86
Page is Locked
Author: AKURTH on: 30.12.2016 08:53:01
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0933	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/28/16	Expiration Date (48 hours):	12/30/16
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC08444, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0934	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/27/16	Expiration Date (6 months):	05/27/16
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 85
Page is Locked
Author: AKURTH on: 28.12.2016 09:20:38
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0932	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/21/16	Expiration Date (1 Year):	12/21/17
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 84
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0931	Standard/Reagent:	oPhos PT
Analyst:	JJF	Final Concentration:	
Prep Date:	12/15/2016	Expiration Date:	12/17/2016
Prep:	Into a 100 mL volumetric add 0.50 mL Simple Nutrients 505 p249-505 #817807 and dilute to 100 mL with Milli-Q water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 83
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121416

Standard Log #:	IC0929	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/14/2016	Expiration Date (6 months):	05/14/2017
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0930	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/14/2016	Expiration Date (1 Year):	12/14/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 82
Page is Locked
Author: JFAUST on: 14.12.2016 08:50:19
Page is not Witnessed
Project: Unassigned
Page Title: 121316

Standard Log #:	IC0927	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/13/2016	Expiration Date (48 hours):	12/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0928	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/13/2016	Expiration Date (1 Month):	01/13/2017
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 81
Page is Locked
Author: JFAUST on: 13.12.2016 09:30:07
Page is not Witnessed
Project: Unassigned
Page Title: 121216

Standard Log #:	IC0926	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/12/2016	Expiration Date (1 Month):	01/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 79
Page is Locked
Author: JFAUST on: 12.12.2016 14:41:54
Page is not Witnessed
Project: Unassigned
Page Title: 120616

Standard Log #:	IC0916	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0917	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/06/2016	Expiration Date (48 hours):	12/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0916	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0918	Standard/Reagent:	Metrosep A Supp 5-150/4 cc
Analyst:	JJF	Final Concentration:	
Prep Date:	12/06/2016	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 5 -150/4.0 Cat # 6.1006.520 column serial #5160515028		

Standard Log #:	IC0919	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/06/2016	Expiration Date (48 hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0920	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0921	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0922	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0921 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 78
Page is Locked
Author: jfaust on: 06.12.2016 14:41:36
Page is not Witnessed
Project: Unassigned
Page Title: 120516

Standard Log #:	IC0912	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/05/2016	Expiration Date (48 Hours):	12/07/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0913	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/05/2016	Expiration Date (48 hours):	12/07/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0912	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 77
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 120216

Standard Log #:	IC0909	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/02/2016	Expiration Date (48 Hours):	12/04/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0910	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/02/2016	Expiration Date (48 hours):	12/04/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0909	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0911	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/02/2016	Expiration Date (1 Month):	01/02/2017
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 76
Page is Locked
Author: JFAUST on: 02.12.2016 11:09:27
Page is not Witnessed
Project: Unassigned
Page Title: 112916

Standard Log #:	IC0904	Standard:	IC Column Cleaning Solution
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	11/29/2016	Expiration Date (1 Year):	11/29/2017
Prep:	Into a 500mL volumetric flask, dissolved 23.4g of Sodium Chloride W39792 in 100 mL Milli-Q water. Add 400 mL ACN 56207 and mix.		

Standard Log #:	IC0905	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0906	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0907	Standard/Reagent:	IC Phosphate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	2/09/2016	Expiration Date:	02/09/2017
Prep:	Same as W38430 catalog #250-220-611 Lot # S151013001 Accu SPEC Phosphate as Phosphorus.		

Standard Log #:	IC0908	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 73
Page is Locked
Author: JFAUST on: 22.11.2016 15:40:54
Page is not Witnessed
Project: Unassigned
Page Title: 111816

Standard Log #:	IC0900	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	11/18/2016	Expiration Date (48 hours):	11/22/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0898				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0898				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 72
Page is Locked
Author: JFAUST on: 18.11.2016 08:59:05
Page is not Witnessed
Project: Unassigned
Page Title: 111616

Standard Log #:	IC0898	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	11/16/2016	Expiration Date:	11/16/2017
Prep:	AccuSPEC - IC Standard Bromide @ 1000 mg/L Cat #250-220-23x Lot#S160830034		

Standard Log #:	IC0899	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/16/2016	Expiration Date (48 hours):	11/18/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 71
Page is Locked
Author: JFAUST on: 18.11.2016 08:58:55
Page is not Witnessed
Project: Unassigned
Page Title: 111416

Standard Log #:	IC0896	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/14/2016	Expiration Date (1 Month):	12/14/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0897	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/14/2016	Expiration Date (1 Month):	12/14/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 70
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Author: JFAUST on: 18.11.2016 08:57:41
Page is not Witnessed
Project: Unassigned
Page Title: 110916

Standard Log #:	IC0893	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/09/2016	Expiration Date (1 Year):	11/09/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0894	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/09/2016	Expiration Date (1 Year):	11/09/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0895	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	11/09/2016	Expiration Date (48 hours):	11/11/2016

Prep:

LOD Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC	Phosphate	0.025	mL	IC
Nitrite	0.020	mL	IC	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC	Phosphate	0.050	mL	IC
Nitrite	0.040	mL	IC	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 69
Page is Locked
Author: JFAUST on: 09.11.2016 14:51:39
Page is not Witnessed
Project: Unassigned
Page Title: 110816

Standard Log #:	IC0892	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/08/2016	Expiration Date (1 Month):	12/08/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 67
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Page is not Witnessed
Project: Unassigned
Page Title: 102716

Standard Log #:	IC0883	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0884	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/27/2016	Expiration Date (1 Year):	11/27/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0885	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	10/27/2016	Expiration Date (48 hours):	10/29/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0886	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0838, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0887	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 68
Page is Locked
Author: JFAUST on: 08.11.2016 08:11:56
Page is not Witnessed
Project: Unassigned
Page Title: 110216

Standard Log #:	IC0888	Standard/Reagent:	Phosphorus working std.
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	11/02/2016	Expiration Date:	11/04/2016
Prep:	Into a 100 mL volumetric add 1 mL (IC0486) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0889	Standard/Reagent:	Phosphorus Calibration Std
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	11/02/2016	Expiration Date:	11/04/2016
Prep:	Into a 100 mL volumetric add 4 mL (IC0888) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0890	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/02/2016	Expiration Date (1 Month):	12/02/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 66
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 102616

Standard Log #:	IC0881	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/26/2016	Expiration Date (48 Hours):	10/28/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0882	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/26/2016	Expiration Date (48 hours):	10/28/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0881	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 64
Page is Locked
Author: JFAUST on: 25.10.2016 14:23:31
Page is not Witnessed
Project: Unassigned
Page Title: 102416

Standard Log #:	IC0873	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	10/24/2016	Expiration Date (48 hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0874	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	10/24/2016	Expiration Date (48 Hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 61
Page is Locked
Author: JFAUST on: 18.10.2016 08:39:03
Page is not Witnessed
Project: Unassigned
Page Title: 101416

Standard Log #:	IC0863	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/14/2016	Expiration Date (48 Hours):	10/16/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0864	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/14/2016	Expiration Date (48 hours):	10/16/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0863	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 59
Page is Locked
Author: JFAUST on: 12.10.2016 08:45:11
Page is not Witnessed
Project: Unassigned
Page Title: 101116

Standard Log #:	IC0853	Standard/Reagent:	LCS/ICV Custom Ion Std
Analyst:	JJF	Final Concentration:	
Prep Date:	10/11/2016	Expiration Date:	10/30/2017
Prep:	SPEX CertiPrep Custom Ion Standard Cat # VCTWI-3-500 Lot # 1-26PW		

Standard Log #:	IC0854	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0855	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0851	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	F.W. 105.99
Prep Date:	10/03/2016	Expiration Date:	
Prep:	500 Grams Fisher Brand Na2CO3 Lot # S263-500		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 56
Page is Locked
Author: JFAUST on: 12.10.2016 08:44:48
Page is not Witnessed
Project: Unassigned
Page Title: 092816

Standard Log #:	IC0845	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0846	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate W38024 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

Standard Log #:	IC0847	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 55
Page is Locked
Author: jfaust on: 28.09.2016 09:07:04
Page is not Witnessed
Project: Unassigned
Page Title: 092616

Standard Log #:	IC0833	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0834	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0835	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0839, and Phosphate IC and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0836	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0837	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/26/2016	Expiration Date (1 Year):	10/26/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0838	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/26/2016	Expiration Date (6 months):	03/26/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0839	Standard/Reagent:	Nitrate Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/21/2016	Expiration Date:	10/21/2016
Prep:	Accu SPEC Nitrate Standard @1000 mg/L Catalog# 250-220-521. Lot # S150804004 Same as W39820		

Standard Log #:	IC0840	Standard/Reagent:	Nitrite Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	06/16/2016	Expiration Date:	06/16/2017
Prep:	Same as W39180 SPEX Certiprep Nitrite IC Std. @ 1000 mg/L Lot # 3-138NO2N-2Y CAT # AS-NO2N9-2Y		

Standard Log #:	IC0841	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0842	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4

Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0843	Standard/Reagent:	IC Chloride Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	09/26/2017
Prep:	AccuSPEC - IC Standard Chloride @1000 mg/L Lot# S160712001 Cat# 250-220-37x		

Standard Log #:	IC0844	Standard/Reagent:	IC Sulfate Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	10/26/2016
Prep:	AccuSPEC - IC Standard Sulfate @ 1000 mg/L Lot# S160602024 Cat# 250-220-70x		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 51
Page is Locked
Author: JFAUST on: 07.09.2016 09:25:02
Page is not Witnessed
Project: Unassigned
Page Title: 090616

Standard Log #:	IC0820	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/06/2016	Expiration Date (1 Month):	10/06/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0821	Standard/Reagent:	Fluoride IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Fluoride IC Standard @1000 mg/L Cat # 250-220-401 Lot # S160323007		

Standard Log #:	IC0822	Standard/Reagent:	Nitrite IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Nitrite IC Standard @1000 mg/L Catalog # 250-220-551 Lot #S160802021		

Standard Log #:	W39178	Reagent:	NO2 NO3 COLOR
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1L volumetric flask volumetrically dissolve 40g sulfanilamide W37969 and 1g N-(1-naphthyl)ethylenediamine dihydrochloride (NED) W32265 volumetrically add 100mL phosphoric acid W38600 and fill to volume with DI H_2O.		

Standard Log #:	W39179	Reagent:	NO2 NO3 BUFFER
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W36986 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W36989		

Standard ID#:	W39180	Vendor:	SPEX
Analyst:	LJS	Chemical:	N02 ICV STANDARD
Date Received:	6/6/16	Lot #:	3-138NO2N-2Y
Expiration Date (if any):	5/30/17	Catalog #:	AS-NO2N9-2Y

Standard Log #:	W39181	Standard:	NO2 NO3 ICAL
Analyst:	LJS	Concentration:	20 mg/L
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 100 mL volumetric flask pipette 2mL NO_3 ICAL/CCV stock (1000 mg/L) IC0403 and fill to volume with H_2SO_4 diluent W39177		

Standard Log #:	W39182	Standard:	NO2 NO3 ICV

Standard Log #:	IC0660	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0661	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	05/30/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IW37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0662	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0663	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 98
Page is Locked
Author: jfaust on: 18.05.2016 14:44:50
Witness: akurth on: 08.06.2016 13:52:28
Project: Unassigned
Page Title: 051116

Standard Log #:	IC0645	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0646	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0645 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 94
Page is Locked
Author: JFAUST on: 06.05.2016 07:55:46
Page is not Witnessed
Project: Unassigned
Page Title: 050416b

Standard Log #:	IC0637	Standard/Reagent:	Nitrocellulose Stock Std.
Analyst:	RLD	Final Concentration:	Neat
Prep Date:	05/04/2016	Expiration Date:	04/28/2016
Prep:	Dried in vaccum desicator (04/28/2016 - 05/03/2016). Used for preparation of Nitrocellulose Spiking Std.		

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Standard Log #:	IC0629	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0630	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	05/03/2016	Expiration Date (48 hours):	05/05/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. 0629, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0630, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0631	Standard/Reagent:	Dionex AS14 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AS14 Analytical Column 4X250 mm Serial #034842 Lot#015171010 Product # 046124		

Standard Log #:	IC0632	Standard/Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AG14 Guard 4 x 50 mm Lot# 01517101 Product # 046134 Serial # 160318088		

Standard Log #:	IC0633	Standard:	IC Eluent Dionex

Analyst:	JJD	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 89
Page is Locked
Author: JFAUST on: 21.04.2016 08:17:42
Witness: akurth on: 08.06.2016 13:50:31
Project: Unassigned
Page Title: 041916

Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 87
Page is Locked
Author: jfaust on: 18.04.2016 08:16:59
Witness: akurth on: 08.06.2016 13:49:56
Project: Unassigned
Page Title: 041316

~~W25134~~ IC0145

Standard Log #:	IC0603	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/13/2016	Expiration Date (1 Year):	04/13/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0604	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	04/13/2016	Expiration Date (1 Year):	04/13/2017
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W25134 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

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Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 65
Page is Locked
Author: jfaust on: 17.02.2016 16:07:38
Page is not Witnessed
Project: Unassigned
Page Title: 021516

Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 52
Page is Locked
Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
Project: Unassigned
Page Title: 011416

Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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CT Laboratories, LLC

Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
Page is Locked
Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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CT Laboratories, LLC

W3536 Fisher Ammonium Sulfate (A702-500)
AGK CAS 7783-20-2 LOT# 135994A
9/15/14 Opened 09/15/14

6
PROJECT _____ Notebook No. _____
Continued From Page _____

W25134 CES			Sodium	Bicarbonate.	Fisher			Cat#	S233-500		Lot#								
11/23/15			164706		eyp		11/23/15												
																		Continued on Page	

Read and Understood By

Signed	Date	Signed	Date

WCOD QSM Analytical Run
134513 on 01/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124730	826641		01/10/2017	1130			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		54ADW01								61049			
124825	827780		01/13/2017	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		49ADW01								61049			
	828826								COD QSM				
					MBW					61049			
	828827								COD QSM				
					LCSW					61049			
	828828		01/10/2017	1130					COD QSM				
		54ADW01			DUP	826641				61049			
	828829		01/10/2017	1130					COD QSM				
		54ADW01			MSW	826641				61049			
	828830		01/10/2017	1130					COD QSM				
		54ADW01			MSDW	828829				61049			
	829650								WCOD QSM				
					CCV								
	829651								WCOD QSM				
					CCV								
	829652								WCOD QSM				
					CCB								
	829653								WCOD QSM				
					ICV								
	829654								WCOD QSM				
					ICB								

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP BATCH (ES):_____ DATE/ANALYST 1/19/17 MER TIME: 11:00

RUN(S):_____ DATE/ANALYST: 1/19/17 MER

CHEMICAL OXYGEN DEMAND REAGENT LOG

ICAL PREPARATION.....W 38914 /Exp N/A

CCV PREPARATION.....W 40016 /Exp 1/24/17

ICV/LCS PREPARATION.....W 40017 /Exp 1/24/17

SILVER SULFATE ACID.....W 39995 /Exp 10/20/17

POTASSIUM DICHROMATE DIG SOLN...W 38894 /Exp 4/28/17

SPIKED SAMPLES:

SPIKING SOLUTION.....W 40014 /Exp 1/24/17

CONCENTRATION..... 2000 mg/L

VOLUME OF SPIKE USED. ..... 0.2 mL

FINAL SAMPLE VOLUME..... 2.5 mL

FINAL SPIKE CONCENTRATION ..... 148.2 mg/L

COD DIGESTION BLOCKS

DATE: 1/19/17 TIME: 13:25

	A	B	C	D
Temperature (Max) 150°C ± 2°C	148°	148°	N/A	152°

MER 1/20/17 11:50
150°

MDL Check _____ W 40656/ EX. 2/20/17
TV= 9 mg/L

PREP WORKSHEET 2
on 01/19/2017

Prep Batch: **61049**

Date Prepped: 1/19/17

CCV 1

D.F.

Prepped By: MEL

Date Entered: _____

Folder #	Order	QC Type	Link	Test		Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	828826	MBW	0 3	COD QSM				LIQUID				
	828827	LCSW	0 2	COD QSM				LIQUID				
124730	826641	4, 5, (6), (7)		COD QSM	1	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	1/10/17	1130	1/23/17	4
124825	827780	8		COD QSM	1	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	1/13/17	1630	1/26/17	4
	828828	DUP	826641	COD QSM			54ADW01	GROUND WATER	1/10/17	1130		
	828829	MSW	826641	COD QSM			54ADW01	GROUND WATER	1/10/17	1130		
	828830	MSDW	828829	COD QSM			54ADW01	GROUND WATER	1/10/17	1130		

Control Spike/Control Spike Dup Reference Number: _____ Methanol Supplier/Lot #: _____

Notes: _____

COD Data Validation Checklist

LIMS #: 134513	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
1/19/17	MER	CRS	1/23/17	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	---	X		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
6. Was the LCS used before the indicated expiration date?	---	X		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		X		
8. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
9. Did the MS/ MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	X		X		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
11. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
13. Were the samples digested within hold time?	28 days	X		X		
14. Are all samples on the job lists accounted for?	---	X		X		

Spec. 401 Accuracy Check / Maintenance Logbook

Date/Time	*Acceptance Range: +/- 2 nm 529 nm	742 nm	Analyst	Comments or Performed Maintenance:
12/6/16 1330	530	741	MER	
12/7/16 1130	529	741	MER	
12/15/16 1120	529	741	SAW	
12/22/16 1545	530	741	SAW	
12/29/16 0900	530	741	SAW	
1/3/17 1345	530	741	JTS	
1/4/17 1045	530	741	JTS	
1/10/17 1415	529	741	SAW	
1/19/17 1430	529	741	MER	
1/20/17 1330	529	741	MER	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By:_____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

	Time				Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments:
12/15/16	1120	1150	SAW	COD	TEST 29	133635, 636
12/22/16	1545	1605	SAW	COD	Test 29	133890, 891
12/29/16	0900	1000	SAW	COD	Test 29	~~SAW~~ 12/29/16 134015
1/3/17	1545	1630	VJS	HexCr+6 Soils	Test 05	134081, 115
1/3/17	1405	1415	SAW	COD	Test 29	134088, 089
1/4/17	1050	1055	VJS	COD	Test 29	134088, 89
1/10/17	1415	1430	SAW	COD	Test 29 MDL Study	134264, 265, 266 MDL Study
1/19/17	1430	1456	MER	COD	Test ~~29~~ 31	134513, 514, 515, 516
1/20/17	1340	1345	MER	COD	Test 31	134515 rerun, MDL Check

Reviewed By:_____

PROJECT _____ Notebook No. _____

Continued From Page _____

W18817 mwl 4-18-08	TOC St. Prep Stock Std. 1000mg/L into a 100ml Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/milliQ H_2O exp 10-18-08
W18818 mwl 4-18-08	TOC LCS/ICV Stock Std. 1000mg/L into a 100ml Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16192 + brought to Vol. w/ milliQ H_2O exp 10-18-08
W18819 (A+B) KMB 4-18-08	Baker Potassium Dichromate Cat # 3093-01 Lot # E18590 (2-bottles, A+B) Newly
W18820 KMB 4-18-08	Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl^- and 175 mg/L Cat # VCTWI-3-500 Lot # 38-81AS exp 04/2009.
W18821 KMB 4-18-08	Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2N9-2Y Lot # 1-81NO2N-2 exp. 4-15-2009
W18822 mwl 4-18-08	Pyridine into a 500ml Vol. dissolved 7.5g Barbituric acid W17815 pipetted 7.5ml HCL W18474 + volumetrically added 37.5ml Pyridine W17409 + brought to Vol. w/DI H_2O exp 4-25-08
W18823 mwl 4-18-08	Chloramine T into a 500ml Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-19-08
W18824 CES 4-21-08	NH_3 LCS. Into a 200ml Vol pipetted 1mL W18721 + filled to Vol w/ DI H_2O.
W18825 KMB 4-21-08	TKN Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18141 and brought to Vol. w/DI H_2O, exp 4-22-08
W18826 KMB 4-21-08	0.8M NaOH - Into a 1L vol. dissolved 32g NaOH W18334 and brought to Vol. w/DI H_2O. exp. 5-21-08
W18827 KMB 4-21-08	Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18517 and brought to vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RM 4/23/08

Signed Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite: Into a 500mL vol. volumetrically calibrated 30mL W33266 & filled to vol of H_2O. exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 BMS 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7, 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page _____

Read and Understood By

1/9/14 CS
Signed — Date — Signed — Date

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 68
Page is Locked
Author: mradske on: 11.03.2016 11:12:51
Witness: lsilvers on: 25.03.2016 12:48:10
Project: Unassigned
Page Title: 031016

Standard Log #:	W38580	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38581	Reagent:	COD ICAL
Analyst:	LJS		
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38580 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38582	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.

Standard Log #:	W38583	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask pipette 50mL COD SPIKE/LCS Stock (2000mg/L) W38582 and fill to volume with DI H_2O.		

Standard Log #:	W38584	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38580 and fill to volume with DI H_2O.		

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LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 91
Page is Locked
Author: LSILVERS on: 15.04.2016 13:35:24
Page is not Witnessed
Project: Unassigned
Page Title: 041316

Standard Log #:	W38784	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38785	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38786	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38787	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38784 and fill to volume with DI H_2O.

Standard Log #:	W38788	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water.

(1) W38785

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LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 2
Page is Locked
Author: swinters on: 29.04.2016 11:45:59
Witness: mradske on: 09.05.2016 17:03:58
Project: Unassigned
Page Title: 042816

Standard Log #:	W38893	Reagent:	H2SO4/ AG SULFATE
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a new 2.5 L sulfuric acid W38896 dissolve 25g silver sulfate W38898 .		

Standard Log #:	W38894	Reagent:	DICHROMATE DIG
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W38895 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W38896 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard ID#:	W38895	Vendor:	J.T. BAKER
Analyst:	SAW	Chemical:	Mercuric Sulfate
Date Received:	1/28/15	Lot #:	0000076767
Expiration Date (if any):	NA	Catalog #:	2642-04

Standard ID#:	W38896	Vendor:	FISHER
Analyst:	SAW	Chemical:	Sulfuric Acid
Date Received:	NA	Lot #:	158062
Expiration Date (if any):	NA	Catalog #:	A300-212

Standard ID#:	W38898	Vendor:	MILLIPORE
Analyst:	SAW	Chemical:	Silver Sulfate
Date Received:	4/27/16	Lot #:	XK06B
Expiration Date (if any):	NA	Catalog #:	SX0210-2

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CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 3
Page is Locked
Author: LSILVERS on: 02.05.2016 11:47:02
Witness: mradske on: 09.05.2016 17:04:54
Project: Unassigned
Page Title: 042916

Standard Log #:	W38914	Reagent:	COD ICAL
Analyst:	SAW		
Prep Date:	4/29/16	Expiration Date (3 Months):	7/29/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 56
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071916

Standard Log #:	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):		Lot #:	A0365830
Comments:			

Standard Log #:	W39425	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	SAW	Concentration:	1,000 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W39426	Standard/Reagent:	COD CCV
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used

Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.	(1) W39425

Standard Log #:	W39427	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	SAW	Concentration:	2,000 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W39424

Standard Log #:	W39428	Standard/Reagent:	COD LCS
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W39427

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LPWC01-7
Wetchem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 09/21/16

NOTEBOOK VIEW: LTN_LPWC01_7_Default, NOTEBOOK: LPWC01_7, PAGE: 22
Page is Locked
Author: SWINTERS on: 21.10.2016 09:00:53
Page is not Witnessed
Project: Unassigned
Page Title: 102016

Standard Log #:	W39995	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	LJS	Concentration:	N/A
Prep Date:	10/20/16	Expiration Date (1 Year):	10/20/17
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) W39997 (2) W39996	

Standard Log #:	W39996	Chemical:	SILVER SULFATE
Analyst:	LJS	Vendor:	MILLIPORE
Date Received:	10/11/16	Catalog #:	SX0210-2
Expiration Date (if any):	N/A	Lot #:	XK068
Comments:			

Standard Log #:	W39997	Chemical:	SULFURIC ACID
Analyst:	LJS	Vendor:	FISHER
Date Received:	10/2016	Catalog #:	A300-212
Expiration Date (if any):	N/A	Lot #:	162572
Comments:			

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LPWC01-7
Wetchem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 09/21/16

NOTEBOOK VIEW: LTN_LPWC01_7_Default, NOTEBOOK: LPWC01_7, PAGE: 24
Page is Locked
Author: swinters on: 25.10.2016 09:05:48
Page is not Witnessed
Project: Unassigned
Page Title: 102416

Standard Log #:	W40013	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	SAW	Concentration:	1,000 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17
PREP		Standards/Reagents Used	
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.		(1) W33269	

Standard Log #:	W40014	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	SAW	Concentration:	2,000 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17

PREP	Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.	(1) W34207

Standard Log #:	W40015	Standard/Reagent:	COD ICAL
Analyst:	SAW	Concentration:	N/A
Prep Date:	10/24/16	Expiration Date (6 months):	04/24/17

PREP	Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)	(1) W40013

Standard Log #:	W40016	Standard/Reagent:	COD CCV
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.			(1) W40013

Standard Log #:	W40017	Standard/Reagent:	COD LCS
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	10/24/16	Expiration Date (3 Months):	01/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W40014

Standard Log #:	W40018	Reagent/Standard:	COD PT WATER
Analyst:	SAW	Concentration:	Unknown
Prep Date:	10/24/16	Expiration Date:	01/24/17
PREP			
In a 1000 ml volumetric flask, pipetted 5.0 mL of COD PT 790332 and filled to volume with DI H2O.			

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CT Laboratories, LLC

WFILTRATION,SAMP Analytical Run
134309 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124700	826236	54MW10	01/09/2017 1310	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
124700	826238	54MW13	01/09/2017 1545		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
124700	826240	010917R1	01/09/2017 1600		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
134310 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124730	826633	54MW1	01/10/2017 0905		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
124730	826638	54MW12	01/10/2017 1045		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
124730	826640	54TM12	01/10/2017 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WPH Analytical Run
134371 on 01/16/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
124730	826641	54ADW01	01/10/2017	1130		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
	827951	54ADW01	01/10/2017	1130	DUP 826641			PH				

2 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Validation Checklist

LIMS #: 134371	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
1/13/17	SAW	MER	1/17/17	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	---	X		X		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date/Init.	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
11/30/16 VJS	1130	VJS 11/30/16 ~~1230~~ 1545	pH	133164,5,92	
12/7/16 SAW	1100	1145	pH	133367, 368, 369	
12/14/16 VJS	1500	1700	pH	133650,51,52,53,54,55	
12/15/16 MER	1645	1720	pH	133727, ~~728, 729~~ MER 12/16/16	
12/16/16 MER	1430	1545	pH	133728, 729	
12/21/16 VJS	1600	1630	pH	133867,68	
12/29/16 VJS	1400	1530	pH	134029,30,31	
1/5/17 VJS	1430	1500	HexCr16800IS	134081	
1/5/17 SAW	1510	1540	pH	134154	
1/13/17 SAW	1140	1640	pH	~~134~~ ~~368~~ SAW 1/13/17 134368, 369, 370, 371, 373, 373	
1/20/17 VJS	1200	1300	pH	134553,4,5	
1/27/17 SAW	1330	1500	pH	134716, 717	

Reviewed By:_____

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #			----3 Point Calibration----					
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
10/19/16	SAW	W39691	W36995	W38037	7.03	4.00	10.07	99%	18.7	
10/25/16	UTS	W39691	W36995	W38037	7.02	4.00	10.06	98%	20.0	
10/31/16	MER	W39691	W36995	W38037	7.02	4.00	10.06	98%	19.7	
11/3/16	MER	W39691	W36995	W38037	7.03	4.00	10.07	98%	18.9	
11/10/16	SAW	W39691	W36995	W38037	7.03	4.00	10.08	98%	18.1	
11/17/16	MER/SAW	W39691	W36995	W38037	7.03	4.00	10.08	98%	18.6	
11/21/16	MER	W39691	W36995	W38037	7.03	4.00	10.09	99%	17.2	
11/30/16	UTS	W39691	W36995	W38037	7.03	4.00	10.09	99%	18.3	
12/7/16	SAW	W39691	W36995	W38037	7.03	4.00	10.09	97%	17.3	
12/14/16	UTS	W39691	W36995	W38037	7.03	4.00	10.09	95%	17.6	
12/15/16	MER	W39691	W36995	W38037	7.03	4.00	10.08	96%	18.6	
12/16/16	MER	W39691	W36995	W38037	7.03	4.00	10.09	96%	17.2	
12/21/16	UTS	W39691	W36995	W38037	7.03	4.00	10.09	95%	17.9	
12/29/16	UTS	W39691	W36995	W38037	7.03	4.00	10.08	95%	18.0	
1/3/17	UTS	W39691	W36995	W38037	7.02	4.00	10.05	95%	21.1	
1/5/17	SAW	W39691	W36995	W38037	7.02	4.00	10.08	96%	19.2	
1/13/17	SAW	W39691	W36995	W38037	7.02	4.00	10.08	96%	19.0	
1/20/17	UTS	W39691	W36995	W38037	7.02	4.00	10.07	96%	19.5	
1/27/17	SAW	W39691	W36995	W38037	7.03	4.00	10.08	97%	18.2	

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Reviewed By:_____

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV **WORKING STD** 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

1

Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 1
Page is Locked
Author: mradske on: 02.12.2015 15:41:32
Witness: lsilvers on: 03.12.2015 20:23:30
Project: Unassigned
Page Title: 120115

Standard ID#:	W38037	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	11/24/15	Lot #:	2509915
Expiration Date (if any):	MAR 2017	Catalog #:	1601-1CT

1

CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 86
Page is Locked
Author: mradske on: 31.08.2016 11:14:53
Page is not Witnessed
Project: Unassigned
Page Title: 083016

Standard Log #:	W39691	Chemical:	PH BUFFER 7.00
Analyst:	LJS	Vendor:	RICCA
Date Received:	4/25/16	Catalog #:	1551-1
Expiration Date (if any):	JAN 2018	Lot #:	4602467
Comments:			

1

CT Laboratories, LLC

W CARBON, INORG & ORG Analytical Run
134292 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	826963							W CARBON, INORG & ORG				
					CCV				0			
	827127							W CARBON, INORG & ORG				
					LCSW							
	826964							W CARBON, INORG & ORG				
					MBW				0			
124700	826235		01/09/2017	1310		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	4	
		54MW10			Designated MS/MSD							
124700	826239		01/09/2017	1600		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	4	
		010917R1										
124730	826629		01/10/2017	0905		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	4	
		54MW1										
124730	826637		01/10/2017	1045		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	4	
		54MW12										
124730	826639		01/10/2017	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	4	
		54TM12										
	826968							W CARBON, INORG & ORG				
					CCV				0			
	826969							W CARBON, INORG & ORG				
					CCB				0			
	827118							W CARBON, INORG & ORG				
					CCV				0			
	827119							W CARBON, INORG & ORG				
					CCB				0			
124700	826237		01/09/2017	1545		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	4	
		54MW13										
	827120							W CARBON, INORG & ORG				
					CCV				0			
	827121							W CARBON, INORG & ORG				
					CCB				0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Carbon Method 415.1/9060		Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
134292	01/11/2017	AGK	RLD	01/13/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific		N/A		N/A	If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits		N/A		N/A	If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

WORGANIC CARBON QSM 5.0 Analytical Run
134293 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	831519								WORGANIC CARBON QSM 5.0				
					ICV								
	831520								WORGANIC CARBON QSM 5.0				
					ICB								
	826741								WORGANIC CARBON QSM 5.0				
					CCV					0			
	826745								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	826746								WORGANIC CARBON QSM 5.0				
					MBW					0			
	826749								WORGANIC CARBON QSM 5.0				
					CCV					0			
	826750								WORGANIC CARBON QSM 5.0				
					CCB					0			
124700	826235		01/09/2017	1310			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW10			Designated MS/MSD								
	826752		01/09/2017	1310					ORGAN CARBON T QSM 5.0				
		54MW10			DUP	826235				0			
	826753		01/09/2017	1310					ORGAN CARBON T QSM 5.0				
		54MW10			MSW	826235				0			
	826754		01/09/2017	1310					ORGAN CARBON T QSM 5.0				
		54MW10			MSDW	826753				0			
124700	826237		01/09/2017	1545			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW13											
124700	826239		01/09/2017	1600			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		010917R1											
	826755								WORGANIC CARBON QSM 5.0				
					CCV					0			
	826756								WORGANIC CARBON QSM 5.0				
					CCB					0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
134293 134289 134290	01/10/2017	AGK	RLD	01/13/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		Independent Review		Comments:
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

WORGANIC CARBON QSM 5.0 Analytical Run
134316 on 01/30/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	827388								WORGANIC CARBON QSM 5.0				
					CCV					0			
	827389								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	827390								WORGANIC CARBON QSM 5.0				
					MBW					0			
124730	826629		01/10/2017	0905			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW1											
	827391		01/10/2017	0905					ORGAN CARBON T QSM 5.0				
		54MW1			DUP	826629				0			
	827392		01/10/2017	0905					ORGAN CARBON T QSM 5.0				
		54MW1			MSW	826629				0			
	827393		01/10/2017	0905					ORGAN CARBON T QSM 5.0				
		54MW1			MSDW	827392				0			
124730	826637		01/10/2017	1045			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW12											
124730	826639		01/10/2017	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54TM12											
	827394								WORGANIC CARBON QSM 5.0				
					CCV					0			
	827395								WORGANIC CARBON QSM 5.0				
					CCB					0			

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
134292	01/11/2017	AGK	RLD	01/13/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
12-19-16	10:52	12/22/16	15:11	JJE	133747, ~~RR 12/23/16~~	W	TOC0092A	* instrument ran out of Inj. space before run was complete.
12-22-16	14:23 ~~13:51~~ ~~14:23~~ RR 1/2/17	12-22-16	15:25	AGK	133748	W	TOC0092A	
12-27-16	15:40	12/27/16	18:20	AGK	133953/133954	W	TOC0092A	
12/30/16	11:27	12/30/16	15:38	AGK	134041/134042	S	TOC0105	
01/10/17	14:40	01/10/17	20:57	AGK	134293/134289/134290	W	TOC0092A	
01/11/17	16:16	1/12/17	11:34	AGK	134292	W	TOC0092A	TICS
01/12/17	12:32	1/12/17	17:53	AGK	134292 RR	W	TOC0092A	TICS ReRun
01/17/17	12:03	01/17/17	02:51	AGK	134436, 134437, 134438	W	TOC0092A	
01/18/17	11:57	—	—	AGK	134479 LOD LOQ mdl	S	TOC0105	MUST BE ReRun
01/19/17	—	—	—	AGK	134477	S	TOC0105	Not Run
01/24/17	10:27	01/24/17	15:53	AGK	1341477/134479	S	TOC0105	LOD/LOQ
01/25/17	9:23	01/25/17	14:31	AGK	134478	S	TOC105	
01/26/17	9:19	01/26/17	15:55	AGK	134613 /MDL	S	TOC0105	MDL's
01/30/17				MDS	134747	W	TOC0092A	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 88
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 013017

Standard Log #:	TOC0152	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	01/30/2017	Expiration Date (1 Month):	02/28/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0153	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	01/30/2017	Expiration Date (1 Month):	02/28/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 87
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0150	Standard/Reagent:	TOC SOIL CCV
Analyst:	AGK	Final Concentration:	5.00 mg/L
Prep Date:	01/23/17	Expiration Date:	02/23/17
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23772) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	TOC0951	Standard/Reagent:	TOC SOIL LCS
Analyst:	AGK	Final Concentration:	5.00 mg/L
Prep Date:	01/23/17	Expiration Date:	02/23/17
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23192) and dilute to 100 mL with Milli-Q water.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 86
Page is Locked
Author: AKURTH on: 23.01.2017 12:23:41
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0148	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	01/10/17	Expiration Date (1 Month):	02/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC 0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0149	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	01/10/17	Expiration Date (1 Month):	02/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC 0086 and brought to volume with Milli-Q DI		

	H_2O.

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 85
Page is Locked
Author: AKURTH on: 11.01.2017 15:44:10
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0147	Standard/Reagent:	25% PHOSPHORIC ACID
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	12/30/16	Expiration Date:	12/30/17
Prep:	Into a 500 mL volumetric flask, partially filled with DI water, added 125 mL of phosphoric acid W35275 and brought to volume with DI water.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 84
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121616

Standard Log #:	TOC0145	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2016	Expiration Date (1 Month):	01/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0146	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2016	Expiration Date (1 Month):	01/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 81
Page is Locked
Author: jfaust on: 30.11.2016 10:29:12
Page is not Witnessed
Project: Unassigned
Page Title: 102516

Standard Log #:	TOC0139	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/25/2016	Expiration Date (1 Month):	11/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0140	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/25/2016	Expiration Date (1 Month):	11/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0141	Standard/Reagent:	PT Sample 790332
Analyst:	JJF	Final Concentration:	
Prep Date:	10/25/2016	Expiration Date:	10/27/2016
Prep:	Into two separate 100 mL volumetrics add 0,50 mL 790332 water pollution demand #578 and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 80
Page is Locked
Author: JFAUST on: 18.10.2016 08:51:48
Page is not Witnessed
Project: Unassigned
Page Title: 101716

Standard Log #:	TOC0137	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0138	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 78
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 092116

Standard Log #:	TOC0134	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/206
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0135	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 69
Page is Locked
Author: jfaust on: 28.07.2016 14:16:43
Page is not Witnessed
Project: Unassigned
Page Title: 072716

Standard Log #:	TOC0120	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/26/2016	Expiration Date:	06/30/2018
Prep:	Ultra Scientific TOC standard @ 1001 or - 5 ug/mL Lot # CP-2362		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 56
Page is Locked
Author: jfaust on: 09.05.2016 16:24:51
Page is not Witnessed
Project: Unassigned
Page Title: 050916

Standard Log #:	TOC0096	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/09/2016	Expiration Date (1 Month):	06/09/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 54
Page is Locked
Author: JFAUST on: 03.05.2016 09:35:46
Page is not Witnessed
Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 53
Page is Locked
Author: jfaust on: 02.05.2016 15:50:25
Page is not Witnessed
Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
Page is Locked
Author: jfaust on: 28.04.2016 09:46:26
Page is not Witnessed
Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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CT Laboratories, LLC

SUBCONTRACTED ANALYSIS DOCUMENTS

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

eurofins | Eaton Analytical

LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 380652

Priority: Standard

Status: Final

Project: #124700 EEA-IN / RADFORD AAP

Samples Submitted: Three groundwater samples and one matrix spike/matrix spike duplicate

Copies to: None

Collected: 01/09/17 By: Client Received: 01/11/17

REPORT SUMMARY

Three groundwater samples and one matrix spike/matrix spike duplicate were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: Sample containers were provided by the client.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

MSD: Recoveries of chlorate and chlorite in the MSD 3618955 at 250 ug/L were low biased outside the acceptance limits of 90-110% recovery due to matrix interference.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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KAW Volte Reporter 01.31.17

Reviewed By Title Date

Finalized By Title Date

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 380652
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3618953	826235-54MW10	300.0	01/09/17 13:10	Client	01/11/17 09:45
3618956	826237-54MW13	300.0	01/09/17 15:45	Client	01/11/17 09:45
3618957	826239-010917R1	300.0	01/09/17 16:00	Client	01/11/17 09:45

Report Summary

Note: See attached page for additional comments.

PO #124700 EEA-IN / Project: RADFORD AAP

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | 01/31/2017 Date

Client Name: CT Laboratories
Report #: 380652

Sampling Point: 826235-54MW10 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	01/13/17 05:21	3618953
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	01/13/17 05:21	3618953

Sampling Point: 826237-54MW13 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	01/13/17 07:07	3618956
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	01/13/17 07:07	3618956

Sampling Point: 826239-010917R1 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	01/13/17 07:43	3618957
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	01/13/17 07:43	3618957

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

312825

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Sub-Contract Laboratory Chain-of-Custody and Purchase Order

380652

PURCHASE ORDER # 124700 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM-5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
826235	01/09/2017 1310	GROUND WATER	54MW10 - Designated MS/MSD S=3618953	CHLORATE/CHLORITE	300.1	MS=3618954 MSD=3618955
826237	01/09/2017 1545	GROUND WATER	54MW13 3618956	CHLORATE/CHLORITE	300.1	
826239	01/09/2017 1600	GROUND WATER	010917R1 3618957	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 01/10/2017 14:20

Received by: [signature] Date/Time: 1-11-17 0945 Receipt Temperature (C) 0.2 wet

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Client Provided Sample Container

Eurofins Eaton Analytical
Run Log

Run ID: **224958** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3621440		RW	ES	01/12/2017 10:36	
QCS	3619295		RW	ES	01/12/2017 14:10	
LRB	3621448		RW	ES	01/12/2017 15:55	
LFB	3621449		RW	ES	01/12/2017 16:30	
IPC	3621450		RW	ES	01/13/2017 00:06	
CCB	3621451		RW	ES	01/13/2017 00:41	
FS	3618953	826235-54MW10	GW	ES	01/13/2017 05:21	
MS	3618954	826235-54MW10	GW	ES	01/13/2017 05:57	
MSD	3618955	826235-54MW10	GW	ES	01/13/2017 06:32	
FS	3618956	826237-54MW13	GW	ES	01/13/2017 07:07	
FS	3618957	826239-010917R1	GW	ES	01/13/2017 07:43	
IPC	3621452		RW	ES	01/13/2017 08:54	
CCB	3621453		RW	ES	01/13/2017 09:29	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/12/2017 10:36	3621440
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/12/2017 10:36	3621440
QCS	Chlorate	300.0	10	---		239.6420	250	ug/L	96	90 - 110	---	---	1.0	---	01/12/2017 14:10	3619295
QCS	Chlorite	300.0	10	---		251.2720	250	ug/L	101	90 - 110	---	---	1.0	---	01/12/2017 14:10	3619295
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/12/2017 15:55	3621448
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/12/2017 15:55	3621448
LFB	Chlorate	300.0	10	---		242.2580	250	ug/L	97	90 - 110	---	---	1.0	---	01/12/2017 16:30	3621449
LFB	Chlorite	300.0	10	---		251.9990	250	ug/L	101	90 - 110	---	---	1.0	---	01/12/2017 16:30	3621449
IPC	Chlorate	300.0	10	---		246.5730	250	ug/L	99	90 - 110	---	---	1.0	---	01/13/2017 00:06	3621450
IPC	Chlorite	300.0	10	---		246.8220	250	ug/L	99	90 - 110	---	---	1.0	---	01/13/2017 00:06	3621450
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 00:41	3621451
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 00:41	3621451
FS	Chlorate	300.0	10	826235-54MW10	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 05:21	3618953
FS	Chlorite	300.0	10	826235-54MW10	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 05:21	3618953
MS	Chlorate	300.0	10	826235-54MW10		224.1010	250	ug/L	90	90 - 110	---	---	1.0	---	01/13/2017 05:57	3618954
MS	Chlorite	300.0	10	826235-54MW10		203.7920	250	ug/L	**82**	90 - 110	---	---	1.0	---	01/13/2017 05:57	3618954
MSD	Chlorate	300.0	10	826235-54MW10		219.2860	250	ug/L	**88**	90 - 110	2.2	10	1.0	---	01/13/2017 06:32	3618955
MSD	Chlorite	300.0	10	826235-54MW10		203.7370	250	ug/L	**81**	90 - 110	0.0	10	1.0	---	01/13/2017 06:32	3618955
FS	Chlorate	300.0	10	826237-54MW13	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 07:07	3618956
FS	Chlorite	300.0	10	826237-54MW13	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 07:07	3618956
FS	Chlorate	300.0	10	826239-010917R1	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 07:43	3618957
FS	Chlorite	300.0	10	826239-010917R1	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 07:43	3618957
IPC	Chlorate	300.0	10	---		250.2550	250	ug/L	100	90 - 110	---	---	1.0	---	01/13/2017 08:54	3621452
IPC	Chlorite	300.0	10	---		250.1770	250	ug/L	100	90 - 110	---	---	1.0	---	01/13/2017 08:54	3621452
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 09:29	3621453
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/13/2017 09:29	3621453

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		
QCS	Quality Control Sample		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 224958 **Instrument#** ES

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	148201	8/19/2015	8/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-82b(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-82b(4-6)

Analyst: S. Lovick **Prep Date:** 1/9/2017 **Exp. Date:** 4/9/2017

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 µg/mL Cal Substock Vol. (µL)	25 µg/mL QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100		1000	100	100

Analyst: S. Lovick **Prep Date:** 1/9/2017 **Exp. Date:** 1/16/2017

LFB/MS/MSD	250	100		10	10

Analyst: S. Lovick **Prep Date:** 1/12/2017 **Exp. Date:** 1/16/2017

EDA solution: 3.82 g Na2CO3 in 4 L volume RW = 9.0 mM Prep ID: IOC47-82a

Analyst: S. Lovick **Prep Date:** 1/5/2017 **Exp. Date:** 2/5/2017

Comments: Dionex IonPac AS19 4mm s/n 160809075 lot#01531178 installed 09/12/2016
EGC 500-KOH Eluent Cartridge s/n 160630810319 installed 06/21/2016

Analyst: SL **Date:** JAN 16 2017

Technician Review: **Date:** 1/16/17

(signature)

Summary

Sequence Details		
Name:	**011217A**	**14/Jan/15 15:09:59**
Directory:	**Instrument Data\ES\300B\2017**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**16/Jan/17 11:46:35**
No. of Injections:	**40**	**us25_usr_sbnlabpcs**

By Component **Chlorite**

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount ppb CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount ppb CD_1 Bromide
1	\ICB\RW\1\	01/12/17 10:36	0.000	4.172	0.000	5.638	0.000	4.955
2	\ICS\RW\1\10	01/12/17 11:11	0.009	11.735	0.007	12.748	0.008	12.662
3	\ICS\RW\1\20	01/12/17 11:46	0.019	19.832	0.015	20.591	0.017	20.556
4	\ICS\RW\1\100	01/12/17 12:21	0.111	93.430	0.089	92.046	0.096	92.577
5	\ICS\RW\1\250	01/12/17 12:56	0.304	249.354	0.247	245.473	0.265	246.130
6	\ICS\RW\1\500	01/12/17 13:34	0.617	501.477	0.513	503.504	0.548	503.121
7	\QCS\RW\1\250	01/12/17 14:10	0.307	251.272	0.241	239.642	0.262	242.989
8	\IPC\RW\1\250	01/12/17 14:45	0.294	240.763	0.238	236.790	0.257	238.389
9	\RLC\RW\1\10	01/12/17 15:20	0.009	11.369	0.007	12.382	0.008	12.272
10	\LRB\RW\1\	01/12/17 15:55	n.a.	n.a.	0.000	5.638	0.000	4.955
11	\LFB\RW\1\250	01/12/17 16:30	0.307	251.999	0.244	242.258	0.263	243.485
12	3616538\FS\DW\1\	01/12/17 17:05	0.000	4.332	0.006	11.716	0.021	24.390
13	3616538\MS\DW\1\250	01/12/17 17:40	0.303	248.482	0.255	253.364	0.296	273.532
14	3616538\MSD\DW\1\250	01/12/17 18:15	0.275	225.505	0.233	231.482	0.271	251.201
15	3616539\FS\DW\1\	01/12/17 18:50	0.000	4.256	0.000	5.638	0.036	37.746
16	3616540\FS\DW\1\	01/12/17 19:25	0.000	4.173	0.002	7.956	0.148	139.692
17	3616541\FS\DW\1\	01/12/17 20:00	0.000	4.172	n.a.	n.a.	0.141	132.966
18	3616542\FS\DW\1\	01/12/17 20:35	0.000	4.173	0.000	5.638	0.049	49.274
19	3616543\FS\DW\1\	01/12/17 21:11	0.000	4.172	n.a.	n.a.	0.100	96.123
20	3616544\FS\DW\1\	01/12/17 21:46	n.a.	n.a.	n.a.	n.a.	0.040	41.181
21	3616545\FS\DW\1\	01/12/17 22:21	0.000	4.173	0.000	5.638	0.171	160.210
22	3616546\FS\DW\1\	01/12/17 22:56	0.000	4.173	0.005	10.464	0.040	41.452
23	3616547\FS\DW\1\	01/12/17 23:31	0.000	4.173	0.017	21.845	0.020	23.549
24	\IPC\RW\1\250	01/13/17 00:06	0.301	246.822	0.248	246.573	0.265	246.065
25	\CCB\RW\1\	01/13/17 00:41	0.000	4.172	0.000	5.637	0.000	4.955
26	3616548\FS\DW\1\	01/13/17 01:16	0.000	4.172	0.001	6.672	0.035	37.091
27	3618799\FS\SW\1\	01/13/17 01:51	0.000	4.173	0.004	9.949	0.028	30.692
28	3618801\FS\SW\1\	01/13/17 02:26	0.000	4.252	0.001	6.768	0.036	38.113
29	3618803\FS\SW\1\	01/13/17 03:01	n.a.	n.a.	0.000	5.637	0.020	23.216
30	3618665\FS\DW\1\	01/13/17 03:36	0.799	647.739	0.132	133.944	0.068	66.513
31	3618666\FS\DW\1\	01/13/17 04:11	0.805	653.253	0.133	134.574	0.053	53.249
32	3618667\FS\DW\1\	01/13/17 04:46	0.826	670.203	0.143	145.010	0.047	47.204
33	3618953\FS\GW\1\	01/13/17 05:21	n.a.	n.a.	0.000	5.637	n.a.	n.a.
34	3618954\MS\GW\1\250	01/13/17 05:57	0.248	203.792	0.225	224.101	0.258	239.280
35	3618955\MSD\GW\1\250	01/13/17 06:32	0.248	203.737	0.220	219.286	0.257	238.324
36	3618956\FS\GW\1\	01/13/17 07:07	n.a.	n.a.	n.a.	n.a.	0.016	19.884
37	3618957\FS\GW\1\	01/13/17 07:43	n.a.	n.a.	0.000	5.638	0.000	4.956
38	\NCQ\RW\1\250	01/13/17 08:18	0.318	260.563	0.266	263.565	0.273	253.161
39	\IPC\RW\1\250	01/13/17 08:54	0.305	250.177	0.252	250.255	0.270	250.347
40	\CCB\RW\1\	01/13/17 09:29	n.a.	n.a.	0.000	5.638	n.a.	n.a.

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0100 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	0.25 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
7.600 [min]	Inhibit Integration	Off	Any	All Channels
8.500 [min]	Inhibit Integration	On	Any	All Channels
15.000 [min]	Inhibit Integration	Off	Any	All Channels
17.850 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	7.950	5.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	15.720	2.500 RG	All Channels	Area	External	Lin, WithOffset
Bromide	16.950	2.500 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Total**
Curve Fitting	**Inverted**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Ok	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G2	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G3	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G4	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G5	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G6	250.0 [µl]		as19 4mm	as19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	1/12/2017 10:26:15 AM		F6874F20-B685-4E6E-984E-	0	0.00
Finished	1/12/2017 11:11:20 AM		4A293E3F-B547-41B8-9CC0-	0	0.00
Finished	1/12/2017 11:46:41 AM		0A1CF03F-5413-4507-BD1D-	0	0.00
Finished	1/12/2017 12:21:43 PM		7C683769-2515-4BC2-8C61-	0	0.00
Finished	1/12/2017 12:56:46 PM		FCAA6FF6-0BD0-4148-	0	0.00
Finished	1/12/2017 1:24:52 PM		C957D96C-A118-455E-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**as19 4mm**
Comment	
Description	**Instrument: ICS5000** **Creation Time: 1/14/2015 12:38:02 PM** **Created by EurofinsEatonAnaly**
Run time	**30.000 [min]**
Instrument	**ES on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		DC.Compartment_TC.AcquireExclusiveAccess		
		DC.Column_TC.AcquireExclusiveAccess		
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_1	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Pump_1.Pressure.UpperLimit	3500 [psi]	
		Pump_1.%A.Equate	"%A"	
		Pump_1.Pressure.LowerLimit	200 [psi]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	2.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		CDet1.Rise_Time	0.50 [s]	
		CDet1.Data_Collection_Rate	5.0 [Hz]	
		CDet1.CellHeater.Mode	On	
		CDet1.CellHeater.TemperatureSet	35.00 [°C]	
		CDet1.Temperature_Compensation	1.7 [%/°C]	
		DC.Column_TC.Mode	On	
		DC.Column_TC.TemperatureSet	30.00 [°C]	
		DC.Compartment_TC.Mode	On	
		DC.Compartment_TC.TemperatureSet	30.00 [°C]	
		DC.Suppressor1.Type	AERS_4mm	
		DC.Suppressor1.Carbonate	0.0 [mM]	
		DC.Suppressor1.Bicarbonate	0.0 [mM]	
		DC.Suppressor1.Hydroxide	40.0 [mM]	
		DC.Suppressor1.Tetraborate	0.0 [mM]	

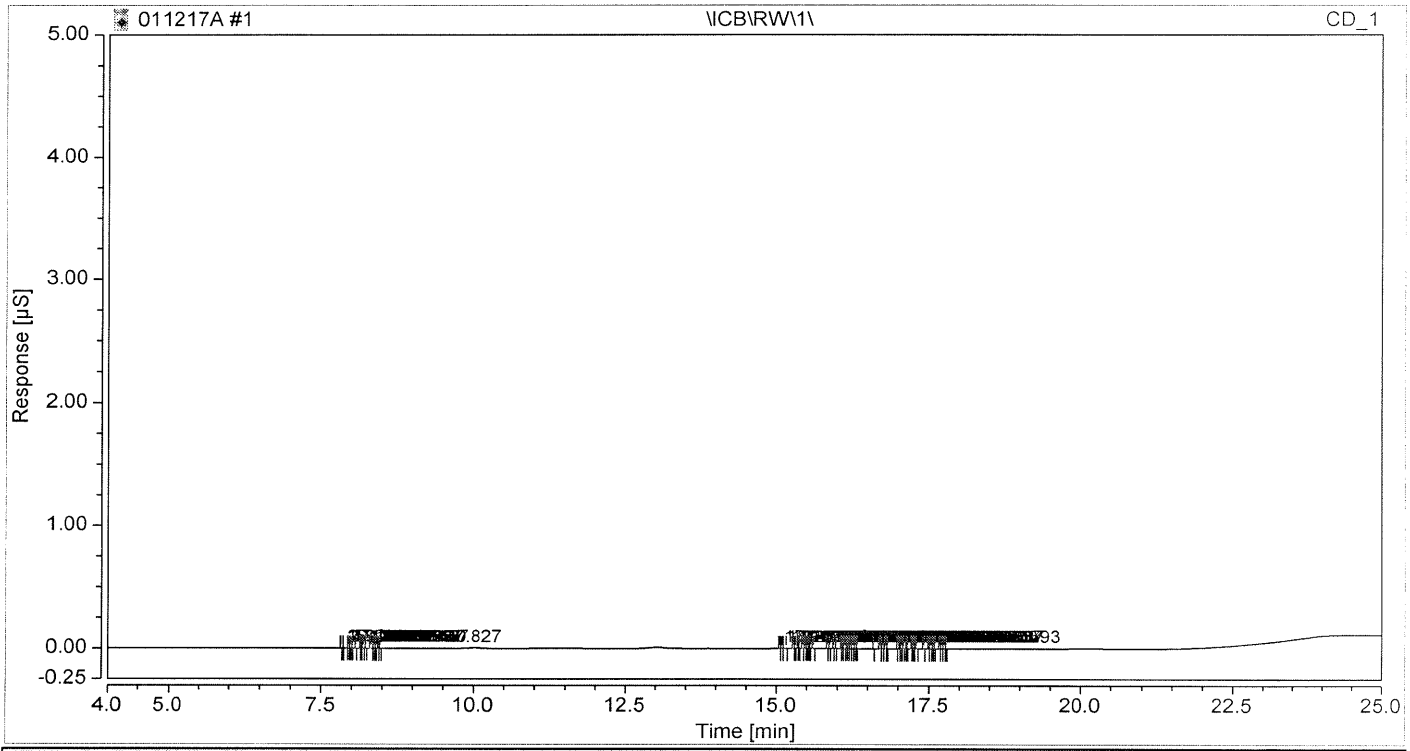
		DC.Suppressor1.OtherEluent	0.0 [mN]
		DC.Suppressor1.RecommendedCurrent	99 [mA]
		DC.Suppressor1.CurrentSet	100 [mA]
		Pump_1.Flow	1
		EluentGenerator.EGC_1.CR_TC	On
		Pump_1.Curve	5
		Sampler.PunctureOffset	0 [mm]
		Sampler.InjectWash	BeforeInj
		EluentGenerator.EGC_1.Curve	5
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_1.Pump_1_Pressure.AcqOn	
		CDet1.Autozero	
		CDet1.CD_1.AcqOn	
		CDet1.CD_1_Total.AcqOn	
Run			Duration = 30.000 [min]
	0.000		
	17.500		
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
		EluentGenerator.EGC_1.Curve	5
	20.000		
		EluentGenerator.EGC_1.Concentration	20.00 [mM]
		EluentGenerator.EGC_1.Curve	5
	25.000		
		EluentGenerator.EGC_1.Concentration	20.00 [mM]
		EluentGenerator.EGC_1.Curve	1
	25.500		
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
		EluentGenerator.EGC_1.Curve	1
Stop Run			
	30.000		
		Pump_1.Pump_1_Pressure.AcqOff	
		CDet1.CD_1.AcqOff	
		CDet1.CD_1_Total.AcqOff	
Post Run			
	30.000		
		DC.Column_TC.ReleaseExclusiveAccess	
		DC.Compartment_TC.ReleaseExclusiveAc	
End			

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 10:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

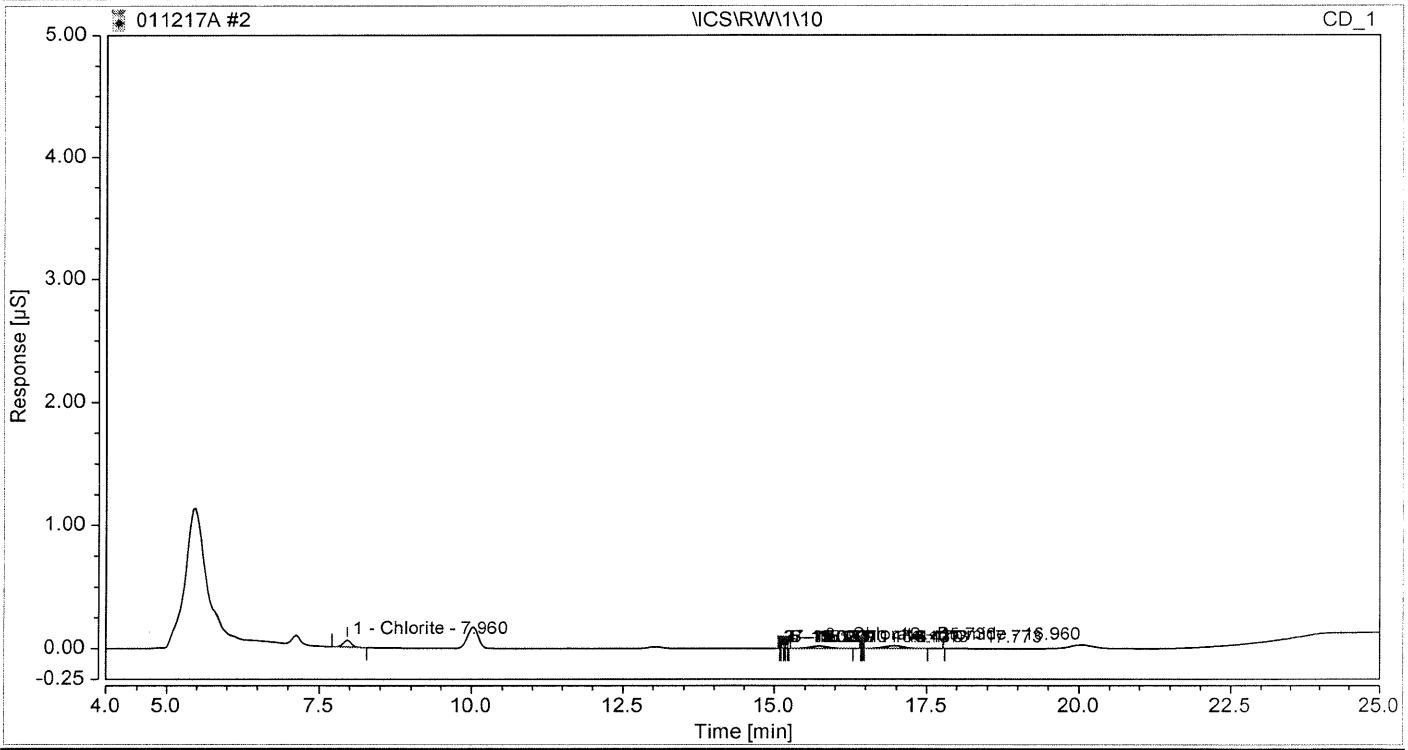
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.827	0.000	0.000	1.16	1.31	4.1723
29	Chlorate	15.610	0.000	0.000	2.84	1.95	5.6377
43	Bromide	16.593	0.000	0.000	0.80	0.88	4.9548
Total:			**0.000**	**0.000**	**4.80**	**4.14**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**30.00**
Vial Number:	**G2**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 11:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

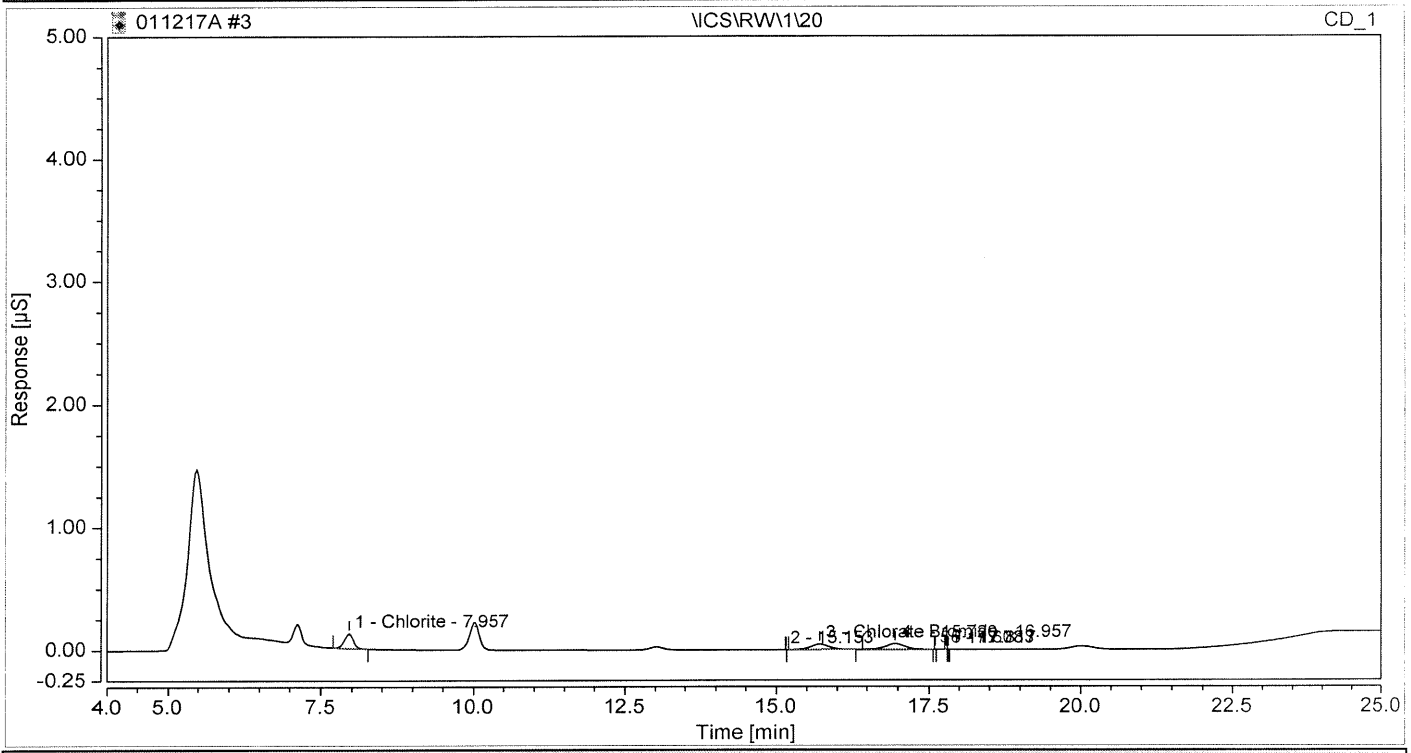
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.960	0.009	0.057	37.25	56.66	11.7354
8	Chlorate	15.730	0.007	0.021	29.06	20.32	12.7479
12	Bromide	16.960	0.008	0.023	33.67	22.66	12.6616
Total:			**0.025**	**0.101**	**99.98**	**99.64**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**30.00**
Vial Number:	**G3**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 11:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

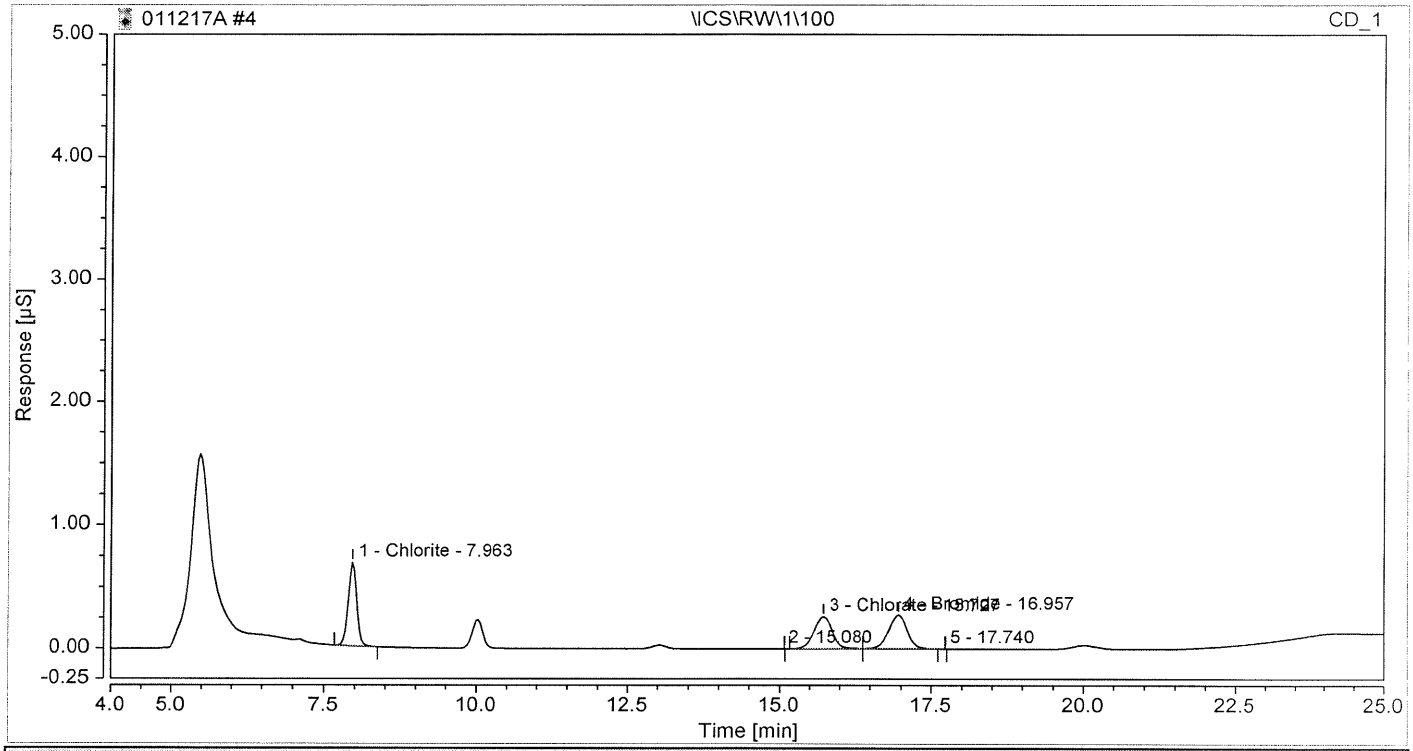
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.957	0.019	0.119	37.36	56.73	19.8319
3	Chlorate	15.720	0.015	0.043	29.61	20.70	20.5910
4	Bromide	16.957	0.017	0.047	33.02	22.47	20.5559
Total:			**0.052**	**0.209**	**99.99**	**99.91**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**30.00**
Vial Number:	**G4**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 12:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

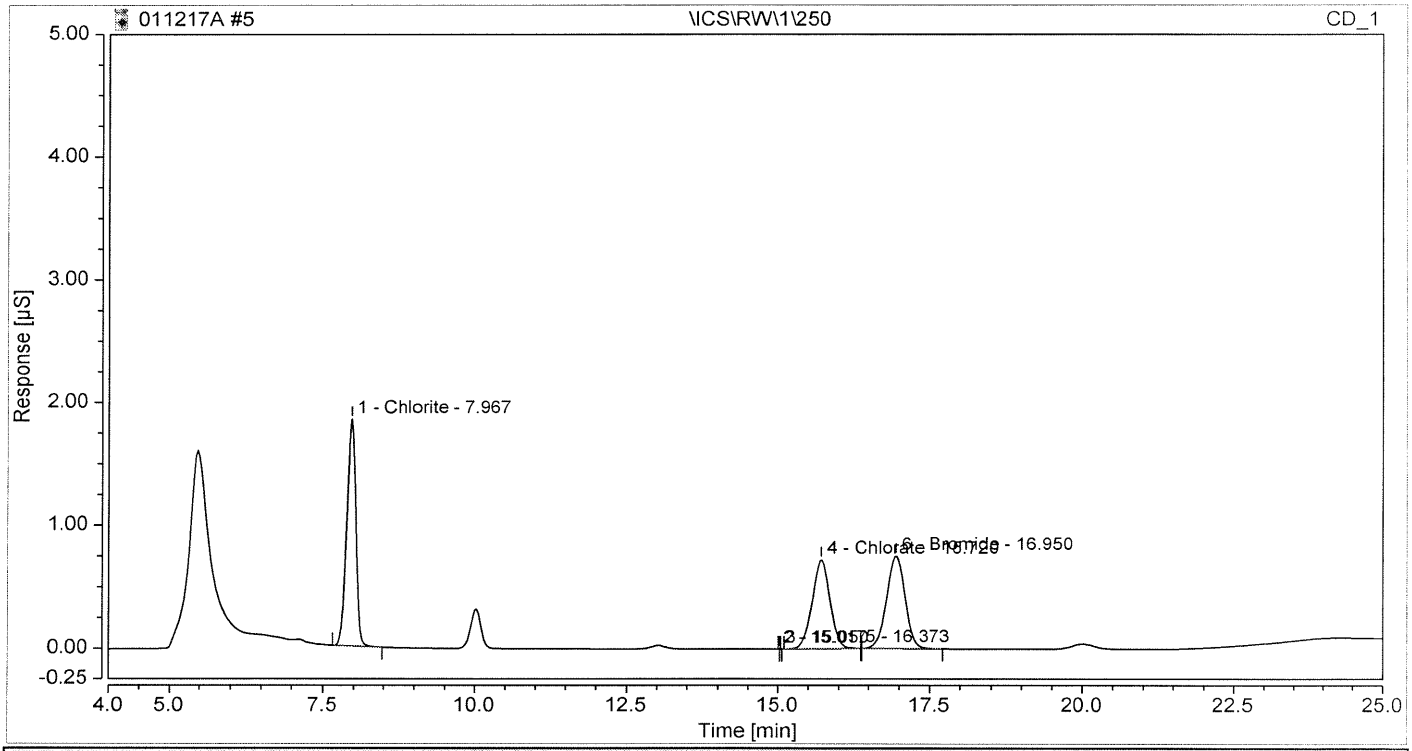
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.963	0.111	0.677	37.39	56.10	93.4300
3	Chlorate	15.727	0.089	0.258	30.04	21.36	92.0464
4	Bromide	16.957	0.096	0.272	32.57	22.53	92.5771
Total:			**0.296**	**1.206**	**100.00**	**99.99**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 12:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

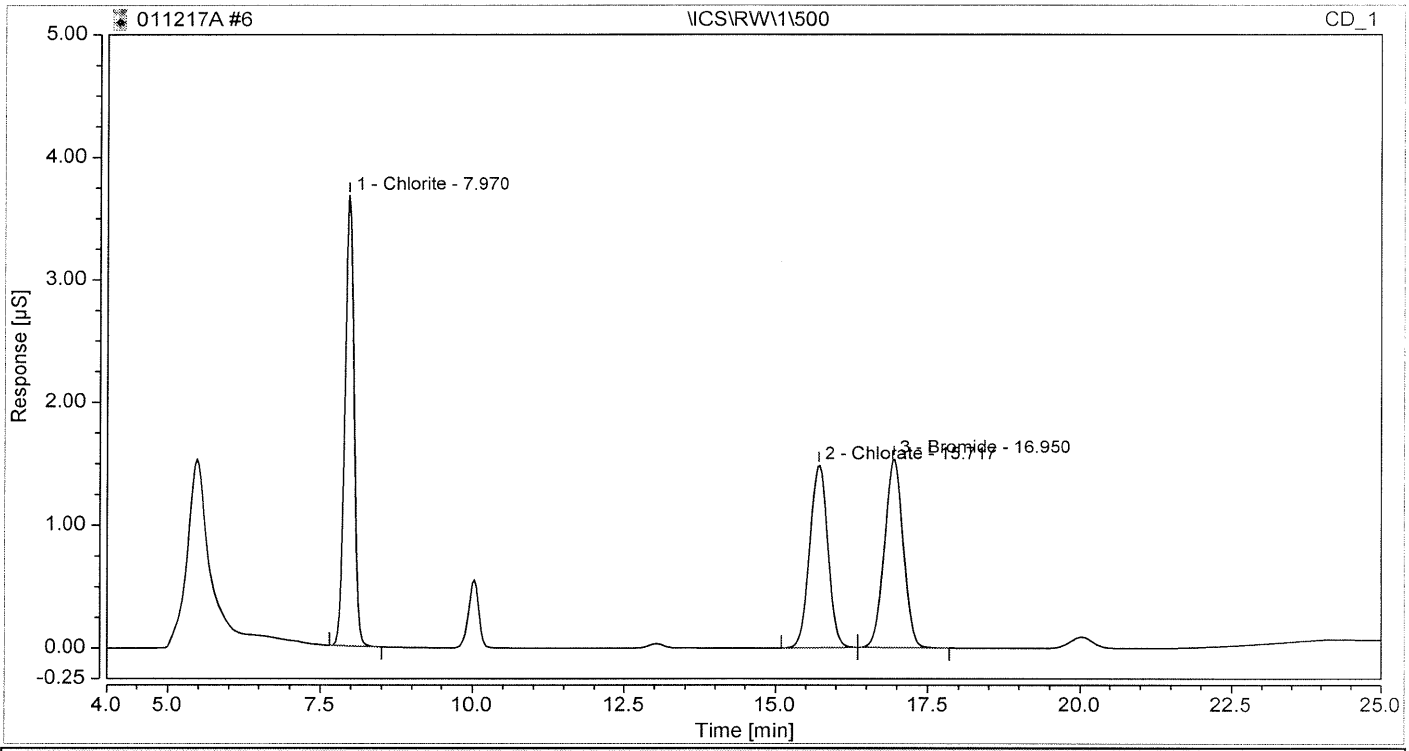
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.967	0.304	1.845	37.25	55.69	249.3537
4	Chlorate	15.720	0.247	0.719	30.24	21.70	245.4725
6	Bromide	16.950	0.265	0.749	32.51	22.61	246.1301
Total:			**0.817**	**3.314**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**30.00**
Vial Number:	**G6**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 13:34**	*Sample Weight:*	**1.0000**

Chromatogram



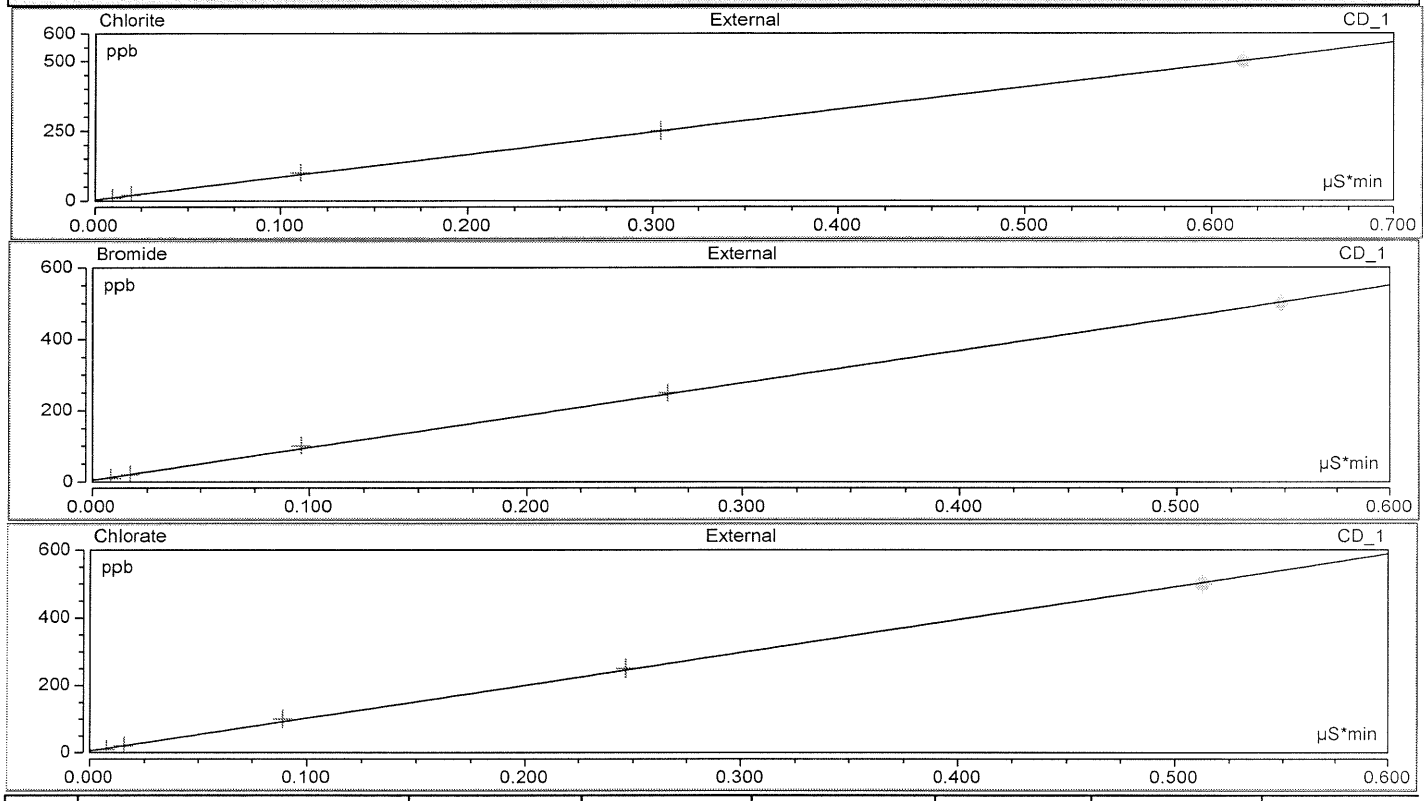
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.970	0.617	3.669	36.77	54.88	501.4768
2	Chlorate	15.717	0.513	1.483	30.55	22.18	503.5044
3	Bromide	16.950	0.548	1.534	32.68	22.94	503.1206
Total:			**1.678**	**6.687**	**100.00**	**100.00**	

Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	4.1719
Evaluation Type	Area	*Slope (C1)*	805.9615
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9997

Calibration Plot **Chlorite**



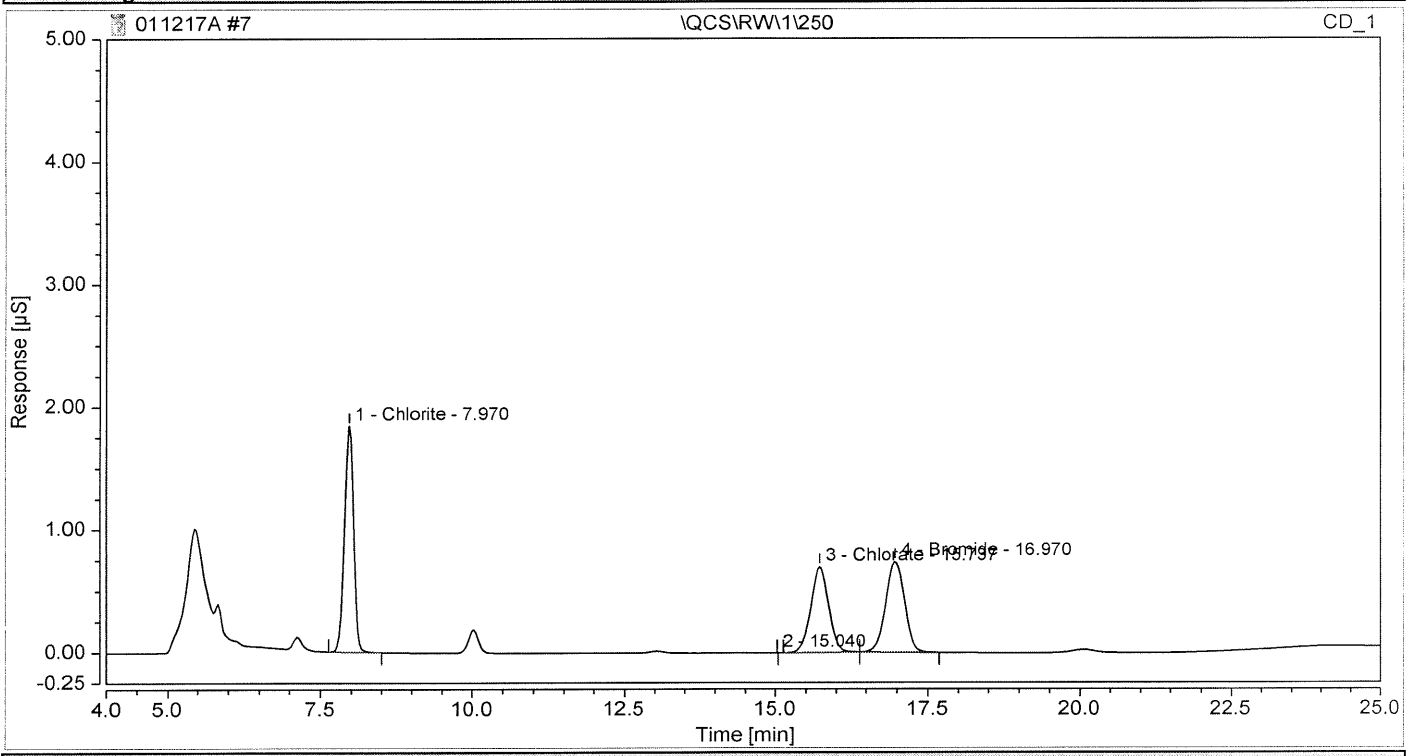
No.	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.983	805.96	4.172	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.965	971.30	5.637	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.971	908.52	4.955	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\QCS\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G7**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 14:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

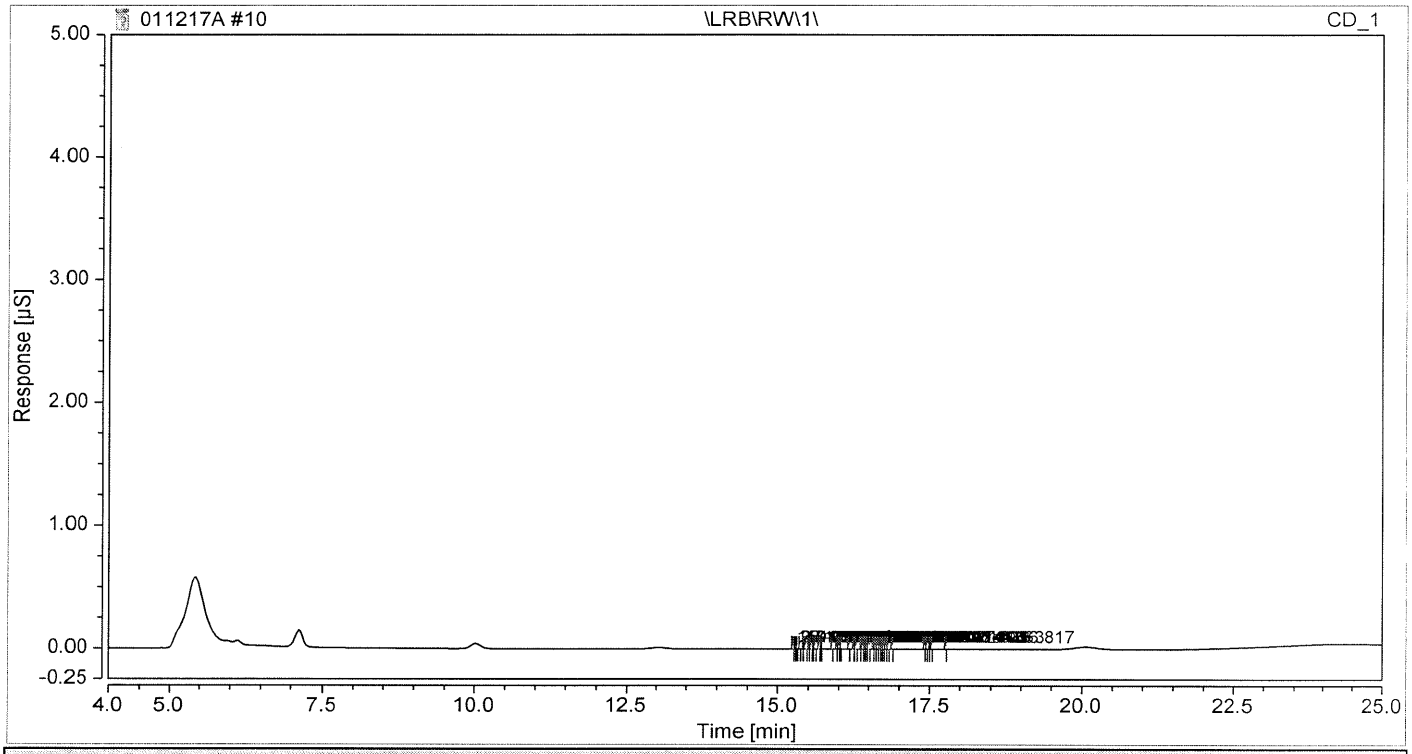
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.970	0.307	1.840	37.87	56.23	251.2721
3	Chlorate	15.737	0.241	0.697	29.76	21.29	239.6418
4	Bromide	16.970	0.262	0.736	32.37	22.49	242.9889
Total:			**0.810**	**3.272**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GA2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 15:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

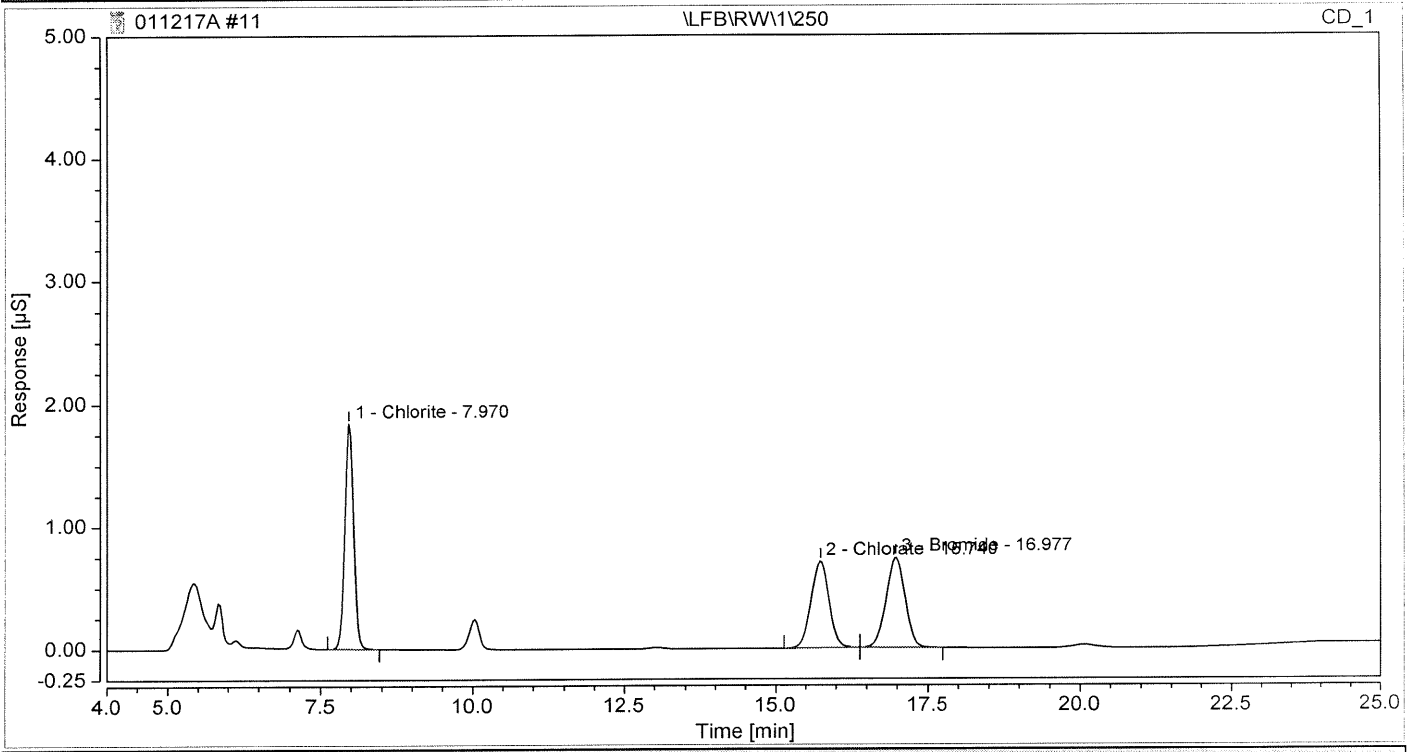
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
16	Chlorate	16.000	0.000	0.000	4.92	4.66	5.6379
33	Bromide	16.817	0.000	0.000	3.83	3.69	4.9554
Total:			**0.000**	**0.000**	**8.74**	**8.35**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GA3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Jan/17 16:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

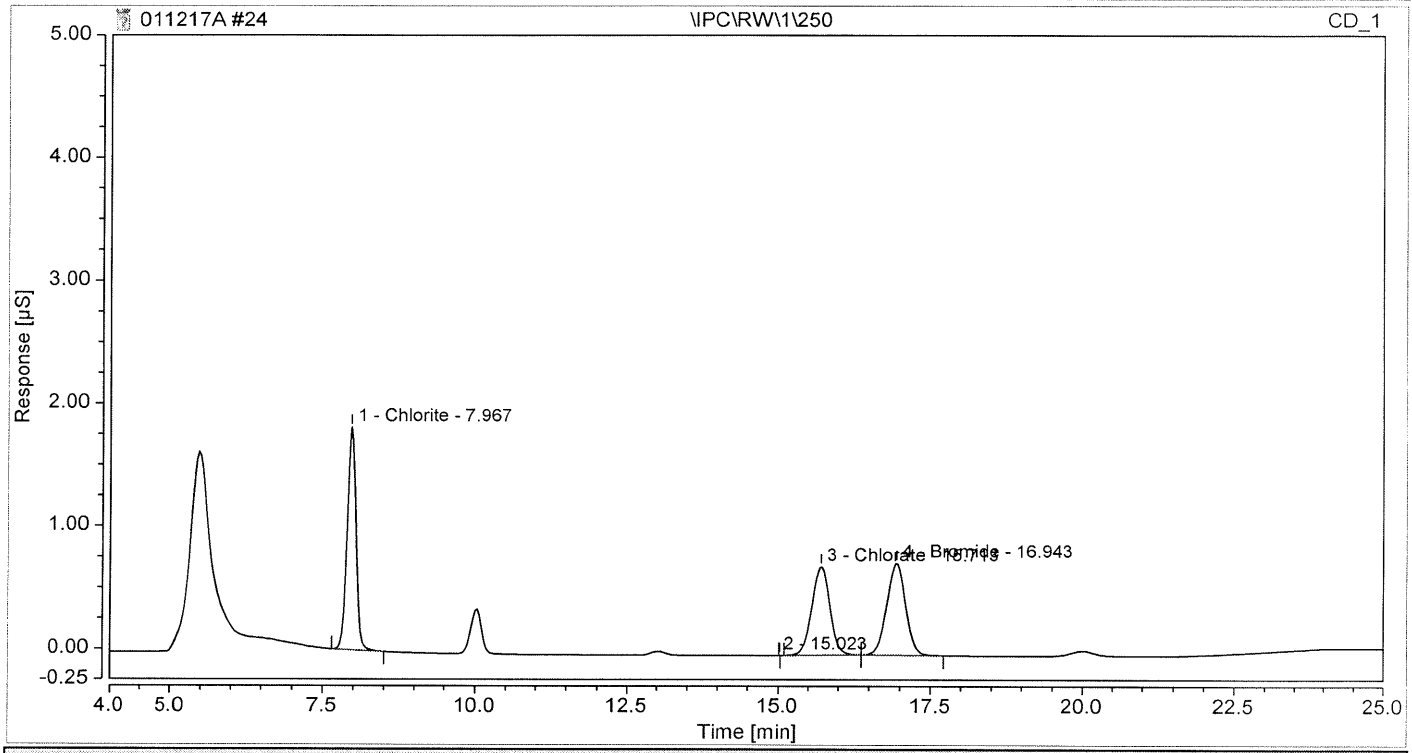
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.970	0.307	1.839	37.79	56.07	251.9992
2	Chlorate	15.740	0.244	0.706	29.94	21.51	242.2585
3	Bromide	16.977	0.263	0.735	32.27	22.42	243.4850
Total:			**0.814**	**3.280**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 00:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

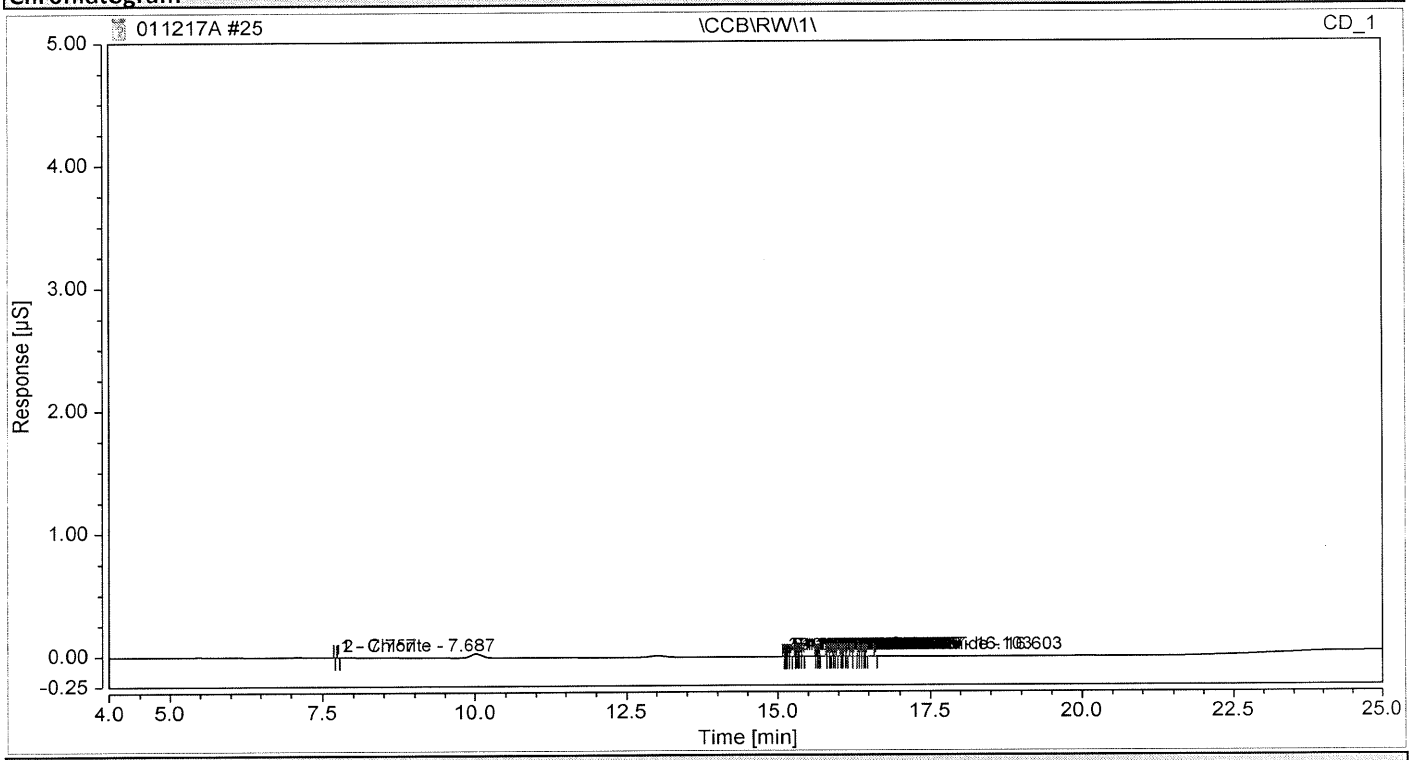
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.967	0.301	1.815	36.96	55.35	246.8222
3	Chlorate	15.713	0.248	0.717	30.45	21.87	246.5733
4	Bromide	16.943	0.265	0.747	32.58	22.78	246.0652
Total:			**0.815**	**3.279**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 00:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

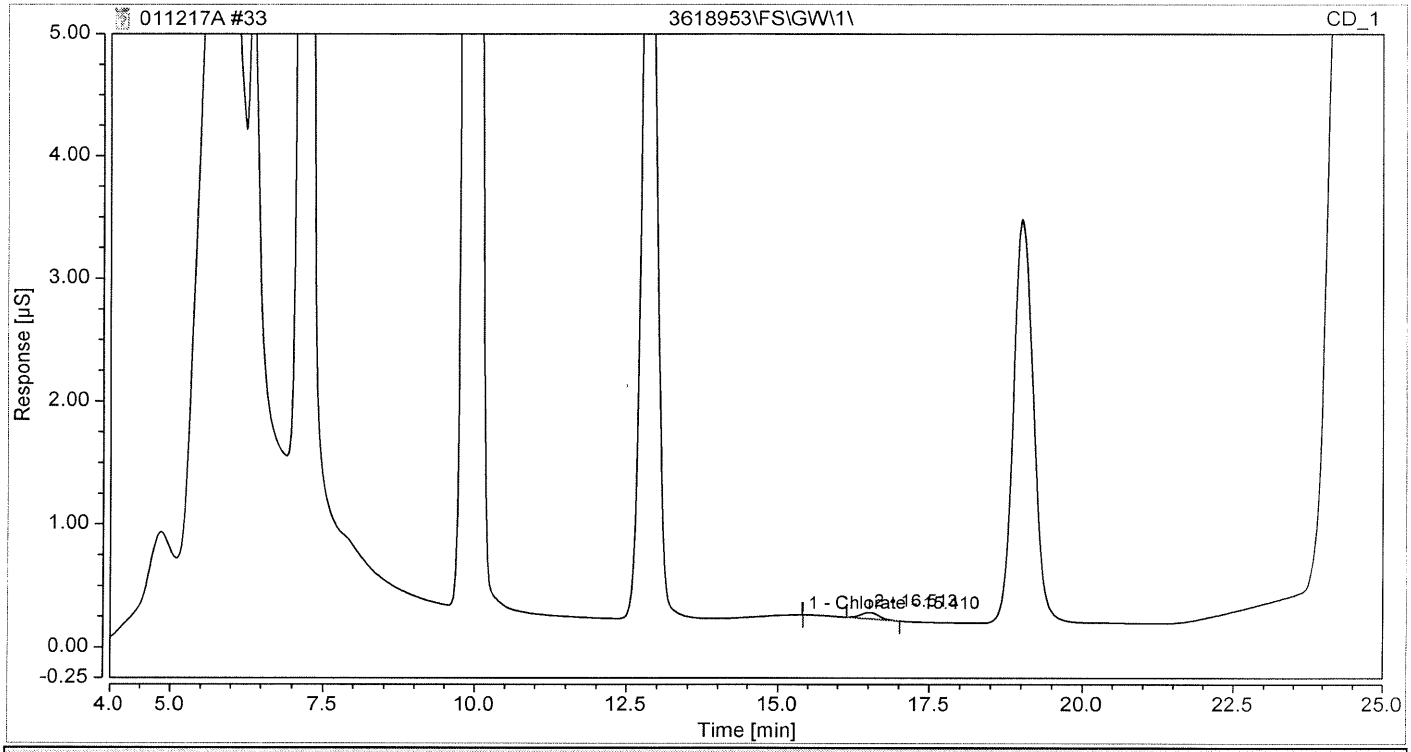
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.687	0.000	0.000	1.54	1.45	4.1722
27	Chlorate	16.103	0.000	0.000	2.95	2.42	5.6374
36	Bromide	16.603	0.000	0.000	3.79	2.46	4.9553
Total:			**0.000**	**0.000**	**8.28**	**6.33**	

Chromatogram and Results

Injection Details

Injection Name:	**3618953\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GC7**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 05:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

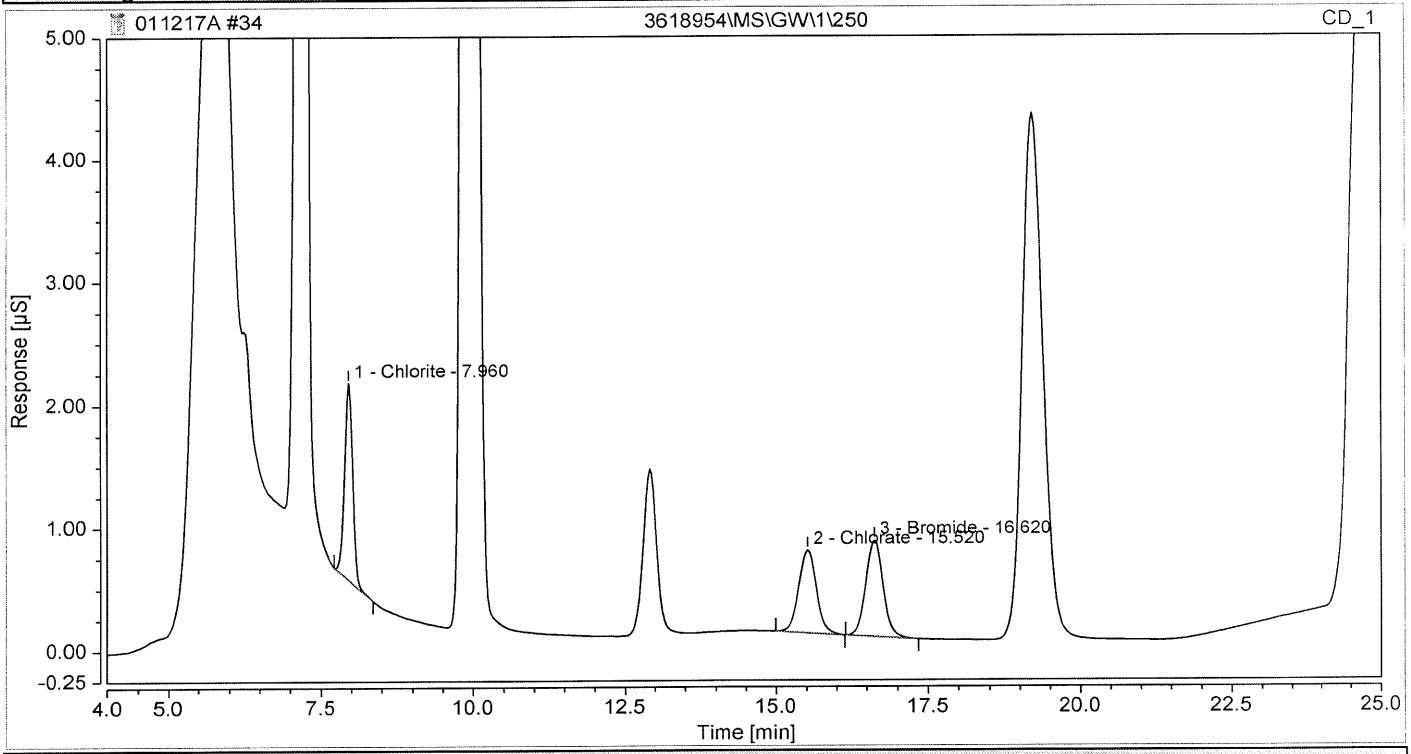
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorate	15.410	0.000	0.000	0.00	0.04	5.6369
Total:			**0.000**	**0.000**	**0.00**	**0.04**	

Chromatogram and Results

Injection Details

Injection Name:	**3618954\MS\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GC8**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 05:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

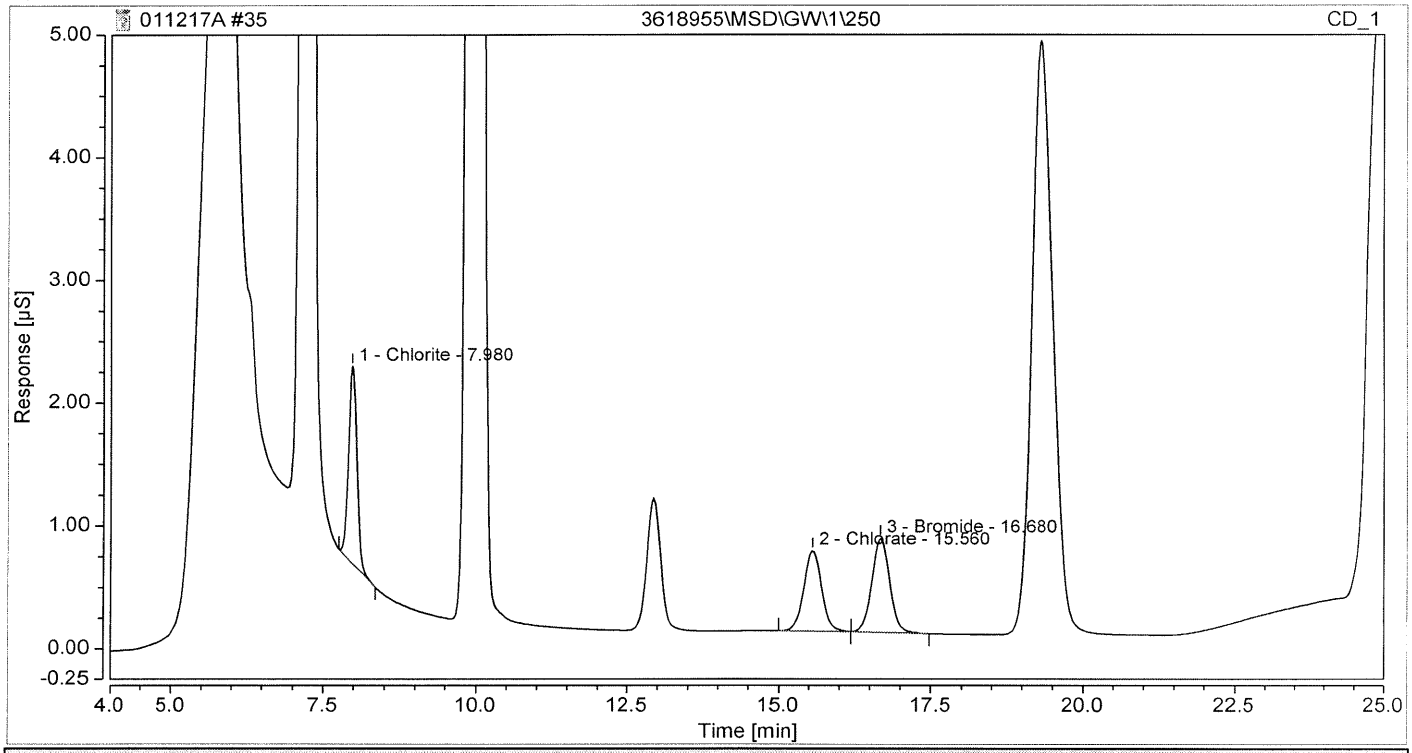
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.960	0.248	1.603	33.90	52.44	203.7917
2	Chlorate	15.520	0.225	0.672	30.79	21.99	224.1012
3	Bromide	16.620	0.258	0.782	35.31	25.57	239.2801
Total:			**0.731**	**3.057**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3618955\MSD\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GD1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 06:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

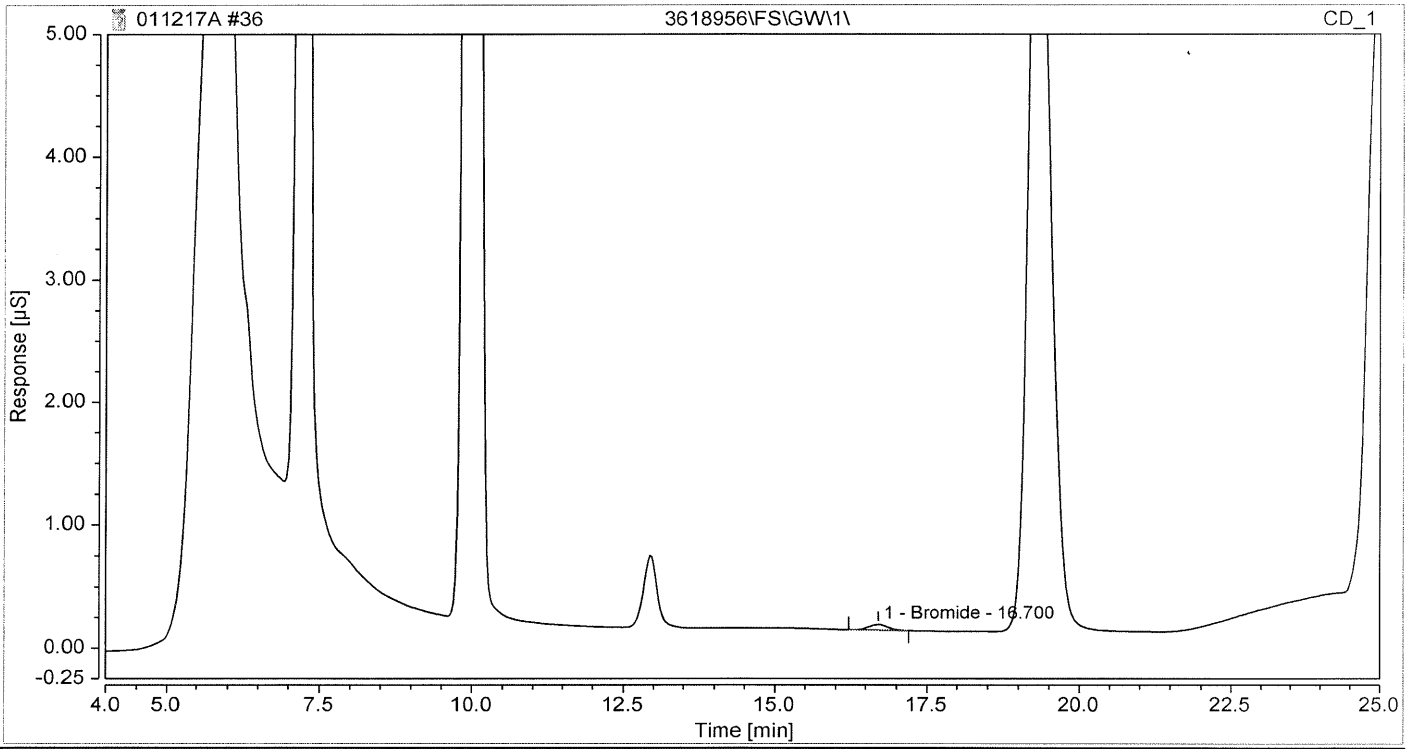
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.980	0.248	1.604	34.18	53.03	203.7372
2	Chlorate	15.560	0.220	0.655	30.36	21.65	219.2857
3	Bromide	16.680	0.257	0.766	35.46	25.32	238.3241
Total:			**0.724**	**3.025**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3618956\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GD2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 07:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

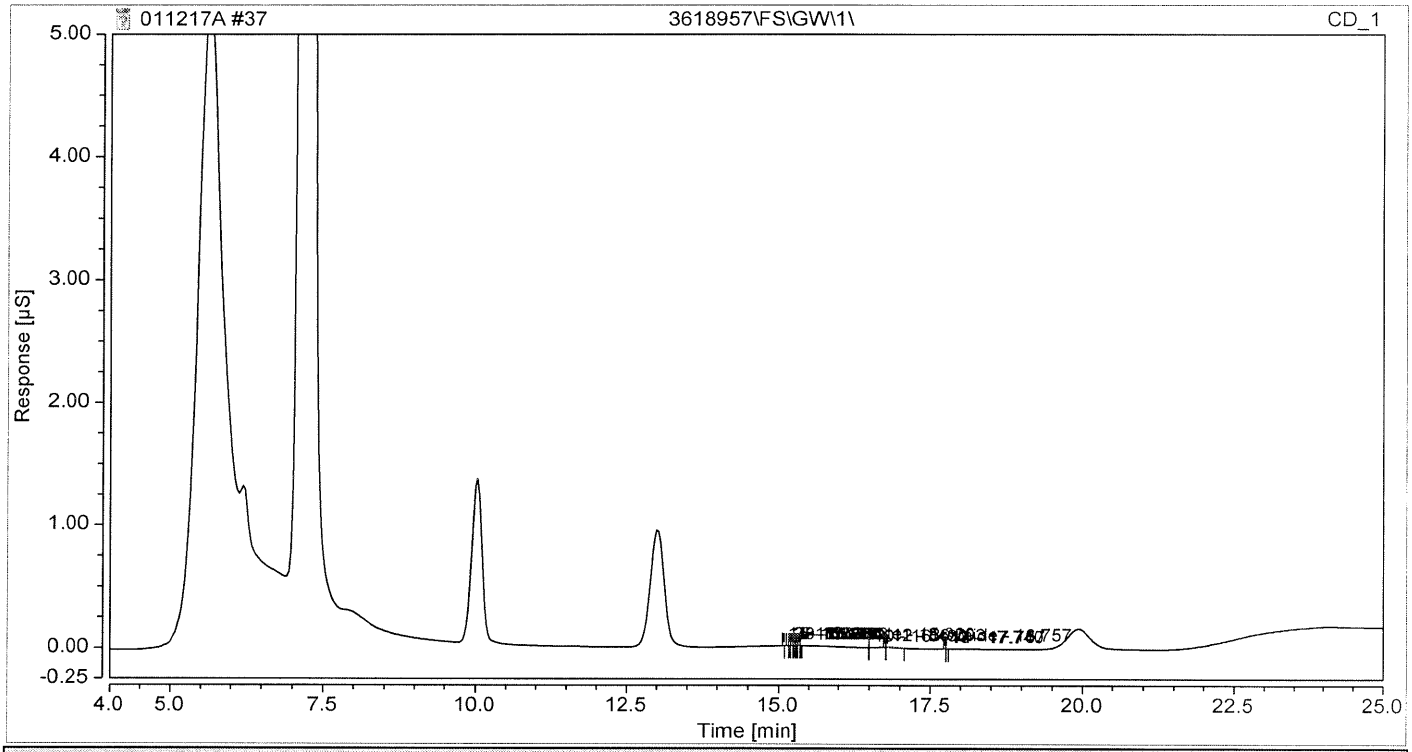
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Bromide	16.700	0.016	0.046	100.00	100.00	19.8839
Total:			**0.016**	**0.046**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3618957\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GD3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 07:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

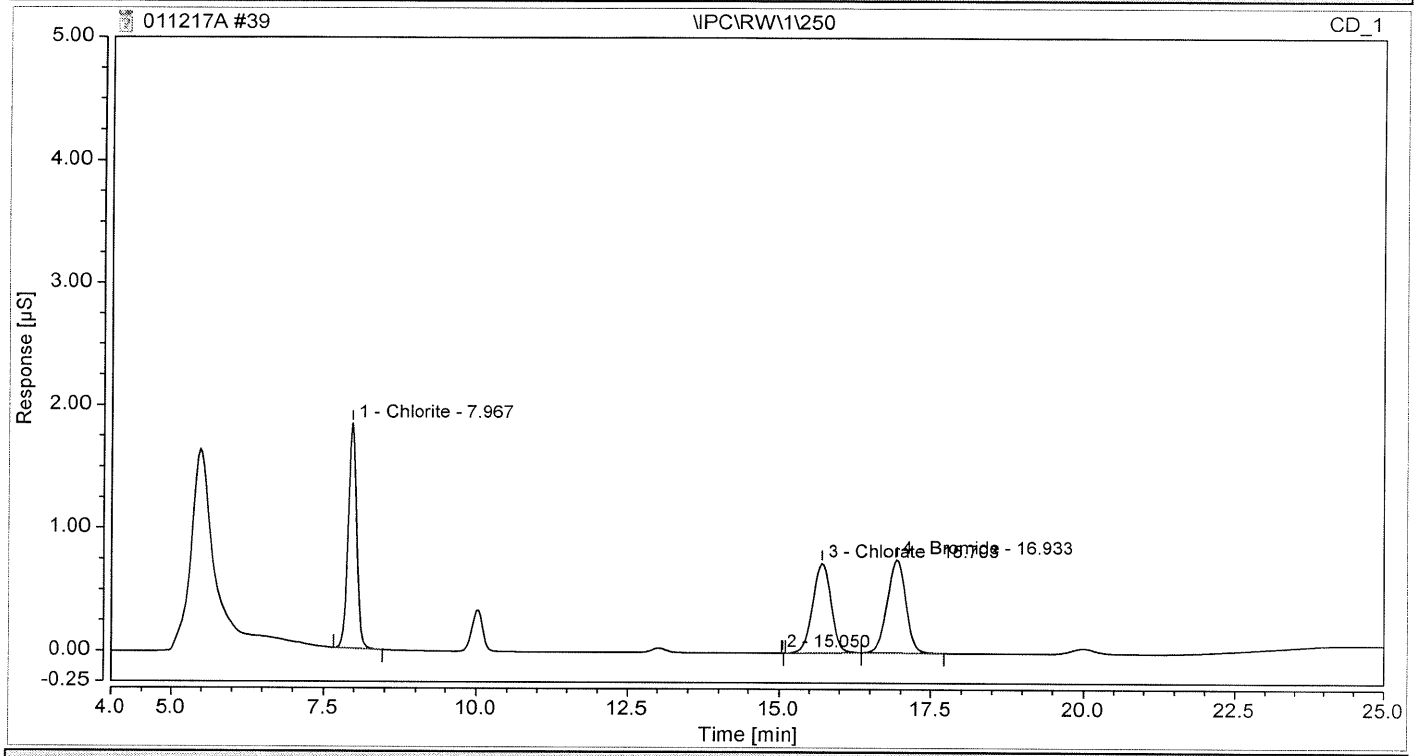
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
8	Chlorate	15.330	0.000	0.000	0.30	3.69	5.6376
11	Bromide	16.757	0.000	0.000	0.67	9.47	4.9564
Total:			**0.000**	**0.000**	**0.98**	**13.15**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 08:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

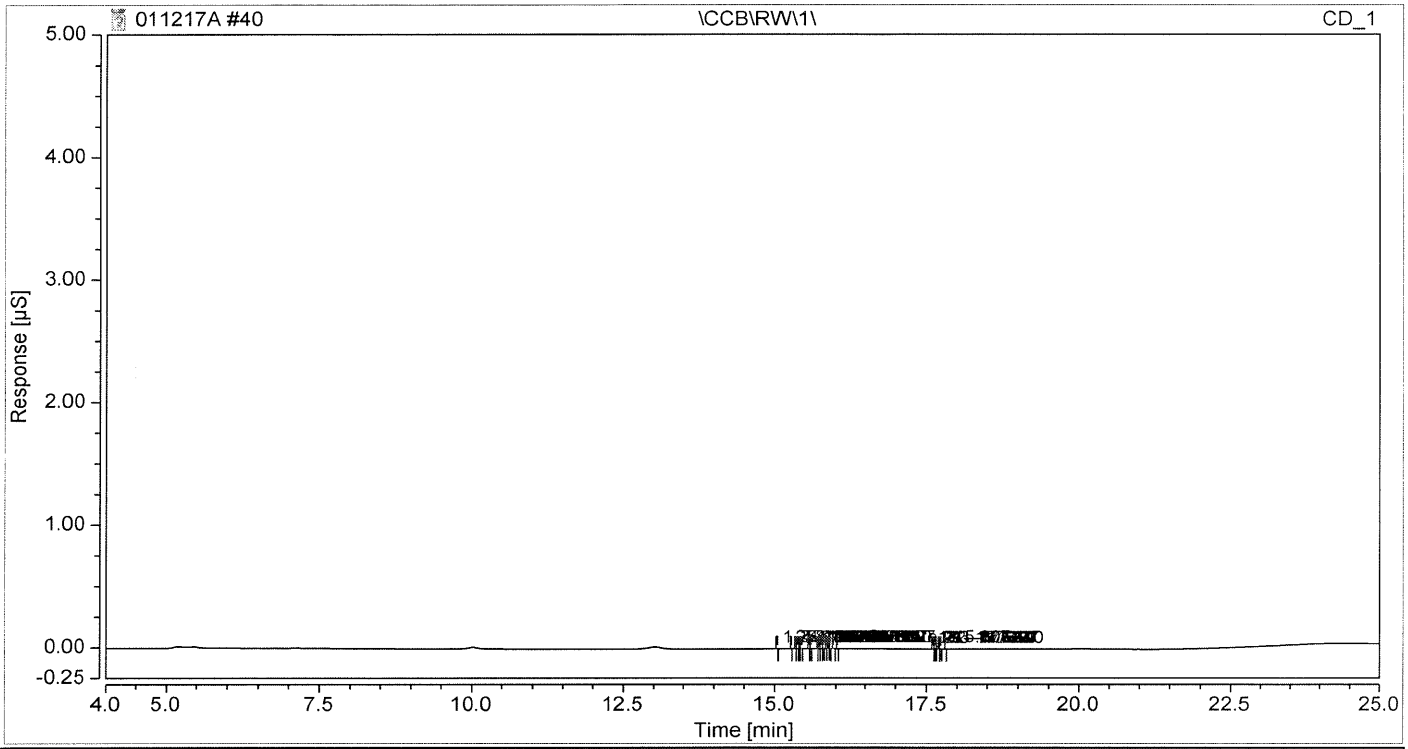
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.967	0.305	1.830	36.90	55.23	250.1773
3	Chlorate	15.703	0.252	0.726	30.45	21.92	250.2551
4	Bromide	16.933	0.270	0.757	32.65	22.84	250.3469
Total:			**0.827**	**3.314**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Jan/17 09:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
12	Chlorate	15.807	0.000	0.000	7.45	7.65	5.6379
Total:			**0.000**	**0.000**	**7.45**	**7.65**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	1/31/2017
Instrument:	ES	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC resutls.- SL LOD will be updated on the MDL-300.0B-DT-01102017 sheet, which is also being approved today, 1/31/17 - JW*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
11/17/2016	Bromide	10	13.34	13.466	13.686	12.418	13.149	13.517	13.356	13.276	0.413334	1.2991088
11/17/2016	Chlorate	10	13.745	13.64	13.587	12.926	12.672	12.903	13.358	13.2616	0.424439	1.3340111
11/17/2016	Chlorite	10	10.397	10.727	11.968	12.605	11.081	10.939	11.178	11.2707	0.761594	2.3936889

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 380797

Priority: Standard

Status: Final

Project: #124730 EEA-IN / RADFORD AAP

Samples Submitted: Three groundwater samples

Copies to: None

Collected: 01/10/17 By: Client Received: 01/12/17

REPORT SUMMARY

Three groundwater samples were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: Sample containers were provided by the client.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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RAW Data Reporter 01.31.17

Reviewed By Title Date

Finalized By Title Date

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 380797
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3620015	826629 54MW1	300.0	01/10/17 09:05	Client	01/12/17 09:45
3620016	826637 54MW12	300.0	01/10/17 10:45	Client	01/12/17 09:45
3620017	826639 54TM12	300.0	01/10/17 10:50	Client	01/12/17 09:45

Report Summary

Note: See attached page for additional comments.

PO #124730 EEA-IN / Project: RADFORD AAP

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | 01/31/2017 Date

Client Name: CT Laboratories
Report #: 380797

Client Name: CT Laboratories Report #: 380797

Sampling Point: 826629 54MW1 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	01/17/17 06:32	3620015
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	01/17/17 06:32	3620015

Sampling Point: 826637 54MW12 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	01/17/17 07:08	3620016
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	01/17/17 07:08	3620016

Sampling Point: 826639 54TM12 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	01/17/17 07:45	3620017
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	01/17/17 07:45	3620017

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

312971

CT LABORATORIES
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www.ctlaboratories.com

380797

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 124730 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM 5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
826629	01/10/2017 0905	GROUND WATER	54MW1 (1) 3674 015	CHLORATE/CHLORITE	300.1	
826637	01/10/2017 1045	GROUND WATER	54MW12 (1) 016	CHLORATE/CHLORITE	300.1	
826639	01/10/2017 1050	GROUND WATER	54TM12 (1) ↓ 017	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 01/11/2017 13:45

Received by: [signature] Date/Time: 1-12-17 0945 Receipt Temperature (C) 0.2°C wet

COMMENTS: NO DESIGNATED MS/MSD WITH THIS BATCH

Client Provided Sample Container

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Eurofins Eaton Analytical
Run Log

Run ID: **225017** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3622197		RW	ES	01/16/2017 13:06	
QCS	3622203		RW	ES	01/16/2017 16:52	
LRB	3622206		RW	ES	01/16/2017 18:38	
LFB	3622207		RW	ES	01/16/2017 19:13	
IPC	3622210		RW	ES	01/17/2017 02:54	
CCB	3622211		RW	ES	01/17/2017 03:29	
FS	3620015	826629 54MW1	GW	ES	01/17/2017 06:32	
FS	3620016	826637 54MW12	GW	ES	01/17/2017 07:08	
FS	3620017	826639 54TM12	GW	ES	01/17/2017 07:45	
IPC	3622214		RW	ES	01/17/2017 11:24	
CCB	3622215		RW	ES	01/17/2017 12:01	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/16/2017 13:06	3622197
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/16/2017 13:06	3622197
QCS	Chlorate	300.0	10	---		239.7220	250	ug/L	96	90 - 110	---	---	1.0	---	01/16/2017 16:52	3622203
QCS	Chlorite	300.0	10	---		248.8810	250	ug/L	100	90 - 110	---	---	1.0	---	01/16/2017 16:52	3622203
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/16/2017 18:38	3622206
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/16/2017 18:38	3622206
LFB	Chlorate	300.0	10	---		241.5820	250	ug/L	97	90 - 110	---	---	1.0	---	01/16/2017 19:13	3622207
LFB	Chlorite	300.0	10	---		247.8810	250	ug/L	99	90 - 110	---	---	1.0	---	01/16/2017 19:13	3622207
IPC	Chlorate	300.0	10	---		253.3870	250	ug/L	101	90 - 110	---	---	1.0	---	01/17/2017 02:54	3622210
IPC	Chlorite	300.0	10	---		249.4720	250	ug/L	100	90 - 110	---	---	1.0	---	01/17/2017 02:54	3622210
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 03:29	3622211
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 03:29	3622211
FS	Chlorate	300.0	10	826629 54MW1	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 06:32	3620015
FS	Chlorite	300.0	10	826629 54MW1	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 06:32	3620015
FS	Chlorate	300.0	10	826637 54MW12	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 07:08	3620016
FS	Chlorite	300.0	10	826637 54MW12	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 07:08	3620016
FS	Chlorate	300.0	10	826639 54TM12	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 07:45	3620017
FS	Chlorite	300.0	10	826639 54TM12	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 07:45	3620017
IPC	Chlorate	300.0	10	---		244.7640	250	ug/L	98	90 - 110	---	---	1.0	---	01/17/2017 11:24	3622214
IPC	Chlorite	300.0	10	---		246.1850	250	ug/L	98	90 - 110	---	---	1.0	---	01/17/2017 11:24	3622214
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 12:01	3622215
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	01/17/2017 12:01	3622215

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
QCS	Quality Control Sample		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 225017 **Instrument#** ES

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	148201	8/19/2015	8/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-82b(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-82b(4-6)

Analyst: S. Lovick **Prep Date:** 1/9/2017 **Exp. Date:** 4/9/2017

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 µg/mL Cal Substock Vol. (µL)	25 µg/mL QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100		1000	100	100

Analyst: S. Lovick **Prep Date:** 1/16/2017 **Exp. Date:** 1/23/2017

LFB/MS/MSD	250	100		10	10

Analyst: S. Lovick **Prep Date:** 1/16/2017 **Exp. Date:** 1/23/2017

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL	Prep ID	IOC47-81a

Analyst: S. Lovick **Prep Date:** 1/3/2017 **Exp. Date:** 2/3/2017

Comments: Dionex IonPac AS19 4mm s/n 160809075 lot#01531178 installed 09/12/2016
EGC 500-KOH Eluent Cartridge s/n 160630810319 installed 06/21/2016

Analyst: [signature] **Date:** JAN 17 2017

Technician Review: [signature] **Date:** 01/18/2017

(signature)

Summary

Sequence Details		
Name:	**011617A**	**14/Jan/15 15:09:59**
Directory:	**Instrument Data\ES\300B\2017**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**17/Jan/17 14:13:14**
No. of Injections:	**39**	**us25_usr_sbnlabpcs**

By Component	Chlorite

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount ppb CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount ppb CD_1 Bromide
1	\ICB\RW\1\	01/16/17 13:06	0.000	3.409	0.000	5.964	0.000	5.088
2	\ICS\RW\1\10	01/16/17 13:55	0.011	11.936	0.008	13.163	0.009	12.914
3	\ICS\RW\1\20	01/16/17 14:30	0.021	19.602	0.016	21.007	0.018	21.305
4	\ICS\RW\1\100	01/16/17 15:06	0.118	95.586	0.091	92.261	0.099	92.994
5	\ICS\RW\1\250	01/16/17 15:41	0.312	247.396	0.250	243.025	0.268	243.406
6	\ICS\RW\1\500	01/16/17 16:16	0.638	502.070	0.526	504.579	0.562	504.294
7	\QCS\RW\1\250	01/16/17 16:52	0.314	248.881	0.247	239.722	0.268	242.992
8	\IPC\RW\1\250	01/16/17 17:27	0.311	246.162	0.249	241.978	0.268	242.815
9	\RLC\RW\1\10	01/16/17 18:03	0.009	10.659	0.007	12.617	0.008	11.870
10	\LRB\RW\1\	01/16/17 18:38	n.a.	n.a.	0.000	5.964	0.000	5.086
11	\LFB\RW\1\250	01/16/17 19:13	0.313	247.881	0.249	241.582	0.266	241.374
12	3619837\FS\DW\1\	01/16/17 19:49	0.004	6.605	0.000	5.964	0.020	22.486
13	3619843\FS\DW\1\	01/16/17 20:24	0.281	222.687	0.088	89.052	0.028	30.093
14	3619844\FS\DW\1\	01/16/17 21:00	0.004	6.889	0.034	37.798	0.025	27.193
15	3619845\FS\DW\1\	01/16/17 21:35	0.075	62.084	0.043	46.818	0.031	32.724
16	3619918\FS\DW\1\	01/16/17 22:10	0.000	3.461	n.a.	n.a.	0.000	5.087
17	3619918\MS\DW\1\250	01/16/17 22:46	0.298	236.313	0.261	253.534	0.244	221.584
18	3619918\MSD\DW\1\250	01/16/17 23:21	0.314	248.943	0.273	265.032	0.260	236.377
19	3619925\FS\DW\1\	01/16/17 23:57	0.990	777.017 X	0.208	203.248	0.020	23.022
20	3619926\FS\DW\1\	01/17/17 00:32	0.999	783.758 X	0.198	193.691	0.031	32.502
21	3619927\FS\DW\1\	01/17/17 01:08	0.969	760.440 X	0.232	225.367	0.019	21.530
22	3619973\FS\DW\1\	01/17/17 01:43	0.091	74.163	0.062	64.372	0.045	45.382
23	3619974\FS\DW\1\	01/17/17 02:18	0.054	45.366	0.086	87.887	0.016	19.059
24	\IPC\RW\1\250	01/17/17 02:54	0.315	249.472	0.261	253.387	0.272	246.442
25	\CCB\RW\1\	01/17/17 03:29	0.000	3.409	0.000	5.964	0.000	5.087
26	3619975\FS\DW\1\	01/17/17 04:06	0.025	22.897	0.089	89.887	0.023	25.711
27	3619976\FS\DW\1\	01/17/17 04:42	0.003	5.896	0.196	191.436	0.051	50.543
28	3619977\FS\DW\1\	01/17/17 05:19	0.005	6.992	0.188	184.238	0.036	36.921
29	3619978\FS\DW\1\	01/17/17 05:55	n.a.	n.a.	0.175	171.358	0.016	18.995
30	3620015\FS\GW\1\	01/17/17 06:32	n.a.	n.a.	0.000	5.966	0.011	15.211
31	3620016\FS\GW\1\	01/17/17 07:08	n.a.	n.a.	n.a.	n.a.	0.018	20.771
32	3620017\FS\GW\1\	01/17/17 07:45	n.a.	n.a.	0.000	5.964	0.019	21.754
33	3620025\FS\DW\1\	01/17/17 08:21	0.733	576.322 X	0.175	172.045	0.142	131.065
34	3620026\FS\DW\1\	01/17/17 08:58	0.668	525.292 X	0.179	175.642	0.125	115.852
35	3620027\FS\DW\1\	01/17/17 09:34	0.429	338.595	0.205	200.394	0.086	81.109
36	3620027\MS\DW\1\250	01/17/17 10:11	0.716	562.758 X	0.451	433.194	0.347	313.229
37	3620027\MSD\DW\1\250	01/17/17 10:47	0.740	581.904 X	0.469	450.744	0.365	329.533
38	\IPC\RW\1\250	01/17/17 11:24	0.311	246.185	0.252	244.764	0.271	246.331
39	\CCB\RW\1\	01/17/17 12:01	0.000	3.409	0.000	5.964	0.000	5.087

X- Results over Cal Range.
SR 1/17/17

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0100 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	0.25 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
7.540 [min]	Inhibit Integration	Off	Any	All Channels
8.450 [min]	Inhibit Integration	On	Any	All Channels
15.000 [min]	Inhibit Integration	Off	Any	All Channels
17.900 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	7.930	5.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	15.640	5.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	16.870	5.000 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Total**
Curve Fitting	**Inverted**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Ok	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G2	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G3	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G4	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G5	250.0 [µl]		as19 4mm	as19 4mm
1.0000		G6	250.0 [µl]		as19 4mm	as19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	1/16/2017 1:06:40 PM		4DEE7D6B-B6F3-44C7	0	0.00
Finished	1/16/2017 1:55:16 PM		FB569C58-5CA2-485D	0	0.00
Finished	1/16/2017 2:30:40 PM		5A293E7E-212D-4341-B4DD	0	0.00
Finished	1/16/2017 3:06:03 PM		FBDBCE0C-0DAE-4702	0	0.00
Finished	1/16/2017 3:41:27 PM		5B020BF8-65BA-456B-0654	0	0.00
Finished	1/16/2017 4:16:51 PM		37FCA69F-7CFD-4403	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**as19 4mm**
Comment	
Description	**Instrument: ICS5000** **Creation Time: 1/14/2015 12:38:02 PM** **Created by EurofinsEatonAnaly**
Run time	**30.000 [min]**
Instrument	**ES on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		DC.Compartment_TC.AcquireExclusiveAccess		
		DC.Column_TC.AcquireExclusiveAccess		
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_1	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Pump_1.Pressure.UpperLimit	3500 [psi]	
		Pump_1.%A.Equate	"%A"	
		Pump_1.Pressure.LowerLimit	200 [psi]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	2.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		CDet1.Rise_Time	0.50 [s]	
		CDet1.Data_Collection_Rate	5.0 [Hz]	
		CDet1.CellHeater.Mode	On	
		CDet1.CellHeater.TemperatureSet	35.00 [°C]	
		CDet1.Temperature_Compensation	1.7 [%/°C]	
		DC.Column_TC.Mode	On	
		DC.Column_TC.TemperatureSet	30.00 [°C]	
		DC.Compartment_TC.Mode	On	
		DC.Compartment_TC.TemperatureSet	30.00 [°C]	
		DC.Suppressor1.Type	AERS_4mm	
		DC.Suppressor1.Carbonate	0.0 [mM]	
		DC.Suppressor1.Bicarbonate	0.0 [mM]	
		DC.Suppressor1.Hydroxide	40.0 [mM]	
		DC.Suppressor1.Tetraborate	0.0 [mM]	

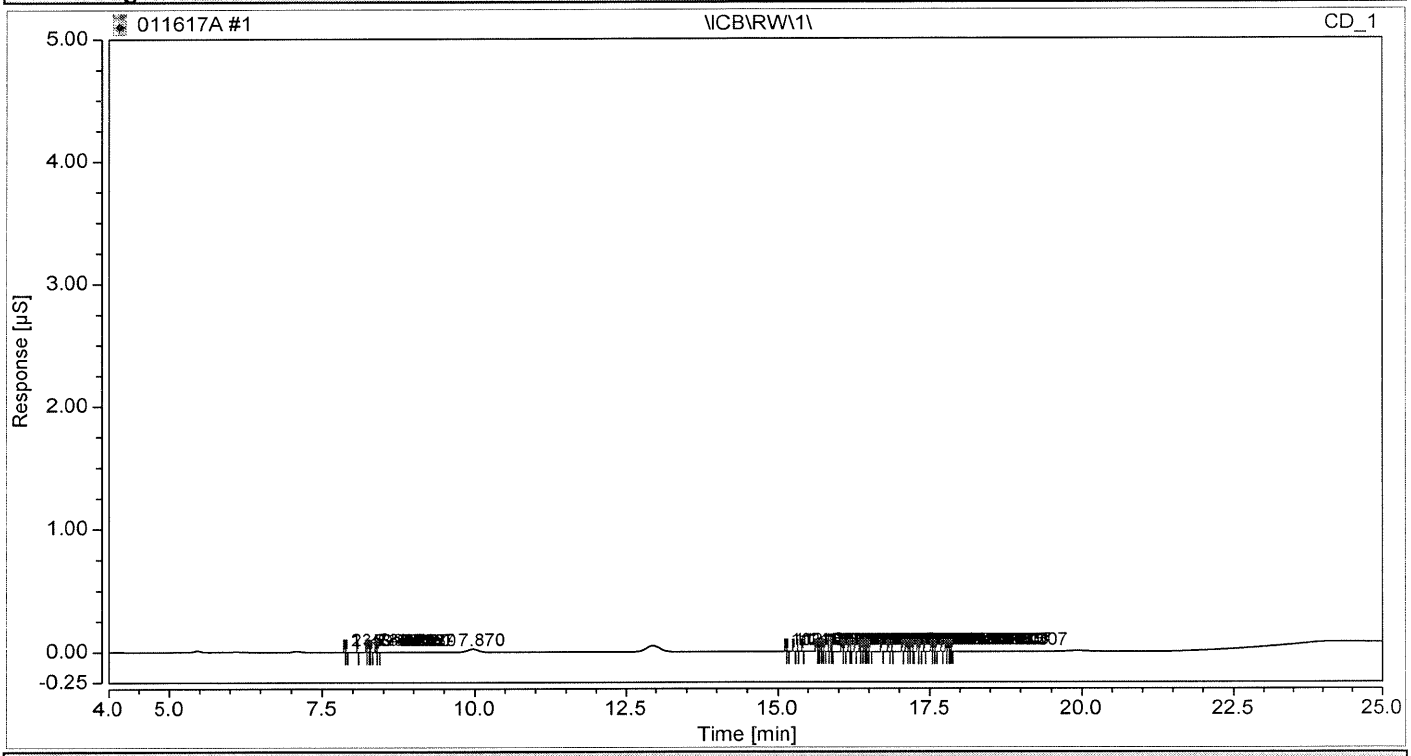
		DC.Suppressor1.OtherEluent	0.0 [mN]
		DC.Suppressor1.RecommendedCurrent	99 [mA]
		DC.Suppressor1.CurrentSet	100 [mA]
		Pump_1.Flow	1
		EluentGenerator.EGC_1.CR_TC	On
		Pump_1.Curve	5
		Sampler.PunctureOffset	0 [mm]
		Sampler.InjectWash	BeforeInj
		EluentGenerator.EGC_1.Curve	5
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_1.Pump_1_Pressure.AcqOn	
		CDet1.Autozero	
		CDet1.CD_1.AcqOn	
		CDet1.CD_1_Total.AcqOn	
Run			Duration = 30.000 [min]
	0.000		
	17.500		
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
		EluentGenerator.EGC_1.Curve	5
	20.000		
		EluentGenerator.EGC_1.Concentration	20.00 [mM]
		EluentGenerator.EGC_1.Curve	5
	25.000		
		EluentGenerator.EGC_1.Concentration	20.00 [mM]
		EluentGenerator.EGC_1.Curve	1
	25.500		
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
		EluentGenerator.EGC_1.Curve	1
Stop Run			
	30.000		
		Pump_1.Pump_1_Pressure.AcqOff	
		CDet1.CD_1.AcqOff	
		CDet1.CD_1_Total.AcqOff	
Post Run			
	30.000		
		DC.Column_TC.ReleaseExclusiveAccess	
		DC.Compartment_TC.ReleaseExclusiveAc	
End			

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 13:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

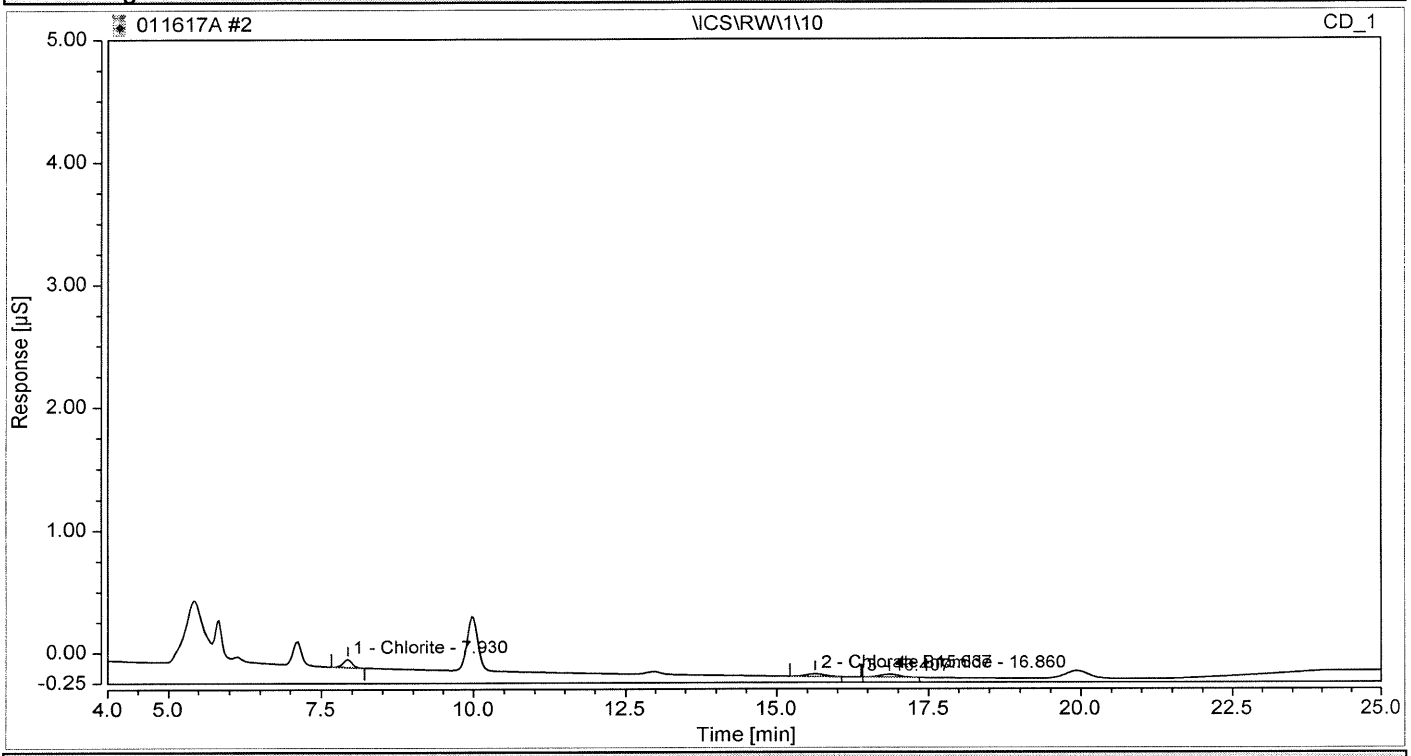
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.870	0.000	0.000	2.41	2.46	3.4093
11	Chlorate	15.170	0.000	0.000	1.64	2.17	5.9637
34	Bromide	16.707	0.000	0.000	3.80	2.59	5.0877
Total:			**0.000**	**0.000**	**7.85**	**7.22**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**30.00**
Vial Number:	**G2**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 13:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

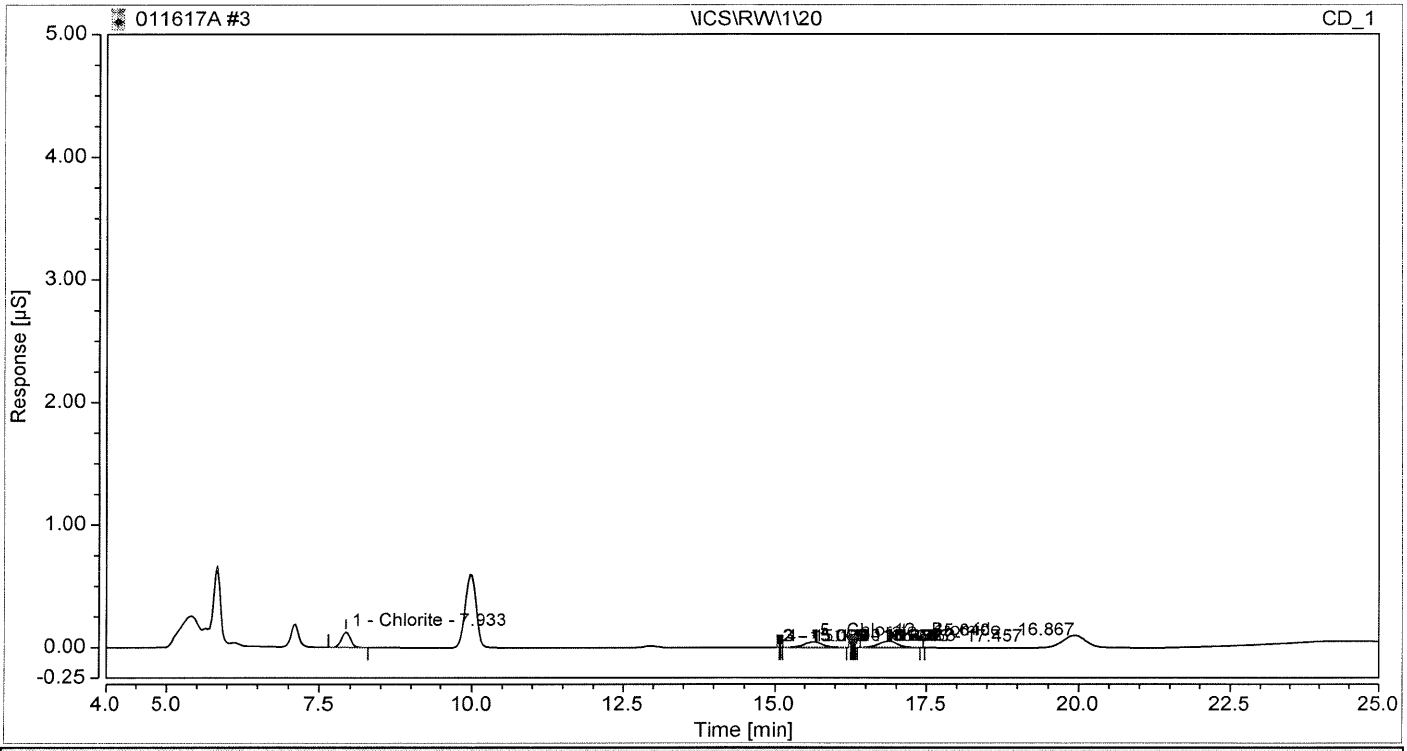
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.930	0.011	0.065	39.94	58.43	11.9358
2	Chlorate	15.637	0.008	0.022	27.81	19.78	13.1635
4	Bromide	16.860	0.009	0.024	32.24	21.73	12.9143
Total:			**0.027**	**0.111**	**100.00**	**99.95**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**30.00**
Vial Number:	**G3**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 14:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

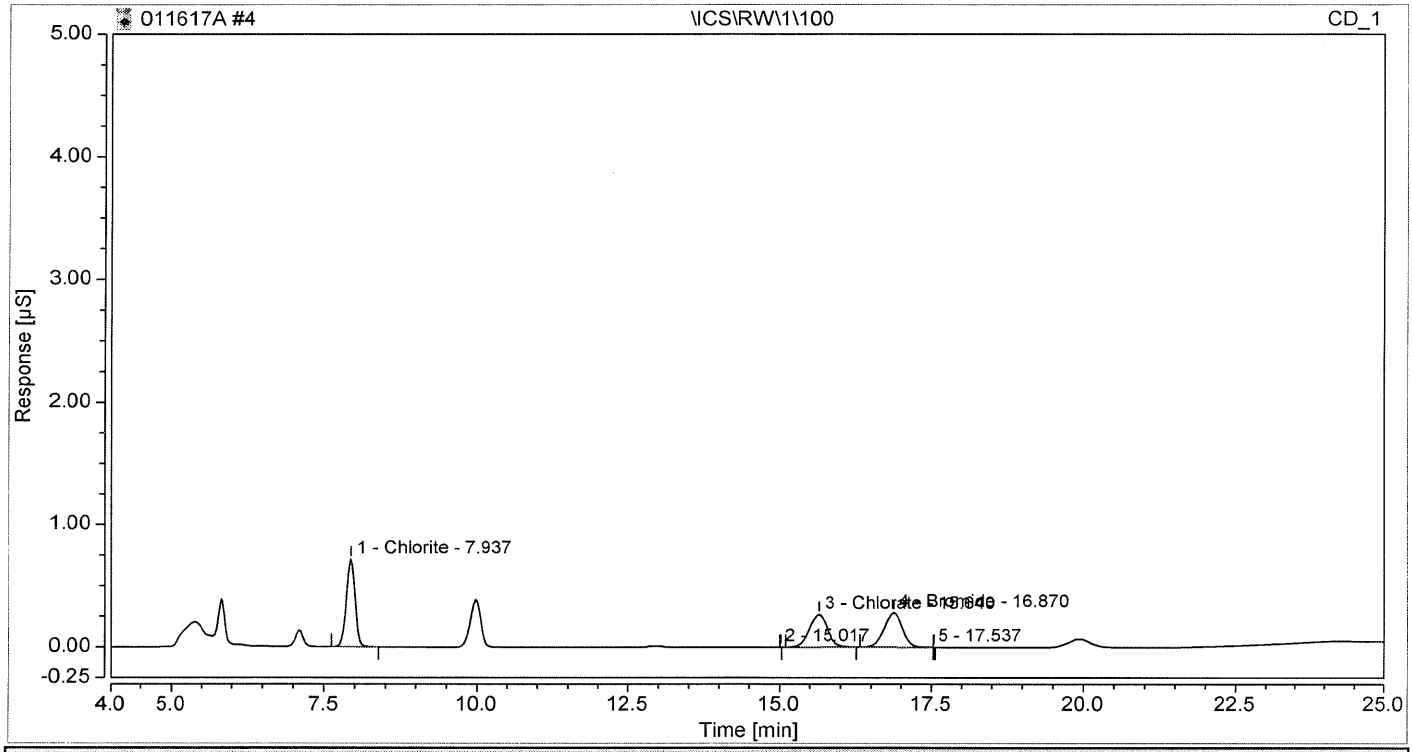
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.933	0.021	0.125	37.78	56.63	19.6025
5	Chlorate	15.640	0.016	0.045	28.94	20.36	21.0070
12	Bromide	16.867	0.018	0.050	33.27	22.78	21.3047
Total:			**0.055**	**0.221**	**99.99**	**99.77**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**30.00**
Vial Number:	**G4**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 15:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

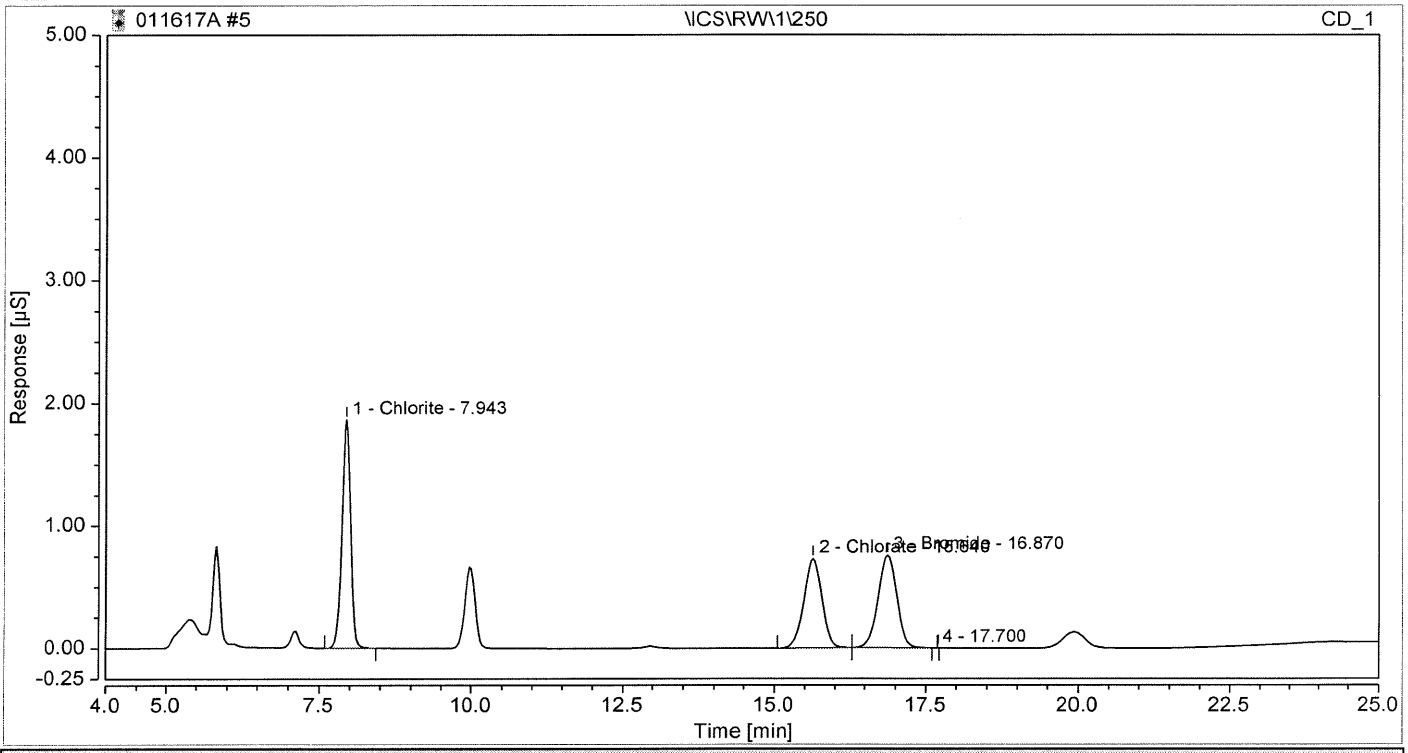
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.937	0.118	0.714	38.30	56.74	95.5864
3	Chlorate	15.640	0.091	0.265	29.57	21.05	92.2611
4	Bromide	16.870	0.099	0.280	32.12	22.20	92.9939
Total:			**0.308**	**1.259**	**100.00**	**99.99**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 15:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

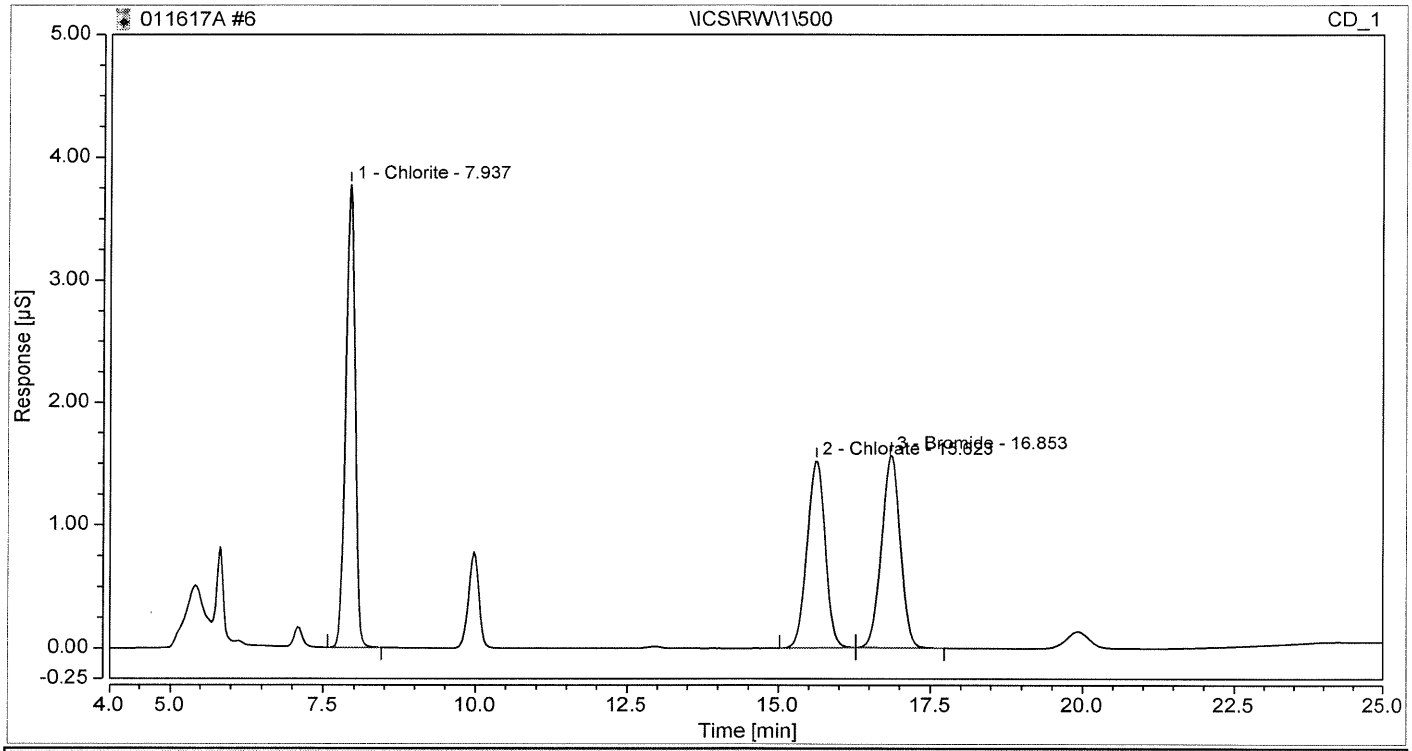
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.943	0.312	1.863	37.59	55.71	247.3965
2	Chlorate	15.640	0.250	0.727	30.12	21.73	243.0254
3	Bromide	16.870	0.268	0.755	32.29	22.56	243.4056
Total:			**0.831**	**3.345**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**30.00**
Vial Number:	**G6**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 16:16**	*Sample Weight:*	**1.0000**

Chromatogram



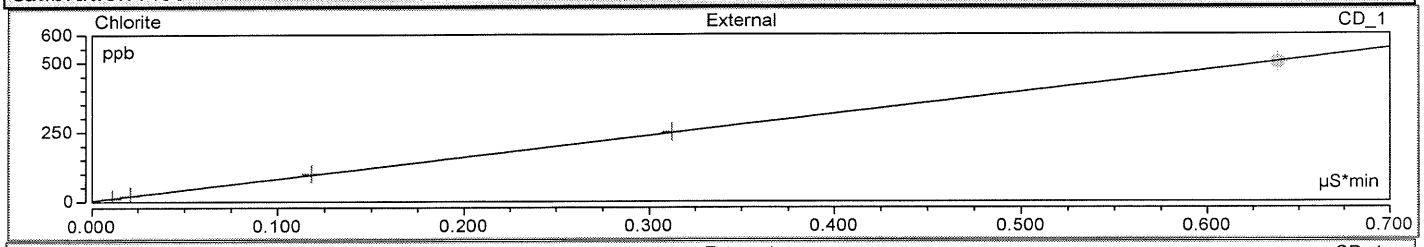
Integration Results

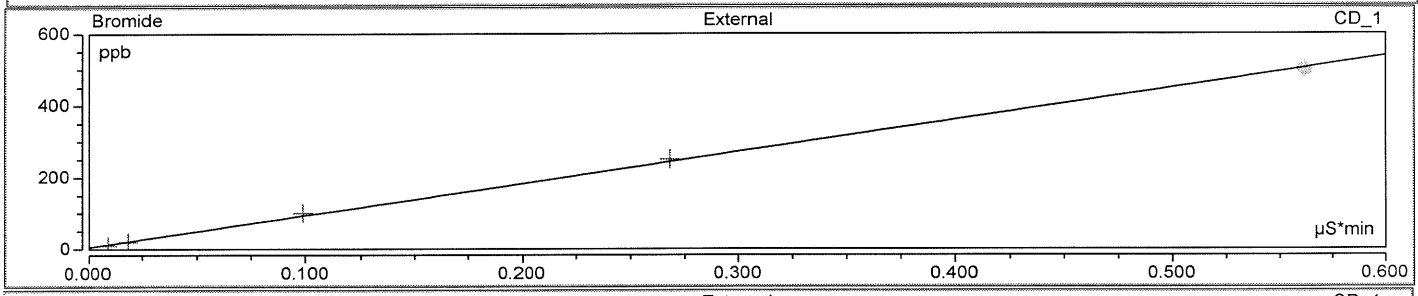
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.937	0.638	3.770	36.97	54.97	502.0695
2	Chlorate	15.623	0.526	1.521	30.48	22.18	504.5794
3	Bromide	16.853	0.562	1.567	32.55	22.86	504.2938
Total:			**1.726**	**6.858**	**100.00**	**100.00**	

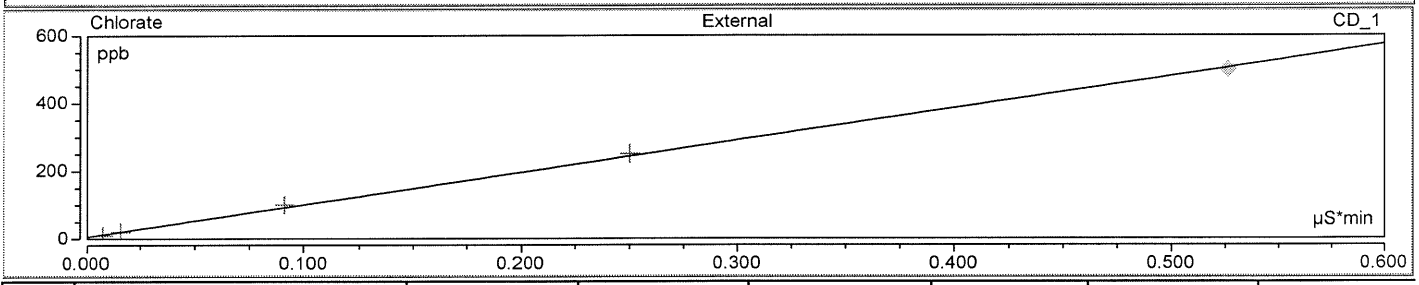
Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	3.4083
Evaluation Type	Area	*Slope (C1)*	781.3831
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9998

Calibration Plot **Chlorite**







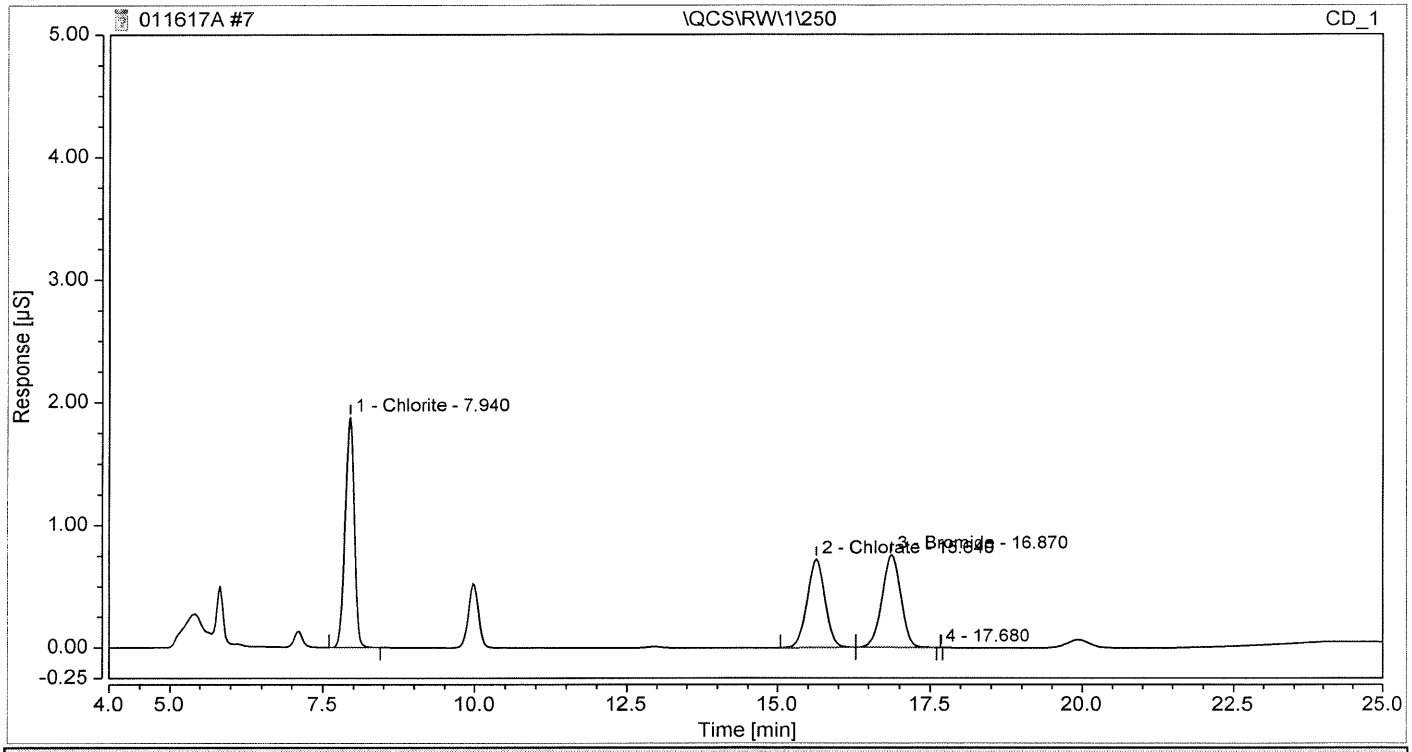
No.	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.988	781.38	3.408	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.955	947.56	5.963	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.962	888.61	5.086	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\QCS\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G7**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 16:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

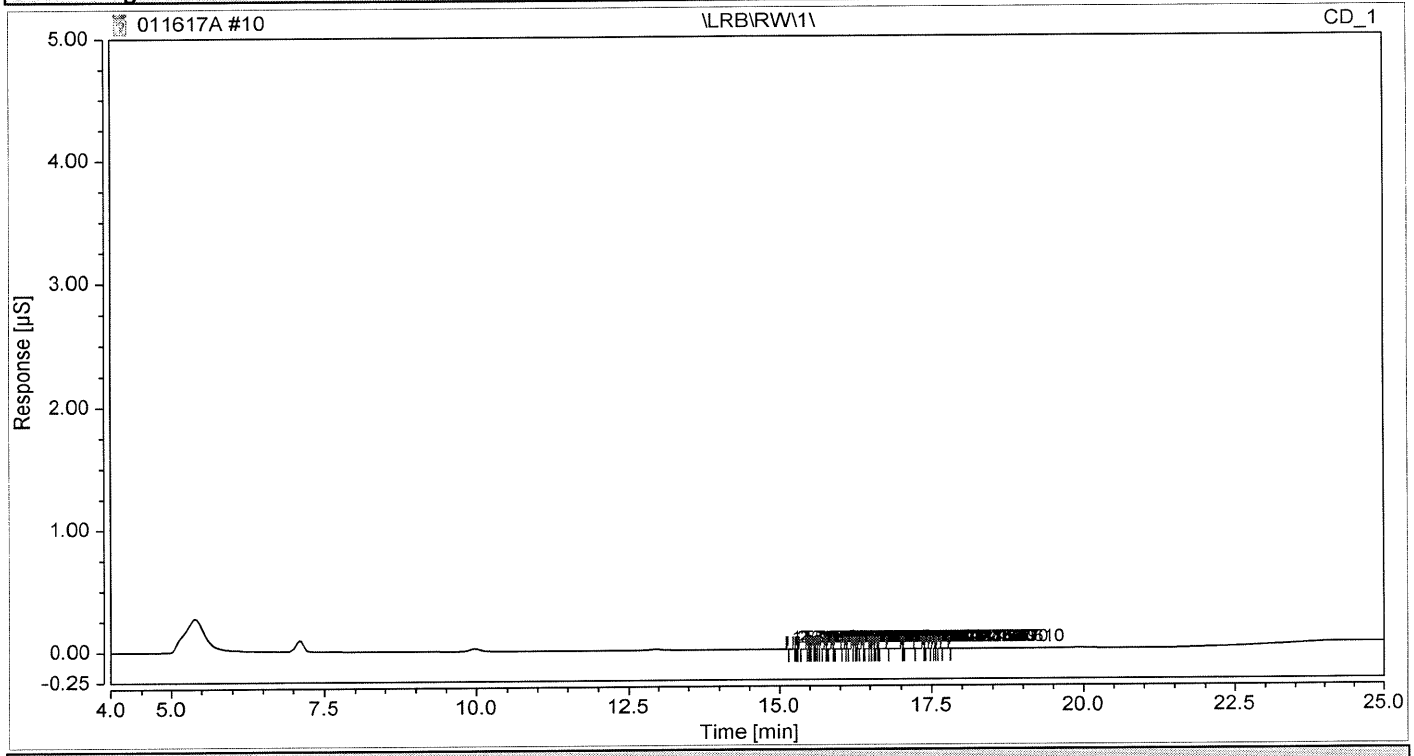
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.940	0.314	1.875	37.91	56.03	248.8813
2	Chlorate	15.640	0.247	0.717	29.77	21.43	239.7221
3	Bromide	16.870	0.268	0.754	32.31	22.54	242.9920
Total:			**0.829**	**3.347**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GA2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 18:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

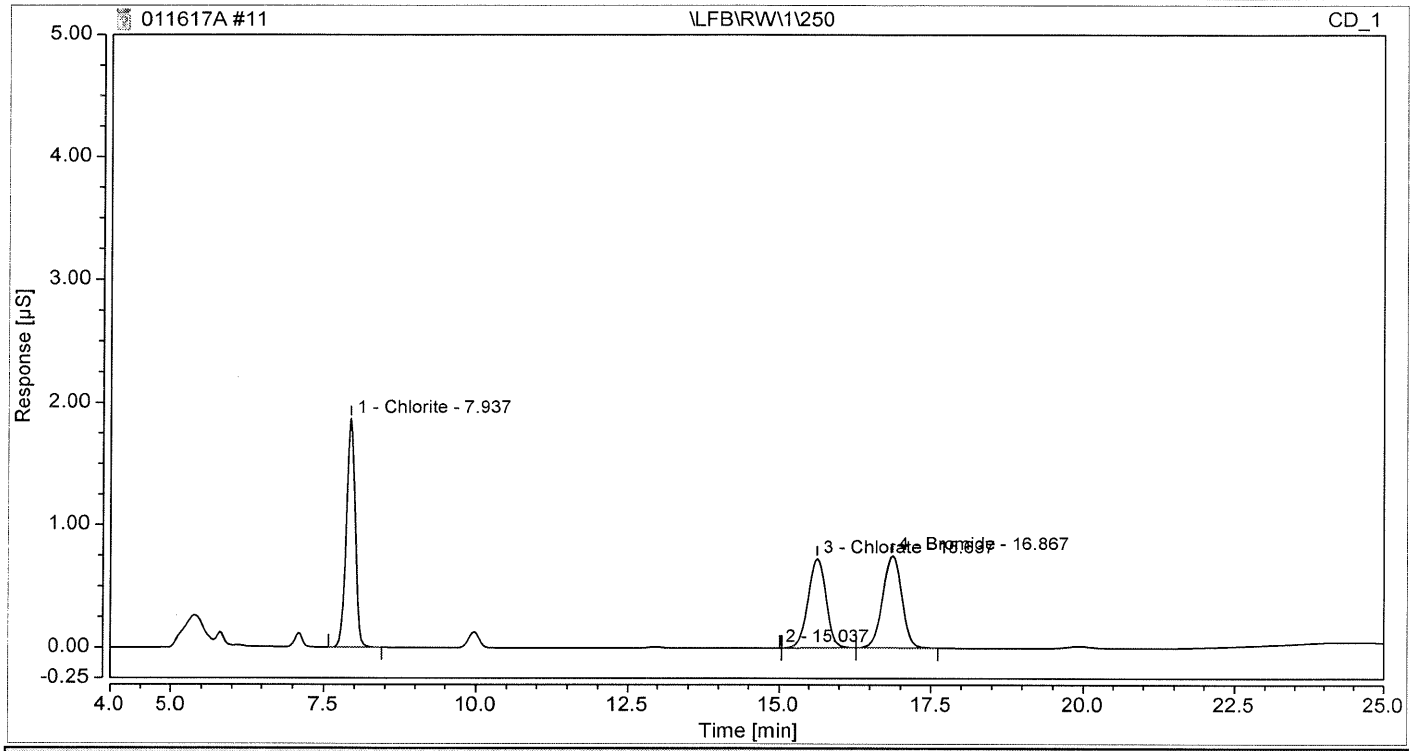
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
9	Chlorate	15.547	0.000	0.000	3.06	3.31	5.9638
31	Bromide	16.610	0.000	0.000	1.22	1.99	5.0863
Total:			**0.000**	**0.000**	**4.28**	**5.30**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GA3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**16/Jan/17 19:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

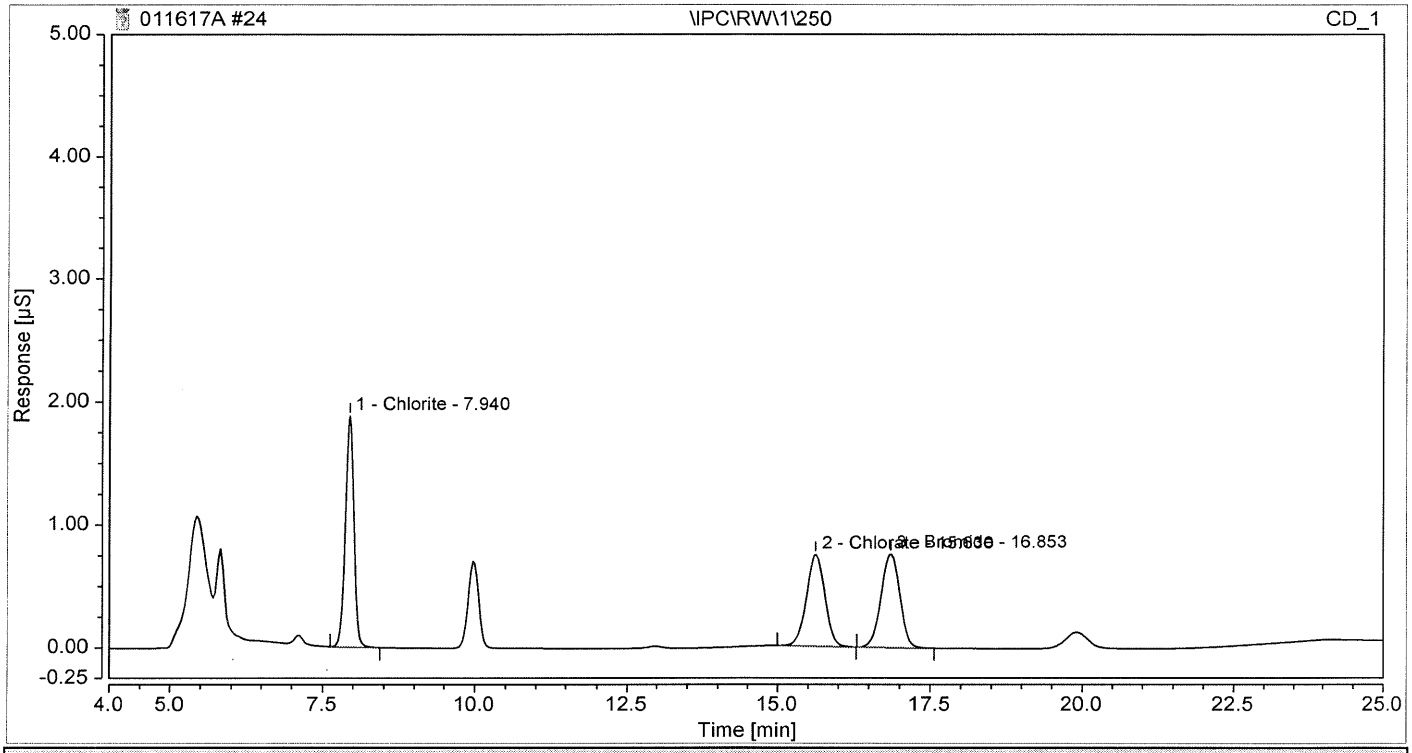
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.937	0.313	1.867	37.81	55.91	247.8807
3	Chlorate	15.637	0.249	0.723	30.05	21.65	241.5818
4	Bromide	16.867	0.266	0.749	32.14	22.44	241.3741
Total:			**0.827**	**3.339**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 02:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

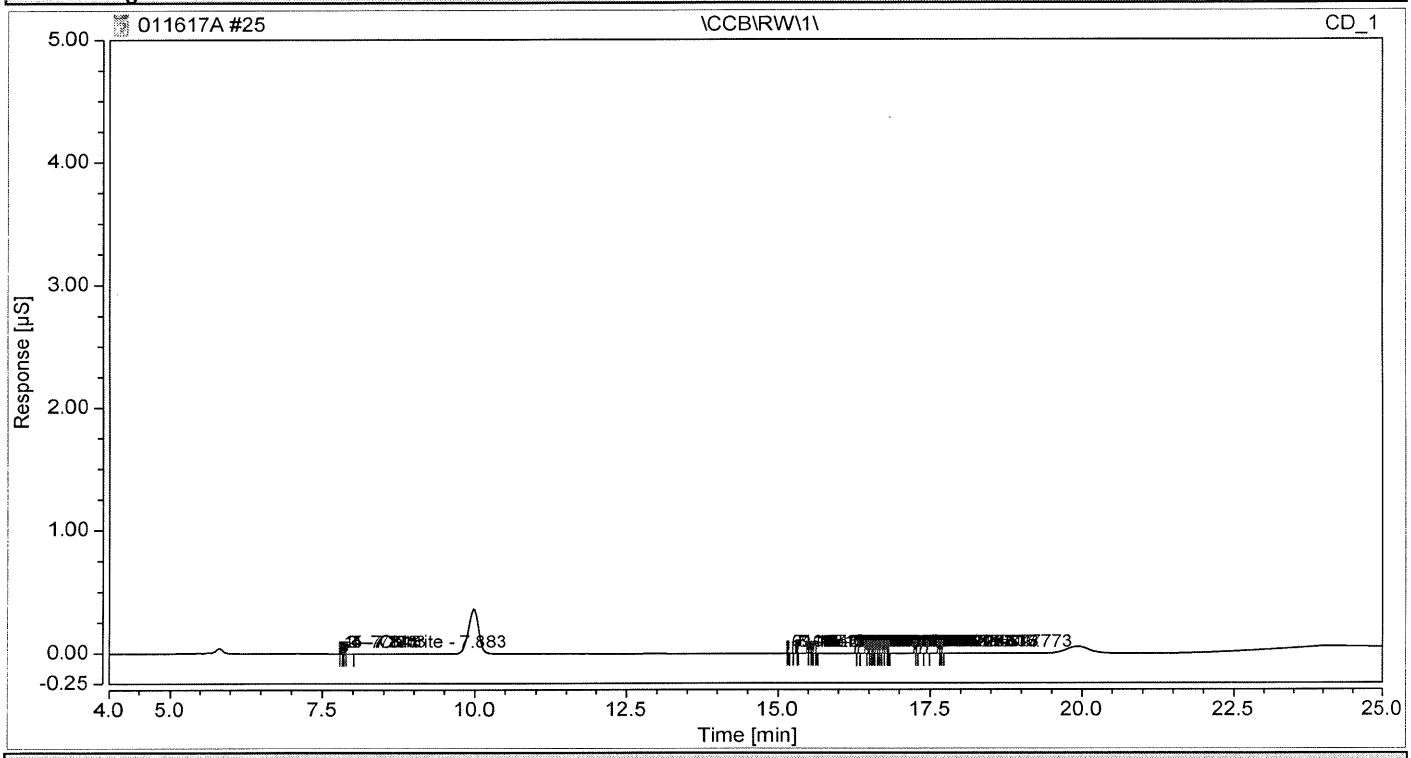
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.940	0.315	1.879	37.15	55.39	249.4723
2	Chlorate	15.630	0.261	0.747	30.81	22.04	253.3867
3	Bromide	16.853	0.272	0.765	32.04	22.56	246.4424
Total:			**0.848**	**3.391**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 03:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

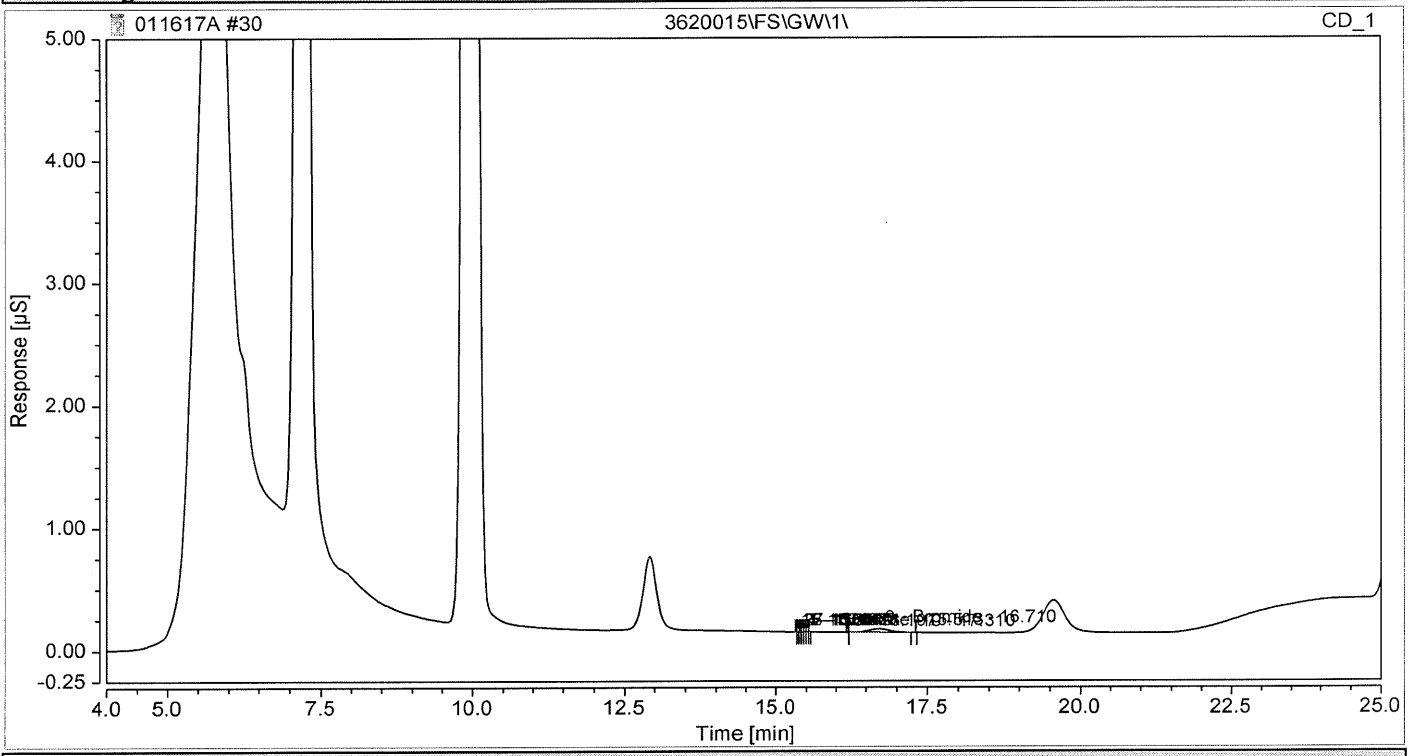
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
4	Chlorite	7.883	0.000	0.000	3.10	4.87	3.4090
12	Chlorate	15.527	0.000	0.000	4.71	5.40	5.9642
27	Bromide	16.773	0.000	0.000	3.16	3.43	5.0867
Total:			**0.000**	**0.000**	**10.96**	**13.70**	

Chromatogram and Results

Injection Details

Injection Name:	**3620015\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**RE1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 06:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

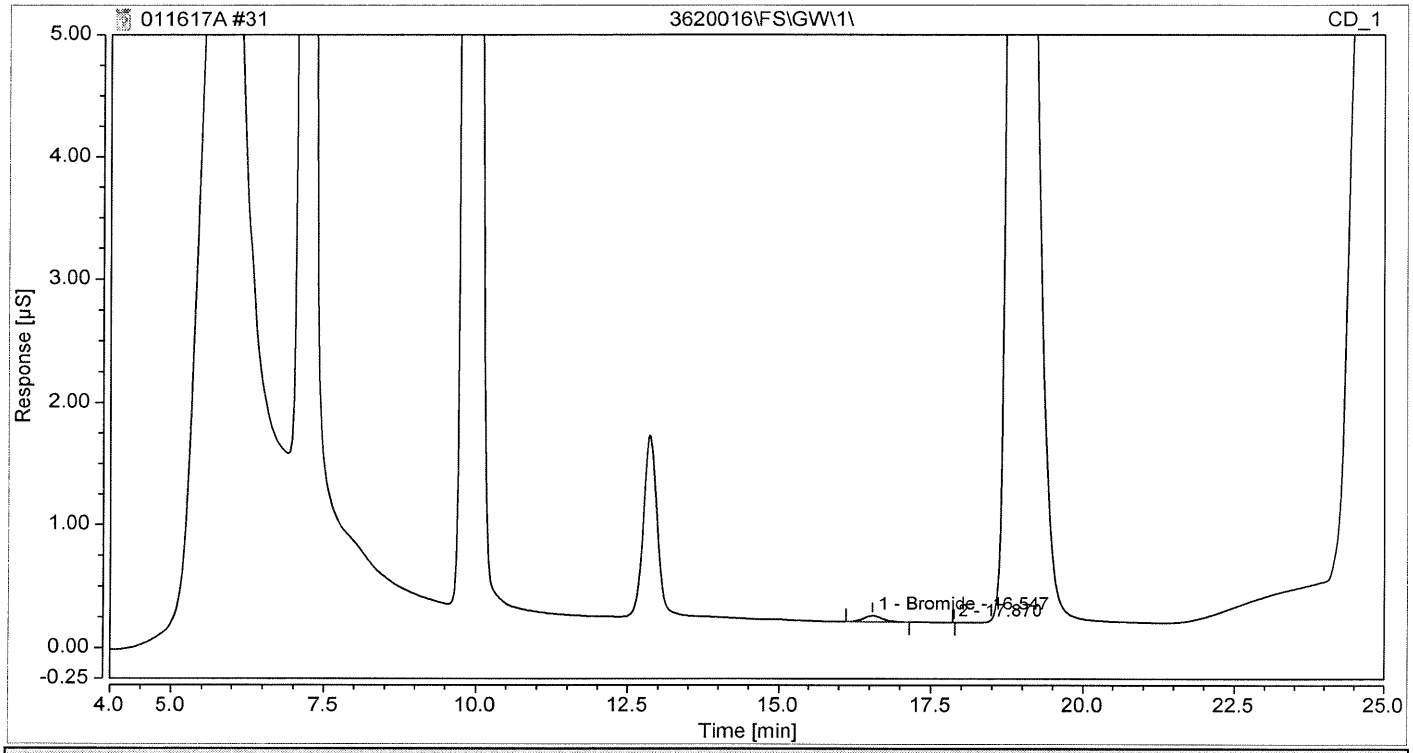
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
6	Chlorate	15.513	0.000	0.000	0.03	0.58	5.9659
9	Bromide	16.710	0.011	0.030	99.84	96.44	15.2107
Total:			**0.011**	**0.030**	**99.87**	**97.02**	

Chromatogram and Results

Injection Details

Injection Name:	**3620016\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**RE2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 07:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

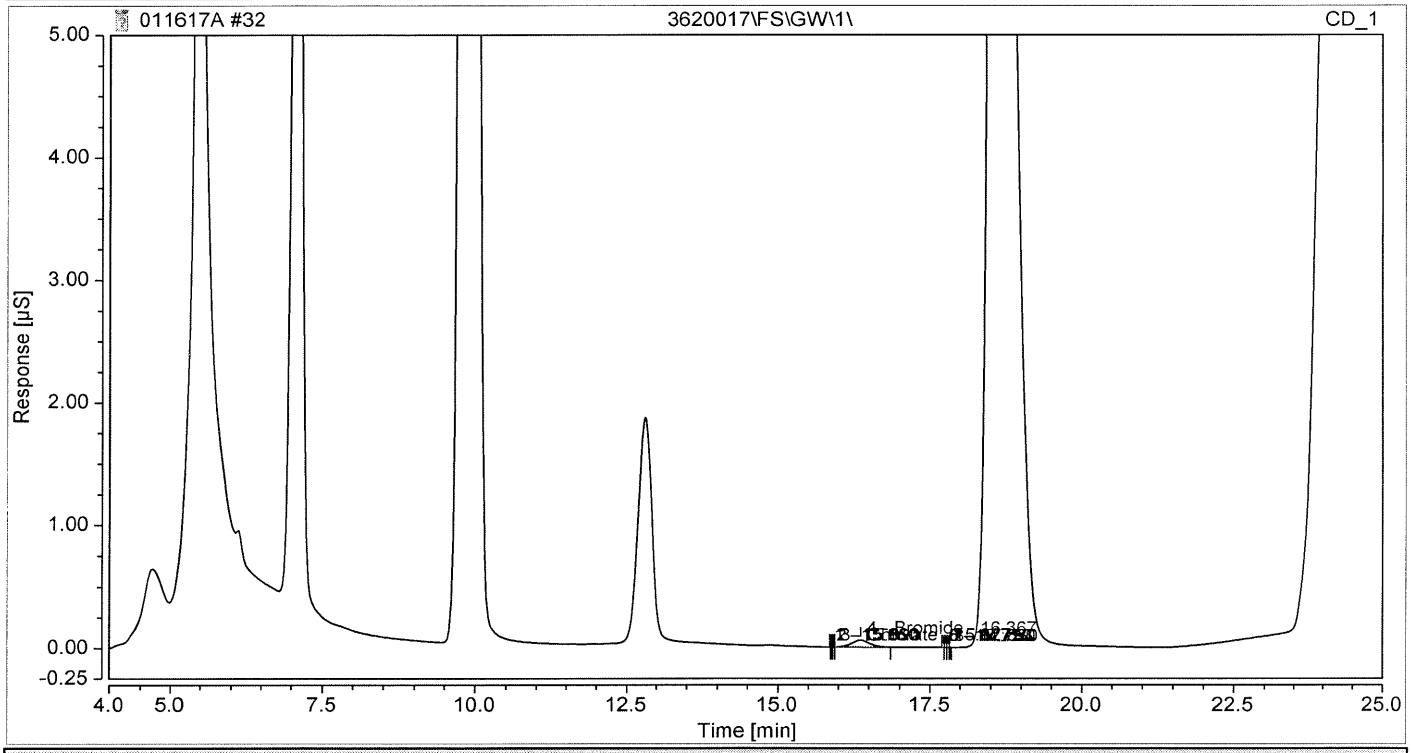
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Bromide	16.547	0.018	0.050	99.99	99.81	20.7707
Total:			**0.018**	**0.050**	**99.99**	**99.81**	

Chromatogram and Results

Injection Details

Injection Name:	**3620017\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**RE3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 07:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

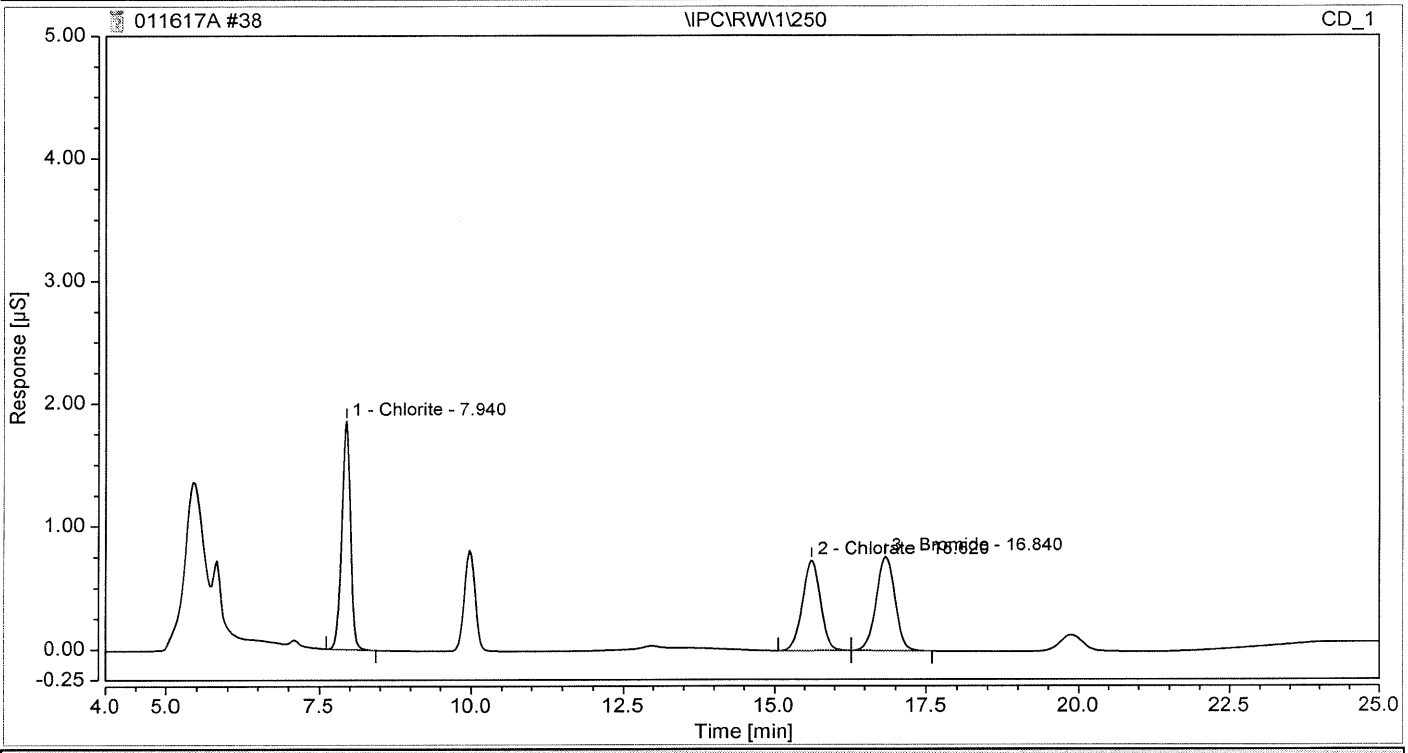
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
3	Chlorate	15.927	0.000	0.000	0.01	0.13	5.9638
4	Bromide	16.367	0.019	0.056	99.96	99.18	21.7542
Total:			**0.019**	**0.056**	**99.96**	**99.30**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 11:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

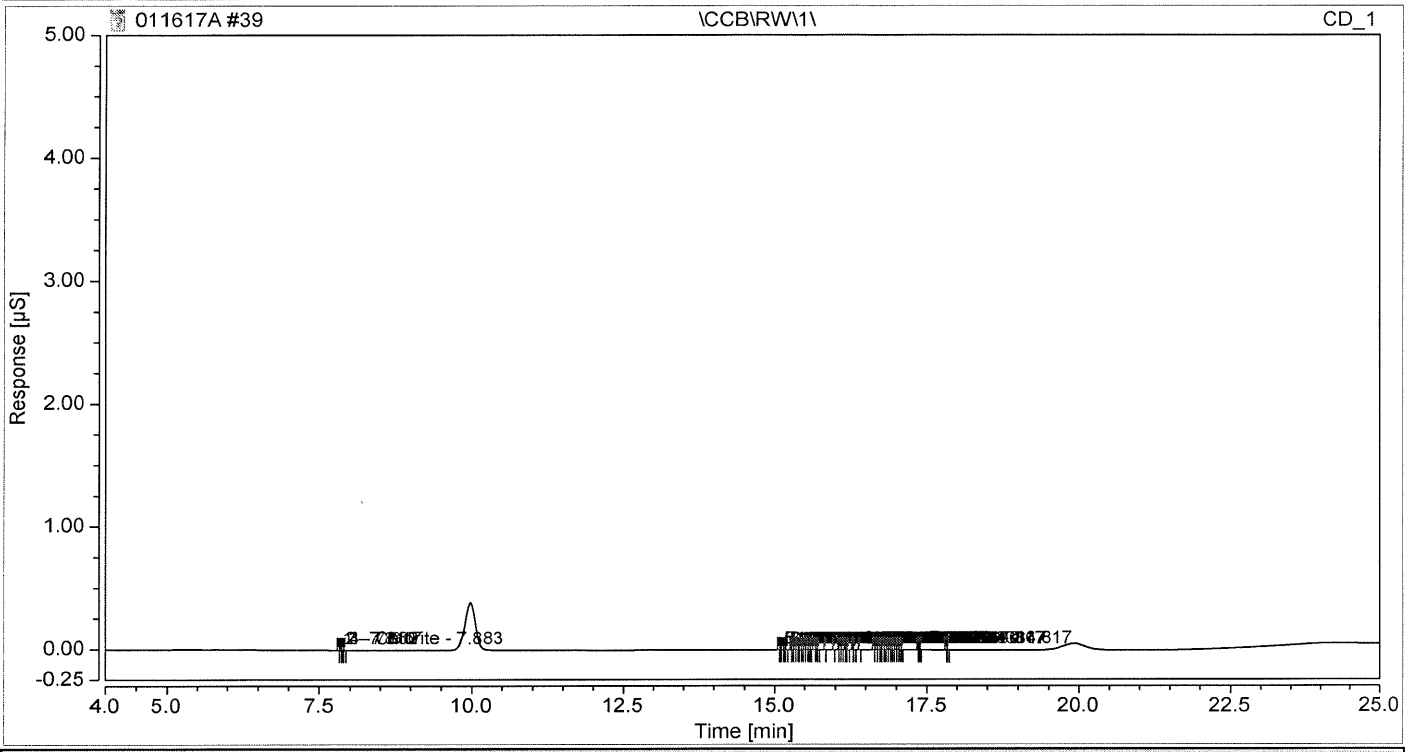
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.940	0.311	1.854	37.25	55.44	246.1849
2	Chlorate	15.620	0.252	0.730	30.21	21.82	244.7641
3	Bromide	16.840	0.271	0.761	32.54	22.74	246.3307
Total:			**0.834**	**3.344**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**G1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jan/17 12:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
3	Chlorite	7.883	0.000	0.000	2.25	2.51	3.4095
23	Chlorate	15.723	0.000	0.000	1.97	1.93	5.9641
40	Bromide	16.817	0.000	0.000	2.58	2.68	5.0874
Total:			**0.000**	**0.000**	**6.79**	**7.11**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	1/31/2017
Instrument:	ES	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC resutls.- SL LOD will be updated on the MDL-300.0B-DT-01102017 sheet, which is also being approved today, 1/31/17 - JW*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
11/17/2016	Bromide	10	13.34	13.466	13.686	12.418	13.149	13.517	13.356	13.276	0.413334	1.2991088
11/17/2016	Chlorate	10	13.745	13.64	13.587	12.926	12.672	12.903	13.358	13.2616	0.424439	1.3340111
11/17/2016	Chlorite	10	10.397	10.727	11.968	12.605	11.081	10.939	11.178	11.2707	0.761594	2.3936889

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e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA40279

Sampling Date: 01/09/17

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **208**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA40279

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA40279-1	01/09/17	13:10	CTL	01/11/17	AQ	Ground Water	826235/54MW10
FA40279-1D	01/09/17	13:10	CTL	01/11/17	AQ	Water Matrix Spike	826235/54MW10
FA40279-1S	01/09/17	13:10	CTL	01/11/17	AQ	Water Dup/MSD	826235/54MW10
FA40279-2	01/09/17	15:45	CTL	01/11/17	AQ	Ground Water	826237/54MW13
FA40279-3	01/09/17	16:00	CTL	01/11/17	AQ	Ground Water	826239/010917R1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA40279

Site: Radford AAP; VA **Report Date:** 1/26/2017 8:59:43 PM

3 Sample(s) were collected on 01/09/2017 and were received at SGS Accutest Southeast (SASE) on 01/11/2017 properly preserved, at 3.1 Deg. C and intact. These Samples received an SASE job number of FA40279. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP63460

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA40279-1MS, FA40279-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP63431

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA40279-1MS, FA40279-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for 1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for 1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, DNX, Nitrobenzene, Nitroglycerine are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for DNX, MNX, TNX are outside control limits for sample OP63431-MSD. Probable cause is due to sample non-homogeneity.

FA40279-1: All hits confirmed by reanalysis on a dissimilar column.

FA40279-1: All hits confirmed by reanalysis on a dissimilar column.

FA40279-1 for 3,5-Dinitroaniline: Elevated reporting limit due to matrix interference.

FA40279-1: Confirmation run.

FA40279-2: Confirmation run.

FA40279-2: All hits confirmed by reanalysis on a dissimilar column.

FA40279-2: All hits confirmed by reanalysis on a dissimilar column.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: January 26, 2017

Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA40279-1	GCSEMI	PP381215.D	2-amino-4,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, RDX
FA40279-1	GCSEMI	PP381254.D	3,4-Dinitrotoluene
FA40279-2	GCSEMI	PP381213.D	2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene
FA40279-2	GCSEMI	PP381223.D	3,4-Dinitrotoluene, HMX
GGG2500-CC2500	GCSEMI	GG060876.D	1,3-Dinitrobenzene, PETN
GGG2500-ECC2500	GCSEMI	GG060885.D	1,3-Dinitrobenzene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2500-IC2500	GCSEMI	GG060857.D	1,3,5-Trinitrobenzene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitroglycerine, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GGG2500-IC2500	GCSEMI	GG060858.D	2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitroglycerine, p-Nitrotoluene, PETN, TNX
GGG2500-IC2500	GCSEMI	GG060859.D	2-amino-4,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitroglycerine, PETN, TNX
GGG2500-IC2500	GCSEMI	GG060860.D	2-amino-4,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, Nitroglycerine, PETN, TNX
GGG2500-IC2500	GCSEMI	GG060862.D	2-amino-4,6-Dinitrotoluene, PETN
GGG2500-IC2500	GCSEMI	GG060863.D	PETN
GGG2500-ICC2500	GCSEMI	GG060861.D	2-amino-4,6-Dinitrotoluene, m-Nitrotoluene, PETN, TNX
GGG2500-ICV2500	GCSEMI	GG060864.D	DNX, HMX, PETN
GGG2501-CC2500	GCSEMI	GG060886.D	1,3-Dinitrobenzene, PETN
GGG2501-ECC2500	GCSEMI	GG060894.D	1,3-Dinitrobenzene, PETN
GGG2502-CC2500	GCSEMI	GG060895.D	1,3-Dinitrobenzene, PETN
GGG2504-CC2500	GCSEMI	GG060928.D	1,3-Dinitrobenzene, PETN
GGG2504-ECC2500	GCSEMI	GG060935.D	1,3-Dinitrobenzene, PETN
GPP2066-CC2066	GCSEMI	PP381221.D	PETN
GPP2066-ECC2066	GCSEMI	PP381224.D	PETN
GPP2066-IC2066	GCSEMI	PP381202.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, o-Nitrotoluene, PETN, RDX, Tetryl, TNX

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
GPP2066-IC2066	GCSEMI	PP381203.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, Tetryl, TNX
GPP2066-IC2066	GCSEMI	PP381204.D	2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, m-Nitrotoluene, Nitrobenzene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, Tetryl, TNX
GPP2066-IC2066	GCSEMI	PP381205.D	2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, PETN, Tetryl, TNX
GPP2066-IC2066	GCSEMI	PP381207.D	PETN
GPP2066-IC2066	GCSEMI	PP381208.D	DNX, HMX, PETN, TNX
GPP2066-ICC2066	GCSEMI	PP381206.D	2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, HMX, m-Nitrotoluene, Nitroglycerine, PETN, Tetryl, TNX
GPP2066-ICV2066	GCSEMI	PP381209.D	2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, PETN, Tetryl
GPP2067-CC2066	GCSEMI	PP381226.D	PETN
GPP2067-ECC2066	GCSEMI	PP381229.D	PETN
GPP2068-CC2066	GCSEMI	PP381231.D	PETN
GPP2068-CC2066	GCSEMI	PP381239.D	PETN
GPP2068-ECC2066	GCSEMI	PP381251.D	PETN
GPP2069-CC2066	GCSEMI	PP381253.D	PETN, RDX
GPP2069-CC2066	GCSEMI	PP381265.D	m-Nitrotoluene, p-Nitrotoluene, PETN
GPP2069-ECC2066	GCSEMI	PP381270.D	PETN
OP63431-BS	GCSEMI	PP381211.D	PETN, TNX
OP63431-MB	GCSEMI	GG060929.D	3,4-Dinitrotoluene
OP63431-MS	GCSEMI	PP381255.D	1,3,5-Trinitrobenzene, 3,4-Dinitrotoluene, PETN
OP63431-MSD	GCSEMI	PP381256.D	PETN

41 Manual Integrations were found for FA40279

Summary of Hits

Job Number: FA40279
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 01/09/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA40279-1	**826235/54MW10**					
Perchlorate		0.10 J	0.20	0.10	ug/l	SW846 6850
HMX [a]		2.6	0.40	0.20	ug/l	SW846 8330B
RDX [a]		1.1	0.20	0.099	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.6	0.20	0.099	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.3	0.20	0.099	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		1.7	0.20	0.099	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		4.2	0.20	0.099	ug/l	SW846 8330B
FA40279-2	**826237/54MW13**					
Perchlorate		0.29	0.20	0.10	ug/l	SW846 6850
HMX [a]		6.1	0.40	0.20	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.5	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.0	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		9.6	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		5.9	0.20	0.10	ug/l	SW846 8330B
FA40279-3	**826239/010917R1**					

No hits reported in this sample.

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	826235/54MW10		
Lab Sample ID:	FA40279-1	**Date Sampled:**	01/09/17
Matrix:	AQ - Ground Water	**Date Received:**	01/11/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q31171.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826235/54MW10		
Lab Sample ID:	FA40279-1	**Date Sampled:**	01/09/17
Matrix:	AQ - Ground Water	**Date Received:**	01/11/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP381215.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
Run #2 [b]	GG060932.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504
Run #3 [a]	PP381254.D	2	01/25/17	KL	01/16/17	OP63431	GPP2069

	Initial Volume	Final Volume
Run #1	1010 ml	10.0 ml
Run #2	1010 ml	10.0 ml
Run #3	1010 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	2.6 [c]	0.40	0.20	0.16	ug/l	
121-82-4	RDX	1.1	0.20	0.099	0.079	ug/l	
	DNX	0.099 U	0.20	0.099	0.079	ug/l	
	MNX	0.099 U	0.20	0.099	0.079	ug/l	
	TNX	0.099 U	0.20	0.099	0.079	ug/l	
618-87-1	3,5-Dinitroaniline [d]	0.40 U	0.40	0.40	0.40	ug/l	
99-65-0	1,3-Dinitrobenzene	0.099 U	0.20	0.099	0.079	ug/l	
606-20-2	2,6-Dinitrotoluene	0.099 U	0.20	0.099	0.079	ug/l	
121-14-2	2,4-Dinitrotoluene	0.099 U	0.20	0.099	0.079	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.6	0.20	0.099	0.079	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.3	0.20	0.099	0.079	ug/l	
98-95-3	Nitrobenzene	0.099 U	0.20	0.099	0.096	ug/l	
88-72-2	o-Nitrotoluene	0.099 U	0.20	0.099	0.079	ug/l	
99-08-1	m-Nitrotoluene	0.099 U	0.20	0.099	0.079	ug/l	
99-99-0	p-Nitrotoluene	0.099 U	0.20	0.099	0.079	ug/l	
479-45-8	Tetryl	0.099 U	0.20	0.099	0.079	ug/l	
99-35-4	1,3,5-Trinitrobenzene	1.7	0.20	0.099	0.098	ug/l	
118-96-7	2,4,6-Trinitrotoluene	4.2	0.20	0.099	0.079	ug/l	
55-63-0	Nitroglycerine	0.99 U	2.0	0.99	0.50	ug/l	
78-11-5	PETN	0.99 U	2.0	0.99	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	98%	113%	82%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3
(d) Elevated reporting limit due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826237/54MW13		
Lab Sample ID:	FA40279-2	**Date Sampled:**	01/09/17
Matrix:	AQ - Ground Water	**Date Received:**	01/11/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q31174.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.29	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826237/54MW13		
Lab Sample ID:	FA40279-2	**Date Sampled:**	01/09/17
Matrix:	AQ - Ground Water	**Date Received:**	01/11/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP381213.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
Run #2 [b]	GG060930.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504
Run #3 [a]	PP381223.D	2	01/18/17	KL	01/16/17	OP63431	GPP2066

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml
Run #3	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	6.1 [c]	0.40	0.20	0.16	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.5	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.0	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	9.6	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	5.9	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	102%	116%	97%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826239/010917R1		
Lab Sample ID:	FA40279-3	**Date Sampled:**	01/09/17
Matrix:	AQ - Ground Water	**Date Received:**	01/11/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q31175.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826239/010917R1		
Lab Sample ID:	FA40279-3	**Date Sampled:**	01/09/17
Matrix:	AQ - Ground Water	**Date Received:**	01/11/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP381214.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	90%		70-136%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA 40279

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 124700 ACCTST FL — ***The PO# must appear on all invoice and reports!***

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Accutest Southeast**
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT — ***RUSH TURNAROUND NEEDED? Y or (N) (Circle One)***

Project Name: RADFORD AAP — **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM-5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
1	826235	01/09/2017 1310	GROUND WATER	54MW10 > Designated MS/MSD	EXPLOSIVES 8330B	
	826235	01/09/2017 1310	GROUND WATER	54MW10	PERCHLORATE SW6850	
2	826237	01/09/2017 1545	GROUND WATER	54MW13	EXPLOSIVES 8330B	
	826237	01/09/2017 1545	GROUND WATER	54MW13	PERCHLORATE SW6850	
3	826239	01/09/2017 1600	GROUND WATER	010917R1	EXPLOSIVES 8330B	
	826239	01/09/2017 1600	GROUND WATER	010917R1	PERCHLORATE SW6850	

Relinquished by: Brett Szymanski / ~~FedEx~~ UPS — Date/Time: 01/10/2017 14:30

Received by: Cottal 3 — Date/Time: 01/11/17 1000 — Receipt Temperature (C) _____

COMMENTS: **FULL-LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX).** 3.0 3.1

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

5.1 5

FA40279: Chain of Custody
Page 1 of 3

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA 40279 CLIENT: CT LAB PROJECT: RADFORD AAP

DATE/TIME RECEIVED: 01/11/17 1000 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 2

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 1Z 1A4 A85 01 4230 8473 / 1Z 1A4 A85 01 4131 5485

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.8
- [ ] OBSERVED TEMPS: 3.0 3.1
- [ ] CORRECTED TEMPS: 3.8 3.9 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

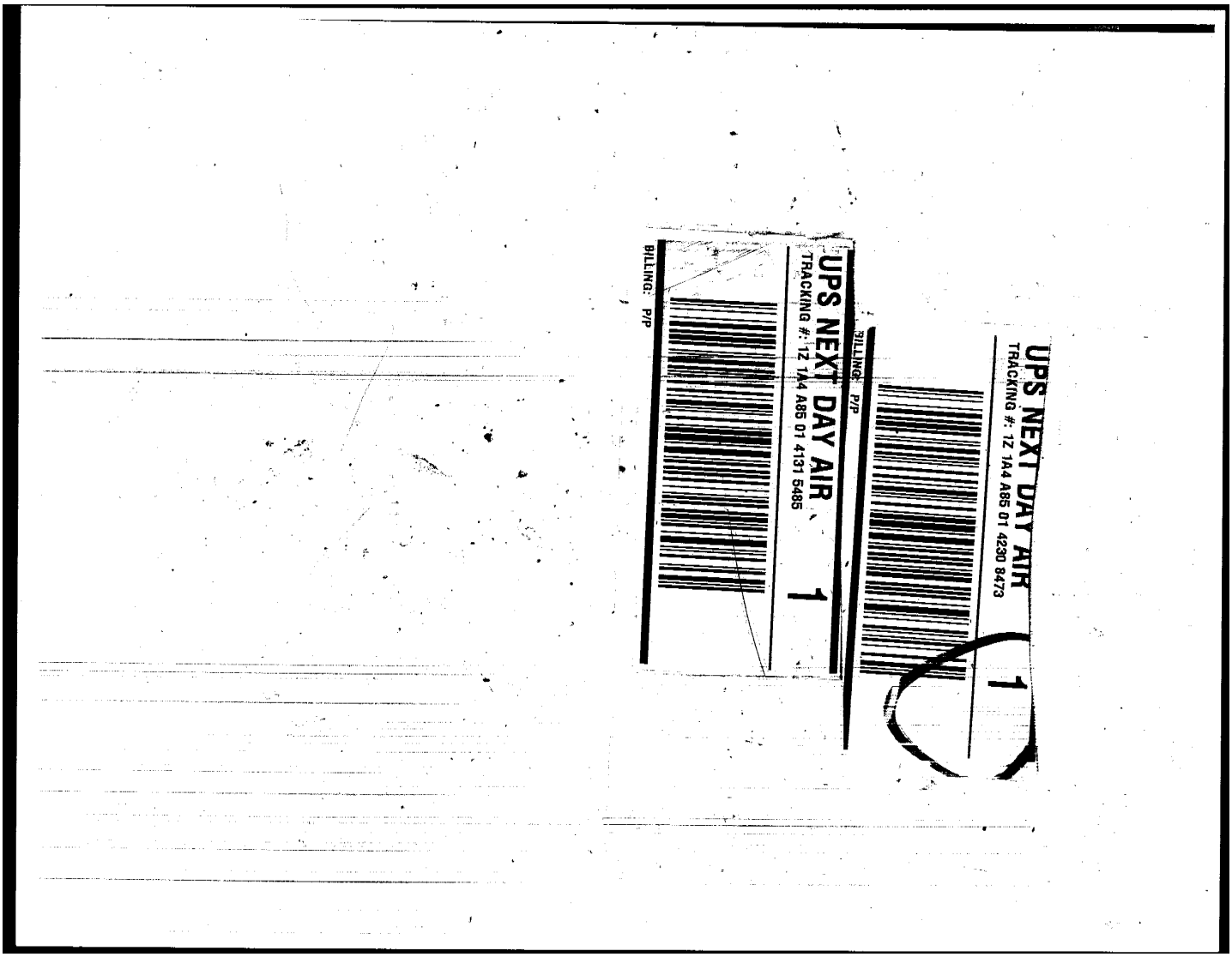
SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 01/11/17 REVIEWER SIGNATURE/DATE 01/11/17

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA40279: Chain of Custody
Page 2 of 3



FA40279: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA40279
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 01/09/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP63460	SW846 6850						
OP63460-BS	14797-73-0	Perchlorate	BSP	REC	95	%	84-119
OP63460-MS	14797-73-0	Perchlorate	MS	REC	80	%	84-119
OP63460-MSD	14797-73-0	Perchlorate	MSD	REC	90	%	84-119
OP63460-MSD	14797-73-0	Perchlorate	MSD	RPD	7	%	15
OP63431	SW846 8330B						
OP63431-BS	2691-41-0	HMX	BSP	REC	104	%	65-135
OP63431-BS	121-82-4	RDX	BSP	REC	96	%	68-130
OP63431-BS		DNX	BSP	REC	96	%	66-119
OP63431-BS		MNX	BSP	REC	96	%	57-132
OP63431-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	86	%	71-117
OP63431-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	96	%	78-120
OP63431-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	102	%	77-127
OP63431-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	100	%	78-120
OP63431-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	102	%	79-120
OP63431-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	98	%	76-125
OP63431-BS	98-95-3	Nitrobenzene	BSP	REC	94	%	65-134
OP63431-BS	88-72-2	o-Nitrotoluene	BSP	REC	92	%	70-127
OP63431-BS	99-08-1	m-Nitrotoluene	BSP	REC	92	%	73-125
OP63431-BS	99-99-0	p-Nitrotoluene	BSP	REC	94	%	71-127
OP63431-BS	479-45-8	Tetryl	BSP	REC	114	%	64-128
OP63431-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	94	%	73-125
OP63431-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	108	%	71-123
OP63431-BS	55-63-0	Nitroglycerine	BSP	REC	111	%	74-127
OP63431-BS	78-11-5	PETN	BSP	REC	107	%	73-127
OP63431-MS	2691-41-0	HMX	MS	REC	66	%	65-135
OP63431-MS	121-82-4	RDX	MS	REC	80	%	68-130
OP63431-MS		DNX	MS	REC	92	%	66-119
OP63431-MS		MNX	MS	REC	92	%	57-132
OP63431-MS	618-87-1	3,5-Dinitroaniline	MS	REC	86	%	71-117
OP63431-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	92	%	78-120
OP63431-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	100	%	77-127
OP63431-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	96	%	78-120
OP63431-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	74	%	79-120
OP63431-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	74	%	76-125
OP63431-MS	98-95-3	Nitrobenzene	MS	REC	110	%	65-134
OP63431-MS	88-72-2	o-Nitrotoluene	MS	REC	96	%	70-127
OP63431-MS	99-08-1	m-Nitrotoluene	MS	REC	94	%	73-125
OP63431-MS	99-99-0	p-Nitrotoluene	MS	REC	94	%	71-127
OP63431-MS	479-45-8	Tetryl	MS	REC	98	%	64-128
OP63431-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	72	%	73-125

* Sample used for QC is not from job FA40279

QC Evaluation: DOD QSM5 Limits

Job Number: FA40279
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 01/09/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP63431-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	42	%	71-123
OP63431-MS	55-63-0	Nitroglycerine	MS	REC	116	%	74-127
OP63431-MS	78-11-5	PETN	MS	REC	100	%	73-127
OP63431-MSD	2691-41-0	HMX	MSD	REC	80	%	65-135
OP63431-MSD	2691-41-0	HMX	MSD	RPD	11	%	30
OP63431-MSD	121-82-4	RDX	MSD	REC	90	%	68-130
OP63431-MSD	121-82-4	RDX	MSD	RPD	9	%	30
OP63431-MSD		DNX	MSD	REC	130	%	66-119
OP63431-MSD		DNX	MSD	RPD	34	%	30
OP63431-MSD		MNX	MSD	REC	130	%	57-132
OP63431-MSD		MNX	MSD	RPD	34	%	30
OP63431-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	96	%	71-117
OP63431-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	11	%	30
OP63431-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	104	%	78-120
OP63431-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	12	%	30
OP63431-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	110	%	77-127
OP63431-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	10	%	30
OP63431-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	104	%	78-120
OP63431-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	8	%	30
OP63431-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	86	%	79-120
OP63431-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	11	%	30
OP63431-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	86	%	76-125
OP63431-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	11	%	30
OP63431-MSD	98-95-3	Nitrobenzene	MSD	REC	132	%	65-134
OP63431-MSD	98-95-3	Nitrobenzene	MSD	RPD	18	%	30
OP63431-MSD	88-72-2	o-Nitrotoluene	MSD	REC	108	%	70-127
OP63431-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	12	%	30
OP63431-MSD	99-08-1	m-Nitrotoluene	MSD	REC	112	%	73-125
OP63431-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	17	%	30
OP63431-MSD	99-99-0	p-Nitrotoluene	MSD	REC	106	%	71-127
OP63431-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	12	%	30
OP63431-MSD	479-45-8	Tetryl	MSD	REC	116	%	64-128
OP63431-MSD	479-45-8	Tetryl	MSD	RPD	17	%	30
OP63431-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	78	%	73-125
OP63431-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	6	%	30
OP63431-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	56	%	71-123
OP63431-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	11	%	30
OP63431-MSD	55-63-0	Nitroglycerine	MSD	REC	126	%	74-127
OP63431-MSD	55-63-0	Nitroglycerine	MSD	RPD	8	%	30
OP63431-MSD	78-11-5	PETN	MSD	REC	108	%	73-127
OP63431-MSD	78-11-5	PETN	MSD	RPD	7	%	30

* Sample used for QC is not from job FA40279

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63460-MB	Q31169.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820

The QC reported here applies to the following samples: **Method:** SW846 6850

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63460-BS	Q31168.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820

The QC reported here applies to the following samples: **Method:** SW846 6850

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.19	95	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63460-MS	Q31172.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
OP63460-MSD	Q31173.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
FA40279-1	Q31171.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820

The QC reported here applies to the following samples: **Method:** SW846 6850

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	FA40279-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.10	J	0.2	0.26	80	0.2	0.28	90	7	80-120/15

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ820-ICC820	**Injection Date:**	01/19/17
Lab File ID:	Q31161.D	**Injection Time:**	12:22
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	67631	3.79
Check Std [b]	75630	3.79
Upper Limit [c]	101447	5.79
Lower Limit [d]	33816	1.79

Lab Sample ID	IS 1 AREA	RT
OP63460-BS	74839	3.78
OP63460-MB	76608	3.79
FA40279-1	78201	3.68
OP63460-MS	75510	3.72
OP63460-MSD	75066	3.68
FA40279-2	76530	3.68
FA40279-3	63894	3.79
ZZZZZZ	63599	3.74

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ820-ICC820 Q31161.D 01/19/17 12:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-ICC820
Lab FileID: Q31161.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0119_6850_SQ820\Q31158.d
2 : D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3 : D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4 : D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5 : D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6 : D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7 : D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8 : D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) C118O4	----------ISTD----------										
3) Perchlorate	0.9435	0.9370	0.9660	0.9721	1.0461	1.0679	1.1434	1.1847	1.0326	9.115	0.9999

*(value) - Average RF below (value)

6.5.1

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Initial Calibration Verification

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-ICV820
Lab FileID: Q31166.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0119_6850_SQ820\Q31158.d
2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31166
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.814	-9.3	90.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-CC820
Lab FileID: Q31177.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0119_6850_SQ820\Q31158.d
2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31177
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.832	-8.4	91.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-CC820
Lab FileID: Q31178.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0119_6850_SQ820\Q31158.d
2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31178
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.204	2.2	102.2

CC Criteria: +/- 30%

GC/MS Semi-volatiles

Raw Data

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31171.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:24
Sample Name	:	FA40279-1
Vial	:	Vial 15
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

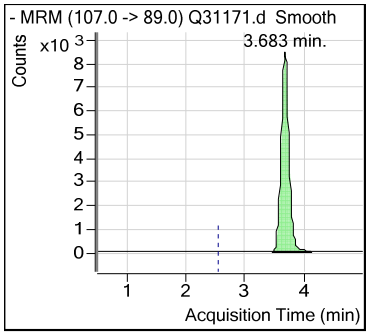
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.683	107.0 -> 89.0	78201	5.000	ng/ml	-0.567	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.695	99.0 -> 83.0	1677	0.100	ng/ml	98	3.4
		101.0 -> 85.0	488				

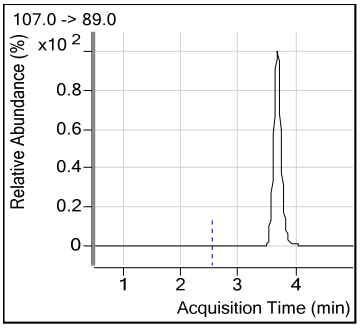
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

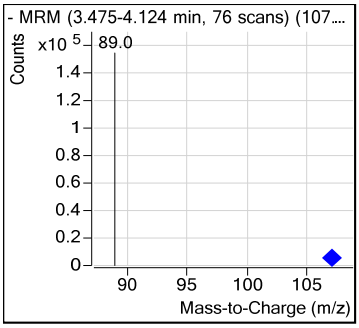
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31171.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:24
Sample Name	:	FA40279-1
Vial	:	Vial 15
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

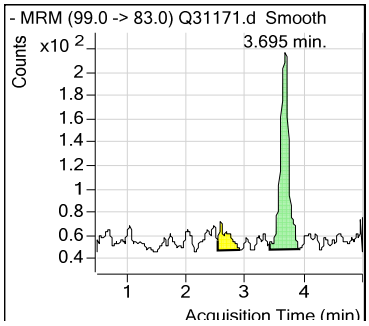
Cl18O4

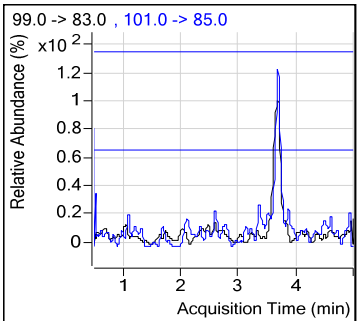


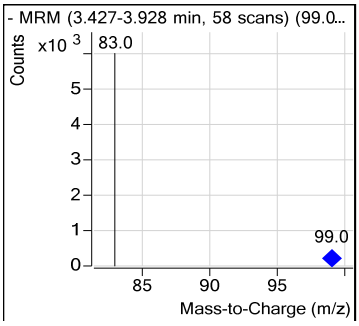




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31174.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:42
Sample Name	:	FA40279-2
Vial	:	Vial 18
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

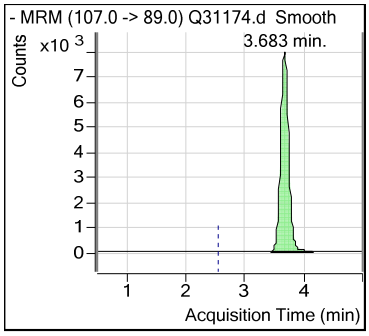
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.683	107.0 -> 89.0	76530	5.000	ng/ml	-0.567	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.695	99.0 -> 83.0	4702	0.285	ng/ml	91	2.9
		101.0 -> 85.0	1649				

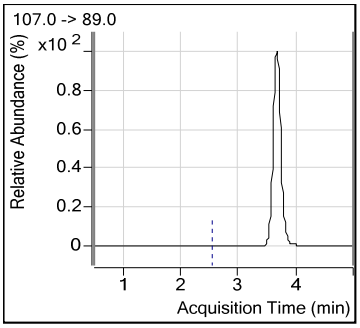
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

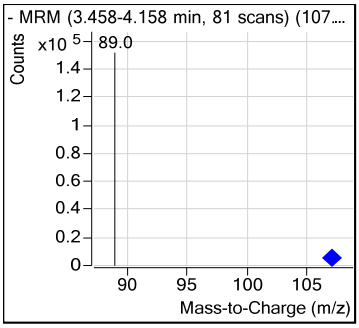
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31174.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:42
Sample Name	:	FA40279-2
Vial	:	Vial 18
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

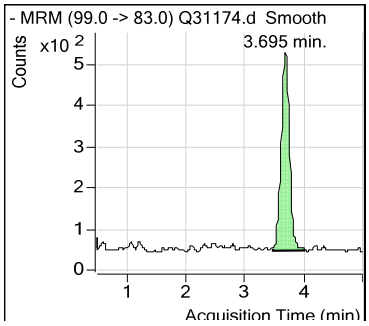
Cl18O4

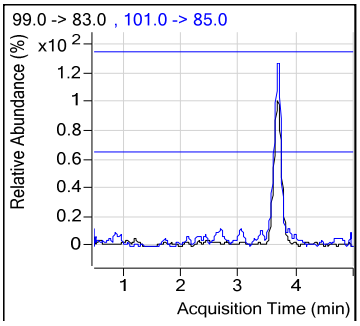


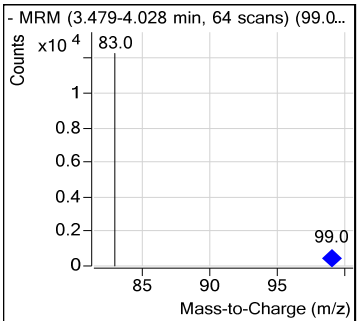




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31175.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:48
Sample Name	:	FA40279-3
Vial	:	Vial 19
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

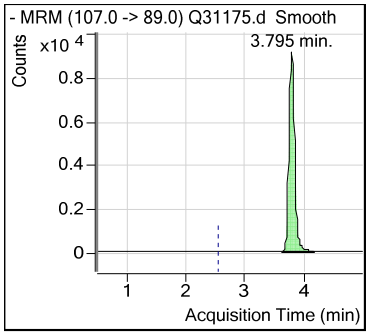
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	63894	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

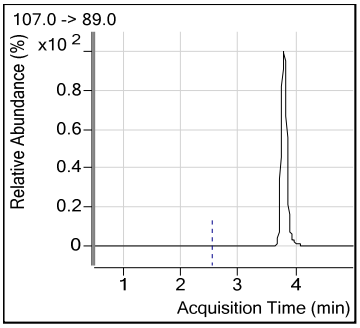
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

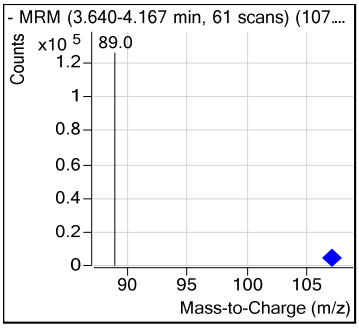
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31175.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:48
Sample Name	:	FA40279-3
Vial	:	Vial 19
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

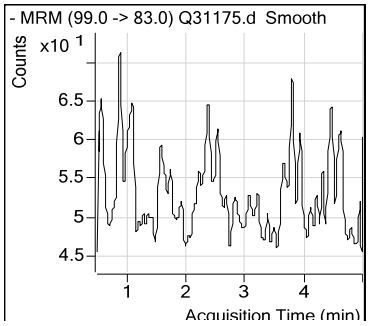
Cl18O4

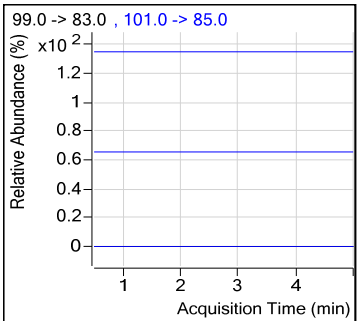


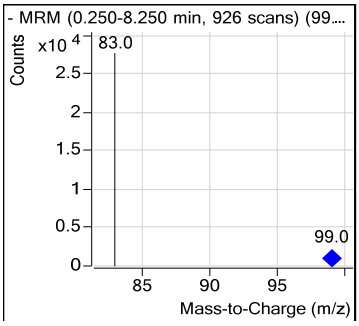




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31169.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:13
Sample Name	:	OP63460-MB
Vial	:	Vial 13
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

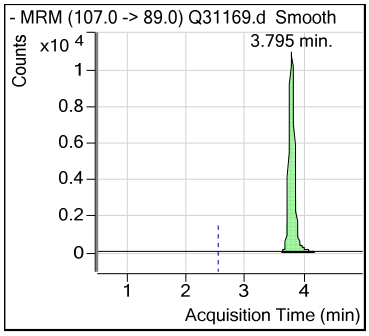
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	76608	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

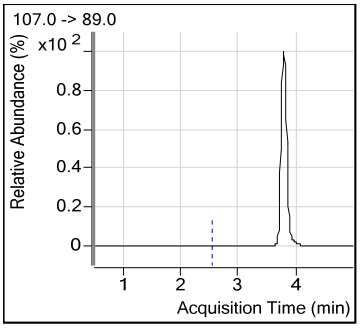
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

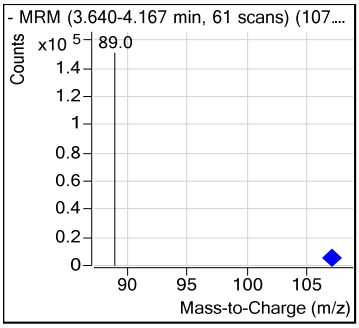
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31169.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:13
Sample Name	:	OP63460-MB
Vial	:	Vial 13
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

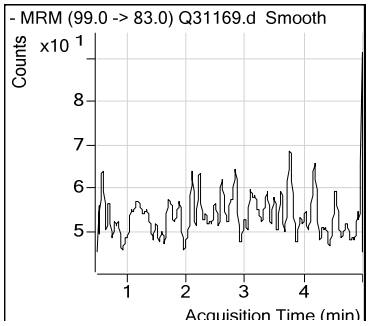
Cl18O4

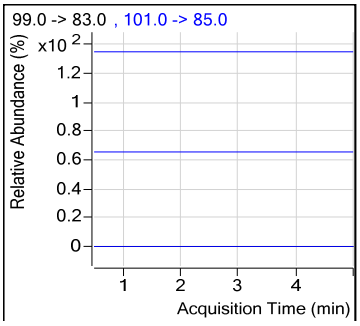


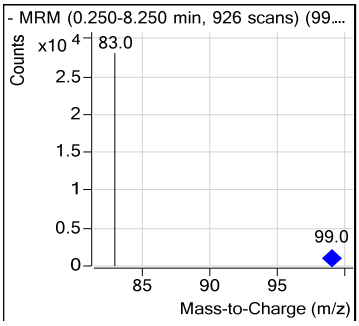




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31168.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:07
Sample Name	:	OP63460-BS
Vial	:	Vial 12
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

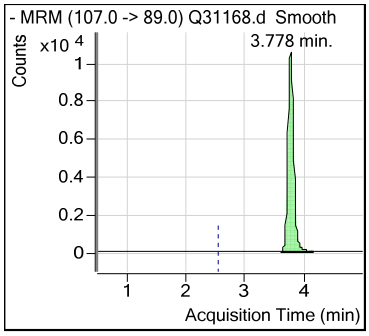
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	74839	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.781	99.0 -> 83.0	3139	0.195	ng/ml	91	2.8
		101.0 -> 85.0	1103				

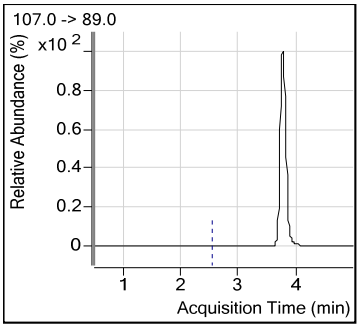
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

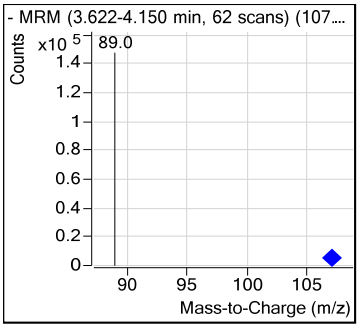
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31168.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:07
Sample Name	:	OP63460-BS
Vial	:	Vial 12
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

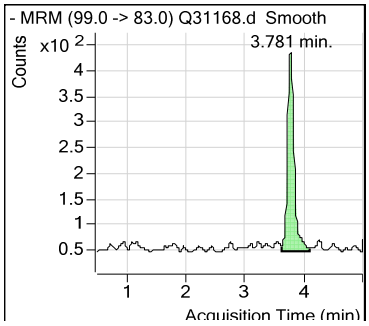
Cl18O4

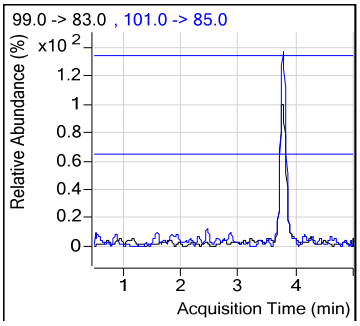


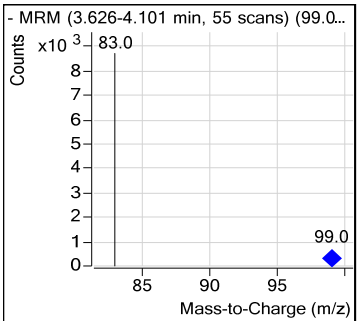




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31172.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:30
Sample Name	:	OP63460-MS
Vial	:	Vial 16
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.717	107.0 -> 89.0	75510	5.000	ng/ml		-0.533	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	3.712	99.0 -> 83.0	4261	0.262	ng/ml	#	74	2.3
		101.0 -> 85.0	1871					

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

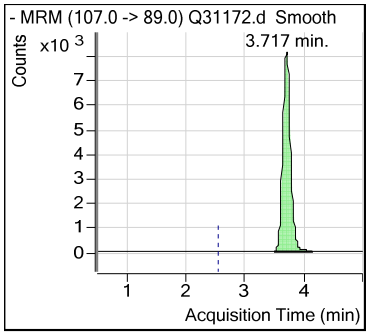
7.4.1

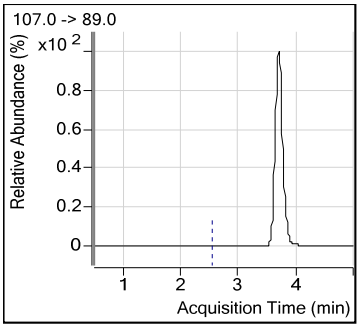
7

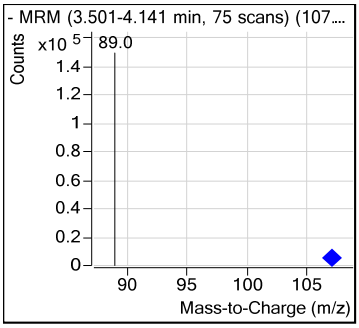
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31172.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:30
Sample Name	:	OP63460-MS
Vial	:	Vial 16
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

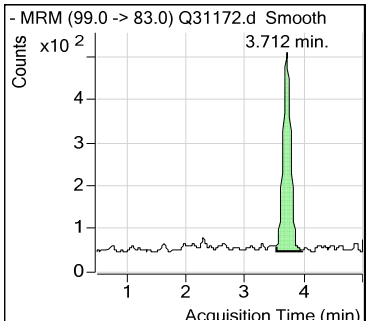
Cl18O4

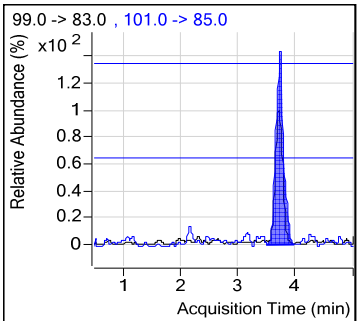


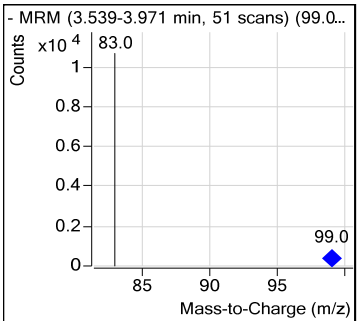




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31173.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:36
Sample Name	:	OP63460-MSD
Vial	:	Vial 17
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

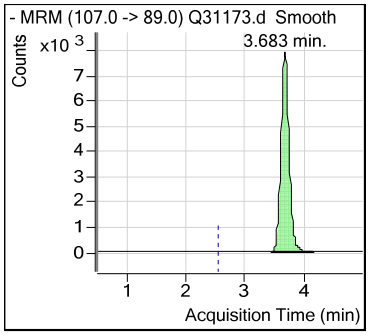
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.683	107.0 -> 89.0	75066	5.000	ng/ml	-0.567	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.686	99.0 -> 83.0	4491	0.278	ng/ml	86	2.7
		101.0 -> 85.0	1680				

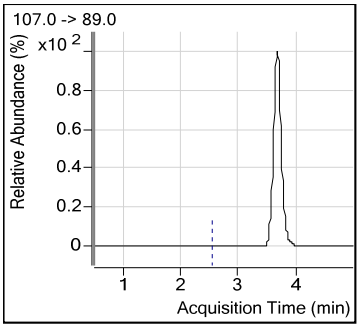
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

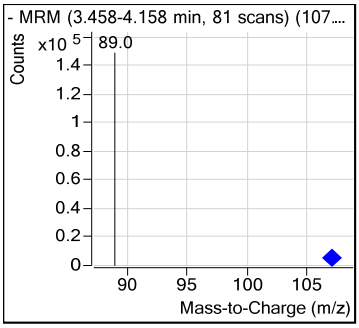
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31173.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:36
Sample Name	:	OP63460-MSD
Vial	:	Vial 17
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

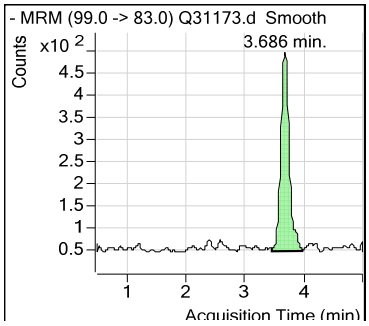
Cl18O4

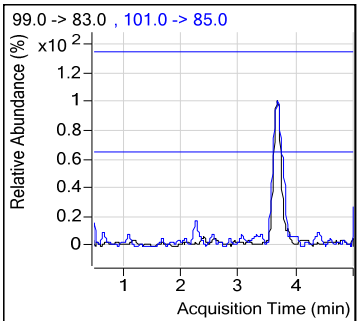


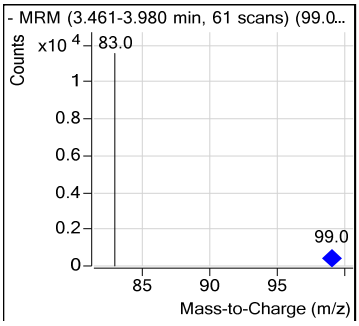




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31158.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:05
Sample Name	:	IC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

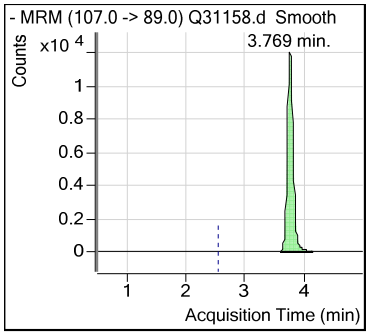
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.769	107.0 -> 89.0	85166	5.000	ng/ml	-0.481	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.781	99.0 -> 83.0	3214	0.175	ng/ml	95	3.1
		101.0 -> 85.0	1043				

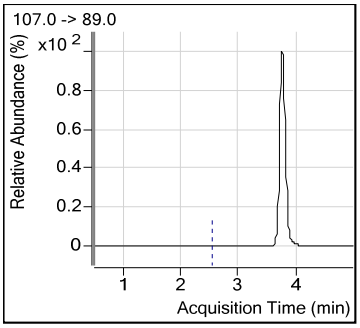
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

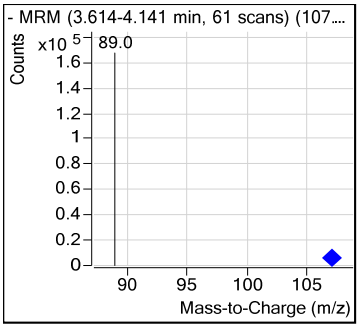
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31158.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:05
Sample Name	:	IC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

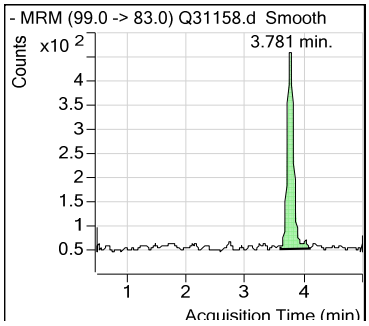
Cl18O4

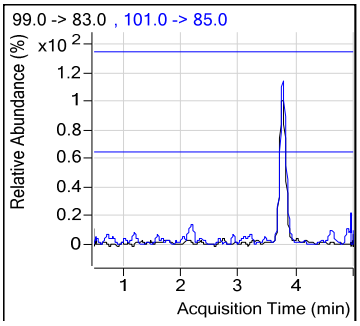


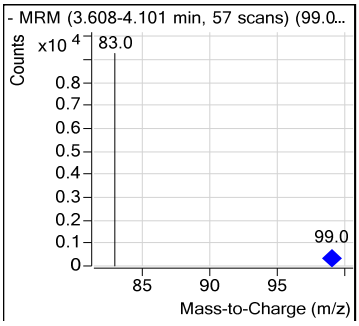




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31159.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:10
Sample Name	:	IC820-0.5
Vial	:	Vial 3
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

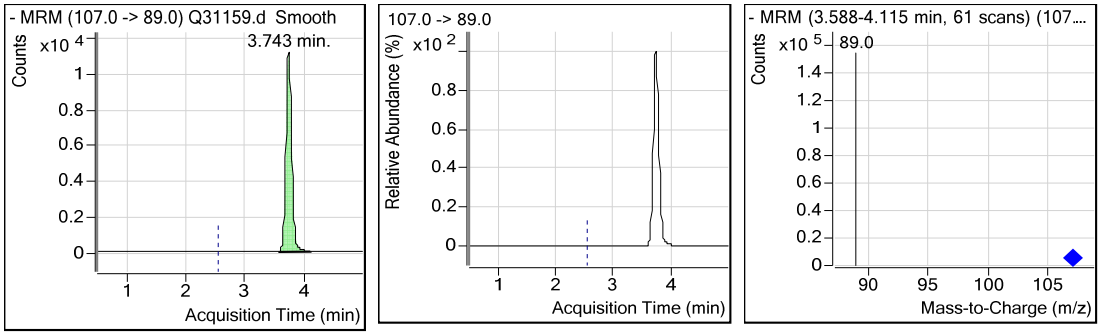
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.743	107.0 -> 89.0	78714	5.000	ng/ml	-0.507	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.755	99.0 -> 83.0	7375	0.435	ng/ml	94	3.0
		101.0 -> 85.0	2470				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

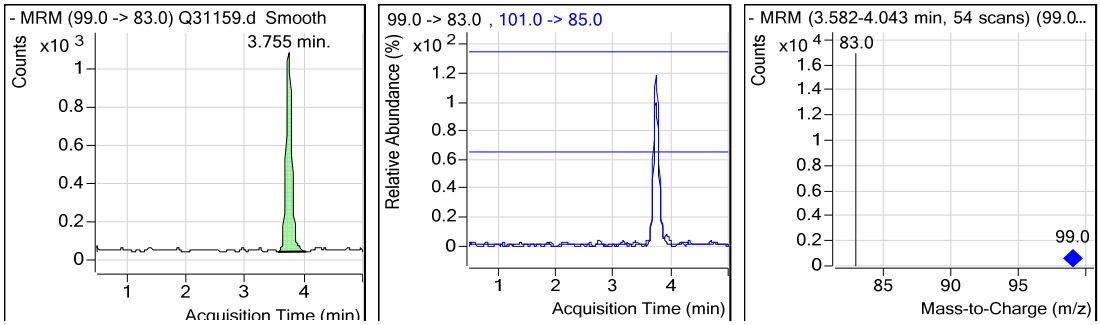
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31159.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:10
Sample Name	:	IC820-0.5
Vial	:	Vial 3
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31160.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:16
Sample Name	:	IC820-1.0
Vial	:	Vial 4
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

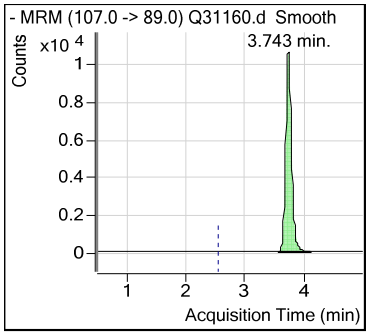
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.743	107.0 -> 89.0	75945	5.000	ng/ml	-0.507	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.747	99.0 -> 83.0	14672	0.896	ng/ml	97	3.2
		101.0 -> 85.0	4634				

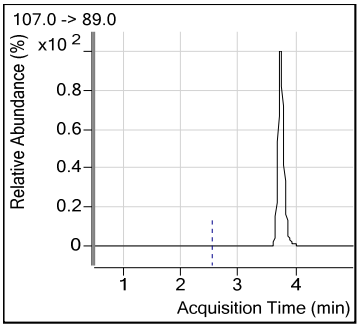
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

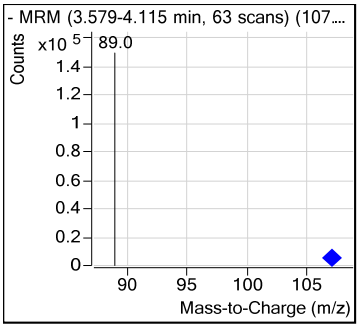
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31160.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:16
Sample Name	:	IC820-1.0
Vial	:	Vial 4
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

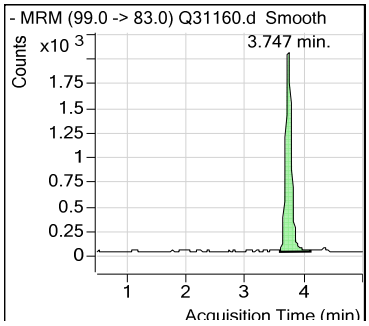
Cl18O4

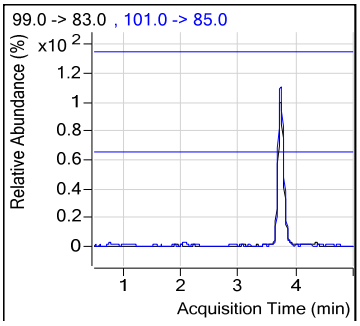


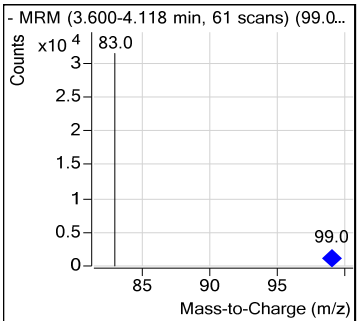




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31161.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:22
Sample Name	:	ICC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

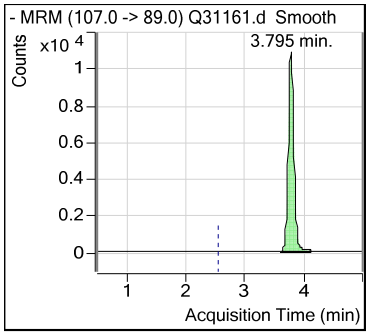
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	75630	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.799	99.0 -> 83.0	29408	1.800	ng/ml	98	3.2
		101.0 -> 85.0	9144				

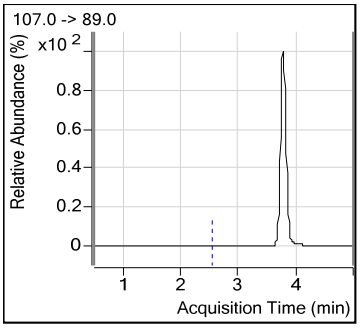
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

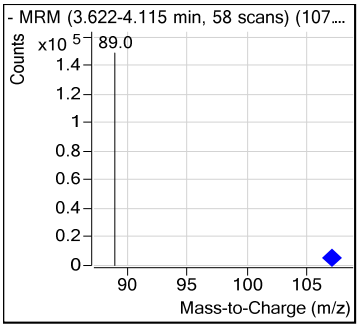
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31161.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:22
Sample Name	:	ICC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

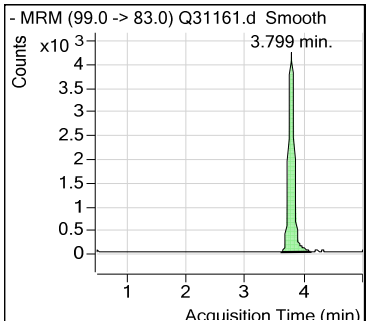
Cl18O4

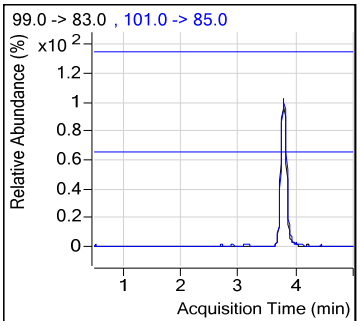


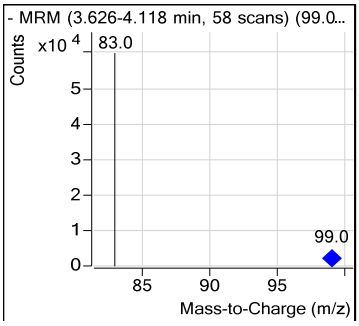




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31162.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:28
Sample Name	:	IC820-5.0
Vial	:	Vial 6
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

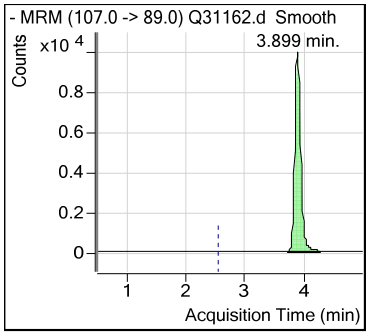
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.899	107.0 -> 89.0	70724	5.000	ng/ml	-0.351	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.902	99.0 -> 83.0	73985	4.814	ng/ml	98	3.2
		101.0 -> 85.0	23003				

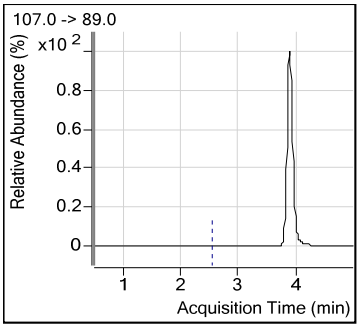
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

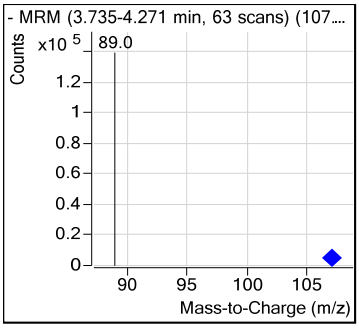
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31162.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:28
Sample Name	:	IC820-5.0
Vial	:	Vial 6
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

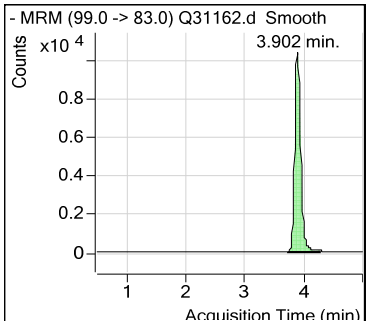
Cl18O4

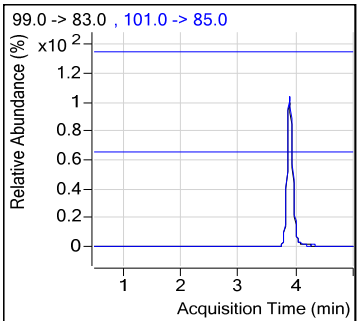


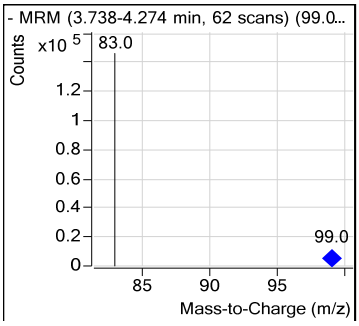




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31163.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:34
Sample Name	:	IC820-10
Vial	:	Vial 7
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

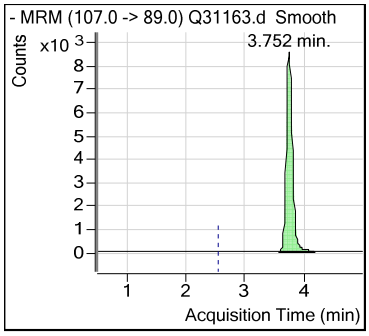
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.752	107.0 -> 89.0	64448	5.000	ng/ml	-0.498	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.755	99.0 -> 83.0	137651	9.732	ng/ml	99	3.3
		101.0 -> 85.0	41795				

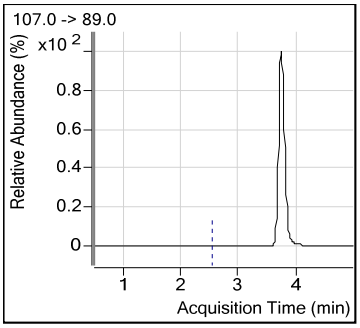
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

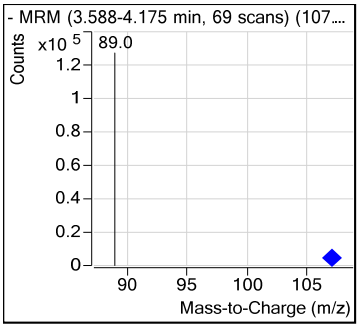
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31163.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:34
Sample Name	:	IC820-10
Vial	:	Vial 7
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

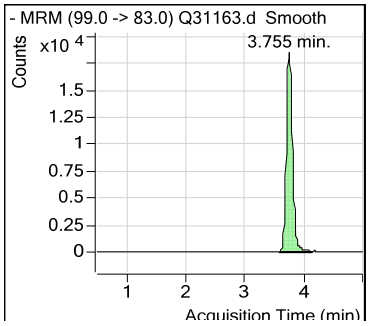
Cl18O4

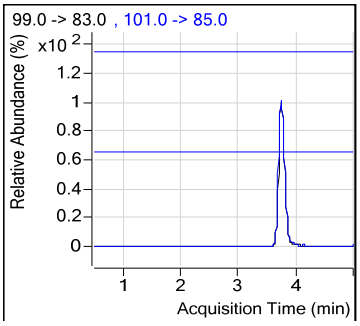


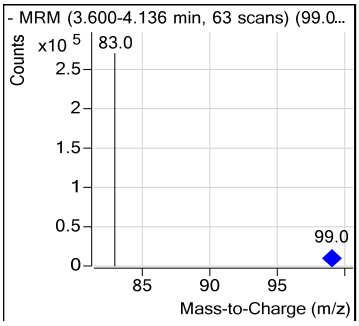




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31164.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:40
Sample Name	:	IC820-25
Vial	:	Vial 8
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

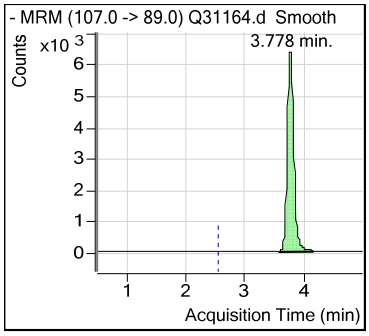
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	51025	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.773	99.0 -> 83.0	291702	25.262	ng/ml	100	3.3
		101.0 -> 85.0	87680				

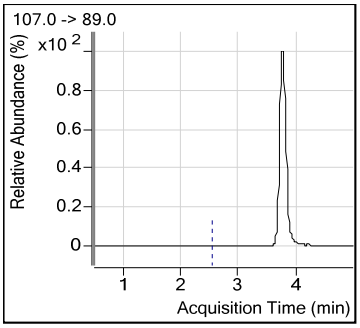
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

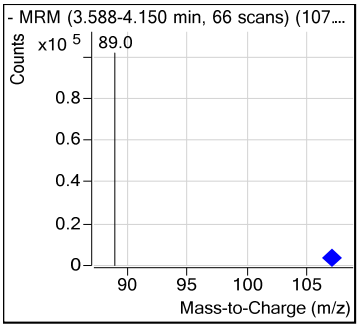
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31164.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:40
Sample Name	:	IC820-25
Vial	:	Vial 8
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

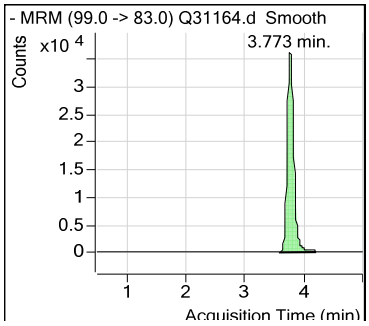
Cl18O4

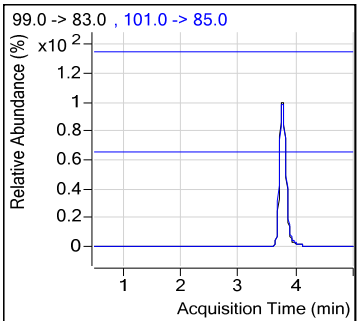


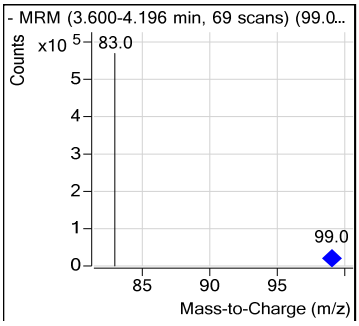




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31165.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:45
Sample Name	:	IC820-50
Vial	:	Vial 9
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

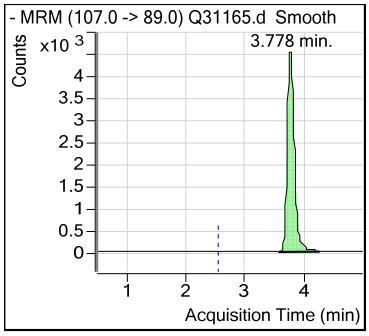
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	39393	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.781	99.0 -> 83.0	466676	49.951	ng/ml	99	3.4
		101.0 -> 85.0	137750				

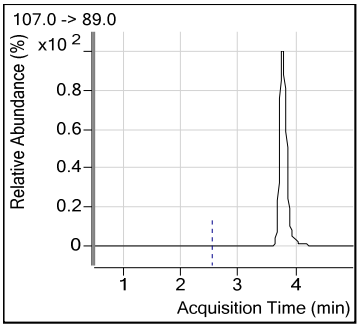
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

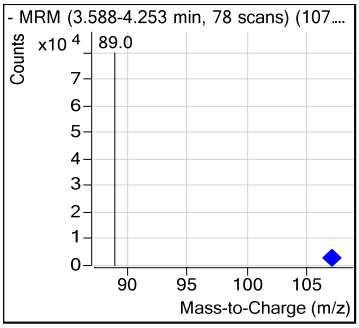
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31165.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:45
Sample Name	:	IC820-50
Vial	:	Vial 9
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

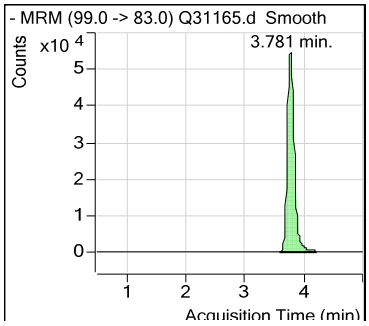
Cl18O4

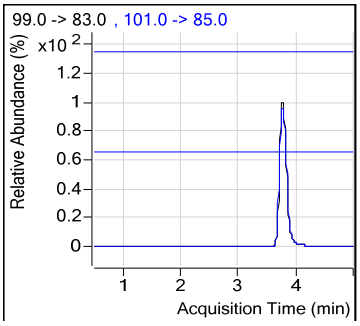


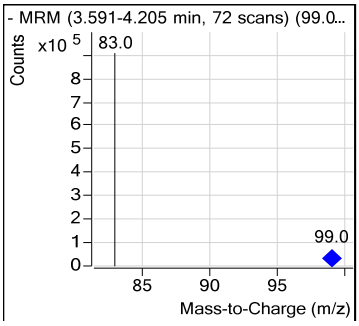




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31166.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:52
Sample Name	:	ICV820-2.0
Vial	:	Vial 10
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

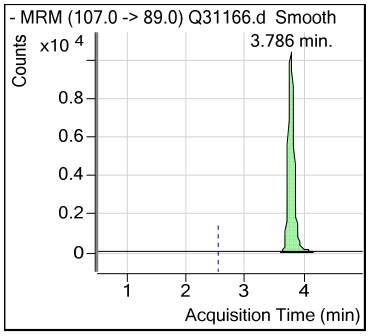
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.786	107.0 -> 89.0	75208	5.000	ng/ml	-0.464	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.790	99.0 -> 83.0	29461	1.814	ng/ml	97	3.2
		101.0 -> 85.0	9260				

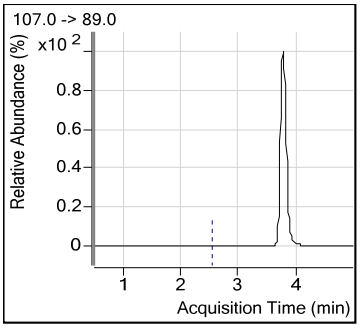
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

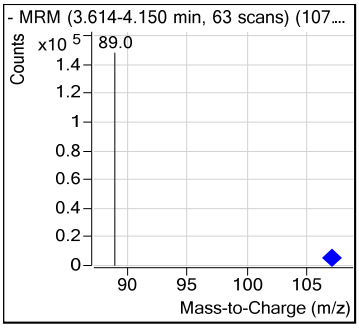
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31166.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:52
Sample Name	:	ICV820-2.0
Vial	:	Vial 10
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

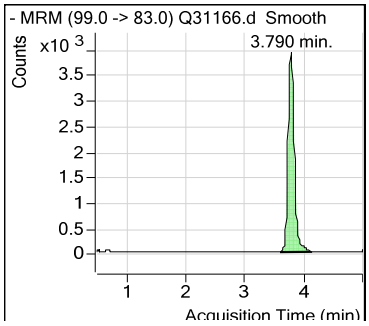
Cl18O4

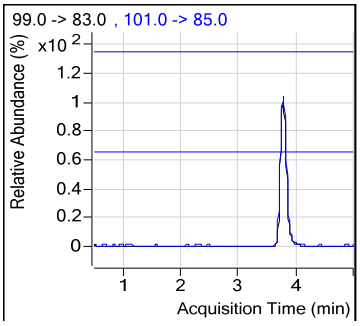


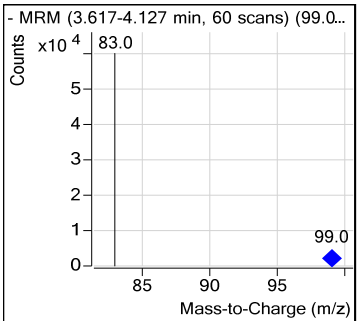




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31177.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:59
Sample Name	:	CC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

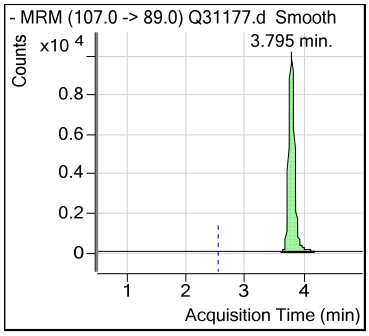
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	72406	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.799	99.0 -> 83.0	28646	1.832	ng/ml	96	3.1
		101.0 -> 85.0	9189				

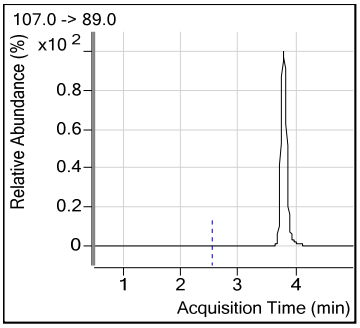
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

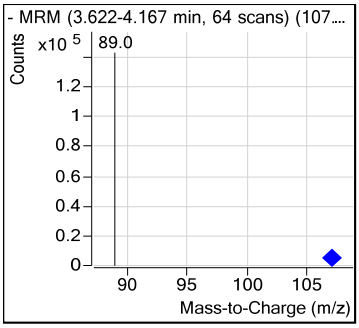
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31177.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:59
Sample Name	:	CC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

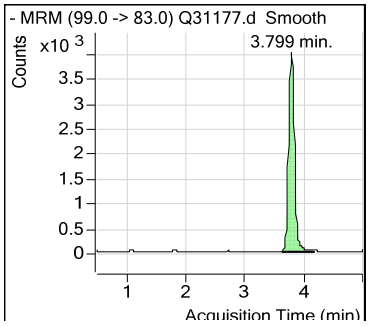
Cl18O4

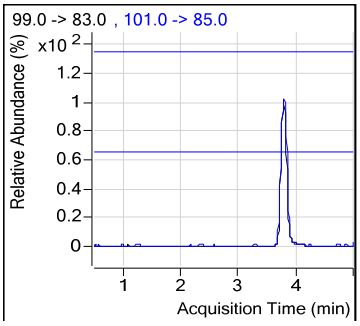


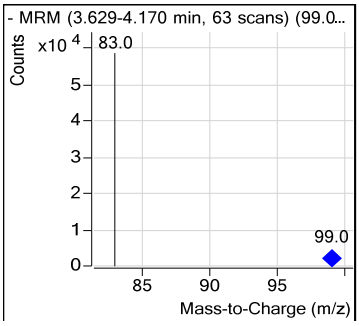




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31178.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:05
Sample Name	:	CC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

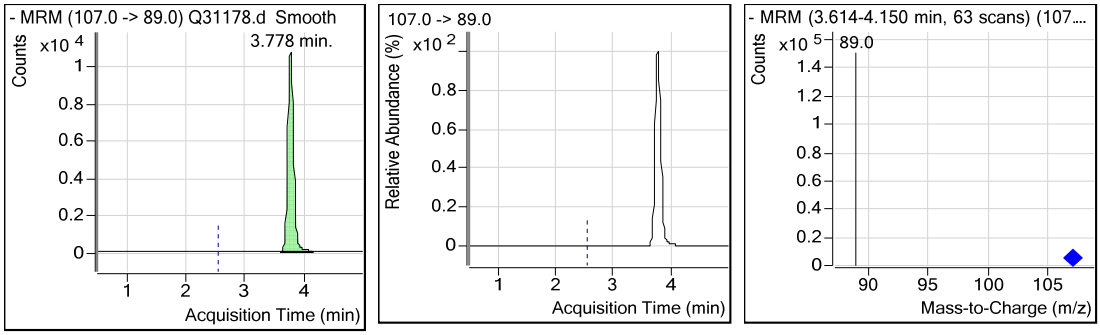
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	76403	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.773	99.0 -> 83.0	3361	0.204	ng/ml	99	3.4
		101.0 -> 85.0	995				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

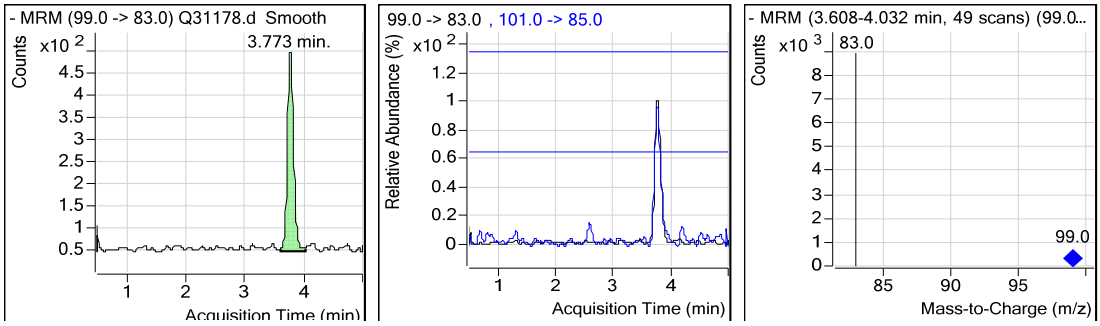
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31178.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:05
Sample Name	:	CC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST-ORLANDO

DATE:	01-19-17
COLUMN TYPE:	R prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0119 SQ820
CALIB. DATE:	01-19-17
RUN BATCH: SQ	820

ANALYST:	NAS
ELUENT A LOT #:	166417 w Aid 12
ELUENT B LOT #:	162332 "
WATER LOT #:	166417
ISTD Lot #:	0234

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 31153	1	CCB	6850	—	—	—		LSK	ND
Q 54	1			—	—	—			ND
Q 55	1			—	—	—			ND
Q 56	1			—	—	—		↓	ND
Q 57	23	Study SK		LC800	50ul 10ml	3.9		SK	✓
Q 58	2	ICB20 - 0.2		LC799	20ul 10ml	3.1		LSK	✓
Q 59	3	-0.5			50ul 10ml	3.0			✓
Q 60	4	-1.0			100ul 10ml	3.2			✓
Q 61	5	ICCB20 -2.0			200ul 10ml	3.2			✓
Q 62	6	ICB20 - 5.0			500ul 10ml	3.2			✓
Q 63	7	-10			1ml 10ml	33			✓
Q 64	8	-25			2.5ml 10ml	3.3			✓
Q 65	9	-50		↓	5ml 10ml	3.4			✓
Q 66	10	ICV B20 - 2.0		LC800	200ul 10ml	3.2		↓	Pass
Q 67	11	ICS B20 -0.2		↓	20ul 10ml	3.3		SK	Pass
Q 68	12	OP63460 - BS		OP63460	1X	2.8		LSK	✓
Q 69	13	MB				—			ND
Q 70	14	FA 40240 - X 2				X			X NO ISTD AR
Q 71	15	FA 40274 - 1				3.4			✓
Q 72	16	OP 63460 - MS	↓	↓	↓	2.3		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	01-19-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0.19 50-820
CALIB. DATE:	01-19-17
RUN BATCH: SQ	820

ANALYST:	NAS
ELUENT A LOT #:	166415 w Acetic
ELUENT B LOT #:	162332 +
WATER LOT #:	166415
ISTD Lot #:	8234

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 31173	17	OP63460-MSD	6850	OP63460	1	2.7		LBK	✓
Q 74	18	FA40274-2				2.9			✓
Q 75	19	-3				—			ND
Q 76	26	FA40240-2				3.3			✓
Q 77	5	CCB20-2.0		LC799	2uL 10ml	3.1			Acx
Q 78	↓	-0.2		↓	2uL 10ml	3.4			Pass
Q 79	1	CCB		—	—	—			ND
Q 80	19	FA40240-2		OP63460		3.2			✓
Q 81	20	FA40351-1				—			ND
Q 82	21	-2				3.2			✓
Q 83	22	-3				3.4			✓
Q 84	5	CCB20-2.0		LC799		3.1			Acx
Q 85	2	ECCB20-0.2		↓		2.5			Pass
Q 86	1	CCB		—		—		+	ND
Q 87	24	study 10x		LC800	5uL 10ml	2.8		10x	✓
Q 88	25	ICSB20-~~0.2~~ 2.0		↓	2uL ~~P00~~ 10ml	2.9		↓	✓ wrong spk conc
Q					ND 2017				
Q									
Q							NAS 01-20-17		
Q									

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time: 01-18-17 1200 Started {mm/dd/yy 24:00}

Date/Time: 01-18-17 1400 Finished {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP63460 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 63460 - MB	/	10.0 ml					10.0	
OP - BS	/					20ul		
FA40279-1	1							MS/MSD
-2								
-3								
FA40351-1								
-2								
-3	↓							
FA40290-2	—	↓					↓	
							NAS	
							01-19-17	
OP63460 - MS	1	10 ml				20ul	10.0	FA40279-1
- MSD	1	↓				↓	↓	-1
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LC800 Conc: 100 ppb Exp. Date: 06-04-17 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

CH2CL2 Lot # — Hexane Lot # — Na2SO4 Lot# —

Acetonitrile Lot # — Methanol Lot # — Acetone Lot# —

Syringe Filter Lot# 970434 pH Paper # — Reagent # —

Copper Lot # — If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: — Date: 01-18-17

Accepted By: — Date: 01-18-17

NF 02/16 extwater 020116.xls

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-MB	PP381212.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	99%	70-136%

Method Blank Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-MB	GG060929.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	113%	70-136%

Blank Spike Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-BS	PP381211.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.2	104	77-144
121-82-4	RDX	5	4.8	96	77-125
	DNX	5	4.8	96	66-127
	MNX	5	4.8	96	71-137
	TNX	5	4.4	88	60-126
618-87-1	3,5-Dinitroaniline	5	4.3	86	77-115
99-65-0	1,3-Dinitrobenzene	5	4.8	96	79-122
606-20-2	2,6-Dinitrotoluene	5	5.1	102	81-131
121-14-2	2,4-Dinitrotoluene	5	5.0	100	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	5.1	102	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.9	98	79-119
98-95-3	Nitrobenzene	5	4.7	94	78-130
88-72-2	o-Nitrotoluene	5	4.6	92	76-131
99-08-1	m-Nitrotoluene	5	4.6	92	78-122
99-99-0	p-Nitrotoluene	5	4.7	94	79-124
479-45-8	Tetryl	5	5.7	114	65-124
99-35-4	1,3,5-Trinitrobenzene	5	4.7	94	79-128
118-96-7	2,4,6-Trinitrotoluene	5	5.4	108	72-112
55-63-0	Nitroglycerine	25	27.7	111	69-123
78-11-5	PETN	25	26.8	107	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	102%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-MS	PP381255.D	2	01/25/17	KL	01/16/17	OP63431	GPP2069
OP63431-MSD	PP381256.D	2	01/25/17	KL	01/16/17	OP63431	GPP2069
FA40279-1 [a]	PP381215.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
FA40279-1 [b]	GG060932.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40279-1, FA40279-2, FA40279-3

CAS No.	Compound	FA40279-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	2.6 [c]		5	5.9	66*	5	6.6	80	11	77-144/21
121-82-4	RDX	1.1		5	5.1	80	5	5.6	90	9	77-125/19
	DNX	0.20 U		5	4.6	92	5	6.5	130*	34*	66-127/25
	MNX	0.20 U		5	4.6	92	5	6.5	130	34*	71-137/20
	TNX	0.20 U		5	4.4	88	5	6.1	122	32*	60-126/18
618-87-1	3,5-Dinitroaniline	0.40 U		5	4.3	86	5	4.8	96	11	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		5	4.6	92	5	5.2	104	12	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		5	5.0	100	5	5.5	110	10	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		5	4.8	96	5	5.2	104	8	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	1.6		5	5.3	74*	5	5.9	86	11	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	1.3		5	5.0	74*	5	5.6	86	11	79-119/20
98-95-3	Nitrobenzene	0.20 U		5	5.5	110	5	6.6	132*	18	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		5	4.8	96	5	5.4	108	12	76-131/20
99-08-1	m-Nitrotoluene	0.20 U		5	4.7	94	5	5.6	112	17	78-122/18
99-99-0	p-Nitrotoluene	0.20 U		5	4.7	94	5	5.3	106	12	79-124/18
479-45-8	Tetryl	0.20 U		5	4.9	98	5	5.8	116	17	65-124/20
99-35-4	1,3,5-Trinitrobenzene	1.7		5	5.3	72*	5	5.6	78*	6	79-128/16
118-96-7	2,4,6-Trinitrotoluene	4.2		5	6.3	42*	5	7.0	56*	11	72-112/16
55-63-0	Nitroglycerine	2.0 U		25	29.0	116	25	31.5	126*	8	69-123/18
78-11-5	PETN	2.0 U		25	25.1	100	25	27.0	108	7	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA40279-1	FA40279-1	Limits
610-39-9	3,4-Dinitrotoluene	99%	102%	98%	113%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run #3.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA40279-1	PP381254.D	82
FA40279-1	GG060932.D	113
FA40279-1	PP381215.D	98
FA40279-2	GG060930.D	116
FA40279-2	PP381223.D	97
FA40279-2	PP381213.D	102
FA40279-3	PP381214.D	90
OP63431-BS	PP381211.D	102
OP63431-MB	PP381212.D	99
OP63431-MB	GG060929.D	113
OP63431-MS	PP381255.D	99
OP63431-MSD	PP381256.D	102

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2504-CC2500	**Injection Date:**	01/19/17
Lab File ID:	GG060928.D	**Injection Time:**	08:24
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	15.40	15.41

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP63431-MB	GG060929.D	01/19/17	09:04		15.28
FA40279-2	GG060930.D	01/19/17	09:34		15.27
FA40279-1	GG060932.D	01/19/17	10:41		15.27
ZZZZZZ	GG060933.D	01/19/17	11:11		15.29
ZZZZZZ	GG060934.D	01/19/17	11:40		15.29
GGG2504-ECC2500	GG060935.D	01/19/17	12:10	15.36	15.36

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2066-ICC2066	**Injection Date:**	01/18/17
Lab File ID:	PP381206.D	**Injection Time:**	10:00
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	9.96

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP63431-BS	PP381211.D	01/18/17	12:27	9.92
OP63431-MB	PP381212.D	01/18/17	12:52	9.92
FA40279-2	PP381213.D	01/18/17	13:17	9.92
FA40279-3	PP381214.D	01/18/17	13:58	9.94
FA40279-1	PP381215.D	01/18/17	14:23	9.93
ZZZZZZ	PP381218.D	01/18/17	15:38	9.95
ZZZZZZ	PP381219.D	01/18/17	16:03	9.95
ZZZZZZ	PP381220.D	01/18/17	16:28	9.94

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2066-CC2066	**Injection Date:**	01/18/17
Lab File ID:	PP381221.D	**Injection Time:**	16:53
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	9.94	9.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA40279-2	PP381223.D	01/18/17	17:43		9.96
GPP2066-ECC2066	PP381224.D	01/18/17	18:08	9.95	9.95

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

8.5.3

8

GC Surrogate Retention Time Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2069-CC2066	**Injection Date:**	01/25/17
Lab File ID:	PP381253.D	**Injection Time:**	14:36
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	10.04	10.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA40279-1	PP381254.D	01/25/17	15:01		10.05
OP63431-MS	PP381255.D	01/25/17	15:26		10.05
OP63431-MSD	PP381256.D	01/25/17	15:51		10.03
OP63530-BS	PP381257.D	01/25/17	16:16		10.02
OP63530-MB	PP381258.D	01/25/17	16:41		10.02
FA40537-1	PP381259.D	01/25/17	17:06	10.02	10.02
OP63530-MS	PP381260.D	01/25/17	17:31	10.03	10.03
OP63530-MSD	PP381261.D	01/25/17	17:55	10.03	10.03
OP63504-BS	PP381262.D	01/25/17	18:20		10.04
ZZZZZZ	PP381264.D	01/25/17	19:10	10.04	10.04

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICC2500
Lab FileID: GG060861.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Initial Calibration

Calibration Files
20 =GG060857.D 50 =GG060858.D 100 =GG060859.D 200 =GG060860.D
500 =GG060861.D 1000=GG060862.D 2000=GG060863.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	7.563	9.380	8.035	8.088	7.825	7.839	8.528	8.180	E3	7.42
2)	HMX	2.883	2.816	2.522	2.563	2.715	2.586	2.745	2.690	E3	5.08
3)	DNX	6.893	9.151	7.677	7.329	7.479	7.186	7.745	7.637	E3	9.54
4)	MNX	4.312	5.568	5.005	5.068	5.055	5.117	5.642	5.110	E3	8.55
5)	1,3,5-Trinitroben	0.756	1.088	0.936	0.940	0.895	0.889	0.978	0.926	E4	10.83
6)	RDX	2.474	5.440	4.740	4.595	4.275	4.223	4.605	4.336	E3	21.06
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996										
	Response Ratio = 0.00000 + 4035.46673 *A + 0.28009 *A^2										
7)	1,3-Dinitrobenzen	1.684	1.483	1.241	1.228	1.177	1.164	1.276	1.322	E4	14.50
8)	Nitrobenzene	6.833	9.070	7.881	7.679	7.476	7.385	7.972	7.757	E3	8.90
9)	2,4,6-Trinitrotol	5.539	6.829	5.853	5.799	5.734	5.653	6.196	5.943	E3	7.42
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 5342.63698 *A + 0.42141 *A^2										
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	3.802	4.635	4.245	4.265	4.115	4.096	4.491	4.236	E3	6.44
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 3856.53143 *A + 0.31338 *A^2										
12)S	3,4-Dinitrotoluen	3.961	5.304	4.496	4.588	4.352	4.211	4.633	4.507	E3	9.36
13)	2,6-Dinitrotoluen	6.667	8.671	7.438	7.381	7.151	7.142	7.825	7.468	E3	8.52
14)	2,4-Dinitrotoluen	1.083	1.365	1.161	1.161	1.110	1.096	1.200	1.168	E4	8.24
15)	o-Nitrotoluene	3.698	5.793	5.119	4.937	4.816	4.818	5.228	4.916	E3	12.90
16)	3,5-Dinitroanilin	0.910	1.169	1.043	1.024	0.965	0.962	1.053	1.018	E4	8.26
17)	p-Nitrotoluene	2.045	3.247	3.012	2.966	3.119	3.267	3.583	3.034	E3	15.87
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 2952.90168 *A + 0.31518 *A^2										
18)	4-Amino-2,6-Dinit	0.411	3.209	3.858	4.511	5.165	5.558	6.425	4.162	E3	47.31
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 4644.23889 *A + 0.89208 *A^2										
19)	m-Nitrotoluene	3.219	4.851	4.751	4.758	4.867	5.306	5.799	4.793	E3	16.52
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 4710.70662 *A + 0.54610 *A^2										
20)	2-Amino-4,6-Dinit	0.820	1.074	0.950	0.911	0.824	0.809	0.905	0.899	E4	10.49
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	7.736	9.414	8.185	8.171	8.038	7.839	8.528	8.273	E3	6.83
2)	HMX	3.084	2.939	2.703	2.566	2.715	2.586	2.745	2.763	E3	6.77
3)	DNX	6.241	9.486	7.319	7.449	7.479	7.186	7.745	7.558	E3	12.89
4)	MNX	4.208	5.591	4.995	5.068	5.055	5.117	5.642	5.097	E3	9.29
5)	1,3,5-Trinitroben	0.747	1.088	0.936	0.940	0.895	0.889	0.978	0.925	E4	11.12

Initial Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICC2500
Lab FileID: GG060861.D

```
 6)  RDX              2.474 5.440 4.740 4.595 4.275 4.223 4.605 4.336 E3  21.06
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 4035.46673 *A + 0.28009 *A^2

 7)  1,3-Dinitrobenzen 1.498 1.198 0.953 0.968 0.920 0.880 0.958 1.053 E4  21.00
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 8555.75963 *A + 0.49902 *A^2

 8)  Nitrobenzene      3.324 8.715 7.942 7.474 7.607 7.275 7.643 7.140 E3  24.45
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
             Response Ratio = 0.00000 + 7207.64364 *A + 0.21114 *A^2

 9)  2,4,6-Trinitrotol 7.666 8.235 7.296 7.338 8.109 7.861 8.373 7.840 E3   5.44
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
             Response Ratio = 0.00000 + 7565.70447 *A + 0.39955 *A^2

10)  Nitroglycerin     3.750 3.451 2.907 2.946 3.051 3.003 3.260 3.195 E3   9.73
11)  Tetryl            8.795 7.289 7.461 6.830 7.381 7.508 8.380 7.663 E3   8.87
12)S 3,4-Dinitrotoluen 0.618 1.088 1.024 1.005 0.964 0.943 1.046 0.955 E4  16.40
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 8899.97620 *A + 0.76749 *A^2

13)  2,6-Dinitrotoluen 0.390 1.139 0.834 0.895 1.000 1.014 1.133 0.915 E4  28.14
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9973
             Response Ratio = 0.00000 + 11017.51180 *A

14)  2,4-Dinitrotoluen 1.239 1.100 0.799 0.799 0.786 0.793 0.858 0.911 E4  20.09
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 7483.76805 *A + 0.54259 *A^2

15)  o-Nitrotoluene    2.727 8.995 7.146 6.626 6.847 7.048 7.697 6.726 E3  28.72
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 6488.56489 *A + 0.60207 *A^2

16)  3,5-Dinitroanilin 2.175 1.918 1.761 1.727 1.647 1.654 1.811 1.813 E4  10.20
17)  p-Nitrotoluene    1.538 3.573 1.584 1.693 3.072 4.074 4.886 2.917 E3  46.10
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
             Response Ratio = 0.00000 + 2807.70945 *A + 1.05011 *A^2

18)  4-Amino-2,6-Dinit 0.014 0.097 0.071 0.142 0.527 0.805 1.066 0.389 E4  107.05
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9979
             Response Ratio = 0.00000 + 4248.71394 *A + 3.23613 *A^2

19)  m-Nitrotoluene    2.022 2.221 4.998 5.343 7.091 7.743 8.543 5.423 E3  47.56
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 6600.72211 *A + 0.98022 *A^2

20)  2-Amino-4,6-Dinit 0.011 0.506 1.179 1.095 1.206 1.189 1.315 0.929 E4  52.08
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 10971.96258 *A + 1.08494 *A^2

21)  PETN              3.113 3.310 3.418 3.417 3.277 3.276 3.556 3.338 E3   4.22
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_1230.M        Tue Jan 03 11:07:36 2017
```

Initial Calibration Verification

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICV2500
Lab FileID: GG060864.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1230RPB3\GG060864.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\1230RPB3\GG060864.D\dad1A.ch
Acq On : 30-Dec-2016, 18:13:52 Operator: kismetl
Sample : icv2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	508.848	-1.8	106	0.00	4.13- 5.13
2	HMX	500.000	550.270	-10.1	109	0.00	4.50- 5.50
3	DNX	500.000	485.321	2.9	99	0.00	4.66- 5.66
4	MNX	500.000	511.578	-2.3	103	0.00	5.55- 6.55
5	1,3,5-Trinitrobenzene	500.000	494.967	1.0	102	0.00	6.56- 7.56
	Compound	Amount	Calc.	%Drift			
6	RDX	500.000	556.540	-11.3	109	0.00	6.89- 7.89
	Compound	Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene	500.000	441.071	11.8	99	0.00	9.05-10.05
8	Nitrobenzene	500.000	518.583	-3.7	108	0.00	10.12-11.12
	Compound	Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene	500.000	400.036	20.0#	77	0.00	11.20-12.20
	Compound	Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
	Compound	Amount	Calc.	%Drift			
11	Tetryl	500.000	439.948	12.0	85	0.00	13.00-14.00
	Compound	Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	501.024	-0.2	105	0.03	14.88-15.88
14	2,4-Dinitrotoluene	500.000	496.326	0.7	104	0.00	15.85-16.85
15	o-Nitrotoluene	500.000	540.855	-8.2	110	0.02	18.30-19.30
16	3,5-Dinitroaniline	500.000	472.389	5.5	100	0.01	17.64-18.64
	Compound	Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	540.972	-8.2	108	0.01	20.16-21.16
18	4-Amino-2,6-Dinitrotol	500.000	526.769	-5.4	104	0.00	20.81-21.81
19	m-Nitrotoluene	500.000	544.548	-8.9	112	0.00	22.15-23.15
	Compound	Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	500.000	541.550	-8.3	118	0.00	23.21-24.21
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	503.109	-0.6	104	0.00	4.13- 5.13

8.6.2

8

Initial Calibration Verification

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICV2500
Lab FileID: GG060864.D

2	HMX	500.000	569.244	-13.8	116	0.00	4.50- 5.50
3	DNX	500.000	512.895	-2.6	104	0.00	4.66- 5.66
4	MNX	500.000	512.876	-2.6	103	0.00	5.55- 6.55
5	1,3,5-Trinitrobenzene	500.000	495.642	0.9	102	0.00	6.56- 7.56
		Amount	Calc.	%Drift			
6	RDX	500.000	556.540	-11.3	109	0.00	6.89- 7.89
7	1,3-Dinitrobenzene	500.000	506.352	-1.3	97	0.00	9.05-10.05
8	Nitrobenzene	500.000	551.404	-10.3	106	0.00	10.12-11.12
9	2,4,6-Trinitrotoluene	500.000	417.808	16.4#	80	0.00	11.20-12.20
		Amount	Calc.	%Drift			
10	Nitroglycerin	2500.000	2429.821	2.8	102	0.00	12.04-13.04
11	Tetryl	500.000	454.862	9.0	94	0.00	12.99-13.99
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	----------NA----------					
13	2,6-Dinitrotoluene	500.000	554.445	-10.9	122	0.05	14.85-15.85
14	2,4-Dinitrotoluene	500.000	527.399	-5.5	104	0.00	15.85-16.85
15	o-Nitrotoluene	500.000	567.807	-13.6	113	0.02	18.28-19.28
		Amount	Calc.	%Drift			
16	3,5-Dinitroaniline	500.000	454.373	9.1	100	0.01	17.63-18.63
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	541.058	-8.2	119	0.03	20.15-21.15
18	4-Amino-2,6-Dinitrotol	500.000	524.739	-4.9	119	-0.01	20.84-21.84
19	m-Nitrotoluene	500.000	551.021	-10.2	111	0.02	22.15-23.15
20	2-Amino-4,6-Dinitrotol	500.000	561.636	-12.3	108	0.00	23.22-24.22
		Amount	Calc.	%Drift			
21	PETN	2500.000	2594.295	-3.8	106	0.00	24.36-25.36

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060861.D 8330RPB.M_1230.M Tue Jan 03 11:08:20 2017

8.6.2

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-CC2500
Lab FileID: GG060928.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0119RPB3\GG060928.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060928.D\dad1A.ch
Acq On : 19-Jan-2017, 08:24:39 Operator: kismetl
Sample : cc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	999.321	0.1	104	0.00	4.16- 5.16
2	HMX	1000.000	1031.448	-3.1	107	0.00	4.55- 5.55
3	DNX	1000.000	954.103	4.6	101	0.00	4.70- 5.70
4	MNX	1000.000	1040.025	-4.0	104	0.00	5.67- 6.67
5	1,3,5-Trinitrobenzene	1000.000	1003.046	-0.3	105	0.00	6.66- 7.66
		Amount	Calc.	%Drift			
6	RDX	1000.000	1004.322	-0.4	103	0.00	7.06- 8.06
		Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene	1000.000	922.306	7.8	105	0.00	9.23-10.23
8	Nitrobenzene	1000.000	967.246	3.3	102	0.00	10.33-11.33
		Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene	1000.000	1021.749	-2.2	104	0.00	11.43-12.43
		Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	1007.701	-0.8	103	0.00	13.38-14.38
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	1000.000	1074.013	-7.4	115	0.00	14.90-15.90
13	2,6-Dinitrotoluene	1000.000	947.507	5.2	99	-0.01	15.31-16.31
14	2,4-Dinitrotoluene	1000.000	970.257	3.0	103	0.00	16.27-17.27
15	o-Nitrotoluene	1000.000	980.634	1.9	100	-0.01	18.86-19.86
16	3,5-Dinitroaniline	1000.000	989.322	1.1	105	0.00	18.17-19.17
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	1000.000	1098.376	-9.8	111	0.00	20.73-21.73
18	4-Amino-2,6-Dinitrotol	1000.000	1038.230	-3.8	104	0.00	21.58-22.58
19	m-Nitrotoluene	1000.000	1085.472	-8.5	108	0.00	22.51-23.51
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	997.563	0.2	111	0.00	23.53-24.53
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	988.049	1.2	104	0.00	4.16- 5.16

8.6.3

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-CC2500
Lab FileID: GG060928.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	1004.343	-0.4	107	0.00	4.55- 5.55
3		DNX	1000.000	964.095	3.6	101	0.00	4.70- 5.70
4		MNX	1000.000	1042.665	-4.3	104	0.00	5.67- 6.67
5		1,3,5-Trinitrobenzene	1000.000	1004.414	-0.4	105	0.00	6.66- 7.66
			Amount	Calc.	%Drift			
6		RDX	1000.000	1004.322	-0.4	103	0.00	7.06- 8.06
7		1,3-Dinitrobenzene	1000.000	1011.007	-1.1	104	0.00	9.23-10.23
8		Nitrobenzene	1000.000	968.171	3.2	99	0.00	10.33-11.33
9		2,4,6-Trinitrotoluene	1000.000	986.437	1.4	100	0.00	11.43-12.43
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4687.614	6.2	100	0.00	12.30-13.30
11		Tetryl	1000.000	921.266	7.9	94	0.00	13.37-14.37
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	1094.430	-9.4	113	0.00	14.89-15.89
13		2,6-Dinitrotoluene	1000.000	877.595	12.2	95	-0.02	15.29-16.29
14		2,4-Dinitrotoluene	1000.000	987.647	1.2	100	0.00	16.27-17.27
15		o-Nitrotoluene	1000.000	971.068	2.9	97	-0.01	18.85-19.85
			Amount	Calc.	%Drift			
16		3,5-Dinitroaniline	1000.000	947.557	5.2	104	0.00	18.18-19.18
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	952.030	4.8	89	0.00	20.73-21.73
18		4-Amino-2,6-Dinitrotol	1000.000	1050.344	-5.0	100	-0.01	21.61-22.61
19		m-Nitrotoluene	1000.000	1025.238	-2.5	101	0.00	22.52-23.52
20		2-Amino-4,6-Dinitrotol	1000.000	1045.056	-4.5	106	0.00	23.53-24.53
			Amount	Calc.	%Drift			
21		PETN	5000.000	5039.967	-0.8	103	0.00	24.59-25.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060862.D 8330RPB.M_1230.M Fri Jan 20 14:24:16 2017

8.6.3

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-ECC2500
Lab FileID: GG060935.D

Evaluate Continuing Calibration Report

```
Signal #1 : G:\DATA\0119RPB3\GG060935.D\dad1B.ch         Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060935.D\dad1A.ch
Acq On    : 19-Jan-2017, 12:10:31                  Operator: kismetl
Sample    : ecc2500-1000                           Inst    : G1315B
Misc      : OP63431,GGG2504,1000,,,10,,water       Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	991.079	0.9	103	0.00	4.16- 5.16
2	HMX	1000.000	1016.966	-1.7	106	0.00	4.55- 5.55
3	DNX	1000.000	946.785	5.3	101	0.00	4.70- 5.70
4	MNX	1000.000	1085.418	-8.5	108	-0.01	5.67- 6.67
5	1,3,5-Trinitrobenzene	1000.000	1012.967	-1.3	106	0.00	6.66- 7.66
		Amount	Calc.	%Drift			
6	RDX	1000.000	1009.541	-1.0	103	-0.02	7.06- 8.06
		Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene	1000.000	919.171	8.1	104	-0.02	9.23-10.23
8	Nitrobenzene	1000.000	975.684	2.4	102	-0.02	10.33-11.33
		Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene	1000.000	1019.504	-2.0	104	-0.02	11.43-12.43
		Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	1000.389	-0.0	102	-0.04	13.38-14.38
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	1000.000	1056.366	-5.6	113	-0.03	14.90-15.90
13	2,6-Dinitrotoluene	1000.000	945.790	5.4	99	-0.05	15.31-16.31
14	2,4-Dinitrotoluene	1000.000	965.892	3.4	103	-0.04	16.27-17.27
15	o-Nitrotoluene	1000.000	996.303	0.4	102	-0.06	18.86-19.86
16	3,5-Dinitroaniline	1000.000	979.367	2.1	104	-0.08	18.17-19.17
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	1000.000	1064.993	-6.5	107	-0.05	20.73-21.73
18	4-Amino-2,6-Dinitrotol	1000.000	1014.389	-1.4	101	-0.08	21.58-22.58
19	m-Nitrotoluene	1000.000	1060.645	-6.1	106	-0.02	22.51-23.51
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	994.534	0.5	111	-0.03	23.53-24.53
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	979.900	2.0	103	0.00	4.16- 5.16

8.6.4

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-ECC2500
Lab FileID: GG060935.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	990.242	1.0	106	0.00	4.55- 5.55
3		DNX	1000.000	956.701	4.3	101	0.00	4.70- 5.70
4		MNX	1000.000	1088.173	-8.8	108	-0.01	5.67- 6.67
5		1,3,5-Trinitrobenzene	1000.000	1014.349	-1.4	106	0.00	6.66- 7.66
			Amount	Calc.	%Drift			
6		RDX	1000.000	1009.541	-1.0	103	-0.02	7.06- 8.06
7		1,3-Dinitrobenzene	1000.000	1009.468	-0.9	104	-0.02	9.23-10.23
8		Nitrobenzene	1000.000	973.052	2.7	99	-0.02	10.33-11.33
9		2,4,6-Trinitrotoluene	1000.000	984.558	1.5	100	-0.02	11.43-12.43
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4685.318	6.3	100	-0.02	12.30-13.30
11		Tetryl	1000.000	927.849	7.2	95	-0.04	13.37-14.37
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	1086.332	-8.6	112	-0.04	14.89-15.89
13		2,6-Dinitrotoluene	1000.000	892.088	10.8	97	-0.06	15.29-16.29
14		2,4-Dinitrotoluene	1000.000	1001.355	-0.1	101	-0.05	16.27-17.27
15		o-Nitrotoluene	1000.000	1004.402	-0.4	101	-0.06	18.85-19.85
			Amount	Calc.	%Drift			
16		3,5-Dinitroaniline	1000.000	945.875	5.4	104	-0.08	18.18-19.18
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	929.610	7.0	86	-0.06	20.73-21.73
18		4-Amino-2,6-Dinitrotol	1000.000	1007.723	-0.8	94	-0.10	21.61-22.61
19		m-Nitrotoluene	1000.000	1032.799	-3.3	102	-0.03	22.52-23.52
20		2-Amino-4,6-Dinitrotol	1000.000	1072.406	-7.2	109	-0.04	23.53-24.53
			Amount	Calc.	%Drift			
21		PETN	5000.000	5030.510	-0.6	103	-0.01	24.59-25.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060862.D 8330RPB.M_1230.M Fri Jan 20 14:24:17 2017

8.6.4

8

Initial Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICC2066
Lab FileID: PP381206.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration

Calibration Files
20 =PP381202.D 50 =PP381203.D 100 =PP381204.D 200 =PP381205.D
500 =PP381206.D 1000=PP381207.D 2000=PP381208.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	2.598	3.165	2.959	2.790	3.030	3.098	2.982	2.946	E3	6.58
2)	HMX	1.640	1.579	1.731	1.554	1.665	1.663	1.703	1.648	E3	3.84
3)	DNX	4.067	3.171	3.119	2.780	2.799	2.679	2.775	3.056	E3	15.83
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 2688.92850 *A + 0.04086 *A^2										
4)	MNX	2.502	2.449	2.328	2.283	2.282	2.228	2.293	2.338	E3	4.27
5)	RDX	2.106	1.811	1.773	1.774	1.788	1.718	1.785	1.822	E3	7.04
6)	1,3,5-Trinitroben	4.057	4.164	4.111	4.023	4.087	3.951	4.115	4.073	E3	1.72
7)	1,3-Dinitrobenzen	5.000	5.292	5.001	5.030	5.080	4.915	5.112	5.061	E3	2.36
8)	3,5-Dinitroanilin	4.551	4.887	4.638	4.341	4.407	4.248	4.440	4.502	E3	4.73
9)	Nitrobenzene	3.533	2.993	3.077	2.868	2.969	2.917	3.016	3.053	E3	7.27
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	2.853	1.908	1.730	1.954	1.942	1.975	2.041	2.058	E3	17.67
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 1908.15551 *A + 0.06642 *A^2										
12)	2,4,6-Trinitrotol	4.161	2.666	2.872	2.826	2.887	2.804	2.927	3.020	E3	16.88
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 2760.78295 *A + 0.08159 *A^2										
13)	2-Amino-4,6-Dinit	2.875	3.075	3.118	3.138	3.134	3.093	3.200	3.090	E3	3.33
14)	4-Amino-2,6-Dinit	2.774	2.127	2.327	2.304	2.220	2.283	2.356	2.342	E3	8.78
15)S	3,4-Dinitrotoluen	2.332	1.962	2.053	2.061	1.975	2.021	2.094	2.071	E3	6.00
16)	2,4-Dinitrotoluen	4.701	4.693	4.800	4.517	4.555	4.454	4.628	4.621	E3	2.60
17)	2,6-Dinitrotoluen	2.917	2.669	2.634	2.651	2.559	2.514	2.592	2.648	E3	4.93
18)	o-Nitrotoluene	2.587	2.050	2.190	2.189	2.215	2.117	2.168	2.217	E3	7.80
19)	p-Nitrotoluene	3.721	3.459	3.282	3.406	3.433	3.295	3.392	3.427	E3	4.26
20)	m-Nitrotoluene	3.473	3.442	3.252	3.254	3.266	3.205	3.313	3.315	E3	3.10
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	3.829	4.034	4.356	4.152	4.499	4.585	4.460	4.273	E3	6.47
2)	HMX	4.668	4.946	5.354	4.534	4.917	4.559	4.571	4.793	E3	6.26
3)	DNX	1.328	0.822	0.662	0.503	0.471	0.430	0.440	0.665	E4	48.89
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9989										
	Response Ratio = 0.00000 + 4568.51109 *A + -0.09534 *A^2										
4)	MNX	3.392	3.672	3.600	3.495	3.562	3.412	3.535	3.524	E3	2.84
5)	RDX	3.547	3.100	2.973	2.866	2.841	2.726	2.841	2.985	E3	9.20
6)	1,3,5-Trinitroben	7.864	7.707	7.799	7.762	7.836	7.571	7.875	7.773	E3	1.38
7)	1,3-Dinitrobenzen	3.315	3.415	3.426	3.424	3.461	3.289	3.412	3.392	E3	1.88
8)	3,5-Dinitroanilin	7.844	7.835	7.906	7.474	7.426	7.214	7.522	7.603	E3	3.43
9)	Nitrobenzene	2.953	3.299	3.047	2.952	2.982	2.923	2.982	3.020	E3	4.28
10)	Nitroglycerin	1.398	1.425	1.389	1.310	1.306	1.259	1.319	1.344	E3	4.50
11)	Tetryl	3.906	3.203	3.155	3.031	3.000	2.878	2.961	3.162	E3	10.95

Initial Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICC2066
Lab FileID: PP381206.D

12)	2,4,6-Trinitrotol	3.832	3.990	4.165	3.901	3.937	3.775	3.927	3.933	E3	3.17
13)	2-Amino-4,6-Dinit	5.560	5.222	5.189	5.015	4.941	4.764	4.937	5.090	E3	5.11
14)	4-Amino-2,6-Dinit	5.652	5.313	5.177	4.861	4.839	4.682	4.857	5.055	E3	6.76
15)S	3,4-Dinitrotoluen	4.478	4.006	3.928	3.722	3.685	3.561	3.706	3.869	E3	7.97
16)	2,4-Dinitrotoluen	3.712	2.757	2.729	2.836	2.932	2.874	3.025	2.981	E3	11.34
17)	2,6-Dinitrotoluen	1.645	1.961	2.423	2.727	3.079	3.085	3.321	2.606	E3	24.02

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998

Response Ratio = 0.00000 + 2867.42577 *A + 0.22675 *A^2

18)	o-Nitrotoluene	3.710	3.083	2.611	3.051	3.081	2.939	3.118	3.085	E3	10.58
19)	p-Nitrotoluene	2.960	2.810	2.768	2.880	2.838	2.794	2.954	2.858	E3	2.68
20)	m-Nitrotoluene	3.756	3.975	3.895	3.831	3.929	3.803	4.021	3.887	E3	2.46
21)	PETN	1.725	1.548	1.433	1.433	1.440	1.378	1.429	1.484	E3	7.94

(#) = Out of Range

8330-0118BPLUS.M Thu Jan 19 12:16:05 2017

8.6.5

8

Initial Calibration Verification

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICV2066
Lab FileID: PP381209.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0118BPL\PP381209.D\dad1B.ch          Vial: 10
Signal #2 : P:\DATA\0118BPL\PP381209.D\dad1A.ch
Acq On    : 18-Jan-2017, 11:26:25                    Operator: kismetl
Sample    : icv2066-500                              Inst    : G1315B
Misc      : OP63244,GPP2066,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A.8330B,8332
Last Update  : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	527.933	-5.6	103	0.00	0.86- 1.46
2	HMX	500.000	565.139	-13.0	112	0.00	0.94- 1.54
	----------	Amount	Calc.	%Drift			
3	DNX	500.000	509.255	-1.9	99	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	500.000	492.591	1.5	101	0.00	1.68- 2.28
5	RDX	500.000	513.081	-2.6	105	0.00	2.10- 2.90
6	1,3,5-Trinitrobenzene	500.000	506.306	-1.3	101	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	500.000	500.118	-0.0	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	500.000	454.560	9.1	93	0.00	5.15- 5.95
9	Nitrobenzene	500.000	520.071	-4.0	107	0.00	6.36- 7.16
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift			
11	Tetryl	500.000	453.819	9.2	91	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	500.000	452.135	9.6	88	0.00	8.43- 9.23
	----------	Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	500.000	550.614	-10.1	109	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	500.000	536.077	-7.2	113	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	522.111	-4.4	106	0.00	10.19-10.99
17	2,6-Dinitrotoluene	500.000	529.283	-5.9	110	0.00	10.65-11.45
18	o-Nitrotoluene	500.000	530.446	-6.1	106	0.00	13.15-14.15
19	p-Nitrotoluene	500.000	519.093	-3.8	104	0.00	13.55-14.55
20	m-Nitrotoluene	500.000	501.639	-0.3	102	0.00	14.14-15.14
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	523.061	-4.6	99	0.00	0.86- 1.46
2	HMX	500.000	553.128	-10.6	108	0.00	0.95- 1.55
	----------	Amount	Calc.	%Drift			
3	DNX	500.000	501.805	-0.4	96	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	500.000	505.165	-1.0	100	0.00	1.68- 2.28
5	RDX	500.000	501.413	-0.3	105	0.00	2.10- 2.90

Initial Calibration Verification

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICV2066
Lab FileID: PP381209.D

6	1,3,5-Trinitrobenzene	500.000	504.165	-0.8	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	500.000	487.765	2.4	96	0.00	4.81- 5.61
8	3,5-Dinitroaniline	500.000	457.607	8.5	94	0.00	5.15- 5.95
9	Nitrobenzene	500.000	520.766	-4.2	105	0.00	6.36- 7.16
10	Nitroglycerin	2500.000	2468.478	1.3	102	0.00	7.65- 8.65
11	Tetryl	500.000	401.246	19.8#	85	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	500.000	461.904	7.6	92	0.00	8.43- 9.23
13	2-Amino-4,6-Dinitrotol	500.000	531.925	-6.4	110	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	500.000	521.982	-4.4	109	0.01	9.18- 9.98
15 S	3,4-Dinitrotoluene			----------NA----------			
16	2,4-Dinitrotoluene	500.000	515.456	-3.1	105	0.00	10.19-10.99

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	500.000	560.739	-12.1	109	0.00	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	500.000	540.645	-8.1	108	0.00	13.15-14.15
19	p-Nitrotoluene	500.000	544.654	-8.9	110	0.00	13.55-14.55
20	m-Nitrotoluene	500.000	516.969	-3.4	102	0.00	14.14-15.14
21	PETN	2500.000	2498.033	0.1	103	0.00	15.64-16.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381206.D 8330-0118BPLUS.M Thu Jan 19 12:16:45 2017

8.6.9

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-CC2066
Lab FileID: PP381221.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0118BPL\PP381221.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381221.D\dad1A.ch
Acq On : 18-Jan-2017, 16:53:32 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1054.835	-5.5	100	0.00	0.86- 1.46
2	HMX	1000.000	996.250	0.4	99	0.00	0.94- 1.54
	----------	Amount	Calc.	%Drift			
3	DNX	1000.000	978.083	2.2	100	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	1000.000	948.409	5.2	100	0.00	1.68- 2.28
5	RDX	1000.000	940.683	5.9	100	0.00	2.10- 2.90
6	1,3,5-Trinitrobenzene	1000.000	966.549	3.3	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	1000.000	967.921	3.2	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	1000.000	945.413	5.5	100	0.00	5.15- 5.95
9	Nitrobenzene	1000.000	964.194	3.6	101	0.00	6.36- 7.16
10	Nitroglycerin	----------	NA	----------			
	----------	Amount	Calc.	%Drift			
11	Tetryl	1000.000	983.123	1.7	98	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	1000.000	983.046	1.7	100	0.00	8.43- 9.23
	----------	Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	997.550	0.2	100	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	1000.000	965.340	3.5	99	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	968.550	3.1	99	0.00	9.55-10.35
16	2,4-Dinitrotoluene	1000.000	957.768	4.2	99	0.00	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	928.381	7.2	98	0.00	10.65-11.45
18	o-Nitrotoluene	1000.000	975.265	2.5	102	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	1009.490	-0.9	105	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	1000.161	-0.0	103	0.00	14.14-15.14
21	PETN	----------	NA	----------			
*****	Signal #2 *****						
1	TNX	1000.000	1079.622	-8.0	101	0.00	0.86- 1.46
2	HMX	1000.000	941.787	5.8	99	0.00	0.95- 1.55
	----------	Amount	Calc.	%Drift			
3	DNX	1000.000	967.255	3.3	101	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	1000.000	968.576	3.1	100	0.00	1.68- 2.28
5	RDX	1000.000	913.810	8.6	100	0.00	2.10- 2.90

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-CC2066
Lab FileID: PP381221.D

6	1,3,5-Trinitrobenzene	1000.000	973.442	2.7	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	1000.000	968.140	3.2	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	1000.000	946.571	5.3	100	0.00	5.15- 5.95
9	Nitrobenzene	1000.000	977.457	2.3	101	0.00	6.36- 7.16
10	Nitroglycerin	5000.000	4688.212	6.2	100	0.00	7.65- 8.65
11	Tetryl	1000.000	911.093	8.9	100	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	1000.000	962.602	3.7	100	0.00	8.43- 9.23
13	2-Amino-4,6-Dinitrotol	1000.000	934.827	6.5	100	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	1000.000	921.349	7.9	99	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	920.081	8.0	100	0.00	9.55-10.35
16	2,4-Dinitrotoluene	1000.000	959.306	4.1	99	0.00	10.19-10.99

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	995.012	0.5	100	0.00	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	971.756	2.8	102	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	995.979	0.4	102	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	998.624	0.1	102	0.00	14.14-15.14
21	PETN	5000.000	4646.271	7.1	100	0.00	15.64-16.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 19 12:18:08 2017

8.6.7

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ECC2066
Lab FileID: PP381224.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0118BPL\PP381224.D\dad1B.ch          Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381224.D\dad1A.ch
Acq On    : 18-Jan-2017, 18:08:12                  Operator: kismetl
Sample    : ecc2066-1000                           Inst    : G1315B
Misc      : OP63244,GPP2066,1000,,,10,,water       Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A.8330B,8332
Last Update  : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1063.350	-6.3	101	0.00	0.86- 1.46
2	HMX	1000.000	973.904	2.6	96	0.01	0.94- 1.54
	----------	Amount	Calc.	%Drift			
3	DNX	1000.000	973.322	2.7	99	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	1000.000	945.886	5.4	99	0.00	1.68- 2.28
5	RDX	1000.000	947.458	5.3	100	0.00	2.10- 2.90
6	1,3,5-Trinitrobenzene	1000.000	973.162	2.7	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	1000.000	969.973	3.0	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	1000.000	947.455	5.3	100	0.00	5.15- 5.95
9	Nitrobenzene	1000.000	970.386	3.0	102	0.00	6.36- 7.16
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift			
11	Tetryl	1000.000	985.710	1.4	99	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	1000.000	985.069	1.5	100	0.00	8.43- 9.23
	----------	Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	999.587	0.0	100	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	1000.000	965.513	3.4	99	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	975.778	2.4	100	0.00	9.55-10.35
16	2,4-Dinitrotoluene	1000.000	959.530	4.0	100	0.00	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	939.037	6.1	99	0.00	10.65-11.45
18	o-Nitrotoluene	1000.000	963.877	3.6	101	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	969.196	3.1	101	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	969.146	3.1	100	0.00	14.14-15.14
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1078.686	-7.9	101	0.00	0.86- 1.46
2	HMX	1000.000	936.148	6.4	98	0.00	0.95- 1.55
	----------	Amount	Calc.	%Drift			
3	DNX	1000.000	957.883	4.2	100	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	1000.000	964.723	3.5	100	0.00	1.68- 2.28
5	RDX	1000.000	919.041	8.1	101	0.00	2.10- 2.90

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ECC2066
Lab FileID: PP381224.D

6	1,3,5-Trinitrobenzene	1000.000	974.651	2.5	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	1000.000	964.590	3.5	99	0.00	4.81- 5.61
8	3,5-Dinitroaniline	1000.000	946.307	5.4	100	0.00	5.15- 5.95
9	Nitrobenzene	1000.000	986.708	1.3	102	0.00	6.36- 7.16
10	Nitroglycerin	5000.000	4722.031	5.6	101	0.00	7.65- 8.65
11	Tetryl	1000.000	916.426	8.4	101	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	1000.000	966.213	3.4	101	0.00	8.43- 9.23
13	2-Amino-4,6-Dinitrotol	1000.000	938.317	6.2	100	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	1000.000	928.034	7.2	100	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	929.688	7.0	101	0.00	9.55-10.35
16	2,4-Dinitrotoluene	1000.000	975.514	2.4	101	0.00	10.19-10.99
		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1011.271	-1.1	102	0.00	10.65-11.45
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	977.908	2.2	103	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	990.383	1.0	101	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	994.034	0.6	102	0.00	14.14-15.14
21	PETN	5000.000	4625.754	7.5	100	0.00	15.64-16.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 19 12:18:09 2017

8.6.8

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381253.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0125BPL\PP381253.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381253.D\dad1A.ch
Acq On : 25-Jan-2017, 14:36:36 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1049.417	-4.9	100	0.00	0.88- 1.48
2	HMX	1000.000	992.748	0.7	98	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	996.869	0.3	102	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	979.787	2.0	103	0.00	1.70- 2.30
5	RDX	1000.000	973.924	2.6	103	0.00	2.13- 2.93
6	1,3,5-Trinitrobenzene	1000.000	997.816	0.2	103	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	1002.115	-0.2	103	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	974.632	2.5	103	0.00	5.21- 6.01
9	Nitrobenzene	1000.000	976.108	2.4	102	0.00	6.40- 7.20
10	Nitroglycerin	----------NA----------					
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	991.199	0.9	99	0.02	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	1019.827	-2.0	103	0.01	8.52- 9.32
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	1036.755	-3.7	104	0.02	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	1010.331	-1.0	104	0.02	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	1028.599	-2.9	105	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	1009.957	-1.0	105	0.00	10.28-11.08
17	2,6-Dinitrotoluene	1000.000	1010.780	-1.1	106	0.00	10.75-11.55
18	o-Nitrotoluene	1000.000	973.861	2.6	102	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	975.390	2.5	101	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	971.895	2.8	101	0.00	14.18-15.18
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1061.792	-6.2	99	0.00	0.88- 1.48
2	HMX	1000.000	955.134	4.5	100	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	983.890	1.6	102	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	998.096	0.2	103	0.00	1.70- 2.30
5	RDX	1000.000	953.073	4.7	104	0.00	2.13- 2.93

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381253.D

6		1,3,5-Trinitrobenzene	1000.000	1014.242	-1.4	104	0.00	3.69- 4.49
7		1,3-Dinitrobenzene	1000.000	1007.872	-0.8	104	0.00	4.85- 5.65
8		3,5-Dinitroaniline	1000.000	975.045	2.5	103	0.00	5.21- 6.01
9		Nitrobenzene	1000.000	974.254	2.6	101	0.00	6.40- 7.20
10		Nitroglycerin	5000.000	4890.816	2.2	104	0.03	7.76- 8.76
11		Tetryl	1000.000	925.281	7.5	102	0.02	8.13- 8.93
12		2,4,6-Trinitrotoluene	1000.000	997.482	0.3	104	0.01	8.52- 9.32
13		2-Amino-4,6-Dinitrotol	1000.000	961.954	3.8	103	0.02	8.83- 9.63
14		4-Amino-2,6-Dinitrotol	1000.000	951.989	4.8	103	0.02	9.27-10.07
15	S	3,4-Dinitrotoluene	1000.000	974.411	2.6	106	0.00	9.63-10.43
16		2,4-Dinitrotoluene	1000.000	987.010	1.3	102	0.00	10.28-11.08
			Amount	Calc.	%Drift			
17		2,6-Dinitrotoluene	1000.000	1042.905	-4.3	105	0.01	10.75-11.55
			Amount	Calc.	%Drift			
18		o-Nitrotoluene	1000.000	970.179	3.0	102	0.00	13.19-14.19
19		p-Nitrotoluene	1000.000	1004.975	-0.5	103	0.00	13.59-14.59
20		m-Nitrotoluene	1000.000	1004.489	-0.4	103	0.00	14.18-15.18
21		PETN	5000.000	4717.852	5.6	102	0.03	15.74-16.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 26 13:22:15 2017

8.6.9

8

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381265.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0125BPL\PP381265.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381265.D\dad1A.ch
Acq On : 25-Jan-2017, 19:35:46 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1044.685	-4.5	99	0.00	0.88- 1.48
2	HMX	1000.000	981.807	1.8	97	0.00	0.96- 1.56
	----------	Amount	Calc.	%Drift			
3	DNX	1000.000	984.193	1.6	100	0.00	1.20- 1.80
	----------	Amount	Calc.	%Drift			
4	MNX	1000.000	1045.514	-4.6	110	0.00	1.70- 2.30
5	RDX	1000.000	961.533	3.8	102	0.00	2.13- 2.93
6	1,3,5-Trinitrobenzene	1000.000	991.748	0.8	102	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	998.868	0.1	103	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	970.925	2.9	103	0.01	5.21- 6.01
9	Nitrobenzene	1000.000	984.172	1.6	103	0.00	6.40- 7.20
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift			
11	Tetryl	1000.000	1005.549	-0.6	101	0.03	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	1021.473	-2.1	104	0.01	8.52- 9.32
	----------	Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	1022.135	-2.2	102	0.03	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	992.365	0.8	102	0.02	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	1002.900	-0.3	103	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	985.788	1.4	102	0.00	10.28-11.08
17	2,6-Dinitrotoluene	1000.000	958.742	4.1	101	0.00	10.75-11.55
18	o-Nitrotoluene	1000.000	993.611	0.6	104	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	985.615	1.4	102	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	1024.646	-2.5	106	0.00	14.18-15.18
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1057.577	-5.8	99	0.00	0.88- 1.48
2	HMX	1000.000	950.431	5.0	100	0.00	0.96- 1.56
	----------	Amount	Calc.	%Drift			
3	DNX	1000.000	980.133	2.0	102	0.00	1.20- 1.80
	----------	Amount	Calc.	%Drift			
4	MNX	1000.000	1077.133	-7.7	111	0.00	1.70- 2.30
5	RDX	1000.000	935.101	6.5	102	0.00	2.13- 2.93

Continuing Calibration Summary

Job Number: FA40279
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381265.D

6	1,3,5-Trinitrobenzene	1000.000	1002.806	-0.3	103	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	996.974	0.3	103	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	974.426	2.6	103	0.01	5.21- 6.01
9	Nitrobenzene	1000.000	995.671	0.4	103	0.00	6.40- 7.20
10	Nitroglycerin	5000.000	4831.964	3.4	103	0.03	7.76- 8.76
11	Tetryl	1000.000	924.971	7.5	102	0.03	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	993.416	0.7	103	0.01	8.52- 9.32
13	2-Amino-4,6-Dinitrotol	1000.000	954.056	4.6	102	0.03	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	949.480	5.1	102	0.02	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	973.350	2.7	106	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	981.017	1.9	102	0.00	10.28-11.08

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1020.728	-2.1	103	0.01	10.75-11.55

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	982.957	1.7	103	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	978.896	2.1	100	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	1003.697	-0.4	103	0.00	14.18-15.18
21	PETN	5000.000	4699.749	6.0	101	0.03	15.74-16.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 26 13:37:24 2017

8.6.10

8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381215.D\dad1B.ch Vial: 15
Signal #2 : P:\DATA\0118BPL\PP381215.D\dad1A.ch
Acq On : 18-Jan-2017, 14:23:50 Operator: kismetl
Sample : FA40279-1 Inst : G1315B
Misc : OP63431,GPP2066,1010,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:34 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.93	9.93	1018479	1953335	491.784	504.806
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.36%	100.96%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.27	1.27	2207392	3474178	1339.408m	724.897m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.51	2.51	194531	322623	106.756m	108.083
6)	1,3,5-Trinitrobe	4.04	4.04	691816	1301638	169.866	167.448
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.83	8.83	1198412	1449838	428.654	368.677
13)	2-Amino-4,6-Dini	9.11	9.12	512324	842248	165.781m	165.485
14)	4-Amino-2,6-Dini	9.56	9.56	300860	677840	128.485m	134.105
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

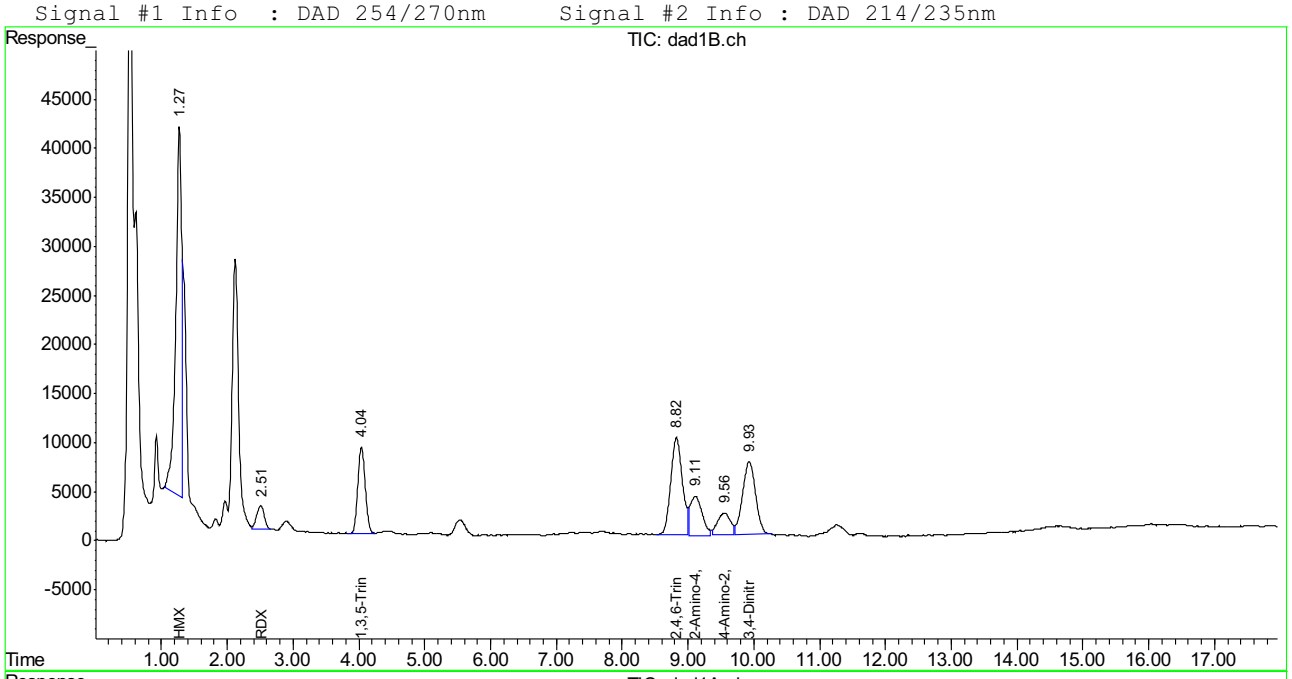
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381215.D 8330-0118BPLUS.M Thu Jan 26 14:33:43 2017 Page 1

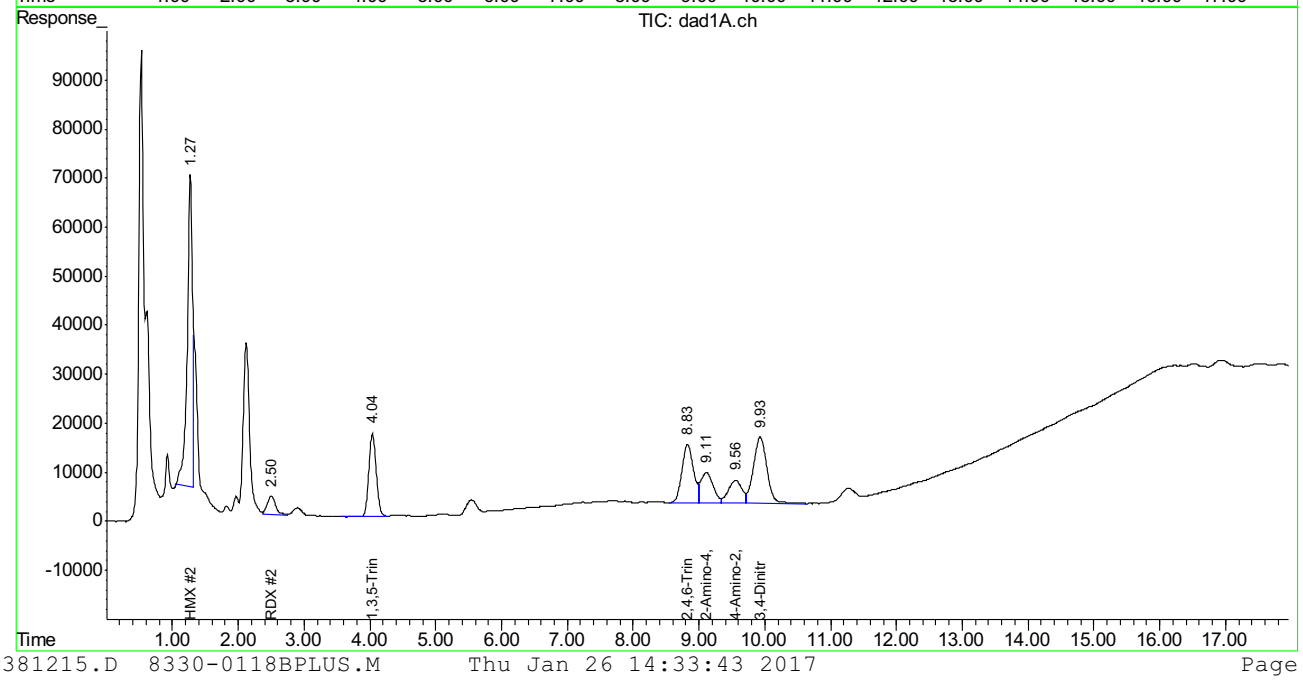
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381215.D\dad1B.ch Vial: 15
Signal #2 : P:\DATA\0118BPL\PP381215.D\dad1A.ch
Acq On : 18-Jan-2017, 14:23:50 Operator: kismetl
Sample : FA40279-1 Inst : G1315B
Misc : OP63431,GPP2066,1010,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 14:15 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA40279-1
Lab FileID: PP381215.D
Injection Time: 01/18/17 14:23

Method: SW846 8330B
Analyst approved: 01/26/17 14:21 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.27	Poor instrument integration
HMX	2691-41-0	2	1.27	Poor instrument integration
RDX	121-82-4	1	2.51	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.11	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.56	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381254.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0125BPL\PP381254.D\dad1A.ch
Acq On : 25-Jan-2017, 15:01:29 Operator: kismetl
Sample : fa40279-1,2 Inst : G1315B
Misc : OP63431,GPP2069,1010,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:24 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.05	10.05	422800	750248	204.153m	193.889m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	40.83%#	38.78%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.28	1.28	214457	573302	130.129	119.621
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	2.54	2.54	67166	98710	36.860m	33.069m
6)	1,3,5-Trinitrobe	4.10	4.10	371468	686943	91.209m	88.371
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	5.62	5.63	84654	146072	18.805m	19.212m
9)	Nitrobenzene	6.77	6.77	164927	253180	54.015m	83.845m#
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.95	8.95	544662	638104	196.148	162.263
13)	2-Amino-4,6-Dini	9.25	9.26	206944	295773	66.964m	58.113
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

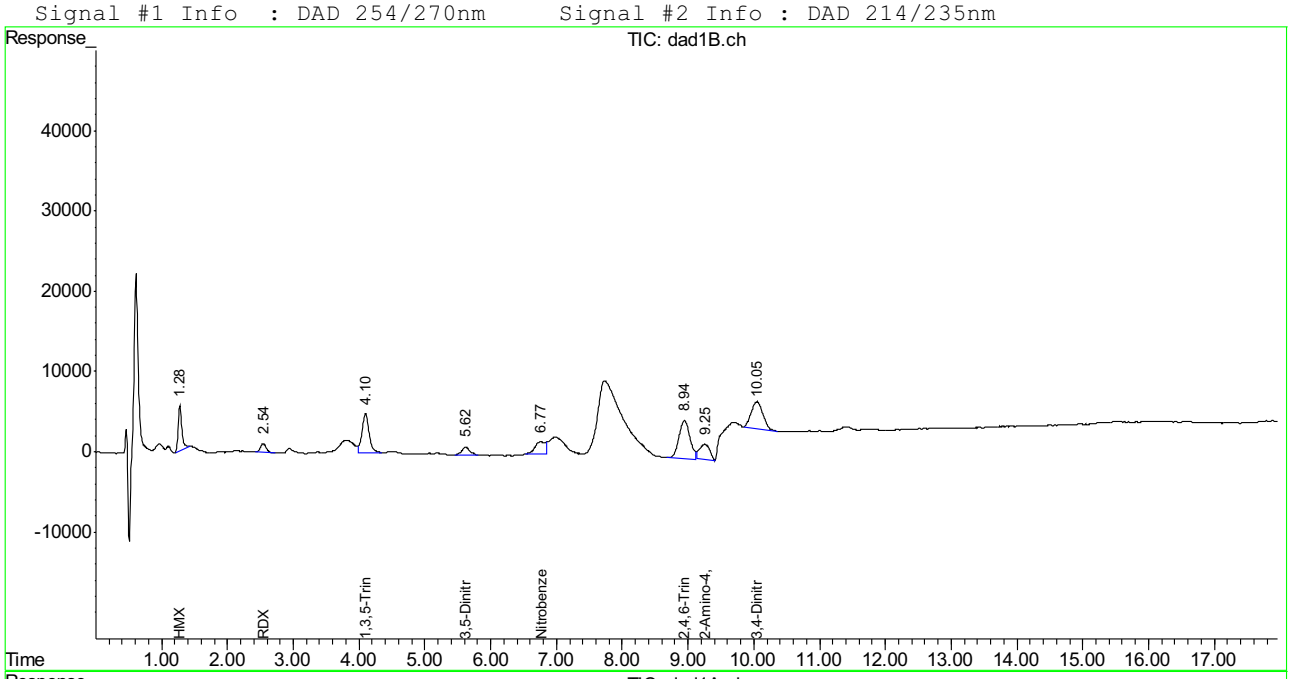
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381254.D 8330-0118BPLUS.M Thu Jan 26 13:26:20 2017 Page 1

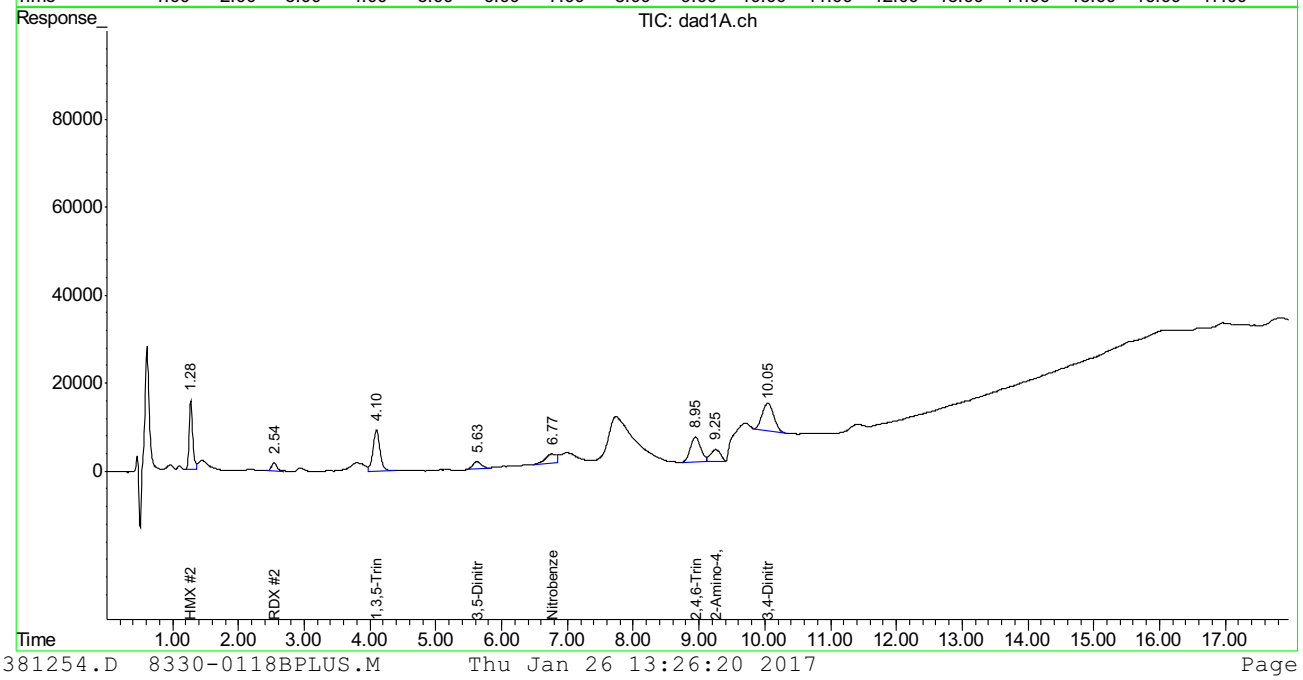
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381254.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0125BPL\PP381254.D\dad1A.ch
Acq On : 25-Jan-2017, 15:01:29 Operator: kismetl
Sample : fa40279-1,2 Inst : G1315B
Misc : OP63431,GPP2069,1010,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 13:18 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA40279-1
Lab FileID: PP381254.D
Injection Time: 01/25/17 15:01
Method: SW846 8330B
Analyst approved: 01/26/17 14:21 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.63	Poor instrument integration
Nitrobenzene	98-95-3	1	6.77	Poor instrument integration
Nitrobenzene	98-95-3	2	6.77	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.25	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	10.05	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	10.05	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060932.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\0119RPB3\GG060932.D\dad1A.ch
Acq On : 19-Jan-2017, 10:41:42 Operator: kismetl
Sample : FA40279-1cf Inst : G1315B
Misc : OP63431,GGG2504,1010,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:28 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.27	15.27	2551963	4741812	566.284	510.330m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		113.26%	102.07%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.04	5.04	1036647	1036170	385.371m	375.071m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.13	7.13	1647869	1647869	177.985	178.228
6)	RDX	7.49	7.49	342288	342288	84.326	84.326
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.88	11.88	2784567	3752746	501.370	483.666m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	22.02	21.99	605250	435744	127.214m	95.598m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	23.99	24.01	1493511	2253754	166.131m	201.399m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

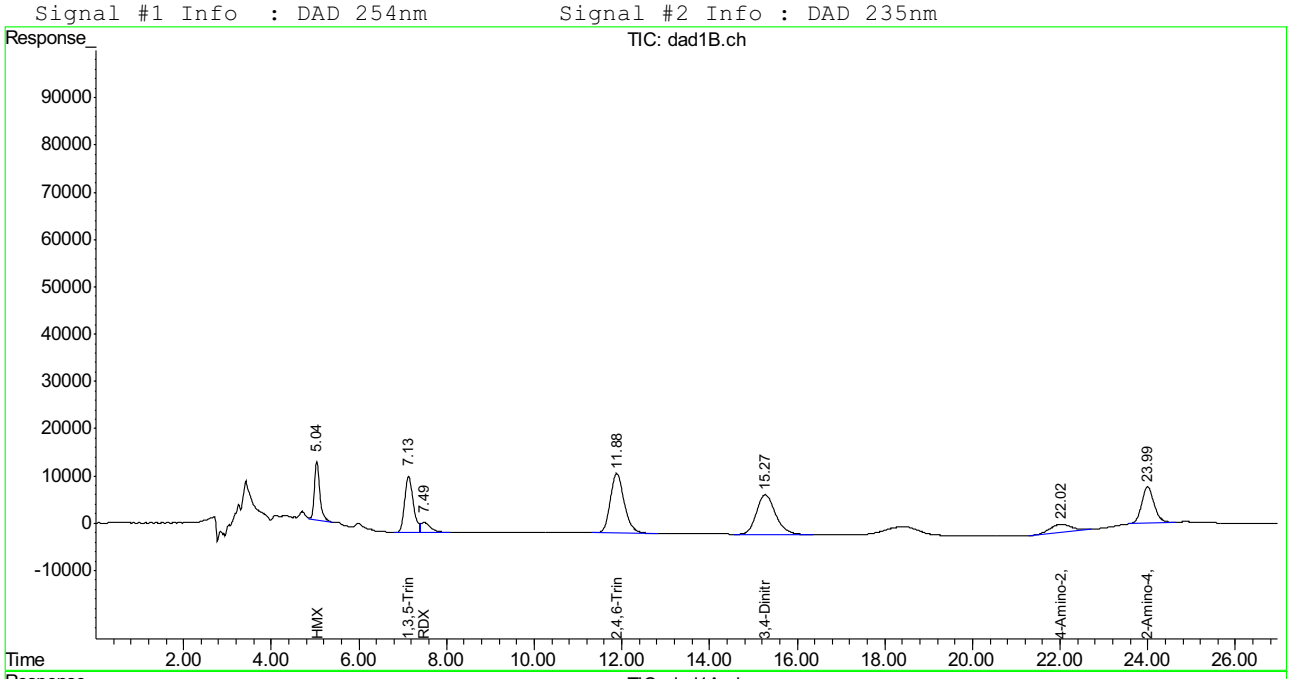
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060932.D 8330RPB.M_1230.M Thu Jan 26 14:34:14 2017 Page 1

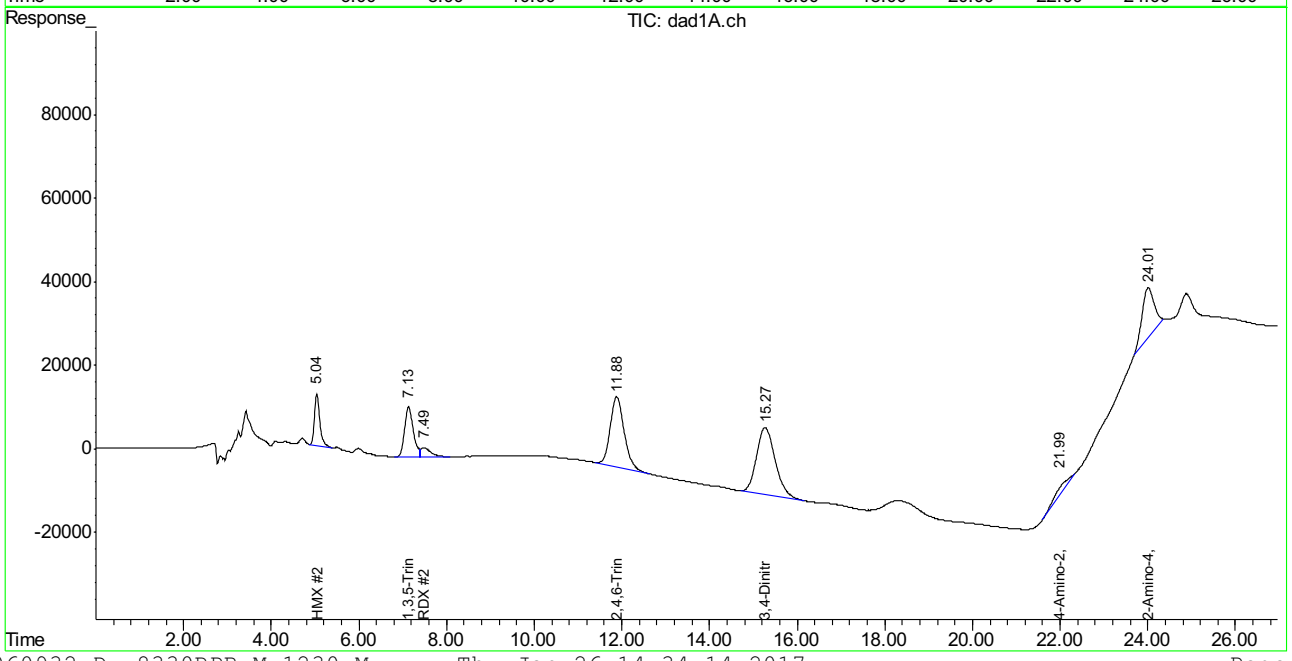
Quantitation Report (QT Reviewed)

```
Signal #1 : G:\DATA\0119RPB3\GG060932.D\dad1B.ch          Vial: 6
Signal #2 : G:\DATA\0119RPB3\GG060932.D\dad1A.ch
Acq On    : 19-Jan-2017, 10:41:42                  Operator: kismetl
Sample    : FA40279-1cf                            Inst    : G1315B
Misc      : OP63431,GGG2504,1010,,,10,,water       Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jan 26 14:14 2017  Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj.     : 100ul
Signal #1 Phase : Bonus RP          Signal #2 Phase: Bonus RP
Signal #1 Info  : DAD 254nm         Signal #2 Info : DAD 235nm
```





Manual Integration Approval Summary

Sample Number: FA40279-1
Lab FileID: GG060932.D
Injection Time: 01/19/17 10:41
Method: SW846 8330B
Analyst approved: 01/26/17 14:21 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.04	Poor instrument integration
HMX	2691-41-0	2	5.04	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.88	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	15.27	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.99	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	22.02	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.99	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.01	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:31

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381213.D\dad1B.ch Vial: 13
Signal #2 : P:\DATA\0118BPL\PP381213.D\dad1A.ch
Acq On : 18-Jan-2017, 13:17:04 Operator: kismetl
Sample : FA40279-2 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:29 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.92	9.93	1052025	1942789	507.982m	502.080
	Spiked Amount 500.000	Range 70 - 136		Recovery =		101.60%	100.42%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	4.04	4.04	3913522	7513312	960.912	966.540
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.82	8.82	1643994	1964594	585.355m	499.574
13)	2-Amino-4,6-Dini	9.10	9.11	450956	704523	145.923m	138.424
14)	4-Amino-2,6-Dini	9.55	9.55	237323	473932	101.351m	93.764
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

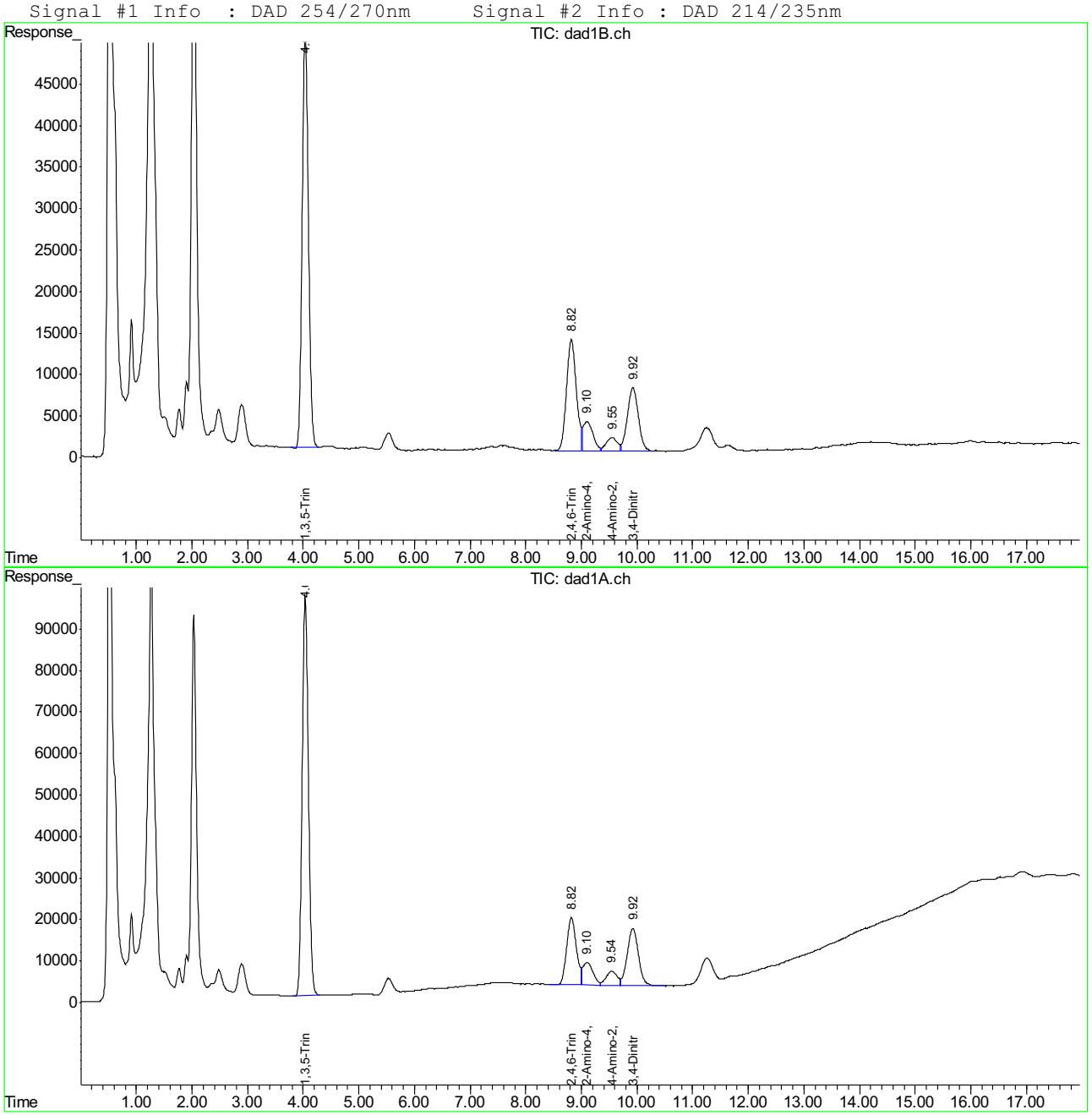
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381213.D 8330-0118BPLUS.M Mon Jan 23 14:19:34 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381213.D\dad1B.ch Vial: 13
Signal #2 : P:\DATA\0118BPL\PP381213.D\dad1A.ch
Acq On : 18-Jan-2017, 13:17:04 Operator: kismetl
Sample : FA40279-2 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 23 14:17 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm



PP381213.D 8330-0118BPLUS.M Mon Jan 23 14:19:34 2017 Page 2

Manual Integration Approval Summary

Sample Number: FA40279-2
Lab FileID: PP381213.D
Injection Time: 01/18/17 13:17

Method: SW846 8330B
Analyst approved: 01/25/17 17:26 Mike Eger
Supervisor approved: 01/25/17 17:31 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	1	8.82	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.10	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.55	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.92	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:31

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381223.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0118BPL\PP381223.D\dad1A.ch
Acq On : 18-Jan-2017, 17:43:17 Operator: kismetl
Sample : FA40279-2,2 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:46 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	502800	896471	242.782m	231.678
	Spiked Amount 500.000	Range 70 - 136		Recovery =		48.56%#	46.34%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.26	1.26	500406	1224782	303.638m	255.554m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	4.05	4.05	1914095	3640094	469.980	468.275
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.83	8.84	763011	903481	274.154m	229.745
13)	2-Amino-4,6-Dini	9.16	9.15	236672	357395	76.584m	70.221
14)	4-Amino-2,6-Dini	9.59	9.59	108825	224507	46.475m	44.417
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

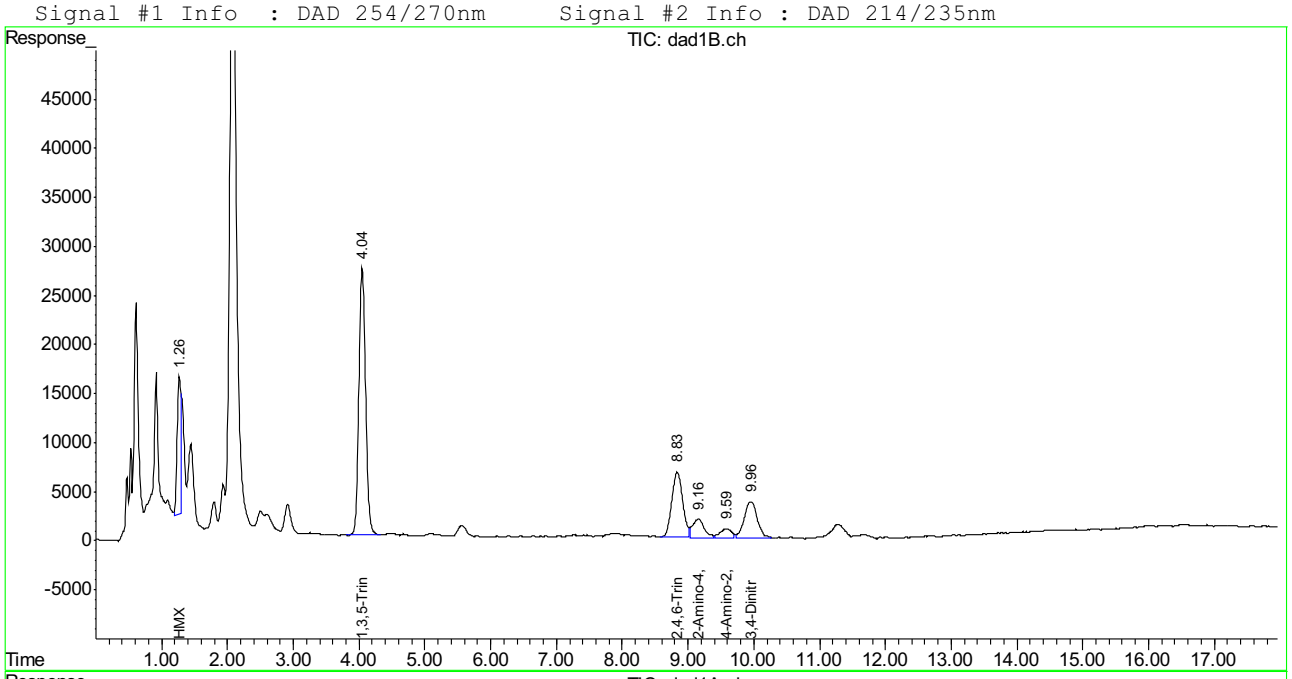
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381223.D 8330-0118BPLUS.M Wed Jan 25 17:00:17 2017 Page 1

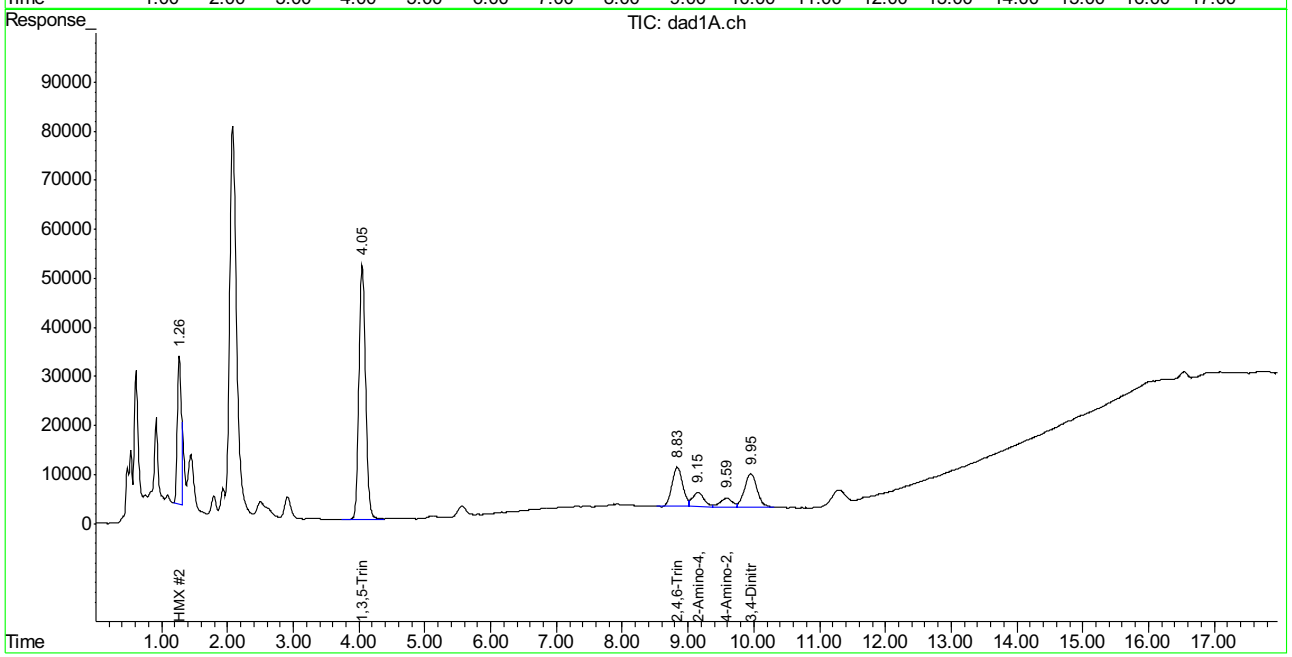
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381223.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0118BPL\PP381223.D\dad1A.ch
Acq On : 18-Jan-2017, 17:43:17 Operator: kismetl
Sample : FA40279-2,2 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 25 17:00 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA40279-2
Lab FileID: PP381223.D
Injection Time: 01/18/17 17:43
Method: SW846 8330B
Analyst approved: 01/25/17 17:26 Mike Eger
Supervisor approved: 01/25/17 17:31 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.26	Poor instrument integration
HMX	2691-41-0	2	1.26	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.83	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.16	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.59	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:31

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060930.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\0119RPB3\GG060930.D\dad1A.ch
Acq On : 19-Jan-2017, 09:34:24 Operator: kismetl
Sample : FA40279-2cf Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:25 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.27	15.27	2609378	4831445	579.025	519.580m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		115.81%	103.92%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.13	7.13	9363262	9363262	1011.318	1012.697
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.88	11.87	3713808	4904637	660.695	627.479m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	22.02	21.96	396893	211643	84.101m	48.054m#
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	23.99	24.00	1298348	1957148	144.422m	175.337m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

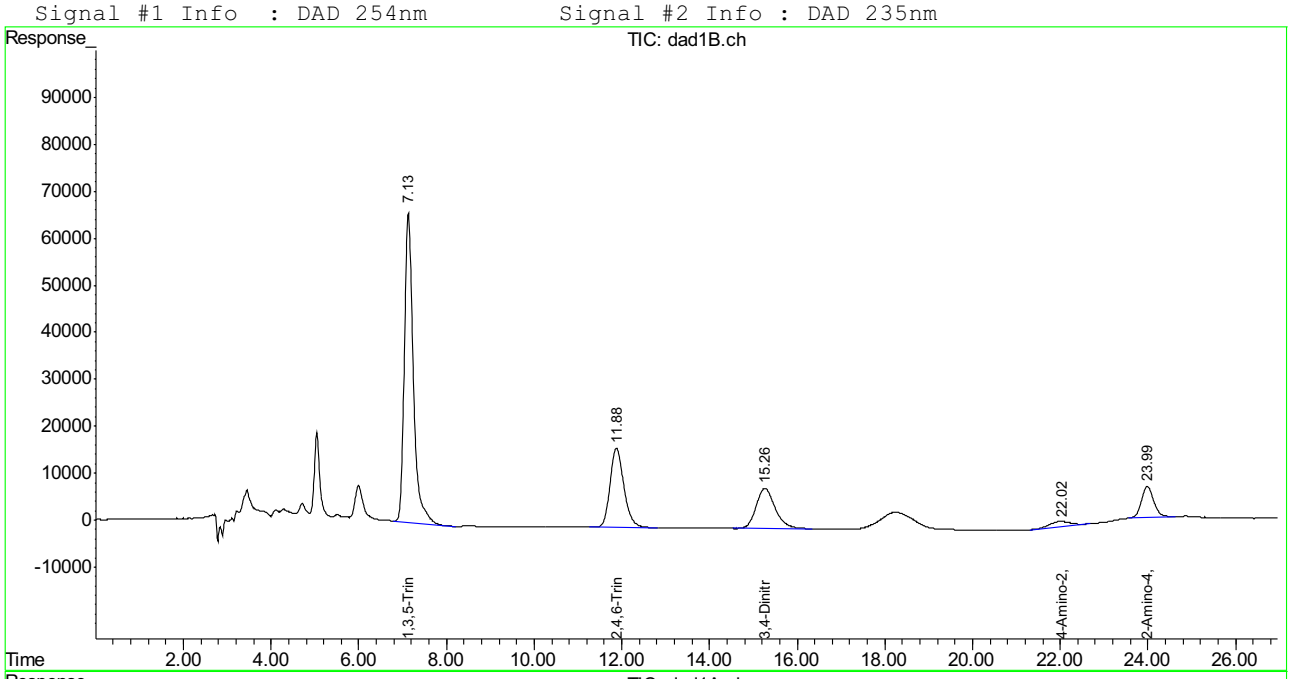
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060930.D 8330RPB.M_1230.M Fri Jan 20 14:25:10 2017 Page 1

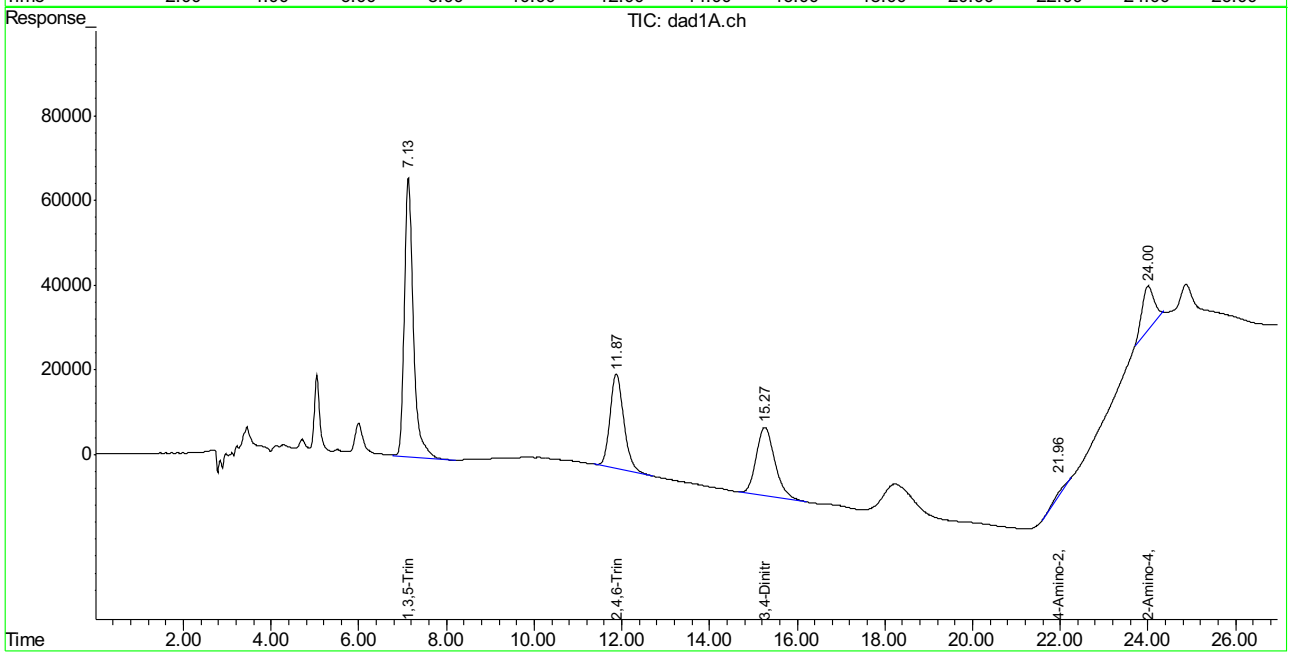
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060930.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\0119RPB3\GG060930.D\dad1A.ch
Acq On : 19-Jan-2017, 09:34:24 Operator: kismetl
Sample : FA40279-2cf Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 14:09 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





GG060930.D 8330RPB.M_1230.M Fri Jan 20 14:25:10 2017 Page 2

Manual Integration Approval Summary

Sample Number: FA40279-2
Lab FileID: GG060930.D
Injection Time: 01/19/17 09:34
Method: SW846 8330B
Analyst approved: 01/25/17 17:26 Mike Eger
Supervisor approved: 01/25/17 17:31 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	11.87	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	15.27	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.96	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	22.02	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.99	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.00	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381214.D\dad1B.ch Vial: 14
Signal #2 : P:\DATA\0118BPL\PP381214.D\dad1A.ch
Acq On : 18-Jan-2017, 13:58:53 Operator: kismetl
Sample : FA40279-3 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:31 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.94	9.95	932769	1756916	450.398	454.045
	Spiked Amount 500.000	Range 70 - 136		Recovery =		90.08%	90.81%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

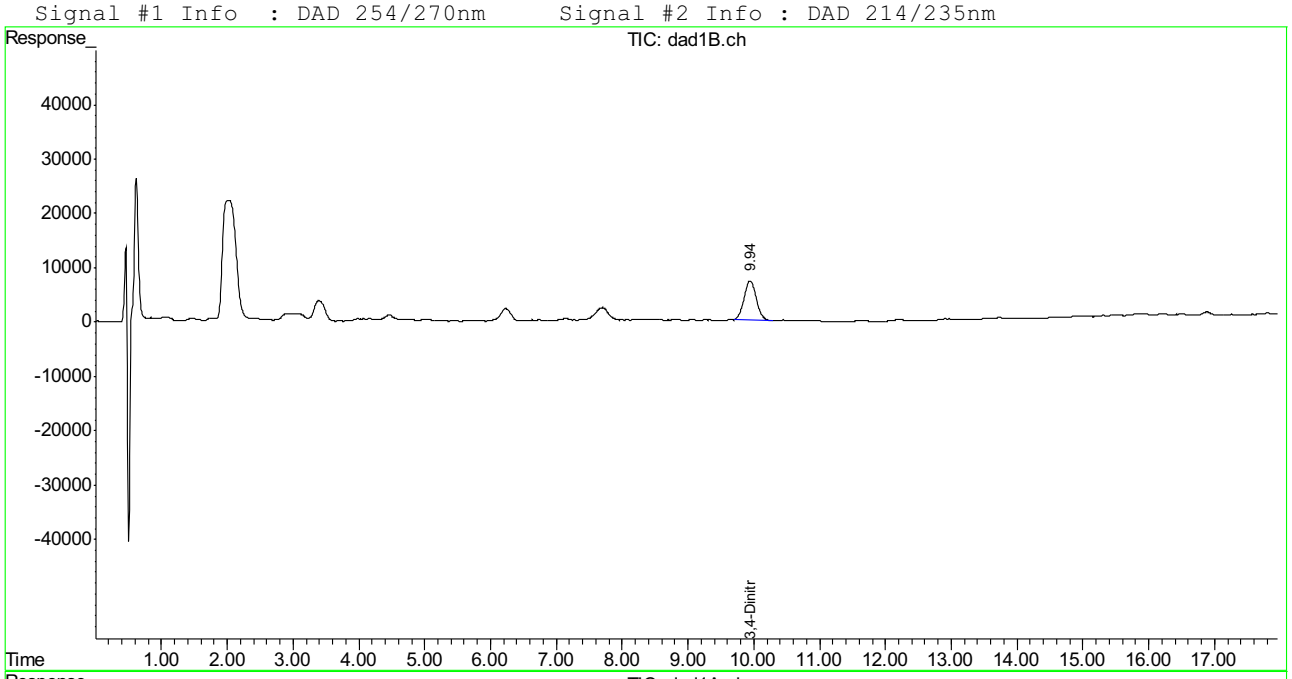
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381214.D 8330-0118BPLUS.M Mon Jan 23 14:19:35 2017 Page 1

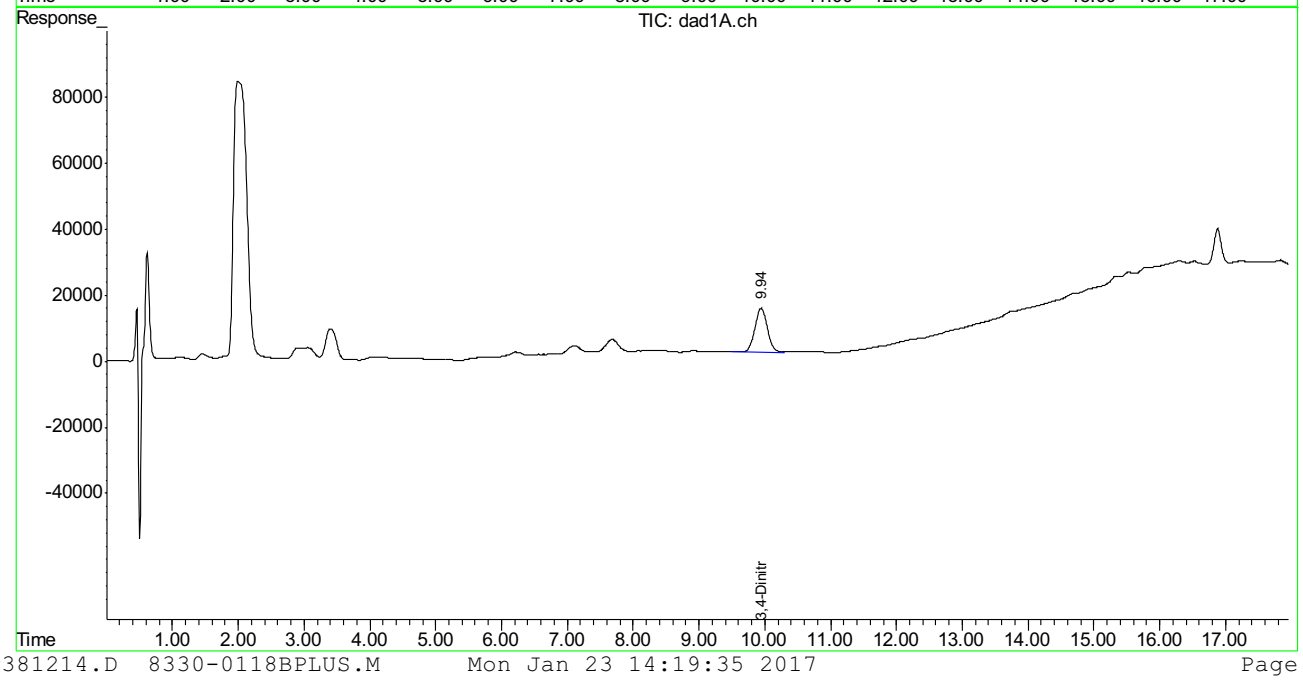
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381214.D\dad1B.ch Vial: 14
Signal #2 : P:\DATA\0118BPL\PP381214.D\dad1A.ch
Acq On : 18-Jan-2017, 13:58:53 Operator: kismetl
Sample : FA40279-3 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 23 14:15 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381212.D\dad1B.ch Vial: 12
Signal #2 : P:\DATA\0118BPL\PP381212.D\dad1A.ch
Acq On : 18-Jan-2017, 12:52:08 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:28 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.92	9.92	1021231	1837790	493.113	474.946
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.62%	94.99%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

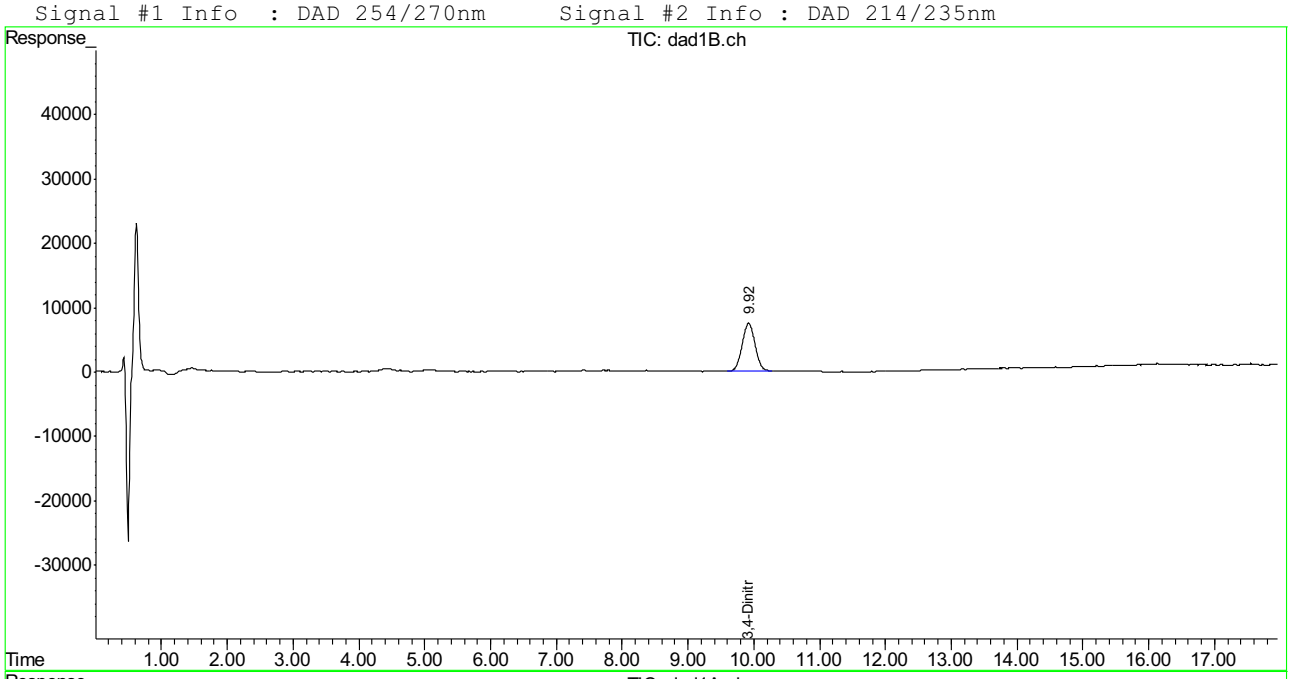
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381212.D 8330-0118BPLUS.M Thu Jan 19 12:21:19 2017 Page 1

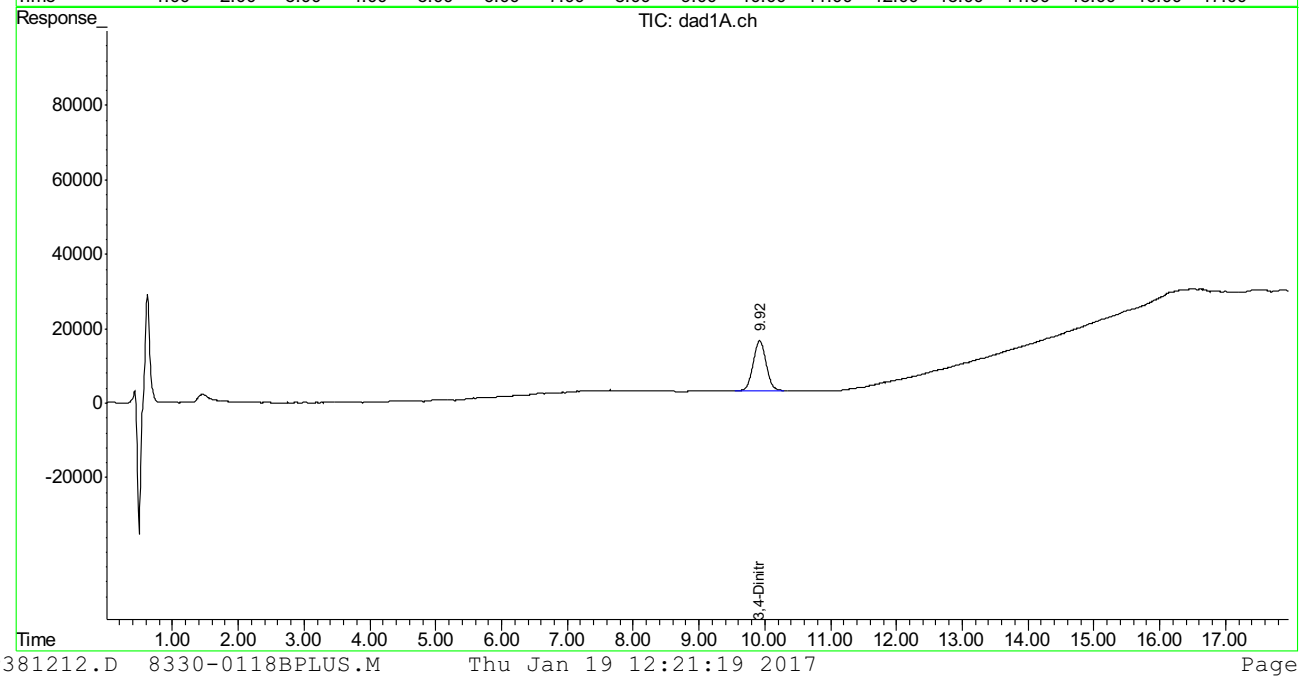
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381212.D\dad1B.ch Vial: 12
Signal #2 : P:\DATA\0118BPL\PP381212.D\dad1A.ch
Acq On : 18-Jan-2017, 12:52:08 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 9:04 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060929.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0119RPB3\GG060929.D\dad1A.ch
Acq On : 19-Jan-2017, 09:04:50 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:24 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.28	15.27	2535068	4828940	562.535	519.322m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		112.51%	103.86%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

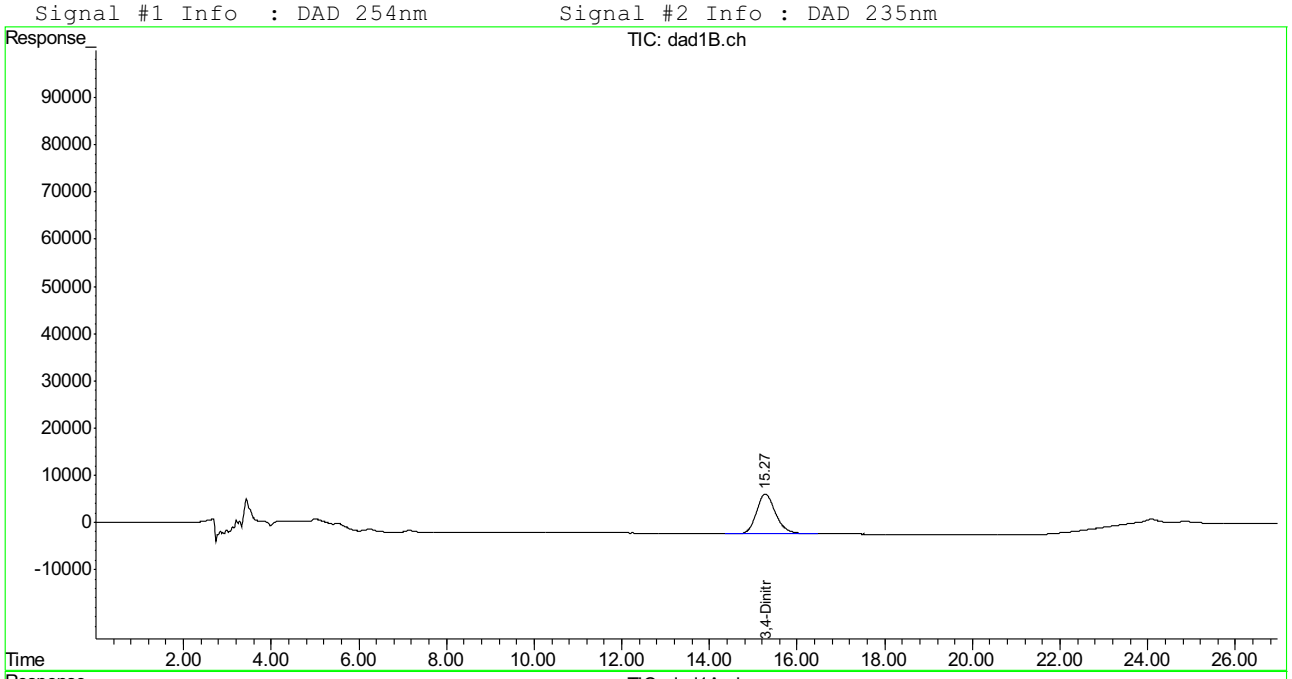
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060929.D 8330RPB.M_1230.M Fri Jan 20 14:25:09 2017 Page 1

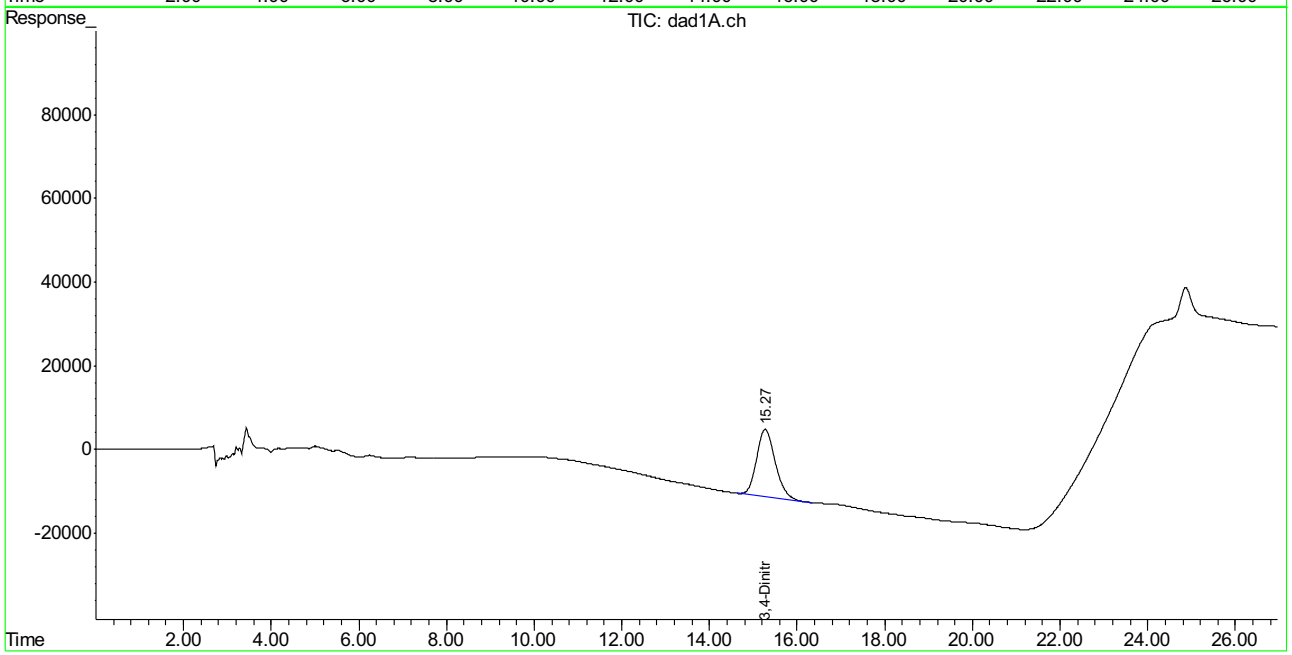
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060929.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0119RPB3\GG060929.D\dad1A.ch
Acq On : 19-Jan-2017, 09:04:50 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 14:02 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: OP63431-MB
Lab FileID: GG060929.D
Injection Time: 01/19/17 09:04

Method: SW846 8330B
Analyst approved: 01/23/17 14:11 Kismet Lugo
Supervisor approved: 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	15.27	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381211.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0118BPL\PP381211.D\dad1A.ch
Acq On : 18-Jan-2017, 12:27:09 Operator: kismetl
Sample : op63431-bs Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:26 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.92	9.92	1052401	1854665	508.163	479.306
	Spiked Amount 500.000	Range 70 - 136		Recovery =		101.63%	95.86%
	Target Compounds						
1)	TNX	1.17	1.17	1305914	1972487	443.266m	461.573
2)	HMX	1.27	1.27	864209	2415532	524.387	504.007
3)	DNX	1.49	1.49	1301381	2240614	480.470	495.573
4)	MNX	1.98	1.98	1111010	1716688	475.207	487.163
5)	RDX	2.50	2.50	878365	1415033	482.036	474.054
6)	1,3,5-Trinitrobe	4.04	4.04	1899674	3645630	466.439	468.988
7)	1,3-Dinitrobenze	5.19	5.19	2429536	1656811	480.009	488.491
8)	3,5-Dinitroanili	5.53	5.53	1952469	3318484	433.718	436.472
9)	Nitrobenzene	6.74	6.74	1437644	1425237	470.841	471.992
10)	Nitroglycerin	0.00	8.14	0	3726725	N.D.	2773.600 #
11)	Tetryl	8.40	8.40	1224259	1808650	627.871	572.042
12)	2,4,6-Trinitroto	8.82	8.82	1510871	1847473	538.686	469.791
13)	2-Amino-4,6-Dini	9.11	9.11	1589642	2522652	514.387	495.650
14)	4-Amino-2,6-Dini	9.54	9.54	1158385	2406281	494.700	476.064
16)	2,4-Dinitrotolue	10.56	10.56	2288141	1447701	495.161	485.663
17)	2,6-Dinitrotolue	11.01	11.02	1344051	1590893	507.593	532.401
18)	o-Nitrotoluene	13.63	13.63	1023076	1462586	461.568	474.143m
19)	p-Nitrotoluene	14.02	14.02	1626529	1395390	474.622	488.302m
20)	m-Nitrotoluene	14.62	14.62	1535270	1771874	463.140	455.800m
21)	PETN	0.00	16.13	0	3977095	N.D. d	2680.437m

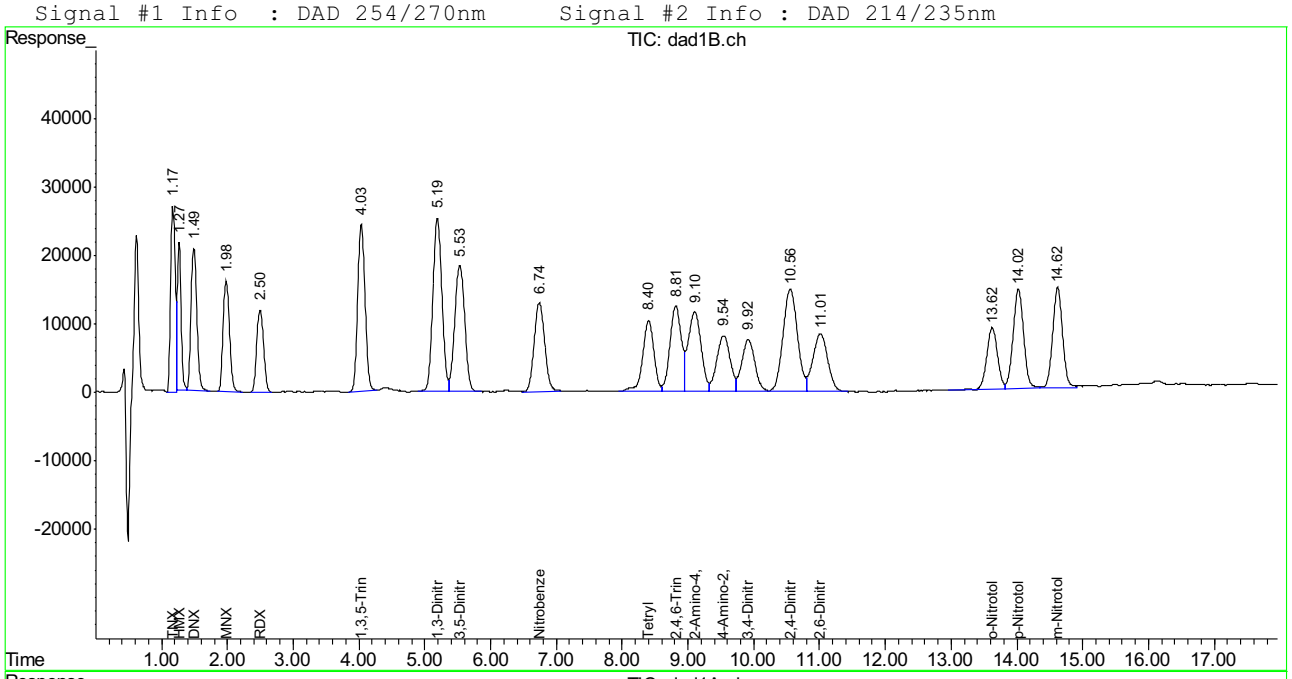
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381211.D 8330-0118BPLUS.M Thu Jan 19 12:21:18 2017 Page 1

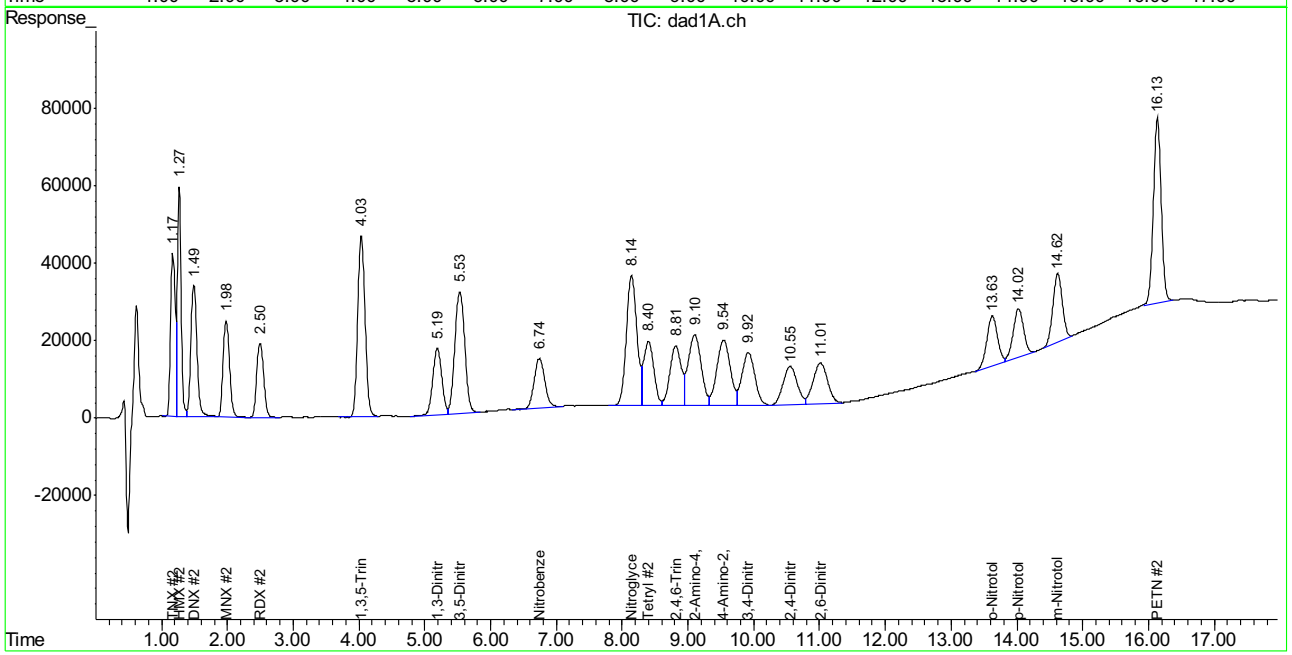
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381211.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0118BPL\PP381211.D\dad1A.ch
Acq On : 18-Jan-2017, 12:27:09 Operator: kismetl
Sample : op63431-bs Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 9:03 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: OP63431-BS
Lab FileID: PP381211.D
Injection Time: 01/18/17 12:27

Method: SW846 8330B
Analyst approved: 01/19/17 13:26 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.17	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.63	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.02	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.62	Poor instrument integration
PETN	78-11-5	2	16.13	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381255.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0125BPL\PP381255.D\dad1A.ch
Acq On : 25-Jan-2017, 15:26:23 Operator: kismetl
Sample : op63431-ms,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:25 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.05	10.05	512287	955722	247.363m	246.990
	Spiked Amount 500.000	Range 70 - 136		Recovery =		49.47%#	49.40%#
	Target Compounds						
1)	TNX	1.19	1.19	655356	1012312	222.447	236.887
2)	HMX	1.28	1.28	484601	1408016	294.048	293.786
3)	DNX	1.51	1.51	624563	1167841	231.458	257.007
4)	MNX	2.02	2.02	543368	837063	232.412	237.542
5)	RDX	2.54	2.54	463446	725003	254.334	242.885
6)	1,3,5-Trinitrobe	4.10	4.10	1074400	2080247	263.804m	267.611
7)	1,3-Dinitrobenze	5.26	5.26	1160278	777176	229.239	229.141
8)	3,5-Dinitroanili	5.62	5.62	969311	1626722	215.321	213.959
9)	Nitrobenzene	6.80	6.79	836527	766917	273.970	253.978m
10)	Nitroglycerin	0.00	8.30	0	1950931	N.D.	1451.972 #
11)	Tetryl	8.56	8.56	474607	955377	246.609	302.168
12)	2,4,6-Trinitroto	8.95	8.95	872001	1197710	312.958	304.564
13)	2-Amino-4,6-Dini	9.26	9.26	812307	1408535	262.852	276.748
14)	4-Amino-2,6-Dini	9.70	9.70	587983	1319933	251.104	261.138
16)	2,4-Dinitrotolue	10.70	10.70	1098867	627387	237.798	210.471
17)	2,6-Dinitrotolue	11.16	11.16	664963	696898	251.129	238.540
18)	o-Nitrotoluene	13.69	13.69	533148	717978	240.533	232.755m
19)	p-Nitrotoluene	14.09	14.09	813537	642801	237.390	224.942m
20)	m-Nitrotoluene	14.68	14.67	780401	890474	235.421	229.067m
21)	PETN	0.00	16.28	0	1859135	N.D. d	1252.998m

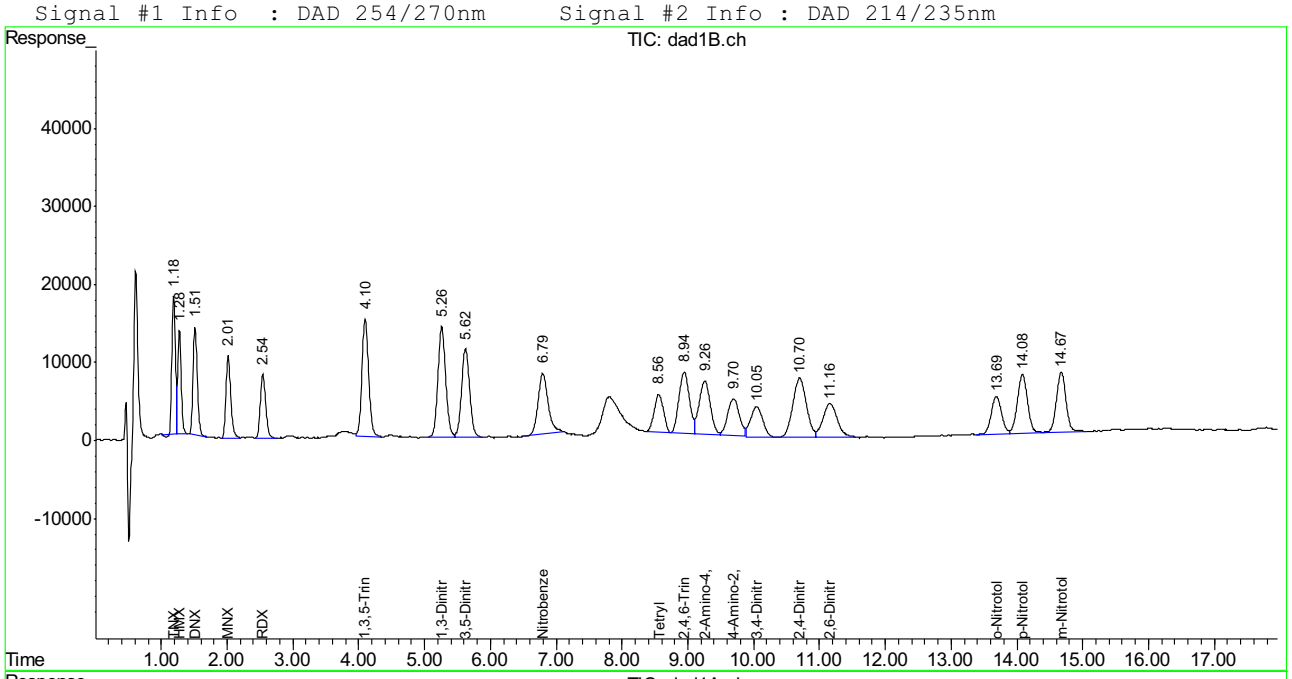
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381255.D 8330-0118BPLUS.M Thu Jan 26 13:31:30 2017 Page 1

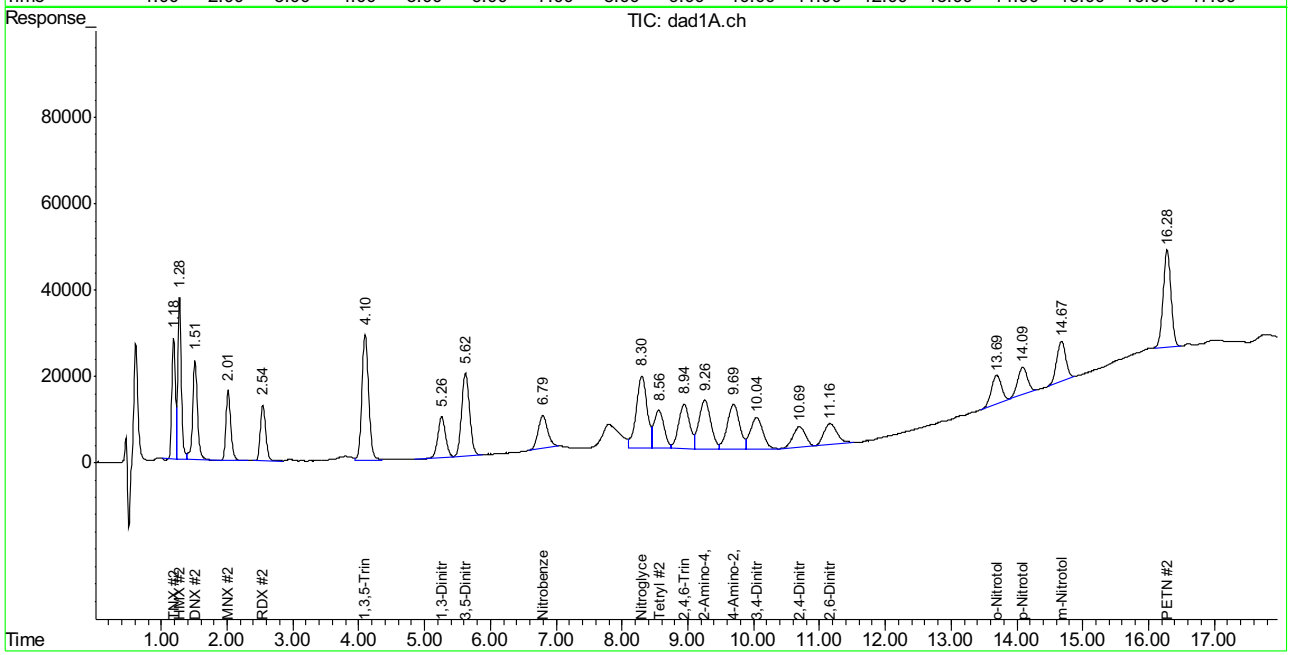
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381255.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0125BPL\PP381255.D\dad1A.ch
Acq On : 25-Jan-2017, 15:26:23 Operator: kismetl
Sample : op63431-ms,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 13:20 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: OP63431-MS
Lab FileID: PP381255.D
Injection Time: 01/25/17 15:26
Method: SW846 8330B
Analyst approved: 01/26/17 14:32 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	1	4.10	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	10.05	Missed peak
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.09	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381256.D\dad1B.ch Vial: 23
Signal #2 : P:\DATA\0125BPL\PP381256.D\dad1A.ch
Acq On : 25-Jan-2017, 15:51:19 Operator: kismetl
Sample : op63431-msd,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:26 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.03	10.03	525805	1001205	253.891	258.744
	Spiked Amount 500.000	Range 70 - 136		Recovery =		50.78%#	51.75%#
	Target Compounds						
1)	TNX	1.19	1.19	903548	1381683	306.691	323.322
2)	HMX	1.28	1.28	541868	1554064	328.797	324.260
3)	DNX	1.51	1.51	872002	1548629	322.711	341.411
4)	MNX	2.02	2.02	759061	1189342	324.670	337.512
5)	RDX	2.54	2.54	508781	810235	279.213	271.439
6)	1,3,5-Trinitrobe	4.09	4.09	1143597	2229680	280.794	286.834
7)	1,3-Dinitrobenze	5.26	5.26	1321061	852353	261.005	251.306
8)	3,5-Dinitroanili	5.62	5.62	1082371	1805119	240.436	237.423
9)	Nitrobenzene	6.79	6.79	1012580	961850	331.629	318.533m
10)	Nitroglycerin	0.00	8.29	0	2119274	N.D.	1577.261 #
11)	Tetryl	8.55	8.55	555282	1009277	288.115	319.215
12)	2,4,6-Trinitroto	8.93	8.93	980564	1299408	351.524	330.425
13)	2-Amino-4,6-Dini	9.25	9.25	916905	1521146	296.698	298.874
14)	4-Amino-2,6-Dini	9.69	9.68	661145	1440767	282.349	285.044
16)	2,4-Dinitrotolue	10.69	10.69	1211838	701182	262.245	235.227
17)	2,6-Dinitrotolue	11.15	11.15	734496	801040	277.389	273.446
18)	o-Nitrotoluene	13.69	13.68	593705	778455	267.854	252.360m
19)	p-Nitrotoluene	14.08	14.08	906728	709790	264.584	248.384m
20)	m-Nitrotoluene	14.67	14.67	925304	1029492	279.133	264.828m
21)	PETN	0.00	16.28	0	2004209	N.D. d	1350.774m

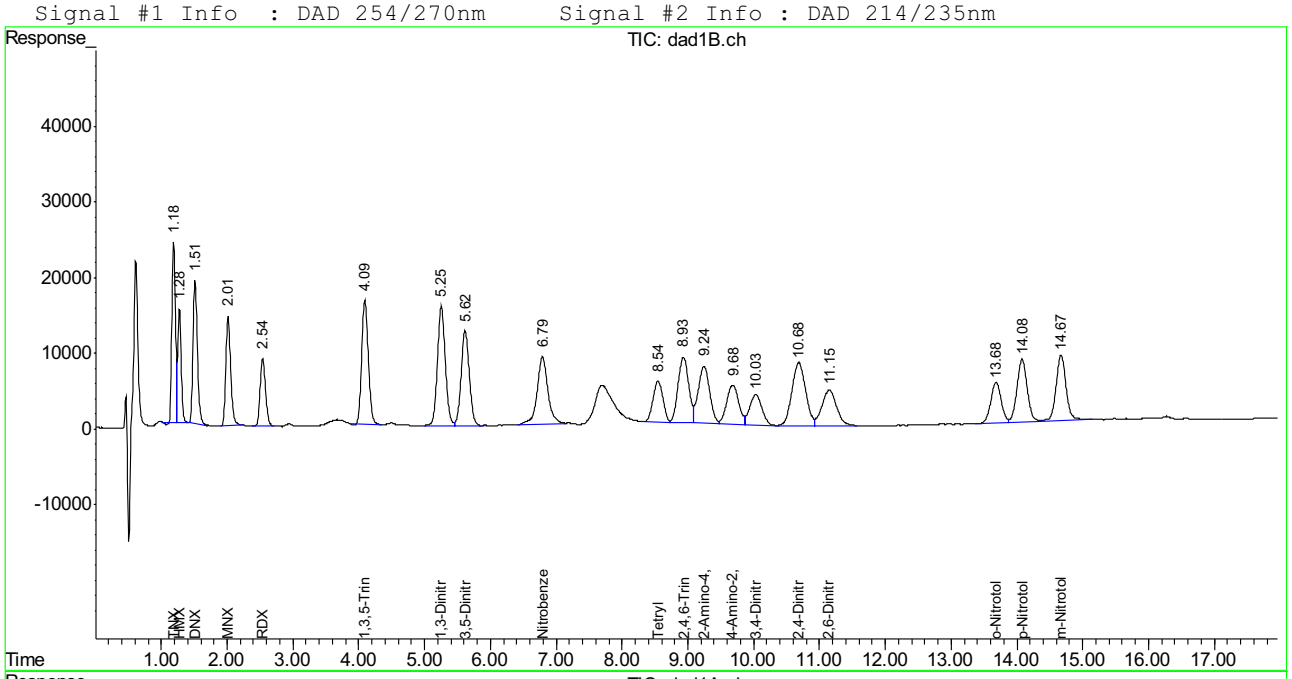
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381256.D 8330-0118BPLUS.M Thu Jan 26 14:31:59 2017 Page 1

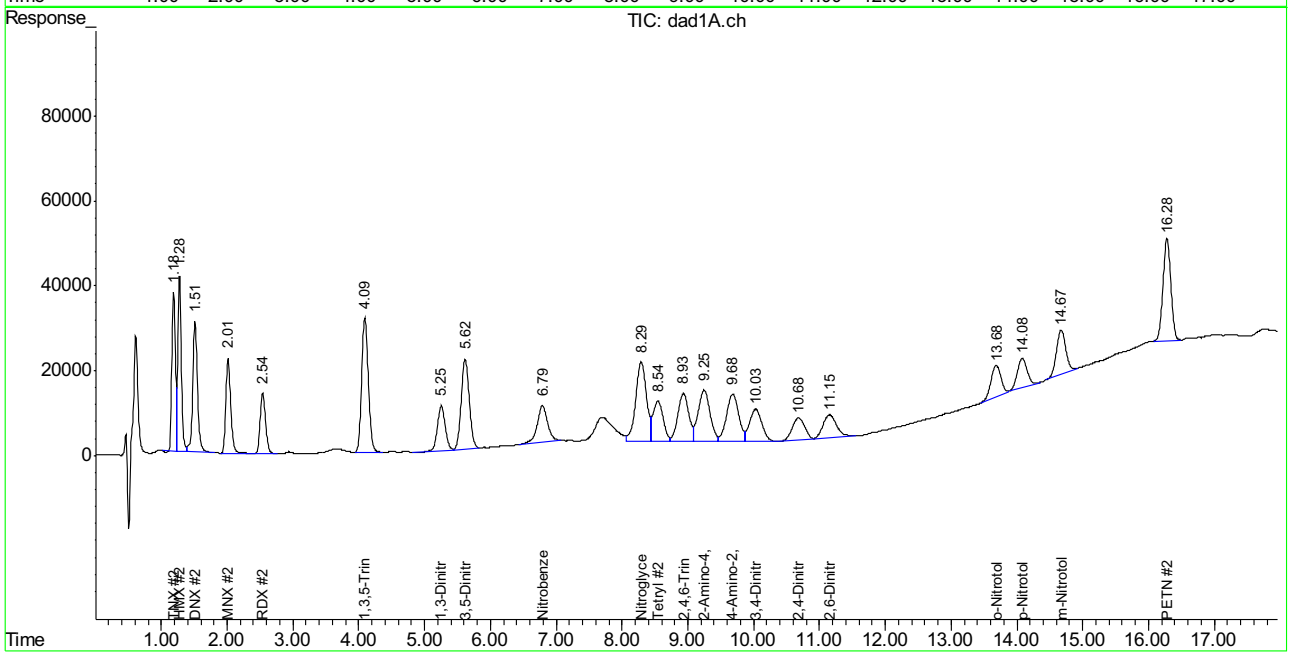
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381256.D\dad1B.ch Vial: 23
Signal #2 : P:\DATA\0125BPL\PP381256.D\dad1A.ch
Acq On : 25-Jan-2017, 15:51:19 Operator: kismetl
Sample : op63431-msd,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 13:21 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: OP63431-MSD
Lab FileID: PP381256.D
Injection Time: 01/25/17 15:51
Method: SW846 8330B
Analyst approved: 01/26/17 14:32 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.68	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060857.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\1230RPB3\GG060857.D\dad1A.ch
Acq On : 30-Dec-2016, 14:43:19 Operator: kismetl
Sample : ic2500-20 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:01 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.83	14.80	79217	123536	17.130m	13.041m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.43%#	2.61%#
	Target Compounds						
1)	TNX	4.62	4.62	151268	154713	18.140m	19.254m
2)	HMX	4.99	4.99	57657	61672	20.449m	22.206m
3)	DNX	5.15	5.15	137853	124825	18.205m	16.558m
4)	MNX	6.04	6.04	86237	84161	16.903m	16.544m
5)	1,3,5-Trinitrobe	7.03	7.03	151218	149453	16.646m	16.460m
6)	RDX	7.39	7.39	49489	49489	11.701	11.891
7)	1,3-Dinitrobenze	9.50	9.50	336847	299632	27.415	32.777m
8)	Nitrobenzene	10.57	10.55	136668	66488	17.362	8.001m#
9)	2,4,6-Trinitroto	11.64	11.69	110781	153329	17.956	18.129m
10)	Nitroglycerin	0.00	12.49	0	375020	N.D.	109.431m#
11)	Tetryl	13.44	13.34	76049	175891	16.800m	20.936m
13)	2,6-Dinitrotolue	15.30	15.33	133344	77917	18.388m	7.794m#
14)	2,4-Dinitrotolue	16.28	16.30	216518	247871	19.071	33.396m#
15)	o-Nitrotoluene	18.74	18.63	73961	54535	13.514m	7.205m#
16)	3,5-Dinitroanili	18.06	18.04	182031	435053	19.478m	28.606m#
17)	p-Nitrotoluene	20.57	20.57	40910	30751	11.295m	5.950m#
18)	4-Amino-2,6-Dini	21.34	21.43	8220	2745	1.357m	0.254m#
19)	m-Nitrotoluene	22.78	22.78	64389	40443	12.867m	6.248m#
20)	2-Amino-4,6-Dini	23.68	23.68	163973	2298	20.405m	0.211m#
21)	PETN	0.00	24.83	0	311263	N.D. d	100.166m

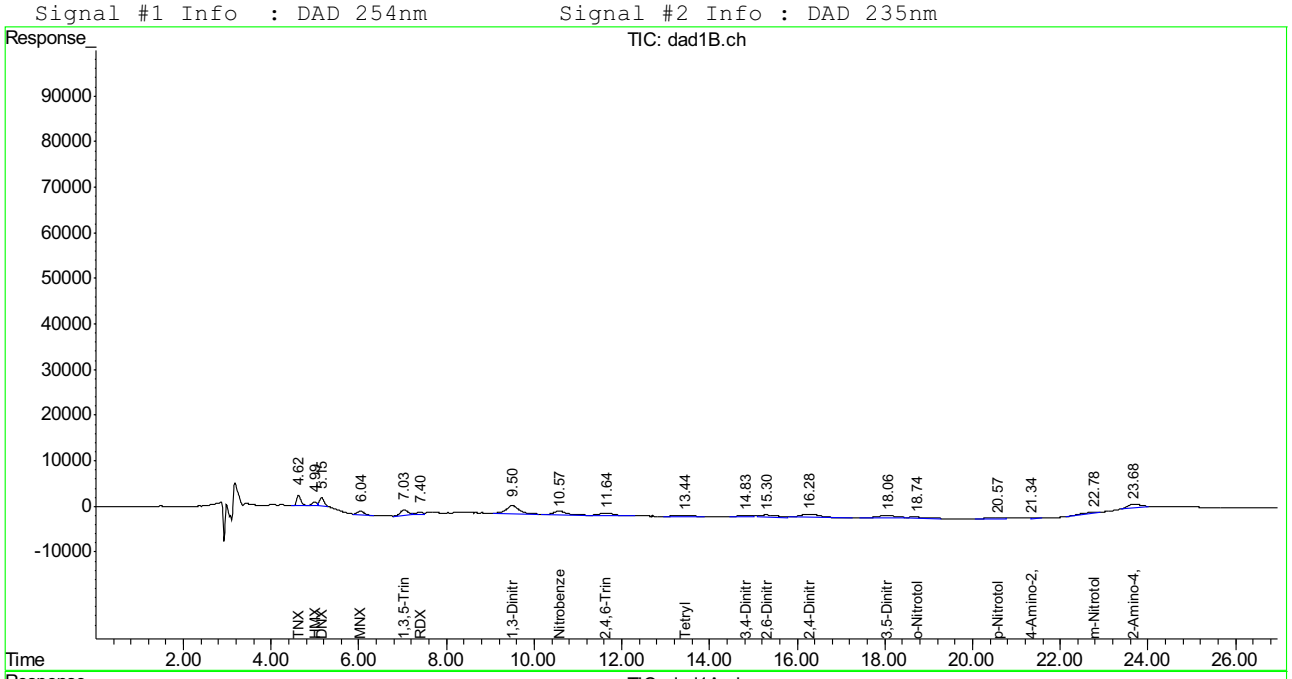
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060857.D 8330RPB.M_1230.M Tue Jan 03 11:14:16 2017 Page 1

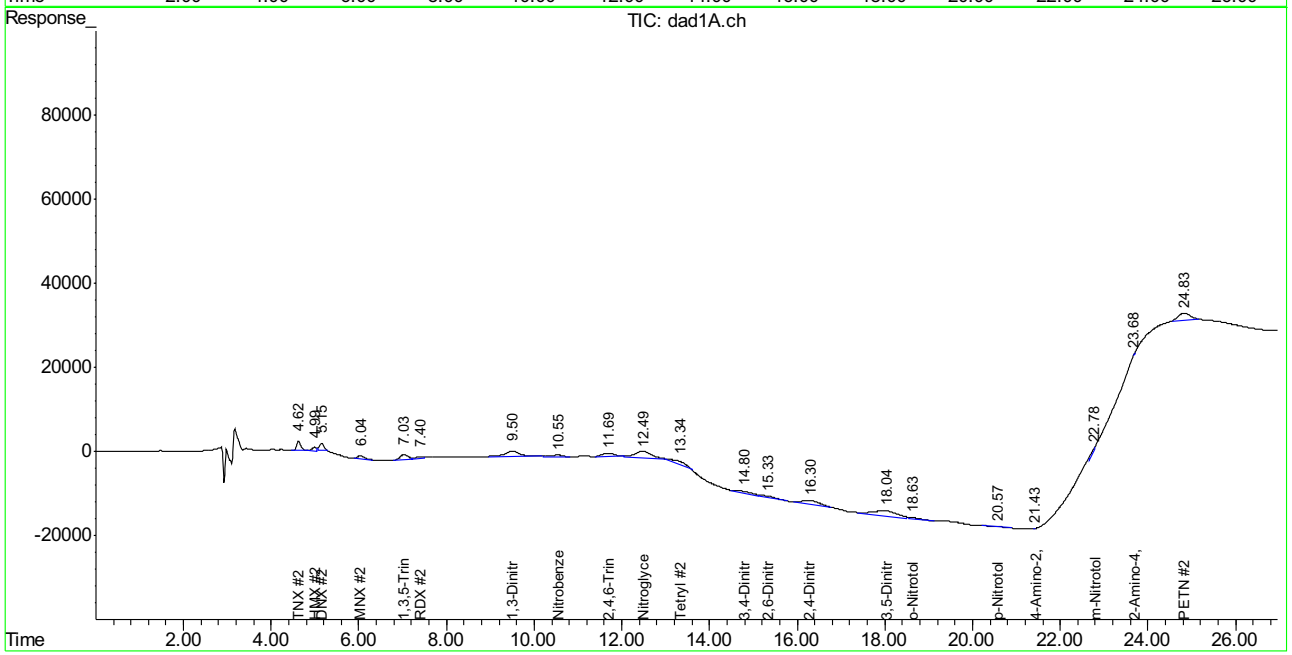
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060857.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\1230RPB3\GG060857.D\dad1A.ch
Acq On : 30-Dec-2016, 14:43:19 Operator: kismetl
Sample : ic2500-20 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 9:52 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500 **Method:** SW846 8330A
Lab FileID: GG060857.D **Analyst approved:** 01/03/17 14:10 Kismet Lugo
Injection Time: 12/30/16 14:43 **Supervisor approved:** 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.62	Poor instrument integration
TNX		2	4.62	Poor instrument integration
HMX	2691-41-0	1	4.99	Poor instrument integration
HMX	2691-41-0	2	4.99	Poor instrument integration
DNX		1	5.15	Poor instrument integration
DNX		2	5.15	Poor instrument integration
MNX		1	6.04	Poor instrument integration
MNX		2	6.04	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	7.03	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	7.03	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.50	Poor instrument integration
Nitrobenzene	98-95-3	2	10.55	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.69	Poor instrument integration
Nitroglycerine	55-63-0	2	12.49	Poor instrument integration
Tetryl	479-45-8	2	13.34	Poor instrument integration
Tetryl	479-45-8	1	13.44	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	14.80	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.83	Missed peak
2,6-Dinitrotoluene	606-20-2	1	15.30	Missed peak
2,6-Dinitrotoluene	606-20-2	2	15.33	Missed peak
2,4-Dinitrotoluene	121-14-2	2	16.30	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	18.04	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	18.06	Poor instrument integration
o-Nitrotoluene	88-72-2	2	18.63	Missed peak
o-Nitrotoluene	88-72-2	1	18.74	Missed peak
p-Nitrotoluene	99-99-0	1	20.57	Missed peak
p-Nitrotoluene	99-99-0	2	20.57	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.34	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.43	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.78	Missed peak
m-Nitrotoluene	99-08-1	2	22.78	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.68	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.68	Poor instrument integration
PETN	78-11-5	2	24.83	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060858.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\1230RPB3\GG060858.D\dad1A.ch
Acq On : 30-Dec-2016, 15:16:18 Operator: kismetl
Sample : ic2500-50 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:02 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.91	14.91	265217	544015	57.351	57.420m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		11.47%#	11.48%#
	Target Compounds						
1)	TNX	4.63	4.63	468979	470721	56.239m	58.570m
2)	HMX	5.00	5.00	140808	146956	50.068m	53.060m
3)	DNX	5.16	5.16	457534	474286	60.410m	62.895m
4)	MNX	6.06	6.06	278396	279562	54.567m	54.955m
5)	1,3,5-Trinitrobe	7.05	7.05	543807	543807	59.863	59.892
6)	RDX	7.40	7.40	272002	272002	64.310	65.260
7)	1,3-Dinitrobenze	9.54	9.54	741431	599091	60.344	65.537m
8)	Nitrobenzene	10.61	10.61	453494	435773	57.610	52.440m
9)	2,4,6-Trinitroto	11.68	11.67	341431	411749	55.340	48.709m
10)	Nitroglycerin	0.00	12.51	0	862666	N.D.	251.725m#
11)	Tetryl	13.47	13.46	231730	364427	51.191	43.389m
13)	2,6-Dinitrotolue	15.36	15.33	433527	569428	59.784	56.795m
14)	2,4-Dinitrotolue	16.31	16.32	682280	549925	60.095	73.953m
15)	o-Nitrotoluene	18.76	18.75	289669	449770	52.929	59.297m
16)	3,5-Dinitroanili	18.10	18.11	584702	959183	62.565	63.013m
17)	p-Nitrotoluene	20.59	20.47	162354	178673	44.826m	34.531
18)	4-Amino-2,6-Dini	21.22	21.21	160469	48485	26.487	4.481m#
19)	m-Nitrotoluene	22.64	22.57	242563	111046	48.393m	17.124m#
20)	2-Amino-4,6-Dini	23.68	23.67	536887	253102	66.809m	23.209m#
21)	PETN	0.00	24.84	0	827473	N.D. d	266.115m

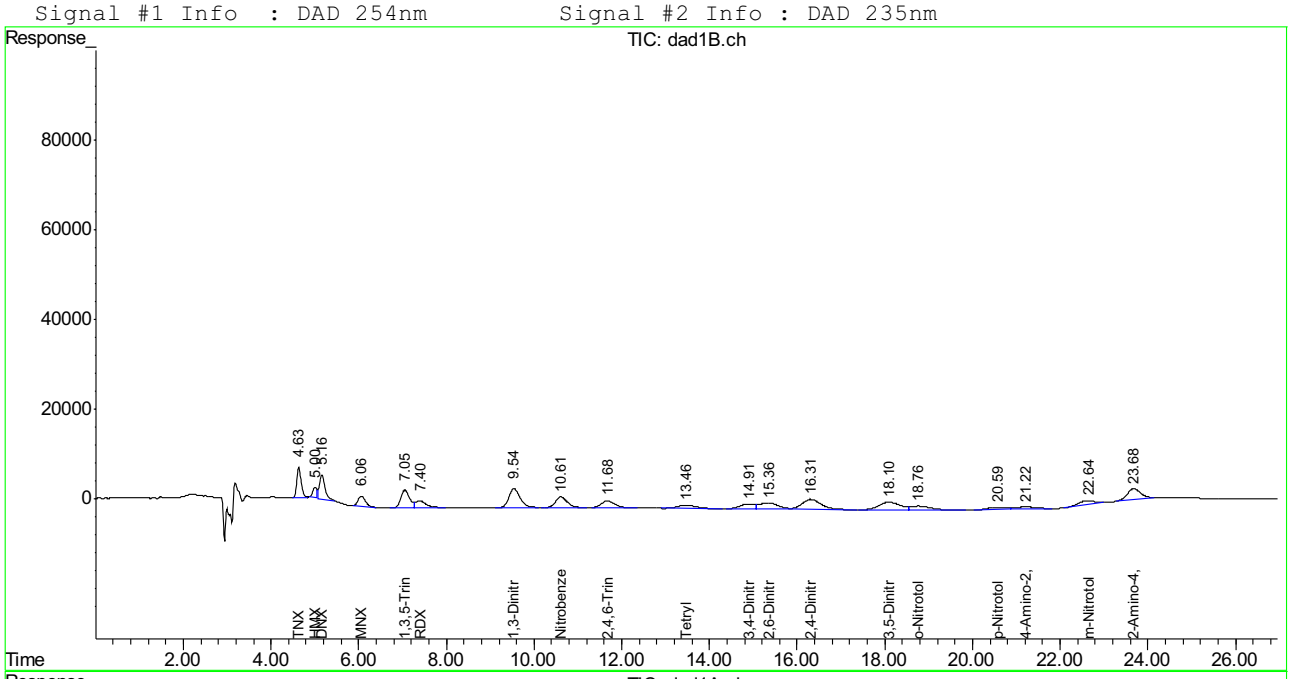
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060858.D 8330RPB.M_1230.M Tue Jan 03 11:14:32 2017 Page 1

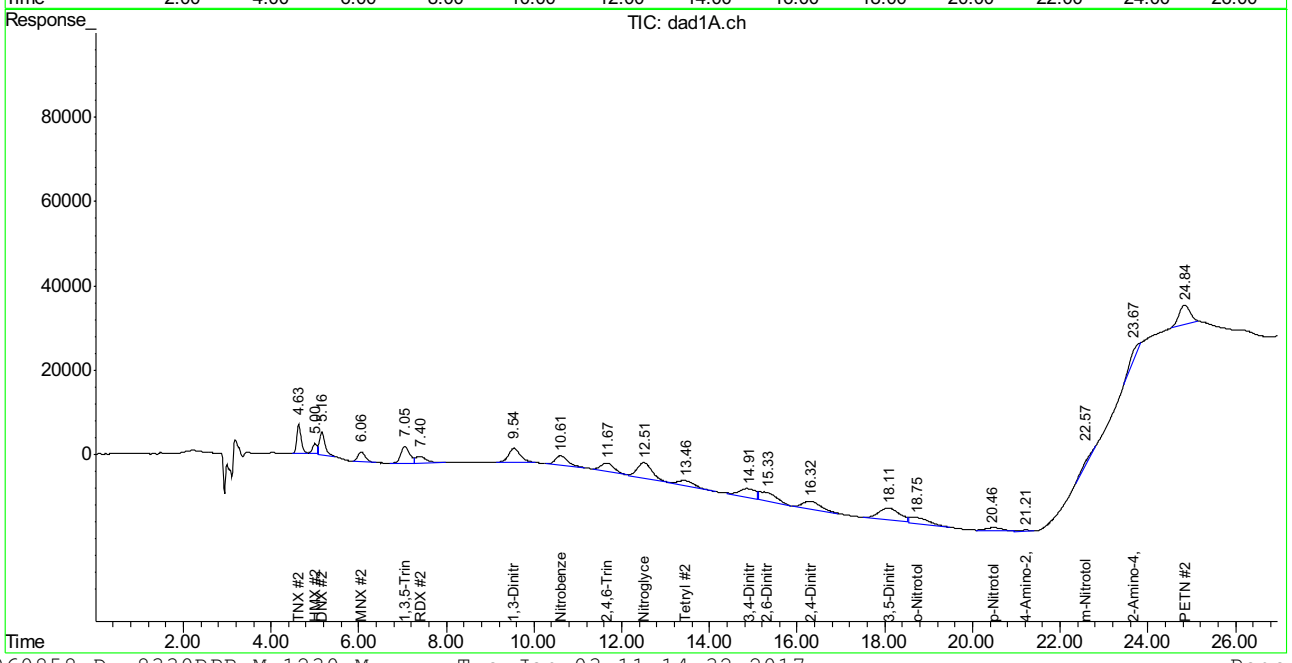
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060858.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\1230RPB3\GG060858.D\dad1A.ch
Acq On : 30-Dec-2016, 15:16:18 Operator: kismetl
Sample : ic2500-50 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 9:58 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060858.D
Injection Time: 12/30/16 15:16
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
TNX		2	4.63	Poor instrument integration
HMX	2691-41-0	1	5.00	Poor instrument integration
HMX	2691-41-0	2	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
DNX		2	5.16	Poor instrument integration
MNX		1	6.06	Poor instrument integration
MNX		2	6.06	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.54	Poor instrument integration
Nitrobenzene	98-95-3	2	10.61	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.67	Poor instrument integration
Nitroglycerine	55-63-0	2	12.51	Poor instrument integration
Tetryl	479-45-8	2	13.46	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	14.91	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	15.33	Missed peak
2,4-Dinitrotoluene	121-14-2	2	16.32	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	18.11	Missed peak
o-Nitrotoluene	88-72-2	2	18.75	Missed peak
p-Nitrotoluene	99-99-0	1	20.59	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.21	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.57	Missed peak
m-Nitrotoluene	99-08-1	1	22.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.67	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.68	Poor instrument integration
PETN	78-11-5	2	24.84	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060859.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\1230RPB3\GG060859.D\dad1A.ch
Acq On : 30-Dec-2016, 15:45:53 Operator: kismetl
Sample : ic2500-100 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:03 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.93	14.91	449558	1024122	97.213	108.079
	Spiked Amount 500.000	Range 70 - 136		Recovery =		19.44%#	21.62%#
	Target Compounds						
1)	TNX	4.63	4.63	803524	818483	96.356m	101.821m
2)	HMX	5.00	5.00	252185	270287	89.982m	97.985m
3)	DNX	5.16	5.16	767730	731943	101.349m	97.040m
4)	MNX	6.05	6.05	500506	499502	98.101m	98.190m
5)	1,3,5-Trinitrobe	7.05	7.05	935888	935888	103.023	103.073
6)	RDX	7.40	7.40	474011	474011	112.070	113.573
7)	1,3-Dinitrobenze	9.55	9.54	1241228	952540	101.021	104.205m
8)	Nitrobenzene	10.61	10.62	788140	794173	100.123	95.570m
9)	2,4,6-Trinitroto	11.68	11.68	585277	729575	94.863	86.363m
10)	Nitroglycerin	0.00	12.52	0	1453289	N.D.	424.069m#
11)	Tetryl	13.47	13.47	424542	746116	93.785	88.884m
13)	2,6-Dinitrotolue	15.37	15.30	743786	834100	102.570	83.065
14)	2,4-Dinitrotolue	16.33	16.35	1160803	799437	102.243	107.341m
15)	o-Nitrotoluene	18.79	18.81	511949	714569	93.544	94.072m
16)	3,5-Dinitroanili	18.12	18.11	1043320	1761007	111.639	115.534
17)	p-Nitrotoluene	20.66	20.59	301186	158392	83.157	30.617 #
18)	4-Amino-2,6-Dini	21.29	21.38	385762	70692	63.673	6.533m#
19)	m-Nitrotoluene	22.64	22.61	475148	499759	94.597m	76.324m
20)	2-Amino-4,6-Dini	23.70	23.78	950263	1178641	118.249m	107.733m
21)	PETN	0.00	24.85	0	1709222	N.D. d	549.084m

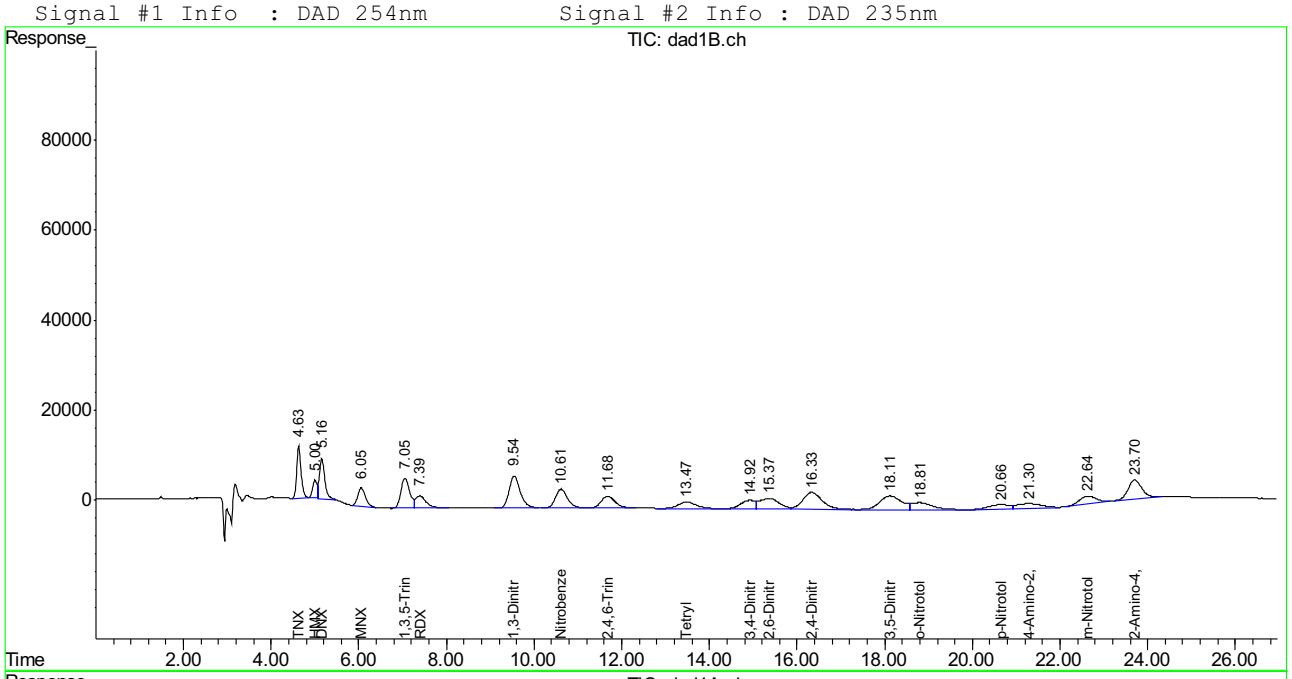
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060859.D 8330RPB.M_1230.M Tue Jan 03 11:14:33 2017 Page 1

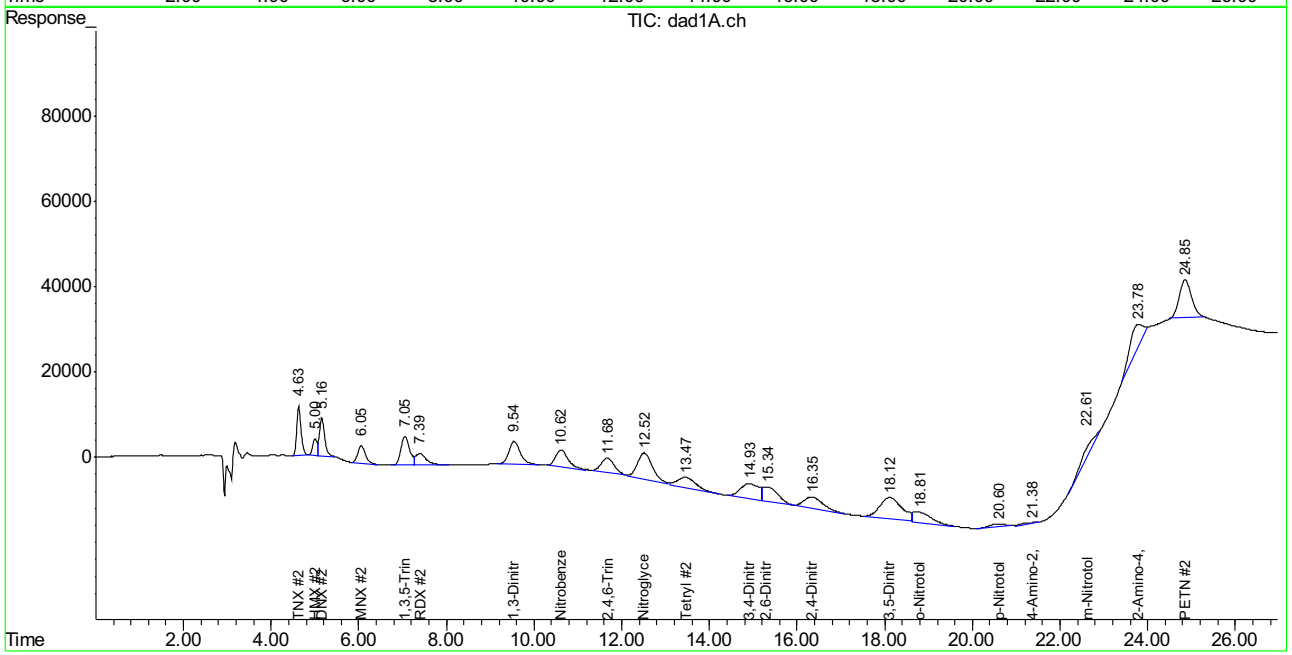
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060859.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\1230RPB3\GG060859.D\dad1A.ch
Acq On : 30-Dec-2016, 15:45:53 Operator: kismetl
Sample : ic2500-100 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:02 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GGG2500-IC2500 **Method:** SW846 8330A
Lab FileID: GG060859.D **Analyst approved:** 01/03/17 14:10 Kismet Lugo
Injection Time: 12/30/16 15:45 **Supervisor approved:** 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
TNX		2	4.63	Poor instrument integration
HMX	2691-41-0	1	5.00	Poor instrument integration
HMX	2691-41-0	2	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
DNX		2	5.16	Poor instrument integration
MNX		1	6.05	Poor instrument integration
MNX		2	6.05	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.54	Poor instrument integration
Nitrobenzene	98-95-3	2	10.62	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.68	Poor instrument integration
Nitroglycerine	55-63-0	2	12.52	Poor instrument integration
Tetryl	479-45-8	2	13.47	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	16.35	Poor instrument integration
o-Nitrotoluene	88-72-2	2	18.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.38	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.61	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.70	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.78	Poor instrument integration
PETN	78-11-5	2	24.85	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060860.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\1230RPB3\GG060860.D\dad1A.ch
Acq On : 30-Dec-2016, 16:15:27 Operator: kismetl
Sample : ic2500-200 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:04 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.98	14.95	917603	2009664	198.424	212.024
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.68%#	42.40%#
	Target Compounds						
1)	TNX	4.63	4.63	1617527	1634238	193.969m	203.211m
2)	HMX	5.00	5.00	512517	513203	184.377m	187.563m
3)	DNX	5.16	5.16	1465722	1489749	193.416m	197.377m
4)	MNX	6.07	6.07	1013539	1013539	198.658	199.237
5)	1,3,5-Trinitrobe	7.06	7.06	1880817	1880817	207.042	207.142
6)	RDX	7.41	7.41	919023	919023	217.285	219.548
7)	1,3-Dinitrobenze	9.57	9.57	2456253	1935291	199.910	211.735
8)	Nitrobenzene	10.64	10.64	1535777	1494778	195.100	179.880m
9)	2,4,6-Trinitroto	11.70	11.70	1159861	1467650	187.994	173.989m
10)	Nitroglycerin	0.00	12.54	0	2946250	N.D.	859.714m#
11)	Tetryl	13.51	13.52	853029	1365926	188.442	162.873m
13)	2,6-Dinitrotolue	15.39	15.35	1476178	1789902	203.568	177.270
14)	2,4-Dinitrotolue	16.37	16.37	2322902	1598934	204.600	213.642m
15)	o-Nitrotoluene	18.81	18.78	987431	1325166	180.425	173.880
16)	3,5-Dinitroanili	18.16	18.15	2048781	3453819	219.228	225.959
17)	p-Nitrotoluene	20.68	20.67	593264	338596	163.800	65.357 #
18)	4-Amino-2,6-Dini	21.34	21.41	902113	284239	148.901	26.251 #
19)	m-Nitrotoluene	22.66	22.64	951524	1068597	188.635m	160.975m
20)	2-Amino-4,6-Dini	23.72	23.76	1821522	2190603	226.668m	199.538m
21)	PETN	0.00	24.86	0	3416905	N.D. d	1095.362m

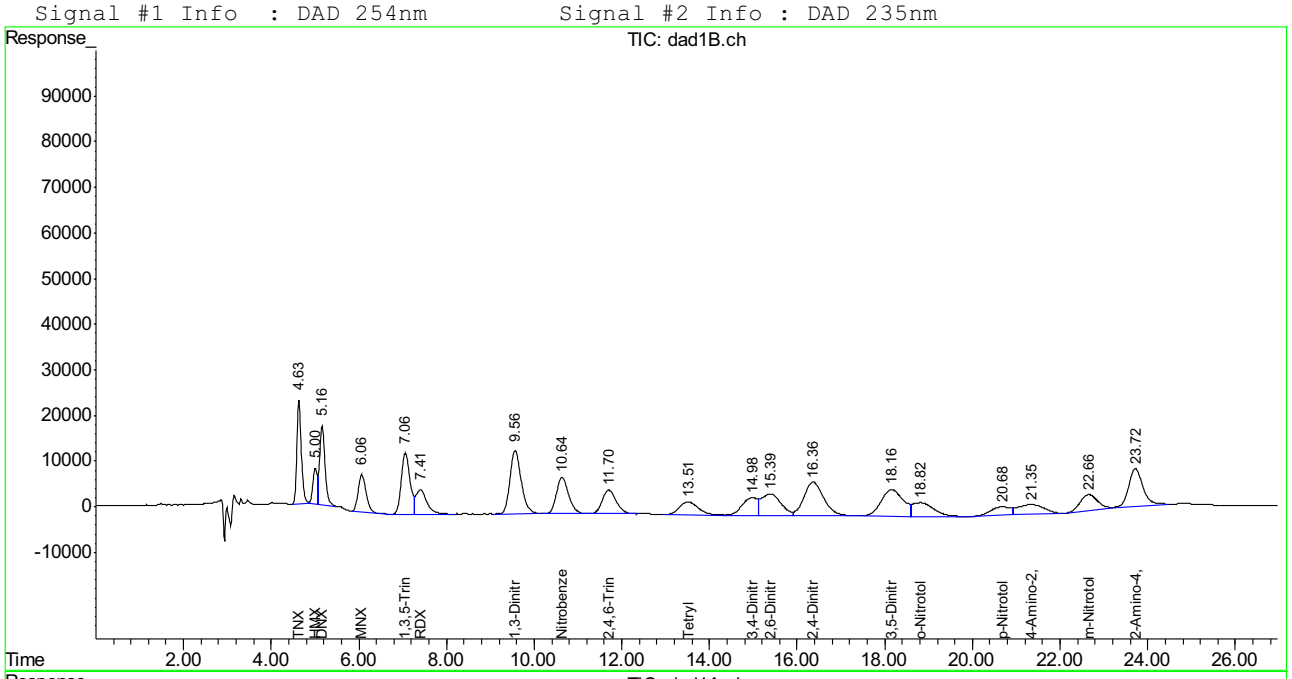
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060860.D 8330RPB.M_1230.M Tue Jan 03 11:14:34 2017 Page 1

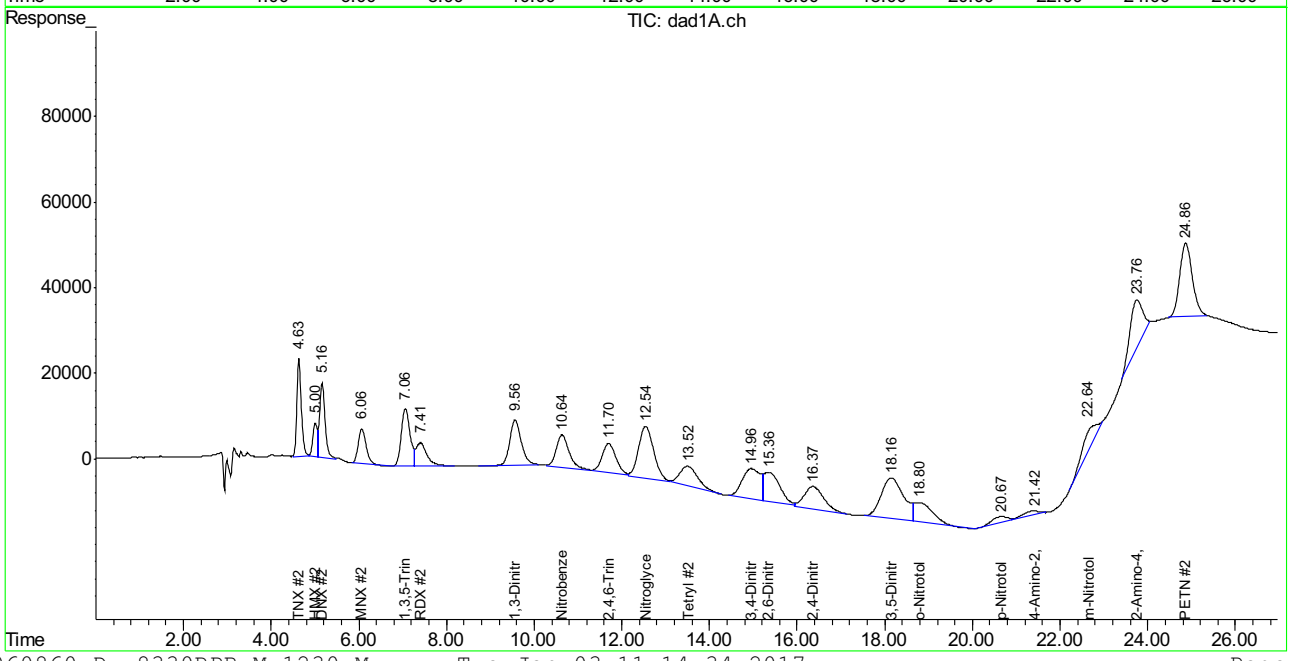
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060860.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\1230RPB3\GG060860.D\dad1A.ch
Acq On : 30-Dec-2016, 16:15:27 Operator: kismetl
Sample : ic2500-200 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:06 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060860.D
Injection Time: 12/30/16 16:15
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
TNX		2	4.63	Poor instrument integration
HMX	2691-41-0	1	5.00	Poor instrument integration
HMX	2691-41-0	2	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
DNX		2	5.16	Poor instrument integration
Nitrobenzene	98-95-3	2	10.64	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.70	Poor instrument integration
Nitroglycerine	55-63-0	2	12.54	Poor instrument integration
Tetryl	479-45-8	2	13.52	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	16.37	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.64	Missed peak
m-Nitrotoluene	99-08-1	1	22.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.72	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.76	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060861.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\1230RPB3\GG060861.D\dad1A.ch
Acq On : 30-Dec-2016, 16:45:02 Operator: kismetl
Sample : icc2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:05 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.00	14.99	2176194	4818417	470.585	507.925
	Spiked Amount 500.000	Range 70 - 136		Recovery =		94.12%	101.58%
	Target Compounds						
1)	TNX	4.63	4.63	3912729	4019223	469.203m	499.120
2)	HMX	5.00	5.00	1357492	1357492	502.296	511.169
3)	DNX	5.16	5.16	3739502	3739502	492.833	494.465
4)	MNX	6.06	6.06	2527746	2527746	495.449	496.892
5)	1,3,5-Trinitrobe	7.06	7.06	4472978	4472978	492.389	492.626
6)	RDX	7.41	7.41	2137646	2137646	505.404	506.616
7)	1,3-Dinitrobenze	9.57	9.57	5885991	4598219	479.050	503.204
8)	Nitrobenzene	10.64	10.64	3738142	3803289	474.881	457.683
9)	2,4,6-Trinitroto	11.71	11.71	2867030	4054558	464.696	483.188
10)	Nitroglycerin	0.00	12.56	0	7627688	N.D. d	2225.755
11)	Tetryl	13.53	13.52	2057679	3690629	454.560	441.630
13)	2,6-Dinitrotolue	15.41	15.38	3575446	4999928	493.061	486.411
14)	2,4-Dinitrotolue	16.39	16.39	5549365	3928915	488.786	517.730
15)	o-Nitrotoluene	18.85	18.83	2407986	3423348	439.990	444.223
16)	3,5-Dinitroanili	18.18	18.18	4822570	8237243	516.034	534.713
17)	p-Nitrotoluene	20.71	20.71	1559470	1535914	430.570	293.732
18)	4-Amino-2,6-Dini	21.38	21.41	2582303	2632878	426.229	241.322 #
19)	m-Nitrotoluene	22.67	22.71	2433427	3545310	476.236m	505.987m
20)	2-Amino-4,6-Dini	23.73	23.75	4121622	6031492	512.889m	542.383m
21)	PETN	0.00	24.88	0	8193693	N.D. d	2611.409m

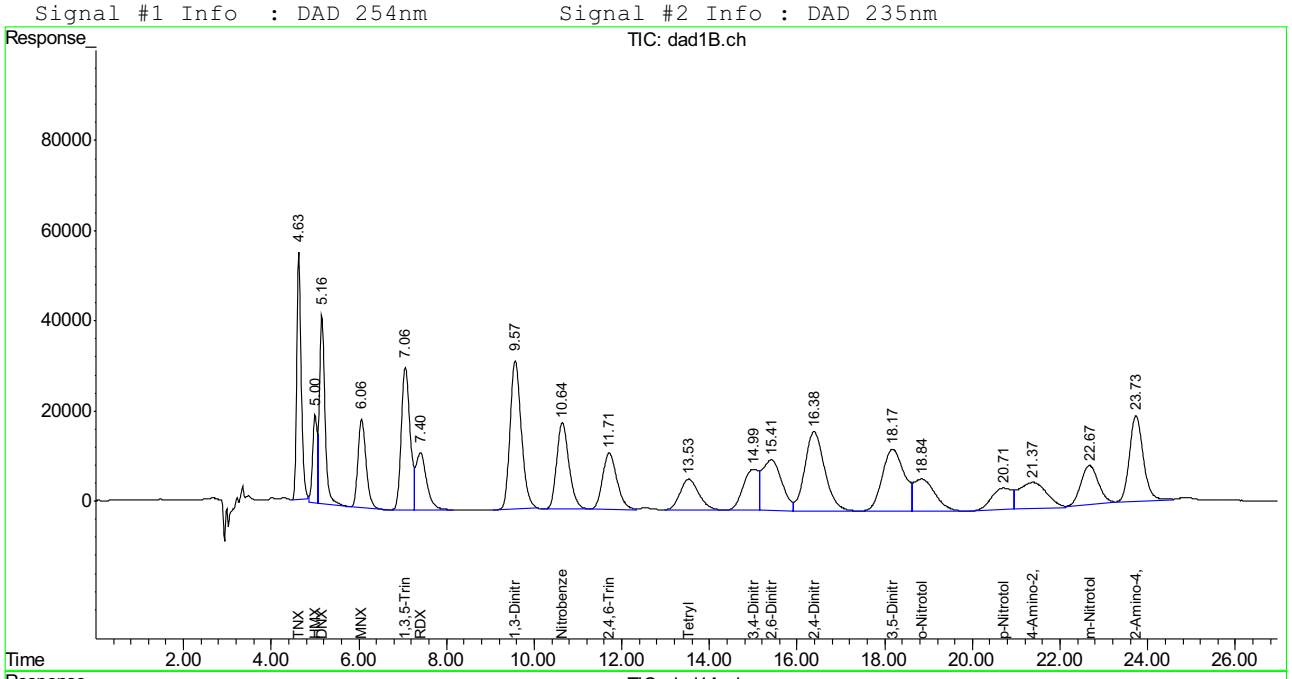
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060861.D 8330RPB.M_1230.M Tue Jan 03 11:14:48 2017 Page 1

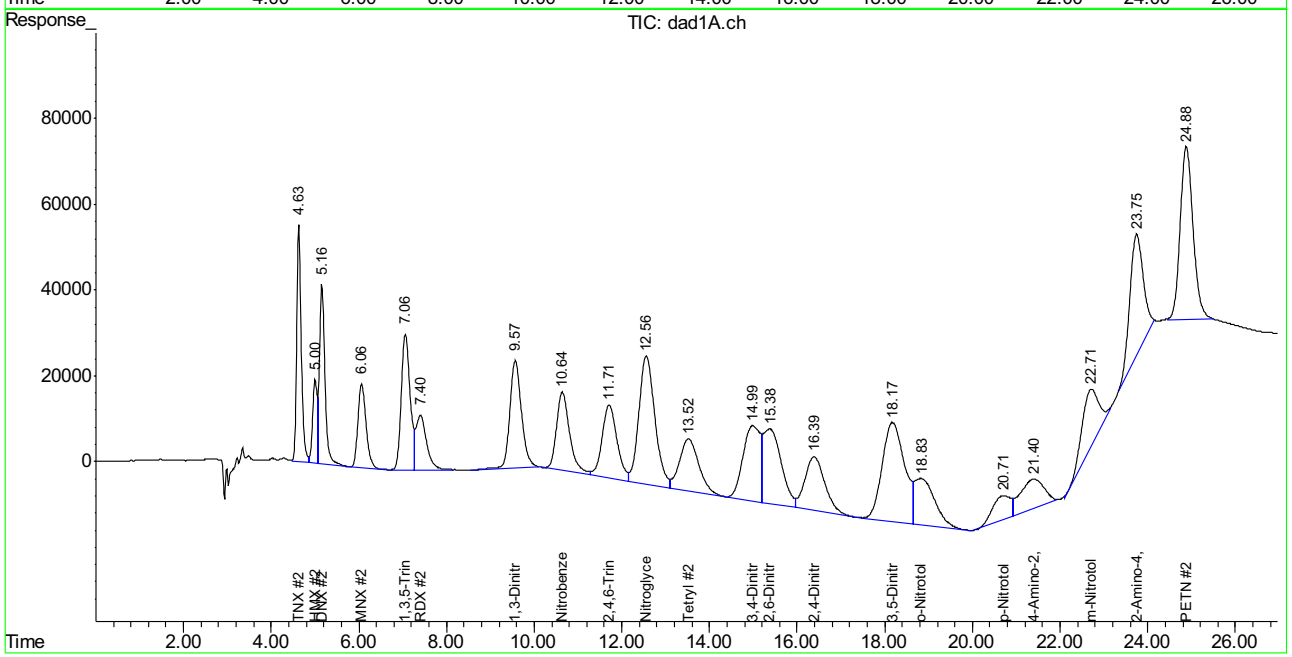
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060861.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\1230RPB3\GG060861.D\dad1A.ch
Acq On : 30-Dec-2016, 16:45:02 Operator: kismetl
Sample : icc2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:08 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-ICC2500
Lab FileID: GG060861.D
Injection Time: 12/30/16 16:45
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.71	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.73	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.75	Poor instrument integration
PETN	78-11-5	2	24.88	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060862.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\1230RPB3\GG060862.D\dad1A.ch
Acq On : 30-Dec-2016, 17:14:39 Operator: kismetl
Sample : ic2500-1000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:06 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.97	14.96	4210954	9432101	910.586	992.895
	Spiked Amount 500.000	Range 70 - 136		Recovery =		182.12%#	198.58%#
	Target Compounds						
1)	TNX	4.63	4.63	7838956	7838956	940.025	971.437
2)	HMX	5.01	5.01	2586384	2586384	1001.957	1022.952
3)	DNX	5.16	5.16	7185968	7185968	945.220	947.318
4)	MNX	6.06	6.06	5116960	5116960	1002.945	1005.868
5)	1,3,5-Trinitrobe	7.06	7.06	8885041	8885041	978.072	978.544
6)	RDX	7.40	7.40	4223488	4223488	998.559	987.812
7)	1,3-Dinitrobenze	9.56	9.56	11641472	8795457	947.477	962.907
8)	Nitrobenzene	10.62	10.62	7384905	7274877	938.154	875.449
9)	2,4,6-Trinitroto	11.70	11.70	5653283	7861173	916.300	944.221
10)	Nitroglycerin	0.00	12.54	0	15016317	N.D. d	4381.753
11)	Tetryl	13.50	13.50	4096243	7507818	904.897	903.708
13)	2,6-Dinitrotolue	15.38	15.35	7142118	10135679	984.912	959.975
14)	2,4-Dinitrotolue	16.35	16.35	10964077	7929300	965.711	1021.558
15)	o-Nitrotoluene	18.79	18.78	4818323	7047589	880.409	897.851
16)	3,5-Dinitroanili	18.13	18.13	9623590	16539840	1029.763	1059.655
17)	p-Nitrotoluene	20.67	20.67	3267337	4073851	902.112	764.554
18)	4-Amino-2,6-Dini	21.30	21.31	5558138	8053937	917.414	725.819
19)	m-Nitrotoluene	22.63	22.65	5306027	7743251	1014.126	1024.221m
20)	2-Amino-4,6-Dini	23.70	23.71	8088207	11892466	1006.485m	1049.607m
21)	PETN	0.00	24.86	0	16378360	N.D. d	5169.288m

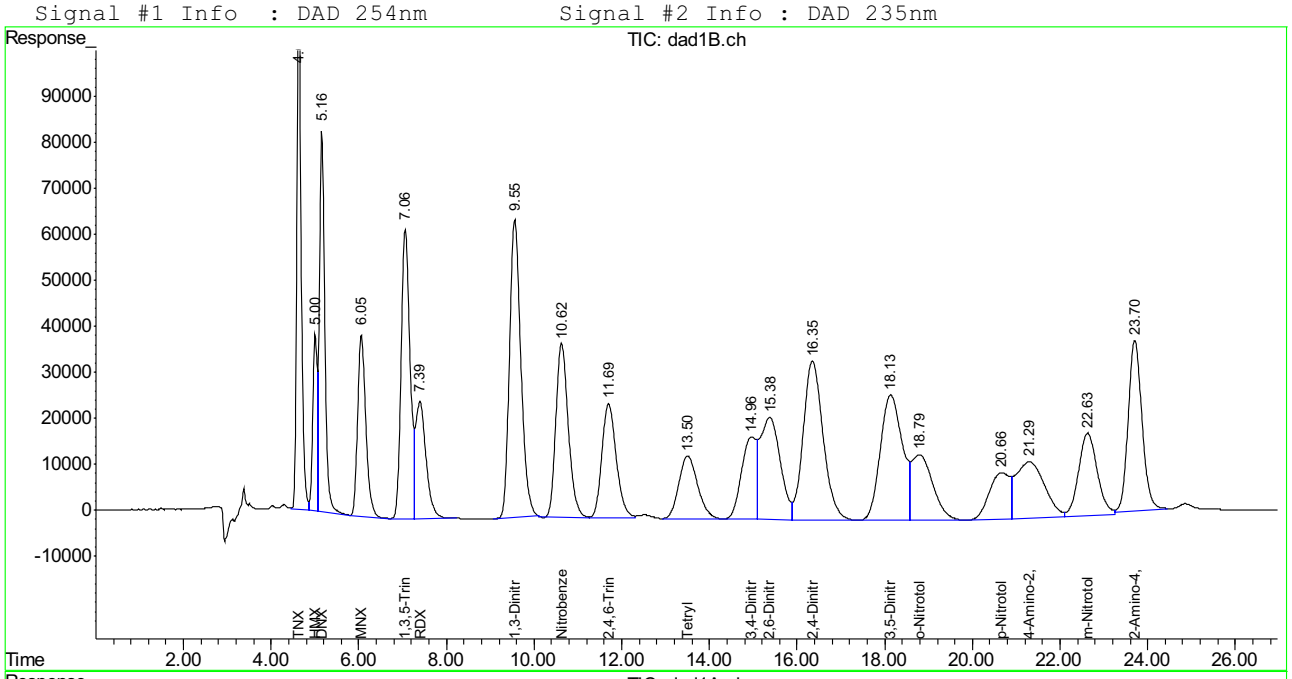
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060862.D 8330RPB.M_1230.M Tue Jan 03 11:14:49 2017 Page 1

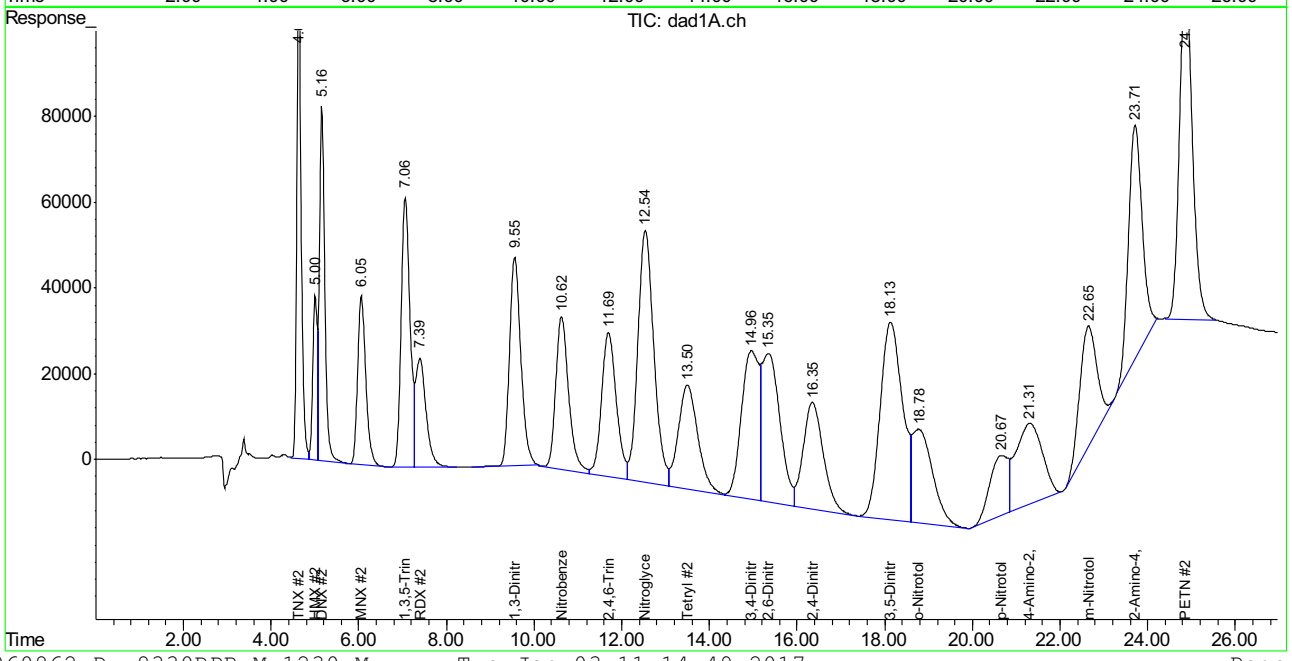
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060862.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\1230RPB3\GG060862.D\dad1A.ch
Acq On : 30-Dec-2016, 17:14:39 Operator: kismetl
Sample : ic2500-1000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:10 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060862.D
Injection Time: 12/30/16 17:14
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
m-Nitrotoluene	99-08-1	2	22.65	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.70	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.71	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

GG060863.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060863.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\1230RPB3\GG060863.D\dad1A.ch
Acq On : 30-Dec-2016, 17:44:16 Operator: kismetl
Sample : ic2500-2000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:07 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.95	14.94	9266817	20915374	2003.877	2194.205
	Spiked Amount 500.000	Range 70 - 136		Recovery =		400.78%#	438.84%#
	Target Compounds						
1)	TNX	4.62	4.62	17055860	17055860	2045.290	2103.133
2)	HMX	5.00	5.00	5490432	5490432	2466.556	2557.793
3)	DNX	5.15	5.15	15490765	15490765	2028.243	2027.553
4)	MNX	6.04	6.04	11284764	11284764	2211.860	2218.306
5)	1,3,5-Trinitrobe	7.05	7.05	19556646	19556646	2152.811	2153.849
6)	RDX	7.37	7.37	9209995	9209995	2177.519	2091.134
7)	1,3-Dinitrobenze	9.54	9.54	25516947	19157835	2076.776	2099.407
8)	Nitrobenzene	10.61	10.61	15943670	15285994	2025.431	1839.497
9)	2,4,6-Trinitroto	11.69	11.69	12392046	16745570	2008.538	2050.145
10)	Nitroglycerin	0.00	12.53	0	32595758	N.D. d	9511.424
11)	Tetryl	13.49	13.49	8981012	16760400	1983.987	2047.344
13)	2,6-Dinitrotolue	15.36	15.33	15649267	22658850	2158.065	2025.602
14)	2,4-Dinitrotolue	16.33	16.33	23993836	17157925	2113.367	2108.923
15)	o-Nitrotoluene	18.77	18.75	10455545	15394153	1910.449	1886.297
16)	3,5-Dinitroanili	18.11	18.11	21056164	36215701	2253.094	2253.346
17)	p-Nitrotoluene	20.64	20.65	7166551	9772988	1978.685	1764.229
18)	4-Amino-2,6-Dini	21.26	21.27	12849923	21326501	2120.980	1849.942
19)	m-Nitrotoluene	22.61	22.62	11597272	17085247	2115.245	1988.901m
20)	2-Amino-4,6-Dini	23.69	23.69	18102991	26308173	2252.711	2226.185m
21)	PETN	0.00	24.86	0	35559335	N.D. d	10981.018m

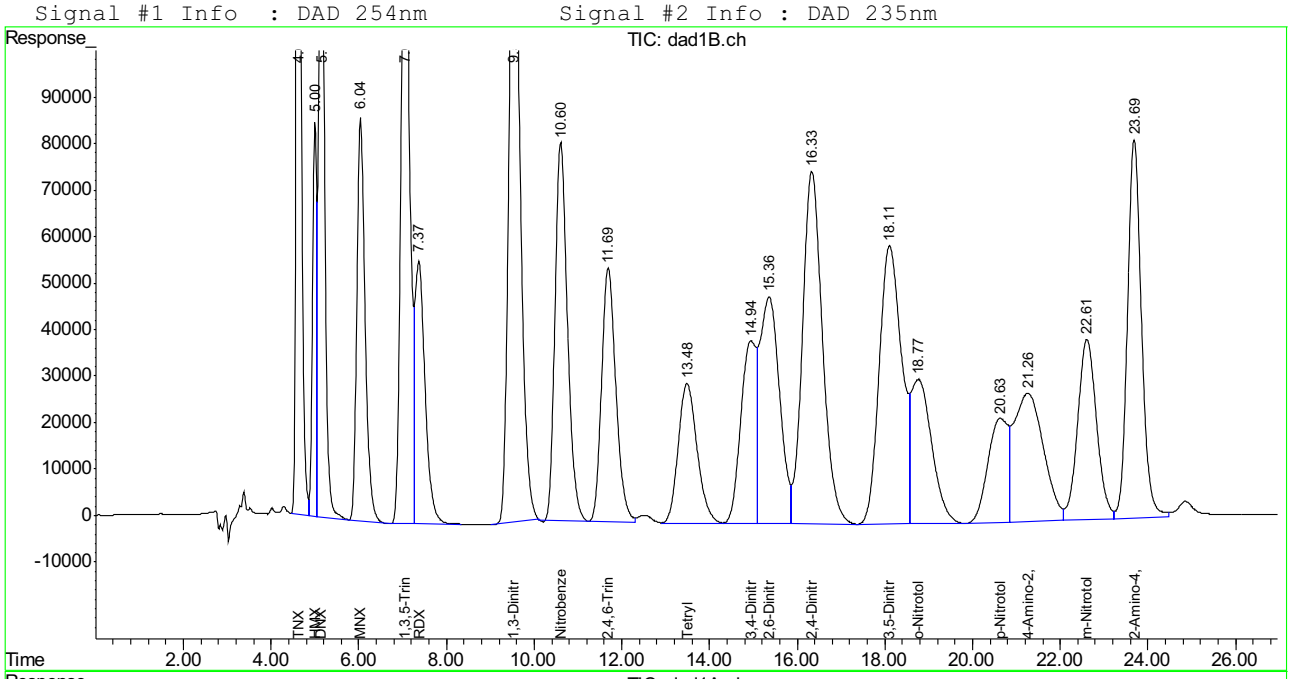
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060863.D 8330RPB.M_1230.M Tue Jan 03 11:14:50 2017 Page 1

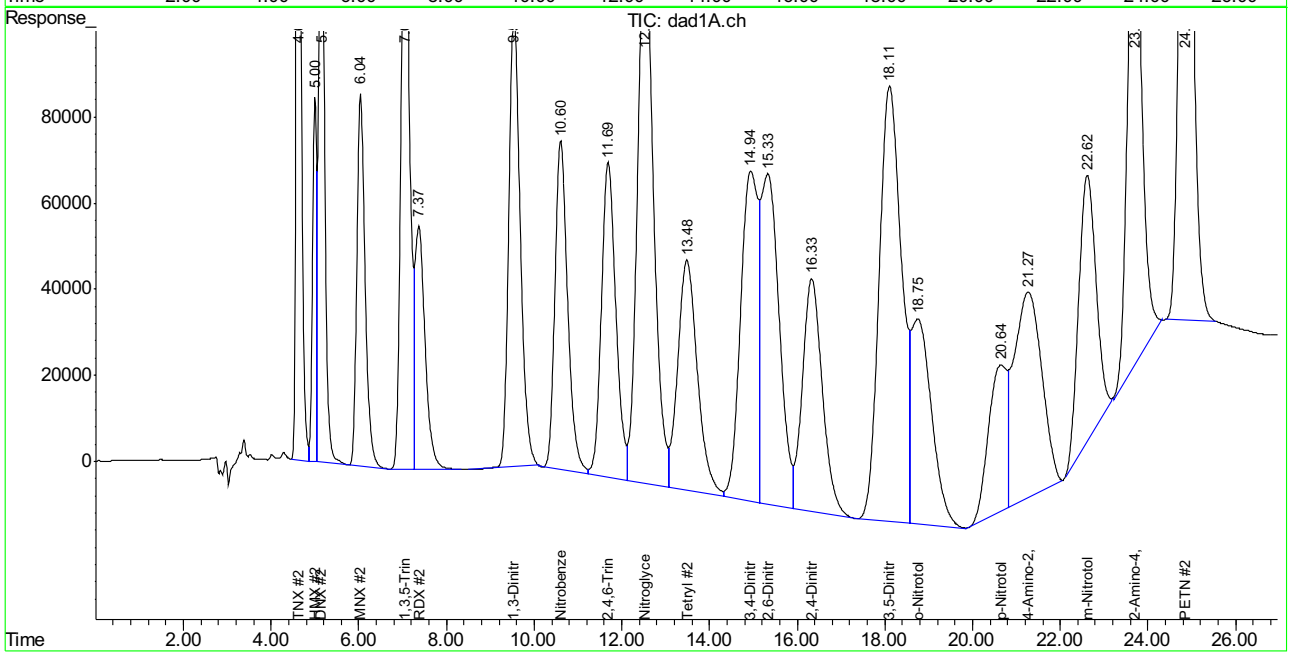
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060863.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\1230RPB3\GG060863.D\dad1A.ch
Acq On : 30-Dec-2016, 17:44:16 Operator: kismetl
Sample : ic2500-2000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:11 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060863.D
Injection Time: 12/30/16 17:44
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
m-Nitrotoluene	99-08-1	2	22.62	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.69	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060864.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\1230RPB3\GG060864.D\dad1A.ch
Acq On : 30-Dec-2016, 18:13:52 Operator: kismetl
Sample : icv2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 11:05:09 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.63	4.63	4162248	4162248	508.848	503.109
2)	HMX	5.00	5.00	1480228	1572593	550.270m	569.244
3)	DNX	5.16	5.16	3706442	3876425	485.321m	512.895
4)	MNX	6.06	6.06	2613973	2613973	511.578	512.876
5)	1,3,5-Trinitrobe	7.06	7.06	4582643	4582643	494.967	495.642
6)	RDX	7.40	7.40	2332654	2332654	556.540	556.540
7)	1,3-Dinitrobenze	9.56	9.56	5830736	4460173	441.071	506.352
8)	Nitrobenzene	10.63	10.63	4022472	4038523	518.583	551.404
9)	2,4,6-Trinitroto	11.70	11.70	2204685	3230757	400.036	417.808
10)	Nitroglycerin	0.00	12.54	0	7764181	N.D.	2429.821 #
11)	Tetryl	13.51	13.50	1757329	3485746	439.948	454.862
13)	2,6-Dinitrotolue	15.41	15.40	3741514	6108600	501.024	554.445
14)	2,4-Dinitrotolue	16.36	16.36	5796640	4097851	496.326	527.399
15)	o-Nitrotoluene	18.82	18.80	2658700	3878361	540.855	567.807
16)	3,5-Dinitroanili	18.15	18.14	4809561	8239583	472.389	454.373
17)	p-Nitrotoluene	20.67	20.68	1689675	1826547	540.972	541.058
18)	4-Amino-2,6-Dini	21.31	21.33	2693980	3120536	526.769	524.739
19)	m-Nitrotoluene	22.64	22.68	2727140	3934759	544.548	551.021m
20)	2-Amino-4,6-Dini	23.71	23.72	4868501	6504482	541.550	561.636m
21)	PETN	0.00	24.86	0	8660110	N.D. d	2594.295m

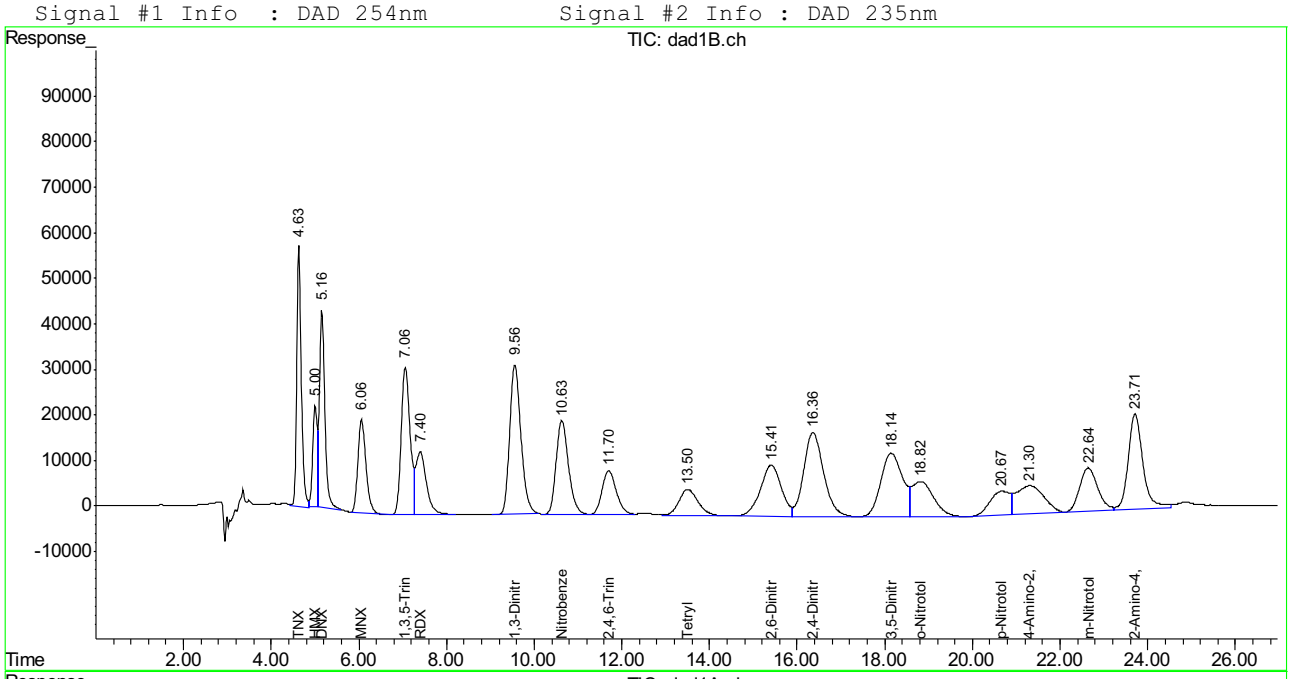
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060864.D 8330RPB.M_1230.M Tue Jan 03 11:15:13 2017 Page 1

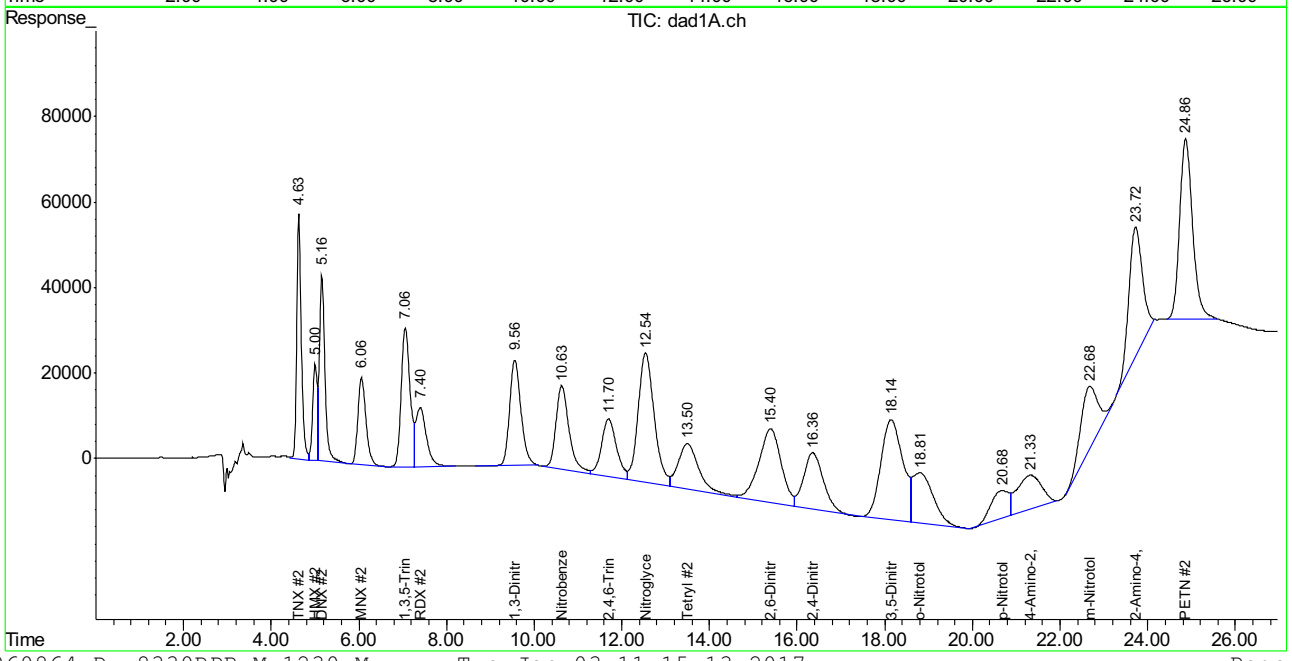
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060864.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\1230RPB3\GG060864.D\dad1A.ch
Acq On : 30-Dec-2016, 18:13:52 Operator: kismetl
Sample : icv2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 11:06 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-ICV2500 **Method:** SW846 8330A
Lab FileID: GG060864.D **Analyst approved:** 01/03/17 14:10 Kismet Lugo
Injection Time: 12/30/16 18:13 **Supervisor approved:** 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.68	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.72	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060928.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060928.D\dad1A.ch
Acq On : 19-Jan-2017, 08:24:39 Operator: kismetl
Sample : cc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:23 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.41	15.40	4840046	10659689	1074.013	1094.430
	Spiked Amount 500.000	Range 70 - 136		Recovery =		214.80%#	218.89%#
	Target Compounds						
1)	TNX	4.67	4.67	8174187	8174187	999.321	988.049
2)	HMX	5.06	5.06	2774597	2774597	1031.448	1004.343
3)	DNX	5.21	5.21	7286563	7286563	954.103	964.095
4)	MNX	6.17	6.17	5314141	5314141	1040.025	1042.665
5)	1,3,5-Trinitrobe	7.16	7.16	9286677	9286677	1003.046	1004.414
6)	RDX	7.57	7.57	4335429	4335429	1004.322	1004.322
7)	1,3-Dinitrobenze	9.73	9.73	12192421	9160002	922.306m	1011.007m
8)	Nitrobenzene	10.83	10.83	7502596	7176146	967.246	968.171
9)	2,4,6-Trinitroto	11.93	11.93	5898775	7851877	1021.749	986.437
10)	Nitroglycerin	0.00	12.80	0	14978671	N.D. d	4687.614
11)	Tetryl	13.88	13.88	4204457	7059947	1007.701	921.266
13)	2,6-Dinitrotolue	15.79	15.77	7075732	9668912	947.507	877.595
14)	2,4-Dinitrotolue	16.77	16.77	11331731	7920595	970.257	987.647
15)	o-Nitrotoluene	19.35	19.34	4820541	6868576	980.634	971.068
16)	3,5-Dinitroanili	18.68	18.68	10072639	17182957	989.322	947.557
17)	p-Nitrotoluene	21.23	21.23	3623643	3624807	1098.376	952.030m
18)	4-Amino-2,6-Dini	22.08	22.10	5783379	8032791	1038.230	1050.344m
19)	m-Nitrotoluene	23.02	23.02	5756780	7797636	1085.472	1025.238m
20)	2-Amino-4,6-Dini	24.03	24.03	8968033	12651232	997.563	1045.056m
21)	PETN	0.00	25.09	0	16824094	N.D. d	5039.967m

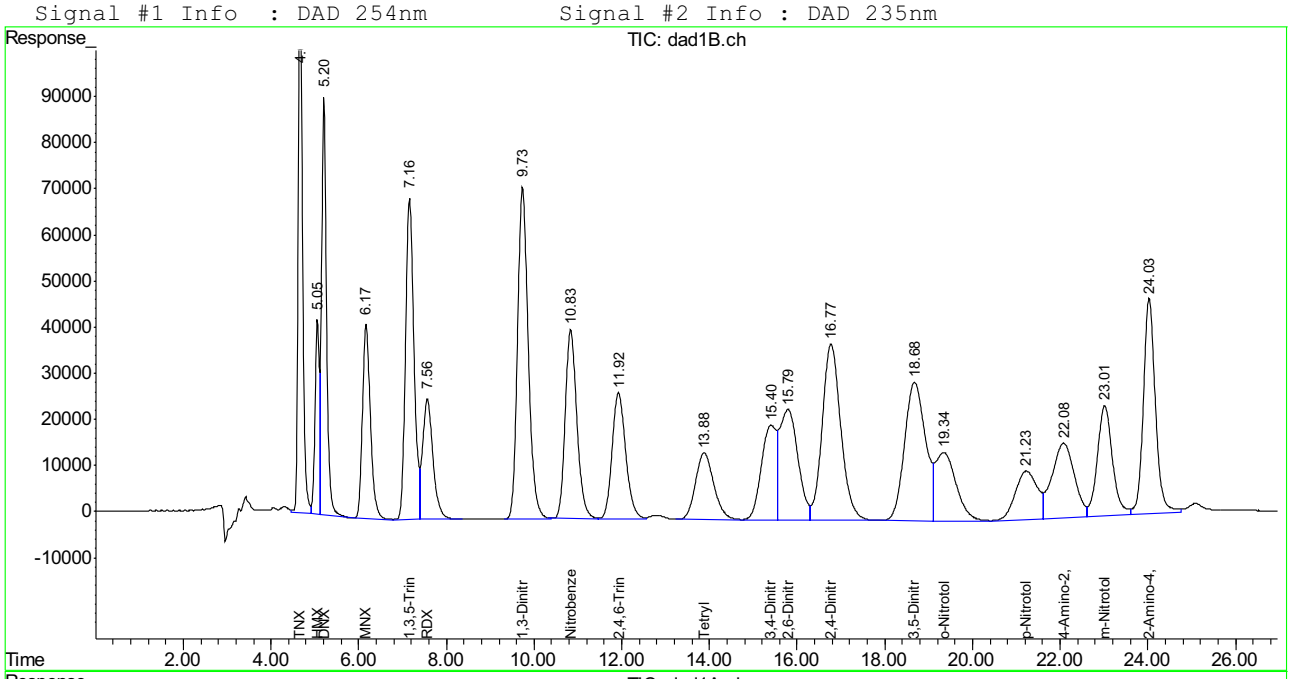
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060928.D 8330RPB.M_1230.M Fri Jan 20 14:25:08 2017 Page 1

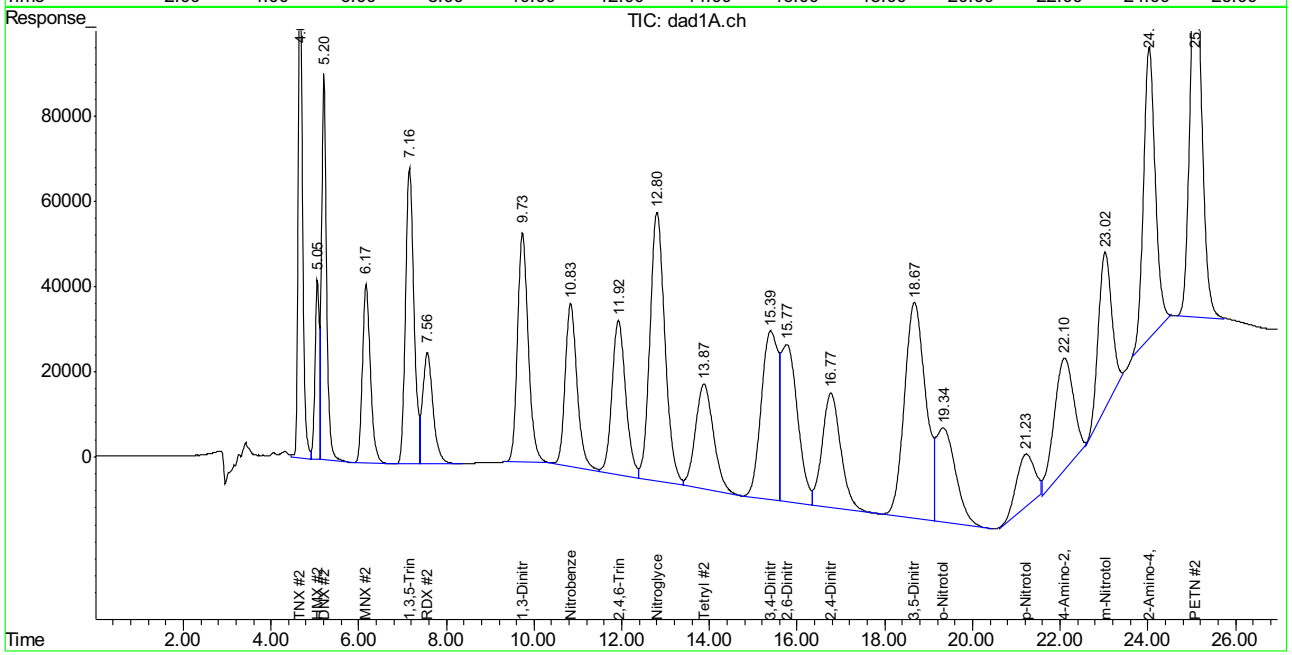
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060928.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060928.D\dad1A.ch
Acq On : 19-Jan-2017, 08:24:39 Operator: kismetl
Sample : cc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:59 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2504-CC2500
Lab FileID: GG060928.D
Injection Time: 01/19/17 08:24
Method: SW846 8330B
Analyst approved: 01/23/17 14:10 Kismet Lugo
Supervisor approved: 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	1	9.73	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.73	Poor instrument integration
p-Nitrotoluene	99-99-0	2	21.23	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.10	Poor instrument integration
m-Nitrotoluene	99-08-1	2	23.02	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.03	Poor instrument integration
PETN	78-11-5	2	25.09	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060935.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060935.D\dad1A.ch
Acq On : 19-Jan-2017, 12:10:31 Operator: kismetl
Sample : ecc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:33 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.36	15.36	4760522	10574058	1056.366	1086.332
	Spiked Amount 500.000	Range 70 - 136		Recovery =		211.27%#	217.27%#
	Target Compounds						
1)	TNX	4.66	4.66	8106770	8106770	991.079	979.900
2)	HMX	5.05	5.05	2735642	2735642	1016.966	990.242
3)	DNX	5.20	5.20	7230676	7230676	946.785	956.701
4)	MNX	6.16	6.16	5546081	5546081	1085.418	1088.173
5)	1,3,5-Trinitrobe	7.15	7.15	9378534	9378534	1012.967	1014.349
6)	RDX	7.55	7.55	4359432	4359432	1009.541	1009.541
7)	1,3-Dinitrobenze	9.71	9.71	12150973	9145285	919.171m	1009.468m
8)	Nitrobenzene	10.81	10.81	7568044	7213326	975.684	973.052
9)	2,4,6-Trinitroto	11.91	11.90	5884846	7836183	1019.504	984.558
10)	Nitroglycerin	0.00	12.78	0	14971335	N.D. d	4685.318
11)	Tetryl	13.84	13.84	4171656	7110394	1000.389	927.849
13)	2,6-Dinitrotolue	15.75	15.72	7062909	9828586	945.790	892.088
14)	2,4-Dinitrotolue	16.73	16.73	11280759	8037972	965.892	1001.355
15)	o-Nitrotoluene	19.30	19.29	4897563	7124518	996.303	1004.402
16)	3,5-Dinitroanili	18.60	18.59	9971287	17152444	979.367	945.875
17)	p-Nitrotoluene	21.17	21.17	3502306	3517558	1064.993	929.610m
18)	4-Amino-2,6-Dini	21.99	22.02	5629005	7567835	1014.389	1007.723m
19)	m-Nitrotoluene	22.99	23.00	5610728	7862797	1060.645	1032.799m
20)	2-Amino-4,6-Dini	24.00	23.99	8940800	13014140	994.534	1072.406m
21)	PETN	0.00	25.08	0	16792525	N.D. d	5030.510m

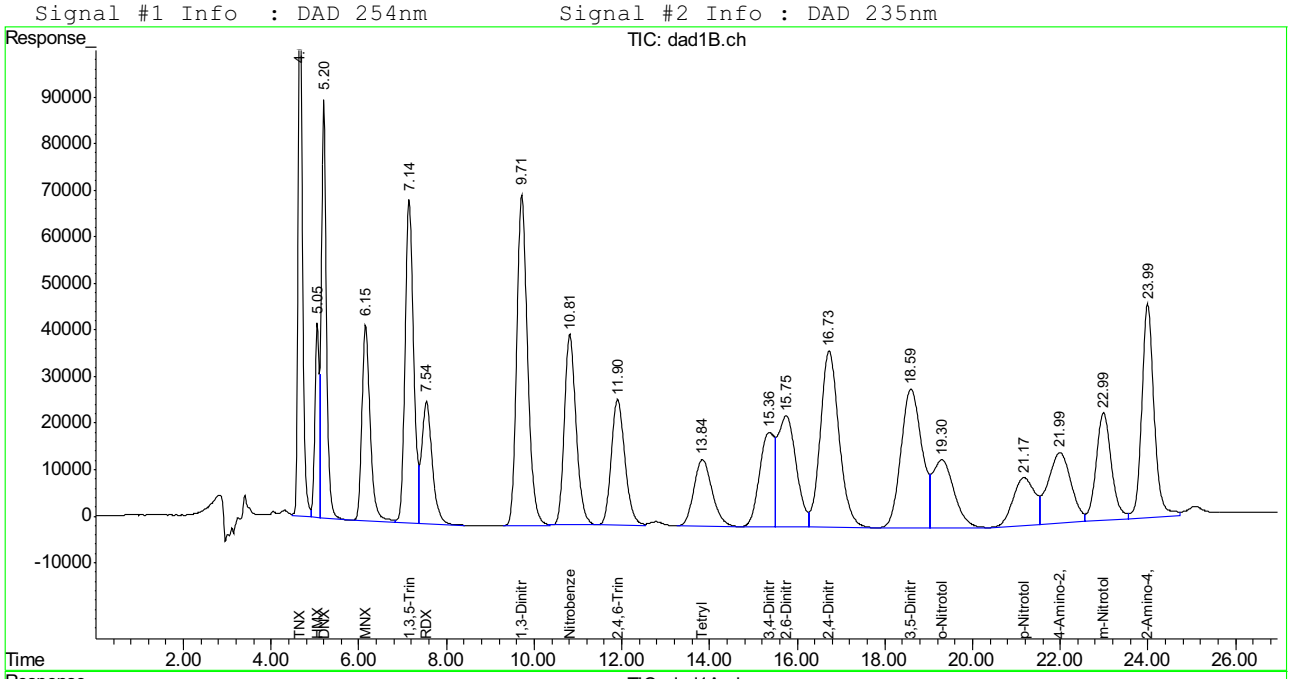
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060935.D 8330RPB.M_1230.M Fri Jan 20 14:25:15 2017 Page 1

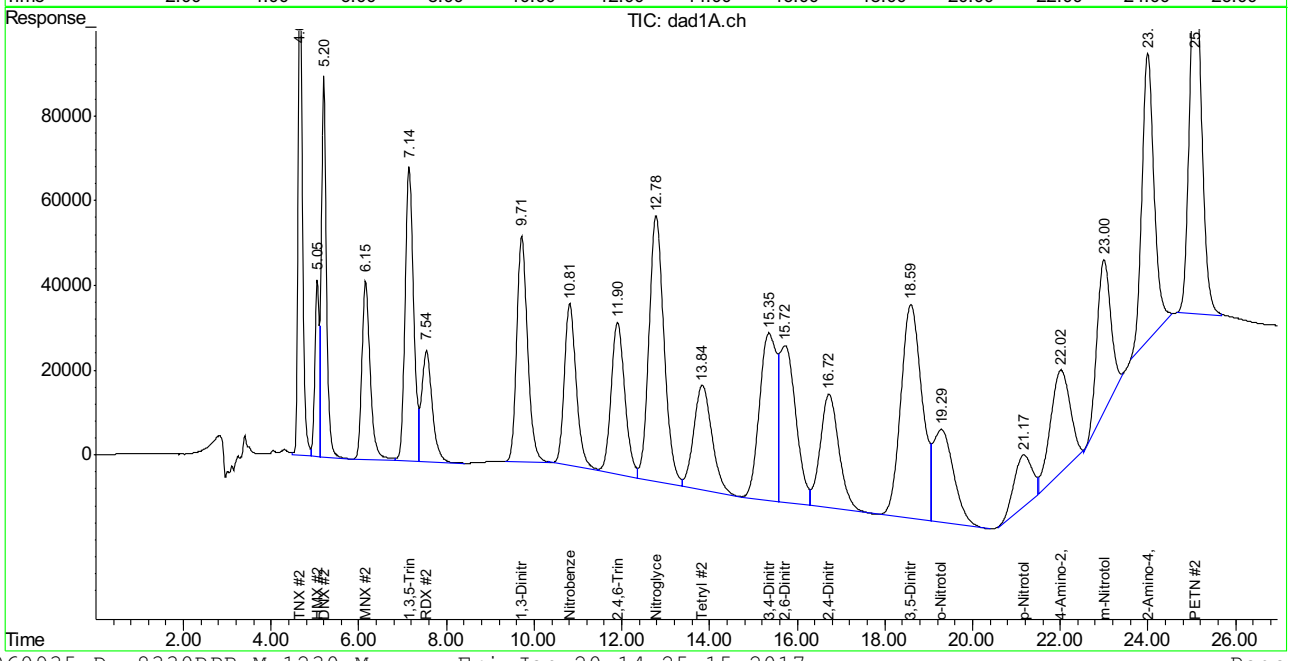
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060935.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060935.D\dad1A.ch
Acq On : 19-Jan-2017, 12:10:31 Operator: kismetl
Sample : ecc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 14:00 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GGG2504-ECC2500 **Method:** SW846 8330B
Lab FileID: GG060935.D **Analyst approved:** 01/23/17 14:10 Kismet Lugo
Injection Time: 01/19/17 12:10 **Supervisor approved:** 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	1	9.71	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.71	Poor instrument integration
p-Nitrotoluene	99-99-0	2	21.17	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.02	Poor instrument integration
m-Nitrotoluene	99-08-1	2	23.00	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.99	Poor instrument integration
PETN	78-11-5	2	25.08	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381202.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0118BPL\PP381202.D\dad1A.ch
Acq On : 18-Jan-2017, 08:20:23 Operator: kismetl
Sample : ic2066-20 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:29 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	46636	89569	22.552m	22.974
	Spiked Amount 500.000	Range 70 - 136		Recovery =		4.51%#	4.59%#
	Target Compounds						
1)	TNX	1.16	1.16	51954	76586	16.785m	15.520m
2)	HMX	1.20	1.22	32795	93360	20.432m	21.267m
3)	DNX	1.48	1.47	81348	265638	28.076m	55.579m#
4)	MNX	1.97	1.97	50047	67832	22.059m	19.175m
5)	RDX	2.50	2.50	42122	70948	22.954m	24.450m
6)	1,3,5-Trinitrobe	4.04	4.05	81141	157275	21.696m	21.705
7)	1,3-Dinitrobenze	5.21	5.22	99992	66290	19.686m	19.463m
8)	3,5-Dinitroanili	5.56	5.56	91011	156871	20.319m	20.796m
9)	Nitrobenzene	6.77	6.77	70664	59054	23.471m	20.988m
10)	Nitroglycerin	0.00	8.15	0	139812	N.D.	96.562 #
11)	Tetryl	8.42	8.42	57059	78111	29.629m	30.206
12)	2,4,6-Trinitroto	8.83	8.83	83211	76637	24.132m	17.762
13)	2-Amino-4,6-Dini	9.13	9.14	57494	111201	18.327m	22.600
14)	4-Amino-2,6-Dini	9.61	9.59	55485	113050	24.080m	23.577
16)	2,4-Dinitrotolue	10.61	10.62	94012	74249	20.558m	24.963
17)	2,6-Dinitrotolue	11.01	11.04	58340	32904	23.298m	11.060 #
18)	o-Nitrotoluene	13.64	13.72	51750	74201	23.999m	24.237m
19)	p-Nitrotoluene	14.06	14.11	74424	59205	21.941	20.634m
20)	m-Nitrotoluene	14.65	14.67	69467	75123	21.922m	19.678m
21)	PETN	0.00	16.15	0	172455	N.D.	118.234m#

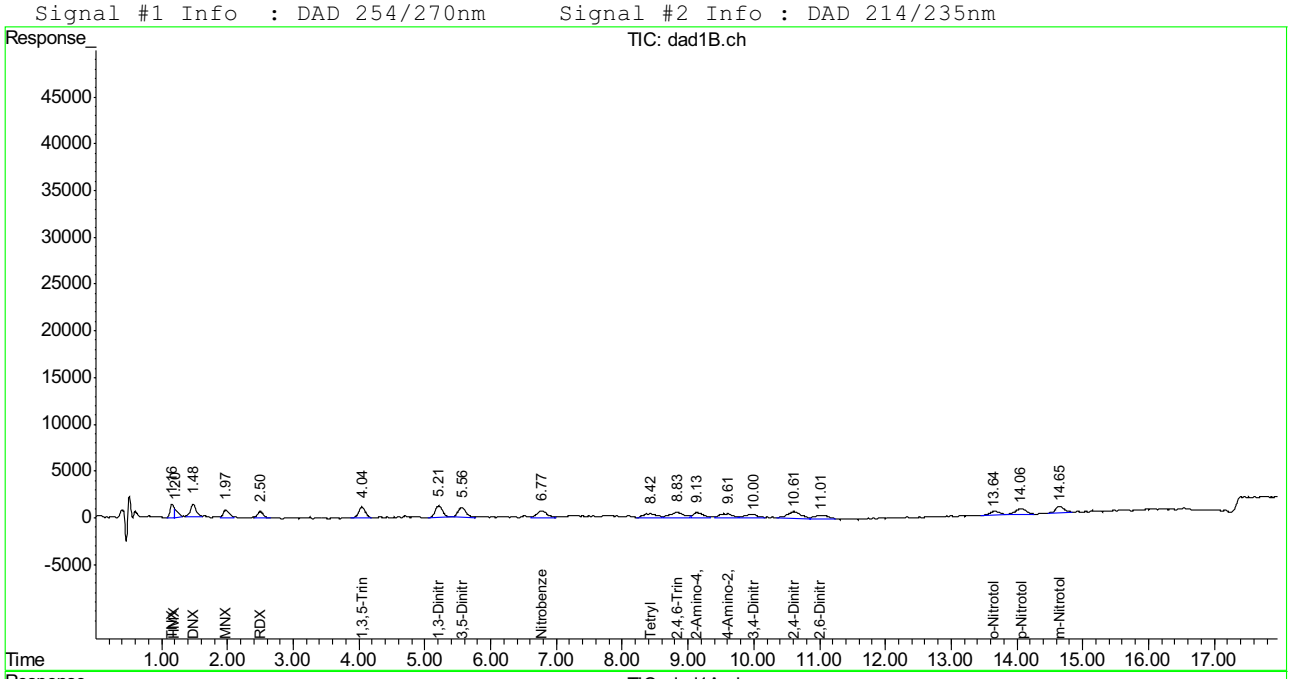
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381202.D 8330-0118BPLUS.M Thu Jan 19 06:39:35 2017 Page 1

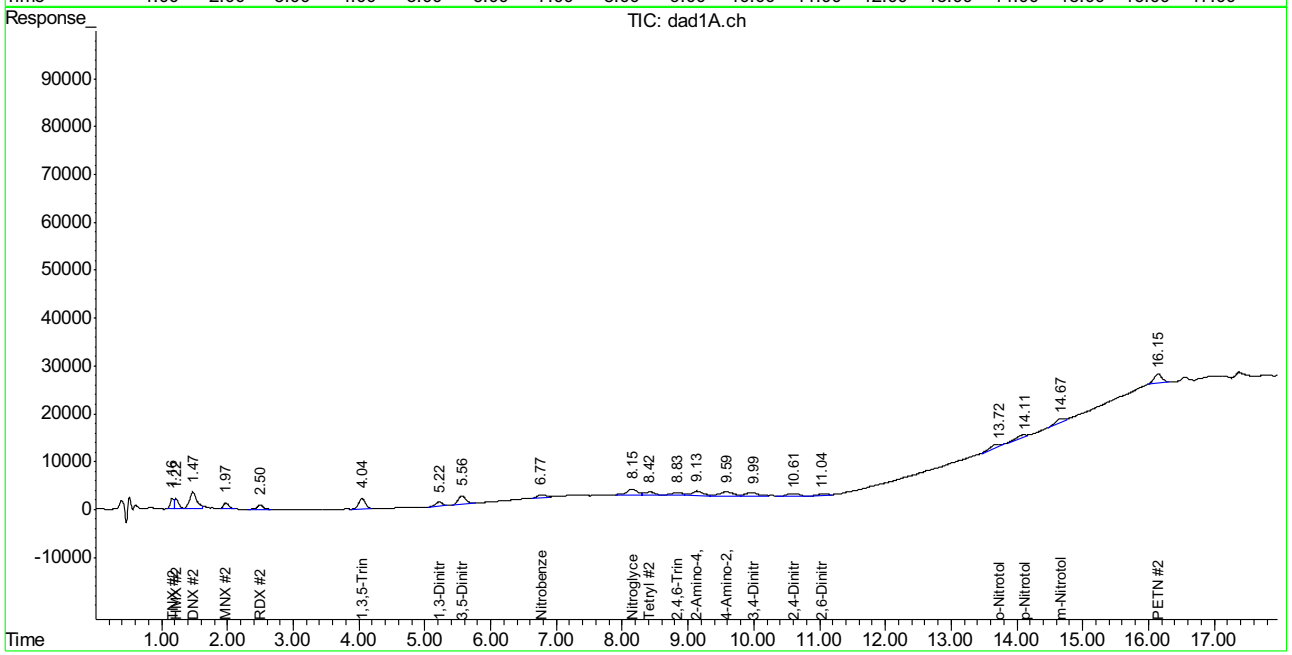
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381202.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0118BPL\PP381202.D\dad1A.ch
Acq On : 18-Jan-2017, 08:20:23 Operator: kismetl
Sample : ic2066-20 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:32 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381202.D
Injection Time: 01/18/17 08:20
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
TNX		2	1.16	Overlapping peak
HMX	2691-41-0	1	1.20	Missed peak
HMX	2691-41-0	2	1.22	Overlapping peak
DNX		2	1.47	Poor instrument integration
DNX		1	1.48	Poor instrument integration
MNX		1	1.97	Poor instrument integration
MNX		2	1.97	Poor instrument integration
RDX	121-82-4	1	2.50	Poor instrument integration
RDX	121-82-4	2	2.50	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.04	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.21	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.22	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.56	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.56	Poor instrument integration
Nitrobenzene	98-95-3	1	6.77	Poor instrument integration
Nitrobenzene	98-95-3	2	6.77	Poor instrument integration
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.83	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.13	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.61	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	10.00	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.61	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.01	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.64	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.72	Missed peak
p-Nitrotoluene	99-99-0	2	14.11	Missed peak
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Missed peak
PETN	78-11-5	2	16.15	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381203.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0118BPL\PP381203.D\dad1A.ch
Acq On : 18-Jan-2017, 08:45:22 Operator: kismetl
Sample : ic2066-50 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:30 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.97	98085	200314	47.432m	51.379
	Spiked Amount 500.000	Range 70 - 136		Recovery =		9.49%#	10.28%#
	Target Compounds						
1)	TNX	1.16	1.16	158253	201685	51.127m	40.870m
2)	HMX	1.21	1.22	78972	247279	49.201m	56.330m
3)	DNX	1.48	1.48	158541	411081	54.718m	86.010m#
4)	MNX	1.98	1.98	122458	183603	53.976m	51.901m
5)	RDX	2.50	2.50	90554	154998	49.346m	53.414
6)	1,3,5-Trinitrobe	4.05	4.05	208203	385339	55.671m	53.180
7)	1,3-Dinitrobenze	5.22	5.22	264608	170769	52.096m	50.139m
8)	3,5-Dinitroanili	5.56	5.57	244352	391743	54.554m	51.931
9)	Nitrobenzene	6.78	6.79	149648	164953	49.704m	58.625m
10)	Nitroglycerin	0.00	8.16	0	356203	N.D.	246.014 #
11)	Tetryl	8.43	8.43	95412	160139	49.545m	61.926
12)	2,4,6-Trinitroto	8.84	8.84	133279	199519	38.653m	46.243
13)	2-Amino-4,6-Dini	9.17	9.16	153759	261106	49.013m	53.067
14)	4-Amino-2,6-Dini	9.60	9.60	106327	265655	46.145m	55.403
16)	2,4-Dinitrotolue	10.62	10.62	234655	137866	51.313m	46.352
17)	2,6-Dinitrotolue	11.05	11.07	133460	98056	53.298m	32.908
18)	o-Nitrotoluene	13.65	13.69	102486	154155	47.529m	50.353m
19)	p-Nitrotoluene	14.06	14.09	172967	140489	50.993m	48.962m
20)	m-Nitrotoluene	14.65	14.66	172077	198771	54.303m	52.066m
21)	PETN	0.00	16.14	0	386988	N.D.	265.317m#

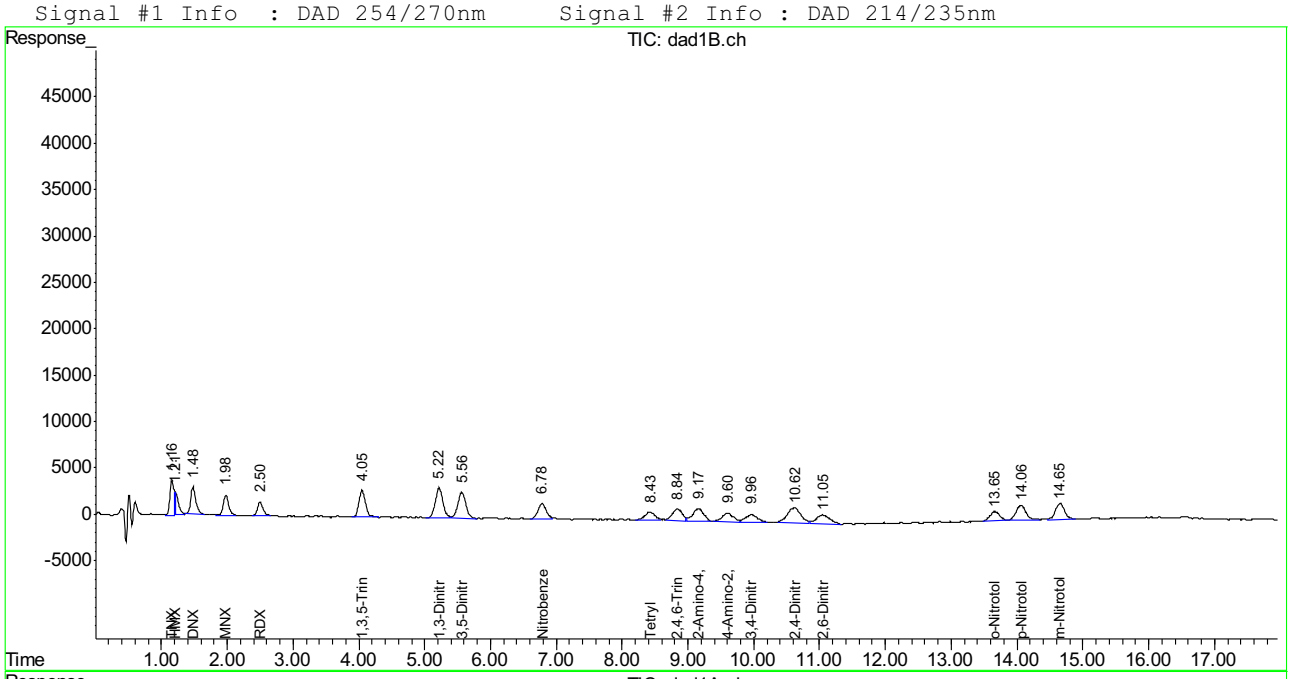
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381203.D 8330-0118BPLUS.M Thu Jan 19 06:39:51 2017 Page 1

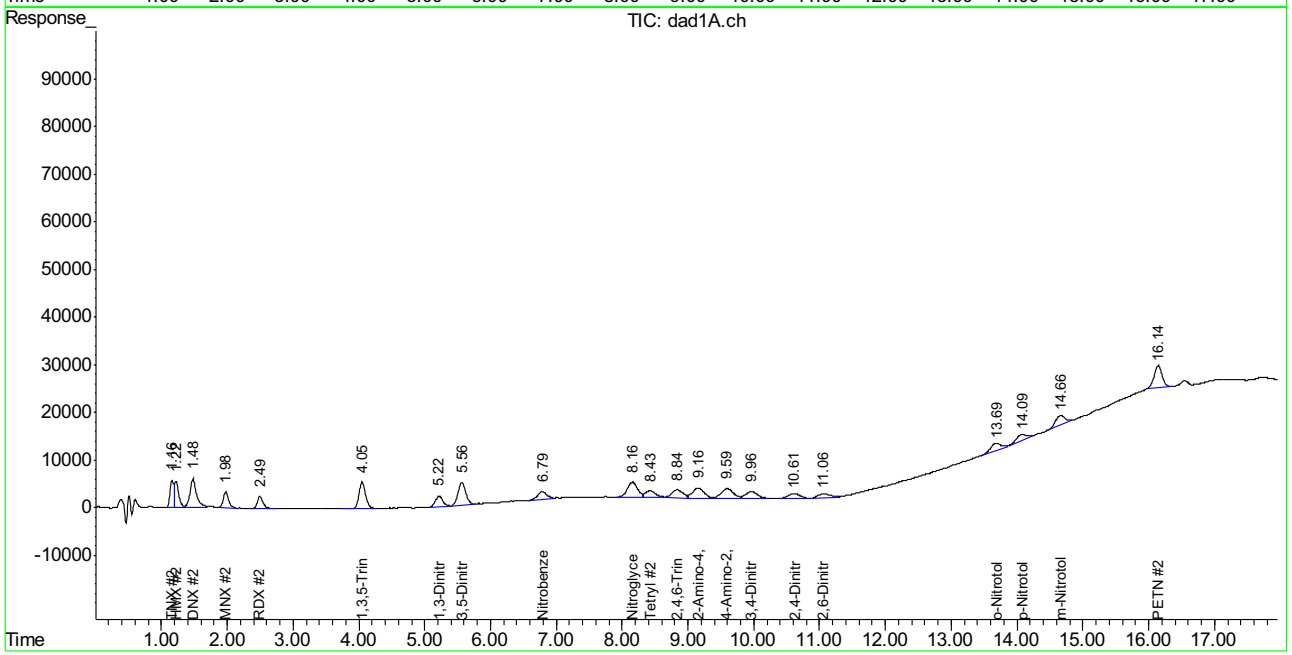
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381203.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0118BPL\PP381203.D\dad1A.ch
Acq On : 18-Jan-2017, 08:45:22 Operator: kismetl
Sample : ic2066-50 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:36 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381203.D
Injection Time: 01/18/17 08:45
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
TNX		2	1.16	Overlapping peak
HMX	2691-41-0	1	1.21	Overlapping peak
HMX	2691-41-0	2	1.22	Overlapping peak
DNX		1	1.48	Poor instrument integration
DNX		2	1.48	Poor instrument integration
MNX		1	1.98	Poor instrument integration
MNX		2	1.98	Poor instrument integration
RDX	121-82-4	1	2.50	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.05	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.22	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.22	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.56	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
Tetryl	479-45-8	1	8.43	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.84	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.17	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.60	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.62	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.05	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.06	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.09	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381204.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0118BPL\PP381204.D\dad1A.ch
Acq On : 18-Jan-2017, 09:10:21 Operator: kismetl
Sample : ic2066-100 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:31 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.97	205271	392775	99.265m	100.744
	Spiked Amount 500.000	Range 70 - 136		Recovery =		19.85%#	20.15%#
	Target Compounds						
1)	TNX	1.16	1.16	295930	435588	95.607m	88.269
2)	HMX	1.21	1.23	173104	535383	107.848m	121.960
3)	DNX	1.48	1.48	311880	661501	107.640	138.405m
4)	MNX	1.98	1.98	232754	359951	102.591	101.751m
5)	RDX	2.50	2.50	177327	297288	96.631m	102.449
6)	1,3,5-Trinitrobe	4.05	4.05	411128	779925	109.930	107.637
7)	1,3-Dinitrobenze	5.22	5.22	500112	342553	98.461	100.575m
8)	3,5-Dinitroanili	5.57	5.57	463811	790558	103.551	104.800
9)	Nitrobenzene	6.78	6.78	307718	304724	102.206m	108.300m
10)	Nitroglycerin	0.00	8.16	0	694577	N.D.	479.715 #
11)	Tetryl	8.43	8.43	173022	315473	89.845m	121.995
12)	2,4,6-Trinitroto	8.84	8.84	287190	416526	83.289m	96.540
13)	2-Amino-4,6-Dini	9.16	9.16	311773	518875	99.383m	105.455
14)	4-Amino-2,6-Dini	9.60	9.60	232733	517662	101.004m	107.960
16)	2,4-Dinitrotolue	10.61	10.61	479978	272910	104.958m	91.755
17)	2,6-Dinitrotolue	11.06	11.07	263368	242284	105.178m	81.037
18)	o-Nitrotoluene	13.66	13.67	219016	261062	101.570m	85.273m
19)	p-Nitrotoluene	14.06	14.06	328213	276752	96.761m	96.451m
20)	m-Nitrotoluene	14.65	14.66	325186	389542	102.619m	102.037m
21)	PETN	0.00	16.14	0	716611	N.D. d	491.305m

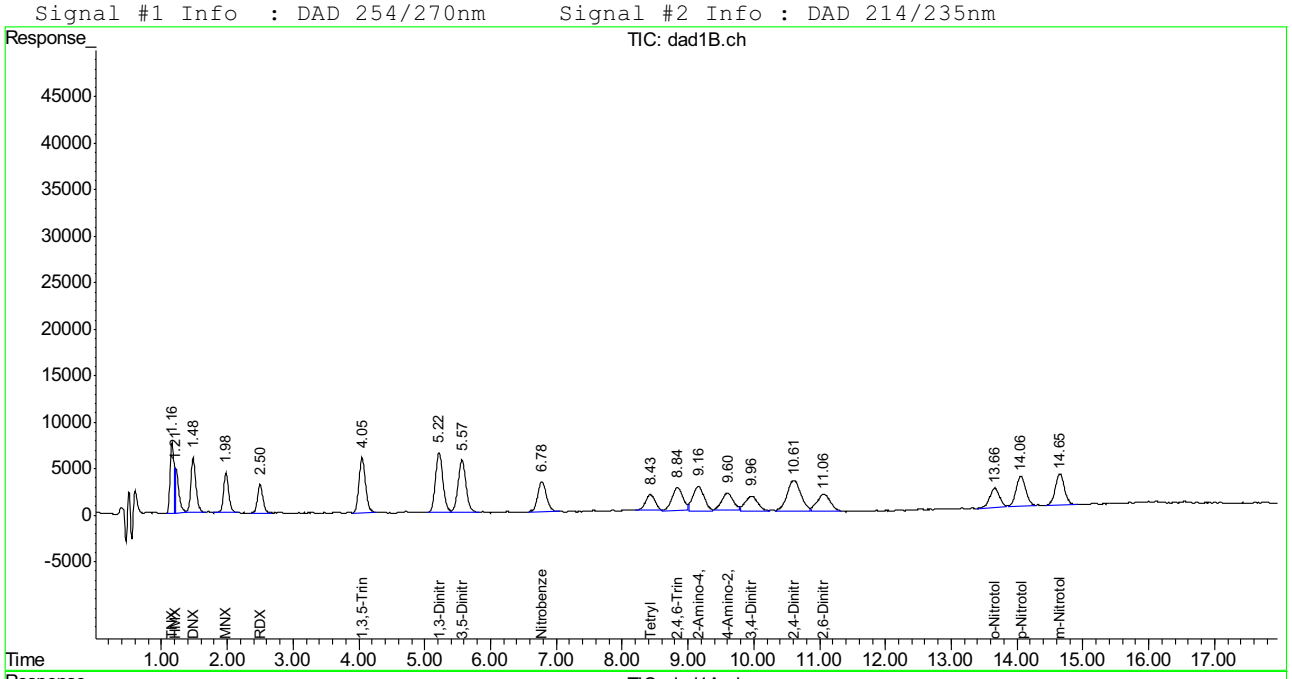
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381204.D 8330-0118BPLUS.M Thu Jan 19 06:39:52 2017 Page 1

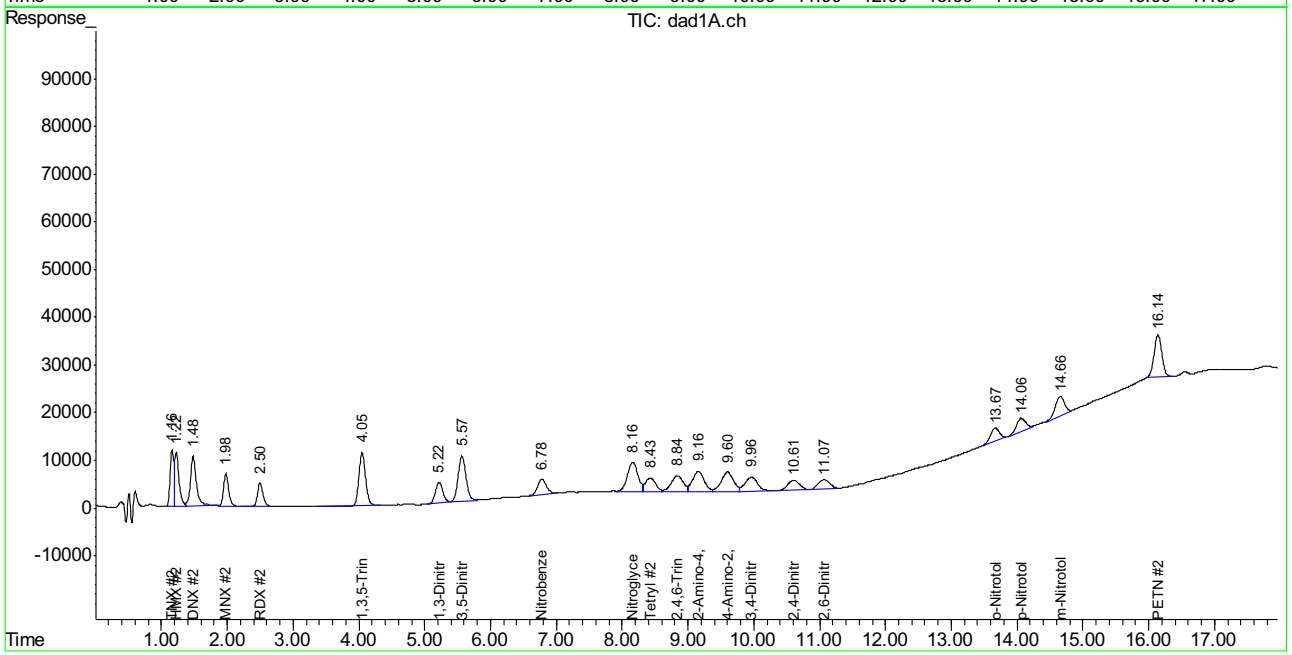
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381204.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0118BPL\PP381204.D\dad1A.ch
Acq On : 18-Jan-2017, 09:10:21 Operator: kismetl
Sample : ic2066-100 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:39 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381204.D
Injection Time: 01/18/17 09:10
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
HMX	2691-41-0	1	1.21	Overlapping peak
DNX		2	1.48	Poor instrument integration
MNX		2	1.98	Poor instrument integration
RDX	121-82-4	1	2.50	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.22	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Tetryl	479-45-8	1	8.43	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.84	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.16	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.60	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.61	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.06	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.66	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.67	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.06	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381205.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0118BPL\PP381205.D\dad1A.ch
Acq On : 18-Jan-2017, 09:35:15 Operator: kismetl
Sample : ic2066-200 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:33 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.97	9.97	412101	744389	199.283m	190.931
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.86%#	38.19%#
	Target Compounds						
1)	TNX	1.16	1.16	558066	830304	180.296m	168.255m
2)	HMX	1.22	1.23	310841	906871	193.662m	206.584m
3)	DNX	1.49	1.48	556046	1005711	191.909	210.423
4)	MNX	1.98	1.98	456505	699042	201.214	197.605
5)	RDX	2.50	2.50	354846	573251	193.368	197.549
6)	1,3,5-Trinitrobe	4.05	4.05	804678	1552303	215.160	214.232
7)	1,3-Dinitrobenze	5.22	5.22	1005996	684780	198.059	201.054
8)	3,5-Dinitroanili	5.57	5.57	868246	1494900	193.846	198.171
9)	Nitrobenzene	6.79	6.78	573529	590316	190.494	209.800m
10)	Nitroglycerin	0.00	8.16	0	1309718	N.D.	904.567 #
11)	Tetryl	8.42	8.43	390834	606248	202.949m	234.439
12)	2,4,6-Trinitroto	8.84	8.84	565293	780152	163.943m	180.819
13)	2-Amino-4,6-Dini	9.16	9.16	627504	1002985	200.028m	203.845
14)	4-Amino-2,6-Dini	9.59	9.60	460758	972147	199.965m	202.744
16)	2,4-Dinitrotolue	10.60	10.61	903488	567185	197.568m	190.694
17)	2,6-Dinitrotolue	11.06	11.07	530121	545357	211.707m	181.135
18)	o-Nitrotoluene	13.66	13.66	437744	610192	203.007	199.312m
19)	p-Nitrotoluene	14.06	14.06	681111	575935	200.801	200.718m
20)	m-Nitrotoluene	14.65	14.65	650781	766290	205.368	200.722m
21)	PETN	0.00	16.14	0	1433154	N.D. d	982.563m

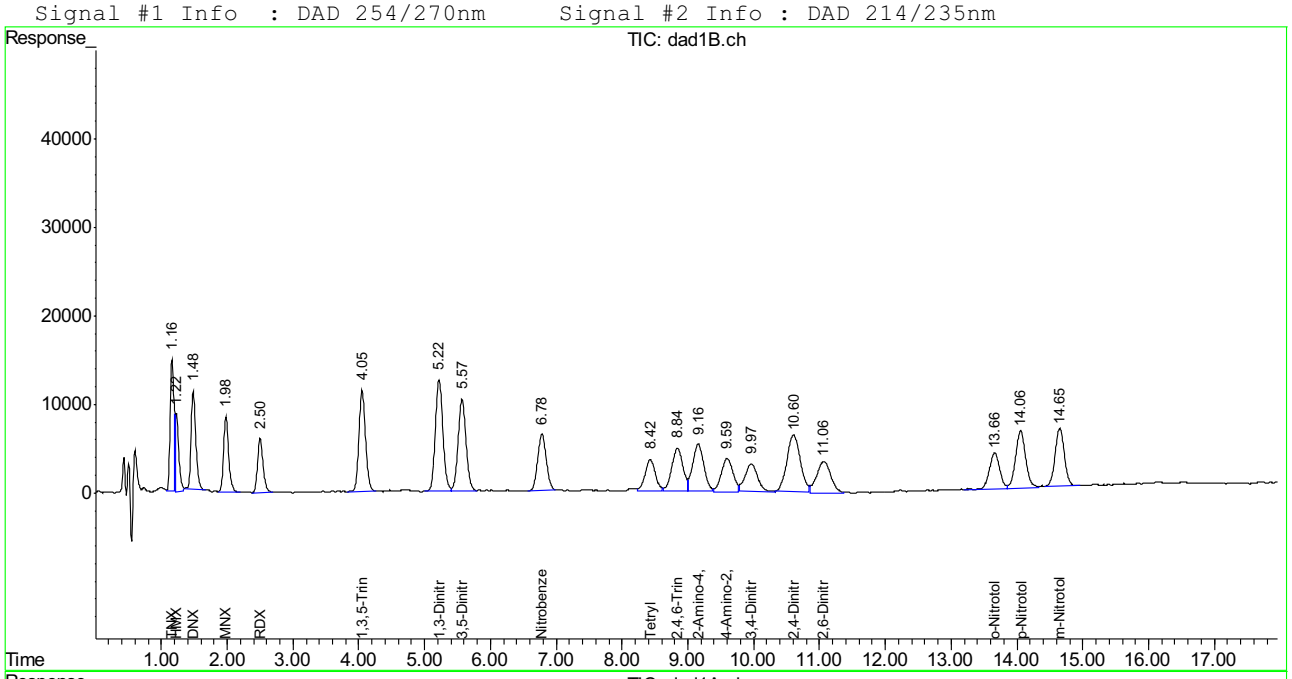
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381205.D 8330-0118BPLUS.M Thu Jan 19 06:39:53 2017 Page 1

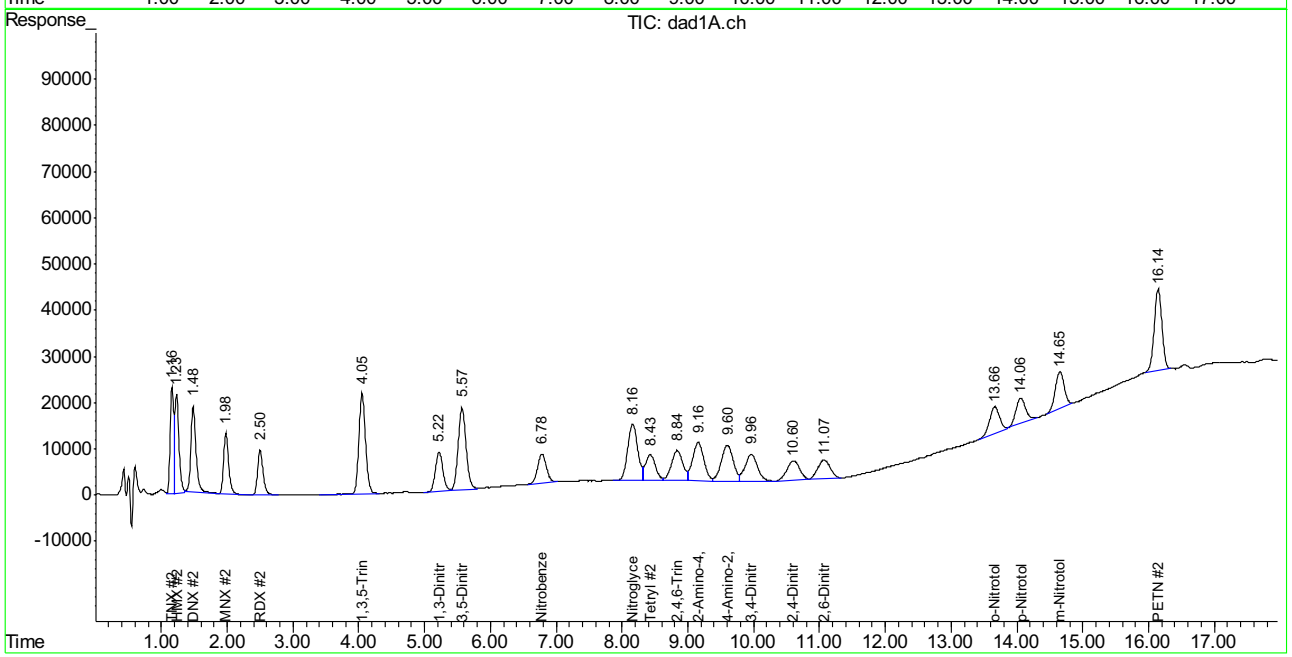
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381205.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0118BPL\PP381205.D\dad1A.ch
Acq On : 18-Jan-2017, 09:35:15 Operator: kismetl
Sample : ic2066-200 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:43 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381205.D
Injection Time: 01/18/17 09:35
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
TNX		2	1.16	Poor instrument integration
HMX	2691-41-0	1	1.22	Overlapping peak
HMX	2691-41-0	2	1.23	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.84	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.16	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.59	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.97	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.60	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.06	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.66	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381206.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0118BPL\PP381206.D\dad1A.ch
Acq On : 18-Jan-2017, 10:00:13 Operator: kismetl
Sample : icc2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:34 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	987452	1842385	477.512	472.559
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.50%	94.51%
	Target Compounds						
1)	TNX	1.16	1.17	1514930	2249444	489.433m	455.832
2)	HMX	1.24	1.25	832707	2458633	518.797m	560.074
3)	DNX	1.49	1.49	1399456	2355711	482.997	492.881
4)	MNX	1.98	1.98	1141228	1780986	503.019	503.450
5)	RDX	2.50	2.50	894075	1420515	487.211	489.526
6)	1,3,5-Trinitrobe	4.05	4.05	2043646	3918062	546.444	540.729
7)	1,3-Dinitrobenze	5.21	5.21	2540149	1730689	500.099	508.138m
8)	3,5-Dinitroanili	5.56	5.56	2203649	3713032	491.990	492.217
9)	Nitrobenzene	6.78	6.77	1484626	1490875	493.108	529.862m
10)	Nitroglycerin	0.00	8.15	0	3265009	N.D.	2255.004m#
11)	Tetryl	8.42	8.42	971065	1499768	504.246m	579.968
12)	2,4,6-Trinitroto	8.83	8.83	1443366	1968404	418.597m	456.225
13)	2-Amino-4,6-Dini	9.15	9.15	1567094	2470570	499.540m	502.114
14)	4-Amino-2,6-Dini	9.59	9.59	1110155	2419671	481.799	504.631
16)	2,4-Dinitrotolue	10.60	10.60	2277260	1465984	497.974	492.879
17)	2,6-Dinitrotolue	11.06	11.06	1279431	1539372	510.948	500.175
18)	o-Nitrotoluene	13.66	13.65	1107342	1540591	513.538	503.215m
19)	p-Nitrotoluene	14.05	14.05	1716401	1419126	506.017	494.578m
20)	m-Nitrotoluene	14.65	14.65	1632947	1964654	515.312m	514.621m
21)	PETN	0.00	16.14	0	3601237	N.D. d	2468.989m

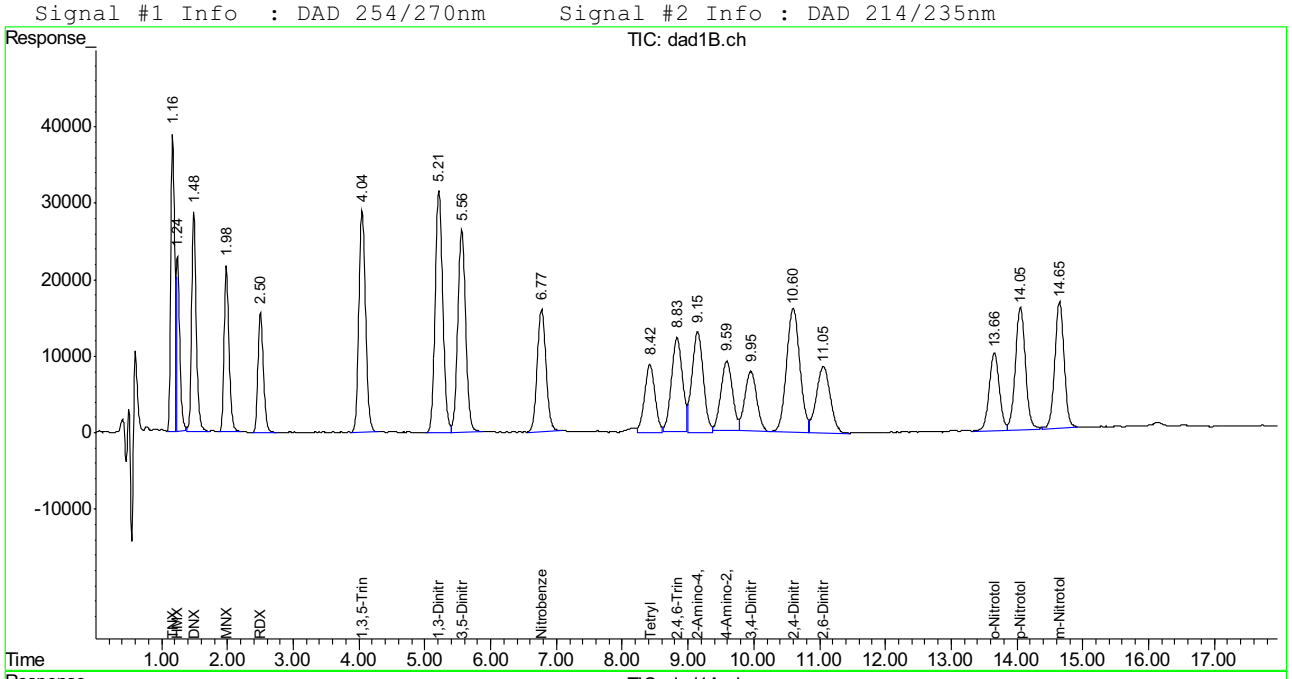
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381206.D 8330-0118BPLUS.M Thu Jan 19 06:40:07 2017 Page 1

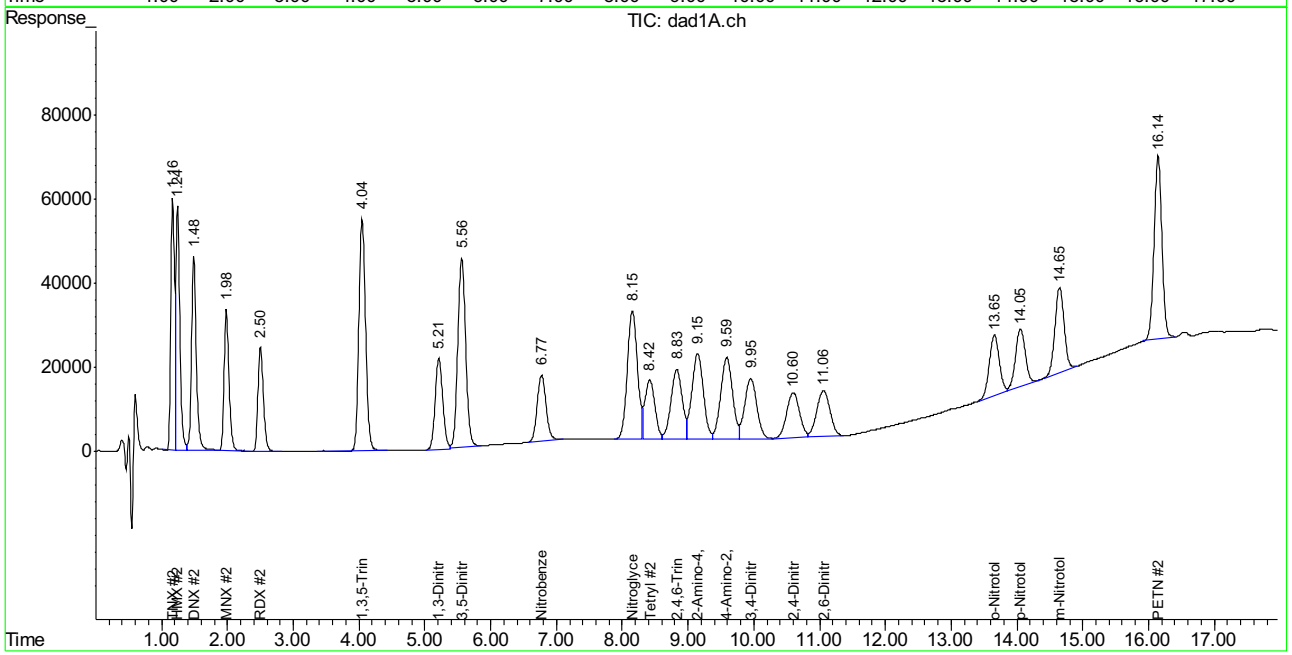
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381206.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0118BPL\PP381206.D\dad1A.ch
Acq On : 18-Jan-2017, 10:00:13 Operator: kismetl
Sample : icc2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:46 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GPP2066-ICC2066 **Method:** SW846 8330B
Lab FileID: PP381206.D **Analyst approved:** 01/19/17 13:25 Kismet Lugo
Injection Time: 01/18/17 10:00 **Supervisor approved:** 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
HMX	2691-41-0	1	1.24	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	5.21	Poor instrument integration
Nitrobenzene	98-95-3	2	6.77	Poor instrument integration
Nitroglycerine	55-63-0	2	8.15	Poor instrument integration
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.83	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.15	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381207.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0118BPL\PP381207.D\dad1A.ch
Acq On : 18-Jan-2017, 10:25:10 Operator: kismetl
Sample : ic2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:46:43 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	2020981	3561040	977.305	913.382
	Spiked Amount 500.000	Range 70 - 136		Recovery =		195.46%#	182.68%#
	Target Compounds						
1)	TNX	1.17	1.17	3098257	4584708	1000.963	929.056
2)	HMX	1.25	1.25	1663286	4558666	1036.268	1038.460
3)	DNX	1.49	1.49	2678695	4303410	924.503	900.394
4)	MNX	1.99	1.99	2228330	3411925	982.182	964.484
5)	RDX	2.51	2.51	1717948	2726219	936.167	939.487
6)	1,3,5-Trinitrobe	4.05	4.05	3950719	7571196	1056.370	1044.896
7)	1,3-Dinitrobenze	5.21	5.21	4915197	3289021	967.694	965.672
8)	3,5-Dinitroanili	5.56	5.56	4247702	7214449	948.349	956.381
9)	Nitrobenzene	6.77	6.77	2917305	2923321	968.962	1038.958
10)	Nitroglycerin	0.00	8.16	0	6295197	N.D.	4347.827 #
11)	Tetryl	8.43	8.43	1974707	2877536	1025.409	1112.757
12)	2,4,6-Trinitroto	8.84	8.83	2804306	3775336	813.289	875.025
13)	2-Amino-4,6-Dini	9.15	9.15	3092968	4763542	985.940	968.133
14)	4-Amino-2,6-Dini	9.59	9.59	2283112	4682351	990.853	976.520
16)	2,4-Dinitrotolue	10.60	10.60	4453852	2874349	973.935	966.386
17)	2,6-Dinitrotolue	11.06	11.06	2513614	3085158	1003.825	971.262
18)	o-Nitrotoluene	13.65	13.65	2116758	2939219	981.663	960.060m
19)	p-Nitrotoluene	14.05	14.05	3295477	2793912	971.550	973.702m
20)	m-Nitrotoluene	14.64	14.64	3205258	3802661	1011.490	996.067m
21)	PETN	0.00	16.14	0	6887861	N.D. d	4722.281m

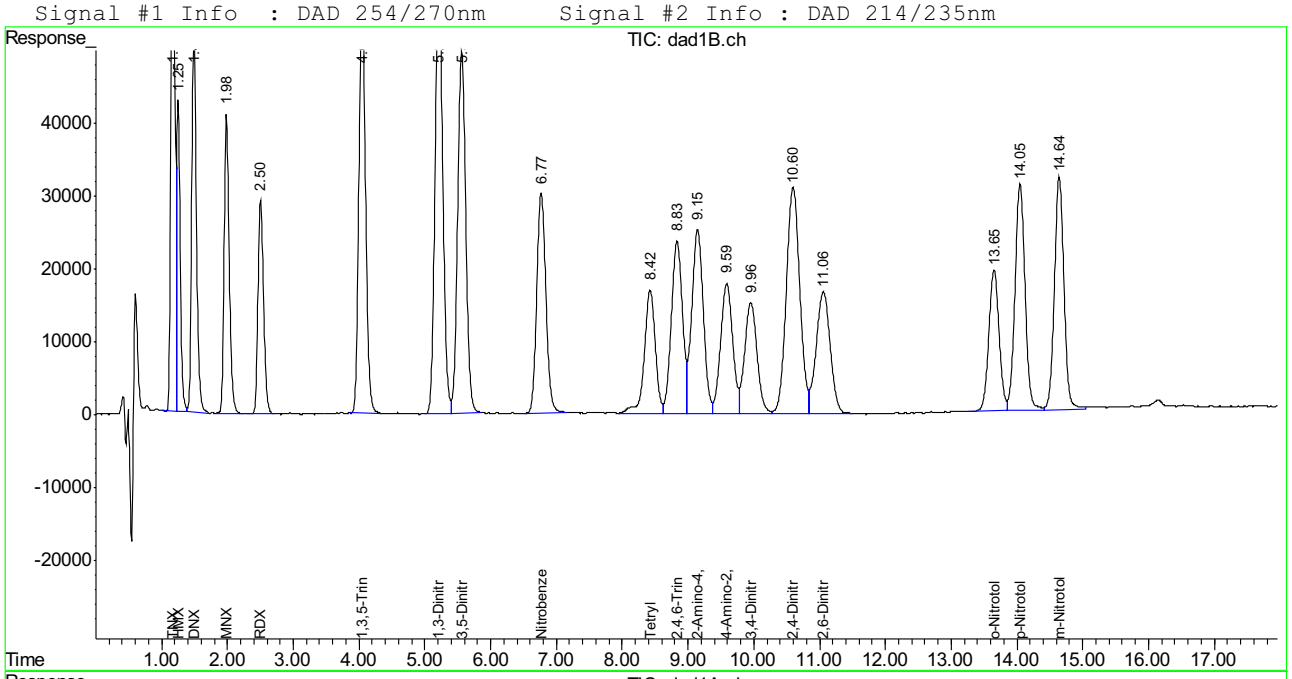
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381207.D 8330-0118BPLUS.M Thu Jan 19 06:40:08 2017 Page 1

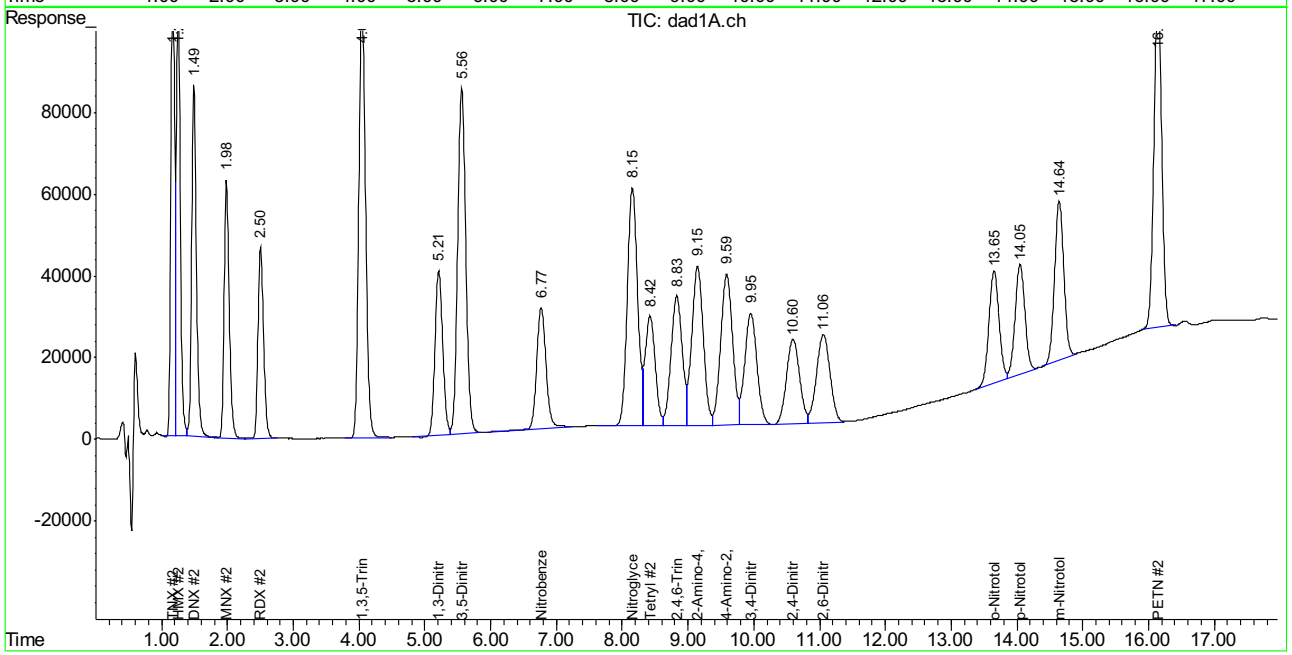
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381207.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0118BPL\PP381207.D\dad1A.ch
Acq On : 18-Jan-2017, 10:25:10 Operator: kismetl
Sample : ic2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:48 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381207.D
Injection Time: 01/18/17 10:25
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

PP381208.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381208.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0118BPL\PP381208.D\dad1A.ch
Acq On : 18-Jan-2017, 10:50:08 Operator: kismetl
Sample : ic2066-2000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 11:16:54 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.94	9.94	4188622	7412191	2025.531	1901.176
	Spiked Amount 500.000	Range 70 - 136		Recovery =		405.11%#	380.24%#
	Target Compounds						
1)	TNX	1.16	1.16	5964629	8919540	1927.011m	1807.476m
2)	HMX	1.25	1.26	3406264	9141783	2122.186m	2082.489m
3)	DNX	1.48	1.48	5550963	8790549	1915.815m	1839.230m
4)	MNX	1.98	1.98	4586501	7069338	2021.594	1998.363
5)	RDX	2.49	2.49	3569182	5681944	1944.966	1958.065
6)	1,3,5-Trinitrobe	4.04	4.04	8230415	15750484	2200.703	2173.715
7)	1,3-Dinitrobenze	5.20	5.20	10223445	6824191	2012.771	2003.614
8)	3,5-Dinitroanili	5.54	5.54	8879954	15043608	1982.553	1994.251
9)	Nitrobenzene	6.75	6.75	6031858	5963383	2003.438	2119.406
10)	Nitroglycerin	0.00	8.14	0	13186524	N.D.	9107.375 #
11)	Tetryl	8.41	8.41	4081911	5921632	2119.619	2289.924
12)	2,4,6-Trinitroto	8.82	8.82	5854655	7854738	1697.934	1820.524
13)	2-Amino-4,6-Dini	9.12	9.12	6400479	9873137	2040.270	2006.598
14)	4-Amino-2,6-Dini	9.57	9.57	4711633	9714281	2044.812	2025.946
16)	2,4-Dinitrotolue	10.58	10.58	9255446	6049977	2023.912	2034.065
17)	2,6-Dinitrotolue	11.04	11.04	5184569	6641553	2070.486	1962.476
18)	o-Nitrotoluene	13.64	13.64	4336279	6235481	2010.984	2036.743m
19)	p-Nitrotoluene	14.03	14.03	6784984	5908043	2000.302	2059.004m
20)	m-Nitrotoluene	14.63	14.63	6625239	8042759	2090.740	2106.716m
21)	PETN	0.00	16.14	0	14292982	N.D. d	9799.193m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381208.D 8330-0118BPLUS.M Thu Jan 19 06:53:26 2017 Page 1

9.5.17

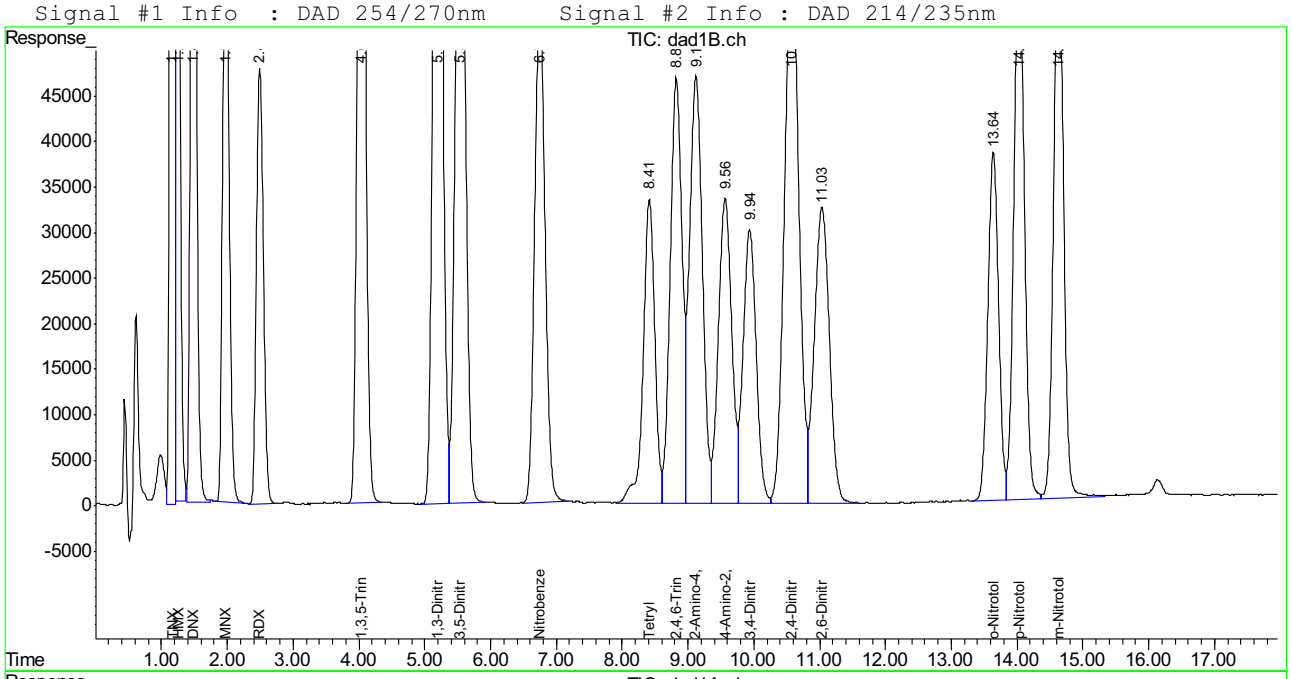
9

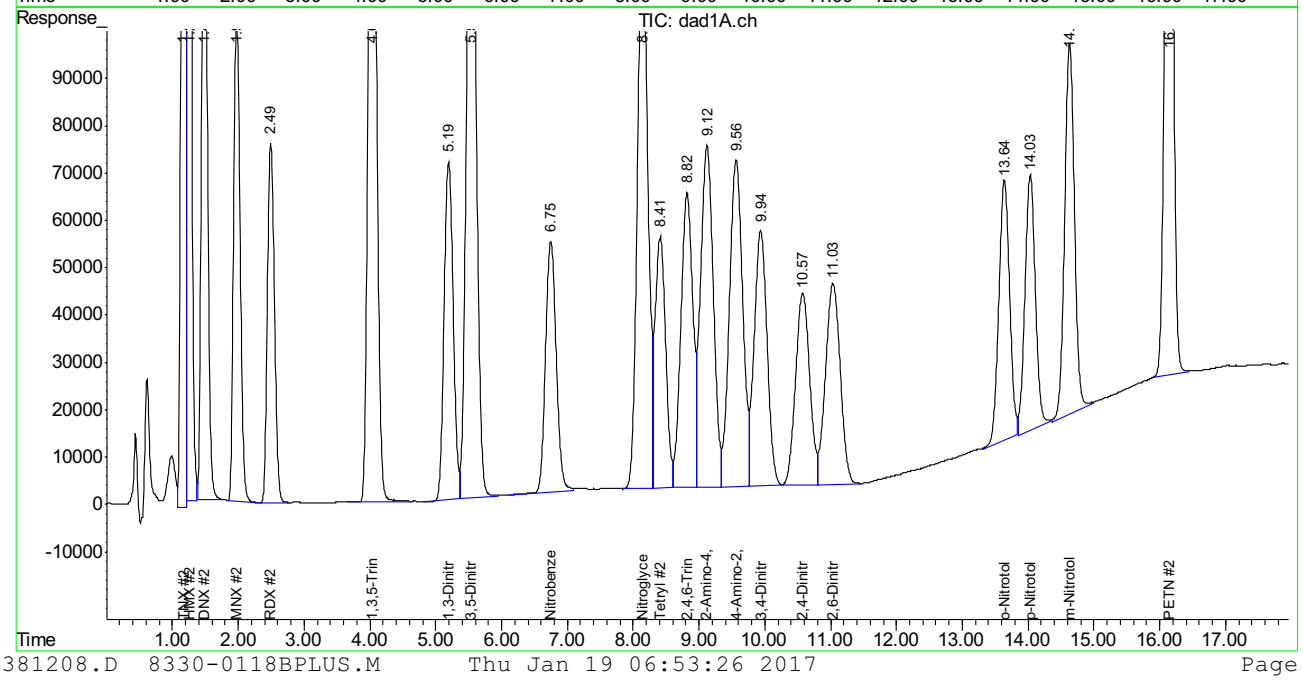
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381208.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0118BPL\PP381208.D\dad1A.ch
Acq On : 18-Jan-2017, 10:50:08 Operator: kismetl
Sample : ic2066-2000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 6:48 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





PP381208.D 8330-0118BPLUS.M Thu Jan 19 06:53:26 2017 Page 2

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381208.D
Injection Time: 01/18/17 10:50
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Poor instrument integration
TNX		2	1.16	Poor instrument integration
HMX	2691-41-0	1	1.25	Poor instrument integration
HMX	2691-41-0	2	1.26	Poor instrument integration
DNX		1	1.48	Poor instrument integration
DNX		2	1.48	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.03	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.63	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381209.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0118BPL\PP381209.D\dad1A.ch
Acq On : 18-Jan-2017, 11:26:25 Operator: kismetl
Sample : icv2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:06:36 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.16	1.16	1555353	2235248	527.933	523.061
2)	HMX	1.24	1.24	931370	2650951	565.139	553.128
3)	DNX	1.49	1.48	1379947	2268496	509.255	501.805
4)	MNX	1.98	1.98	1151652	1780124	492.591	505.165
5)	RDX	2.50	2.50	934936	1496699	513.081	501.413
6)	1,3,5-Trinitrobe	4.04	4.04	2062043	3919080	506.306	504.165
7)	1,3-Dinitrobenze	5.21	5.21	2531317	1654348	500.118	487.765
8)	3,5-Dinitroanili	5.56	5.56	2046292	3479170	454.560	457.607
9)	Nitrobenzene	6.77	6.77	1587959	1572517	520.071	520.766
10)	Nitroglycerin	0.00	8.15	0	3316751	N.D.	2468.478 #
11)	Tetryl	8.42	8.42	879636	1268636	453.819m	401.246
12)	2,4,6-Trinitroto	8.82	8.82	1264926	1816454	452.135m	461.904
13)	2-Amino-4,6-Dini	9.14	9.15	1701596	2707279	550.614m	531.925
14)	4-Amino-2,6-Dini	9.59	9.59	1255275	2638376	536.077m	521.982
16)	2,4-Dinitrotolue	10.60	10.60	2412678	1536508	522.111	515.456
17)	2,6-Dinitrotolue	11.05	11.06	1401484	1679174	529.283	560.739
18)	o-Nitrotoluene	13.65	13.65	1175746	1667725	530.446	540.645m
19)	p-Nitrotoluene	14.05	14.04	1778932	1556422	519.093	544.654m
20)	m-Nitrotoluene	14.64	14.64	1662889	2009665	501.639	516.969m
21)	PETN	0.00	16.14	0	3706453	N.D. d	2498.033m

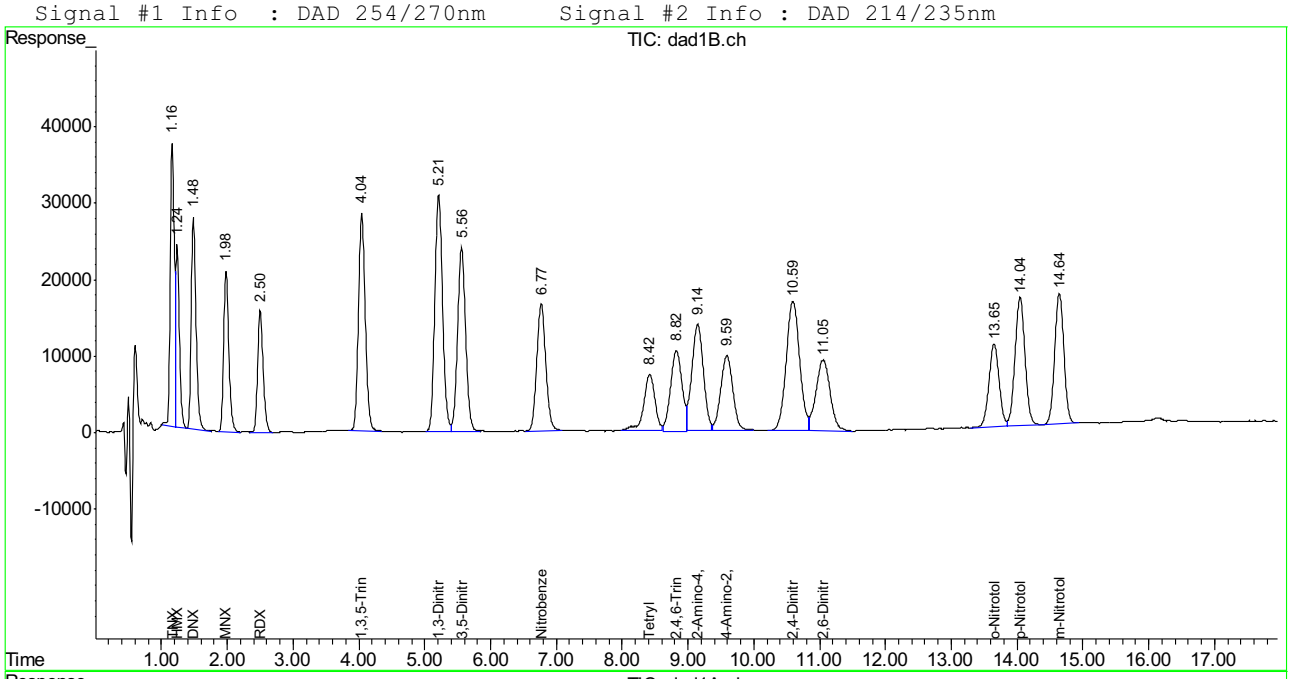
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381209.D 8330-0118BPLUS.M Thu Jan 19 12:17:10 2017 Page 1

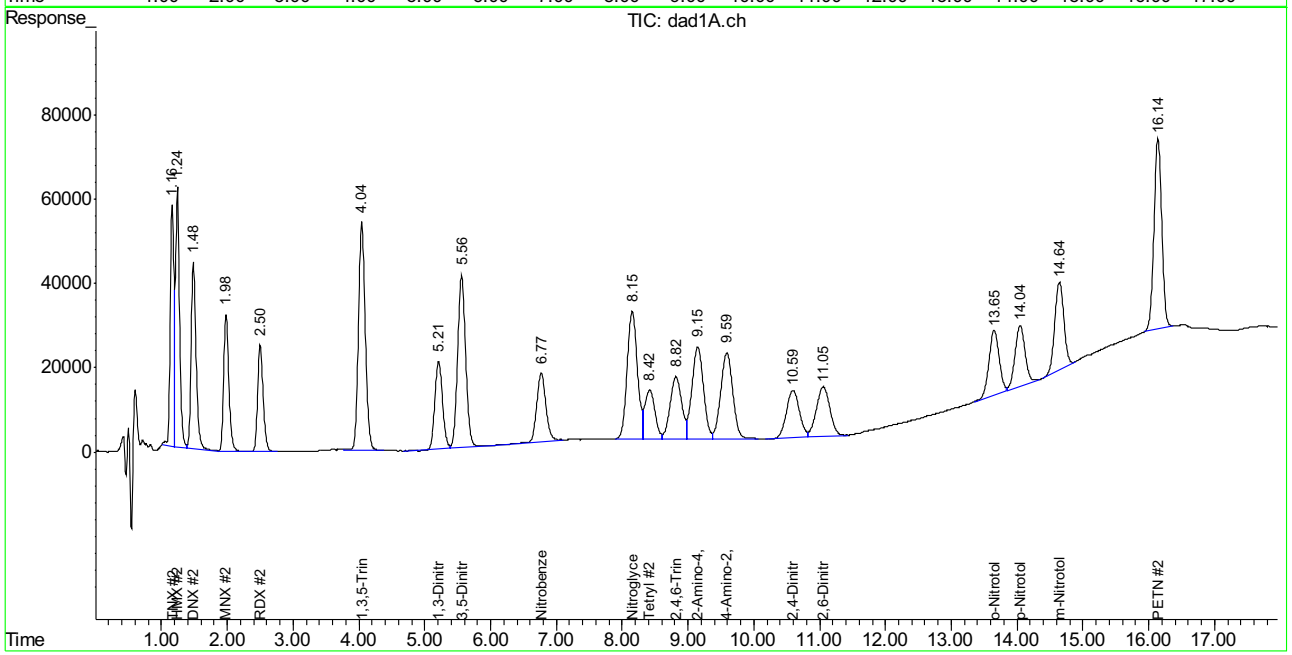
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381209.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0118BPL\PP381209.D\dad1A.ch
Acq On : 18-Jan-2017, 11:26:25 Operator: kismetl
Sample : icv2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 8:08 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-ICV2066
Lab FileID: PP381209.D
Injection Time: 01/18/17 11:26
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.82	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.14	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.59	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381221.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381221.D\dad1A.ch
Acq On : 18-Jan-2017, 16:53:32 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:43 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.94	9.94	2005856	3560231	968.550	920.081
	Spiked Amount 500.000	Range 70 - 136		Recovery =		193.71%#	184.02%#
	Target Compounds						
1)	TNX	1.17	1.17	3107666	4613652	1054.835	1079.622
2)	HMX	1.25	1.25	1641856	4513659	996.250	941.787
3)	DNX	1.49	1.49	2669080	4329719	978.083	967.255
4)	MNX	1.98	1.98	2217330	3413113	948.409	968.576
5)	RDX	2.50	2.50	1714111	2727690	940.683	913.810
6)	1,3,5-Trinitrobe	4.04	4.04	3936480	7566960	966.549	973.442
7)	1,3-Dinitrobenze	5.21	5.21	4899076	3283633	967.921	968.140
8)	3,5-Dinitroanili	5.56	5.56	4255966	7196752	945.413	946.571
9)	Nitrobenzene	6.76	6.76	2944024	2951551	964.194	977.457
10)	Nitroglycerin	0.00	8.15	0	6299280	N.D.	4688.212 #
11)	Tetryl	8.42	8.42	1940147	2880642	983.123	911.093
12)	2,4,6-Trinitroto	8.82	8.82	2792824	3785469	983.046	962.602
13)	2-Amino-4,6-Dini	9.14	9.14	3082790	4757881	997.550	934.827
14)	4-Amino-2,6-Dini	9.58	9.58	2260432	4656992	965.340	921.349
16)	2,4-Dinitrotolue	10.59	10.59	4425851	2859568	957.768	959.306
17)	2,6-Dinitrotolue	11.05	11.05	2458254	3077613	928.381	995.012
18)	o-Nitrotoluene	13.65	13.64	2161699	2997572	975.265	971.756m
19)	p-Nitrotoluene	14.04	14.04	3459522	2846144	1009.490	995.979m
20)	m-Nitrotoluene	14.64	14.64	3315449	3882047	1000.161	998.624m
21)	PETN	0.00	16.14	0	6893897	N.D. d	4646.271m

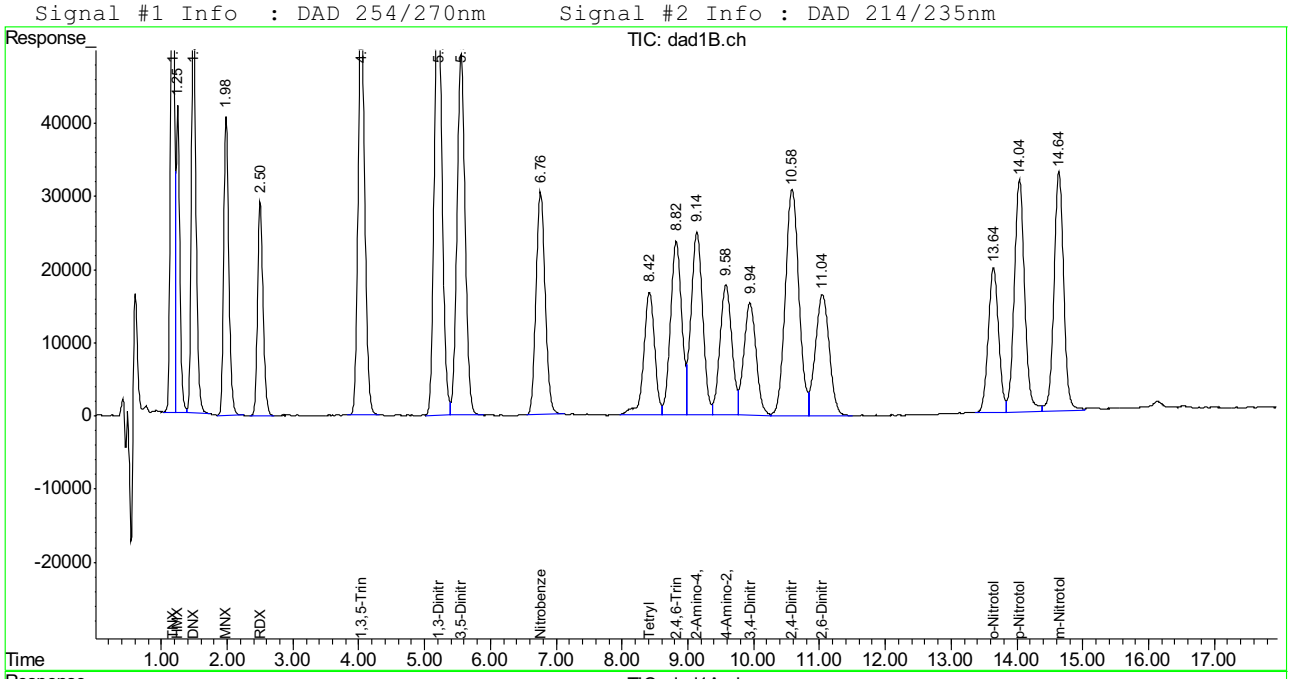
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381221.D 8330-0118BPLUS.M Thu Jan 19 12:21:28 2017 Page 1

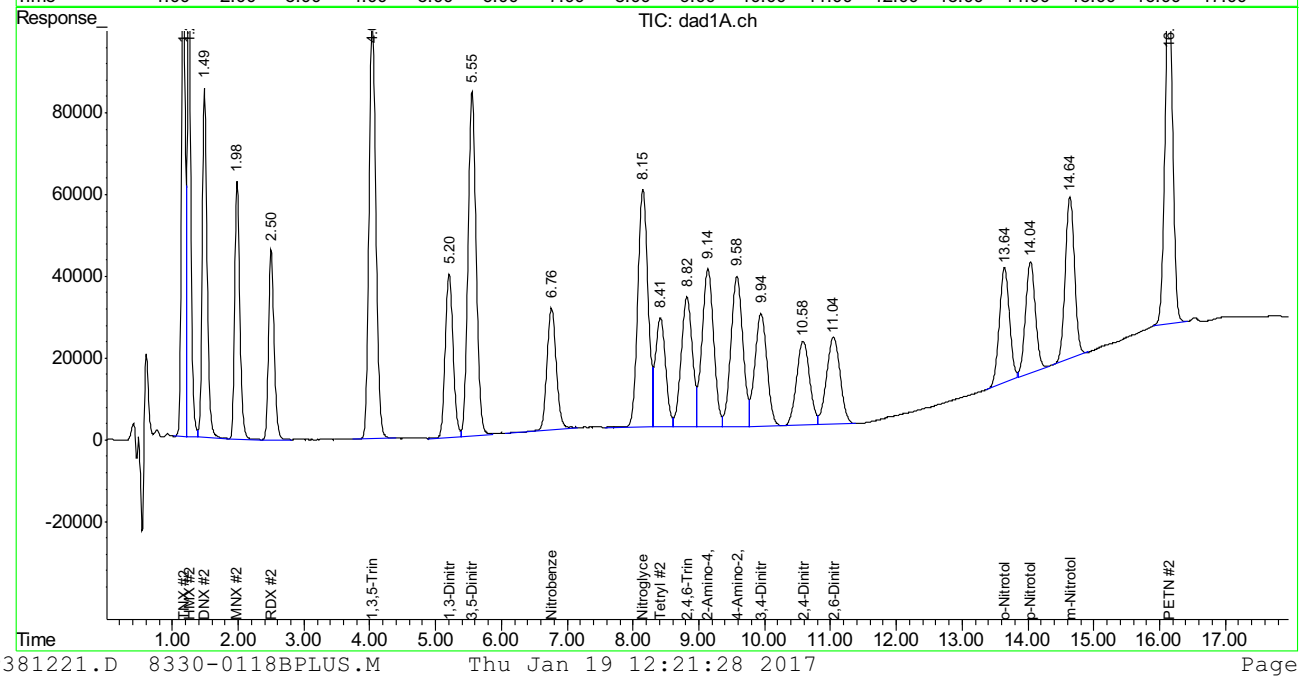
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381221.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381221.D\dad1A.ch
Acq On : 18-Jan-2017, 16:53:32 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 8:30 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-CC2066
Lab FileID: PP381221.D
Injection Time: 01/18/17 16:53
Method: SW846 8330B
Analyst approved: 01/19/17 13:26 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381224.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381224.D\dad1A.ch
Acq On : 18-Jan-2017, 18:08:12 Operator: kismetl
Sample : ecc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:48 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.95	2020827	3597407	975.778	929.688
	Spiked Amount 500.000	Range 70 - 136		Recovery =		195.16%#	185.94%#
	Target Compounds						
1)	TNX	1.17	1.17	3132753	4609655	1063.350	1078.686
2)	HMX	1.25	1.25	1605028	4486632	973.904	936.148
3)	DNX	1.49	1.49	2655898	4288621	973.322	957.883
4)	MNX	1.98	1.98	2211432	3399534	945.886	964.723
5)	RDX	2.50	2.50	1726455	2743303	947.458	919.041
6)	1,3,5-Trinitrobe	4.04	4.04	3963414	7576357	973.162	974.651
7)	1,3-Dinitrobenze	5.21	5.21	4909462	3271592	969.973	964.590
8)	3,5-Dinitroanili	5.56	5.56	4265159	7194746	947.455	946.307
9)	Nitrobenzene	6.76	6.76	2962931	2979484	970.386	986.708
10)	Nitroglycerin	0.00	8.15	0	6344720	N.D.	4722.031 #
11)	Tetryl	8.42	8.42	1945423	2897503	985.710	916.426
12)	2,4,6-Trinitroto	8.83	8.82	2798732	3799669	985.069	966.213
13)	2-Amino-4,6-Dini	9.15	9.15	3089085	4775643	999.587	938.317
14)	4-Amino-2,6-Dini	9.59	9.59	2260838	4690784	965.513	928.034
16)	2,4-Dinitrotolue	10.59	10.59	4433995	2907883	959.530	975.514
17)	2,6-Dinitrotolue	11.05	11.05	2486469	3131633	939.037	1011.271
18)	o-Nitrotoluene	13.65	13.65	2136456	3016546	963.877	977.908m
19)	p-Nitrotoluene	14.04	14.04	3321438	2830154	969.196	990.383m
20)	m-Nitrotoluene	14.64	14.64	3212637	3864205	969.146	994.034m
21)	PETN	0.00	16.14	0	6863457	N.D. d	4625.754m

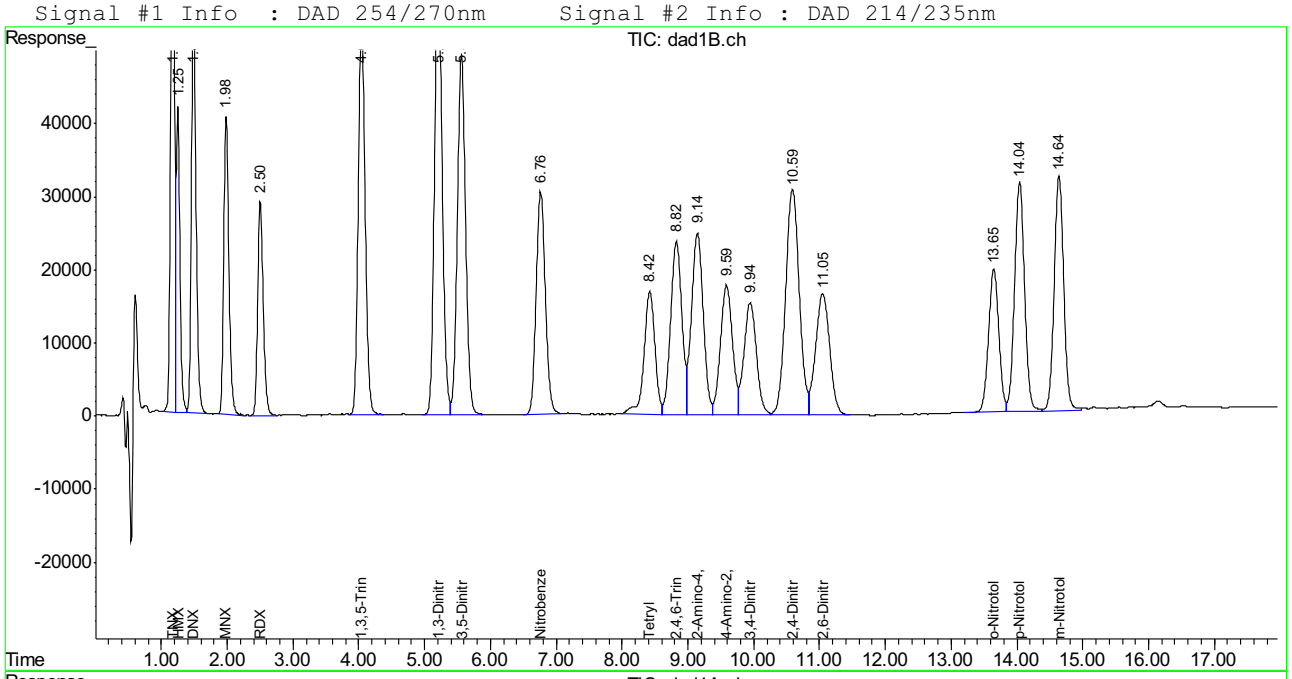
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381224.D 8330-0118BPLUS.M Thu Jan 19 12:21:31 2017 Page 1

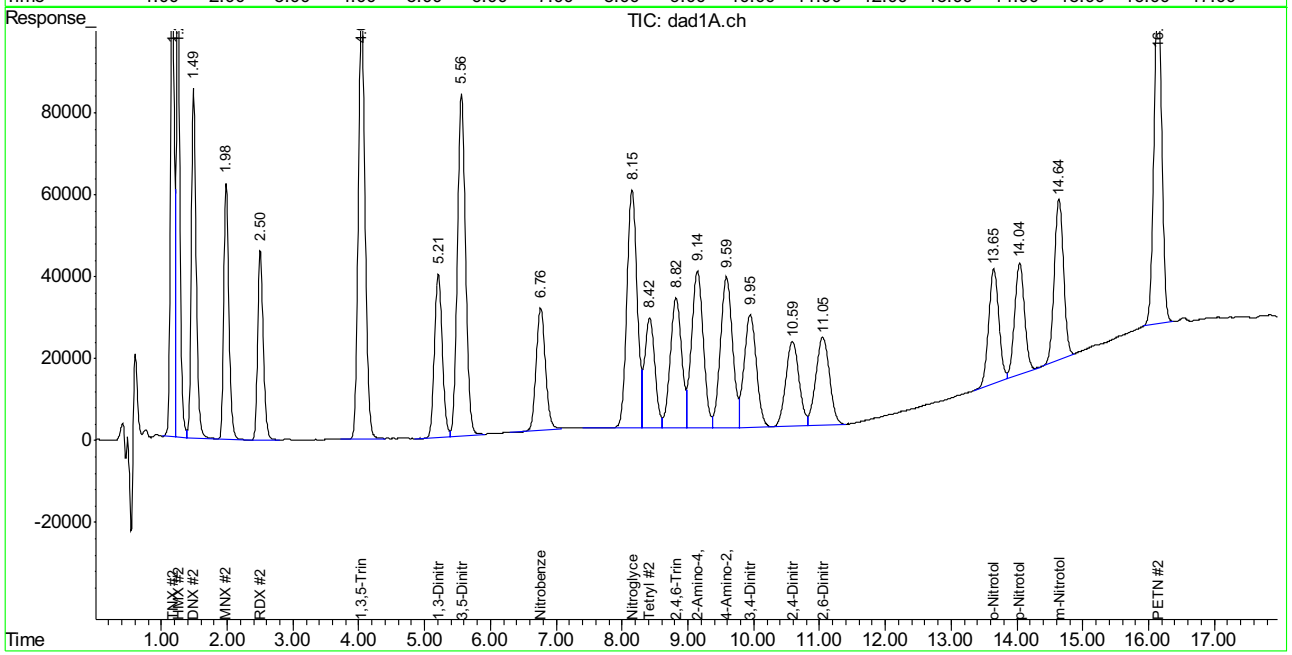
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381224.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381224.D\dad1A.ch
Acq On : 18-Jan-2017, 18:08:12 Operator: kismetl
Sample : ecc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 8:32 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-ECC2066
Lab FileID: PP381224.D
Injection Time: 01/18/17 18:08
Method: SW846 8330B
Analyst approved: 01/19/17 13:26 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381253.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381253.D\dad1A.ch
Acq On : 25-Jan-2017, 14:36:36 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:22 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.04	10.04	2130217	3770461	1028.599	974.411
	Spiked Amount 500.000	Range 70 - 136		Recovery =		205.72%#	194.88%#
	Target Compounds						
1)	TNX	1.18	1.18	3091706	4537460	1049.417	1061.792
2)	HMX	1.27	1.27	1636083	4577624	992.748	955.134
3)	DNX	1.51	1.51	2721111	4402620	996.869	983.890
4)	MNX	2.01	2.01	2290690	3517138	979.787	998.096
5)	RDX	2.53	2.54	1774683	2844886	973.924m	953.073
6)	1,3,5-Trinitrobe	4.09	4.09	4063823	7884118	997.816	1014.242
7)	1,3-Dinitrobenze	5.26	5.26	5072148	3418392	1002.115	1007.872
8)	3,5-Dinitroanili	5.62	5.62	4387504	7413243	974.632	975.045
9)	Nitrobenzene	6.80	6.80	2980402	2941879	976.108	974.254
10)	Nitroglycerin	0.00	8.29	0	6571507	N.D.	4890.816 #
11)	Tetryl	8.55	8.55	1956617	2925500	991.199	925.281
12)	2,4,6-Trinitroto	8.93	8.93	2900379	3922638	1019.827	997.482
13)	2-Amino-4,6-Dini	9.25	9.25	3203948	4895944	1036.755	961.954
14)	4-Amino-2,6-Dini	9.69	9.69	2365783	4811864	1010.331	951.989
16)	2,4-Dinitrotolue	10.69	10.69	4667019	2942151	1009.957	987.010
17)	2,6-Dinitrotolue	11.16	11.16	2676437	3237075	1010.780	1042.905
18)	o-Nitrotoluene	13.69	13.68	2158587	2992706	973.861	970.179m
19)	p-Nitrotoluene	14.08	14.08	3342664	2871852	975.390	1004.975m
20)	m-Nitrotoluene	14.67	14.67	3221749	3904849	971.895	1004.489m
21)	PETN	0.00	16.28	0	7000106	N.D. d	4717.852m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381253.D 8330-0118BPLUS.M Thu Jan 26 13:26:19 2017 Page 1

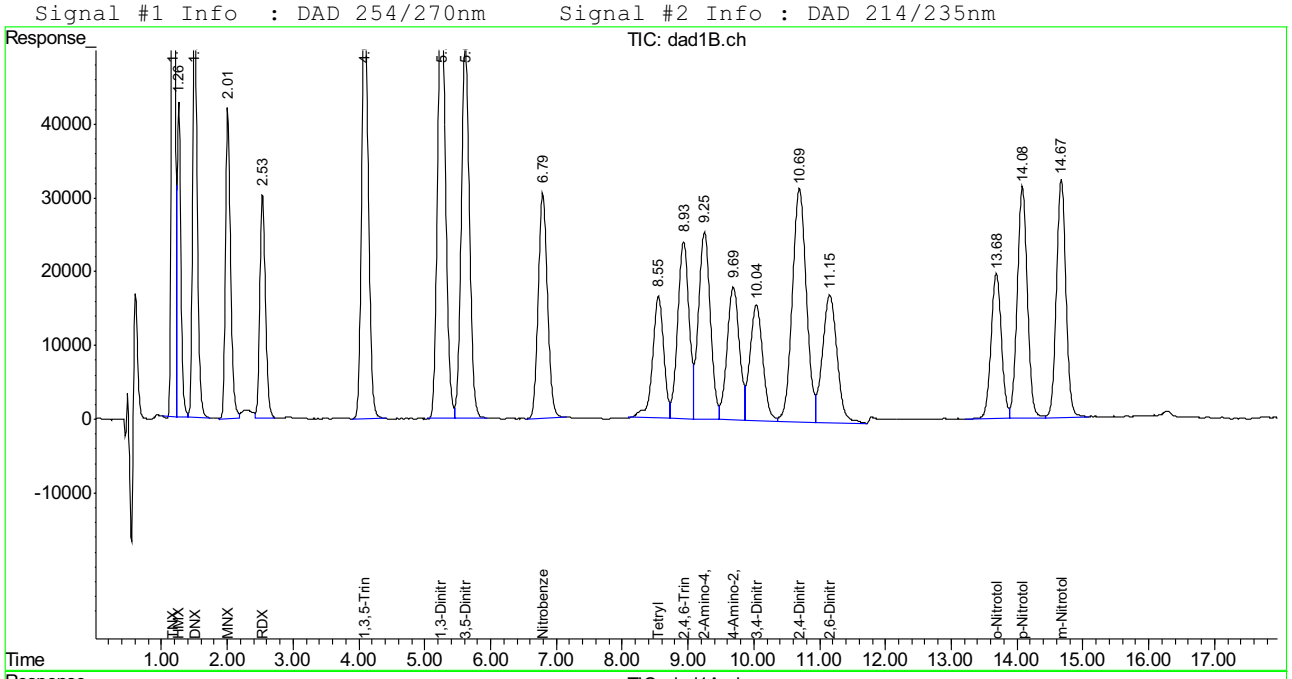
SGS ACCUTEST FA40279

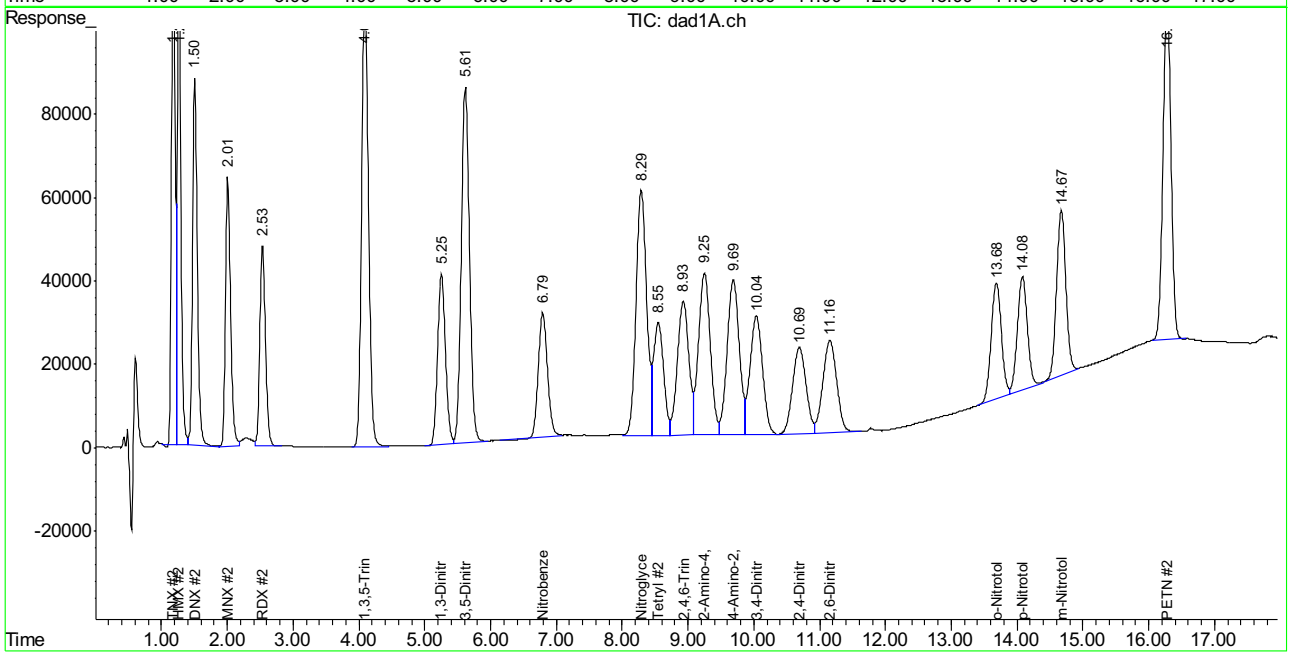
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381253.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381253.D\dad1A.ch
Acq On : 25-Jan-2017, 14:36:36 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:49 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GPP2069-CC2066
Lab FileID: PP381253.D
Injection Time: 01/25/17 14:36
Method: SW846 8330B
Analyst approved: 01/26/17 13:55 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.53	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.68	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381265.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381265.D\dad1A.ch
Acq On : 25-Jan-2017, 19:35:46 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:37 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.04	10.04	2076996	3766355	1002.900	973.350
	Spiked Amount 500.000	Range 70 - 136		Recovery =		200.58%#	194.67%#
	Target Compounds						
1)	TNX	1.18	1.18	3077765	4519445	1044.685	1057.577
2)	HMX	1.26	1.27	1618052	4555087	981.807	950.431
3)	DNX	1.51	1.51	2685998	4386161	984.193	980.133
4)	MNX	2.01	2.01	2444355	3795649	1045.514	1077.133
5)	RDX	2.54	2.54	1752104	2791243	961.533	935.101
6)	1,3,5-Trinitrobe	4.09	4.09	4039112	7795221	991.748	1002.806
7)	1,3-Dinitrobenze	5.26	5.26	5055709	3381427	998.868	996.974
8)	3,5-Dinitroanili	5.62	5.62	4370816	7408536	970.925	974.426
9)	Nitrobenzene	6.80	6.79	3005024	3006550	984.172	995.671m
10)	Nitroglycerin	0.00	8.29	0	6492431	N.D.	4831.964 #
11)	Tetryl	8.56	8.55	1985901	2924521	1005.549	924.971
12)	2,4,6-Trinitroto	8.93	8.93	2905197	3906647	1021.473	993.416
13)	2-Amino-4,6-Dini	9.26	9.26	3158766	4855749	1022.135	954.056
14)	4-Amino-2,6-Dini	9.69	9.69	2323713	4799183	992.365	949.480
16)	2,4-Dinitrotolue	10.69	10.69	4555333	2924286	985.788	981.017
17)	2,6-Dinitrotolue	11.16	11.16	2538646	3163106	958.742	1020.728
18)	o-Nitrotoluene	13.69	13.69	2202362	3032124	993.611	982.957m
19)	p-Nitrotoluene	14.08	14.08	3377705	2797327	985.615m	978.896m
20)	m-Nitrotoluene	14.67	14.67	3396616	3901768	1024.646m	1003.697m
21)	PETN	0.00	16.27	0	6973247	N.D. d	4699.749m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381265.D 8330-0118BPLUS.M Thu Jan 26 13:38:02 2017 Page 1

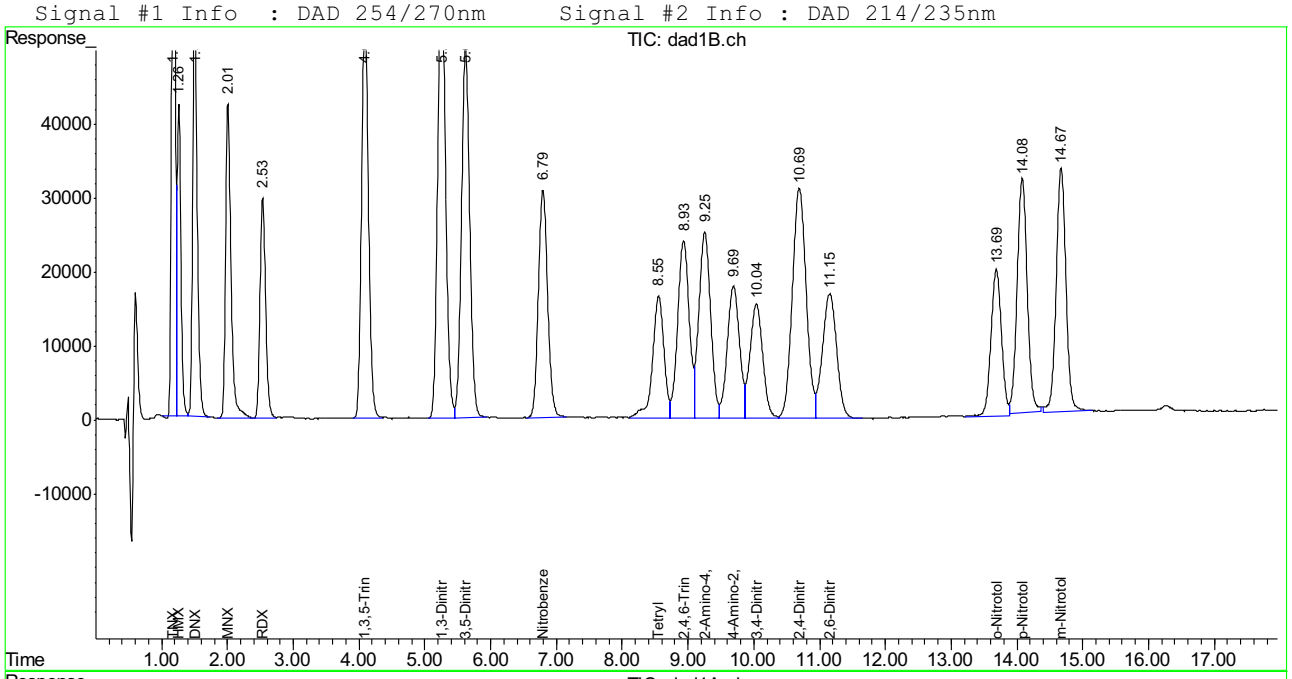
9.5.22
6

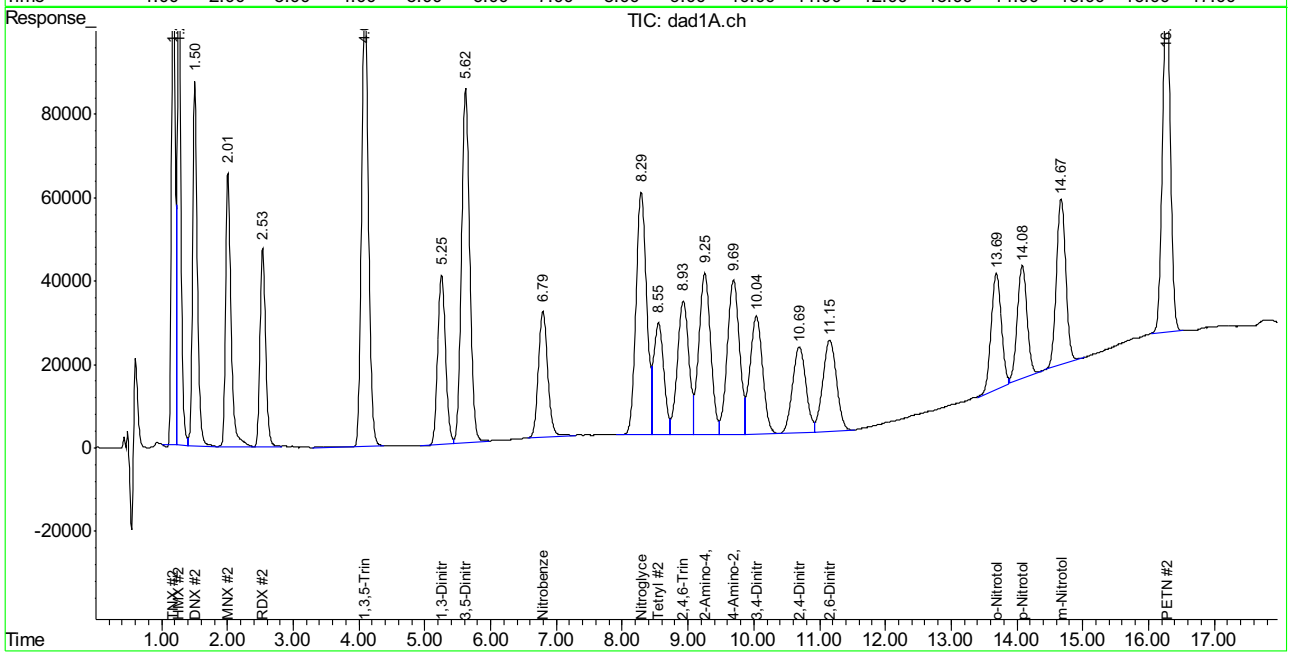
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381265.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381265.D\dad1A.ch
Acq On : 25-Jan-2017, 19:35:46 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:50 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40279

Manual Integration Approval Summary

Sample Number: GPP2069-CC2066
Lab FileID: PP381265.D
Injection Time: 01/25/17 19:35
Method: SW846 8330B
Analyst approved: 01/26/17 13:55 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.08	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.27	Poor instrument integration

SGS ACCUTEST-ORLANDO

DATE:	12/30/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 HPB3
PROC. METHOD:	8330 HPB_1230
CALIB. DATE:	12/30/16
RUN BATCH: GGG	2500

ANALYST:	LL
ACETONITRILE LOT #:	3297
MEOH LOT #:	165089
HEAD PRESSURE:	283

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060856	2	CC2495-1000	8330	LC810	1:1		DNR
GG 57	21	IC2500-20			50+450 50+450	PII sm-2,6,0 p m MP	✓
GG 58	22	IC2500-50			10+390	PII 2,6MPS2 DMPS2 3,5DPS2	✓
GG 59	23	IC2500-100			25+475	PII	✓
GG 60	24	IC2500-200			50+450	PII m MPS2	✓
GG 61	25	IC2500-500			1+3	PII	✓
GG 62	26	IC2500-1000			1:1	PII	✓
GG 63	27	IC2500-2000		↓	1x	PII	✓
GG 64	28	ICV2500-500			*	PII	246 ↓ 15%, Passes 20%
GG 65	~~25~~	21 CC2500-20		LC810	50+450 50+450		fails
GG 66	9	op63222-mb		op63222	1x	PII	ND
GG 67	10	FA39589-1cf					✓ 1.3, NB
GG 68	11	FA39589-2cf					ND 1.3 2.4"
GG 69	12	FA39589-3cf				PII	ND NC 2.4 DNC
GG 70	13	FA39589-4cf					✓
GG 71	14	FA39719-1cf		↓	↓		ND BEW DNC
GG 72	5	FA37707-62BL		op63149	1x	MP	✓
GG 73	6	FA37707-63BL		↓	↓	PII	✓ shifted ! DNRep.
GG 74	7	FA37708-59AL		op63683			
GG 75	8	FA37708-60AL	↓	↓	↓		

1/3/17 SHELLN

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

Analyst's Signature: Kismet Lyn

SGS ACCUTEST FA40279

SGS ACCUTEST-ORLANDO

DATE:	12/30/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB 1230
CALIB. DATE:	12/30/16
RUN BATCH: GGG	2500

ANALYST:	JL
ACETONITRILE LOT #:	3297
MEOH LOT #:	165089
HEAD PRESSURE:	283

JL 1/3/16

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060876	2	~~CC2500-1000~~ ~~CC2495-1000~~	8330	LC810	1:1		Pass
GG 77	1	mb	—	—	—		ND
GG 78	15	OP63245-mb		OP63245	1X		ND Report JL 01/03/16 ~~Pass~~ ~~but~~
GG 79	16	LA28935-1cf			1+4	MP 0X08 1,3,5 MP	1,3,5 NB NF 246 8330B 20%
GG 80	17	LA28935-1cf		↓	10+490	↓ PII	
GG 81	1	solvent		—	—		ND
GG 82	1	↓		—	—		ND
GG 83	1			—	—		ND
GG 84	1	↓		—	—		ND
GG 85	2	ccc2500-1000	↓	LC810	1:1	OMP-35, P, 4A MP	0,3,5 4A, P fflag
GG							
GG							
GG							
GG						JL 12/03/16	
GG							
GG							
GG							
GG							
GG							
GG							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

Analyst's Signature: Vincent Lyo

SGS ACCUTEST-ORLANDO

DATE:	01/19/17
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS:	8330 ARB
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RRB-1230
CALIB. DATE:	12/30/16
RUN BATCH: GGG	2504

ANALYST:	LL
ACETONITRILE LOT #:	3297
MEOH LOT #:	166457
HEAD PRESSURE:	235

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060927	1	solvent	8330	—	—		ND
GG 28	2	cc2500-1000		LC816	1:1	PII	Pass
GG 29	3	OP63431-mb		OP63431	1x	PII	ND
GG 30	4	FA40279-2cf				PII	✓ HMX 549 1320 172 1402 MNX RDX 35 30 1.1
GG 31	5	FA40279-3cf				PII	ND ON
GG 32	6	FA40279-1cf				PII	✓ 379 1380 ~~HMX~~ ~~DNX~~ 37 3.5 MNX
GG 33	7	FA40351-2cf				PII	✓ DNX 35 30 1
GG 34	8	FA40351-3cf		↓	↓	PII	✓ ~~234~~ 160 DNX 31 3.0 MNX 176
GG 35	2	cc2500-1000	↓	LC816	1:1	PII	Pass
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							

LL 01/19/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

37 of 100

Analyst's Signature: Kimberly

SGS ACCUTEST-ORLANDO

DATE: 01/18/17
COLUMN TYPE: Ext C18
AMOUNT INJECTED: 100 ul
INSTRUMENT: HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS: 8330A/B
ACQ. METHOD: 8330 BPL
PROC. METHOD: 8330 BPLw
CALIB. DATE: 01/18/17
RUN BATCH: GPP 2066

ANALYST: KL
ACETONITRILE LOT #: 3297
MEOH LOT #: 166459
HEAD PRESSURE: 176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 35 1200	1	solvent	8330	—	—		ND
PP 01	2	CC2053-1000		LC816	1:1		✓
PP 02	3	ic 2066-20			50+450 50+450	TNXOP HMXMPS1 OPS2 PII 0 m PMPS2	✓
PP 03	4	ic2066-50			10+390	HMXTNXOPS1 PII	✓
PP 04	5	ic 2066-100			25+475	↓ PII	✓
PP 05	6	IC 2066-200			50+450	↓ ↓	✓
PP 06	7	ICC2066 500			1+3	↓ ↓	✓
PP 07	8	ic 2066 -1000			1:1	PII	✓ Pass
PP 08	9	ic 2066 2000			1x	PII	Pass
PP 09	10	ICV2066-500		ES734 LC764 LC742 ES765	*	PII	✓ DNXT NRT
PP 10	3	CC2066-20		LC816	50+450 50+450	MP 1,3,5 OPS2 2,6 MPS2 0 pm PETN MPS2	✓
PP 11	11	op63431-bs		op63431	1x	PII	ND
PP 12	12	op63431-mb					✓ 2,6 ff s2
PP 13	13	FA 40279-2				3,5 MPS1 PII	✓
PP 14	14	FA 40279-3					✓
PP 15	15	FA 40279-1				HMXOP MNX MPS1 -RDX-3,5	✓
PP 16	16	op63431-MS				PII	✓
PP 17	17	op63431-MSd				PII	ND
PP 18	18	FA40351-1					✓ PII (2x)
PP 19	19	FA40351-2	↓	↓	↓	PII 3,5 MPS1	

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

* ES734 20ml
LC742 25ml
LC764 25ml
ES765 10ml
} +920

55 of 100

Analyst's Signature: Kimberly Lyn

SGS ACCUTEST-ORLANDO

DATE:	01/18/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330BPLus
CALIB. DATE:	01/18/17
RUN BATCH: GPP	2066

ANALYST:	KL
ACETONITRILE LOT #:	3297
MEOH LOT #:	166459
HEAD PRESSURE:	176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 38 1220	20	FA40351-3	8330	OP63431	1X	PII DNRor 3.5MPSI	✓ MU2x
PP 21	2	CC2066-1000		LC816	1:1	PII	Pass
PP 22	1	clb		—	—		ND
PP 23	21	FA40279-2		OP63431	1:1	HMRor 3.5MPSI, PII	✓
PP 24	2	CCC2066-1000	↓	LC816	1:1	PII	Pass
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

KL 01/19/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimiet Lyp

SGS ACCUTEST-ORLANDO

DATE:	1/19/2017
COLUMN TYRE:	EXTCR
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 A/B PL
PROC. METHOD:	8330 Bplus
CALIB. DATE:	1/18/17
RUN BATCH: GPP	2067

ANALYST:	EM
ACETONITRILE LOT #:	I22 97
MEOH LOT #:	166459
HEAD PRESSURE:	176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 3812225	1	Solvent	8330	—	—		ND
PP 26	2	CC L0616-1000		LC816	50/50	PII	pass
PP 27	3	FF4831-2		OP4331	20/20	2x 35 MPSI, PII NB MPSI SUM MPSI	✓
PP 28	4	↓ -3		↓	↓	2x: 35 MPSI YAMPSI SUM MPSI	✓
PP 29	5	ECC 20616-1000	↓	LC816	50/50	PII	Pass
PP							
PP							
PP							
PP							
PP							
PP						MA GD 1/19/2017	
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	01/25/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 B Plus
CALIB. DATE:	01/18/17
RUN BATCH: GPP	2069 ~~2068~~

ANALYST:	LL
ACETONITRILE LOT #:	3297
MEOH LOT #:	166459
HEAD PRESSURE:	176

LL 01/26/17

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 38/252	1	solvent	8330	—	—		ND
PP 53	2	cc2066-1000		LC816	1:1	PII	Pass
PP 54	21	FA40279-1		op63431	1:1	PII	✓
PP 55	22	op63431-ms		↓	↓	↑ PII	✓
PP 56	23	op63431-msd		↓	↓	SMMPSI PII	✓
PP 57	24	~~op63350-bs~~		op63350	1x	HMXOPSL PII	✓ op63530-bs
PP 58	25	~~op63350-mb~~		↓	↓		ND op63530-mb
PP 59	26	FA40537-1		↓	↓	RDXMPSI	✓
PP 60	27	~~op63530-ms~~		↓	↓		✓ op63530-ms
PP 61	28	~~op63530-msd~~		↓	↓	PII	✓ op63530-msd
PP 62	29	op63504-bs		op63504	↓	HMXOPSL PII	✓
PP 63	30	op63504-mb		↓	↓		LL 01/26/17 ~~NH~~ ✓ ~~contaminated?~~
PP 64	31	FA40487-27		↓	↓	~~HMXOP~~ PII	✓
PP 65	2	cc2066-1000		LC816	1:1	PII	Pass
PP 66	1	ccb		—	—		ND
PP 67	32	op63532-bs		op63532	1x	HMXOP	✓
PP 68	33	op63532-mb		↓	↓	PII	✓ contaminated?
PP 69	34	FA40487-27A		↓	↓	RDXMPSI 3.5MPSI 2AMPSI	✓
PP 70	2	ecc2066-1000		LC816	1:1	PII	Pass
PP 71	51	PETN ~~test~~ LC764		—	—		Lyt
PP 72	52	PETN test LC765					

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimit Lye

SGS ACCUTEST - ORLANDO **SPE LIQUID SAMPLE PREP REPORT**

Date/Time Started: 01/16/17 0930 {mm/dd/yy 24:00}

Date/Time Finished: 01/16/17 1800 {mm/dd/yy 24:00}

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP63431 Ext. By: MB Conc. By: — Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP63431 MB	X	1000	6	N/A	250ul		10ml	
OP 63431 BS	X	1000	↓	↓	↓	25+75 250+250ul	↓	
FA40279-1	4	1010	↓	↓	↓		↓	
-2	3	1000	↓	↓	↓		↓	
-3	2	1000	↓	↓	↓		↓	
FA40351-1	3	1000	↓	↓	↓		↓	
-2	2	990	↓	↓	↓		↓	
-3	2	1000	↓	↓	↓		↓	
FA40279-1 MS	7	500	6	N/A	250ul	25+75 250+250ul	10ml	
-1 MSD	7	500	↓	↓	↓	↓	↓	
DUP								

MB 01/16/17

Comments:

Surr.1 ID: ES7456 Conc: 20ppm Exp. Date: 04/30/17 Inj. By: MB Ver. By MB

MB 01/16/17 Spike ID: ES763 Conc: 20ppm Exp. Date: 05/21/17 Inj. By: MB Ver. By MB

Spk.1 ID: ES734 Conc: 25ppm Exp. Date: 03/08/17 Inj. By: MB Ver. By MB

Spk.2 ID: 8045E 8046D Conc: 1000 ug/ml Exp. Date: 12/31/17 MB 01/16/17 Inj. By: MB Ver. By MB

Initial Bath Temp (Therm ID): — Observed Temp °C: — Corr. Temp °C: —

Exchange Bath/N-Evap Temp (Therm ID): — Observed Temp °C: — Corr. Temp °C: —

Methanol Lot #: — SPE Lot #: S214-0061 pH Paper #: 234215

Acetonitrile Lot #: 164432 SPE Lot #: — Reagent #: —

Water Lot#: DI H2O Syringe Filter Lot#: — Solvent #: —

Relinquished By: [signature] Date: 01/16/17

Accepted By: [signature] Date: 01/17/17

NF 02/16 extwater_spe 020116.xls

9.7.1 9

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Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA40351

Sampling Date: 01/10/17

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **218**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA40351

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA40351-1	01/10/17	09:05	CTL	01/13/17	AQ	Ground Water	826629/54MW1
FA40351-2	01/10/17	10:45	CTL	01/13/17	AQ	Ground Water	826637/54MW12
FA40351-3	01/10/17	10:50	CTL	01/13/17	AQ	Ground Water	826639/54TM12

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA40351

Site: Radford AAP; VA **Report Date** 1/26/2017 9:51:09 PM

3 Sample(s) were collected on 01/10/2017 and were received at SGS Accutest Southeast (SASE) on 01/13/2017 properly preserved, at 4 Deg. C and intact. These Samples received an SASE job number of FA40351. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP63460

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) FA40279-1MS, FA40279-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP63431

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA40279-1MS, FA40279-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for 1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for 1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, DNX, Nitrobenzene, Nitroglycerine are outside control limits. Probable cause is due tomatrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for DNX, MNX, TNX are outside control limits for sample OP63431-MSD. Probable cause is due to sample non-homogeneity.

FA40351-2: All hits confirmed by reanalysis on a dissimilar column.

FA40351-2: All hits confirmed by reanalysis on a dissimilar column.

FA40351-2 for 3,5-Dinitroaniline: Elevated reporting limit due to matrix interference.

FA40351-2: Confirmation run.

FA40351-3: Confirmation run.

FA40351-3: All hits confirmed by reanalysis on a dissimilar column.

FA40351-3: All hits confirmed by reanalysis on a dissimilar column.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: January 26, 2017

Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA40351-2	GCSEMI	PP381227.D	3,4-Dinitrotoluene
FA40351-3	GCSEMI	PP381228.D	1,3,5-Trinitrobenzene, 3,4-Dinitrotoluene, HMX
GGG2500-CC2500	GCSEMI	GG060876.D	1,3-Dinitrobenzene, PETN
GGG2500-ECC2500	GCSEMI	GG060885.D	1,3-Dinitrobenzene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, m-Nitrotoluene, o-Nitrotoluene, p-Nitrotoluene, PETN
GGG2500-IC2500	GCSEMI	GG060857.D	1,3,5-Trinitrobenzene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitroglycerine, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GGG2500-IC2500	GCSEMI	GG060858.D	2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitroglycerine, p-Nitrotoluene, PETN, TNX
GGG2500-IC2500	GCSEMI	GG060859.D	2-amino-4,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitroglycerine, PETN, TNX
GGG2500-IC2500	GCSEMI	GG060860.D	2-amino-4,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, Nitroglycerine, PETN, TNX
GGG2500-IC2500	GCSEMI	GG060862.D	2-amino-4,6-Dinitrotoluene, PETN
GGG2500-IC2500	GCSEMI	GG060863.D	PETN
GGG2500-ICC2500	GCSEMI	GG060861.D	2-amino-4,6-Dinitrotoluene, m-Nitrotoluene, PETN, TNX
GGG2500-ICV2500	GCSEMI	GG060864.D	DNX, HMX, PETN
GGG2501-CC2500	GCSEMI	GG060886.D	1,3-Dinitrobenzene, PETN
GGG2501-ECC2500	GCSEMI	GG060894.D	1,3-Dinitrobenzene, PETN
GGG2502-CC2500	GCSEMI	GG060895.D	1,3-Dinitrobenzene, PETN
GGG2504-CC2500	GCSEMI	GG060928.D	1,3-Dinitrobenzene, PETN
GGG2504-ECC2500	GCSEMI	GG060935.D	1,3-Dinitrobenzene, PETN
GPP2066-CC2066	GCSEMI	PP381221.D	PETN
GPP2066-ECC2066	GCSEMI	PP381224.D	PETN
GPP2066-IC2066	GCSEMI	PP381202.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, o-Nitrotoluene, PETN, RDX, Tetryl, TNX
GPP2066-IC2066	GCSEMI	PP381203.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, Tetryl, TNX

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
GPP2066-IC2066	GCSEMI	PP381204.D	2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, m-Nitrotoluene, Nitrobenzene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, Tetryl, TNX
GPP2066-IC2066	GCSEMI	PP381205.D	2,4,6-Trinitrotoluene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, PETN, Tetryl, TNX
GPP2066-IC2066	GCSEMI	PP381207.D	PETN
GPP2066-IC2066	GCSEMI	PP381208.D	DNX, HMX, PETN, TNX
GPP2066-ICC2066	GCSEMI	PP381206.D	2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, HMX, m-Nitrotoluene, Nitroglycerine, PETN, Tetryl, TNX
GPP2066-ICV2066	GCSEMI	PP381209.D	2,4,6-Trinitrotoluene, 2-amino-4,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, PETN, Tetryl
GPP2067-CC2066	GCSEMI	PP381226.D	PETN
GPP2067-ECC2066	GCSEMI	PP381229.D	PETN
GPP2068-CC2066	GCSEMI	PP381231.D	PETN
GPP2068-CC2066	GCSEMI	PP381239.D	PETN
GPP2068-ECC2066	GCSEMI	PP381251.D	PETN
GPP2069-CC2066	GCSEMI	PP381253.D	PETN, RDX
GPP2069-CC2066	GCSEMI	PP381265.D	m-Nitrotoluene, p-Nitrotoluene, PETN
GPP2069-ECC2066	GCSEMI	PP381270.D	PETN
OP63431-BS	GCSEMI	PP381211.D	PETN, TNX
OP63431-MB	GCSEMI	GG060929.D	3,4-Dinitrotoluene
OP63431-MS	GCSEMI	PP381255.D	1,3,5-Trinitrobenzene, 3,4-Dinitrotoluene, PETN
OP63431-MSD	GCSEMI	PP381256.D	PETN

39 Manual Integrations were found for FA40351

Summary of Hits

Job Number: FA40351
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 01/10/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA40351-1	**826629/54MW1**					
No hits reported in this sample.						
FA40351-2	**826637/54MW12**					
Perchlorate		2.9	0.20	0.10	ug/l	SW846 6850
HMX [a]		13.2	0.40	0.20	ug/l	SW846 8330B
RDX [a]		4.8	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		5.2	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.7	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		20.1	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		28.1	0.40	0.20	ug/l	SW846 8330B
FA40351-3	**826639/54TM12**					
Perchlorate		2.9	0.20	0.10	ug/l	SW846 6850
HMX [a]		11.4	0.40	0.20	ug/l	SW846 8330B
RDX [a]		5.0	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		5.3	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.8	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		21.8	0.40	0.20	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		29.1	0.40	0.20	ug/l	SW846 8330B

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	826629/54MW1		
Lab Sample ID:	FA40351-1	**Date Sampled:**	01/10/17
Matrix:	AQ - Ground Water	**Date Received:**	01/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q31181.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826629/54MW1		
Lab Sample ID:	FA40351-1	**Date Sampled:**	01/10/17
Matrix:	AQ - Ground Water	**Date Received:**	01/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP381218.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	89%		70-136%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826637/54MW12		
Lab Sample ID:	FA40351-2	**Date Sampled:**	01/10/17
Matrix:	AQ - Ground Water	**Date Received:**	01/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q31182.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	2.9	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826637/54MW12		
Lab Sample ID:	FA40351-2	**Date Sampled:**	01/10/17
Matrix:	AQ - Ground Water	**Date Received:**	01/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP381219.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
Run #2 [b]	GG060933.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504
Run #3 [a]	PP381227.D	2	01/19/17	KL	01/16/17	OP63431	GPP2067

	Initial Volume	Final Volume
Run #1	990 ml	10.0 ml
Run #2	990 ml	10.0 ml
Run #3	990 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	13.2 [c]	0.40	0.20	0.16	ug/l	
121-82-4	RDX	4.8	0.20	0.10	0.081	ug/l	
	DNX	0.10 U	0.20	0.10	0.081	ug/l	
	MNX	0.10 U	0.20	0.10	0.081	ug/l	
	TNX	0.10 U	0.20	0.10	0.081	ug/l	
618-87-1	3,5-Dinitroaniline [d]	0.40 U	0.40	0.40	0.40	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.081	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.081	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.081	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	5.2	0.20	0.10	0.081	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.7	0.20	0.10	0.081	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.098	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.081	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.081	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.081	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.081	ug/l	
99-35-4	1,3,5-Trinitrobenzene	20.1	0.20	0.10	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	28.1 [c]	0.40	0.20	0.16	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.51	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	93%	108%	84%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3
(d) Elevated reporting limit due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826639/54TM12		
Lab Sample ID:	FA40351-3	**Date Sampled:**	01/10/17
Matrix:	AQ - Ground Water	**Date Received:**	01/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q31183.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	2.9	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	826639/54TM12		
Lab Sample ID:	FA40351-3	**Date Sampled:**	01/10/17
Matrix:	AQ - Ground Water	**Date Received:**	01/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	PP381220.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
Run #2 [b]	GG060934.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504
Run #3 [a]	PP381228.D	2	01/19/17	KL	01/16/17	OP63431	GPP2067

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml
Run #3	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	11.4 [c]	0.40	0.20	0.16	ug/l	
121-82-4	RDX	5.0	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	5.3	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.8	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	21.8 [c]	0.40	0.20	0.20	ug/l	
118-96-7	2,4,6-Trinitrotoluene	29.1 [c]	0.40	0.20	0.16	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	95%	110%	94%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA 40351

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 124730 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Accutest Southeast**
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM 5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
1	826629	01/10/2017 0905	GROUND WATER	54MW1	EXPLOSIVES	8330B	
	826629	01/10/2017 0905	GROUND WATER	54MW1	PERCHLORATE	SW6850	
2	826637	01/10/2017 1045	GROUND WATER	54MW12	EXPLOSIVES	8330B	
	826637	01/10/2017 1045	GROUND WATER	54MW12	PERCHLORATE	SW6850	
3	826639	01/10/2017 1050	GROUND WATER	54TM12	EXPLOSIVES	8330B	
	826639	01/10/2017 1050	GROUND WATER	54TM12	PERCHLORATE	SW6850	

Relinquished by: Brett Szymanski UPS Date/Time: 01/11/2017 13:45

Received by: Cytol UPS Date/Time: 01/13/17 1100 Receipt Temperature (C) 3.2

COMMENTS: FULL-LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX). NO DESIGNATED MS/MSD WITH THIS BATCH.

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA 40351 CLIENT: CT LAB PROJECT: RADFORD AAP

DATE/TIME RECEIVED: 01/13/17 1100 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 1Z 1A4 A85 0140 0435 39

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM 5-GRAM

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.8
- [ ] OBSERVED TEMPS: 3.2
- [ ] CORRECTED TEMPS: 4.0 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify)

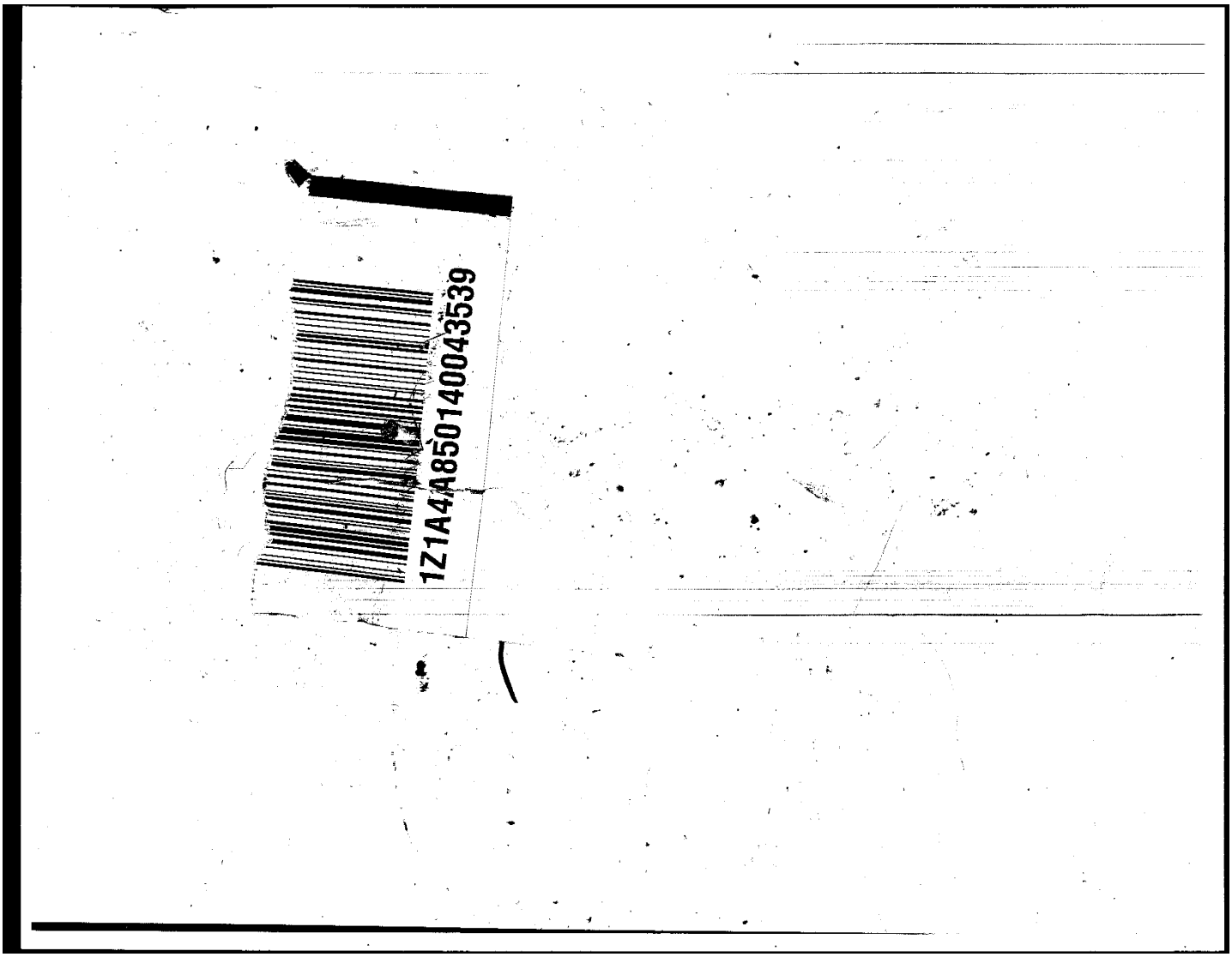
SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 01/14/17 REVIEWER SIGNATURE/DATE KD 01/14/17

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA40351: Chain of Custody
Page 2 of 3



FA40351: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA40351
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 01/10/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP63460	SW846 6850						
OP63460-BS	14797-73-0	Perchlorate	BSP	REC	95	%	84-119
OP63460-MS*	14797-73-0	Perchlorate	MS	REC	80	%	84-119
OP63460-MSD*	14797-73-0	Perchlorate	MSD	REC	90	%	84-119
OP63460-MSD*	14797-73-0	Perchlorate	MSD	RPD	7	%	15
OP63431	SW846 8330B						
OP63431-BS	2691-41-0	HMX	BSP	REC	104	%	65-135
OP63431-BS	121-82-4	RDX	BSP	REC	96	%	68-130
OP63431-BS		DNX	BSP	REC	96	%	66-119
OP63431-BS		MNX	BSP	REC	96	%	57-132
OP63431-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	86	%	71-117
OP63431-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	96	%	78-120
OP63431-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	102	%	77-127
OP63431-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	100	%	78-120
OP63431-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	102	%	79-120
OP63431-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	98	%	76-125
OP63431-BS	98-95-3	Nitrobenzene	BSP	REC	94	%	65-134
OP63431-BS	88-72-2	o-Nitrotoluene	BSP	REC	92	%	70-127
OP63431-BS	99-08-1	m-Nitrotoluene	BSP	REC	92	%	73-125
OP63431-BS	99-99-0	p-Nitrotoluene	BSP	REC	94	%	71-127
OP63431-BS	479-45-8	Tetryl	BSP	REC	114	%	64-128
OP63431-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	94	%	73-125
OP63431-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	108	%	71-123
OP63431-BS	55-63-0	Nitroglycerine	BSP	REC	111	%	74-127
OP63431-BS	78-11-5	PETN	BSP	REC	107	%	73-127
OP63431-MS*	2691-41-0	HMX	MS	REC	66	%	65-135
OP63431-MS*	121-82-4	RDX	MS	REC	80	%	68-130
OP63431-MS*		DNX	MS	REC	92	%	66-119
OP63431-MS*		MNX	MS	REC	92	%	57-132
OP63431-MS*	618-87-1	3,5-Dinitroaniline	MS	REC	86	%	71-117
OP63431-MS*	99-65-0	1,3-Dinitrobenzene	MS	REC	92	%	78-120
OP63431-MS*	606-20-2	2,6-Dinitrotoluene	MS	REC	100	%	77-127
OP63431-MS*	121-14-2	2,4-Dinitrotoluene	MS	REC	96	%	78-120
OP63431-MS*	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	74	%	79-120
OP63431-MS*	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	74	%	76-125
OP63431-MS*	98-95-3	Nitrobenzene	MS	REC	110	%	65-134
OP63431-MS*	88-72-2	o-Nitrotoluene	MS	REC	96	%	70-127
OP63431-MS*	99-08-1	m-Nitrotoluene	MS	REC	94	%	73-125
OP63431-MS*	99-99-0	p-Nitrotoluene	MS	REC	94	%	71-127
OP63431-MS*	479-45-8	Tetryl	MS	REC	98	%	64-128
OP63431-MS*	99-35-4	1,3,5-Trinitrobenzene	MS	REC	72	%	73-125

* Sample used for QC is not from job FA40351

QC Evaluation: DOD QSM5 Limits

Job Number: FA40351
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 01/10/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP63431-MS*	118-96-7	2,4,6-Trinitrotoluene	MS	REC	42	%	71-123
OP63431-MS*	55-63-0	Nitroglycerine	MS	REC	116	%	74-127
OP63431-MS*	78-11-5	PETN	MS	REC	100	%	73-127
OP63431-MSD*	2691-41-0	HMX	MSD	REC	80	%	65-135
OP63431-MSD*	2691-41-0	HMX	MSD	RPD	11	%	30
OP63431-MSD*	121-82-4	RDX	MSD	REC	90	%	68-130
OP63431-MSD*	121-82-4	RDX	MSD	RPD	9	%	30
OP63431-MSD*		DNX	MSD	REC	130	%	66-119
OP63431-MSD*		DNX	MSD	RPD	34	%	30
OP63431-MSD*		MNX	MSD	REC	130	%	57-132
OP63431-MSD*		MNX	MSD	RPD	34	%	30
OP63431-MSD*	618-87-1	3,5-Dinitroaniline	MSD	REC	96	%	71-117
OP63431-MSD*	618-87-1	3,5-Dinitroaniline	MSD	RPD	11	%	30
OP63431-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	REC	104	%	78-120
OP63431-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	RPD	12	%	30
OP63431-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	REC	110	%	77-127
OP63431-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	RPD	10	%	30
OP63431-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	REC	104	%	78-120
OP63431-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	RPD	8	%	30
OP63431-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	86	%	79-120
OP63431-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	11	%	30
OP63431-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	86	%	76-125
OP63431-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	11	%	30
OP63431-MSD*	98-95-3	Nitrobenzene	MSD	REC	132	%	65-134
OP63431-MSD*	98-95-3	Nitrobenzene	MSD	RPD	18	%	30
OP63431-MSD*	88-72-2	o-Nitrotoluene	MSD	REC	108	%	70-127
OP63431-MSD*	88-72-2	o-Nitrotoluene	MSD	RPD	12	%	30
OP63431-MSD*	99-08-1	m-Nitrotoluene	MSD	REC	112	%	73-125
OP63431-MSD*	99-08-1	m-Nitrotoluene	MSD	RPD	17	%	30
OP63431-MSD*	99-99-0	p-Nitrotoluene	MSD	REC	106	%	71-127
OP63431-MSD*	99-99-0	p-Nitrotoluene	MSD	RPD	12	%	30
OP63431-MSD*	479-45-8	Tetryl	MSD	REC	116	%	64-128
OP63431-MSD*	479-45-8	Tetryl	MSD	RPD	17	%	30
OP63431-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	78	%	73-125
OP63431-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	6	%	30
OP63431-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	56	%	71-123
OP63431-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	11	%	30
OP63431-MSD*	55-63-0	Nitroglycerine	MSD	REC	126	%	74-127
OP63431-MSD*	55-63-0	Nitroglycerine	MSD	RPD	8	%	30
OP63431-MSD*	78-11-5	PETN	MSD	REC	108	%	73-127
OP63431-MSD*	78-11-5	PETN	MSD	RPD	7	%	30

* Sample used for QC is not from job FA40351

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63460-MB	Q31169.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820

The QC reported here applies to the following samples: **Method:** SW846 6850

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63460-BS	Q31168.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820

The QC reported here applies to the following samples: **Method:** SW846 6850

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.19	95	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63460-MS	Q31172.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
OP63460-MSD	Q31173.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820
FA40279-1	Q31171.D	1	01/19/17	NAF	01/18/17	OP63460	SQ820

The QC reported here applies to the following samples: **Method:** SW846 6850

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	FA40279-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.10	J	0.2	0.26	80	0.2	0.28	90	7	80-120/15

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ820-ICC820	**Injection Date:**	01/19/17
Lab File ID:	Q31161.D	**Injection Time:**	12:22
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	67631	3.79
Check Std [b]	75630	3.79
Upper Limit [c]	101447	5.79
Lower Limit [d]	33816	1.79

Lab Sample ID	IS 1 AREA	RT
OP63460-BS	74839	3.78
OP63460-MB	76608	3.79
FA40279-1	78201	3.68
OP63460-MS	75510	3.72
OP63460-MSD	75066	3.68
ZZZZZZ	76530	3.68
ZZZZZZ	63894	3.79
ZZZZZZ	63599	3.74

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ820-ICC820 Q31161.D 01/19/17 12:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Semivolatile Internal Standard Area Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ820-CC820	**Injection Date:**	01/19/17
Lab File ID:	Q31177.D	**Injection Time:**	13:59
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	67631	3.79
Check Std [b]	72406	3.79
Upper Limit [c]	101447	5.79
Lower Limit [d]	33816	1.79

Lab Sample ID	IS 1 AREA	RT
FA40351-1	76704	3.73
FA40351-2	72176	3.70
FA40351-3	73568	3.71

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ820-ICC820 Q31161.D 01/19/17 12:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-ICC820
Lab FileID: Q31161.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0119_6850_SQ820\Q31158.d
2 : D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3 : D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4 : D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5 : D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6 : D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7 : D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8 : D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) C1180 4	----------ISTD----------										
3) Perchlorate	0.9435	0.9370	0.9660	0.9721	1.0461	1.0679	1.1434	1.1847	1.0326	9.115	0.9999

*(value) - Average RF below (value)

Initial Calibration Verification

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-ICV820
Lab FileID: Q31166.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
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2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31166
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.814	-9.3	90.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-CC820
Lab FileID: Q31177.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
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2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31177
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.832	-8.4	91.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-CC820
Lab FileID: Q31178.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
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2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31178
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.204	2.2	102.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ820-CC820
Lab FileID: Q31184.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0119_6850_SQ820\SQ820.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0119_6850_SQ820\Q31158.d
2:D:\MassHunter\Data\0119_6850_SQ820\Q31159.d
3:D:\MassHunter\Data\0119_6850_SQ820\Q31160.d
4:D:\MassHunter\Data\0119_6850_SQ820\Q31161.d
5:D:\MassHunter\Data\0119_6850_SQ820\Q31162.d
6:D:\MassHunter\Data\0119_6850_SQ820\Q31163.d
7:D:\MassHunter\Data\0119_6850_SQ820\Q31164.d
8:D:\MassHunter\Data\0119_6850_SQ820\Q31165.d

Data File: Q31184
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.870	-6.5	93.5

CC Criteria: +/- 15%

GC/MS Semi-volatiles

Raw Data

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31181.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:22
Sample Name	:	FA40351-1
Vial	:	Vial 20
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

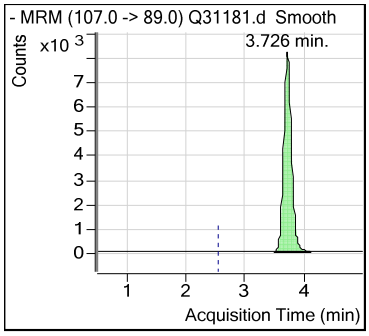
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.726	107.0 -> 89.0	76704	5.000	ng/ml	-0.524	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

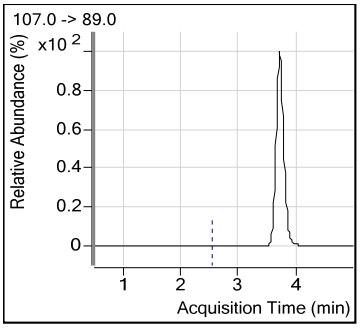
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

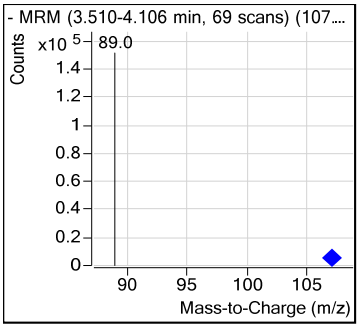
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31181.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:22
Sample Name	:	FA40351-1
Vial	:	Vial 20
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

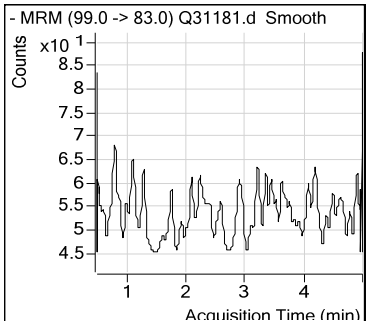
Cl18O4

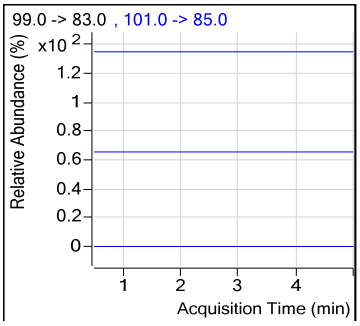


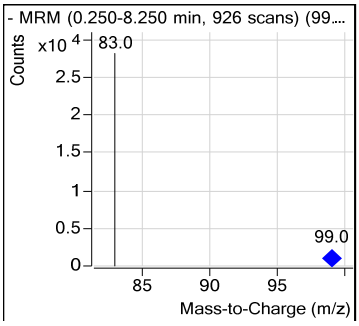




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31182.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:28
Sample Name	:	FA40351-2
Vial	:	Vial 21
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

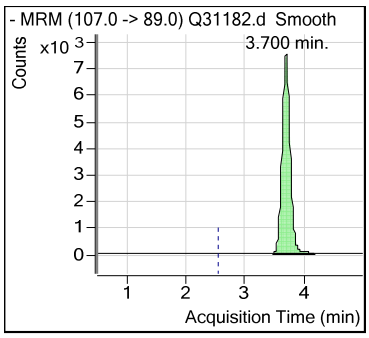
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.700	107.0 -> 89.0	72176	5.000	ng/ml	-0.550	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.695	99.0 -> 83.0	45278	2.898	ng/ml	97	3.2
		101.0 -> 85.0	14235				

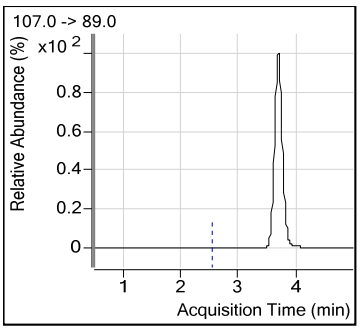
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

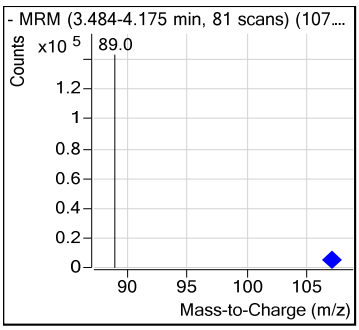
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31182.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:28
Sample Name	:	FA40351-2
Vial	:	Vial 21
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

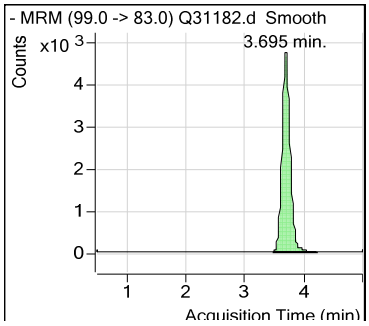
Cl18O4

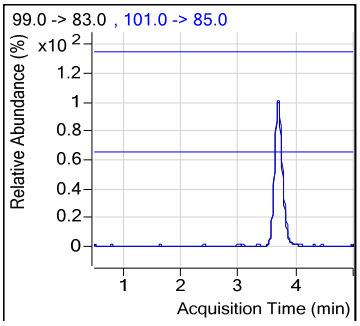


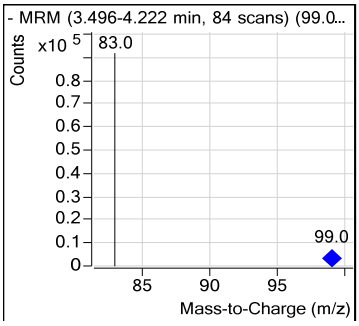




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31183.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:34
Sample Name	:	FA40351-3
Vial	:	Vial 22
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

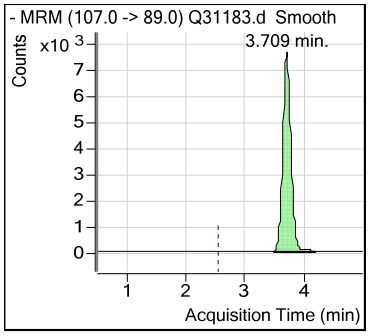
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.709	107.0 -> 89.0	73568	5.000	ng/ml	-0.541	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.721	99.0 -> 83.0	46462	2.917	ng/ml	100	3.4
		101.0 -> 85.0	13861				

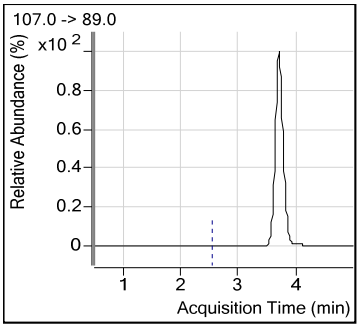
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

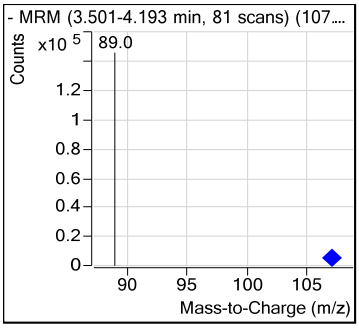
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31183.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:34
Sample Name	:	FA40351-3
Vial	:	Vial 22
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

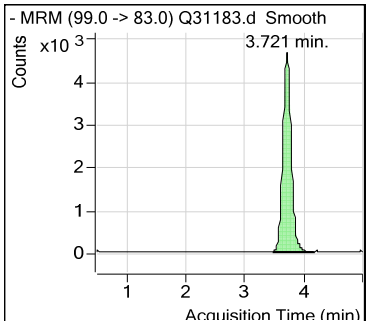
Cl18O4

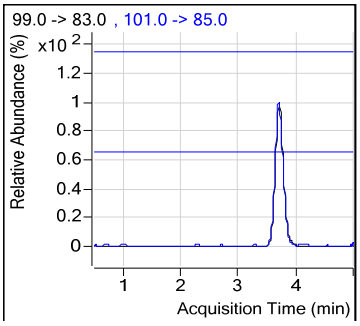


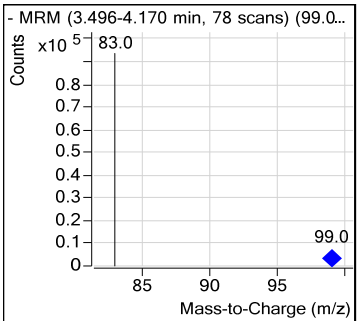




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31169.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:13
Sample Name	:	OP63460-MB
Vial	:	Vial 13
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

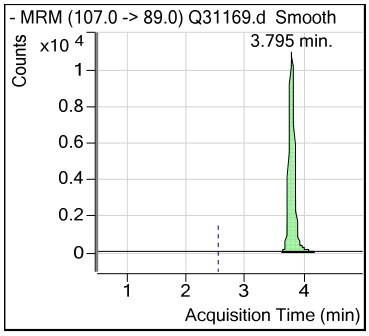
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	76608	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

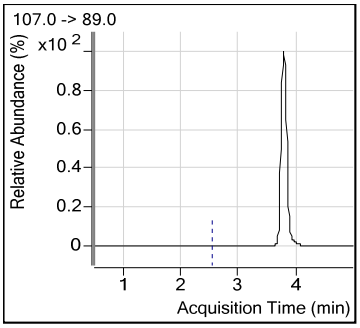
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

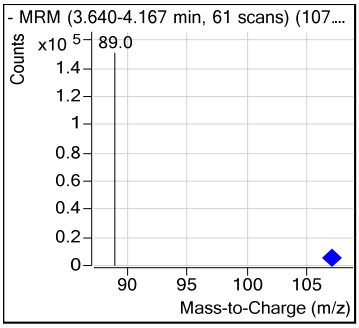
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31169.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:13
Sample Name	:	OP63460-MB
Vial	:	Vial 13
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

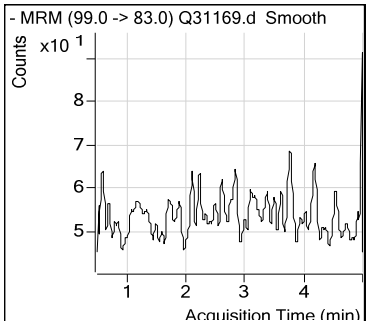
Cl18O4

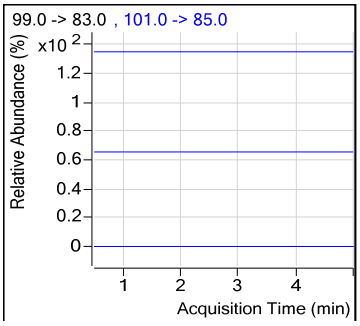


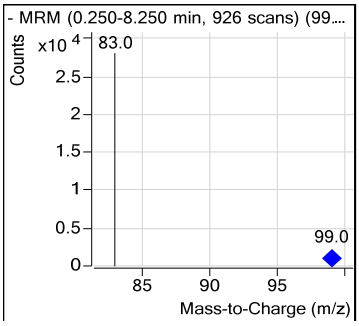




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31168.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:07
Sample Name	:	OP63460-BS
Vial	:	Vial 12
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

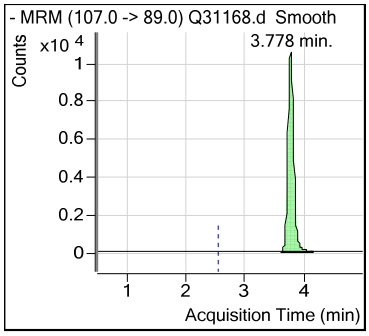
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	74839	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.781	99.0 -> 83.0	3139	0.195	ng/ml	91	2.8
		101.0 -> 85.0	1103				

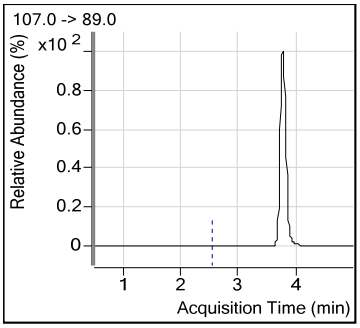
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

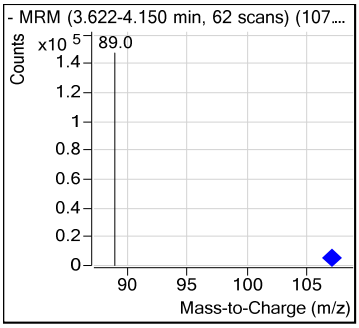
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31168.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:07
Sample Name	:	OP63460-BS
Vial	:	Vial 12
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

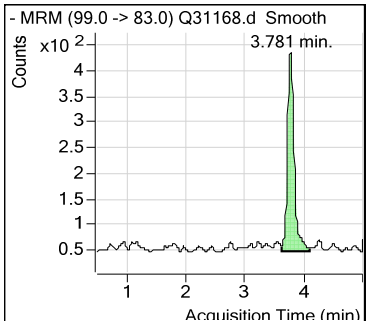
Cl18O4

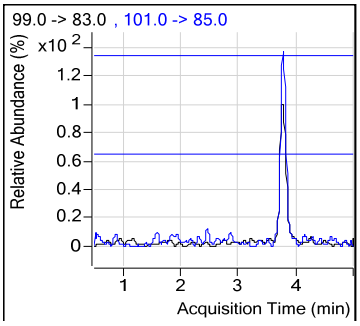


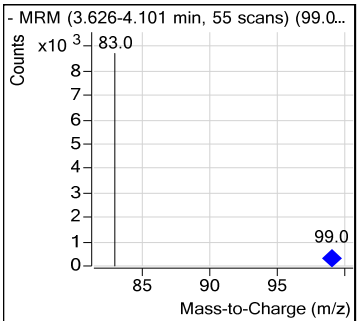




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31172.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:30
Sample Name	:	OP63460-MS
Vial	:	Vial 16
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

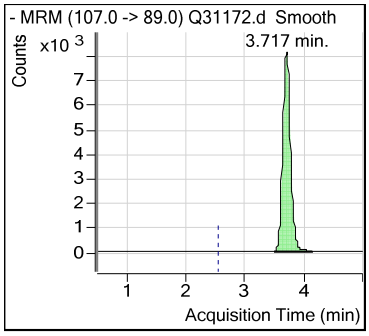
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.717	107.0 -> 89.0	75510	5.000	ng/ml		-0.533	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	3.712	99.0 -> 83.0	4261	0.262	ng/ml	#	74	2.3
		101.0 -> 85.0	1871					

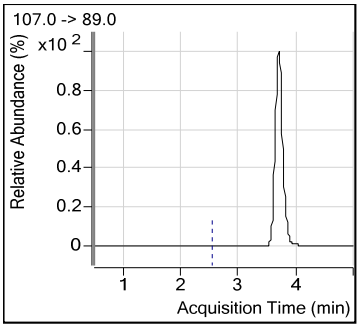
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

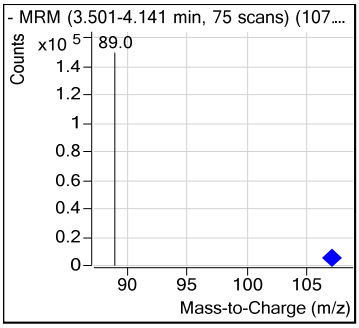
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31172.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:30
Sample Name	:	OP63460-MS
Vial	:	Vial 16
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

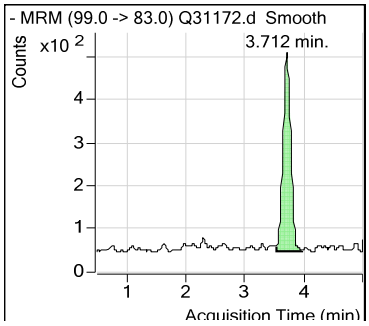
Cl18O4

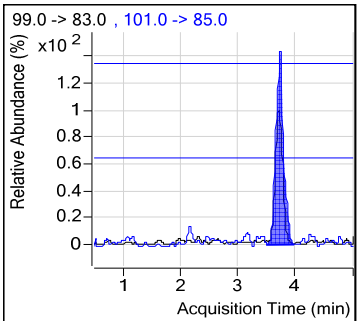


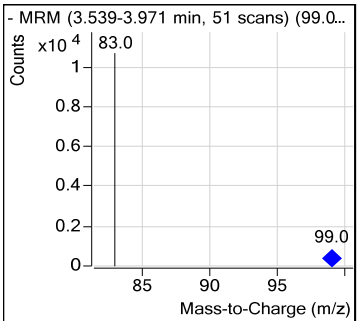




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31173.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:36
Sample Name	:	OP63460-MSD
Vial	:	Vial 17
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

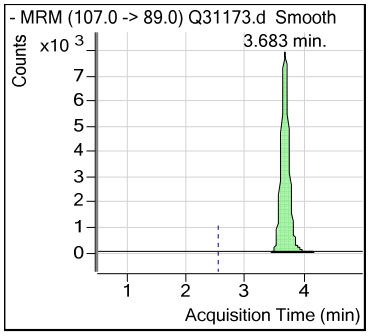
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.683	107.0 -> 89.0	75066	5.000	ng/ml	-0.567	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.686	99.0 -> 83.0	4491	0.278	ng/ml	86	2.7
		101.0 -> 85.0	1680				

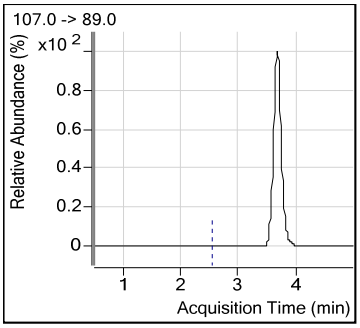
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

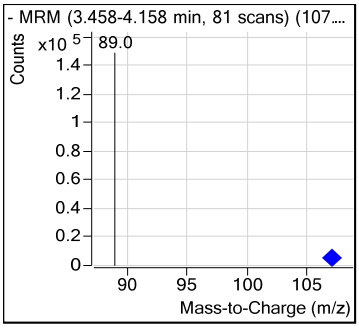
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31173.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:36
Sample Name	:	OP63460-MSD
Vial	:	Vial 17
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

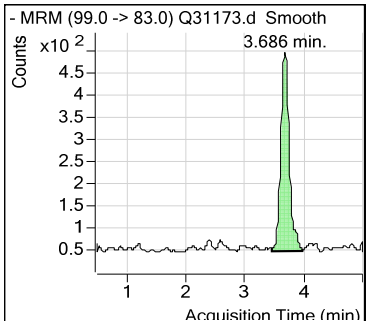
Cl18O4

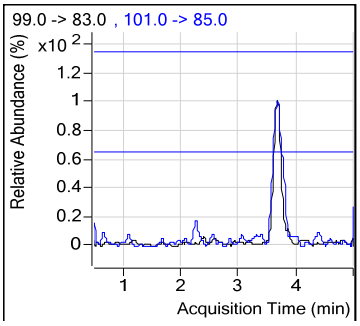


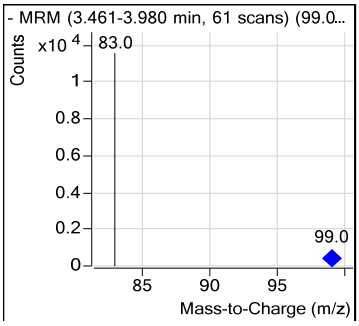




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31158.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:05
Sample Name	:	IC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

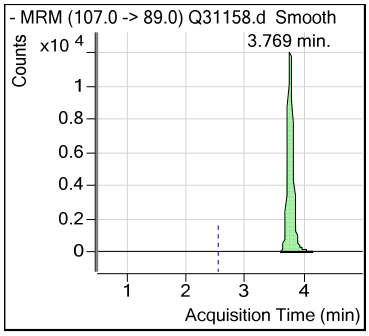
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.769	107.0 -> 89.0	85166	5.000	ng/ml	-0.481	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.781	99.0 -> 83.0	3214	0.175	ng/ml	95	3.1
		101.0 -> 85.0	1043				

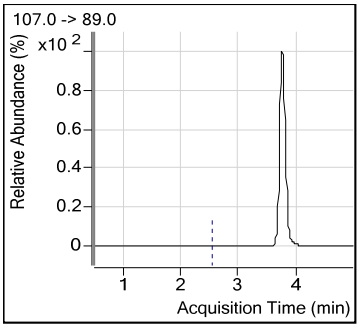
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

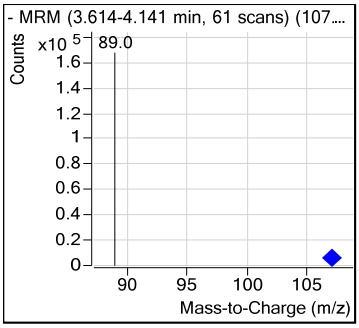
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31158.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:05
Sample Name	:	IC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

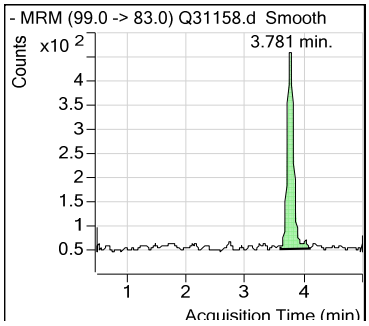
Cl18O4

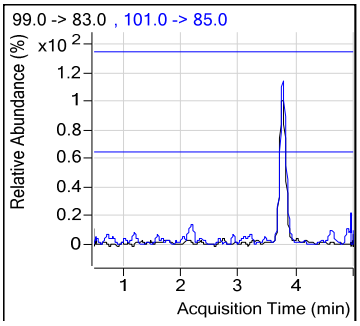


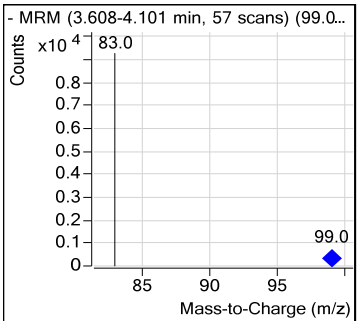




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31159.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:10
Sample Name	:	IC820-0.5
Vial	:	Vial 3
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

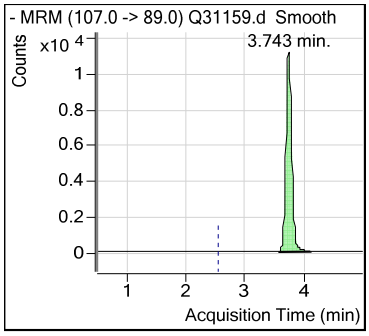
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.743	107.0 -> 89.0	78714	5.000	ng/ml	-0.507	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.755	99.0 -> 83.0	7375	0.435	ng/ml	94	3.0
		101.0 -> 85.0	2470				

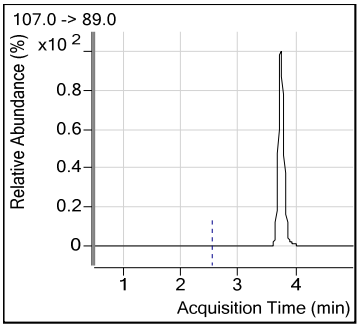
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

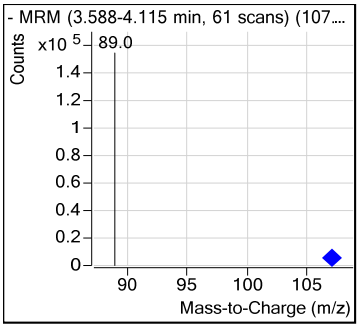
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31159.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:10
Sample Name	:	IC820-0.5
Vial	:	Vial 3
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

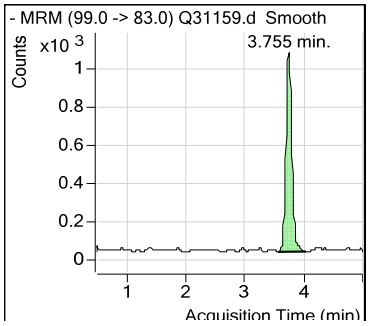
Cl18O4

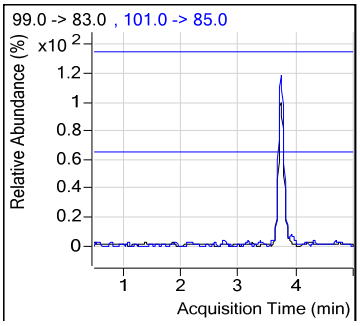


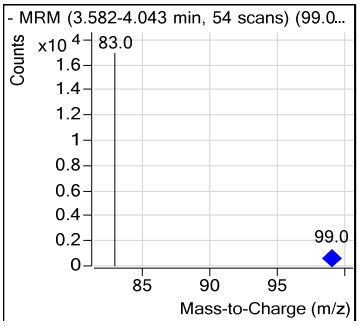




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31160.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:16
Sample Name	:	IC820-1.0
Vial	:	Vial 4
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

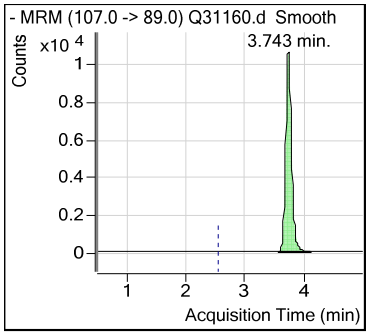
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.743	107.0 -> 89.0	75945	5.000	ng/ml	-0.507	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.747	99.0 -> 83.0	14672	0.896	ng/ml	97	3.2
		101.0 -> 85.0	4634				

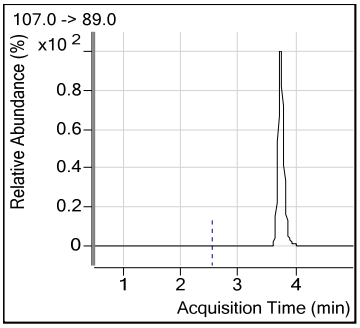
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

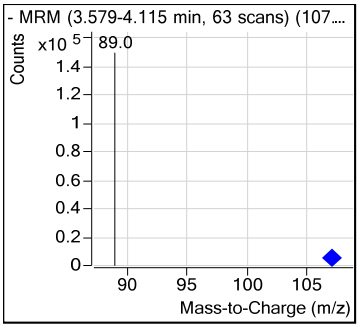
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31160.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:16
Sample Name	:	IC820-1.0
Vial	:	Vial 4
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

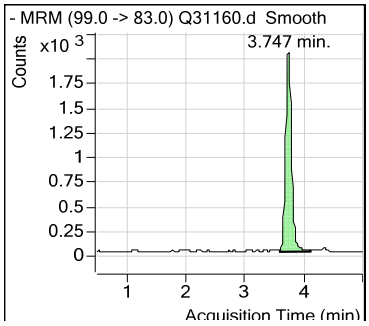
Cl18O4

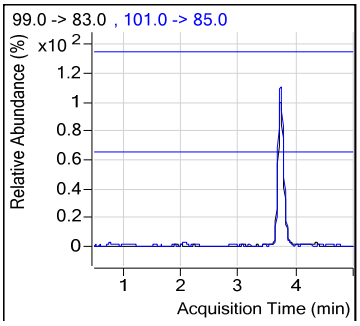


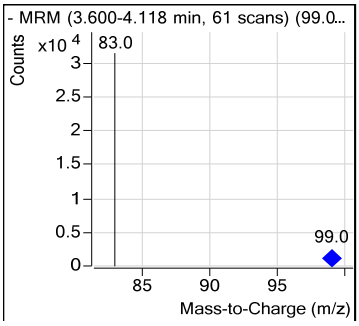




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31161.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:22
Sample Name	:	ICC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

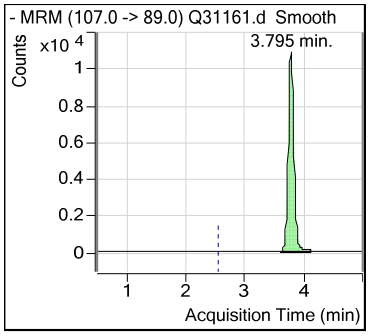
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	75630	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.799	99.0 -> 83.0	29408	1.800	ng/ml	98	3.2
		101.0 -> 85.0	9144				

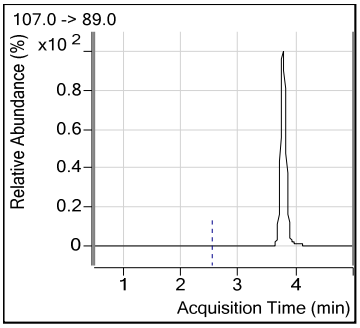
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

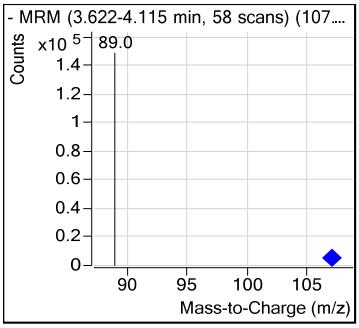
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31161.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:22
Sample Name	:	ICC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

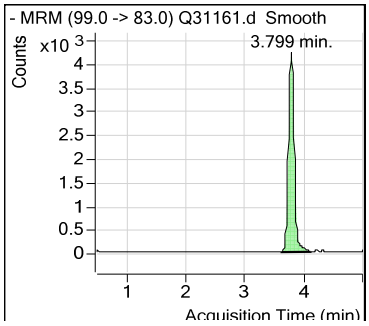
Cl18O4

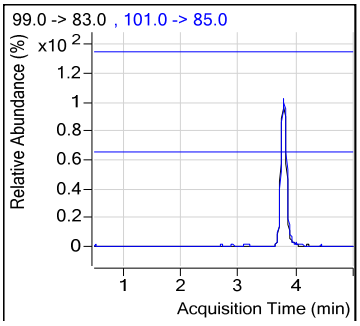


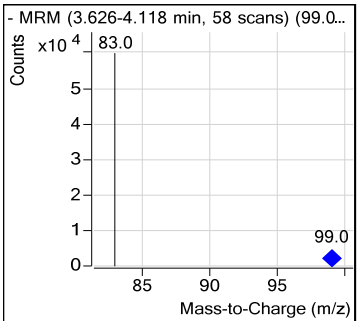




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31162.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:28
Sample Name	:	IC820-5.0
Vial	:	Vial 6
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

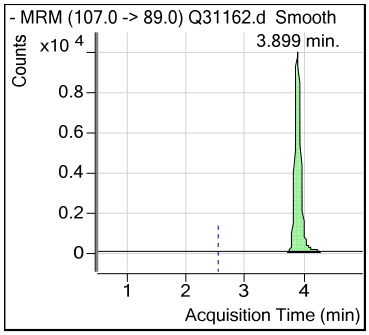
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.899	107.0 -> 89.0	70724	5.000	ng/ml	-0.351	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.902	99.0 -> 83.0	73985	4.814	ng/ml	98	3.2
		101.0 -> 85.0	23003				

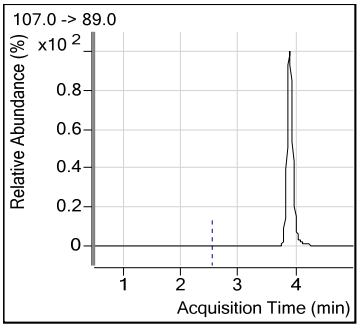
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

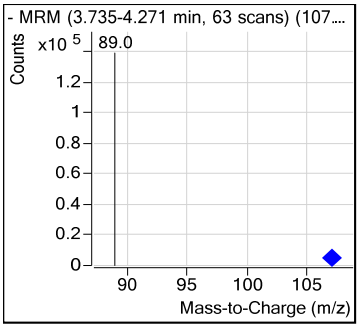
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31162.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:28
Sample Name	:	IC820-5.0
Vial	:	Vial 6
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

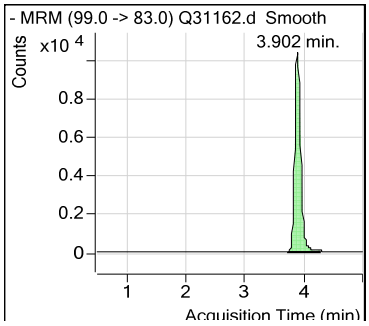
Cl18O4

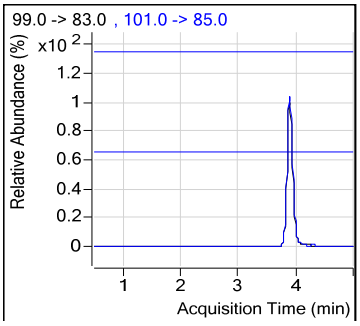


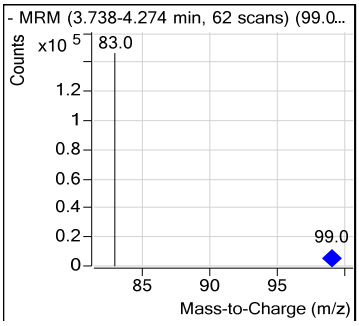




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31163.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:34
Sample Name	:	IC820-10
Vial	:	Vial 7
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

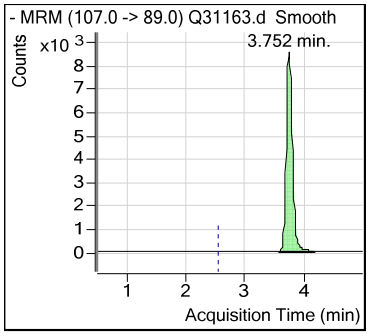
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.752	107.0 -> 89.0	64448	5.000	ng/ml	-0.498	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.755	99.0 -> 83.0	137651	9.732	ng/ml	99	3.3
		101.0 -> 85.0	41795				

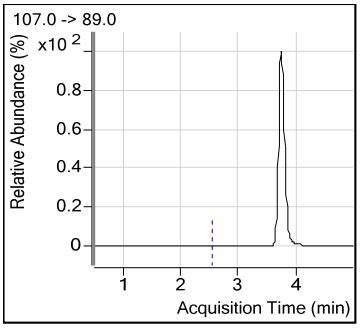
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

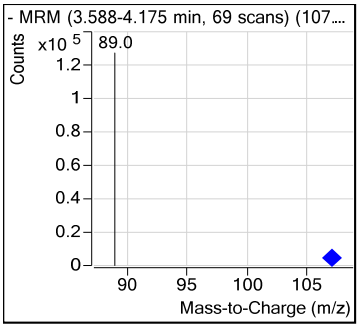
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31163.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:34
Sample Name	:	IC820-10
Vial	:	Vial 7
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

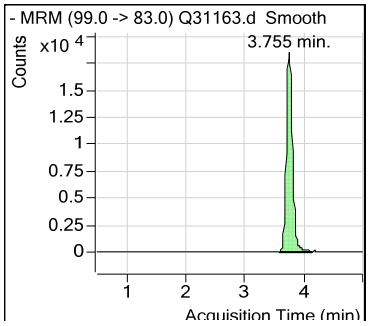
Cl18O4

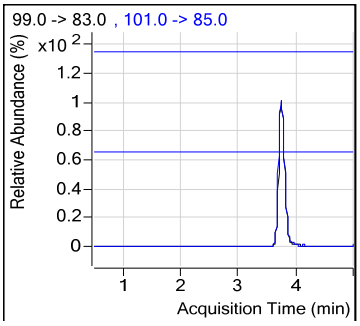


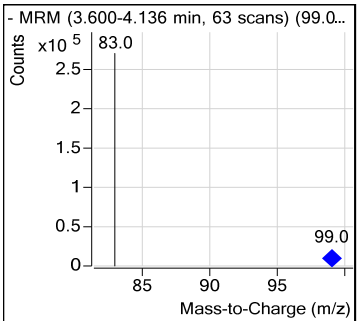




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31164.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:40
Sample Name	:	IC820-25
Vial	:	Vial 8
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

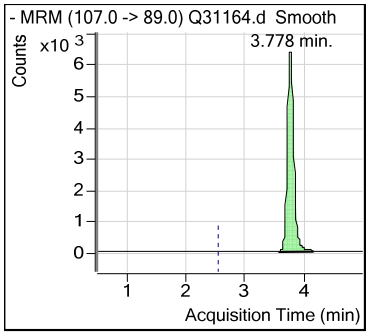
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	51025	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.773	99.0 -> 83.0	291702	25.262	ng/ml	100	3.3
		101.0 -> 85.0	87680				

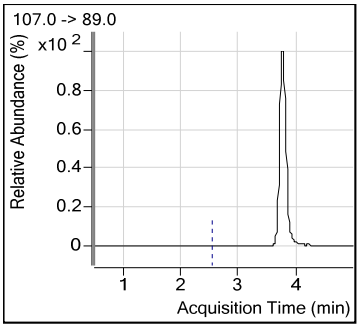
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

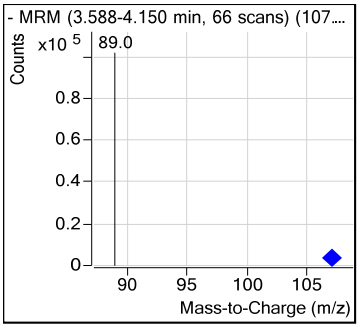
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31164.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:40
Sample Name	:	IC820-25
Vial	:	Vial 8
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

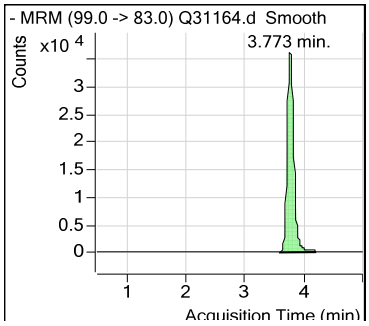
Cl18O4

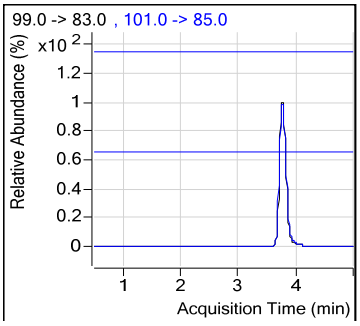


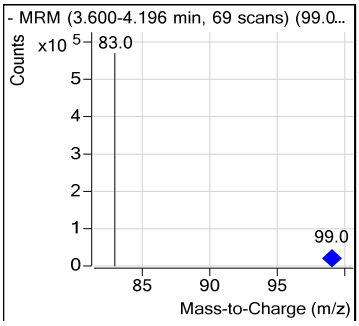




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31165.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:45
Sample Name	:	IC820-50
Vial	:	Vial 9
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

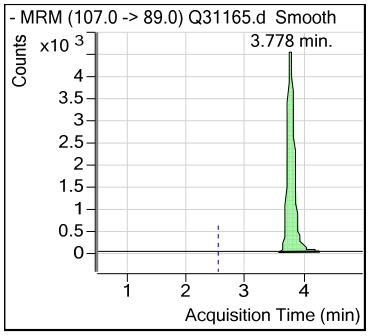
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	39393	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.781	99.0 -> 83.0	466676	49.951	ng/ml	99	3.4
		101.0 -> 85.0	137750				

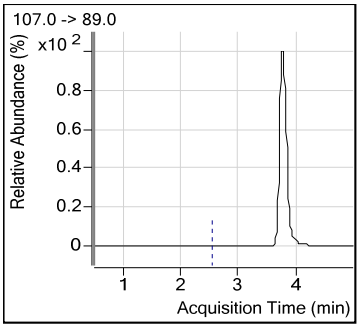
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

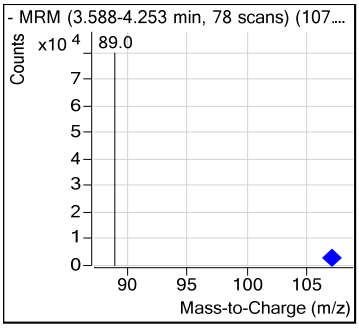
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31165.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:45
Sample Name	:	IC820-50
Vial	:	Vial 9
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

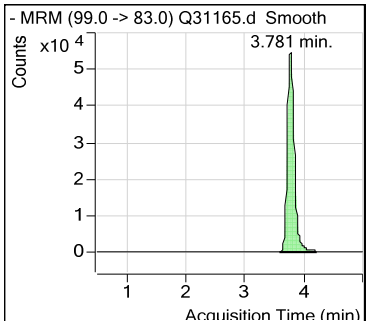
Cl18O4

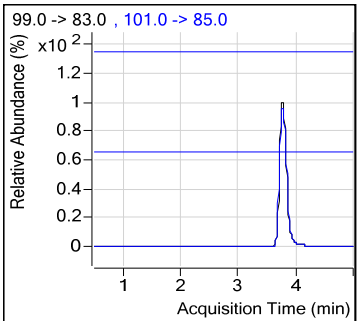


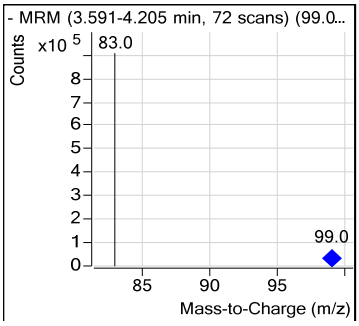




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31166.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:52
Sample Name	:	ICV820-2.0
Vial	:	Vial 10
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

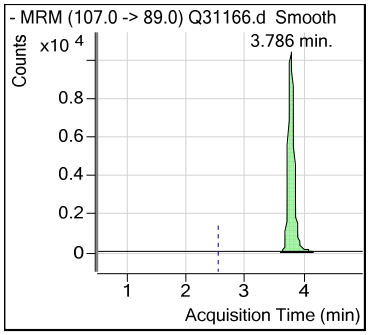
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.786	107.0 -> 89.0	75208	5.000	ng/ml	-0.464	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.790	99.0 -> 83.0	29461	1.814	ng/ml	97	3.2
		101.0 -> 85.0	9260				

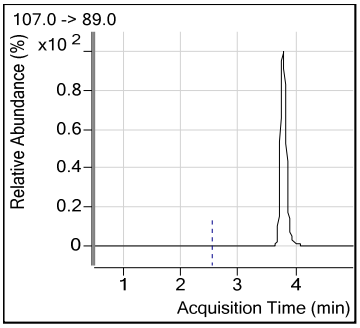
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

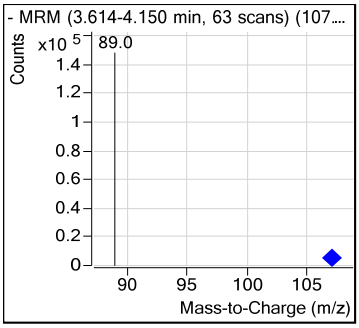
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31166.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 12:52
Sample Name	:	ICV820-2.0
Vial	:	Vial 10
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

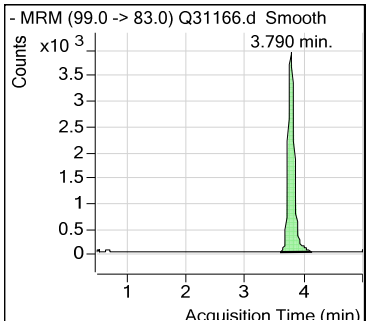
Cl18O4

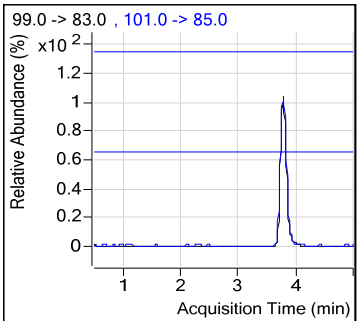


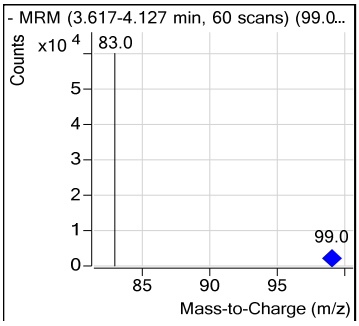




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31177.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:59
Sample Name	:	CC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

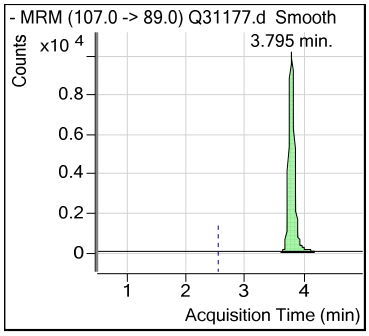
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.795	107.0 -> 89.0	72406	5.000	ng/ml	-0.455	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.799	99.0 -> 83.0	28646	1.832	ng/ml	96	3.1
		101.0 -> 85.0	9189				

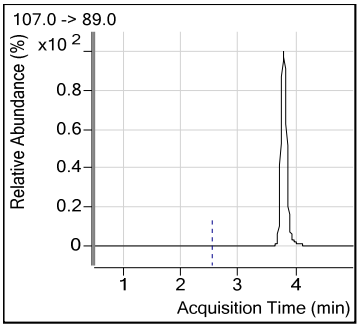
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

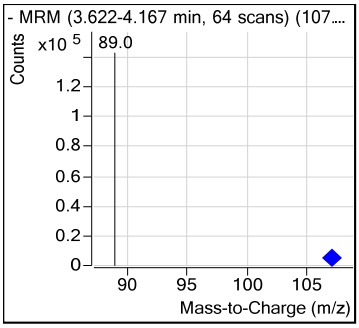
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31177.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 13:59
Sample Name	:	CC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

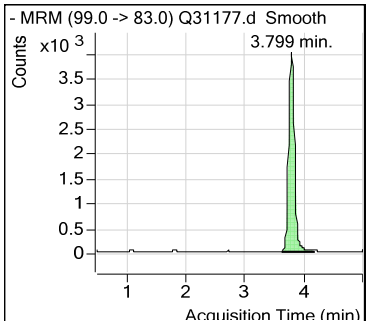
Cl18O4

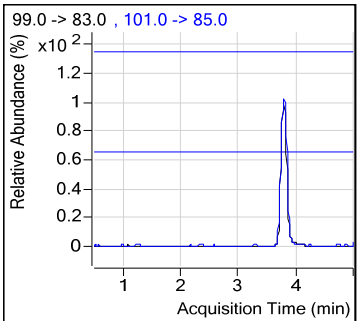


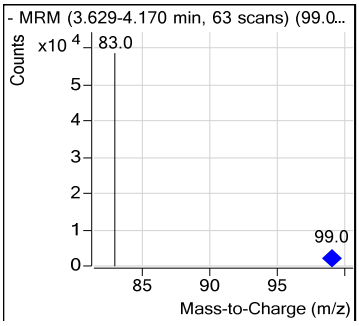




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31178.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:05
Sample Name	:	CC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

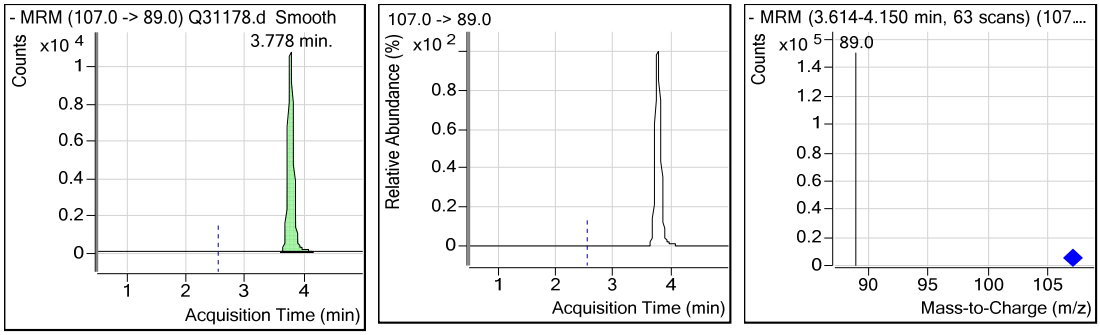
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	76403	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.773	99.0 -> 83.0	3361	0.204	ng/ml	99	3.4
		101.0 -> 85.0	995				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

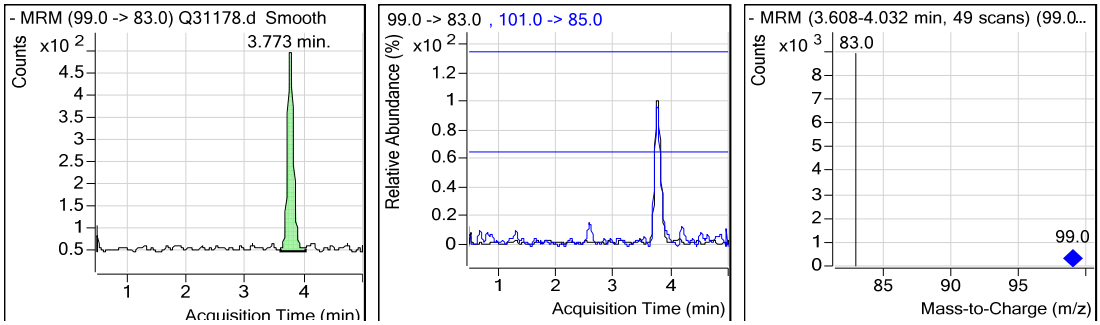
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31178.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:05
Sample Name	:	CC820-0.2
Vial	:	Vial 2
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31184.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:40
Sample Name	:	CC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ820.batch.bin
Last Calib Update	:	2017-01-20 07:25

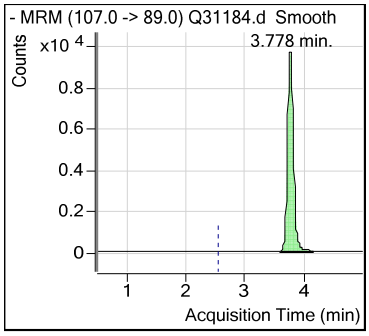
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.778	107.0 -> 89.0	70376	5.000	ng/ml	-0.472	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.773	99.0 -> 83.0	28434	1.870	ng/ml	95	3.1
		101.0 -> 85.0	9290				

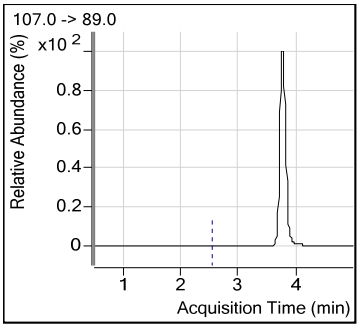
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

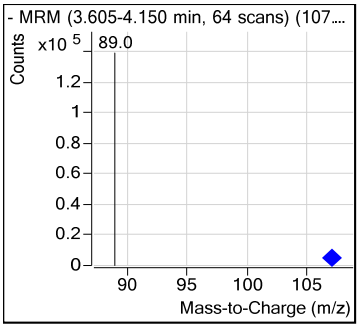
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q31184.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-01-19 14:40
Sample Name	:	CC820-2.0
Vial	:	Vial 5
Sample Info	:	OP63460,SQ820,10,,,10,1,WATER
Quant Method	:	6850_0119_SQ820.quantmethod.xml
Tune File	:	
Tune Date	:	

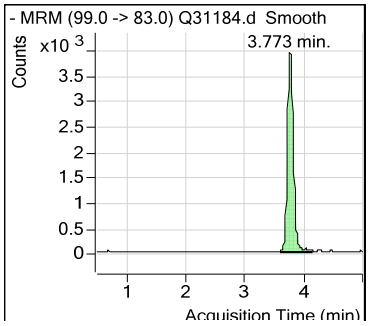
Cl18O4

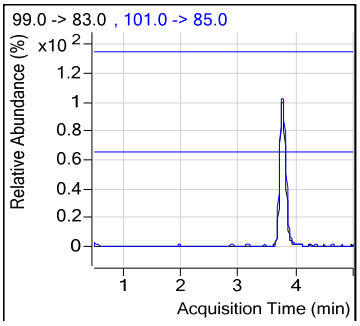


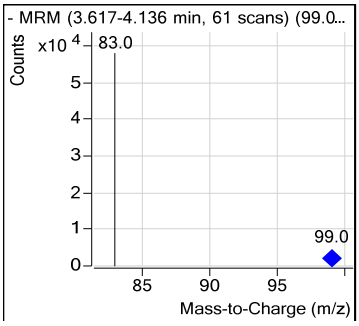




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	01-19-17
COLUMN TYPE:	R prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0119 SQ820
CALIB. DATE:	01-19-17
RUN BATCH: SQ	820

ANALYST:	NAS
ELUENT A LOT #:	166417 w Aid/2
ELUENT B LOT #:	162332 "
WATER LOT #:	166417
ISTD Lot #:	0234

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 31153	1	CCB	6850	—	—	—		25K	ND
Q 54	1			—	—	—			ND
Q 55	1			—	—	—			ND
Q 56	1			—	—	—		↓	ND
Q 57	23	Study 5K		LC800	50ul 10ml	3.9		5K	✓
Q 59	2	IC 820 - 0.2		LC799	20ul 10ml	3.1		25K	✓
Q 59	3	-0.5			50ul 10ml	3.0			✓
Q 60	4	-1.0			100ul 10ml	3.2			✓
Q 61	5	ICCB20 -2.0			200ul 10ml	3.2			✓
Q 62	6	IC 820 - 5.0			500ul 10ml	3.2			✓
Q 63	7	-10			1ml 10ml	33			✓
Q 64	8	-25			2.5ml 10ml	3.3			✓
Q 65	9	-50		↓	5ml 10ml	3.4			✓
Q 66	10	ICV 820 - 2.0		LC800	200ul 10ml	3.2		↓	Pass
Q 67	11	ICS 820 -0.2		↓	20ul 10ml	3.3		5K	Pass
Q 68	12	OP63460 - BS		OP63460	1X	2.8		25K	✓
Q 69	13	MB				—			ND
Q 70	14	FA 40240 - X2				X			X NO ISTD AR
Q 71	15	FA 40274 - 1				3.4			✓
Q 72	16	OP 63460 - MS	↓	↓	↓	2.3		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	01-19-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0.19 50-820
CALIB. DATE:	01-19-17
RUN BATCH: SQ	820

ANALYST:	NAS
ELUENT A LOT #:	166415 w Acetic
ELUENT B LOT #:	162332 +
WATER LOT #:	166415
ISTD Lot #:	8234

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 31173	17	OP63460-MSD	6850	OP63460	1	2.7		LBK	✓
Q 74	18	FA40274-2				2.9			✓
Q 75	19	-3				—			ND
Q 76	26	FA40240-1				3.3			✓
Q 77	5	CCB20-2.0		LC799	2uL 10ml	3.1			Acx
Q 78	↓	-0.2		↓	2uL 10ml	3.4			Pass
Q 79	1	CCB		—	—	—			ND
Q 80	19	FA40240-2		OP63460		3.2			✓
Q 81	20	FA40351-1				—			ND
Q 82	21	-2				3.2			✓
Q 83	22	-3				3.4			✓
Q 84	5	CCB20-2.0		LC799		3.1			Acx
Q 85	2	ECCB20-0.2		↓		2.5			Pass
Q 86	1	CCB		—		—		+	ND
Q 87	24	study 10x		LC800	5uL 10ml	2.8		10x	✓
Q 88	25	ICSB20-~~0.2~~ 2.0		↓	2uL ~~P00~~ 10ml	2.9		↓	✓ wrong spk conc
Q					NO120-7				
Q									
Q									
Q						NAS 01-20-17			

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time: 01-18-17 1200 Started {mm/dd/yy 24:00}

Date/Time: 01-18-17 1400 Finished {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP63460 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 63460 - MB	/	10.0 ml					10.0	
OP - BS	/					20ul		
FA40279-1	1							MS/MSD
-2								
-3								
FA40351-1								
-2								
-3	↓							
FA40290-2	—	↓					↓	
							NAS	
							01-18-17	
OP63460 - MS	1	10 ml				20ul	10.0	FA40279-1
- MSD	1	↓				↓	↓	-1
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LC800 Conc: 100 ppb Exp. Date: 06-04-17 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): _____ Exchange Bath/N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

CH2CL2 Lot # — Hexane Lot # — Na2SO4 Lot# —

Acetonitrile Lot # — Methanol Lot # — Acetone Lot# —

Syringe Filter Lot# 970434 pH Paper # — Reagent # —

Copper Lot # _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 01-18-17

Accepted By: _____ Date: 01-18-17

NF 02/16 extwater 020116.xls

7.7.1

7

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-MB	PP381212.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	99%	70-136%

Method Blank Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-MB	GG060929.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	113%	70-136%

Blank Spike Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-BS	PP381211.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.2	104	77-144
121-82-4	RDX	5	4.8	96	77-125
	DNX	5	4.8	96	66-127
	MNX	5	4.8	96	71-137
	TNX	5	4.4	88	60-126
618-87-1	3,5-Dinitroaniline	5	4.3	86	77-115
99-65-0	1,3-Dinitrobenzene	5	4.8	96	79-122
606-20-2	2,6-Dinitrotoluene	5	5.1	102	81-131
121-14-2	2,4-Dinitrotoluene	5	5.0	100	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	5.1	102	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.9	98	79-119
98-95-3	Nitrobenzene	5	4.7	94	78-130
88-72-2	o-Nitrotoluene	5	4.6	92	76-131
99-08-1	m-Nitrotoluene	5	4.6	92	78-122
99-99-0	p-Nitrotoluene	5	4.7	94	79-124
479-45-8	Tetryl	5	5.7	114	65-124
99-35-4	1,3,5-Trinitrobenzene	5	4.7	94	79-128
118-96-7	2,4,6-Trinitrotoluene	5	5.4	108	72-112
55-63-0	Nitroglycerine	25	27.7	111	69-123
78-11-5	PETN	25	26.8	107	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	102%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP63431-MS	PP381255.D	2	01/25/17	KL	01/16/17	OP63431	GPP2069
OP63431-MSD	PP381256.D	2	01/25/17	KL	01/16/17	OP63431	GPP2069
FA40279-1 [a]	PP381215.D	1	01/18/17	KL	01/16/17	OP63431	GPP2066
FA40279-1 [b]	GG060932.D	1	01/19/17	KL	01/16/17	OP63431	GGG2504

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA40351-1, FA40351-2, FA40351-3

CAS No.	Compound	FA40279-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	2.6 [c]		5	5.9	66*	5	6.6	80	11	77-144/21
121-82-4	RDX	1.1		5	5.1	80	5	5.6	90	9	77-125/19
	DNX	0.20 U		5	4.6	92	5	6.5	130*	34*	66-127/25
	MNX	0.20 U		5	4.6	92	5	6.5	130	34*	71-137/20
	TNX	0.20 U		5	4.4	88	5	6.1	122	32*	60-126/18
618-87-1	3,5-Dinitroaniline	0.40 U		5	4.3	86	5	4.8	96	11	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		5	4.6	92	5	5.2	104	12	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		5	5.0	100	5	5.5	110	10	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		5	4.8	96	5	5.2	104	8	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	1.6		5	5.3	74*	5	5.9	86	11	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	1.3		5	5.0	74*	5	5.6	86	11	79-119/20
98-95-3	Nitrobenzene	0.20 U		5	5.5	110	5	6.6	132*	18	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		5	4.8	96	5	5.4	108	12	76-131/20
99-08-1	m-Nitrotoluene	0.20 U		5	4.7	94	5	5.6	112	17	78-122/18
99-99-0	p-Nitrotoluene	0.20 U		5	4.7	94	5	5.3	106	12	79-124/18
479-45-8	Tetryl	0.20 U		5	4.9	98	5	5.8	116	17	65-124/20
99-35-4	1,3,5-Trinitrobenzene	1.7		5	5.3	72*	5	5.6	78*	6	79-128/16
118-96-7	2,4,6-Trinitrotoluene	4.2		5	6.3	42*	5	7.0	56*	11	72-112/16
55-63-0	Nitroglycerine	2.0 U		25	29.0	116	25	31.5	126*	8	69-123/18
78-11-5	PETN	2.0 U		25	25.1	100	25	27.0	108	7	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA40279-1	FA40279-1	Limits
610-39-9	3,4-Dinitrotoluene	99%	102%	98%	113%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run #3.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA40351-1	PP381218.D	89
FA40351-2	PP381227.D	84
FA40351-2	GG060933.D	108
FA40351-2	PP381219.D	93
FA40351-3	PP381228.D	94
FA40351-3	GG060934.D	110
FA40351-3	PP381220.D	95
OP63431-BS	PP381211.D	102
OP63431-MB	PP381212.D	99
OP63431-MB	GG060929.D	113
OP63431-MS	PP381255.D	99
OP63431-MSD	PP381256.D	102

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2504-CC2500	**Injection Date:**	01/19/17
Lab File ID:	GG060928.D	**Injection Time:**	08:24
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	15.40	15.41

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP63431-MB	GG060929.D	01/19/17	09:04		15.28
ZZZZZZ	GG060930.D	01/19/17	09:34		15.27
FA40279-1	GG060932.D	01/19/17	10:41		15.27
FA40351-2	GG060933.D	01/19/17	11:11		15.29
FA40351-3	GG060934.D	01/19/17	11:40		15.29
GGG2504-ECC2500	GG060935.D	01/19/17	12:10	15.36	15.36

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2066-ICC2066	**Injection Date:**	01/18/17
Lab File ID:	PP381206.D	**Injection Time:**	10:00
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	9.96

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP63431-BS	PP381211.D	01/18/17	12:27	9.92
OP63431-MB	PP381212.D	01/18/17	12:52	9.92
ZZZZZZ	PP381213.D	01/18/17	13:17	9.92
ZZZZZZ	PP381214.D	01/18/17	13:58	9.94
FA40279-1	PP381215.D	01/18/17	14:23	9.93
FA40351-1	PP381218.D	01/18/17	15:38	9.95
FA40351-2	PP381219.D	01/18/17	16:03	9.95
FA40351-3	PP381220.D	01/18/17	16:28	9.94

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2067-CC2066	**Injection Date:**	01/19/17
Lab File ID:	PP381226.D	**Injection Time:**	10:30
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	10.04	10.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA40351-2	PP381227.D	01/19/17	11:02		10.04
FA40351-3	PP381228.D	01/19/17	11:27		10.03
GPP2067-ECC2066	PP381229.D	01/19/17	11:52	10.03	10.03

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2069-CC2066	**Injection Date:**	01/25/17
Lab File ID:	PP381253.D	**Injection Time:**	14:36
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	10.04	10.04

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA40279-1	PP381254.D	01/25/17	15:01		10.05
OP63431-MS	PP381255.D	01/25/17	15:26		10.05
OP63431-MSD	PP381256.D	01/25/17	15:51		10.03
OP63530-BS	PP381257.D	01/25/17	16:16		10.02
OP63530-MB	PP381258.D	01/25/17	16:41		10.02
FA40537-1	PP381259.D	01/25/17	17:06	10.02	10.02
OP63530-MS	PP381260.D	01/25/17	17:31	10.03	10.03
OP63530-MSD	PP381261.D	01/25/17	17:55	10.03	10.03
OP63504-BS	PP381262.D	01/25/17	18:20		10.04
ZZZZZZ	PP381264.D	01/25/17	19:10	10.04	10.04

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICC2500
Lab FileID: GG060861.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Initial Calibration

Calibration Files
20 =GG060857.D 50 =GG060858.D 100 =GG060859.D 200 =GG060860.D
500 =GG060861.D 1000=GG060862.D 2000=GG060863.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	7.563	9.380	8.035	8.088	7.825	7.839	8.528	8.180	E3	7.42
2)	HMX	2.883	2.816	2.522	2.563	2.715	2.586	2.745	2.690	E3	5.08
3)	DNX	6.893	9.151	7.677	7.329	7.479	7.186	7.745	7.637	E3	9.54
4)	MNX	4.312	5.568	5.005	5.068	5.055	5.117	5.642	5.110	E3	8.55
5)	1,3,5-Trinitroben	0.756	1.088	0.936	0.940	0.895	0.889	0.978	0.926	E4	10.83
6)	RDX	2.474	5.440	4.740	4.595	4.275	4.223	4.605	4.336	E3	21.06
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996										
	Response Ratio = 0.00000 + 4035.46673 *A + 0.28009 *A^2										
7)	1,3-Dinitrobenzen	1.684	1.483	1.241	1.228	1.177	1.164	1.276	1.322	E4	14.50
8)	Nitrobenzene	6.833	9.070	7.881	7.679	7.476	7.385	7.972	7.757	E3	8.90
9)	2,4,6-Trinitrotol	5.539	6.829	5.853	5.799	5.734	5.653	6.196	5.943	E3	7.42
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 5342.63698 *A + 0.42141 *A^2										
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	3.802	4.635	4.245	4.265	4.115	4.096	4.491	4.236	E3	6.44
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 3856.53143 *A + 0.31338 *A^2										
12)S	3,4-Dinitrotoluen	3.961	5.304	4.496	4.588	4.352	4.211	4.633	4.507	E3	9.36
13)	2,6-Dinitrotoluen	6.667	8.671	7.438	7.381	7.151	7.142	7.825	7.468	E3	8.52
14)	2,4-Dinitrotoluen	1.083	1.365	1.161	1.161	1.110	1.096	1.200	1.168	E4	8.24
15)	o-Nitrotoluene	3.698	5.793	5.119	4.937	4.816	4.818	5.228	4.916	E3	12.90
16)	3,5-Dinitroanilin	0.910	1.169	1.043	1.024	0.965	0.962	1.053	1.018	E4	8.26
17)	p-Nitrotoluene	2.045	3.247	3.012	2.966	3.119	3.267	3.583	3.034	E3	15.87
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 2952.90168 *A + 0.31518 *A^2										
18)	4-Amino-2,6-Dinit	0.411	3.209	3.858	4.511	5.165	5.558	6.425	4.162	E3	47.31
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 4644.23889 *A + 0.89208 *A^2										
19)	m-Nitrotoluene	3.219	4.851	4.751	4.758	4.867	5.306	5.799	4.793	E3	16.52
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 4710.70662 *A + 0.54610 *A^2										
20)	2-Amino-4,6-Dinit	0.820	1.074	0.950	0.911	0.824	0.809	0.905	0.899	E4	10.49
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	7.736	9.414	8.185	8.171	8.038	7.839	8.528	8.273	E3	6.83
2)	HMX	3.084	2.939	2.703	2.566	2.715	2.586	2.745	2.763	E3	6.77
3)	DNX	6.241	9.486	7.319	7.449	7.479	7.186	7.745	7.558	E3	12.89
4)	MNX	4.208	5.591	4.995	5.068	5.055	5.117	5.642	5.097	E3	9.29
5)	1,3,5-Trinitroben	0.747	1.088	0.936	0.940	0.895	0.889	0.978	0.925	E4	11.12

Initial Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICC2500
Lab FileID: GG060861.D

```
 6)  RDX              2.474 5.440 4.740 4.595 4.275 4.223 4.605 4.336 E3  21.06
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 4035.46673 *A + 0.28009 *A^2

 7)  1,3-Dinitrobenzen 1.498 1.198 0.953 0.968 0.920 0.880 0.958 1.053 E4  21.00
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 8555.75963 *A + 0.49902 *A^2

 8)  Nitrobenzene      3.324 8.715 7.942 7.474 7.607 7.275 7.643 7.140 E3  24.45
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
             Response Ratio = 0.00000 + 7207.64364 *A + 0.21114 *A^2

 9)  2,4,6-Trinitrotol 7.666 8.235 7.296 7.338 8.109 7.861 8.373 7.840 E3   5.44
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
             Response Ratio = 0.00000 + 7565.70447 *A + 0.39955 *A^2

10)  Nitroglycerin     3.750 3.451 2.907 2.946 3.051 3.003 3.260 3.195 E3   9.73
11)  Tetryl            8.795 7.289 7.461 6.830 7.381 7.508 8.380 7.663 E3   8.87
12)S 3,4-Dinitrotoluen 0.618 1.088 1.024 1.005 0.964 0.943 1.046 0.955 E4  16.40
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 8899.97620 *A + 0.76749 *A^2

13)  2,6-Dinitrotoluen 0.390 1.139 0.834 0.895 1.000 1.014 1.133 0.915 E4  28.14
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9973
             Response Ratio = 0.00000 + 11017.51180 *A

14)  2,4-Dinitrotoluen 1.239 1.100 0.799 0.799 0.786 0.793 0.858 0.911 E4  20.09
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 7483.76805 *A + 0.54259 *A^2

15)  o-Nitrotoluene    2.727 8.995 7.146 6.626 6.847 7.048 7.697 6.726 E3  28.72
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 6488.56489 *A + 0.60207 *A^2

16)  3,5-Dinitroanilin 2.175 1.918 1.761 1.727 1.647 1.654 1.811 1.813 E4  10.20
17)  p-Nitrotoluene    1.538 3.573 1.584 1.693 3.072 4.074 4.886 2.917 E3  46.10
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
             Response Ratio = 0.00000 + 2807.70945 *A + 1.05011 *A^2

18)  4-Amino-2,6-Dinit 0.014 0.097 0.071 0.142 0.527 0.805 1.066 0.389 E4  107.05
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9979
             Response Ratio = 0.00000 + 4248.71394 *A + 3.23613 *A^2

19)  m-Nitrotoluene    2.022 2.221 4.998 5.343 7.091 7.743 8.543 5.423 E3  47.56
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 6600.72211 *A + 0.98022 *A^2

20)  2-Amino-4,6-Dinit 0.011 0.506 1.179 1.095 1.206 1.189 1.315 0.929 E4  52.08
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
             Response Ratio = 0.00000 + 10971.96258 *A + 1.08494 *A^2

21)  PETN              3.113 3.310 3.418 3.417 3.277 3.276 3.556 3.338 E3   4.22
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_1230.M       Tue Jan 03 11:07:36 2017
```

Initial Calibration Verification

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICV2500
Lab FileID: GG060864.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\1230RPB3\GG060864.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\1230RPB3\GG060864.D\dad1A.ch
Acq On : 30-Dec-2016, 18:13:52 Operator: kismetl
Sample : icv2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	508.848	-1.8	106	0.00	4.13- 5.13
2	HMX	500.000	550.270	-10.1	109	0.00	4.50- 5.50
3	DNX	500.000	485.321	2.9	99	0.00	4.66- 5.66
4	MNX	500.000	511.578	-2.3	103	0.00	5.55- 6.55
5	1,3,5-Trinitrobenzene	500.000	494.967	1.0	102	0.00	6.56- 7.56
	Compound	Amount	Calc.	%Drift			
6	RDX	500.000	556.540	-11.3	109	0.00	6.89- 7.89
	Compound	Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene	500.000	441.071	11.8	99	0.00	9.05-10.05
8	Nitrobenzene	500.000	518.583	-3.7	108	0.00	10.12-11.12
	Compound	Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene	500.000	400.036	20.0#	77	0.00	11.20-12.20
	Compound	Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
	Compound	Amount	Calc.	%Drift			
11	Tetryl	500.000	439.948	12.0	85	0.00	13.00-14.00
	Compound	Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	501.024	-0.2	105	0.03	14.88-15.88
14	2,4-Dinitrotoluene	500.000	496.326	0.7	104	0.00	15.85-16.85
15	o-Nitrotoluene	500.000	540.855	-8.2	110	0.02	18.30-19.30
16	3,5-Dinitroaniline	500.000	472.389	5.5	100	0.01	17.64-18.64
	Compound	Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	540.972	-8.2	108	0.01	20.16-21.16
18	4-Amino-2,6-Dinitrotol	500.000	526.769	-5.4	104	0.00	20.81-21.81
19	m-Nitrotoluene	500.000	544.548	-8.9	112	0.00	22.15-23.15
	Compound	Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	500.000	541.550	-8.3	118	0.00	23.21-24.21
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	503.109	-0.6	104	0.00	4.13- 5.13

Initial Calibration Verification

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2500-ICV2500
Lab FileID: GG060864.D

2	HMX	500.000	569.244	-13.8	116	0.00	4.50- 5.50
3	DNX	500.000	512.895	-2.6	104	0.00	4.66- 5.66
4	MNX	500.000	512.876	-2.6	103	0.00	5.55- 6.55
5	1,3,5-Trinitrobenzene	500.000	495.642	0.9	102	0.00	6.56- 7.56
		Amount	Calc.	%Drift			
6	RDX	500.000	556.540	-11.3	109	0.00	6.89- 7.89
7	1,3-Dinitrobenzene	500.000	506.352	-1.3	97	0.00	9.05-10.05
8	Nitrobenzene	500.000	551.404	-10.3	106	0.00	10.12-11.12
9	2,4,6-Trinitrotoluene	500.000	417.808	16.4#	80	0.00	11.20-12.20
		Amount	Calc.	%Drift			
10	Nitroglycerin	2500.000	2429.821	2.8	102	0.00	12.04-13.04
11	Tetryl	500.000	454.862	9.0	94	0.00	12.99-13.99
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	----------NA----------					
13	2,6-Dinitrotoluene	500.000	554.445	-10.9	122	0.05	14.85-15.85
14	2,4-Dinitrotoluene	500.000	527.399	-5.5	104	0.00	15.85-16.85
15	o-Nitrotoluene	500.000	567.807	-13.6	113	0.02	18.28-19.28
		Amount	Calc.	%Drift			
16	3,5-Dinitroaniline	500.000	454.373	9.1	100	0.01	17.63-18.63
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	541.058	-8.2	119	0.03	20.15-21.15
18	4-Amino-2,6-Dinitrotol	500.000	524.739	-4.9	119	-0.01	20.84-21.84
19	m-Nitrotoluene	500.000	551.021	-10.2	111	0.02	22.15-23.15
20	2-Amino-4,6-Dinitrotol	500.000	561.636	-12.3	108	0.00	23.22-24.22
		Amount	Calc.	%Drift			
21	PETN	2500.000	2594.295	-3.8	106	0.00	24.36-25.36

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060861.D 8330RPB.M_1230.M Tue Jan 03 11:08:20 2017

8.6.2

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-CC2500
Lab FileID: GG060928.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0119RPB3\GG060928.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060928.D\dad1A.ch
Acq On : 19-Jan-2017, 08:24:39 Operator: kismetl
Sample : cc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	999.321	0.1	104	0.00	4.16- 5.16
2	HMX	1000.000	1031.448	-3.1	107	0.00	4.55- 5.55
3	DNX	1000.000	954.103	4.6	101	0.00	4.70- 5.70
4	MNX	1000.000	1040.025	-4.0	104	0.00	5.67- 6.67
5	1,3,5-Trinitrobenzene	1000.000	1003.046	-0.3	105	0.00	6.66- 7.66
	----------	Amount	Calc.	%Drift	----------		
6	RDX	1000.000	1004.322	-0.4	103	0.00	7.06- 8.06
	----------	Amount	Calc.	%Drift	----------		
7	1,3-Dinitrobenzene	1000.000	922.306	7.8	105	0.00	9.23-10.23
8	Nitrobenzene	1000.000	967.246	3.3	102	0.00	10.33-11.33
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	1000.000	1021.749	-2.2	104	0.00	11.43-12.43
	----------	Amount	Calc.	%Drift	----------		
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	1007.701	-0.8	103	0.00	13.38-14.38
	----------	Amount	Calc.	%Drift	----------		
12 S	3,4-Dinitrotoluene	1000.000	1074.013	-7.4	115	0.00	14.90-15.90
13	2,6-Dinitrotoluene	1000.000	947.507	5.2	99	-0.01	15.31-16.31
14	2,4-Dinitrotoluene	1000.000	970.257	3.0	103	0.00	16.27-17.27
15	o-Nitrotoluene	1000.000	980.634	1.9	100	-0.01	18.86-19.86
16	3,5-Dinitroaniline	1000.000	989.322	1.1	105	0.00	18.17-19.17
	----------	Amount	Calc.	%Drift	----------		
17	p-Nitrotoluene	1000.000	1098.376	-9.8	111	0.00	20.73-21.73
18	4-Amino-2,6-Dinitrotol	1000.000	1038.230	-3.8	104	0.00	21.58-22.58
19	m-Nitrotoluene	1000.000	1085.472	-8.5	108	0.00	22.51-23.51
	----------	Amount	Calc.	%Drift	----------		
20	2-Amino-4,6-Dinitrotol	1000.000	997.563	0.2	111	0.00	23.53-24.53
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	988.049	1.2	104	0.00	4.16- 5.16

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-CC2500
Lab FileID: GG060928.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	1004.343	-0.4	107	0.00	4.55- 5.55
3		DNX	1000.000	964.095	3.6	101	0.00	4.70- 5.70
4		MNX	1000.000	1042.665	-4.3	104	0.00	5.67- 6.67
5		1,3,5-Trinitrobenzene	1000.000	1004.414	-0.4	105	0.00	6.66- 7.66
			Amount	Calc.	%Drift			
6		RDX	1000.000	1004.322	-0.4	103	0.00	7.06- 8.06
7		1,3-Dinitrobenzene	1000.000	1011.007	-1.1	104	0.00	9.23-10.23
8		Nitrobenzene	1000.000	968.171	3.2	99	0.00	10.33-11.33
9		2,4,6-Trinitrotoluene	1000.000	986.437	1.4	100	0.00	11.43-12.43
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4687.614	6.2	100	0.00	12.30-13.30
11		Tetryl	1000.000	921.266	7.9	94	0.00	13.37-14.37
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	1094.430	-9.4	113	0.00	14.89-15.89
13		2,6-Dinitrotoluene	1000.000	877.595	12.2	95	-0.02	15.29-16.29
14		2,4-Dinitrotoluene	1000.000	987.647	1.2	100	0.00	16.27-17.27
15		o-Nitrotoluene	1000.000	971.068	2.9	97	-0.01	18.85-19.85
			Amount	Calc.	%Drift			
16		3,5-Dinitroaniline	1000.000	947.557	5.2	104	0.00	18.18-19.18
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	952.030	4.8	89	0.00	20.73-21.73
18		4-Amino-2,6-Dinitrotol	1000.000	1050.344	-5.0	100	-0.01	21.61-22.61
19		m-Nitrotoluene	1000.000	1025.238	-2.5	101	0.00	22.52-23.52
20		2-Amino-4,6-Dinitrotol	1000.000	1045.056	-4.5	106	0.00	23.53-24.53
			Amount	Calc.	%Drift			
21		PETN	5000.000	5039.967	-0.8	103	0.00	24.59-25.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060862.D 8330RPB.M_1230.M Fri Jan 20 14:24:16 2017

8.6.3

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-ECC2500
Lab FileID: GG060935.D

Evaluate Continuing Calibration Report

```
Signal #1 : G:\DATA\0119RPB3\GG060935.D\dad1B.ch         Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060935.D\dad1A.ch
Acq On    : 19-Jan-2017, 12:10:31                    Operator: kismetl
Sample    : ecc2500-1000                             Inst    : G1315B
Misc      : OP63431,GGG2504,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_1230.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	991.079	0.9	103	0.00	4.16- 5.16
2	HMX	1000.000	1016.966	-1.7	106	0.00	4.55- 5.55
3	DNX	1000.000	946.785	5.3	101	0.00	4.70- 5.70
4	MNX	1000.000	1085.418	-8.5	108	-0.01	5.67- 6.67
5	1,3,5-Trinitrobenzene	1000.000	1012.967	-1.3	106	0.00	6.66- 7.66
		Amount	Calc.	%Drift			
6	RDX	1000.000	1009.541	-1.0	103	-0.02	7.06- 8.06
		Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene	1000.000	919.171	8.1	104	-0.02	9.23-10.23
8	Nitrobenzene	1000.000	975.684	2.4	102	-0.02	10.33-11.33
		Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene	1000.000	1019.504	-2.0	104	-0.02	11.43-12.43
		Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	1000.389	-0.0	102	-0.04	13.38-14.38
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene	1000.000	1056.366	-5.6	113	-0.03	14.90-15.90
13	2,6-Dinitrotoluene	1000.000	945.790	5.4	99	-0.05	15.31-16.31
14	2,4-Dinitrotoluene	1000.000	965.892	3.4	103	-0.04	16.27-17.27
15	o-Nitrotoluene	1000.000	996.303	0.4	102	-0.06	18.86-19.86
16	3,5-Dinitroaniline	1000.000	979.367	2.1	104	-0.08	18.17-19.17
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	1000.000	1064.993	-6.5	107	-0.05	20.73-21.73
18	4-Amino-2,6-Dinitrotol	1000.000	1014.389	-1.4	101	-0.08	21.58-22.58
19	m-Nitrotoluene	1000.000	1060.645	-6.1	106	-0.02	22.51-23.51
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	994.534	0.5	111	-0.03	23.53-24.53
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	979.900	2.0	103	0.00	4.16- 5.16

8.6.4

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2504-ECC2500
Lab FileID: GG060935.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	990.242	1.0	106	0.00	4.55- 5.55
3		DNX	1000.000	956.701	4.3	101	0.00	4.70- 5.70
4		MNX	1000.000	1088.173	-8.8	108	-0.01	5.67- 6.67
5		1,3,5-Trinitrobenzene	1000.000	1014.349	-1.4	106	0.00	6.66- 7.66
			Amount	Calc.	%Drift			
6		RDX	1000.000	1009.541	-1.0	103	-0.02	7.06- 8.06
7		1,3-Dinitrobenzene	1000.000	1009.468	-0.9	104	-0.02	9.23-10.23
8		Nitrobenzene	1000.000	973.052	2.7	99	-0.02	10.33-11.33
9		2,4,6-Trinitrotoluene	1000.000	984.558	1.5	100	-0.02	11.43-12.43
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4685.318	6.3	100	-0.02	12.30-13.30
11		Tetryl	1000.000	927.849	7.2	95	-0.04	13.37-14.37
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	1086.332	-8.6	112	-0.04	14.89-15.89
13		2,6-Dinitrotoluene	1000.000	892.088	10.8	97	-0.06	15.29-16.29
14		2,4-Dinitrotoluene	1000.000	1001.355	-0.1	101	-0.05	16.27-17.27
15		o-Nitrotoluene	1000.000	1004.402	-0.4	101	-0.06	18.85-19.85
			Amount	Calc.	%Drift			
16		3,5-Dinitroaniline	1000.000	945.875	5.4	104	-0.08	18.18-19.18
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	929.610	7.0	86	-0.06	20.73-21.73
18		4-Amino-2,6-Dinitrotol	1000.000	1007.723	-0.8	94	-0.10	21.61-22.61
19		m-Nitrotoluene	1000.000	1032.799	-3.3	102	-0.03	22.52-23.52
20		2-Amino-4,6-Dinitrotol	1000.000	1072.406	-7.2	109	-0.04	23.53-24.53
			Amount	Calc.	%Drift			
21		PETN	5000.000	5030.510	-0.6	103	-0.01	24.59-25.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG060862.D 8330RPB.M_1230.M Fri Jan 20 14:24:17 2017

8.6.4

8

Initial Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICC2066
Lab FileID: PP381206.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration

Calibration Files
20 =PP381202.D 50 =PP381203.D 100 =PP381204.D 200 =PP381205.D
500 =PP381206.D 1000=PP381207.D 2000=PP381208.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	2.598	3.165	2.959	2.790	3.030	3.098	2.982	2.946	E3	6.58
2)	HMX	1.640	1.579	1.731	1.554	1.665	1.663	1.703	1.648	E3	3.84
3)	DNX	4.067	3.171	3.119	2.780	2.799	2.679	2.775	3.056	E3	15.83
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 2688.92850 *A + 0.04086 *A^2										
4)	MNX	2.502	2.449	2.328	2.283	2.282	2.228	2.293	2.338	E3	4.27
5)	RDX	2.106	1.811	1.773	1.774	1.788	1.718	1.785	1.822	E3	7.04
6)	1,3,5-Trinitroben	4.057	4.164	4.111	4.023	4.087	3.951	4.115	4.073	E3	1.72
7)	1,3-Dinitrobenzen	5.000	5.292	5.001	5.030	5.080	4.915	5.112	5.061	E3	2.36
8)	3,5-Dinitroanilin	4.551	4.887	4.638	4.341	4.407	4.248	4.440	4.502	E3	4.73
9)	Nitrobenzene	3.533	2.993	3.077	2.868	2.969	2.917	3.016	3.053	E3	7.27
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	2.853	1.908	1.730	1.954	1.942	1.975	2.041	2.058	E3	17.67
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 1908.15551 *A + 0.06642 *A^2										
12)	2,4,6-Trinitrotol	4.161	2.666	2.872	2.826	2.887	2.804	2.927	3.020	E3	16.88
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 2760.78295 *A + 0.08159 *A^2										
13)	2-Amino-4,6-Dinit	2.875	3.075	3.118	3.138	3.134	3.093	3.200	3.090	E3	3.33
14)	4-Amino-2,6-Dinit	2.774	2.127	2.327	2.304	2.220	2.283	2.356	2.342	E3	8.78
15)S	3,4-Dinitrotoluen	2.332	1.962	2.053	2.061	1.975	2.021	2.094	2.071	E3	6.00
16)	2,4-Dinitrotoluen	4.701	4.693	4.800	4.517	4.555	4.454	4.628	4.621	E3	2.60
17)	2,6-Dinitrotoluen	2.917	2.669	2.634	2.651	2.559	2.514	2.592	2.648	E3	4.93
18)	o-Nitrotoluene	2.587	2.050	2.190	2.189	2.215	2.117	2.168	2.217	E3	7.80
19)	p-Nitrotoluene	3.721	3.459	3.282	3.406	3.433	3.295	3.392	3.427	E3	4.26
20)	m-Nitrotoluene	3.473	3.442	3.252	3.254	3.266	3.205	3.313	3.315	E3	3.10
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	3.829	4.034	4.356	4.152	4.499	4.585	4.460	4.273	E3	6.47
2)	HMX	4.668	4.946	5.354	4.534	4.917	4.559	4.571	4.793	E3	6.26
3)	DNX	1.328	0.822	0.662	0.503	0.471	0.430	0.440	0.665	E4	48.89
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9989										
	Response Ratio = 0.00000 + 4568.51109 *A + -0.09534 *A^2										
4)	MNX	3.392	3.672	3.600	3.495	3.562	3.412	3.535	3.524	E3	2.84
5)	RDX	3.547	3.100	2.973	2.866	2.841	2.726	2.841	2.985	E3	9.20
6)	1,3,5-Trinitroben	7.864	7.707	7.799	7.762	7.836	7.571	7.875	7.773	E3	1.38
7)	1,3-Dinitrobenzen	3.315	3.415	3.426	3.424	3.461	3.289	3.412	3.392	E3	1.88
8)	3,5-Dinitroanilin	7.844	7.835	7.906	7.474	7.426	7.214	7.522	7.603	E3	3.43
9)	Nitrobenzene	2.953	3.299	3.047	2.952	2.982	2.923	2.982	3.020	E3	4.28
10)	Nitroglycerin	1.398	1.425	1.389	1.310	1.306	1.259	1.319	1.344	E3	4.50
11)	Tetryl	3.906	3.203	3.155	3.031	3.000	2.878	2.961	3.162	E3	10.95

Initial Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICC2066
Lab FileID: PP381206.D

12)	2,4,6-Trinitrotol	3.832	3.990	4.165	3.901	3.937	3.775	3.927	3.933	E3	3.17
13)	2-Amino-4,6-Dinit	5.560	5.222	5.189	5.015	4.941	4.764	4.937	5.090	E3	5.11
14)	4-Amino-2,6-Dinit	5.652	5.313	5.177	4.861	4.839	4.682	4.857	5.055	E3	6.76
15)S	3,4-Dinitrotoluen	4.478	4.006	3.928	3.722	3.685	3.561	3.706	3.869	E3	7.97
16)	2,4-Dinitrotoluen	3.712	2.757	2.729	2.836	2.932	2.874	3.025	2.981	E3	11.34
17)	2,6-Dinitrotoluen	1.645	1.961	2.423	2.727	3.079	3.085	3.321	2.606	E3	24.02

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998
Response Ratio = 0.00000 + 2867.42577 *A + 0.22675 *A^2

18)	o-Nitrotoluene	3.710	3.083	2.611	3.051	3.081	2.939	3.118	3.085	E3	10.58
19)	p-Nitrotoluene	2.960	2.810	2.768	2.880	2.838	2.794	2.954	2.858	E3	2.68
20)	m-Nitrotoluene	3.756	3.975	3.895	3.831	3.929	3.803	4.021	3.887	E3	2.46
21)	PETN	1.725	1.548	1.433	1.433	1.440	1.378	1.429	1.484	E3	7.94

(#) = Out of Range

8330-0118BPLUS.M Thu Jan 19 12:16:05 2017

8.6.5

8

Initial Calibration Verification

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICV2066
Lab FileID: PP381209.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0118BPL\PP381209.D\dad1B.ch          Vial: 10
Signal #2 : P:\DATA\0118BPL\PP381209.D\dad1A.ch
Acq On    : 18-Jan-2017, 11:26:25                    Operator: kismetl
Sample    : icv2066-500                              Inst    : G1315B
Misc      : OP63244,GPP2066,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A.8330B,8332
Last Update  : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	527.933	-5.6	103	0.00	0.86- 1.46
2	HMX	500.000	565.139	-13.0	112	0.00	0.94- 1.54
	----------	Amount	Calc.	%Drift			
3	DNX	500.000	509.255	-1.9	99	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	500.000	492.591	1.5	101	0.00	1.68- 2.28
5	RDX	500.000	513.081	-2.6	105	0.00	2.10- 2.90
6	1,3,5-Trinitrobenzene	500.000	506.306	-1.3	101	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	500.000	500.118	-0.0	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	500.000	454.560	9.1	93	0.00	5.15- 5.95
9	Nitrobenzene	500.000	520.071	-4.0	107	0.00	6.36- 7.16
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift			
11	Tetryl	500.000	453.819	9.2	91	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	500.000	452.135	9.6	88	0.00	8.43- 9.23
	----------	Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	500.000	550.614	-10.1	109	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	500.000	536.077	-7.2	113	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	522.111	-4.4	106	0.00	10.19-10.99
17	2,6-Dinitrotoluene	500.000	529.283	-5.9	110	0.00	10.65-11.45
18	o-Nitrotoluene	500.000	530.446	-6.1	106	0.00	13.15-14.15
19	p-Nitrotoluene	500.000	519.093	-3.8	104	0.00	13.55-14.55
20	m-Nitrotoluene	500.000	501.639	-0.3	102	0.00	14.14-15.14
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	523.061	-4.6	99	0.00	0.86- 1.46
2	HMX	500.000	553.128	-10.6	108	0.00	0.95- 1.55
	----------	Amount	Calc.	%Drift			
3	DNX	500.000	501.805	-0.4	96	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift			
4	MNX	500.000	505.165	-1.0	100	0.00	1.68- 2.28
5	RDX	500.000	501.413	-0.3	105	0.00	2.10- 2.90

Initial Calibration Verification

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-ICV2066
Lab FileID: PP381209.D

6	1,3,5-Trinitrobenzene	500.000	504.165	-0.8	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	500.000	487.765	2.4	96	0.00	4.81- 5.61
8	3,5-Dinitroaniline	500.000	457.607	8.5	94	0.00	5.15- 5.95
9	Nitrobenzene	500.000	520.766	-4.2	105	0.00	6.36- 7.16
10	Nitroglycerin	2500.000	2468.478	1.3	102	0.00	7.65- 8.65
11	Tetryl	500.000	401.246	19.8#	85	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	500.000	461.904	7.6	92	0.00	8.43- 9.23
13	2-Amino-4,6-Dinitrotol	500.000	531.925	-6.4	110	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	500.000	521.982	-4.4	109	0.01	9.18- 9.98
15 S	3,4-Dinitrotoluene			----------NA----------			
16	2,4-Dinitrotoluene	500.000	515.456	-3.1	105	0.00	10.19-10.99

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	500.000	560.739	-12.1	109	0.00	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	500.000	540.645	-8.1	108	0.00	13.15-14.15
19	p-Nitrotoluene	500.000	544.654	-8.9	110	0.00	13.55-14.55
20	m-Nitrotoluene	500.000	516.969	-3.4	102	0.00	14.14-15.14
21	PETN	2500.000	2498.033	0.1	103	0.00	15.64-16.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381206.D 8330-0118BPLUS.M Thu Jan 19 12:16:45 2017

8.6.9

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-CC2066
Lab FileID: PP381221.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0118BPL\PP381221.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381221.D\dad1A.ch
Acq On : 18-Jan-2017, 16:53:32 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1054.835	-5.5	100	0.00	0.86- 1.46
2	HMX	1000.000	996.250	0.4	99	0.00	0.94- 1.54
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	978.083	2.2	100	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift	----------		
4	MNX	1000.000	948.409	5.2	100	0.00	1.68- 2.28
5	RDX	1000.000	940.683	5.9	100	0.00	2.10- 2.90
6	1,3,5-Trinitrobenzene	1000.000	966.549	3.3	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	1000.000	967.921	3.2	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	1000.000	945.413	5.5	100	0.00	5.15- 5.95
9	Nitrobenzene	1000.000	964.194	3.6	101	0.00	6.36- 7.16
10	Nitroglycerin	----------	NA	----------			
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	983.123	1.7	98	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	1000.000	983.046	1.7	100	0.00	8.43- 9.23
	----------	Amount	Calc.	%Drift	----------		
13	2-Amino-4,6-Dinitrotol	1000.000	997.550	0.2	100	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	1000.000	965.340	3.5	99	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	968.550	3.1	99	0.00	9.55-10.35
16	2,4-Dinitrotoluene	1000.000	957.768	4.2	99	0.00	10.19-10.99
17	2,6-Dinitrotoluene	1000.000	928.381	7.2	98	0.00	10.65-11.45
18	o-Nitrotoluene	1000.000	975.265	2.5	102	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	1009.490	-0.9	105	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	1000.161	-0.0	103	0.00	14.14-15.14
21	PETN	----------	NA	----------			
*****	Signal #2 *****						
1	TNX	1000.000	1079.622	-8.0	101	0.00	0.86- 1.46
2	HMX	1000.000	941.787	5.8	99	0.00	0.95- 1.55
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	967.255	3.3	101	0.00	1.18- 1.78
	----------	Amount	Calc.	%Drift	----------		
4	MNX	1000.000	968.576	3.1	100	0.00	1.68- 2.28
5	RDX	1000.000	913.810	8.6	100	0.00	2.10- 2.90

8.6.7

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Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2066-CC2066
Lab FileID: PP381221.D

6	1,3,5-Trinitrobenzene	1000.000	973.442	2.7	100	0.00	3.64- 4.44
7	1,3-Dinitrobenzene	1000.000	968.140	3.2	100	0.00	4.81- 5.61
8	3,5-Dinitroaniline	1000.000	946.571	5.3	100	0.00	5.15- 5.95
9	Nitrobenzene	1000.000	977.457	2.3	101	0.00	6.36- 7.16
10	Nitroglycerin	5000.000	4688.212	6.2	100	0.00	7.65- 8.65
11	Tetryl	1000.000	911.093	8.9	100	0.00	8.02- 8.82
12	2,4,6-Trinitrotoluene	1000.000	962.602	3.7	100	0.00	8.43- 9.23
13	2-Amino-4,6-Dinitrotol	1000.000	934.827	6.5	100	0.00	8.74- 9.54
14	4-Amino-2,6-Dinitrotol	1000.000	921.349	7.9	99	0.00	9.18- 9.98
15 S	3,4-Dinitrotoluene	1000.000	920.081	8.0	100	0.00	9.55-10.35
16	2,4-Dinitrotoluene	1000.000	959.306	4.1	99	0.00	10.19-10.99

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	995.012	0.5	100	0.00	10.65-11.45

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	971.756	2.8	102	0.00	13.15-14.15
19	p-Nitrotoluene	1000.000	995.979	0.4	102	0.00	13.55-14.55
20	m-Nitrotoluene	1000.000	998.624	0.1	102	0.00	14.14-15.14
21	PETN	5000.000	4646.271	7.1	100	0.00	15.64-16.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 19 12:18:08 2017

8.6.7

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2067-CC2066
Lab FileID: PP381226.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0119BPL\PP381226.D\dad1B.ch          Vial: 2
Signal #2 : P:\DATA\0119BPL\PP381226.D\dad1A.ch
Acq On    : 19-Jan-2017, 10:30:48                  Operator: kismetl
Sample    : cc2066-1000                            Inst    : G1315B
Misc      : OP63431,GPP2067,1000,,,10,,water       Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A.8330B,8332
Last Update  : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1060.565	-6.1	101	0.00	0.88- 1.48
2	HMX	1000.000	981.104	1.9	97	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	980.439	2.0	100	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	967.853	3.2	102	0.00	1.70- 2.30
5	RDX	1000.000	955.790	4.4	101	0.00	2.13- 2.93
6	1,3,5-Trinitrobenzene	1000.000	985.956	1.4	102	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	995.206	0.5	102	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	973.254	2.7	103	0.00	5.21- 6.01
9	Nitrobenzene	1000.000	946.874	5.3	99	0.00	6.40- 7.20
10	Nitroglycerin	----------NA----------					
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	989.130	1.1	99	0.00	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	1002.273	-0.2	102	0.00	8.52- 9.32
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	1014.041	-1.4	101	0.00	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	982.869	1.7	101	0.00	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	993.876	0.6	102	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	976.382	2.4	101	0.00	10.28-11.08
17	2,6-Dinitrotoluene	1000.000	956.017	4.4	101	0.00	10.75-11.55
18	o-Nitrotoluene	1000.000	919.959	8.0	96	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	950.222	5.0	99	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	943.506	5.6	98	0.00	14.18-15.18
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1083.308	-8.3	101	0.00	0.88- 1.48
2	HMX	1000.000	946.240	5.4	99	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	964.999	3.5	100	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	986.194	1.4	102	0.00	1.70- 2.30
5	RDX	1000.000	932.070	6.8	102	0.00	2.13- 2.93

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2067-CC2066
Lab FileID: PP381226.D

6	1,3,5-Trinitrobenzene	1000.000	996.492	0.4	102	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	988.502	1.1	102	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	960.909	3.9	101	0.00	5.21- 6.01
9	Nitrobenzene	1000.000	943.696	5.6	97	0.00	6.40- 7.20
10	Nitroglycerin	5000.000	4805.724	3.9	103	0.00	7.76- 8.76
11	Tetryl	1000.000	928.075	7.2	102	0.00	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	986.420	1.4	103	0.00	8.52- 9.32
13	2-Amino-4,6-Dinitrotol	1000.000	949.752	5.0	101	0.00	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	942.178	5.8	102	0.00	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	949.852	5.0	103	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	973.006	2.7	101	0.00	10.28-11.08

		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1019.452	-1.9	102	0.00	10.75-11.55

		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	1031.521	-3.2	108	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	1013.405	-1.3	104	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	964.523	3.5	99	0.00	14.18-15.18
21	PETN	5000.000	4782.362	4.4	103	0.00	15.74-16.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 19 13:58:23 2017

8.6.8

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2067-ECC2066
Lab FileID: PP381229.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0119BPL\PP381229.D\dad1B.ch          Vial: 2
Signal #2 : P:\DATA\0119BPL\PP381229.D\dad1A.ch
Acq On    : 19-Jan-2017, 11:52:15                    Operator: kismetl
Sample    : ecc2066-1000                             Inst    : G1315B
Misc      : OP63431,GPP2067,1000,,,10,,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E

Method       : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A.8330B,8332
Last Update  : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1057.377	-5.7	101	0.00	0.88- 1.48
2	HMX	1000.000	982.038	1.8	97	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	976.654	2.3	99	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	962.633	3.7	101	0.00	1.70- 2.30
5	RDX	1000.000	955.918	4.4	101	0.00	2.13- 2.93
6	1,3,5-Trinitrobenzene	1000.000	983.794	1.6	101	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	989.753	1.0	102	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	962.547	3.7	102	0.00	5.21- 6.01
9	Nitrobenzene	1000.000	952.112	4.8	100	0.00	6.40- 7.20
10	Nitroglycerin	----------NA----------					
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	973.420	2.7	97	0.00	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	994.169	0.6	101	0.00	8.52- 9.32
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	1008.884	-0.9	101	0.00	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	974.190	2.6	100	0.00	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	981.554	1.8	101	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	971.168	2.9	101	0.00	10.28-11.08
17	2,6-Dinitrotoluene	1000.000	947.315	5.3	100	0.00	10.75-11.55
18	o-Nitrotoluene	1000.000	946.570	5.3	99	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	951.368	4.9	99	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	971.458	2.9	100	0.00	14.18-15.18
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1079.766	-8.0	101	0.00	0.88- 1.48
2	HMX	1000.000	946.241	5.4	99	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	963.696	3.6	100	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	980.733	1.9	101	0.00	1.70- 2.30
5	RDX	1000.000	926.332	7.4	101	0.00	2.13- 2.93

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2067-ECC2066
Lab FileID: PP381229.D

6	1,3,5-Trinitrobenzene	1000.000	990.518	0.9	102	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	995.960	0.4	103	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	965.009	3.5	102	0.00	5.21- 6.01
9	Nitrobenzene	1000.000	946.815	5.3	98	0.00	6.40- 7.20
10	Nitroglycerin	5000.000	4786.178	4.3	102	0.00	7.76- 8.76
11	Tetryl	1000.000	928.409	7.2	102	0.00	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	977.563	2.2	102	0.00	8.52- 9.32
13	2-Amino-4,6-Dinitrotol	1000.000	950.340	5.0	102	0.00	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	939.581	6.0	101	0.00	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	944.994	5.5	103	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	973.377	2.7	101	0.00	10.28-11.08
		Amount	Calc.	%Drift			
17	2,6-Dinitrotoluene	1000.000	1013.730	-1.4	102	0.00	10.75-11.55
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	989.978	1.0	104	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	950.587	4.9	97	-0.01	13.59-14.59
20	m-Nitrotoluene	1000.000	978.235	2.2	100	0.00	14.18-15.18
21	PETN	5000.000	4723.648	5.5	102	0.00	15.74-16.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 19 13:58:24 2017

8.6.9

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381253.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0125BPL\PP381253.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381253.D\dad1A.ch
Acq On : 25-Jan-2017, 14:36:36 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1049.417	-4.9	100	0.00	0.88- 1.48
2	HMX	1000.000	992.748	0.7	98	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	996.869	0.3	102	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	979.787	2.0	103	0.00	1.70- 2.30
5	RDX	1000.000	973.924	2.6	103	0.00	2.13- 2.93
6	1,3,5-Trinitrobenzene	1000.000	997.816	0.2	103	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	1002.115	-0.2	103	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	974.632	2.5	103	0.00	5.21- 6.01
9	Nitrobenzene	1000.000	976.108	2.4	102	0.00	6.40- 7.20
10	Nitroglycerin	----------NA----------					
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	991.199	0.9	99	0.02	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	1019.827	-2.0	103	0.01	8.52- 9.32
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	1036.755	-3.7	104	0.02	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	1010.331	-1.0	104	0.02	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	1028.599	-2.9	105	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	1009.957	-1.0	105	0.00	10.28-11.08
17	2,6-Dinitrotoluene	1000.000	1010.780	-1.1	106	0.00	10.75-11.55
18	o-Nitrotoluene	1000.000	973.861	2.6	102	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	975.390	2.5	101	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	971.895	2.8	101	0.00	14.18-15.18
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1061.792	-6.2	99	0.00	0.88- 1.48
2	HMX	1000.000	955.134	4.5	100	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	983.890	1.6	102	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	998.096	0.2	103	0.00	1.70- 2.30
5	RDX	1000.000	953.073	4.7	104	0.00	2.13- 2.93

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381253.D

			Amount	Calc.	%Drift			
6		1,3,5-Trinitrobenzene	1000.000	1014.242	-1.4	104	0.00	3.69- 4.49
7		1,3-Dinitrobenzene	1000.000	1007.872	-0.8	104	0.00	4.85- 5.65
8		3,5-Dinitroaniline	1000.000	975.045	2.5	103	0.00	5.21- 6.01
9		Nitrobenzene	1000.000	974.254	2.6	101	0.00	6.40- 7.20
10		Nitroglycerin	5000.000	4890.816	2.2	104	0.03	7.76- 8.76
11		Tetryl	1000.000	925.281	7.5	102	0.02	8.13- 8.93
12		2,4,6-Trinitrotoluene	1000.000	997.482	0.3	104	0.01	8.52- 9.32
13		2-Amino-4,6-Dinitrotol	1000.000	961.954	3.8	103	0.02	8.83- 9.63
14		4-Amino-2,6-Dinitrotol	1000.000	951.989	4.8	103	0.02	9.27-10.07
15	S	3,4-Dinitrotoluene	1000.000	974.411	2.6	106	0.00	9.63-10.43
16		2,4-Dinitrotoluene	1000.000	987.010	1.3	102	0.00	10.28-11.08

			Amount	Calc.	%Drift			
17		2,6-Dinitrotoluene	1000.000	1042.905	-4.3	105	0.01	10.75-11.55

			Amount	Calc.	%Drift			
18		o-Nitrotoluene	1000.000	970.179	3.0	102	0.00	13.19-14.19
19		p-Nitrotoluene	1000.000	1004.975	-0.5	103	0.00	13.59-14.59
20		m-Nitrotoluene	1000.000	1004.489	-0.4	103	0.00	14.18-15.18
21		PETN	5000.000	4717.852	5.6	102	0.03	15.74-16.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 26 13:22:15 2017

8.6.10

8

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381265.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0125BPL\PP381265.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381265.D\dad1A.ch
Acq On : 25-Jan-2017, 19:35:46 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1044.685	-4.5	99	0.00	0.88- 1.48
2	HMX	1000.000	981.807	1.8	97	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	984.193	1.6	100	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	1045.514	-4.6	110	0.00	1.70- 2.30
5	RDX	1000.000	961.533	3.8	102	0.00	2.13- 2.93
6	1,3,5-Trinitrobenzene	1000.000	991.748	0.8	102	0.00	3.69- 4.49
7	1,3-Dinitrobenzene	1000.000	998.868	0.1	103	0.00	4.85- 5.65
8	3,5-Dinitroaniline	1000.000	970.925	2.9	103	0.01	5.21- 6.01
9	Nitrobenzene	1000.000	984.172	1.6	103	0.00	6.40- 7.20
10	Nitroglycerin	----------NA----------					
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	1005.549	-0.6	101	0.03	8.13- 8.93
12	2,4,6-Trinitrotoluene	1000.000	1021.473	-2.1	104	0.01	8.52- 9.32
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	1022.135	-2.2	102	0.03	8.83- 9.63
14	4-Amino-2,6-Dinitrotol	1000.000	992.365	0.8	102	0.02	9.27-10.07
15 S	3,4-Dinitrotoluene	1000.000	1002.900	-0.3	103	0.00	9.63-10.43
16	2,4-Dinitrotoluene	1000.000	985.788	1.4	102	0.00	10.28-11.08
17	2,6-Dinitrotoluene	1000.000	958.742	4.1	101	0.00	10.75-11.55
18	o-Nitrotoluene	1000.000	993.611	0.6	104	0.00	13.19-14.19
19	p-Nitrotoluene	1000.000	985.615	1.4	102	0.00	13.59-14.59
20	m-Nitrotoluene	1000.000	1024.646	-2.5	106	0.00	14.18-15.18
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	1057.577	-5.8	99	0.00	0.88- 1.48
2	HMX	1000.000	950.431	5.0	100	0.00	0.96- 1.56
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	980.133	2.0	102	0.00	1.20- 1.80
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	1077.133	-7.7	111	0.00	1.70- 2.30
5	RDX	1000.000	935.101	6.5	102	0.00	2.13- 2.93

Continuing Calibration Summary

Job Number: FA40351
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2069-CC2066
Lab FileID: PP381265.D

			Amount	Calc.	%Drift			
6		1,3,5-Trinitrobenzene	1000.000	1002.806	-0.3	103	0.00	3.69- 4.49
7		1,3-Dinitrobenzene	1000.000	996.974	0.3	103	0.00	4.85- 5.65
8		3,5-Dinitroaniline	1000.000	974.426	2.6	103	0.01	5.21- 6.01
9		Nitrobenzene	1000.000	995.671	0.4	103	0.00	6.40- 7.20
10		Nitroglycerin	5000.000	4831.964	3.4	103	0.03	7.76- 8.76
11		Tetryl	1000.000	924.971	7.5	102	0.03	8.13- 8.93
12		2,4,6-Trinitrotoluene	1000.000	993.416	0.7	103	0.01	8.52- 9.32
13		2-Amino-4,6-Dinitrotol	1000.000	954.056	4.6	102	0.03	8.83- 9.63
14		4-Amino-2,6-Dinitrotol	1000.000	949.480	5.1	102	0.02	9.27-10.07
15	S	3,4-Dinitrotoluene	1000.000	973.350	2.7	106	0.00	9.63-10.43
16		2,4-Dinitrotoluene	1000.000	981.017	1.9	102	0.00	10.28-11.08
			Amount	Calc.	%Drift			
17		2,6-Dinitrotoluene	1000.000	1020.728	-2.1	103	0.01	10.75-11.55
			Amount	Calc.	%Drift			
18		o-Nitrotoluene	1000.000	982.957	1.7	103	0.00	13.19-14.19
19		p-Nitrotoluene	1000.000	978.896	2.1	100	0.00	13.59-14.59
20		m-Nitrotoluene	1000.000	1003.697	-0.4	103	0.00	14.18-15.18
21		PETN	5000.000	4699.749	6.0	101	0.03	15.74-16.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381207.D 8330-0118BPLUS.M Thu Jan 26 13:37:24 2017

8.6.11

8

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381218.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0118BPL\PP381218.D\dad1A.ch
Acq On : 18-Jan-2017, 15:38:38 Operator: kismetl
Sample : FA40351-1 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:39 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.95	925165	1720824	446.726	444.717
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.35%	88.94%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

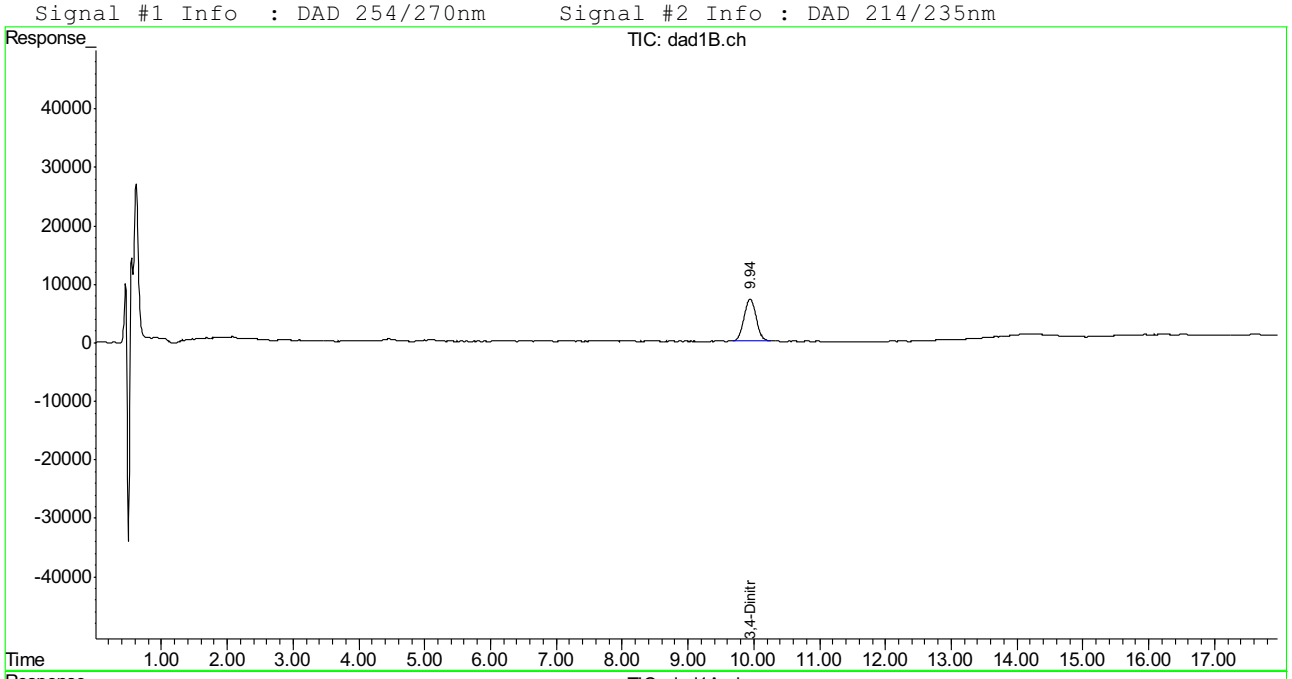
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381218.D 8330-0118BPLUS.M Thu Jan 19 12:21:25 2017 Page 1

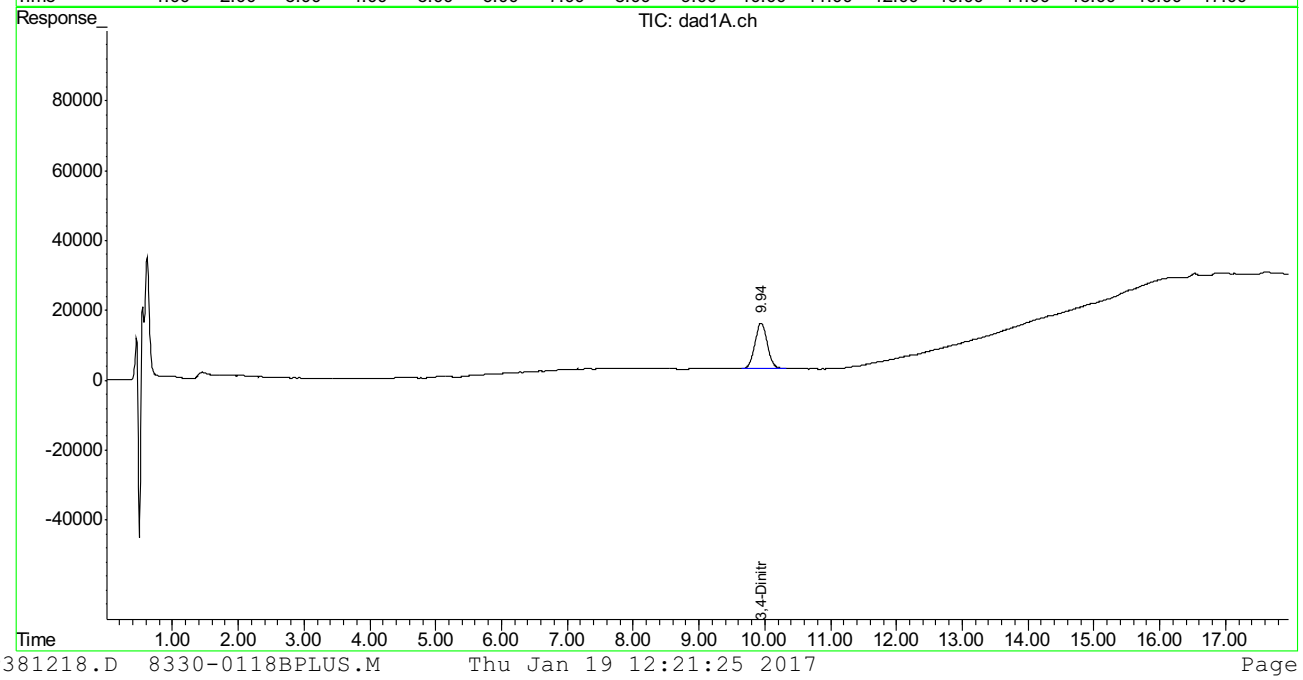
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381218.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0118BPL\PP381218.D\dad1A.ch
Acq On : 18-Jan-2017, 15:38:38 Operator: kismetl
Sample : FA40351-1 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 10:17 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:30

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381219.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\0118BPL\PP381219.D\dad1A.ch
Acq On : 18-Jan-2017, 16:03:33 Operator: kismetl
Sample : FA40351-2 Inst : G1315B
Misc : OP63431,GPP2066,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:40 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.95	9.95	963677	1805293	465.322	466.547
	Spiked Amount 500.000	Range 70 - 136		Recovery =		93.06%	93.31%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.27	1.27	1506243	4185785	913.962m	873.376m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.51	2.51	857808	1396549	470.755	467.861
6)	1,3,5-Trinitrobe	4.05	4.05	8084448	15649068	1985.025	2013.154
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.83	8.83	8407400	10296925	2811.666	2618.391
13)	2-Amino-4,6-Dini	9.13	9.13	1593848	2539544	515.748	498.969
14)	4-Amino-2,6-Dini	9.57	9.58	632838	1350065	270.260	267.100
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

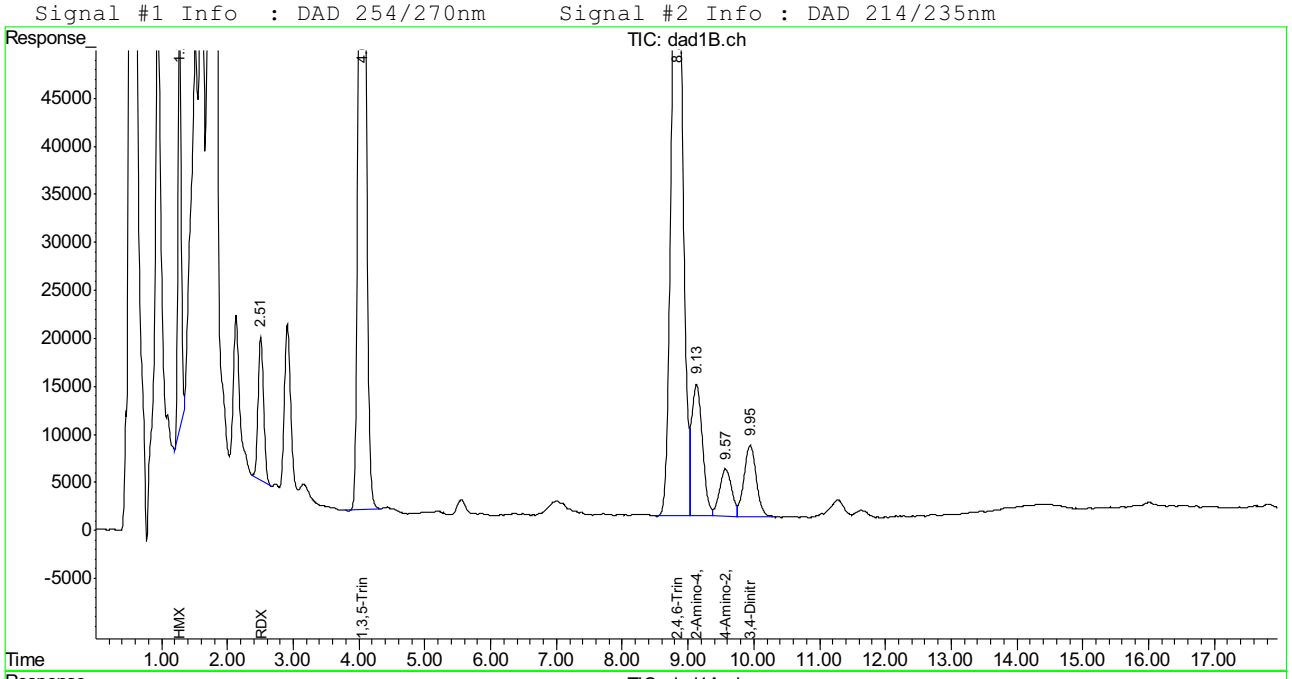
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381219.D 8330-0118BPLUS.M Mon Jan 23 14:40:38 2017 Page 1

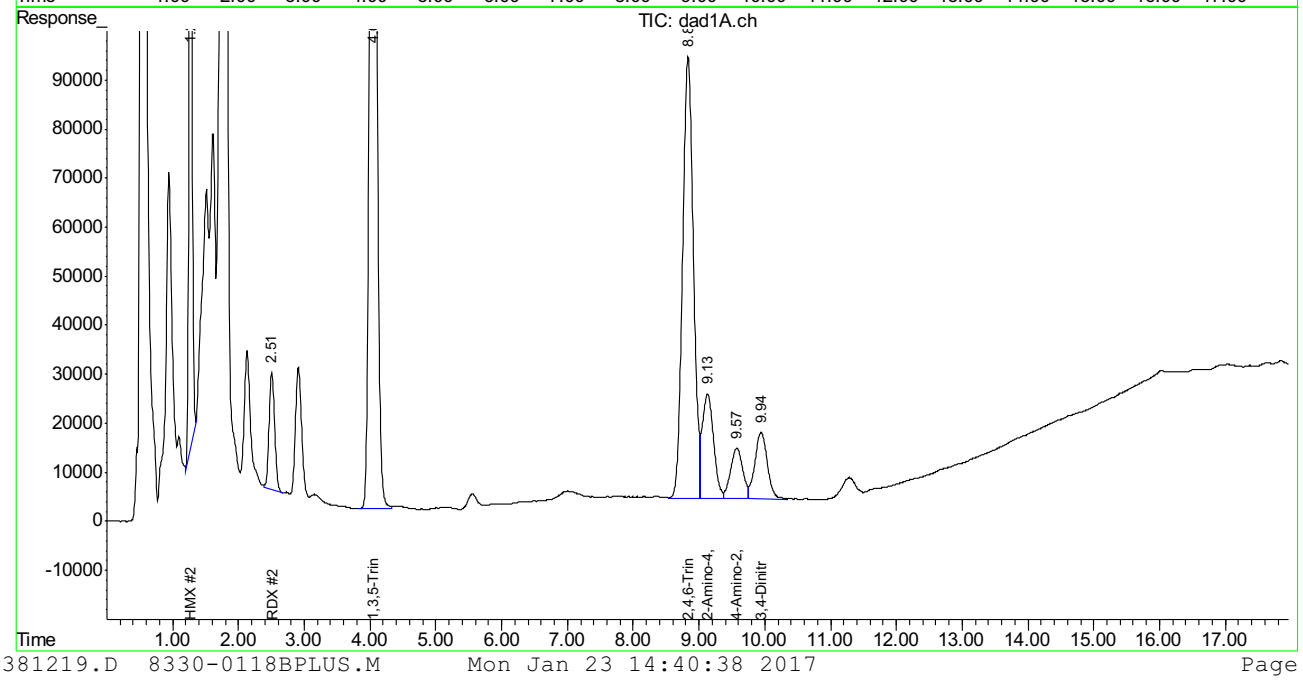
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381219.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\0118BPL\PP381219.D\dad1A.ch
Acq On : 18-Jan-2017, 16:03:33 Operator: kismetl
Sample : FA40351-2 Inst : G1315B
Misc : OP63431,GPP2066,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 23 14:18 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA40351-2
Lab FileID: PP381219.D
Injection Time: 01/18/17 16:03

Method: SW846 8330B
Analyst approved: 01/23/17 14:33 Kismet Lugo
Supervisor approved: 01/25/17 17:30 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.27	Poor instrument integration
HMX	2691-41-0	2	1.27	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:30

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381227.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0119BPL\PP381227.D\dad1A.ch
Acq On : 19-Jan-2017, 11:02:21 Operator: kismetl
Sample : FA40351-2,2 Inst : G1315B
Misc : OP63431,GPP2067,990,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 13:49:47 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.04	10.04	433374	859370	209.259m	222.090
	Spiked Amount 500.000	Range 70 - 136		Recovery =		41.85%#	44.42%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.27	1.28	1079222	2627100	654.853	548.152
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.54	2.54	404411	638285	221.936m	213.833m
6)	1,3,5-Trinitrobe	4.10	4.10	4160301	8194607	1021.505	1054.185
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.94	8.94	4001639	4897498	1392.179	1245.378
13)	2-Amino-4,6-Dini	9.23	9.24	739299	1237948	239.227	243.232
14)	4-Amino-2,6-Dini	9.67	9.68	298226	632186	127.360m	125.073
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

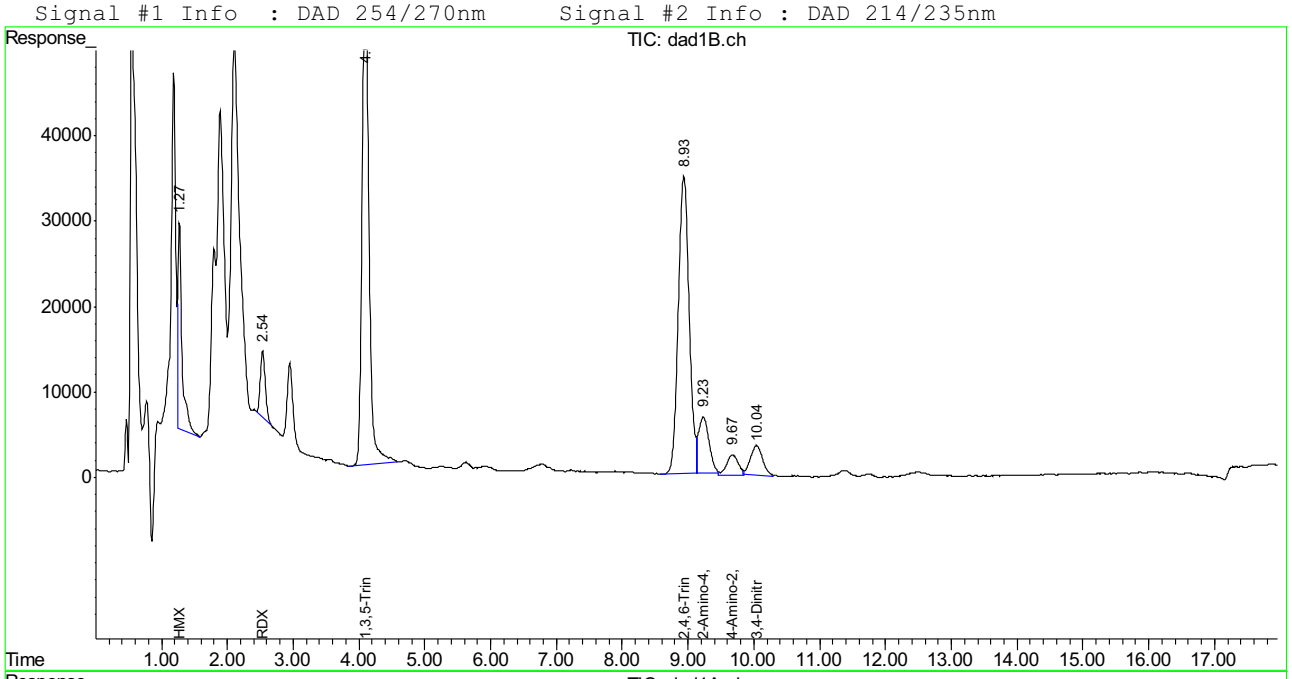
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381227.D 8330-0118BPLUS.M Wed Jan 25 17:01:27 2017 Page 1

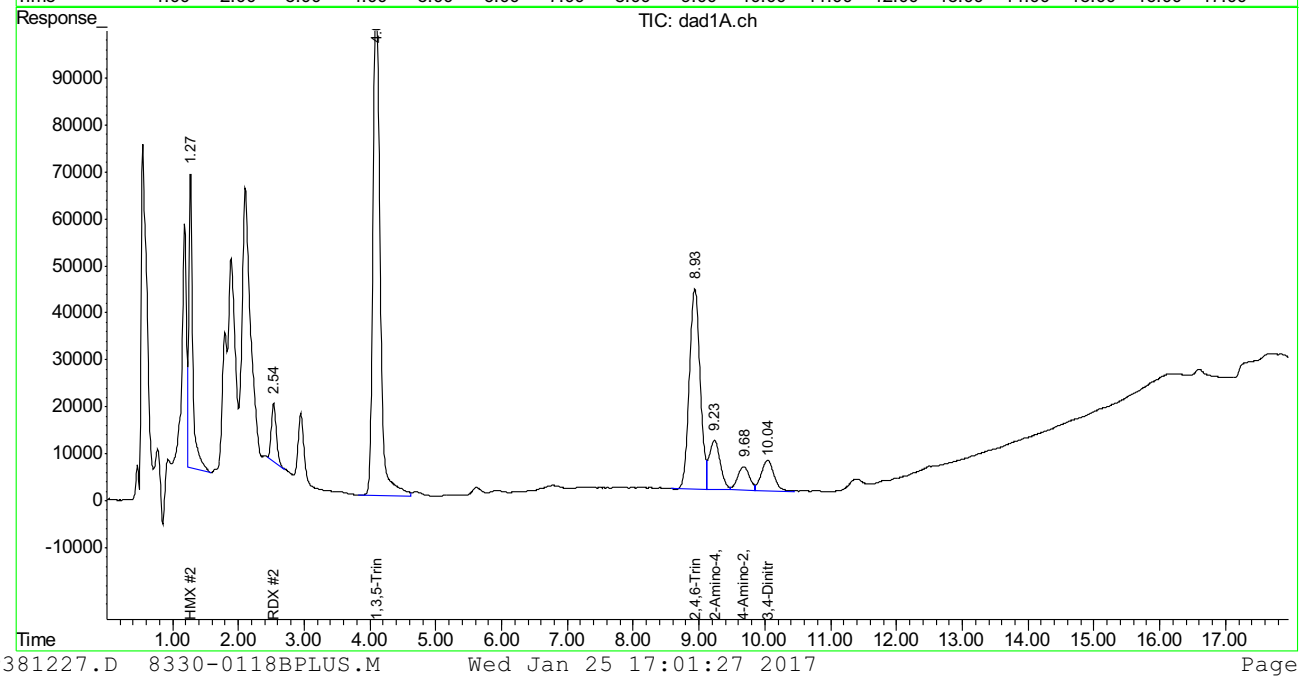
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381227.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0119BPL\PP381227.D\dad1A.ch
Acq On : 19-Jan-2017, 11:02:21 Operator: kismetl
Sample : FA40351-2,2 Inst : G1315B
Misc : OP63431,GPP2067,990,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 25 17:01 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: FA40351-2
Lab FileID: PP381227.D
Injection Time: 01/19/17 11:02
Method: SW846 8330B
Analyst approved: 01/25/17 17:30 Mike Eger
Supervisor approved: 01/25/17 17:30 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.54	Poor instrument integration
RDX	121-82-4	2	2.54	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.67	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	10.04	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:30

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060933.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\0119RPB3\GG060933.D\dad1A.ch
Acq On : 19-Jan-2017, 11:11:17 Operator: kismetl
Sample : FA40351-2cf Inst : G1315B
Misc : OP63431,GGG2504,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:29 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.29	15.29	2434791	4507453	540.283	486.081m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		108.06%	97.22%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.05	5.05	3832465	3832465	1424.707	1387.268
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.15	7.15	19069760	19069760	2059.708	2062.518
6)	RDX	7.52	7.52	2070619	2070619	496.028	496.028
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.90	11.90	19966333	26294640	3018.498	3000.157m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	22.00	22.12	1327496	1471985	271.661m	284.712m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	23.98	23.99	4334535	6782570	482.154m	584.402m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

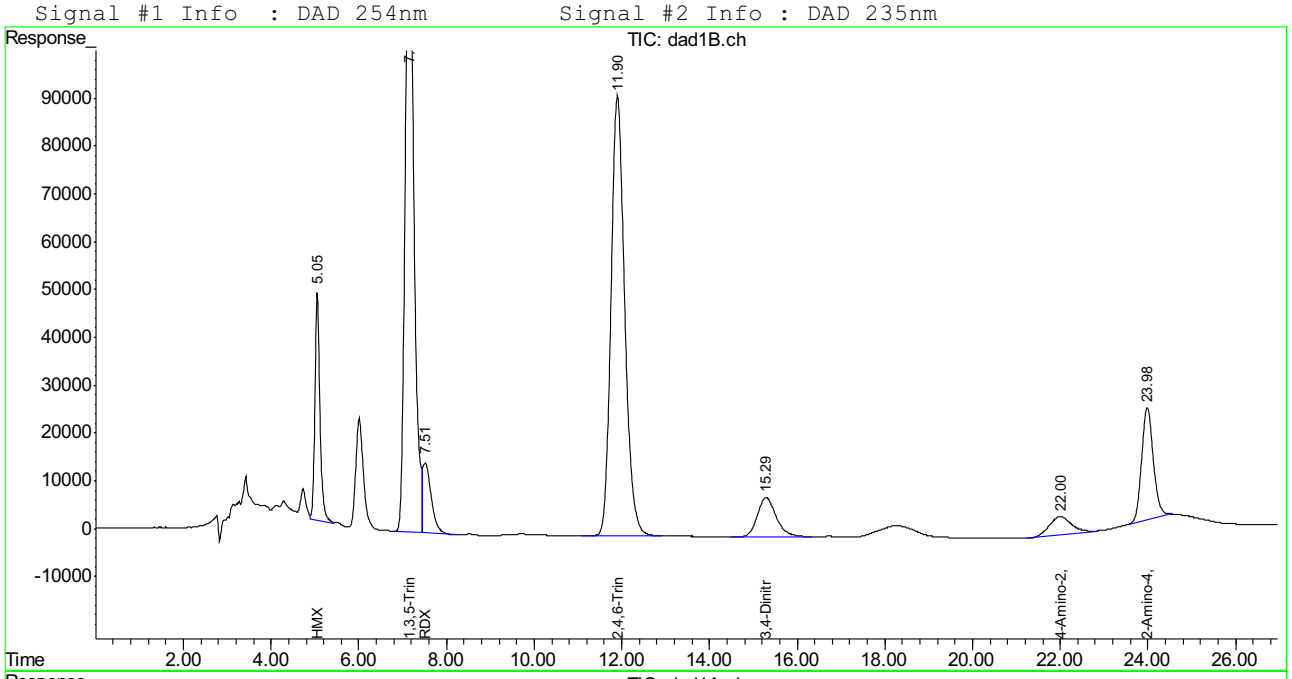
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060933.D 8330RPB.M_1230.M Fri Jan 20 14:25:13 2017 Page 1

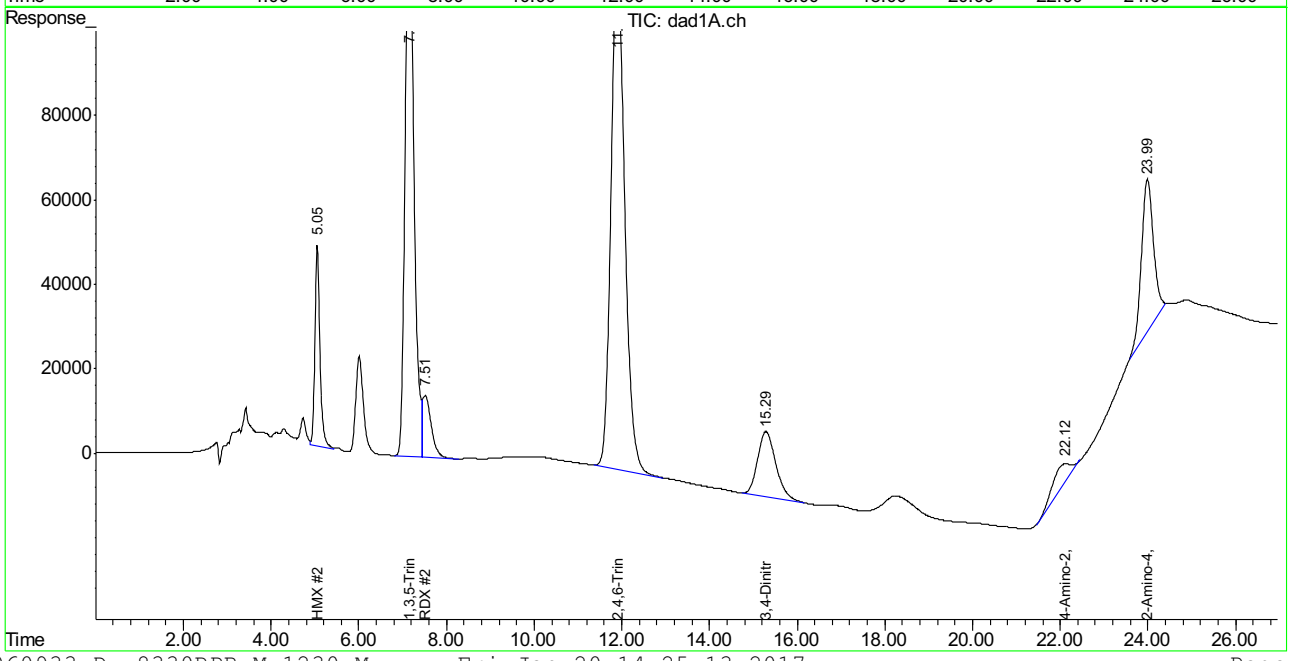
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060933.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\0119RPB3\GG060933.D\dad1A.ch
Acq On : 19-Jan-2017, 11:11:17 Operator: kismetl
Sample : FA40351-2cf Inst : G1315B
Misc : OP63431,GGG2504,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 14:21 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA40351-2
Lab FileID: GG060933.D
Injection Time: 01/19/17 11:11

Method: SW846 8330B
Analyst approved: 01/23/17 14:33 Kismet Lugo
Supervisor approved: 01/25/17 17:30 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	11.90	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	15.29	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	22.00	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.12	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.98	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.99	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:31

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381220.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0118BPL\PP381220.D\dad1A.ch
Acq On : 18-Jan-2017, 16:28:30 Operator: kismetl
Sample : FA40351-3 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:41 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.94	9.94	982195	1838152	474.264	475.039
	Spiked Amount 500.000	Range 70 - 136		Recovery =		94.85%	95.01%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.27	1.27	1505998	4297251	913.814m	896.633m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.51	2.50	906781	1442057	497.630	483.107m
6)	1,3,5-Trinitrobe	4.05	4.05	8461286	16375874	2077.552	2106.654
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.83	8.83	8760796	10765333	2921.127	2737.502
13)	2-Amino-4,6-Dini	9.13	9.13	1644965	2642345	532.289	519.167
14)	4-Amino-2,6-Dini	9.58	9.57	658070	1421736	281.035	281.279
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

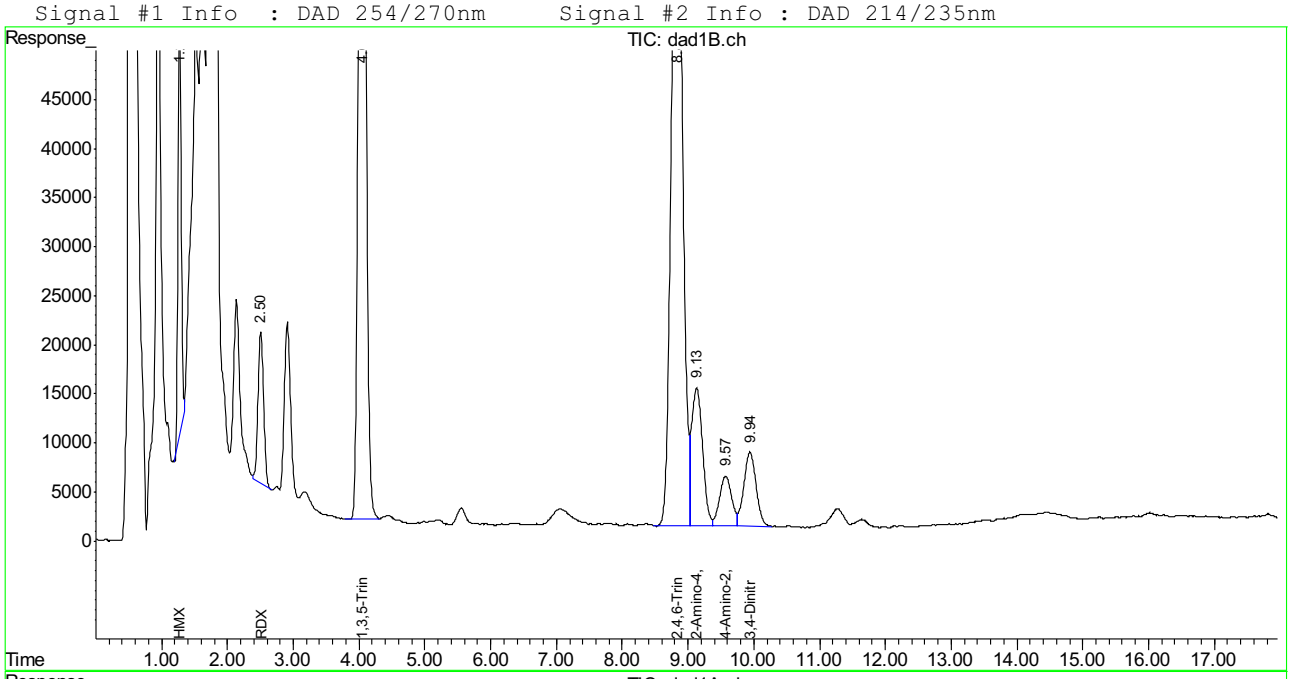
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381220.D 8330-0118BPLUS.M Wed Jan 25 15:37:46 2017 Page 1

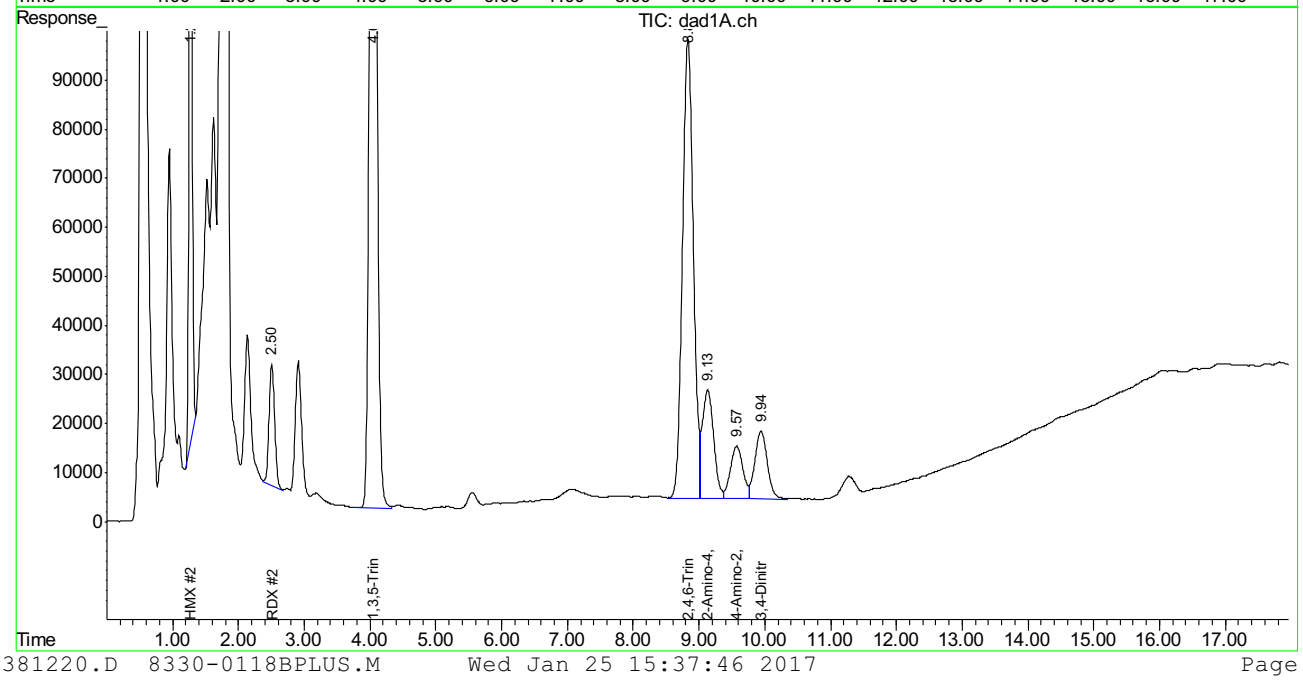
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381220.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0118BPL\PP381220.D\dad1A.ch
Acq On : 18-Jan-2017, 16:28:30 Operator: kismetl
Sample : FA40351-3 Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 24 14:47 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





PP381220.D 8330-0118BPLUS.M Wed Jan 25 15:37:46 2017 Page 2

Manual Integration Approval Summary

Sample Number: FA40351-3
Lab FileID: PP381220.D
Injection Time: 01/18/17 16:28
Method: SW846 8330B
Analyst approved: 01/25/17 17:26 Mike Eger
Supervisor approved: 01/25/17 17:31 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.27	Poorly defined baseline
HMX	2691-41-0	2	1.27	Poorly defined baseline
RDX	121-82-4	2	2.50	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:31

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381228.D\dad1B.ch Vial: 23
Signal #2 : P:\DATA\0119BPL\PP381228.D\dad1A.ch
Acq On : 19-Jan-2017, 11:27:20 Operator: kismetl
Sample : FA40351-3,2 Inst : G1315B
Misc : OP63431,GPP2067,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 13:43:15 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.03	10.04	485895	881025	234.620m	227.686
	Spiked Amount 500.000	Range 70 - 136		Recovery =		46.92%#	45.54%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.27	1.27	943500	2316391	572.500m	483.321m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.53	2.53	424887	680315	233.173m	227.914m
6)	1,3,5-Trinitrobe	4.09	4.09	4435515	8700373	1089.080m	1119.248
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	8.93	8.93	4189213	5114964	1454.849	1300.677
13)	2-Amino-4,6-Dini	9.23	9.23	753213	1273824	243.730	250.281
14)	4-Amino-2,6-Dini	9.67	9.67	326163	648150	139.291m	128.231
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

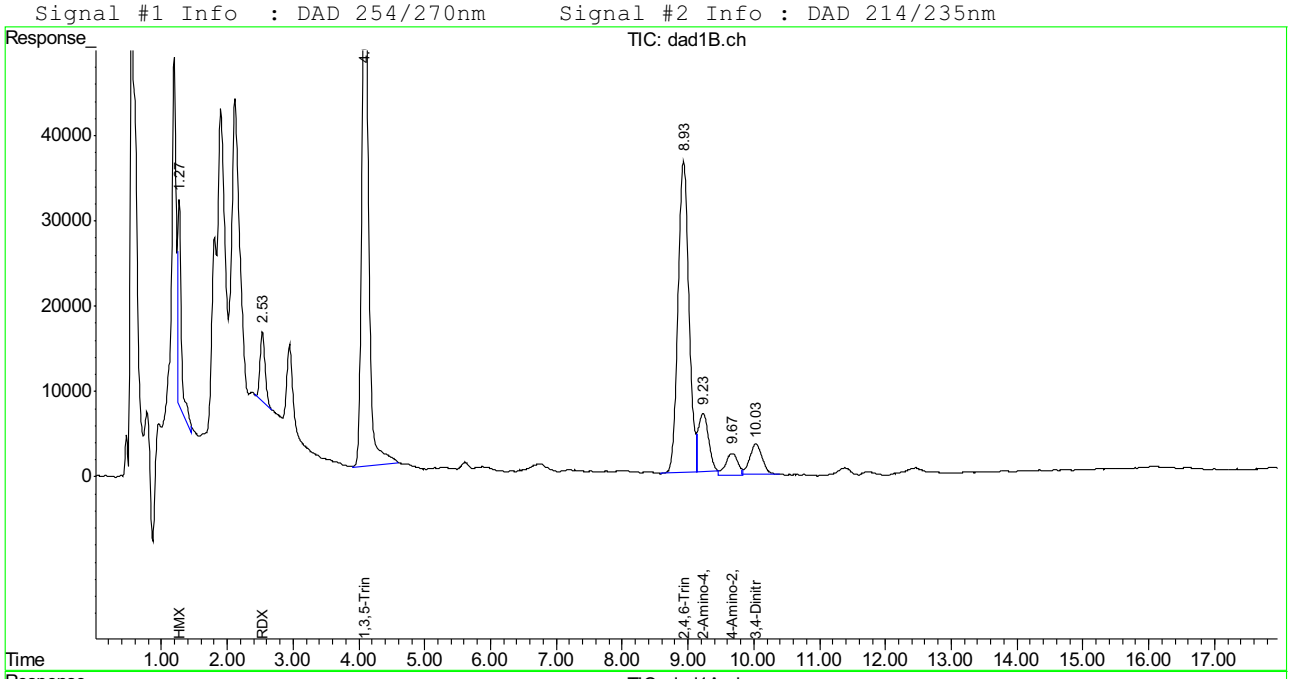
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381228.D 8330-0118BPLUS.M Wed Jan 25 17:02:37 2017 Page 1

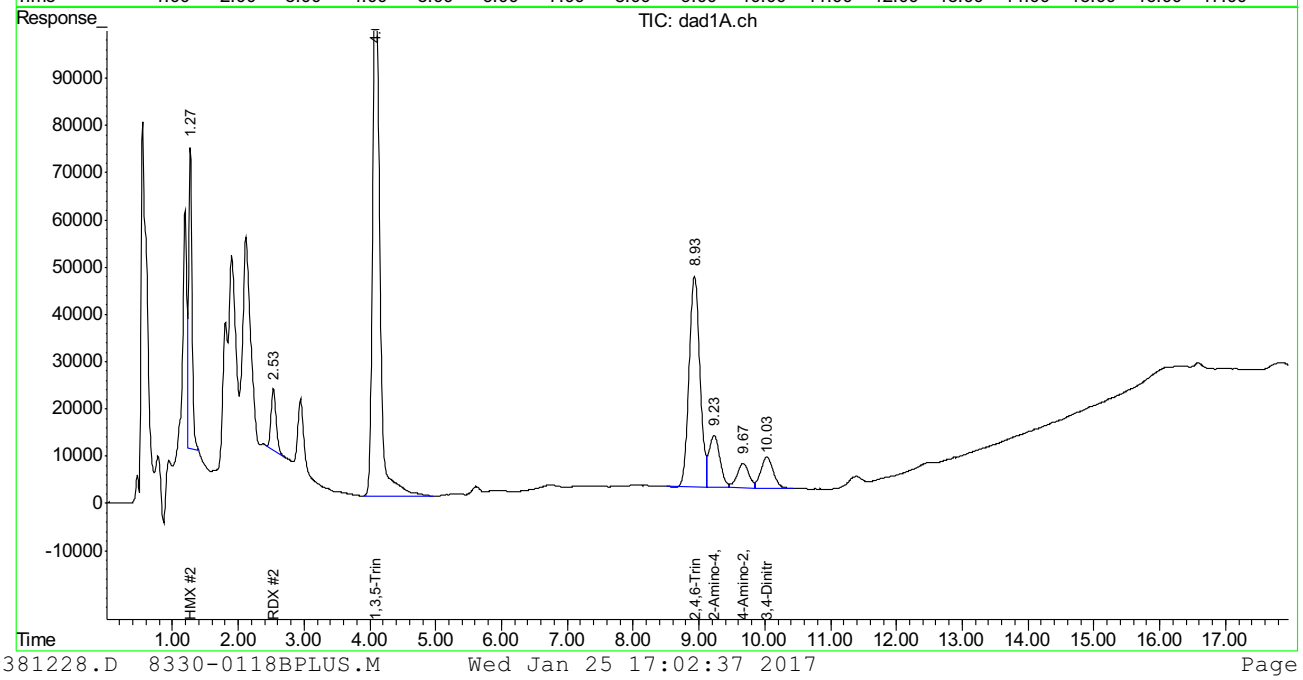
Quantitation Report (QT Reviewed)

```
Signal #1 : P:\DATA\0119BPL\PP381228.D\dad1B.ch          Vial: 23
Signal #2 : P:\DATA\0119BPL\PP381228.D\dad1A.ch
Acq On    : 19-Jan-2017, 11:27:20                  Operator: kismetl
Sample    : FA40351-3,2                            Inst    : G1315B
Misc      : OP63431,GPP2067,1000,,,10,2,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: EVENTS2.E
Quant Time: Jan 25 17:02 2017  Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A.8330B,8332
Last Update  : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj.     : 100ul
Signal #1 Phase : Extend C-18       Signal #2 Phase: Extend C-18
Signal #1 Info  : DAD 254/270nm     Signal #2 Info : DAD 214/235nm
```





Manual Integration Approval Summary

Sample Number: FA40351-3
Lab FileID: PP381228.D
Injection Time: 01/19/17 11:27
Method: SW846 8330B
Analyst approved: 01/25/17 17:26 Mike Eger
Supervisor approved: 01/25/17 17:31 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.27	Poorly defined baseline
HMX	2691-41-0	2	1.27	Poorly defined baseline
RDX	121-82-4	1	2.53	Poorly defined baseline
RDX	121-82-4	2	2.53	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.09	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.67	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	10.03	Poorly defined baseline

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 17:31

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060934.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\0119RPB3\GG060934.D\dad1A.ch
Acq On : 19-Jan-2017, 11:40:55 Operator: kismetl
Sample : FA40351-3cf Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:31 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.29	15.29	2485214	4664714	551.472	502.363
	Spiked Amount 500.000	Range 70 - 136		Recovery =		110.29%	100.47%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.05	5.05	3903813	3903813	1451.230	1413.095
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.15	7.15	19997634	19997634	2159.927	2162.873
6)	RDX	7.51	7.51	2116831	2116831	506.734	506.734
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.90	11.90	20813313	27421484	3125.282	3112.750
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	22.00	22.13	1396166	1502006	285.019m	289.628m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	23.99	23.99	4567361	7078864	508.053m	608.557m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

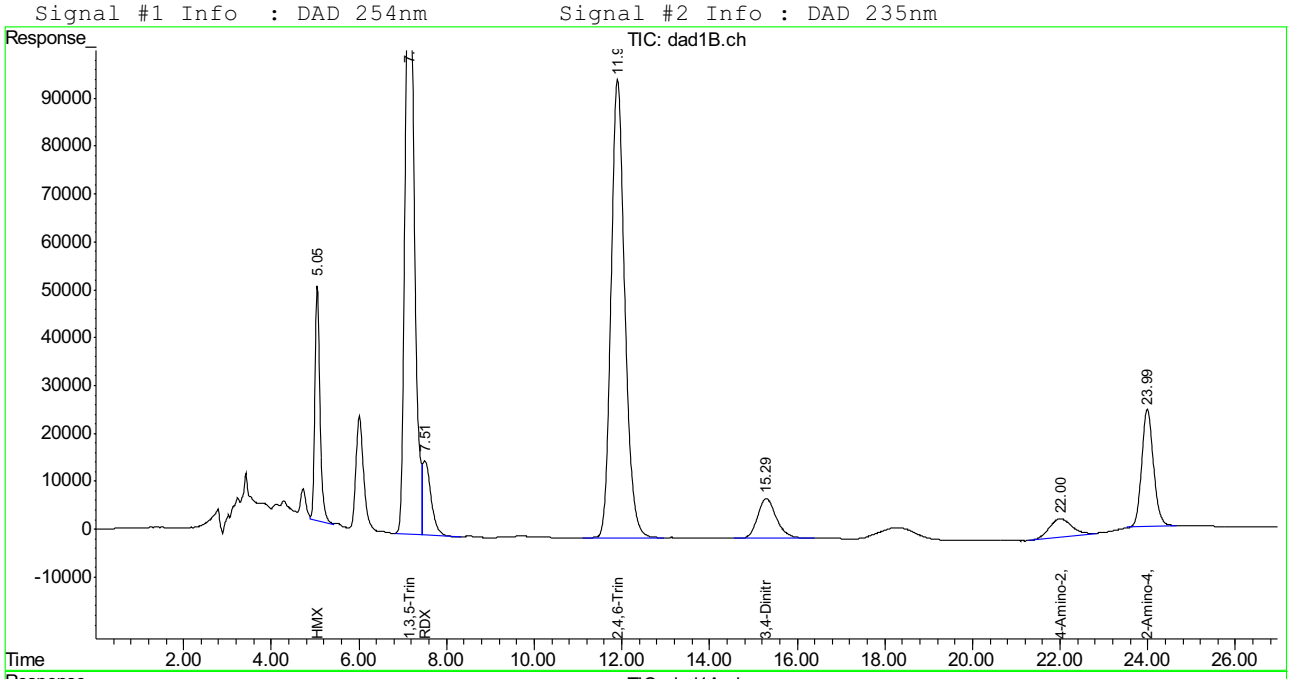
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060934.D 8330RPB.M_1230.M Wed Jan 25 17:24:00 2017 Page 1

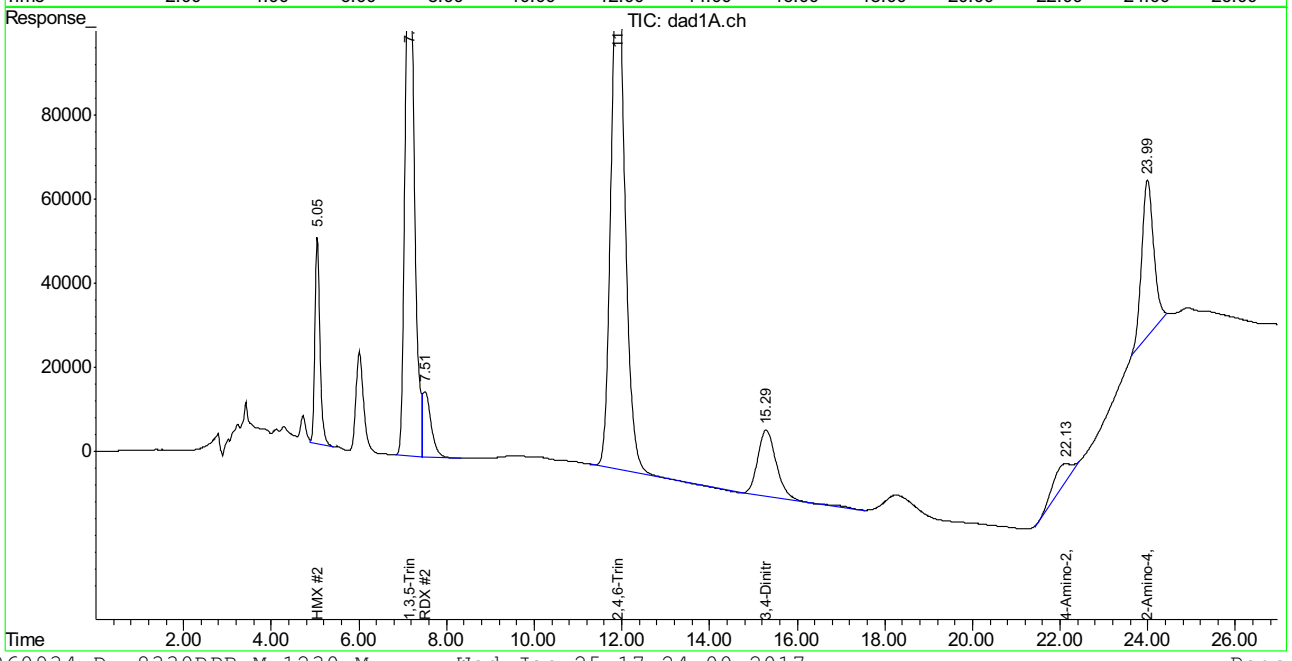
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060934.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\0119RPB3\GG060934.D\dad1A.ch
Acq On : 19-Jan-2017, 11:40:55 Operator: kismetl
Sample : FA40351-3cf Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 25 17:23 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: FA40351-3
Lab FileID: GG060934.D
Injection Time: 01/19/17 11:40
Method: SW846 8330B
Analyst approved: 01/25/17 17:26 Mike Eger
Supervisor approved: 01/25/17 17:31 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
4-amino-2,6-Dinitrotoluene	19406-51-0	1	22.00	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.13	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.99	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.99	Poorly defined baseline

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381212.D\dad1B.ch Vial: 12
Signal #2 : P:\DATA\0118BPL\PP381212.D\dad1A.ch
Acq On : 18-Jan-2017, 12:52:08 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:28 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.92	9.92	1021231	1837790	493.113	474.946
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.62%	94.99%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

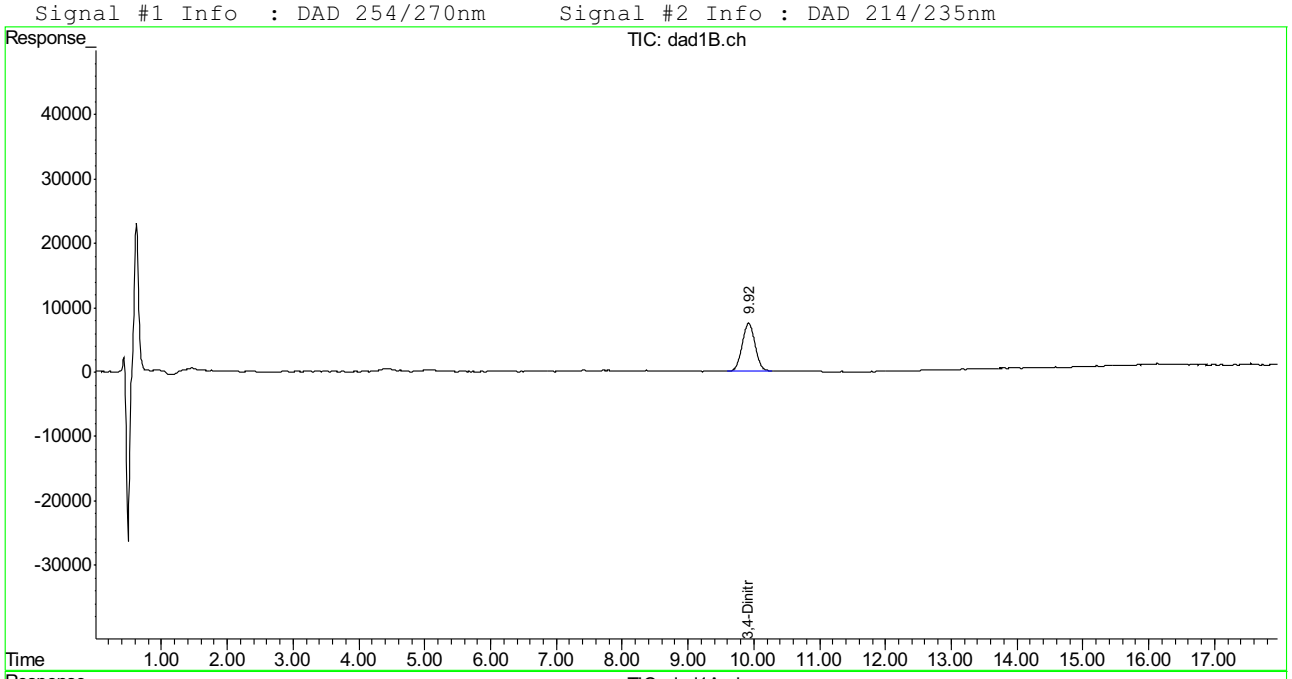
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381212.D 8330-0118BPLUS.M Thu Jan 19 12:21:19 2017 Page 1

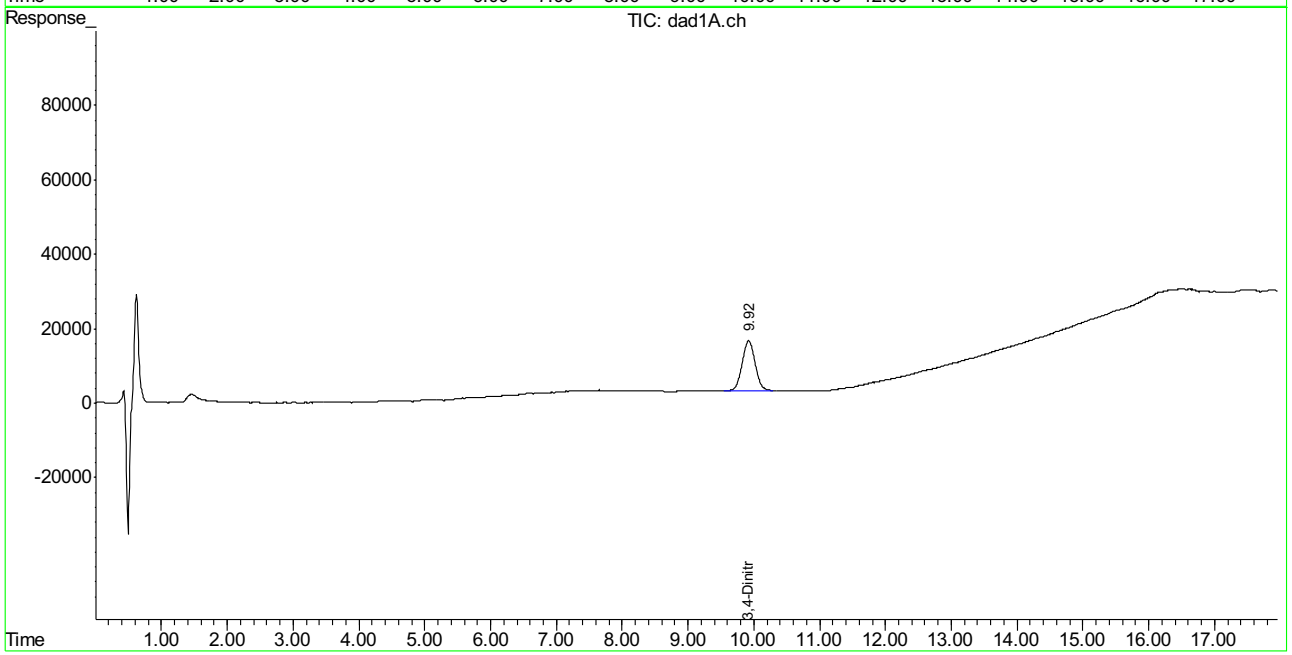
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381212.D\dad1B.ch Vial: 12
Signal #2 : P:\DATA\0118BPL\PP381212.D\dad1A.ch
Acq On : 18-Jan-2017, 12:52:08 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 9:04 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060929.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0119RPB3\GG060929.D\dad1A.ch
Acq On : 19-Jan-2017, 09:04:50 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:24 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.28	15.27	2535068	4828940	562.535	519.322m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		112.51%	103.86%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

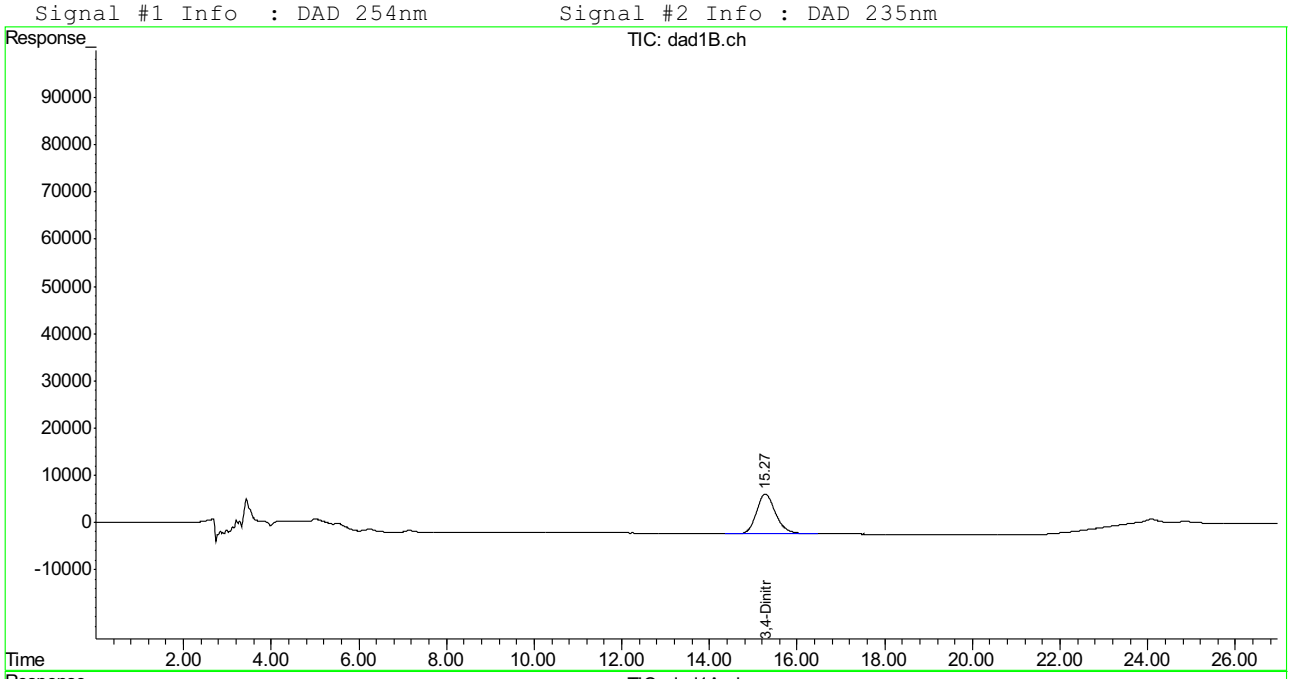
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060929.D 8330RPB.M_1230.M Fri Jan 20 14:25:09 2017 Page 1

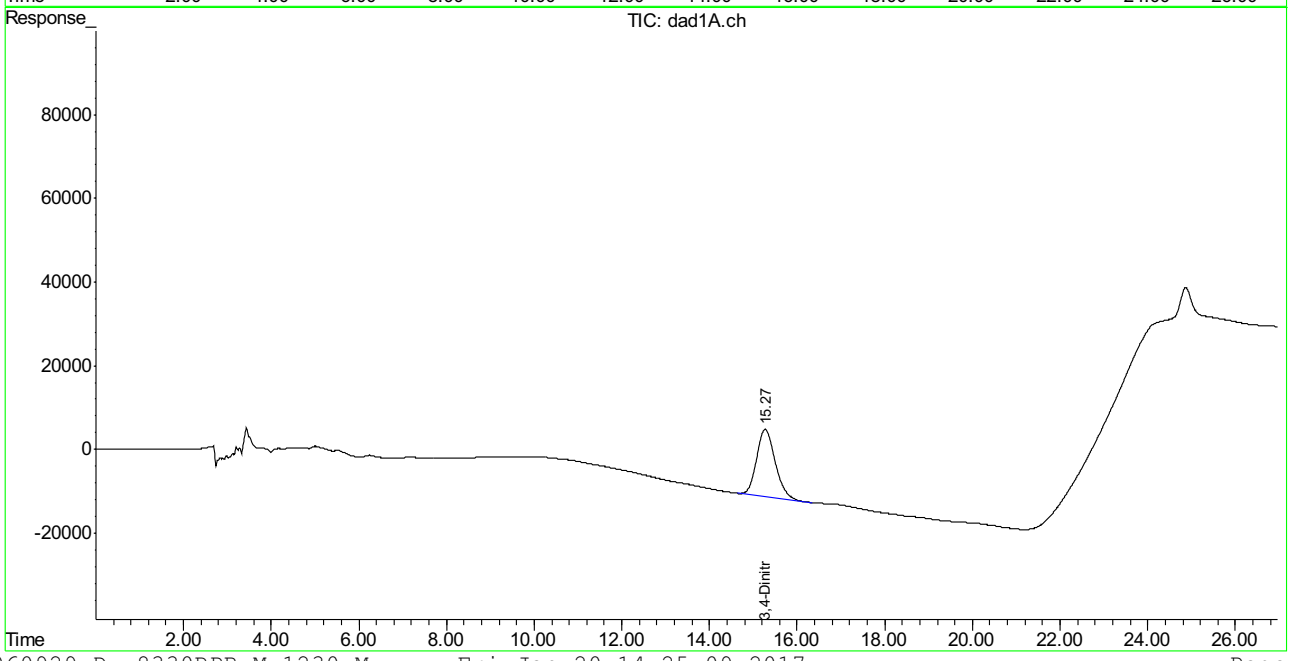
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060929.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0119RPB3\GG060929.D\dad1A.ch
Acq On : 19-Jan-2017, 09:04:50 Operator: kismetl
Sample : op63431-mb Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 14:02 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: OP63431-MB
Lab FileID: GG060929.D
Injection Time: 01/19/17 09:04

Method: SW846 8330B
Analyst approved: 01/23/17 14:11 Kismet Lugo
Supervisor approved: 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	15.27	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381211.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0118BPL\PP381211.D\dad1A.ch
Acq On : 18-Jan-2017, 12:27:09 Operator: kismetl
Sample : op63431-bs Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:26 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.92	9.92	1052401	1854665	508.163	479.306
	Spiked Amount 500.000	Range 70 - 136		Recovery =		101.63%	95.86%
	Target Compounds						
1)	TNX	1.17	1.17	1305914	1972487	443.266m	461.573
2)	HMX	1.27	1.27	864209	2415532	524.387	504.007
3)	DNX	1.49	1.49	1301381	2240614	480.470	495.573
4)	MNX	1.98	1.98	1111010	1716688	475.207	487.163
5)	RDX	2.50	2.50	878365	1415033	482.036	474.054
6)	1,3,5-Trinitrobe	4.04	4.04	1899674	3645630	466.439	468.988
7)	1,3-Dinitrobenze	5.19	5.19	2429536	1656811	480.009	488.491
8)	3,5-Dinitroanili	5.53	5.53	1952469	3318484	433.718	436.472
9)	Nitrobenzene	6.74	6.74	1437644	1425237	470.841	471.992
10)	Nitroglycerin	0.00	8.14	0	3726725	N.D.	2773.600 #
11)	Tetryl	8.40	8.40	1224259	1808650	627.871	572.042
12)	2,4,6-Trinitroto	8.82	8.82	1510871	1847473	538.686	469.791
13)	2-Amino-4,6-Dini	9.11	9.11	1589642	2522652	514.387	495.650
14)	4-Amino-2,6-Dini	9.54	9.54	1158385	2406281	494.700	476.064
16)	2,4-Dinitrotolue	10.56	10.56	2288141	1447701	495.161	485.663
17)	2,6-Dinitrotolue	11.01	11.02	1344051	1590893	507.593	532.401
18)	o-Nitrotoluene	13.63	13.63	1023076	1462586	461.568	474.143m
19)	p-Nitrotoluene	14.02	14.02	1626529	1395390	474.622	488.302m
20)	m-Nitrotoluene	14.62	14.62	1535270	1771874	463.140	455.800m
21)	PETN	0.00	16.13	0	3977095	N.D. d	2680.437m

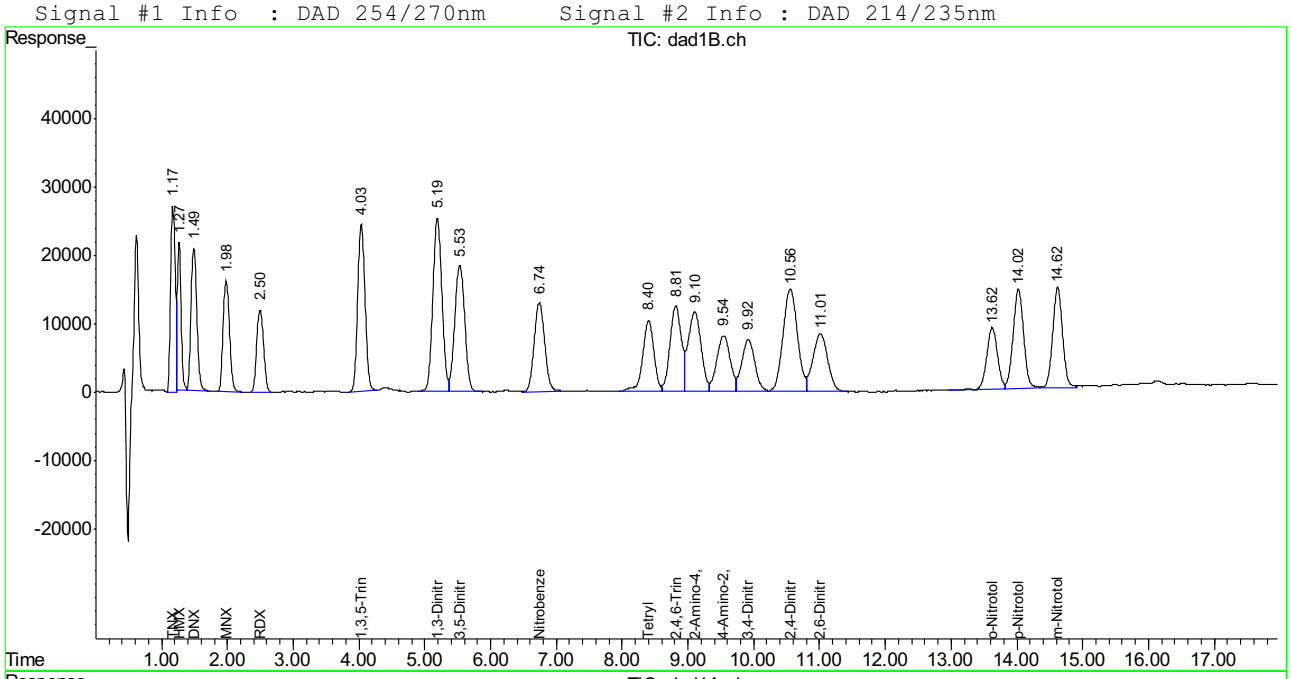
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381211.D 8330-0118BPLUS.M Thu Jan 19 12:21:18 2017 Page 1

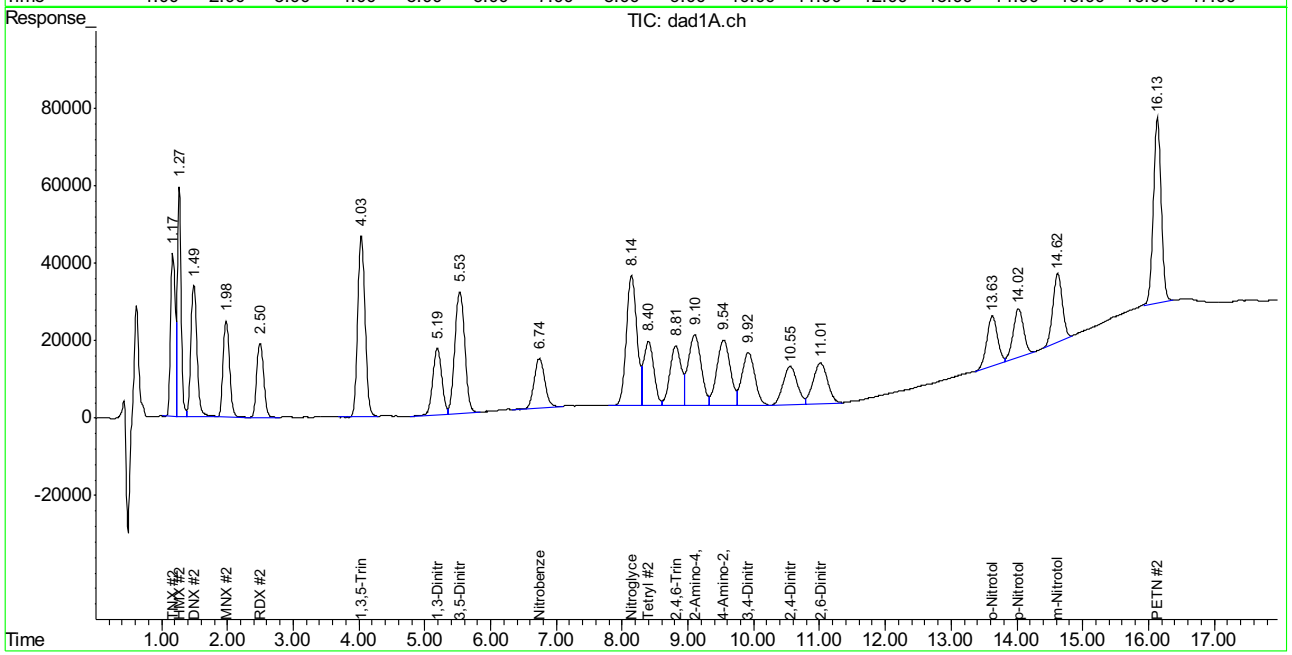
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381211.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0118BPL\PP381211.D\dad1A.ch
Acq On : 18-Jan-2017, 12:27:09 Operator: kismetl
Sample : op63431-bs Inst : G1315B
Misc : OP63431,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 9:03 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: OP63431-BS
Lab FileID: PP381211.D
Injection Time: 01/18/17 12:27
Method: SW846 8330B
Analyst approved: 01/19/17 13:26 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.17	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.63	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.02	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.62	Poor instrument integration
PETN	78-11-5	2	16.13	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381255.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0125BPL\PP381255.D\dad1A.ch
Acq On : 25-Jan-2017, 15:26:23 Operator: kismetl
Sample : op63431-ms,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:25 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.05	10.05	512287	955722	247.363m	246.990
	Spiked Amount 500.000	Range 70 - 136		Recovery =		49.47%#	49.40%#
	Target Compounds						
1)	TNX	1.19	1.19	655356	1012312	222.447	236.887
2)	HMX	1.28	1.28	484601	1408016	294.048	293.786
3)	DNX	1.51	1.51	624563	1167841	231.458	257.007
4)	MNX	2.02	2.02	543368	837063	232.412	237.542
5)	RDX	2.54	2.54	463446	725003	254.334	242.885
6)	1,3,5-Trinitrobe	4.10	4.10	1074400	2080247	263.804m	267.611
7)	1,3-Dinitrobenze	5.26	5.26	1160278	777176	229.239	229.141
8)	3,5-Dinitroanili	5.62	5.62	969311	1626722	215.321	213.959
9)	Nitrobenzene	6.80	6.79	836527	766917	273.970	253.978m
10)	Nitroglycerin	0.00	8.30	0	1950931	N.D.	1451.972 #
11)	Tetryl	8.56	8.56	474607	955377	246.609	302.168
12)	2,4,6-Trinitroto	8.95	8.95	872001	1197710	312.958	304.564
13)	2-Amino-4,6-Dini	9.26	9.26	812307	1408535	262.852	276.748
14)	4-Amino-2,6-Dini	9.70	9.70	587983	1319933	251.104	261.138
16)	2,4-Dinitrotolue	10.70	10.70	1098867	627387	237.798	210.471
17)	2,6-Dinitrotolue	11.16	11.16	664963	696898	251.129	238.540
18)	o-Nitrotoluene	13.69	13.69	533148	717978	240.533	232.755m
19)	p-Nitrotoluene	14.09	14.09	813537	642801	237.390	224.942m
20)	m-Nitrotoluene	14.68	14.67	780401	890474	235.421	229.067m
21)	PETN	0.00	16.28	0	1859135	N.D. d	1252.998m

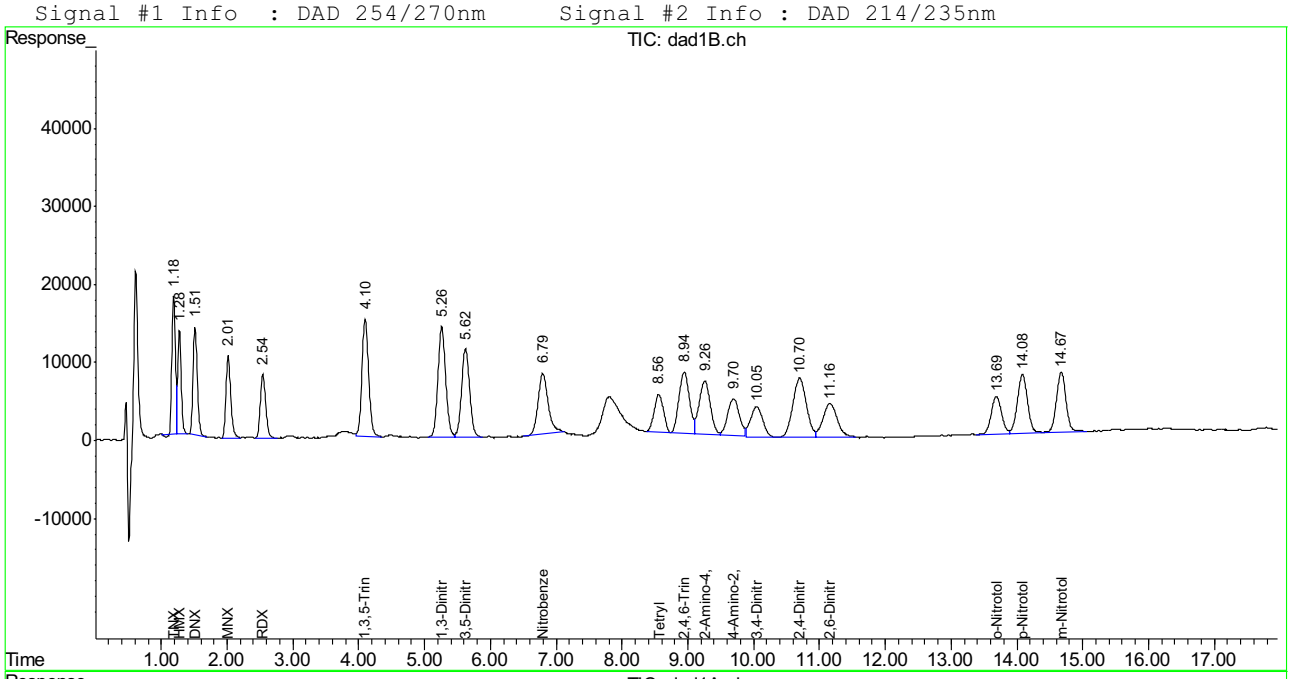
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381255.D 8330-0118BPLUS.M Thu Jan 26 13:31:30 2017 Page 1

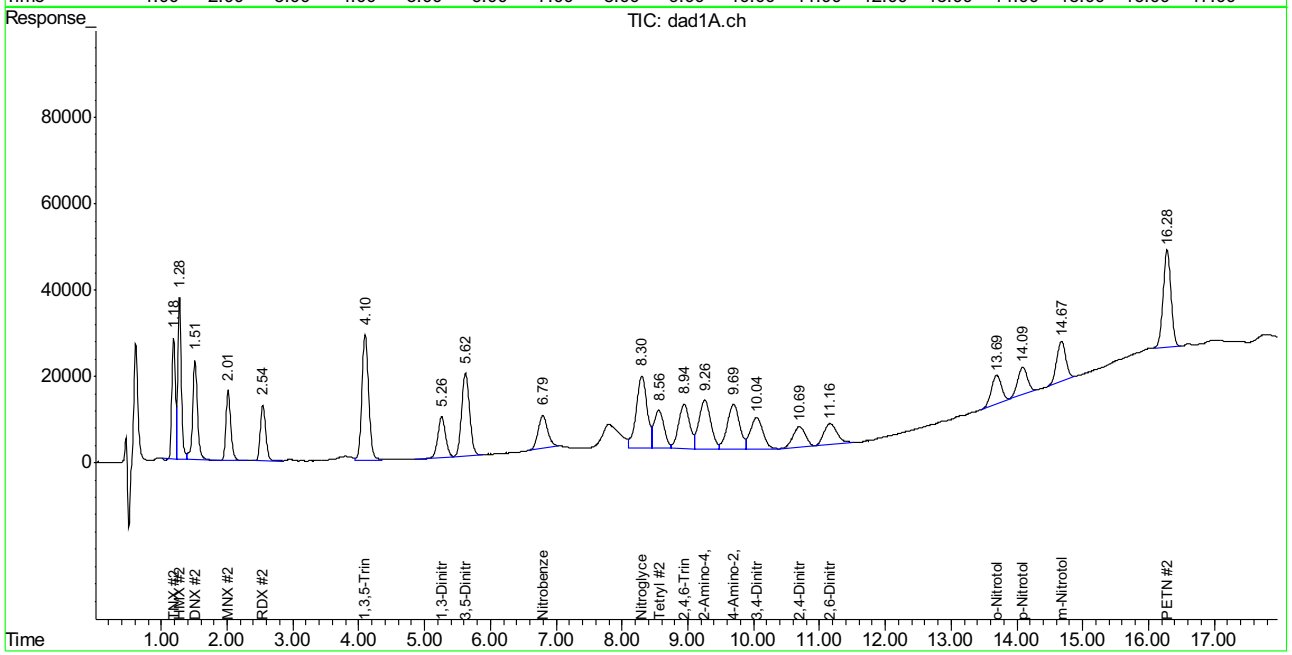
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381255.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0125BPL\PP381255.D\dad1A.ch
Acq On : 25-Jan-2017, 15:26:23 Operator: kismetl
Sample : op63431-ms,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 13:20 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: OP63431-MS
Lab FileID: PP381255.D
Injection Time: 01/25/17 15:26
Method: SW846 8330B
Analyst approved: 01/26/17 14:32 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	1	4.10	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	10.05	Missed peak
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.09	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381256.D\dad1B.ch Vial: 23
Signal #2 : P:\DATA\0125BPL\PP381256.D\dad1A.ch
Acq On : 25-Jan-2017, 15:51:19 Operator: kismetl
Sample : op63431-msd,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:26 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.03	10.03	525805	1001205	253.891	258.744
	Spiked Amount 500.000	Range 70 - 136		Recovery =		50.78%#	51.75%#
	Target Compounds						
1)	TNX	1.19	1.19	903548	1381683	306.691	323.322
2)	HMX	1.28	1.28	541868	1554064	328.797	324.260
3)	DNX	1.51	1.51	872002	1548629	322.711	341.411
4)	MNX	2.02	2.02	759061	1189342	324.670	337.512
5)	RDX	2.54	2.54	508781	810235	279.213	271.439
6)	1,3,5-Trinitrobe	4.09	4.09	1143597	2229680	280.794	286.834
7)	1,3-Dinitrobenze	5.26	5.26	1321061	852353	261.005	251.306
8)	3,5-Dinitroanili	5.62	5.62	1082371	1805119	240.436	237.423
9)	Nitrobenzene	6.79	6.79	1012580	961850	331.629	318.533m
10)	Nitroglycerin	0.00	8.29	0	2119274	N.D.	1577.261 #
11)	Tetryl	8.55	8.55	555282	1009277	288.115	319.215
12)	2,4,6-Trinitroto	8.93	8.93	980564	1299408	351.524	330.425
13)	2-Amino-4,6-Dini	9.25	9.25	916905	1521146	296.698	298.874
14)	4-Amino-2,6-Dini	9.69	9.68	661145	1440767	282.349	285.044
16)	2,4-Dinitrotolue	10.69	10.69	1211838	701182	262.245	235.227
17)	2,6-Dinitrotolue	11.15	11.15	734496	801040	277.389	273.446
18)	o-Nitrotoluene	13.69	13.68	593705	778455	267.854	252.360m
19)	p-Nitrotoluene	14.08	14.08	906728	709790	264.584	248.384m
20)	m-Nitrotoluene	14.67	14.67	925304	1029492	279.133	264.828m
21)	PETN	0.00	16.28	0	2004209	N.D. d	1350.774m

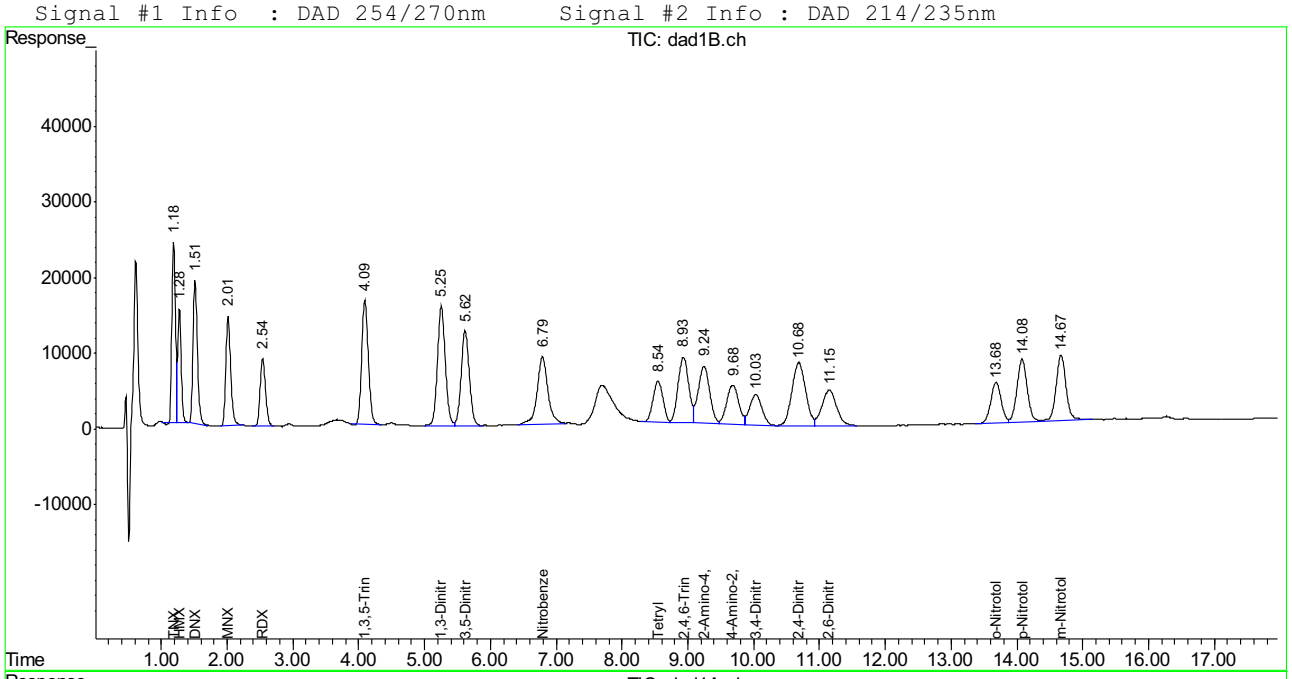
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381256.D 8330-0118BPLUS.M Thu Jan 26 14:31:59 2017 Page 1

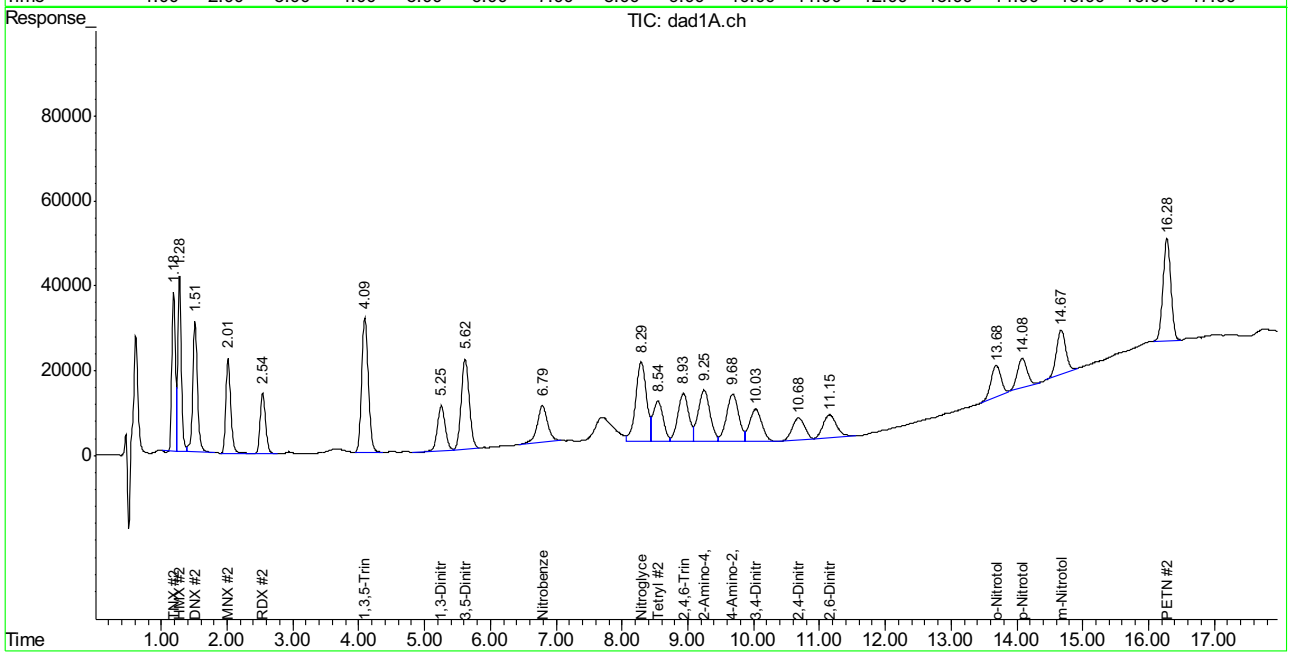
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381256.D\dad1B.ch Vial: 23
Signal #2 : P:\DATA\0125BPL\PP381256.D\dad1A.ch
Acq On : 25-Jan-2017, 15:51:19 Operator: kismetl
Sample : op63431-msd,2 Inst : G1315B
Misc : OP63431,GPP2069,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 13:21 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: OP63431-MSD
Lab FileID: PP381256.D
Injection Time: 01/25/17 15:51
Method: SW846 8330B
Analyst approved: 01/26/17 14:32 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.68	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060857.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\1230RPB3\GG060857.D\dad1A.ch
Acq On : 30-Dec-2016, 14:43:19 Operator: kismetl
Sample : ic2500-20 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:01 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.83	14.80	79217	123536	17.130m	13.041m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.43%#	2.61%#
	Target Compounds						
1)	TNX	4.62	4.62	151268	154713	18.140m	19.254m
2)	HMX	4.99	4.99	57657	61672	20.449m	22.206m
3)	DNX	5.15	5.15	137853	124825	18.205m	16.558m
4)	MNX	6.04	6.04	86237	84161	16.903m	16.544m
5)	1,3,5-Trinitrobe	7.03	7.03	151218	149453	16.646m	16.460m
6)	RDX	7.39	7.39	49489	49489	11.701	11.891
7)	1,3-Dinitrobenze	9.50	9.50	336847	299632	27.415	32.777m
8)	Nitrobenzene	10.57	10.55	136668	66488	17.362	8.001m#
9)	2,4,6-Trinitroto	11.64	11.69	110781	153329	17.956	18.129m
10)	Nitroglycerin	0.00	12.49	0	375020	N.D.	109.431m#
11)	Tetryl	13.44	13.34	76049	175891	16.800m	20.936m
13)	2,6-Dinitrotolue	15.30	15.33	133344	77917	18.388m	7.794m#
14)	2,4-Dinitrotolue	16.28	16.30	216518	247871	19.071	33.396m#
15)	o-Nitrotoluene	18.74	18.63	73961	54535	13.514m	7.205m#
16)	3,5-Dinitroanili	18.06	18.04	182031	435053	19.478m	28.606m#
17)	p-Nitrotoluene	20.57	20.57	40910	30751	11.295m	5.950m#
18)	4-Amino-2,6-Dini	21.34	21.43	8220	2745	1.357m	0.254m#
19)	m-Nitrotoluene	22.78	22.78	64389	40443	12.867m	6.248m#
20)	2-Amino-4,6-Dini	23.68	23.68	163973	2298	20.405m	0.211m#
21)	PETN	0.00	24.83	0	311263	N.D. d	100.166m

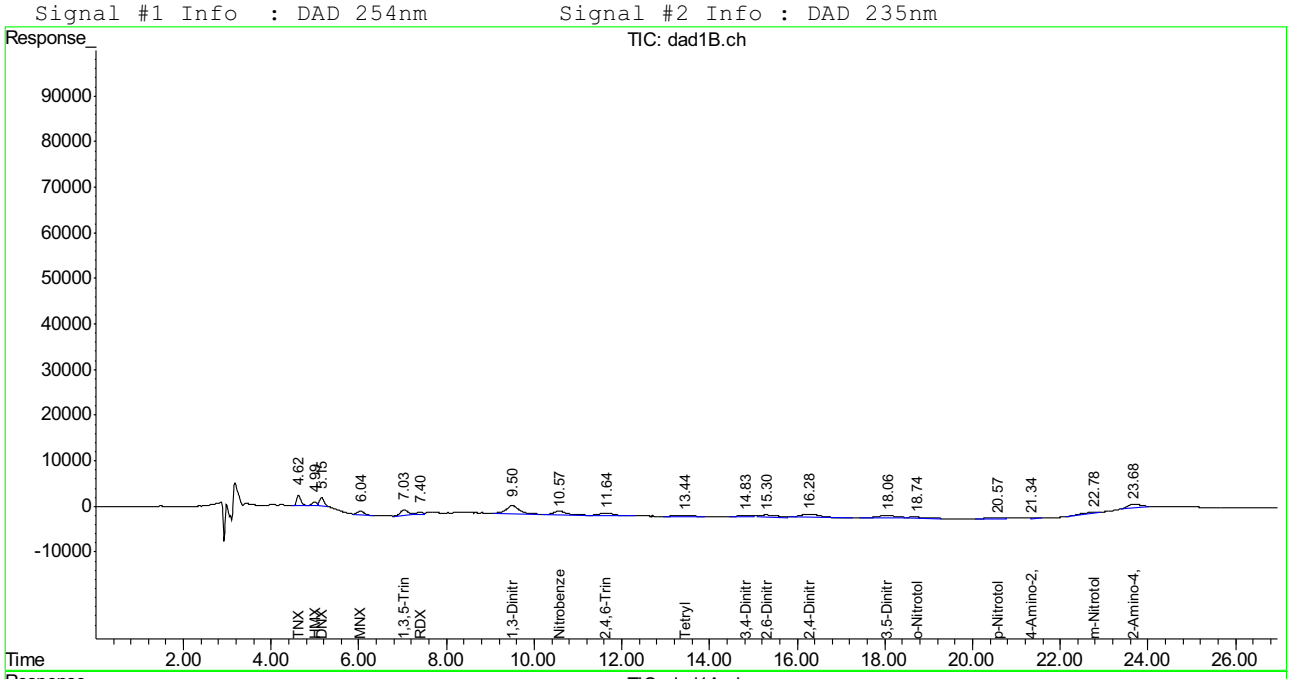
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060857.D 8330RPB.M_1230.M Tue Jan 03 11:14:16 2017 Page 1

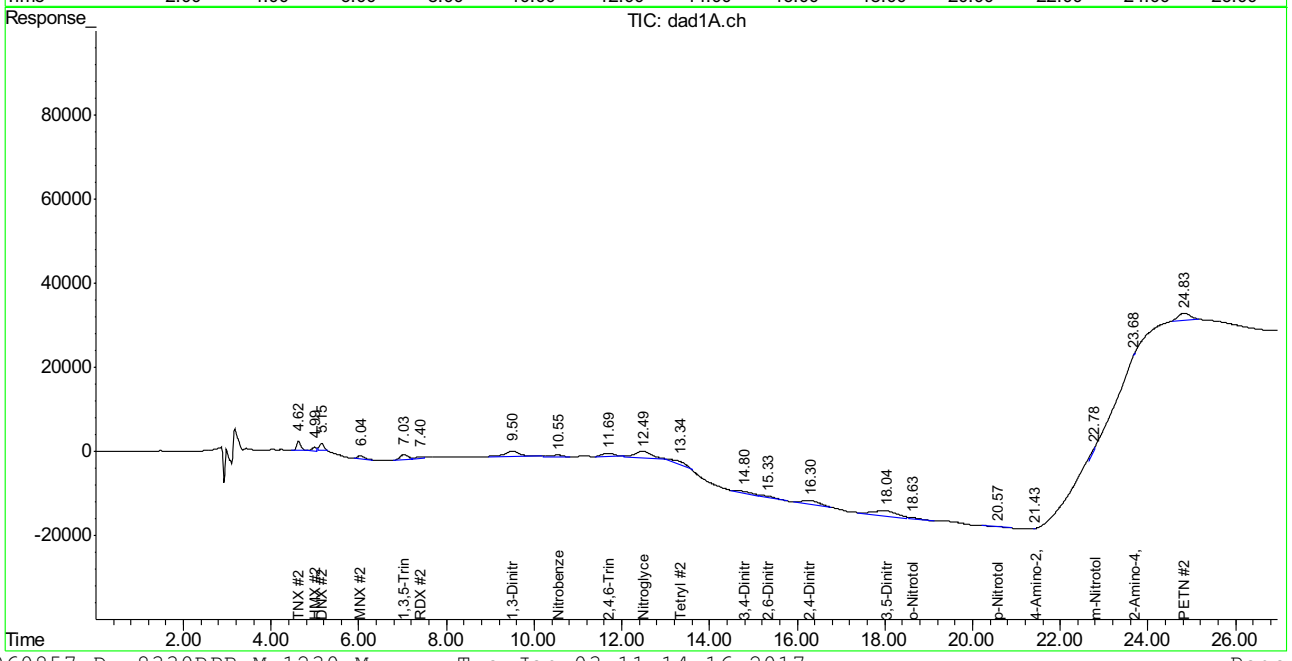
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060857.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\1230RPB3\GG060857.D\dad1A.ch
Acq On : 30-Dec-2016, 14:43:19 Operator: kismetl
Sample : ic2500-20 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 9:52 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060857.D
Injection Time: 12/30/16 14:43
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.62	Poor instrument integration
TNX		2	4.62	Poor instrument integration
HMX	2691-41-0	1	4.99	Poor instrument integration
HMX	2691-41-0	2	4.99	Poor instrument integration
DNX		1	5.15	Poor instrument integration
DNX		2	5.15	Poor instrument integration
MNX		1	6.04	Poor instrument integration
MNX		2	6.04	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	7.03	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	7.03	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.50	Poor instrument integration
Nitrobenzene	98-95-3	2	10.55	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.69	Poor instrument integration
Nitroglycerine	55-63-0	2	12.49	Poor instrument integration
Tetryl	479-45-8	2	13.34	Poor instrument integration
Tetryl	479-45-8	1	13.44	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	14.80	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.83	Missed peak
2,6-Dinitrotoluene	606-20-2	1	15.30	Missed peak
2,6-Dinitrotoluene	606-20-2	2	15.33	Missed peak
2,4-Dinitrotoluene	121-14-2	2	16.30	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	18.04	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	18.06	Poor instrument integration
o-Nitrotoluene	88-72-2	2	18.63	Missed peak
o-Nitrotoluene	88-72-2	1	18.74	Missed peak
p-Nitrotoluene	99-99-0	1	20.57	Missed peak
p-Nitrotoluene	99-99-0	2	20.57	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.34	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.43	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.78	Missed peak
m-Nitrotoluene	99-08-1	2	22.78	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.68	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.68	Poor instrument integration
PETN	78-11-5	2	24.83	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060858.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\1230RPB3\GG060858.D\dad1A.ch
Acq On : 30-Dec-2016, 15:16:18 Operator: kismetl
Sample : ic2500-50 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:02 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.91	14.91	265217	544015	57.351	57.420m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		11.47%#	11.48%#
	Target Compounds						
1)	TNX	4.63	4.63	468979	470721	56.239m	58.570m
2)	HMX	5.00	5.00	140808	146956	50.068m	53.060m
3)	DNX	5.16	5.16	457534	474286	60.410m	62.895m
4)	MNX	6.06	6.06	278396	279562	54.567m	54.955m
5)	1,3,5-Trinitrobe	7.05	7.05	543807	543807	59.863	59.892
6)	RDX	7.40	7.40	272002	272002	64.310	65.260
7)	1,3-Dinitrobenze	9.54	9.54	741431	599091	60.344	65.537m
8)	Nitrobenzene	10.61	10.61	453494	435773	57.610	52.440m
9)	2,4,6-Trinitroto	11.68	11.67	341431	411749	55.340	48.709m
10)	Nitroglycerin	0.00	12.51	0	862666	N.D.	251.725m#
11)	Tetryl	13.47	13.46	231730	364427	51.191	43.389m
13)	2,6-Dinitrotolue	15.36	15.33	433527	569428	59.784	56.795m
14)	2,4-Dinitrotolue	16.31	16.32	682280	549925	60.095	73.953m
15)	o-Nitrotoluene	18.76	18.75	289669	449770	52.929	59.297m
16)	3,5-Dinitroanili	18.10	18.11	584702	959183	62.565	63.013m
17)	p-Nitrotoluene	20.59	20.47	162354	178673	44.826m	34.531
18)	4-Amino-2,6-Dini	21.22	21.21	160469	48485	26.487	4.481m#
19)	m-Nitrotoluene	22.64	22.57	242563	111046	48.393m	17.124m#
20)	2-Amino-4,6-Dini	23.68	23.67	536887	253102	66.809m	23.209m#
21)	PETN	0.00	24.84	0	827473	N.D. d	266.115m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060858.D 8330RPB.M_1230.M Tue Jan 03 11:14:32 2017 Page 1

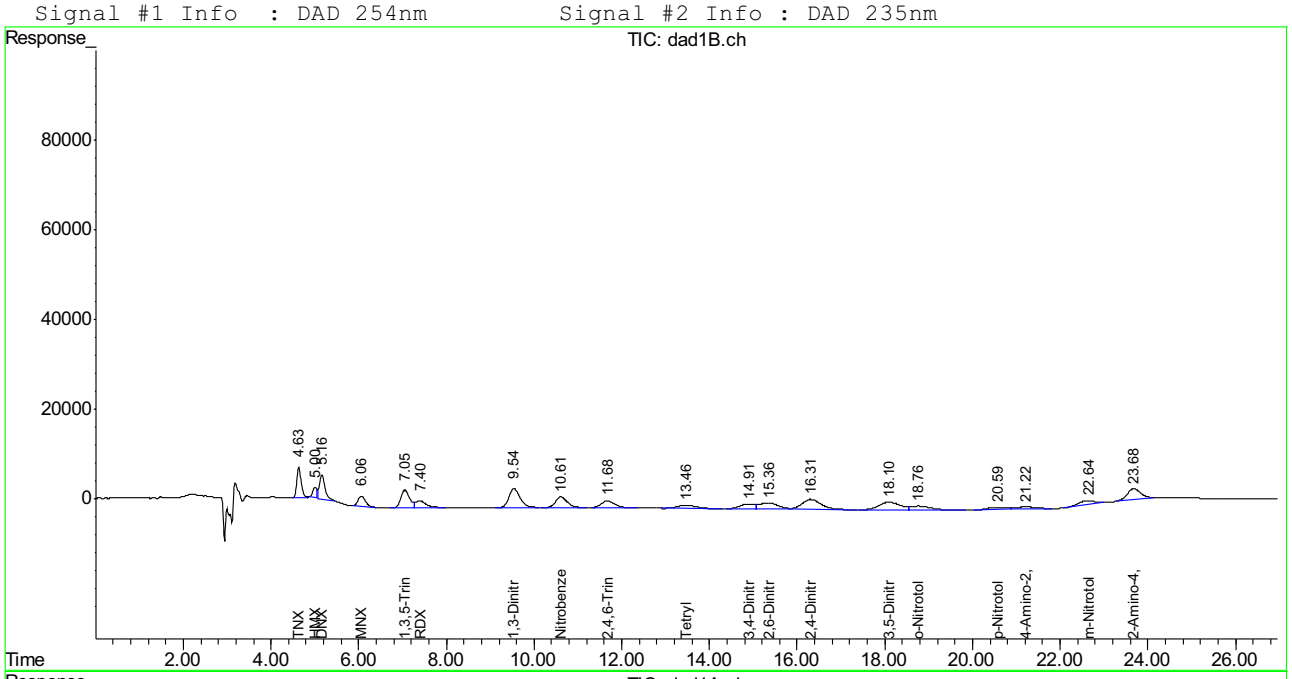
SGS ACCUTEST FA40351

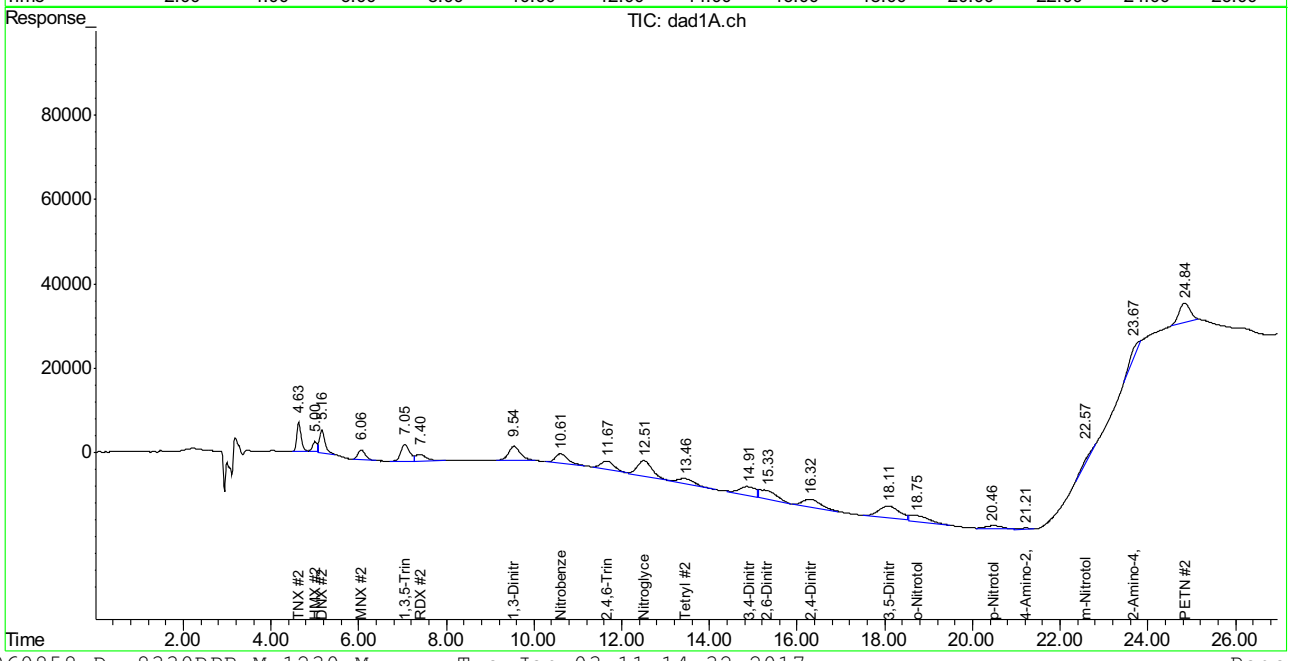
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060858.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\1230RPB3\GG060858.D\dad1A.ch
Acq On : 30-Dec-2016, 15:16:18 Operator: kismetl
Sample : ic2500-50 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 9:58 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060858.D
Injection Time: 12/30/16 15:16
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
TNX		2	4.63	Poor instrument integration
HMX	2691-41-0	1	5.00	Poor instrument integration
HMX	2691-41-0	2	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
DNX		2	5.16	Poor instrument integration
MNX		1	6.06	Poor instrument integration
MNX		2	6.06	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.54	Poor instrument integration
Nitrobenzene	98-95-3	2	10.61	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.67	Poor instrument integration
Nitroglycerine	55-63-0	2	12.51	Poor instrument integration
Tetryl	479-45-8	2	13.46	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	14.91	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	15.33	Missed peak
2,4-Dinitrotoluene	121-14-2	2	16.32	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	18.11	Missed peak
o-Nitrotoluene	88-72-2	2	18.75	Missed peak
p-Nitrotoluene	99-99-0	1	20.59	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.21	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.57	Missed peak
m-Nitrotoluene	99-08-1	1	22.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.67	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.68	Poor instrument integration
PETN	78-11-5	2	24.84	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060859.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\1230RPB3\GG060859.D\dad1A.ch
Acq On : 30-Dec-2016, 15:45:53 Operator: kismetl
Sample : ic2500-100 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:03 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.93	14.91	449558	1024122	97.213	108.079
	Spiked Amount 500.000	Range 70 - 136		Recovery =		19.44%#	21.62%#
	Target Compounds						
1)	TNX	4.63	4.63	803524	818483	96.356m	101.821m
2)	HMX	5.00	5.00	252185	270287	89.982m	97.985m
3)	DNX	5.16	5.16	767730	731943	101.349m	97.040m
4)	MNX	6.05	6.05	500506	499502	98.101m	98.190m
5)	1,3,5-Trinitrobe	7.05	7.05	935888	935888	103.023	103.073
6)	RDX	7.40	7.40	474011	474011	112.070	113.573
7)	1,3-Dinitrobenze	9.55	9.54	1241228	952540	101.021	104.205m
8)	Nitrobenzene	10.61	10.62	788140	794173	100.123	95.570m
9)	2,4,6-Trinitroto	11.68	11.68	585277	729575	94.863	86.363m
10)	Nitroglycerin	0.00	12.52	0	1453289	N.D.	424.069m#
11)	Tetryl	13.47	13.47	424542	746116	93.785	88.884m
13)	2,6-Dinitrotolue	15.37	15.30	743786	834100	102.570	83.065
14)	2,4-Dinitrotolue	16.33	16.35	1160803	799437	102.243	107.341m
15)	o-Nitrotoluene	18.79	18.81	511949	714569	93.544	94.072m
16)	3,5-Dinitroanili	18.12	18.11	1043320	1761007	111.639	115.534
17)	p-Nitrotoluene	20.66	20.59	301186	158392	83.157	30.617 #
18)	4-Amino-2,6-Dini	21.29	21.38	385762	70692	63.673	6.533m#
19)	m-Nitrotoluene	22.64	22.61	475148	499759	94.597m	76.324m
20)	2-Amino-4,6-Dini	23.70	23.78	950263	1178641	118.249m	107.733m
21)	PETN	0.00	24.85	0	1709222	N.D. d	549.084m

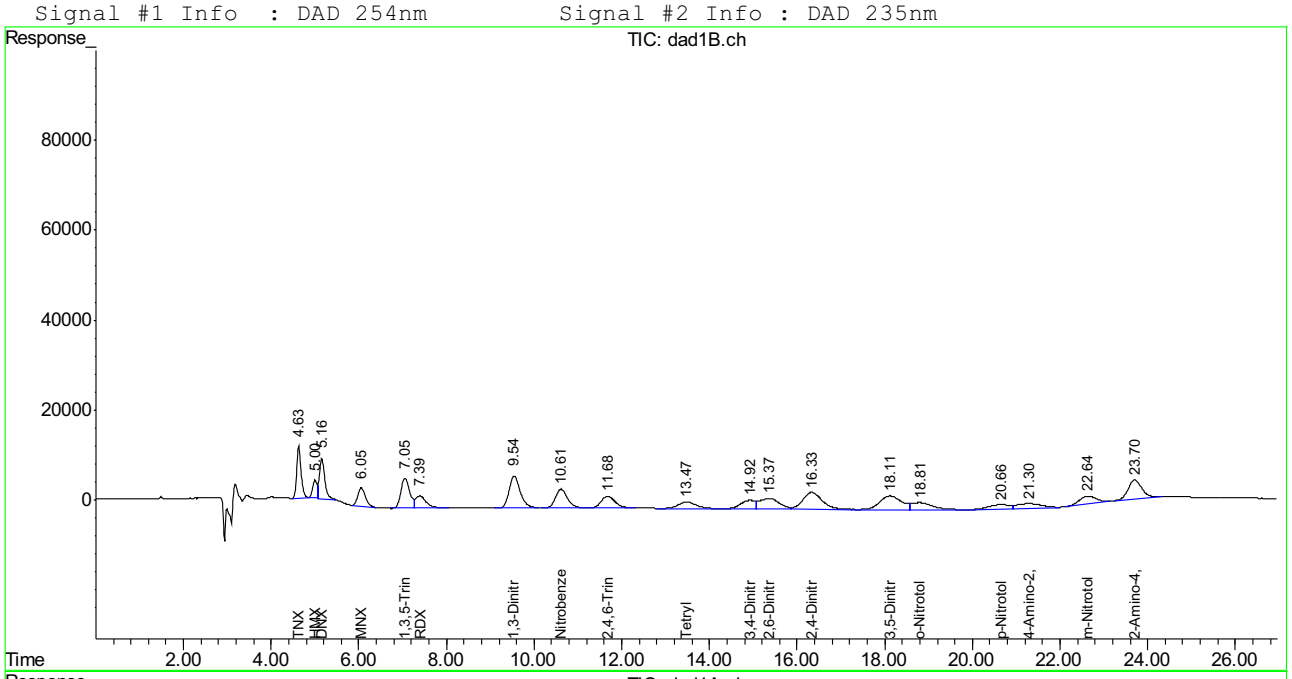
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060859.D 8330RPB.M_1230.M Tue Jan 03 11:14:33 2017 Page 1

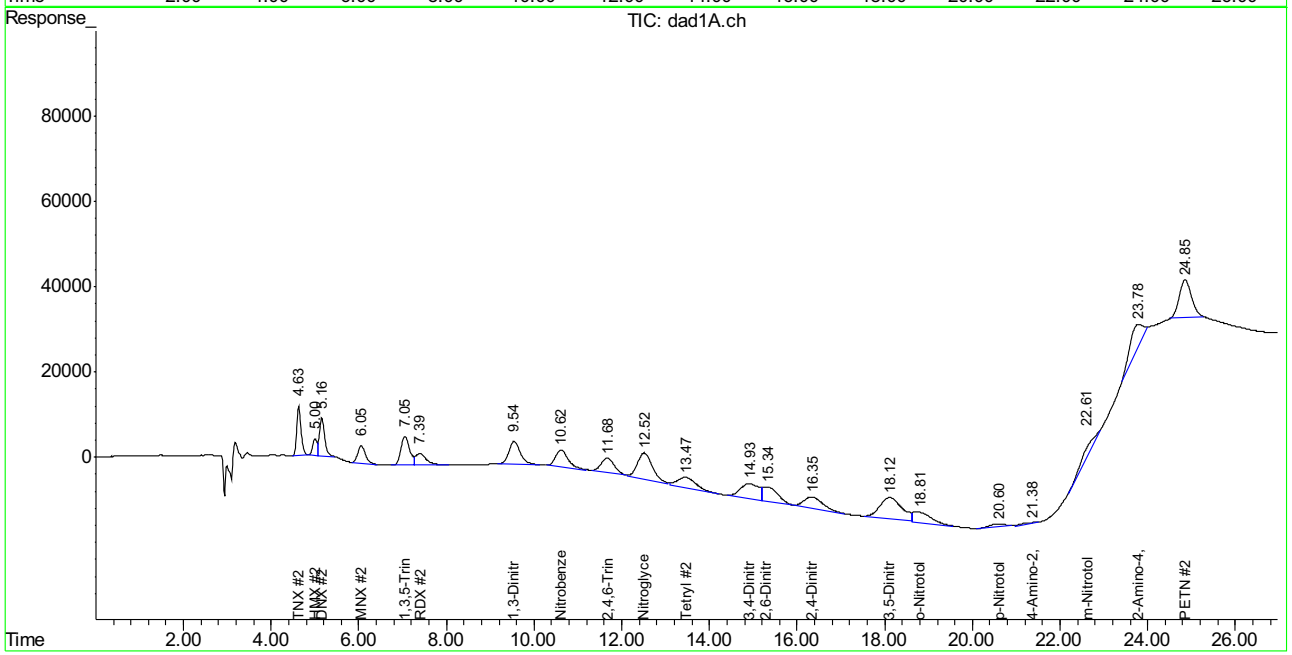
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060859.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\1230RPB3\GG060859.D\dad1A.ch
Acq On : 30-Dec-2016, 15:45:53 Operator: kismetl
Sample : ic2500-100 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:02 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060859.D
Injection Time: 12/30/16 15:45
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
TNX		2	4.63	Poor instrument integration
HMX	2691-41-0	1	5.00	Poor instrument integration
HMX	2691-41-0	2	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
DNX		2	5.16	Poor instrument integration
MNX		1	6.05	Poor instrument integration
MNX		2	6.05	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.54	Poor instrument integration
Nitrobenzene	98-95-3	2	10.62	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.68	Poor instrument integration
Nitroglycerine	55-63-0	2	12.52	Poor instrument integration
Tetryl	479-45-8	2	13.47	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	16.35	Poor instrument integration
o-Nitrotoluene	88-72-2	2	18.81	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.38	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.61	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.64	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.70	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.78	Poor instrument integration
PETN	78-11-5	2	24.85	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060860.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\1230RPB3\GG060860.D\dad1A.ch
Acq On : 30-Dec-2016, 16:15:27 Operator: kismetl
Sample : ic2500-200 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:04 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.98	14.95	917603	2009664	198.424	212.024
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.68%#	42.40%#
	Target Compounds						
1)	TNX	4.63	4.63	1617527	1634238	193.969m	203.211m
2)	HMX	5.00	5.00	512517	513203	184.377m	187.563m
3)	DNX	5.16	5.16	1465722	1489749	193.416m	197.377m
4)	MNX	6.07	6.07	1013539	1013539	198.658	199.237
5)	1,3,5-Trinitrobe	7.06	7.06	1880817	1880817	207.042	207.142
6)	RDX	7.41	7.41	919023	919023	217.285	219.548
7)	1,3-Dinitrobenze	9.57	9.57	2456253	1935291	199.910	211.735
8)	Nitrobenzene	10.64	10.64	1535777	1494778	195.100	179.880m
9)	2,4,6-Trinitroto	11.70	11.70	1159861	1467650	187.994	173.989m
10)	Nitroglycerin	0.00	12.54	0	2946250	N.D.	859.714m#
11)	Tetryl	13.51	13.52	853029	1365926	188.442	162.873m
13)	2,6-Dinitrotolue	15.39	15.35	1476178	1789902	203.568	177.270
14)	2,4-Dinitrotolue	16.37	16.37	2322902	1598934	204.600	213.642m
15)	o-Nitrotoluene	18.81	18.78	987431	1325166	180.425	173.880
16)	3,5-Dinitroanili	18.16	18.15	2048781	3453819	219.228	225.959
17)	p-Nitrotoluene	20.68	20.67	593264	338596	163.800	65.357 #
18)	4-Amino-2,6-Dini	21.34	21.41	902113	284239	148.901	26.251 #
19)	m-Nitrotoluene	22.66	22.64	951524	1068597	188.635m	160.975m
20)	2-Amino-4,6-Dini	23.72	23.76	1821522	2190603	226.668m	199.538m
21)	PETN	0.00	24.86	0	3416905	N.D. d	1095.362m

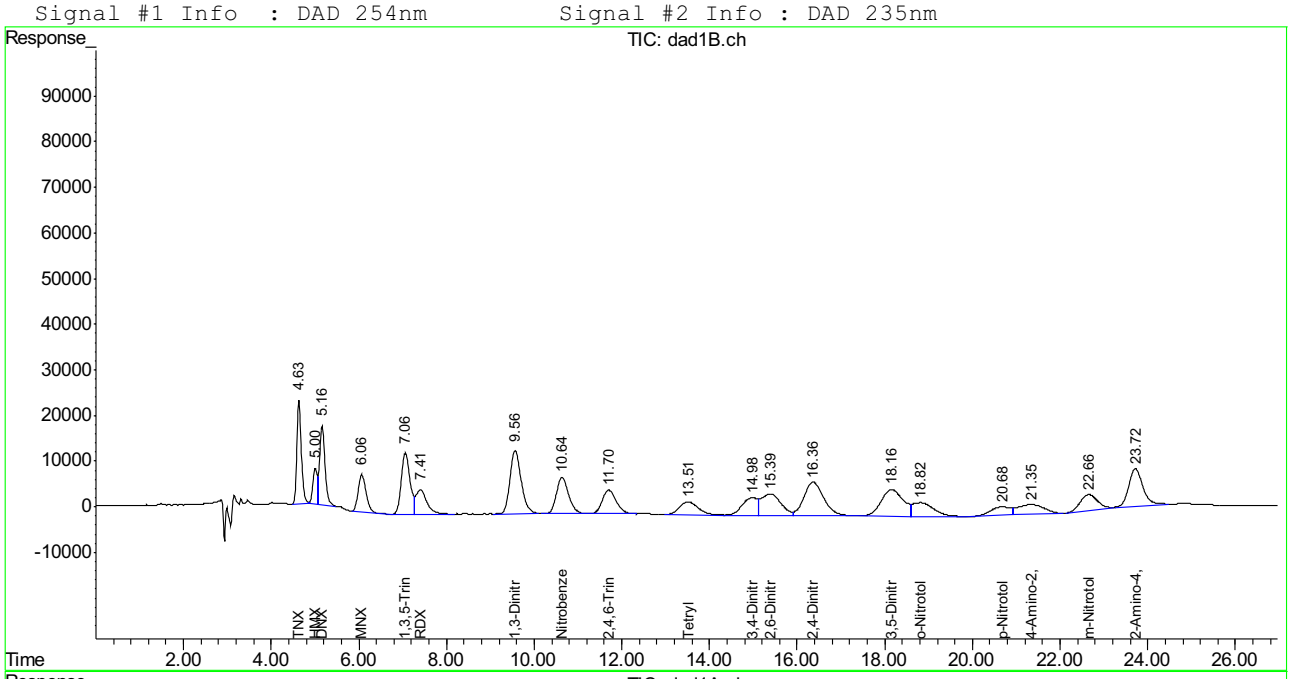
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060860.D 8330RPB.M_1230.M Tue Jan 03 11:14:34 2017 Page 1

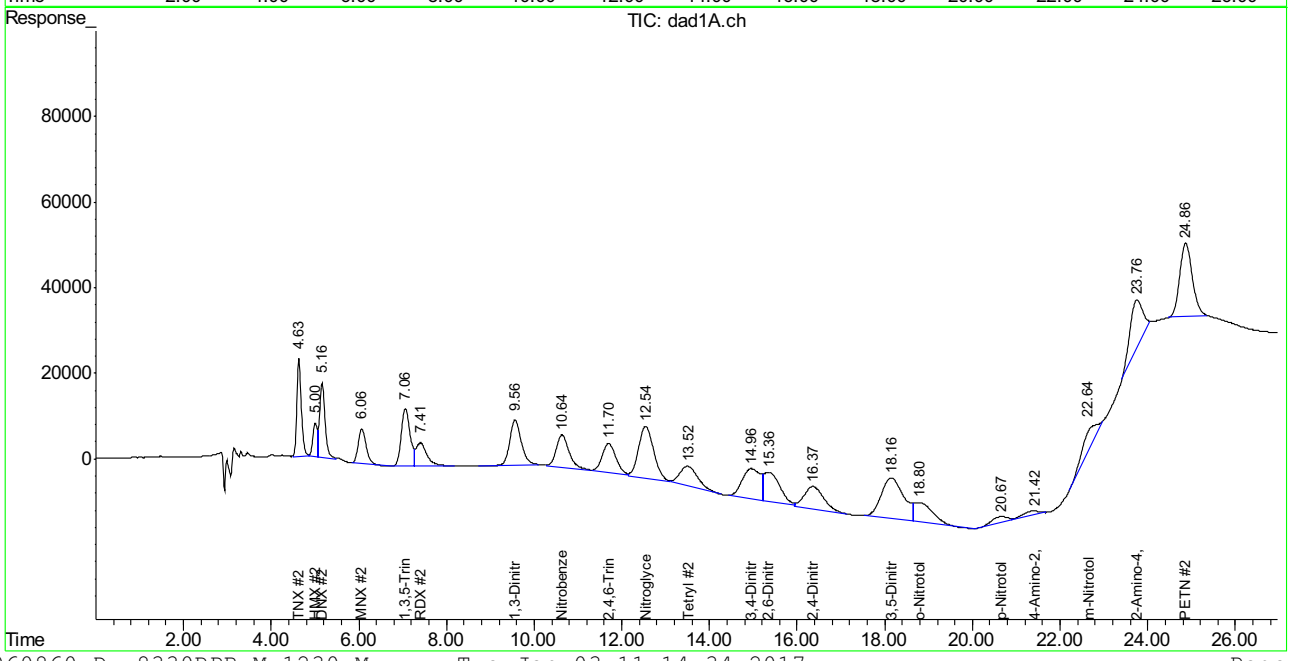
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060860.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\1230RPB3\GG060860.D\dad1A.ch
Acq On : 30-Dec-2016, 16:15:27 Operator: kismetl
Sample : ic2500-200 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:06 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060860.D
Injection Time: 12/30/16 16:15
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
TNX		2	4.63	Poor instrument integration
HMX	2691-41-0	1	5.00	Poor instrument integration
HMX	2691-41-0	2	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
DNX		2	5.16	Poor instrument integration
Nitrobenzene	98-95-3	2	10.64	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.70	Poor instrument integration
Nitroglycerine	55-63-0	2	12.54	Poor instrument integration
Tetryl	479-45-8	2	13.52	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	16.37	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.64	Missed peak
m-Nitrotoluene	99-08-1	1	22.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.72	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.76	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060861.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\1230RPB3\GG060861.D\dad1A.ch
Acq On : 30-Dec-2016, 16:45:02 Operator: kismetl
Sample : icc2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:05 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.00	14.99	2176194	4818417	470.585	507.925
	Spiked Amount 500.000	Range 70 - 136		Recovery =		94.12%	101.58%
	Target Compounds						
1)	TNX	4.63	4.63	3912729	4019223	469.203m	499.120
2)	HMX	5.00	5.00	1357492	1357492	502.296	511.169
3)	DNX	5.16	5.16	3739502	3739502	492.833	494.465
4)	MNX	6.06	6.06	2527746	2527746	495.449	496.892
5)	1,3,5-Trinitrobe	7.06	7.06	4472978	4472978	492.389	492.626
6)	RDX	7.41	7.41	2137646	2137646	505.404	506.616
7)	1,3-Dinitrobenze	9.57	9.57	5885991	4598219	479.050	503.204
8)	Nitrobenzene	10.64	10.64	3738142	3803289	474.881	457.683
9)	2,4,6-Trinitroto	11.71	11.71	2867030	4054558	464.696	483.188
10)	Nitroglycerin	0.00	12.56	0	7627688	N.D. d	2225.755
11)	Tetryl	13.53	13.52	2057679	3690629	454.560	441.630
13)	2,6-Dinitrotolue	15.41	15.38	3575446	4999928	493.061	486.411
14)	2,4-Dinitrotolue	16.39	16.39	5549365	3928915	488.786	517.730
15)	o-Nitrotoluene	18.85	18.83	2407986	3423348	439.990	444.223
16)	3,5-Dinitroanili	18.18	18.18	4822570	8237243	516.034	534.713
17)	p-Nitrotoluene	20.71	20.71	1559470	1535914	430.570	293.732
18)	4-Amino-2,6-Dini	21.38	21.41	2582303	2632878	426.229	241.322 #
19)	m-Nitrotoluene	22.67	22.71	2433427	3545310	476.236m	505.987m
20)	2-Amino-4,6-Dini	23.73	23.75	4121622	6031492	512.889m	542.383m
21)	PETN	0.00	24.88	0	8193693	N.D. d	2611.409m

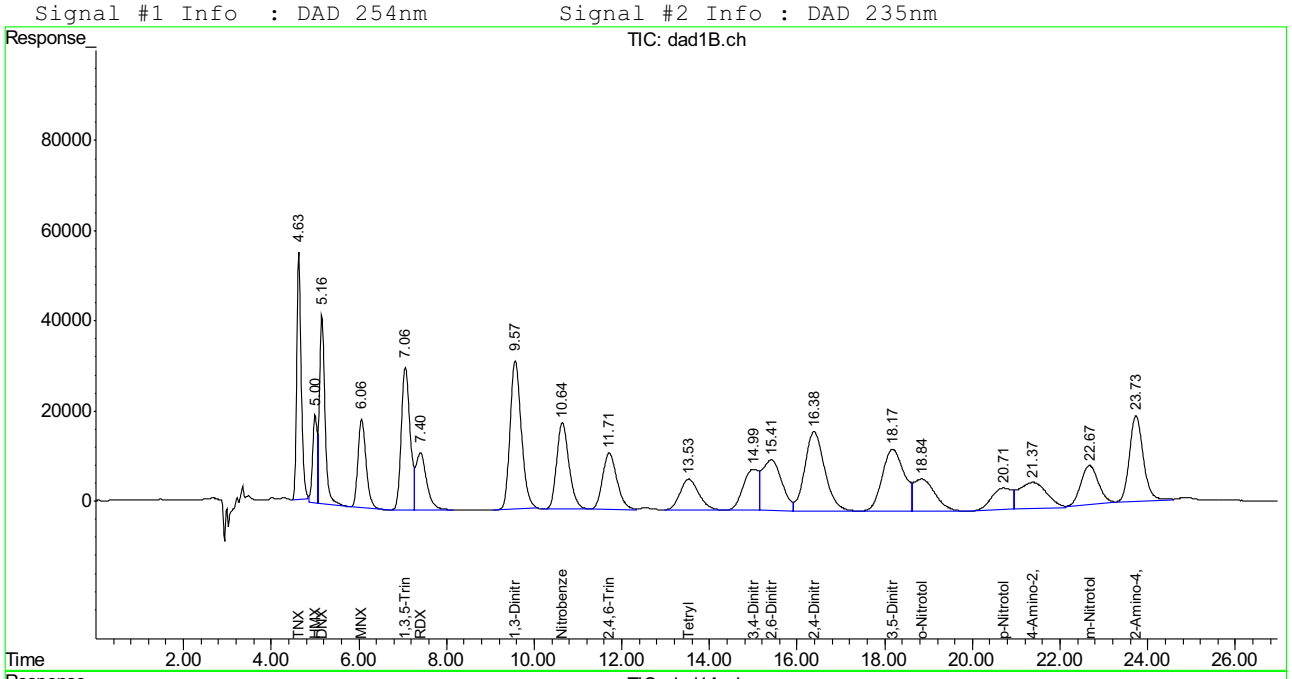
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060861.D 8330RPB.M_1230.M Tue Jan 03 11:14:48 2017 Page 1

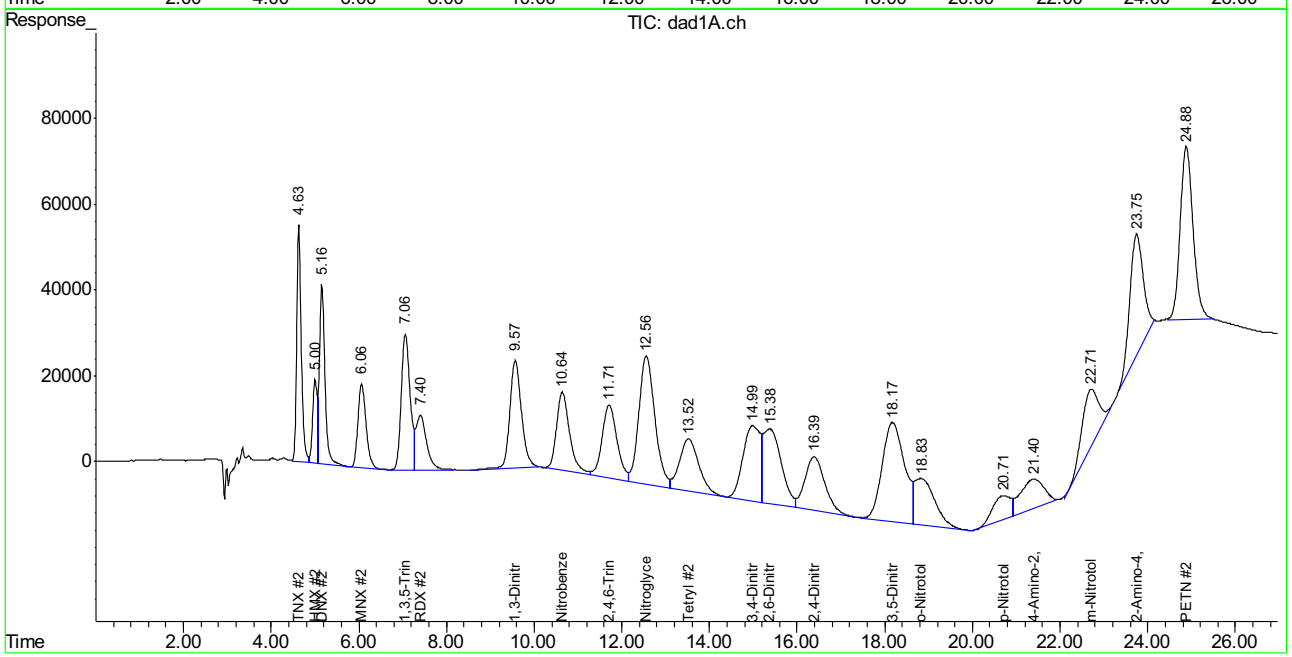
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060861.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\1230RPB3\GG060861.D\dad1A.ch
Acq On : 30-Dec-2016, 16:45:02 Operator: kismetl
Sample : icc2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:08 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GGG2500-ICC2500
Lab FileID: GG060861.D
Injection Time: 12/30/16 16:45
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.63	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.71	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.73	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.75	Poor instrument integration
PETN	78-11-5	2	24.88	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060862.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\1230RPB3\GG060862.D\dad1A.ch
Acq On : 30-Dec-2016, 17:14:39 Operator: kismetl
Sample : ic2500-1000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:06 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.97	14.96	4210954	9432101	910.586	992.895
	Spiked Amount 500.000	Range 70 - 136		Recovery =		182.12%#	198.58%#
	Target Compounds						
1)	TNX	4.63	4.63	7838956	7838956	940.025	971.437
2)	HMX	5.01	5.01	2586384	2586384	1001.957	1022.952
3)	DNX	5.16	5.16	7185968	7185968	945.220	947.318
4)	MNX	6.06	6.06	5116960	5116960	1002.945	1005.868
5)	1,3,5-Trinitrobe	7.06	7.06	8885041	8885041	978.072	978.544
6)	RDX	7.40	7.40	4223488	4223488	998.559	987.812
7)	1,3-Dinitrobenze	9.56	9.56	11641472	8795457	947.477	962.907
8)	Nitrobenzene	10.62	10.62	7384905	7274877	938.154	875.449
9)	2,4,6-Trinitroto	11.70	11.70	5653283	7861173	916.300	944.221
10)	Nitroglycerin	0.00	12.54	0	15016317	N.D. d	4381.753
11)	Tetryl	13.50	13.50	4096243	7507818	904.897	903.708
13)	2,6-Dinitrotolue	15.38	15.35	7142118	10135679	984.912	959.975
14)	2,4-Dinitrotolue	16.35	16.35	10964077	7929300	965.711	1021.558
15)	o-Nitrotoluene	18.79	18.78	4818323	7047589	880.409	897.851
16)	3,5-Dinitroanili	18.13	18.13	9623590	16539840	1029.763	1059.655
17)	p-Nitrotoluene	20.67	20.67	3267337	4073851	902.112	764.554
18)	4-Amino-2,6-Dini	21.30	21.31	5558138	8053937	917.414	725.819
19)	m-Nitrotoluene	22.63	22.65	5306027	7743251	1014.126	1024.221m
20)	2-Amino-4,6-Dini	23.70	23.71	8088207	11892466	1006.485m	1049.607m
21)	PETN	0.00	24.86	0	16378360	N.D. d	5169.288m

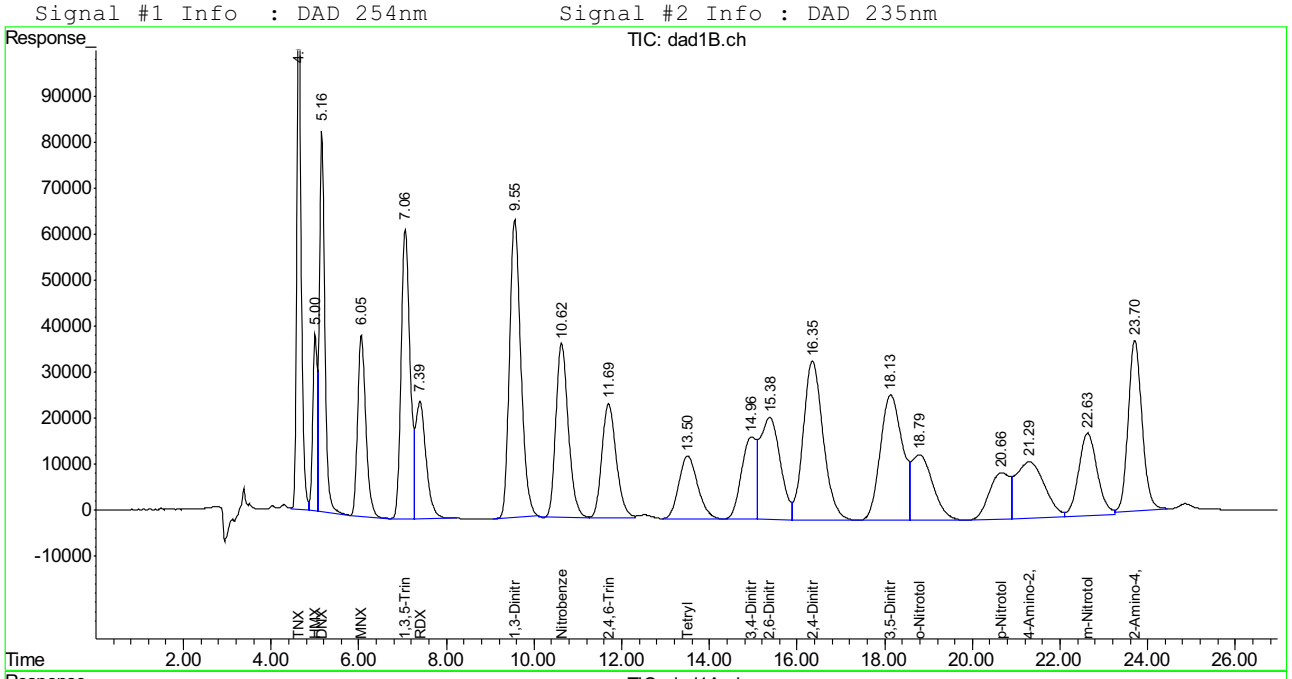
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060862.D 8330RPB.M_1230.M Tue Jan 03 11:14:49 2017 Page 1

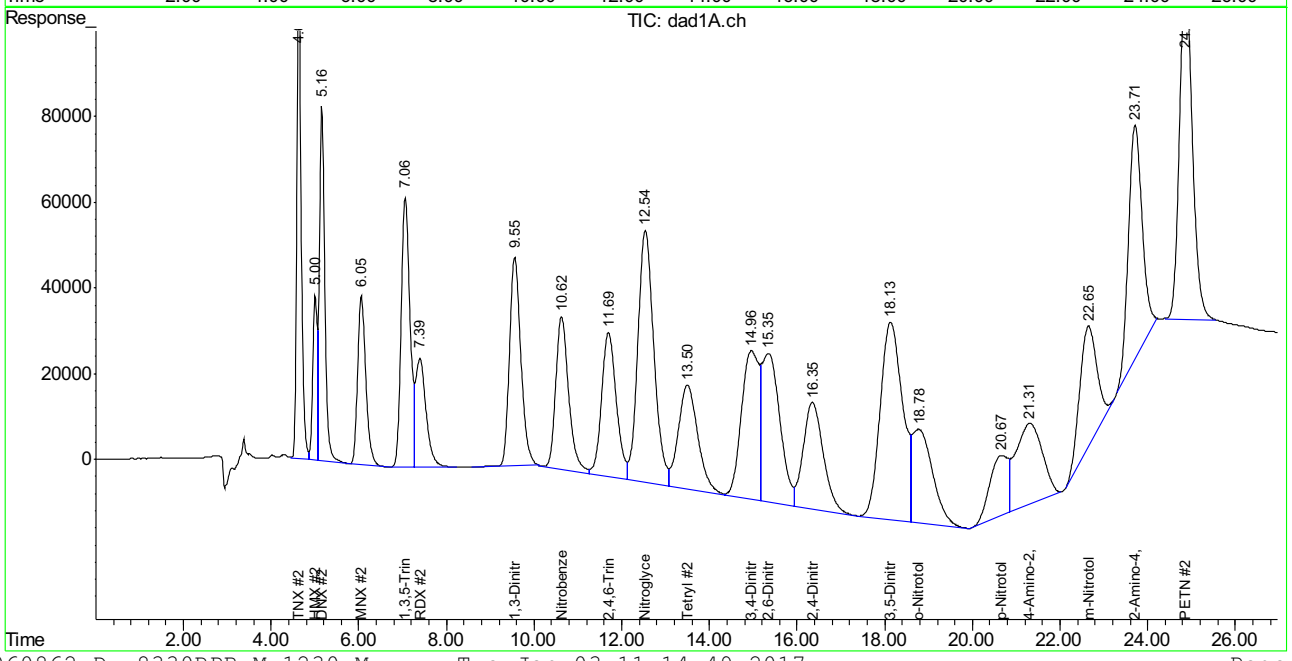
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060862.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\1230RPB3\GG060862.D\dad1A.ch
Acq On : 30-Dec-2016, 17:14:39 Operator: kismetl
Sample : ic2500-1000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:10 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060862.D
Injection Time: 12/30/16 17:14
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
m-Nitrotoluene	99-08-1	2	22.65	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.70	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.71	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

GG060863.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060863.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\1230RPB3\GG060863.D\dad1A.ch
Acq On : 30-Dec-2016, 17:44:16 Operator: kismetl
Sample : ic2500-2000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 09:28:07 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.95	14.94	9266817	20915374	2003.877	2194.205
	Spiked Amount 500.000	Range 70 - 136		Recovery =		400.78%#	438.84%#
	Target Compounds						
1)	TNX	4.62	4.62	17055860	17055860	2045.290	2103.133
2)	HMX	5.00	5.00	5490432	5490432	2466.556	2557.793
3)	DNX	5.15	5.15	15490765	15490765	2028.243	2027.553
4)	MNX	6.04	6.04	11284764	11284764	2211.860	2218.306
5)	1,3,5-Trinitrobe	7.05	7.05	19556646	19556646	2152.811	2153.849
6)	RDX	7.37	7.37	9209995	9209995	2177.519	2091.134
7)	1,3-Dinitrobenze	9.54	9.54	25516947	19157835	2076.776	2099.407
8)	Nitrobenzene	10.61	10.61	15943670	15285994	2025.431	1839.497
9)	2,4,6-Trinitroto	11.69	11.69	12392046	16745570	2008.538	2050.145
10)	Nitroglycerin	0.00	12.53	0	32595758	N.D. d	9511.424
11)	Tetryl	13.49	13.49	8981012	16760400	1983.987	2047.344
13)	2,6-Dinitrotolue	15.36	15.33	15649267	22658850	2158.065	2025.602
14)	2,4-Dinitrotolue	16.33	16.33	23993836	17157925	2113.367	2108.923
15)	o-Nitrotoluene	18.77	18.75	10455545	15394153	1910.449	1886.297
16)	3,5-Dinitroanili	18.11	18.11	21056164	36215701	2253.094	2253.346
17)	p-Nitrotoluene	20.64	20.65	7166551	9772988	1978.685	1764.229
18)	4-Amino-2,6-Dini	21.26	21.27	12849923	21326501	2120.980	1849.942
19)	m-Nitrotoluene	22.61	22.62	11597272	17085247	2115.245	1988.901m
20)	2-Amino-4,6-Dini	23.69	23.69	18102991	26308173	2252.711	2226.185m
21)	PETN	0.00	24.86	0	35559335	N.D. d	10981.018m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060863.D 8330RPB.M_1230.M Tue Jan 03 11:14:50 2017 Page 1

9.5.7

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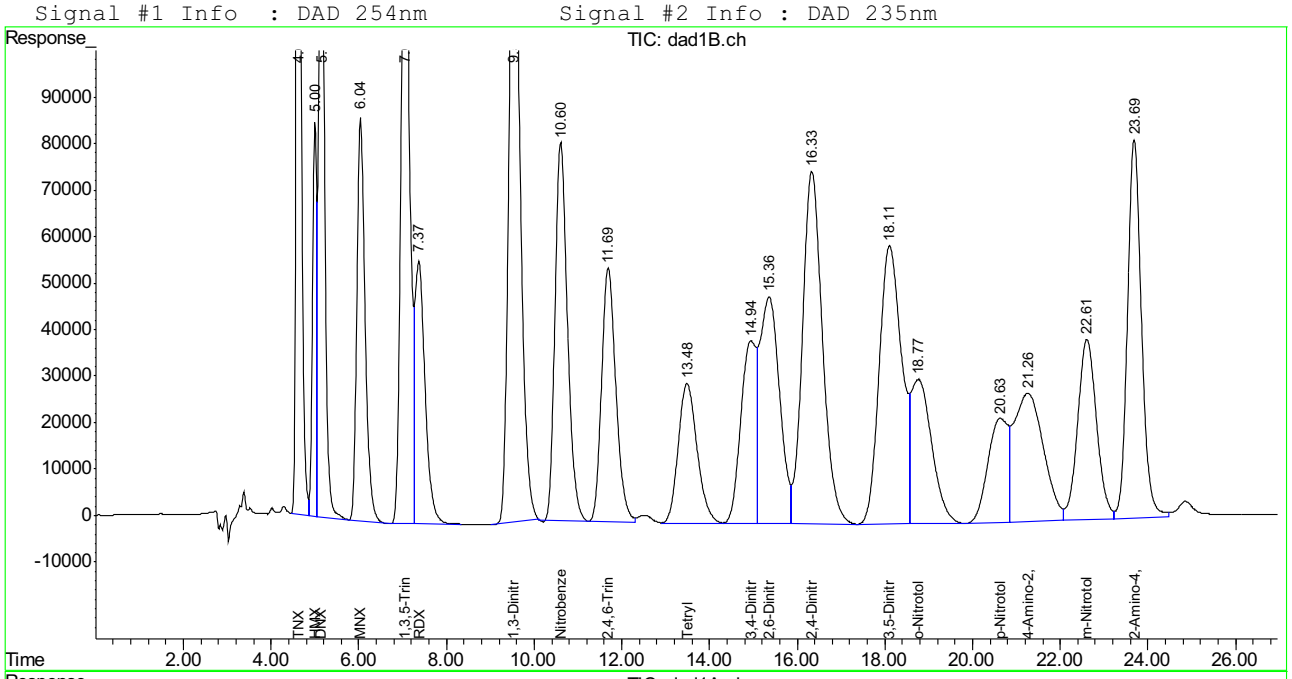
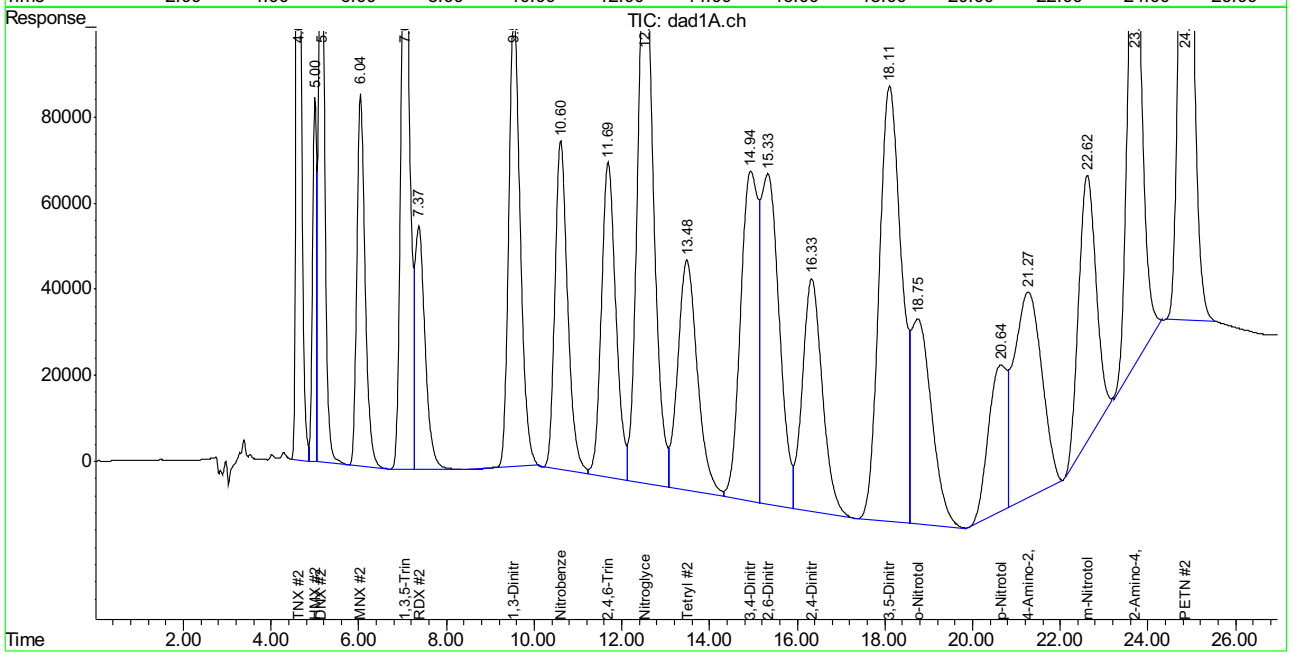
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060863.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\1230RPB3\GG060863.D\dad1A.ch
Acq On : 30-Dec-2016, 17:44:16 Operator: kismetl
Sample : ic2500-2000 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 10:11 2017 Quant Results File: 8330RPB.M_1214.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1214.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 09:27:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-IC2500
Lab FileID: GG060863.D
Injection Time: 12/30/16 17:44
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
m-Nitrotoluene	99-08-1	2	22.62	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.69	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/03/17 15:37

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060864.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\1230RPB3\GG060864.D\dad1A.ch
Acq On : 30-Dec-2016, 18:13:52 Operator: kismetl
Sample : icv2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 03 11:05:09 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.63	4.63	4162248	4162248	508.848	503.109
2)	HMX	5.00	5.00	1480228	1572593	550.270m	569.244
3)	DNX	5.16	5.16	3706442	3876425	485.321m	512.895
4)	MNX	6.06	6.06	2613973	2613973	511.578	512.876
5)	1,3,5-Trinitrobe	7.06	7.06	4582643	4582643	494.967	495.642
6)	RDX	7.40	7.40	2332654	2332654	556.540	556.540
7)	1,3-Dinitrobenze	9.56	9.56	5830736	4460173	441.071	506.352
8)	Nitrobenzene	10.63	10.63	4022472	4038523	518.583	551.404
9)	2,4,6-Trinitroto	11.70	11.70	2204685	3230757	400.036	417.808
10)	Nitroglycerin	0.00	12.54	0	7764181	N.D.	2429.821 #
11)	Tetryl	13.51	13.50	1757329	3485746	439.948	454.862
13)	2,6-Dinitrotolue	15.41	15.40	3741514	6108600	501.024	554.445
14)	2,4-Dinitrotolue	16.36	16.36	5796640	4097851	496.326	527.399
15)	o-Nitrotoluene	18.82	18.80	2658700	3878361	540.855	567.807
16)	3,5-Dinitroanili	18.15	18.14	4809561	8239583	472.389	454.373
17)	p-Nitrotoluene	20.67	20.68	1689675	1826547	540.972	541.058
18)	4-Amino-2,6-Dini	21.31	21.33	2693980	3120536	526.769	524.739
19)	m-Nitrotoluene	22.64	22.68	2727140	3934759	544.548	551.021m
20)	2-Amino-4,6-Dini	23.71	23.72	4868501	6504482	541.550	561.636m
21)	PETN	0.00	24.86	0	8660110	N.D. d	2594.295m

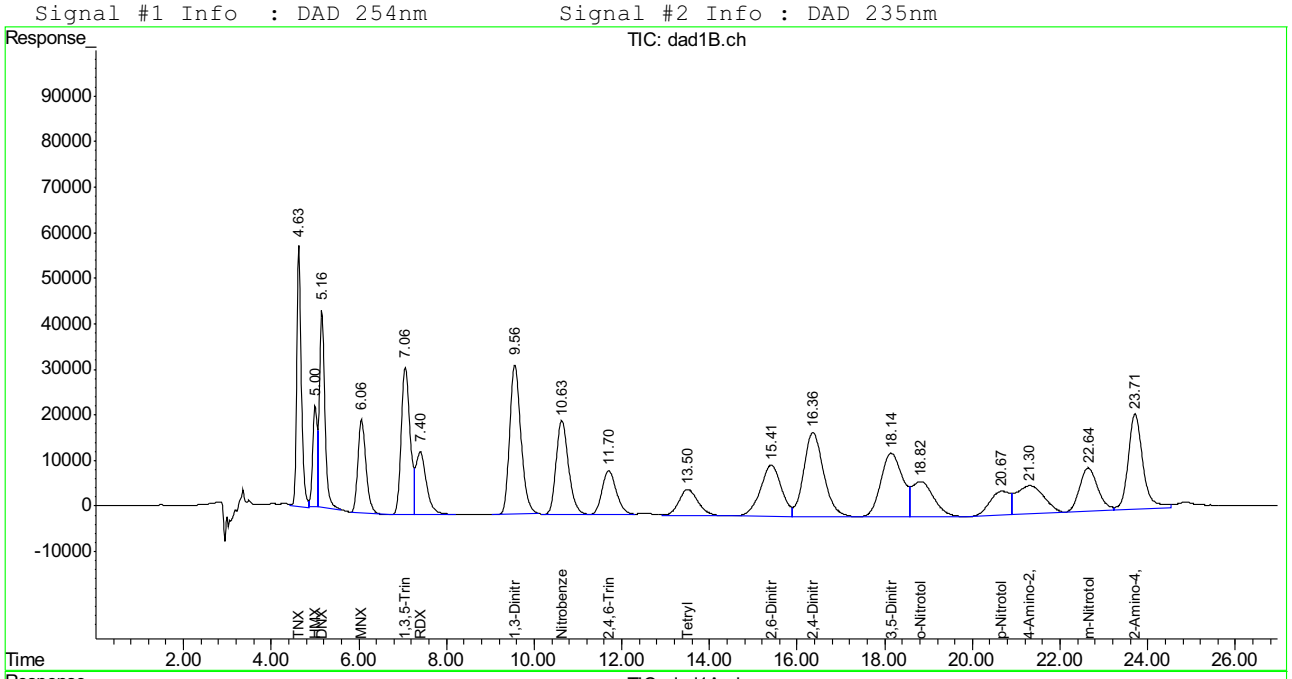
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060864.D 8330RPB.M_1230.M Tue Jan 03 11:15:13 2017 Page 1

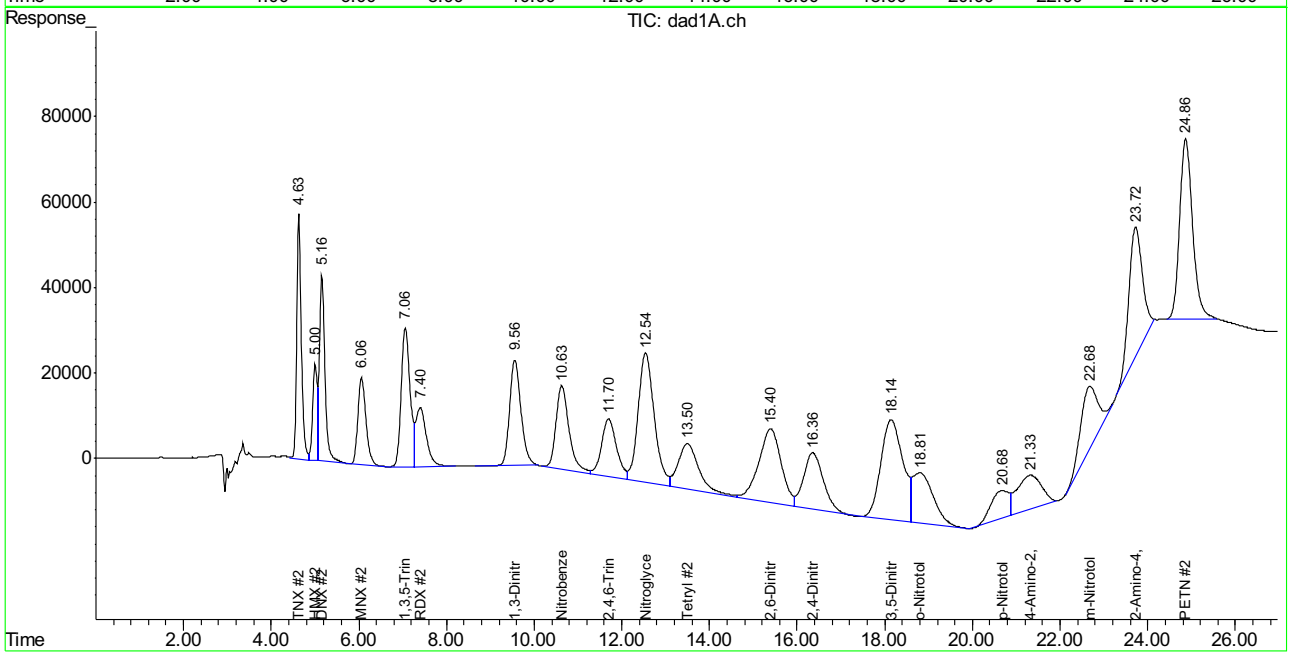
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\1230RPB3\GG060864.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\1230RPB3\GG060864.D\dad1A.ch
Acq On : 30-Dec-2016, 18:13:52 Operator: kismetl
Sample : icv2500-500 Inst : G1315B
Misc : OP63245,GGG2500,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 3 11:06 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Jan 03 10:58:03 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2500-ICV2500
Lab FileID: GG060864.D
Injection Time: 12/30/16 18:13
Method: SW846 8330A
Analyst approved: 01/03/17 14:10 Kismet Lugo
Supervisor approved: 01/03/17 15:37 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.00	Poor instrument integration
DNX		1	5.16	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.68	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.72	Poor instrument integration
PETN	78-11-5	2	24.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060928.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060928.D\dad1A.ch
Acq On : 19-Jan-2017, 08:24:39 Operator: kismetl
Sample : cc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:23 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.41	15.40	4840046	10659689	1074.013	1094.430
	Spiked Amount 500.000	Range 70 - 136		Recovery =		214.80%#	218.89%#
	Target Compounds						
1)	TNX	4.67	4.67	8174187	8174187	999.321	988.049
2)	HMX	5.06	5.06	2774597	2774597	1031.448	1004.343
3)	DNX	5.21	5.21	7286563	7286563	954.103	964.095
4)	MNX	6.17	6.17	5314141	5314141	1040.025	1042.665
5)	1,3,5-Trinitrobe	7.16	7.16	9286677	9286677	1003.046	1004.414
6)	RDX	7.57	7.57	4335429	4335429	1004.322	1004.322
7)	1,3-Dinitrobenze	9.73	9.73	12192421	9160002	922.306m	1011.007m
8)	Nitrobenzene	10.83	10.83	7502596	7176146	967.246	968.171
9)	2,4,6-Trinitroto	11.93	11.93	5898775	7851877	1021.749	986.437
10)	Nitroglycerin	0.00	12.80	0	14978671	N.D. d	4687.614
11)	Tetryl	13.88	13.88	4204457	7059947	1007.701	921.266
13)	2,6-Dinitrotolue	15.79	15.77	7075732	9668912	947.507	877.595
14)	2,4-Dinitrotolue	16.77	16.77	11331731	7920595	970.257	987.647
15)	o-Nitrotoluene	19.35	19.34	4820541	6868576	980.634	971.068
16)	3,5-Dinitroanili	18.68	18.68	10072639	17182957	989.322	947.557
17)	p-Nitrotoluene	21.23	21.23	3623643	3624807	1098.376	952.030m
18)	4-Amino-2,6-Dini	22.08	22.10	5783379	8032791	1038.230	1050.344m
19)	m-Nitrotoluene	23.02	23.02	5756780	7797636	1085.472	1025.238m
20)	2-Amino-4,6-Dini	24.03	24.03	8968033	12651232	997.563	1045.056m
21)	PETN	0.00	25.09	0	16824094	N.D. d	5039.967m

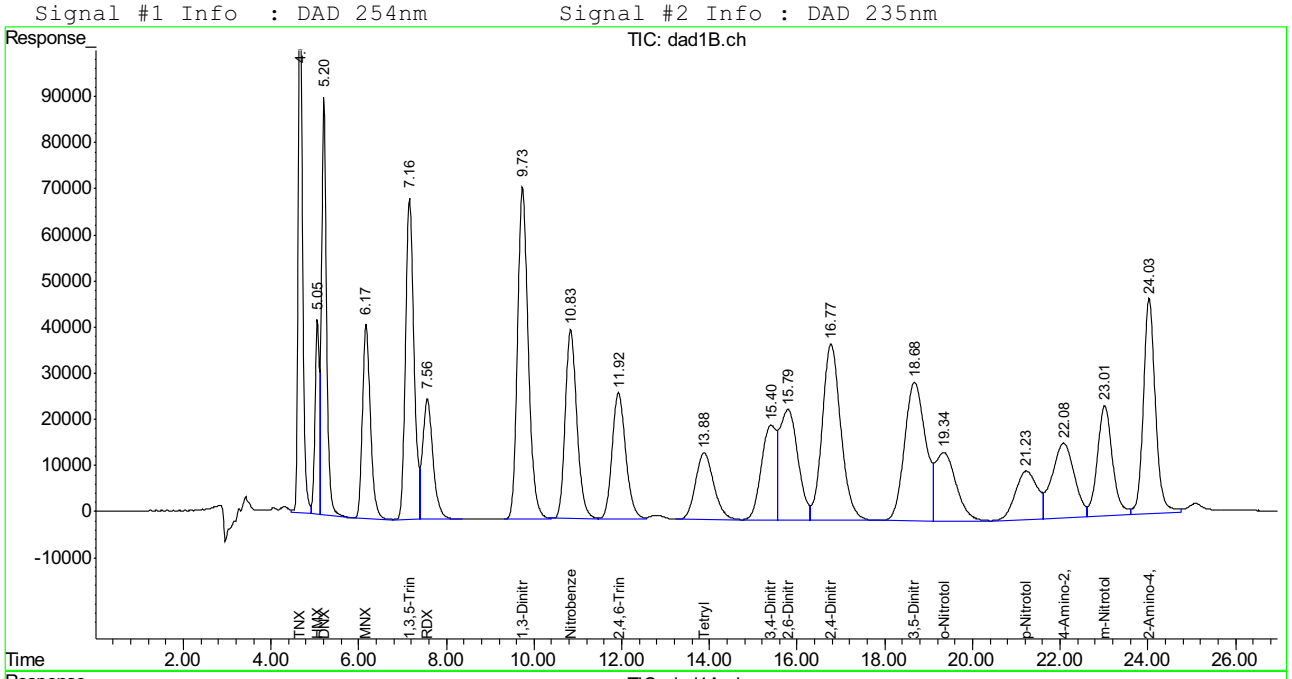
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060928.D 8330RPB.M_1230.M Fri Jan 20 14:25:08 2017 Page 1

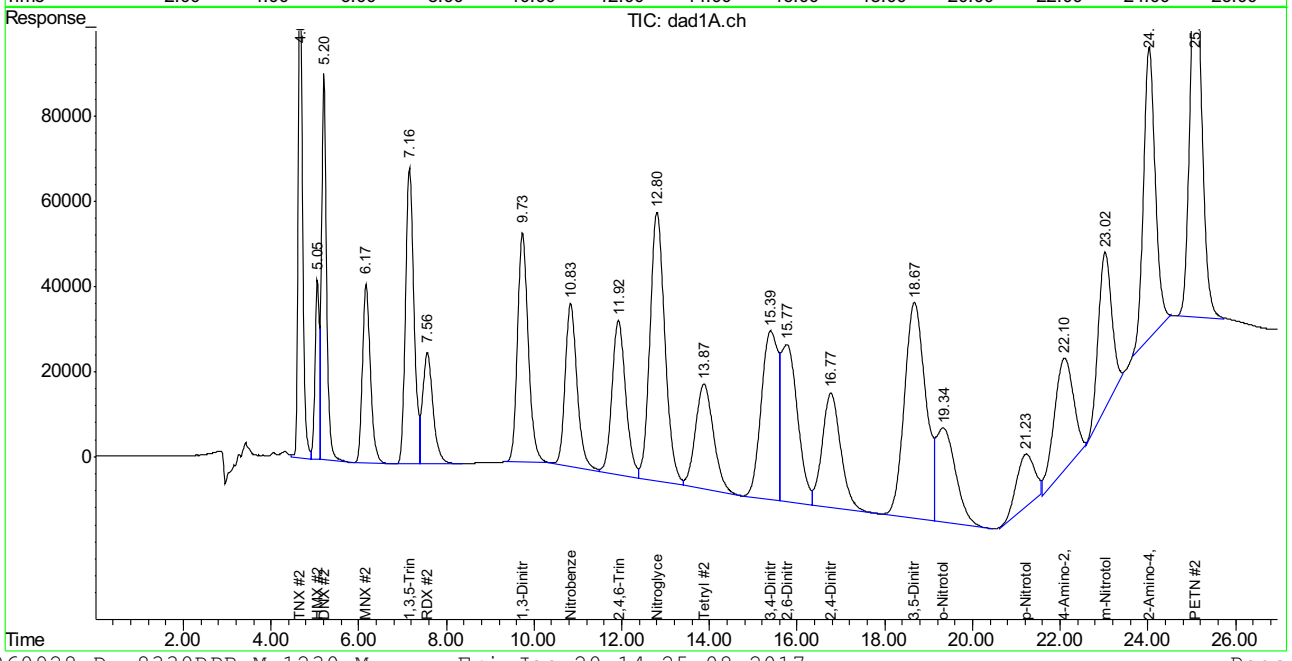
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060928.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060928.D\dad1A.ch
Acq On : 19-Jan-2017, 08:24:39 Operator: kismetl
Sample : cc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:59 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2504-CC2500
Lab FileID: GG060928.D
Injection Time: 01/19/17 08:24
Method: SW846 8330B
Analyst approved: 01/23/17 14:10 Kismet Lugo
Supervisor approved: 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	1	9.73	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.73	Poor instrument integration
p-Nitrotoluene	99-99-0	2	21.23	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.10	Poor instrument integration
m-Nitrotoluene	99-08-1	2	23.02	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.03	Poor instrument integration
PETN	78-11-5	2	25.09	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060935.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060935.D\dad1A.ch
Acq On : 19-Jan-2017, 12:10:31 Operator: kismetl
Sample : ecc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 13:55:33 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.36	15.36	4760522	10574058	1056.366	1086.332
	Spiked Amount 500.000	Range 70 - 136		Recovery =		211.27%#	217.27%#
	Target Compounds						
1)	TNX	4.66	4.66	8106770	8106770	991.079	979.900
2)	HMX	5.05	5.05	2735642	2735642	1016.966	990.242
3)	DNX	5.20	5.20	7230676	7230676	946.785	956.701
4)	MNX	6.16	6.16	5546081	5546081	1085.418	1088.173
5)	1,3,5-Trinitrobe	7.15	7.15	9378534	9378534	1012.967	1014.349
6)	RDX	7.55	7.55	4359432	4359432	1009.541	1009.541
7)	1,3-Dinitrobenze	9.71	9.71	12150973	9145285	919.171m	1009.468m
8)	Nitrobenzene	10.81	10.81	7568044	7213326	975.684	973.052
9)	2,4,6-Trinitroto	11.91	11.90	5884846	7836183	1019.504	984.558
10)	Nitroglycerin	0.00	12.78	0	14971335	N.D. d	4685.318
11)	Tetryl	13.84	13.84	4171656	7110394	1000.389	927.849
13)	2,6-Dinitrotolue	15.75	15.72	7062909	9828586	945.790	892.088
14)	2,4-Dinitrotolue	16.73	16.73	11280759	8037972	965.892	1001.355
15)	o-Nitrotoluene	19.30	19.29	4897563	7124518	996.303	1004.402
16)	3,5-Dinitroanili	18.60	18.59	9971287	17152444	979.367	945.875
17)	p-Nitrotoluene	21.17	21.17	3502306	3517558	1064.993	929.610m
18)	4-Amino-2,6-Dini	21.99	22.02	5629005	7567835	1014.389	1007.723m
19)	m-Nitrotoluene	22.99	23.00	5610728	7862797	1060.645	1032.799m
20)	2-Amino-4,6-Dini	24.00	23.99	8940800	13014140	994.534	1072.406m
21)	PETN	0.00	25.08	0	16792525	N.D. d	5030.510m

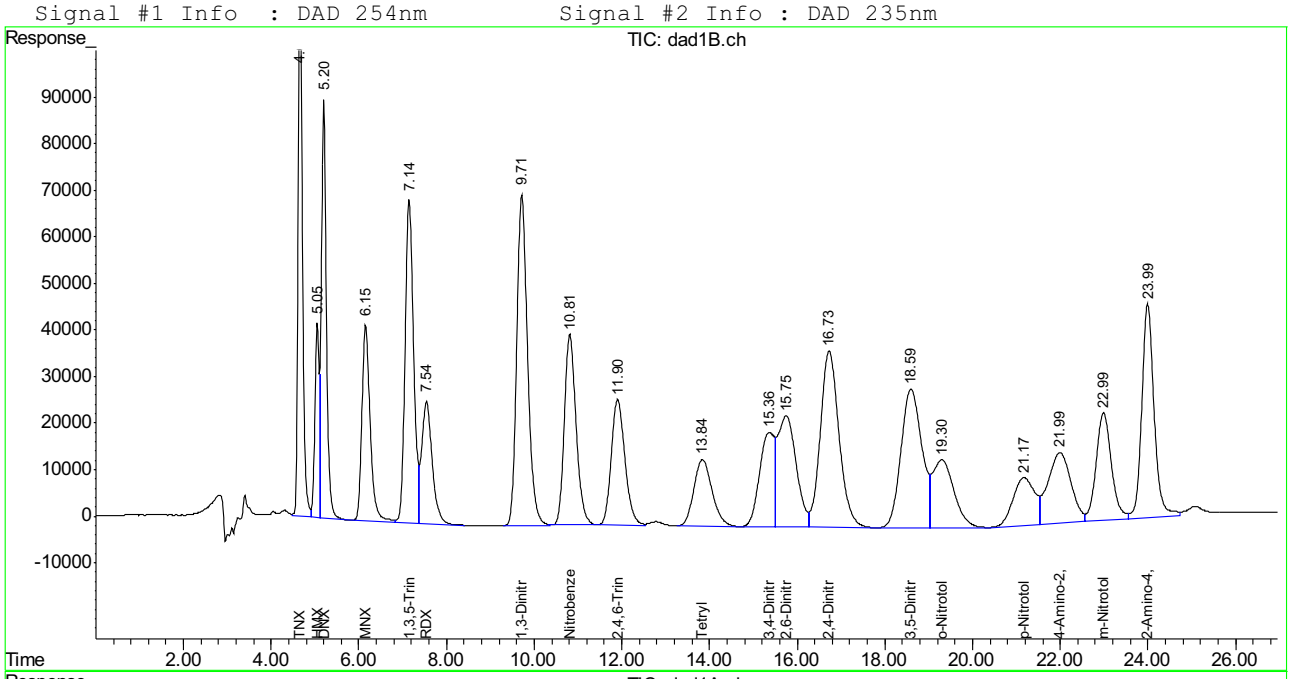
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG060935.D 8330RPB.M_1230.M Fri Jan 20 14:25:15 2017 Page 1

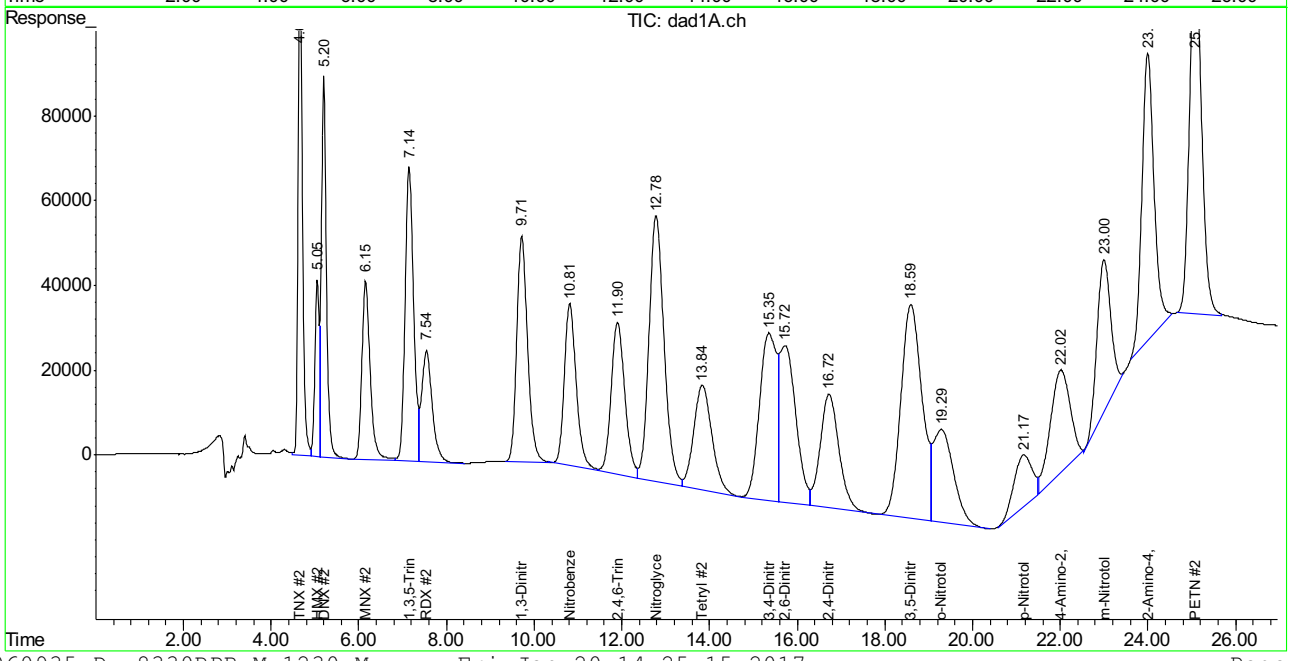
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0119RPB3\GG060935.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0119RPB3\GG060935.D\dad1A.ch
Acq On : 19-Jan-2017, 12:10:31 Operator: kismetl
Sample : ecc2500-1000 Inst : G1315B
Misc : OP63431,GGG2504,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jan 20 14:00 2017 Quant Results File: 8330RPB.M_1230.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_1230.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jan 20 13:55:07 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GGG2504-ECC2500 **Method:** SW846 8330B
Lab FileID: GG060935.D **Analyst approved:** 01/23/17 14:10 Kismet Lugo
Injection Time: 01/19/17 12:10 **Supervisor approved:** 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	1	9.71	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	9.71	Poor instrument integration
p-Nitrotoluene	99-99-0	2	21.17	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.02	Poor instrument integration
m-Nitrotoluene	99-08-1	2	23.00	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.99	Poor instrument integration
PETN	78-11-5	2	25.08	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381202.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0118BPL\PP381202.D\dad1A.ch
Acq On : 18-Jan-2017, 08:20:23 Operator: kismetl
Sample : ic2066-20 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:29 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.00	10.00	46636	89569	22.552m	22.974
	Spiked Amount 500.000	Range 70 - 136		Recovery =		4.51%#	4.59%#
	Target Compounds						
1)	TNX	1.16	1.16	51954	76586	16.785m	15.520m
2)	HMX	1.20	1.22	32795	93360	20.432m	21.267m
3)	DNX	1.48	1.47	81348	265638	28.076m	55.579m#
4)	MNX	1.97	1.97	50047	67832	22.059m	19.175m
5)	RDX	2.50	2.50	42122	70948	22.954m	24.450m
6)	1,3,5-Trinitrobe	4.04	4.05	81141	157275	21.696m	21.705
7)	1,3-Dinitrobenze	5.21	5.22	99992	66290	19.686m	19.463m
8)	3,5-Dinitroanili	5.56	5.56	91011	156871	20.319m	20.796m
9)	Nitrobenzene	6.77	6.77	70664	59054	23.471m	20.988m
10)	Nitroglycerin	0.00	8.15	0	139812	N.D.	96.562 #
11)	Tetryl	8.42	8.42	57059	78111	29.629m	30.206
12)	2,4,6-Trinitroto	8.83	8.83	83211	76637	24.132m	17.762
13)	2-Amino-4,6-Dini	9.13	9.14	57494	111201	18.327m	22.600
14)	4-Amino-2,6-Dini	9.61	9.59	55485	113050	24.080m	23.577
16)	2,4-Dinitrotolue	10.61	10.62	94012	74249	20.558m	24.963
17)	2,6-Dinitrotolue	11.01	11.04	58340	32904	23.298m	11.060 #
18)	o-Nitrotoluene	13.64	13.72	51750	74201	23.999m	24.237m
19)	p-Nitrotoluene	14.06	14.11	74424	59205	21.941	20.634m
20)	m-Nitrotoluene	14.65	14.67	69467	75123	21.922m	19.678m
21)	PETN	0.00	16.15	0	172455	N.D.	118.234m#

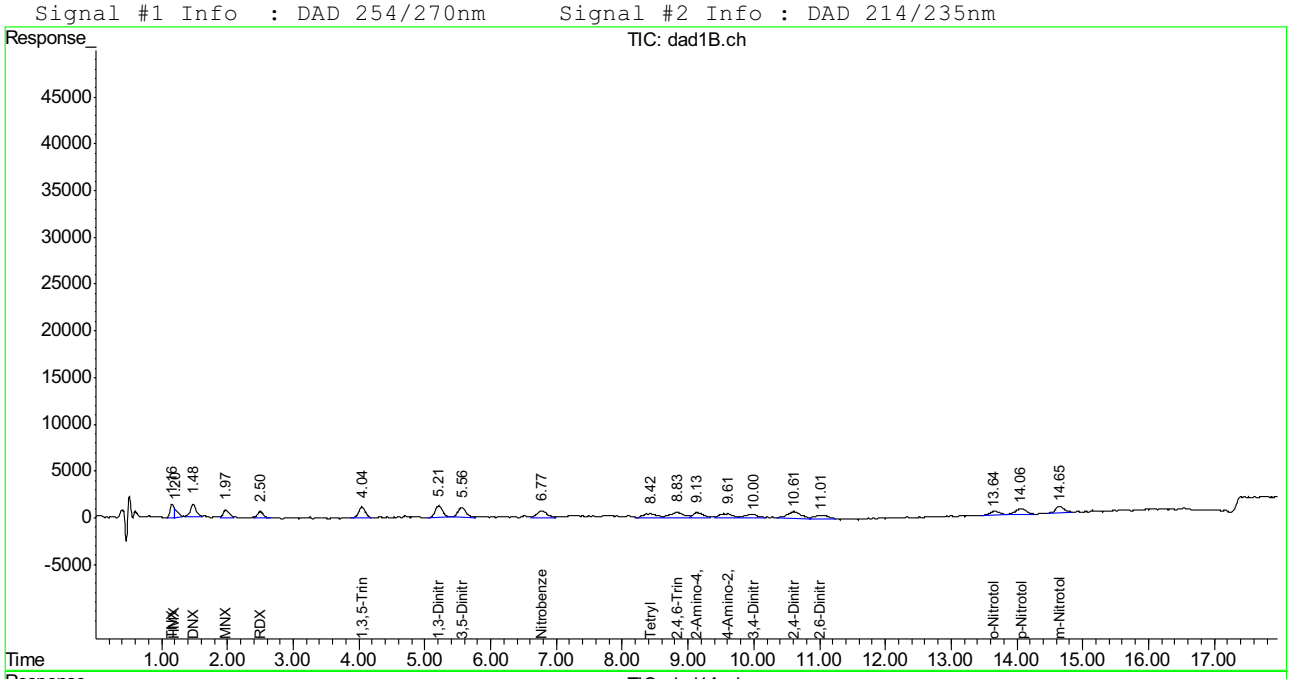
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381202.D 8330-0118BPLUS.M Thu Jan 19 06:39:35 2017 Page 1

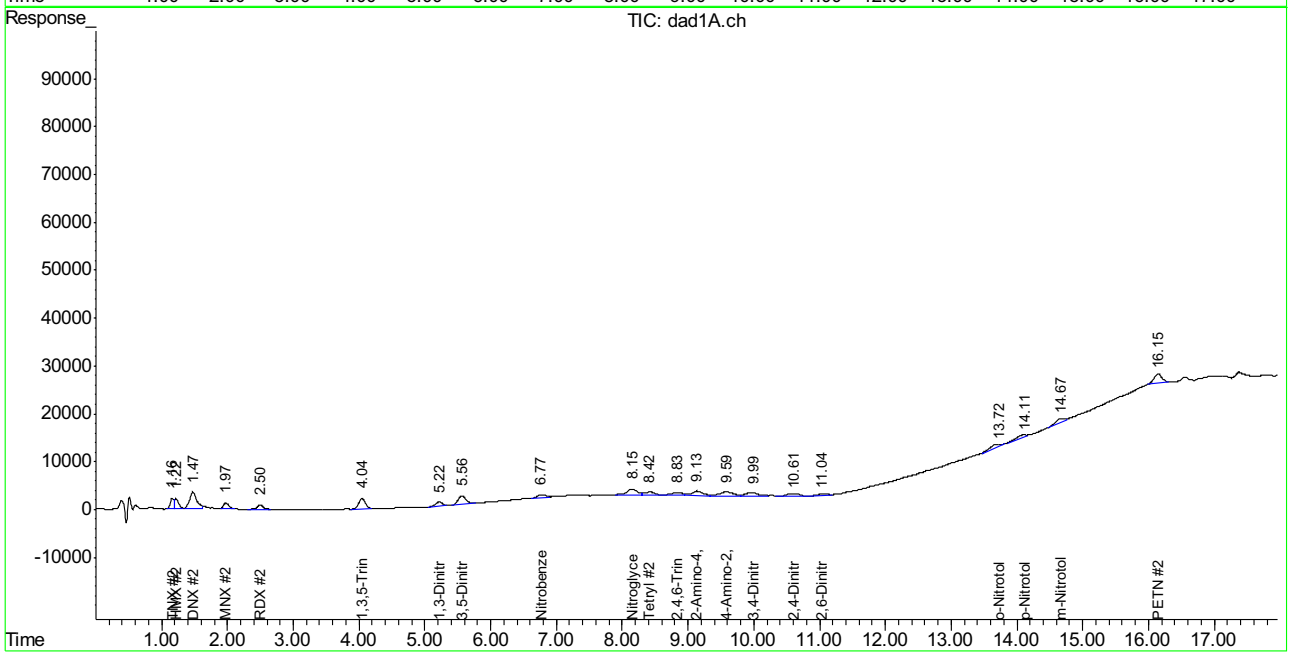
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381202.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0118BPL\PP381202.D\dad1A.ch
Acq On : 18-Jan-2017, 08:20:23 Operator: kismetl
Sample : ic2066-20 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:32 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381202.D
Injection Time: 01/18/17 08:20
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
TNX		2	1.16	Overlapping peak
HMX	2691-41-0	1	1.20	Missed peak
HMX	2691-41-0	2	1.22	Overlapping peak
DNX		2	1.47	Poor instrument integration
DNX		1	1.48	Poor instrument integration
MNX		1	1.97	Poor instrument integration
MNX		2	1.97	Poor instrument integration
RDX	121-82-4	1	2.50	Poor instrument integration
RDX	121-82-4	2	2.50	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.04	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.21	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.22	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.56	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	5.56	Poor instrument integration
Nitrobenzene	98-95-3	1	6.77	Poor instrument integration
Nitrobenzene	98-95-3	2	6.77	Poor instrument integration
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.83	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.13	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.61	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	10.00	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.61	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.01	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.64	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.72	Missed peak
p-Nitrotoluene	99-99-0	2	14.11	Missed peak
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Missed peak
PETN	78-11-5	2	16.15	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381203.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0118BPL\PP381203.D\dad1A.ch
Acq On : 18-Jan-2017, 08:45:22 Operator: kismetl
Sample : ic2066-50 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:30 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.97	98085	200314	47.432m	51.379
	Spiked Amount 500.000	Range 70 - 136		Recovery =		9.49%#	10.28%#
	Target Compounds						
1)	TNX	1.16	1.16	158253	201685	51.127m	40.870m
2)	HMX	1.21	1.22	78972	247279	49.201m	56.330m
3)	DNX	1.48	1.48	158541	411081	54.718m	86.010m#
4)	MNX	1.98	1.98	122458	183603	53.976m	51.901m
5)	RDX	2.50	2.50	90554	154998	49.346m	53.414
6)	1,3,5-Trinitrobe	4.05	4.05	208203	385339	55.671m	53.180
7)	1,3-Dinitrobenze	5.22	5.22	264608	170769	52.096m	50.139m
8)	3,5-Dinitroanili	5.56	5.57	244352	391743	54.554m	51.931
9)	Nitrobenzene	6.78	6.79	149648	164953	49.704m	58.625m
10)	Nitroglycerin	0.00	8.16	0	356203	N.D.	246.014 #
11)	Tetryl	8.43	8.43	95412	160139	49.545m	61.926
12)	2,4,6-Trinitroto	8.84	8.84	133279	199519	38.653m	46.243
13)	2-Amino-4,6-Dini	9.17	9.16	153759	261106	49.013m	53.067
14)	4-Amino-2,6-Dini	9.60	9.60	106327	265655	46.145m	55.403
16)	2,4-Dinitrotolue	10.62	10.62	234655	137866	51.313m	46.352
17)	2,6-Dinitrotolue	11.05	11.07	133460	98056	53.298m	32.908
18)	o-Nitrotoluene	13.65	13.69	102486	154155	47.529m	50.353m
19)	p-Nitrotoluene	14.06	14.09	172967	140489	50.993m	48.962m
20)	m-Nitrotoluene	14.65	14.66	172077	198771	54.303m	52.066m
21)	PETN	0.00	16.14	0	386988	N.D.	265.317m#

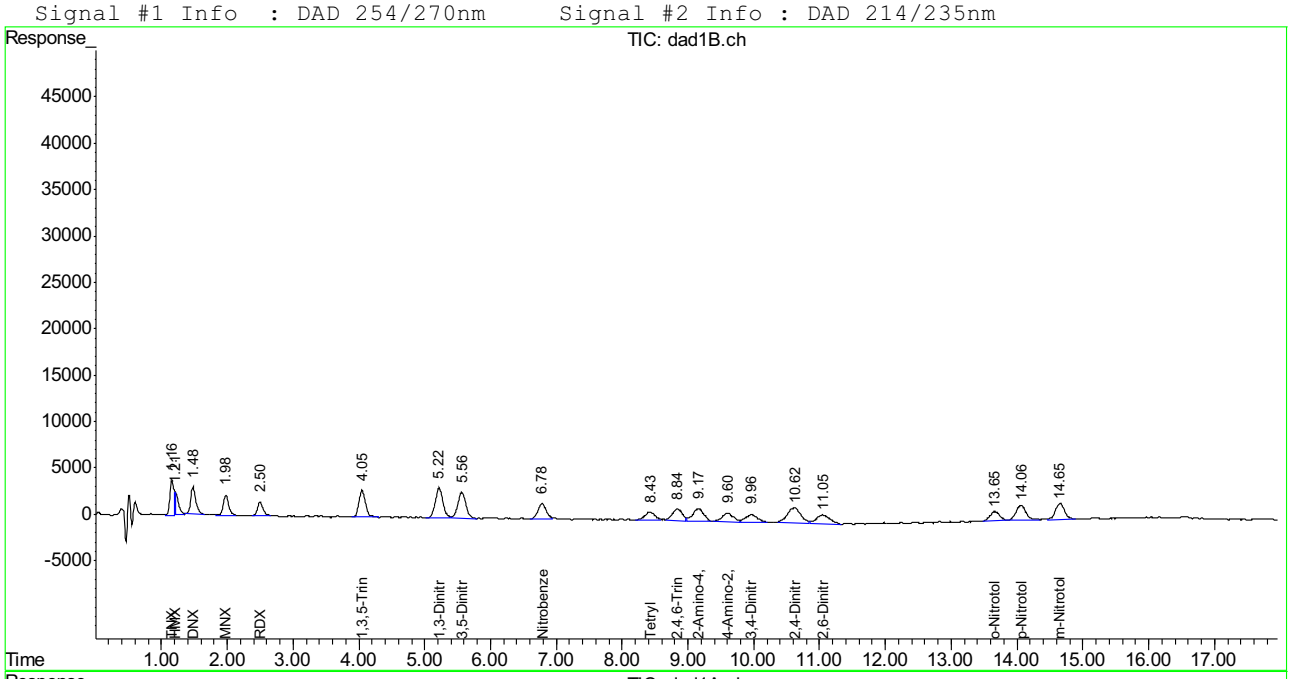
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381203.D 8330-0118BPLUS.M Thu Jan 19 06:39:51 2017 Page 1

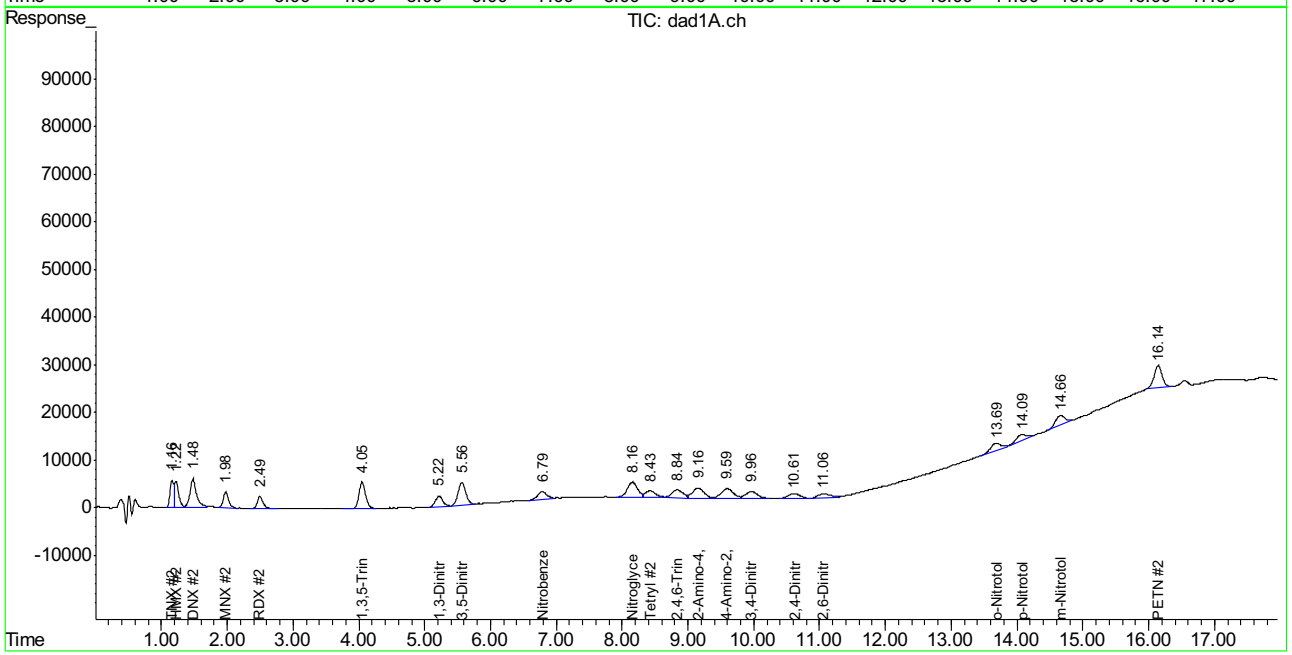
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381203.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0118BPL\PP381203.D\dad1A.ch
Acq On : 18-Jan-2017, 08:45:22 Operator: kismetl
Sample : ic2066-50 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:36 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381203.D
Injection Time: 01/18/17 08:45

Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
TNX		2	1.16	Overlapping peak
HMX	2691-41-0	1	1.21	Overlapping peak
HMX	2691-41-0	2	1.22	Overlapping peak
DNX		1	1.48	Poor instrument integration
DNX		2	1.48	Poor instrument integration
MNX		1	1.98	Poor instrument integration
MNX		2	1.98	Poor instrument integration
RDX	121-82-4	1	2.50	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.05	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.22	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.22	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	5.56	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
Tetryl	479-45-8	1	8.43	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.84	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.17	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.60	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.62	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.05	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.06	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.09	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381204.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0118BPL\PP381204.D\dad1A.ch
Acq On : 18-Jan-2017, 09:10:21 Operator: kismetl
Sample : ic2066-100 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:31 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.97	205271	392775	99.265m	100.744
	Spiked Amount 500.000	Range 70 - 136		Recovery =		19.85%#	20.15%#
	Target Compounds						
1)	TNX	1.16	1.16	295930	435588	95.607m	88.269
2)	HMX	1.21	1.23	173104	535383	107.848m	121.960
3)	DNX	1.48	1.48	311880	661501	107.640	138.405m
4)	MNX	1.98	1.98	232754	359951	102.591	101.751m
5)	RDX	2.50	2.50	177327	297288	96.631m	102.449
6)	1,3,5-Trinitrobe	4.05	4.05	411128	779925	109.930	107.637
7)	1,3-Dinitrobenze	5.22	5.22	500112	342553	98.461	100.575m
8)	3,5-Dinitroanili	5.57	5.57	463811	790558	103.551	104.800
9)	Nitrobenzene	6.78	6.78	307718	304724	102.206m	108.300m
10)	Nitroglycerin	0.00	8.16	0	694577	N.D.	479.715 #
11)	Tetryl	8.43	8.43	173022	315473	89.845m	121.995
12)	2,4,6-Trinitroto	8.84	8.84	287190	416526	83.289m	96.540
13)	2-Amino-4,6-Dini	9.16	9.16	311773	518875	99.383m	105.455
14)	4-Amino-2,6-Dini	9.60	9.60	232733	517662	101.004m	107.960
16)	2,4-Dinitrotolue	10.61	10.61	479978	272910	104.958m	91.755
17)	2,6-Dinitrotolue	11.06	11.07	263368	242284	105.178m	81.037
18)	o-Nitrotoluene	13.66	13.67	219016	261062	101.570m	85.273m
19)	p-Nitrotoluene	14.06	14.06	328213	276752	96.761m	96.451m
20)	m-Nitrotoluene	14.65	14.66	325186	389542	102.619m	102.037m
21)	PETN	0.00	16.14	0	716611	N.D. d	491.305m

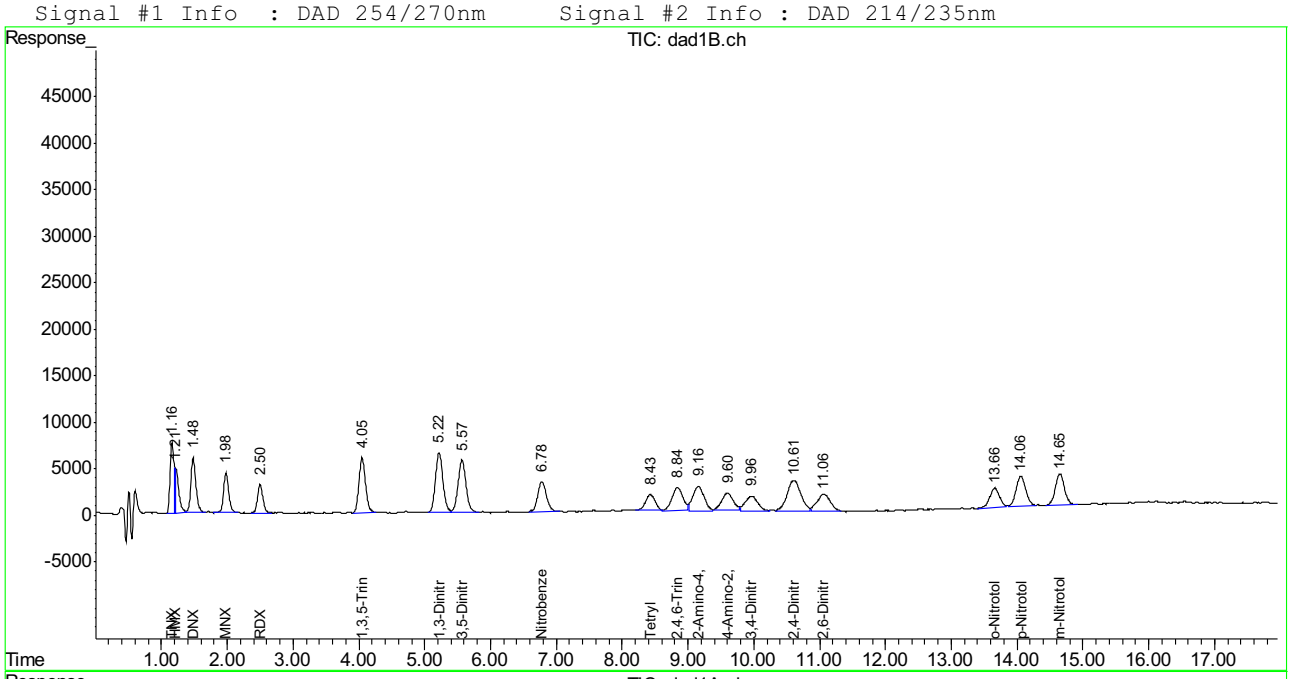
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381204.D 8330-0118BPLUS.M Thu Jan 19 06:39:52 2017 Page 1

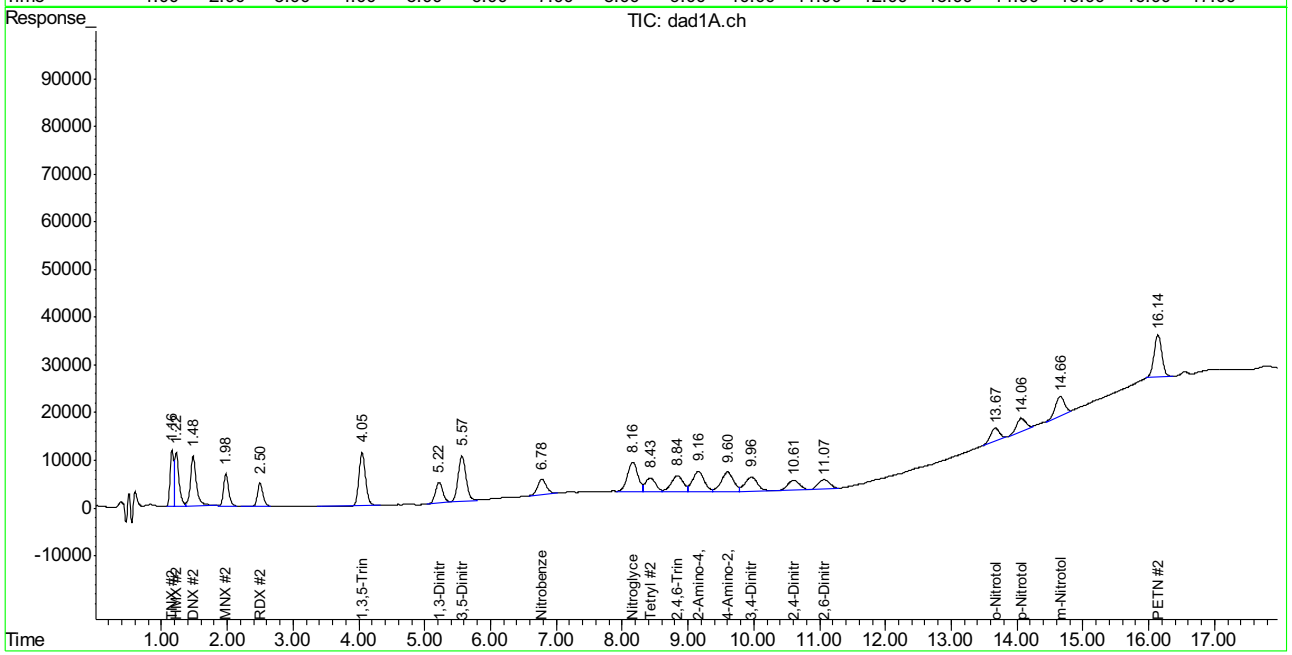
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381204.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0118BPL\PP381204.D\dad1A.ch
Acq On : 18-Jan-2017, 09:10:21 Operator: kismetl
Sample : ic2066-100 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:39 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381204.D
Injection Time: 01/18/17 09:10
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
HMX	2691-41-0	1	1.21	Overlapping peak
DNX		2	1.48	Poor instrument integration
MNX		2	1.98	Poor instrument integration
RDX	121-82-4	1	2.50	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.22	Poor instrument integration
Nitrobenzene	98-95-3	1	6.78	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Tetryl	479-45-8	1	8.43	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.84	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.16	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.60	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.96	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.61	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.06	Poor instrument integration
o-Nitrotoluene	88-72-2	1	13.66	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.67	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.06	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.66	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381205.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0118BPL\PP381205.D\dad1A.ch
Acq On : 18-Jan-2017, 09:35:15 Operator: kismetl
Sample : ic2066-200 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:33 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.97	9.97	412101	744389	199.283m	190.931
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.86%#	38.19%#
	Target Compounds						
1)	TNX	1.16	1.16	558066	830304	180.296m	168.255m
2)	HMX	1.22	1.23	310841	906871	193.662m	206.584m
3)	DNX	1.49	1.48	556046	1005711	191.909	210.423
4)	MNX	1.98	1.98	456505	699042	201.214	197.605
5)	RDX	2.50	2.50	354846	573251	193.368	197.549
6)	1,3,5-Trinitrobe	4.05	4.05	804678	1552303	215.160	214.232
7)	1,3-Dinitrobenze	5.22	5.22	1005996	684780	198.059	201.054
8)	3,5-Dinitroanili	5.57	5.57	868246	1494900	193.846	198.171
9)	Nitrobenzene	6.79	6.78	573529	590316	190.494	209.800m
10)	Nitroglycerin	0.00	8.16	0	1309718	N.D.	904.567 #
11)	Tetryl	8.42	8.43	390834	606248	202.949m	234.439
12)	2,4,6-Trinitroto	8.84	8.84	565293	780152	163.943m	180.819
13)	2-Amino-4,6-Dini	9.16	9.16	627504	1002985	200.028m	203.845
14)	4-Amino-2,6-Dini	9.59	9.60	460758	972147	199.965m	202.744
16)	2,4-Dinitrotolue	10.60	10.61	903488	567185	197.568m	190.694
17)	2,6-Dinitrotolue	11.06	11.07	530121	545357	211.707m	181.135
18)	o-Nitrotoluene	13.66	13.66	437744	610192	203.007	199.312m
19)	p-Nitrotoluene	14.06	14.06	681111	575935	200.801	200.718m
20)	m-Nitrotoluene	14.65	14.65	650781	766290	205.368	200.722m
21)	PETN	0.00	16.14	0	1433154	N.D. d	982.563m

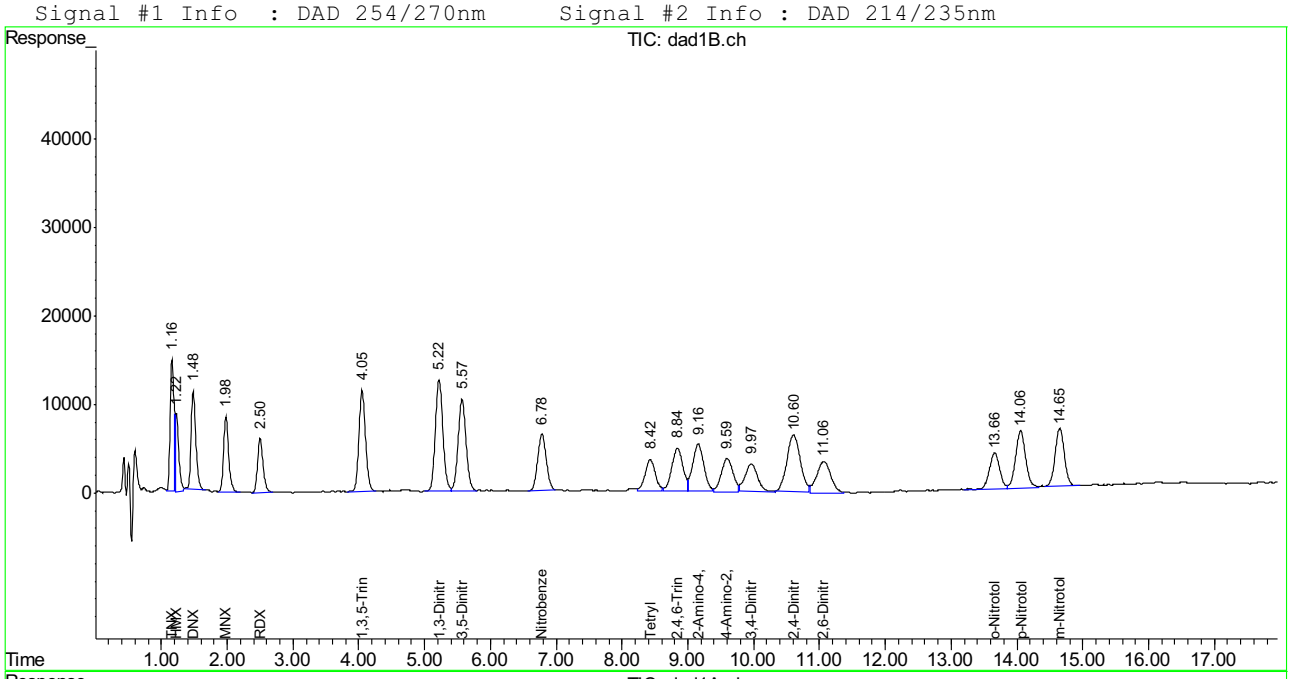
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381205.D 8330-0118BPLUS.M Thu Jan 19 06:39:53 2017 Page 1

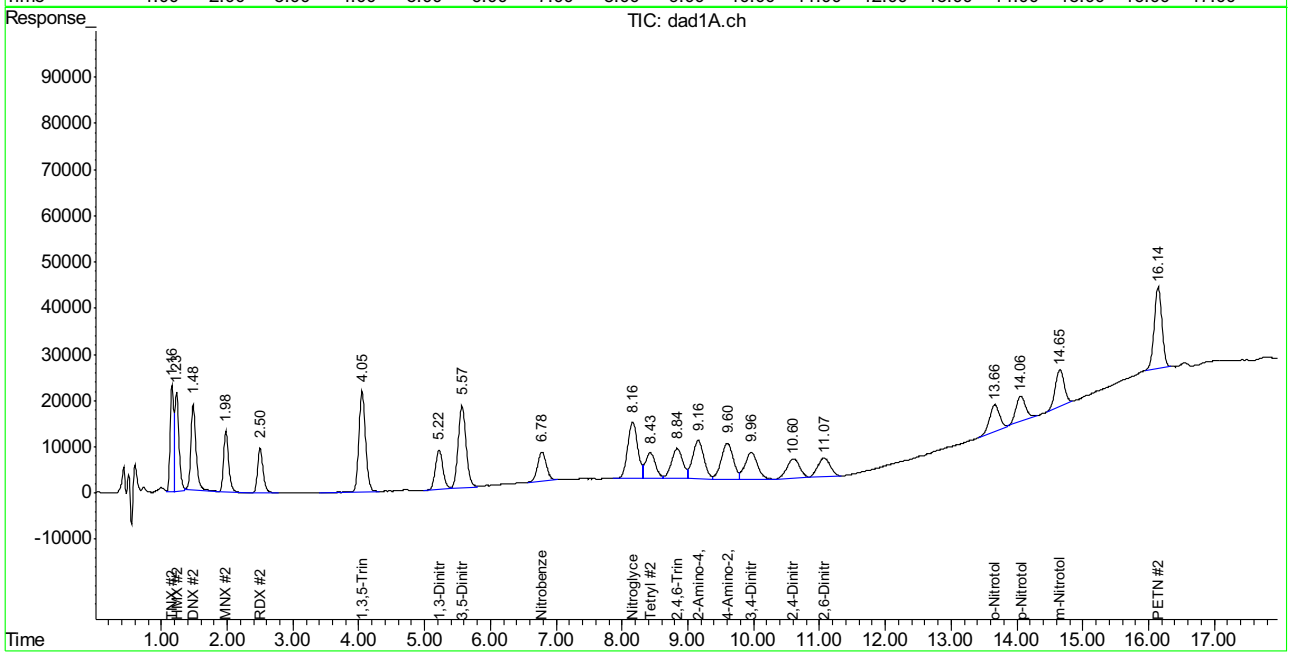
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381205.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0118BPL\PP381205.D\dad1A.ch
Acq On : 18-Jan-2017, 09:35:15 Operator: kismetl
Sample : ic2066-200 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:43 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381205.D
Injection Time: 01/18/17 09:35
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
TNX		2	1.16	Poor instrument integration
HMX	2691-41-0	1	1.22	Overlapping peak
HMX	2691-41-0	2	1.23	Poor instrument integration
Nitrobenzene	98-95-3	2	6.78	Poor instrument integration
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.84	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.16	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.59	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	9.97	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	10.60	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	11.06	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.66	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.06	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381206.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0118BPL\PP381206.D\dad1A.ch
Acq On : 18-Jan-2017, 10:00:13 Operator: kismetl
Sample : icc2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:25:34 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	987452	1842385	477.512	472.559
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.50%	94.51%
	Target Compounds						
1)	TNX	1.16	1.17	1514930	2249444	489.433m	455.832
2)	HMX	1.24	1.25	832707	2458633	518.797m	560.074
3)	DNX	1.49	1.49	1399456	2355711	482.997	492.881
4)	MNX	1.98	1.98	1141228	1780986	503.019	503.450
5)	RDX	2.50	2.50	894075	1420515	487.211	489.526
6)	1,3,5-Trinitrobe	4.05	4.05	2043646	3918062	546.444	540.729
7)	1,3-Dinitrobenze	5.21	5.21	2540149	1730689	500.099	508.138m
8)	3,5-Dinitroanili	5.56	5.56	2203649	3713032	491.990	492.217
9)	Nitrobenzene	6.78	6.77	1484626	1490875	493.108	529.862m
10)	Nitroglycerin	0.00	8.15	0	3265009	N.D.	2255.004m#
11)	Tetryl	8.42	8.42	971065	1499768	504.246m	579.968
12)	2,4,6-Trinitroto	8.83	8.83	1443366	1968404	418.597m	456.225
13)	2-Amino-4,6-Dini	9.15	9.15	1567094	2470570	499.540m	502.114
14)	4-Amino-2,6-Dini	9.59	9.59	1110155	2419671	481.799	504.631
16)	2,4-Dinitrotolue	10.60	10.60	2277260	1465984	497.974	492.879
17)	2,6-Dinitrotolue	11.06	11.06	1279431	1539372	510.948	500.175
18)	o-Nitrotoluene	13.66	13.65	1107342	1540591	513.538	503.215m
19)	p-Nitrotoluene	14.05	14.05	1716401	1419126	506.017	494.578m
20)	m-Nitrotoluene	14.65	14.65	1632947	1964654	515.312m	514.621m
21)	PETN	0.00	16.14	0	3601237	N.D. d	2468.989m

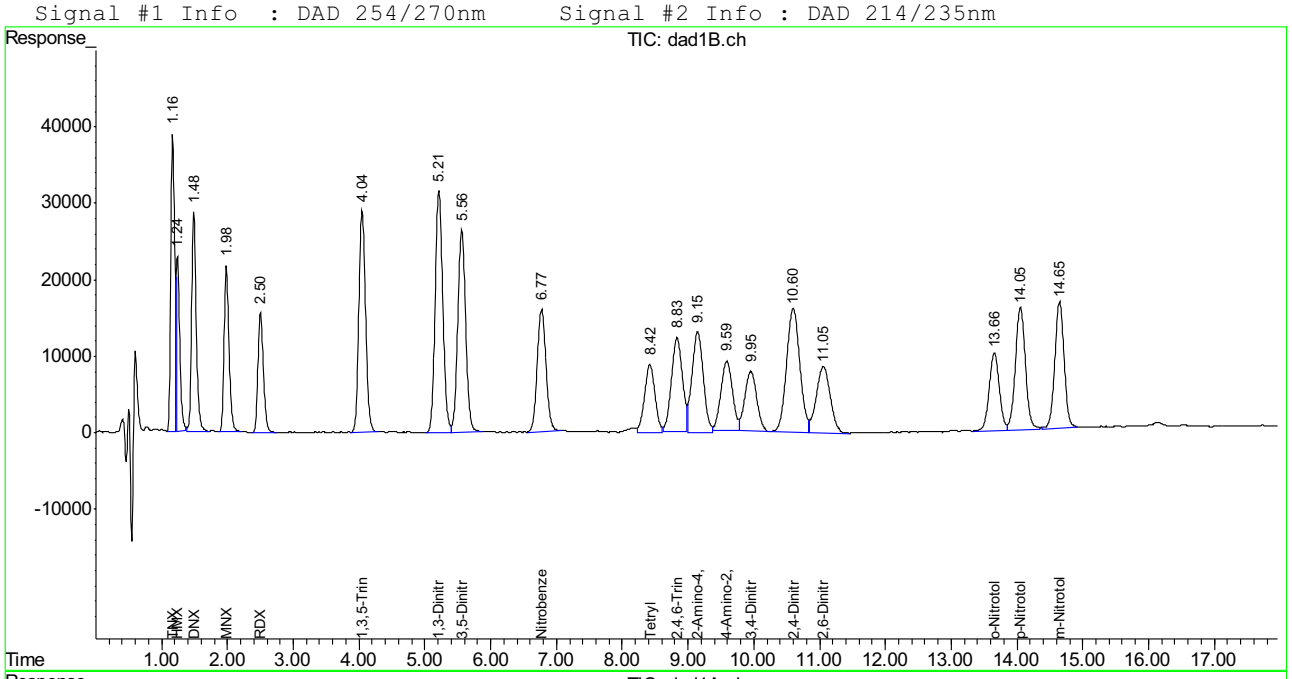
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381206.D 8330-0118BPLUS.M Thu Jan 19 06:40:07 2017 Page 1

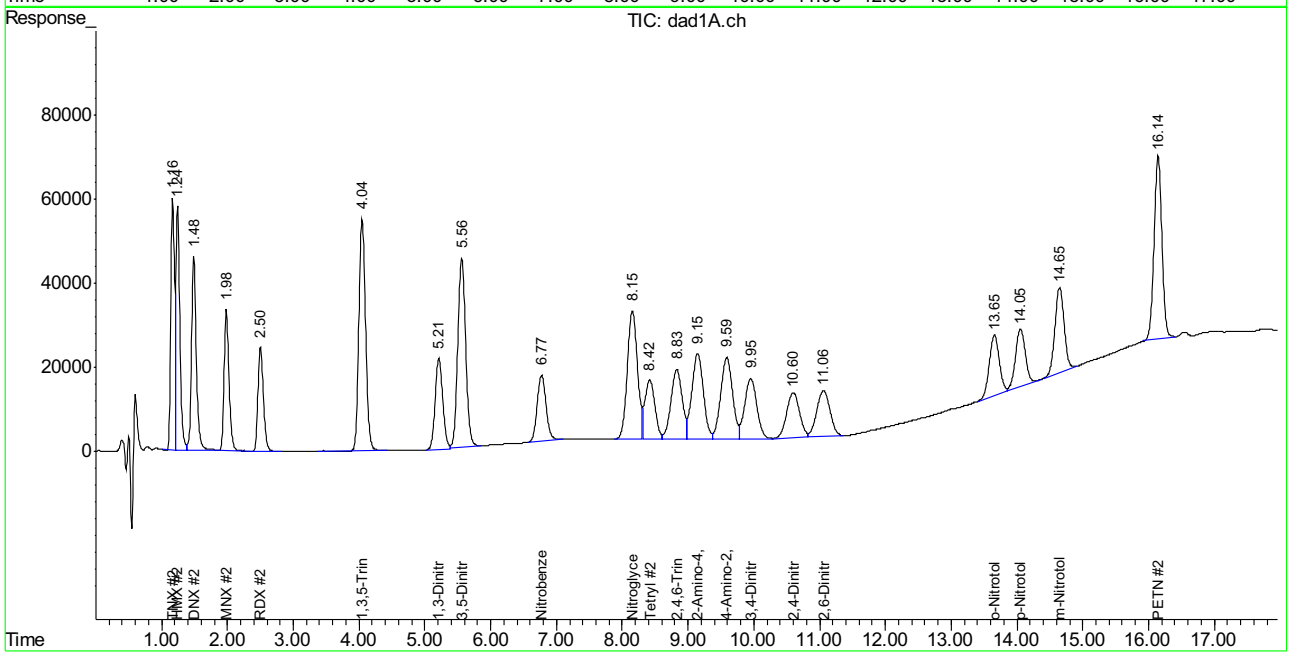
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381206.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0118BPL\PP381206.D\dad1A.ch
Acq On : 18-Jan-2017, 10:00:13 Operator: kismetl
Sample : icc2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:46 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2066-ICC2066 **Method:** SW846 8330B
Lab FileID: PP381206.D **Analyst approved:** 01/19/17 13:25 Kismet Lugo
Injection Time: 01/18/17 10:00 **Supervisor approved:** 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Overlapping peak
HMX	2691-41-0	1	1.24	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	5.21	Poor instrument integration
Nitrobenzene	98-95-3	2	6.77	Poor instrument integration
Nitroglycerine	55-63-0	2	8.15	Poor instrument integration
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.83	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.15	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.65	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.65	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381207.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0118BPL\PP381207.D\dad1A.ch
Acq On : 18-Jan-2017, 10:25:10 Operator: kismetl
Sample : ic2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:46:43 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.96	9.96	2020981	3561040	977.305	913.382
	Spiked Amount 500.000	Range 70 - 136		Recovery =		195.46%#	182.68%#
	Target Compounds						
1)	TNX	1.17	1.17	3098257	4584708	1000.963	929.056
2)	HMX	1.25	1.25	1663286	4558666	1036.268	1038.460
3)	DNX	1.49	1.49	2678695	4303410	924.503	900.394
4)	MNX	1.99	1.99	2228330	3411925	982.182	964.484
5)	RDX	2.51	2.51	1717948	2726219	936.167	939.487
6)	1,3,5-Trinitrobe	4.05	4.05	3950719	7571196	1056.370	1044.896
7)	1,3-Dinitrobenze	5.21	5.21	4915197	3289021	967.694	965.672
8)	3,5-Dinitroanili	5.56	5.56	4247702	7214449	948.349	956.381
9)	Nitrobenzene	6.77	6.77	2917305	2923321	968.962	1038.958
10)	Nitroglycerin	0.00	8.16	0	6295197	N.D.	4347.827 #
11)	Tetryl	8.43	8.43	1974707	2877536	1025.409	1112.757
12)	2,4,6-Trinitroto	8.84	8.83	2804306	3775336	813.289	875.025
13)	2-Amino-4,6-Dini	9.15	9.15	3092968	4763542	985.940	968.133
14)	4-Amino-2,6-Dini	9.59	9.59	2283112	4682351	990.853	976.520
16)	2,4-Dinitrotolue	10.60	10.60	4453852	2874349	973.935	966.386
17)	2,6-Dinitrotolue	11.06	11.06	2513614	3085158	1003.825	971.262
18)	o-Nitrotoluene	13.65	13.65	2116758	2939219	981.663	960.060m
19)	p-Nitrotoluene	14.05	14.05	3295477	2793912	971.550	973.702m
20)	m-Nitrotoluene	14.64	14.64	3205258	3802661	1011.490	996.067m
21)	PETN	0.00	16.14	0	6887861	N.D. d	4722.281m

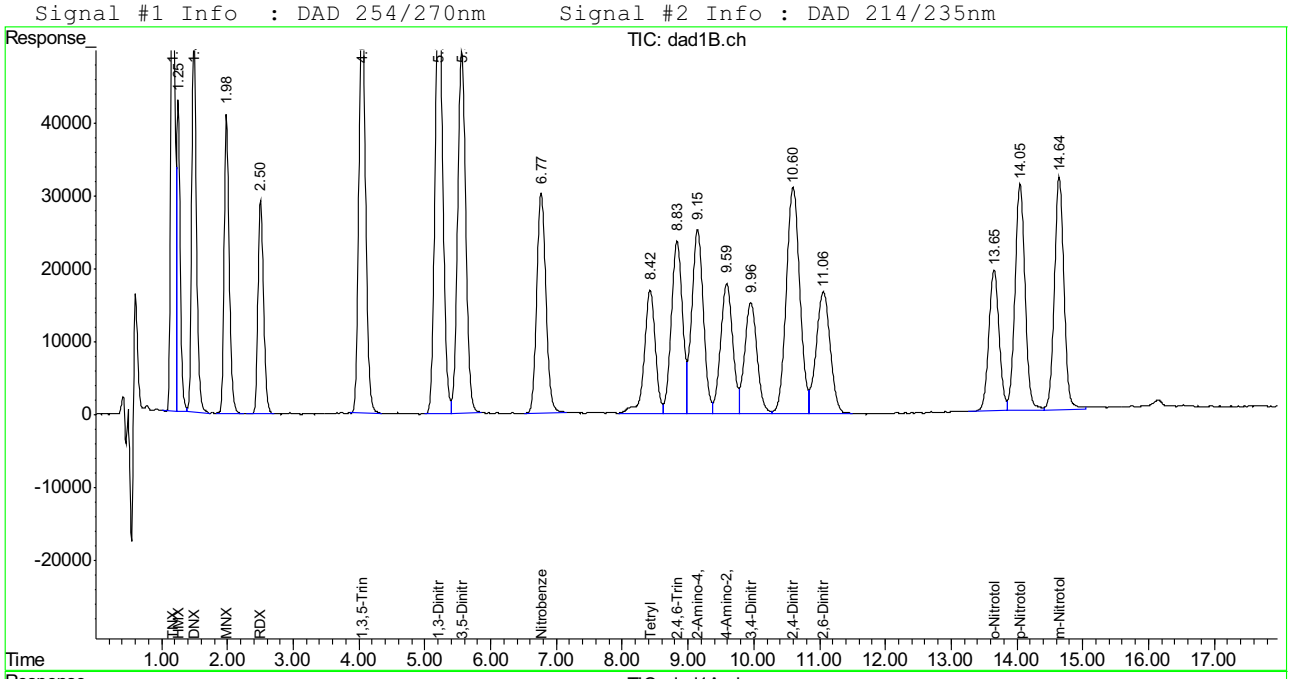
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381207.D 8330-0118BPLUS.M Thu Jan 19 06:40:08 2017 Page 1

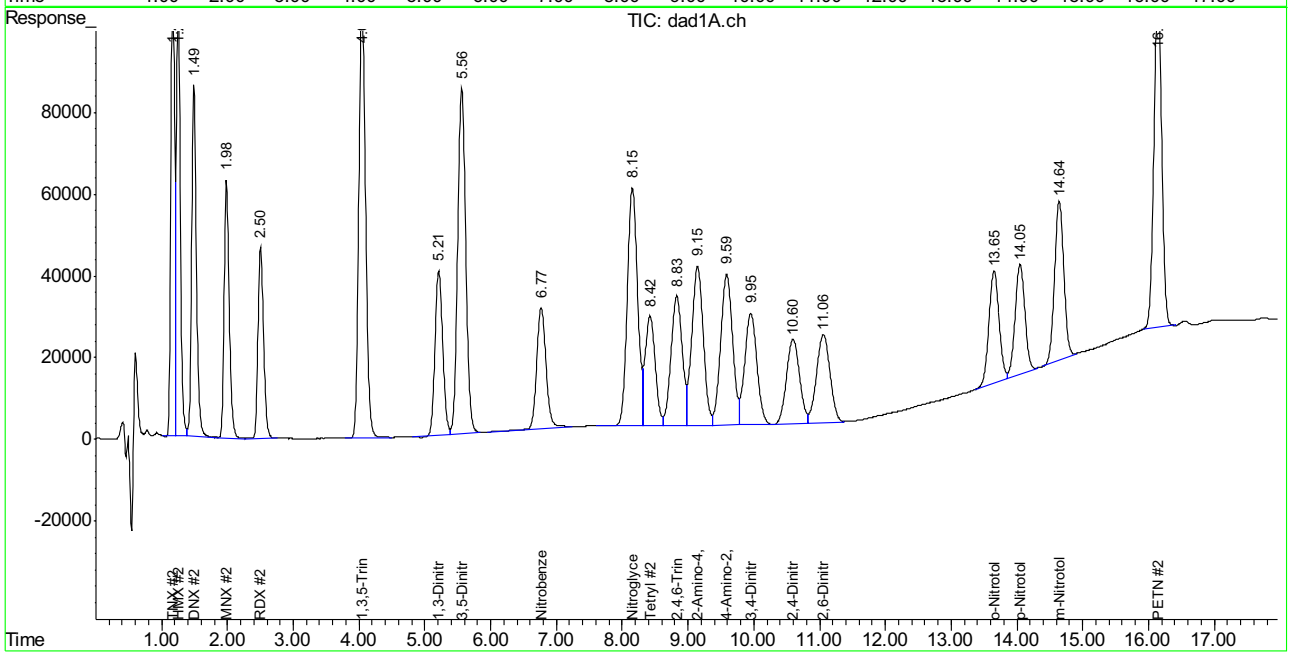
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381207.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0118BPL\PP381207.D\dad1A.ch
Acq On : 18-Jan-2017, 10:25:10 Operator: kismetl
Sample : ic2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 10:48 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381207.D
Injection Time: 01/18/17 10:25
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.05	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

PP381208.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381208.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0118BPL\PP381208.D\dad1A.ch
Acq On : 18-Jan-2017, 10:50:08 Operator: kismetl
Sample : ic2066-2000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 18 11:16:54 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.94	9.94	4188622	7412191	2025.531	1901.176
	Spiked Amount 500.000	Range 70 - 136		Recovery =		405.11%#	380.24%#
	Target Compounds						
1)	TNX	1.16	1.16	5964629	8919540	1927.011m	1807.476m
2)	HMX	1.25	1.26	3406264	9141783	2122.186m	2082.489m
3)	DNX	1.48	1.48	5550963	8790549	1915.815m	1839.230m
4)	MNX	1.98	1.98	4586501	7069338	2021.594	1998.363
5)	RDX	2.49	2.49	3569182	5681944	1944.966	1958.065
6)	1,3,5-Trinitrobe	4.04	4.04	8230415	15750484	2200.703	2173.715
7)	1,3-Dinitrobenze	5.20	5.20	10223445	6824191	2012.771	2003.614
8)	3,5-Dinitroanili	5.54	5.54	8879954	15043608	1982.553	1994.251
9)	Nitrobenzene	6.75	6.75	6031858	5963383	2003.438	2119.406
10)	Nitroglycerin	0.00	8.14	0	13186524	N.D.	9107.375 #
11)	Tetryl	8.41	8.41	4081911	5921632	2119.619	2289.924
12)	2,4,6-Trinitroto	8.82	8.82	5854655	7854738	1697.934	1820.524
13)	2-Amino-4,6-Dini	9.12	9.12	6400479	9873137	2040.270	2006.598
14)	4-Amino-2,6-Dini	9.57	9.57	4711633	9714281	2044.812	2025.946
16)	2,4-Dinitrotolue	10.58	10.58	9255446	6049977	2023.912	2034.065
17)	2,6-Dinitrotolue	11.04	11.04	5184569	6641553	2070.486	1962.476
18)	o-Nitrotoluene	13.64	13.64	4336279	6235481	2010.984	2036.743m
19)	p-Nitrotoluene	14.03	14.03	6784984	5908043	2000.302	2059.004m
20)	m-Nitrotoluene	14.63	14.63	6625239	8042759	2090.740	2106.716m
21)	PETN	0.00	16.14	0	14292982	N.D. d	9799.193m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381208.D 8330-0118BPLUS.M Thu Jan 19 06:53:26 2017 Page 1

9.5.17

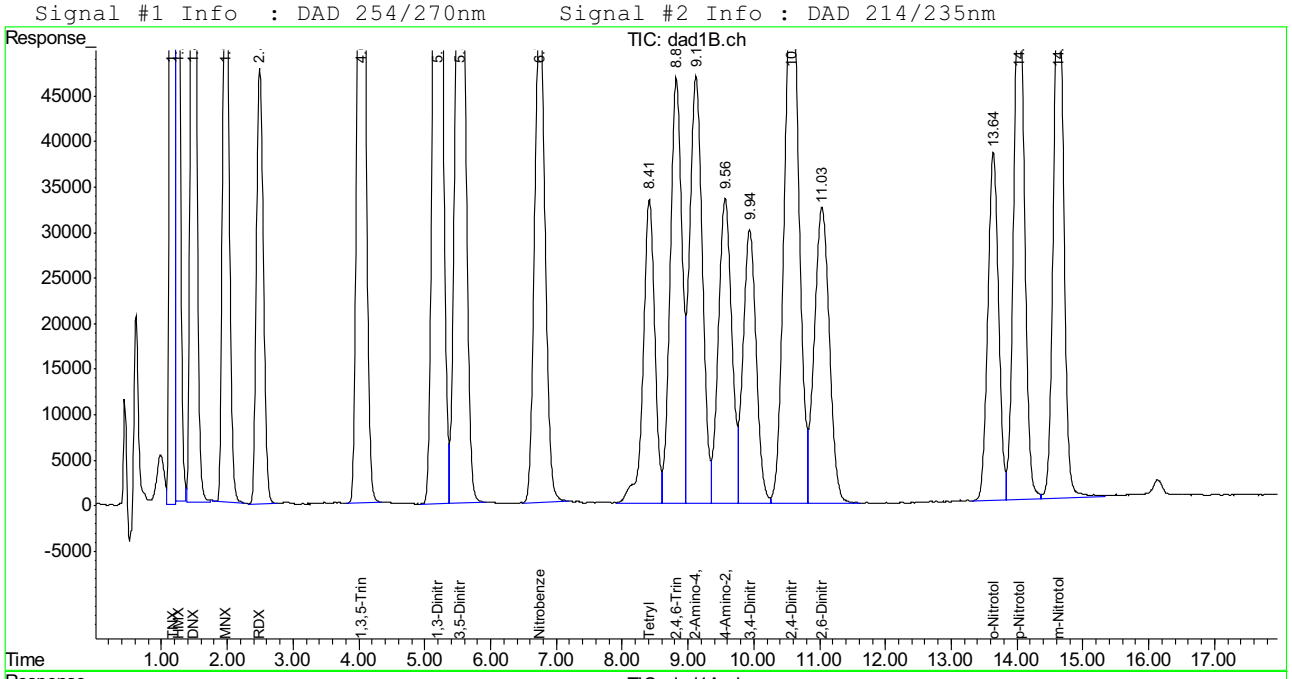
9

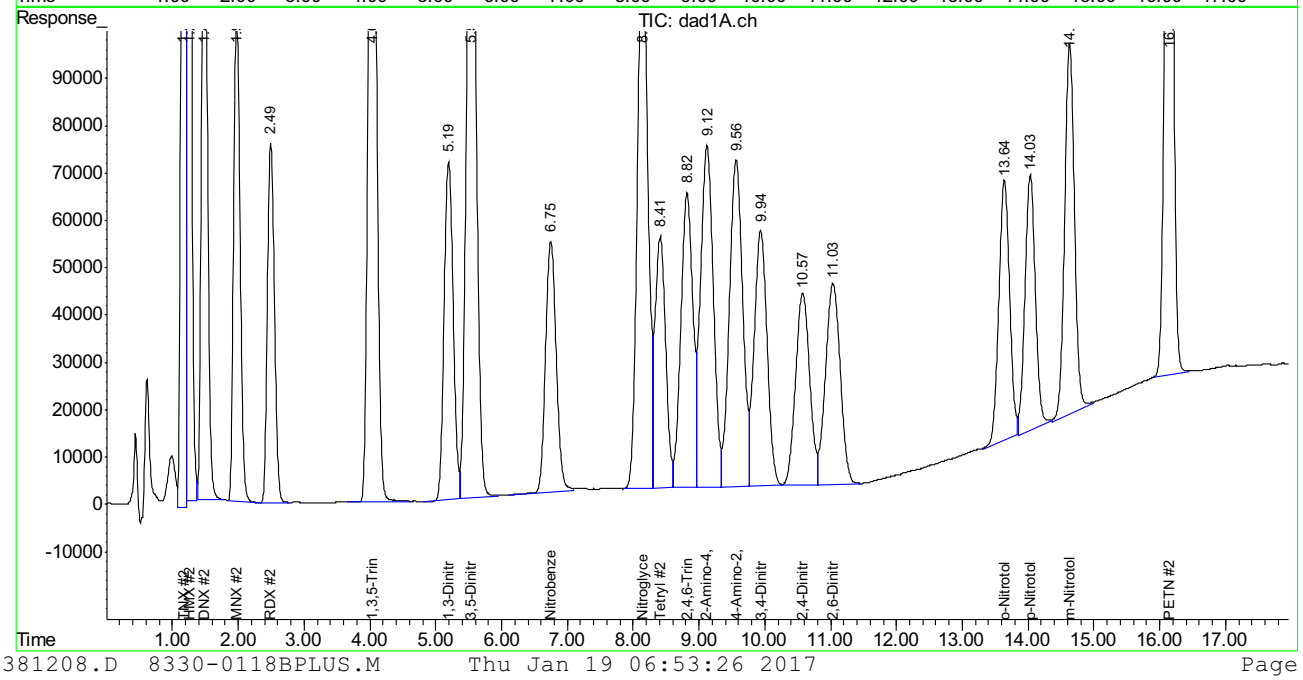
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381208.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0118BPL\PP381208.D\dad1A.ch
Acq On : 18-Jan-2017, 10:50:08 Operator: kismetl
Sample : ic2066-2000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 6:48 2017 Quant Results File: 8330-1003BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-1003BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Wed Jan 18 10:25:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2066-IC2066
Lab FileID: PP381208.D
Injection Time: 01/18/17 10:50
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.16	Poor instrument integration
TNX		2	1.16	Poor instrument integration
HMX	2691-41-0	1	1.25	Poor instrument integration
HMX	2691-41-0	2	1.26	Poor instrument integration
DNX		1	1.48	Poor instrument integration
DNX		2	1.48	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.03	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.63	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381209.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0118BPL\PP381209.D\dad1A.ch
Acq On : 18-Jan-2017, 11:26:25 Operator: kismetl
Sample : icv2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:06:36 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.16	1.16	1555353	2235248	527.933	523.061
2)	HMX	1.24	1.24	931370	2650951	565.139	553.128
3)	DNX	1.49	1.48	1379947	2268496	509.255	501.805
4)	MNX	1.98	1.98	1151652	1780124	492.591	505.165
5)	RDX	2.50	2.50	934936	1496699	513.081	501.413
6)	1,3,5-Trinitrobe	4.04	4.04	2062043	3919080	506.306	504.165
7)	1,3-Dinitrobenze	5.21	5.21	2531317	1654348	500.118	487.765
8)	3,5-Dinitroanili	5.56	5.56	2046292	3479170	454.560	457.607
9)	Nitrobenzene	6.77	6.77	1587959	1572517	520.071	520.766
10)	Nitroglycerin	0.00	8.15	0	3316751	N.D.	2468.478 #
11)	Tetryl	8.42	8.42	879636	1268636	453.819m	401.246
12)	2,4,6-Trinitroto	8.82	8.82	1264926	1816454	452.135m	461.904
13)	2-Amino-4,6-Dini	9.14	9.15	1701596	2707279	550.614m	531.925
14)	4-Amino-2,6-Dini	9.59	9.59	1255275	2638376	536.077m	521.982
16)	2,4-Dinitrotolue	10.60	10.60	2412678	1536508	522.111	515.456
17)	2,6-Dinitrotolue	11.05	11.06	1401484	1679174	529.283	560.739
18)	o-Nitrotoluene	13.65	13.65	1175746	1667725	530.446	540.645m
19)	p-Nitrotoluene	14.05	14.04	1778932	1556422	519.093	544.654m
20)	m-Nitrotoluene	14.64	14.64	1662889	2009665	501.639	516.969m
21)	PETN	0.00	16.14	0	3706453	N.D. d	2498.033m

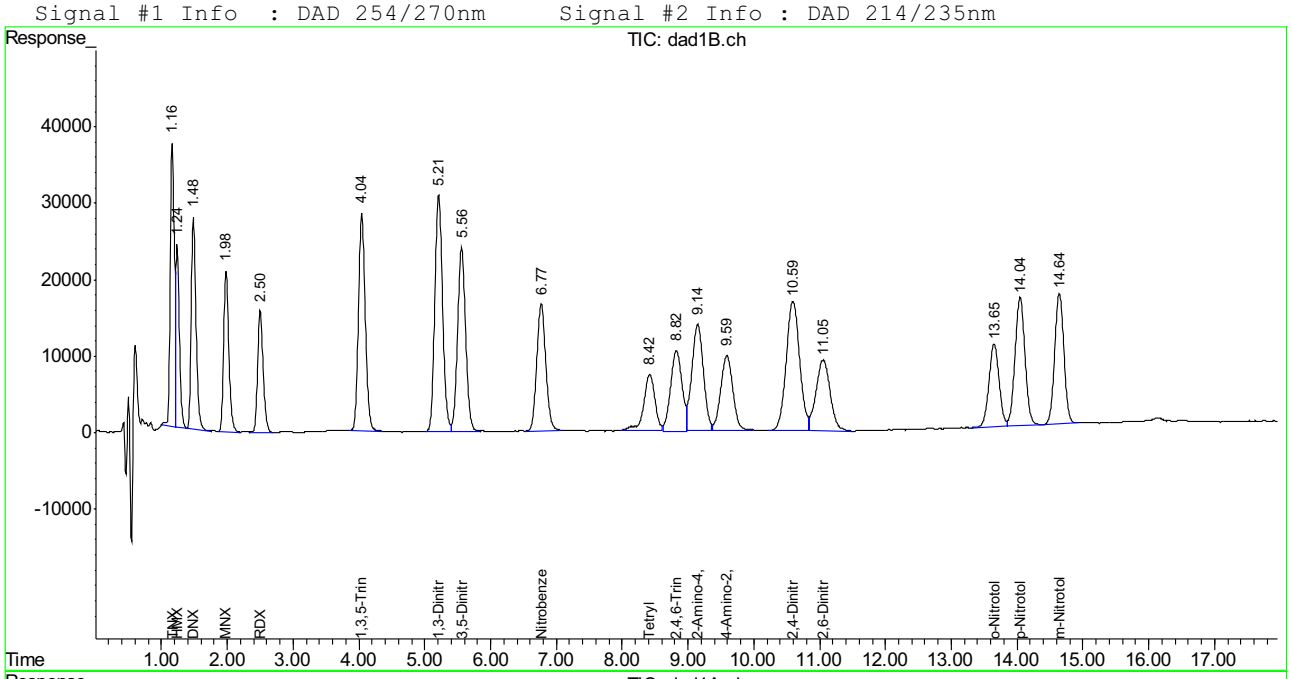
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381209.D 8330-0118BPLUS.M Thu Jan 19 12:17:10 2017 Page 1

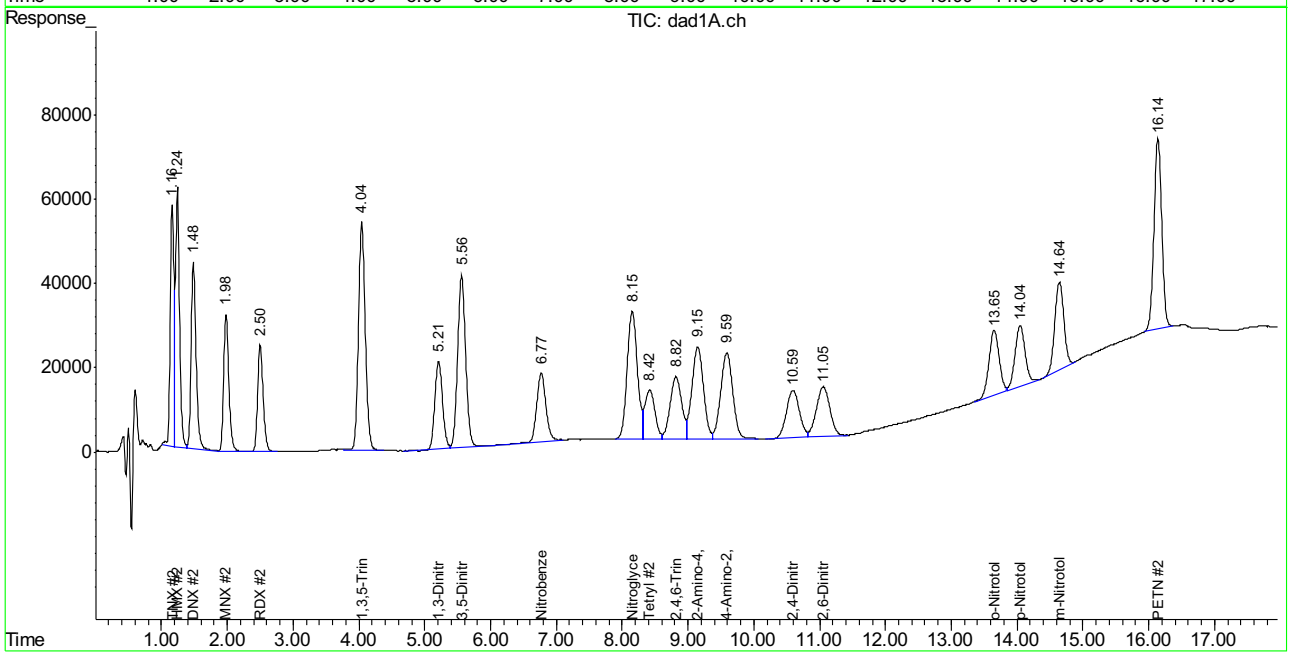
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381209.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0118BPL\PP381209.D\dad1A.ch
Acq On : 18-Jan-2017, 11:26:25 Operator: kismetl
Sample : icv2066-500 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 8:08 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





Manual Integration Approval Summary

Sample Number: GPP2066-ICV2066
Lab FileID: PP381209.D
Injection Time: 01/18/17 11:26
Method: SW846 8330B
Analyst approved: 01/19/17 13:25 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetryl	479-45-8	1	8.42	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	8.82	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.14	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	9.59	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.65	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:40

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381221.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381221.D\dad1A.ch
Acq On : 18-Jan-2017, 16:53:32 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 08:29:43 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	9.94	9.94	2005856	3560231	968.550	920.081
	Spiked Amount 500.000	Range 70 - 136		Recovery =		193.71%#	184.02%#
	Target Compounds						
1)	TNX	1.17	1.17	3107666	4613652	1054.835	1079.622
2)	HMX	1.25	1.25	1641856	4513659	996.250	941.787
3)	DNX	1.49	1.49	2669080	4329719	978.083	967.255
4)	MNX	1.98	1.98	2217330	3413113	948.409	968.576
5)	RDX	2.50	2.50	1714111	2727690	940.683	913.810
6)	1,3,5-Trinitrobe	4.04	4.04	3936480	7566960	966.549	973.442
7)	1,3-Dinitrobenze	5.21	5.21	4899076	3283633	967.921	968.140
8)	3,5-Dinitroanili	5.56	5.56	4255966	7196752	945.413	946.571
9)	Nitrobenzene	6.76	6.76	2944024	2951551	964.194	977.457
10)	Nitroglycerin	0.00	8.15	0	6299280	N.D.	4688.212 #
11)	Tetryl	8.42	8.42	1940147	2880642	983.123	911.093
12)	2,4,6-Trinitroto	8.82	8.82	2792824	3785469	983.046	962.602
13)	2-Amino-4,6-Dini	9.14	9.14	3082790	4757881	997.550	934.827
14)	4-Amino-2,6-Dini	9.58	9.58	2260432	4656992	965.340	921.349
16)	2,4-Dinitrotolue	10.59	10.59	4425851	2859568	957.768	959.306
17)	2,6-Dinitrotolue	11.05	11.05	2458254	3077613	928.381	995.012
18)	o-Nitrotoluene	13.65	13.64	2161699	2997572	975.265	971.756m
19)	p-Nitrotoluene	14.04	14.04	3459522	2846144	1009.490	995.979m
20)	m-Nitrotoluene	14.64	14.64	3315449	3882047	1000.161	998.624m
21)	PETN	0.00	16.14	0	6893897	N.D. d	4646.271m

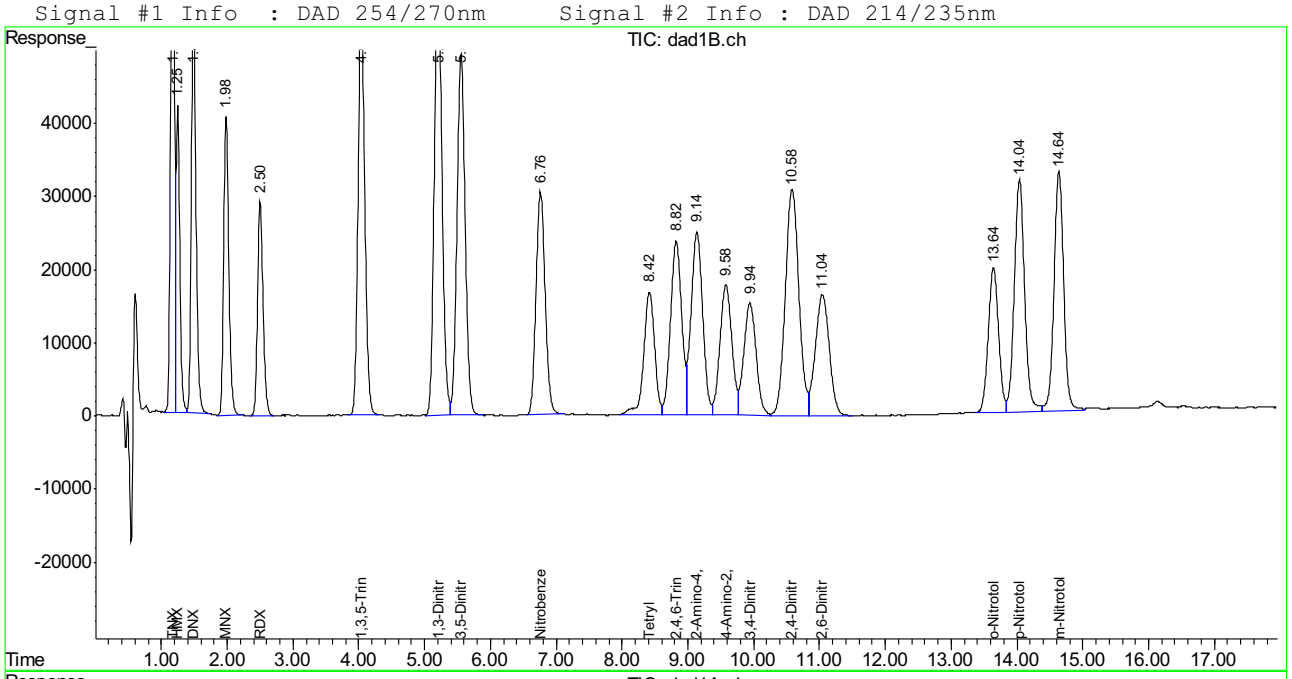
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381221.D 8330-0118BPLUS.M Thu Jan 19 12:21:28 2017 Page 1

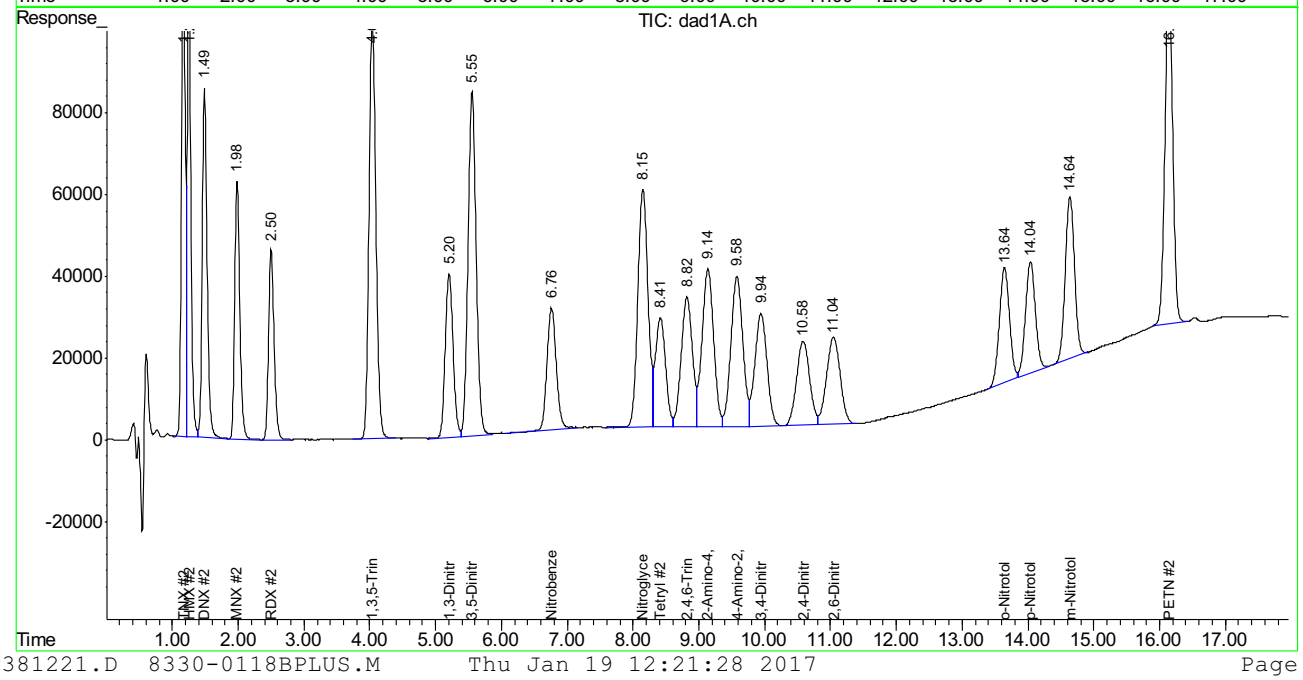
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0118BPL\PP381221.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0118BPL\PP381221.D\dad1A.ch
Acq On : 18-Jan-2017, 16:53:32 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63244,GPP2066,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 8:30 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 06:49:11 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2066-CC2066
Lab FileID: PP381221.D
Injection Time: 01/18/17 16:53
Method: SW846 8330B
Analyst approved: 01/19/17 13:26 Kismet Lugo
Supervisor approved: 01/25/17 16:40 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.64	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.04	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.64	Poor instrument integration
PETN	78-11-5	2	16.14	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381226.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0119BPL\PP381226.D\dad1A.ch
Acq On : 19-Jan-2017, 10:30:48 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63431,GPP2067,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 13:43:13 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.04	10.04	2058307	3675430	993.876	949.852
	Spiked Amount 500.000	Range 70 - 136		Recovery =		198.78%#	189.97%#
	Target Compounds						
1)	TNX	1.18	1.18	3124547	4629404	1060.565	1083.308
2)	HMX	1.26	1.27	1616894	4534997	981.104	946.240
3)	DNX	1.50	1.50	2675604	4319828	980.439	964.999
4)	MNX	2.01	2.01	2262788	3475195	967.853	986.194
5)	RDX	2.53	2.53	1741639	2782193	955.790	932.070
6)	1,3,5-Trinitrobe	4.09	4.09	4015520	7746134	985.956	996.492
7)	1,3-Dinitrobenze	5.25	5.25	5037176	3352695	995.206	988.502
8)	3,5-Dinitroanili	5.61	5.61	4381298	7305767	973.254	960.909
9)	Nitrobenzene	6.80	6.80	2891140	2849606	946.874	943.696
10)	Nitroglycerin	0.00	8.26	0	6457173	N.D. d	4805.724
11)	Tetryl	8.53	8.53	1952398	2934335	989.130	928.075
12)	2,4,6-Trinitroto	8.92	8.92	2849020	3879136	1002.273	986.420
13)	2-Amino-4,6-Dini	9.23	9.23	3133753	4833844	1014.041	949.752
14)	4-Amino-2,6-Dini	9.67	9.67	2301477	4762273	982.869	942.178
16)	2,4-Dinitrotolue	10.69	10.69	4511867	2900406	976.382	973.006
17)	2,6-Dinitrotolue	11.15	11.15	2531430	3158856	956.017	1019.452
18)	o-Nitrotoluene	13.69	13.69	2039112	3181927	919.959	1031.521m
19)	p-Nitrotoluene	14.09	14.09	3256413	2895942	950.222	1013.405
20)	m-Nitrotoluene	14.68	14.68	3127644	3749485	943.506	964.523m
21)	PETN	0.00	16.24	0	7095823	N.D. d	4782.362m

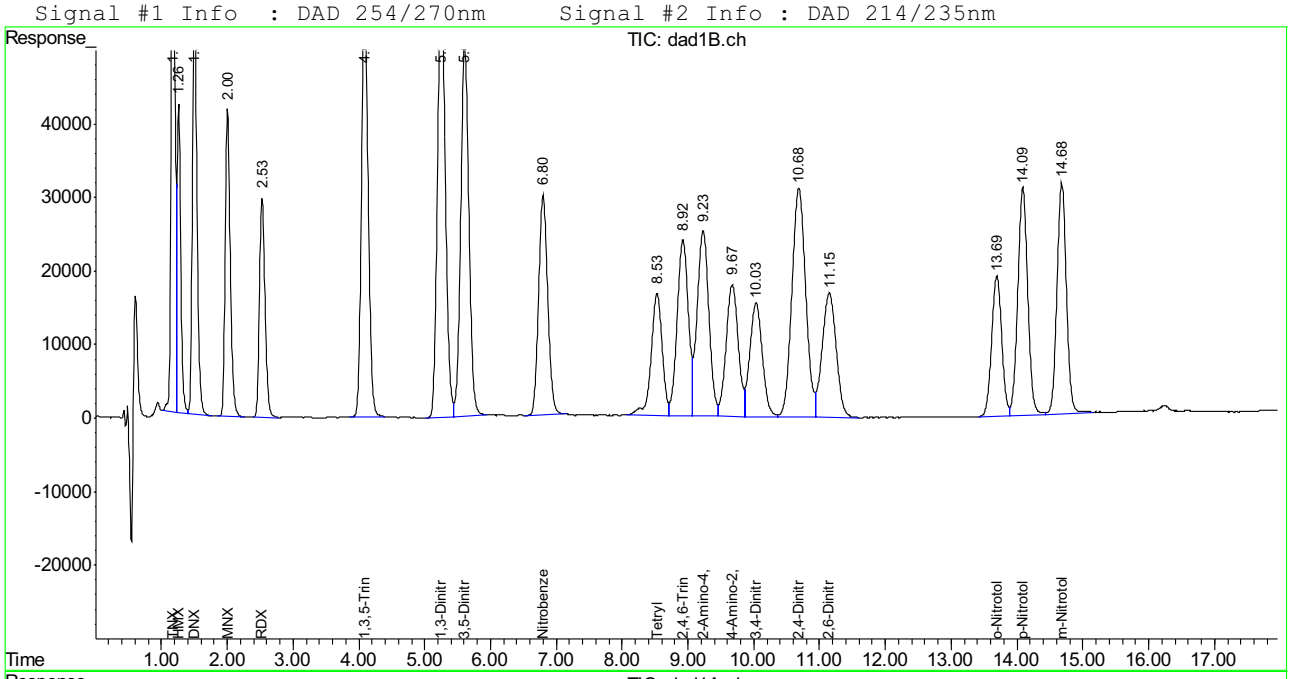
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381226.D 8330-0118BPLUS.M Thu Jan 19 13:57:53 2017 Page 1

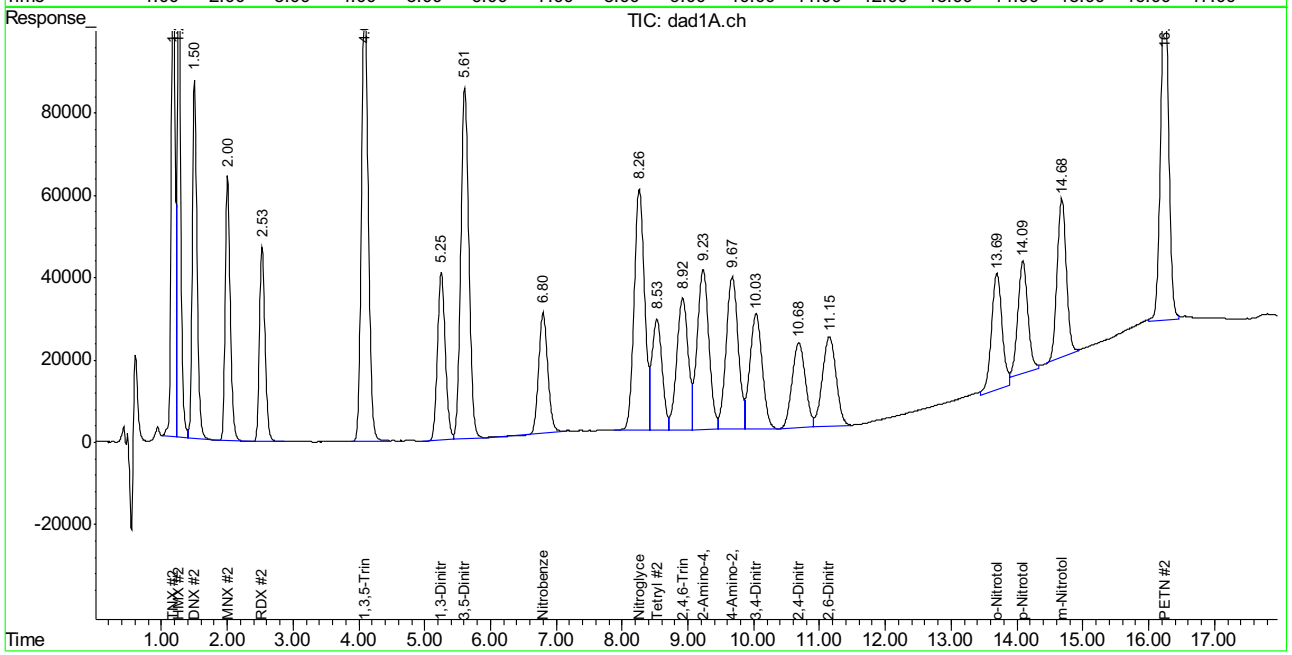
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381226.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0119BPL\PP381226.D\dad1A.ch
Acq On : 19-Jan-2017, 10:30:48 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63431,GPP2067,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 13:45 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2067-CC2066
Lab FileID: PP381226.D
Injection Time: 01/19/17 10:30
Method: SW846 8330B
Analyst approved: 01/19/17 14:06 Kismet Lugo
Supervisor approved: 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.68	Poor instrument integration
PETN	78-11-5	2	16.24	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/25/17 16:41

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381229.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0119BPL\PP381229.D\dad1A.ch
Acq On : 19-Jan-2017, 11:52:15 Operator: kismetl
Sample : ecc2066-1000 Inst : G1315B
Misc : OP63431,GPP2067,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 13:43:16 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.03	10.03	2032789	3656633	981.554	944.994
	Spiked Amount 500.000	Range 70 - 136		Recovery =		196.31%#	189.00%#
	Target Compounds						
1)	TNX	1.18	1.18	3115155	4614267	1057.377	1079.766
2)	HMX	1.26	1.26	1618434	4535004	982.038	946.241
3)	DNX	1.50	1.50	2665122	4314113	976.654	963.696
4)	MNX	2.00	2.00	2250585	3455951	962.633	980.733
5)	RDX	2.53	2.53	1741872	2765067	955.918	926.332
6)	1,3,5-Trinitrobe	4.08	4.08	4006715	7699697	983.794	990.518
7)	1,3-Dinitrobenze	5.25	5.25	5009579	3377988	989.753	995.960
8)	3,5-Dinitroanili	5.60	5.60	4333102	7336938	962.547	965.009
9)	Nitrobenzene	6.80	6.79	2907135	2859024	952.112	946.815m
10)	Nitroglycerin	0.00	8.26	0	6430910	N.D. d	4786.178
11)	Tetryl	8.52	8.52	1920371	2935392	973.420	928.409
12)	2,4,6-Trinitroto	8.92	8.91	2825324	3844305	994.169	977.563
13)	2-Amino-4,6-Dini	9.22	9.22	3117816	4836838	1008.884	950.340
14)	4-Amino-2,6-Dini	9.66	9.66	2281156	4749150	974.190	939.581
16)	2,4-Dinitrotolue	10.67	10.68	4487772	2901512	971.168	973.377
17)	2,6-Dinitrotolue	11.14	11.14	2508389	3139813	947.315	1013.730
18)	o-Nitrotoluene	13.68	13.68	2098096	3053781	946.570	989.978m
19)	p-Nitrotoluene	14.08	14.08	3260341	2716430	951.368	950.587m
20)	m-Nitrotoluene	14.67	14.67	3220302	3802789	971.458	978.235m
21)	PETN	0.00	16.24	0	7008705	N.D. d	4723.648m

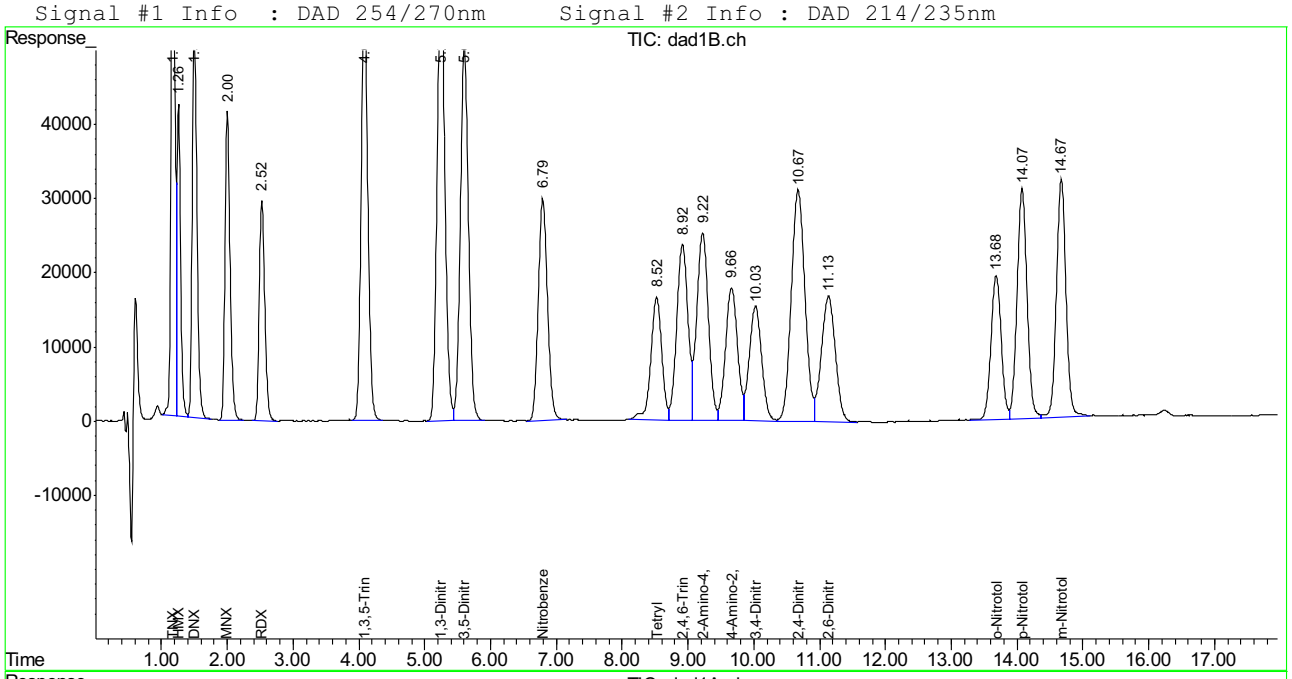
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381229.D 8330-0118BPLUS.M Thu Jan 19 13:57:56 2017 Page 1

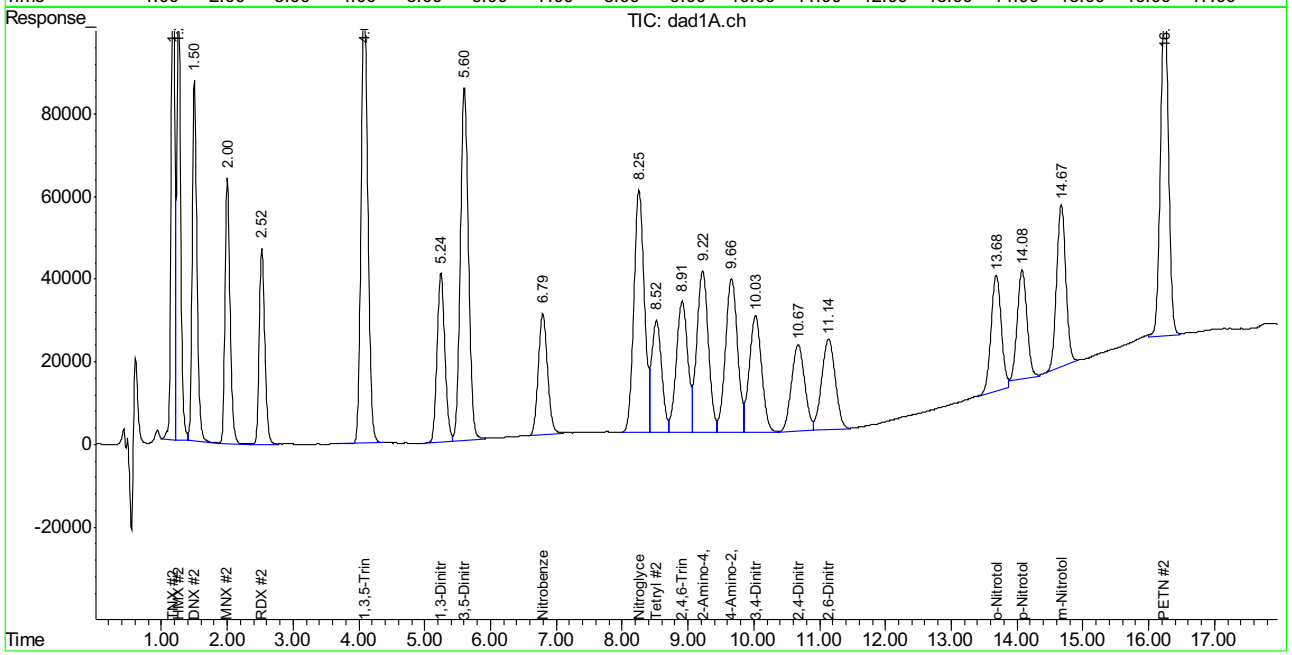
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0119BPL\PP381229.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0119BPL\PP381229.D\dad1A.ch
Acq On : 19-Jan-2017, 11:52:15 Operator: kismetl
Sample : ecc2066-1000 Inst : G1315B
Misc : OP63431,GPP2067,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 19 13:47 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2067-ECC2066
Lab FileID: PP381229.D
Injection Time: 01/19/17 11:52
Method: SW846 8330B
Analyst approved: 01/19/17 14:06 Kismet Lugo
Supervisor approved: 01/25/17 16:41 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.68	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.24	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381253.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381253.D\dad1A.ch
Acq On : 25-Jan-2017, 14:36:36 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:22 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.04	10.04	2130217	3770461	1028.599	974.411
	Spiked Amount 500.000	Range 70 - 136		Recovery =		205.72%#	194.88%#
	Target Compounds						
1)	TNX	1.18	1.18	3091706	4537460	1049.417	1061.792
2)	HMX	1.27	1.27	1636083	4577624	992.748	955.134
3)	DNX	1.51	1.51	2721111	4402620	996.869	983.890
4)	MNX	2.01	2.01	2290690	3517138	979.787	998.096
5)	RDX	2.53	2.54	1774683	2844886	973.924m	953.073
6)	1,3,5-Trinitrobe	4.09	4.09	4063823	7884118	997.816	1014.242
7)	1,3-Dinitrobenze	5.26	5.26	5072148	3418392	1002.115	1007.872
8)	3,5-Dinitroanili	5.62	5.62	4387504	7413243	974.632	975.045
9)	Nitrobenzene	6.80	6.80	2980402	2941879	976.108	974.254
10)	Nitroglycerin	0.00	8.29	0	6571507	N.D.	4890.816 #
11)	Tetryl	8.55	8.55	1956617	2925500	991.199	925.281
12)	2,4,6-Trinitroto	8.93	8.93	2900379	3922638	1019.827	997.482
13)	2-Amino-4,6-Dini	9.25	9.25	3203948	4895944	1036.755	961.954
14)	4-Amino-2,6-Dini	9.69	9.69	2365783	4811864	1010.331	951.989
16)	2,4-Dinitrotolue	10.69	10.69	4667019	2942151	1009.957	987.010
17)	2,6-Dinitrotolue	11.16	11.16	2676437	3237075	1010.780	1042.905
18)	o-Nitrotoluene	13.69	13.68	2158587	2992706	973.861	970.179m
19)	p-Nitrotoluene	14.08	14.08	3342664	2871852	975.390	1004.975m
20)	m-Nitrotoluene	14.67	14.67	3221749	3904849	971.895	1004.489m
21)	PETN	0.00	16.28	0	7000106	N.D. d	4717.852m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381253.D 8330-0118BPLUS.M Thu Jan 26 13:26:19 2017 Page 1

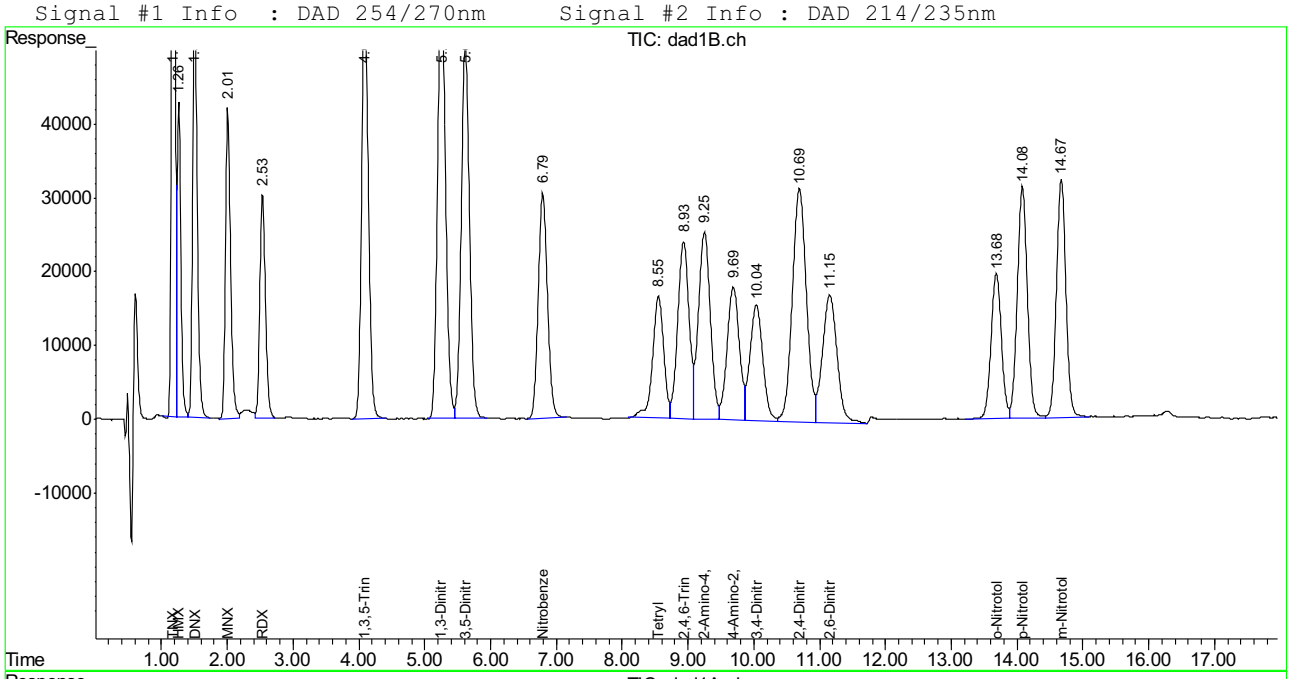
9.5.22
6

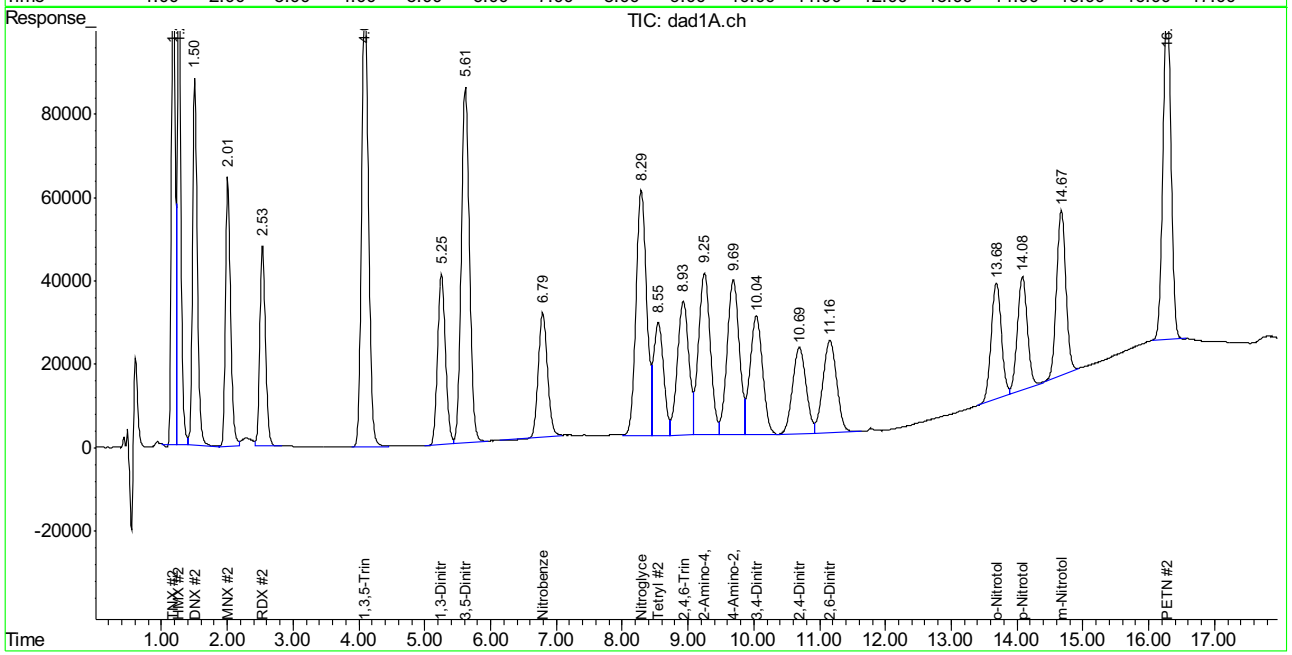
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381253.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381253.D\dad1A.ch
Acq On : 25-Jan-2017, 14:36:36 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:49 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2069-CC2066
Lab FileID: PP381253.D
Injection Time: 01/25/17 14:36
Method: SW846 8330B
Analyst approved: 01/26/17 13:55 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.53	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.68	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/26/17 15:13

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381265.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381265.D\dad1A.ch
Acq On : 25-Jan-2017, 19:35:46 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:47:37 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.04	10.04	2076996	3766355	1002.900	973.350
	Spiked Amount 500.000	Range 70 - 136		Recovery =		200.58%#	194.67%#
	Target Compounds						
1)	TNX	1.18	1.18	3077765	4519445	1044.685	1057.577
2)	HMX	1.26	1.27	1618052	4555087	981.807	950.431
3)	DNX	1.51	1.51	2685998	4386161	984.193	980.133
4)	MNX	2.01	2.01	2444355	3795649	1045.514	1077.133
5)	RDX	2.54	2.54	1752104	2791243	961.533	935.101
6)	1,3,5-Trinitrobe	4.09	4.09	4039112	7795221	991.748	1002.806
7)	1,3-Dinitrobenze	5.26	5.26	5055709	3381427	998.868	996.974
8)	3,5-Dinitroanili	5.62	5.62	4370816	7408536	970.925	974.426
9)	Nitrobenzene	6.80	6.79	3005024	3006550	984.172	995.671m
10)	Nitroglycerin	0.00	8.29	0	6492431	N.D.	4831.964 #
11)	Tetryl	8.56	8.55	1985901	2924521	1005.549	924.971
12)	2,4,6-Trinitroto	8.93	8.93	2905197	3906647	1021.473	993.416
13)	2-Amino-4,6-Dini	9.26	9.26	3158766	4855749	1022.135	954.056
14)	4-Amino-2,6-Dini	9.69	9.69	2323713	4799183	992.365	949.480
16)	2,4-Dinitrotolue	10.69	10.69	4555333	2924286	985.788	981.017
17)	2,6-Dinitrotolue	11.16	11.16	2538646	3163106	958.742	1020.728
18)	o-Nitrotoluene	13.69	13.69	2202362	3032124	993.611	982.957m
19)	p-Nitrotoluene	14.08	14.08	3377705	2797327	985.615m	978.896m
20)	m-Nitrotoluene	14.67	14.67	3396616	3901768	1024.646m	1003.697m
21)	PETN	0.00	16.27	0	6973247	N.D. d	4699.749m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381265.D 8330-0118BPLUS.M Thu Jan 26 13:38:02 2017 Page 1

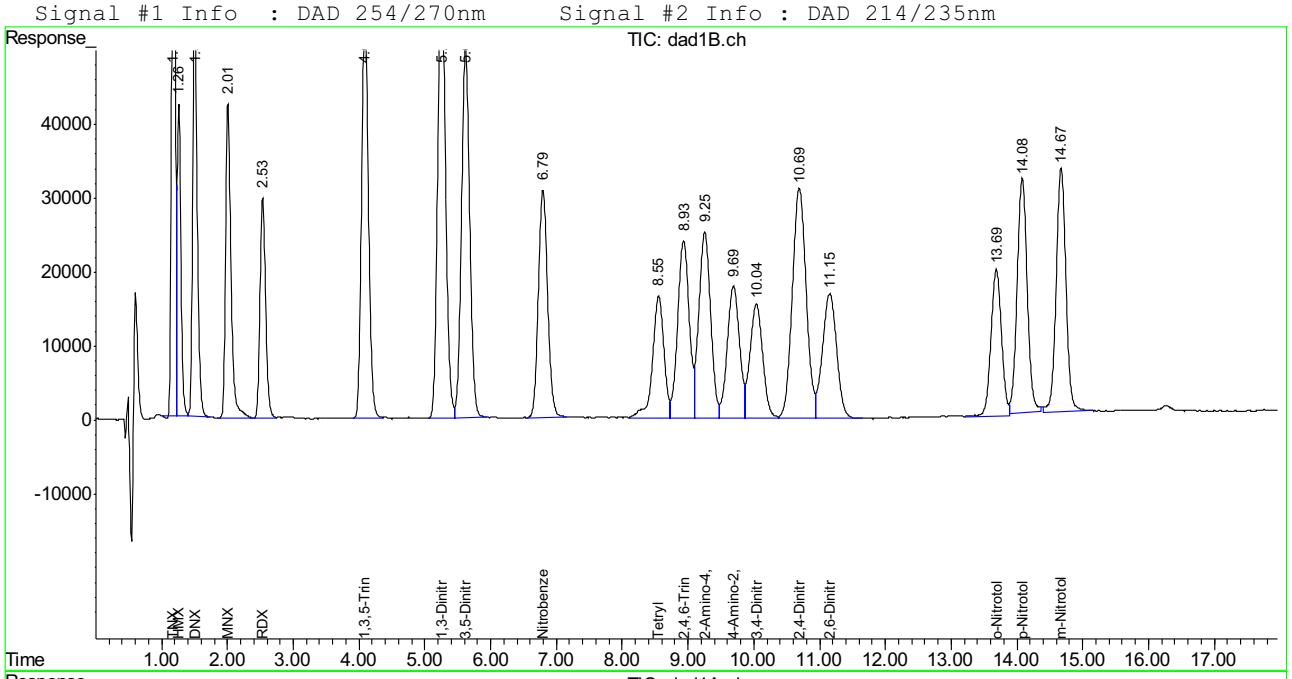
9.5.23
9

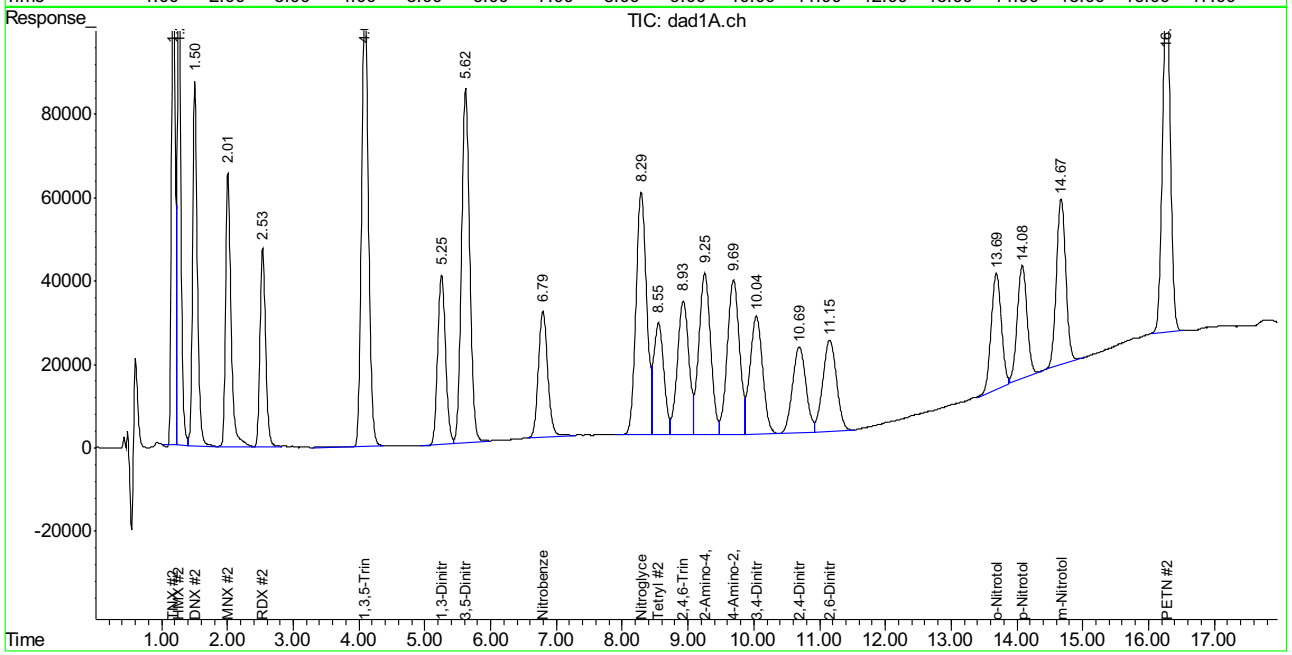
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0125BPL\PP381265.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0125BPL\PP381265.D\dad1A.ch
Acq On : 25-Jan-2017, 19:35:46 Operator: kismetl
Sample : cc2066-1000 Inst : G1315B
Misc : OP63530,GPP2069,260,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Jan 26 12:50 2017 Quant Results File: 8330-0118BPLUS.RES

Quant Method : C:\MSDCHEM\2...\8330-0118BPLUS.M (Chemstation Integrator)
Title : Explosives by 8330A.8330B,8332
Last Update : Thu Jan 19 13:42:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330BPL.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 214/235nm





SGS ACCUTEST FA40351

Manual Integration Approval Summary

Sample Number: GPP2069-CC2066
Lab FileID: PP381265.D
Injection Time: 01/25/17 19:35
Method: SW846 8330B
Analyst approved: 01/26/17 13:55 Kismet Lugo
Supervisor approved: 01/26/17 15:13 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	6.79	Poor instrument integration
o-Nitrotoluene	88-72-2	2	13.69	Poor instrument integration
p-Nitrotoluene	99-99-0	1	14.08	Poor instrument integration
p-Nitrotoluene	99-99-0	2	14.08	Poor instrument integration
m-Nitrotoluene	99-08-1	1	14.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	14.67	Poor instrument integration
PETN	78-11-5	2	16.27	Poor instrument integration

SGS ACCUTEST-ORLANDO

DATE:	12/30/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 HPB3
PROC. METHOD:	8330 HPB_1230
CALIB. DATE:	12/30/16
RUN BATCH: GGG	2500

ANALYST:	LL
ACETONITRILE LOT #:	3297
MEOH LOT #:	165089
HEAD PRESSURE:	283

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060856	2	CC2495-1000	8330	LC810	1:1		DNR
GG 57	21	IC2500-20			50+450 50+450	PII 5mm-2.6, 0 p m MP	✓
GG 58	22	IC2500-50			10+390	PII 2,6MP52 DMP52 3,50P52	✓
GG 59	23	IC2500-100			25+475	PII	✓
GG 60	24	IC2500-200			50+450	PII m MP52	✓
GG 61	25	IC2500-500			1+3	PII	✓
GG 62	26	IC2500-1000			1:1	PII	✓
GG 63	27	IC2500-2000		↓	1x	PII	✓
GG 64	28	ICV2500-500			*	PII	246 ↓ 15%, Passes 20%
GG 65	~~29~~	21 CC2500-20		LC810	50+450 50+450		fails
GG 66	9	op63222-mb		op63222	1x	PII	ND
GG 67	10	FA39589-1cf					✓ 1.3, NB
GG 68	11	FA39589-2cf					ND 1.3 2.4"
GG 69	12	FA39589-3cf				PII	ND NC 2.4 DNC
GG 70	13	FA39589-4cf					✓
GG 71	14	FA39719-1cf		↓	↓		ND PEGW DNC
GG 72	5	FA37707-62BL		op63149	1x	MP	✓
GG 73	6	FA37707-63BL		↓	↓	PII	✓ shifted! DNRep.
GG 74	7	FA37708-59AL		op63683			
GG 75	8	FA37708-60AL	↓	↓	↓		

1/3/17 EHL

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

Analyst's Signature: Kismet Lyn

SGS ACCUTEST-ORLANDO

DATE:	12/30/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB 1230
CALIB. DATE:	12/30/16
RUN BATCH: GGG	2500

ANALYST:	M
ACETONITRILE LOT #:	3297
MEOH LOT #:	165089
HEAD PRESSURE:	283

M 1/3/16

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060876	2	~~CC2500-1000~~ ~~CC2495-1000~~	8330	LC810	1:1		Pass
GG 77	1	mb	—	—	—		ND Report
GG 78	15	OP63245-mb		OP63245	1X		ND ~~BAT~~ M 01/03/16 ~~wrong batch~~
GG 79	16	LA28935-1cf			1+4	MP 0X08 1,3,5 MP	MP 4A ~~ND~~ 1,3,5 NB NR 246 8330B 20%
GG 80	17	LA28935-1cf		↓	10+490	↓ PII	
GG 81	1	solvnt		—	—		ND
GG 82	1	↓		—	—		ND
GG 83	1			—	—		ND
GG 84	1	↓		—	—		ND
GG 85	2	ccc2500-1000	↓	LC810	1:1	OMP-35, P, 4A MP	0,3,5 4A, P fflag
GG							
GG							
GG						M 12/03/16	
GG							
GG							
GG							
GG							
GG							
GG							
GG							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

33 of 100

Analyst's Signature: Vincent Lyo

SGS ACCUTEST-ORLANDO

DATE:	01/19/17
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC3-GG	

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB-1230
CALIB. DATE:	12/30/16
RUN BATCH: GGG	2504

ANALYST:	LL
ACETONITRILE LOT #:	3297
MEOH LOT #:	166457
HEAD PRESSURE:	235

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 060927	1	solvent	8330	—	—		ND
GG 28	2	cc2500-1000		LC816	1:1	PII	Pass
GG 29	3	OP63431-mb		OP63431	1x	PII	ND
GG 30	4	FA40279-2cf				PII	✓ HMX 549 1320 172 1402 MNX RDX 35 2.6
GG 31	5	FA40279-3cf				PII	ND ON
GG 32	6	FA40279-1cf				PII	✓ ~~HMX~~ ~~DNX~~ 37 3.5 MNX
GG 33	7	FA40351-2cf				PII	✓ DNX 3.5 30
GG 34	8	FA40351-3cf		↓	↓	PII	✓ ~~234~~ 160 DNX 31 3.0 MNX 176
GG 35	2	ccc2500-1000	↓	LC816	1:1	PII	Pass
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							

LL 01/19/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

37 of 100

Analyst's Signature: Kimberly

SGS ACCUTEST-ORLANDO

DATE: 01/18/17
COLUMN TYPE: Ext C18
AMOUNT INJECTED: 100 ul
INSTRUMENT: HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS: 8330A/B
ACQ. METHOD: 8330 BPL
PROC. METHOD: 8330 BPLw
CALIB. DATE: 01/18/17
RUN BATCH: GPP 2066

ANALYST: KL
ACETONITRILE LOT #: 3297
MEOH LOT #: 166459
HEAD PRESSURE: 176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 35 1200	1	solvent	8330	—	—		ND
PP 01	2	CC2053-1000		LC816	1:1		✓
PP 02	3	ic 2066-20			50+450 50+450	TNXOP HMXMPS1 OPS2 PII 0 m PMPS2	✓
PP 03	4	ic2066-50			10+390	HMXTNXOPS1 PII	✓
PP 04	5	ic 2066-100			25+475	↓ PII	✓
PP 05	6	IC 2066-200			50+450	↓ ↓	✓
PP 06	7	ICC2066 500			1+3	↓ ↓	✓
PP 07	8	ic 2066 -1000			1:1	PII	✓
PP 08	9	IC 2066 2000			1x	PII	✓ Pass
PP 09	10	ICV2066-500		E5734 LC764 LC742 E5765	*	PII	Pass
PP 10	3	CC2066-20		LC816	50+450 50+450	MP 1,6DFTOPS2 2,6DMPS2 0PM PETN NPS1	✓ DNXT NRT
PP 11	11	op63431-bs		op63431	1x	PII	✓
PP 12	12	op63431-mb					ND
PP 13	13	FA 40279-2				3,5 MPS1 PII	✓ 2,6 DFNT
PP 14	14	FA 40279-3					✓
PP 15	15	FA 40279-1				HMXOP MNX MPS1 RDX-3,5	✓
PP 16	16	op63431-MS				PII	✓
PP 17	17	op63431-MSd				PII	✓
PP 18	18	FA40351-1					ND
PP 19	19	FA40351-2	↓	↓	↓	PII 3,5 MPS1	✓ RR (2x)

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
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hplc4_pp_log.xls NF rev. 06/16

* E5734 20ml
LC742 25ml
LC764 25ml
E5765 10ml
} +920

55 of 100

Analyst's Signature: Kimberly Lyc

SGS ACCUTEST-ORLANDO

DATE:	01/18/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330BPL
PROC. METHOD:	8330BPlus
CALIB. DATE:	01/18/17
RUN BATCH: GPP	2066

ANALYST:	JL
ACETONITRILE LOT #:	3297
MEOH LOT #:	166459
HEAD PRESSURE:	176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 38 1220	20	FA40351-3	8330	OP63431	1X	PII DMSO 3.5MPSI	✓ MU2x
PP 21	2	CC2066-1000		LC816	1:1	PII	Pass
PP 22	1	clb		—	—		ND
PP 23	21	FA40279-2		OP63431	1:1	MMSOP 3.5MPSI, PII	✓
PP 24	2	ccc2066-1000	↓	LC816	1:1	PII	Pass
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

JL 01/19/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimiet Lyp

SGS ACCUTEST-ORLANDO

DATE:	1/19/2017
COLUMN TYRE:	EXTCR
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 A/B
PROC. METHOD:	8330 8plus
CALIB. DATE:	1/18/17
RUN BATCH: GPP	2067

ANALYST:	EM
ACETONITRILE LOT #:	I22 97
MEOH LOT #:	166459
HEAD PRESSURE:	176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 3812225	1	Solvent	8330	—	—		ND
PP 26	2	CC L0616-1000		LC816	50 x 50	PII	pass
PP 27	3	FF4831-2		OP4331	20/20	2x 35 MPSI, PII NB MPSI SUM MPSI	✓
PP 28	4	↓ -3		↓	↓	2x: 35 MPSI, 44 MPSI, SUM MPSI	✓
PP 29	5	ECC 20616-1000	↓	LC816	50 x 50	PII	Pass
PP							
PP							
PP							
PP							
PP							
PP							
PP						MA GD 1/19/2017	
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	1/19/2017
COLUMN TYPE:	EXTCB
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 A/B BPL
PROC. METHOD:	8330 Bplus
CALIB. DATE:	1/18/17
RUN BATCH:	GPP 2067

ANALYST:	EM
ACETONITRILE LOT #:	32-57
MEOH LOT #:	166459
HEAD PRESSURE:	176

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 3812225	1	Solvent	8330	—	—		ND
PP 26	2	CC L0666-1000		LC816	50ul/50 50/50	PII	pass
PP 27	3	554351-2		OP4331	100/200	2x 35 MPSI, PII NB MPSI SUM MPSI	✓
PP 28	4	↓ -3		↓	↓	2x: 35 MPSI YAMPSI SUM MPSI	✓
PP 29	5	ECC 20616-1000		LC816	50ul/50 50/50	PII	Pass
PP							
PP							
PP							
PP							
PP							
PP							
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PP							
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PP							
PP							
PP							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Mn ad 1/19/2017

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	01/25/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 BPL
PROC. METHOD:	8330 B Plus
CALIB. DATE:	01/18/17
RUN BATCH: GPP	2069 ~~2068~~

ANALYST:	LL
ACETONITRILE LOT #:	3297
MEOH LOT #:	166459
HEAD PRESSURE:	176

LL 01/26/17

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 38/252	1	solvent	8330	—	—		ND
PP 53	2	CC2066-1000		LC816	1:1	PII	Pass
PP 54	21	FA40279-1		op63431	1:1	PII	✓
PP 55	22	op63431-ms		↓	↓	↑ PII	✓
PP 56	23	op63431-msd		↓	↓	SMPSI PII	✓
PP 57	~~24~~	~~op63350-bs~~		op63350	1x	HMXOPSL PII	✓ op63530-bs
PP 58	~~25~~	~~op63350-mb~~		↓	↓		ND op63530-mb
PP 59	26	FA40537-1		↓	↓	RDXMPSI	✓
PP 60	~~27~~	~~op63530-ms~~		↓	↓		✓ op63530-ms
PP 61	~~28~~	~~op63530-msd~~		↓	↓	PII	✓ op63530-msd
PP 62	29	op63504-bs		op63504	↓	HMXOPSL PII	✓
PP 63	30	op63504-mb		↓	↓		NH ✓ ~~contaminated?~~
PP 64	31	FA40487-27		↓	↓	~~HMXOP~~ PII	✓
PP 65	2	CC2066-1000		LC816	1:1	PII	Pass
PP 66	1	CCb		—	—		ND
PP 67	32	op63532-bs		op63532	1x	HMXOP	✓
PP 68	33	op63532-mb		↓	↓	PII	✓ contaminated?
PP 69	34	FA40487-27A		↓	↓	RDXMPSI 3.5MPSI 2AMPSI	✓
PP 70	2	ecc2066-1000		LC816	1:1	PII	Pass
PP 71	51	PETN ~~test~~ LC764		—	—		Lyt
PP 72	52	PETN ~~test~~ LC765					

LL 01/26/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimit Lye

SGS ACCUTEST - ORLANDO **SPE LIQUID SAMPLE PREP REPORT**

Date/Time Started: 01/16/17 0930 {mm/dd/yy 24:00}

Date/Time Finished: 01/16/17 1800 {mm/dd/yy 24:00}

Prep Method: (3535A circled) or Method (circle)

Analytical Method: 8330B

Batch#: OP63431 Ext. By: MB Conc. By: — Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 63431 MB	X	1000	6	N/A	250ul		10ml	
OP 63431 BS	X	1000	↓	↓	↓	25+75 250+250ul	↓	
FA40279-1	4	1010	↓	↓	↓		↓	
-2	3	1000	↓	↓	↓		↓	
-3	2	1000	↓	↓	↓		↓	
FA40351-1	3	1000	↓	↓	↓		↓	
-2	2	990	↓	↓	↓		↓	
-3	2	1000	↓	↓	↓		↓	
FA40279-1 MS	7	500	6	N/A	250ul	25+75 250+250ul	10 ml	
-1 MSD	7	500	↓	↓	↓	↓	↓	
DUP								

(Unused rows crossed out: MB 01/16/17)

Comments:

Surr.1 ID: E5745G Conc: 20ppm Exp. Date: 04/30/17 Inj. By: MB Ver. By MB

~~Surr.2 ID~~ Spike ID (MB 01/16/17): E5763 Conc: 20ppm Exp. Date: 05/21/17 Inj. By: MB Ver. By MB

Spk.1 ID: E5734 Conc: 25ppm Exp. Date: 03/08/17 Inj. By: MB Ver. By MB

Spk.2 ID: 8045E 8046D Conc: 1000 ug/ml 1000 ug/ml Exp. Date: 12/31/17 (MB 01/16/17) Inj. By: MB Ver. By MB

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

Methanol Lot #: — SPE Lot #: S214-0061 pH Paper #: 234215

Acetonitrile Lot #: 164432 SPE Lot #: — Reagent #: —

Water Lot#: DI H2O Syringe Filter Lot#: — Solvent #: —

Relinquished By: [signature] Date: 01/16/17

Accepted By: [signature] Date: 01/17/17

NF 02/16 extwater_spe 020116.xls

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 3/2015

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757)256-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL / PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 124700
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: DRF PM RM

Program:
M RCRA SDWA NPDES
lid Waste Other _____
O #

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/DNX/TNX	TOC	PERCHLORATE	CHLORATE/CHLORITE	TIC/NITRATE/CHLORIDE/SULFATE									Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																	
1/9/17	1310	GW	GRAB	1	54MW10	N	3	3	3	3	3	3									18	X	826235/826236

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
[signature]	1/9/17 1730	[signature]	1/10/17 1149	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 3.5 IR Gun 10
		[signature]	1-10-17 1346	Cooler # 5723

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Rev. 3/2015

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757) 256-6281
Project Name: ~~RA~~ RIAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL / PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
124200

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: S. JULIA LIU
EMAIL: SLIU@BSEN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200
ANCHORAGE, AK
Invoice To:*
EMAIL: SAME
Company:
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/DNX/TPX	TDC	PERCHLORATE	CHLORATE/CHLORITE	TIC/NITRATE/CHLORIDE/SULFATE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
1/9/17	1545	GW	GRAB	1	S4MW13	N	1	1	1	1	1	1	6		826237/826238
1/9/17	1600	GW	GRAB	2	010917R1	N	1	1	1	1	1	1	6		826239/826240

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/9/17 1730	[signature]	1/10/17 1152
Received by:	Date/Time	Received for Laboratory by: [signature]	Date/Time 1-10-17 1346

Lab Use Only
Ice Present (Yes) No
Temp 4.0 IR Gun 10
Cooler # 5521

Cooler Receipt Form

Ice Present (YES) NO

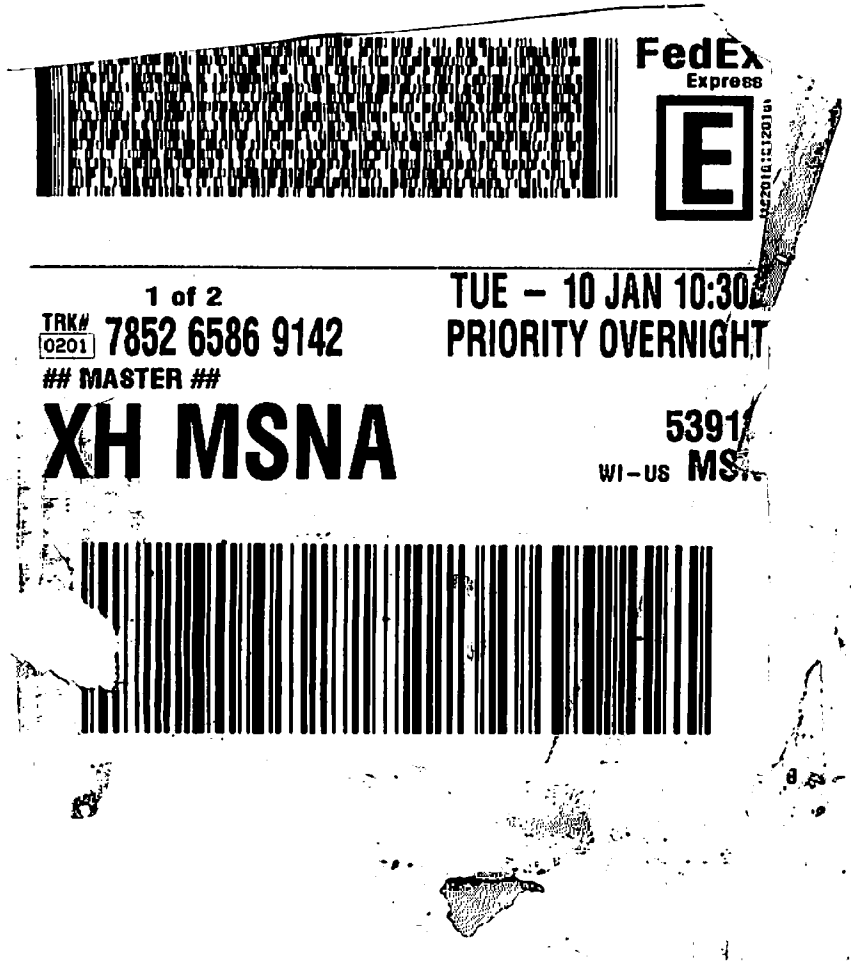
Temperature 3.5

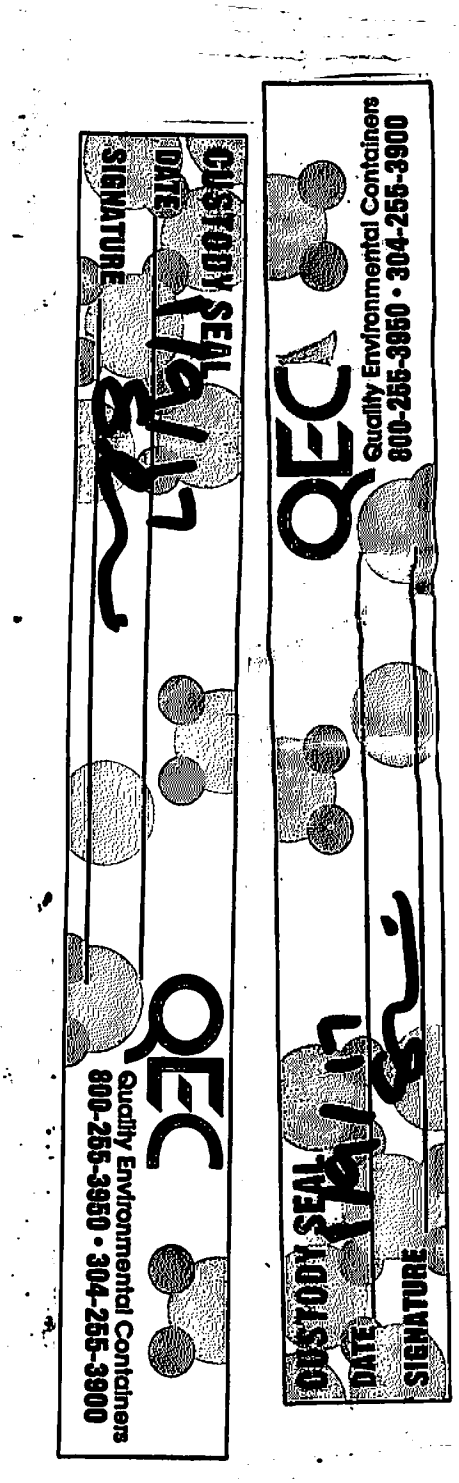
IR Gun # 10

Initials [illegible]

Date 1/10/17 Time 1149

Cooler #: 5723





Cooler Receipt Form

Ice Present (YES) NO

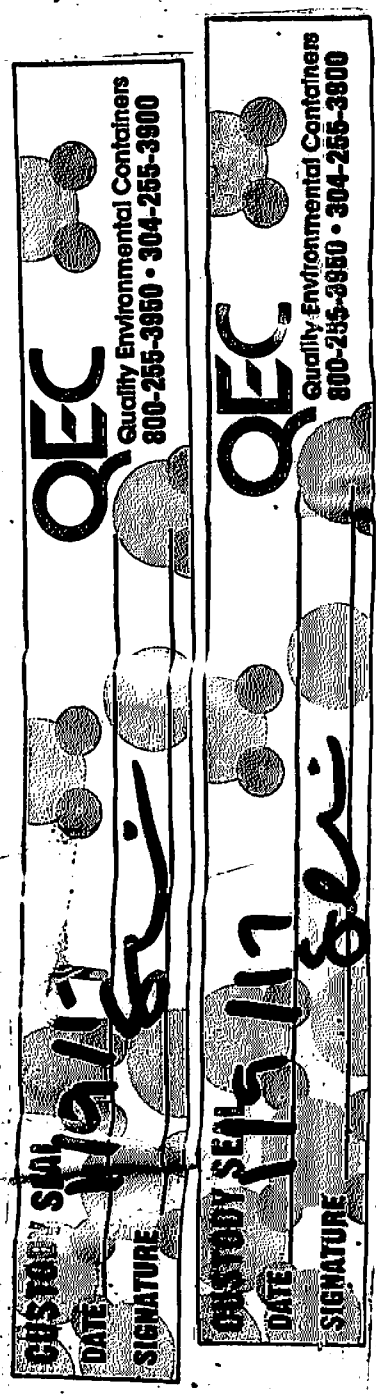
Temperature 4.0

IR Gun # 10

Initials [illegible]

Date 1/10/17 Time 1152

Cooler #: 5521



Folder #: 124700

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 125247

Project Manager: *BMS* **Date Received:** 01/10/17 **Log Date:** 01/10/2017

Report To: S. JULIA LIU CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By: SJL/PTP
Collector's Phone: 757-256-6281

Arrival Temperature: 4.0 oC

SAMPLE #: 826235 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/09/2017 Time: 1310**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	01/23/2017	01/22/2017		Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	02/06/2017	01/22/2017		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	02/06/2017	01/22/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		01/22/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)			***DESIGNATED MATRIX SPIKE***		01/22/2017		Logged

SAMPLE #: 826236 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/09/2017 Time: 1310**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)			***DESIGNATED MATRIX SPIKE***		01/22/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	01/11/2017	01/22/2017		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 124700 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 826236 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/09/2017 **Time:** 1310

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 826237 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/09/2017 **Time:** 1545

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				01/23/2017	01/22/2017		Logged
878	SUB PERCHLORATE	(SW6850)				02/06/2017	01/22/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				02/06/2017	01/22/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					01/22/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					01/22/2017		Logged

SAMPLE #: 826238 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/09/2017 **Time:** 1545

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					01/22/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/11/2017	01/22/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 826239 **DESCR:** 010917R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/09/2017 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				01/23/2017	01/22/2017		Logged
878	SUB PERCHLORATE	(SW6850)				02/06/2017	01/22/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				02/06/2017	01/22/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					01/22/2017		Logged

Folder #: 124700 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 826239 **DESCR:** 010917R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/09/2017 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1291	SUB MNX/DNX/TNX	(8330B)					01/22/2017		Logged

SAMPLE #: 826240 **DESCR:** 010917R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/09/2017 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					01/22/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/11/2017	01/22/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Invoice Number: 125247 **Preliminary Invoice Estimate:** $ 1,377.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
8330B EXPLOSIVES QSM 5	GROUND WATER	3	$ 85.00	0.00	$ 255.00
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 10.00	0.00	$ 30.00
CARBON, INORG & ORG	GROUND WATER	3	$ 25.00	0.00	$ 75.00
FILTRATION, SAMPLE	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 25.00	0.00	$ 75.00
SUB CHLORATE/CHLORITE	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB MNX/DNX/TNX	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB PERCHLORATE	GROUND WATER	3	$ 104.00	0.00	$ 312.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**9**	EXPL
H2SO4 PL	**5**	TOC
LABEL ONLY	**5**	SAMPLE FILTRATION
UNPRES PL	**20**	Anions

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 124700
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/10/2017 13:46
Received Date / Time / By: 01/10/2017 11:52 DRT

Project Name: RADFORD AAP
Project Phase: RADFORD, VA

Log-In Date / Time / By: 01/10/2017 13:46 BNA
Project #: 313010-001 PM: BMS

Coolers: 5521;5723
Custody Seals Present : **Y**

Temperature: 4.0 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 785265869142;785265869153
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - ALL WERE DATED 01/09/17 AND SIGNED.

ONE 1-L AMBER GLASS JAR WAS RECEIVED BROKEN FOR SAMPLE 54MW10. ADEQUATE SAMPLE VOLUME REMAINS FOR THE REQUESTED ANALYSES.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
826235 54MW10				
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 3**		
826235 54MW10				
	AMBER GL	1	/	SUB MNX/DNX/TNX
	AMBER GL	1	/	SUB MNX/DNX/TNX
	Total # of Containers of Type	**(*AMBER GL*) = 2**		
826235 54MW10				
	UNPRES PL	1	/	SUB PERCH
	UNPRES PL	1	/	SUB PERCH
	UNPRES PL	1	/	SUB PERCH
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		
826235 54MW10				
	UNPRES PL	1	/	SUB RATE/RITE
	UNPRES PL	1	/	SUB RATE/RITE
	UNPRES PL	1	/	SUB RATE/RITE
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		
826235 54MW10				
	UNPRES PL	1	/	TIC
	UNPRES PL	1	/	TIC
	UNPRES PL	1	/	TIC
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		

826235 54MW10

H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 3

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

826236 54MW10

UNPRES PL	1		/	Anions
UNPRES PL	1		/	ANIONS
UNPRES PL	1		/	ANIONS

Total # of Containers of Type (*UNPRES PL*) = 3

826236 54MW10

LABEL ONLY	1		/	SAMPLE FILTRATION
LABEL ONLY	1		/	SAMPLE FILTRATION
LABEL ONLY	1		/	SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 3

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

826237 54MW13

AMBER GL	1		/	EXPL

Total # of Containers of Type (*AMBER GL*) = 1

826237 54MW13

AMBER GL	1		/	SUB MNX DNX TNX

Total # of Containers of Type (*AMBER GL*) = 1

826237 54MW13

UNPRES PL			/	SUB perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

826237 54MW13

UNPRES PL	1		/	SUB RATE/RITE

Total # of Containers of Type (*UNPRES PL*) = 1

826237 54MW13

UNPRES PL	1		/	TIC

Total # of Containers of Type (*UNPRES PL*) = 1

826237 54MW13

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

826238 54MW13

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

826238 54MW13

LABEL ONLY	1		/	SAMPLE FILTRATION
Total # of Containers of Type	**(*LABEL ONLY*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
826239 010917R1	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
826239 010917R1	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
826239 010917R1	UNPRES PL	1	/	SUB Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
826239 010917R1	UNPRES PL	1	/	SUB RATE/RITE
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
826239 010917R1	UNPRES PL	1	/	TIC
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
826239 010917R1	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
826240 010917R1	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
826240 010917R1	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 3/2015

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757)256-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL / PTP

CT LABORATORIES
Folder #: 124730
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

ogram:
M RCRA SDWA NPDES
id Waste Other _____
#

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE. #200 ANCHORAGE AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	EXPLOSIVES	MNX/DNX/TNX	TOC	PERCHLORATE	CHLORATE/CHLORATE	TIC/NITRATE/SULFATE/CHLORIDE	COD	PH	TAL METALS						Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																	
1/10/17	0905	GW	GRAB	1	54MW1		1	1	1	1	1	1									6		826629/826633
1/10/17	1045	GW	GRAB	2	54MW12		1	1	1	1	1	1									6		826637/826638
1/10/17	1050	GW	GRAB	3	54TM12		1	1	1	1	1	1									6		826640/826639
1/10/17	1130	GW	GRAB	4	54ADW01								1	1	1						3		826641

Relinquished By: [signature] Date/Time 1/10/17 1300
Received by: Date/Time

Received By: Date/Time 1/11/17 1215
Received for Laboratory by: [signature] Date/Time 1-11-17 1234

Lab Use Only
Ice Present (Yes) No
Temp 1.9 IR Gun 16
Cooler # 5283

Page 1 of 1

Cooler Receipt Form

Ice Present (YES) NO

Temperature 1.9

IR Gun # 16

Initials JL

Date 1/11/17 Time 1215

Cooler #: 5283

Folder #: 124730

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 125276

Project Manager: *BMS* **Date Received:** 01/11/17 **Log Date:** 01/11/2017

Report To: S. JULIA LIU CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 1.9 oC

SAMPLE #: 826629 DESCR: 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/10/2017 Time: 0905**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				01/24/2017	01/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				02/07/2017	01/23/2017		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/07/2017	01/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					01/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					01/23/2017		Logged

SAMPLE #: 826633 DESCR: 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/10/2017 Time: 0905**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					01/23/2017		Validated
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/12/2017	01/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 124730 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 826633 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 0905

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 826637 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1045

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				01/24/2017	01/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				02/07/2017	01/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				02/07/2017	01/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					01/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					01/23/2017		Logged

SAMPLE #: 826638 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1045

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					01/23/2017		Validated
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/12/2017	01/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 826639 **DESCR:** 54TM12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				01/24/2017	01/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				02/07/2017	01/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				02/07/2017	01/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					01/23/2017		Logged

Folder #: 124730 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 826639 **DESCR:** 54TM12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1291	SUB MNX/DNX/TNX	(8330B)					01/23/2017		Logged

SAMPLE #: 826640 **DESCR:** 54TM12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					01/23/2017		Validated
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/12/2017	01/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 826641 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					01/23/2017		Logged
989	COD QSM	(EPA 410.4)				02/07/2017	01/23/2017		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				07/09/2017	01/23/2017		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				07/09/2017	01/23/2017		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				07/09/2017	01/23/2017		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						

Folder #: 124730 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 826641 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/10/2017 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0(EPA 7470A)					02/07/2017	01/23/2017		NeedPrep

Folder #: 124730 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 125276 **Preliminary Invoice Estimate:** $ 1,245.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 10.00	0.00	$ 30.00
CARBON, INORG & ORG	GROUND WATER	3	$ 25.00	0.00	$ 75.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50

ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 25.00	0.00	$ 75.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
SUB CHLORATE/CHLORITE	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB MNX/DNX/TNX	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB PERCHLORATE	GROUND WATER	3	$ 104.00	0.00	$ 312.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**6**	SUB MNX DNX TNX
H2SO4 PL	**4**	COD
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**10**	Anions

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Sample Condition Report

Folder #: 124730
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/11/2017 12:34
Received Date / Time / By: 01/11/2017 12:15 JLS

Project Name: RADFORD AAP
Project Phase: RADFORD, VA

Log-In Date / Time / By: 01/11/2017 12:34 BNA
Project #: 313010-001 PM: BMS

Coolers: 5283
Custody Seals Present : **Y**

Temperature: 1.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 785273823274
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 01/10/17 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
826629 54MW1				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type (*UNPRES PL*) = 1			
826629 54MW1				
	AMBER GL	1	/	SUB MNX DNX TNX
	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type (*AMBER GL*) = 2			
826629 54MW1				
	UNPRES PL	1	/	SUB RATE/RITE
	Total # of Containers of Type (*UNPRES PL*) = 1			
826629 54MW1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
826633 54MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
826637 54MW12				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type (*UNPRES PL*) = 1			

826637 54MW12

AMBER GL	1	/	SUB MNX DNX TNX
AMBER GL	1	/	SUB MNX DNX TNX

Total # of Containers of Type (*AMBER GL*) = 2

826637 54MW12

UNPRES PL	1	/	SUB RATE/RITE

Total # of Containers of Type (*UNPRES PL*) = 1

826637 54MW12

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

826638 54MW12

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

826639 54TM12

UNPRES PL	1	/	Perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

826639 54TM12

AMBER GL	1	/	SUB MNX DNX TNX
AMBER GL	1	/	SUB MNX DNX TNX

Total # of Containers of Type (*AMBER GL*) = 2

826639 54TM12

UNPRES PL	1	/	SUB RATE/RITE

Total # of Containers of Type (*UNPRES PL*) = 1

826639 54TM12

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

826640 54TM12

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

826641 54ADW01

H2SO4 PL	1	Y	/	COD

Total # of Containers of Type (*H2SO4 PL*) = 1

826641 54ADW01

HNO3 1 Y / HG,ICP,K,NA

Total # of Containers of Type (*HNO3*) = 1

826641 54ADW01

UNPRES PL 1 / pH

Total # of Containers of Type (*UNPRES PL*) = 1

Condition Code	*Condition Description*
1	Sample Received OK

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
3601 C STREET
SUITE 1000-31
ANCHORAGE, AL 99503

PROJECT SITE:	RAAP; RADFORD, VA
PROJECT #:	313010-001
SDG:	126485
FOLDERS:	(126485 & 126534)
PREPARED:	May 9, 2017
DOCUMENT PAGES:	1690

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP; Radford, VA
Sample Receipt Date(s): 04/11/2017 & 04/12/2017
SDG #: 126485 (Folders 126485 & 126534)

Six water samples were received for a variety of analyses, including: Anions, TOC, TIC, Chlorate/Chlorite, Perchlorate, and Explosives. The Chlorate and Chlorite analyses were subcontracted to Eurofins Eaton Analytical in South Bend, IN. The Explosives analyses (which included the RDX breakdown products: MNX/DNX/TNX) were subcontracted to SGS Accutest Southeast in Orlando, FL. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC, TIC) and 9056A (Anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Sample Filtration

Analytical Run # 137241

The samples were filtered prior to analysis.

Anions (9056A) Analysis

Analytical Run # 136639

The Matrix Spike (MS) for sample # 852435 had a low recovery for chloride. The Matrix Spike Duplicate (MSD) had low recoveries for chloride and sulfate. The parent sample result for chloride and sulfate was qualified with an "M" flag. The MSD was analyzed past hold time for nitrate with an acceptable recovery. The sample data was not qualified.

Analytical Run # 136687

The MS and MSD were performed on a sample from a different SDG (SDG 126533).

TOC & TIC (9060A) Analysis

Analytical Run #'s 137128 & 137173

All analytical results for these runs met the method/project specified quality control criteria.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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www.ctlaboratories.com

Sample Delivery Group

126485

BERING SEA ENVIRONMENTAL
S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
852429	126485		54MW10	GROUND WATER	04/10/2017	04/11/2017
852435	126485		54MW10	GROUND WATER	04/10/2017	04/11/2017
852439	126485		54TM10	GROUND WATER	04/10/2017	04/11/2017
852440	126485		54TM10	GROUND WATER	04/10/2017	04/11/2017
852441	126485		54MW13	GROUND WATER	04/10/2017	04/11/2017
852442	126485		54MW13	GROUND WATER	04/10/2017	04/11/2017
853081	126534		54MW12	GROUND WATER	04/11/2017	04/12/2017
853082	126534		54MW12	GROUND WATER	04/11/2017	04/12/2017
853083	126534		54MW1	GROUND WATER	04/11/2017	04/12/2017
853084	126534		54MW1	GROUND WATER	04/11/2017	04/12/2017
853085	126534		041117R1	GROUND WATER	04/11/2017	04/12/2017
853086	126534		041117R1	GROUND WATER	04/11/2017	04/12/2017

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	05/09/2017
Date Received:	04/11/2017
SDG #:	126485

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
852435	Sample Filtration	SOP #PR007	GROUND WATER		137241
852440	Sample Filtration	SOP #PR007	GROUND WATER		137241
852442	Sample Filtration	SOP #PR007	GROUND WATER		137241
853082	Sample Filtration	SOP #PR007	GROUND WATER		137241
853084	Sample Filtration	SOP #PR007	GROUND WATER		137241
853086	Sample Filtration	SOP #PR007	GROUND WATER		137241

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
852429	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		137173
852439	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		137173
852441	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		137173
853081	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		137173
853083	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		137173
853085	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		137173

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
852435	Anions QSM 5.0	EPA 9056A	GROUND WATER		136639
852440	Anions QSM 5.0	EPA 9056A	GROUND WATER		136639
852442	Anions QSM 5.0	EPA 9056A	GROUND WATER		136639
853082	Anions QSM 5.0	EPA 9056A	GROUND WATER		136687
853084	Anions QSM 5.0	EPA 9056A	GROUND WATER		136687
853086	Anions QSM 5.0	EPA 9056A	GROUND WATER		136687

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
852429	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		137128
852439	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		137128
852441	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		137128
853081	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		137128
853083	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		137128

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 126485

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
853085	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		137128

INORGANIC
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041117R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853086
Analytical Method:	EPA 9056A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	136687	Analysis Date/Time	04/13/2017 00:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC1053	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041117R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853085
Analytical Method:	EPA 9060A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137128	Analysis Date/Time	04/25/2017 05:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	INSTRUMENT =	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.54	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041117R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853085
Analytical Method:	EPA 9060A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137173	Analysis Date/Time	04/24/2017 19:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853084
Analytical Method:	EPA 9056A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	136687	Analysis Date/Time	04/13/2017 00:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC1053	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.7	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	33		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853083
Analytical Method:	EPA 9060A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137128	Analysis Date/Time	04/25/2017 05:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	INSTRUMENT =	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	3.3		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853083
Analytical Method:	EPA 9060A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137173	Analysis Date/Time	04/24/2017 19:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	54		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852429
Analytical Method:	EPA 9060A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137128	Analysis Date/Time	04/25/2017 02:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	INSTRUMENT =	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6.9		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852435
Analytical Method:	EPA 9056A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	136639	Analysis Date/Time	04/11/2017 17:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.4	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.30	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	65	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852429
Analytical Method:	EPA 9060A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137173	Analysis Date/Time	04/24/2017 18:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	68		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853081
Analytical Method:	EPA 9060A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137128	Analysis Date/Time	04/25/2017 04:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	INSTRUMENT =	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6.7		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853081
Analytical Method:	EPA 9060A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137173	Analysis Date/Time	04/24/2017 19:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	77		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	853082
Analytical Method:	EPA 9056A	Date Received:	04/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	136687	Analysis Date/Time	04/12/2017 21:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC1053	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.6	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.0	M	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	47	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852441
Analytical Method:	EPA 9060A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137128	Analysis Date/Time	04/25/2017 03:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	INSTRUMENT =	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	4.4		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852441
Analytical Method:	EPA 9060A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137173	Analysis Date/Time	04/24/2017 18:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	58		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852442
Analytical Method:	EPA 9056A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	136639	Analysis Date/Time	04/11/2017 20:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.44		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	30		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852439
Analytical Method:	EPA 9060A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137128	Analysis Date/Time	04/25/2017 03:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	INSTRUMENT =	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	5.5		0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852439
Analytical Method:	EPA 9060A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	137173	Analysis Date/Time	04/24/2017 18:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	68		0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	126485
% Solids:		Lab Sample ID:	852440
Analytical Method:	EPA 9056A	Date Received:	04/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	136639	Analysis Date/Time	04/11/2017 19:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.29	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	65		1.3	2.5	5.0	5.0

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687

Lab Sample ID: 854745

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/12/17	15:32	15.00	16.39	109	90	110
Nitrate Nitrogen	4/12/17	15:32	3.500	3.484	100	90	110
Sulfate	4/12/17	15:32	25.00	27.17	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 855260

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	3/7/17	17:02	15.00	14.12	94	90	110
Nitrate Nitrogen	3/7/17	17:02	3.500	3.429	98	90	110
Sulfate	3/7/17	17:02	25.00	24.00	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859545

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/2/16	18:07	50.00	51.21	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 853986

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/11/17	16:08	15.00	14.30	95	90	110
Nitrate Nitrogen	4/11/17	16:08	3.500	3.693	106	90	110
Sulfate	4/11/17	16:08	25.00	24.89	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 853993

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/11/17	20:43	15.00	14.29	95	90	110
Nitrate Nitrogen	4/11/17	20:43	3.500	3.708	106	90	110
Sulfate	4/11/17	20:43	25.00	24.96	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 854082

ICAL Calibration #: IC1053 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/12/17	22:19	15.00	16.19	108	90	110
Nitrate Nitrogen	4/12/17	22:19	3.500	3.492	100	90	110
Sulfate	4/12/17	22:19	25.00	27.26	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 854084

ICAL Calibration #: IC1053 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/13/17	02:51	15.00	16.41	109	90	110
Nitrate Nitrogen	4/13/17	02:51	3.500	3.502	100	90	110
Sulfate	4/13/17	02:51	25.00	26.89	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 854742

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/12/17	17:21	15.00	16.34	109	90	110
Nitrate Nitrogen	4/12/17	17:21	3.500	3.596	103	90	110
Sulfate	4/12/17	17:21	25.00	27.45	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137173 Lab Sample ID: 859420

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	4/24/17	17:14	50.00	50.90	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137173 Lab Sample ID: 859423

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	4/24/17 20:13	50.00	51.96	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859508

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/25/17	01:34	50.00	50.93	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859511

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/25/17	04:27	50.00	51.36	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859516

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/25/17	07:00	50.00	52.20	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859518

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/25/17	09:24	50.00	51.97	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 862526

ICAL Calibration #: IC1074 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/2/17	17:51	15.00	16.21	108	90	110
Nitrate Nitrogen	5/2/17	17:51	3.500	3.811	109	90	110
Sulfate	5/2/17	17:51	25.00	26.98	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 862529

ICAL Calibration #: IC1074 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/2/17	12:43	15.00	15.87	106	90	110
Nitrate Nitrogen	5/2/17	12:43	3.500	3.774	108	90	110
Sulfate	5/2/17	12:43	25.00	26.91	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 862975

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/3/17	11:40	15.00	13.94	93	90	110
Nitrate Nitrogen	5/3/17	11:40	3.500	3.843	110	90	110
Sulfate	5/3/17	11:40	25.00	24.57	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 862977

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/3/17	14:27	15.00	13.51	90	90	110
Nitrate Nitrogen	5/3/17	14:27	3.500	3.611	103	90	110
Sulfate	5/3/17	14:27	25.00	24.92	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859546

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/02/2016 18:21	0.2900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687

Lab Sample ID: 854746

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/12/2017 16:14	0	U	1.1	2.0
Nitrate Nitrogen	04/12/2017 16:14	0	U	0.08	0.20
Sulfate	04/12/2017 16:14	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 855261

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	03/07/2017 17:22	0	U	1.1	2.0
Nitrate Nitrogen	03/07/2017 17:22	0	U	0.08	0.20
Sulfate	03/07/2017 17:22	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 854077

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC1053 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/12/2017 23:01	0	U	1.1	2.0
Nitrate Nitrogen	04/12/2017 23:01	0	U	0.08	0.20
Sulfate	04/12/2017 23:01	0.3708	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 854078

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC1053 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/13/2017 03:33	0	U	1.1	2.0
Nitrate Nitrogen	04/13/2017 03:33	0	U	0.08	0.20
Sulfate	04/13/2017 03:33	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137173 Lab Sample ID: 859424

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	04/24/2017 20:44	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859512

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/25/2017 04:41	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859517

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/25/2017 07:14	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859519

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/25/2017 09:38	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 862525

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC1074 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/02/2017 13:32	0	U	1.1	2.0
Nitrate Nitrogen	05/02/2017 13:32	0	U	0.08	0.20
Sulfate	05/02/2017 13:32	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 862528

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC1074 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/02/2017 18:32	0	U	1.1	2.0
Nitrate Nitrogen	05/02/2017 18:32	0	U	0.08	0.20
Sulfate	05/02/2017 18:32	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 853994

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/11/2017 21:05	0.5560	U	1.1	2.0
Nitrate Nitrogen	04/11/2017 21:05	0	U	0.08	0.20
Sulfate	04/11/2017 21:05	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 862976

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/03/2017 12:04	0	U	1.1	2.0
Nitrate Nitrogen	05/03/2017 12:04	0	U	0.08	0.20
Sulfate	05/03/2017 12:04	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 862978

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/03/2017 14:50	0	U	1.1	2.0
Nitrate Nitrogen	05/03/2017 14:50	0	U	0.08	0.20
Sulfate	05/03/2017 14:50	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137173 Lab Sample ID: 859422

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	04/24/2017 17:42	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 137128 Lab Sample ID: 859510

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT = Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/25/2017 02:03	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136639 Lab Sample ID: 853988

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/11/2017 16:50	0	U	1.1	2.0
Nitrate Nitrogen	04/11/2017 16:50	0	U	0.08	0.20
Sulfate	04/11/2017 16:50	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 126485

Analytical Run #: 136687 Lab Sample ID: 854744

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/12/2017 18:31	0	U	1.1	2.0
Nitrate Nitrogen	04/12/2017 18:31	0	U	0.08	0.20
Sulfate	04/12/2017 18:31	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	854085	Parent Sample No.:	853082
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	136687	ICAL Calibration #:	IC1053

Analysis Type *Initial Analysis* Analysis Date: ----- 04/12/2017 Analysis Time: -------- 23:22

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	6.16		6.6		8.00	0			*FAIL*
Nitrate Nitrogen	88-111	0.980		1.0		2.00	0			*FAIL*
Sulfate	87-112	45.5		47		8.00	0			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	859514	Parent Sample No.:	853081
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	137128	ICAL Calibration #:	INSTRUMENT =

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2017 Analysis Time: -------- 05:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	56.9		6.7		50.0	100		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	862530	Parent Sample No.:	853082
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	136687	ICAL Calibration #:	IC1074

Analysis Type *Initial Analysis* Analysis Date: ----- 05/02/2017 Analysis Time: -------- 14:56

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	14.3		6.6		8.00	96			
Nitrate Nitrogen	88-111	3.09		1.0		2.00	104			
Sulfate	87-112	48.6		47		8.00	20			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	853991	Parent Sample No.:	852435
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	136639	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	04/11/2017	Analysis Time: --------	18:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.7		6.4		8.00	79		IC	*FAIL*
Nitrate Nitrogen	88-111	2.40		0.30	J	2.00	105		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 126485

% Solids for Sample:

Concentration Units: mg/L

Sample No 853991

Parent Sample No.: 852435

Analytical Prep Batch # 0

Analytical Preparation Date/Time:

Analytical Run #: 136639

ICAL Calibration #:

ReRun *Re-Analysis #1* Analysis Date: ----- 04/11/2017 Analysis Time: -------- 18:57

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Sulfate	87-112	142		65		80.0	96		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	859515	Parent Sample No.:	859514
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	137128	ICAL Calibration #:	INSTRUMENT =

Analysis Type *Initial Analysis* Analysis Date: ----- 04/25/2017 Analysis Time: -------- 05:24

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	55.6		6.7		50.0	98		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	854747	Parent Sample No.:	854085
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	136687	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 04/12/2017 Analysis Time: -------- 23:43

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	6.12		6.6		8.00	0		IC	*FAIL*
Nitrate Nitrogen	88-111	0.994		1.0		2.00	0		IC	*FAIL*
Sulfate	87-112	45.5		47		8.00	0		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solids for Sample:
Concentration Units: mg/L
Sample No 862907
Parent Sample No.: 862530
Analytical Prep Batch #
Analytical Preparation Date/Time:
Analytical Run #: 136687
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 05/02/2017 Analysis Time: -------- 15:38

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	14.4		6.6		8.00	98		IC	
Nitrate Nitrogen	88-111	3.11		1.0		2.00	106		IC	
Sulfate	87-112	48.7		47		8.00	21		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	862974	Parent Sample No.:	853991
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	136639	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 05/03/2017 Analysis Time: -------- 12:26

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.6		6.4		8.00	65		IC	*FAIL*
Nitrate Nitrogen	88-111	2.34		0.30	J	2.00	102		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	126485
% Solids for Sample:		Concentration Units:	mg/L
Sample No	862974	Parent Sample No.:	853991
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	136639	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 05/03/2017 Analysis Time: -------- 12:48

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Sulfate	87-112	134		65		80.0	86		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 136687
ICAL Calibration #: IC1053
Sample #: 854079
Parent Sample #: 853082

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/12/2017	21:58	10	6.6		6.50		2		
Nitrate Nitrogen	04/12/2017	21:58	10	1.0		1.04		4		
Sulfate	04/12/2017	21:58	10	47		46.5		1		

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 126485

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 137128

ICAL Calibration #: INSTRUMENT =

Sample #: 859513

Parent Sample #: 853081

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	04/25/2017	04:57	20	6.7		7.11		6		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

54MW10

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 136639
ICAL Calibration #:
Sample #: 853989
Parent Sample #: 852435

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/11/2017	17:54	10	6.4		6.31		1		IC
Nitrate Nitrogen	04/11/2017	17:54	10	0.30	J	0.300	J	0		IC
Sulfate	04/11/2017	17:54	10	65		65.7		1		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 137128
ICAL Calibration #: INSTRUMENT =
Sample #: 859515
Parent Sample #: 859514

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	04/25/2017	05:24	20	56.9		55.6		2		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 136687
ICAL Calibration #:
Sample #: 854747
Parent Sample #: 854085

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/12/2017	23:43	15	6.16		6.12		1		IC
Nitrate Nitrogen	04/12/2017	23:43	15	0.980		0.994		1		IC
Sulfate	04/12/2017	23:43	15	45.5		45.5		0		IC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 136687
ICAL Calibration #:
Sample #: 862907
Parent Sample #: 862530

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	05/02/2017	15:38	15	14.3		14.4		1		IC
Nitrate Nitrogen	05/02/2017	15:38	15	3.09		3.11		1		IC
Sulfate	05/02/2017	15:38	15	48.6		48.7		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW10**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 136639
ICAL Calibration #:
Sample #: 862974
Parent Sample #: 853991

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	05/03/2017	12:26	15	12.7		11.6		9		IC
Nitrate Nitrogen	05/03/2017	12:26	15	2.40		2.34		2		IC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW10**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 126485
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 136639
ICAL Calibration #:
Sample #: 862974
Parent Sample #: 853991

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	05/03/2017	12:48	15	142		134		6		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 126485

Concentration Units: mg/L

Analytical Run #: 137173 Sample No.:#: 859421

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT =

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	04/24/2017 17:28	85-111	51.17		50.00	102		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 126485

Concentration Units: mg/L

Analytical Run #: 137128 Sample No.:#: 859509

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: INSTRUMENT =

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	04/25/2017 01:48	85-111	53.05		50.00	106		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 126485

Concentration Units: mg/L

Analytical Run #: 136639 Sample No.:#: 853987

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/11/2017 16:29	87-111	14.08		15.00	94		IC
Nitrate Nitrogen	04/11/2017 16:29	88-111	3.654		3.500	104		IC
Sulfate	04/11/2017 16:29	87-112	25.06		25.00	100		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 126485

Concentration Units: mg/L

Analytical Run #: 136687 Sample No.:#: 854743

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/12/2017 18:10	87-111	16.38		15.00	109		IC
Nitrate Nitrogen	04/12/2017 18:10	88-111	3.566		3.500	102		IC
Sulfate	04/12/2017 18:10	87-112	27.16		25.00	109		IC

INORGANICS
RAW DATA
DOCUMENTS

Schedule File: C:\INSTARCH\Sequences\System 2\030717 - IC1017.SCH

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	STD 1	Calibration St	1	ic1017.met	std 1_003.dxd	1	1
2	STD 2	Calibration St	2	ic1017.met	std 2_004.dxd	1	1
3	STD 3	Calibration St	3	ic1017.met	std 3_005.dxd	1	1
4	STD 4	Calibration St	4	ic1017.met	std 4_006.dxd	1	1
5	STD 5	Calibration St	5	ic1017.met	std 5_007.dxd	1	1
6	STD 6	Calibration St	6	ic1017.met	std 6_008.dxd	1	1
7	STD 7	Calibration St	7	ic1017.met	std 7_009.dxd	1	1
8	STD 8	Calibration St	8	ic1017.met	std 8_010.dxd	1	1
9	STD 9	Calibration St	9	ic1017.met	std 9_011.dxd	1	1
10	ICV IC00939 IC0940	Sample		ic1017.met	icv ic00939 ic0940_012.dxd	1	1
11	ICB	Sample		ic1017.met	icb_013.dxd	1	1

Calibration Concentrations

Instrument:	**DX-120 (2)**	**Cal. File:**	**030717-2**	IC1017	**ICV**	IC0939 IC 0940		**Analyst/Date: AGK 03/07/17**		
Analyte	**Cal Level 1 (mg/L)**	**Cal Level 2 (mg/L)**	**Cal Level 3 (mg/L)**	**Cal Level 4 (mg/L)**	**Cal Level 5 (mg/L)**	**Cal Level 6 (mg/L)**	**Cal Level 7 (mg/L)**	**Cal Level 8 (mg/L)**	**Cal Level 9 (mg/L)**	**ICV (mg/L)**
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

RJ 04/17/2017

Calibration Update Report

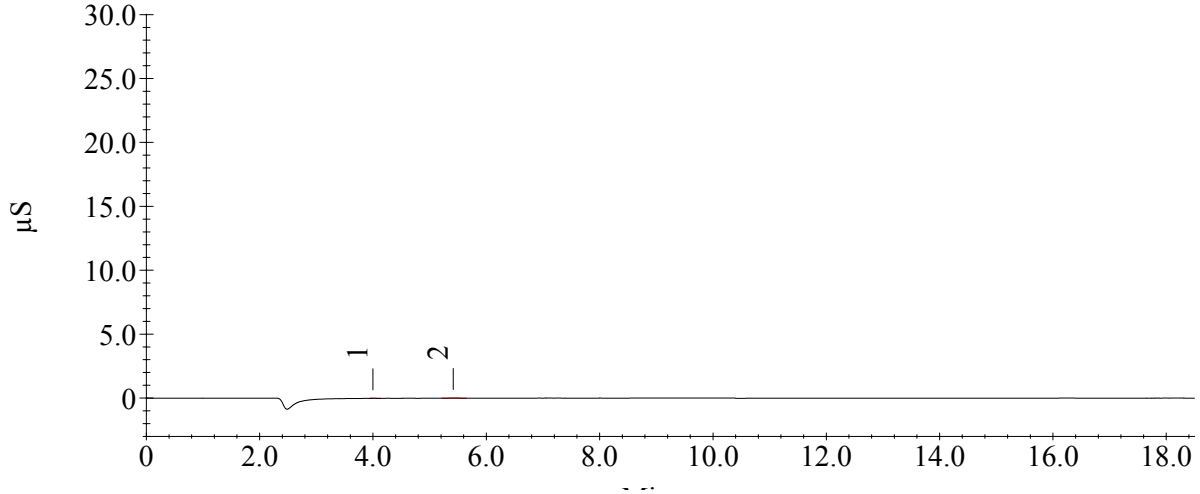
Sample Name : STD 1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 1_003.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 13:55:51
Calibration Date : 3/7/17 14:14:21
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
	Chloride				

STD 1



Calibration Update Report

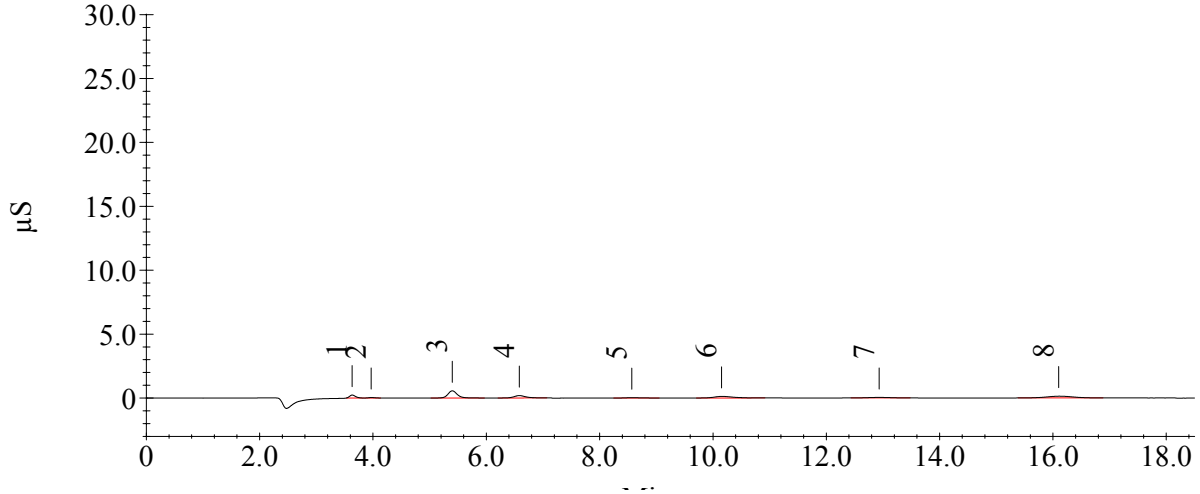
Sample Name : STD 2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 2_004.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 14:16:31
Calibration Date : 3/7/17 14:35:02
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.63	0	17022	17022
3	Chloride	5.40	0	64854	64854
4	Nitrite	6.58	0	26820	26820
5	Bromide	8.57	0	5208	5208
6	Nitrate	10.15	0	29187	29187
7	O.Phos	12.93	0	11207	11207
8	Sulfate	16.10	0	45760	45760

STD 2



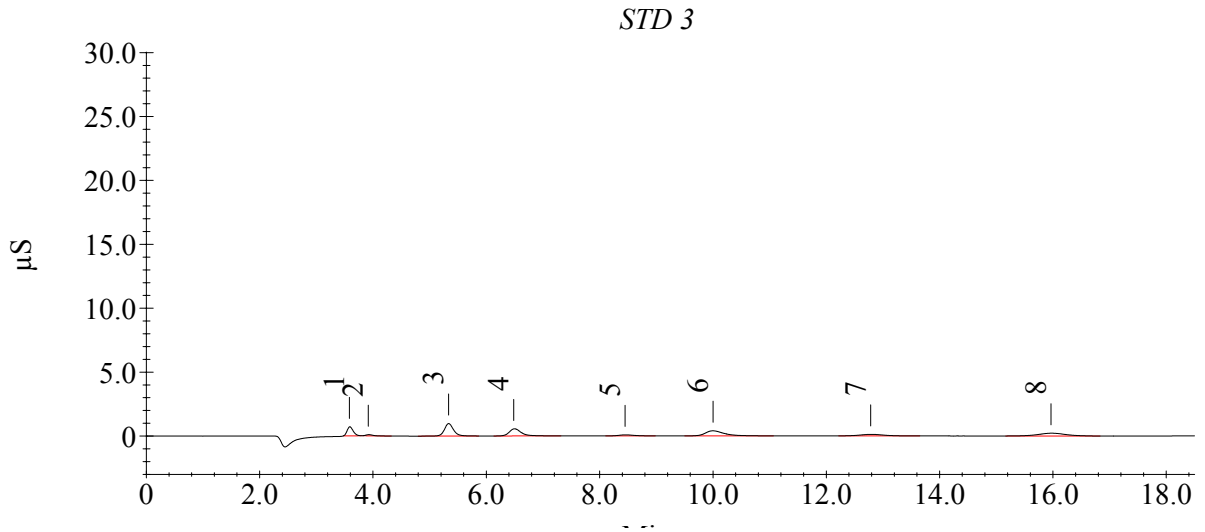
Calibration Update Report

Sample Name : STD 3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 3_005.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 14:37:12
Calibration Date : 3/7/17 14:55:43
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.58	0	52458	52458
3	Chloride	5.33	0	109576	109576
4	Nitrite	6.48	0	83040	83040
5	Bromide	8.45	0	15821	15821
6	Nitrate	10.00	0	93650	93650
7	O.Phos	12.78	0	34030	34030
8	Sulfate	15.97	0	76639	76639



Calibration Update Report

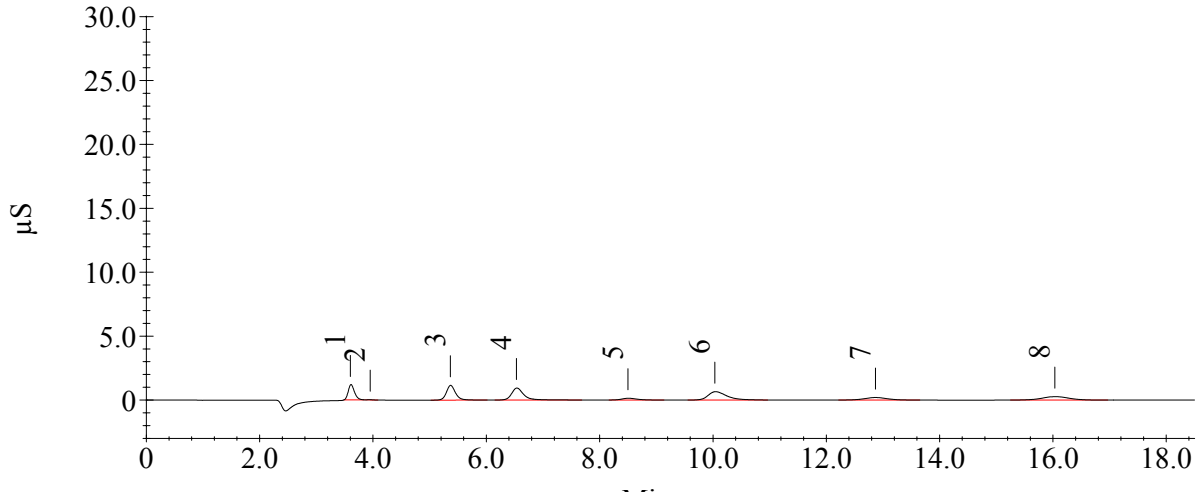
Sample Name : STD 4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 4_006.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 14:57:54
Calibration Date : 3/7/17 15:16:25
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.60	0	91588	91588
3	Chloride	5.37	0	129167	129167
4	Nitrite	6.53	0	140209	140209
5	Bromide	8.50	0	26837	26837
6	Nitrate	10.03	0	152266	152266
7	O.Phos	12.87	0	55828	55828
8	Sulfate	16.03	0	90499	90499

STD 4



Calibration Update Report

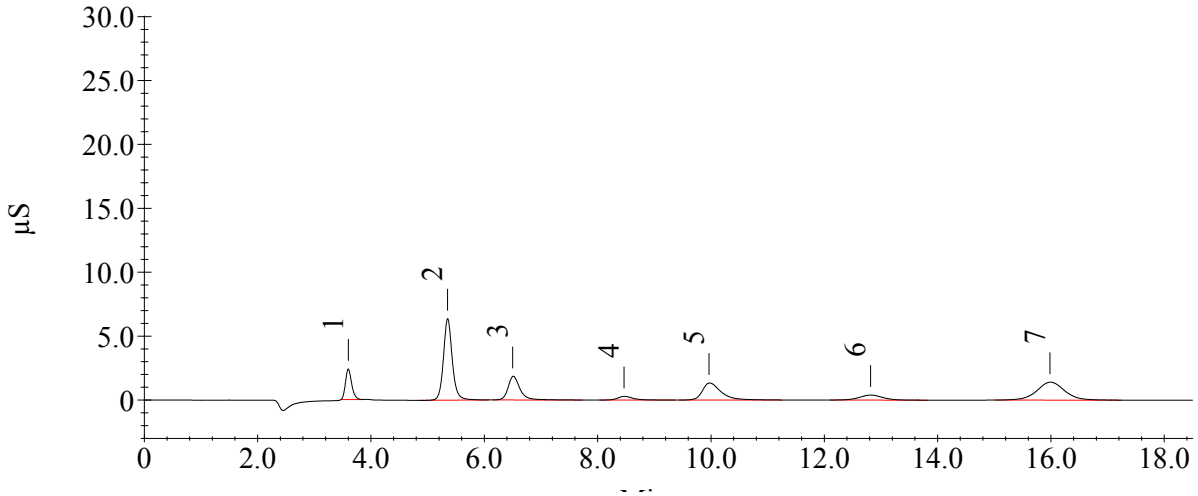
Sample Name : STD 5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 5_007.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 15:18:36
Calibration Date : 3/7/17 15:37:06
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.60	0	181760	181760
2	Chloride	5.35	0	693628	693628
3	Nitrite	6.50	0	270752	270752
4	Bromide	8.47	0	53213	53213
5	Nitrate	9.97	0	306759	306759
6	O.Phos	12.82	0	114396	114396
7	Sulfate	15.98	0	484725	484725

STD 5



Calibration Update Report

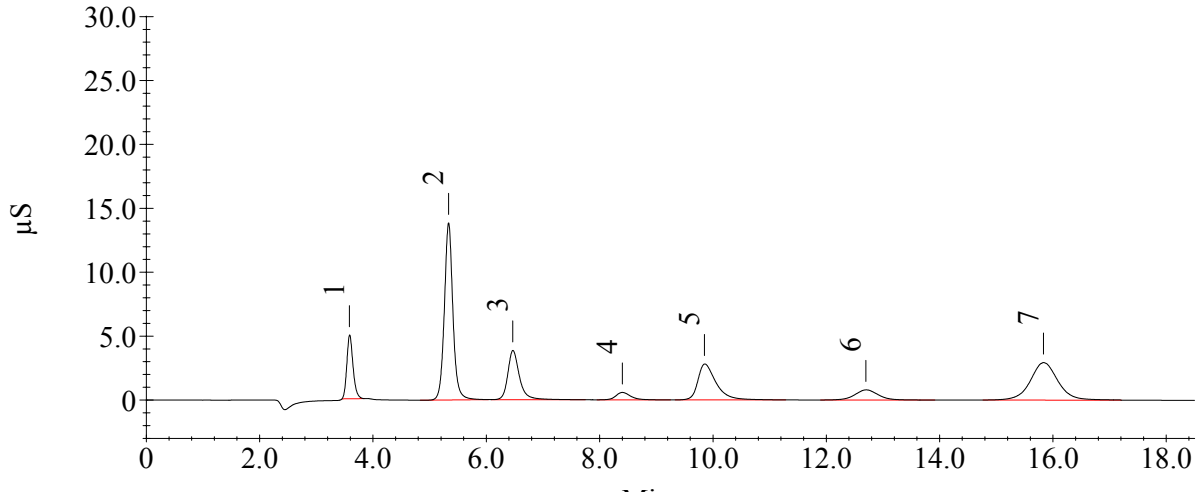
Sample Name : STD 6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 6_008.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 15:39:17
Calibration Date : 3/7/17 15:57:47
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.58	0	377754	377754
2	Chloride	5.33	0	1456036	1456036
3	Nitrite	6.47	0	550824	550824
4	Bromide	8.40	0	106095	106095
5	Nitrate	9.85	0	627201	627201
6	O.Phos	12.70	0	227348	227348
7	Sulfate	15.83	0	998475	998475

STD 6



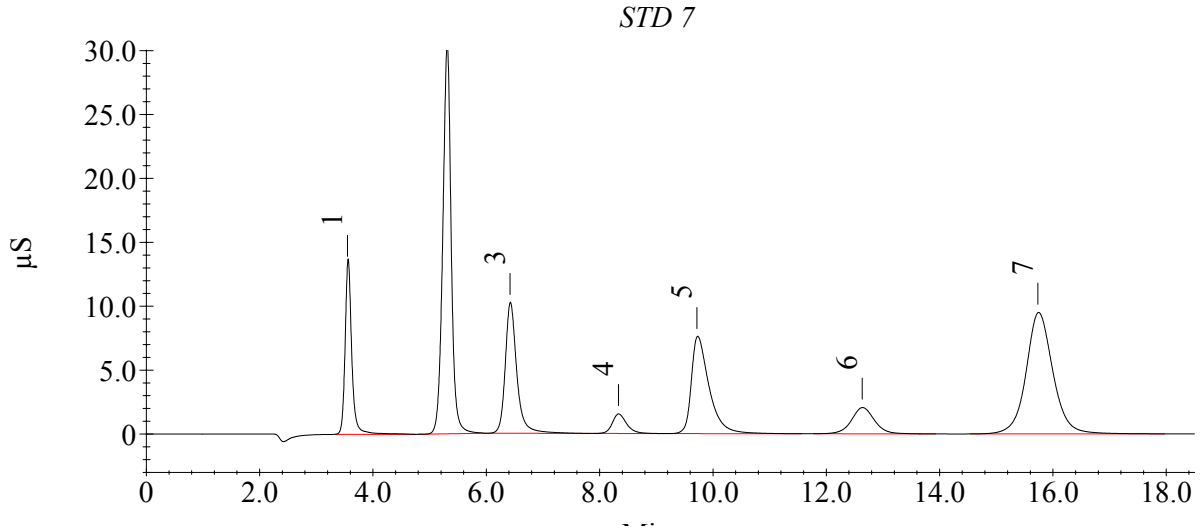
Calibration Update Report

Sample Name : STD 7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 7_009.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 15:59:57
Calibration Date : 3/7/17 16:18:28
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.55	0	1118973	1118973
2	Chloride	5.30	0	3145868	3145868
3	Nitrite	6.42	0	1451283	1451283
4	Bromide	8.33	0	269460	269460
5	Nitrate	9.72	0	1660557	1660557
6	O.Phos	12.63	0	581298	581298
7	Sulfate	15.73	0	3129943	3129943



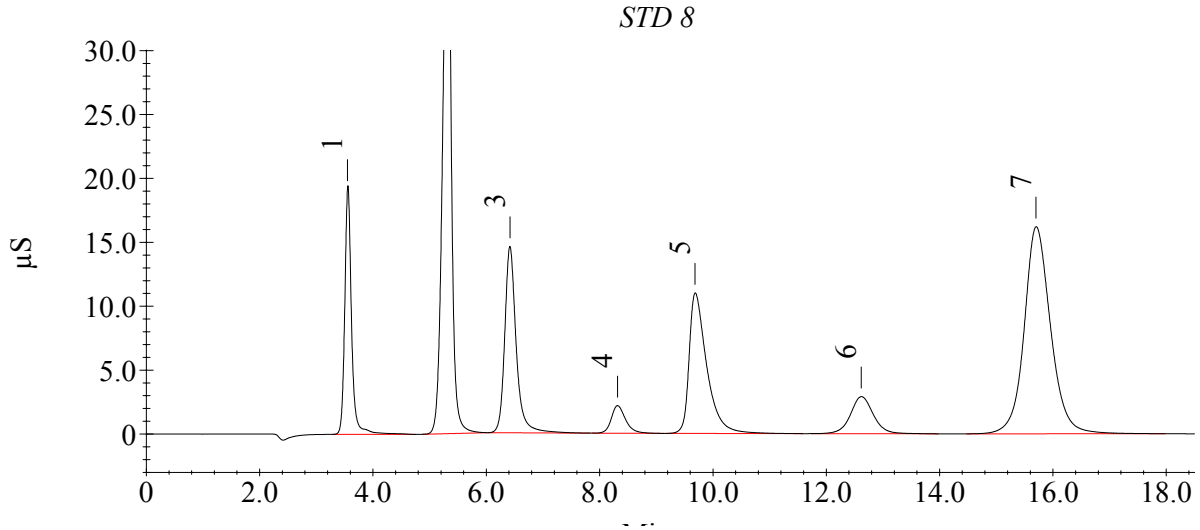
Calibration Update Report

Sample Name : STD 8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 8_010.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 16:20:38
Calibration Date : 3/7/17 16:39:09
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.55		1613327	
2	Chloride	5.32	0	4808572	4808572
3	Nitrite	6.42		2050100	
4	Bromide	8.32		376897	
5	Nitrate	9.68	0	2375135	2375135
6	O.Phos	12.62		815136	
7	Sulfate	15.70	0	5256293	5256293



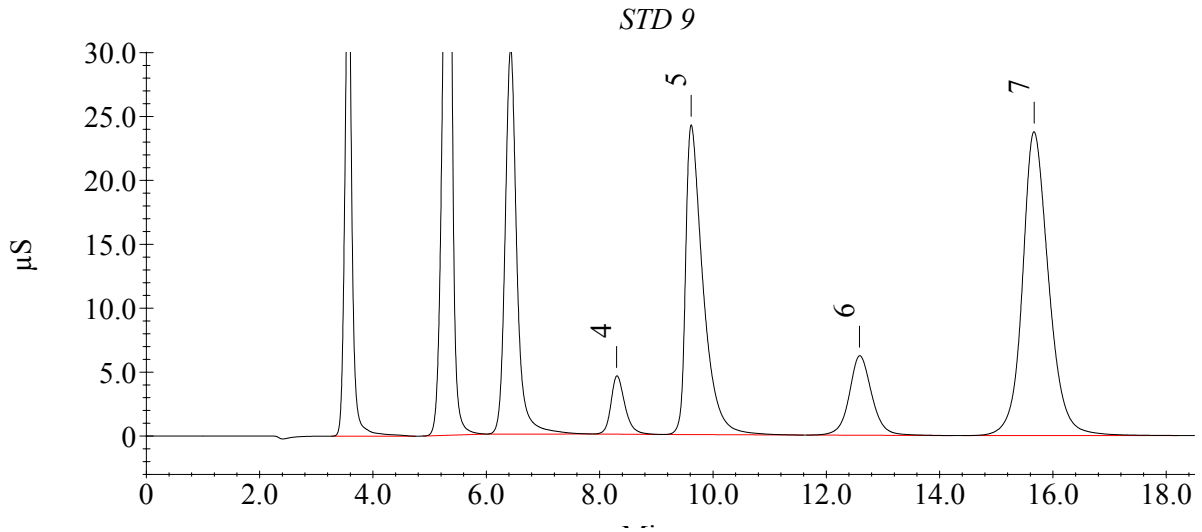
Calibration Update Report

Sample Name : STD 9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\STD 9_011.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Schedule File Name : c:\instarch\sequences\system 2\030717 - ic1017.sch
Date Time Collected : 3/7/17 16:41:20
Calibration Date : 3/7/17 16:59:50
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.57		3347890	
2	Chloride	5.32	0	6659553	6659553
3	Nitrite	6.42		4332488	
4	Bromide	8.30		777449	
5	Nitrate	9.62		5177933	
6	O.Phos	12.58		1716970	
7	Sulfate	15.67	0	7647818	7647818



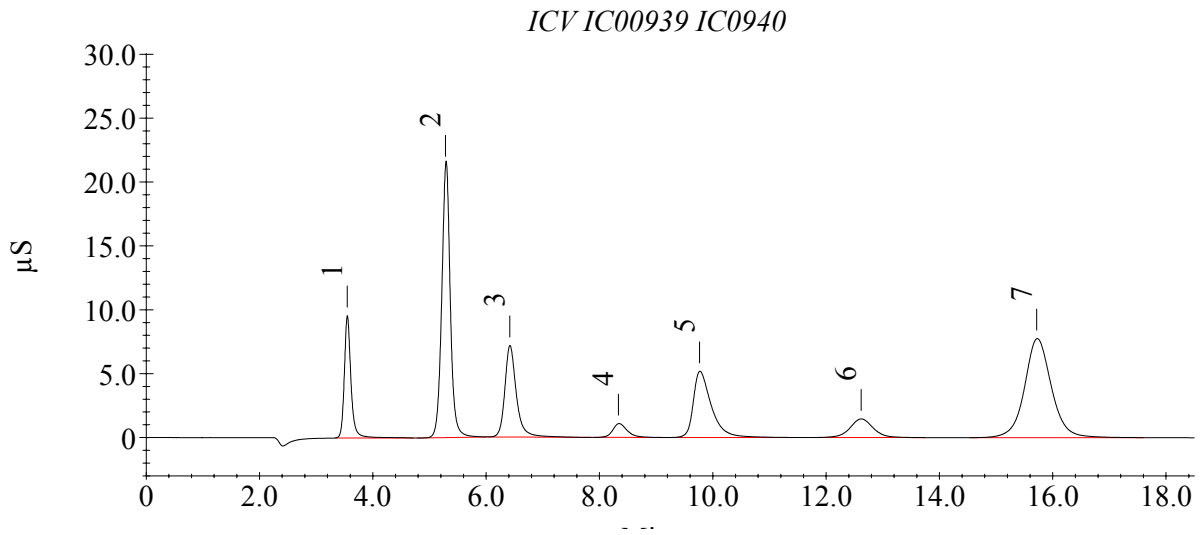
Sample Analysis Report

Sample Name : ICV IC00939 IC0940
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\ICV IC00939 IC0940_012.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 3/7/17 17:02:02
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.55	3.5942	784403	95625	
2	Chloride	5.28	14.1188	2251503	213185	
3	Nitrite	6.42	3.5300	1015630	71559	
4	Bromide	8.33	3.5857	192771	10748	
5	Nitrate	9.77	3.4285	1142389	51689	
6	O.Phos	12.62	3.5599	412375	14538	
7	Sulfate	15.72	23.9999	2551540	77350	



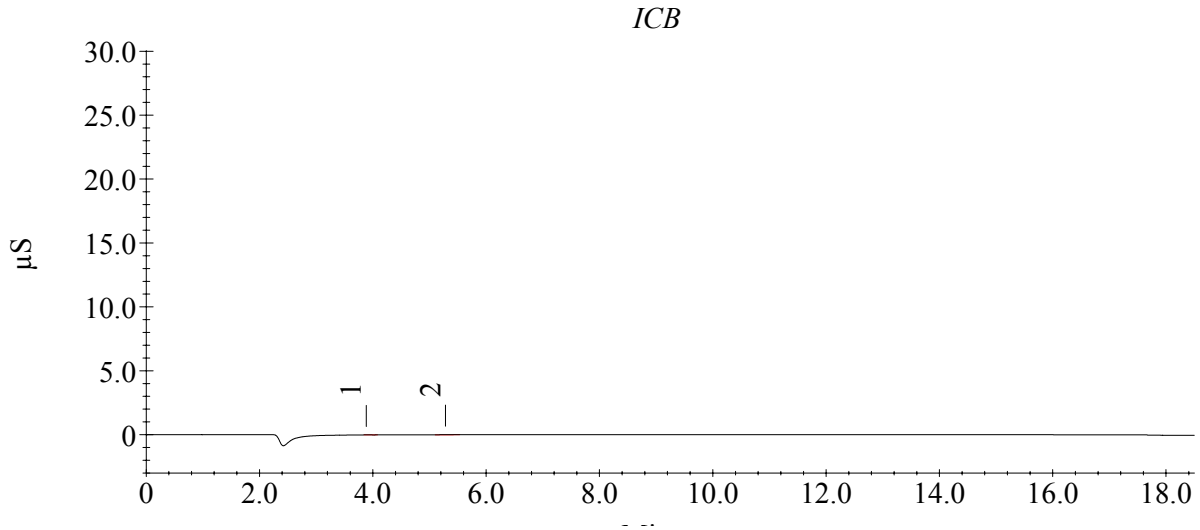
Sample Analysis Report

Sample Name : ICB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\030717-2\ICB_013.DXD

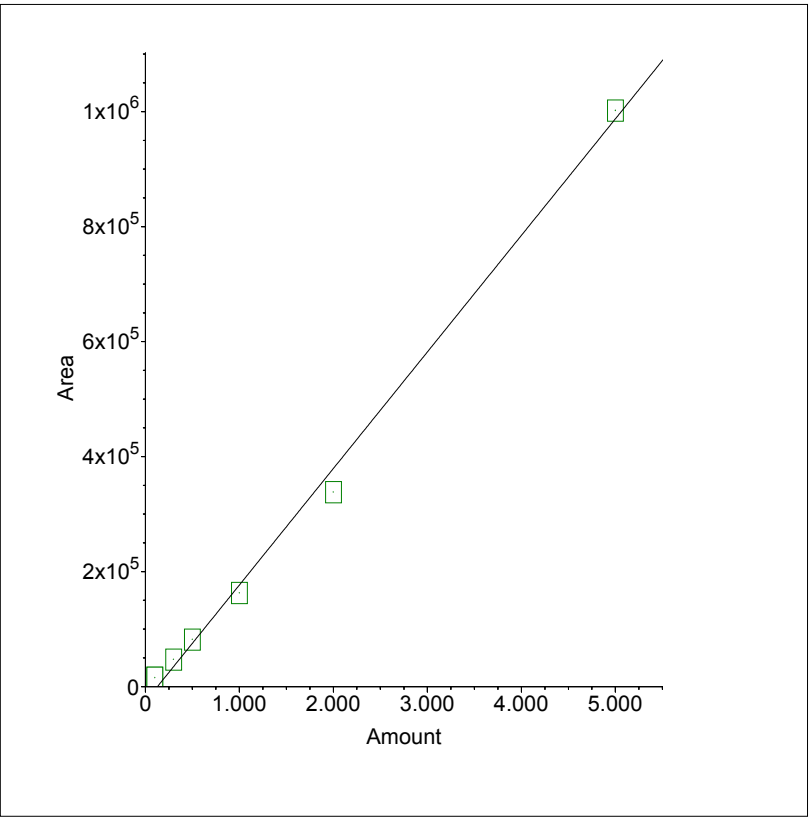
Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 3/7/17 17:22:43
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.996127
Amt=4.418e-006*Resp+0.1289



2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998759
Amt=6.034e-006*Resp+0.5337

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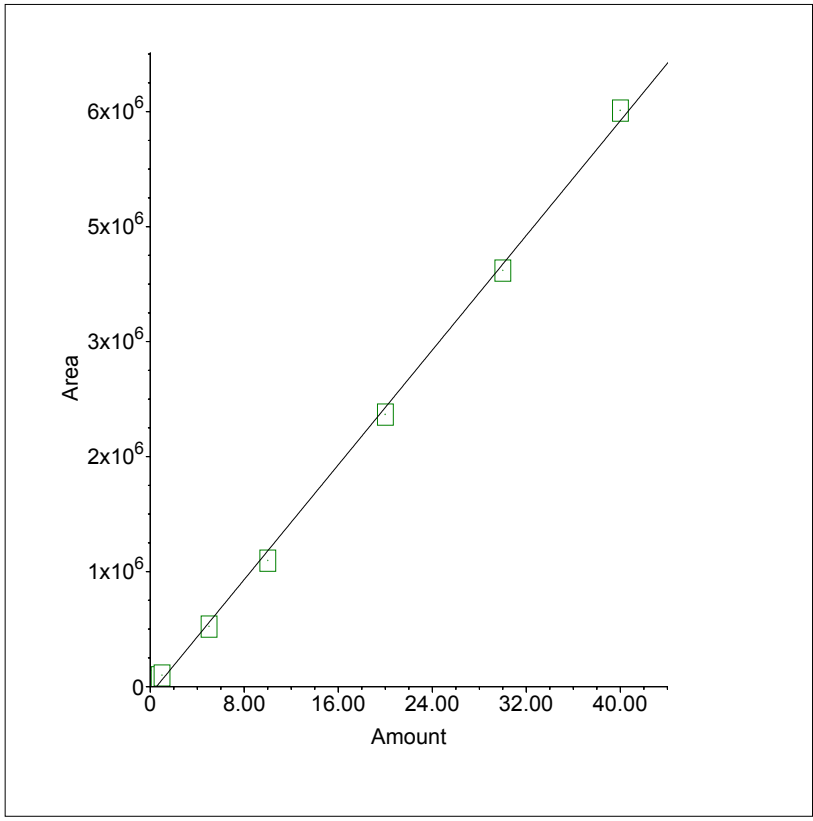
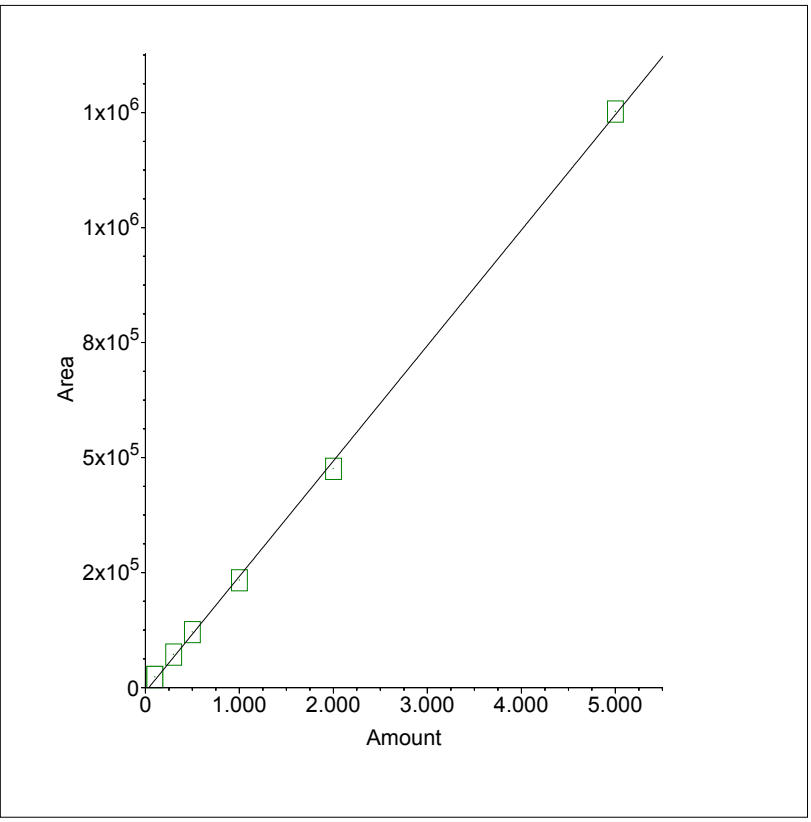
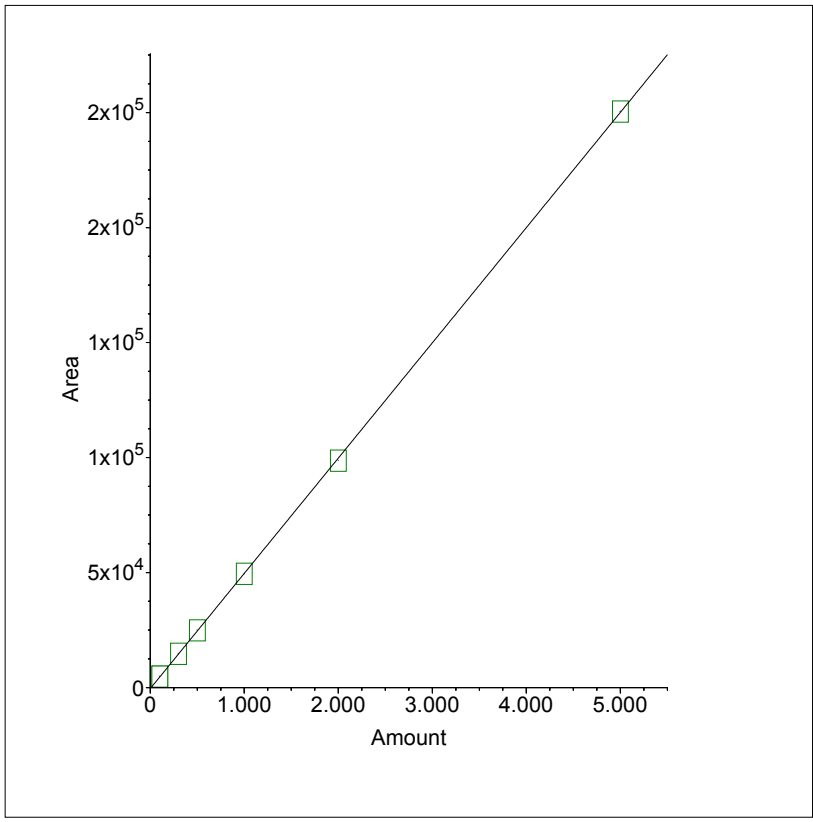


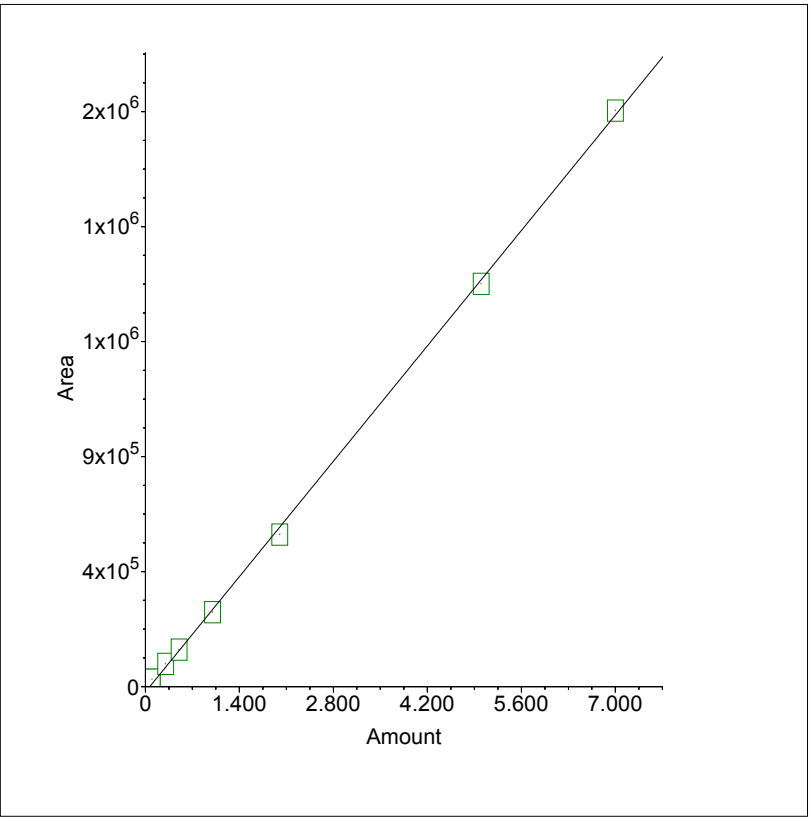
3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999519
Amt=3.439e-006*Resp+0.03732



4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999960
Amt=1.855e-005*Resp+0.009709

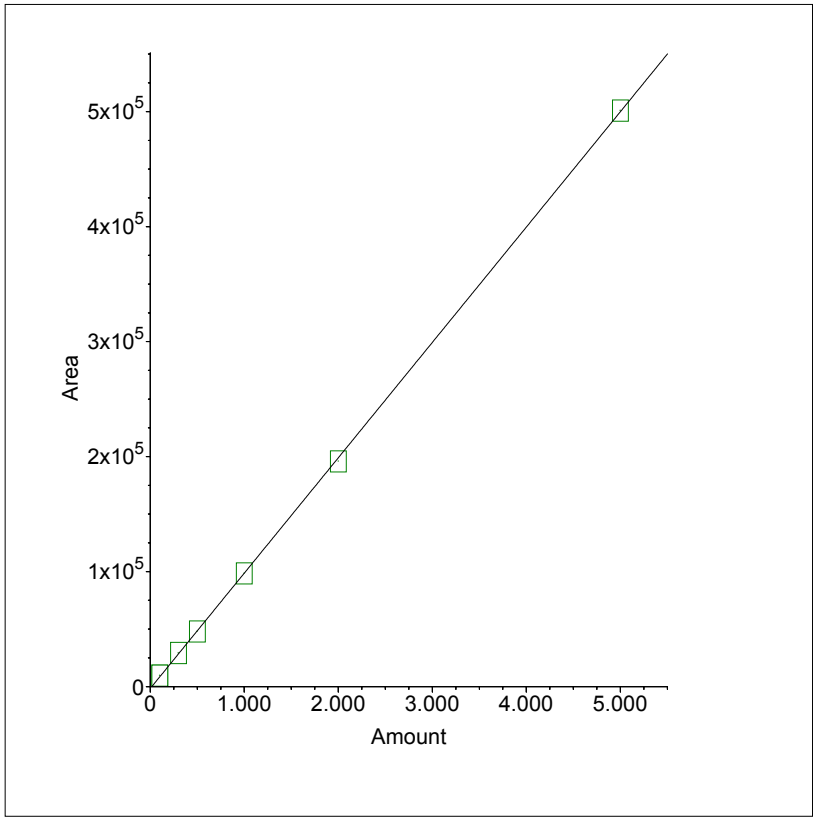


5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999567
Amt=2.943e-006*Resp+0.06635

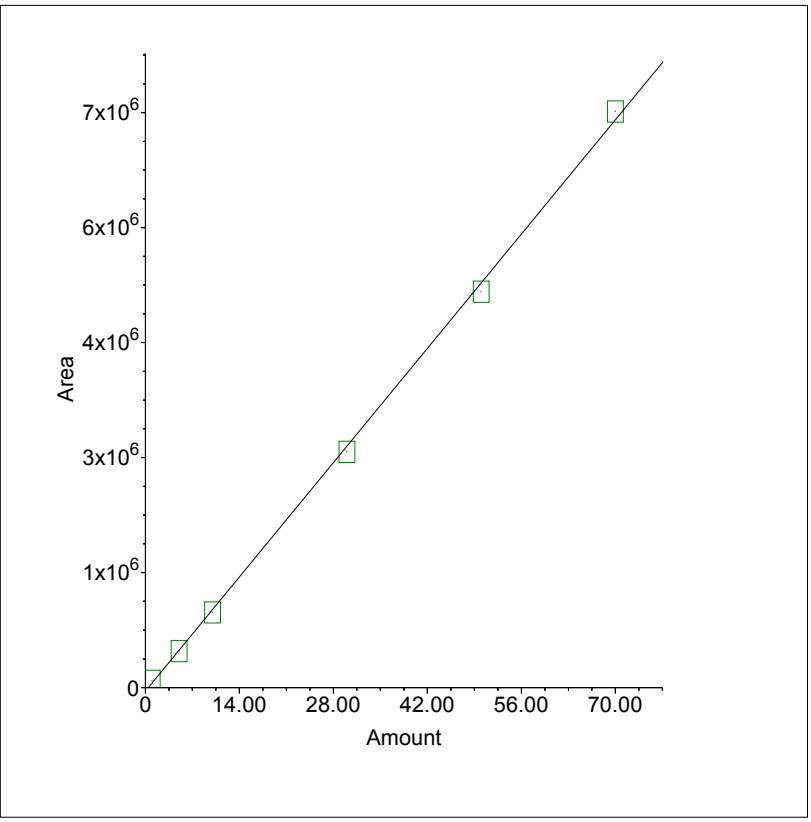


6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999925
Amt=8.592e-006*Resp+0.01684

RJ 04/17/2017



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999373
Amt=9.227e-006*Resp+0.4558



76	CCV	Sample	system 2\ic1017.met
77	LCSW	Sample	system 2\ic1017.met
78	MBW CCB	Sample	system 2\ic1017.met
79	852435	Sample	system 2\ic1017.met
80	852435X10	Sample	system 2\ic1017.met
81	DUP852435	Sample	system 2\ic1017.met
82	DUP852435X10	Sample	system 2\ic1017.met
83	MSW852435	Sample	system 2\ic1017.met
84	MSW852435X10	Sample	system 2\ic1017.met
85	852440	Sample	system 2\ic1017.met
86	852440X10	Sample	system 2\ic1017.met
87	852442	Sample	system 2\ic1017.met
88	852442X10	Sample	system 2\ic1017.met
89	CCV	Sample	system 2\ic1017.met
90	CCB	Sample	system 2\ic1017.met

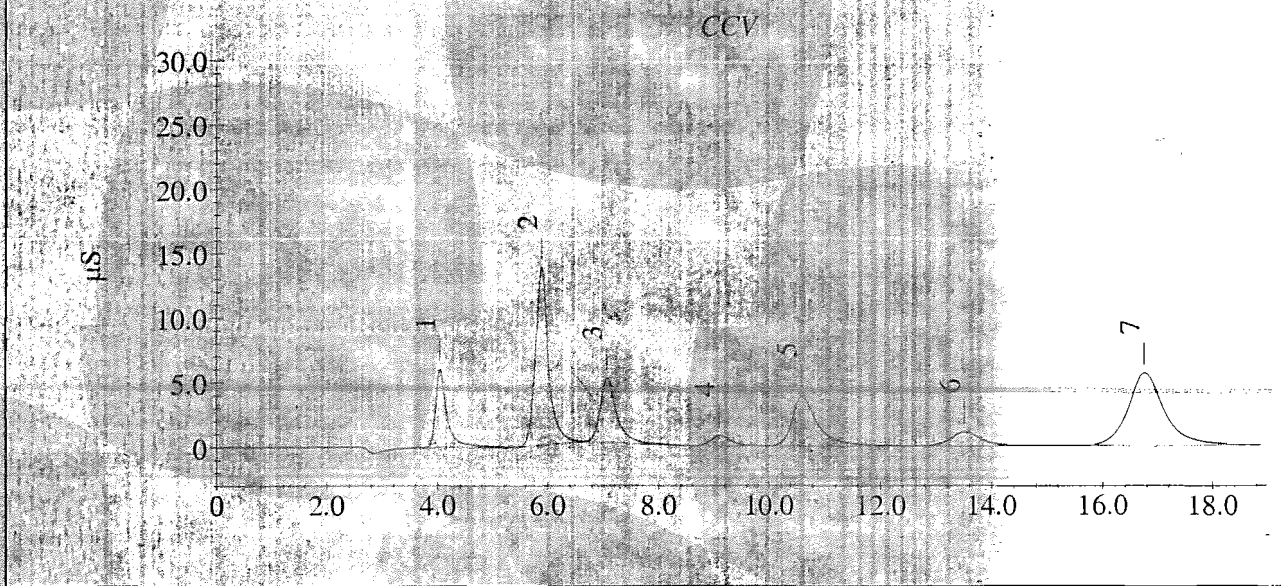
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\041017-2\CCV_076.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 16:08:00
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
1	Fluoride	4.03	3.8864	850544	60007	
2	Chloride	5.88	14.2971	2281041	137186	
3	Nitrite	7.07	3.5942	1034313	49455	
5	Nitrate	10.60	3.6930	1232269	38654	
6	O.Phos	13.52	3.6987	428534	10998	
7	Sulfate	16.75	24.8860	2647563	56420	



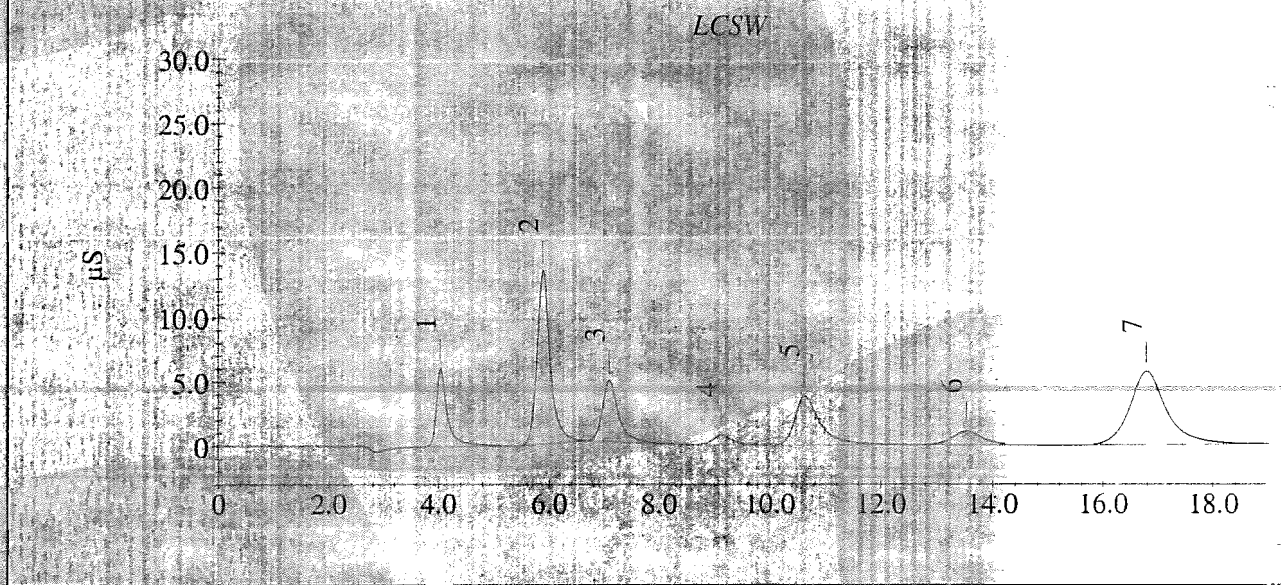
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\041017-2\LCSW_077.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 16:29:15
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
1	Fluoride	4.03	3.8909	851571	60029	
2	Chloride	5.88	14.0808	2245198	134082	
3	Nitrite	7.08	3.4655	996875	47759	
5	Nitrate	10.62	3.6536	1218898	38235	
6	O.Phos	13.53	3.5912	416012	10697	
7	Sulfate	16.78	25.0636	2666812	56967	



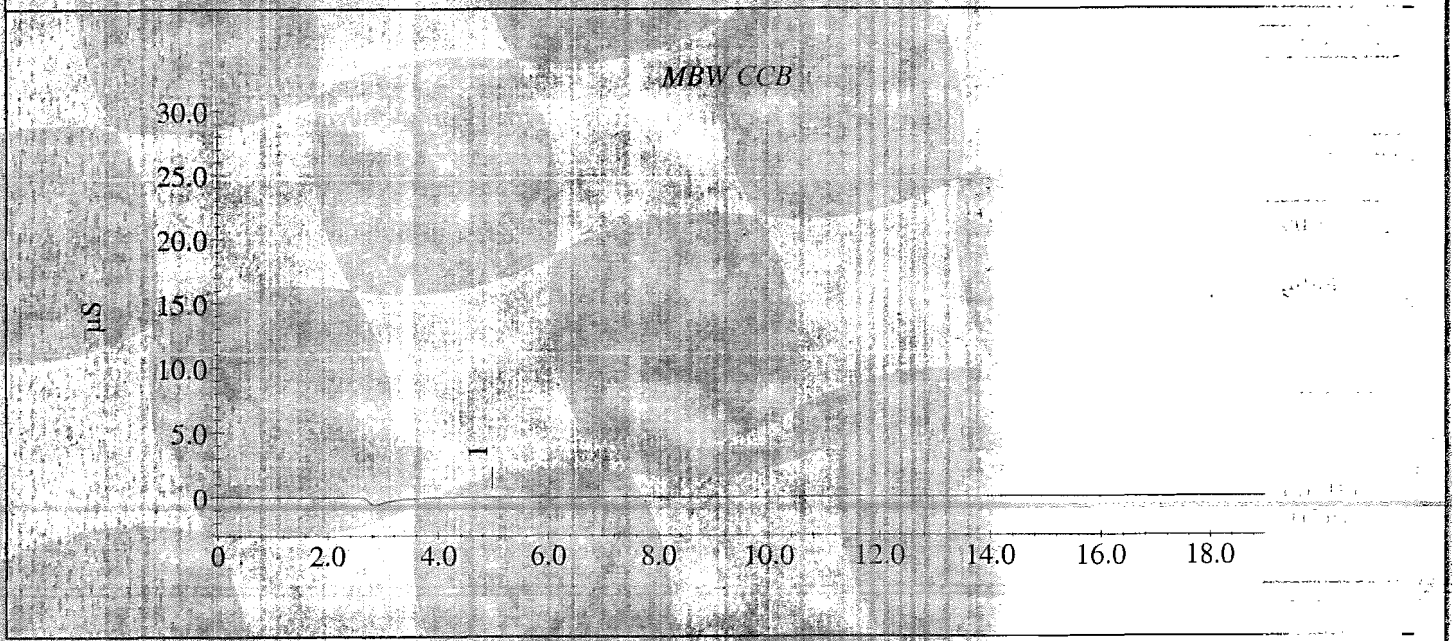
Sample Analysis Report

Sample Name : MBW CCB
Data File Name : c:\instarch\data\system 2\041017-2\MBW CCB_078.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 16:50:29
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce



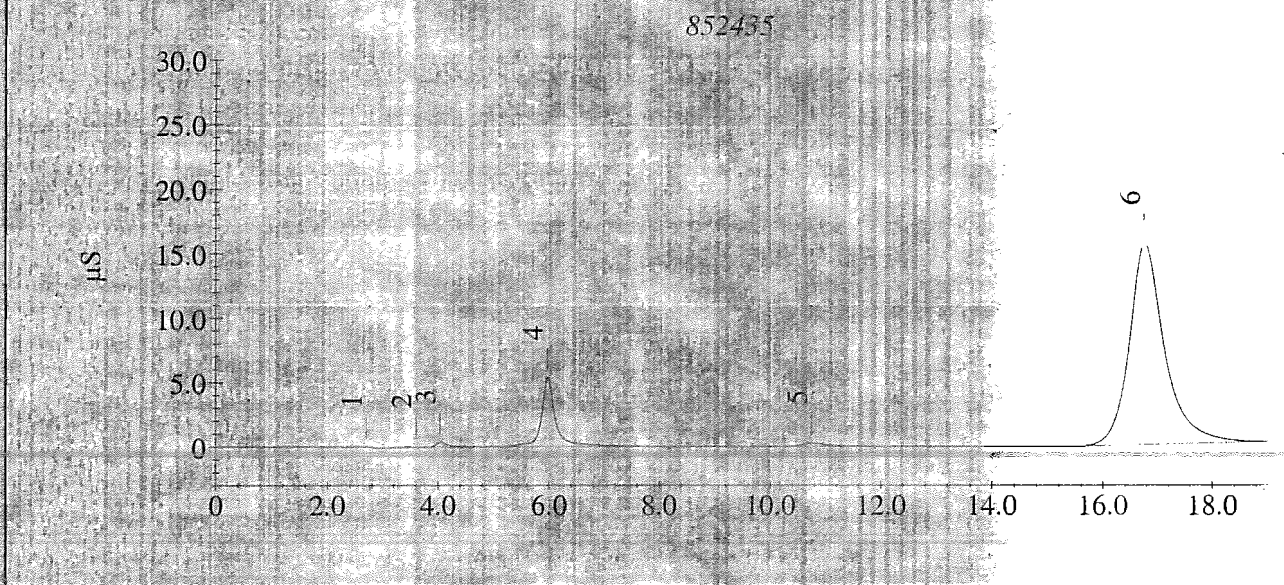
Sample Analysis Report

Sample Name : 852435
Data File Name : c:\instarch\data\system 2\041017-2\852435_079.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 17:11:42
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	3.60	0.1673	8702	222	
4	Chloride	5.97	6.3507	964074	53020	
5	Nitrate	10.75	0.2950	77706	2573	
6	Sulfate	16.75	65.3781	7035795	155716	



Sample Analysis Report

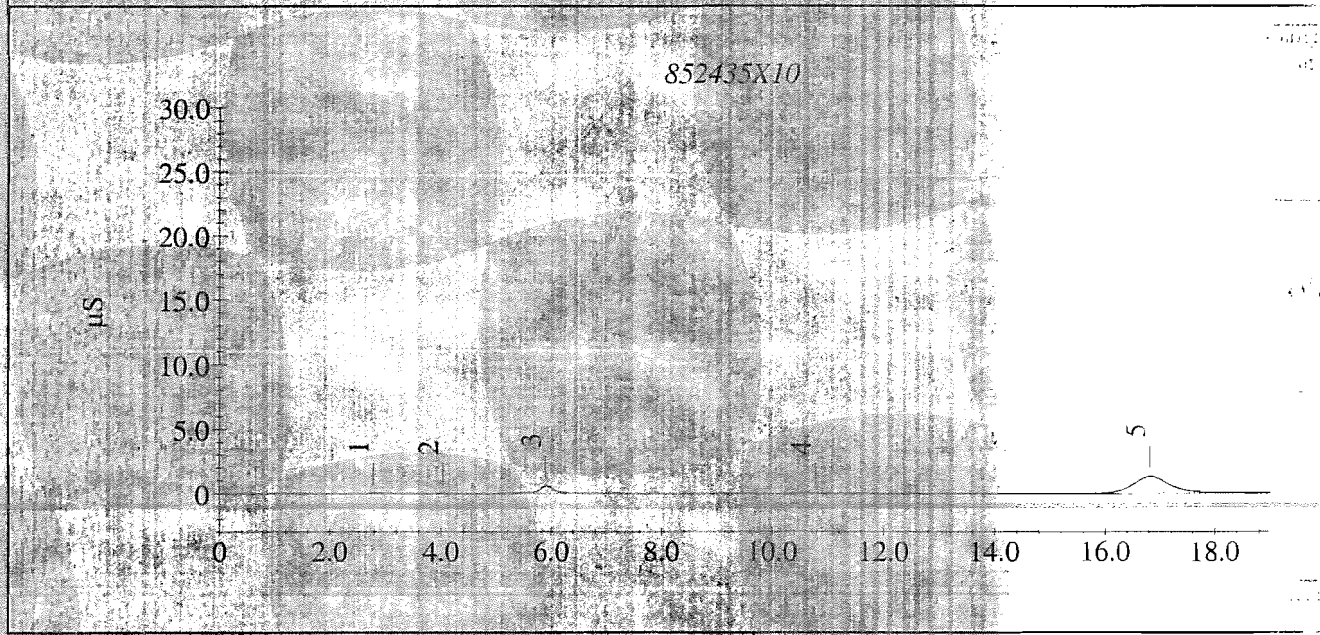
not used

Sample Name : 852435X10
Data File Name : c:\instarch\data\system 2\041017-2\852435X10_080.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 17:32:54
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	4.03	0.1428	3141	294	
3	Chloride	5.90	1.3094	128556	6013	
4	Nitrate	10.78	0.0799	4608	191	
5	Sulfate	16.82	6.3275	636333	13386	



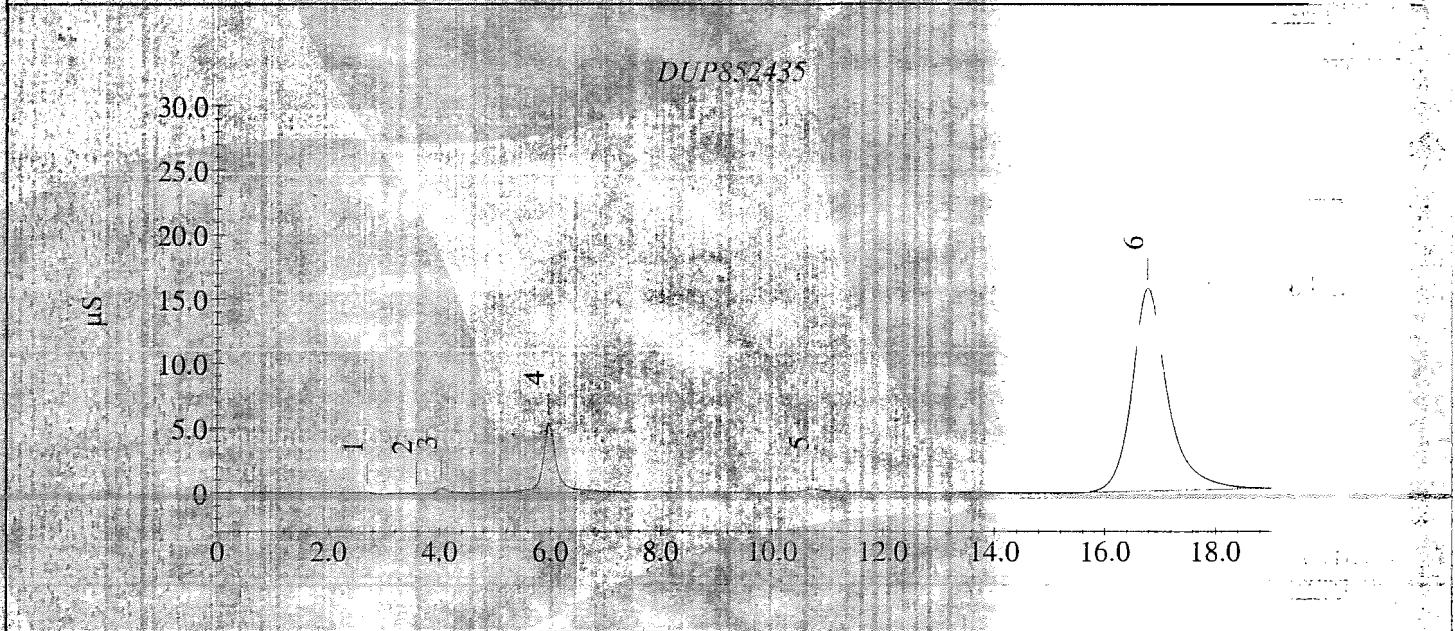
Sample Analysis Report

Sample Name : DUP852435
Data File Name : c:\instarch\data\system 2\041017-2\DUP852435_081.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 17:54:07
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce[illegible]
2	Fluoride	3.58	0.1670	8629	219	
4	Chloride	5.97	6.3074	956889	53108	
5	Nitrate	10.75	0.2998	79335	2601	
6	Sulfate	16.77	65.6921	7069830	156909	



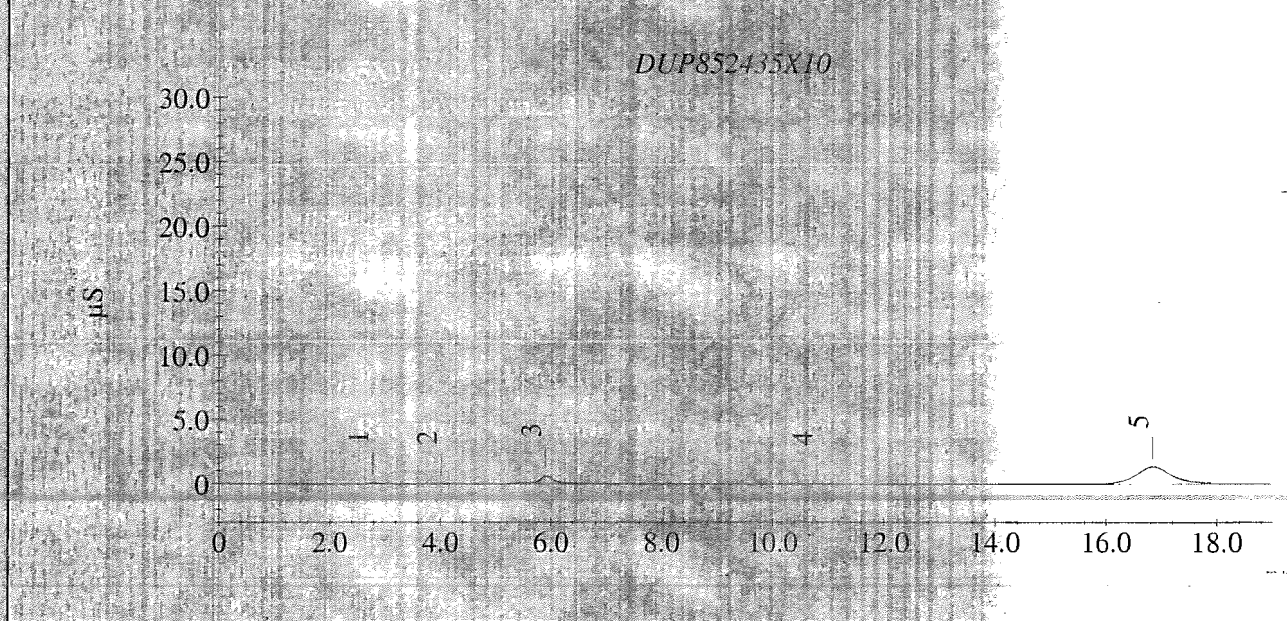
Sample Analysis Report

Sample Name : DUP852435X10
Data File Name : c:\instarch\data\system 2\041017-2\DUP852435X10_082.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 18:15:22
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
2	Fluoride	4.02	0.1431	3225	297	
3	Chloride	5.90	1.3335	132562	6208	
4	Nitrate	10.80	0.0836	5857	225	
5	Sulfate	16.83	6.4136	645661	13477	



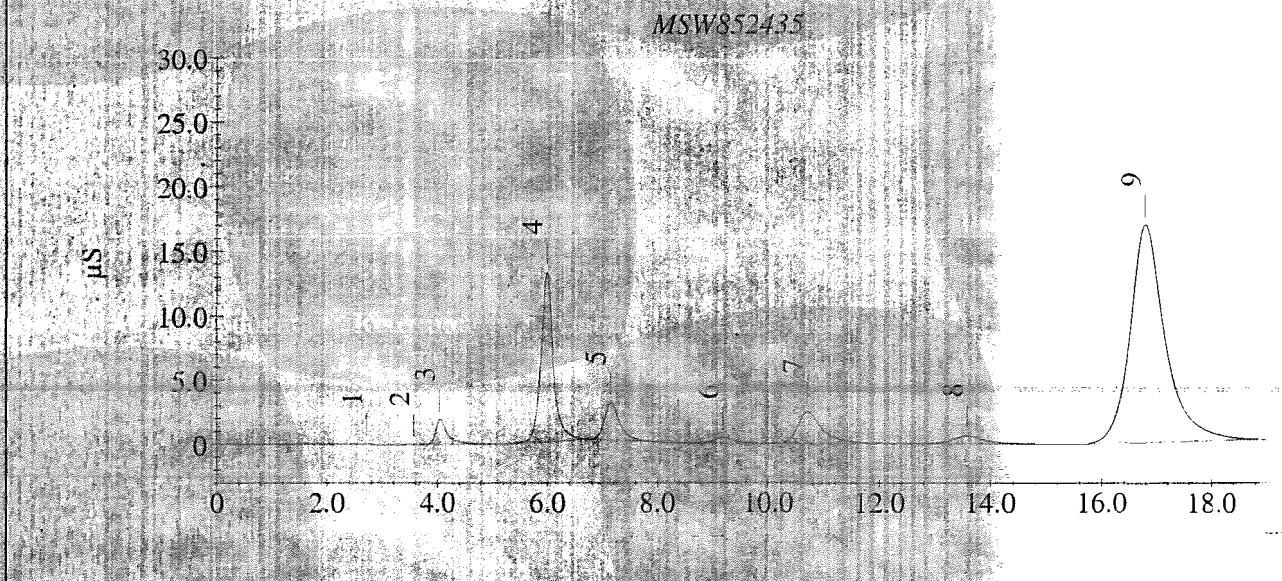
Sample Analysis Report

Sample Name : MSW852435
Data File Name : c:\instarch\data\system 2\041017-2\MSW852435_083.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 18:36:35
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
2	Fluoride	3.57	0.1540	5684	194	
4	Chloride	5.98	12.6570	2009229	131410	
5	Nitrite	7.13	1.9740	563183	28778	
7	Nitrate	10.70	2.4009	793236	24999	
8	O.Phos	13.58	2.1095	243558	6184	
9	Sulfate	16.78	70.2431	7563039	168360	+



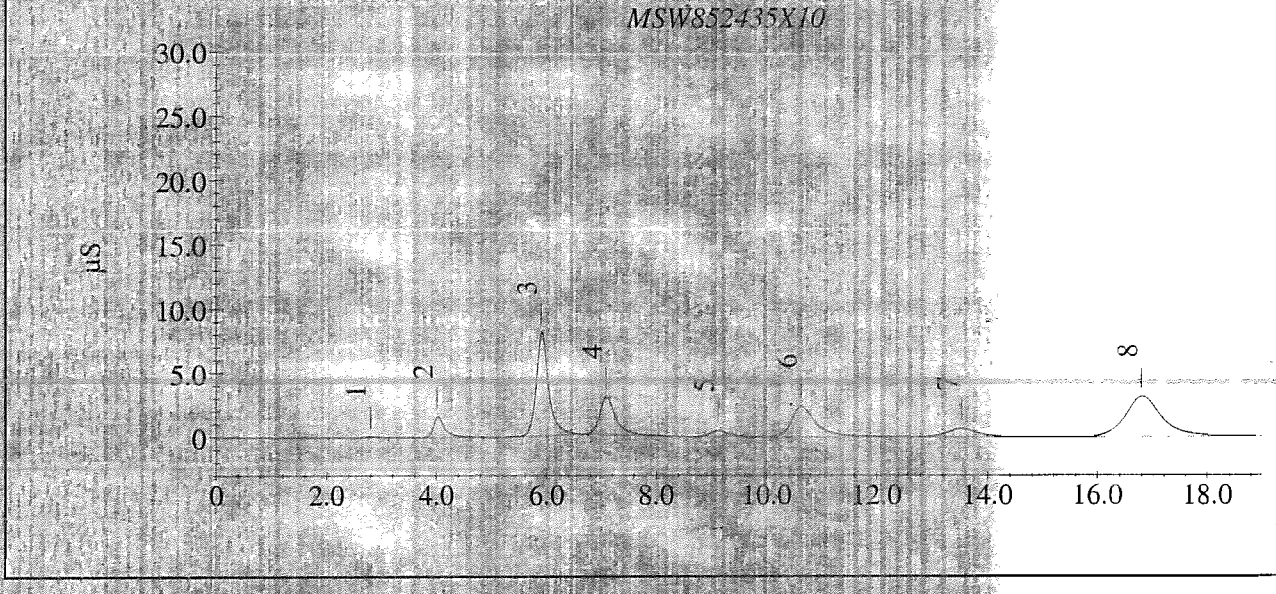
Sample Analysis Report

Sample Name : MSW852435X10
Data File Name : c:\instarch\data\system 2\041017-2\MSW852435X10_084.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 18:57:49
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Fluoride	4.02	1.2356	250523	16205	
3	Chloride	5.90	8.3558	1296380	79986	
4	Nitrite	7.08	2.1348	609933	29546	
6	Nitrate	10.63	2.2889	755192	23743	
7	O.Phos	13.53	2.1922	253193	6476	
8	Sulfate	16.80	14.1974	1489210	31502	



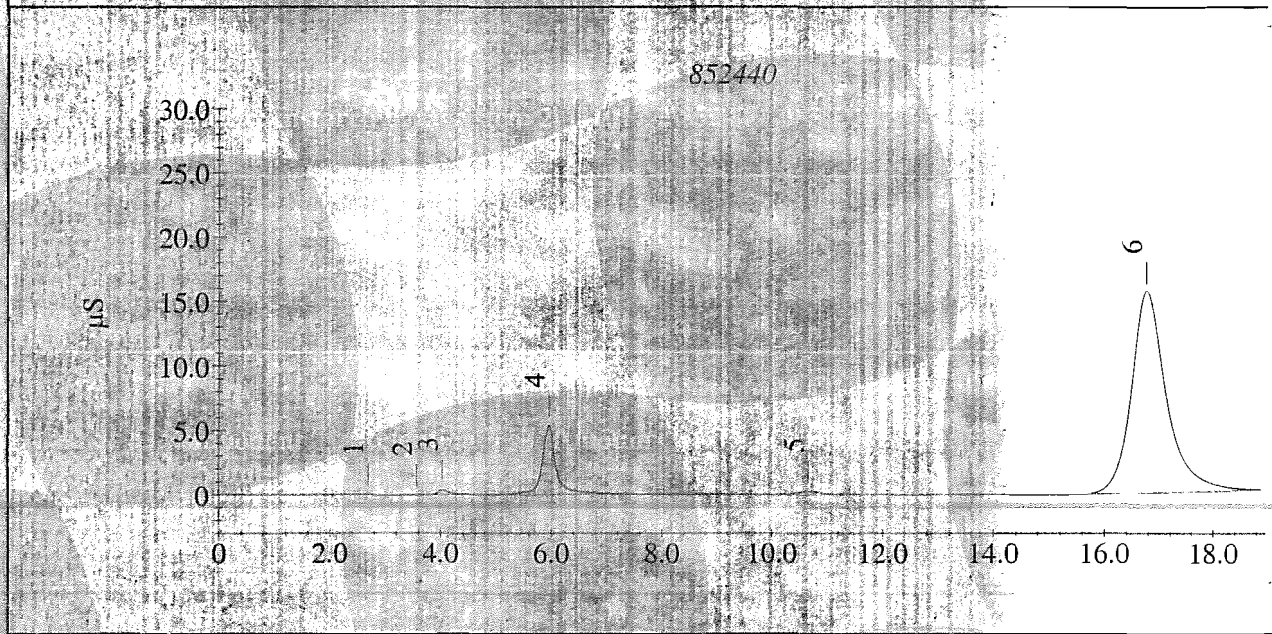
Sample Analysis Report

Sample Name : 852440
Data File Name : c:\instarch\data\system 2\041017-2\852440_085.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 19:19:02
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
2	Fluoride	3.57	0.1676	8766	264	
4	Chloride	5.95	6.3082	957029	53518	
5	Nitrate	10.67	0.2899	75961	2614	
6	Sulfate	16.75	65.0034	6995190	155587	



not used

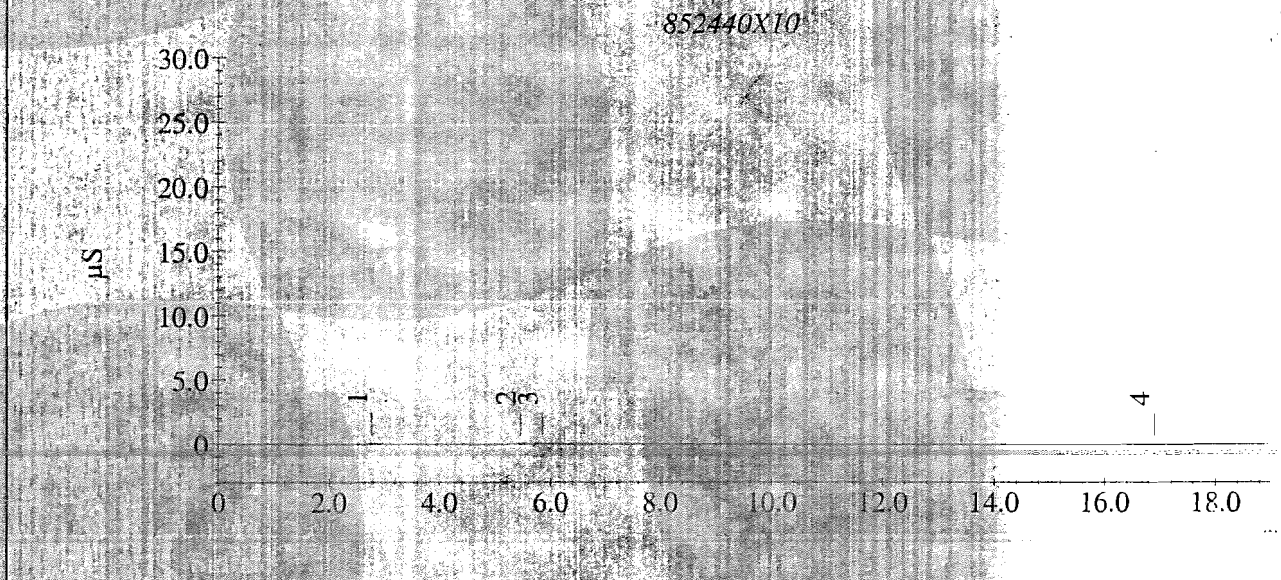
Sample Analysis Report

Sample Name : 852440X10
Data File Name : c:\instarch\data\system 2\041017-2\852440X10_086.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 19:40:15
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
2	Chloride	5.45	0.5744	6751	398	
4	Sulfate	16.90	0.4930	4033	125	



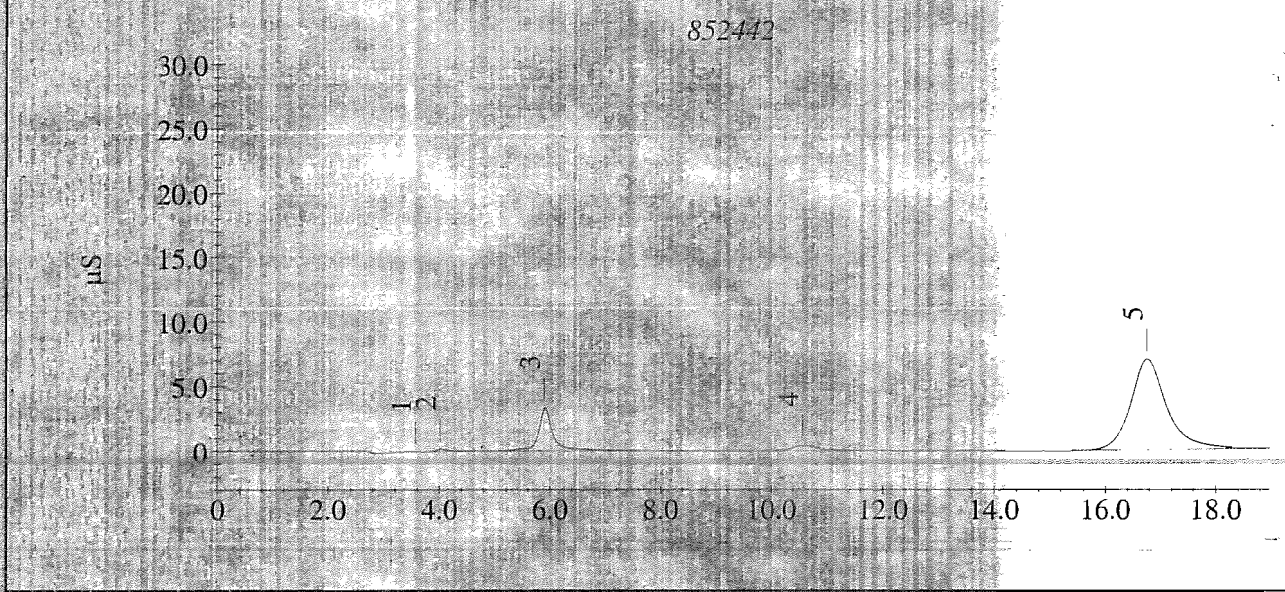
Sample Analysis Report

Sample Name : 852442
Data File Name : c:\instarch\data\system 2\041017-2\852442_087.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 20:01:29
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
1	Fluoride	3.57	0.1350	1392	115	
3	Chloride	5.90	4.3240	628176	32787	
4	Nitrate	10.57	0.4390	126609	4218	
5	Sulfate	16.75	30.2294	3226646	69939	



not used

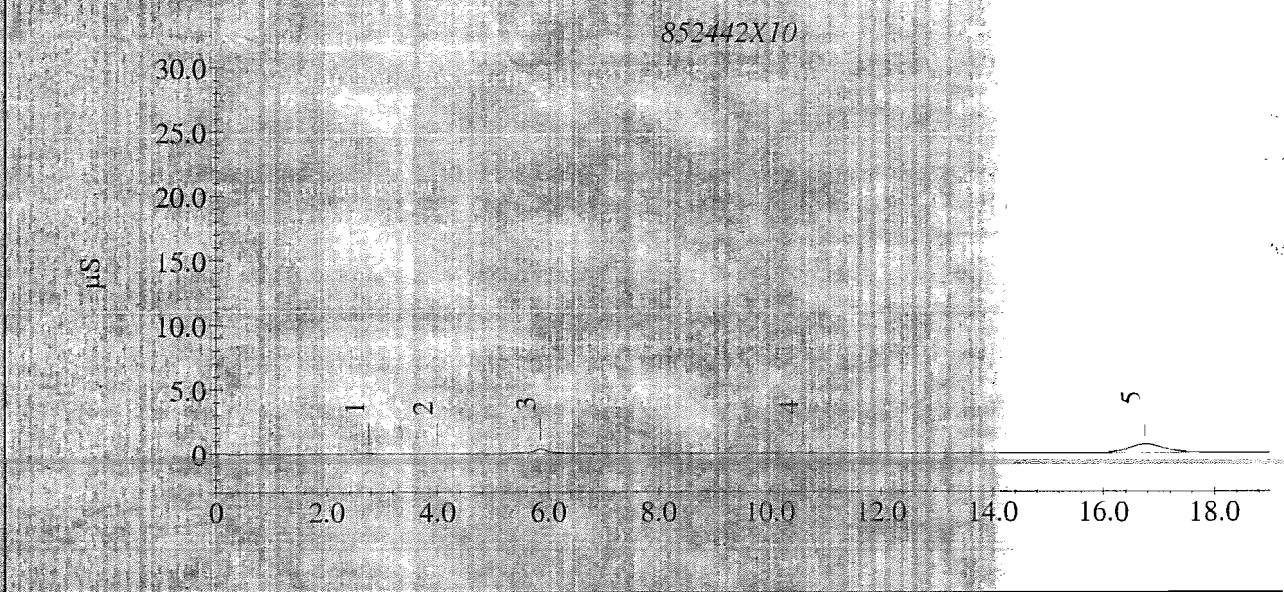
Sample Analysis Report

Sample Name : 852442X10
Data File Name : c:\instarch\data\system 2\041017-2\852442X10_088.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 20:22:42
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
2	Fluoride	4.00	0.1403	2588	191	
3	Chloride	5.85	1.0660	88229	3641	
4	Nitrate	10.60	0.0926	8911	342	
5	Sulfate	16.75	3.4262	321909	6791	



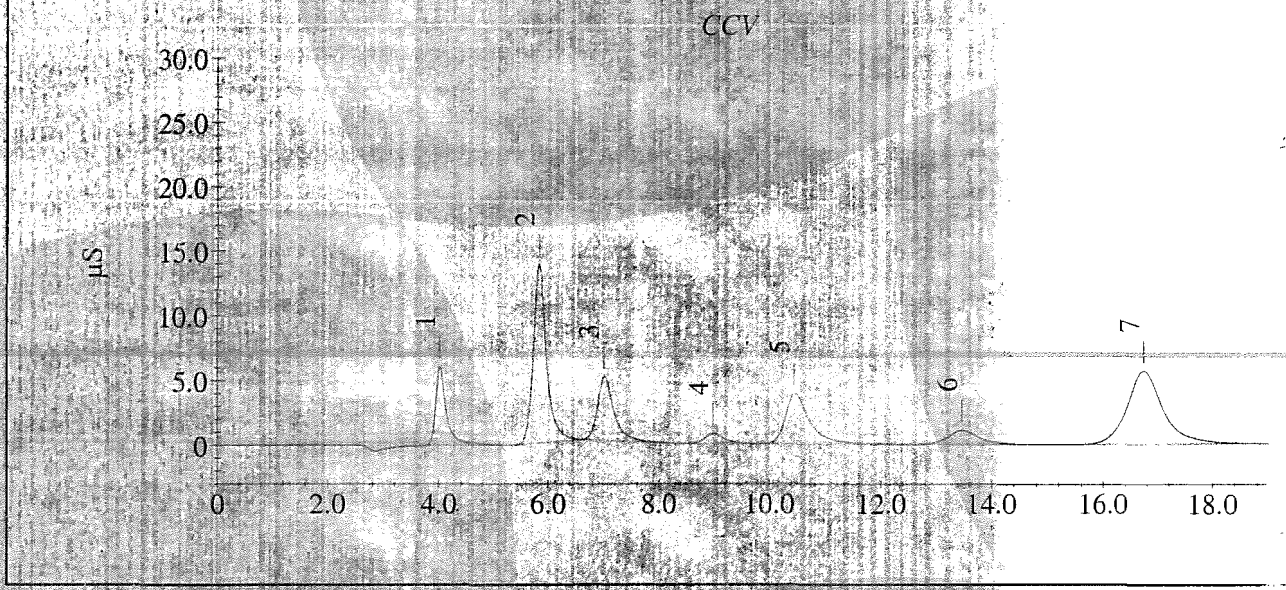
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\041017-2\CCV_089.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 20:43:56
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exce
1	Fluoride	4.02	3.8828	849740	60300	
2	Chloride	5.83	14.2897	2279826	137579	
3	Nitrite	7.00	3.5218	1013258	48933	
4	Bromide	8.98	3.6154	194370	7976	
5	Nitrate	10.45	3.7084	1237517	39276	
6	O.Phos	13.47	3.7604	435713	11127	
7	Sulfate	16.73	24.9564	2655196	56929	



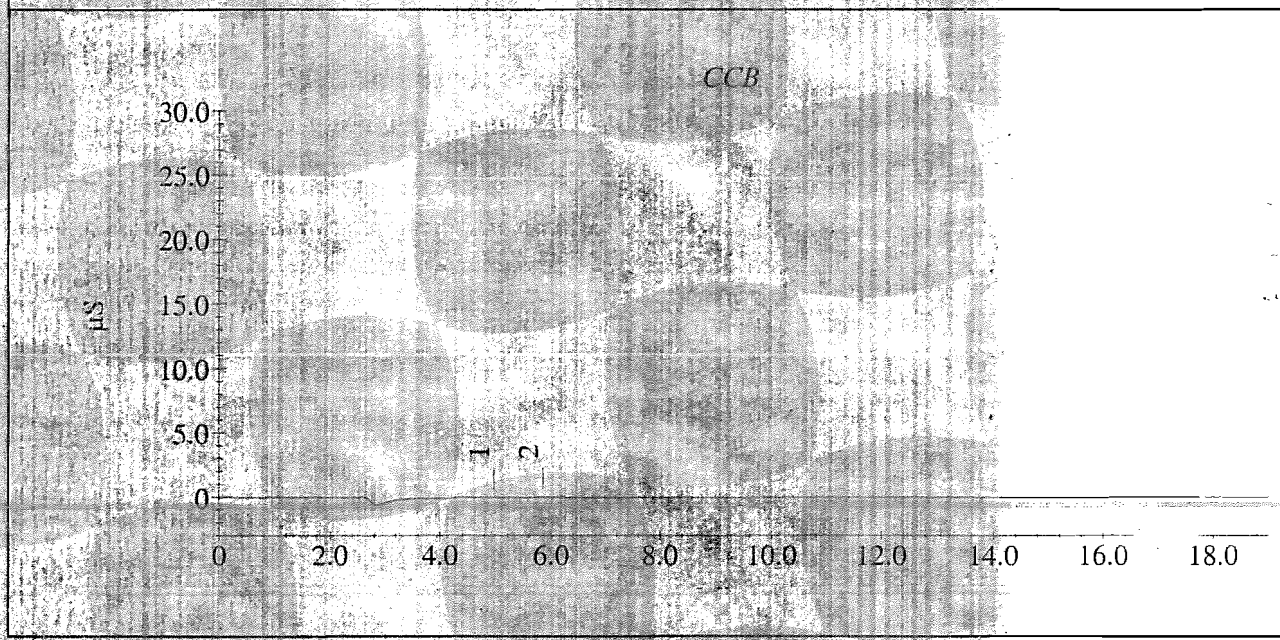
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\041017-2\CCB_090.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 4/11/17 21:05:11
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceed
2	Chloride	5.85	0.5560	3705	129	



Schedule File: C:\INSTARCH\Sequences\System 2\050217-2.sch

Line	Sample	Sample Type	Level	Method
1	CCV IC1070 IC1071	Sample		c:\instarch\methods\system 2\ic1017.met
2	CCB	Sample		c:\instarch\methods\system 2\ic1017.met
3	MSD W852435	Sample		c:\instarch\methods\system 2\ic1017.met
4	MSD W852435X10	Sample		c:\instarch\methods\system 2\ic1017.met
5	CCV	Sample		c:\instarch\methods\system 2\ic1017.met
6	CCB	Sample		c:\instarch\methods\system 2\ic1017.met

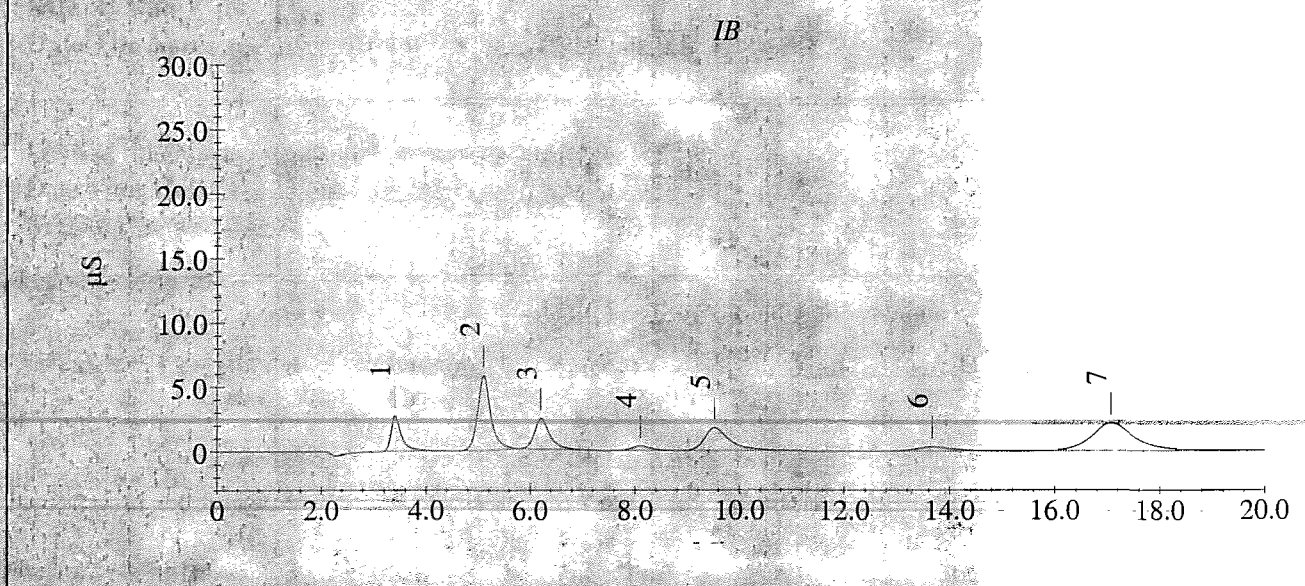
Sample Analysis Report

Sample Name : IB
Data File Name : c:\instarch\data\system 2\cleaning\IB_E004.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/5/17 13:30:56
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.10	6.6997	1021909	57914	
3	Nitrite	6.20	1.7655	502549	23716	
4	Bromide	8.10	1.7081	91556	3607	
5	Nitrate	9.52	1.8850	617939	17829	
6	O.Phos	13.67	1.4624	168250	3425	



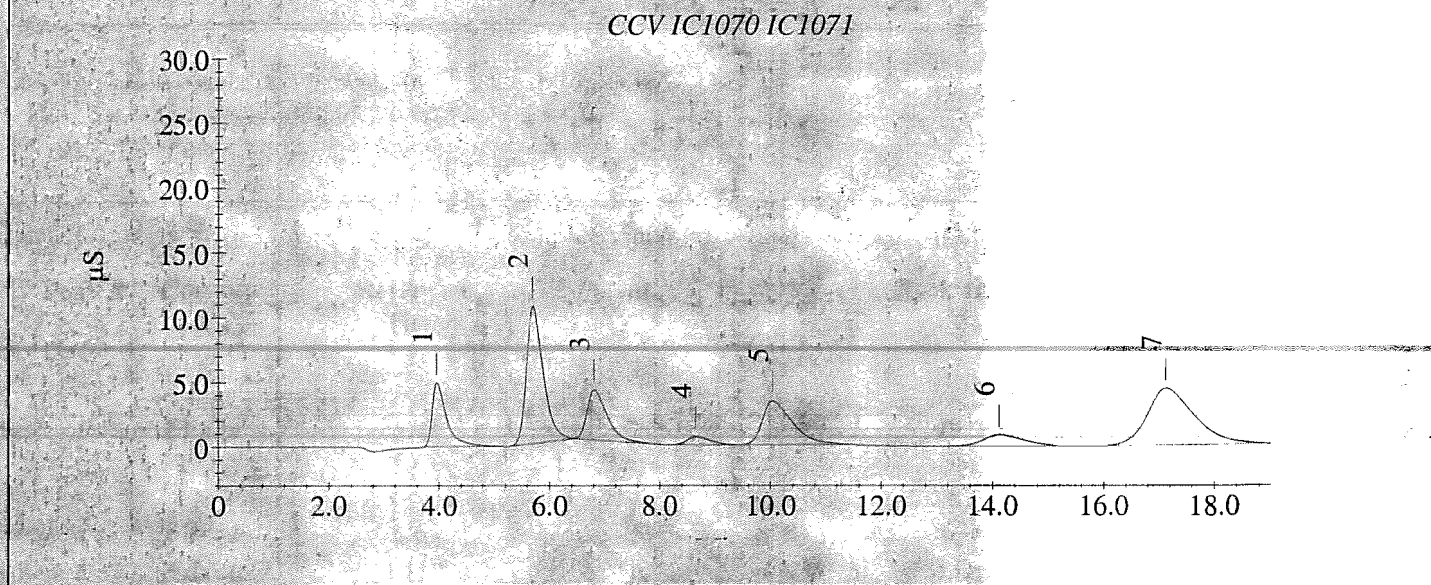
Sample Analysis Report

Sample Name : CCV IC1070 IC1071
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\050217-2\CCV IC1070 IC1071_001.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/3/17 11:40:27
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.95	4.1259	904772	49253	
2	Chloride	5.68	13.9380	2221542	105655	
3	Nitrite	6.80	3.4229	984489	38773	
4	Bromide	8.65	3.4209	183887	6366	
5	Nitrate	10.03	3.8431	1283290	33788	
6	O.Phos	14.12	3.9714	460274	8916	
7	Sulfate	17.12	24.5732	2613662	44051	



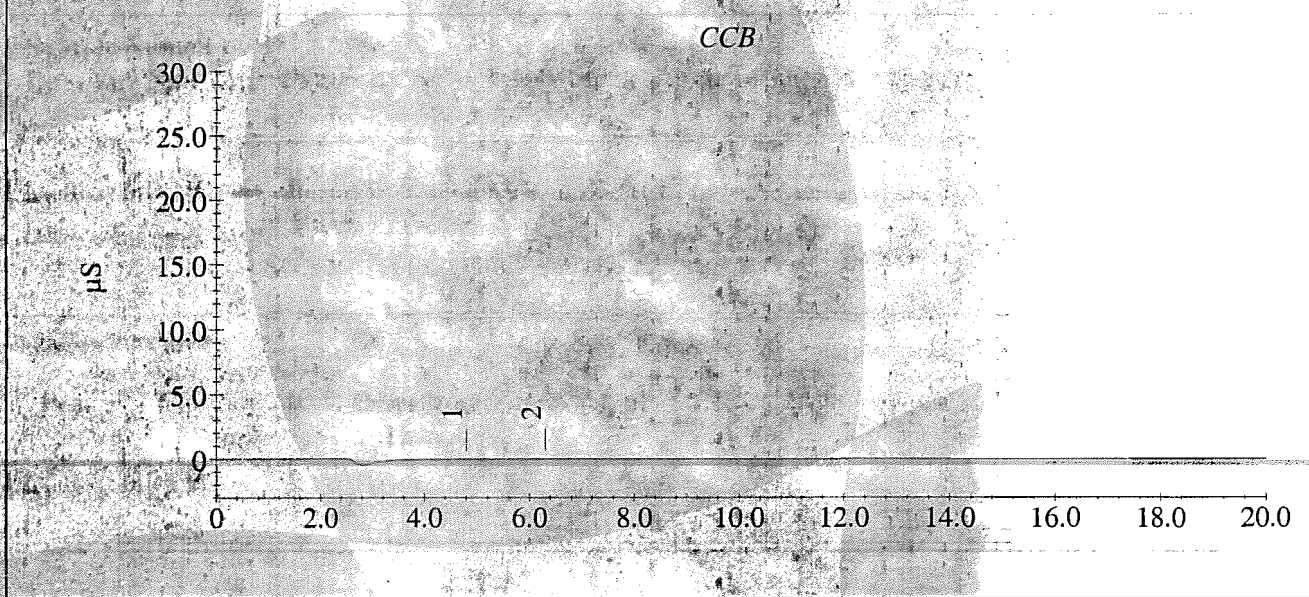
Sample Analysis Report

Sample Name : CCB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\050217-2\CCB_002.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/3/17 12:04:08
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	6.30	0.0563	5520	73	



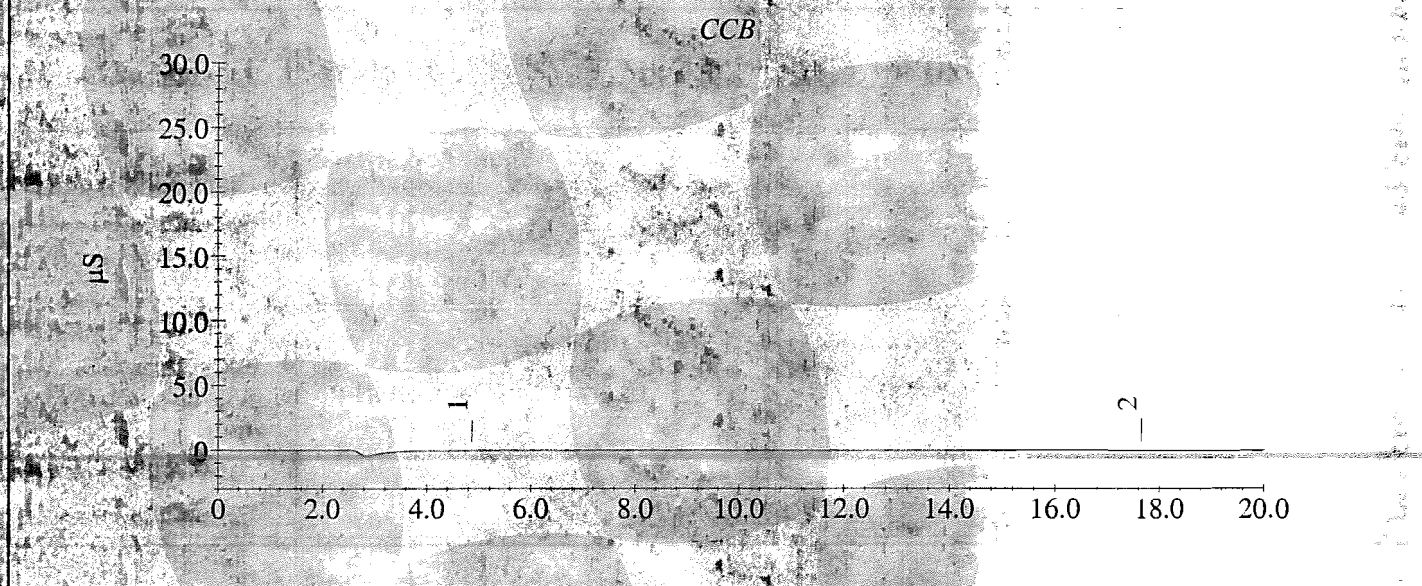
Sample Analysis Report

Sample Name : CCB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\050217-2\CCB_006.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/3/17 14:50:08
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



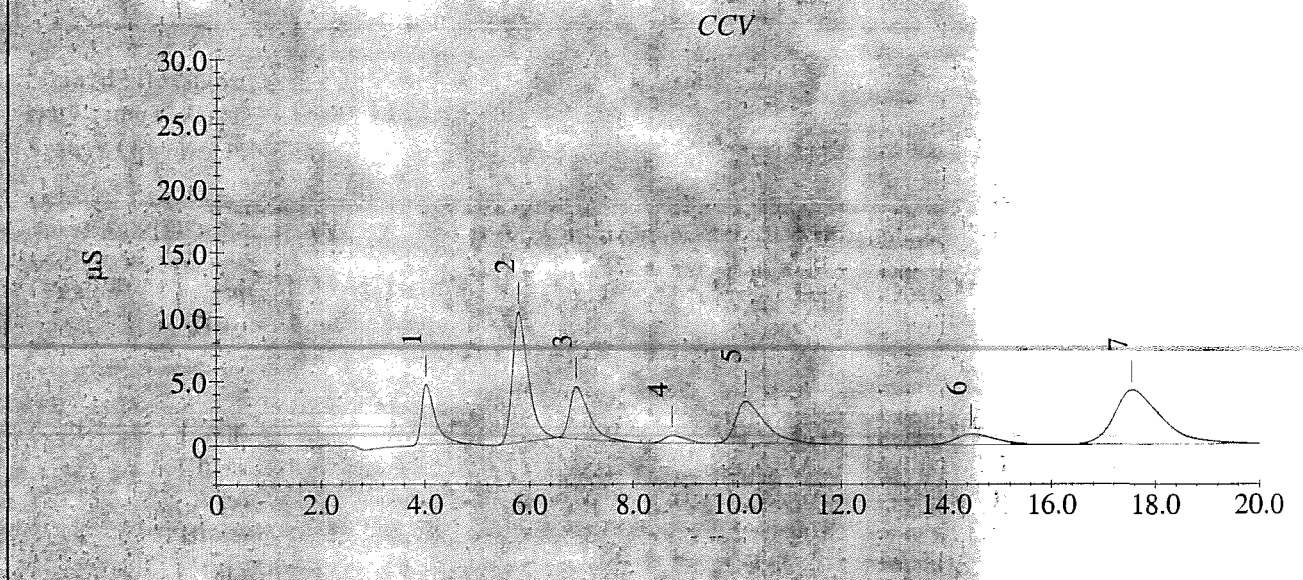
Sample Analysis Report

Sample Name : CCV
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\050217-2\CCV_A005.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/3/17 14:27:55
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	4.02	3.7693	824037	46178	
2	Chloride	5.78	13.5129	2151076	101380	
3	Nitrite	6.90	3.6109	1039167	40130	
4	Bromide	8.75	3.2762	176090	6112	
5	Nitrate	10.15	3.8442	1283640	32682	
6	O.Phos	14.47	3.9185	454111	8467	
7	Sulfate	17.55	24.9172	2650944	42101	



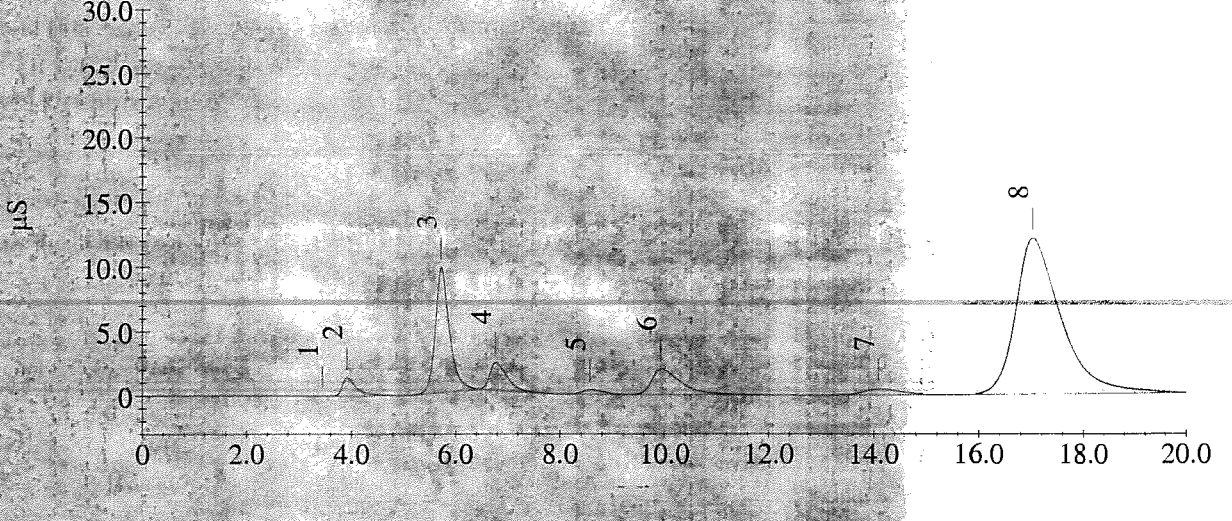
Sample Analysis Report

Sample Name : MSDW852435
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\050217-2\MSDW852435_003.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/3/17 12:26:20
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.92	1.3316	272244	13954	
3	Chloride	5.72	11.5786	1830509	96670	
4	Nitrite	6.77	1.7429	495977	21546	
5	Bromide	8.57	1.8302	98139	3506	
6	Nitrate	9.93	2.3429	773543	19776	
7	O.Phos	14.08	2.1626	249741	4754	
8	Sulfate	17.02	68.2000	7341622	120658	



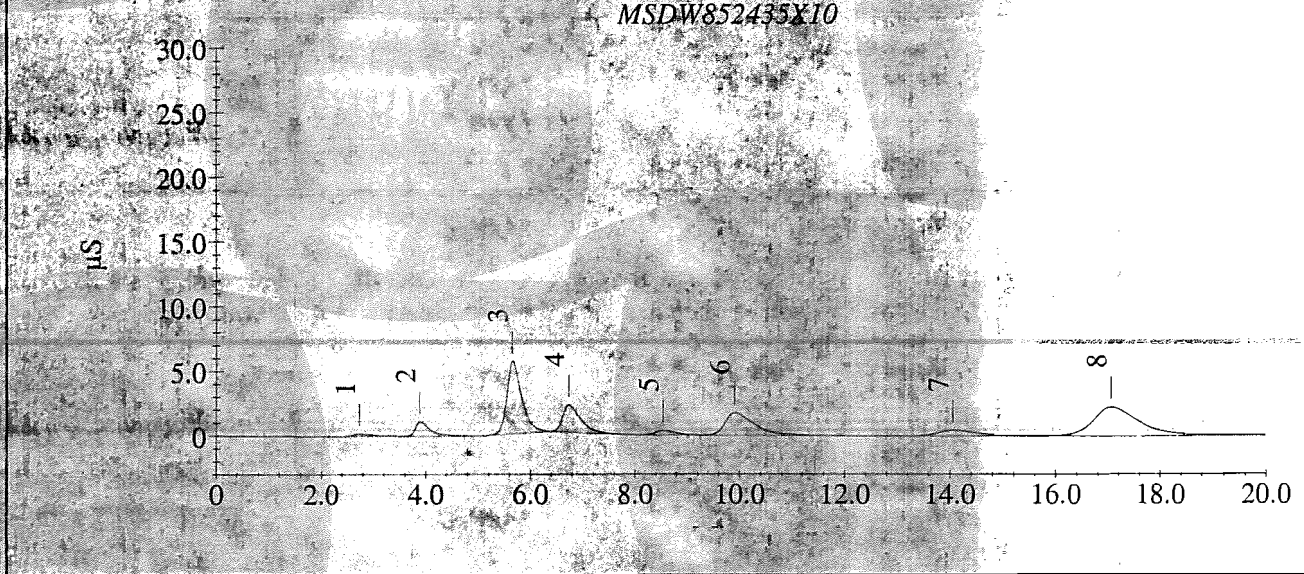
Sample Analysis Report

Sample Name : MSDW852435X10
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\050217-2\MSDW852435X10_004.DXD

Method File Name : c:\instarch\methods\system 2\ic1017.met
Date Time Collected : 5/3/17 12:48:36
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.88	1.0910	217786	11172	
3	Chloride	5.65	7.2083	1106200	56199	
4	Nitrite	6.73	1.8166	517388	21226	
5	Bromide	8.53	1.7464	93622	3348	
6	Nitrate	9.90	2.0799	684171	17435	
7	O.Phos	14.05	2.0332	234685	4483	
8	Sulfate	17.05	13.3713	1399687	22392	



Sample table - IC1053

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC1053	Std 1	Standard 1	150	1	READY 0 / 1	1	(01) Reset ...	(02) No i-Di...		1	84
2	IC1053	Std 2	Standard 2	23	1	READY 0 / 1	1		(02) No i-Di...		100	84
3	IC1053	Std 3	Standard 3	23	1	READY 0 / 1	1		(02) No i-Di...		40	84
4	IC1053	Std 4	Standard 4	23	1	READY 0 / 1	1		(02) No i-Di...		20	84
5	IC1053	Std 5	Standard 5	23	1	READY 0 / 1	1		(02) No i-Di...		10	84
6	IC1053	Std 6	Standard 6	24	1	READY 0 / 1	1		(02) No i-Di...		5	84
7	IC1053	Std 7	Standard 7	24	1	READY 0 / 1	1		(02) No i-Di...		2	84
8	IC1053	Std 8	Standard 8	25	1	READY 0 / 1	1		(02) No i-Di...		1.3333333	84
9	IC1053	Std 9	Standard 9	26	1	READY 0 / 1	1		(02) No i-Di...		1	84
10	IC1053	ICV IC103...	Check standard 2	27	1	READY 0 / 1	1		(02) No i-Di...		1	84
11	IC1053	ICB	Sample	150	1	READY 0 / 1	1		(02) No i-Di...		1	84

Calibration Concentrations

Analyte	ICV (mg/L)
Fluoride	3.50
Chloride	15.00
Nitrite	3.50
Bromide	3.50
Nitrate	3.50
O-Phoshorous	3.50
Sulfate	25.00

Instrument:	Metrohm (3)
Cal. File:	IC1053
ICV:	IC1037
	IC1038
Analyst:	AGK
Date:	04/12/17

RJ 05/01/2017

Sample data

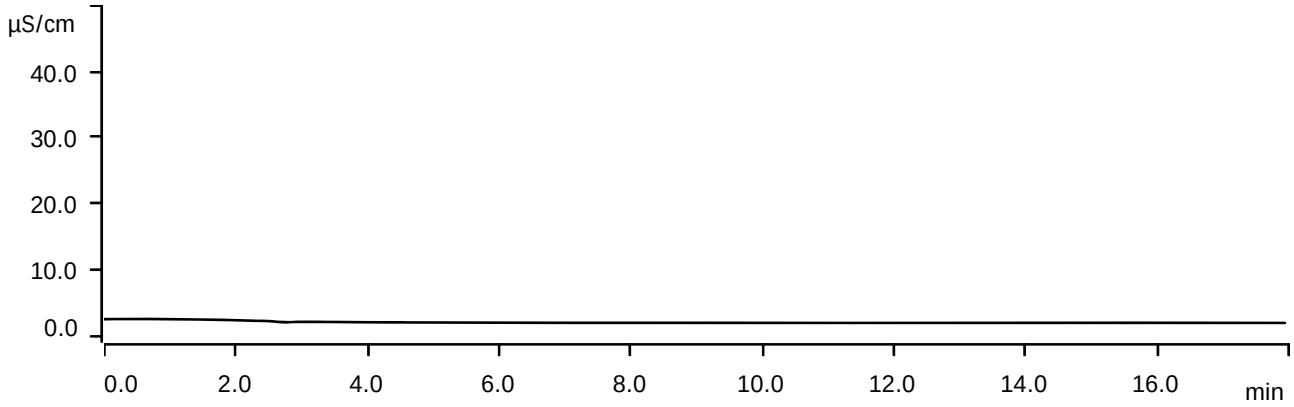
Ident	Std 1	
Determination start	2017-04-12 12:19:00 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	10.20	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Sample data

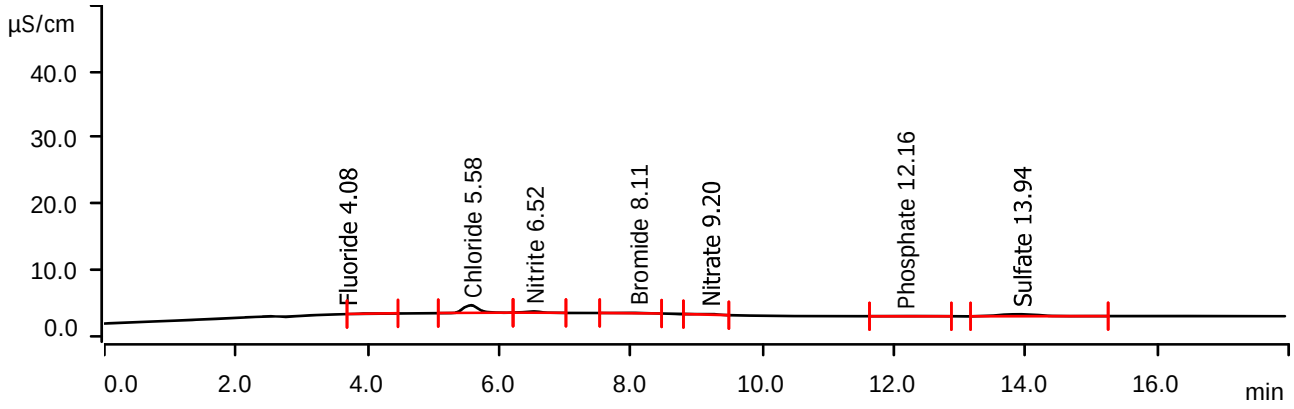
Ident . . . . . Std 2
Determination start 2017-04-12 12:47:01 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.64 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.075	0.0191	0.048	0.364	Fluoride
2	5.578	0.3273	1.183	1.986	Chloride
3	6.522	0.0638	0.212	0.171	Nitrite
4	8.105	0.0278	0.059	0.262	Bromide
5	9.200	0.0444	0.114	0.234	Nitrate
6	12.157	0.0145	0.025	0.315	Phosphate
7	13.935	0.1938	0.282	2.377	Sulfate

Sample data

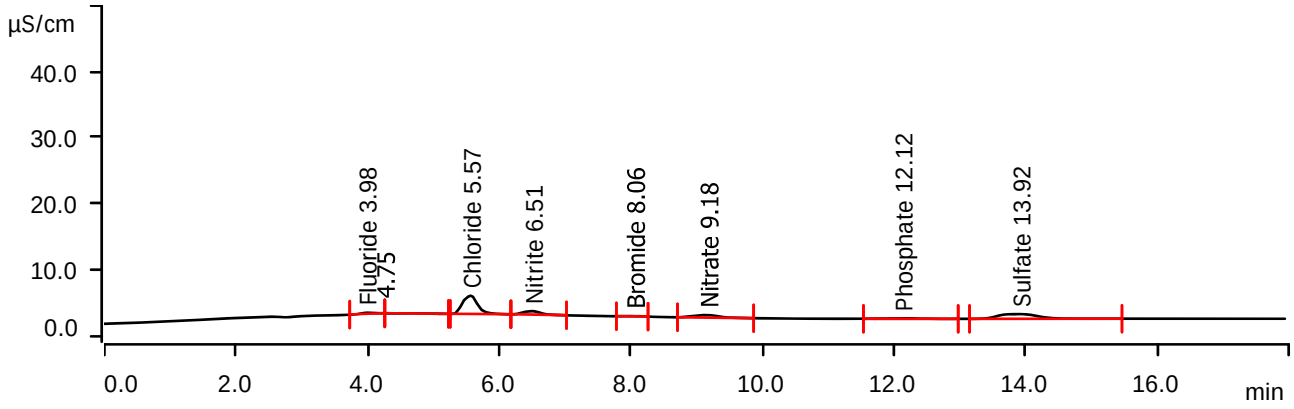
Ident . . . . . Std 3
Determination start 2017-04-12 13:07:42 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.47 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.982	0.0460	0.203	0.420	Fluoride
2	4.745	0.0288	0.053	invalid	
3	5.567	0.7559	2.797	3.320	Chloride
4	6.505	0.1666	0.538	0.314	Nitrite
5	8.057	0.0163	0.050	0.179	Bromide
6	9.177	0.1677	0.381	0.377	Nitrate
7	12.117	0.0460	0.078	0.416	Phosphate
8	13.918	0.4890	0.708	3.603	Sulfate

Sample data

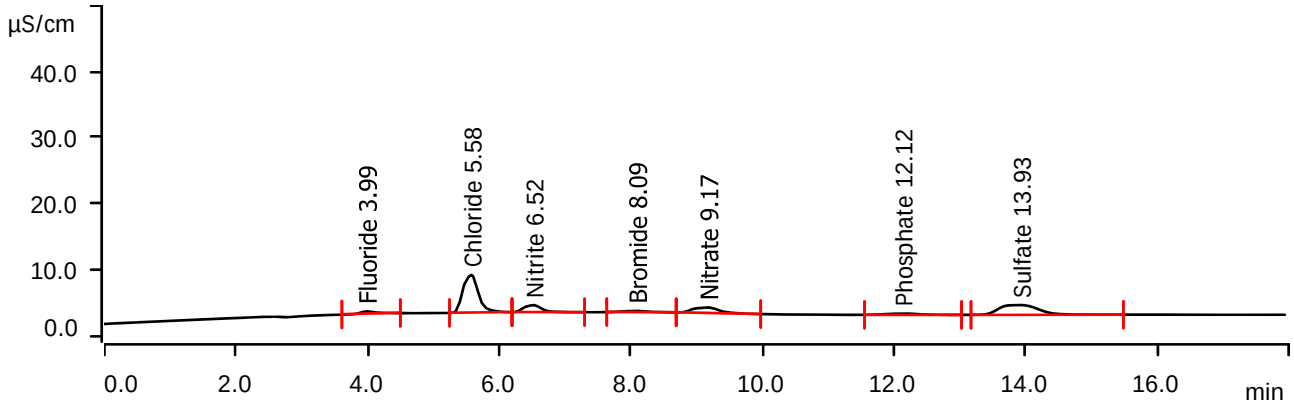
Ident . . . . . Std 4
Determination start 2017-04-12 13:28:23 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 10.03 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.992	0.1115	0.395	0.557	Fluoride
2	5.577	1.5743	5.754	5.868	Chloride
3	6.520	0.3396	1.083	0.554	Nitrite
4	8.085	0.0780	0.185	0.621	Bromide
5	9.167	0.3800	0.833	0.625	Nitrate
6	12.115	0.1047	0.176	0.603	Phosphate
7	13.925	1.0207	1.474	5.809	Sulfate

Sample data

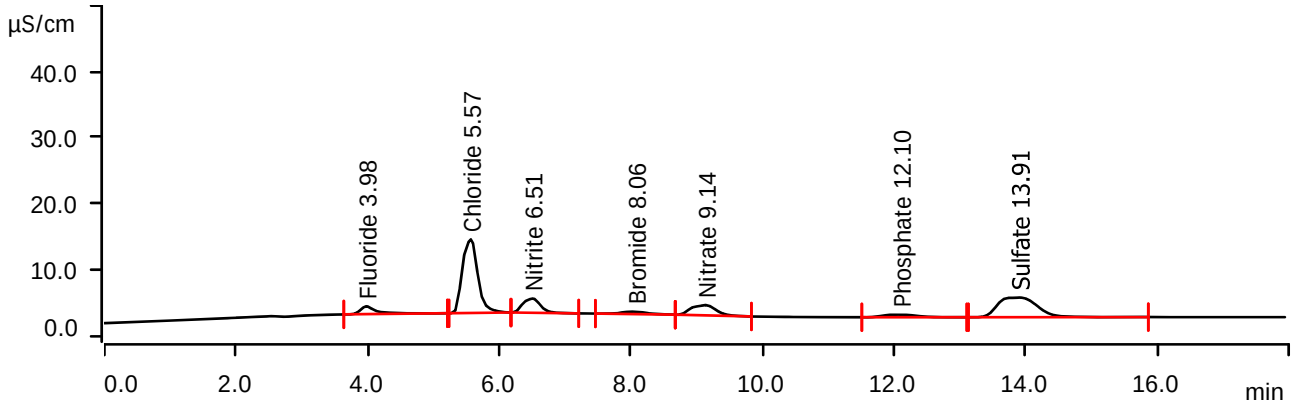
Ident . . . . . Std 5
Determination start 2017-04-12 13:49:04 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.81 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.983	0.3613	1.201	1.080	Fluoride
2	5.568	3.0410	11.176	10.434	Chloride
3	6.507	0.6738	2.167	1.017	Nitrite
4	8.062	0.1618	0.363	1.222	Bromide
5	9.137	0.6821	1.568	0.977	Nitrate
6	12.098	0.2319	0.384	1.007	Phosphate
7	13.905	2.0682	2.978	10.157	Sulfate

Sample data

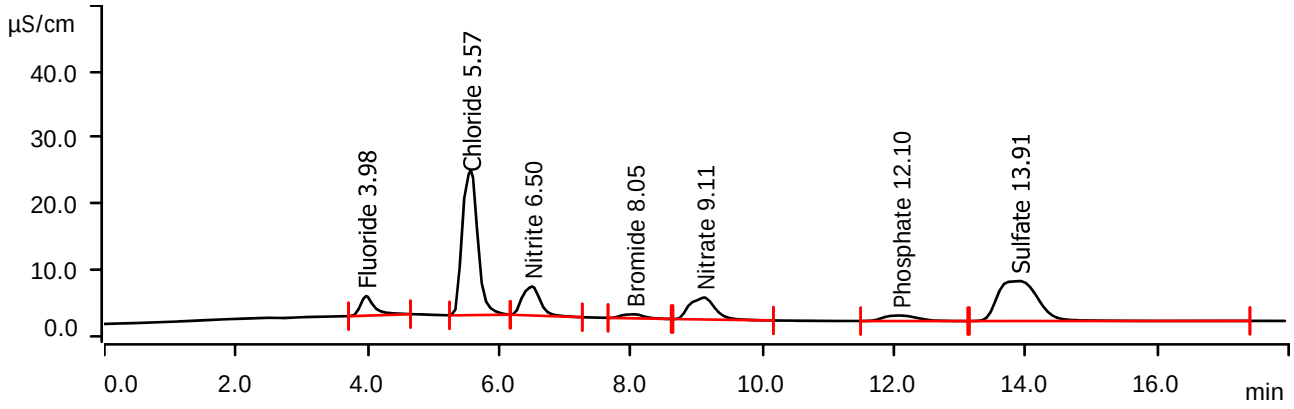
Ident . . . . . Std 6
Determination start 2017-04-12 14:09:44 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.53 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.978	0.7278	2.956	1.848	Fluoride
2	5.568	5.9732	21.982	19.562	Chloride
3	6.500	1.3765	4.389	1.992	Nitrite
4	8.047	0.2398	0.613	1.780	Bromide
5	9.113	1.4796	3.328	1.906	Nitrate
6	12.097	0.4932	0.815	1.839	Phosphate
7	13.905	4.2639	6.061	19.269	Sulfate

Sample data

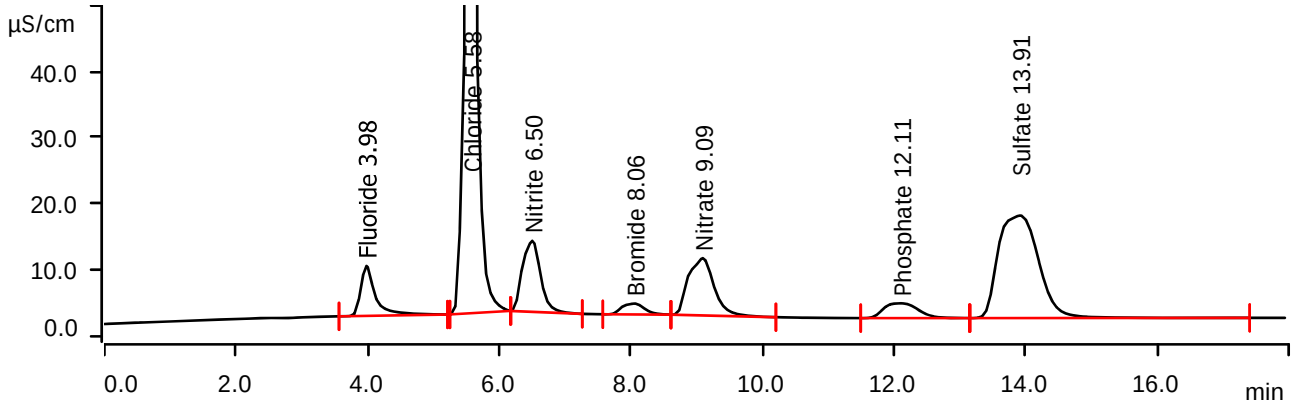
Ident . . . . . Std 7
Determination start 2017-04-12 14:30:25 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 10.09 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.983	1.9885	7.563	4.488	Fluoride
2	5.577	14.9544	53.932	47.521	Chloride
3	6.502	3.4328	10.768	4.845	Nitrite
4	8.055	0.6555	1.654	4.760	Bromide
5	9.092	3.9365	8.688	4.770	Nitrate
6	12.107	1.3640	2.242	4.612	Phosphate
7	13.912	11.0478	15.562	47.422	Sulfate

Sample data

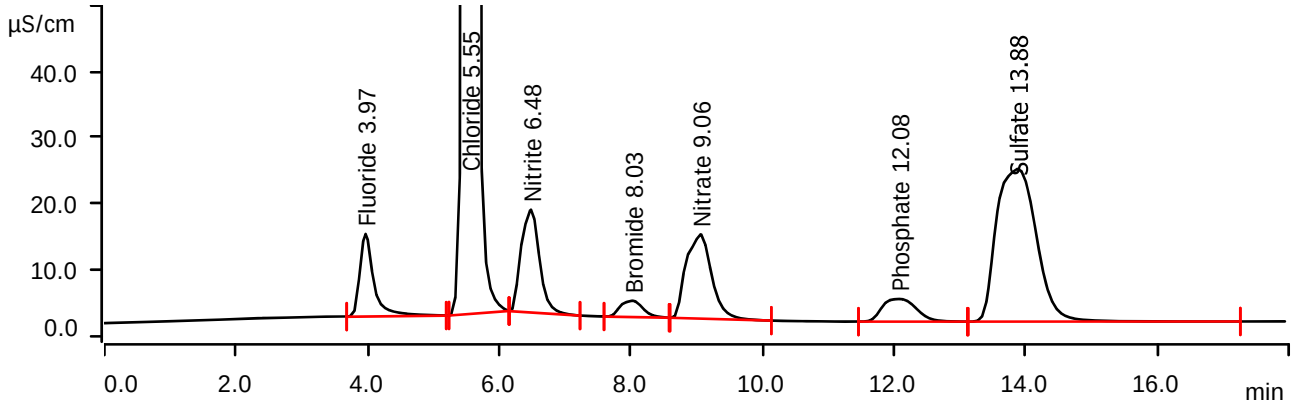
Ident . . . . . Std 8
Determination start 2017-04-12 14:51:05 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.64 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.970	3.0891	12.493	6.793	Fluoride
2	5.553	21.9819	80.049	69.398	Chloride
3	6.483	5.0137	15.574	7.038	Nitrite
4	8.027	0.9768	2.466	7.063	Bromide
5	9.058	5.7152	12.780	6.843	Nitrate
6	12.078	2.0744	3.441	6.874	Phosphate
7	13.878	16.2710	23.172	69.099	Sulfate

Sample data

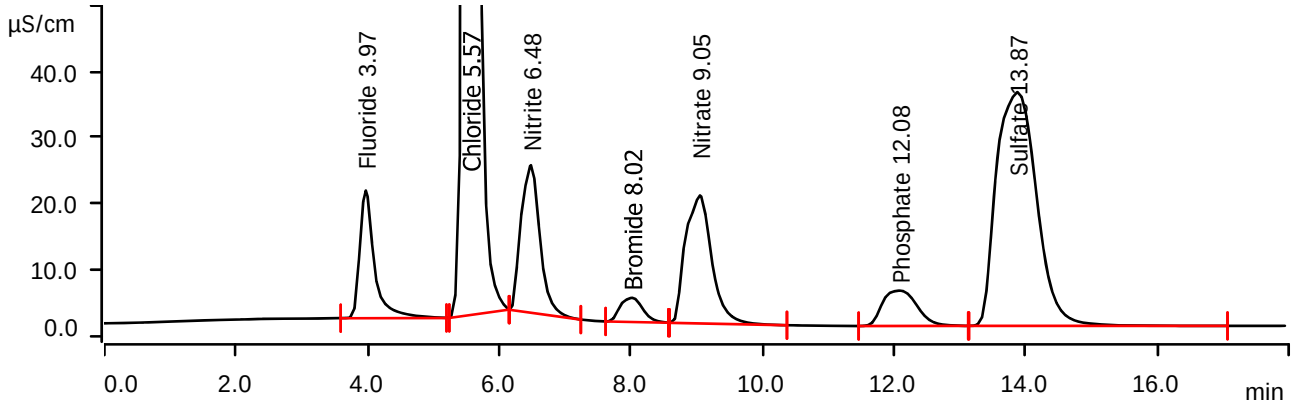
Ident . . . . . Std 9
Determination start 2017-04-12 15:11:45 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.47 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.973	5.0019	19.345	10.799	Fluoride
2	5.565	33.5505	121.169	105.412	Chloride
3	6.482	7.4504	22.359	10.419	Nitrite
4	8.018	1.4513	3.664	10.464	Bromide
5	9.048	8.9535	19.406	10.618	Nitrate
6	12.083	3.2711	5.367	10.684	Phosphate
7	13.873	25.1057	35.467	105.763	Sulfate

Sample data

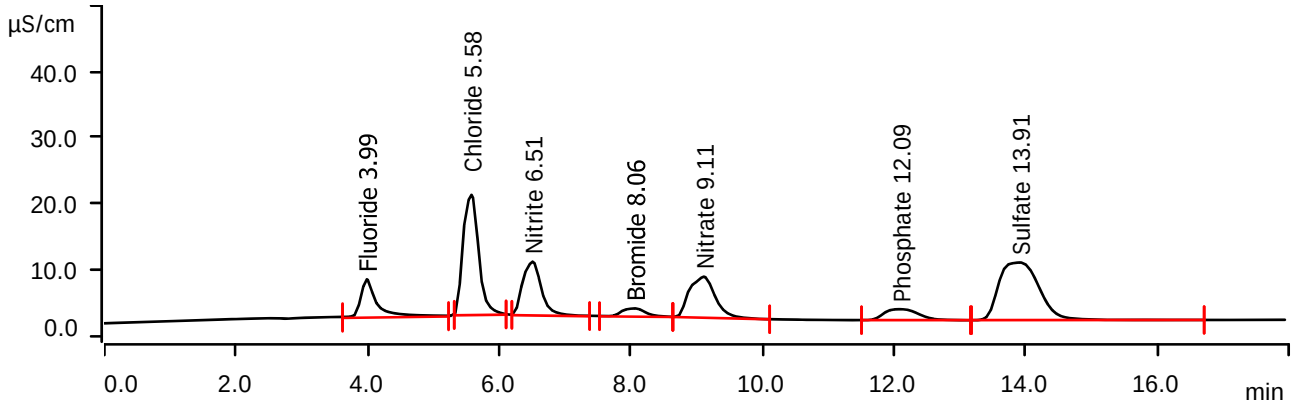
Ident . . . . . ICV IC1037 IC1038
Determination start 2017-04-12 15:32:46 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 10.09 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.988	1.5265	5.665	3.521	Fluoride
2	5.578	4.9529	18.146	16.386	Chloride
3	6.507	2.6200	8.077	3.717	Nitrite
4	8.058	0.4904	1.213	3.566	Bromide
5	9.108	2.8157	6.205	3.484	Nitrate
6	12.090	1.0049	1.660	3.469	Phosphate
7	13.908	6.1674	8.757	27.168	Sulfate

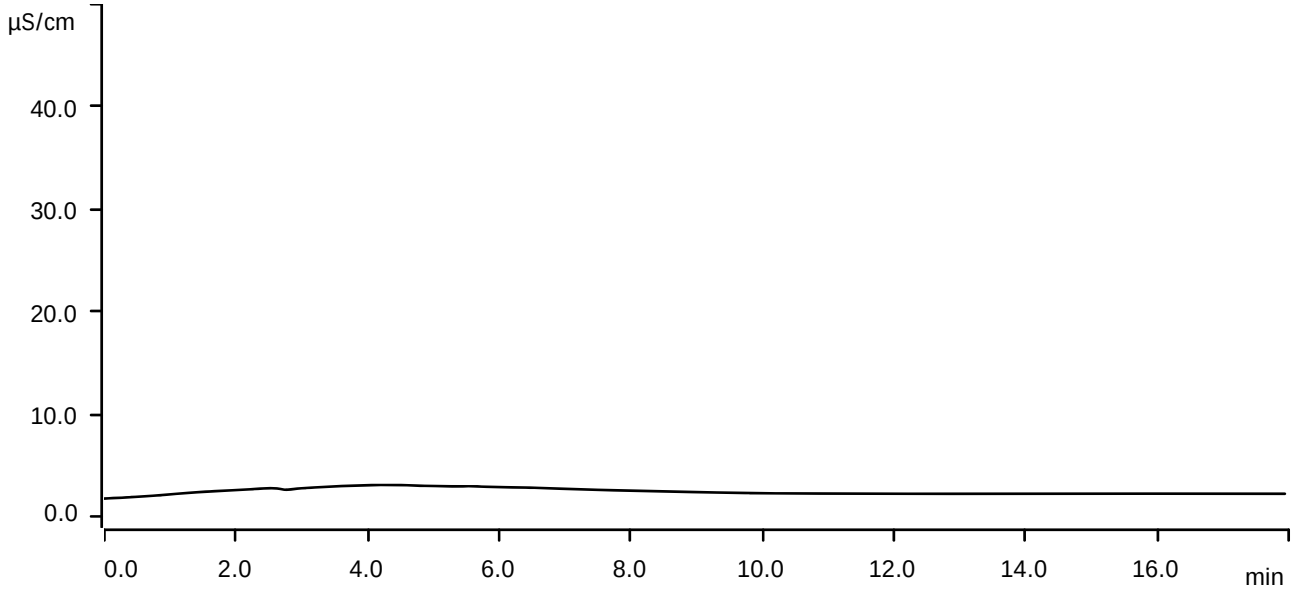
Sample data

Ident	ICB	
Sample type	Sample	
Determination start	2017-04-12 16:14:41 UTC-5	
Method	IC1053	
Operator	AGK	

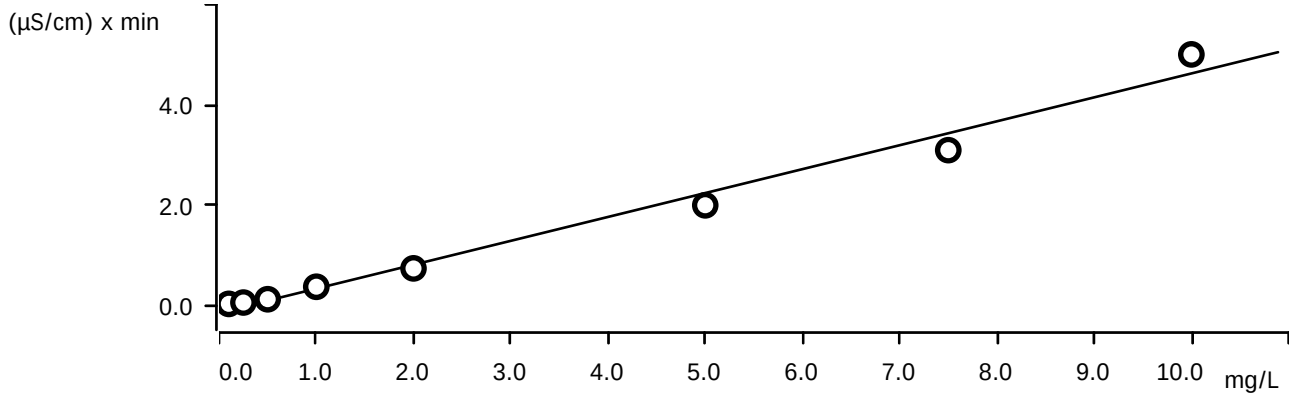
Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.58	MPa
Temperature	-----	°C

Anions



Fluoride (Anions)



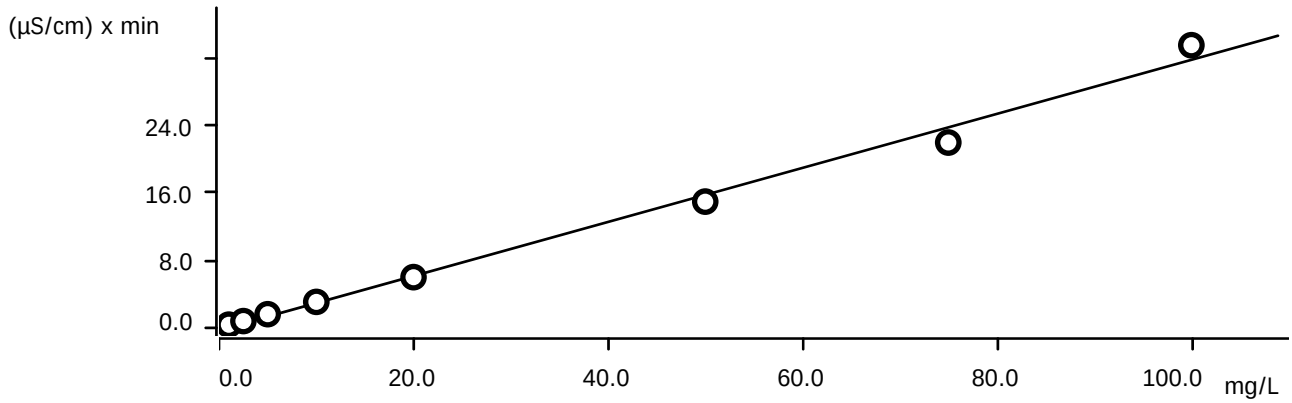
Function: . . . . . *A = - 0.154653 + 0.0238756× Q*

Relative standard deviation . . . . . *17.010008 %*

Correlation coefficient *0.992414*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0191	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0460	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.1115	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.3613	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.7278	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	1.9885	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	7.5000	20.0	1.0	1.0	3.0891	Std 8	2017-04-12 14:51:05 UTC-5
Standard 9	1	10.0000	20.0	1.0	1.0	5.0019	Std 9	2017-04-12 15:11:45 UTC-5

Chloride (Anions)



RJ05/01/2017

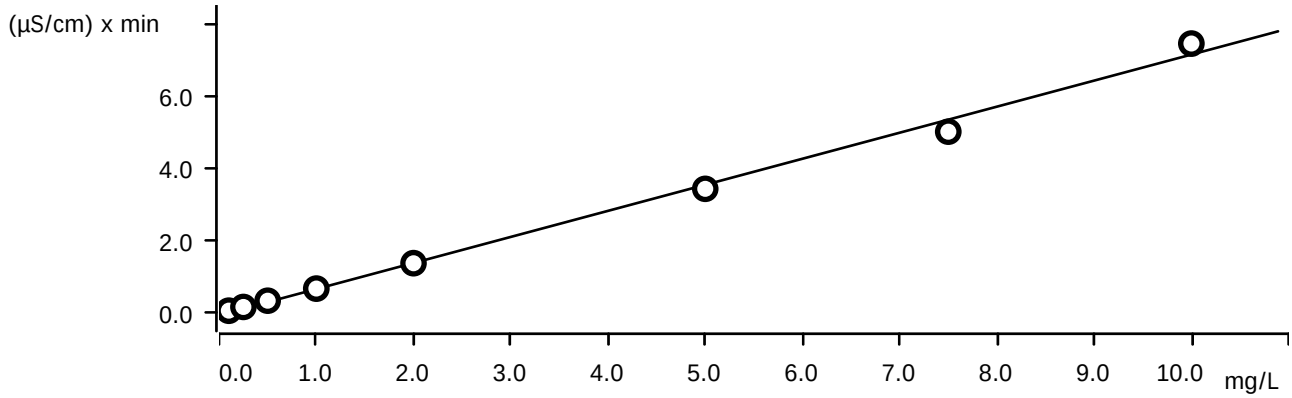
Function: . . . . . *A = - 0.310614 + 0.0160614× Q*

Relative standard deviation . . . . . *10.652599 %*

Correlation coefficient *0.996531*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.3273	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.7559	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.5743	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	3.0410	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	5.9732	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	14.9544	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	75.0000	20.0	1.0	1.0	21.9819	Std 8	2017-04-12 14:51:05 UTC-5
Standard 9	1	100.0000	20.0	1.0	1.0	33.5505	Std 9	2017-04-12 15:11:45 UTC-5

Nitrite (Anions)



Function: . . . . . *A = - 0.0595220 + 0.0360406× Q*

Relative standard deviation . . . . . *8.286915 %*

Correlation coefficient *0.997878*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0638	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1666	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3396	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.6738	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.3765	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	3.4328	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	7.5000	20.0	1.0	1.0	5.0137	Std 8	2017-04-12 14:51:05 UTC-5

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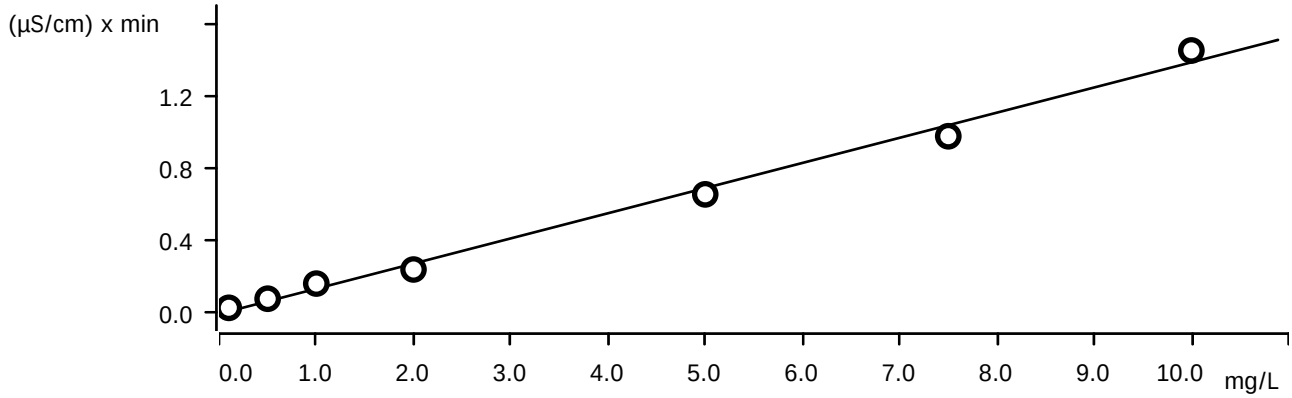
Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 9	1	10.0000	20.0	1.0	1.0	7.4504	Std 9	2017-04-12 15:11:45 UTC-5

Bromide (Anions)



Function: . . . . . *A = - 5.80664E-3 + 6.95717E-3× Q*

Relative standard deviation . . . . . *9.422228 %*

Correlation coefficient *0.996635*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0278	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	n. d.	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.0780	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.1618	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.2398	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	0.6555	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	7.5000	20.0	1.0	1.0	0.9768	Std 8	2017-04-12 14:51:05 UTC-5
Standard 9	1	10.0000	20.0	1.0	1.0	1.4513	Std 9	2017-04-12 15:11:45 UTC-5

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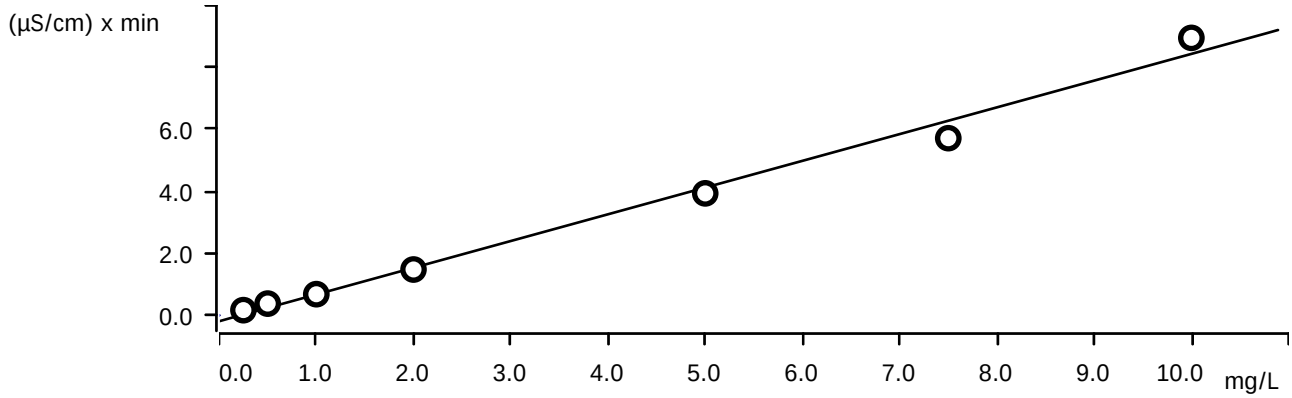
Nitrate (Anions)



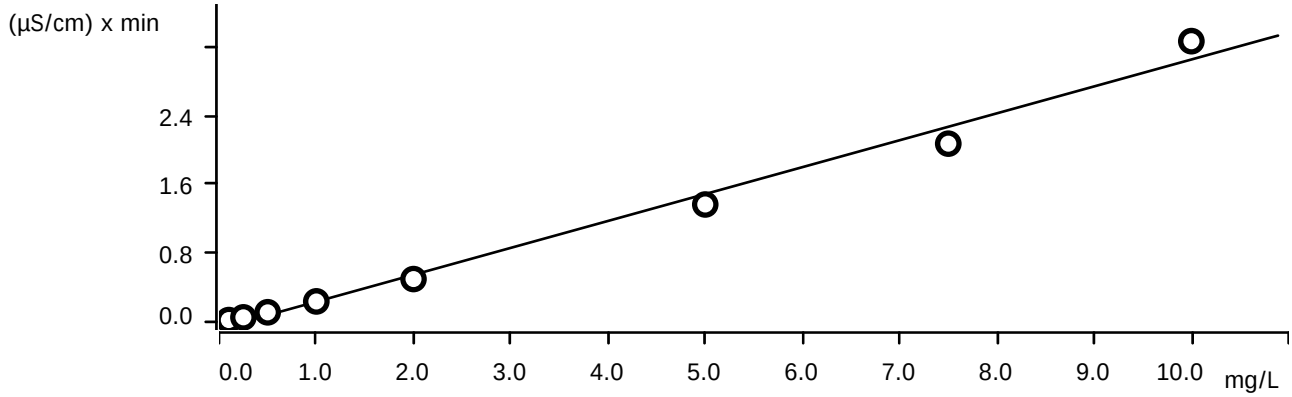
Function: . . . . . *A = - 0.190156 + 0.0431347× Q*

Relative standard deviation . . . . . *11.964525 %*

Correlation coefficient *0.994979*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	n. d.	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1677	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3800	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.6821	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.4796	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	3.9365	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	7.5000	20.0	1.0	1.0	5.7152	Std 8	2017-04-12 14:51:05 UTC-5
Standard 9	1	10.0000	20.0	1.0	1.0	8.9535	Std 9	2017-04-12 15:11:45 UTC-5

Phosphate (Anions)



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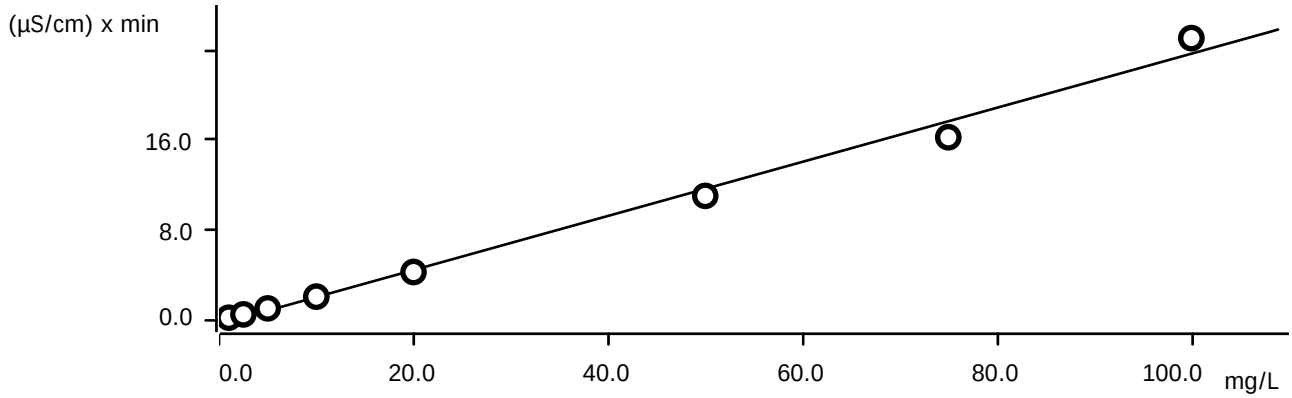
Function: . . . . . *A = - 0.0845625 + 0.0157044× Q*
Relative standard deviation . . . . . *14.288165 %*
Correlation coefficient *0.994432*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0145	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0460	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.1047	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.2319	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.4932	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	1.3640	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	7.5000	20.0	1.0	1.0	2.0744	Std 8	2017-04-12 14:51:05 UTC-5
Standard 9	1	10.0000	20.0	1.0	1.0	3.2711	Std 9	2017-04-12 15:11:45 UTC-5

Sulfate (Anions)



Function: . . . . . *A = - 0.379115 + 0.0120480× Q*
Relative standard deviation . . . . . *11.569919 %*
Correlation coefficient *0.996064*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2017-04-12 12:19:00 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.1938	Std 2	2017-04-12 12:47:01 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.4890	Std 3	2017-04-12 13:07:42 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.0207	Std 4	2017-04-12 13:28:23 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	2.0682	Std 5	2017-04-12 13:49:04 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	4.2639	Std 6	2017-04-12 14:09:44 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	11.0478	Std 7	2017-04-12 14:30:25 UTC-5
Standard 8	1	75.0000	20.0	1.0	1.0	16.2710	Std 8	2017-04-12 14:51:05 UTC-5

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Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 9	1	100.0000	20.0	1.0	1.0	25.1057	Std 9	2017-04-12 15:11:45 UTC-5

RJ05/01/2017

Sample table - 041217 - 136677 136680 136687

	Method	Ident	Sample type	Position	Inje...	Status	Dil...	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC1053	CCV	Check standard 1	149	1	READY 0 / 1	1	(01) Reset to First ...	(02) No i-Dilution		1	84
2	IC1053	LCSW	Check standard 2	1	1	READY 0 / 1	1		(02) No i-Dilution		1	84
3	IC1053	MBW	Sample	150	1	READY 0 / 1	1		(02) No i-Dilution		1	84
4	IC1053	853049	Sample	2	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
5	IC1053	853049	Sample	2	1	READY 0 / 1	1.0	Intelligent Dilution			4.0	84
6	IC1053	853051	Sample	3	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
7	IC1053	853051	Sample	3	1	READY 0 / 1	1.0	Intelligent Dilution			4.0	84
8	IC1053	853053	Sample	4	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
9	IC1053	853055	Sample	5	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
10	IC1053	853055	Sample	5	1	READY 0 / 1	1.0	Intelligent Dilution			3.0	84
11	IC1053	853082	Sample	6	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
12	IC1053	DUP853082	Sample	7	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
13	IC1053	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
14	IC1053	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84
15	IC1053	MSW853082	Sample	8	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
16	IC1053	MSDW853082	Sample	9	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
17	IC1053	853084	Sample	10	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
18	IC1053	853086	Sample	11	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
19	IC1053	852808	Sample	12	1	READY 0 / 1	1		(01) i-Dilution_Compare All Anions		1	84
25	IC1053	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
26	IC1053	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84

Sample data

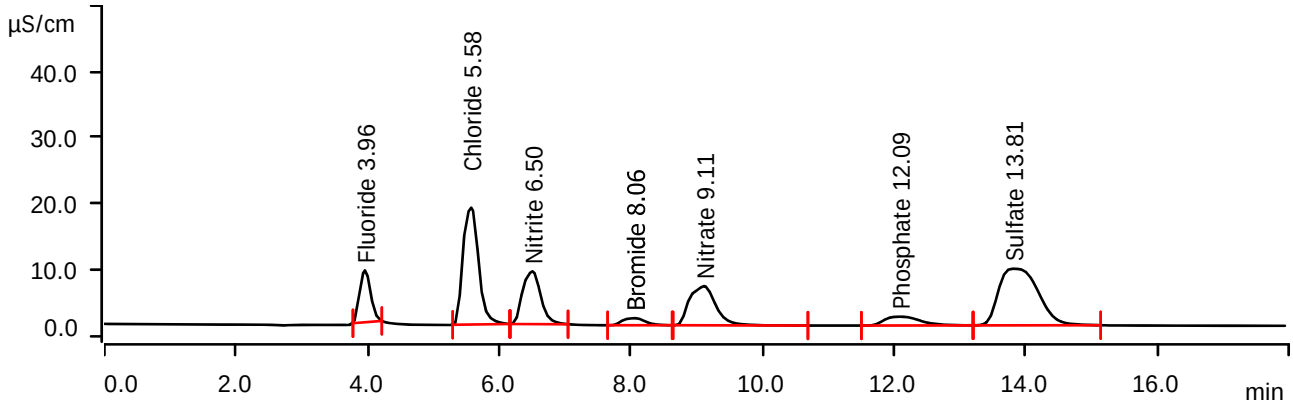
Ident CCV
Determination start 2017-04-12 17:21:14 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 10.15 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.960	1.5332	7.871	3.839	Fluoride
2	5.575	4.8822	17.727	16.337	Chloride
3	6.503	2.5540	8.014	3.781	Nitrite
4	8.060	0.4293	1.076	3.251	Bromide
5	9.112	2.7472	5.952	3.596	Nitrate
6	12.090	0.8481	1.334	3.156	Phosphate
7	13.805	5.9468	8.583	27.450	Sulfate

Sample data

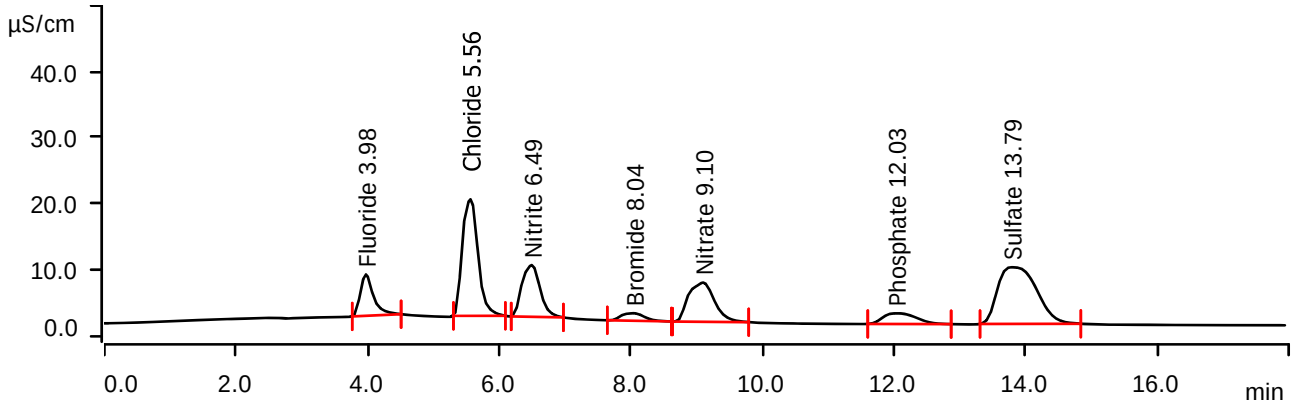
Ident	LCSW	
Determination start	2017-04-12 18:10:03 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.58	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.975	1.4529	6.275	3.646	Fluoride
2	5.563	4.8952	17.675	16.381	Chloride
3	6.493	2.5172	7.842	3.727	Nitrite
4	8.042	0.4600	1.136	3.491	Bromide
5	9.097	2.7239	5.948	3.566	Nitrate
6	12.027	0.9489	1.617	3.516	Phosphate
7	13.785	5.8834	8.600	27.160	Sulfate

Sample data

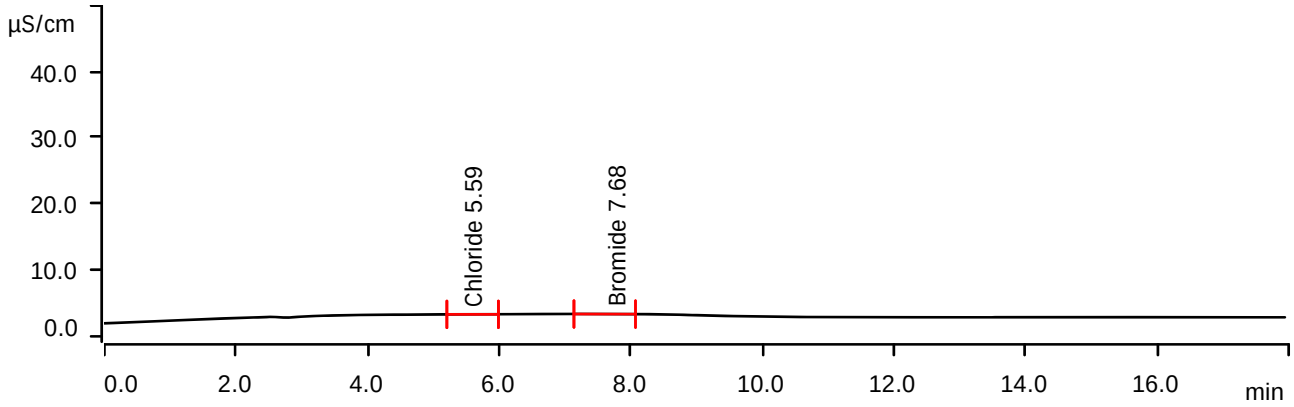
Ident	MBW	
Determination start	2017-04-12 18:31:01 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	10.09	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.590	0.0135	0.042	-0.241	Chloride
2	7.683	0.0119	0.021	-0.008	Bromide

Sample data

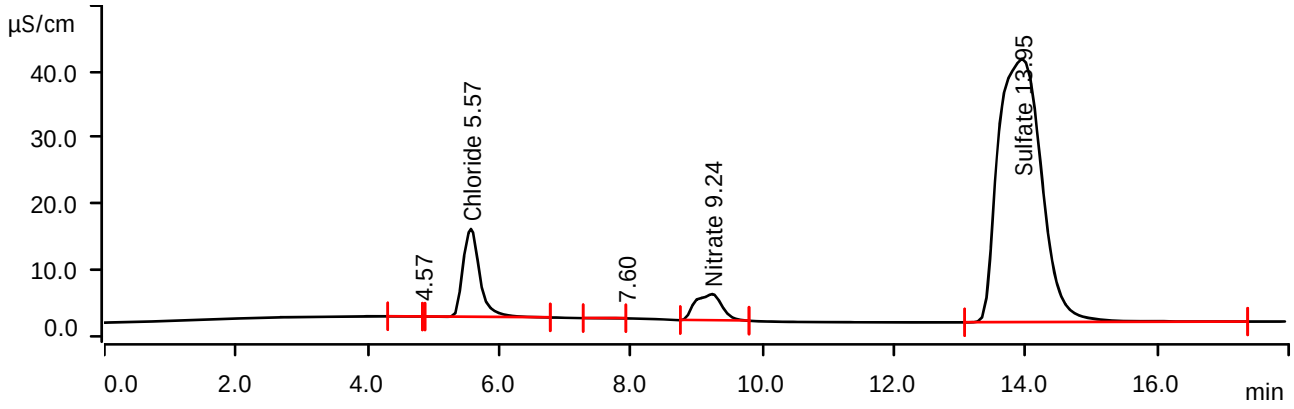
Ident	853049	
Determination start	2017-04-12 18:51:57 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.570	0.0138	0.057	invalid	
2	5.570	3.9632	13.345	13.208	Chloride
3	7.598	0.0112	0.029	invalid	
4	9.235	1.8756	4.006	2.470	Nitrate
5	13.945	30.4241	39.952	139.238	Sulfate

Sample data

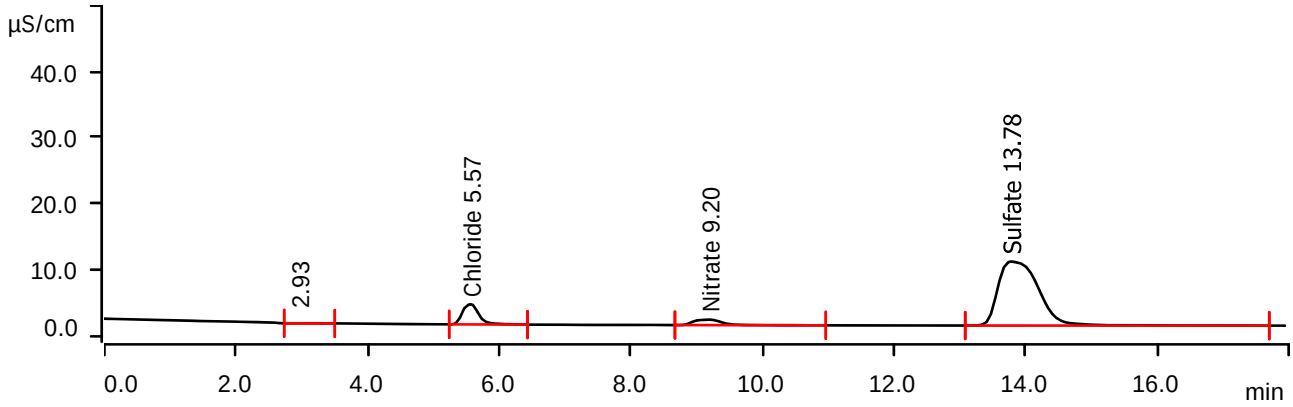
Ident 853049
Determination start 2017-04-12 19:12:54 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.53 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **4.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.927	0.0172	0.039	invalid	
2	5.567	0.8775	3.060	2.701	Chloride
3	9.197	0.4072	0.829	0.573	Nitrate
4	13.775	6.8642	9.713	31.640	Sulfate

Sample data

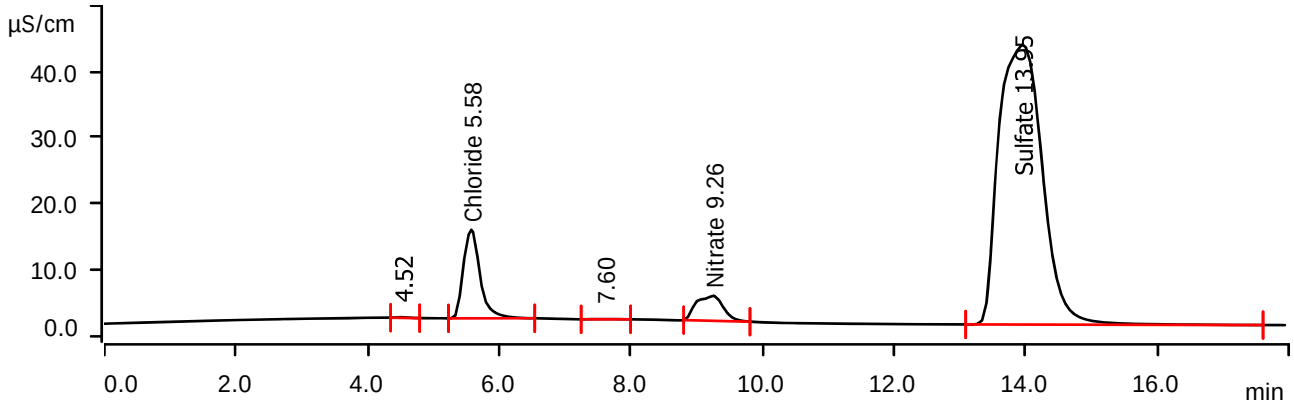
Ident	853051	
Determination start	2017-04-12 19:40:07 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	10.15	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.522	0.0209	0.100	invalid	
2	5.577	3.9495	13.428	13.161	Chloride
3	7.602	0.0160	0.037	invalid	
4	9.255	1.7913	3.798	2.361	Nitrate
5	13.953	32.5360	42.445	148.883	Sulfate

Sample data

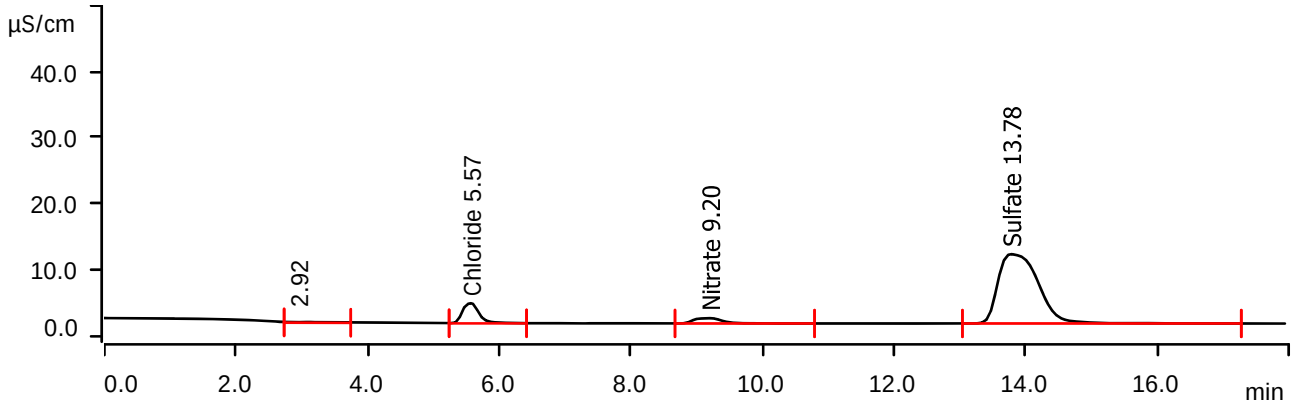
Ident 853051
Determination start 2017-04-12 20:01:02 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **4.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.918	0.0197	0.035	invalid	
2	5.567	0.8665	3.017	2.664	Chloride
3	9.202	0.3956	0.800	0.558	Nitrate
4	13.775	7.4555	10.519	34.340	Sulfate

Sample data

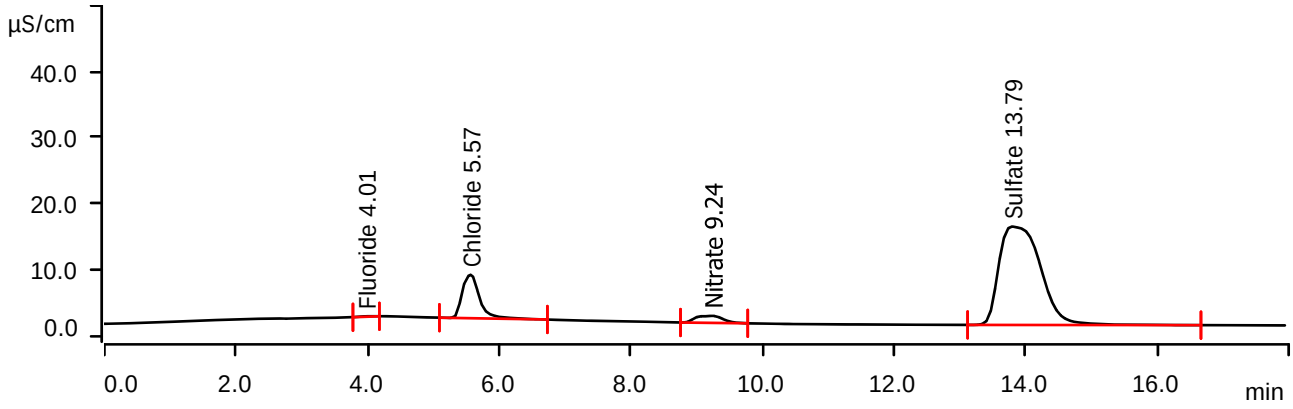
Ident 853053
Determination start 2017-04-12 20:28:14 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.58 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.008	0.0162	0.076	0.202	Fluoride
2	5.565	2.0025	6.593	6.531	Chloride
3	9.238	0.5073	1.060	0.702	Nitrate
4	13.792	10.8975	14.929	50.060	Sulfate

Sample data

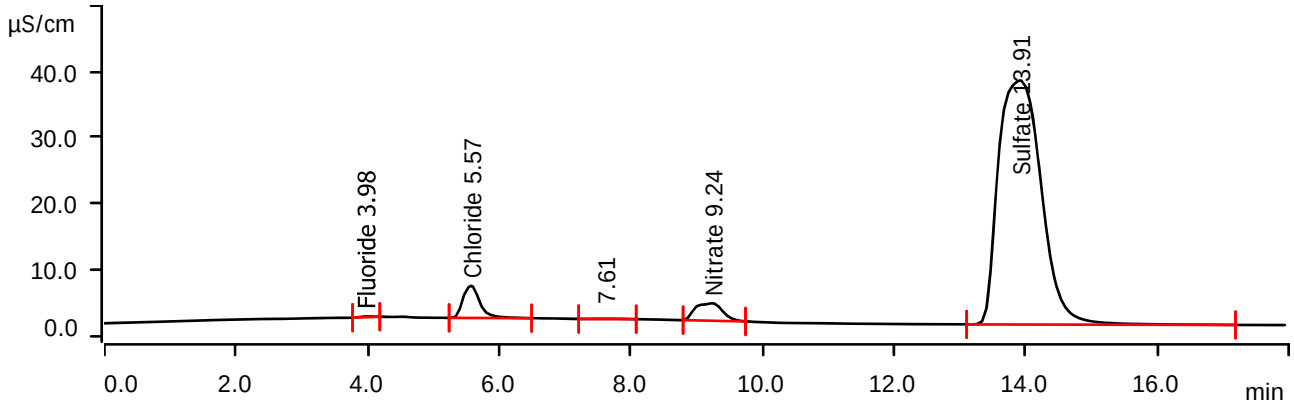
Ident	853055	
Determination start	2017-04-12 20:49:10 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	10.26	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.983	0.0273	0.136	0.229	Fluoride
2	5.573	1.4410	4.871	4.620	Chloride
3	7.612	0.0206	0.039	invalid	
4	9.238	1.2598	2.655	1.674	Nitrate
5	13.913	27.9271	37.030	127.834	Sulfate

Sample data

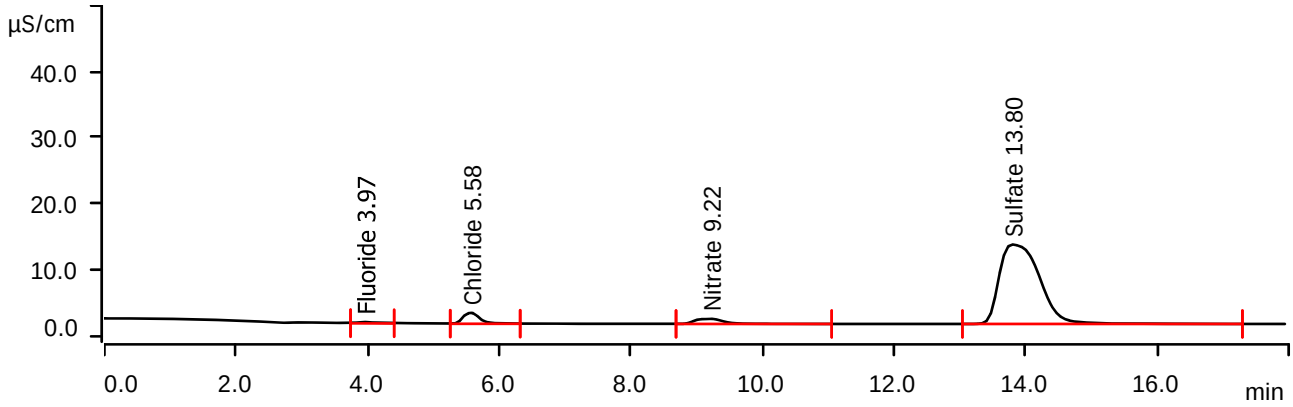
Ident 853055
Determination start 2017-04-12 21:10:04 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **3.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.965	0.0329	0.138	0.242	Fluoride
2	5.575	0.4628	1.608	1.289	Chloride
3	9.217	0.3764	0.756	0.533	Nitrate
4	13.797	8.5459	12.055	39.320	Sulfate

Sample data

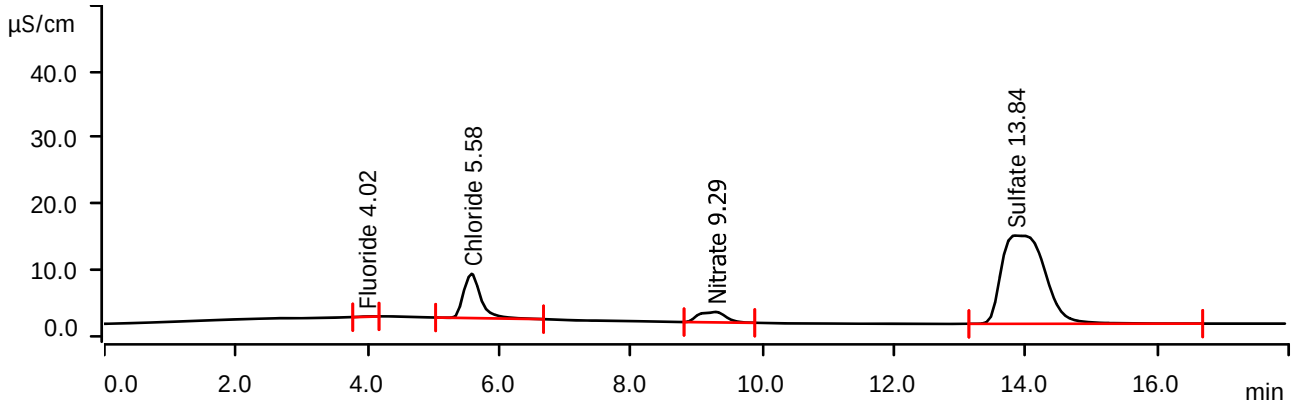
Ident 853082
Determination start 2017-04-12 21:37:36 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.64 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.018	0.0120	0.054	0.192	Fluoride
2	5.580	2.0340	6.703	6.639	Chloride
3	9.287	0.7580	1.584	1.026	Nitrate
4	13.835	10.2666	13.396	47.179	Sulfate

Sample data

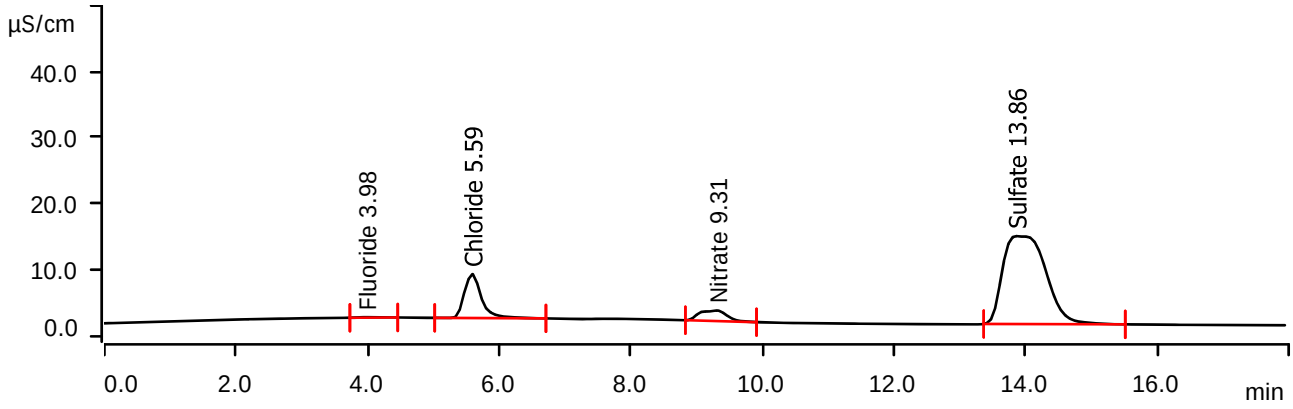
Ident DUP853082
Determination start 2017-04-12 21:58:30 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 10.15 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.980	0.0243	0.076	0.221	Fluoride
2	5.592	1.9942	6.651	6.503	Chloride
3	9.310	0.7682	1.602	1.039	Nitrate
4	13.857	10.1106	13.345	46.466	Sulfate

Sample data

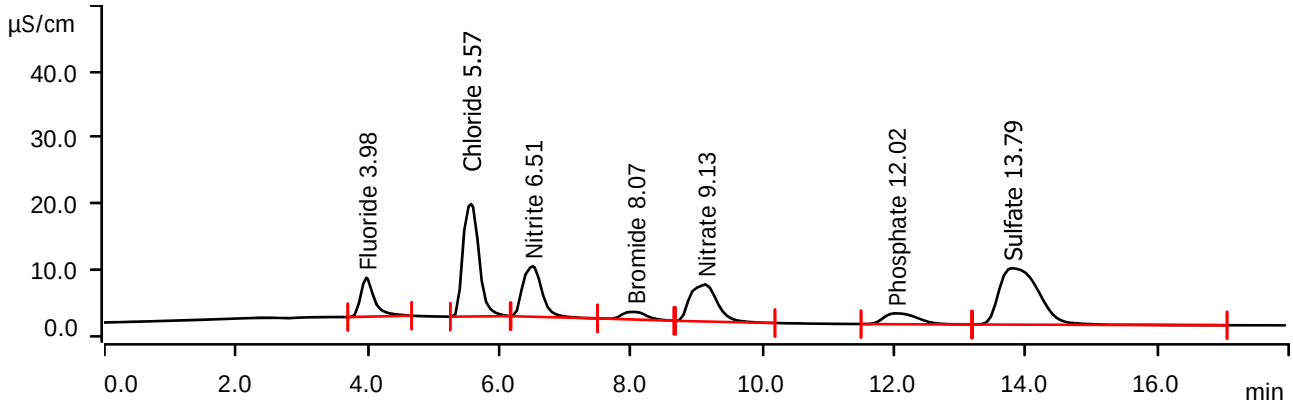
Ident	CCV
Determination start	2017-04-12 22:19:25 UTC-5
Method	IC1053
Operator	AGK

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.81	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.982	1.4256	5.894	3.581	Fluoride
2	5.570	4.8388	17.059	16.189	Chloride
3	6.508	2.5719	7.657	3.808	Nitrite
4	8.067	0.4983	1.158	3.790	Bromide
5	9.128	2.6668	5.622	3.492	Nitrate
6	12.023	0.9721	1.647	3.599	Phosphate
7	13.790	5.9055	8.563	27.261	Sulfate

Sample data

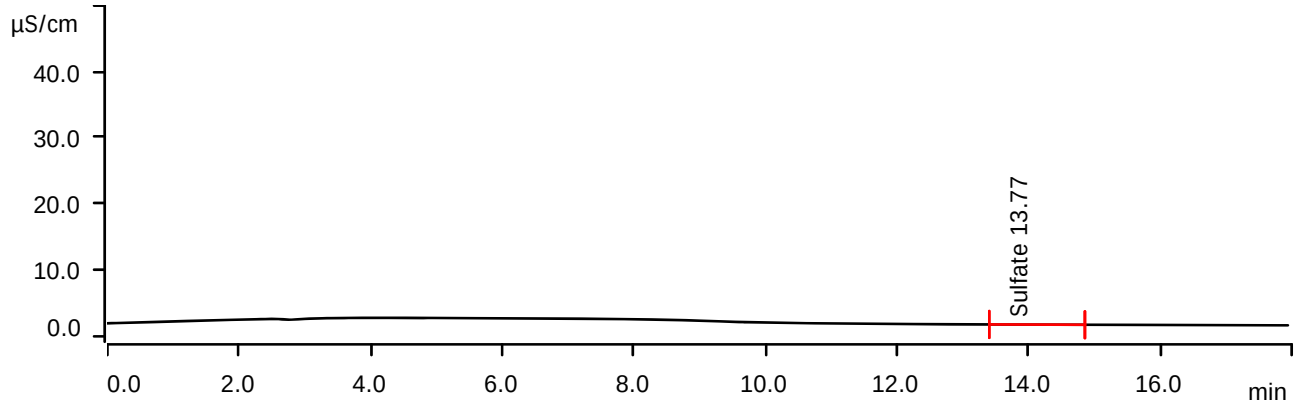
Ident	CCB	
Determination start	2017-04-12 23:01:19 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	10.20	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	13.770	0.0175	0.026	0.371	Sulfate

Sample data

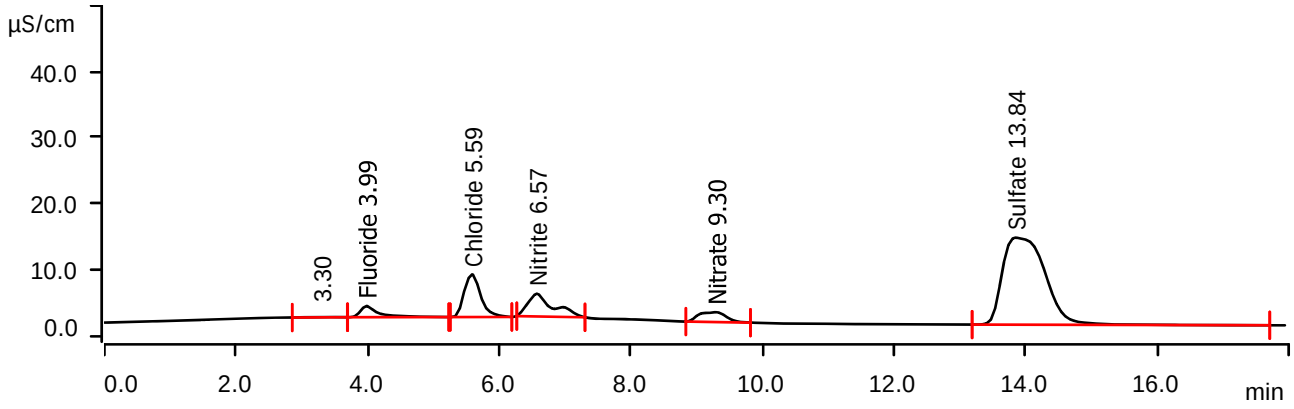
Ident MSW853082
Determination start 2017-04-12 23:22:14 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.64 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.295	0.0139	0.029	invalid	
2	3.985	0.5372	1.688	1.451	Fluoride
3	5.588	1.8930	6.468	6.159	Chloride
4	6.572	1.5365	3.452	2.270	Nitrite
5	9.297	0.7224	1.499	0.980	Nitrate
6	13.843	9.8927	13.208	45.471	Sulfate

Sample data

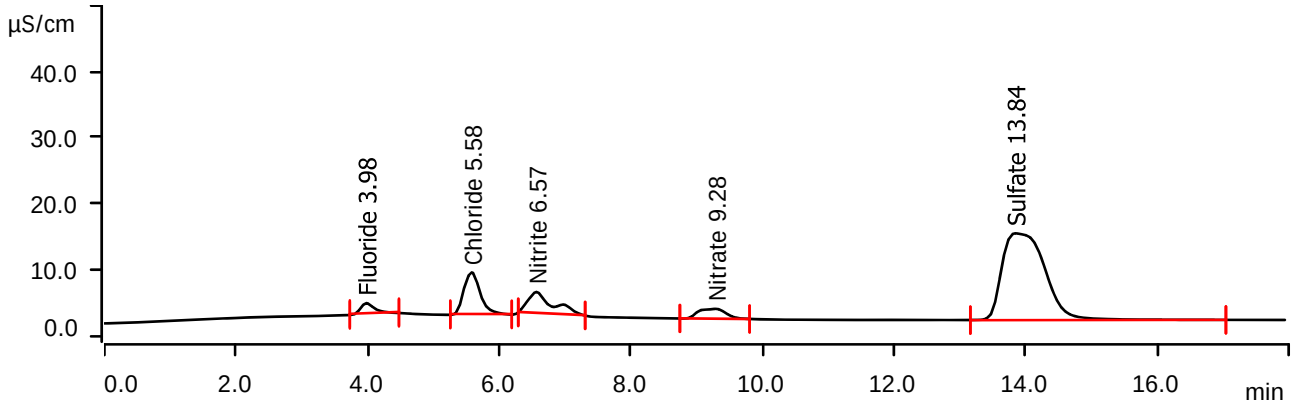
Ident MSDW853082
Determination start 2017-04-12 23:43:13 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.53 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.983	0.4397	1.704	1.217	Fluoride
2	5.582	1.8826	6.427	6.123	Chloride
3	6.565	1.4454	3.266	2.134	Nitrite
4	9.283	0.7329	1.512	0.994	Nitrate
5	13.840	9.9057	13.147	45.530	Sulfate

Sample data

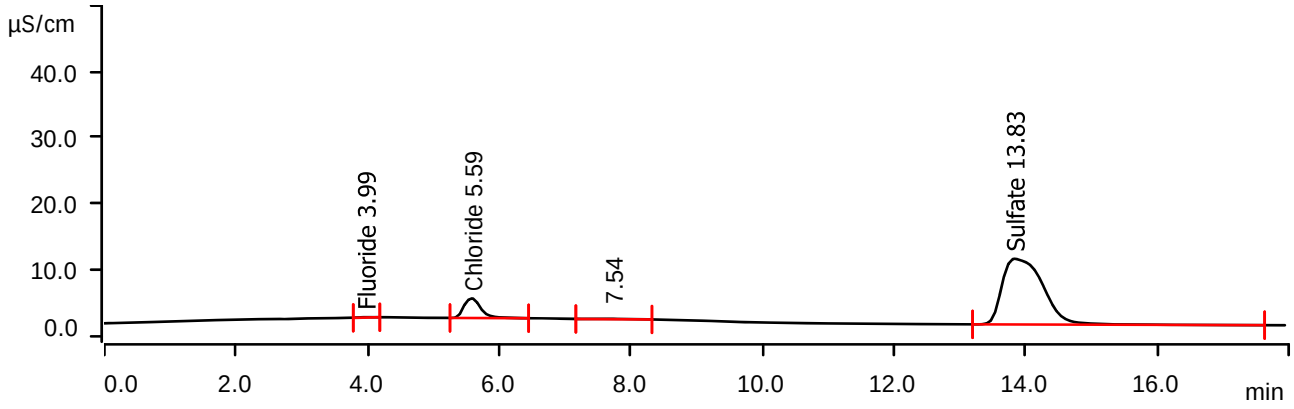
Ident 853084
Determination start 2017-04-13 00:04:08 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 10.20 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.993	0.0118	0.059	0.191	Fluoride
2	5.585	0.8856	2.964	2.729	Chloride
3	7.542	0.0375	0.050	invalid	
4	13.827	7.1504	9.971	32.947	Sulfate

Sample data

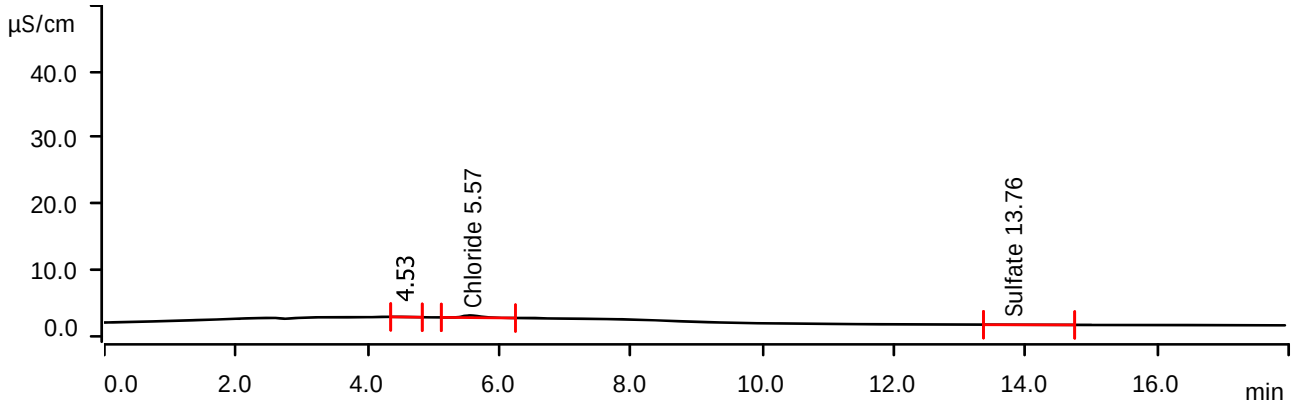
Ident	853086	
Determination start	2017-04-13 00:25:03 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.532	0.0113	0.053	invalid	
2	5.565	0.1038	0.326	0.067	Chloride
3	13.758	0.0202	0.031	0.383	Sulfate

Sample data

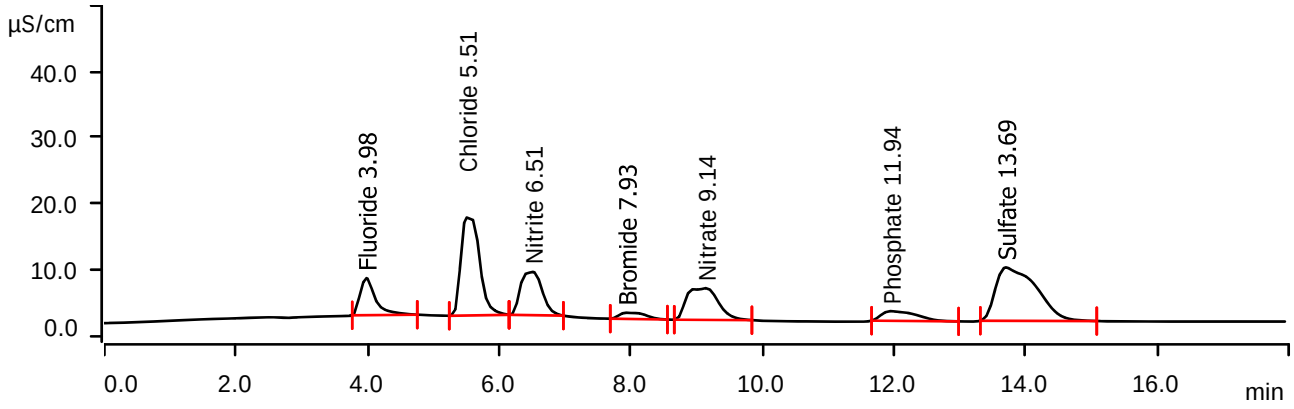
Ident CCV
Determination start 2017-04-13 02:51:27 UTC-5
Method IC1053
Operator . . . . . AGK

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Manual
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.53 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.983	1.5307	5.603	3.833	Fluoride
2	5.507	4.9035	14.858	16.409	Chloride
3	6.512	2.4929	6.560	3.691	Nitrite
4	7.928	0.4355	0.930	3.299	Bromide
5	9.140	2.6743	4.815	3.502	Nitrate
6	11.943	0.9046	1.465	3.357	Phosphate
7	13.693	5.8236	8.099	26.887	Sulfate

Sample data

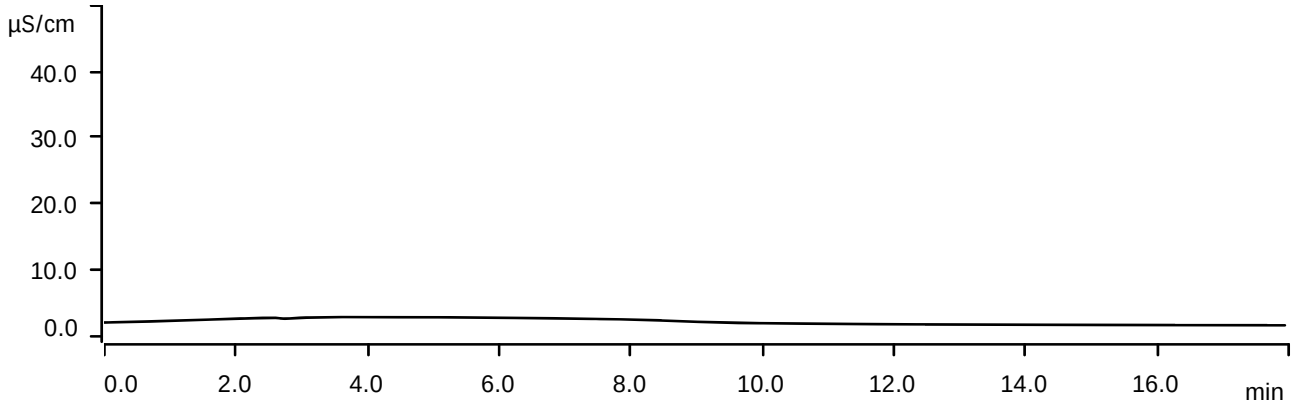
Ident	CCB	
Determination start	2017-04-13 03:33:24 UTC-5	
Method	IC1053	
Operator	AGK	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Analysis Name 042417 - 137128 137129 137130.adb

Template Name 042417 - 137128 137129 137130.tdb
Method Name N / A
Operator AGK

Date Monday, April 24, 2017
Time 12:47

Start Oven Temp. 762 °C
Start Cooler Temp. 4 °C

Version 2.55 Release
Info INSTRUMENT = TOCW
ICAL TOC0092A LCSW TOC0169
CCV TOC0168 SPIKE TOC0086

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order 1 | Position S1 | Type Unknown | Identification CCV | Dilution Factor 1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**49.74**	**10186460**	**1.68**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 13:12:39	50.97	10433625	1	781	2	-	Yes
2	4 24 2017 13:16:29	49.17	10069892	1	781	2	-	Yes
3	4 24 2017 13:19:35	49.18	10072960	1	779	2	-	Yes
4	4 24 2017 13:22:41	49.66	10169363	1	778	2	-	Yes

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2 | S5 | Unknown | LCSW | 1 x

TC	**52.00**	**10641823**	**0.45**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 13:26:39	52.01	10644229	1	777	2	-	Yes
2	4 24 2017 13:30:28	51.71	10584554	1	777	2	-	Yes
3	4 24 2017 13:33:47	51.97	10635801	1	775	2	-	Yes
4	4 24 2017 13:36:52	52.30	10702710	1	775	2	-	Yes

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3 | S7 | Unknown | MBW | 1 x

TC	**0.36**	**195884**	**8.86**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 13:40:52	1.05	335726	1	774	2	-	-
2	4 24 2017 13:44:06	0.36	196725	1	772	2	-	Yes
3	4 24 2017 13:46:30	0.28	180733	1	771	2	-	Yes
4	4 24 2017 13:48:50	0.31	186145	1	771	2	-	Yes
5	4 24 2017 13:51:12	0.48	219933	1	769	2	-	Yes

---

4 | 2 | Unknown | 852443 | 1 x

TC	**7.57**	**1654261**	**2.83**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 13:54:31	7.87	1715477	1	769	2	-	Yes
2	4 24 2017 13:58:00	7.32	1604691	1	767	2	-	Yes
3	4 24 2017 14:00:41	7.60	1660929	1	766	2	-	Yes
4	4 24 2017 14:03:25	7.48	1635948	1	765	2	-	Yes

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5 | 3 | Unknown | DUP852443 | 1 x

		TC	**8.00**	**1742149**	**2.72**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 14:07:02	8.30	1803160	1	765	2	-	Yes
	2	4 24 2017 14:10:32	7.74	1688979	1	764	2	-	Yes
	3	4 24 2017 14:13:18	8.03	1747027	1	763	2	-	Yes
	4	4 24 2017 14:16:06	7.94	1729430	1	763	2	-	Yes

6	4	Unknown	MSW852443	1 x

		TC	**56.55**	**11563140**	**0.69**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 14:19:41	56.28	11509408	1	762	2	-	Yes
	2	4 24 2017 14:23:23	56.63	11579216	1	762	2	-	Yes
	3	4 24 2017 14:26:30	56.21	11494019	1	760	2	-	Yes
	4	4 24 2017 14:29:35	57.08	11669920	1	760	2	-	Yes

7	5	Unknown	MSDW852443	1 x

		TC	**56.66**	**11585322**	**1.11**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 14:33:39	57.57	11769611	1	760	2	-	Yes
	2	4 24 2017 14:37:21	56.32	11516389	1	759	2	-	Yes
	3	4 24 2017 14:40:31	56.15	11481703	1	759	2	-	Yes
	4	4 24 2017 14:43:40	56.60	11573588	1	759	2	-	Yes

8	6	Unknown	852444	1 x

		TC	**5.68**	**1271736**	**3.07**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 14:47:35	5.96	1328841	1	759	2	-	Yes
	2	4 24 2017 14:50:54	5.52	1240541	1	758	2	-	Yes
	3	4 24 2017 14:53:32	5.63	1261724	1	757	2	-	Yes
	4	4 24 2017 14:56:09	5.60	1255838	1	757	2	-	Yes

9	7	Unknown	852445	NOT USED	1 x

		TC	**4.96**	**1125738**	**3.78**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 14:59:37	5.26	1188132	1	756	2	-	Yes
	2	4 24 2017 15:02:52	4.91	1116494	1	756	2	-	Yes
	3	4 24 2017 15:05:24	4.85	1104392	1	756	2	-	Yes
	4	4 24 2017 15:07:54	4.80	1093936	1	756	2	-	Yes

10	8	Unknown	852446	1 x

		TC	**6.82**	**1503417**	**2.62**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 15:11:14	7.11	1561520	1	755	2	-	Yes
	2	4 24 2017 15:14:29	6.68	1474791	1	755	2	-	Yes
	3	4 24 2017 15:17:03	6.73	1484668	1	755	2	-	Yes
	4	4 24 2017 15:19:35	6.77	1492689	1	754	2	-	Yes

11	9	Unknown	852447	1 x

		TC	**8.39**	**1821049**	**3.37**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 15:22:59	8.81	1905344	1	754	2	-	Yes
	2	4 24 2017 15:26:14	8.41	1824939	1	754	2	-	Yes
	3	4 24 2017 15:28:48	8.11	1764688	1	753	2	-	Yes
	4	4 24 2017 15:31:26	8.24	1789228	1	753	2	-	Yes

12	10	Unknown	852448	1 x

		TC	**7.69**	**1677718**	**1.32**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 15:34:55	7.82	1704291	1	753	2	-	Yes
	2	4 24 2017 15:38:12	7.65	1670500	1	753	2	-	Yes
	3	4 24 2017 15:40:48	7.72	1684250	1	753	2	-	Yes
	4	4 24 2017 15:43:21	7.56	1651833	1	752	2	-	Yes

13	11	Unknown	852449	1 x

		TC	**6.85**	**1508307**	**2.32**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 15:46:45	7.10	1559768	1	753	2	-	Yes
	2	4 24 2017 15:50:01	6.77	1491989	1	753	2	-	Yes
	3	4 24 2017 15:52:34	6.80	1499442	1	753	2	-	Yes
	4	4 24 2017 15:55:10	6.72	1482032	1	752	2	-	Yes

14	S1	Unknown	CCV		1 x

		TC	**50.10**	**10259454**	**1.26**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 15:58:37	49.71	10179351	1	752	2	-	Yes
	2	4 24 2017 16:02:26	49.80	10197924	1	752	2	-	Yes
	3	4 24 2017 16:05:31	51.06	10452454	1	753	2	-	Yes
	4	4 24 2017 16:08:40	49.85	10208090	1	753	2	-	Yes

15	S7	Unknown	CCB		1 x

		TC	**0.53**	**230655**	**8.19**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 16:12:35	0.62	248743	1	753	2	-	Yes
	2	4 24 2017 16:15:48	0.58	241272	1	753	2	-	Yes
	3	4 24 2017 16:18:15	0.51	226762	1	752	2	-	Yes
	4	4 24 2017 16:20:42	0.41	205843	1	752	2	-	Yes

16	12	Unknown	852450		1 x

		TC	**8.50**	**1842188**	**2.01**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 16:24:05	8.69	1880487	1	752	2	-	Yes
	2	4 24 2017 16:27:41	8.25	1792177	1	752	2	-	Yes
	3	4 24 2017 16:30:26	8.49	1841558	1	752	2	-	Yes
	4	4 24 2017 16:33:18	8.56	1854533	1	751	2	-	Yes

17	13	Unknown	852451	NOT USED	1 x

		TC	**4.88**	**1110731**	**2.10**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 16:36:56	5.05	1145277	1	751	2	-	Yes
	2	4 24 2017 16:40:28	4.83	1100720	1	752	2	-	Yes
	3	4 24 2017 16:43:11	4.84	1102561	1	752	2	-	Yes
	4	4 24 2017 16:45:53	4.80	1094367	1	752	2	-	Yes

18	14	Unknown	852452		1 x

		TC	**8.37**	**1817183**	**4.01**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 16:49:22	8.91	1925898	1	752	2	-	Yes
	2	4 24 2017 16:52:48	8.24	1790991	1	752	2	-	Yes
	3	4 24 2017 16:55:27	8.16	1774012	1	751	2	-	Yes
	4	4 24 2017 16:58:08	8.18	1777831	1	752	2	-	Yes

19	15	Unknown	852453		1 x

		TC	**8.65**	**1872401**	**2.59**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 17:01:38	8.88	1919525	1	751	2	-	Yes
	2	4 24 2017 17:04:59	8.36	1814073	1	752	2	-	Yes
	3	4 24 2017 17:07:36	8.80	1904103	1	752	2	-	Yes
	4	4 24 2017 17:10:17	8.54	1851906	1	752	2	-	Yes

20	S1	Unknown	CCV		1 x

		TC	**50.90**	**10421243**	**1.59**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 17:14:11	51.03	10446188	1	752	2	-	Yes
	2	4 24 2017 17:18:07	52.00	10643092	1	752	2	-	Yes
	3	4 24 2017 17:21:20	50.45	10329445	1	753	2	-	Yes
	4	4 24 2017 17:24:29	50.14	10266247	1	753	2	-	Yes

21	S5	Unknown	LCSW		1 x

		TC	**51.17**	**10474229**	**1.09**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 17:28:24	51.03	10447387	1	754	2	-	Yes
2		4 24 2017 17:32:14	51.82	10605897	1	753	2	-	Yes
3		4 24 2017 17:35:35	50.47	10332825	1	753	2	-	Yes
4		4 24 2017 17:38:55	51.35	10510809	1	753	2	-	Yes

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22 S7 Unknown MBW CCB 1 x

		TC	**0.00**	**0**	**0.00**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 17:42:56	ZERO !	87226	1	753	2	-	-
2		4 24 2017 17:46:04	0	0	0	753	2	-	Yes
3		4 24 2017 17:52:19	0	0	0	753	2	-	Yes
4		4 24 2017 17:56:20	0	0	0	753	2	-	Yes
5		4 24 2017 18:00:21	0	0	0	753	2	-	Yes

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23 16 Unknown INSTRUMENT BLANK 1 x

		TC	**0.00**	**0**	**0.00**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 18:05:15	ZERO !	122641	1	753	2	-	-
2		4 24 2017 18:08:27	0	0	0	752	2	-	Yes
3		4 24 2017 18:12:28	0	0	0	752	2	-	Yes
4		4 24 2017 18:16:30	0	0	0	753	2	-	Yes
5		4 24 2017 18:20:33	0	0	0	753	2	-	Yes

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24 17 Unknown 852429 1 x

		TC	**74.93**	**15281632**	**0.47**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 18:25:27	75.24	15344300	1	752	2	-	Yes
2		4 24 2017 18:29:40	75.16	15328533	1	752	2	-	Yes
3		4 24 2017 18:32:58	74.87	15268454	1	752	2	-	Yes
4		4 24 2017 18:36:27	74.45	15185242	1	752	2	-	Yes

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25 18 Unknown 852439 1 x

		TC	**73.88**	**15069259**	**0.41**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 18:40:40	73.65	15023019	1	752	2	-	Yes
2		4 24 2017 18:44:43	73.65	15022150	1	752	2	-	Yes
3		4 24 2017 18:48:21	74.30	15154378	1	752	2	-	Yes
4		4 24 2017 18:52:25	73.92	15077489	1	752	2	-	Yes

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26 19 Unknown 852441 1 x

		TC	**62.12**	**12689338**	**0.82**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 18:56:41	62.80	12827527	1	752	2	-	Yes
2		4 24 2017 19:00:45	62.22	12710833	1	752	2	-	Yes
3		4 24 2017 19:03:55	61.76	12618013	1	752	2	-	Yes
4		4 24 2017 19:07:24	61.68	12600980	1	752	2	-	Yes

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27 20 Unknown 853081 1 x

		TC	**83.36**	**16987675**	**0.21**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 19:11:34	83.23	16960702	1	752	2	-	Yes
2		4 24 2017 19:15:28	83.48	17011695	1	752	2	-	Yes
3		4 24 2017 19:18:55	83.54	17023570	1	752	2	-	Yes
4		4 24 2017 19:22:18	83.20	16954733	1	752	2	-	Yes

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28 21 Unknown 853083 1 x

		TC	**57.06**	**11666153**	**0.43**			**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		4 24 2017 19:26:30	57.41	11738275	1	752	2	-	Yes
2		4 24 2017 19:30:47	56.94	11641480	1	751	2	-	Yes
3		4 24 2017 19:33:53	56.85	11623103	1	752	2	-	Yes
4		4 24 2017 19:37:04	57.04	11661756	1	752	2	-	Yes

29 22 Unknown 853085 1 x

	TC	0.04	130759	4.29		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 19:41:11	0.45	213655	1	752	2	-	-
2	4 24 2017 19:44:27	0.07	138331	1	751	2	-	Yes
3	4 24 2017 19:46:49	0.03	130333	1	751	2	-	Yes
4	4 24 2017 19:49:20	0.03	129575	1	751	2	-	Yes
5	4 24 2017 19:51:49	0.01	124799	1	751	2	-	Yes

30 23 Unknown INSTRUMENT BLANK 1 x

	TC	ZERO !	71118	125.04		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 19:55:12	0.30	184030	1	752	2	-	Yes
2	4 24 2017 19:58:31	0	0	0	752	2	-	Yes
3	4 24 2017 20:02:31	ZERO !	100444	1	752	2	-	Yes
4	4 24 2017 20:05:01	0	0	0	752	2	-	Yes
5	4 24 2017 20:09:03	0	0	0	753	2	-	-

31 S3 Unknown CCV 1 x

	TC	51.96	10635106	1.45		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 20:13:56	53.08	10861649	1	752	2	-	Yes
2	4 24 2017 20:18:18	51.62	10566214	1	752	2	-	Yes
3	4 24 2017 20:21:38	51.37	10516358	1	751	2	-	Yes
4	4 24 2017 20:24:59	51.77	10596205	1	751	2	-	Yes

32 S5 Unknown LCSW 1 x

	TC	53.28	10902902	0.47		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 20:29:17	53.11	10866648	1	752	2	-	Yes
2	4 24 2017 20:33:21	53.57	10959931	1	752	2	-	Yes
3	4 24 2017 20:36:48	53.04	10854129	1	752	2	-	Yes
4	4 24 2017 20:40:07	53.42	10930900	1	752	2	-	Yes

33 S9 Unknown CCB 1 x

	TC	0.00	0	0.00		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 20:44:25	0.17	158354	1	752	2	-	-
2	4 24 2017 20:47:46	0	0	0	752	2	-	Yes
3	4 24 2017 20:52:15	0	0	0	752	2	-	Yes
4	4 24 2017 20:56:15	0	0	0	752	2	-	Yes
5	4 24 2017 21:00:17	0	0	0	752	2	-	Yes

34 24 Unknown 852808 1 x

	TC	1.18	361575	7.38		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 21:05:12	1.37	401235	1	752	2	-	Yes
2	4 24 2017 21:08:31	1.11	348221	1	752	2	-	Yes
3	4 24 2017 21:11:02	1.13	352847	1	752	2	-	Yes
4	4 24 2017 21:13:32	1.09	344000	1	752	2	-	Yes

35 25 Unknown 852810 1 x

	TC	3.98	927162	3.59		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 21:17:01	4.22	976052	1	752	2	-	Yes
2	4 24 2017 21:20:22	3.85	902424	1	752	2	-	Yes
3	4 24 2017 21:23:10	3.89	910763	1	751	2	-	Yes
4	4 24 2017 21:25:47	3.94	919412	1	752	2	-	Yes

36 26 Unknown 852811 1 x

	TC	3.92	916639	2.53		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1	4 24 2017 21:29:20	4.07	946836	1	751	2	-	Yes
2	4 24 2017 21:32:44	3.95	922422	1	751	2	-	Yes
3	4 24 2017 21:35:28	3.82	895709	1	751	2	-	Yes
4	4 24 2017 21:38:07	3.85	901590	1	751	2	-	Yes

37 27 Unknown 852812 1 x

	TC	**2.60**	**649167**	**3.99**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 21:41:42	2.78	685308	1	751	2	-	Yes
2	4 24 2017 21:45:01	2.49	626499	1	751	2	-	Yes
3	4 24 2017 21:47:36	2.53	635271	1	751	2	-	Yes
4	4 24 2017 21:50:14	2.60	649593	1	750	2	-	Yes

38 28 Unknown 852813 1 x

	TC	**2.84**	**698829**	**1.80**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 21:53:43	2.91	712045	1	751	2	-	Yes
2	4 24 2017 21:56:53	2.77	684506	1	752	2	-	Yes
3	4 24 2017 21:59:25	2.88	706333	1	751	2	-	Yes
4	4 24 2017 22:01:57	2.81	692435	1	750	2	-	Yes

39 29 Unknown 852814 1 x

	TC	**1.95**	**518394**	**5.69**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 22:05:21	2.17	562305	1	751	2	-	Yes
2	4 24 2017 22:08:38	1.88	503659	1	751	2	-	Yes
3	4 24 2017 22:11:02	1.86	499424	1	751	2	-	Yes
4	4 24 2017 22:13:27	1.90	508191	1	751	2	-	Yes

40 30 Unknown 854325 1 x

	TC	**1.36**	**399422**	**2.43**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 22:16:43	1.42	411460	1	752	2	-	Yes
2	4 24 2017 22:19:47	1.31	388617	1	752	2	-	Yes
3	4 24 2017 22:22:08	1.38	401902	1	752	2	-	Yes
4	4 24 2017 22:24:32	1.35	395710	1	751	2	-	Yes

41 31 Unknown 854332 1 x

	TC	**1.83**	**493175**	**5.80**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 22:27:52	2.00	527624	1	752	2	-	Yes
2	4 24 2017 22:31:01	1.68	463005	1	752	2	-	Yes
3	4 24 2017 22:33:24	1.75	477830	1	752	2	-	Yes
4	4 24 2017 22:35:47	1.88	504241	1	752	2	-	Yes

42 32 Unknown 854333 1 x

	TC	**5.47**	**1230191**	**3.30**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 22:39:05	5.68	1271480	1	752	2	-	Yes
2	4 24 2017 22:42:24	5.28	1192309	1	752	2	-	Yes
3	4 24 2017 22:45:00	5.32	1198582	1	751	2	-	Yes
4	4 24 2017 22:47:33	5.61	1258395	1	751	2	-	Yes

43 33 Unknown 854334 1 x

	TC	**4.32**	**996957**	**2.91**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 24 2017 22:50:59	4.53	1039634	1	752	2	-	Yes
2	4 24 2017 22:54:10	4.25	983801	1	752	2	-	Yes
3	4 24 2017 22:56:40	4.28	989201	1	752	2	-	Yes
4	4 24 2017 22:59:09	4.21	975193	1	752	2	-	Yes

44 S2 Unknown CCV 1 x

		TC	**51.60**	**10561826**		**0.90**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 23:02:31	51.29	10499869	1	752	2	-	Yes
	2	4 24 2017 23:06:26	51.21	10482928	1	752	2	-	Yes
	3	4 24 2017 23:09:34	52.24	10692111	1	752	2	-	Yes
	4	4 24 2017 23:12:50	51.65	10572398	1	752	2	-	Yes

45	S8	Unknown	CCB		1 x

		TC	**0.00**	**0**		**0.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 23:16:57	0	0	0	752	2	-	Yes
	2	4 24 2017 23:21:35	0	0	0	752	2	-	Yes
	3	4 24 2017 23:25:36	0	0	0	752	2	-	Yes
	4	4 24 2017 23:29:37	0	0	0	752	2	-	Yes

46	34	Unknown	854335		1 x

		TC	**2.56**	**640818**		**2.88**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 23:34:33	2.54	636609	1	752	2	-	Yes
	2	4 24 2017 23:37:56	2.51	630028	1	751	2	-	Yes
	3	4 24 2017 23:40:36	2.50	628667	1	751	2	-	Yes
	4	4 24 2017 23:43:13	2.69	667970	1	751	2	-	Yes

47	35	Unknown	854336		1 x

		TC	**2.46**	**621883**		**6.49**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 23:46:43	2.69	668011	1	752	2	-	Yes
	2	4 24 2017 23:50:03	2.57	643313	1	752	2	-	Yes
	3	4 24 2017 23:52:37	2.28	585175	1	752	2	-	Yes
	4	4 24 2017 23:55:11	2.31	591036	1	752	2	-	Yes

48	36	Unknown	854339		1 x

		TC	**2.02**	**530473**		**4.12**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 24 2017 23:58:39	2.17	561931	1	752	2	-	Yes
	2	4 25 2017 0:02:05	1.99	524950	1	752	2	-	Yes
	3	4 25 2017 0:04:35	1.98	523723	1	751	2	-	Yes
	4	4 25 2017 0:07:02	1.92	511289	1	751	2	-	Yes

49	37	Unknown	854340		1 x

		TC	**2.03**	**532708**		**4.51**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 25 2017 0:10:21	2.20	568173	1	751	2	-	Yes
	2	4 25 2017 0:13:32	1.98	523994	1	752	2	-	Yes
	3	4 25 2017 0:15:55	1.98	523667	1	751	2	-	Yes
	4	4 25 2017 0:18:18	1.94	514998	1	751	2	-	Yes

50	38	Unknown	855702		1 x

		TC	**7.19**	**1577722**		**1.85**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 25 2017 0:21:34	7.40	1620344	1	752	2	-	Yes
	2	4 25 2017 0:24:52	7.11	1560999	1	751	2	-	Yes
	3	4 25 2017 0:27:30	7.09	1557112	1	752	2	-	Yes
	4	4 25 2017 0:30:05	7.16	1572434	1	752	2	-	Yes

51	39	Unknown	855706		1 x

		TC	**5.47**	**1229355**		**3.21**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 25 2017 0:33:39	5.71	1278292	1	752	2	-	Yes
	2	4 25 2017 0:36:57	5.54	1244343	1	752	2	-	Yes
	3	4 25 2017 0:39:28	5.32	1199665	1	752	2	-	Yes
	4	4 25 2017 0:42:03	5.30	1195123	1	752	2	-	Yes

52 40 Unknown 855707 1 x

	TC	8.25	1792677	5.16		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 0:45:28	8.19	1780268	1	752	2	-	Yes
2	4 25 2017 0:48:45	8.91	1926246	1	752	2	-	Yes
3	4 25 2017 0:52:26	8.02	1745662	1	752	2	-	Yes
4	4 25 2017 0:55:04	7.89	1718534	1	751	2	-	Yes

53 41 Unknown 855708 1 x

	TC	7.80	1701941	2.89		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 0:58:36	8.13	1768901	1	752	2	-	Yes
2	4 25 2017 1:01:57	7.79	1699203	1	752	2	-	Yes
3	4 25 2017 1:04:34	7.74	1688333	1	752	2	-	Yes
4	4 25 2017 1:07:12	7.55	1651327	1	752	2	-	Yes

54 42 Unknown 856635 1 x

	TC	6.33	1404629	2.17		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 1:10:44	6.50	1439188	1	752	2	-	Yes
2	4 25 2017 1:14:00	6.42	1421143	1	752	2	-	Yes
3	4 25 2017 1:16:35	6.22	1381566	1	751	2	-	Yes
4	4 25 2017 1:19:11	6.20	1376619	1	751	2	-	Yes

55 43 Unknown DUP856635 1 x

	TC	6.03	1342269	2.93		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 1:22:39	6.32	1401192	1	752	2	-	Yes
2	4 25 2017 1:26:01	5.93	1322388	1	752	2	-	Yes
3	4 25 2017 1:28:34	5.93	1322675	1	752	2	-	Yes
4	4 25 2017 1:31:07	5.93	1322824	1	752	2	-	Yes

56 S2 Unknown CCV 1 x

	TC	50.93	10426500	1.37		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 1:34:33	50.34	10307657	1	752	2	-	Yes
2	4 25 2017 1:38:22	50.30	10298292	1	752	2	-	Yes
3	4 25 2017 1:41:31	51.61	10564320	1	752	2	-	Yes
4	4 25 2017 1:44:43	51.47	10535732	1	752	2	-	Yes

57 S5 Unknown LCSW 1 x

	TC	53.05	10856695	0.44		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 1:48:53	53.40	10927036	1	752	2	-	Yes
2	4 25 2017 1:52:51	52.90	10825887	1	752	2	-	Yes
3	4 25 2017 1:56:04	52.99	10843125	1	752	2	-	Yes
4	4 25 2017 1:59:23	52.93	10830734	1	752	2	-	Yes

58 S8 Unknown MBW CCB 1 x

	TC	ZERO !	49304	117.03		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 2:03:41	0	0	0	752	2	-	Yes
2	4 25 2017 2:08:19	ZERO !	110113	1	752	2	-	Yes
3	4 25 2017 2:10:52	0	0	0	751	2	-	Yes
4	4 25 2017 2:14:54	0	0	0	752	2	-	-
5	4 25 2017 2:18:56	ZERO !	87103	1	752	2	-	Yes

59 44 Unknown MSW856635 1 x

	TC	55.45	11342615	1.62		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1		4 25 2017 2:22:19	56.29	11511706	1	751	2	-	Yes
2		4 25 2017 2:26:17	56.19	11491181	1	751	2	-	Yes
3		4 25 2017 2:29:30	54.61	11171752	1	752	2	-	Yes
4		4 25 2017 2:32:47	54.73	11195821	1	751	2	-	Yes

60 45 Unknown MSDW856635 1 x

	TC	**54.29**	**11106466**	**0.18**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 2:37:05	54.35	11119140	1	752	2	-	Yes
2	4 25 2017 2:40:55	54.15	11076958	1	752	2	-	Yes
3	4 25 2017 2:44:03	54.31	11109410	1	752	2	-	Yes
4	4 25 2017 2:47:27	54.36	11120356	1	752	2	-	Yes

61 46 Unknown 852429 1 x

	TC	**6.94**	**1527027**	**2.49**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 2:51:33	7.19	1578164	1	752	2	-	Yes
2	4 25 2017 2:55:03	6.75	1489764	1	751	2	-	Yes
3	4 25 2017 2:57:51	6.96	1530607	1	751	2	-	Yes
4	4 25 2017 3:00:30	6.85	1509575	1	751	2	-	Yes

62 47 Unknown 852439 1 x

	TC	**5.48**	**1232782**	**1.12**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 3:04:03	5.47	1230711	1	752	2	-	Yes
2	4 25 2017 3:07:23	5.46	1227519	1	751	2	-	Yes
3	4 25 2017 3:10:00	5.58	1252523	1	752	2	-	Yes
4	4 25 2017 3:12:37	5.42	1220377	1	751	2	-	Yes

63 48 Unknown 852441 1 x

	TC	**4.43**	**1019910**	**4.17**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 3:16:04	4.70	1074440	1	752	2	-	Yes
2	4 25 2017 3:19:20	4.22	976238	1	752	2	-	Yes
3	4 25 2017 3:21:50	4.48	1030159	1	751	2	-	Yes
4	4 25 2017 3:24:23	4.33	998805	1	752	2	-	Yes

64 49 Unknown 853044 1 x

	TC	**4.74**	**1082013**	**1.38**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 3:27:50	4.79	1091919	1	752	2	-	Yes
2	4 25 2017 3:31:06	4.63	1060459	1	751	2	-	Yes
3	4 25 2017 3:33:38	4.79	1092179	1	751	2	-	Yes
4	4 25 2017 3:36:12	4.75	1083495	1	751	2	-	Yes

65 50 Unknown 853050 1 x

	TC	**4.97**	**1129108**	**2.09**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 3:39:43	5.08	1150662	1	752	2	-	Yes
2	4 25 2017 3:42:59	4.84	1103278	1	751	2	-	Yes
3	4 25 2017 3:45:32	5.06	1147464	1	751	2	-	Yes
4	4 25 2017 3:48:09	4.90	1115030	1	751	2	-	Yes

66 51 Unknown 853052 1 x

	TC	**3.05**	**739719**	**3.07**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 3:51:52	3.18	766340	1	752	2	-	Yes
2	4 25 2017 3:55:07	3.04	738232	1	751	2	-	Yes
3	4 25 2017 3:57:34	2.91	711053	1	751	2	-	Yes
4	4 25 2017 4:00:00	3.06	743252	1	751	2	-	Yes

67 52 Unknown 853054 1 x

TC **3.92** **916553** **1.91** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 4:03:26	4.05	942689	1	752	2	-	Yes
2	4 25 2017 4:06:40	3.89	910697	1	751	2	-	Yes
3	4 25 2017 4:09:11	3.87	907136	1	751	2	-	Yes
4	4 25 2017 4:11:43	3.87	905693	1	752	2	-	Yes

68 53 Unknown 853081 1 x

TC **6.71** **1481416** **3.27** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 4:15:11	7.02	1543334	1	752	2	-	Yes
2	4 25 2017 4:18:27	6.79	1496016	1	752	2	-	Yes
3	4 25 2017 4:21:03	6.55	1448471	1	752	2	-	Yes
4	4 25 2017 4:23:37	6.50	1437843	1	752	2	-	Yes

69 S2 Unknown CCV 1 x

TC **51.36** **10513248** **1.58** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 4:27:04	51.50	10541657	1	752	2	-	Yes
2	4 25 2017 4:31:01	50.73	10385228	1	752	2	-	Yes
3	4 25 2017 4:34:10	52.47	10737707	1	752	2	-	Yes
4	4 25 2017 4:37:27	50.74	10388403	1	752	2	-	Yes

70 S8 Unknown CCB 1 x

TC **ZERO !** **114441** **17.69** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 4:41:37	0.08	139685	1	752	2	-	Yes
2	4 25 2017 4:44:58	ZERO !	97579	1	752	2	-	Yes
3	4 25 2017 4:47:30	0	0	0	751	2	-	-
4	4 25 2017 4:51:31	ZERO !	121925	1	752	2	-	Yes
5	4 25 2017 4:54:01	ZERO !	98575	1	751	2	-	Yes

71 54 Unknown DUP853081 1 x

TC **7.11** **1562245** **1.92** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 4:57:25	7.31	1602162	1	752	2	-	Yes
2	4 25 2017 5:00:55	7.08	1555595	1	751	2	-	Yes
3	4 25 2017 5:03:42	6.95	1529663	1	752	2	-	Yes
4	4 25 2017 5:06:27	7.11	1561561	1	752	2	-	Yes

72 55 Unknown MSW853081 1 x

TC **56.92** **11639062** **0.76** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 5:10:13	57.12	11678844	1	752	2	-	Yes
2	4 25 2017 5:14:08	57.45	11745528	1	751	2	-	Yes
3	4 25 2017 5:17:22	56.60	11574235	1	752	2	-	Yes
4	4 25 2017 5:20:28	56.52	11557643	1	752	2	-	Yes

73 56 Unknown MSDW853081 1 x

TC **55.62** **11374063** **0.53** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 5:24:33	55.50	11350484	1	752	2	-	Yes
2	4 25 2017 5:28:32	55.95	11440987	1	752	2	-	Yes
3	4 25 2017 5:31:43	55.27	11303769	1	752	2	-	Yes
4	4 25 2017 5:34:55	55.75	11401013	1	751	2	-	Yes

74 57 Unknown 853083 1 x

TC **3.31** **792377** **2.54** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1	4 25 2017 5:38:57	3.43	816893	1	752	2	-	Yes
2	4 25 2017 5:42:11	3.32	794512	1	751	2	-	Yes
3	4 25 2017 5:44:42	3.19	767721	1	752	2	-	Yes
4	4 25 2017 5:47:14	3.30	790382	1	752	2	-	Yes

75 58 Unknown 853085 1 x

TC **0.54** **233578** **7.64** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 5:50:49	0.53	230484	1	752	2	-	Yes
2	4 25 2017 5:53:52	0.67	258039	1	752	2	-	Yes
3	4 25 2017 5:56:13	0.45	215174	1	751	2	-	Yes
4	4 25 2017 5:58:32	0.53	230617	1	751	2	-	Yes

76 59 Unknown 853670 1 x

TC **2.66** **661899** **3.19** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 6:01:57	2.80	690101	1	752	2	-	Yes
2	4 25 2017 6:05:09	2.66	662027	1	752	2	-	Yes
3	4 25 2017 6:07:35	2.63	656206	1	752	2	-	Yes
4	4 25 2017 6:09:58	2.55	639264	1	752	2	-	Yes

77 60 Unknown 853672 1 x

TC **3.29** **788580** **5.27** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 6:13:19	3.59	848815	1	752	2	-	Yes
2	4 25 2017 6:16:34	3.24	778509	1	752	2	-	Yes
3	4 25 2017 6:19:04	3.21	773395	1	752	2	-	Yes
4	4 25 2017 6:21:33	3.12	753602	1	752	2	-	Yes

78 61 Unknown 853674 1 x

TC **5.70** **1275971** **2.80** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 6:24:58	5.95	1327773	1	752	2	-	Yes
2	4 25 2017 6:28:22	5.63	1262146	1	752	2	-	Yes
3	4 25 2017 6:30:58	5.55	1246368	1	751	2	-	Yes
4	4 25 2017 6:33:31	5.66	1267597	1	751	2	-	Yes

79 62 Unknown 853676 1 x

TC **4.23** **978530** **0.33** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 6:37:01	4.21	975707	1	752	2	-	Yes
2	4 25 2017 6:40:12	4.25	982953	1	751	2	-	Yes
3	4 25 2017 6:42:41	4.23	978664	1	752	2	-	Yes
4	4 25 2017 6:45:10	4.22	976797	1	752	2	-	Yes

80 63 Unknown 853679 1 x

TC **3.98** **929197** **0.78** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 6:48:35	4.03	938828	1	752	2	-	Yes
2	4 25 2017 6:51:48	3.98	927624	1	751	2	-	Yes
3	4 25 2017 6:54:16	3.98	929014	1	751	2	-	Yes
4	4 25 2017 6:56:46	3.94	921325	1	751	2	-	Yes

81 S3 Unknown CCV 1 x

TC **52.20** **10684566** **0.85** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 7:00:14	52.19	10682131	1	752	2	-	Yes
2	4 25 2017 7:04:12	52.08	10658695	1	751	2	-	Yes
3	4 25 2017 7:07:25	52.81	10807057	1	752	2	-	Yes
4	4 25 2017 7:10:39	51.74	10590382	1	751	2	-	Yes

82 S9 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 7:14:50	0	0	0	752	2	-	Yes
2	4 25 2017 7:19:27	0	0	0	752	2	-	Yes
3	4 25 2017 7:23:29	0	0	0	752	2	-	Yes
4	4 25 2017 7:27:31	0	0	0	752	2	-	Yes

83 64 Unknown 854484 1 x

TC **3.81** **893587** **2.97** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 7:32:30	3.97	926143	1	752	2	-	Yes
2	4 25 2017 7:35:56	3.65	861137	1	752	2	-	Yes
3	4 25 2017 7:38:45	3.81	893593	1	751	2	-	Yes
4	4 25 2017 7:41:29	3.81	893477	1	751	2	-	Yes

84 65 Unknown 854524 1 x

TC **4.73** **1079546** **3.90** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 7:45:07	5.03	1140242	1	751	2	-	Yes
2	4 25 2017 7:48:37	4.69	1072755	1	751	2	-	Yes
3	4 25 2017 7:51:22	4.55	1044058	1	751	2	-	Yes
4	4 25 2017 7:54:00	4.64	1061129	1	751	2	-	Yes

85 66 Unknown DUP853524 1 x

TC **4.59** **1051575** **4.91** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 7:57:35	4.93	1120651	1	751	2	-	Yes
2	4 25 2017 8:00:57	4.61	1056496	1	752	2	-	Yes
3	4 25 2017 8:03:34	4.48	1029567	1	751	2	-	Yes
4	4 25 2017 8:06:10	4.33	999589	1	751	2	-	Yes

86 67 Unknown MSW853524 1 x

TC **54.24** **11096003** **0.54** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 8:09:39	54.15	11078329	1	751	2	-	Yes
2	4 25 2017 8:13:19	54.67	11182362	1	752	2	-	Yes
3	4 25 2017 8:16:23	54.15	11077309	1	752	2	-	Yes
4	4 25 2017 8:19:28	53.99	11046015	1	752	2	-	Yes

87 68 Unknown MSDW853524 1 x

TC **54.60** **11168142** **0.20** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 8:23:27	54.45	11139295	1	752	2	-	Yes
2	4 25 2017 8:27:22	54.58	11164407	1	752	2	-	Yes
3	4 25 2017 8:30:26	54.64	11176487	1	752	2	-	Yes
4	4 25 2017 8:33:28	54.72	11192382	1	752	2	-	Yes

88 69 Unknown 854530 1 x

TC **3.75** **881634** **2.25** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 8:37:26	3.77	885485	1	752	2	-	Yes
2	4 25 2017 8:40:41	3.68	868597	1	751	2	-	Yes
3	4 25 2017 8:43:14	3.66	864416	1	751	2	-	Yes
4	4 25 2017 8:45:44	3.88	908040	1	750	2	-	Yes

89 70 Unknown 854532 1 x

TC **0.72** **268658** **9.09** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 8:49:12	0.80	285284	1	750	2	-	Yes
2	4 25 2017 8:52:19	0.83	290689	1	750	2	-	Yes
3	4 25 2017 8:54:45	0.68	261210	1	749	2	-	Yes
4	4 25 2017 8:57:04	0.56	237452	1	749	2	-	Yes

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90 71 Unknown 852445 1 x

TC **5.00** **1135510** **4.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 9:00:21	5.31	1196918	1	750	2	-	Yes
2	4 25 2017 9:03:38	5.06	1146063	1	750	2	-	Yes
3	4 25 2017 9:06:15	4.73	1081013	1	750	2	-	Yes
4	4 25 2017 9:08:47	4.92	1118048	1	750	2	-	Yes

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91 72 Unknown 852451 1 x

TC **4.69** **1072776** **2.73** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 9:12:14	4.80	1094795	1	750	2	-	Yes
2	4 25 2017 9:15:29	4.49	1032450	1	751	2	-	Yes
3	4 25 2017 9:18:01	4.68	1069933	1	751	2	-	Yes
4	4 25 2017 9:20:32	4.80	1093929	1	751	2	-	Yes

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92 S3 Unknown CCV 1 x

TC **51.97** **10636796** **0.77** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 9:24:05	52.21	10684963	1	752	2	-	Yes
2	4 25 2017 9:27:58	51.37	10515172	1	753	2	-	Yes
3	4 25 2017 9:31:05	52.12	10667008	1	752	2	-	Yes
4	4 25 2017 9:34:18	52.18	10680043	1	752	2	-	Yes

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93 S9 Unknown CCB 1 x

TC **ZERO !** **50458** **115.98** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 25 2017 9:38:31	ZERO !	107642	1	753	2	-	Yes
2	4 25 2017 9:41:52	ZERO !	94192	1	752	2	-	Yes
3	4 25 2017 9:44:23	0	0	0	751	2	-	Yes
4	4 25 2017 9:48:24	0	0	0	751	2	-	Yes
5	4 25 2017 9:52:25	0	0	0	752	2	-	-

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LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
136639 on 05/05/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	855260						WANIONS IC QSM 5.0				
		Sulfate		ICV							
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
	855261						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	853986						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	853987						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	853988						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136639 on 05/05/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
126485	852435		04/10/2017	1210			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	853989		04/10/2017	1210					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	852435				0			
		Chloride			DUP	852435				0			
		Sulfate			DUP	852435				0			
	853991		04/10/2017	1210					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	852435				0			
		Chloride			MSW	852435				0			
		Sulfate			MSW	852435				0			
	853991		04/10/2017	1210					ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***		MSW	852435				0			
		Chloride	***RERUN***		MSW	852435				0			
		Sulfate	***RERUN***		MSW	852435				0			
126485	852440		04/10/2017	1215			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136639 on 05/05/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
126485	852442		04/10/2017 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	853993						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	853994						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	862975						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	862976						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136639 on 05/05/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	862974		04/10/2017 1210				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 853991							
		Chloride		MSDW 853991							
		Sulfate		MSDW 853991							
	862974		04/10/2017 1210				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	MSDW 853991							
		Chloride	***RERUN***	MSDW 853991							
		Sulfate	***RERUN***	MSDW 853991							
	862977						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	862978						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 136505 136506 136507 136509 136561 136638 136639		Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
4/11/2017	AGK	RM	4/17/17	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		✓		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes				If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes				If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ 995	Yes				If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes				If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8 Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes				If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes				If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		✓		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes				If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes				If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes				If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No			If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	N/A				If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes				If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes				If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes				If uo: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes				If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments
02/01/17	14:24	02/02/17	17:07	AGK	134814 134816	IC 0981	020117-2	IC0988	19.23	1425	1.07	ELUENT IC0932
02/07/17	8:50	02/09/17	10:09	AGK	134917 134897 134898	IC 0981	020617-2	IC0988	18.95	1284	1	ELUENT IC0990
02/09/17	11:50	02/10/17	10:06	AGK	134993	IC0981	020917-2	IC0988	18.41	1225	0.99	ELUENT IC0990
02/14/17	13:15	02/15/17	10:07	AGK	135074 135075	IC0995	021417 -2B	IC0988	24.67	4.98	1	ELUENT IC0990
02/16/17	11:32	02/16/17	15:29	RLD	135138 135140	IC0995	021617-2	IC0988	18.36	1437	0.92	ELUENT IC0990
02/17/17	10:37	02/17/17	14:38	RLD	135159	IC0995	021717-2	IC0988	18.44	1433	0.92	ELUENT IC0990
02/21/17	8:45	02/21/17	11:26	AGK	135218	IC0995	022117-2	IC0988	18.32	1502	0.94	ELUENT IC0990
02/22/17	10:58	02/22/17	13:51	AGK	135240 135241 135242 135259	IC0995	022217-2	IC0988	19.02	1501	0.92	ELUENT IC0990
02/23/17	13:06	02/24/17	11:42	AGK	135279 135283	IC0995	022317-2	IC0988	19.31	1542	0.92	ELUENT IC0990
03/02/17	9:33	03/03/17	11:33	AGK	135387 135388 135396	IC0995	030217-2	IC0988	19.22	1523	0.92	ELUENT IC0990
03/07/17	13:15	03/08/17	03:43	AGK	134113 134721	IC1017	030717-2	N/A	18.9	1008	1.21	ELUENT IC0990
03/08/17	13:16	03/10/17	13:34	AGK	135544 135545 135546 135547 135549	IC1017	030817-2	IC1008 IC 1007	19.52	1045	1.1	ELUENT IC0990
03/14/17	9:40	03/15/17	03:14	AGK	135708 135709 135710 135732	IC1017	031417-2	IC1008 IC 1007	19.22	1023	1.1	ELUENT IC0990
03/21/17	17:19	03/23/17	11:24	AGK	135929 135931 135932	IC1017	032117-2	IC1008 IC 1007	19.54	995	1	ELUENT IC0990
03/23/17	12:05	03/24/17	12:29	AGK	135933 136025	IC1017	032317-2	IC1008 IC 1007	20.61	948	1.02	ELUENT IC1032
03/28/17	11:53	03/30/17	10:58	AGK	136069 136125 136126 136158	IC1017	032817-2	IC1008 IC 1007	18.72	909	1.02	ELUENT IC1032
03/30/17	11:21	03/31/17	10:11	AGK	136228 136227 136229	IC1017	033017-2	IC1008 IC 1007	18.83	934	1.02	ELUENT IC1032
04/03/17	12:09	04/06/17	11:15	AGK	136148 136327 136328 136329 136330 136331 136157 136374 136376 136378	IC1017	040317-2	IC1008 IC 1007	18.45	1012	1	ELUENT IC1041
04/07/17	11:21	04/10/17	08:42	AGK	136503	IC1017	040717-2	IC1008 IC 1007	18.45	943	0.97	ELUENT IC1041
04/10/17	13:36	04/13/17	13:44	AGK	136507 136561 136509 136505 136506 136638 136639	IC1017	041017-2	IC1051 IC1052	18.34	952	0.96	ELUENT IC1041
04/13/17	15:14	04/14/17	02:04	AGK		IC1017	041317-2	IC1051 IC1052	18.35	982	0.96	ELUENT IC1058
04/14/17	12:05	04/15/17	06:58	AGK		IC1017	041417-2	IC1051 IC1052	19.01	967	0.96	ELUENT IC1058
04/17/17	14:37	04/17/17	18:43	AGK		IC1017	041717-2	IC1051 IC1052	19.22	1010	0.96	ELUENT IC1058
04/18/17	10:34	04/24/17	16:54	AGK		IC1017	041817-2	IC1051 IC1052	19.53	912	0.96	ELUENT IC1058
04/25/17	16:35	04/26/17	14:28	AGK		IC1017	042517-2	IC1051 IC1052	19.75	987	0.96	ELUENT IC1058
04/27/17				AGK		IC1017	042717-2	IC1051 IC1052	22.22	990	0.96	ELUENT IC1068

WANIONS IC QSM 5.0 Analytical Run
136687 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	854745						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	854746						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	854742						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	854743						WANIONS IC QSM 5.0				
		Chloride		LCSW							
		Nitrate Nitrogen		LCSW							
		Sulfate		LCSW							
	854744						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW							
		Chloride		MBW							
		Sulfate		MBW							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136687 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	853049		04/11/2017 1230						GW	4	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	853049		04/11/2017 1230						GW	4	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	853051		04/11/2017 1235						GW	4	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	853051		04/11/2017 1235						GW	4	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	853053		04/11/2017 1435						GW	4	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136687 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	853055		04/11/2017	1600						GW	4	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	853055		04/11/2017	1600						GW	4	
		Chloride	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Sulfate	***RERUN***									
126534	853082		04/11/2017	1000		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	4	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	854079		04/11/2017	1000				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	853082			0			
		Chloride			DUP	853082			0			
		Sulfate			DUP	853082			0			
	854082							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136687 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	854077								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
	854085		04/11/2017	1000					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	853082				0			
		Chloride			MSW	853082				0			
		Sulfate			MSW	853082				0			
	854747		04/11/2017	1000					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	854085							
		Chloride			MSDW	854085							
		Sulfate			MSDW	854085							
126534	853084		04/11/2017	0845			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
126534	853086		04/11/2017	1120			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
136687 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	854084						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	854078						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 136677 136680 136681 136687	Method: Anions by Ion Chromatography 300.0/9056		Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
04/12/2017	AGK	RLD	04/17/2017	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Metrohm Run Log - System 3

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments
03/09/17	13:12	03/10/17	03:15	AGK	135601 135602 135604	IC1000	030917 - RUN #	IC 1008 IC 1007	1.5	9.5	0.7	ELUENT IC1023
03/10/17	12:32	03/11/17	00:04	AGK	135639 135640 135646	IC1000	031017-RUN #	IC 1008 IC 1007	1.5	9.7	0.7	ELUENT IC1023
03/14/17	10:48	03/14/17	22:32	AGK	135707	IC1000	031417 - RUN #	IC 1008 IC 1007	1.6	9.8	0.7	ELUENT IC1023
03/15/17	14:35	03/15/17	21:20	AGK	135778 135777	IC1000	031517 - RUN	IC 1008 IC 1007	1.6	9.8	0.7	ELUENT IC1023
03/16/17	10:51	03/16/17	23:13	AGK	135826 135827	IC1000	031617 - RUN	IC 1008 IC 1007	1.7	9.7	0.7	ELUENT IC1023
03/17/17	15:54	03/18/17	04:26	AGK	135869 135866	IC1000	031717 - RUN	IC 1008 IC 1007	1.6	9.7	0.7	ELUENT IC1023
03/20/17	10:56	03/20/17	23:59	AGK	134720 135868	LL1025	032117 - RUN	IC1014	1.1	9.6	0.7	ELUENT IC1026
03/21/17	15:10	03/22/17	09:41	AGK	135865 135927 135930	IC1000	032117 - RUN #	IC 1008 IC 1007	1.1	9.5	0.7	ELUENT IC1026
03/22/17	13:29	03/22/17	18:50	AGK	135968 135975	IC1000	032217 - RUN #	IC 1008 IC 1007	1.72	9.9	0.7	ELUENT IC1026
03/23/17	11:49	03/24/17	04:08	AGK	136023 136024 136027	IC1000	032317 - RUN #	IC 1008 IC 1007	1.72	9.9	0.7	ELUENT IC1030
03/24/17	10:43	03/24/17	13:38	AGK	136059	IC1000	032417 - 136059	IC 1008 IC 1007	1.54	9.6	0.7	ELUENT IC1030
03/27/17	9:20	03/30/17	16:14	AGK	136124 136155 136190 136070 136156	IC1000	032717 - 136124	IC 1008 IC 1007	1.72	9.8	0.7	ELUENT IC1030
04/05/17	10:57	04/06/17	15:36	AGK	135868 136335 136336 136375	LL IC1025	040517- RUN #	N/A	3.06	9.8	0.7	ELUENT IC1042
04/07/17	12:57	04/07/17	22:52	AGK	136549	LL IC1025	04717 - RUN #	N/A	2.37	9.4	0.7	ELUENT IC1042
04/12/17	17:21			AGK	136677 136681 136687	IC1053	041217- RUN#	IC1051 IC1052	2.81	9.4	0.7	ELUENT IC1049
04/18/17	10:57	04/19/17	14:29	AGK	136678 136883 136897 136912	IC1059 ML IC1060	041817 - RUN #	IC1051 IC1052	1.95	9.2	0.7	ELUENT IC1049
04/19/17	14:50	04/21/17	05:36	AGK	136743 136981 136909 137023 137039 137013	IC1059	041917-EUN #	IC1051 IC1052	1.93	9.1	0.7	ELUENT IC1056
04/21/17	13:42	04/22/17	15:10	AGK	137014 137040 137074 137093	IC1059	042117- RUN #	IC1051 IC1052	2.1	9.1	0.74	ELUENT IC1056
04/25/17	15:31	04/26/17	13:15	AGK	137023 137205	IC1059	042517 - RUN #	IC1051 IC1052	1.95	9.2	0.74	ELUENT IC1056
04/27/17	9:52			AGK	136911	LL IC1040	042717- 136911	IC1069	2.38	8.9	0.74	ELUENT IC1066

LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17
NOTEBOOK VIEW: LTN_LPVO3_04_IC_Default, NOTEBOOK: LPVO3_04_IC, PAGE: 14
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Author: AKURTH on: 11.04.2017 08:47:24
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC1049	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/10/17	Expiration Date (1 Year):	04/10/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1050	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/10/17	Expiration Date (6 months):	10/10/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1051	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	04/10/17	Expiration Date (1 Month):	05/10/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and 25.6 mL 1000 mg/L Chloride IC1009 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard ID#:	M	Vendor:	
Analyst:		Chemical:	
Date Received:		Lot #:	
Expiration Date (if any):		Catalog #:	

Standard Log #:	IC1052	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	04/10/17	Expiration Date (1 Month):	05/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17
NOTEBOOK VIEW: LTN_LPVO3_04_IC_Default, NOTEBOOK: LPVO3_04_IC, PAGE: 12
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Author: AKURTH on: 05.04.2017 09:31:46
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC1042	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/04/17	Expiration Date (1 Year):	04/04/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1043	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/04/17	Expiration Date (6 months):	10/04/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1044	Standard:	IC Low Level o-Phos CC\
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	04/04/17	Expiration Date (1 month):	05/04/17
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC and fill to volume with Milli Q H_2O.		

Standard Log #:	IC1045	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
		Expiration Date (1	

Prep Date:	04/04/17	Month):	05/14/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1046	Standard:	IC LL LOD LOQ
Analyst:	AGK	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	04/04/17	Expiration Date (48 hours):	04/06/17
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. W40753, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC1046, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC1047	Standard:	IC LOD-LOQ2
Analyst:	AGK	Concentrations:	
Prep Date:	04/04/17	Expiration Date (48 hours):	04/06/17

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	W40753
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0991
Bromide	0.020	mL	IC0898				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	W40753
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0991
Bromide	0.050	mL	IC0898				

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
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Logbook Created: 02/08/17
NOTEBOOK VIEW: LTN_LPVO3_04_IC_Default, NOTEBOOK: LPVO3_04_IC, PAGE: 11
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Author: AKURTH on: 04.04.2017 11:22:41
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC1039	Standard/Reagent:	MET LL PO4 WORKING
Analyst:	AGK	Final Concentration:	10 mg/L
Prep Date:	04/03/17	Expiration Date:	04/05/17
Prep:	Into a 100 mL volumetric add 1 mL (W40753) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC1040	Standard/Reagent:	MET LL ICAL
Analyst:	AGK	Final Concentration:	0.4 mg/L
Prep Date:	04/03/17	Expiration Date:	04/05/17
Prep:	Into a 100 mL volumetric flask, pipetted 4ml of IC1039 and brought to volume with Milli-Q water.		

Standard Log #:	IC1041	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/03/17	Expiration Date (1 Year):	04/03/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
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Logbook Created: 02/08/17
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Author: AKURTH on: 28.03.2017 14:58:55
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC1035	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W40753, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1036	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1037	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17

Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC1038	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
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Logbook Created: 02/08/17
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Author: AKURTH on: 24.03.2017 10:09:52
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Project: Unassigned
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Standard Log #:	IC1030	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/23/17	Expiration Date (1 Year):	03/23/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1031	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	03/23/17	Expiration Date (6 months):	03/23/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1032	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/23/17	Expiration Date (1 Year):	03/23/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
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Author: AKURTH on: 23.03.2017 15:07:42
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC1026	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/21/17	Expiration Date (1 Year):	03/21/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1027	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	03/21/17	Expiration Date (6 months):	09/21/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1028	Standard:	IC LL MDL Study
Analyst:	AGK	Concentrations:	0.025mg/L Phosphate
Prep Date:	03/21/17	Expiration Date (48 hours):	03/2317
Prep:	Into 8 separate 100 mL volumetric flasks, pipetted 10mL of 0.25 mg/L MDL LL Working Std (1) and brought to volume with Milli-Q DI water. (1) IC1029		

Standard Log #:	IC1029	Standard:	IC MDL LL WS
Analyst:	AGK	Concentrations:	0.25 mg/L Phosphate
Prep Date:	03/21/17	Expiration Date (48 hours):	03/23/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.025 mL of 1,000 mg/L Phosphate CCV Stock Std. (1) and brought to volume with Milli-Q Di water. (1) W40753		

Standard Log #:	IC	Standard:	IC LL Phosphate Cal
Analyst:		Concentrations:	NA
Prep Date:		Expiration Date (48 hours):	
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC and fill to volume with Milli-Q H_2O.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17

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Author: AKURTH on: 20.03.2017 10:58:39
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Standard Log #:	IC1024	Standard/Reagent:	LL po4 WORKING STANDA
Analyst:	AGK	Final Concentration:	10 mg/L
Prep Date:	03/16/17	Expiration Date:	03/18/17
Prep:	Into a 100 mL volumetric add 1 mL (W40753) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC1025	Standard/Reagent:	LL PO4 ICAL
Analyst:	AGK	Final Concentration:	0.4 mg/L
Prep Date:	03/16/17	Expiration Date:	03/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 4ml of IC1024 and brought to volume with Milli-Q water.		

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Standard Log #:	IC1007	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1008	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1009	Standard/Reagent:	Chloride Stock Std.
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	03/07/17	Expiration Date:	03/07/18
Prep:	Accuspec Chloride Stock Standard Lot # S161229001 Cas # 7647-14-5		

Standard Log #:	IC1010	Standard:	IC CCV Mid Level
Analyst:	AGK	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0843 (2) IC0991		

Standard Log #:	IC1011	Standard/Reagent:	IC LCS MID LEVEL
Analyst:	AGK	Final Concentration:	3.0 mg/L CL - 5.0 mg/L SO4
Prep Date:	03/07/17	Expiration Date:	04/07/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (IC0843) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (IC0991) and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC1012	Standard:	IC Low Level o-Phos CC\
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (1 month):	04/07/17

Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) W40753 and fill to volume with Milli Q H_2O.

Standard Log #:	IC1013	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1014	Standard:	IC Low Level Spike
Analyst:	AGK	Concentrations:	30 mg/L
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) W40753 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1015	Standard:	IC LOD-LOQ2
Analyst:	AGK	Concentrations:	
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
	Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.		

Prep:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	W40753
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0991
Bromide	0.020	mL	IC0898				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	W40753
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0991
Bromide	0.050	mL	IC0898				

Standard Log #:	IC1016	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	03/07/17	Expiration Date (48 Hours):	03/09/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and brought to volume with Milli-Q DI H_20.		

Standard			

Log #:	IC1017	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC1016	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0991	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC1018	Standard/Reagent:	LL PO4 CAL METROHM
Analyst:	AGK	Final Concentration:	0.4 mg/L
Prep Date:	03/07/17	Expiration Date:	03/09/17
Prep:	Into a 100mL volumetric flask, pipetted 0.04 ml of phosphate standard (W40753) and brought to volume with Milli-Q water.		

Standard Log #:	IC1019	Standard:	IC LL LOD LOQ
Analyst:	AGK	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD

Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. IC1013 , then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC1019 , then brought to volume with Milli-Q DI water.		

Standard Log #:	IC1020	Standard:	IC MDL LL WS
Analyst:	AGK	Concentrations:	0.25 mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.025 mL of 1,000 mg/L Phosphate CCV Stock Std. (1) and brought to volume with Milli-Q Di water. (1) W40753		

Standard Log #:	IC1021	Standard:	IC LL MDL Study
Analyst:	AGK	Concentrations:	0.025mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
Prep:	Into 8 separate 100 mL volumetric flasks, pipetted 10mL of 0.25 mg/L MDL LL Working Std (1) and brought to volume with Milli-Q DI water.		

	(1) IC1020

Standard Log #:	IC1022	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	03/07/17	Expiration Date (6 months):	09/07/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1023	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/07/17	Expiration Date (1 Year):	03/07/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1001	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1002	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1003	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1004	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1005	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/27/17	Expiration Date (1 Year):	02/27/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1006	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	02/27/17	Expiration Date (6 months):	06/27/17

Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.

Standard Log #:	IC1000	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	02/21/17	Expiration Date (48 hours):	02/23/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0997	Standard/Reagent:	NO2/NO3 working standard
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	02/14/17	Expiration Date:	02/16/17
Prep:	Into a 100mL volumetric flask, pipetted 5mL or Nitrite standard (IC0822) and 5mL of Nitrate standard (IC0839) and brought to volume with Milli-Q water.		

Standard Log #:	IC0998	Standard/Reagent:	NO2/NO3 CALIBRATION Cl
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	02/14/17	Expiration Date:	02/16/17
Prep:	Into 6 100mL volumetric flasks, pipetted 0.0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 ml of IC0997 and brought to volume with Milli-Q water.		

Standard Log #:	IC0999	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	02/14/17	Expiration Date (48 hours):	02/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0996	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	02/13/17	Expiration Date (48 hours):	02/15/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0994	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	02/10/17	Expiration Date (48 Hours):	02/12/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0995	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	02/10/17	Expiration Date (48 hours):	02/12/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0994	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0993	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0991	Standard/Reagent:	SULFATE STANDARD
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	02/09/17	Expiration Date:	02/09/18
Prep:	Sulfate Standard SCP Science Lot # S161205028 Cas # 7778-80-5		

Standard Log #:	IC0992	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	02/09/17	Expiration Date (6 months):	08/09/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0993	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/09/17	Expiration Date (1 Year):	02/09/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0988	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	02/06/17	Expiration Date (1 Month):	03/06/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0989	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	02/06/17	Expiration Date (1 Month):	03/06/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0990	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/06/17	Expiration Date (1 Year):	02/06/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0849 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0984	Standard:	IC Low Level o-Phos CC\
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/27/17	Expiration Date (1 month):	02/27/17
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0907 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0985	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/27/17	Expiration Date (1 Month):	02/27/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0986	Standard:	IC Low Level Spike
Analyst:	AGK	Concentrations:	30 mg/L
Prep Date:	01/27/17	Expiration Date (1 Month):	02/27/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0987	Standard/Reagent:	PHOSPHATE ICV/LCS STD
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	12/20/16	Expiration Date:	12/20/17
Prep:	Phosphate standard 1000 mg/L Spex Certiprep Lot # 3-161PO4P9-2Y Cat # AS-PO4P9-2Y ICV/LCS standard.		

Standard Log #:	IC0978	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/26/17	Expiration Date (1 Year):	01/26/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0979	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/26/17	Expiration Date (6 months):	07/26/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0980	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/26/17	Expiration Date (48 Hours):	01/28/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0981	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/26/17	Expiration Date (48 hours):	01/28/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0980	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0982	Standard/Reagent:	NO2/NO3 MIXED STD
Analyst:	AGK	Final Concentration:	50 mg/L NO2/NO3
Prep Date:	01/26/17	Expiration Date:	01/28/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0983	Standard/Reagent:	NO2/NO3 CALIBRATION ST

Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/26/17	Expiration Date:	01/28/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0982) and brought to volume with Milli-Q H20.		

Standard Log #:	IC0974	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0975	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0976	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17

Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0977	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0970	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/23/17	Expiration Date (1 Year):	01/23/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0971	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/23/17	Expiration Date (6 months):	07/23/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0972	Standard:	IC LOD-LOQ2
Analyst:	AGK	Concentrations:	
Prep Date:	01/23/17	Expiration Date (48 hours):	01/25/17

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839

Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0907
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0898				

Prep:

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0907
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0898				

Standard Log #:	IC0973	Standard:	IC MDL Metrohm
Analyst:	AGK	Concentrations:	0.2mg/L - NO_2, NO_3, PO_4, Br, F 5.0mg/L - SO_4, Cl
Prep Date:	01/23/17	Expiration Date (48 hours):	01/25/17
Prep:	Into 8 seperate 100 mL volumetric flasks, pipetted 0.02 mL of 1000mg/L Nitrate IC0839, Nitrite IC0822, Phosphate IC0907, Bromide IC0898, Fluoride IC0821, and 0.5 mL of 1000mg/L Sulfate IC0844, and Chloride IC0843 and bring to volume with Milli-Q DI water.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 93
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Author: akurth on: 20.01.2017 13:31:39
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0962	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/16/17	Expiration Date (1 Year):	01/16/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0963	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0964	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	AGK	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0844 (2) IC0843		

Standard Log #:	IC0965	Standard/Reagent:	Mixed NO2/NO3 STD Dione
Analyst:	AGK	Final Concentration:	50.0 mg/L
Prep Date:	01/16/17	Expiration Date:	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of Nitrite 1000 mg/L(IC0822) and 5mL of Nitrate 1000mg/L. Brought to volume with Milli-Q water.		

Standard Log #:	IC0966	Standard/Reagent:	NO2/NO3 Ical Dionex
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/16/17	Expiration Date:	01/18/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0953) and brought to volume with Milli-Q H20.		

Standard Log #:	IC0967	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0968	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0968	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/16/17	Expiration Date (48 Hours):	01/18/17

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0969	Standard:	IC CCV Mid Level
Analyst:	AGK	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	01/16/17	Expiration Date (1 Month):	02/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0843 (2) IC0844		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
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Author: AKURTH on: 16.01.2017 10:01:35
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0958	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/13/17	Expiration Date (48 hours):	01/15/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0959	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0959	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/13/17	Expiration Date (48 Hours):	01/15/17

Prep:

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0960	Standard/Reagent:	IC Mixed Cal NO2/NO3

Analyst:	AGK	Final Concentration:	50 mg/L
Prep Date:	01/13/17	Expiration Date:	01/15/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0961	Standard/Reagent:	NO2/NO3 Calibration Dilutes
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/13/17	Expiration Date:	01/15/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0960) and brought to volume with Milli-Q H20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
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Author: AKURTH on: 13.01.2017 10:43:06
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0955	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/17	Expiration Date (1 Year):	01/06/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0956	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/17	Expiration Date (1 Year):	01/06/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0957	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/06/17	Expiration Date (6 months):	07/06/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 90
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Author: AKURTH on: 06.01.2017 09:06:42
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0950	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/05/17	Expiration Date (48 Hours):	01/07/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0951	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/05/17	Expiration Date (48 hours):	01/07/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0950	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0952	Standard/Reagent:	Nitrate CCV Standard

Analyst:	AGK	Final Concentration:	7.0 mg/L
Prep Date:	01/05/17	Expiration Date:	02/05/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrate CCV Stock Std. IC0839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0953	Standard/Reagent:	IC Mixed NO2/NO3 Cal Std.
Analyst:	AGK	Final Concentration:	50 mg/L- NO2, NO3
Prep Date:	01/05/17	Expiration Date:	01/07/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0954	Standard/Reagent:	ICAL Dionex NO2/NO3
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/05/17	Expiration Date:	01/07/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0953) and brought to volume with Milli-Q H20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 88
Page is Locked
Author: AKURTH on: 04.01.2017 11:37:10
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0944	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/03/17	Expiration Date (1 Year):	01/03/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0945	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/03/17	Expiration Date (48 hours):	01/05/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0946	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/03/17	Expiration Date (48 Hours):	01/05/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0947	Standard:	IC Calibration Dionex
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/03/17	Expiration Date (48 hours):	01/05/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Mixed Std (50mg/L) IC0946	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 87
Page is Locked
Author: AKURTH on: 30.12.2016 15:33:27
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0935	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/30/16	Expiration Date (1 Year):	12/30/17
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0936	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/30/16	Expiration Date (6 months):	06/30/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0937	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0822, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with		

	Milli-Q DI H_20.

Standard Log #:	IC0938	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0939	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0940	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0941	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/16

Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0942	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0943	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/30/16	Expiration Date (48 hours):	01/01/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 86
Page is Locked
Author: AKURTH on: 30.12.2016 08:53:01
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0933	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/28/16	Expiration Date (48 hours):	12/30/16
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC08444, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0934	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/27/16	Expiration Date (6 months):	05/27/16
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 85
Page is Locked
Author: AKURTH on: 28.12.2016 09:20:38
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0932	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/21/16	Expiration Date (1 Year):	12/21/17
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 84
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0931	Standard/Reagent:	oPhos PT
Analyst:	JJF	Final Concentration:	
Prep Date:	12/15/2016	Expiration Date:	12/17/2016
Prep:	Into a 100 mL volumetric add 0.50 mL Simple Nutrients 505 p249-505 #817807 and dilute to 100 mL with Milli-Q water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 83
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Project: Unassigned
Page Title: 121416

Standard Log #:	IC0929	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/14/2016	Expiration Date (6 months):	05/14/2017
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0930	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/14/2016	Expiration Date (1 Year):	12/14/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 82
Page is Locked
Author: JFAUST on: 14.12.2016 08:50:19
Page is not Witnessed
Project: Unassigned
Page Title: 121316

Standard Log #:	IC0927	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/13/2016	Expiration Date (48 hours):	12/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0928	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/13/2016	Expiration Date (1 Month):	01/13/2017
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 81
Page is Locked
Author: JFAUST on: 13.12.2016 09:30:07
Page is not Witnessed
Project: Unassigned
Page Title: 121216

Standard Log #:	IC0926	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/12/2016	Expiration Date (1 Month):	01/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 79
Page is Locked
Author: JFAUST on: 12.12.2016 14:41:54
Page is not Witnessed
Project: Unassigned
Page Title: 120616

Standard Log #:	IC0916	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0917	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/06/2016	Expiration Date (48 hours):	12/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0916	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0918	Standard/Reagent:	Metrosep A Supp 5-150/4 cc
Analyst:	JJF	Final Concentration:	
Prep Date:	12/06/2016	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 5 -150/4.0 Cat # 6.1006.520 column serial #5160515028		

Standard Log #:	IC0919	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/06/2016	Expiration Date (48 hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0920	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0921	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0922	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0921 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 78
Page is Locked
Author: jfaust on: 06.12.2016 14:41:36
Page is not Witnessed
Project: Unassigned
Page Title: 120516

Standard Log #:	IC0912	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/05/2016	Expiration Date (48 Hours):	12/07/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0913	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/05/2016	Expiration Date (48 hours):	12/07/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0912	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 77
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 120216

Standard Log #:	IC0909	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/02/2016	Expiration Date (48 Hours):	12/04/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0910	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/02/2016	Expiration Date (48 hours):	12/04/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0909	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0911	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/02/2016	Expiration Date (1 Month):	01/02/2017
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 76
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Author: JFAUST on: 02.12.2016 11:09:27
Page is not Witnessed
Project: Unassigned
Page Title: 112916

Standard Log #:	IC0904	Standard:	IC Column Cleaning Solution
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	11/29/2016	Expiration Date (1 Year):	11/29/2017
Prep:	Into a 500mL volumetric flask, dissolved 23.4g of Sodium Chloride W39792 in 100 mL Milli-Q water. Add 400 mL ACN 56207 and mix.		

Standard Log #:	IC0905	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0906	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0907	Standard/Reagent:	IC Phosphate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	2/09/2016	Expiration Date:	02/09/2017
Prep:	Same as W38430 catalog #250-220-611 Lot # S151013001 Accu SPEC Phosphate as Phosphorus.		

Standard Log #:	IC0908	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 73
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Author: JFAUST on: 22.11.2016 15:40:54
Page is not Witnessed
Project: Unassigned
Page Title: 111816

Standard Log #:	IC0900	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	11/18/2016	Expiration Date (48 hours):	11/22/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0898				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0898				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 72
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Author: JFAUST on: 18.11.2016 08:59:05
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Project: Unassigned
Page Title: 111616

Standard Log #:	IC0898	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	11/16/2016	Expiration Date:	11/16/2017
Prep:	AccuSPEC - IC Standard Bromide @ 1000 mg/L Cat #250-220-23x Lot#S160830034		

Standard Log #:	IC0899	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/16/2016	Expiration Date (48 hours):	11/18/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 71
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Author: JFAUST on: 18.11.2016 08:58:55
Page is not Witnessed
Project: Unassigned
Page Title: 111416

Standard Log #:	IC0896	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/14/2016	Expiration Date (1 Month):	12/14/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0897	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/14/2016	Expiration Date (1 Month):	12/14/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 70
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Author: JFAUST on: 18.11.2016 08:57:41
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Project: Unassigned
Page Title: 110916

Standard Log #:	IC0893	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/09/2016	Expiration Date (1 Year):	11/09/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0894	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/09/2016	Expiration Date (1 Year):	11/09/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0895	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	11/09/2016	Expiration Date (48 hours):	11/11/2016

Prep:

LOD Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC	Phosphate	0.025	mL	IC
Nitrite	0.020	mL	IC	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC	Phosphate	0.050	mL	IC
Nitrite	0.040	mL	IC	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 69
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Author: JFAUST on: 09.11.2016 14:51:39
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Project: Unassigned
Page Title: 110816

Standard Log #:	IC0892	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/08/2016	Expiration Date (1 Month):	12/08/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 67
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Project: Unassigned
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Standard Log #:	IC0883	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0884	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/27/2016	Expiration Date (1 Year):	11/27/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0885	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	10/27/2016	Expiration Date (48 hours):	10/29/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0886	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0838, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0887	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 68
Page is Locked
Author: JFAUST on: 08.11.2016 08:11:56
Page is not Witnessed
Project: Unassigned
Page Title: 110216

Standard Log #:	IC0888	Standard/Reagent:	Phosphorus working std.
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	11/02/2016	Expiration Date:	11/04/2016
Prep:	Into a 100 mL volumetric add 1 mL (IC0486) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0889	Standard/Reagent:	Phosphorus Calibration Std
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	11/02/2016	Expiration Date:	11/04/2016
Prep:	Into a 100 mL volumetric add 4 mL (IC0888) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0890	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/02/2016	Expiration Date (1 Month):	12/02/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 66
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Page is not Witnessed
Project: Unassigned
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Standard Log #:	IC0881	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/26/2016	Expiration Date (48 Hours):	10/28/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0882	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/26/2016	Expiration Date (48 hours):	10/28/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0881	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 64
Page is Locked
Author: JFAUST on: 25.10.2016 14:23:31
Page is not Witnessed
Project: Unassigned
Page Title: 102416

Standard Log #:	IC0873	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	10/24/2016	Expiration Date (48 hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0874	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	10/24/2016	Expiration Date (48 Hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 61
Page is Locked
Author: JFAUST on: 18.10.2016 08:39:03
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Project: Unassigned
Page Title: 101416

Standard Log #:	IC0863	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/14/2016	Expiration Date (48 Hours):	10/16/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0864	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/14/2016	Expiration Date (48 hours):	10/16/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0863	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 59
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Author: JFAUST on: 12.10.2016 08:45:11
Page is not Witnessed
Project: Unassigned
Page Title: 101116

Standard Log #:	IC0853	Standard/Reagent:	LCS/ICV Custom Ion Std
Analyst:	JJF	Final Concentration:	
Prep Date:	10/11/2016	Expiration Date:	10/30/2017
Prep:	SPEX CertiPrep Custom Ion Standard Cat # VCTWI-3-500 Lot # 1-26PW		

Standard Log #:	IC0854	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0855	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0851	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	F.W. 105.99
Prep Date:	10/03/2016	Expiration Date:	
Prep:	500 Grams Fisher Brand Na2CO3 Lot # S263-500		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 56
Page is Locked
Author: JFAUST on: 12.10.2016 08:44:48
Page is not Witnessed
Project: Unassigned
Page Title: 092816

Standard Log #:	IC0845	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0846	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate W38024 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

Standard Log #:	IC0847	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 55
Page is Locked
Author: jfaust on: 28.09.2016 09:07:04
Page is not Witnessed
Project: Unassigned
Page Title: 092616

Standard Log #:	IC0833	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0834	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0835	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0839, and Phosphate IC and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0836	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0837	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/26/2016	Expiration Date (1 Year):	10/26/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0838	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/26/2016	Expiration Date (6 months):	03/26/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0839	Standard/Reagent:	Nitrate Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/21/2016	Expiration Date:	10/21/2016
Prep:	Accu SPEC Nitrate Standard @1000 mg/L Catalog# 250-220-521. Lot # S150804004 Same as W39820		

Standard Log #:	IC0840	Standard/Reagent:	Nitrite Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	06/16/2016	Expiration Date:	06/16/2017
Prep:	Same as W39180 SPEX Certiprep Nitrite IC Std. @ 1000 mg/L Lot # 3-138NO2N-2Y CAT # AS-NO2N9-2Y		

Standard Log #:	IC0841	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0842	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4

Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0843	Standard/Reagent:	IC Chloride Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	09/26/2017
Prep:	AccuSPEC - IC Standard Chloride @1000 mg/L Lot# S160712001 Cat# 250-220-37x		

Standard Log #:	IC0844	Standard/Reagent:	IC Sulfate Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	10/26/2016
Prep:	AccuSPEC - IC Standard Sulfate @ 1000 mg/L Lot# S160602024 Cat# 250-220-70x		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

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Author: JFAUST on: 07.09.2016 09:25:02
Page is not Witnessed
Project: Unassigned
Page Title: 090616

Standard Log #:	IC0820	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/06/2016	Expiration Date (1 Month):	10/06/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0821	Standard/Reagent:	Fluoride IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Fluoride IC Standard @1000 mg/L Cat # 250-220-401 Lot # S160323007		

Standard Log #:	IC0822	Standard/Reagent:	Nitrite IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Nitrite IC Standard @1000 mg/L Catalog # 250-220-551 Lot #S160802021		

Standard Log #:	W39178	Reagent:	NO2 NO3 COLOR
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1L volumetric flask volumetrically dissolve 40g sulfanilamide W37969 and 1g N-(1-naphthyl)ethylenediamine dihydrochloride (NED) W32265 volumetrically add 100mL phosphoric acid W38600 and fill to volume with DI H_2O.		

Standard Log #:	W39179	Reagent:	NO2 NO3 BUFFER
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W36986 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W36989		

Standard ID#:	W39180	Vendor:	SPEX
Analyst:	LJS	Chemical:	N02 ICV STANDARD
Date Received:	6/6/16	Lot #:	3-138NO2N-2Y
Expiration Date (if any):	5/30/17	Catalog #:	AS-NO2N9-2Y

Standard Log #:	W39181	Standard:	NO2 NO3 ICAL
Analyst:	LJS	Concentration:	20 mg/L
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 100 mL volumetric flask pipette 2mL NO_3 ICAL/CCV stock (1000 mg/L) IC0403 and fill to volume with H_2SO_4 diluent W39177		

Standard Log #:	W39182	Standard:	NO2 NO3 ICV

Standard Log #:	IC0660	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0661	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	05/30/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IW37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0662	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0663	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 98
Page is Locked
Author: jfaust on: 18.05.2016 14:44:50
Witness: akurth on: 08.06.2016 13:52:28
Project: Unassigned
Page Title: 051116

Standard Log #:	IC0645	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0646	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0645 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 94
Page is Locked
Author: JFAUST on: 06.05.2016 07:55:46
Page is not Witnessed
Project: Unassigned
Page Title: 050416b

Standard Log #:	IC0637	Standard/Reagent:	Nitrocellulose Stock Std.
Analyst:	RLD	Final Concentration:	Neat
Prep Date:	05/04/2016	Expiration Date:	04/28/2016
Prep:	Dried in vaccum desicator (04/28/2016 - 05/03/2016). Used for preparation of Nitrocellulose Spiking Std.		

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Standard Log #:	IC0629	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0630	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	05/03/2016	Expiration Date (48 hours):	05/05/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. 0629, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0630, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0631	Standard/Reagent:	Dionex AS14 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AS14 Analytical Column 4X250 mm Serial #034842 Lot#015171010 Product # 046124		

Standard Log #:	IC0632	Standard/Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AG14 Guard 4 x 50 mm Lot# 01517101 Product # 046134 Serial # 160318088		

Standard Log #:	IC0633	Standard:	IC Eluent Dionex

Analyst:	JJD	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 89
Page is Locked
Author: JFAUST on: 21.04.2016 08:17:42
Witness: akurth on: 08.06.2016 13:50:31
Project: Unassigned
Page Title: 041916

Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 87
Page is Locked
Author: jfaust on: 18.04.2016 08:16:59
Witness: akurth on: 08.06.2016 13:49:56
Project: Unassigned
Page Title: 041316

~~W25134~~ IC0145

Standard Log #:	IC0603	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/13/2016	Expiration Date (1 Year):	04/13/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0604	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	04/13/2016	Expiration Date (1 Year):	04/13/2017
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W25134 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

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Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 65
Page is Locked
Author: jfaust on: 17.02.2016 16:07:38
Page is not Witnessed
Project: Unassigned
Page Title: 021516

Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 52
Page is Locked
Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
Project: Unassigned
Page Title: 011416

Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
Page is Locked
Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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W3536 Fisher Ammonium Sulfate (A702-500)
AGK CAS 7783-20-2 LOT# 135994A
9/15/14 Opened 09/15/14

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PROJECT _____ Notebook No. _____
Continued From Page _____

W25134 CES			Sodium	Bicarbonate.	Fisher			Cat#	5233-500		Lot #							
11/23/15			164706		eyp		11/23/15											
																	Continued on Page	

Read and Understood By

Signed	Date	Signed	Date

WFILTRATION,SAMP Analytical Run
137241 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
126485	852435	54MW10	04/10/2017 1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
126485	852440	54TM10	04/10/2017 1215		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
126485	852442	54MW13	04/10/2017 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
126534	853082	54MW12	04/11/2017 1000	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
126534	853084	54MW1	04/11/2017 0845		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
126534	853086	041117R1	04/11/2017 1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	

6 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
137128 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	859545								WORGANIC CARBON QSM 5.0				
					ICV								
	859546								WORGANIC CARBON QSM 5.0				
					ICB								
	859508								WORGANIC CARBON QSM 5.0				
					CCV					0			
	859509								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	859510								WORGANIC CARBON QSM 5.0				
					MBW					0			
126485	852429		04/10/2017	1210			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW10											
126485	852439		04/10/2017	1215			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54TM10											
126485	852441		04/10/2017	1510			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW13											
	853044		04/11/2017	1230					ORGAN CARBON T QSM 5.0		GW	4	
		48MW06											
	853050		04/11/2017	1235					ORGAN CARBON T QSM 5.0		GW	4	
		49TM1											
	853052		04/11/2017	1435					ORGAN CARBON T QSM 5.0		GW	4	
		13MW4											
	853054		04/11/2017	1600					ORGAN CARBON T QSM 5.0		GW	4	
		13MW3											
126534	853081		04/11/2017	1000			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW12			Designated MS/MSD								
	859511								WORGANIC CARBON QSM 5.0				
					CCV					0			
	859512								WORGANIC CARBON QSM 5.0				
					CCB					0			
	859513		04/11/2017	1000					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	853081				0			
	859514		04/11/2017	1000					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	853081				0			
	859515		04/11/2017	1000					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	859514				0			
126534	853083		04/11/2017	0845			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW1											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
137128 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
126534	853085		04/11/2017	1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		041117R1										
	853670		04/12/2017	0855				ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW1										
	853672		04/12/2017	1010				ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW01										
	853674		04/12/2017	1150				ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02										
	853676		04/12/2017	1445				ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04										
	853679		04/12/2017	1545				ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2										
	859516							WORGANIC CARBON QSM 5.0				
					CCV				0			
	859517							WORGANIC CARBON QSM 5.0				
					CCB				0			
	854484		04/13/2017	0855				ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW02										
	854524		04/13/2017	1015				ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW3			Designated MS/MSD							
	854530		04/13/2017	1145				ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW2										
	854532		04/13/2017	1215				ORGAN CARBON T QSM 5.0		GW	**4**	
		041317R1										
	859518							WORGANIC CARBON QSM 5.0				
					CCV				0			
	859519							WORGANIC CARBON QSM 5.0				
					CCB				0			

33 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

W CARBON, INORG & ORG Analytical Run
137173 on 04/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	859420							W CARBON, INORG & ORG				
					CCV				0			
	859421							W CARBON, INORG & ORG				
					LCSW				0			
	859422							W CARBON, INORG & ORG				
					MBW				0			
126485	852429	54MW10	04/10/2017	1210		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
126485	852439	54TM10	04/10/2017	1215		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
126485	852441	54MW13	04/10/2017	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
126534	853081	54MW12	04/11/2017	1000	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
126534	853083	54MW1	04/11/2017	0845		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
126534	853085	041117R1	04/11/2017	1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
	859423							W CARBON, INORG & ORG				
					CCV				0			
	859424							W CARBON, INORG & ORG				
					CCB				0			

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
137128 137129 137130 137173	04/24/2017	AGK	RLD	04/25/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
3/8/17	16:38	3/8/17	22:13	AGK	~~135558~~ 135581	W	TOC0092A	
3/9/17	16:48	3/10/17	00:36	AGK	3/10/17 135558, 135609	W	TOC0092A	
3/9/17	12:21	3/9/17	15:50	AGK	135584 135582	S	TOC105	
3/16/17	13:38	3/16/17	15:54	AGK	~~138~~ 135813	S	TOC105	
3/22/17	15:46	3/22/17	21:02	AGK	135980/135981/135982	W	TOC0092A	Blind Spikes
3/23/17	13:29	3/23/17	15:36	AGK	136004 136005	S	TOC105	
3/31/17	13:45	3/31/17	16:00	AGK	136272/136273	S	TOC105	
4/3/17	10:13	4/3/17	18:11	AGK	136325/136326	W	TOC0092A	
4/11/17	12:22	4/11/17	16:46	AGK	136610, 136614	S	TOC105	
4/12/17	10:01	4/12/17	16:14	AGK	136607, 136610, 136611	S	TOC105	
~~4/21/17~~ 4-19-17	~~14:44~~ 15:52	~~4/21/17~~ 4-19-17	19:59	AGK	136953	W	TOC0092A	
4/21/17	11:41	4/21/17	16:17	AGK	136952	S	TOC105	
4/24/17	13:12	4/25/17	9:52	AGK	137123, 137130, 137128, 137129	W	TOC0092A	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 92
Page is Locked
Author: AKURTH on: 24.03.2017 09:56:55
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC161	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	03/22/17	Expiration Date (1 Month):	04/22/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC162	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	03/22/17	Expiration Date (1 Month):	04/22/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 89
Page is Locked
Author: rdigmann on: 21.03.2017 15:48:20
Page is not Witnessed
Project: Unassigned
Page Title: 021617

Standard Log #:	TOC0154	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	02/15/2017	Expiration Date (1 Month):	03/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0155	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	02/15/2017	Expiration Date (1 Month):	03/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 88
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 013017

Standard Log #:	TOC0152	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	01/30/2017	Expiration Date (1 Month):	02/28/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0153	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	01/30/2017	Expiration Date (1 Month):	02/28/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 87
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0150	Standard/Reagent:	TOC SOIL CCV
Analyst:	AGK	Final Concentration:	5.00 mg/L
Prep Date:	01/23/17	Expiration Date:	02/23/17
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23772) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	TOC0951	Standard/Reagent:	TOC SOIL LCS
Analyst:	AGK	Final Concentration:	5.00 mg/L
Prep Date:	01/23/17	Expiration Date:	02/23/17
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23192) and dilute to 100 mL with Milli-Q water.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 86
Page is Locked
Author: AKURTH on: 23.01.2017 12:23:41
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0148	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	01/10/17	Expiration Date (1 Month):	02/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC 0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0149	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	01/10/17	Expiration Date (1 Month):	02/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC 0086 and brought to volume with Milli-Q DI		

	H_2O.

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 85
Page is Locked
Author: AKURTH on: 11.01.2017 15:44:10
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0147	Standard/Reagent:	25% PHOSPHORIC ACID
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	12/30/16	Expiration Date:	12/30/17
Prep:	Into a 500 mL volumetric flask, partially filled with DI water, added 125 mL of phosphoric acid W35275 and brought to volume with DI water.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 84
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121616

Standard Log #:	TOC0145	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2016	Expiration Date (1 Month):	01/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0146	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2016	Expiration Date (1 Month):	01/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 81
Page is Locked
Author: jfaust on: 30.11.2016 10:29:12
Page is not Witnessed
Project: Unassigned
Page Title: 102516

Standard Log #:	TOC0139	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/25/2016	Expiration Date (1 Month):	11/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0140	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/25/2016	Expiration Date (1 Month):	11/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0141	Standard/Reagent:	PT Sample 790332
Analyst:	JJF	Final Concentration:	
Prep Date:	10/25/2016	Expiration Date:	10/27/2016
Prep:	Into two separate 100 mL volumetrics add 0,50 mL 790332 water pollution demand #578 and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 80
Page is Locked
Author: JFAUST on: 18.10.2016 08:51:48
Page is not Witnessed
Project: Unassigned
Page Title: 101716

Standard Log #:	TOC0137	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0138	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 78
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 092116

Standard Log #:	TOC0134	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/206
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0135	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 69
Page is Locked
Author: jfaust on: 28.07.2016 14:16:43
Page is not Witnessed
Project: Unassigned
Page Title: 072716

Standard Log #:	TOC0120	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/26/2016	Expiration Date:	06/30/2018
Prep:	Ultra Scientific TOC standard @ 1001 or - 5 ug/mL Lot # CP-2362		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 56
Page is Locked
Author: jfaust on: 09.05.2016 16:24:51
Page is not Witnessed
Project: Unassigned
Page Title: 050916

Standard Log #:	TOC0096	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/09/2016	Expiration Date (1 Month):	06/09/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 54
Page is Locked
Author: JFAUST on: 03.05.2016 09:35:46
Page is not Witnessed
Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 53
Page is Locked
Author: jfaust on: 02.05.2016 15:50:25
Page is not Witnessed
Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
Page is Locked
Author: jfaust on: 28.04.2016 09:46:26
Page is not Witnessed
Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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SUBCONTRACTED ANALYSIS DOCUMENTS

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA43019

Sampling Date: 04/10/17

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **612**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA43019

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA43019-1	04/10/17	12:10	CTL	04/12/17	AQ	Ground Water	852429/54MW10
FA43019-2	04/10/17	12:15	CTL	04/12/17	AQ	Ground Water	852439/54TM10
FA43019-3	04/10/17	15:10	CTL	04/12/17	AQ	Ground Water	852441/54MW13

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA43019

Site: Radford AAP; VA **Report Date** 4/27/2017 6:58:27 PM

3 Samples were collected on 04/10/2017 and were received at SGS Accutest Southeast (SASE) on 04/12/2017 properly preserved, at 4.6 Deg. C and intact. These Samples received an SASE job number of FA43019. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP64794

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) LA32446-11MS, LA32446-11MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP64666

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA42969-6MS, FA42969-6MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for TNX are outside control limits. Within control limits in MS/MSD.

Blank Spike Recovery(s) for PETN are outside control limits. Recovery is biased high. Compound is non-detect in associated samples.

Matrix Spike / Matrix Spike Duplicate Recovery(s) for PETN are outside control limits. Probable cause is due to matrix interference.

OP64666-BS: Spike recoveries corrected for actual spike amount.

FA43019-1: All hits confirmed by reanalysis on a dissimilar column.

FA43019-1 for PETN: Associated CCV and BS outside control limits.

FA43019-1 for RDX: Elevated RL due to the primary and confirmation results being greater than 40% RPD.

FA43019-1 for TNX: Associated BS recovery outside control limits.

FA43019-1: Confirmation run.

FA43019-2: All hits confirmed by reanalysis on a dissimilar column.

FA43019-2 for PETN: Associated CCV and BS outside control limits.

FA43019-2 for RDX: Elevated RL due to the primary and confirmation results being greater than 40% RPD.

FA43019-2 for TNX: Associated BS recovery outside control limits.

FA43019-2: Confirmation run.

FA43019-3: All hits confirmed by reanalysis on a dissimilar column.

FA43019-3 for PETN: Associated CCV and BS outside control limits.

FA43019-3 for TNX: Associated BS recovery outside control limits.

FA43019-3: Confirmation run.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: April 27, 2017

Lovelie Metzgar, QA Officer (signature on file)

Thursday, April 27, 2017 **Page 1 of 1**

Summary of Hits

Job Number: FA43019
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/10/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA43019-1	**852429/54MW10**					
Perchlorate		0.24	0.20	0.10	ug/l	SW846 6850
HMX [a]		2.8	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.56	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.4	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.2	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		0.33	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		1.0	0.20	0.10	ug/l	SW846 8330B
FA43019-2	**852439/54TM10**					
Perchlorate		0.24	0.20	0.10	ug/l	SW846 6850
HMX [a]		2.9	0.20	0.10	ug/l	SW846 8330B
RDX [b]		2.0 U	2.0	2.0	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.60	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.4	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.2	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		0.41	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		1.1	0.20	0.10	ug/l	SW846 8330B
FA43019-3	**852441/54MW13**					
Perchlorate		0.23	0.20	0.10	ug/l	SW846 6850
HMX [a]		1.8	0.20	0.10	ug/l	SW846 8330B
RDX [a]		1.0	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [a]		0.57	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		0.65	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		0.48	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		2.4	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		1.8	0.20	0.10	ug/l	SW846 8330B

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) All hits confirmed by reanalysis on a dissimilar column. Elevated RL due to the primary and confirmation results being greater than 40% RPD.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	852429/54MW10		
Lab Sample ID:	FA43019-1	**Date Sampled:**	04/10/17
Matrix:	AQ - Ground Water	**Date Received:**	04/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q33618.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.24	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	852429/54MW10		
Lab Sample ID:	FA43019-1	**Date Sampled:**	04/10/17
Matrix:	AQ - Ground Water	**Date Received:**	04/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB054299.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
Run #2 [b]	PP381837.D	1	04/24/17	EM	04/17/17	OP64666	GPP2096

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	2.8	0.20	0.10	0.080	ug/l	
121-82-4	RDX [c]	2.0 U	2.0	2.0	2.0	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX [d]	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.56	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.4	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.2	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.33	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	1.0	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN [e]	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	91%	91%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Elevated RL due to the primary and confirmation results being greater than 40% RPD.
(d) Associated BS recovery outside control limits.
(e) Associated CCV and BS outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	852439/54TM10		
Lab Sample ID:	FA43019-2	**Date Sampled:**	04/10/17
Matrix:	AQ - Ground Water	**Date Received:**	04/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q33619.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.24	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	852439/54TM10		
Lab Sample ID:	FA43019-2	**Date Sampled:**	04/10/17
Matrix:	AQ - Ground Water	**Date Received:**	04/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB054300.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
Run #2 [b]	PP381838.D	1	04/24/17	EM	04/17/17	OP64666	GPP2096

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	2.9	0.20	0.10	0.080	ug/l	
121-82-4	RDX [c]	2.0 U	2.0	2.0	2.0	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX [d]	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.60	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.4	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.2	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.41	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	1.1	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN [e]	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	97%	96%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Elevated RL due to the primary and confirmation results being greater than 40% RPD.
(d) Associated BS recovery outside control limits.
(e) Associated CCV and BS outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	852441/54MW13		
Lab Sample ID:	FA43019-3	**Date Sampled:**	04/10/17
Matrix:	AQ - Ground Water	**Date Received:**	04/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q33620.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.23	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	852441/54MW13		
Lab Sample ID:	FA43019-3	**Date Sampled:**	04/10/17
Matrix:	AQ - Ground Water	**Date Received:**	04/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB054301.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
Run #2 [b]	PP381839.D	1	04/24/17	EM	04/17/17	OP64666	GPP2096

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	1.8	0.20	0.10	0.080	ug/l	
121-82-4	RDX	1.0	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX [c]	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.57	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.65	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.48	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	2.4	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	1.8	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN [d]	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	96%	96%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated BS recovery outside control limits.
(d) Associated CCV and BS outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA 43019

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 126485 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

Government UPS Shipping Acct ? (Y) N

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee ☐ UPS Gmd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM 5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: ERIS + Excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
1	852429	04/10/2017 1210	GROUND WATER	54MW10	EXPLOSIVES	8330B	
	852429	04/10/2017 1210	GROUND WATER	54MW10	PERCHLORATE	SW6850	
2	852439	04/10/2017 1215	GROUND WATER	54TM10	EXPLOSIVES	8330B	
	852439	04/10/2017 1215	GROUND WATER	54TM10	PERCHLORATE	SW6850	
3	852441	04/10/2017 1510	GROUND WATER	54MW13	EXPLOSIVES	8330B	
	852441	04/10/2017 1510	GROUND WATER	54MW13	PERCHLORATE	SW6850	

Relinquished by: Brett Szymanski Date/Time: 04/11/2017 13:50

Received by: FX Date/Time: 04-12-17 10:30 Receipt Temperature (C) 4.6
J. Cook (ALSE)

COMMENTS: FULL-LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX). NO MS/MSD WITH THIS BATCH OF SAMPLES.

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

5.1 5

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA43019 CLIENT: CT LABORATORIES PROJECT: 126185

DATE/TIME RECEIVED: 04-12-17 10:30 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 1Z 1A4 A85 01 4171 4964

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 4.2
- [ ] CORRECTED TEMPS: 4.6 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

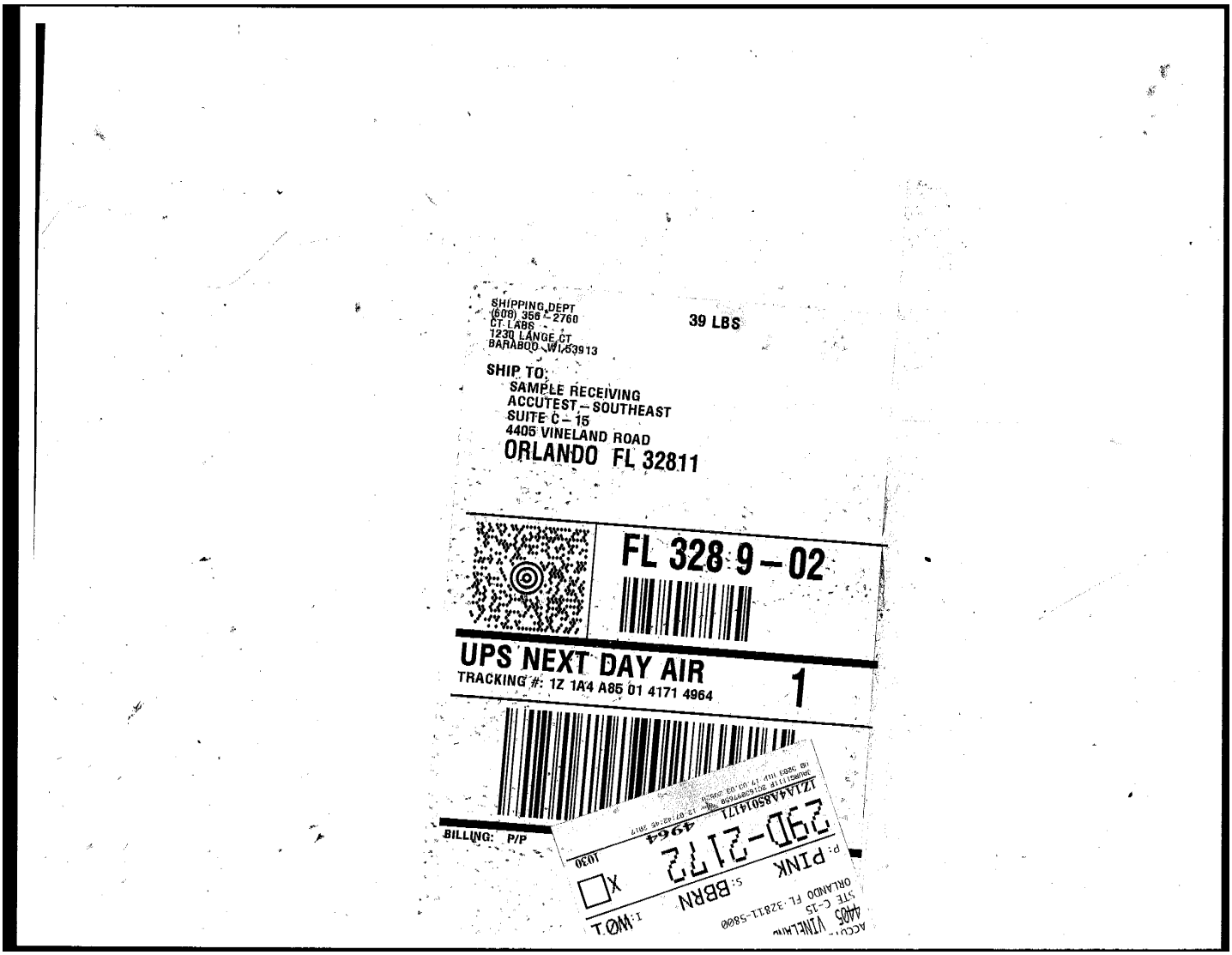
SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE: 04-13-17 REVIEWER SIGNATURE/DATE: 4-13-17

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA43019: Chain of Custody
Page 2 of 3


SHIPPING DEPT
(608) 356 - 2760
CT LABS
1230 LANGE CT
BARABOO WI 53913
39 LBS
SHIP TO:
SAMPLE RECEIVING
ACCUTEST - SOUTHEAST
SUITE C - 15
4405 VINELAND ROAD
ORLANDO FL 32811
FL 328 9 - 02
UPS NEXT DAY AIR
TRACKING #: 1Z 1A4 A85 01 4171 4964
1
BILLING: P/P
290-2172
PINK
BRN
ORLANDO FL 32811-5800
4405 VINELAND
STE C-15

QC Evaluation: DOD QSM5 Limits

Job Number: FA43019
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/10/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64794	SW846 6850						
OP64794-BS	14797-73-0	Perchlorate	BSP	REC	85	%	84-119
OP64794-MS*	14797-73-0	Perchlorate	MS	REC	100	%	84-119
OP64794-MSD*	14797-73-0	Perchlorate	MSD	REC	95	%	84-119
OP64794-MSD*	14797-73-0	Perchlorate	MSD	RPD	5	%	15
OP64666	SW846 8330B						
OP64666-BS	2691-41-0	HMX	BSP	REC	95	%	65-135
OP64666-BS	121-82-4	RDX	BSP	REC	106	%	68-130
OP64666-BS		DNX	BSP	REC	66	%	66-119
OP64666-BS		MNX	BSP	REC	82	%	57-132
OP64666-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	98	%	71-117
OP64666-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	86	%	78-120
OP64666-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	103	%	77-127
OP64666-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	104	%	78-120
OP64666-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	105	%	79-120
OP64666-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	110	%	76-125
OP64666-BS	98-95-3	Nitrobenzene	BSP	REC	107	%	65-134
OP64666-BS	88-72-2	o-Nitrotoluene	BSP	REC	106	%	70-127
OP64666-BS	99-08-1	m-Nitrotoluene	BSP	REC	107	%	73-125
OP64666-BS	99-99-0	p-Nitrotoluene	BSP	REC	105	%	71-127
OP64666-BS	479-45-8	Tetryl	BSP	REC	116	%	64-128
OP64666-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	106	%	73-125
OP64666-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	103	%	71-123
OP64666-BS	55-63-0	Nitroglycerine	BSP	REC	92	%	74-127
OP64666-BS	78-11-5	PETN	BSP	REC	187	%	73-127
OP64666-MS*	2691-41-0	HMX	MS	REC	106	%	65-135
OP64666-MS*	121-82-4	RDX	MS	REC	94	%	68-130
OP64666-MS*		DNX	MS	REC	76	%	66-119
OP64666-MS*		MNX	MS	REC	85	%	57-132
OP64666-MS*	618-87-1	3,5-Dinitroaniline	MS	REC	97	%	71-117
OP64666-MS*	99-65-0	1,3-Dinitrobenzene	MS	REC	83	%	78-120
OP64666-MS*	606-20-2	2,6-Dinitrotoluene	MS	REC	92	%	77-127
OP64666-MS*	121-14-2	2,4-Dinitrotoluene	MS	REC	97	%	78-120
OP64666-MS*	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	83	%	79-120
OP64666-MS*	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	90	%	76-125
OP64666-MS*	98-95-3	Nitrobenzene	MS	REC	83	%	65-134
OP64666-MS*	88-72-2	o-Nitrotoluene	MS	REC	94	%	70-127
OP64666-MS*	99-08-1	m-Nitrotoluene	MS	REC	92	%	73-125
OP64666-MS*	99-99-0	p-Nitrotoluene	MS	REC	94	%	71-127
OP64666-MS*	479-45-8	Tetryl	MS	REC	87	%	64-128
OP64666-MS*	99-35-4	1,3,5-Trinitrobenzene	MS	REC	89	%	73-125

* Sample used for QC is not from job FA43019

QC Evaluation: DOD QSM5 Limits

Job Number: FA43019
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/10/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64666-MS*	118-96-7	2,4,6-Trinitrotoluene	MS	REC	96	%	71-123
OP64666-MS*	55-63-0	Nitroglycerine	MS	REC	102	%	74-127
OP64666-MS*	78-11-5	PETN	MS	REC	178	%	73-127
OP64666-MSD*	2691-41-0	HMX	MSD	REC	100	%	65-135
OP64666-MSD*	2691-41-0	HMX	MSD	RPD	6	%	20
OP64666-MSD*	121-82-4	RDX	MSD	REC	94	%	68-130
OP64666-MSD*	121-82-4	RDX	MSD	RPD	1	%	20
OP64666-MSD*		DNX	MSD	REC	77	%	66-119
OP64666-MSD*		DNX	MSD	RPD	1	%	20
OP64666-MSD*		MNX	MSD	REC	84	%	57-132
OP64666-MSD*		MNX	MSD	RPD	1	%	20
OP64666-MSD*	618-87-1	3,5-Dinitroaniline	MSD	REC	100	%	71-117
OP64666-MSD*	618-87-1	3,5-Dinitroaniline	MSD	RPD	3	%	20
OP64666-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	REC	87	%	78-120
OP64666-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	RPD	1	%	20
OP64666-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	REC	92	%	77-127
OP64666-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	RPD	1	%	20
OP64666-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	REC	98	%	78-120
OP64666-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	RPD	1	%	20
OP64666-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	94	%	79-120
OP64666-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	0	%	20
OP64666-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	90	%	76-125
OP64666-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	0	%	20
OP64666-MSD*	98-95-3	Nitrobenzene	MSD	REC	85	%	65-134
OP64666-MSD*	98-95-3	Nitrobenzene	MSD	RPD	3	%	20
OP64666-MSD*	88-72-2	o-Nitrotoluene	MSD	REC	97	%	70-127
OP64666-MSD*	88-72-2	o-Nitrotoluene	MSD	RPD	4	%	20
OP64666-MSD*	99-08-1	m-Nitrotoluene	MSD	REC	95	%	73-125
OP64666-MSD*	99-08-1	m-Nitrotoluene	MSD	RPD	4	%	20
OP64666-MSD*	99-99-0	p-Nitrotoluene	MSD	REC	97	%	71-127
OP64666-MSD*	99-99-0	p-Nitrotoluene	MSD	RPD	4	%	20
OP64666-MSD*	479-45-8	Tetryl	MSD	REC	88	%	64-128
OP64666-MSD*	479-45-8	Tetryl	MSD	RPD	1	%	20
OP64666-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	90	%	73-125
OP64666-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	0	%	20
OP64666-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	95	%	71-123
OP64666-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	0	%	20
OP64666-MSD*	55-63-0	Nitroglycerine	MSD	REC	105	%	74-127
OP64666-MSD*	55-63-0	Nitroglycerine	MSD	RPD	3	%	20
OP64666-MSD*	78-11-5	PETN	MSD	REC	184	%	73-127
OP64666-MSD*	78-11-5	PETN	MSD	RPD	3	%	20

* Sample used for QC is not from job FA43019

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64794-MB	Q33601.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876

The QC reported here applies to the following samples: **Method:** SW846 6850

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64794-BS	Q33613.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876

The QC reported here applies to the following samples: **Method:** SW846 6850

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.17	85	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64794-MS	Q33615.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
OP64794-MSD	Q33616.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
LA32446-11	Q33614.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876

The QC reported here applies to the following samples: **Method:** SW846 6850

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	LA32446-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	ND		0.2	0.20	100	0.2	0.19	95	5	80-120/15

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ876-ICC876	**Injection Date:**	04/26/17
Lab File ID:	Q33593.D	**Injection Time:**	09:22
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	116802	3.33
Check Std [b]	123645	3.33
Upper Limit [c]	175203	5.33
Lower Limit [d]	58401	1.33

Lab Sample ID	IS 1 AREA	RT
OP64794-MB	138496	3.38
ZZZZZZ	97068	3.31
ZZZZZZ	80413	3.29
ZZZZZZ	79456	3.25
ZZZZZZ	70663	3.14
ZZZZZZ	80907	3.26
ZZZZZZ	111348	3.38

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ876-ICC876 Q33593.D 04/26/17 09:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Semivolatile Internal Standard Area Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ876-CC876	**Injection Date:**	04/26/17
Lab File ID:	Q33610.D	**Injection Time:**	11:02
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	116802	3.33
Check Std [b]	116625	3.39
Upper Limit [c]	175203	5.39
Lower Limit [d]	58401	1.39

Lab Sample ID	IS 1 AREA	RT
OP64794-BS	123920	3.39
LA32446-11	78647	3.21
OP64794-MS	75649	3.23
OP64794-MSD	74142	3.22
ZZZZZZ	76242	3.22
FA43019-1	90485	3.21
FA43019-2	89723	3.22
FA43019-3	97194	3.25
ZZZZZZ	96766	3.23
ZZZZZZ	99152	3.25

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ876-ICC876 Q33593.D 04/26/17 09:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-ICC876
Lab FileID: Q33593.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2 : D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3 : D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4 : D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5 : D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6 : D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7 : D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8 : D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) C118O4	----------ISTD----------										
3) Perchlorate	1.1692	1.0336	1.0202	1.1057	1.1688	1.2465	1.3176	1.4016	1.1829	11.303	0.9995

*(value) - Average RF below (value)

6.5.1

6

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-ICV876
Lab FileID: Q33598.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33598
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.796	-10.2	89.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33610.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33610
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.883	-5.8	94.2

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33611.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33611
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.199	-0.3	99.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33623.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33623
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.897	-5.2	94.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33624.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33624
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.210	4.9	104.9

CC Criteria: +/- 15%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33618.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:48
Sample Name	:	FA43019-1
Vial	:	Vial 26
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

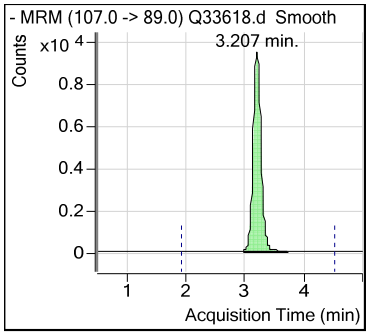
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.207	107.0 -> 89.0	90485	5.000	ng/ml	-0.017	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.211	99.0 -> 83.0	5117	0.240	ng/ml	94	3.0
		101.0 -> 85.0	1711				

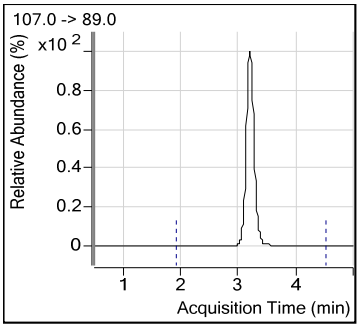
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

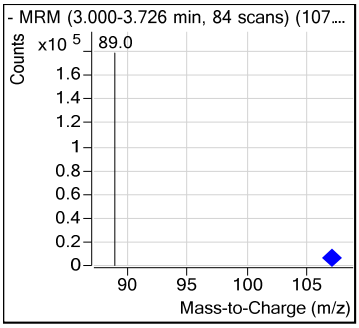
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33618.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:48
Sample Name	:	FA43019-1
Vial	:	Vial 26
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

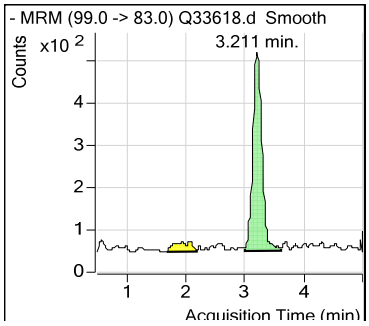
Cl18O4

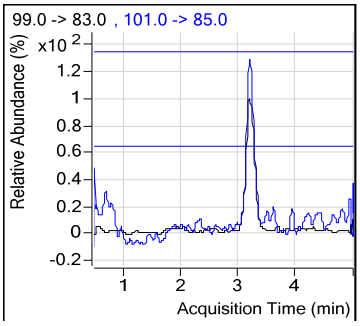


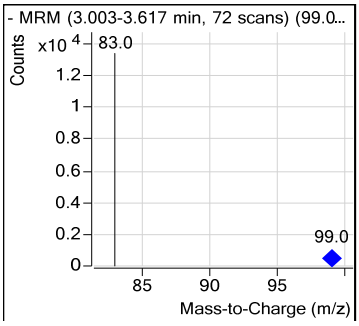




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33619.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:54
Sample Name	:	FA43019-2
Vial	:	Vial 27
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

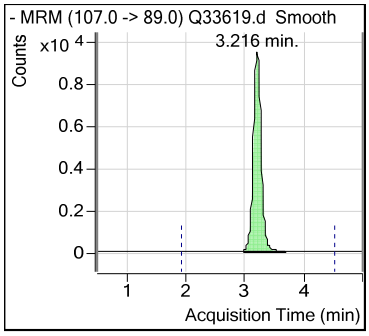
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.216	107.0 -> 89.0	89723	5.000	ng/ml	-0.009	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.211	99.0 -> 83.0	5163	0.245	ng/ml	85	2.6
		101.0 -> 85.0	1972				

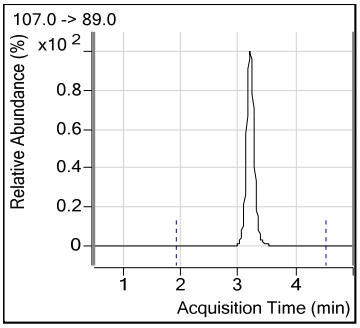
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

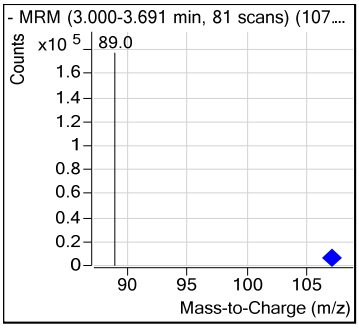
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33619.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:54
Sample Name	:	FA43019-2
Vial	:	Vial 27
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

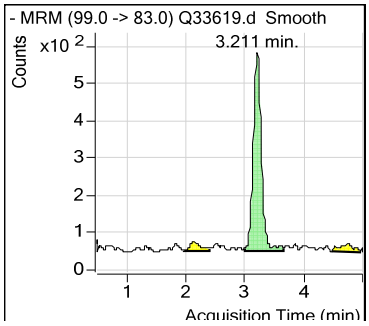
Cl18O4

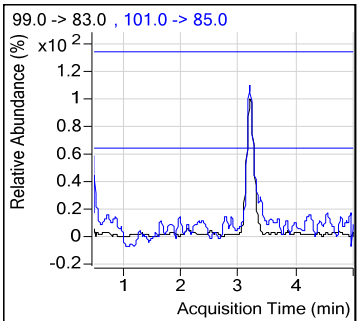


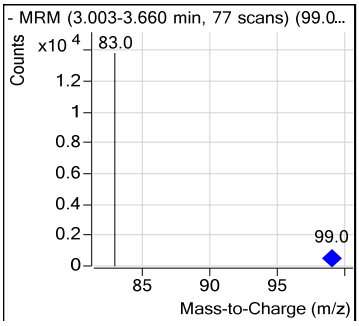




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33620.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:00
Sample Name	:	FA43019-3
Vial	:	Vial 28
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

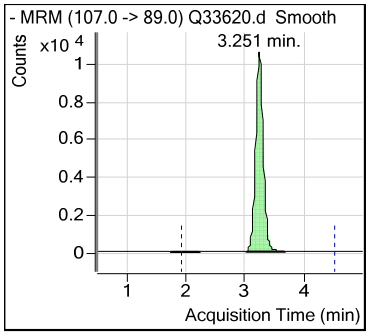
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.251	107.0 -> 89.0	97194	5.000	ng/ml	0.026	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.254	99.0 -> 83.0	5263	0.230	ng/ml	82	2.5
		101.0 -> 85.0	2089				

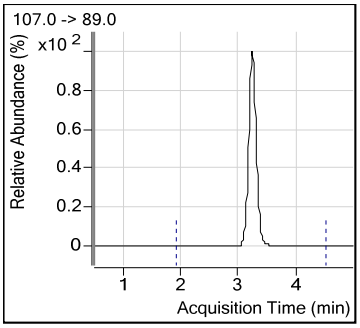
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

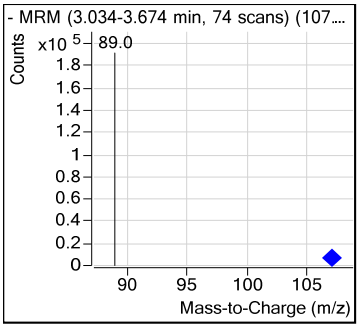
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33620.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:00
Sample Name	:	FA43019-3
Vial	:	Vial 28
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

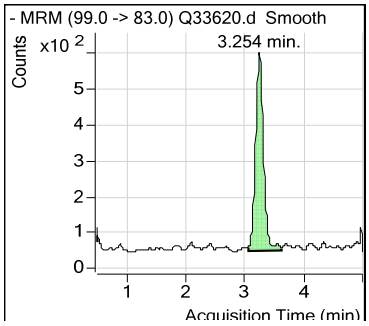
Cl18O4

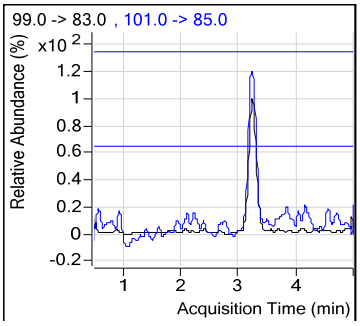


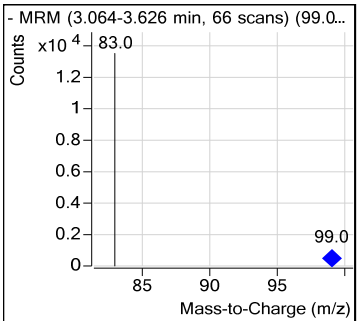




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33601.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 10:09
Sample Name	:	OP64794-MB
Vial	:	Vial 13
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

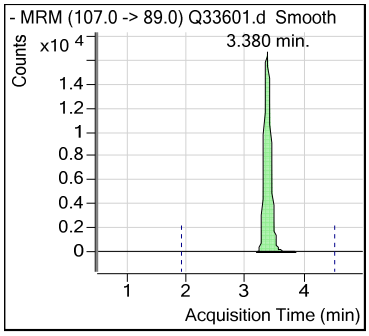
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.380	107.0 -> 89.0	138496	5.000	ng/ml	0.156	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

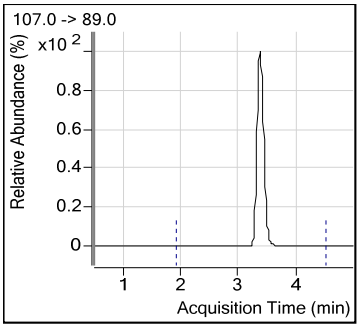
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

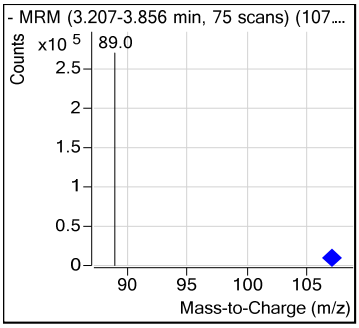
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33601.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 10:09
Sample Name	:	OP64794-MB
Vial	:	Vial 13
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

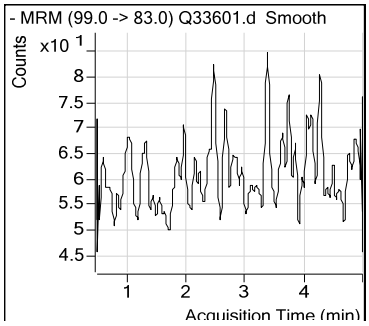
Cl18O4

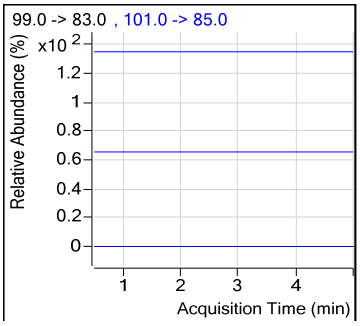


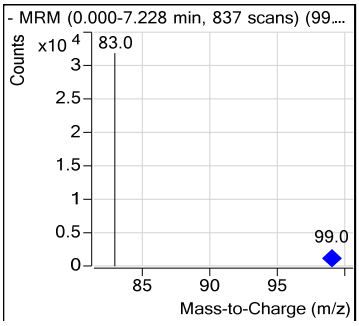




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33613.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:19
Sample Name	:	OP64794-BS
Vial	:	Vial 12
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

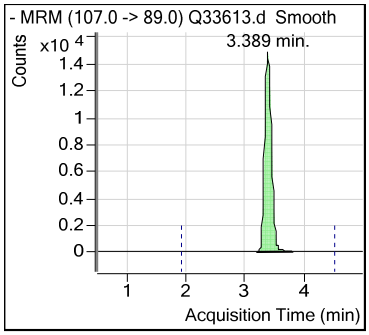
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.389	107.0 -> 89.0	123920	5.000	ng/ml		0.164	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	5000	0.172	ng/ml	#	75	2.3
		101.0 -> 85.0	2171					

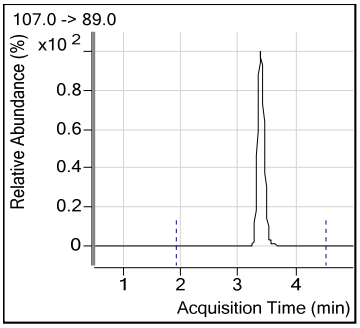
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

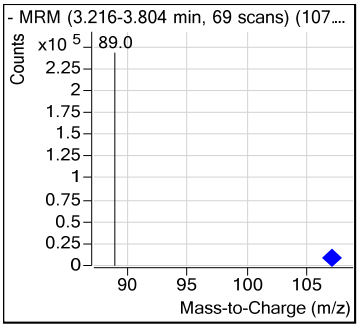
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33613.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:19
Sample Name	:	OP64794-BS
Vial	:	Vial 12
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

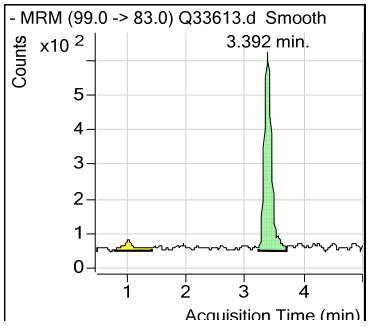
Cl18O4

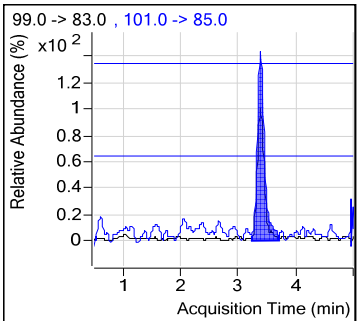


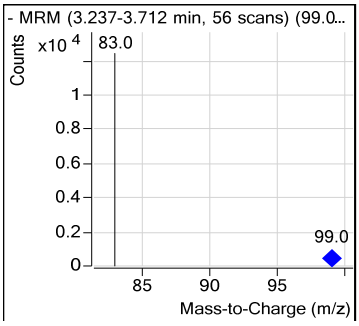




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33615.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:31
Sample Name	:	OP64794-MS
Vial	:	Vial 23
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

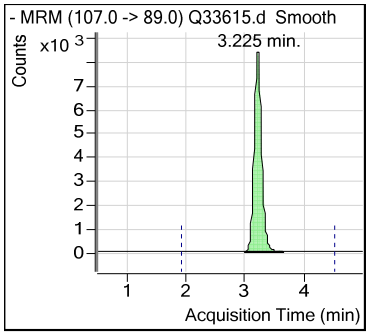
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.225	107.0 -> 89.0	75649	5.000	ng/ml	0.000	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.202	99.0 -> 83.0	3634	0.204	ng/ml	92	2.9
		101.0 -> 85.0	1241				

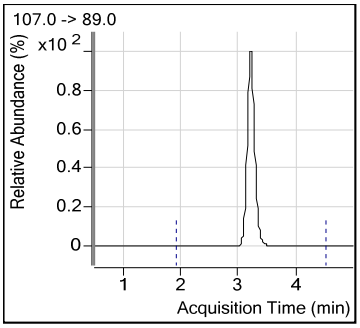
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

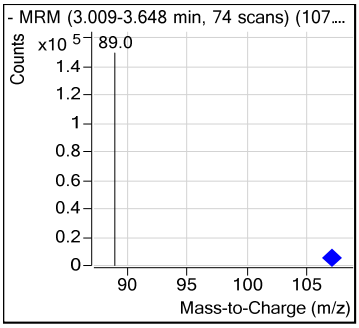
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33615.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:31
Sample Name	:	OP64794-MS
Vial	:	Vial 23
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

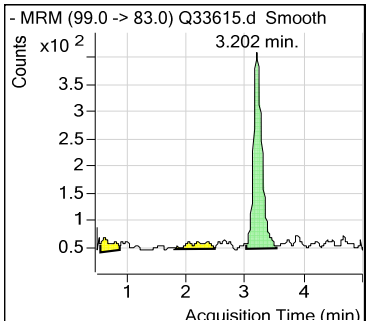
Cl18O4

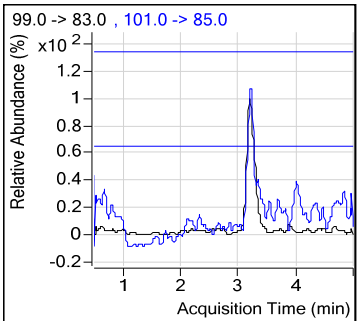


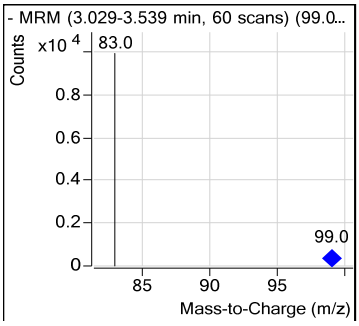




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33616.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:36
Sample Name	:	OP64794-MSD
Vial	:	Vial 24
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

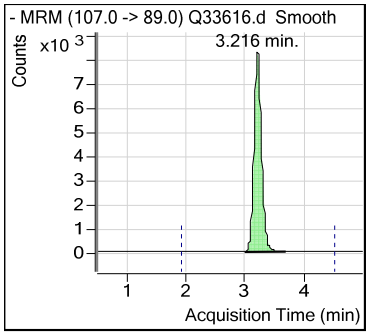
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.216	107.0 -> 89.0	74142	5.000	ng/ml	-0.009	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.219	99.0 -> 83.0	3374	0.193	ng/ml	83	2.5
		101.0 -> 85.0	1329				

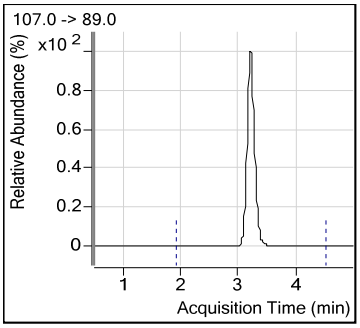
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

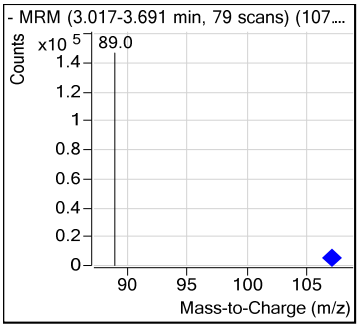
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33616.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:36
Sample Name	:	OP64794-MSD
Vial	:	Vial 24
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

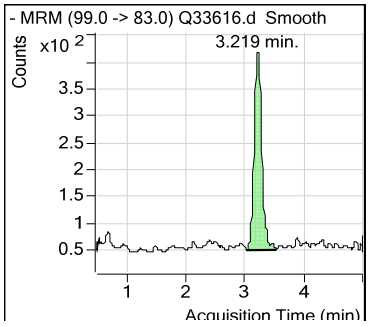
Cl18O4

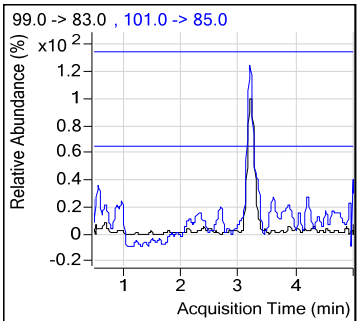


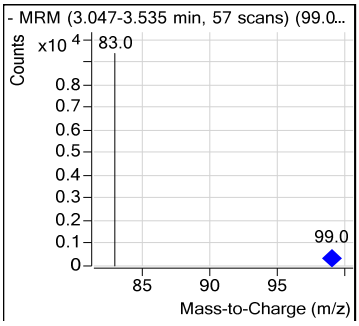




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:04
Sample Name	:	IC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

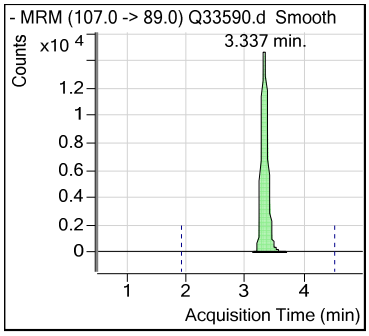
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	121607	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	5687	0.199	ng/ml	89	2.8
		101.0 -> 85.0	2047				

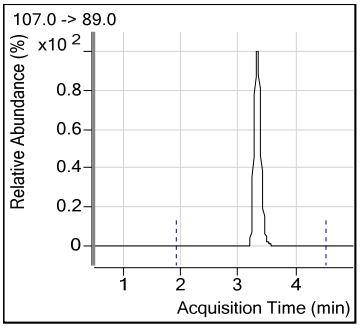
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

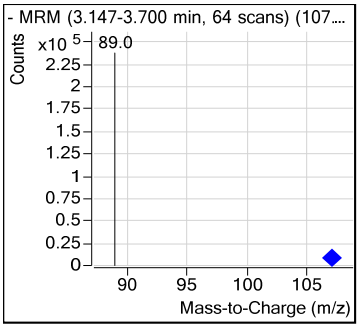
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:04
Sample Name	:	IC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

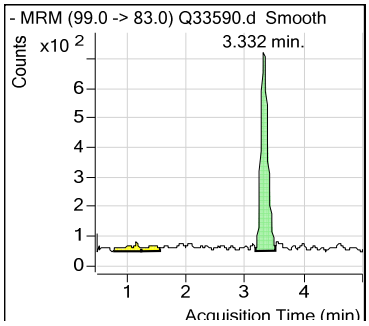
Cl18O4

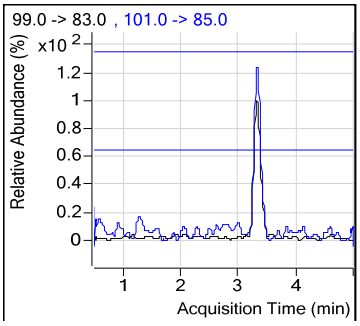


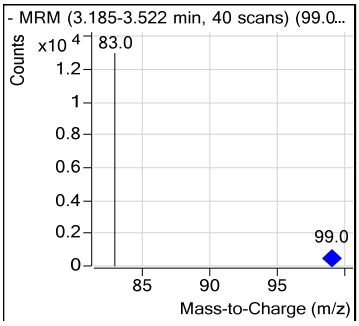




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:10
Sample Name	:	IC876-0.5
Vial	:	Vial 3
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

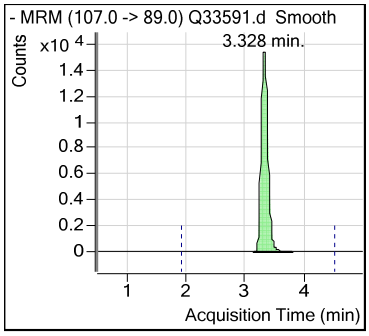
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	127079	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	13135	0.439	ng/ml	96	3.1
		101.0 -> 85.0	4214				

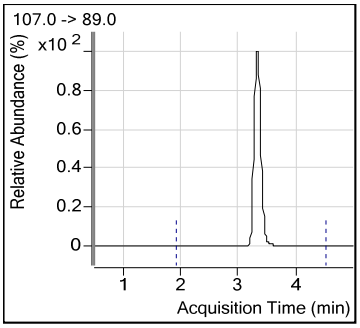
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

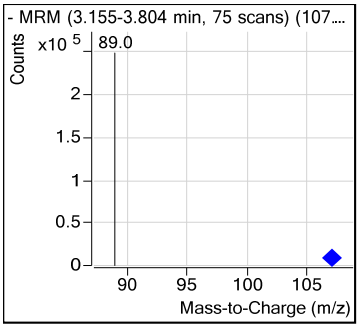
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:10
Sample Name	:	IC876-0.5
Vial	:	Vial 3
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

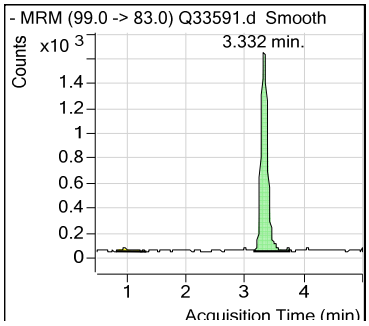
Cl18O4

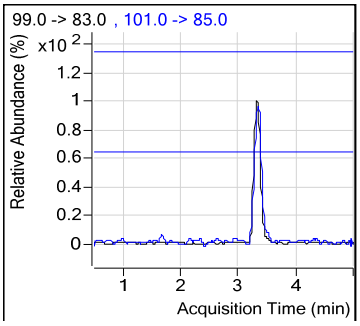


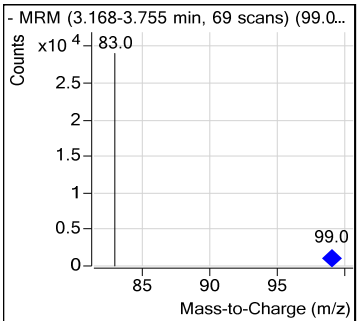




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33592.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:16
Sample Name	:	IC876-1.0
Vial	:	Vial 4
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

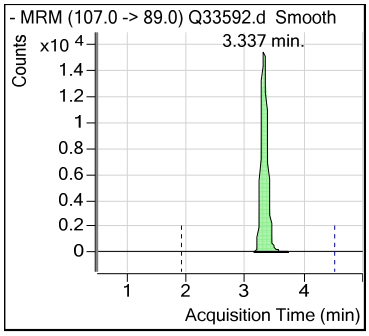
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	126805	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	25873	0.865	ng/ml	95	3.0
		101.0 -> 85.0	8498				

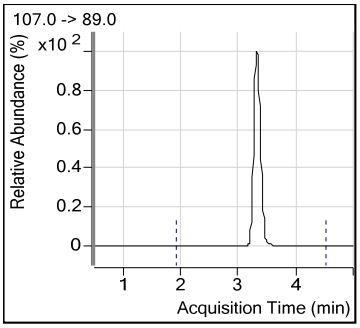
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

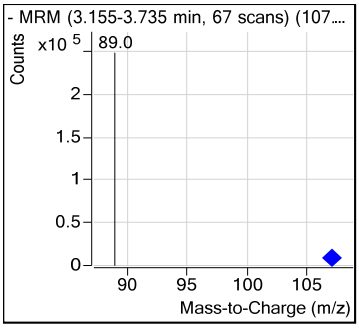
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33592.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:16
Sample Name	:	IC876-1.0
Vial	:	Vial 4
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

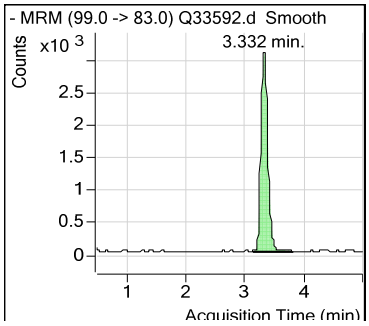
Cl18O4

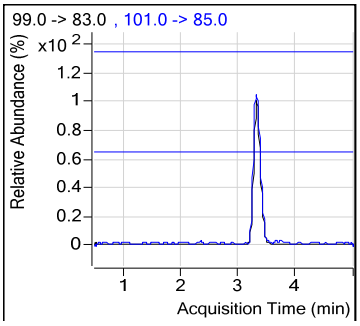


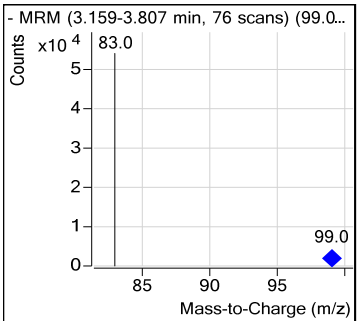




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33593.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:22
Sample Name	:	ICC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

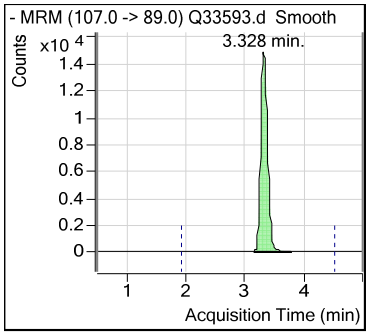
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	123645	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	54684	1.868	ng/ml	96	3.1
		101.0 -> 85.0	17687				

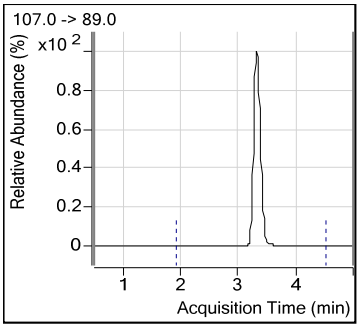
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

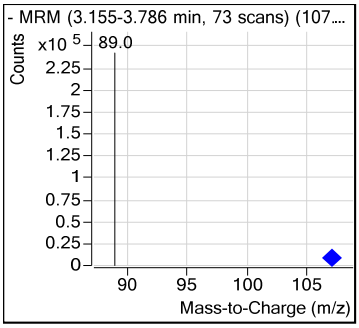
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33593.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:22
Sample Name	:	ICC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

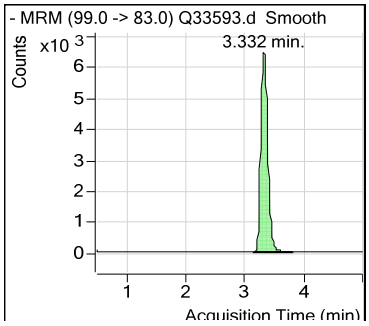
Cl18O4

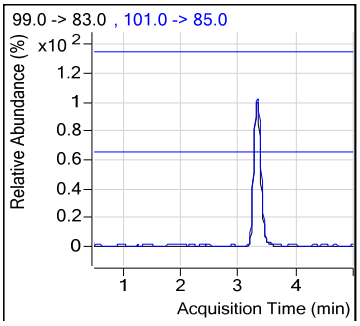


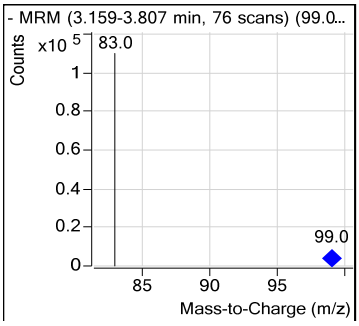




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33594.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:28
Sample Name	:	IC876-5.0
Vial	:	Vial 6
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

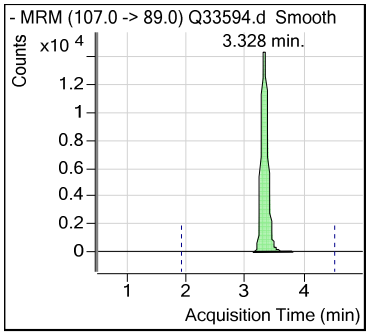
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	120016	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	140271	4.878	ng/ml	100	3.3
		101.0 -> 85.0	42110				

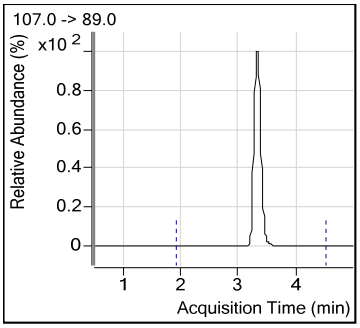
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

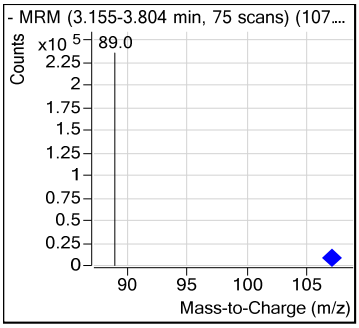
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33594.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:28
Sample Name	:	IC876-5.0
Vial	:	Vial 6
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

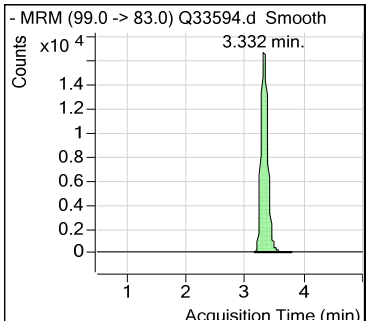
Cl18O4

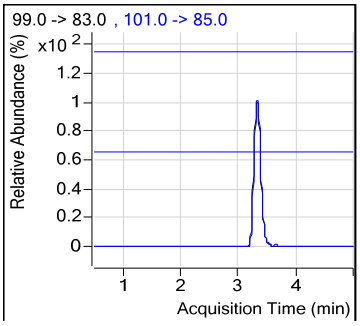


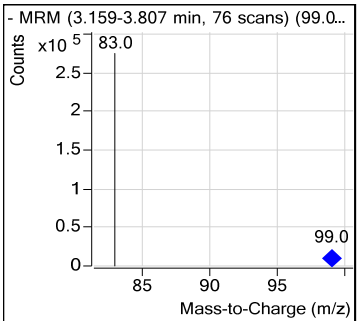




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33595.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:33
Sample Name	:	IC876-10
Vial	:	Vial 7
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

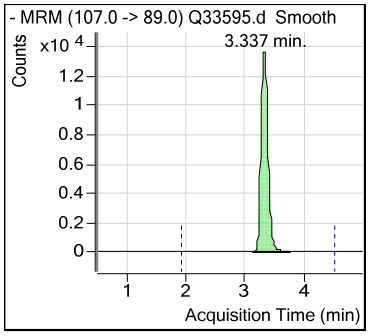
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	116352	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	290054	10.193	ng/ml	99	3.4
		101.0 -> 85.0	85870				

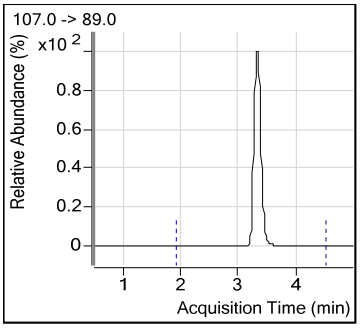
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

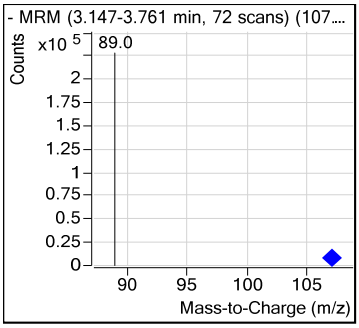
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33595.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:33
Sample Name	:	IC876-10
Vial	:	Vial 7
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

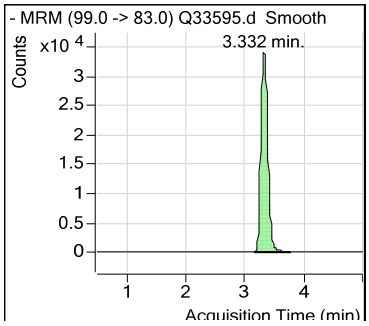
Cl18O4

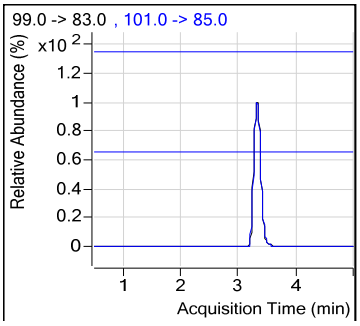


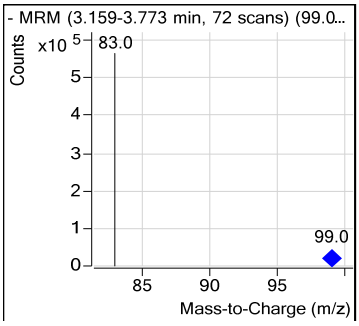




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33596.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:39
Sample Name	:	IC876-25
Vial	:	Vial 8
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

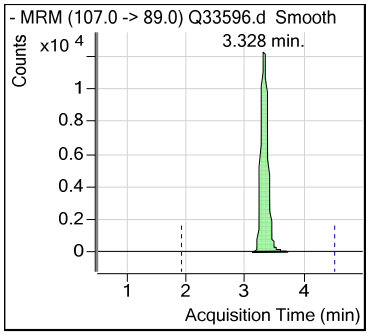
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	106469	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	701399	25.454	ng/ml	99	3.4
		101.0 -> 85.0	206605				

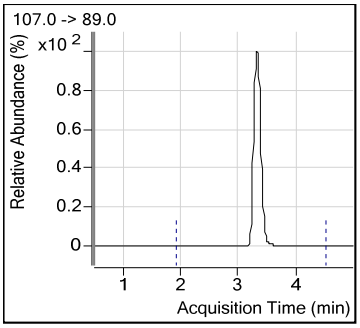
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

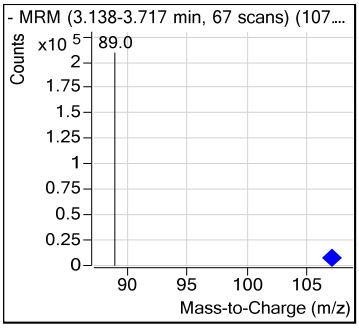
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33596.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:39
Sample Name	:	IC876-25
Vial	:	Vial 8
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

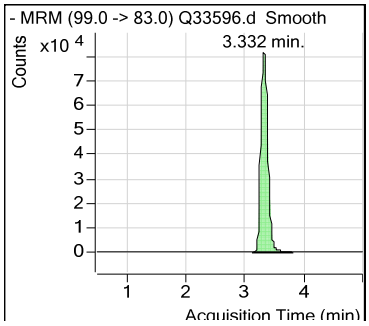
Cl18O4

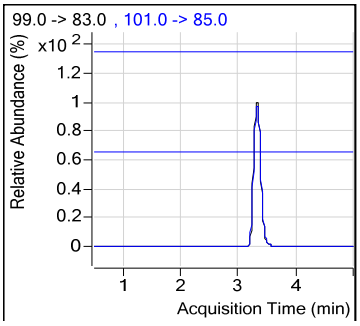


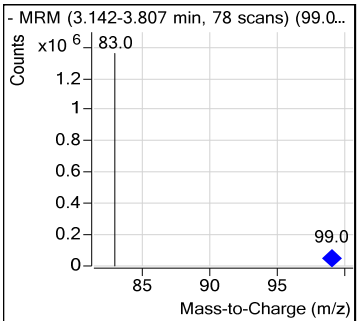




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33597.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:45
Sample Name	:	IC876-50
Vial	:	Vial 9
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

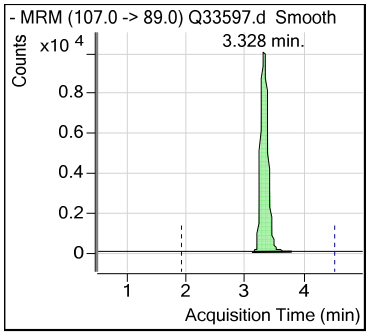
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	92443	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	1295723	49.790	ng/ml	99	3.4
		101.0 -> 85.0	382585				

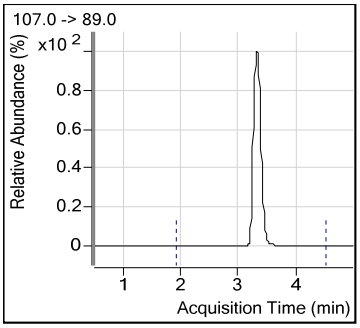
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

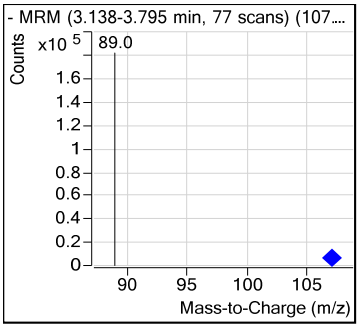
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33597.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:45
Sample Name	:	IC876-50
Vial	:	Vial 9
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

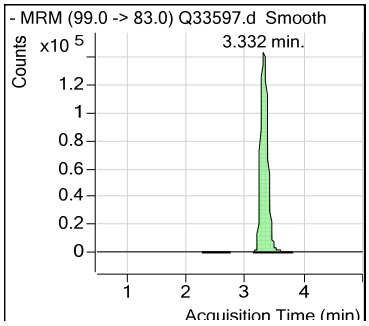
Cl18O4

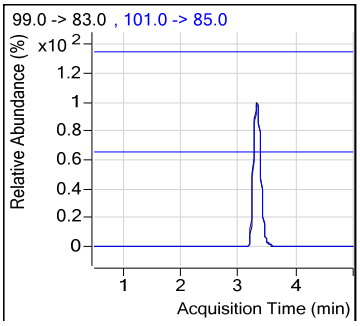


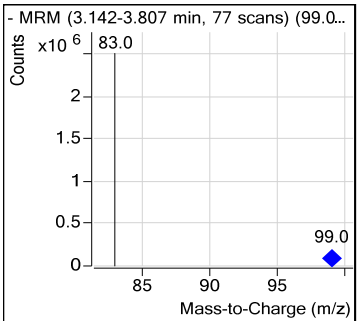




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33598.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:51
Sample Name	:	ICV876-2.0
Vial	:	Vial 10
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

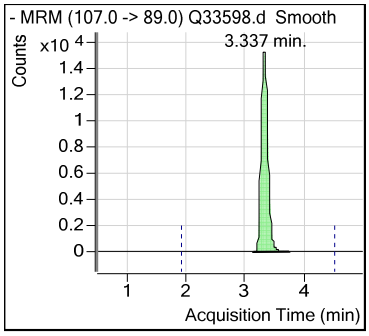
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	126289	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	53692	1.796	ng/ml	100	3.3
		101.0 -> 85.0	16229				

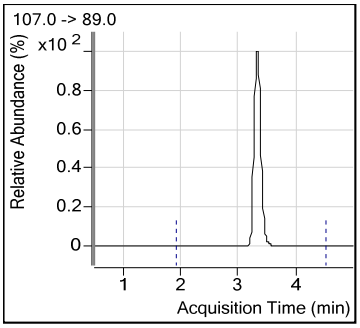
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

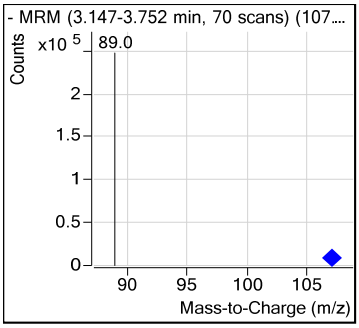
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33598.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:51
Sample Name	:	ICV876-2.0
Vial	:	Vial 10
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

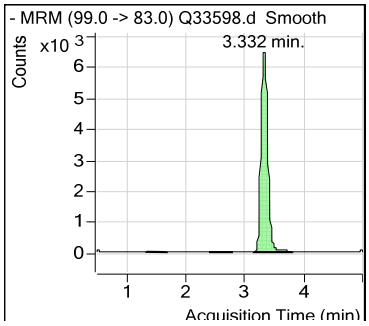
Cl18O4

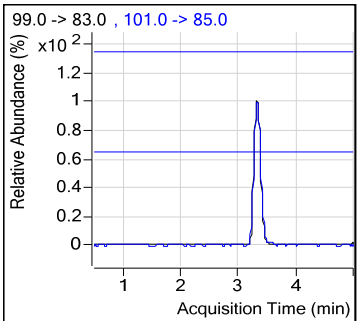


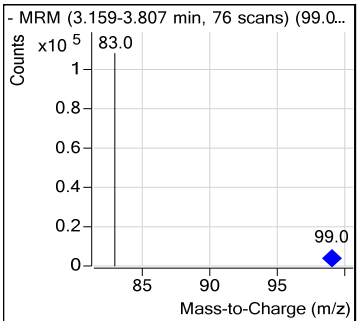




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33610.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:02
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

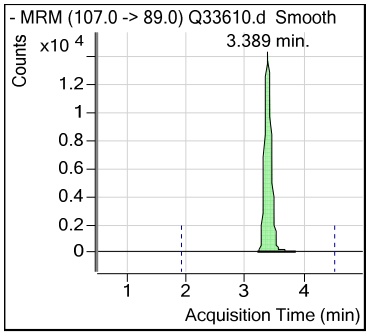
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	116625	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	52022	1.883	ng/ml	97	3.2
		101.0 -> 85.0	16342				

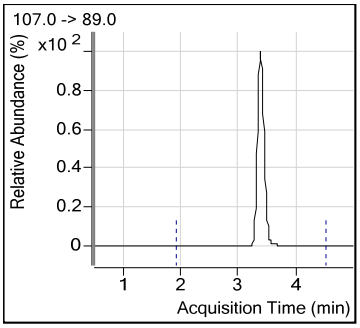
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

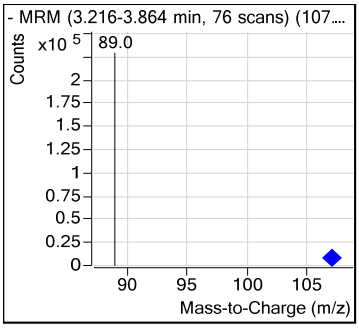
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33610.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:02
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

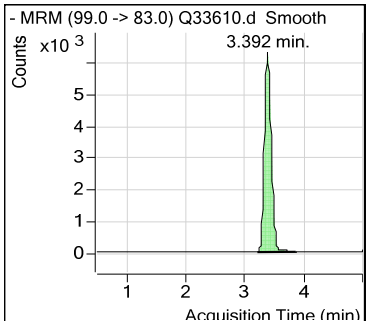
Cl18O4

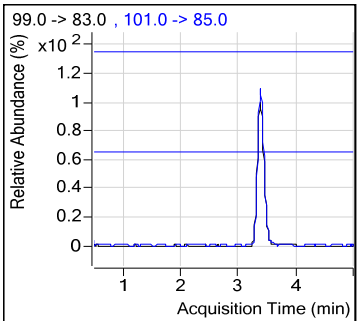


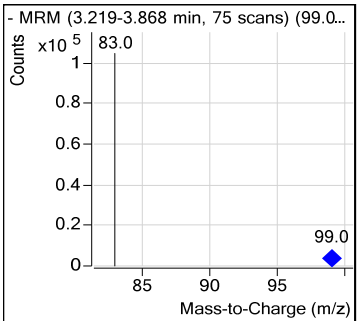




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33611.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:07
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

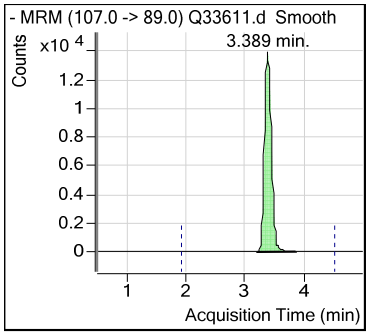
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	116493	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.401	99.0 -> 83.0	5466	0.199	ng/ml	87	2.7
		101.0 -> 85.0	2010				

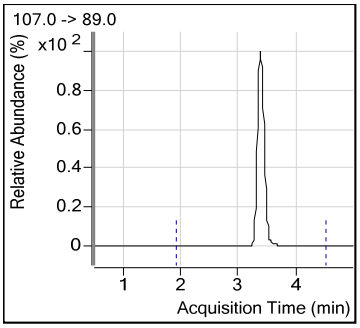
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

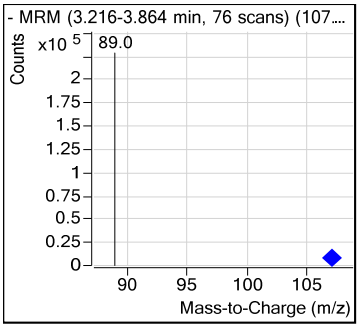
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33611.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:07
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

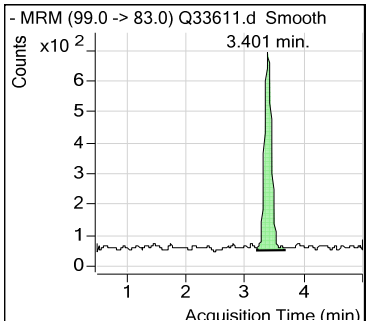
Cl18O4

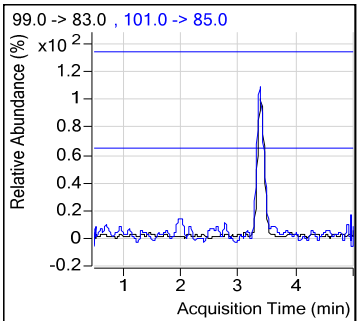


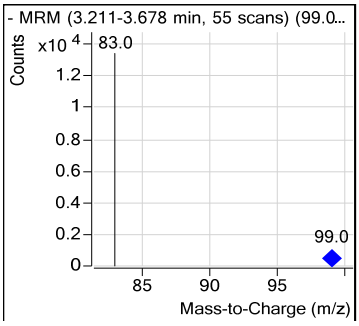




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33623.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:17
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

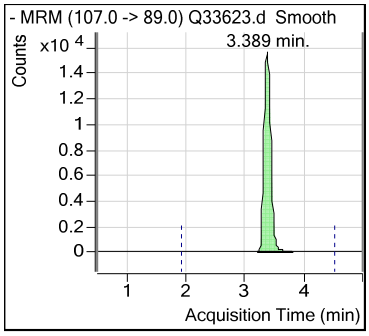
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	126242	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	56717	1.897	ng/ml	95	3.1
		101.0 -> 85.0	18566				

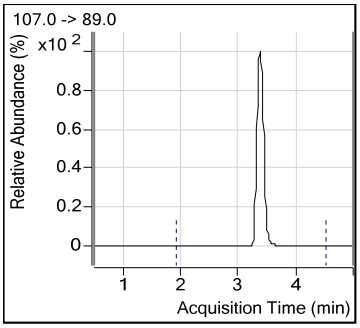
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

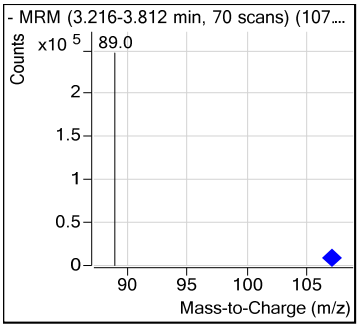
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33623.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:17
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

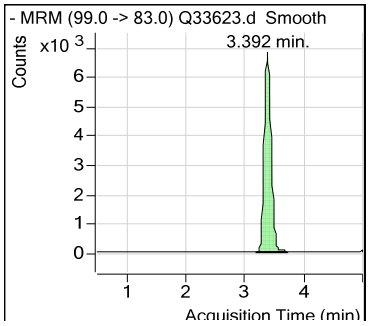
Cl18O4

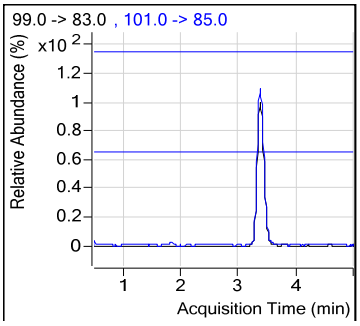


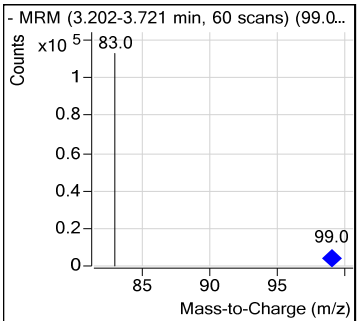




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33624.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:23
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

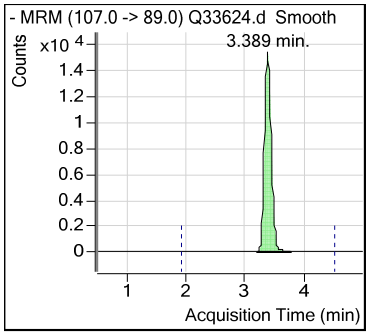
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	126795	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.384	99.0 -> 83.0	6257	0.210	ng/ml	84	2.6
		101.0 -> 85.0	2408				

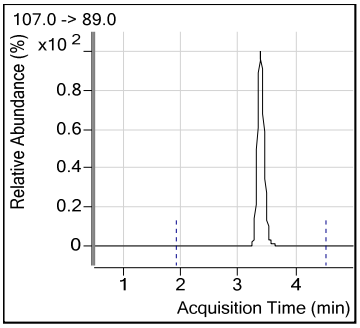
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

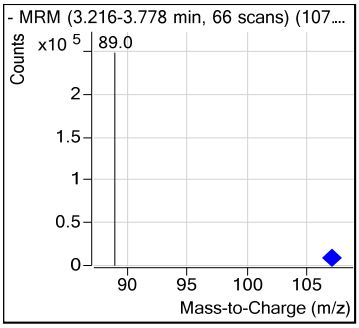
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33624.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:23
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

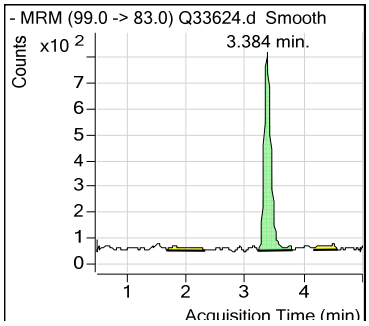
Cl18O4

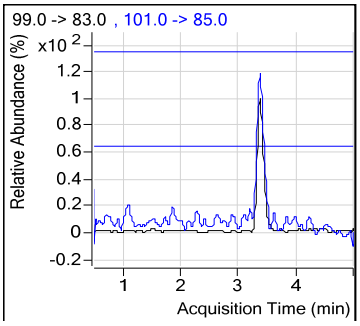


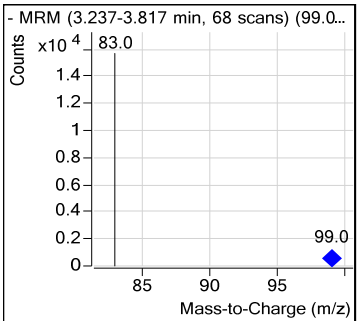




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	04-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	127

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0426 SQ874
CALIB. DATE:	04-26-17
RUN BATCH:	SQ ~~876~~ 874

ANALYST:	MAS
ELUENT A LOT #:	167421 w Acetic
ELUENT B LOT #:	165388 "
WATER LOT #:	167421
ISTD Lot #:	8332

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 33582	1	CCB	6850	—	—	—		<10K	Response T run curve
Q 83	1	CCB		—	—	—			
Q 84	1	CCB		—	—	—			
Q 85	1	CCB		—	—	—			
Q 86	2	CC860-2.0		LC799	200uL 10ml	—			
Q 87	3	-0.2			20uL 10ml	—			
Q 88	4	FC860-0.2		LC800	"	—		7 10K <1K	
Q 89	1	CCB		—	—	—		<10K	✓
Q 90	2	IC876-0.2		LC799	20uL 10ml	2-8			✓
Q 91	3	-0.5			50uL 10ml	3.1			✓
Q 92	4	1.0			100uL 10ml	3.0			✓
Q 93	5	FCC876 ~~-2.0~~			200uL 10ml	3.1			✓
Q 94	6	1094617 -5.0			500uL 10ml	3.3			✓
Q 95	7	-10			1000uL 10ml	3.4			✓
Q 96	8	-25			2.5ml 10ml	3.4			✓
Q 97	9	-50			5ml 10ml	3.4			✓
Q 98	10	FCC876-2.0		LC800	200uL 10ml	3.3			Poss
Q 99	11	FCS876-0.2			20uL 10ml	~~3.3~~		>10K <1K	Pos S
Q 600	12	OP647944-BS		OP647944	1X	(2.1)		<10K	AR
Q 01	13	mB				—			BDL

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	04-21-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	127

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0426 SQ876
CALIB. DATE:	04-26-17
RUN BATCH: SQ	876

ANALYST:	MAS
ELUENT A LOT #:	167414 W Arsenic
ELUENT B LOT #:	165388 1
WATER LOT #:	167421
ISTD Lot #:	8332

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	33602	14	LA32446-1	6850	OP64794	1X	2.6		LVK	BDL
Q	03	15	-2				3.4			Run 2X
Q	04	16	-3				3.0			RA 1X C.O.
Q	05	17	-4				3.1			✓
Q	06	18	-5				2.9			✓
Q	07	19	-6				2.5			BDL
Q	08	20	-7				—			BDL
Q	09	21	-8				—			BDL
Q	10	5	CC876-2.0		LL799	20ml 10ml	3.2			Pos
Q	11	2	-0.2			20ml 10ml	2.7			Poss
Q	12	1	CCB				—			ND
Q	13	12	OP64794-BS		OP64794	1X	2.3			✓
Q	14	22	LA32446-11				—			BDL
Q	15	23	OP64794-MS				2.9			✓
Q	16	24	-MSD				2.5			✓
Q	17	25	LA32446-12				—			BDL
Q	18	26	FA43019-1				3.0			✓
Q	19	27	-2				2.6			✓
Q	20	28	-3				2.5			✓
Q	21	29	FA43028-1	✓	✓	✓	3.2		✓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	04-21-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	127

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate X
PROC. METHOD:	6850 04426 SA876
CALIB. DATE:	04-26-17
RUN BATCH: SQ	876

ANALYST:	NAS
ELUENT A LOT #:	167421 w Revisit
ELUENT B LOT #:	165384 2
WATER LOT #:	167421
ISTD Lot #:	8331

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 33622	30	LA43028-2	6850	OP64794	1X	—		C/UK	BDL
Q 23	5	CCB876 -2.0 ~~2.5~~		LC799	200uL (1ml)	~~3.0~~ 3.1			Pass
Q 24	2	-0.2		↓		2.6			Pass
Q 25	1	CCB		—	—	—			NA
Q 26	31	LA43028-3		OP64794	1X	—			BDL
Q 27	36	LA32446-3			~~2X~~ 1X	3.2			✓
Q 28	32	-2			2X	3.4			Ran 4X
Q 29	33	-2		↓	4X	3.5			✓
Q 30	5	CCB876-2.0		LC799	200uL (1ml)	3.2			Pass
Q 31	2	ECCB876-0.2		↓	200uL (1ml)	3.1			Pass
Q 32	1	CCB		—	—	—		↓	NA
Q									
Q									
Q									
Q									
Q									
Q									
Q							04-26-17		
Q									
Q									
Q									

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

81 of 100

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 04-25-17 1500 {mm/dd/yy 24:00}

Date/Time Finished: 04-27-17 1530 {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6810

Batch#: OP64794 Ext. By: MS Conc. By: — Vialed By: MS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP MB	/	10					10	
OP BS						20ul		
LA32446-1	1							
-2								
-3								
-4								
-5								
-6								
-7								
-8								
-11								MS/MSD
-12								
LA43019-1								
-2								
-3								
LA43028-1								
-2								
-3	↓	↓						
								MS 042517
OP64794- MS	1	10				20ul	10	LA32446-11
— MSD	1	↓				↓	↓	-11
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LC800 Conc: 100ppb Exp. Date: 06-09-17 Inj. By: MS Ver. By MS

Initial Bath Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

Exchange Bath/N-Evap Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

CH2CL2 Lot #: — Hexane Lot #: — Na2SO4 Lot#: —

Acetonitrile Lot #: — Methanol Lot #: — Acetone Lot#: —

Syringe Filter Lot#: 970434 pH Paper #: — Reagent #: —

Copper Lot #: _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 04-27-17

Accepted By: _____ Date: 04-27-17

NF 02/16 extwater 020116.xls

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-MB	BB054285.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	94%	70-136%

Method Blank Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-MB	PP381830.D	1	04/24/17	EM	04/17/17	OP64666	GPP2096

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	91%	70-136%

Blank Spike Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-BS [a]	BB054284.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	4.2	4.4	95	77-144
121-82-4	RDX	4.8	4.5	106	77-125
	DNX	5.0	3.3	66	66-127
	MNX	5.0	4.1	82	71-137
	TNX	5.0	2.4	48* [b]	60-126
618-87-1	3,5-Dinitroaniline	5.0	5.0	98	77-115
99-65-0	1,3-Dinitrobenzene	4.8	4.2	86	79-122
606-20-2	2,6-Dinitrotoluene	4.4	4.1	103	81-131
121-14-2	2,4-Dinitrotoluene	4.3	4.3	104	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4	4.3	105	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	4.5	4.2	110	79-119
98-95-3	Nitrobenzene	4.7	4.0	107	78-130
88-72-2	o-Nitrotoluene	4.6	4.4	106	76-131
99-08-1	m-Nitrotoluene	4.3	4.1	107	78-122
99-99-0	p-Nitrotoluene	4.6	4.4	105	79-124
479-45-8	Tetryl	4.2	3.6	116	65-124
99-35-4	1,3,5-Trinitrobenzene	4.7	4.3	106	79-128
118-96-7	2,4,6-Trinitrotoluene	3.1	3.1	103	72-112
55-63-0	Nitroglycerine	25	23.1	92	69-123
78-11-5	PETN	25	46.8	187*	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	93%	70-136%

(a) Spike recoveries corrected for actual spike amount.
(b) Outside control limits. Within control limits in MS/MSD.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-MS	BB054290.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
OP64666-MSD	BB054291.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
FA42969-6	BB054289.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43019-1, FA43019-2, FA43019-3

CAS No.	Compound	FA42969-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	0.19	U	8.08	8.6	106	8.08	8.1	100	6	77-144/21
121-82-4	RDX	0.19	U	9.23	8.7	94	9.23	8.6	94	1	77-125/19
	DNX	0.19	U	9.62	7.3	76	9.62	7.4	77	1	66-127/25
	MNX	0.19	U	9.62	8.2	85	9.62	8.1	84	1	71-137/20
	TNX	0.19	U	9.62	7.8	81	9.62	7.7	80	1	60-126/18
618-87-1	3,5-Dinitroaniline	0.19	U	9.62	9.3	97	9.62	9.6	100	3	77-115/19
99-65-0	1,3-Dinitrobenzene	0.19	U	9.23	7.9	83	9.23	8.0	87	1	79-122/17
606-20-2	2,6-Dinitrotoluene	0.19	U	8.46	7.7	92	8.46	7.8	92	1	81-131/17
121-14-2	2,4-Dinitrotoluene	0.19	U	8.27	8.0	97	8.27	8.1	98	1	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	0.19	U	8.46	8.0	83	8.46	8.0	94	0	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	0.19	U	8.65	7.8	90	8.65	7.8	90	0	79-119/20
98-95-3	Nitrobenzene	0.19	U	9.04	7.5	83	9.04	7.7	85	3	78-130/19
88-72-2	o-Nitrotoluene	0.19	U	8.85	8.3	94	8.85	8.6	97	4	76-131/20
99-08-1	m-Nitrotoluene	0.19	U	8.27	7.6	92	8.27	7.9	95	4	78-122/18
99-99-0	p-Nitrotoluene	0.19	U	8.85	8.3	94	8.85	8.6	97	4	79-124/18
479-45-8	Tetryl	0.19	U	8.08	7.0	87	8.08	7.1	88	1	65-124/20
99-35-4	1,3,5-Trinitrobenzene	0.19	U	9.04	8.1	89	9.04	8.1	90	0	79-128/16
118-96-7	2,4,6-Trinitrotoluene	0.19	U	5.96	5.7	96	5.96	5.7	95	0	72-112/16
55-63-0	Nitroglycerine	1.9	U	48.1	49.0	102	48.1	50.4	105	3	69-123/18
78-11-5	PETN	1.9	U	48.1	85.8	178*	48.1	88.4	184*	3	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA42969-6	Limits
610-39-9	3,4-Dinitrotoluene	91%	89%	90%	70-136%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA43019-1	PP381837.D	91
FA43019-1	BB054299.D	91
FA43019-2	PP381838.D	96
FA43019-2	BB054300.D	97
FA43019-3	PP381839.D	96
FA43019-3	BB054301.D	96
OP64666-BS	BB054284.D	93
OP64666-MB	BB054285.D	94
OP64666-MB	PP381830.D	91
OP64666-MS	BB054290.D	91
OP64666-MSD	BB054291.D	89

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1579-CC1578	**Injection Date:**	04/20/17
Lab File ID:	BB054283.D	**Injection Time:**	09:36
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.19

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP64666-BS	BB054284.D	04/20/17	10:06	10.21
OP64666-MB	BB054285.D	04/20/17	10:36	10.21
ZZZZZZ	BB054286.D	04/20/17	11:06	10.22
ZZZZZZ	BB054287.D	04/20/17	11:36	10.22
FA42969-6	BB054289.D	04/20/17	12:36	10.25
OP64666-MS	BB054290.D	04/20/17	13:06	10.24
OP64666-MSD	BB054291.D	04/20/17	13:36	10.25
ZZZZZZ	BB054292.D	04/20/17	14:06	10.24
ZZZZZZ	BB054293.D	04/20/17	14:36	10.24
ZZZZZZ	BB054294.D	04/20/17	15:06	10.24

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1579-CC1578	**Injection Date:**	04/20/17
Lab File ID:	BB054295.D	**Injection Time:**	15:36
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.23

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	BB054297.D	04/20/17	16:36	10.25
ZZZZZZ	BB054298.D	04/20/17	17:06	10.24
FA43019-1	BB054299.D	04/20/17	17:36	10.24
FA43019-2	BB054300.D	04/20/17	18:06	10.24
FA43019-3	BB054301.D	04/20/17	18:36	10.24
ZZZZZZ	BB054302.D	04/20/17	19:06	10.23
ZZZZZZ	BB054303.D	04/20/17	19:36	10.24
ZZZZZZ	BB054304.D	04/20/17	20:06	10.24

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2096-ICC2096	**Injection Date:**	04/24/17
Lab File ID:	PP381825.D	**Injection Time:**	14:37
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	15.43

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP64666-MB	PP381830.D	04/24/17	17:20	15.26
ZZZZZZ	PP381831.D	04/24/17	17:52	15.30
ZZZZZZ	PP381832.D	04/24/17	18:25	15.25
ZZZZZZ	PP381833.D	04/24/17	18:57	15.29
ZZZZZZ	PP381834.D	04/24/17	19:30	15.38
ZZZZZZ	PP381835.D	04/24/17	20:02	15.31
ZZZZZZ	PP381836.D	04/24/17	20:35	15.30
FA43019-1	PP381837.D	04/24/17	21:07	15.21
FA43019-2	PP381838.D	04/24/17	21:39	15.21
FA43019-3	PP381839.D	04/24/17	22:12	15.22

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICC1578
Lab FileID: BB054265.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Initial Calibration

Calibration Files
20 =BB054261.D 50 =BB054262.D 100 =BB054263.D 200 =BB054264.D
500 =BB054265.D 1000=BB054266.D 2000=BB054267.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	2.526	2.761	3.131	3.151	3.142	3.160	3.229	3.014	E3	8.76
2)	HMX	2.279	1.705	1.566	1.730	1.657	1.637	1.653	1.747	E3	13.75
3)	DNX	3.779	3.286	3.099	3.045	2.894	2.824	2.867	3.113	E3	10.74
4)	MNX	2.875	2.360	2.559	2.530	2.349	2.328	2.361	2.480	E3	7.96
5)	RDX	3.720	2.058	2.314	2.058	1.903	1.852	1.865	2.253	E3	29.59
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 1896.32353 *A + -0.01709 *A^2										
6)	1,3,5-Trinitroben	5.017	4.594	4.478	4.141	3.991	3.969	4.049	4.320	E3	9.08
7)	1,3-Dinitrobenzen	5.954	5.460	5.849	5.464	5.243	5.217	5.314	5.500	E3	5.31
8)	3,5-Dinitroanilin	5.792	4.214	4.237	3.910	3.759	3.717	3.790	4.203	E3	17.42
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 3718.93100 *A + 0.03351 *A^2										
9)	Nitrobenzene	4.316	3.586	3.623	3.348	3.196	3.225	3.191	3.498	E3	11.52
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	4.045	2.951	2.890	2.776	2.639	2.650	2.674	2.946	E3	16.94
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 2648.08002 *A + 0.01246 *A^2										
12)	2,4,6-Trinitrotol	5.348	4.169	4.208	3.921	3.753	3.756	3.805	4.137	E3	13.68
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 3749.67375 *A + 0.02642 *A^2										
13)	2-Amino-4,6-Dinit	4.370	3.772	3.722	3.477	3.313	3.316	3.361	3.619	E3	10.52
14)	4-Amino-2,6-Dinit	3.030	2.560	2.777	2.554	2.380	2.390	2.441	2.590	E3	9.15
15)S	3,4-Dinitrotoluen	2.242	2.606	2.431	2.305	2.170	2.157	2.163	2.296	E3	7.33
16)	2,4-Dinitrotoluen	5.820	4.935	5.438	4.999	4.745	4.757	4.848	5.077	E3	7.93
17)	2,6-Dinitrotoluen	3.914	3.474	3.311	2.964	2.757	2.699	2.722	3.120	E3	14.83
18)	o-Nitrotoluene	1.717	2.418	2.838	2.463	2.262	2.277	2.257	2.319	E3	14.42
19)	p-Nitrotoluene	5.010	3.513	4.110	3.704	3.466	3.488	3.466	3.823	E3	14.99
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 3527.39338 *A + -0.03141 *A^2										
20)	m-Nitrotoluene	4.304	3.431	3.791	3.598	3.357	3.370	3.362	3.602	E3	9.68
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	4.411	4.613	5.166	5.013	4.878	4.873	4.956	4.844	E3	5.25
2)	HMX	5.995	4.476	4.858	4.727	4.518	4.498	4.539	4.802	E3	11.34
3)	DNX	1.106	0.616	0.681	0.506	0.487	0.454	0.461	0.616	E4	37.67
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993										
	Response Ratio = 0.00000 + 4753.70338 *A + -0.07751 *A^2										
4)	MNX	4.434	3.739	3.990	3.792	3.649	3.621	3.673	3.842	E3	7.52
5)	RDX	4.242	3.248	3.401	3.145	2.989	2.980	2.999	3.286	E3	13.67

8.6.1
8

Initial Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICC1578
Lab FileID: BB054265.D

```
 6)  1,3,5-Trinitroben 8.868 8.038 8.520 8.095 7.736 7.764 7.882 8.129 E3   5.16
 7)  1,3-Dinitrobenzen 4.378 3.633 4.251 3.777 3.735 3.610 3.641 3.861 E3   8.23
 8)  3,5-Dinitroanilin 8.178 6.244 6.663 6.611 6.287 6.345 6.433 6.680 E3  10.16
 9)  Nitrobenzene      3.595 3.290 3.137 3.246 3.047 3.034 3.038 3.198 E3   6.35
10)  Nitroglycerin     1.233 1.284 1.404 1.319 1.234 1.292 1.280 1.292 E3   4.51
11)  Tetryl            6.449 4.496 4.528 3.962 3.930 3.982 3.915 4.466 E3  20.47
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 4020.77712 *A + -0.05274 *A^2

12)  2,4,6-Trinitrotol 6.911 5.137 5.085 4.973 4.679 4.633 4.711 5.161 E3  15.45
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 4645.31617 *A + 0.03042 *A^2

13)  2-Amino-4,6-Dinit 6.324 5.592 5.386 5.339 5.059 5.040 5.183 5.418 E3   8.20
14)  4-Amino-2,6-Dinit 6.601 5.506 5.093 5.090 4.960 4.944 5.006 5.314 E3  11.26
15)S 3,4-Dinitrotoluen 5.288 4.680 4.213 4.212 3.925 3.879 3.779 4.282 E3  12.51
16)  2,4-Dinitrotoluen 4.439 3.315 3.137 3.121 3.124 3.126 3.305 3.366 E3  14.28
17)  2,6-Dinitrotoluen 3.511 3.471 3.663 3.491 3.452 3.432 3.561 3.512 E3   2.24
18)  o-Nitrotoluene    5.037 3.228 3.426 3.301 3.205 3.226 3.170 3.513 E3  19.28
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  1.0000
             Response Ratio = 0.00000 + 3267.11077 *A + -0.04823 *A^2

19)  p-Nitrotoluene    2.407 3.332 2.996 2.939 3.047 3.030 3.032 2.969 E3   9.36
20)  m-Nitrotoluene    2.998 2.827 3.551 3.675 3.797 3.853 3.891 3.513 E3  12.20
21)  PETN              1.139 0.683 0.734 0.869 0.698 0.706 0.699 0.790 E3  21.07
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
             Response Ratio = 0.00000 + 722.41976 *A + -0.00239 *A^2

-------------------------------------------------------------------------------
(#) = Out of Range

          8330B_0419PLUS.M        Thu Apr 20 11:15:03 2017
```

8.6.1

8

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054268.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	521.944	-4.4	100	0.00	1.06- 1.66
2	HMX	500.000	489.877	2.0	103	0.00	1.17- 1.77
3	DNX	500.000	445.642	10.9	96	0.00	1.43- 2.03
4	MNX	500.000	480.399	3.9	101	0.00	1.98- 2.58
	----------	Amount	Calc.	%Drift	----------		
5	RDX	500.000	493.289	1.3	98	0.00	2.46- 3.26
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	500.000	452.504	9.5	98	0.00	4.08- 4.88
7	1,3-Dinitrobenzene	500.000	435.525	12.9	91	-0.01	5.33- 6.13
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	500.000	527.203	-5.4	105	-0.02	5.69- 6.49
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	500.000	447.634	10.5	98	0.00	6.92- 7.72
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	500.000	488.373	2.3	98	-0.01	8.33- 9.13
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotol	500.000	454.444	9.1	99	-0.03	9.16- 9.96
14	4-Amino-2,6-Dinitrotol	500.000	464.204	7.2	101	-0.03	9.63-10.43
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	451.285	9.7	97	-0.02	10.54-11.34
17	2,6-Dinitrotoluene	500.000	430.720	13.9	97	-0.01	11.03-11.83
18	o-Nitrotoluene	500.000	489.100	2.2	100	-0.02	14.28-15.16
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	500.000	486.251	2.7	99	-0.02	14.69-15.69
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	500.000	453.753	9.2	97	-0.02	15.66-16.66
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	509.603	-1.9	101	0.00	1.06- 1.66

8.6.2

8

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054268.D

2	HMX	500.000	500.124	-0.0	106	0.00	1.17-	1.77
		Amount	Calc.	%Drift				
3	DNX	500.000	486.589	2.7	94	0.00	1.43-	2.03
		Amount	Calc.	%Drift				
4	MNX	500.000	481.008	3.8	101	0.00	1.98-	2.58
5	RDX	500.000	449.689	10.1	99	-0.01	2.46-	3.26
6	1,3,5-Trinitrobenzene	500.000	458.186	8.4	96	0.00	4.08-	4.88
7	1,3-Dinitrobenzene	500.000	420.074	16.0#	87	-0.01	5.33-	6.13
8	3,5-Dinitroaniline	500.000	496.650	0.7	106	-0.02	5.69-	6.49
9	Nitrobenzene	500.000	473.778	5.2	99	0.00	6.91-	7.71
10	Nitroglycerin	2500.000	2722.043	-8.9	114	0.00	8.06-	9.06
		Amount	Calc.	%Drift				
11	Tetryl	500.000	417.239	16.6#	85	-0.03	8.32-	9.12
12	2,4,6-Trinitrotoluene			----------NA----------				
		Amount	Calc.	%Drift				
13	2-Amino-4,6-Dinitrotol	500.000	454.703	9.1	97	-0.03	9.16-	9.96
14	4-Amino-2,6-Dinitrotol	500.000	457.392	8.5	98	-0.03	9.63-	10.43
15 S	3,4-Dinitrotoluene			----------NA----------				
16	2,4-Dinitrotoluene	500.000	445.180	11.0	96	-0.01	10.54-	11.34
17	2,6-Dinitrotoluene	500.000	484.543	3.1	99	-0.01	11.03-	11.83
		Amount	Calc.	%Drift				
18	o-Nitrotoluene	500.000	503.018	-0.6	102	-0.01	14.15-	15.15
		Amount	Calc.	%Drift				
19	p-Nitrotoluene	500.000	503.715	-0.7	98	-0.02	14.69-	15.69
20	m-Nitrotoluene	500.000	502.820	-0.6	93	-0.02	15.66-	16.66
		Amount	Calc.	%Drift				
21	PETN	2500.000	5459.730	-118.4#	222	0.00	17.52-	18.72

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054265.D 8330B_0419PLUS.M Thu Apr 20 11:14:48 2017

8.6.2

8

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054270.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1A.ch
Acq On : 19-Apr-2017, 15:57:04 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area% Dev(min)	RT Window
1	TNX		NA			
2	HMX		NA			
3	DNX		NA			
4	MNX		NA			
	Amount	Calc.	%Drift			
5	RDX		NA			
	Amount	Calc.	%Drift			
6	1,3,5-Trinitrobenzene		NA			
7	1,3-Dinitrobenzene		NA			
	Amount	Calc.	%Drift			
8	3,5-Dinitroaniline		NA			
	Amount	Calc.	%Drift			
9	Nitrobenzene		NA			
10	Nitroglycerin		NA			
	Amount	Calc.	%Drift			
11	Tetryl		NA			
	Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	500.000	513.672	-2.7	103 0.00	8.74- 9.54
13	2-Amino-4,6-Dinitrotoluen		NA			
14	4-Amino-2,6-Dinitrotoluen		NA			
15 S	3,4-Dinitrotoluene		NA			
16	2,4-Dinitrotoluene		NA			
17	2,6-Dinitrotoluene		NA			
18	o-Nitrotoluene		NA			
	Amount	Calc.	%Drift			
19	p-Nitrotoluene		NA			
	Amount	Calc.	%Drift			
20	m-Nitrotoluene		NA			
21	PETN		NA			
*****	Signal #2 *****					
1	TNX		NA			

8.6.3

8

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054270.D

2	HMX			----------NA----------					
		Amount	Calc.	%Drift					
3	DNX			----------NA----------					
		Amount	Calc.	%Drift					
4	MNX			----------NA----------					
5	RDX			----------NA----------					
6	1,3,5-Trinitrobenzene			----------NA----------					
7	1,3-Dinitrobenzene			----------NA----------					
8	3,5-Dinitroaniline			----------NA----------					
9	Nitrobenzene			----------NA----------					
10	Nitroglycerin			----------NA----------					
		Amount	Calc.	%Drift					
11	Tetryl			----------NA----------					
12	2,4,6-Trinitrotoluene	500.000	512.284	-2.5	102	0.00	8.74-	9.54	
		Amount	Calc.	%Drift					
13	2-Amino-4,6-Dinitrotoluen			----------NA----------					
14	4-Amino-2,6-Dinitrotoluen			----------NA----------					
15 S	3,4-Dinitrotoluene			----------NA----------					
16	2,4-Dinitrotoluene			----------NA----------					
17	2,6-Dinitrotoluene			----------NA----------					
		Amount	Calc.	%Drift					
18	o-Nitrotoluene			----------NA----------					
		Amount	Calc.	%Drift					
19	p-Nitrotoluene			----------NA----------					
20	m-Nitrotoluene			----------NA----------					
		Amount	Calc.	%Drift					
21	PETN			----------NA----------					

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054265.D 8330B_0419PLUS.M Thu Apr 20 11:14:49 2017

8.6.3

8

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054283.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1032.807	-3.3	99	0.00	1.05- 1.65
2	HMX	1000.000	924.058	7.6	99	0.00	1.15- 1.75
3	DNX	1000.000	905.004	9.5	100	0.00	1.41- 2.01
4	MNX	1000.000	926.709	7.3	99	0.00	1.95- 2.55
	----------	Amount	Calc.	%Drift	----------		
5	RDX	1000.000	979.977	2.0	99	0.00	2.42- 3.22
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	1000.000	917.304	8.3	100	0.00	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	960.135	4.0	101	0.00	5.26- 6.06
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	1000.000	1014.161	-1.4	102	0.00	5.60- 6.40
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	1000.000	898.817	10.1	97	0.00	6.85- 7.65
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	989.666	1.0	99	0.00	8.20- 9.00
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene	1000.000	913.084	8.7	101	0.00	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	919.921	8.0	100	0.00	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	923.434	7.7	100	0.00	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	953.809	4.6	102	0.00	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	947.045	5.3	101	0.00	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	870.687	12.9	101	0.00	10.88-11.68
18	o-Nitrotoluene	1000.000	949.168	5.1	97	0.00	14.14-15.02
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	1000.000	970.658	2.9	97	0.00	14.54-15.54
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	1000.000	904.651	9.5	97	0.00	15.51-16.51
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	986.174	1.4	98	0.00	1.05- 1.65

8.6.4
8

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054283.D

2	HMX	1000.000	927.187	7.3	99	0.00	1.15- 1.75
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	981.732	1.8	101	0.00	1.41- 2.01
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	933.818	6.6	99	0.00	1.95- 2.55
5	RDX	1000.000	896.148	10.4	99	0.00	2.42- 3.22
6	1,3,5-Trinitrobenzene	1000.000	950.320	5.0	99	0.00	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	941.388	5.9	101	0.00	5.26- 6.06
8	3,5-Dinitroaniline	1000.000	965.667	3.4	102	0.00	5.60- 6.40
9	Nitrobenzene	1000.000	936.456	6.4	99	0.00	6.85- 7.65
10	Nitroglycerin	5000.000	4942.820	1.1	99	0.00	7.96- 8.96
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	864.368	13.6	86	0.00	8.16- 8.96
12	2,4,6-Trinitrotoluene	1000.000	999.453	0.1	101	0.00	8.62- 9.42
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	938.093	6.2	101	0.00	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	930.929	6.9	100	0.00	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	927.284	7.3	102	0.00	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	946.794	5.3	102	0.00	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	978.627	2.1	100	0.00	10.88-11.68
	---------- Amount	Calc.	%Drift	----------			
18	o-Nitrotoluene	1000.000	980.996	1.9	98	0.00	14.01-15.01
	---------- Amount	Calc.	%Drift	----------			
19	p-Nitrotoluene	1000.000	1000.665	-0.1	98	0.00	14.54-15.54
20	m-Nitrotoluene	1000.000	1057.014	-5.7	96	0.00	15.51-16.51
	---------- Amount	Calc.	%Drift	----------			
21	PETN	5000.000	11012.693	-120.3#	217	0.00	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Fri Apr 21 10:13:51 2017

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054295.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1041.647	-4.2	99	0.00	1.05- 1.65
2	HMX	1000.000	927.735	7.2	99	0.00	1.15- 1.75
3	DNX	1000.000	909.274	9.1	100	0.00	1.41- 2.01
4	MNX	1000.000	927.544	7.2	99	0.00	1.95- 2.55
	----------	Amount	Calc.	%Drift	----------		
5	RDX	1000.000	979.252	2.1	99	0.00	2.42- 3.22
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	1000.000	926.203	7.4	101	0.02	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	959.827	4.0	101	0.02	5.26- 6.06
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	1000.000	1019.893	-2.0	103	0.00	5.60- 6.40
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	1000.000	902.285	9.8	98	0.03	6.85- 7.65
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	989.061	1.1	99	0.03	8.20- 9.00
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene	1000.000	913.792	8.6	101	0.03	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	924.068	7.6	101	0.02	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	934.367	6.6	101	0.03	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	945.831	5.4	101	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	946.162	5.4	101	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	868.193	13.2	100	0.06	10.88-11.68
18	o-Nitrotoluene	1000.000	950.386	5.0	97	0.07	14.14-15.02
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	1000.000	972.480	2.8	98	0.07	14.54-15.54
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	1000.000	909.633	9.0	97	0.08	15.51-16.51
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	994.450	0.6	99	0.00	1.05- 1.65

8.6.5

8

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054295.D

		Amount	Calc.	%Drift			
2	HMX	1000.000	928.167	7.2	99	0.00	1.15- 1.75
		Amount	Calc.	%Drift			
3	DNX	1000.000	981.755	1.8	101	0.00	1.41- 2.01
		Amount	Calc.	%Drift			
4	MNX	1000.000	935.258	6.5	99	0.00	1.95- 2.55
5	RDX	1000.000	903.925	9.6	100	0.00	2.42- 3.22
6	1,3,5-Trinitrobenzene	1000.000	968.954	3.1	101	0.02	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	941.897	5.8	101	0.02	5.26- 6.06
8	3,5-Dinitroaniline	1000.000	976.823	2.3	103	0.00	5.60- 6.40
9	Nitrobenzene	1000.000	944.267	5.6	100	0.03	6.85- 7.65
10	Nitroglycerin	5000.000	4898.878	2.0	98	0.03	7.96- 8.96
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	889.505	11.0	89	0.02	8.16- 8.96
12	2,4,6-Trinitrotoluene	1000.000	998.325	0.2	101	0.03	8.62- 9.42
		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	937.842	6.2	101	0.02	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	935.192	6.5	101	0.03	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	914.704	8.5	101	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	944.153	5.6	102	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	981.035	1.9	100	0.05	10.88-11.68
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	957.605	4.2	96	0.08	14.01-15.01
		Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	989.037	1.1	97	0.07	14.54-15.54
20	m-Nitrotoluene	1000.000	1052.093	-5.2	96	0.08	15.51-16.51
		Amount	Calc.	%Drift			
21	PETN	5000.000	10711.063	-114.2#	211	0.05	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Fri Apr 21 10:13:52 2017

8.6.5

8

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054305.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1037.314	-3.7	99	0.00	1.05- 1.65
2	HMX	1000.000	924.525	7.5	99	0.00	1.15- 1.75
3	DNX	1000.000	899.927	10.0	99	0.00	1.41- 2.01
4	MNX	1000.000	933.605	6.6	99	0.00	1.95- 2.55
	----------	Amount	Calc.	%Drift	----------		
5	RDX	1000.000	996.339	0.4	101	0.00	2.42- 3.22
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	1000.000	927.634	7.2	101	0.01	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	957.927	4.2	101	0.02	5.26- 6.06
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	1000.000	1018.091	-1.8	103	0.00	5.60- 6.40
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	1000.000	906.021	9.4	98	0.03	6.85- 7.65
10	Nitroglycerin	5000.000	0.000	100.0#	0	-0.05	8.10- 8.30
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	991.143	0.9	100	0.03	8.20- 9.00
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene	1000.000	917.519	8.2	101	0.03	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	925.174	7.5	101	0.03	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	932.745	6.7	101	0.04	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	946.869	5.3	101	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	943.253	5.7	101	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	865.779	13.4	100	0.06	10.88-11.68
18	o-Nitrotoluene	1000.000	945.618	5.4	96	0.09	14.14-15.02
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	1000.000	975.184	2.5	98	0.09	14.54-15.54
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	1000.000	908.768	9.1	97	0.10	15.51-16.51
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	989.685	1.0	98	0.00	1.05- 1.65

8.6.9

8

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054305.D

2	HMX	1000.000	929.355	7.1	99	0.00	1.15- 1.75
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	959.451	4.1	99	0.00	1.41- 2.01
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	930.031	7.0	99	0.00	1.95- 2.55
5	RDX	1000.000	898.081	10.2	99	0.00	2.42- 3.22
6	1,3,5-Trinitrobenzene	1000.000	958.856	4.1	100	0.01	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	930.339	7.0	100	0.02	5.26- 6.06
8	3,5-Dinitroaniline	1000.000	970.738	2.9	102	0.00	5.60- 6.40
9	Nitrobenzene	1000.000	943.694	5.6	99	0.03	6.85- 7.65
10	Nitroglycerin	5000.000	4955.688	0.9	99	0.02	7.96- 8.96
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	869.242	13.1	87	0.03	8.16- 8.96
12	2,4,6-Trinitrotoluene	1000.000	997.486	0.3	101	0.03	8.62- 9.42
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	935.258	6.5	101	0.03	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	930.819	6.9	100	0.04	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	909.210	9.1	100	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	938.474	6.2	101	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	979.232	2.1	100	0.06	10.88-11.68
	---------- Amount	Calc.	%Drift	----------			
18	o-Nitrotoluene	1000.000	961.546	3.8	96	0.09	14.01-15.01
	---------- Amount	Calc.	%Drift	----------			
19	p-Nitrotoluene	1000.000	1010.137	-1.0	99	0.09	14.54-15.54
20	m-Nitrotoluene	1000.000	1058.375	-5.8	97	0.10	15.51-16.51
	---------- Amount	Calc.	%Drift	----------			
21	PETN	5000.000	10394.966	-107.9#	205	0.04	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Fri Apr 21 10:13:53 2017

Initial Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICC2096
Lab FileID: PP381825.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration

Calibration Files
20 =PP381821.D 50 =PP381822.D 100 =PP381823.D 200 =PP381824.D
500 =PP381825.D 1000=PP381826.D 2000=PP381827.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	0.860	0.714	1.070	0.834	0.911			0.840	0.872 E4 13.40
2)	HMX	6.086	3.510	5.005	3.869	3.623			3.297	4.231 E3 25.74
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995									
	Response Ratio = 0.00000 + 3836.03476 *A + -0.27024 *A^2									
3)	DNX	8.691	6.768	9.554	7.968	7.895			7.269	8.024 E3 12.40
4)	MNX	5.631	4.814	5.837	5.422	5.971			5.670	5.557 E3 7.37
5)	1,3,5-Trinitroben	1.199	0.953	1.051	0.963	1.008			0.949	1.021 E4 9.40
6)	RDX	5.215	4.852	4.820	4.698	4.955			4.598	4.856 E3 4.43
7)	1,3-Dinitrobenzen	1.507	1.140	1.379	1.303	1.372			1.292	1.332 E4 9.12
8)	Nitrobenzene	8.331	6.412	8.305	7.976	8.236			6.659	7.653 E3 11.48
9)	2,4,6-Trinitrotol	1.129	0.873	1.005	0.925	0.951			0.890	0.962 E4 9.77
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	8.979	5.512	6.924	5.768	6.407			6.063	6.609 E3 19.10
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998									
	Response Ratio = 0.00000 + 6397.74918 *A + -0.16683 *A^2									
12)S	3,4-Dinitrotoluen	4.010	3.620	5.540	5.354	5.594			5.180	4.883 E3 17.39
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 5628.86426 *A + -0.22373 *A^2									
13)	2,6-Dinitrotoluen	9.263	6.073	7.085	6.278	6.806			6.427	6.989 E3 16.78
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 6817.61964 *A + -0.19478 *A^2									
14)	2,4-Dinitrotoluen	1.460	1.105	1.296	1.190	1.263			1.187	1.250 E4 9.81
15)	o-Nitrotoluene	6.117	4.933	5.051	4.971	5.088			3.727	4.981 E3 15.24
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 5438.48444 *A + -0.85517 *A^2									
16)	3,5-Dinitroanilin	9.032	9.465	9.773	9.090	9.712			9.210	9.380 E3 3.39
17)	p-Nitrotoluene	5.737	2.702	3.654	3.311	4.080			2.977	3.744 E3 29.16
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9987									
	Response Ratio = 0.00000 + 4197.58216 *A + -0.60927 *A^2									
18)	4-Amino-2,6-Dinit	2.775	4.590	3.515	5.956	6.301			6.433	4.928 E3 31.37
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996									
	Response Ratio = 0.00000 + 6023.09332 *A + 0.20628 *A^2									
19)	m-Nitrotoluene	3.311	5.597	6.557	5.342	5.593			4.168	5.095 E3 22.79
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9997									
	Response Ratio = 0.00000 + 5982.62957 *A + -0.90724 *A^2									
20)	2-Amino-4,6-Dinit	1.498	1.174	0.971	0.994	0.991			0.900	1.088 E4 20.27
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 10193.10050 *A + -0.59711 *A^2									

Initial Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICC2096
Lab FileID: PP381825.D

```
 21)  PETN                                                    0.000  -1.00

Signal #2

  1)  TNX              1.313 1.088 1.504 1.289 1.349       1.245 1.298 E4  10.44
  2)  HMX              1.715 1.121 1.287 1.079 1.071       0.985 1.210 E4  22.05
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 11094.88170 *A + -0.62071 *A^2

  3)  DNX              2.770 1.553 1.926 1.442 1.346       1.168 1.701 E4  34.21
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 14497.87120 *A + -1.41273 *A^2

  4)  MNX              1.406 0.846 0.915 0.858 0.957       0.902 0.981 E4  21.64
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 9501.87997 *A + -0.24106 *A^2

  5)  1,3,5-Trinitroben 2.067 1.536 1.747 1.638 1.738      1.645 1.729 E4  10.58
  6)  RDX              8.578 7.247 8.504 8.544 9.659       8.893 8.571 E3   9.10
  7)  1,3-Dinitrobenzen 1.195 0.912 1.020 0.940 1.028      0.956 1.008 E4  10.11
  8)  Nitrobenzene     7.990 6.868 8.337 7.442 7.885       6.347 7.478 E3  10.04
  9)  2,4,6-Trinitrotol 1.396 1.196 1.280 1.147 1.210      1.134 1.227 E4   7.96
 10)  Nitroglycerin    3.160 2.746 3.267 2.989 3.277       3.124 3.094 E3   6.48
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 3255.44572 *A + -0.01304 *A^2

 11)  Tetryl           1.275 0.745 1.076 0.905 1.051       1.011 1.010 E4  17.56
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 10309.13232 *A + -0.10011 *A^2

 12)S 3,4-Dinitrotoluen 0.792 0.999 1.154 1.038 1.072      1.010 1.011 E4  11.94
 13)  2,6-Dinitrotoluen 1.258 0.771 1.004 0.913 0.980      0.921 0.975 E4  16.48
 14)  2,4-Dinitrotoluen 1.134 0.803 1.051 0.873 0.919      0.850 0.938 E4  13.63
 15)  o-Nitrotoluene   7.845 6.332 7.400 7.252 7.801       5.801 7.072 E3  11.71
 16)  3,5-Dinitroanilin 1.245 1.419 1.616 1.527 1.587      1.524 1.486 E4   9.17
 17)  p-Nitrotoluene   1.486 3.794 1.612 3.700 5.712       4.703 3.501 E3  47.94
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9966
              Response Ratio = 0.00000 + 5352.01950 *A + -0.32149 *A^2

 18)  4-Amino-2,6-Dinit 0.520 0.659 0.328 0.657 1.055      1.222 0.740 E4  45.32
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 8875.87272 *A + 1.67607 *A^2

 19)  m-Nitrotoluene   0.645 0.769 1.081 0.912 0.942       0.792 0.857 E4  17.90
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 9821.12034 *A + -0.95114 *A^2

 20)  2-Amino-4,6-Dinit 1.613 1.474 1.475 1.254 1.329      1.233 1.397 E4  10.65
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 13513.67368 *A + -0.59125 *A^2

 21)  PETN             2.712 1.569 2.108 1.417 3.045       1.464 2.052 E3  33.80
-------------------------------------------------------------------------------
(#) = Out of Range

          0424_8330RPB.M       Tue Apr 25 11:00:34 2017
```

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381828.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	505.539	-1.1	97	0.02	4.19- 5.19
2	HMX	500.000	522.104	-4.4	106	0.02	4.58- 5.58
3	DNX	500.000	473.419	5.3	96	0.01	4.73- 5.73
4	MNX	500.000	508.894	-1.8	95	0.00	5.82- 6.82
5	1,3,5-Trinitrobenzene	500.000	484.794	3.0	98	0.03	6.83- 7.83
6	RDX	500.000	512.238	-2.4	100	0.00	7.24- 8.24
7	1,3-Dinitrobenzene	500.000	464.503	7.1	90	0.00	9.39-10.39
8	Nitrobenzene	500.000	461.030	7.8	86	0.00	10.55-11.48
9	2,4,6-Trinitrotoluene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	473.796	5.2	93	0.00	13.38-14.38
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	513.558	-2.7	101	0.00	15.19-16.19
14	2,4-Dinitrotoluene	500.000	479.424	4.1	95	0.00	16.04-17.04
15	o-Nitrotoluene	500.000	433.300	13.3	86	0.01	18.22-19.39
16	3,5-Dinitroaniline	500.000	568.862	-13.8	110	-0.04	17.65-18.65
17	p-Nitrotoluene	500.000	539.634	-7.9	102	0.03	19.99-20.99
18	4-Amino-2,6-Dinitrotol	500.000	498.703	0.3	97	-0.05	20.56-21.56
19	m-Nitrotoluene	500.000	455.785	8.8	91	0.01	21.83-22.83
20	2-Amino-4,6-Dinitrotol	500.000	511.650	-2.3	102	0.00	22.88-23.88
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	483.176	3.4	93	0.02	4.19- 5.19

8.6.8

8

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381828.D

		Amount	Calc.	%Drift			
2	HMX	500.000	513.013	-2.6	103	0.02	4.58- 5.58
3	DNX	500.000	453.954	9.2	93	0.01	4.73- 5.73
4	MNX	500.000	466.656	6.7	92	0.00	5.82- 6.82
		Amount	Calc.	%Drift			
5	1,3,5-Trinitrobenzene	500.000	490.722	1.9	98	0.03	6.83- 7.83
6	RDX	500.000	551.085	-10.2	98	0.00	7.24- 8.24
7	1,3-Dinitrobenzene	500.000	454.898	9.0	89	0.00	9.39-10.39
8	Nitrobenzene	500.000	442.973	11.4	84	0.00	10.55-11.47
9	2,4,6-Trinitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
10	Nitroglycerin	2500.000	2486.109	0.6	98	0.02	12.91-13.53
11	Tetryl	500.000	501.454	-0.3	98	0.00	13.38-14.38
		Amount	Calc.	%Drift			
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	547.239	-9.4	109	0.00	15.18-16.18
14	2,4-Dinitrotoluene	500.000	467.055	6.6	95	0.00	16.04-17.04
15	o-Nitrotoluene	500.000	478.010	4.4	87	0.01	18.28-19.39
16	3,5-Dinitroaniline	500.000	604.559	-20.9#	113	-0.03	17.65-18.65
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	500.000	592.097	-18.4#	107	0.03	20.01-21.01
18	4-Amino-2,6-Dinitrotol	500.000	558.593	-11.7	104	-0.04	20.56-21.56
19	m-Nitrotoluene	500.000	442.527	11.5	88	0.00	21.84-22.84
20	2-Amino-4,6-Dinitrotol	500.000	498.077	0.4	99	0.00	22.88-23.88
		Amount	Calc.	%Drift			
21	PETN	2500.000	4543.543	-81.7#	123	0.05	24.17-25.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381825.D 0424_8330RPB.M Tue Apr 25 14:45:12 2017

8.6.8

8

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381829.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0424_RPB\PP381829.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0424_RPB\PP381829.D\dad1A.ch
Acq On : 24-Apr-2017, 16:47:49 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		NA				
	Amount		Calc.	%Drift			
2	HMX		NA				
	Amount		Calc.	%Drift			
3	DNX		NA				
4	MNX		NA				
5	1,3,5-Trinitrobenzene		NA				
6	RDX		NA				
7	1,3-Dinitrobenzene		NA				
8	Nitrobenzene		NA				
9	2,4,6-Trinitrotoluene	500.000	468.081	6.4	95	0.09	11.69-12.55
10	Nitroglycerin		NA				
	Amount		Calc.	%Drift			
11	Tetryl		NA				
12 S	3,4-Dinitrotoluene		NA				
13	2,6-Dinitrotoluene		NA				
	Amount		Calc.	%Drift			
14	2,4-Dinitrotoluene		NA				
	Amount		Calc.	%Drift			
15	o-Nitrotoluene		NA				
	Amount		Calc.	%Drift			
16	3,5-Dinitroaniline		NA				
	Amount		Calc.	%Drift			
17	p-Nitrotoluene		NA				
18	4-Amino-2,6-Dinitrotoluen		NA				
19	m-Nitrotoluene		NA				
20	2-Amino-4,6-Dinitrotoluen		NA				
	Amount		Calc.	%Drift			
21	PETN		NA				
*****	Signal #2 *****						
1	TNX		NA				

Initial Calibration Verification

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381829.D

			Amount	Calc.	%Drift	
2		HMX		----------NA----------		
3		DNX		----------NA----------		
4		MNX		----------NA----------		
			Amount	Calc.	%Drift	
5		1,3,5-Trinitrobenzene		----------NA----------		
6		RDX		----------NA----------		
7		1,3-Dinitrobenzene		----------NA----------		
8		Nitrobenzene		----------NA----------		
9		2,4,6-Trinitrotoluene	500.000	482.531	3.5	98 0.09 11.67-12.55
			Amount	Calc.	%Drift	
10		Nitroglycerin		----------NA----------		
11		Tetryl		----------NA----------		
			Amount	Calc.	%Drift	
12	S	3,4-Dinitrotoluene		----------NA----------		
13		2,6-Dinitrotoluene		----------NA----------		
14		2,4-Dinitrotoluene		----------NA----------		
15		o-Nitrotoluene		----------NA----------		
16		3,5-Dinitroaniline		----------NA----------		
			Amount	Calc.	%Drift	
17		p-Nitrotoluene		----------NA----------		
18		4-Amino-2,6-Dinitrotoluen		----------NA----------		
19		m-Nitrotoluene		----------NA----------		
20		2-Amino-4,6-Dinitrotoluen		----------NA----------		
			Amount	Calc.	%Drift	
21		PETN		----------NA----------		

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381825.D 0424_8330RPB.M Tue Apr 25 11:00:20 2017

8.6.9

8

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-CC2096
Lab FileID: PP381840.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:45:00                    Operator: evitam
Sample    : cc2096-1000                              Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	935.406	6.5	0	0.00	4.19- 5.19
	Amount	Calc.	%Drift				
2	HMX	1000.000	889.321	11.1	0	0.00	4.58- 5.58
	Amount	Calc.	%Drift				
3	DNX	1000.000	888.941	11.1	0	0.00	4.73- 5.73
4	MNX	1000.000	975.874	2.4	0	0.00	5.82- 6.82
5	1,3,5-Trinitrobenzene	1000.000	891.206	10.9	0	0.00	6.83- 7.83
6	RDX	1000.000	871.216	12.9	0	0.00	7.24- 8.24
7	1,3-Dinitrobenzene	1000.000	925.695	7.4	0	0.00	9.39-10.39
8	Nitrobenzene	1000.000	1029.197	-2.9	0	0.00	10.55-11.48
9	2,4,6-Trinitrotoluene	1000.000	892.842	10.7	0	0.00	11.69-12.55
10	Nitroglycerin	----------NA----------					
	Amount	Calc.	%Drift				
11	Tetryl	1000.000	934.550	6.5	0	0.00	13.38-14.38
12 S	3,4-Dinitrotoluene	1000.000	902.955	9.7	0	0.00	15.02-15.75
13	2,6-Dinitrotoluene	1000.000	929.955	7.0	0	0.00	15.19-16.19
	Amount	Calc.	%Drift				
14	2,4-Dinitrotoluene	1000.000	908.275	9.2	0	0.00	16.04-17.04
	Amount	Calc.	%Drift				
15	o-Nitrotoluene	1000.000	1101.898	-10.2	0	0.00	18.22-19.39
	Amount	Calc.	%Drift				
16	3,5-Dinitroaniline	1000.000	937.952	6.2	0	0.00	17.65-18.65
	Amount	Calc.	%Drift				
17	p-Nitrotoluene	1000.000	1179.228	-17.9#	0	0.01	19.99-20.99
18	4-Amino-2,6-Dinitrotol	1000.000	920.459	8.0	0	0.00	20.56-21.56
19	m-Nitrotoluene	1000.000	1092.146	-9.2	0	0.00	21.83-22.83
20	2-Amino-4,6-Dinitrotol	1000.000	906.598	9.3	0	0.00	22.88-23.88
	Amount	Calc.	%Drift				
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	925.939	7.4	0	0.00	4.19- 5.19

Continuing Calibration Summary

Job Number: FA43019
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-CC2096
Lab FileID: PP381840.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	900.962	9.9	0	0.00	4.58- 5.58
3		DNX	1000.000	876.970	12.3	0	0.00	4.73- 5.73
4		MNX	1000.000	918.942	8.1	0	0.00	5.82- 6.82
			Amount	Calc.	%Drift			
5		1,3,5-Trinitrobenzene	1000.000	911.238	8.9	0	0.00	6.83- 7.83
6		RDX	1000.000	930.578	6.9	0	0.00	7.24- 8.24
7		1,3-Dinitrobenzene	1000.000	901.563	9.8	0	0.00	9.39-10.39
8		Nitrobenzene	1000.000	1001.946	-0.2	0	0.00	10.55-11.47
9		2,4,6-Trinitrotoluene	1000.000	890.992	10.9	0	0.00	11.67-12.55
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4653.566	6.9	0	0.00	12.91-13.53
11		Tetryl	1000.000	954.699	4.5	0	0.00	13.38-14.38
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	958.772	4.1	0	0.00	14.99-15.74
13		2,6-Dinitrotoluene	1000.000	901.981	9.8	0	0.00	15.18-16.18
14		2,4-Dinitrotoluene	1000.000	878.817	12.1	0	0.00	16.04-17.04
15		o-Nitrotoluene	1000.000	1087.638	-8.8	0	0.00	18.28-19.39
16		3,5-Dinitroaniline	1000.000	980.070	2.0	0	0.00	17.65-18.65
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	1332.652	-33.3#	0	0.00	20.01-21.01
18		4-Amino-2,6-Dinitrotol	1000.000	991.158	0.9	0	0.00	20.56-21.56
19		m-Nitrotoluene	1000.000	1047.694	-4.8	0	0.00	21.84-22.84
20		2-Amino-4,6-Dinitrotol	1000.000	932.339	6.8	0	0.00	22.88-23.88
			Amount	Calc.	%Drift			
21		PETN	5000.000	2263.340	54.7#	0	0.00	24.17-25.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381826.D 0424_8330RPB.M Tue Apr 25 14:41:21 2017

8.6.10

8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1A.ch
Acq On : 20-Apr-2017, 17:36:15 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:55 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1046761	1930689	455.892	450.860
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.18%	90.17%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	485537	1293618	277.980	269.415
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.83	2.83	336328	496998	177.643	151.234
6)	1,3,5-Trinitrobe	4.43	4.43	143677	276527	33.260	34.017m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	6.01	6.01	210007	314105	56.441m	47.021m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D.
12)	2,4,6-Trinitroto	9.07	9.07	421177	490948	101.802	105.614
13)	2-Amino-4,6-Dini	9.46	9.46	509175	709886	140.703	131.032
14)	4-Amino-2,6-Dini	9.93	9.92	304703	597494	117.629	112.432
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

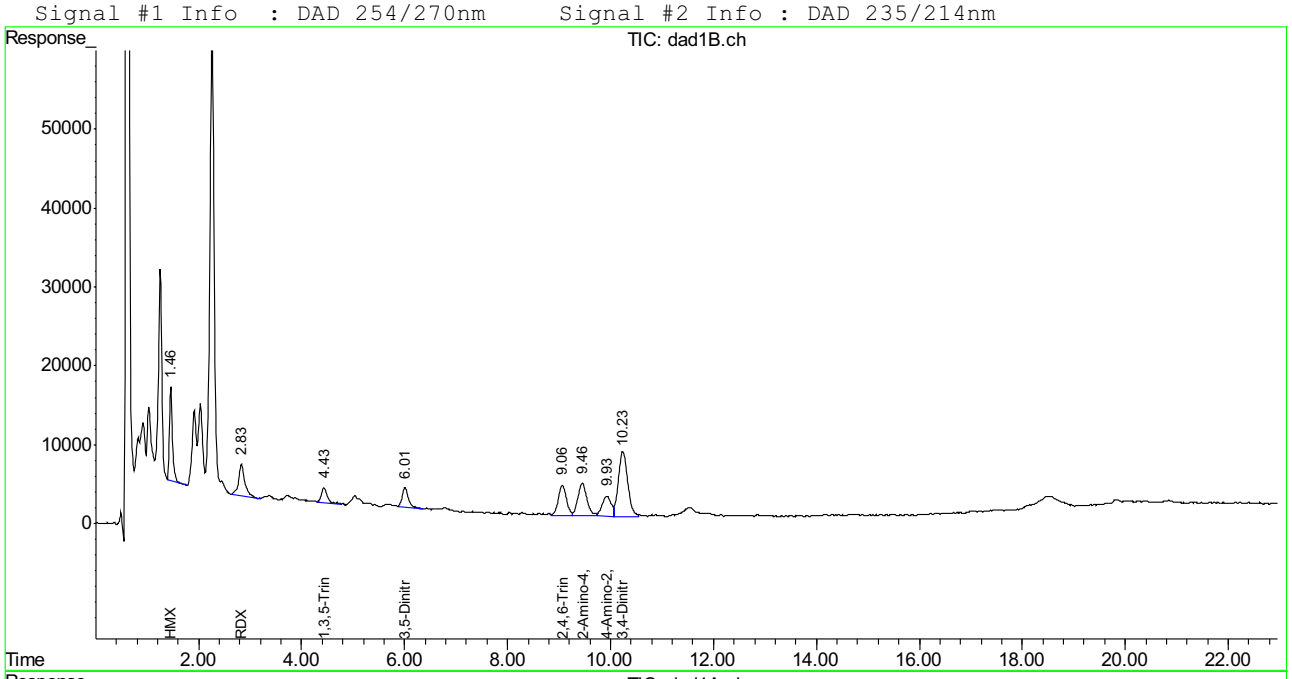
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054299.D 8330B_0419PLUS.M Tue Apr 25 11:14:41 2017 Page 1

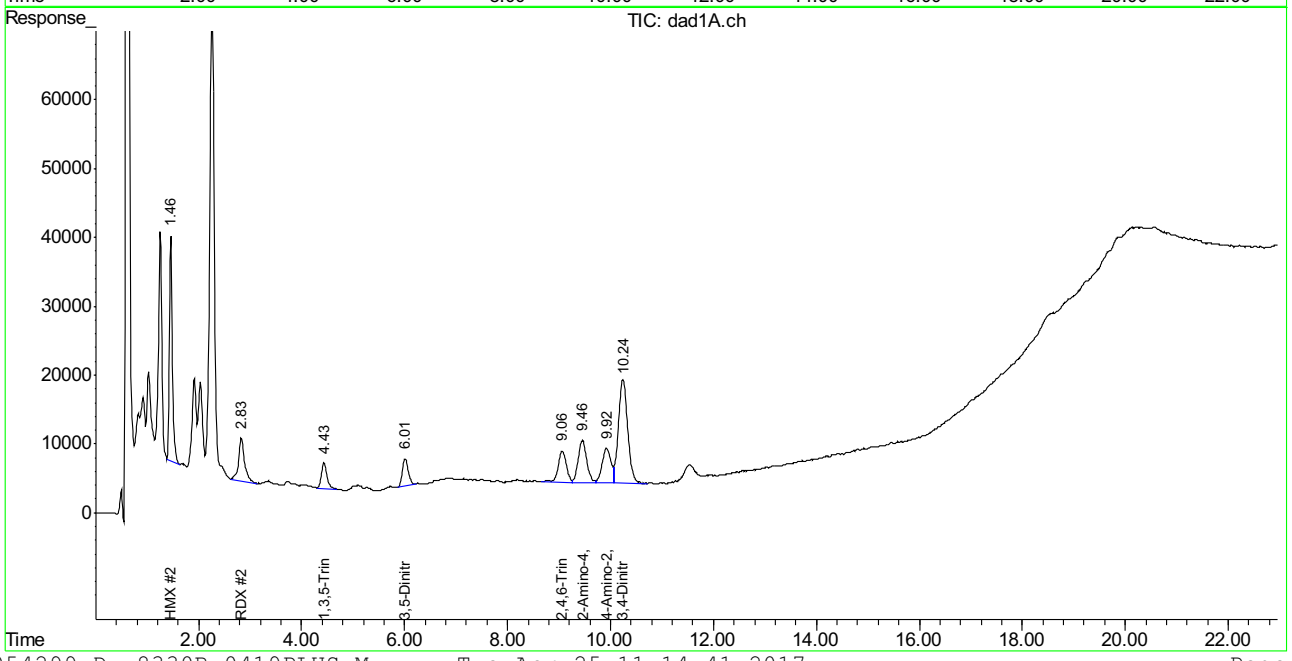
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1A.ch
Acq On : 20-Apr-2017, 17:36:15 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 11:14 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

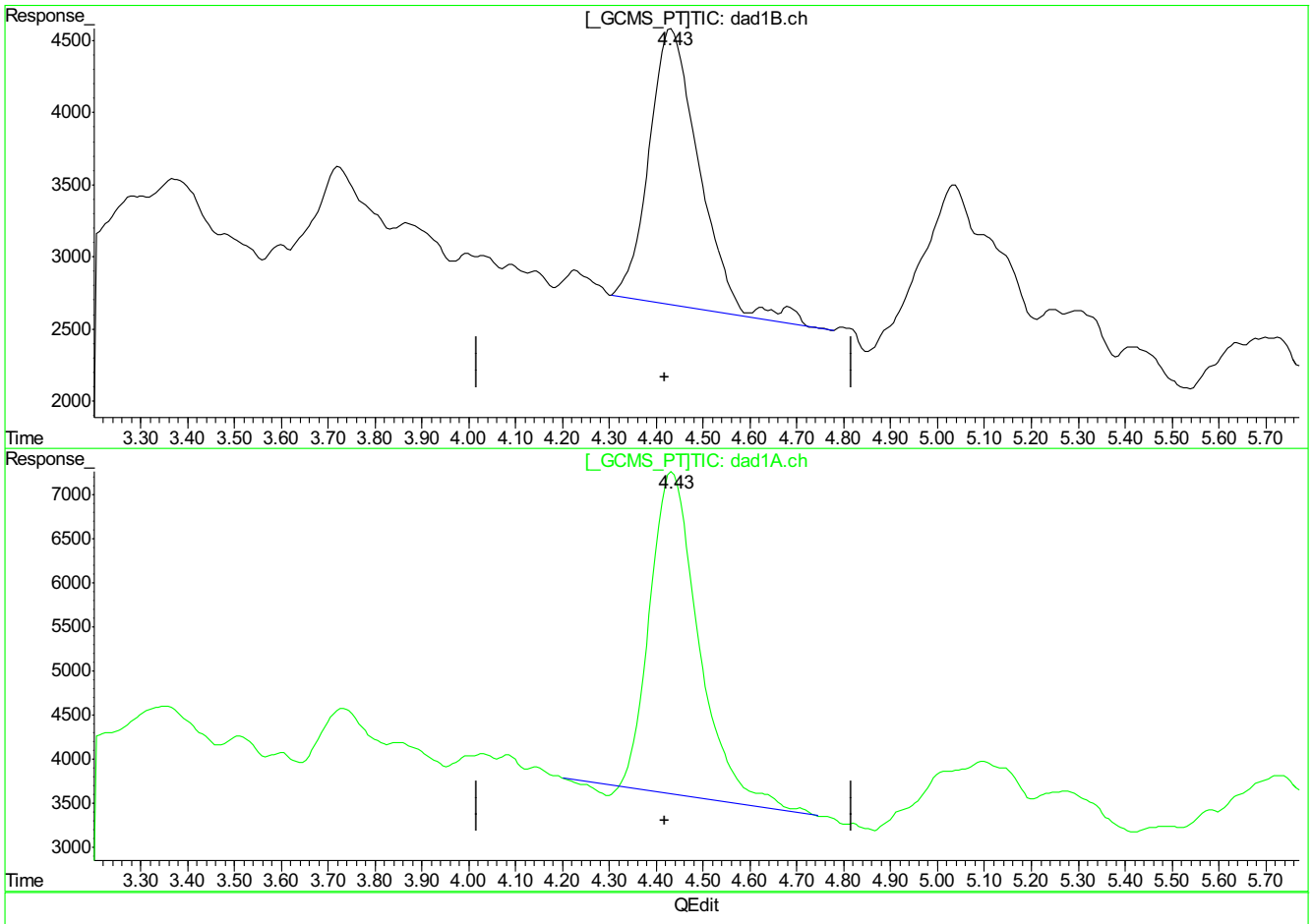
Sample Number: FA43019-1
Lab FileID: BB054299.D
Injection Time: 04/20/17 17:36
Method: SW846 8330B
Analyst approved: 04/25/17 13:56 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	4.43	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	6.01	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.01	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1A.ch
Acq On : 20-Apr-2017, 17:36:15 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.43min 33.260ppb

response 143677

(6) 1,3,5-Trinitrobenzene #2

4.43min 32.513ppb

response 264303

(+) = Expected Retention Time
BB054299.D 8330B_0419PLUS.M Fri Apr 21 09:39:10 2017

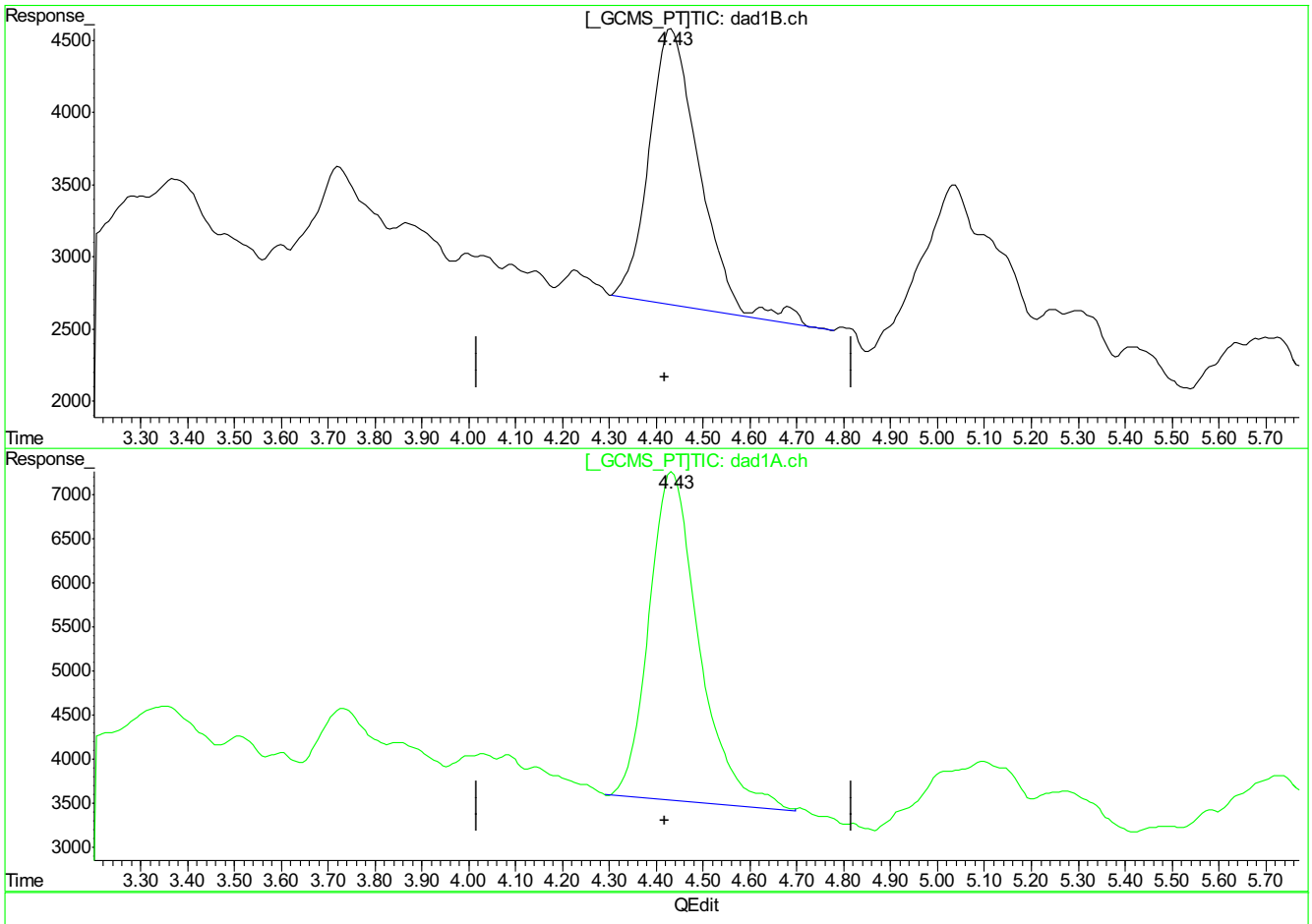
9.1.1.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1A.ch
Acq On : 20-Apr-2017, 17:36:15 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.43min 33.260ppb

response 143677

(6) 1,3,5-Trinitrobenzene #2

4.43min 34.017ppb m

response 276527

(+) = Expected Retention Time
BB054299.D 8330B_0419PLUS.M Fri Apr 21 09:39:13 2017

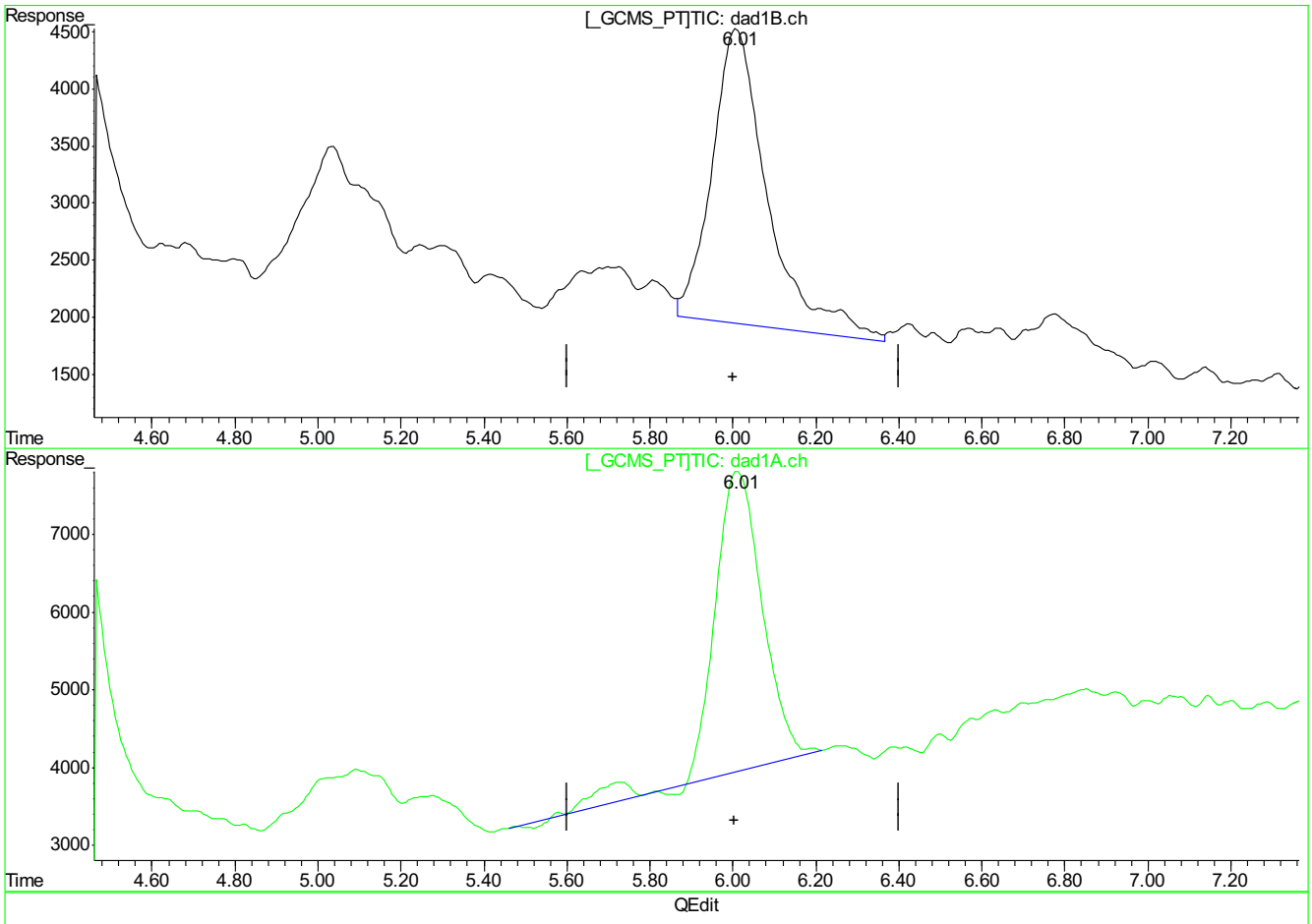
9.1.1.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1A.ch
Acq On : 20-Apr-2017, 17:36:15 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.01min 64.970ppb

response 241760

(8) 3,5-Dinitroaniline #2

6.01min 46.951ppb

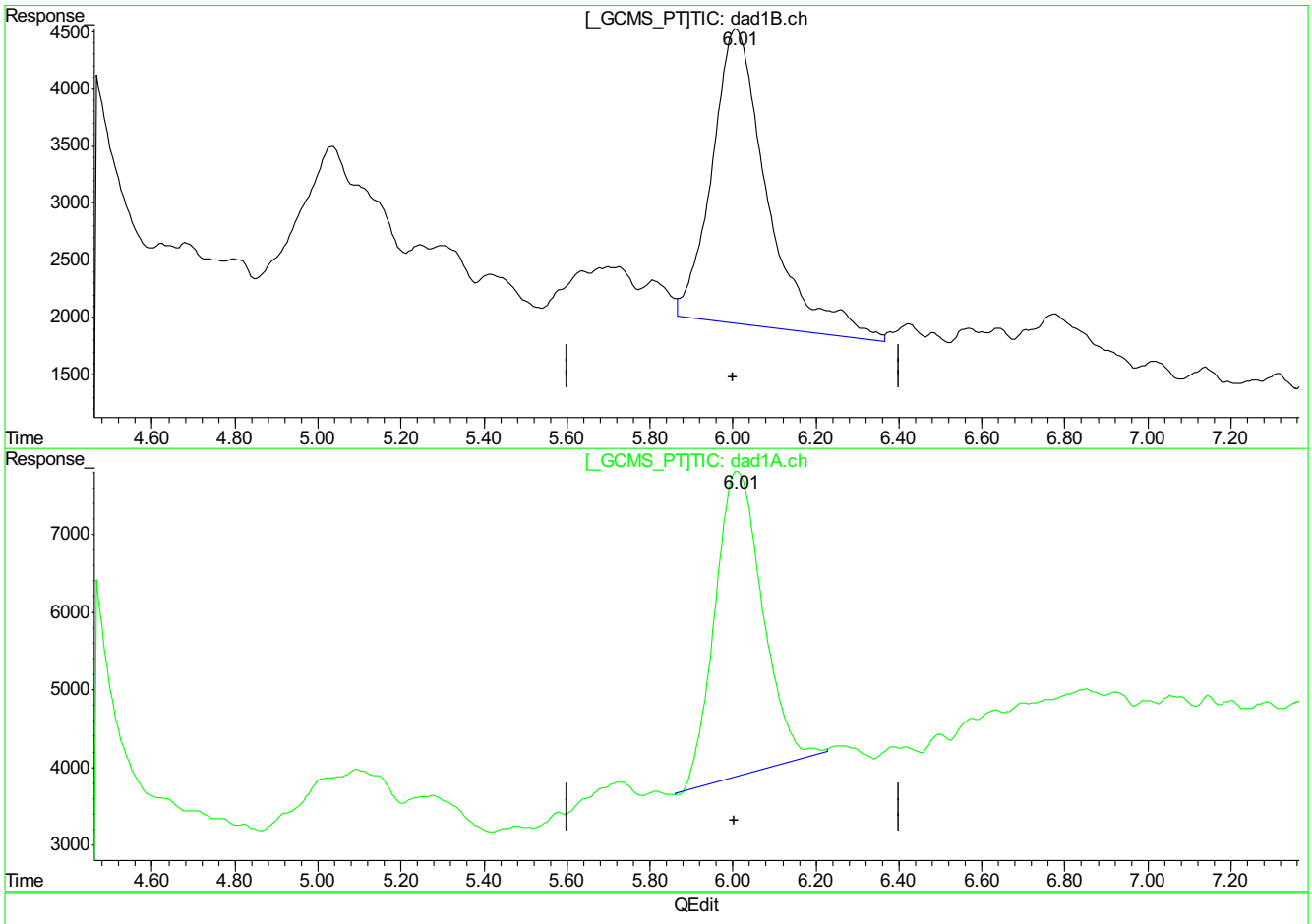
response 313640

(+) = Expected Retention Time
BB054299.D 8330B_0419PLUS.M Fri Apr 21 09:39:17 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054299.D\dad1A.ch
Acq On : 20-Apr-2017, 17:36:15 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.01min 64.970ppb

response 241760

(8) 3,5-Dinitroaniline #2

6.01min 47.021ppb m

response 314105

(+) = Expected Retention Time
BB054299.D 8330B_0419PLUS.M Fri Apr 21 09:39:21 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381837.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0424_RPB\PP381837.D\dad1A.ch
Acq On : 24-Apr-2017, 21:07:31 Operator: evitam
Sample : fa43019-1cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:40 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.21	15.21	2509073	4772462	453.941	472.111
	Spiked Amount 500.000	Range 70 - 136		Recovery =		90.79%	94.42%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.07	5.07	1156105	3348235	308.066m	307.057m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.32	7.32	313971	456393	30.761	26.403
6)	RDX	7.72	7.72	443337	805059	91.292	93.930
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.02	12.03	913427	1215447	94.935	99.063
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	18.06	18.05	967780	1631627	103.171	109.781
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	21.05	21.05	652290	861952	107.900	95.393
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	23.37	23.40	1236829	1586212	122.215m	117.987m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

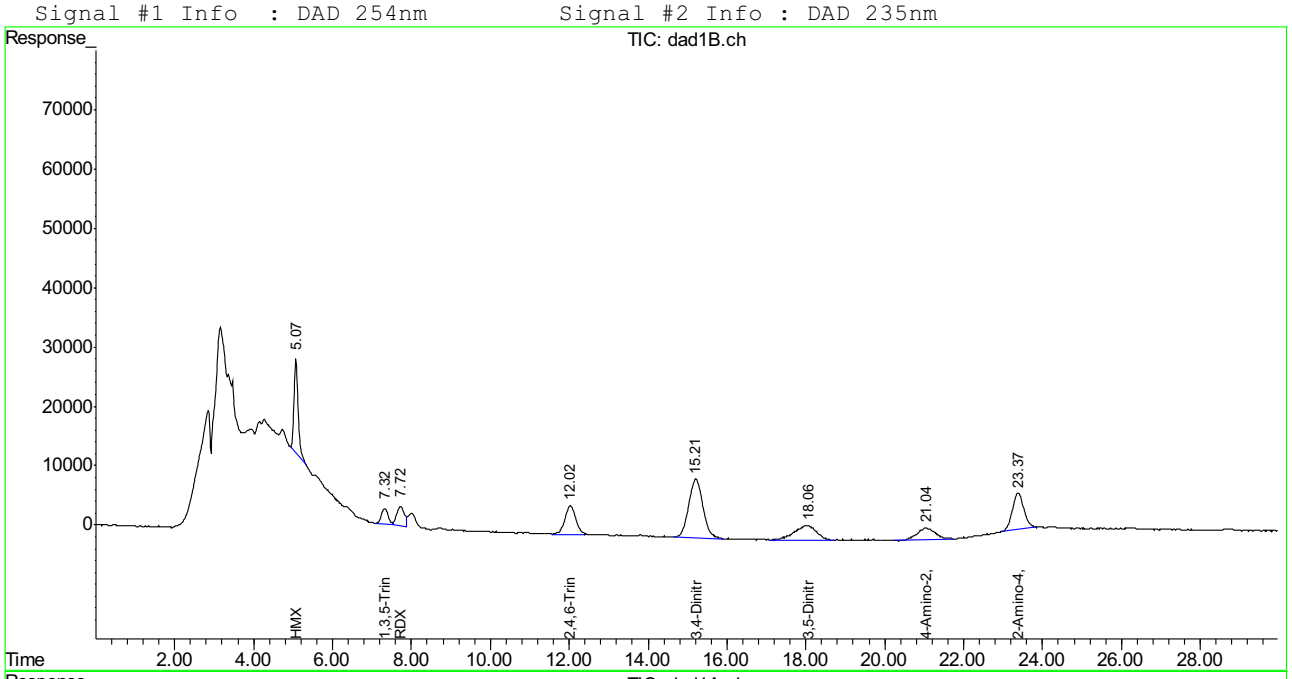
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381837.D 0424_8330RPB.M Tue Apr 25 14:36:58 2017 Page 1

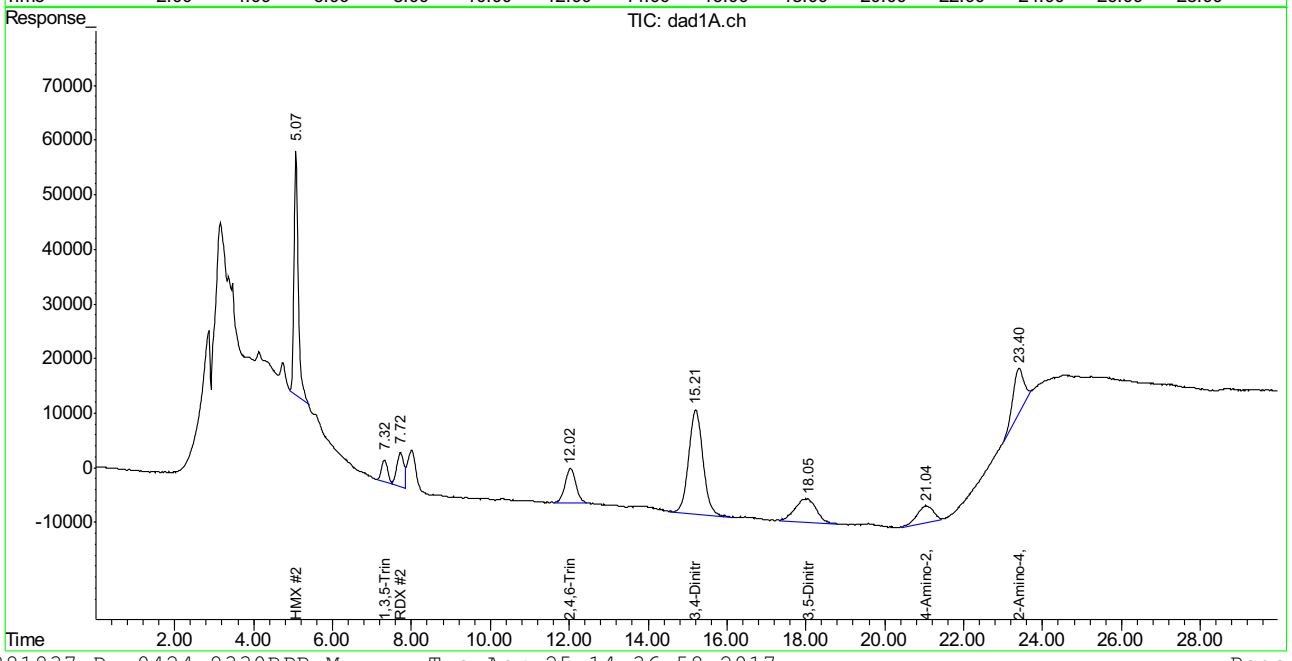
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381837.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0424_RPB\PP381837.D\dad1A.ch
Acq On : 24-Apr-2017, 21:07:31 Operator: evitam
Sample : fa43019-1cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:11 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





PP381837.D 0424_8330RPB.M Tue Apr 25 14:36:58 2017 Page 2

Manual Integration Approval Summary

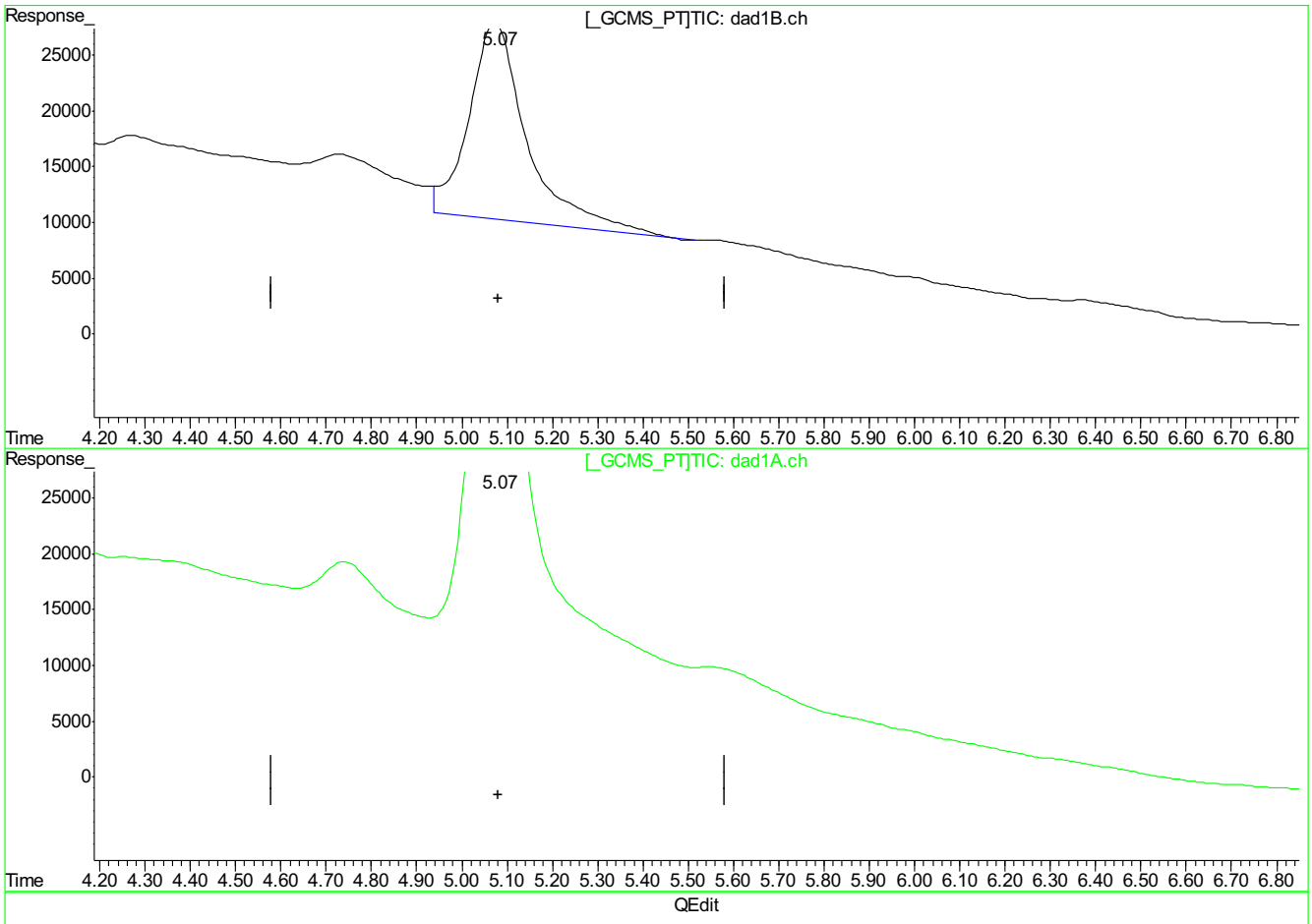
Sample Number: FA43019-1
Lab FileID: PP381837.D
Injection Time: 04/24/17 21:07
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.07	Poorly defined baseline
HMX	2691-41-0	2	5.07	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.37	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.40	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381837.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0424_RPB\PP381837.D\dad1A.ch
Acq On : 24-Apr-2017, 21:07:31 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(2) HMX

5.07min 425.277ppb

response 1582500

(2) HMX #2

5.08min 292.965ppb

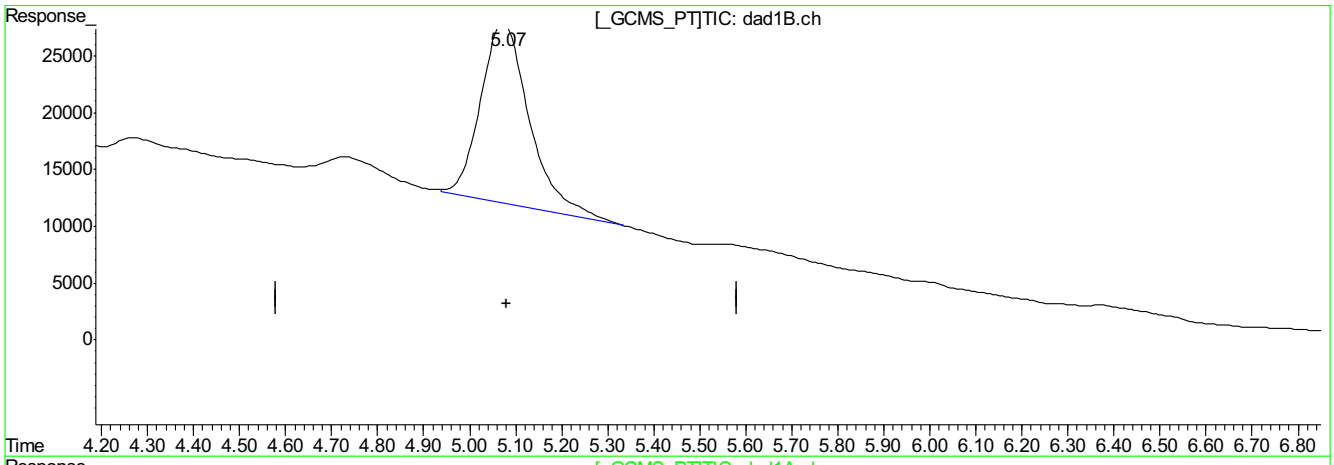
response 3197139

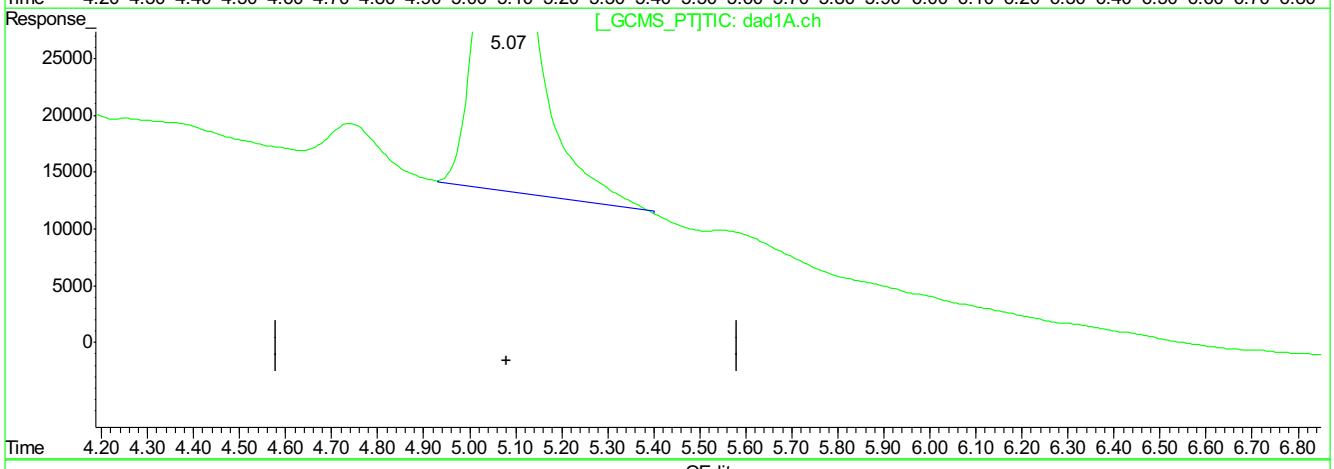
(+) = Expected Retention Time
PP381837.D 0424_8330RPB.M Tue Apr 25 12:02:06 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381837.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0424_RPB\PP381837.D\dad1A.ch
Acq On : 24-Apr-2017, 21:07:31 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.07min 308.066ppb m

response 1156105

(2) HMX #2

5.07min 307.057ppb m

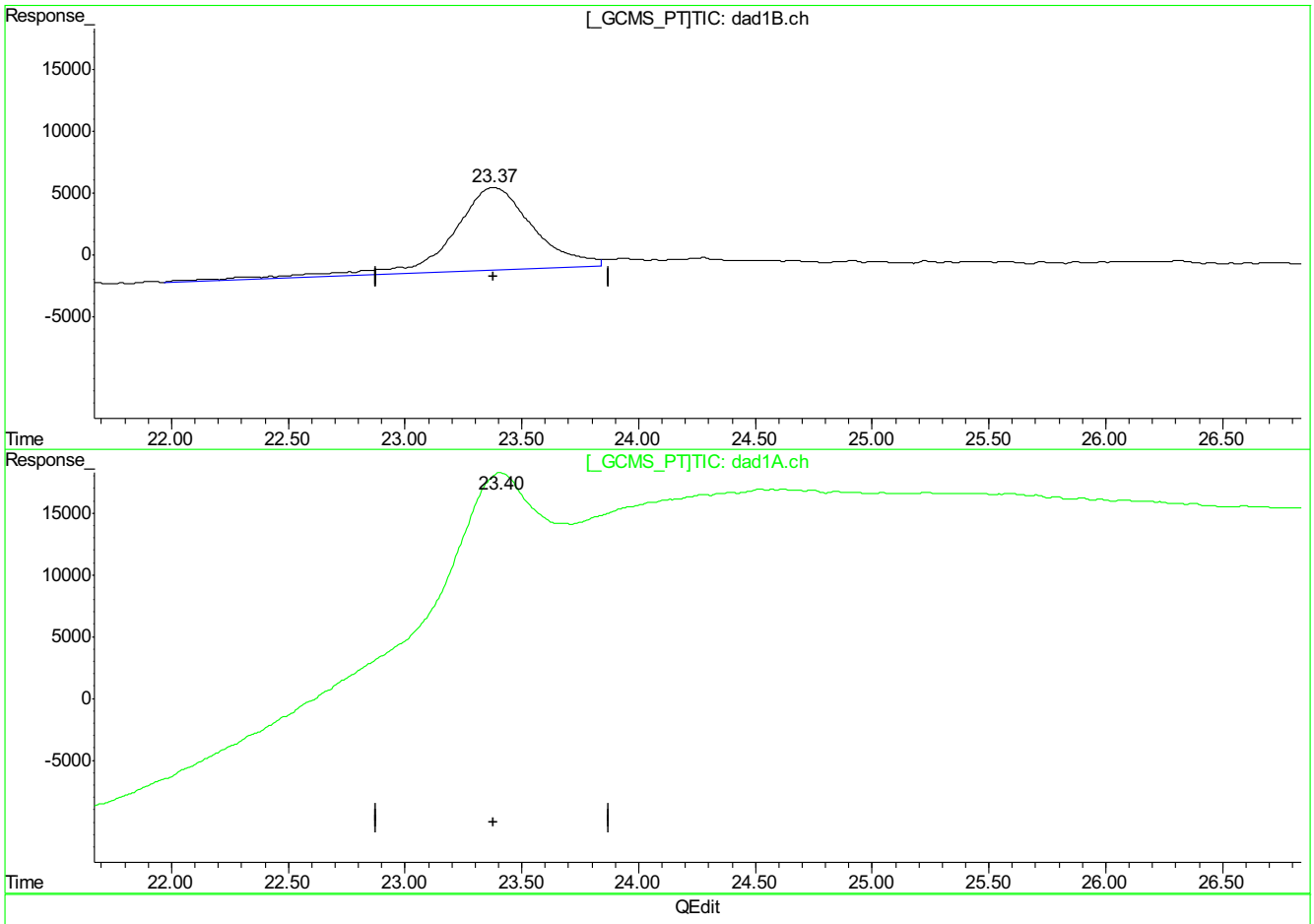
response 3348235

(+) = Expected Retention Time
PP381837.D 0424_8330RPB.M Tue Apr 25 12:02:12 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381837.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0424_RPB\PP381837.D\dad1A.ch
Acq On : 24-Apr-2017, 21:07:31 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:02 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.38min 159.745ppb

response 1613060

(20) 2-Amino-4,6-Dinitrotoluene #2

23.41min 561.984ppb

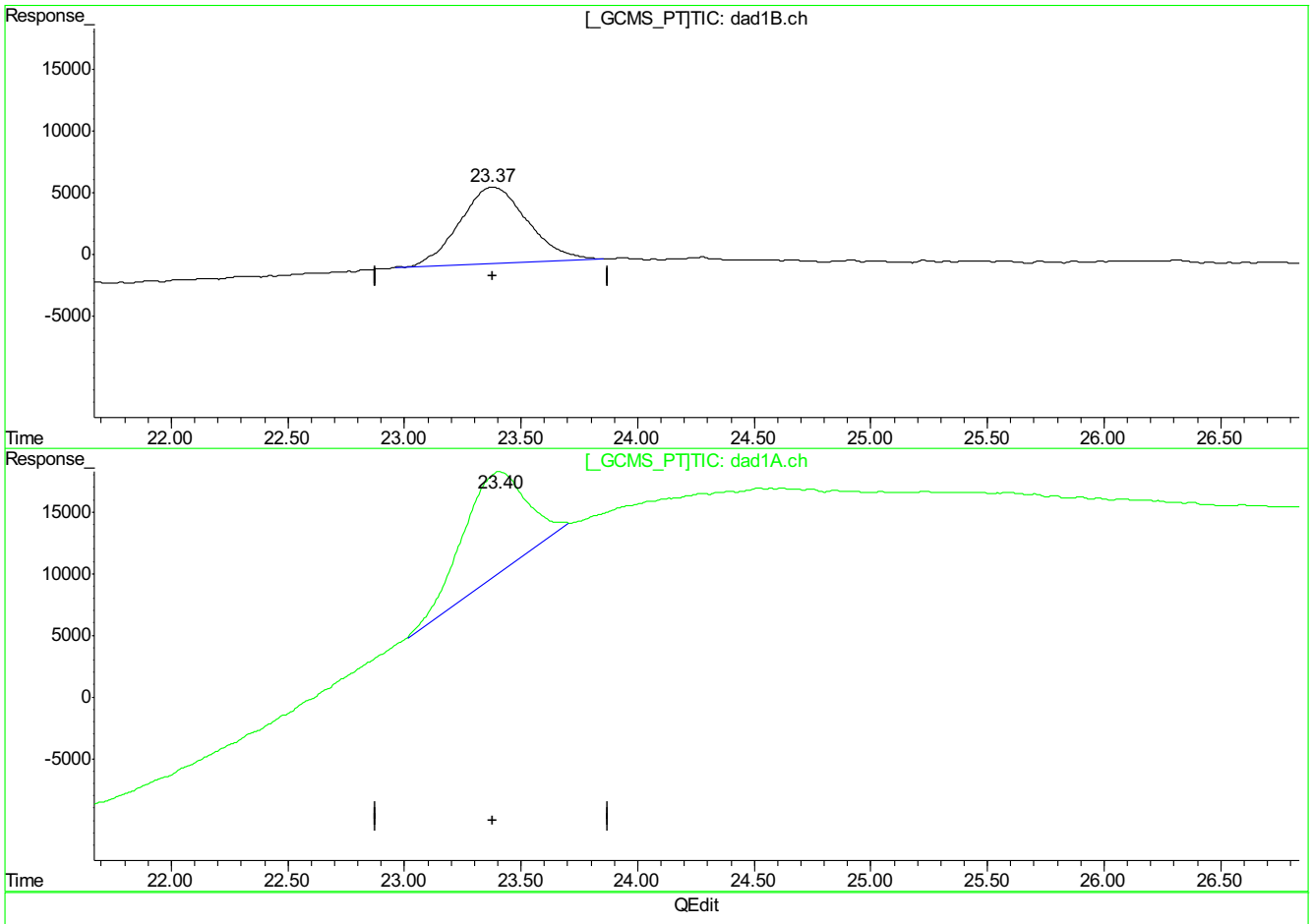
response 7407742

(+) = Expected Retention Time
PP381837.D 0424_8330RPB.M Tue Apr 25 12:10:54 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381837.D\dad1B.ch Vial: 18
Signal #2 : P:\DATA\0424_RPB\PP381837.D\dad1A.ch
Acq On : 24-Apr-2017, 21:07:31 Operator: evitam
Sample : fa43019-1 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:02 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 122.215ppb m

response 1236829

(20) 2-Amino-4,6-Dinitrotoluene #2

23.40min 117.987ppb m

response 1586212

(+) = Expected Retention Time
PP381837.D 0424_8330RPB.M Tue Apr 25 12:11:11 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1A.ch
Acq On : 20-Apr-2017, 18:06:12 Operator: evitam
Sample : fa43019-2 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:56 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1113805	1980197	485.091	462.421
	Spiked Amount 500.000	Range 70 - 136		Recovery =		97.02%	92.48%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	501415	1342019	287.070	279.495
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.83	2.83	375056	500218	198.135	152.213
6)	1,3,5-Trinitrobe	4.43	4.43	176922	285640	40.956	35.138
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	6.01	6.01	222940	369341	59.915	55.289m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D.
12)	2,4,6-Trinitroto	9.06	9.07	442046	448411	106.846	96.469
13)	2-Amino-4,6-Dini	9.45	9.45	522925	696083	144.503	128.484
14)	4-Amino-2,6-Dini	9.93	9.93	319587	587658	123.375	110.581
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

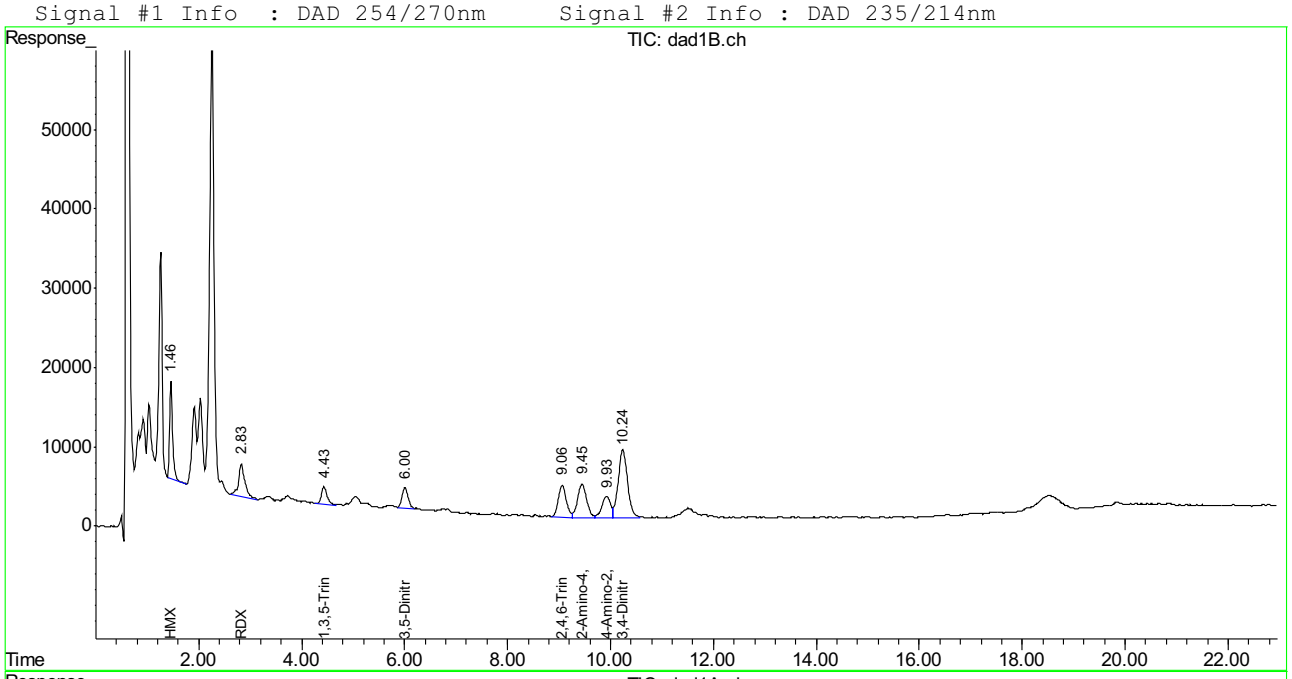
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054300.D 8330B_0419PLUS.M Tue Apr 25 11:19:04 2017 Page 1

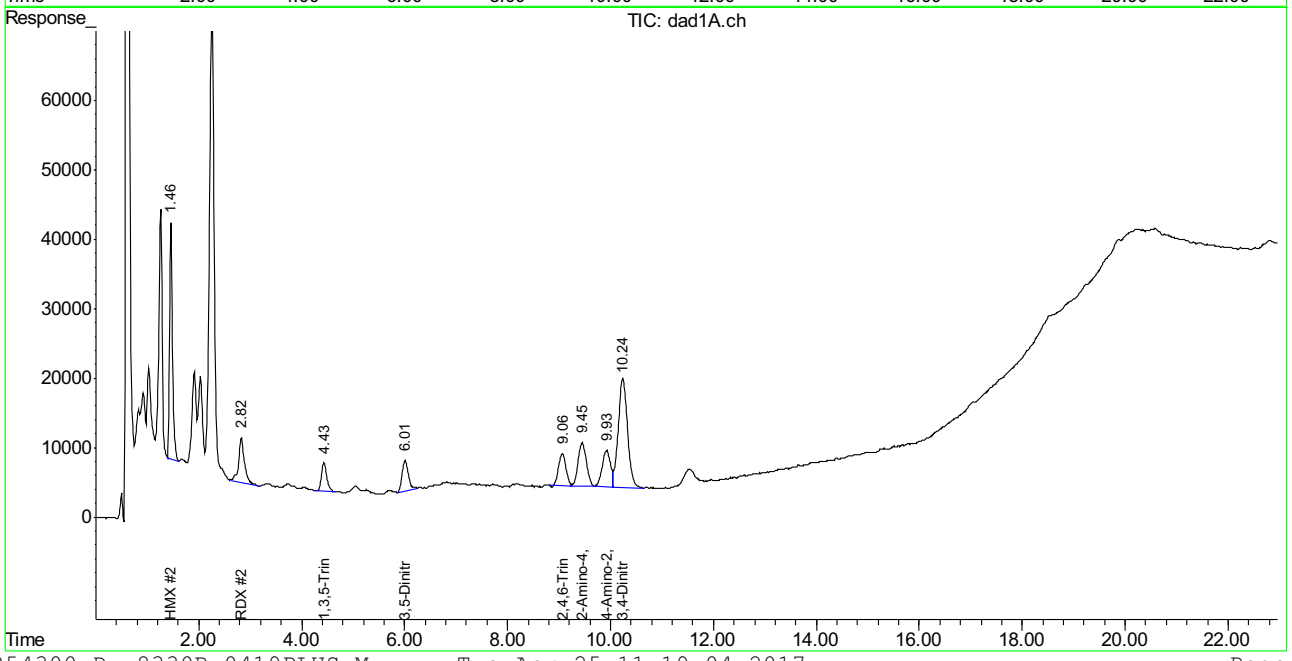
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1A.ch
Acq On : 20-Apr-2017, 18:06:12 Operator: evitam
Sample : fa43019-2 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 11:19 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

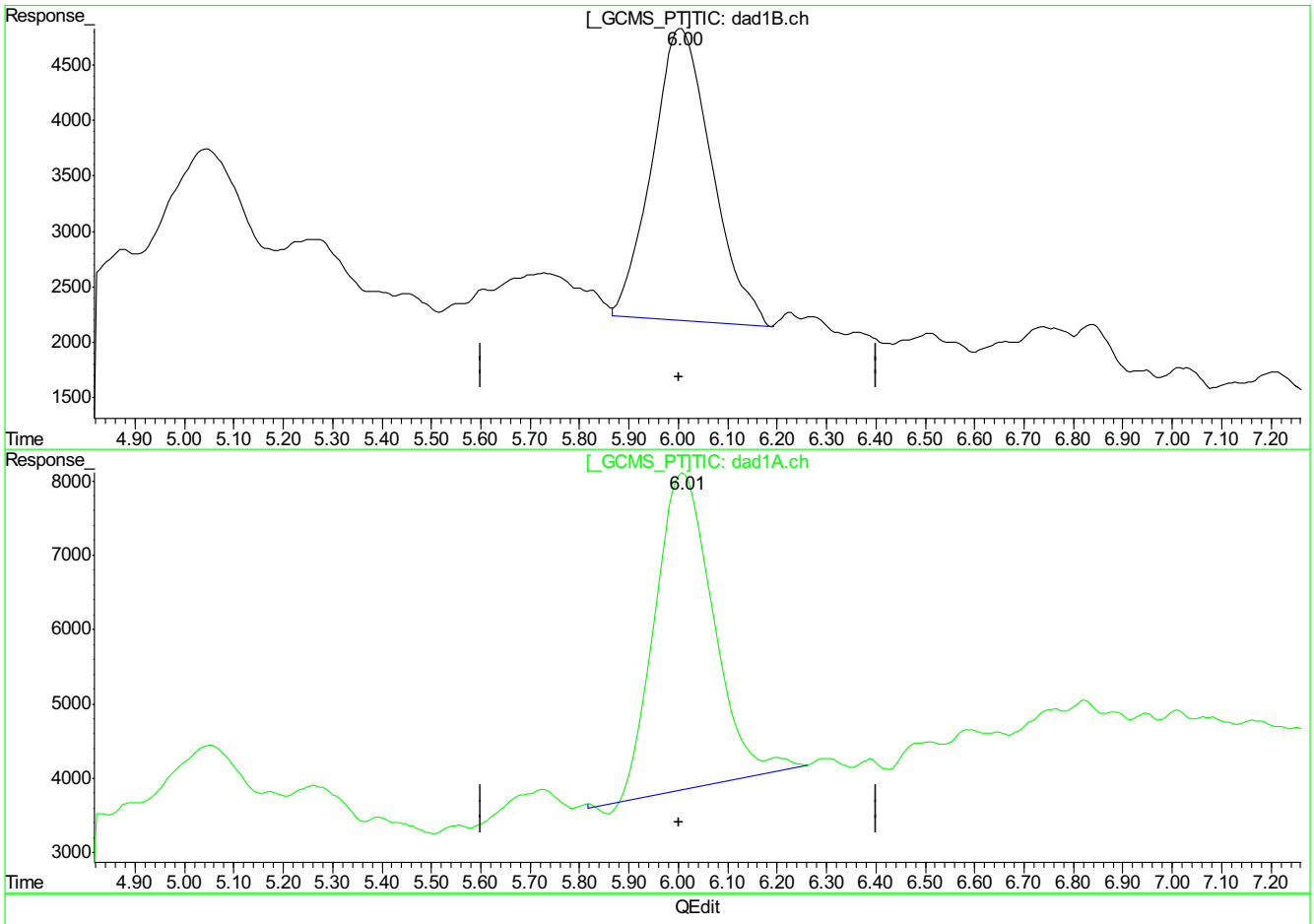
Sample Number: FA43019-2
Lab FileID: BB054300.D
Injection Time: 04/20/17 18:06
Method: SW846 8330B
Analyst approved: 04/25/17 13:57 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.01	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1A.ch
Acq On : 20-Apr-2017, 18:06:12 Operator: evitam
Sample : fa43019-2 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.01min 59.915ppb

response 222940

(8) 3,5-Dinitroaniline #2

6.01min 52.147ppb

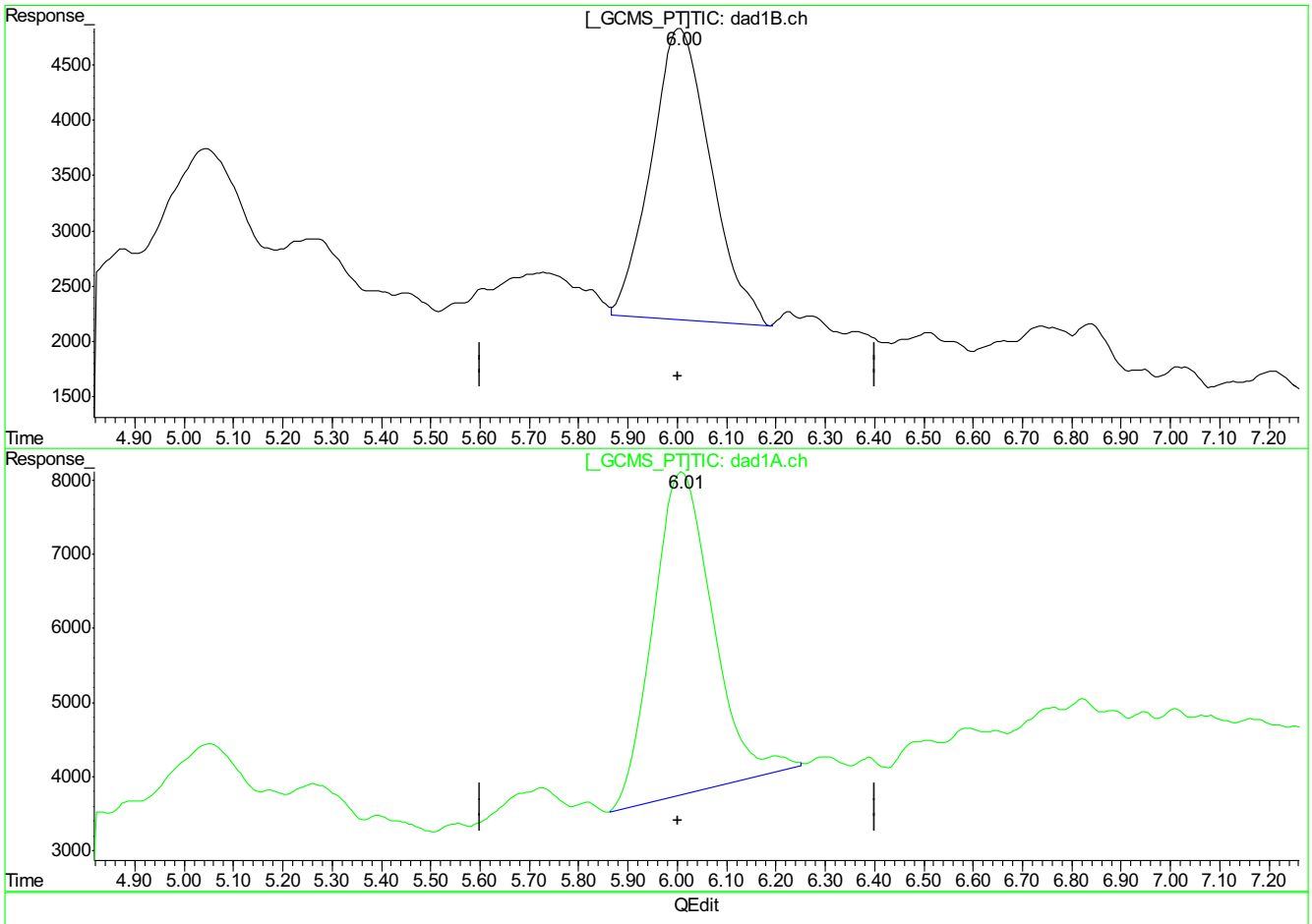
response 348352

(+) = Expected Retention Time
BB054300.D 8330B_0419PLUS.M Fri Apr 21 09:40:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054300.D\dad1A.ch
Acq On : 20-Apr-2017, 18:06:12 Operator: evitam
Sample : fa43019-2 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.01min 59.915ppb

response 222940

(8) 3,5-Dinitroaniline #2

6.01min 55.289ppb m

response 369341

(+) = Expected Retention Time
BB054300.D 8330B_0419PLUS.M Fri Apr 21 09:40:15 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381838.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\0424_RPB\PP381838.D\dad1A.ch
Acq On : 24-Apr-2017, 21:39:57 Operator: evitam
Sample : fa43019-2cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:41 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.21	15.21	2659581	4958335	481.713	490.498
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.34%	98.10%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.08	5.08	1339170	3685475	358.138	338.592
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.33	7.33	370854	523607	36.334	30.291
6)	RDX	7.74	7.74	515838	900310	106.221	105.043
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.04	12.04	973980	1319586	101.228	107.550
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	18.02	18.01	967991	1673208	103.193	112.579
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	21.02	21.06	720847	958022	119.194	105.821
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	23.37	23.38	1347790	1698523	133.266m	126.388m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

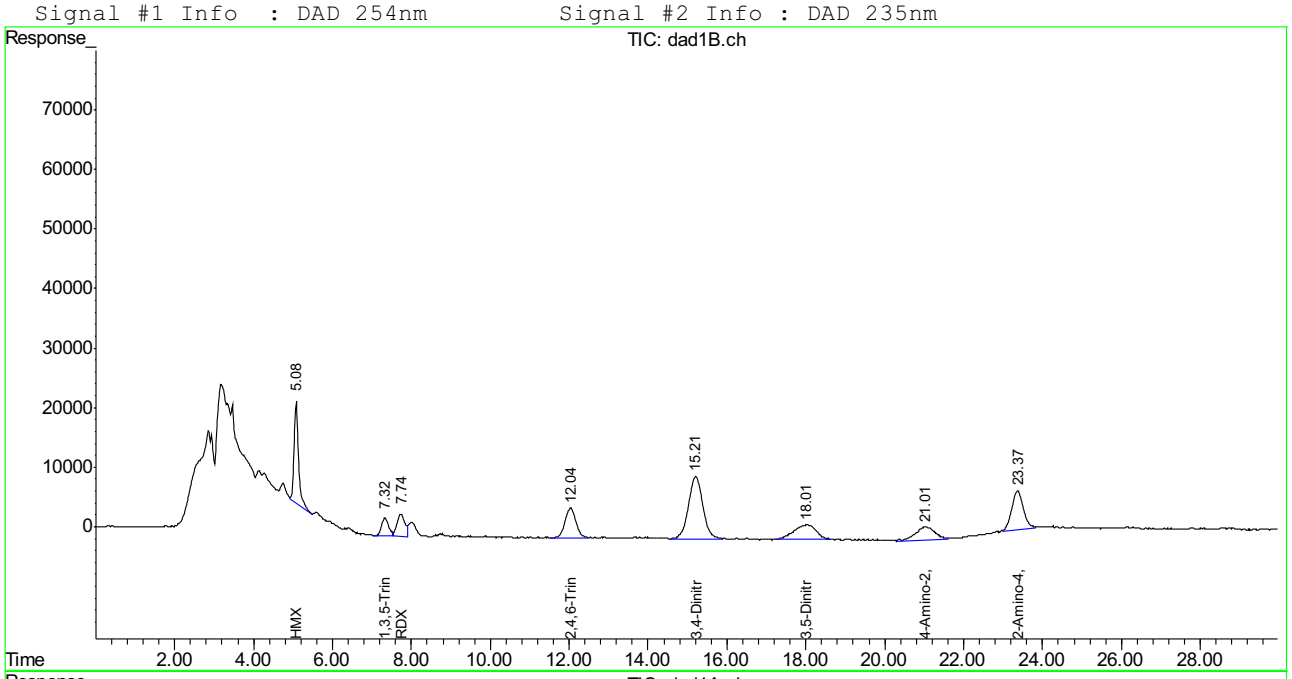
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381838.D 0424_8330RPB.M Tue Apr 25 14:36:59 2017 Page 1

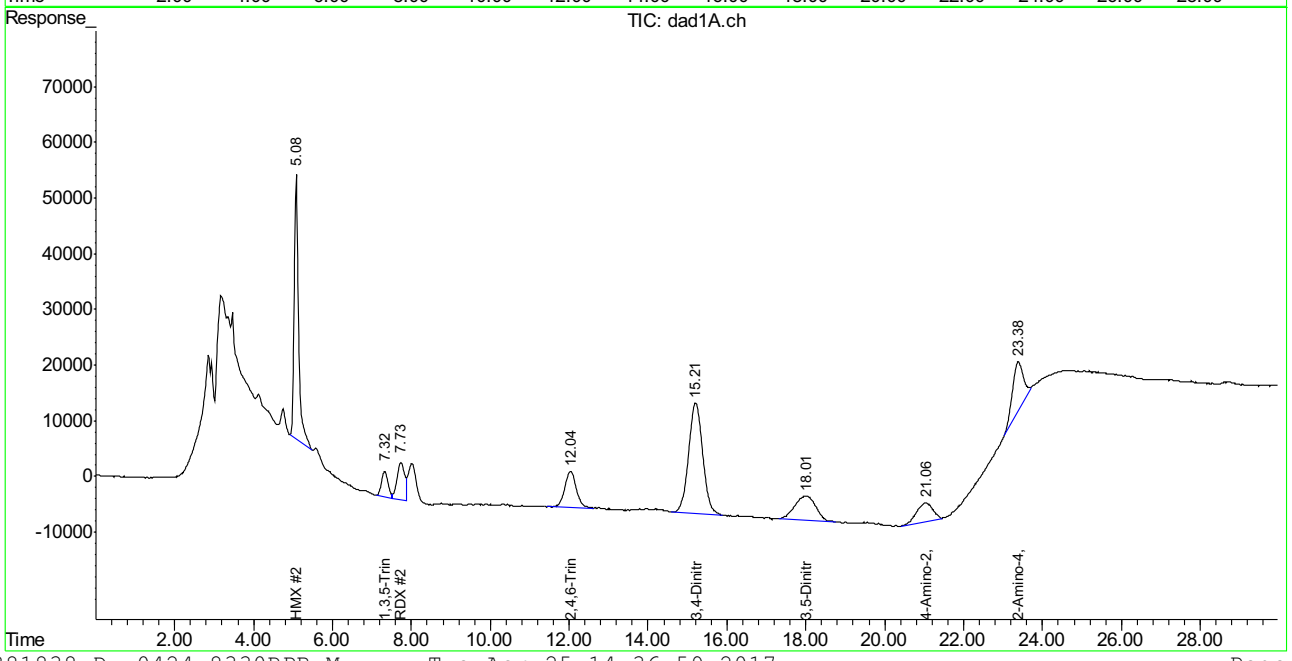
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381838.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\0424_RPB\PP381838.D\dad1A.ch
Acq On : 24-Apr-2017, 21:39:57 Operator: evitam
Sample : fa43019-2cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:20 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

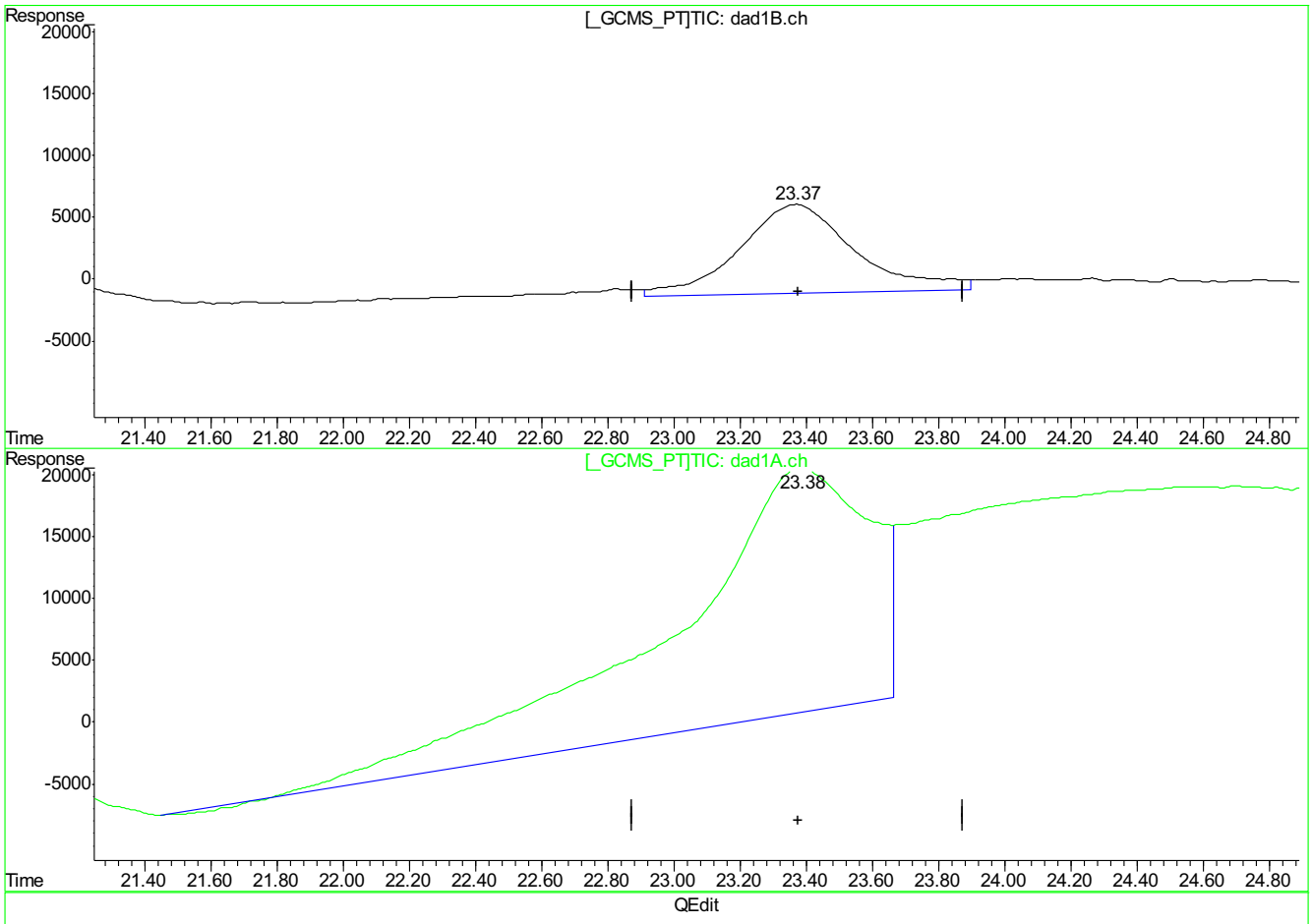
Sample Number: FA43019-2
Lab FileID: PP381838.D
Injection Time: 04/24/17 21:39
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.37	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.38	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381838.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\0424_RPB\PP381838.D\dad1A.ch
Acq On : 24-Apr-2017, 21:39:57 Operator: evitam
Sample : fa43019-2 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 172.518ppb

response 1740722

(20) 2-Amino-4,6-Dinitrotoluene #2

23.39min 623.248ppb

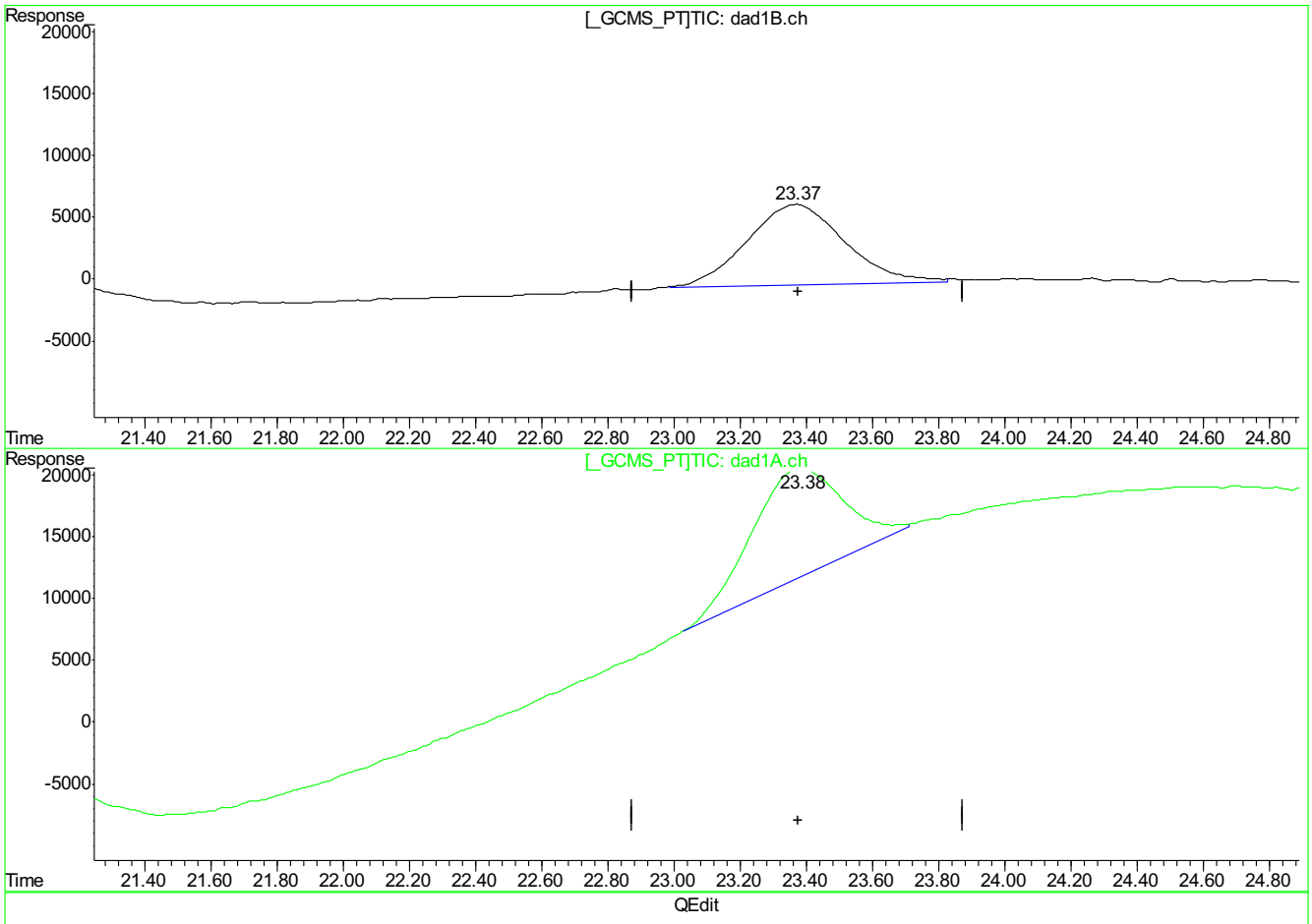
response 8192710

(+) = Expected Retention Time
PP381838.D 0424_8330RPB.M Tue Apr 25 12:20:27 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381838.D\dad1B.ch Vial: 19
Signal #2 : P:\DATA\0424_RPB\PP381838.D\dad1A.ch
Acq On : 24-Apr-2017, 21:39:57 Operator: evitam
Sample : fa43019-2 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 133.266ppb m

response 1347790

(20) 2-Amino-4,6-Dinitrotoluene #2

23.38min 126.388ppb m

response 1698523

(+) = Expected Retention Time
PP381838.D 0424_8330RPB.M Tue Apr 25 12:20:35 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:57 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1099455	1992870	478.841	465.381
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.77%	93.08%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	309995	748134	177.479	155.810
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.82	2.82	195233	362087	103.049	110.181
6)	1,3,5-Trinitrobe	4.43	4.43	1053579	2014980	243.894	247.873
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.01	6.01	211206	264470	56.763	39.591m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D.
12)	2,4,6-Trinitroto	9.06	9.06	731602	833098	176.834	179.131
13)	2-Amino-4,6-Dini	9.44	9.45	234792	279927	64.882	51.670
14)	4-Amino-2,6-Dini	9.92	9.91	123763	200590	47.778	37.745
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

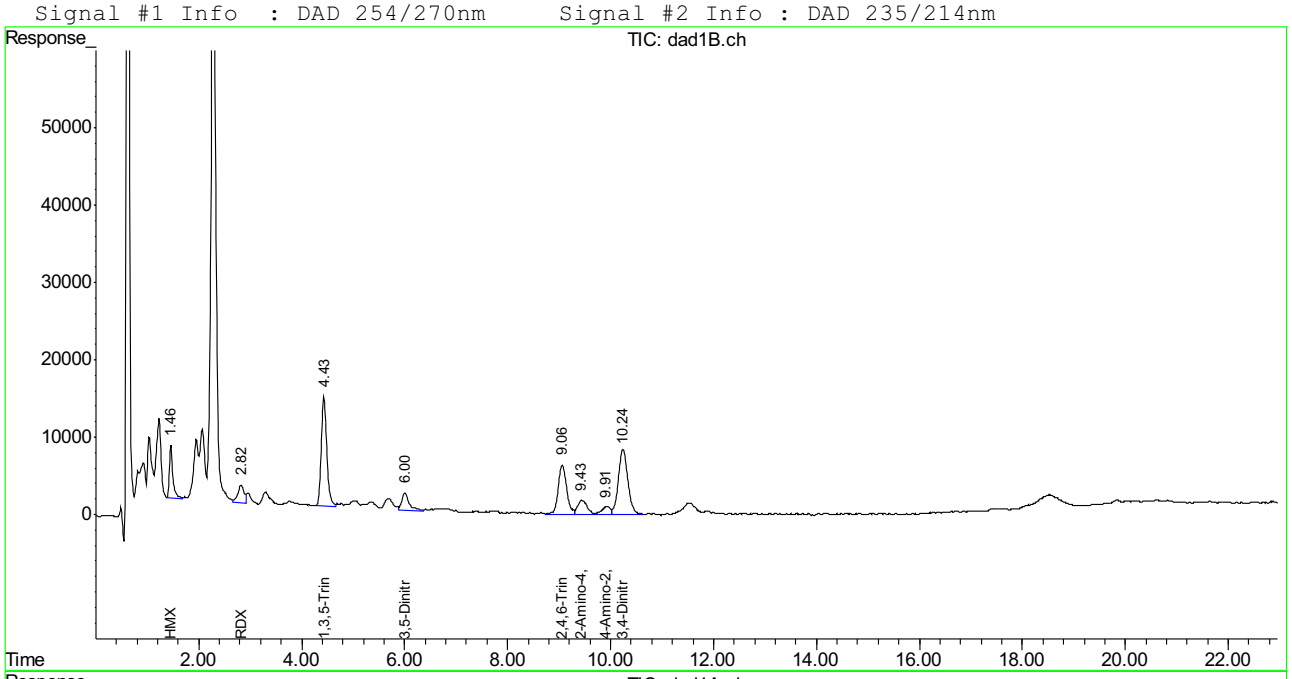
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054301.D 8330B_0419PLUS.M Tue Apr 25 11:26:37 2017 Page 1

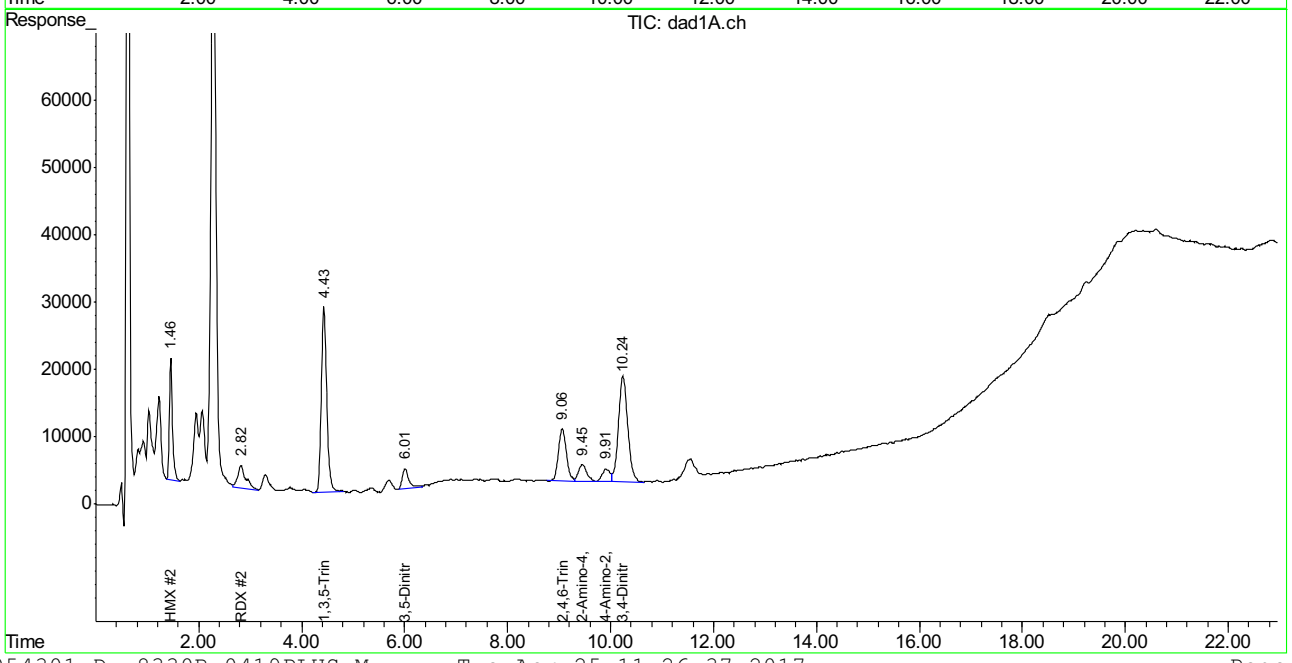
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 11:26 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

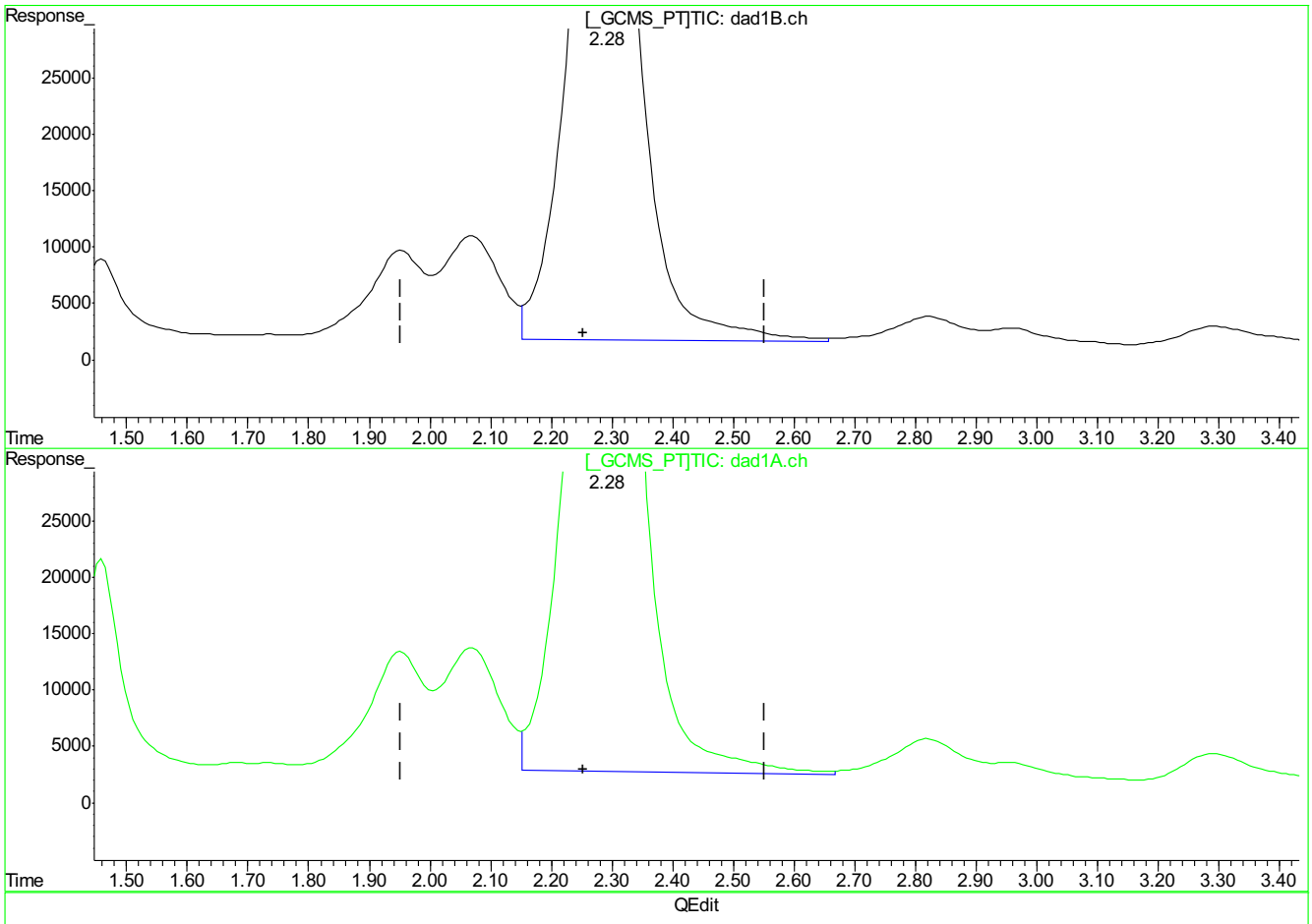
Sample Number: FA43019-3
Lab FileID: BB054301.D
Injection Time: 04/20/17 18:36
Method: SW846 8330B
Analyst approved: 04/25/17 13:57 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
MNX		1	2.28	Poorly defined baseline
MNX		2	2.28	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	1	5.69	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.01	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(4) MNX

2.29min 2063.306ppb

response 5117790

(4) MNX #2

2.29min 1694.953ppb

response 6512617

(+) = Expected Retention Time
BB054301.D 8330B_0419PLUS.M Fri Apr 21 09:42:23 2017

9.1.5.2

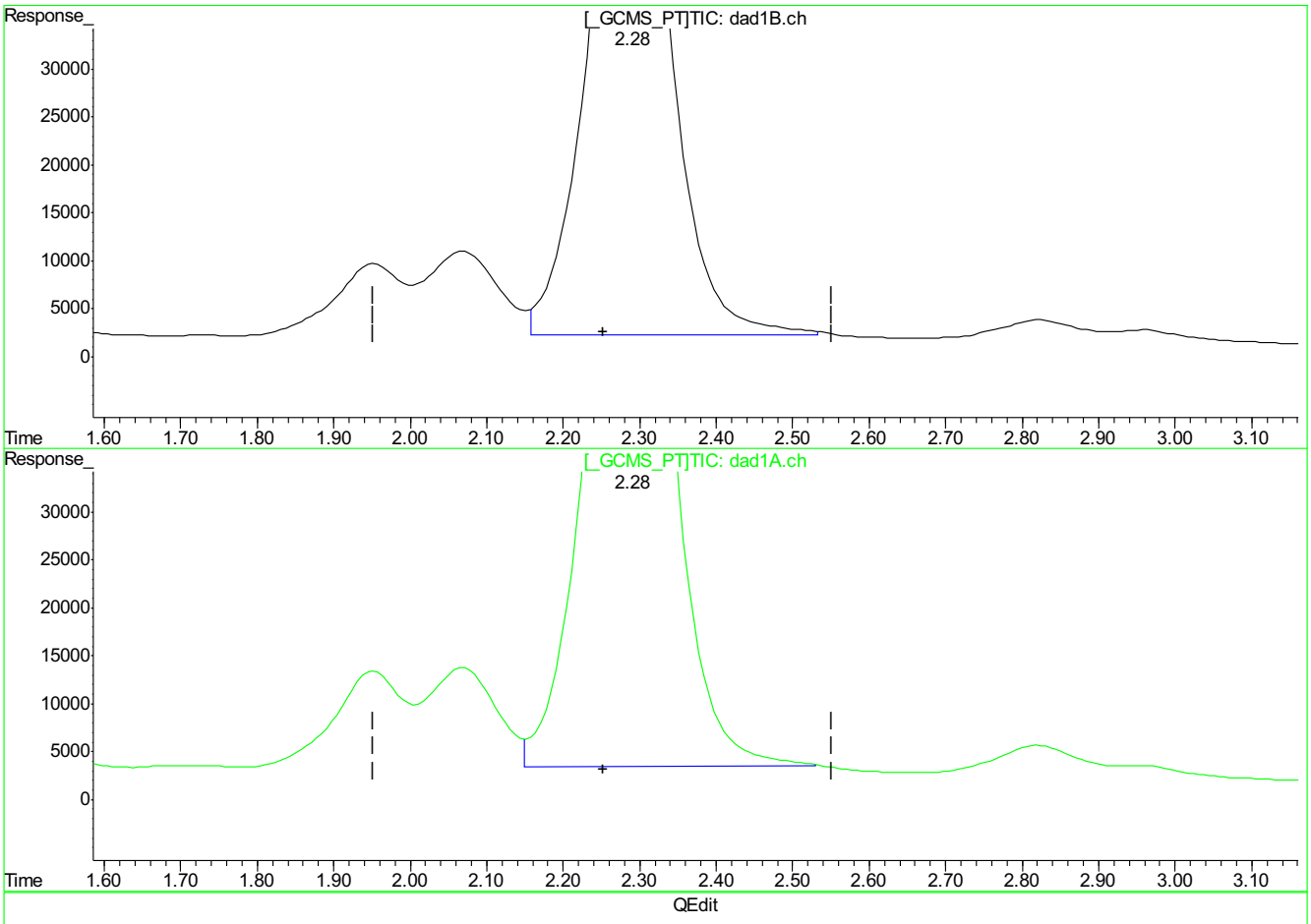
9

BB054301.D edits: MNX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(4) MNX

2.28min 1994.919ppb m

response 4948162

(4) MNX #2

2.28min 1639.214ppb m

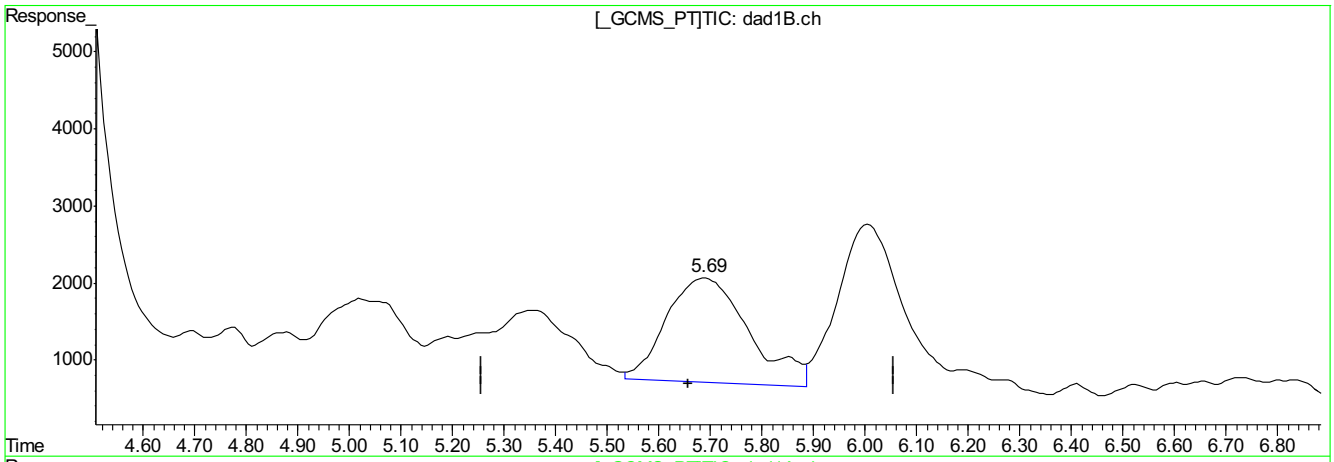
response 6298446

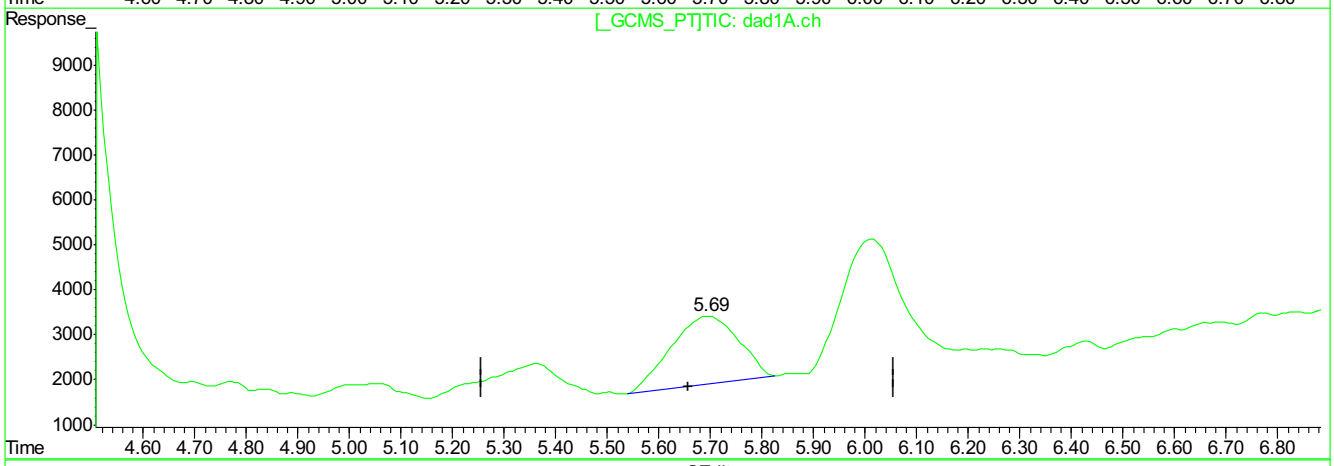
(+) = Expected Retention Time
BB054301.D 8330B_0419PLUS.M Fri Apr 21 09:43:07 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.69min 27.611ppb

response 151872

(7) 1,3-Dinitrobenzene #2

5.70min 35.440ppb

response 136818

(+) = Expected Retention Time
BB054301.D 8330B_0419PLUS.M Fri Apr 21 09:43:17 2017

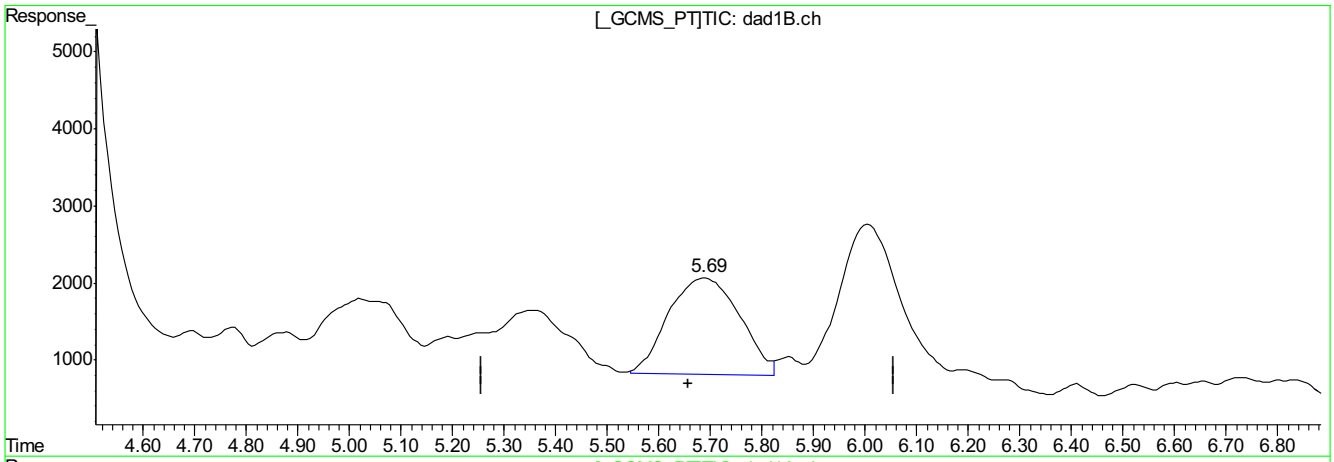
9.1.5.4

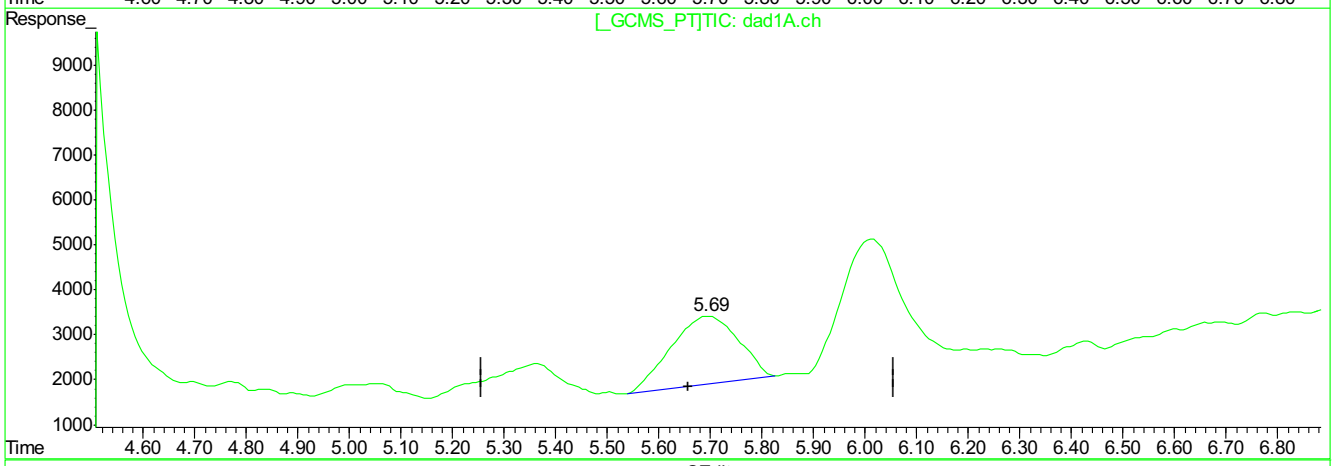
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.69min 21.923ppb m

response 120583

(7) 1,3-Dinitrobenzene #2

5.70min 35.440ppb

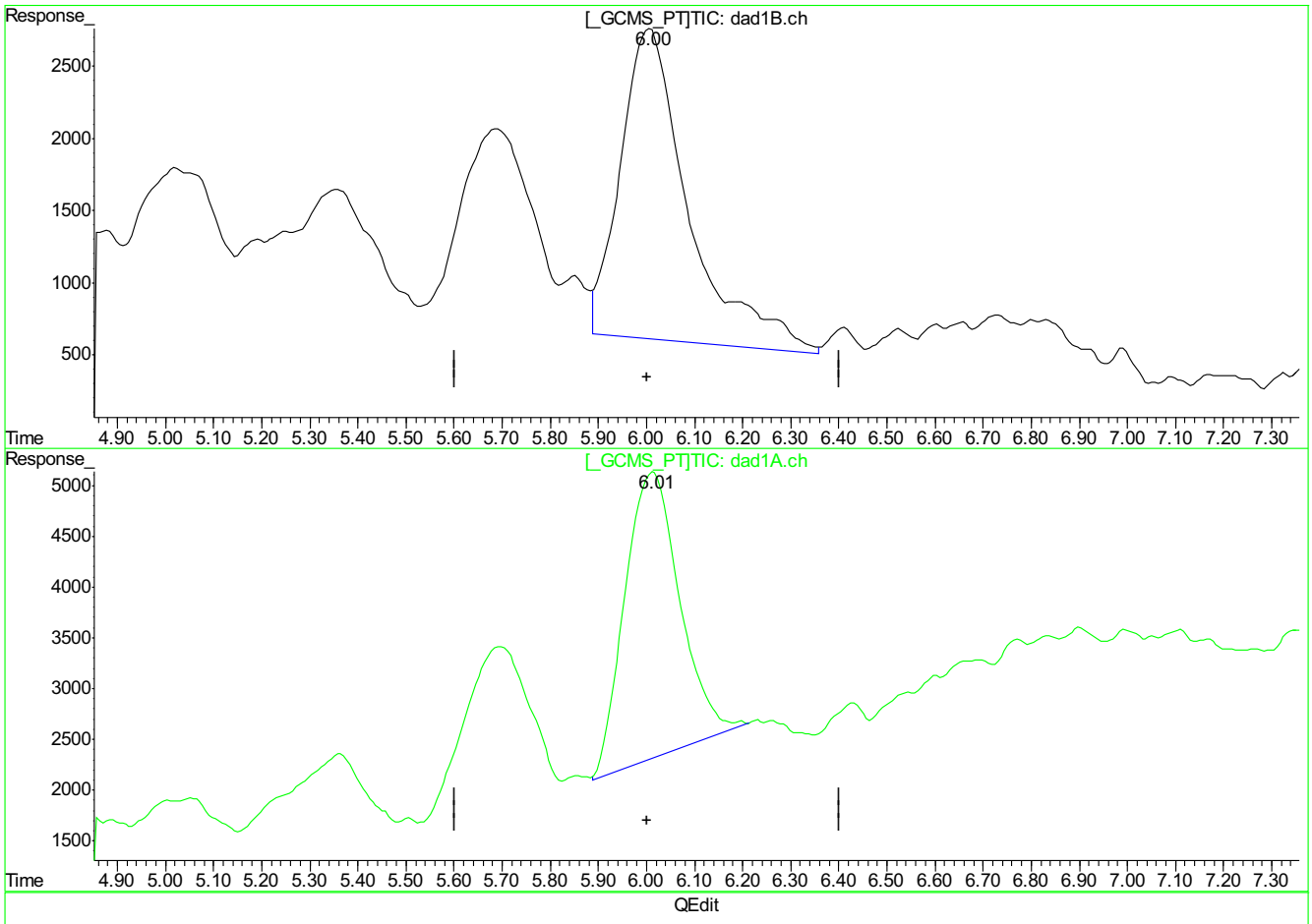
response 136818

(+) = Expected Retention Time
BB054301.D 8330B_0419PLUS.M Fri Apr 21 09:43:27 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.01min 56.763ppb

response 211206

(8) 3,5-Dinitroaniline #2

6.01min 33.555ppb

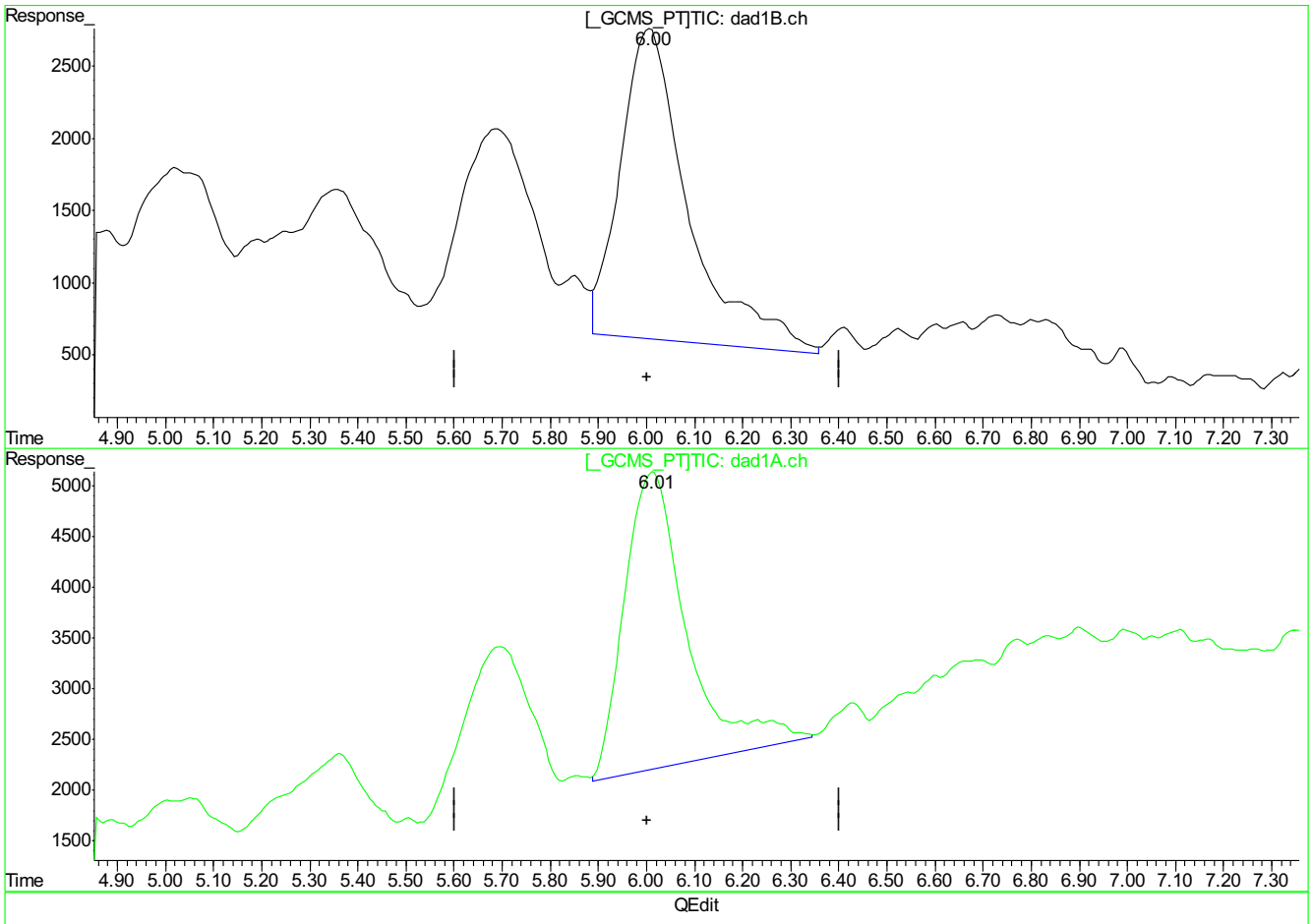
response 224152

(+) = Expected Retention Time
BB054301.D 8330B_0419PLUS.M Fri Apr 21 09:43:44 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054301.D\dad1A.ch
Acq On : 20-Apr-2017, 18:36:09 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.01min 56.763ppb

response 211206

(8) 3,5-Dinitroaniline #2

6.01min 39.591ppb m

response 264470

(+) = Expected Retention Time
BB054301.D 8330B_0419PLUS.M Fri Apr 21 09:43:49 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381839.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0424_RPB\PP381839.D\dad1A.ch
Acq On : 24-Apr-2017, 22:12:29 Operator: evitam
Sample : fa43019-3cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:42 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.22	15.22	2662464	5339528	482.245	528.207
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.45%	105.64%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.08	5.08	861310	2439217	228.200	222.623
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.33	7.33	2454494	4021258	240.479	232.634
6)	RDX	7.73	7.73	237529	374986	48.912	43.751
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.03	12.04	1576810	2069008	163.882	168.630
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	17.97	17.95	919305	1663208	98.003	111.906
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	21.13	21.04	193435	200029	32.080m	22.441
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	23.39	23.50	627909	712659	61.825m	52.858m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

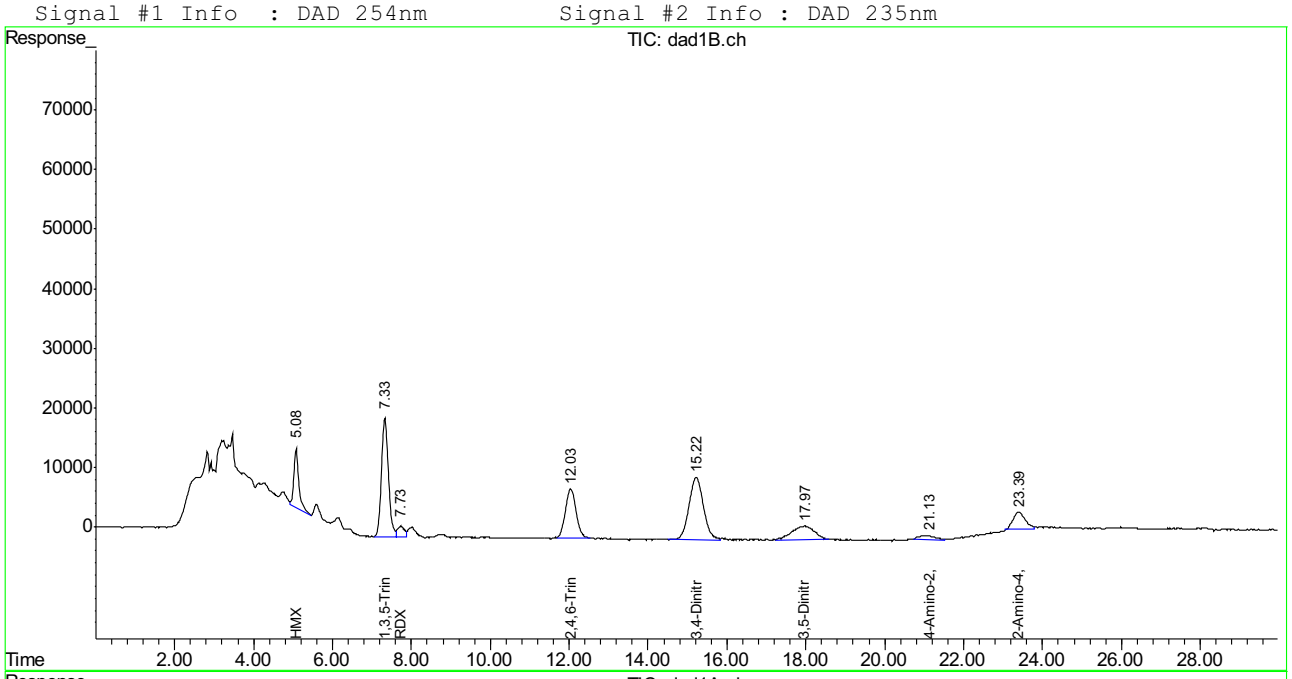
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381839.D 0424_8330RPB.M Tue Apr 25 14:37:00 2017 Page 1

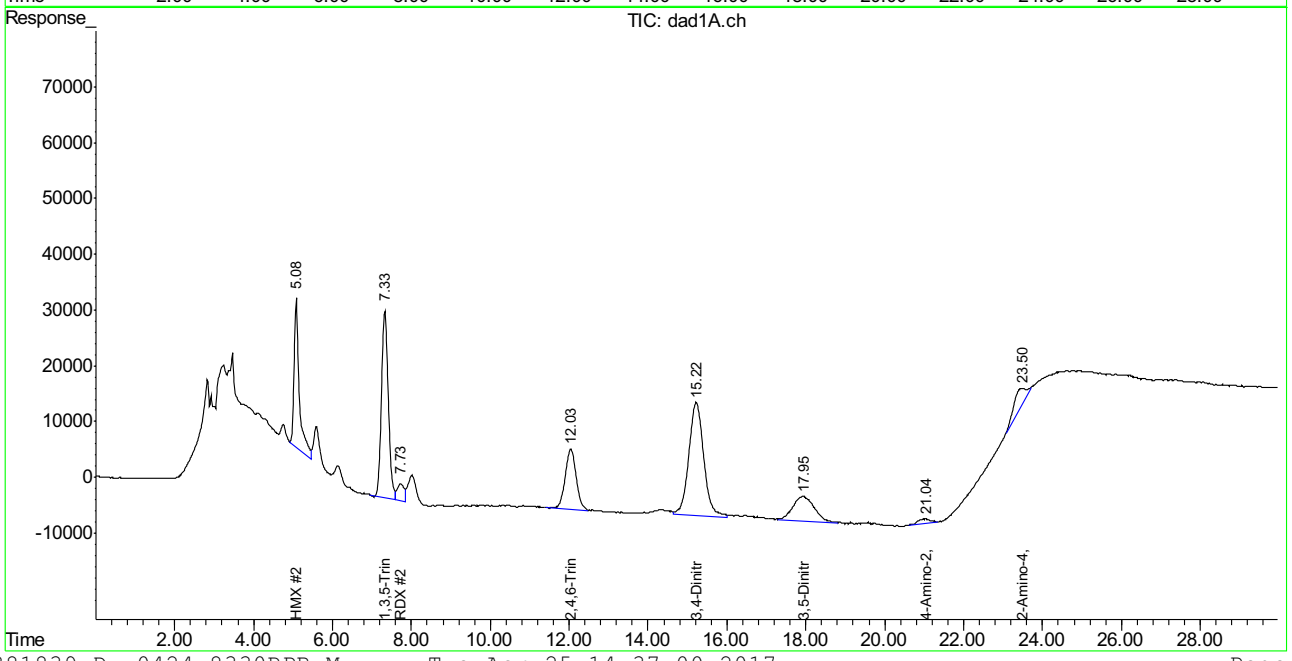
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381839.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0424_RPB\PP381839.D\dad1A.ch
Acq On : 24-Apr-2017, 22:12:29 Operator: evitam
Sample : fa43019-3cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:24 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA43019-3
Lab FileID: PP381839.D
Injection Time: 04/24/17 22:12

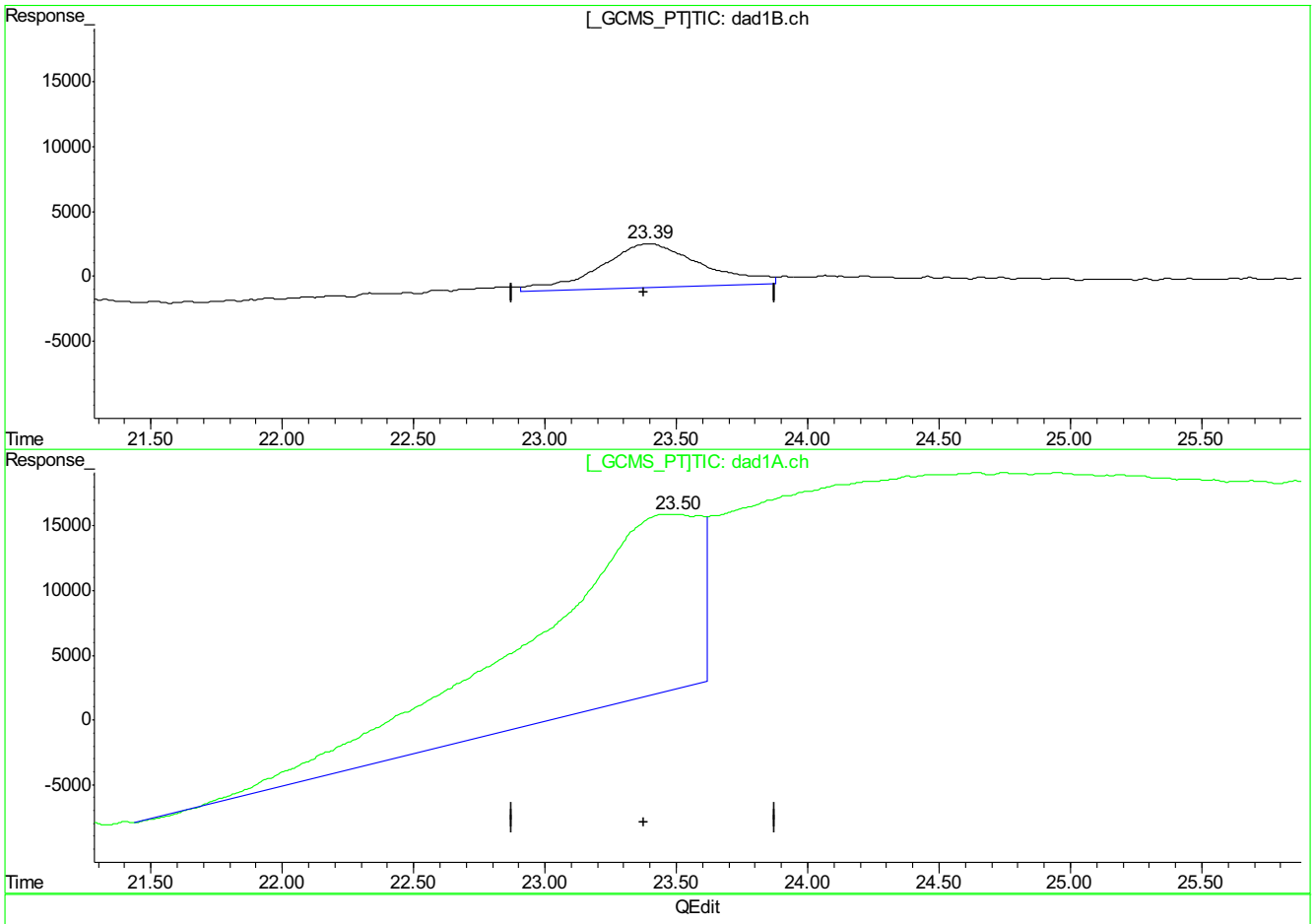
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.13	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.39	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.50	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381839.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0424_RPB\PP381839.D\dad1A.ch
Acq On : 24-Apr-2017, 22:12:29 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.40min 91.017ppb

response 922794

(20) 2-Amino-4,6-Dinitrotoluene #2

23.50min 484.217ppb

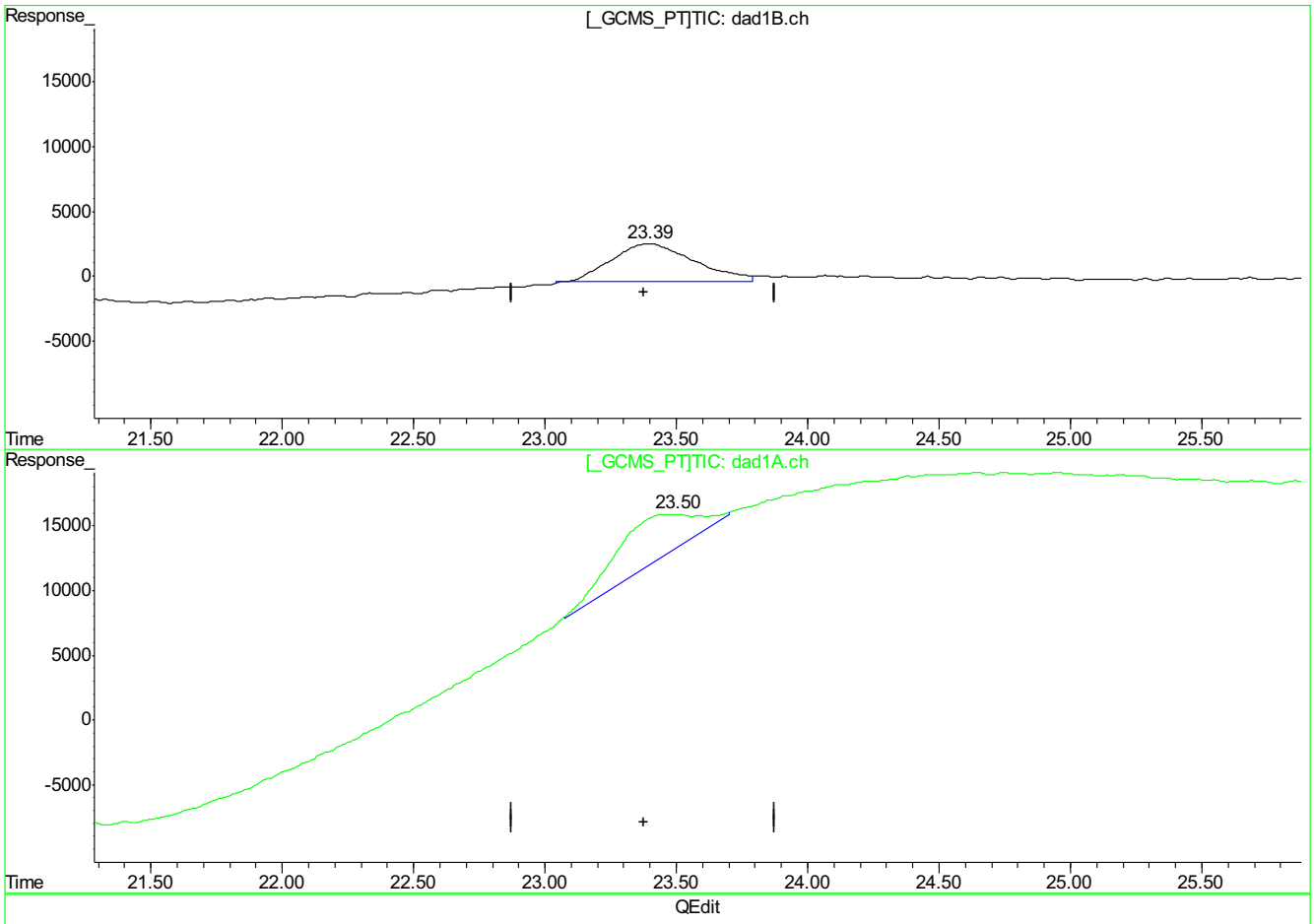
response 6404919

(+) = Expected Retention Time
PP381839.D 0424_8330RPB.M Tue Apr 25 12:24:17 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381839.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0424_RPB\PP381839.D\dad1A.ch
Acq On : 24-Apr-2017, 22:12:29 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.39min 61.825ppb m

response 627909

(20) 2-Amino-4,6-Dinitrotoluene #2

23.50min 52.858ppb m

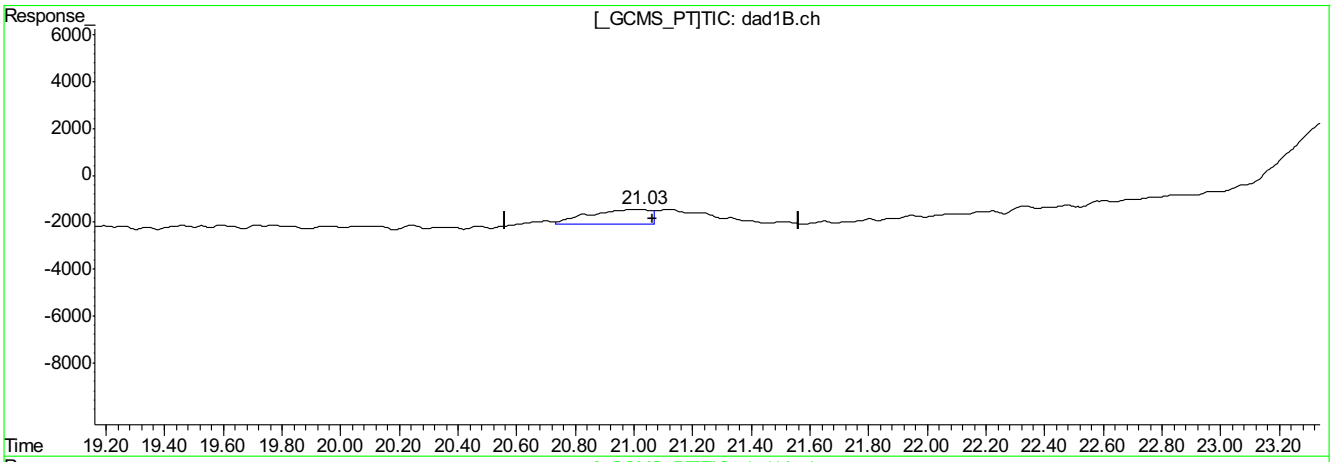
response 712659

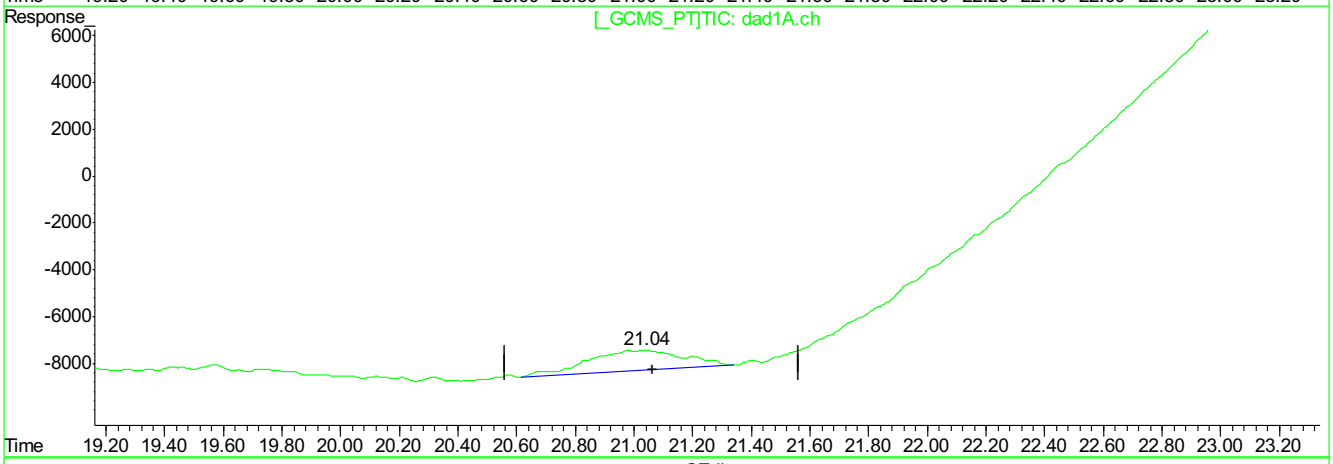
(+) = Expected Retention Time
PP381839.D 0424_8330RPB.M Tue Apr 25 12:24:28 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381839.D\dad1B.ch Vial: 20
Signal #2 : P:\DATA\0424_RPB\PP381839.D\dad1A.ch
Acq On : 24-Apr-2017, 22:12:29 Operator: evitam
Sample : fa43019-3 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.02min 14.825ppb

response 89340

(18) 4-Amino-2,6-Dinitrotoluene #2

21.04min 22.441ppb

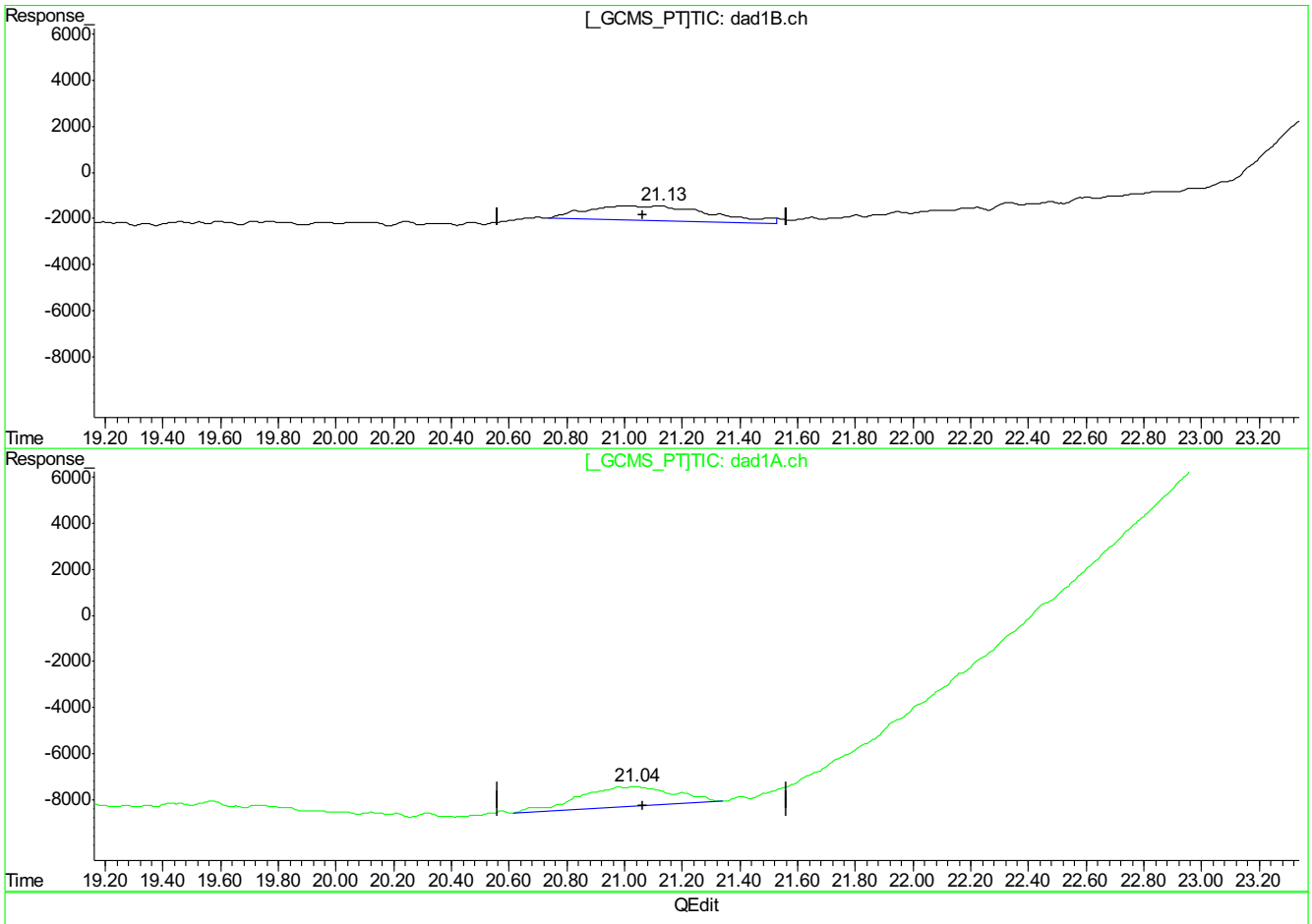
response 200029

(+) = Expected Retention Time
PP381839.D 0424_8330RPB.M Tue Apr 25 12:24:46 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381839.D\dad1B.ch         Vial: 20
Signal #2 : P:\DATA\0424_RPB\PP381839.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:12:29                    Operator: evitam
Sample    : fa43019-3                                Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
```



(18) 4-Amino-2,6-Dinitrotoluene

21.13min 32.080ppb m

response 193435

(18) 4-Amino-2,6-Dinitrotoluene #2

21.04min 22.441ppb

response 200029

(+) = Expected Retention Time

PP381839.D 0424_8330RPB.M Tue Apr 25 12:24:51 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:41 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.21	10.21	1073840	1888979	467.685	441.120m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	93.54%	88.22%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

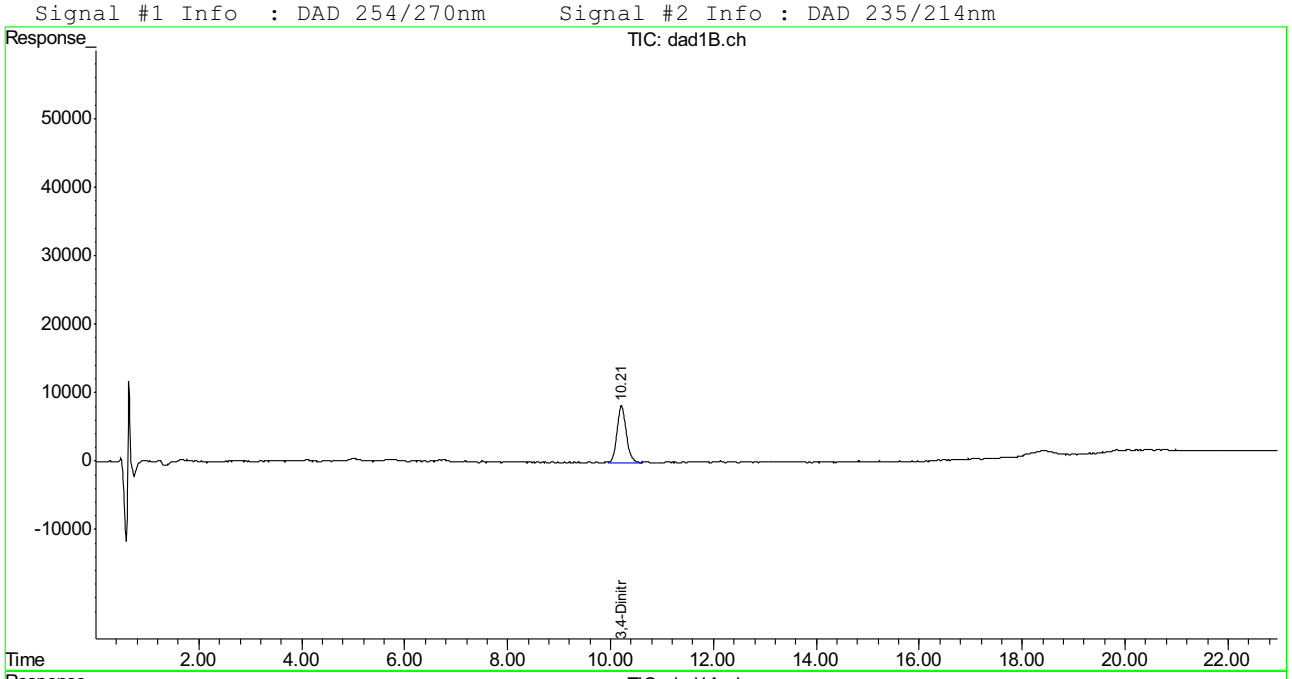
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054285.D 8330B_0419PLUS.M Fri Apr 21 10:12:20 2017 Page 1

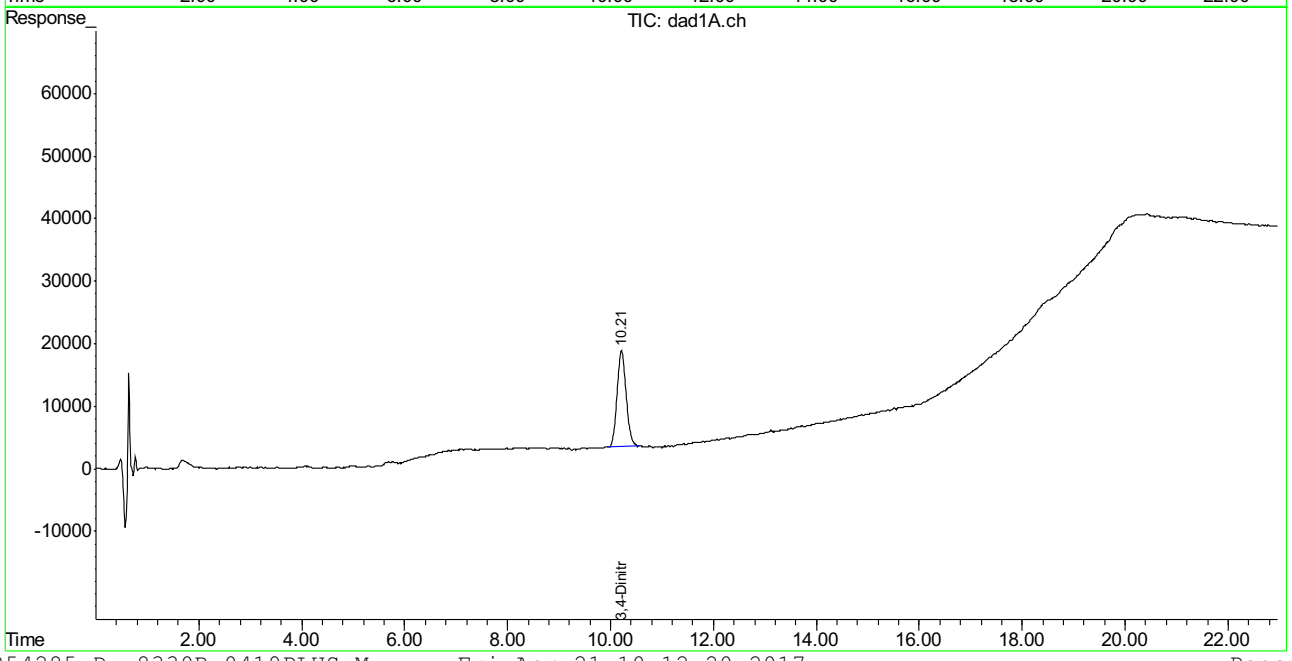
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:18 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

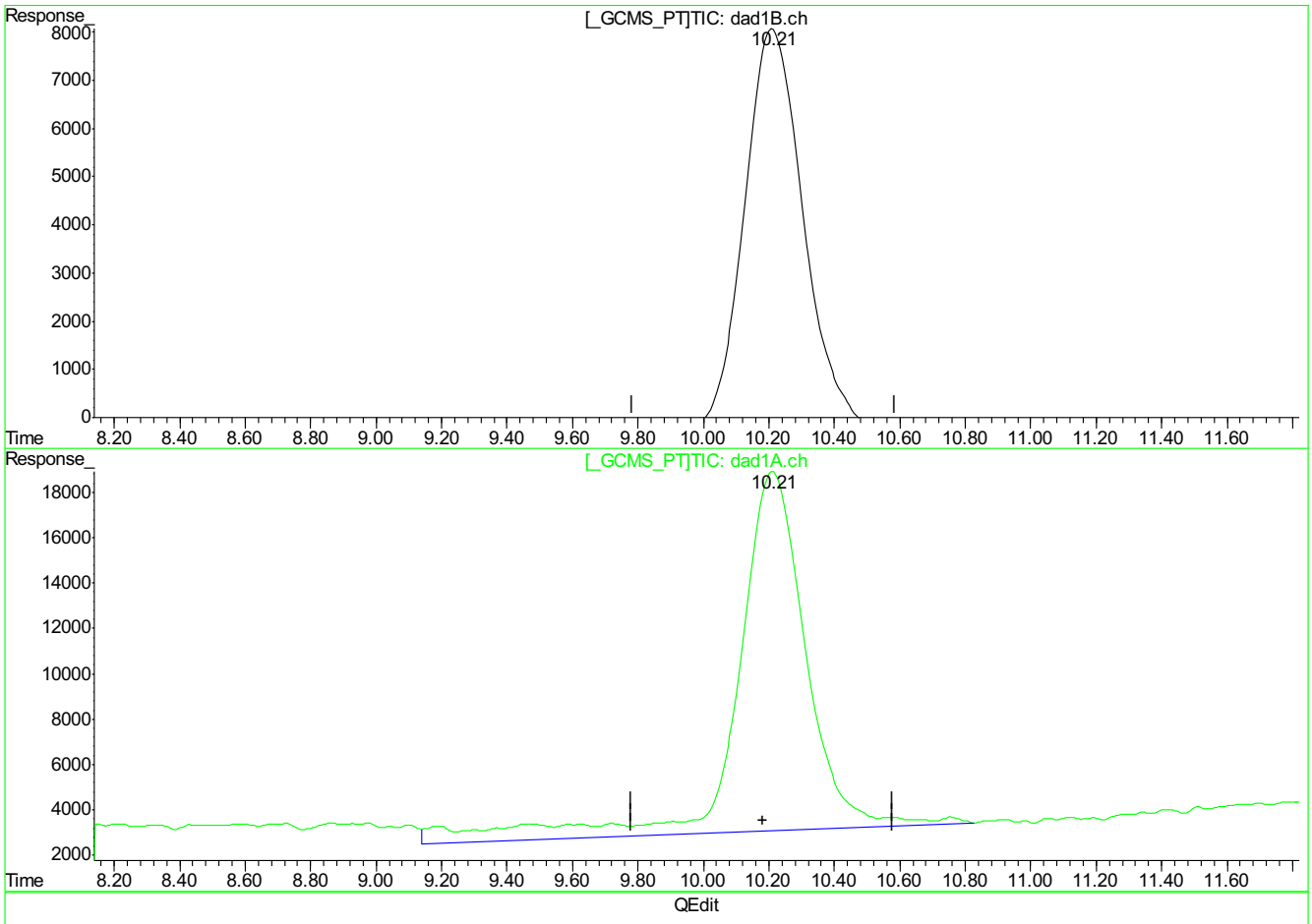
Sample Number: OP64666-MB
Lab FileID: BB054285.D
Injection Time: 04/20/17 10:36
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	10.21	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.21min 467.685ppb

response 1073840

(15) 3,4-Dinitrotoluene #2 (S)

10.21min 550.485ppb

response 2357308

(+) = Expected Retention Time
BB054285.D 8330B_0419PLUS.M Fri Apr 21 09:18:10 2017

9.2.1.2

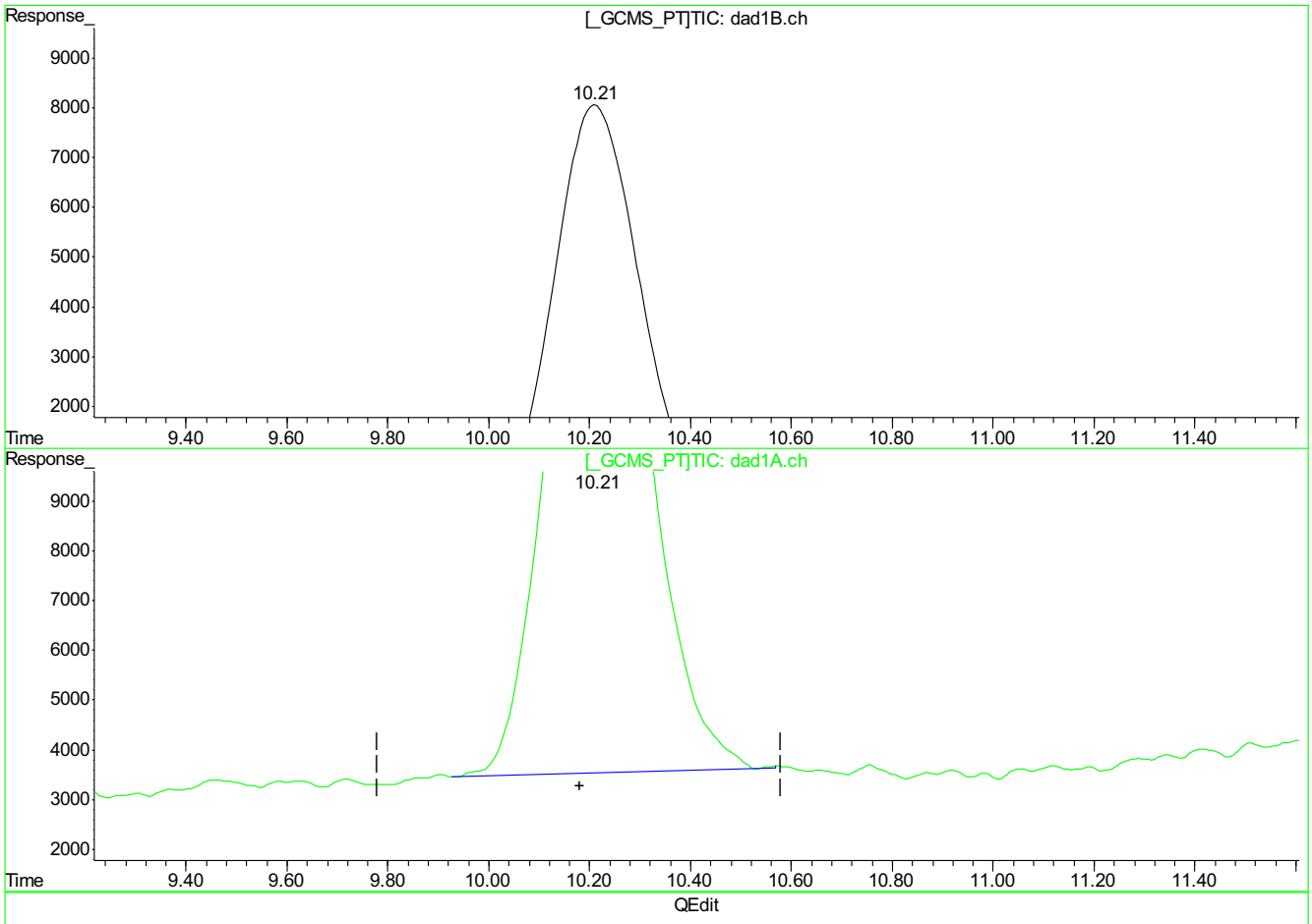
9

BB054285.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.21min 467.685ppb

response 1073840

(15) 3,4-Dinitrotoluene #2 (S)

10.21min 441.120ppb m

response 1888979

(+) = Expected Retention Time
BB054285.D 8330B_0419PLUS.M Fri Apr 21 09:18:14 2017

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381830.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0424_RPB\PP381830.D\dad1A.ch
Acq On : 24-Apr-2017, 17:20:19 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:28 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.26	15.26	2508008	4909362	453.745	485.654
	Spiked Amount 500.000	Range 70 - 136		Recovery =		90.75%	97.13%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

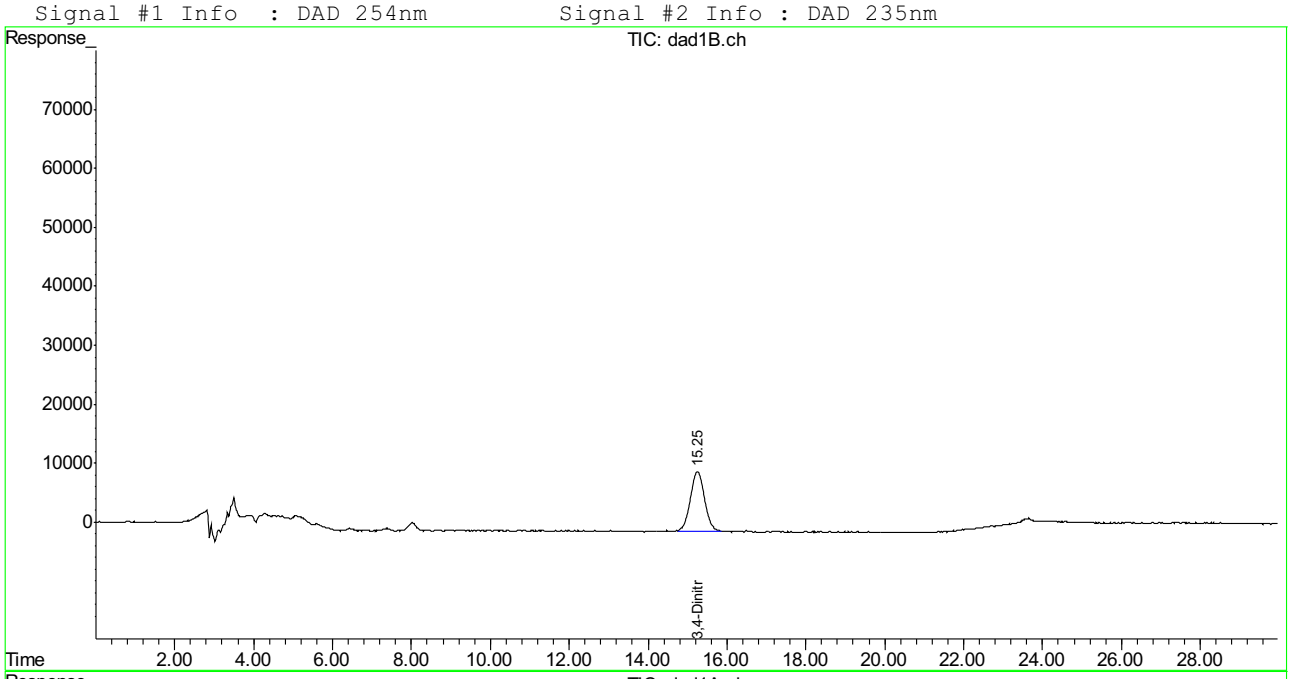
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381830.D 0424_8330RPB.M Tue Apr 25 14:36:44 2017 Page 1

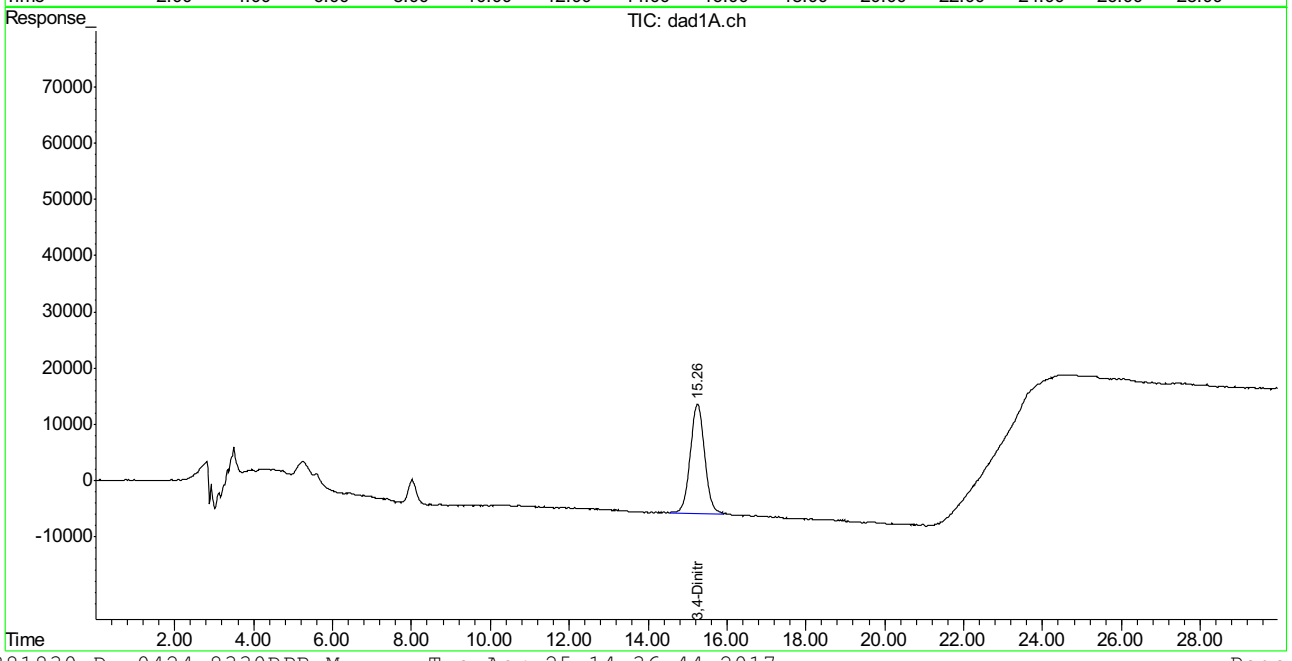
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381830.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0424_RPB\PP381830.D\dad1A.ch
Acq On : 24-Apr-2017, 17:20:19 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:10 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:40 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.21	10.21	1073277	1910585	467.440	446.165
	Spiked Amount 500.000	Range 70 - 136		Recovery =		93.49%	89.23%
	Target Compounds						
1)	TNX	1.35	1.35	729359	1155832	241.962	238.602
2)	HMX	1.46	1.46	764499	2121023	437.691	441.734
3)	DNX	1.71	1.71	1029397	1666939	330.640	352.689
4)	MNX	2.25	2.25	1009978	1544722	407.186	402.025
5)	RDX	2.83	2.83	853890	1341732	452.130	408.282
6)	1,3,5-Trinitrobe	4.43	4.43	1870827	3610928	433.080	444.199
7)	1,3-Dinitrobenze	5.67	5.67	2326207	1608645	422.919	416.690
8)	3,5-Dinitroanili	6.01	6.01	1880646	3211190	503.412	480.707
9)	Nitrobenzene	7.26	7.26	1411072	1318475	403.421	412.253m
10)	Nitroglycerin	0.00	8.49	0	2982879	N.D. d	2308.003m
11)	Tetryl	8.63	8.62	968037	1002783	364.935	250.221m
12)	2,4,6-Trinitroto	9.04	9.04	1264935	1635932	305.746	351.360
13)	2-Amino-4,6-Dini	9.45	9.45	1545871	2345511	427.180	432.939
14)	4-Amino-2,6-Dini	9.92	9.91	1093482	2190716	422.133	412.232
16)	2,4-Dinitrotolue	10.82	10.82	2173922	1358489	428.149	403.534
17)	2,6-Dinitrotolue	11.31	11.32	1291972	1517618	414.066	432.175
18)	o-Nitrotoluene	14.55	14.55	1023495	1417488	441.381	436.681
19)	p-Nitrotoluene	15.07	15.08	1559309	1350160	443.811	454.771
20)	m-Nitrotoluene	16.04	16.04	1471117	1581003	408.428	450.026m
21)	PETN	0.00	18.01	0	3327745	N.D. d	4678.906m

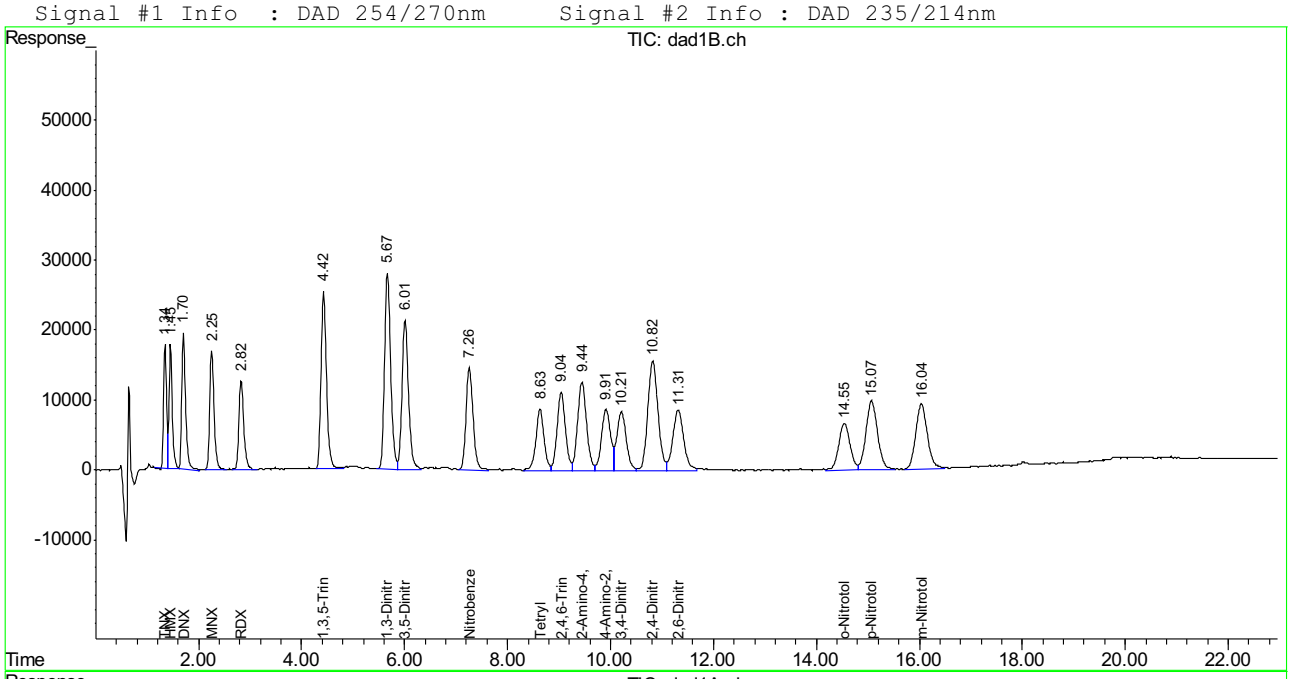
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054284.D 8330B_0419PLUS.M Fri Apr 21 10:12:19 2017 Page 1

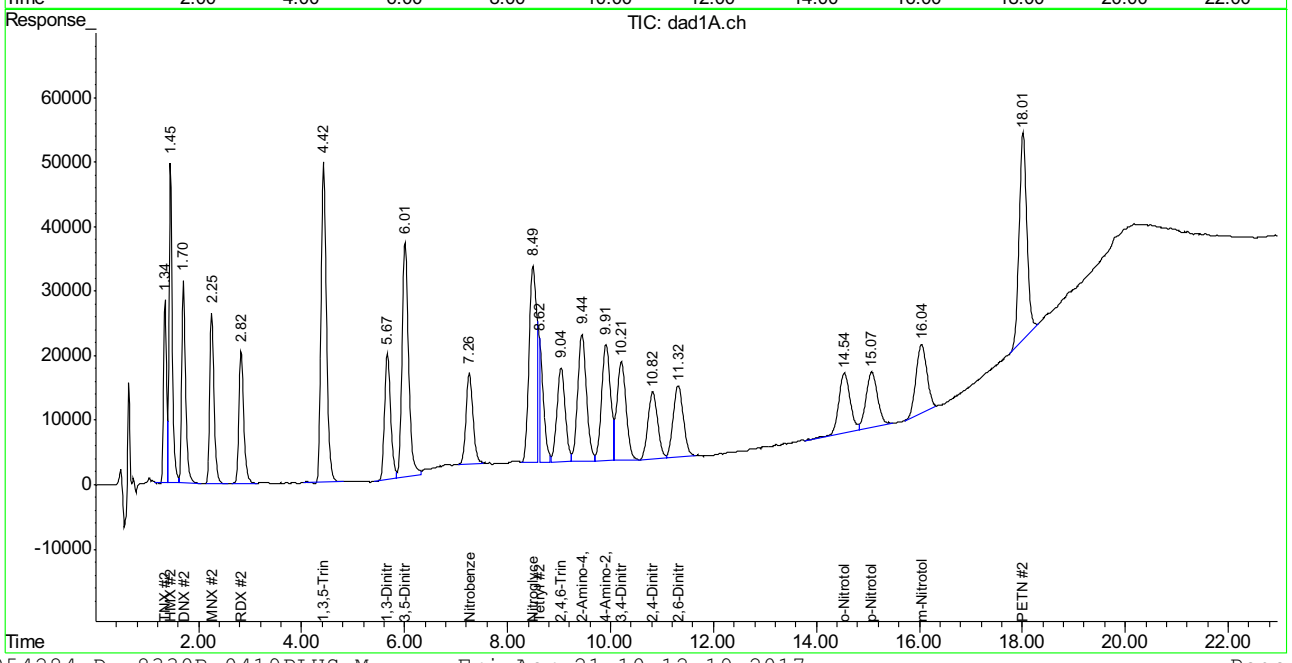
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:17 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

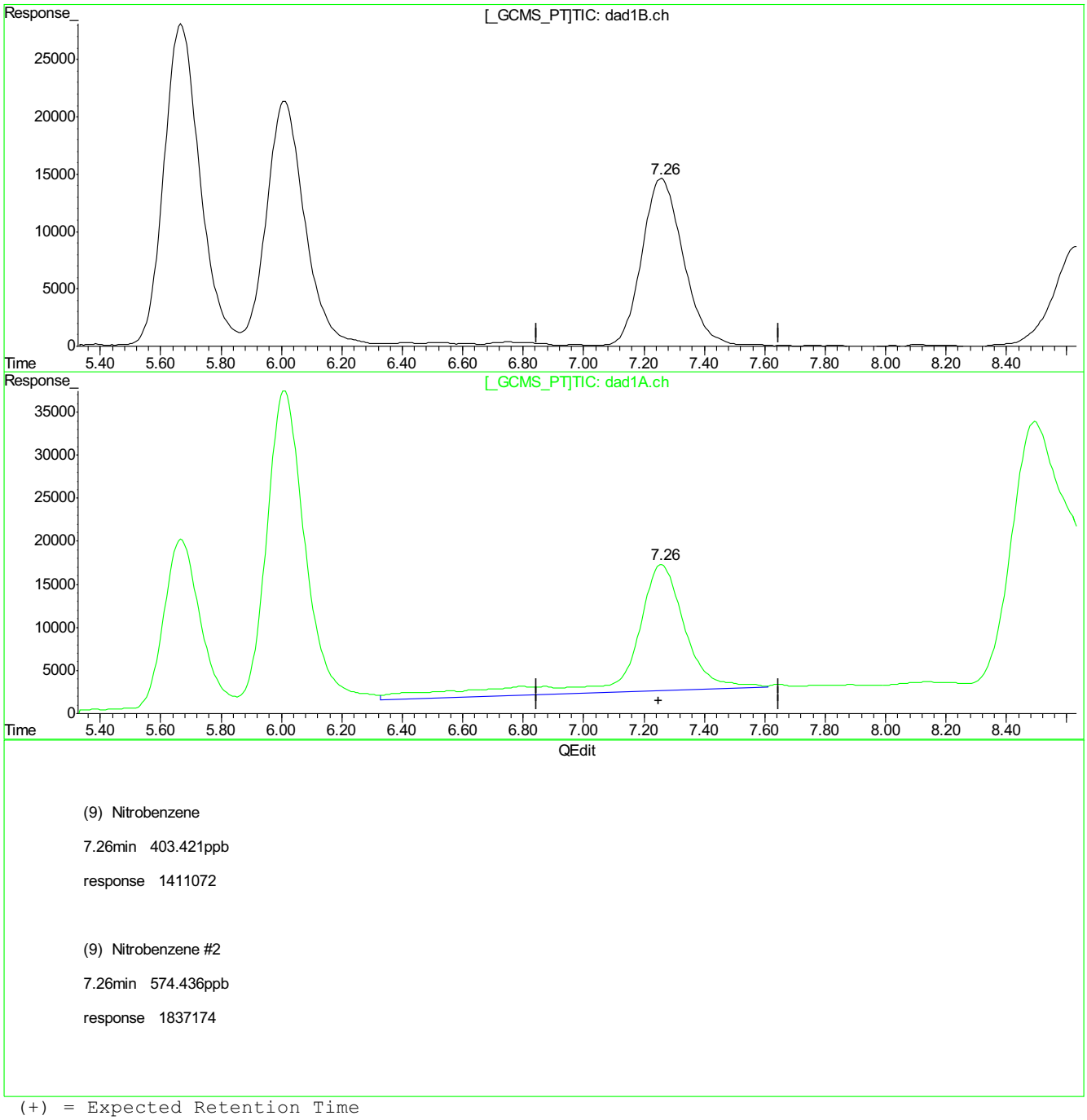
Sample Number: OP64666-BS
Lab FileID: BB054284.D
Injection Time: 04/20/17 10:06
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.26	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.49	Poorly defined baseline
Tetryl	479-45-8	2	8.62	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.04	Poorly defined baseline
PETN	78-11-5	2	18.01	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.26min 403.421ppb

response 1411072

(9) Nitrobenzene #2

7.26min 574.436ppb

response 1837174

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:16:47 2017

9.3.1.2

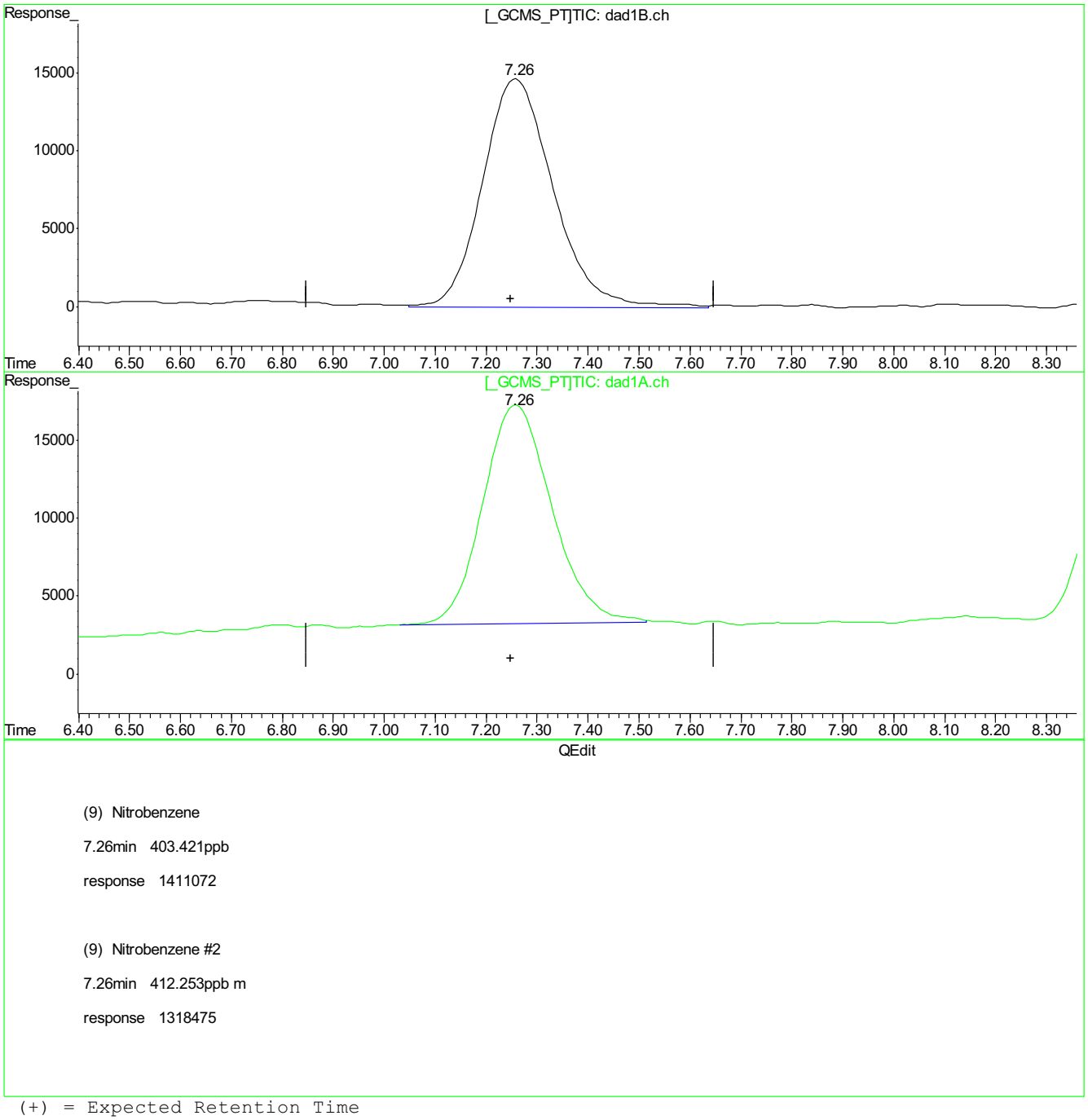
9

BB054284.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.26min 403.421ppb

response 1411072

(9) Nitrobenzene #2

7.26min 412.253ppb m

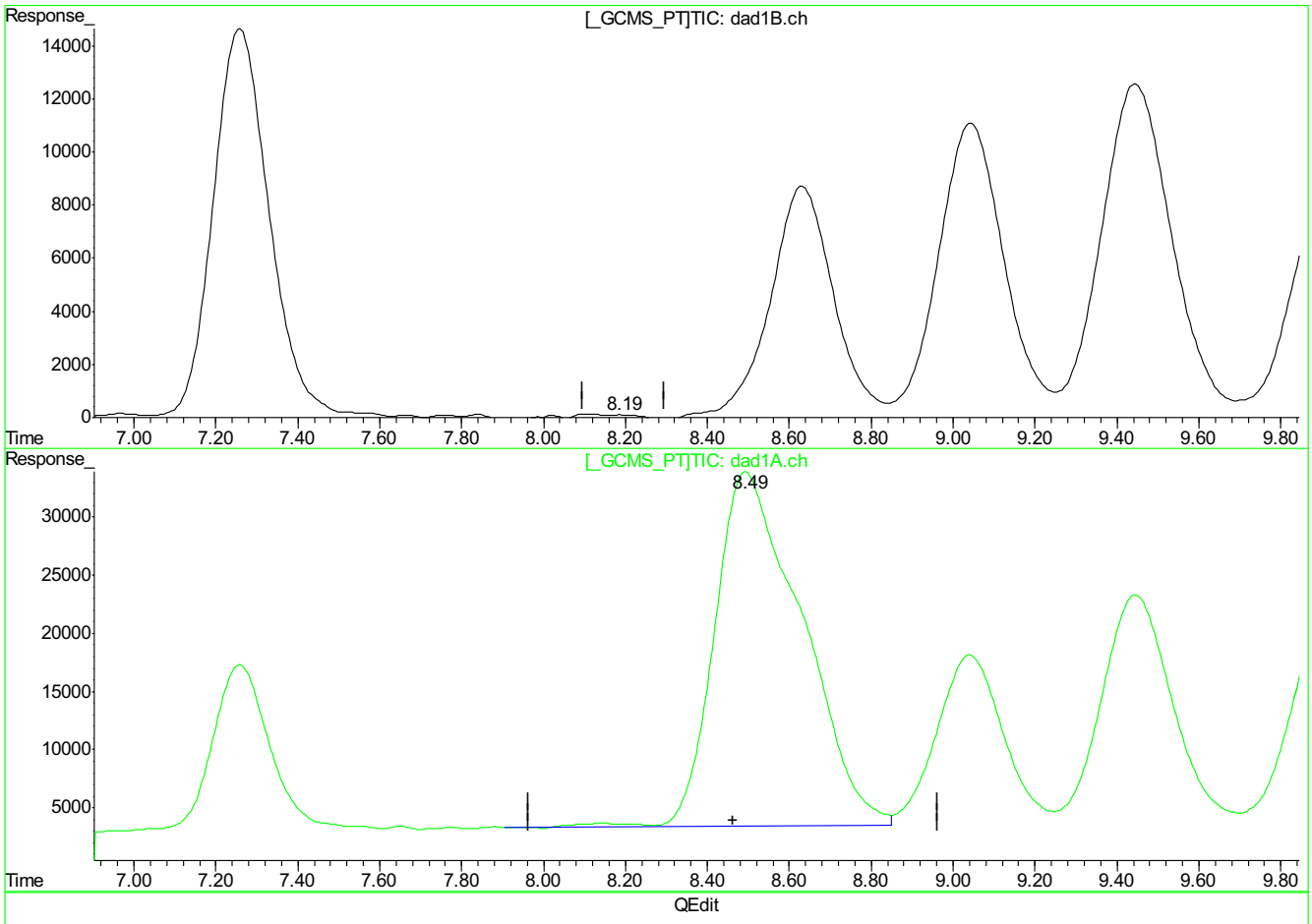
response 1318475

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:16:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.19min 0.000ppb

response 10820

(10) Nitroglycerin #2

8.50min 3477.417ppb

response 4494238

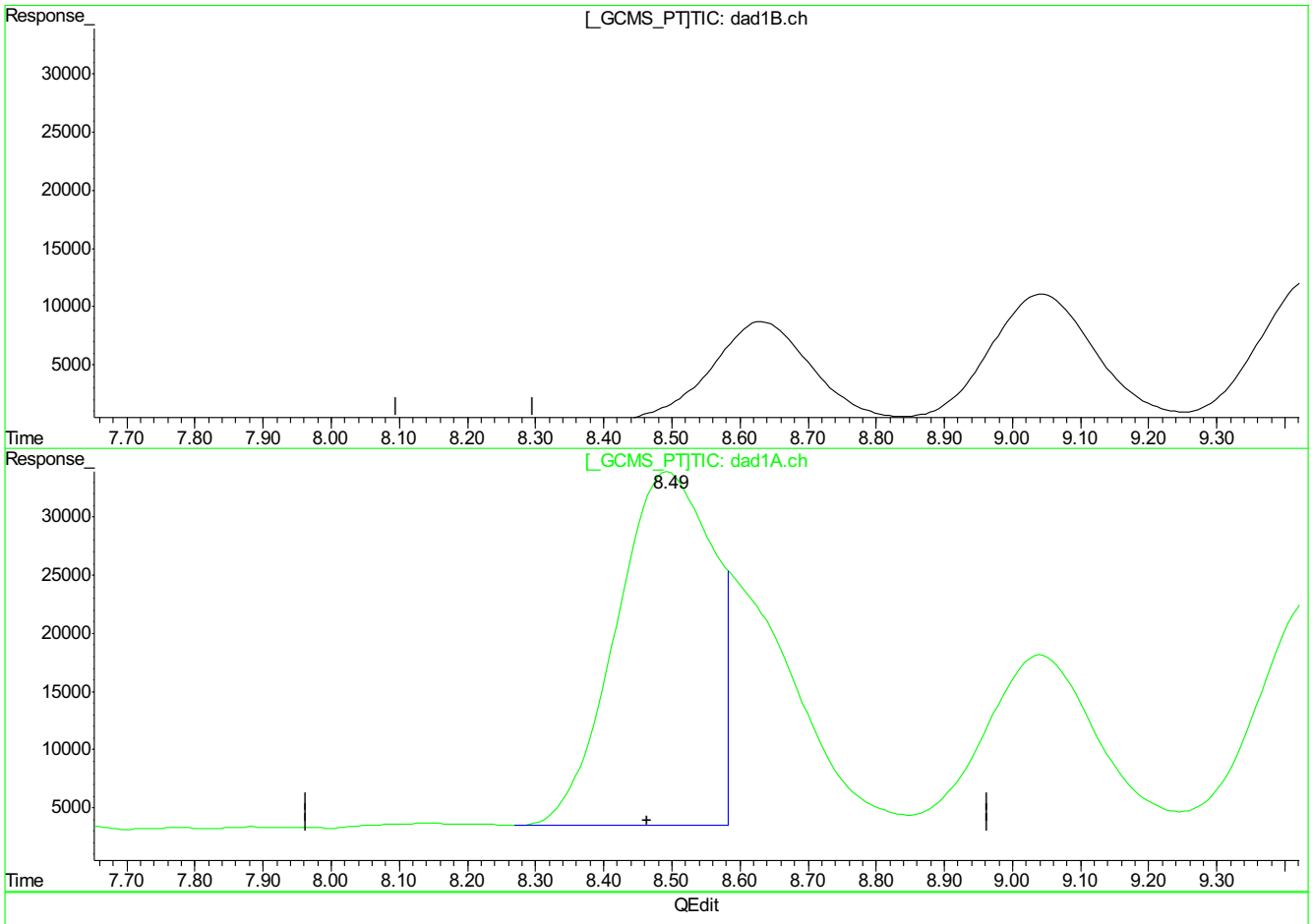
(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:01 2017

9.3.1.4 9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.19min 0.000ppb

response 10820

(10) Nitroglycerin #2

8.49min 2308.003ppb m

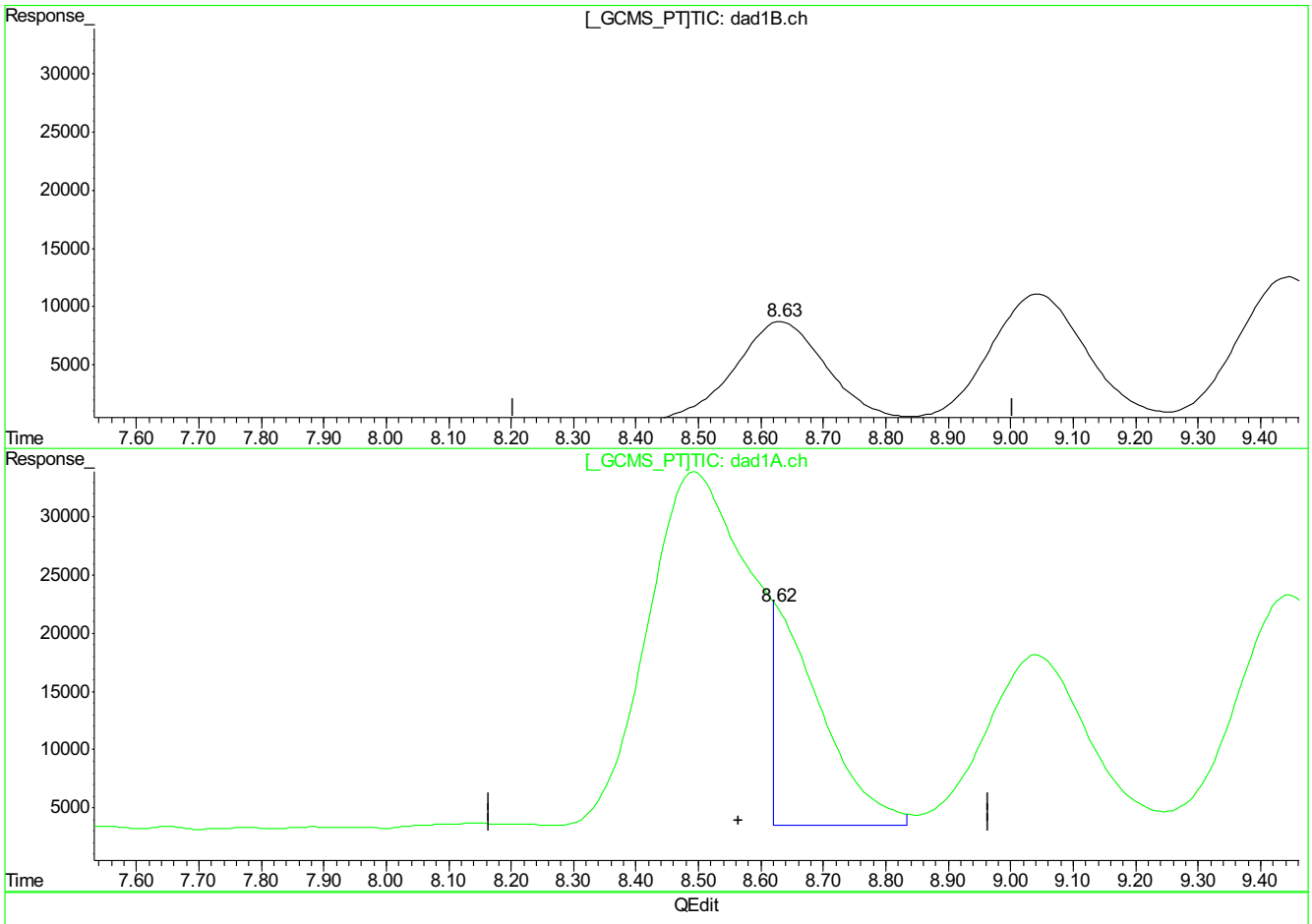
response 2982879

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 364.935ppb

response 968037

(11) Tetryl #2

8.62min 250.221ppb m

response 1002783

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:34 2017

9.3.1.6

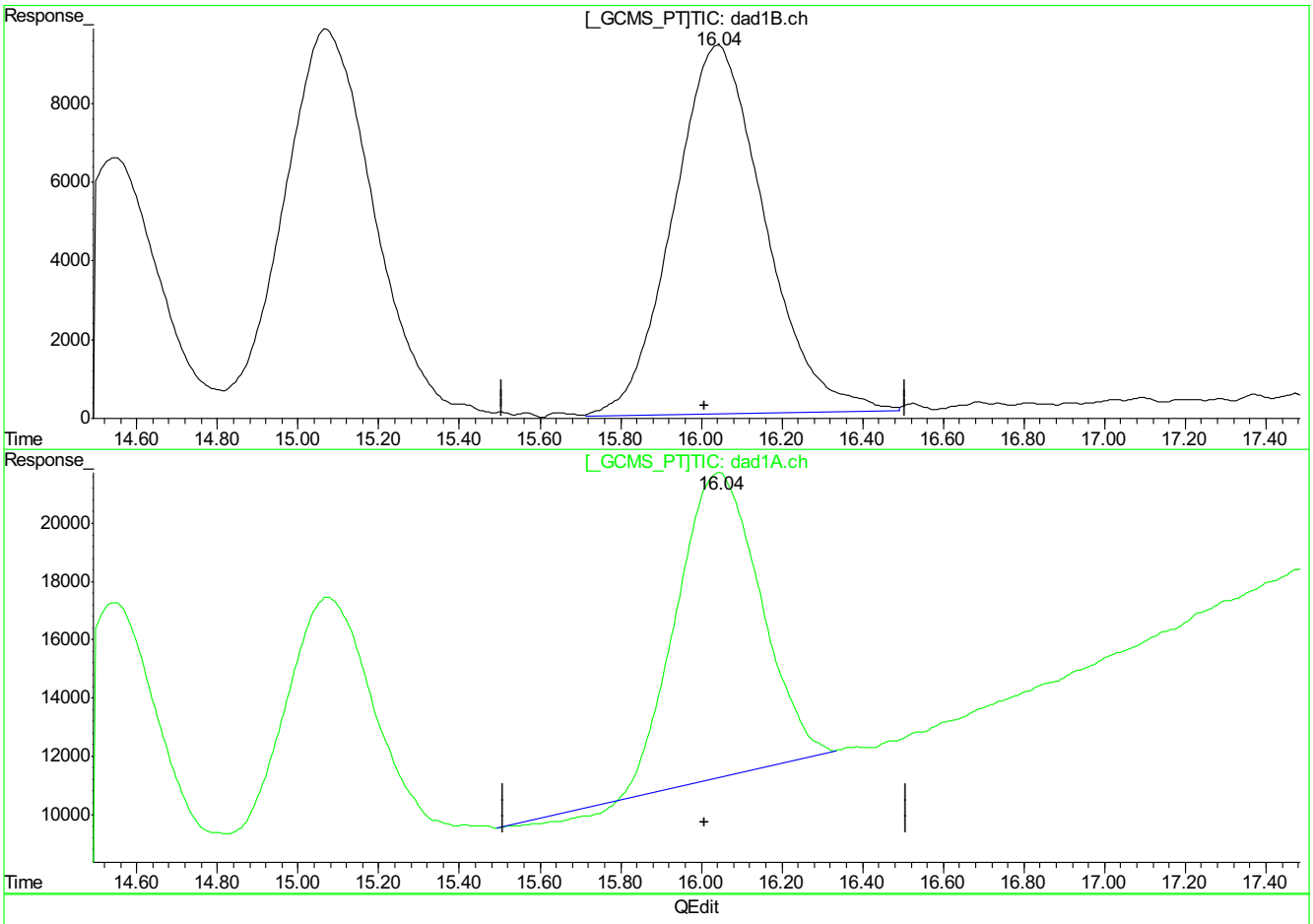
9

BB054284.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.04min 408.428ppb

response 1471117

(20) m-Nitrotoluene #2

16.04min 420.816ppb

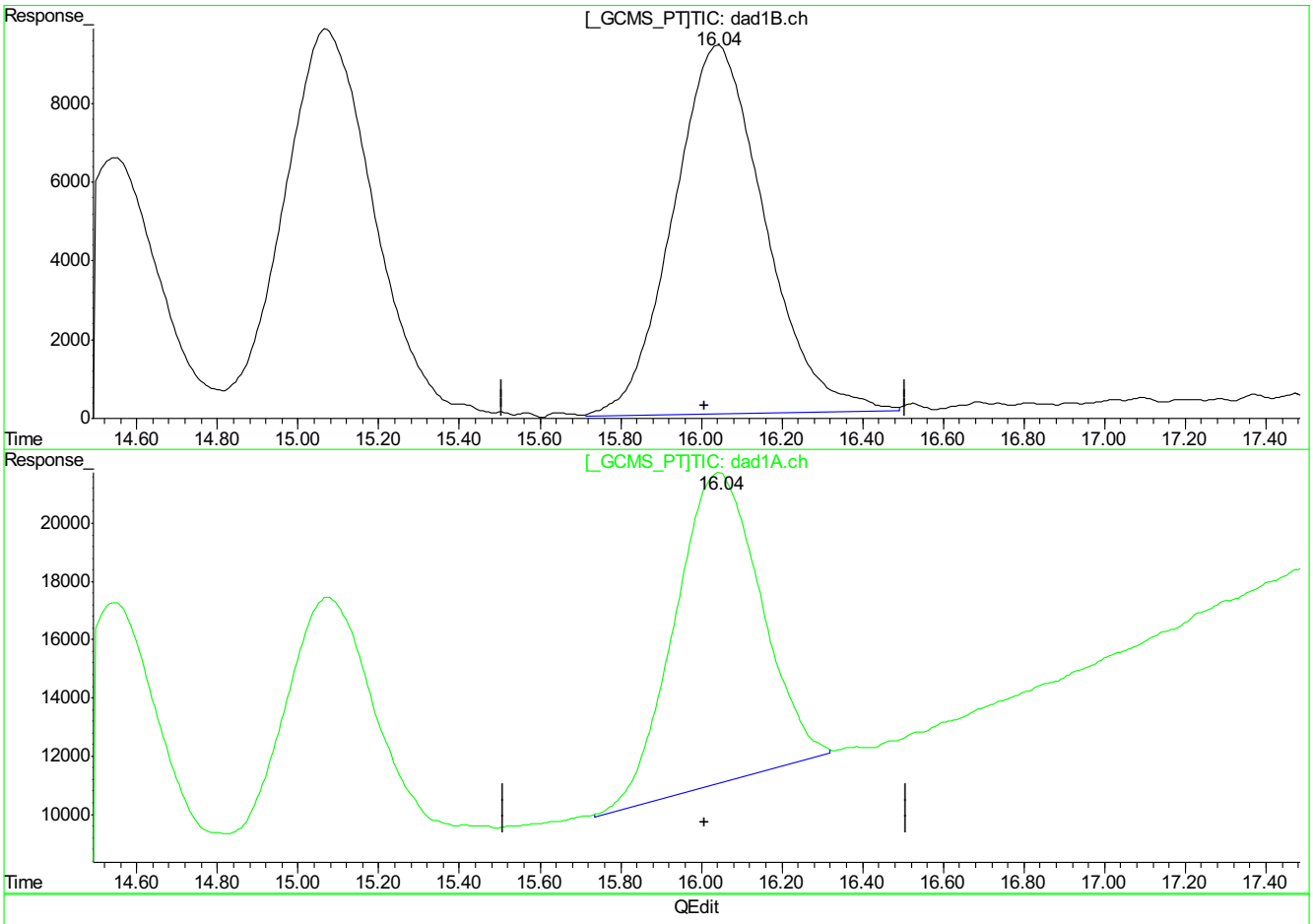
response 1478385

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:44 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.04min 408.428ppb

response 1471117

(20) m-Nitrotoluene #2

16.04min 450.026ppb m

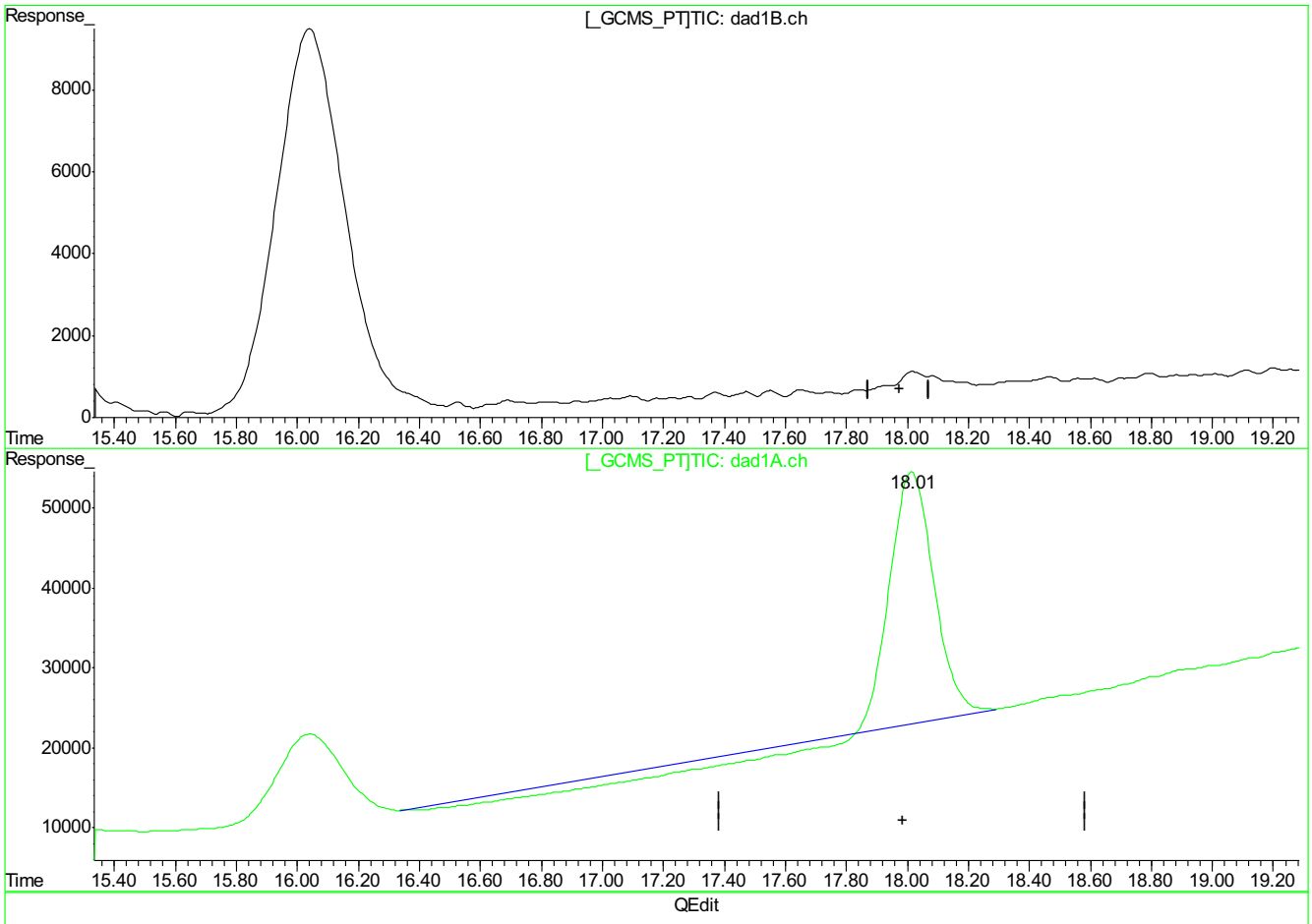
response 1581003

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:48 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.02min 3201.491ppb

response 2288292

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:51 2017

9.3.1.9

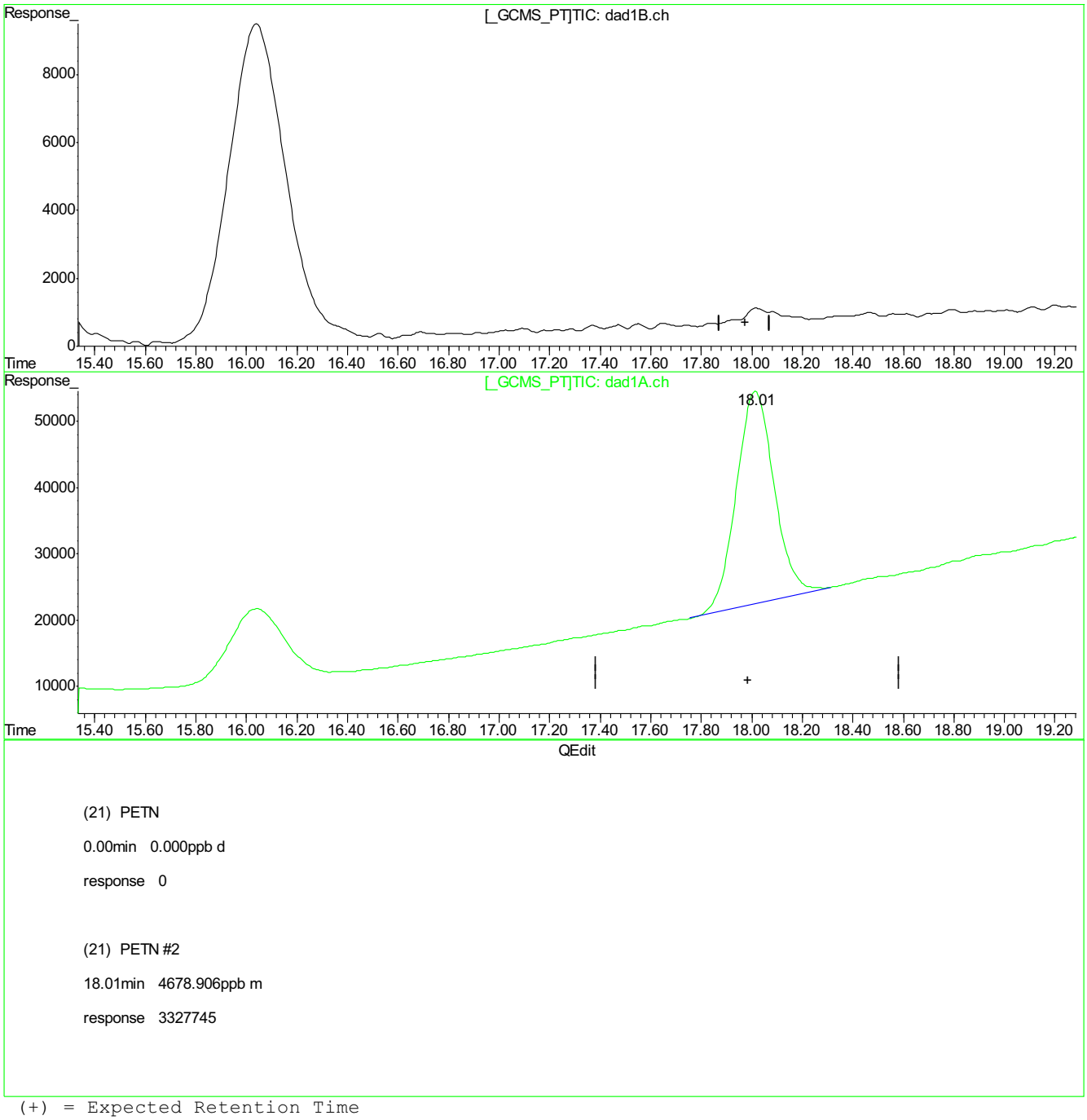
9

BB054284.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.01min 4678.906ppb m

response 3327745

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:54 2017

9.3.1.10

9

BB054284.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:46 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1044646	1844863	454.971	430.818
Spiked Amount	500.000	Range	70 - 136	Recovery	=	90.99%	86.16%
	Target Compounds						
1)	TNX	1.35	1.35	1215593	1879725	403.267	388.037
2)	HMX	1.46	1.46	780460	2114411	446.830	440.357
3)	DNX	1.71	1.71	1179806	1860442	378.951	393.897
4)	MNX	2.26	2.26	1059229	1607281	427.043	418.306
5)	RDX	2.83	2.83	852169	1312296	451.215	399.324
6)	1,3,5-Trinitrobe	4.44	4.44	1815822	3553824	420.347	437.174
7)	1,3-Dinitrobenze	5.68	5.68	2252855	1567822	409.583	406.116
8)	3,5-Dinitroanili	6.02	6.02	1810394	3144728	484.688	470.758
9)	Nitrobenzene	7.28	7.27	1360727	1355525	389.028	423.837m
10)	Nitroglycerin	0.00	8.51	0	3292844	N.D. d	2547.839m
11)	Tetryl	8.65	8.64	971977	1002753	366.418	250.214m
12)	2,4,6-Trinitroto	9.07	9.07	1226675	1590903	296.498	341.710
13)	2-Amino-4,6-Dini	9.46	9.46	1513878	2280259	418.339	420.895
14)	4-Amino-2,6-Dini	9.93	9.93	1048426	2124396	404.740	399.753
16)	2,4-Dinitrotolue	10.85	10.85	2125339	1327547	418.581	394.343
17)	2,6-Dinitrotolue	11.35	11.35	1256377	1531867	402.658	436.233
18)	o-Nitrotoluene	14.58	14.59	998338	1403270	430.532	432.273
19)	p-Nitrotoluene	15.11	15.12	1515024	1311101	431.158	441.615
20)	m-Nitrotoluene	16.08	16.08	1423016	1534585	395.074	436.813m
21)	PETN	0.00	18.04	0	3174392	N.D. d	4460.003m

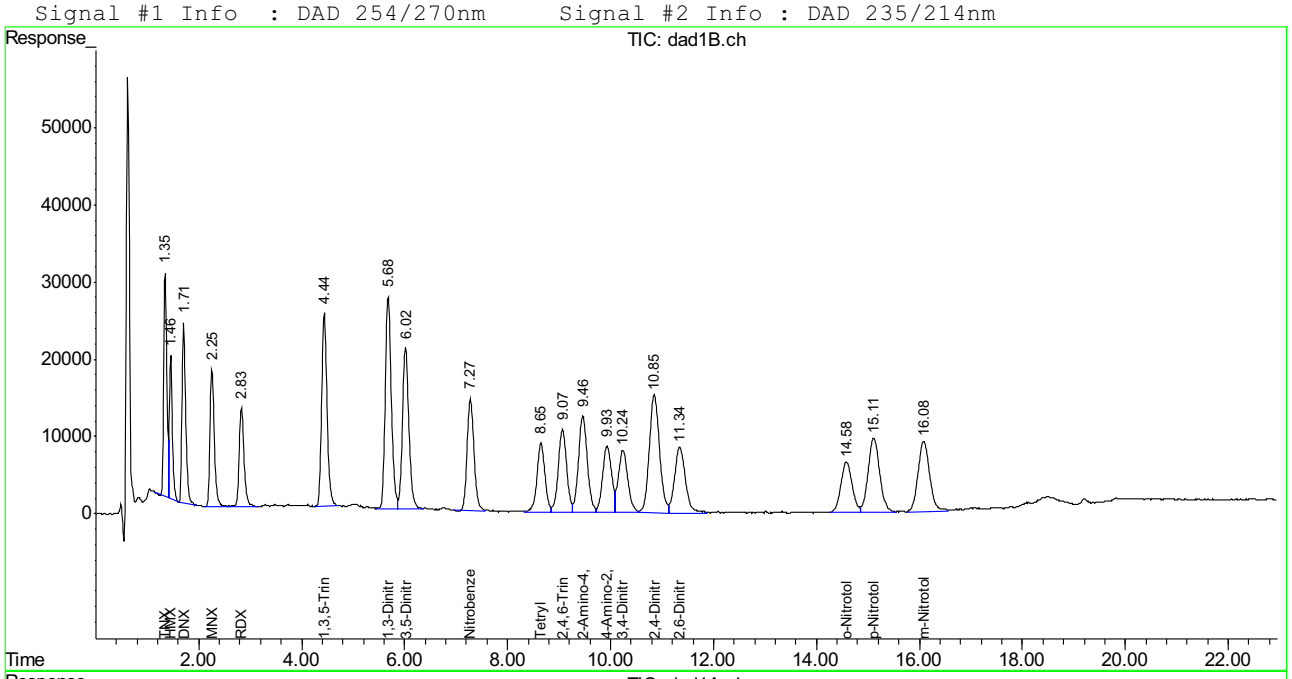
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054290.D 8330B_0419PLUS.M Fri Apr 21 10:12:25 2017 Page 1

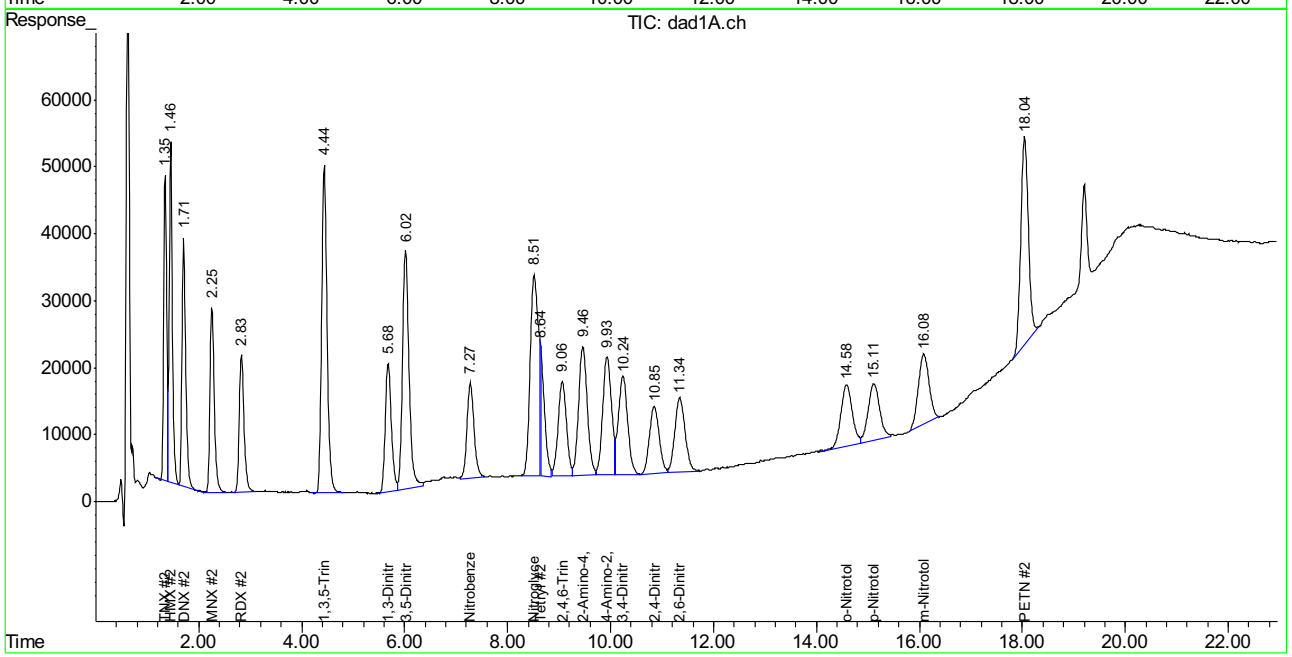
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:22 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP64666-MS
Lab FileID: BB054290.D
Injection Time: 04/20/17 13:06

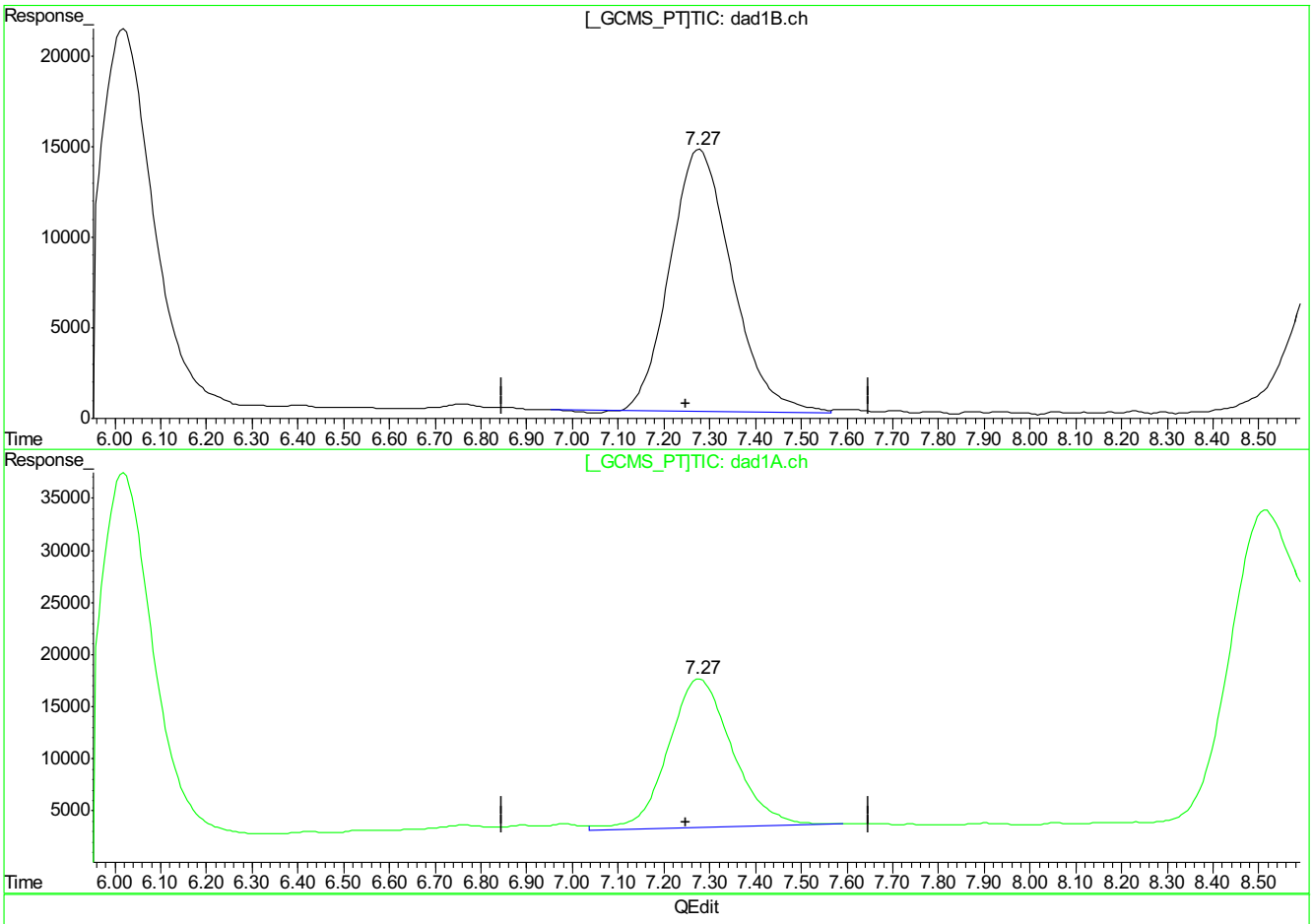
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.27	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.51	Poorly defined baseline
Tetryl	479-45-8	2	8.64	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.08	Poorly defined baseline
PETN	78-11-5	2	18.04	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 389.028ppb

response 1360727

(9) Nitrobenzene #2

7.28min 438.771ppb

response 1403286

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:21:55 2017

9.4.1.2

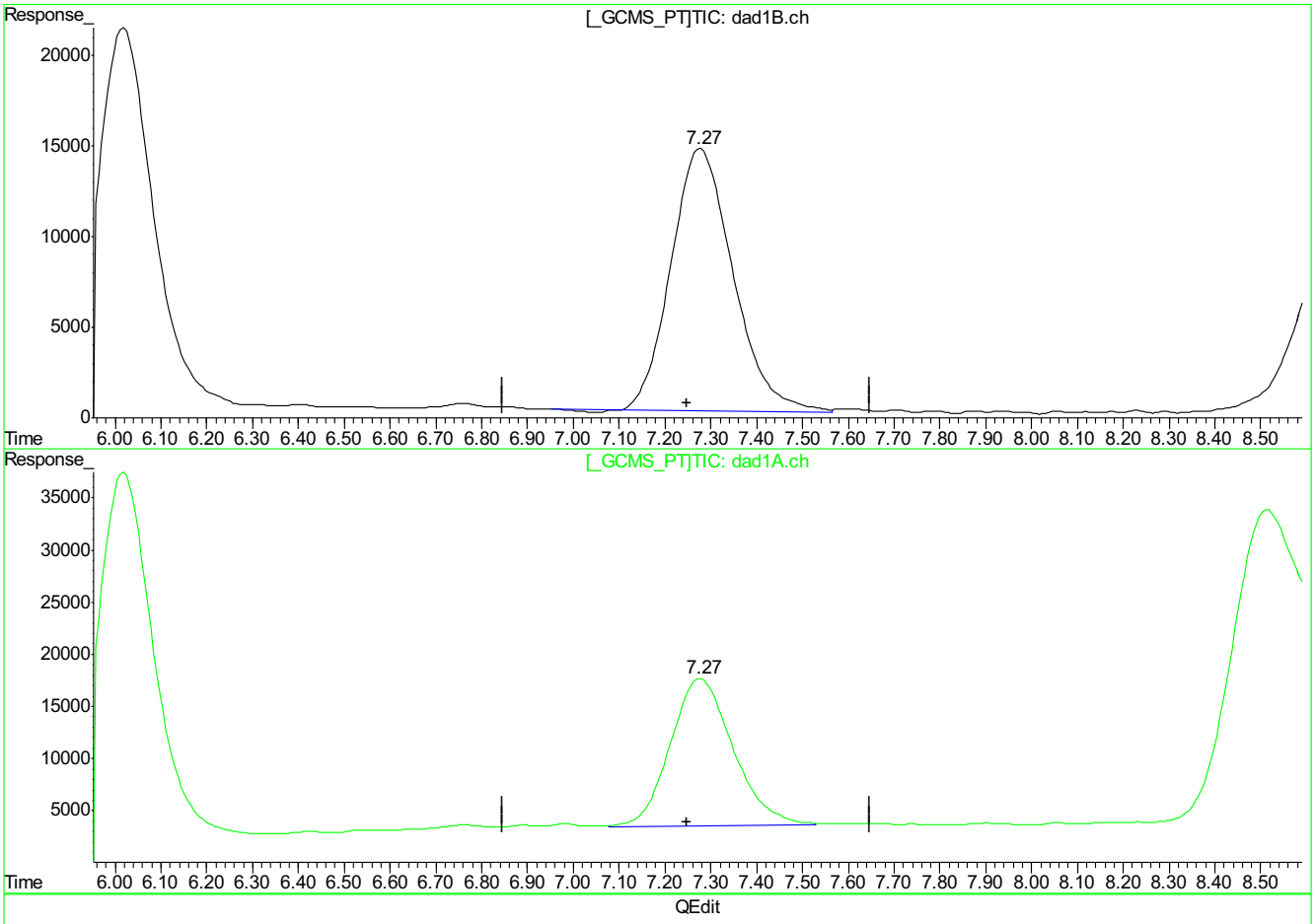
9

BB054290.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 389.028ppb

response 1360727

(9) Nitrobenzene #2

7.27min 423.837ppb m

response 1355525

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:00 2017

9.4.1.3

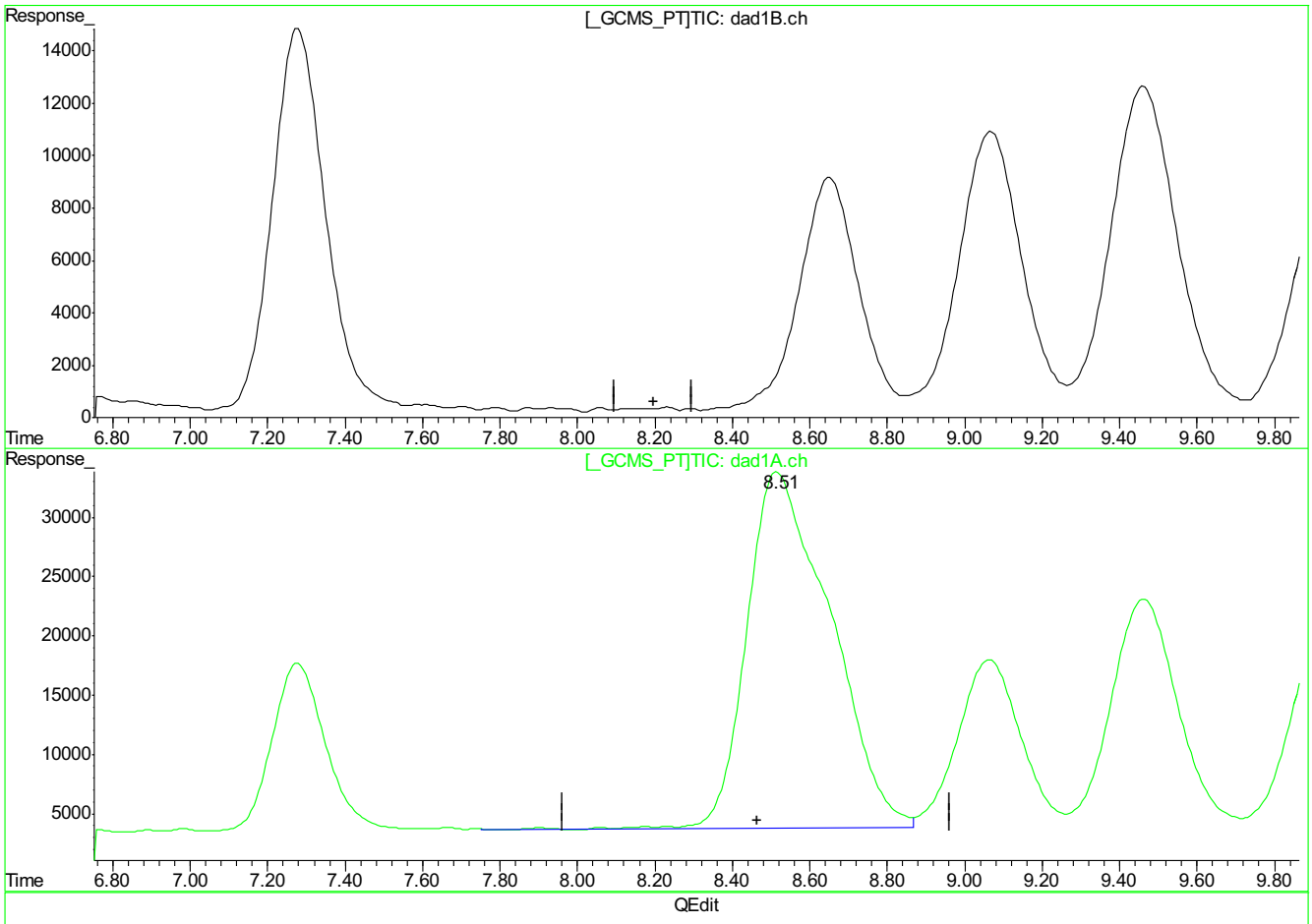
9

BB054290.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.52min 3475.803ppb

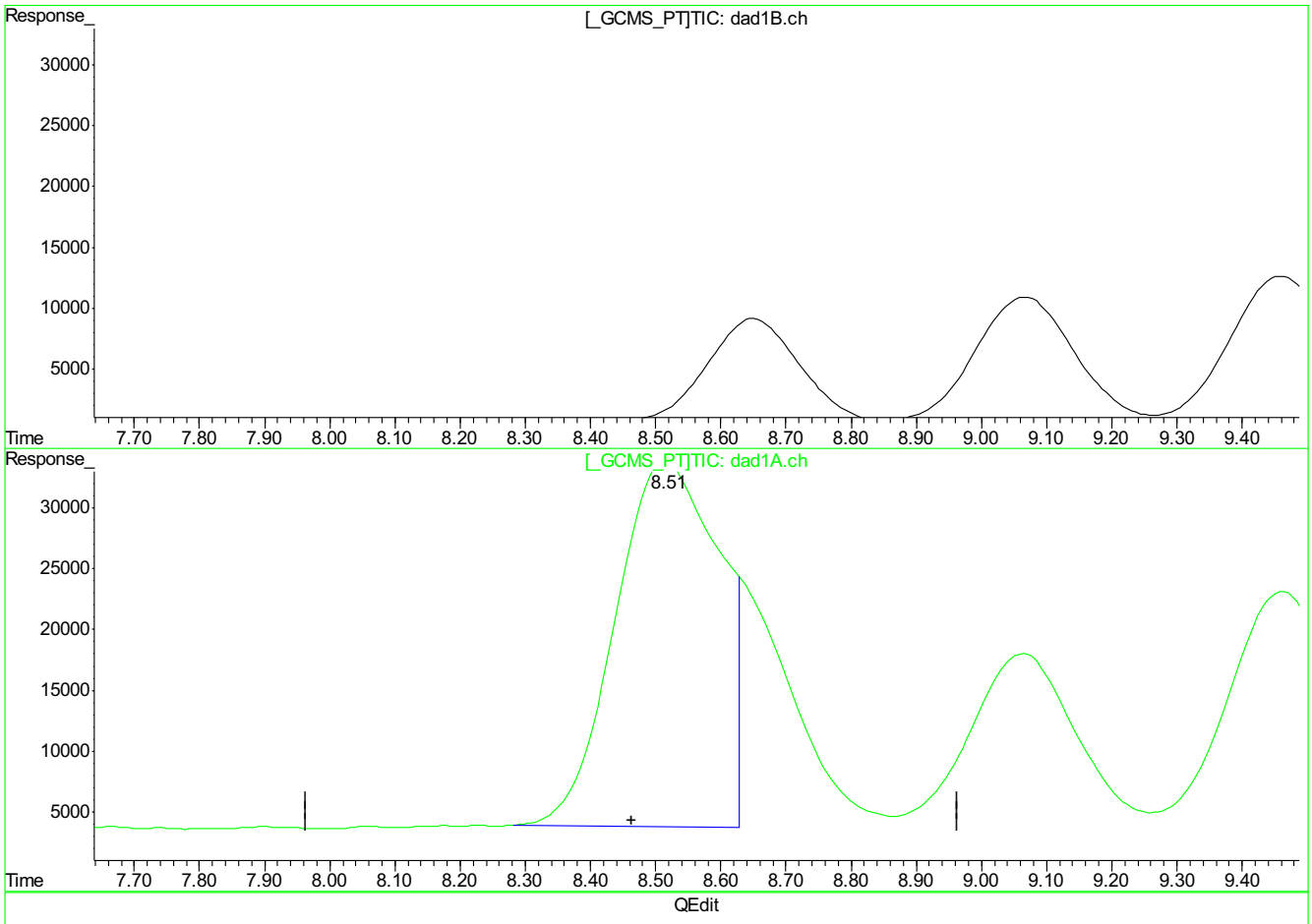
response 4492152

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:04 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.51min 2547.839ppb m

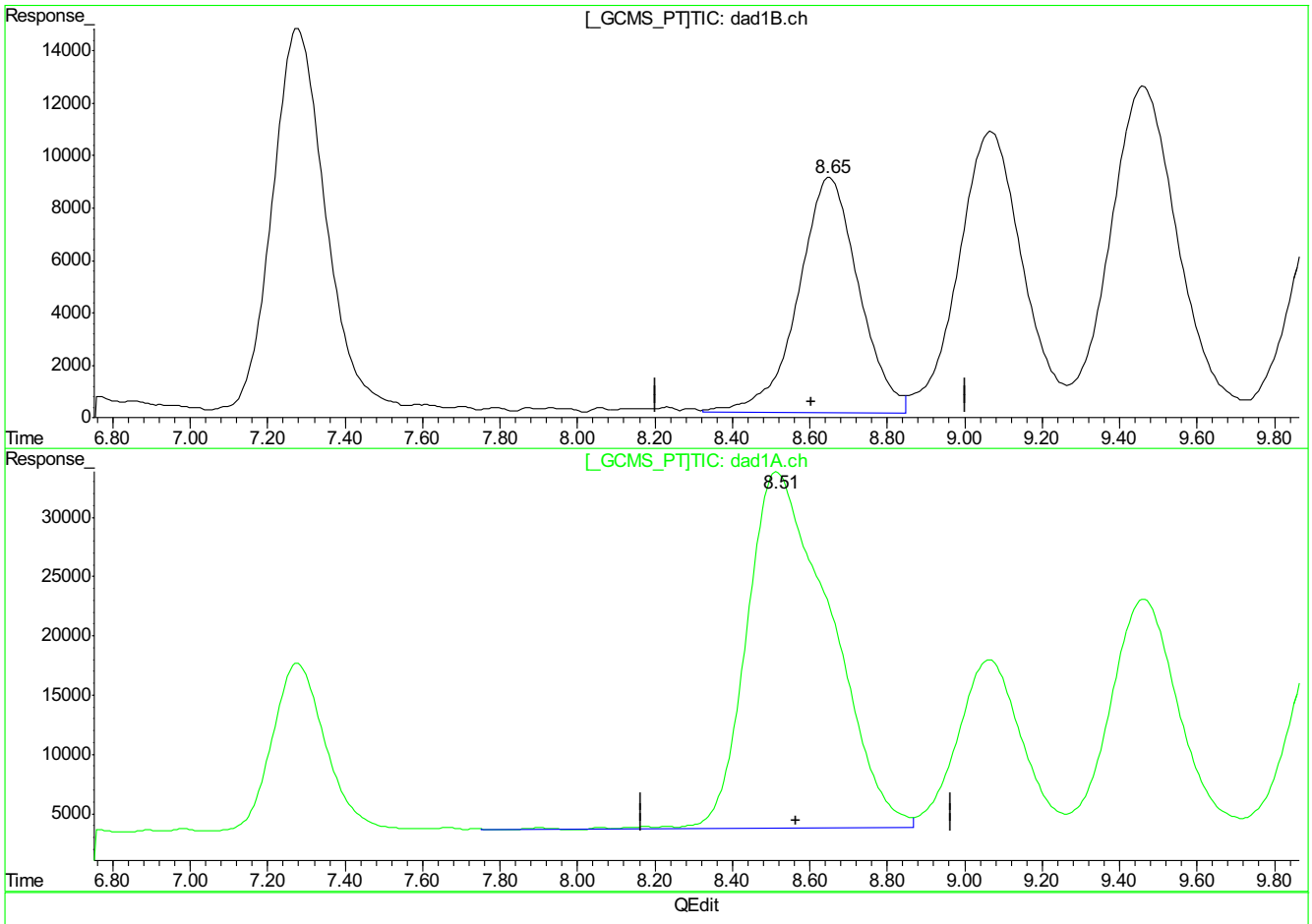
response 3292844

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:19 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 366.418ppb

response 971977

(11) Tetryl #2

8.52min 1134.106ppb

response 4492152

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:23 2017

9.4.1.6

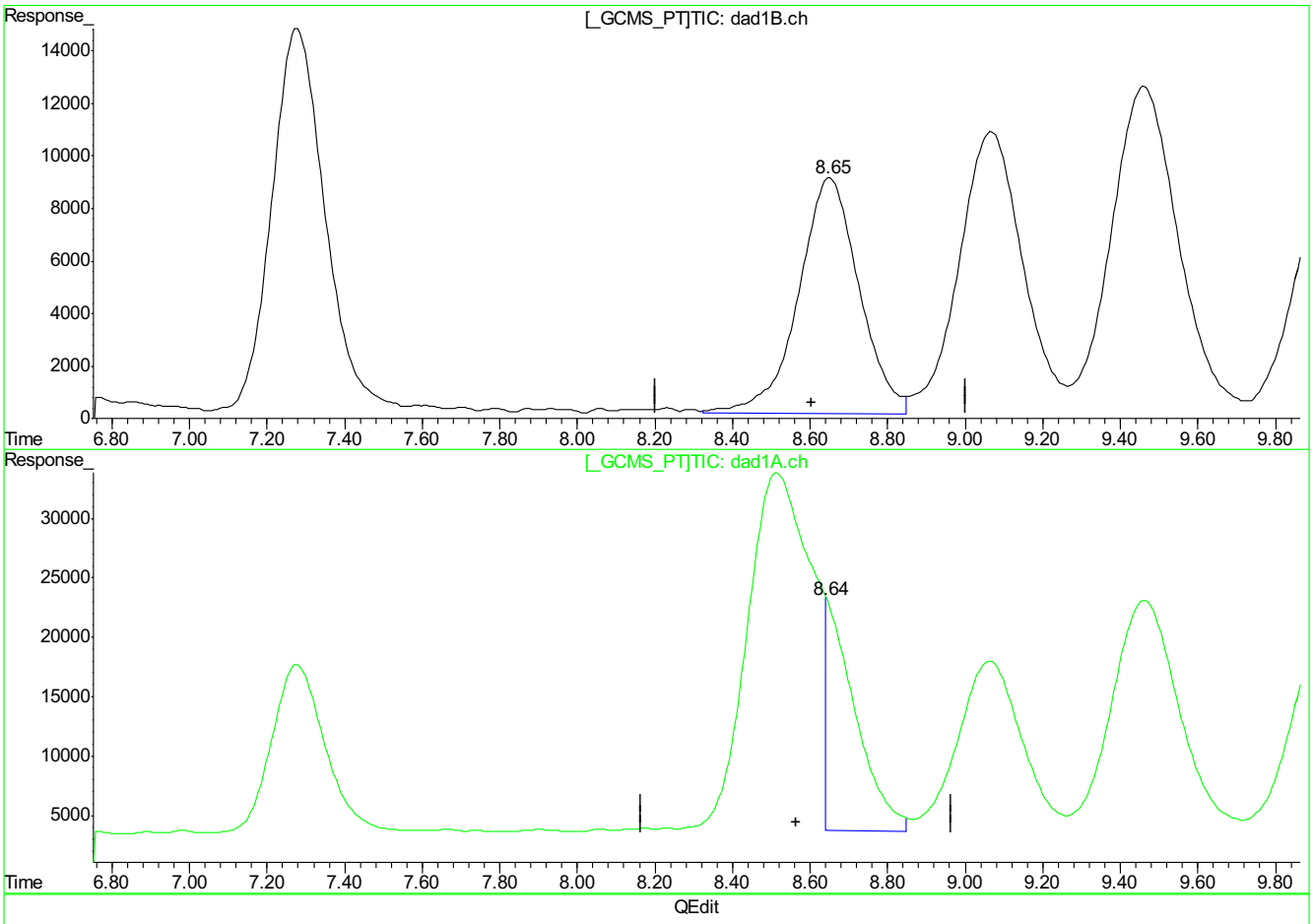
9

BB054290.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 366.418ppb

response 971977

(11) Tetryl #2

8.64min 250.214ppb m

response 1002753

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:35 2017

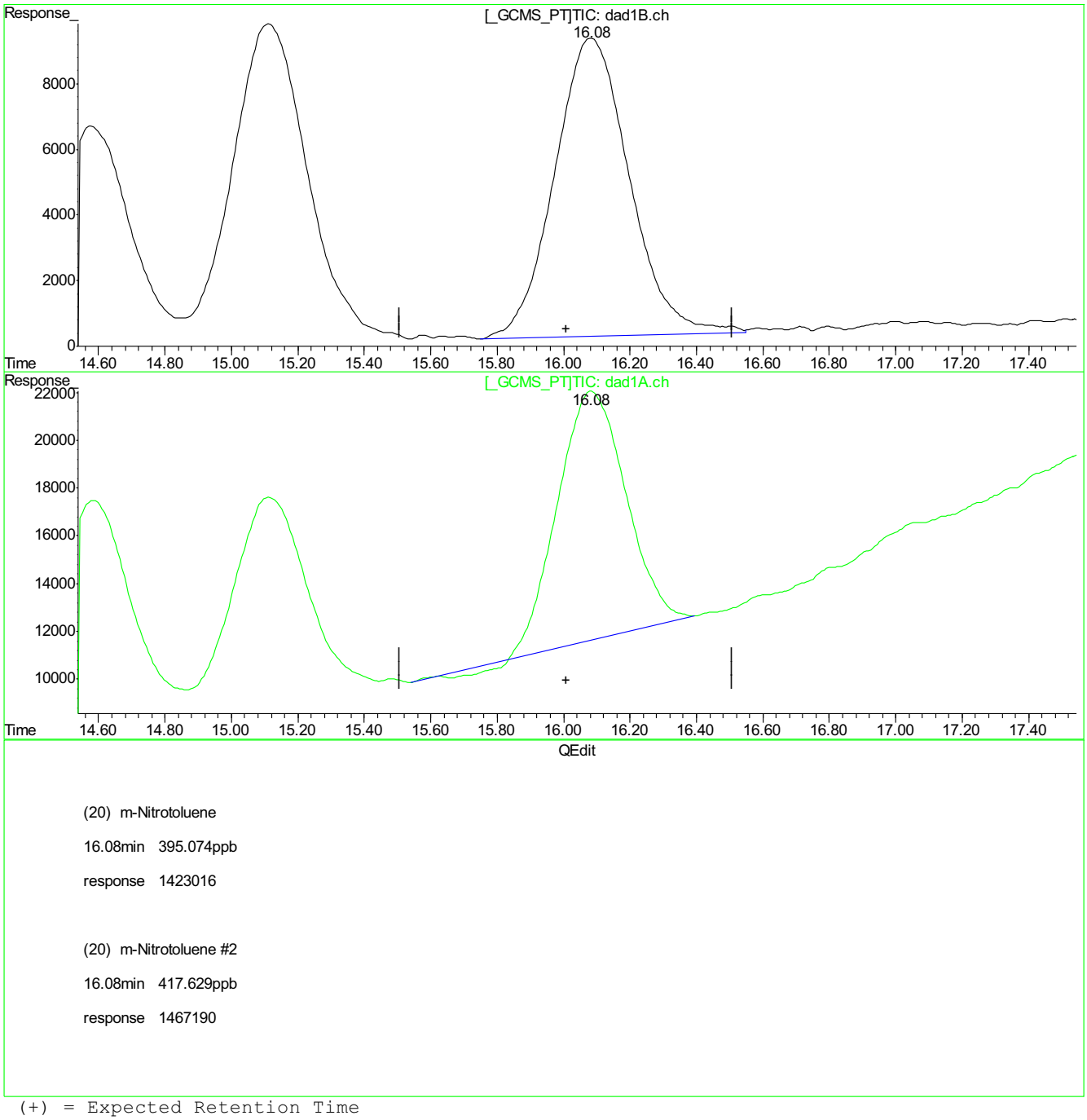
9.4.1.7

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.08min 395.074ppb

response 1423016

(20) m-Nitrotoluene #2

16.08min 417.629ppb

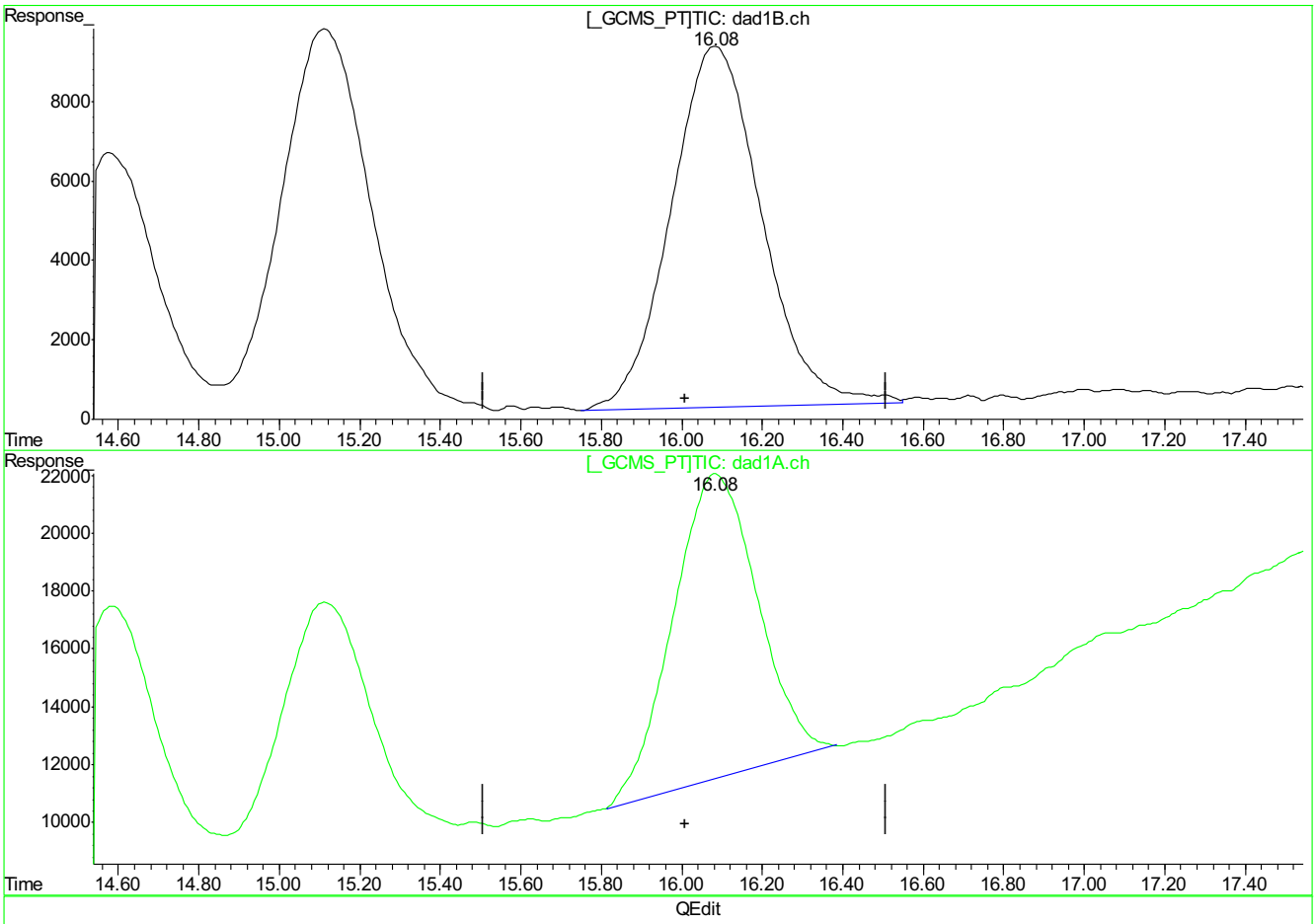
response 1467190

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:44 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.08min 395.074ppb

response 1423016

(20) m-Nitrotoluene #2

16.08min 436.813ppb m

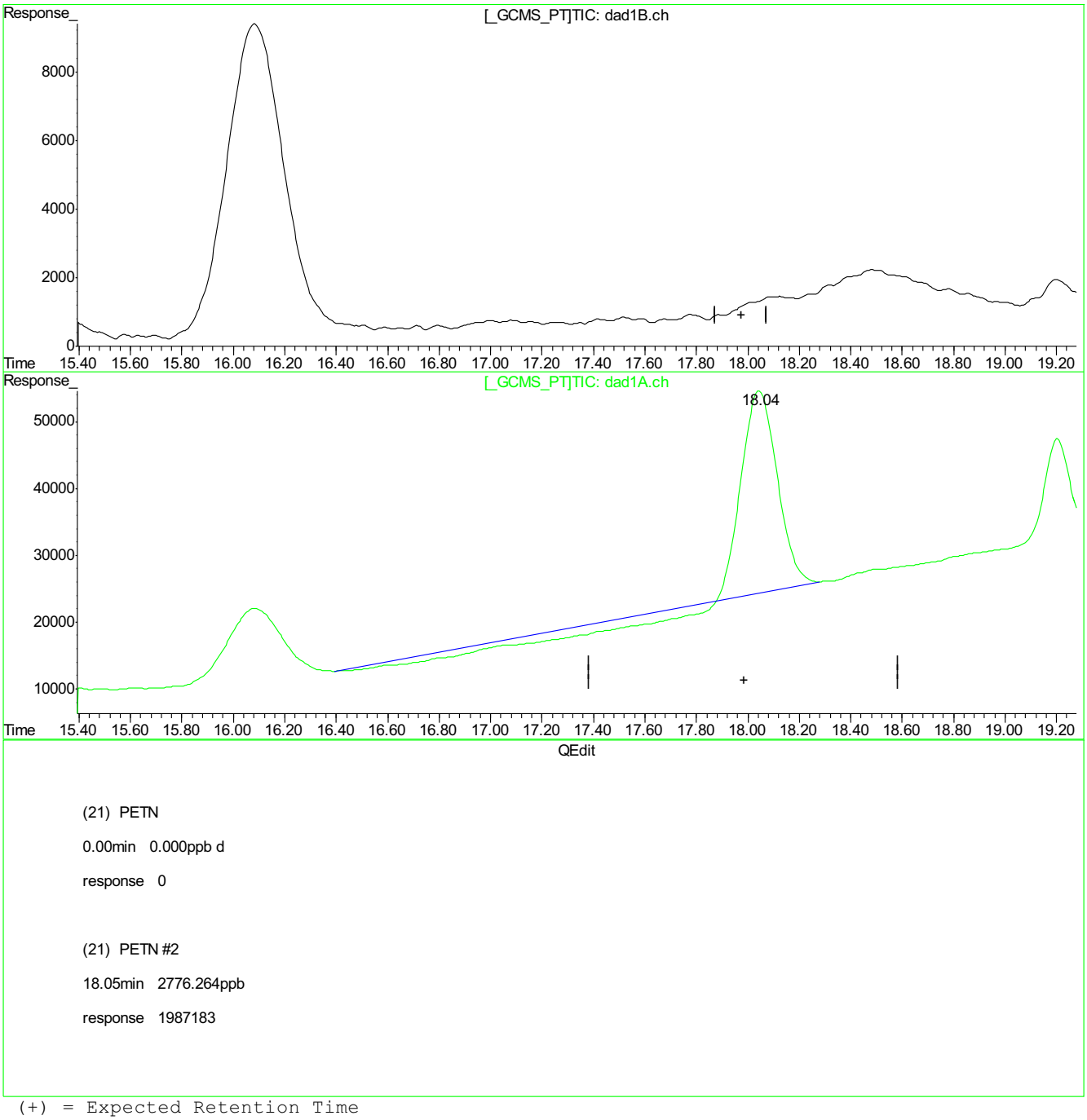
response 1534585

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:48 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.05min 2776.264ppb

response 1987183

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:50 2017

9.4.1.10

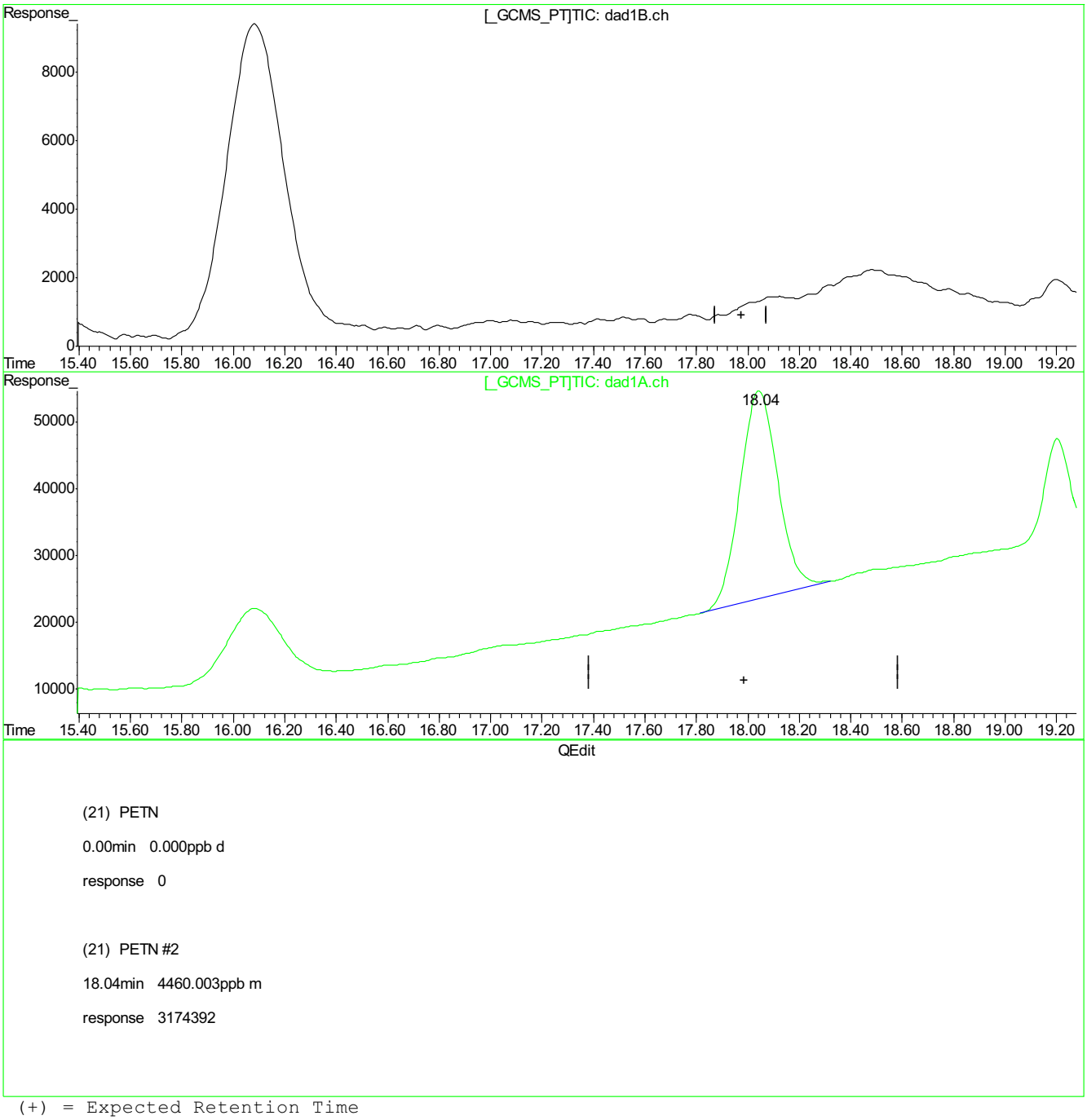
9

BB054290.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.04min 4460.003ppb m

response 3174392

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:53 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:47 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.25	10.25	1021147	1873502	444.736	437.506
	Spiked Amount 500.000	Range 70 - 136		Recovery =		88.95%	87.50%
	Target Compounds						
1)	TNX	1.35	1.35	1202495	1872096	398.922	386.462
2)	HMX	1.46	1.46	736173	2084445	421.474	434.116
3)	DNX	1.71	1.71	1201545	1982108	385.934	419.835
4)	MNX	2.26	2.26	1047979	1625483	422.507	423.043
5)	RDX	2.83	2.83	848488	1341802	449.258	408.303
6)	1,3,5-Trinitrobe	4.44	4.44	1819406	3578972	421.177	440.268
7)	1,3-Dinitrobenze	5.68	5.68	2284533	1551210	415.342	401.813
8)	3,5-Dinitroanili	6.02	6.02	1856415	3035409	496.955	454.393
9)	Nitrobenzene	7.28	7.27	1398439	1336027	399.810	417.741m
10)	Nitroglycerin	0.00	8.51	0	3388147	N.D. d	2621.579m
11)	Tetryl	8.65	8.63	983620	1096253	370.800	273.629m
12)	2,4,6-Trinitroto	9.07	9.06	1224188	1614892	295.897	346.851
13)	2-Amino-4,6-Dini	9.46	9.46	1498746	2298600	414.157	424.280
14)	4-Amino-2,6-Dini	9.93	9.93	1047057	2161587	404.211	406.751
16)	2,4-Dinitrotolue	10.86	10.85	2130508	1367899	419.599	406.329
17)	2,6-Dinitrotolue	11.35	11.36	1262448	1548775	404.604	441.048
18)	o-Nitrotoluene	14.59	14.59	1039607	1418248	448.330	436.917
19)	p-Nitrotoluene	15.12	15.12	1563297	1344334	444.951	452.809
20)	m-Nitrotoluene	16.09	16.08	1474093	1579225	409.254	449.519m
21)	PETN	0.00	18.04	0	3269248	N.D. d	4595.366m

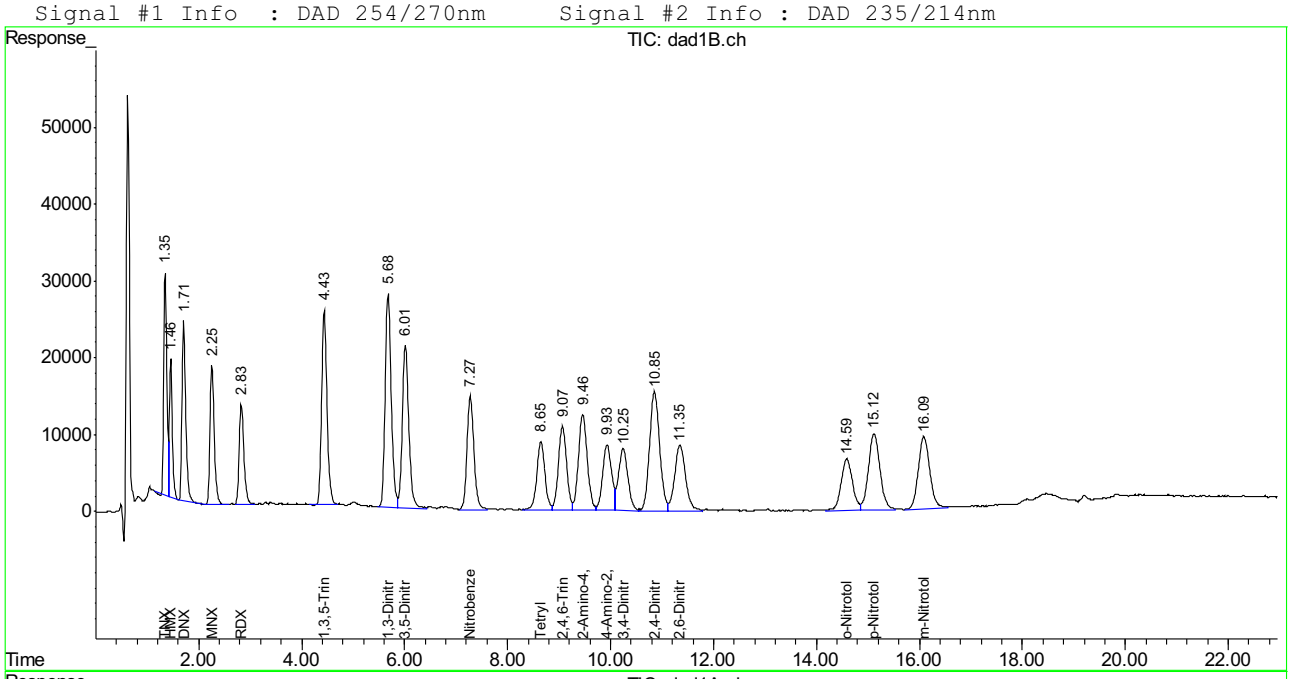
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054291.D 8330B_0419PLUS.M Fri Apr 21 10:12:26 2017 Page 1

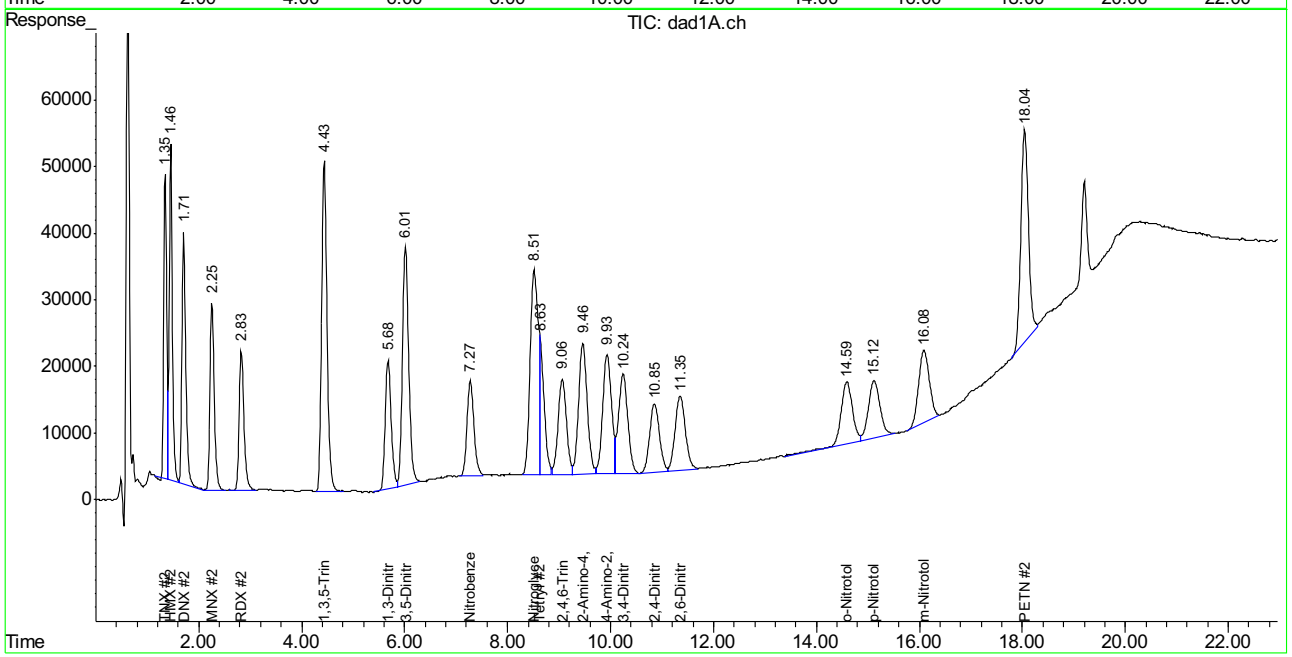
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:32 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

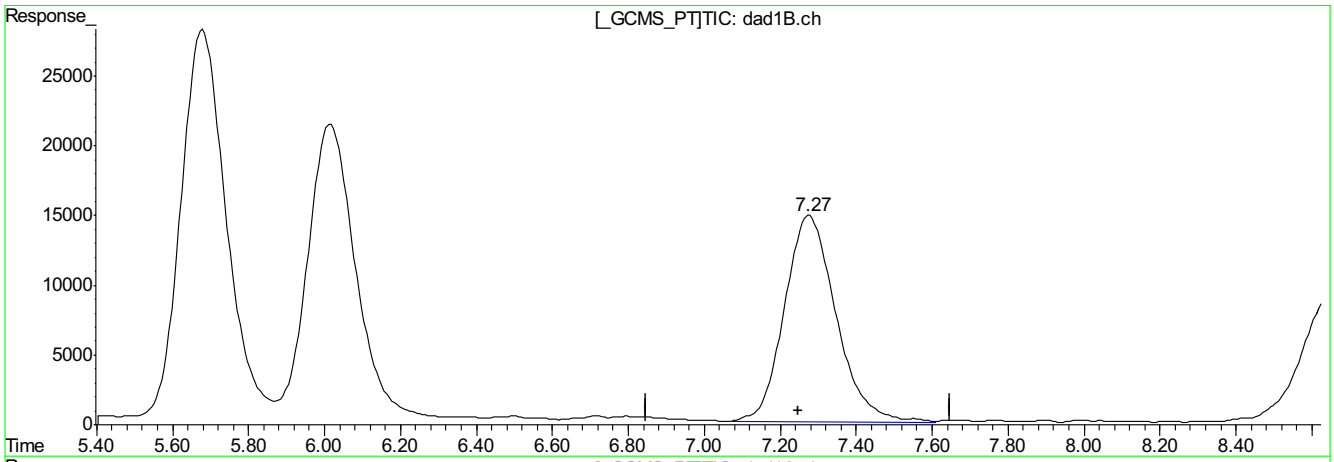
Sample Number: OP64666-MSD
Lab FileID: BB054291.D
Injection Time: 04/20/17 13:36
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

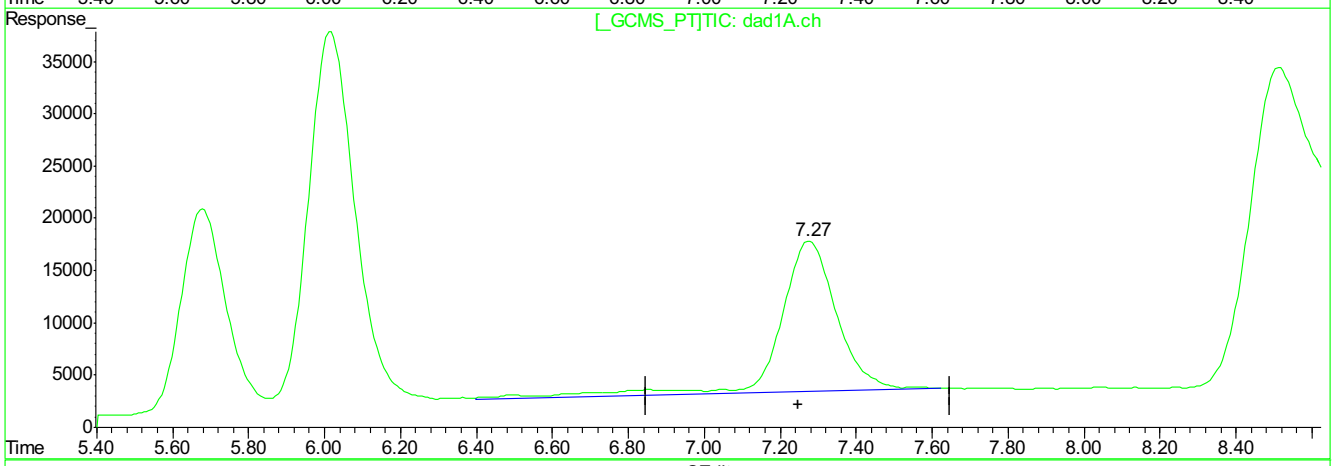
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.27	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.51	Poorly defined baseline
Tetryl	479-45-8	2	8.63	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.08	Poorly defined baseline
PETN	78-11-5	2	18.04	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.28min 399.810ppb

response 1398439

(9) Nitrobenzene #2

7.28min 473.952ppb

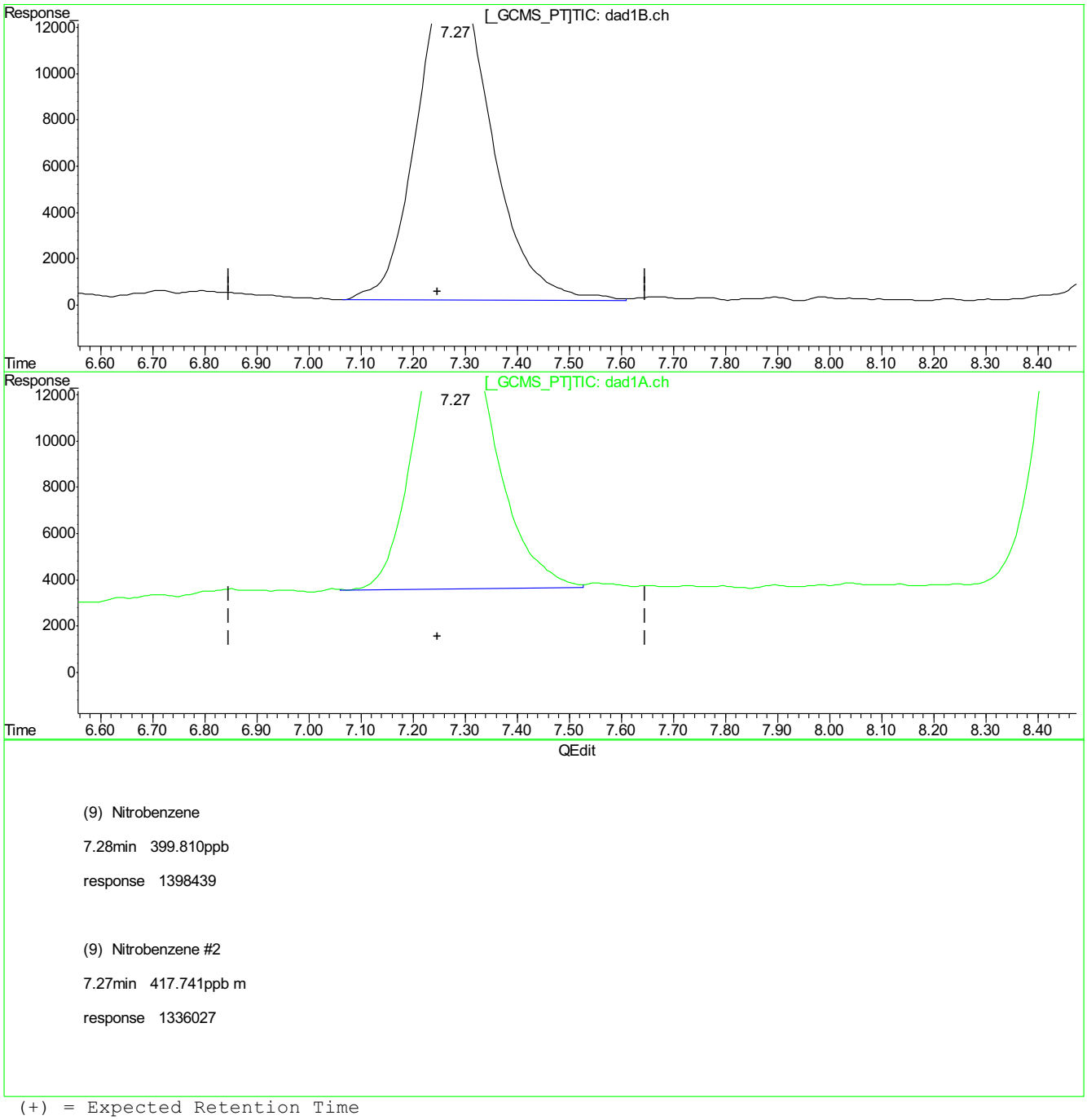
response 1515803

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:31:49 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 399.810ppb

response 1398439

(9) Nitrobenzene #2

7.27min 417.741ppb m

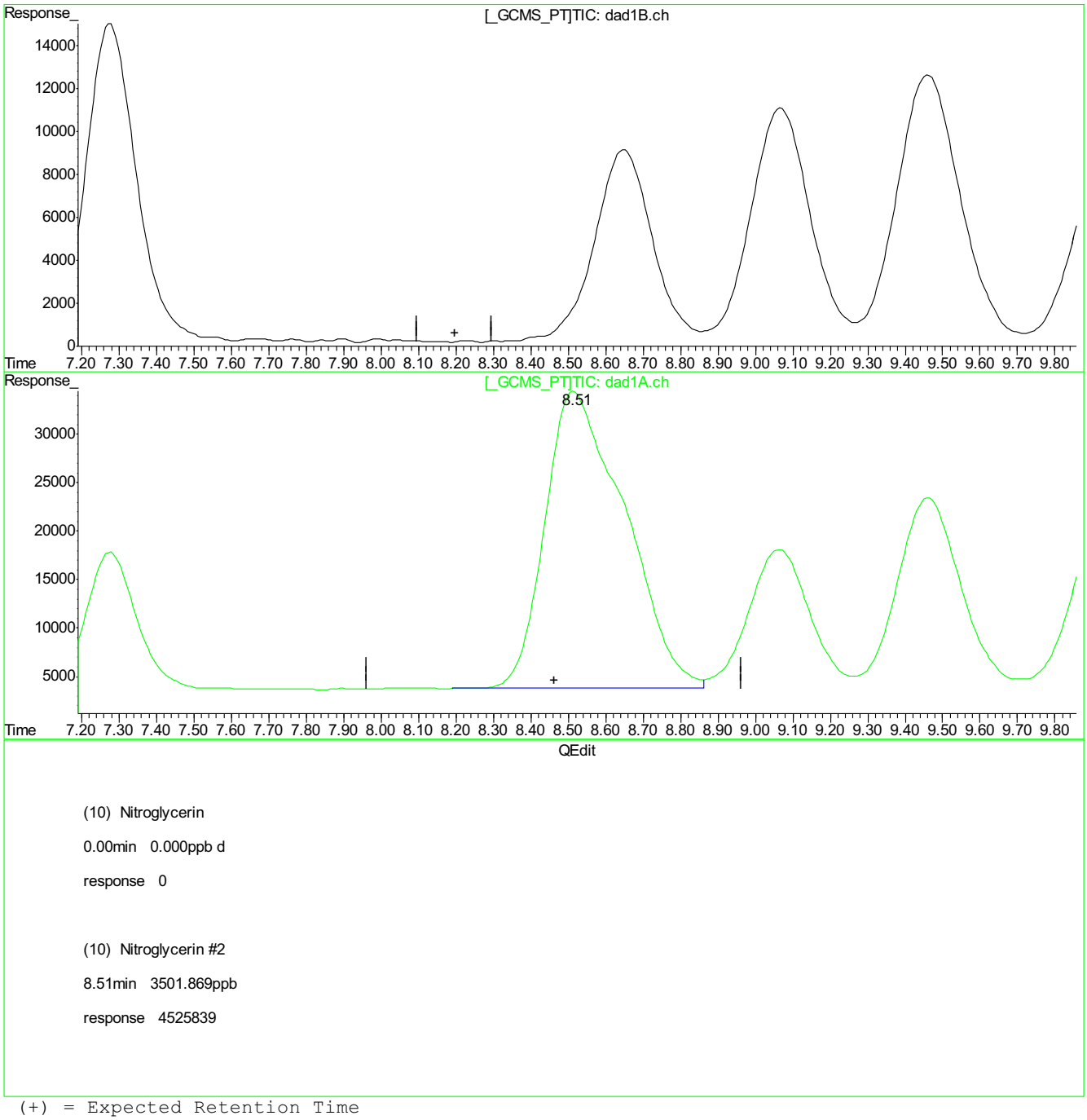
response 1336027

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:31:55 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.51min 3501.869ppb

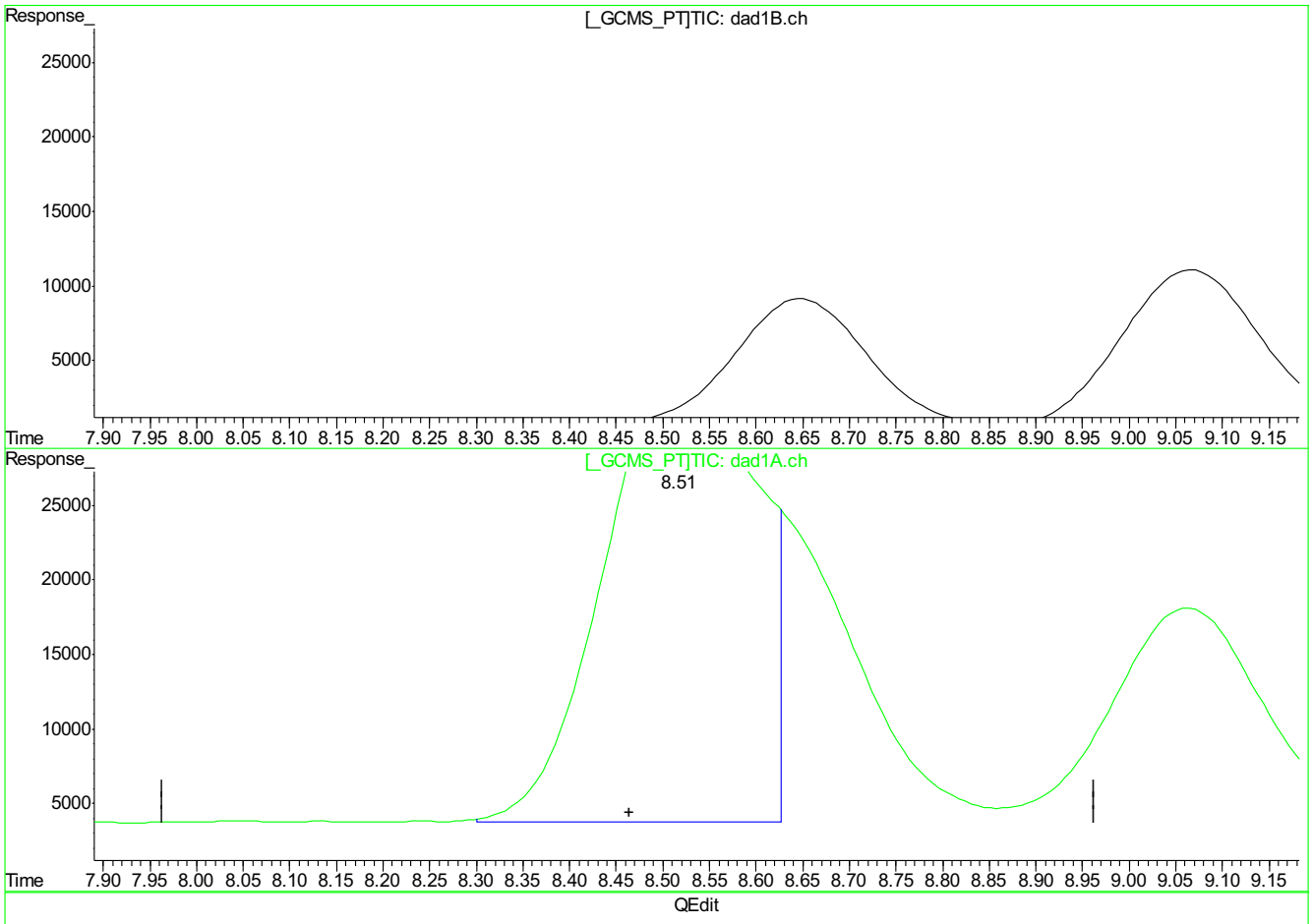
response 4525839

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:31:58 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.51min 2621.579ppb m

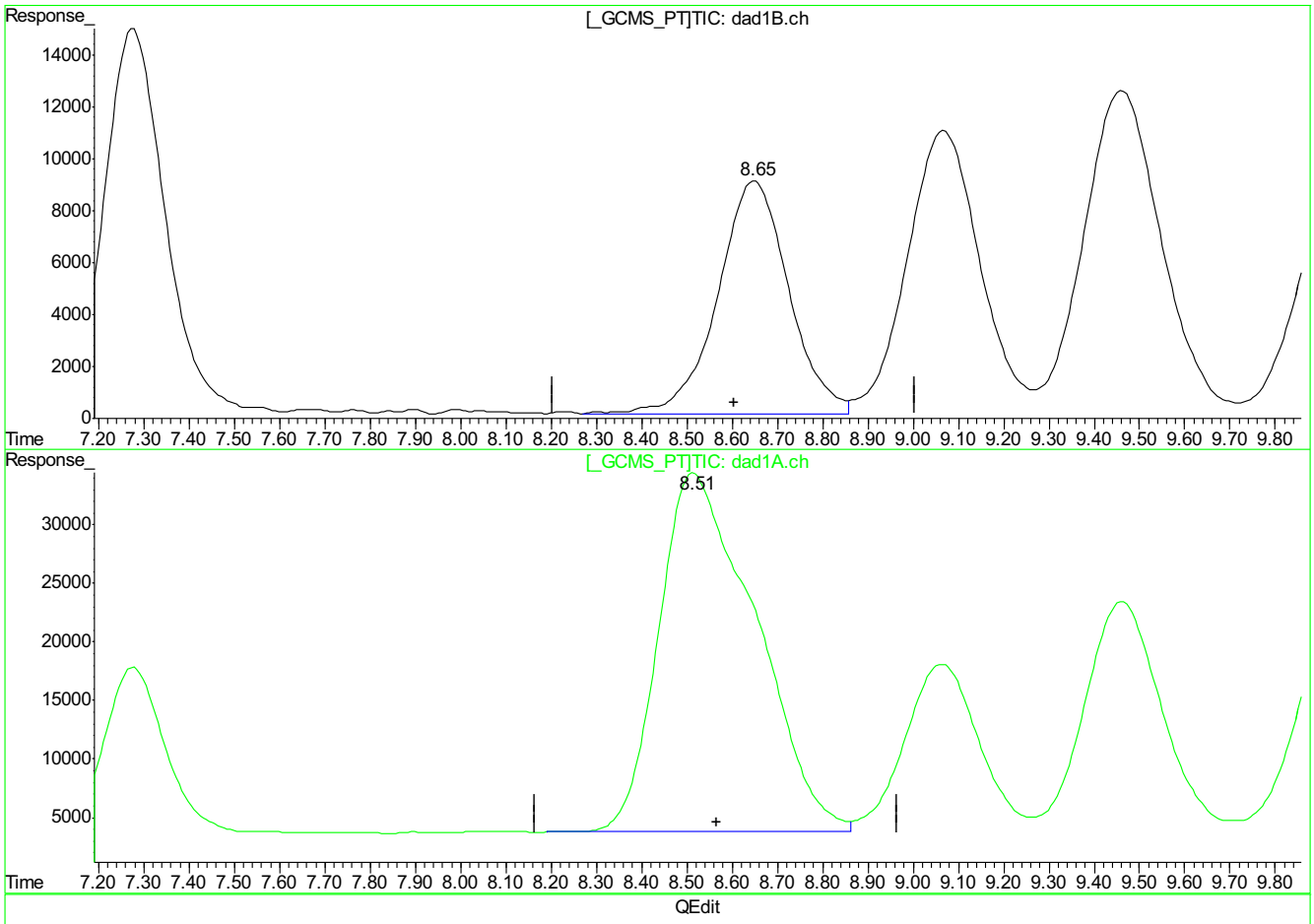
response 3388147

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:14 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 370.800ppb

response 983620

(11) Tetryl #2

8.51min 1142.742ppb

response 4525839

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:16 2017

9.4.2.6

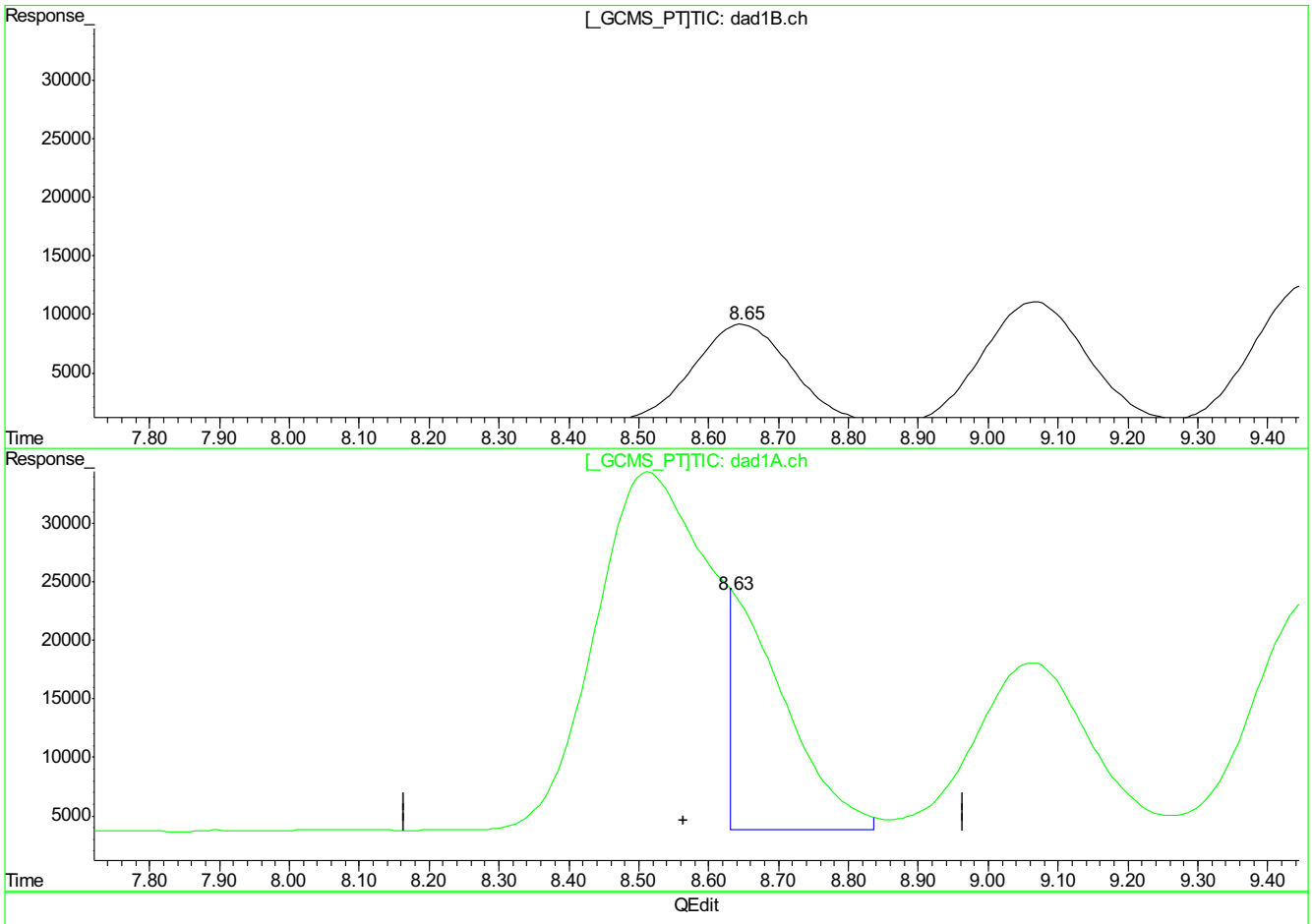
9

BB054291.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 370.800ppb

response 983620

(11) Tetryl #2

8.63min 273.629ppb m

response 1096253

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:29 2017

9.4.2.7

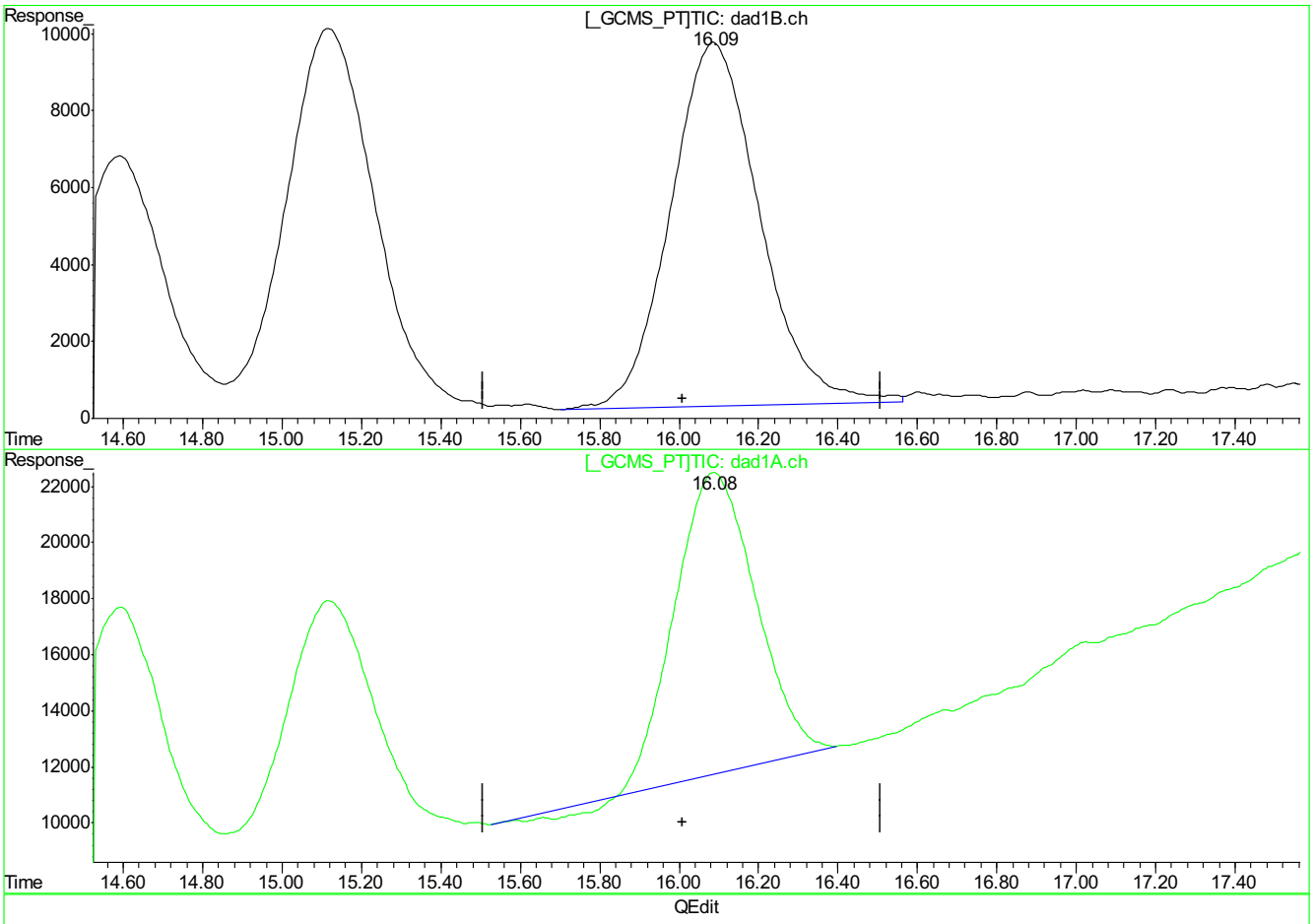
9

BB054291.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.09min 409.254ppb

response 1474093

(20) m-Nitrotoluene #2

16.09min 422.817ppb

response 1485416

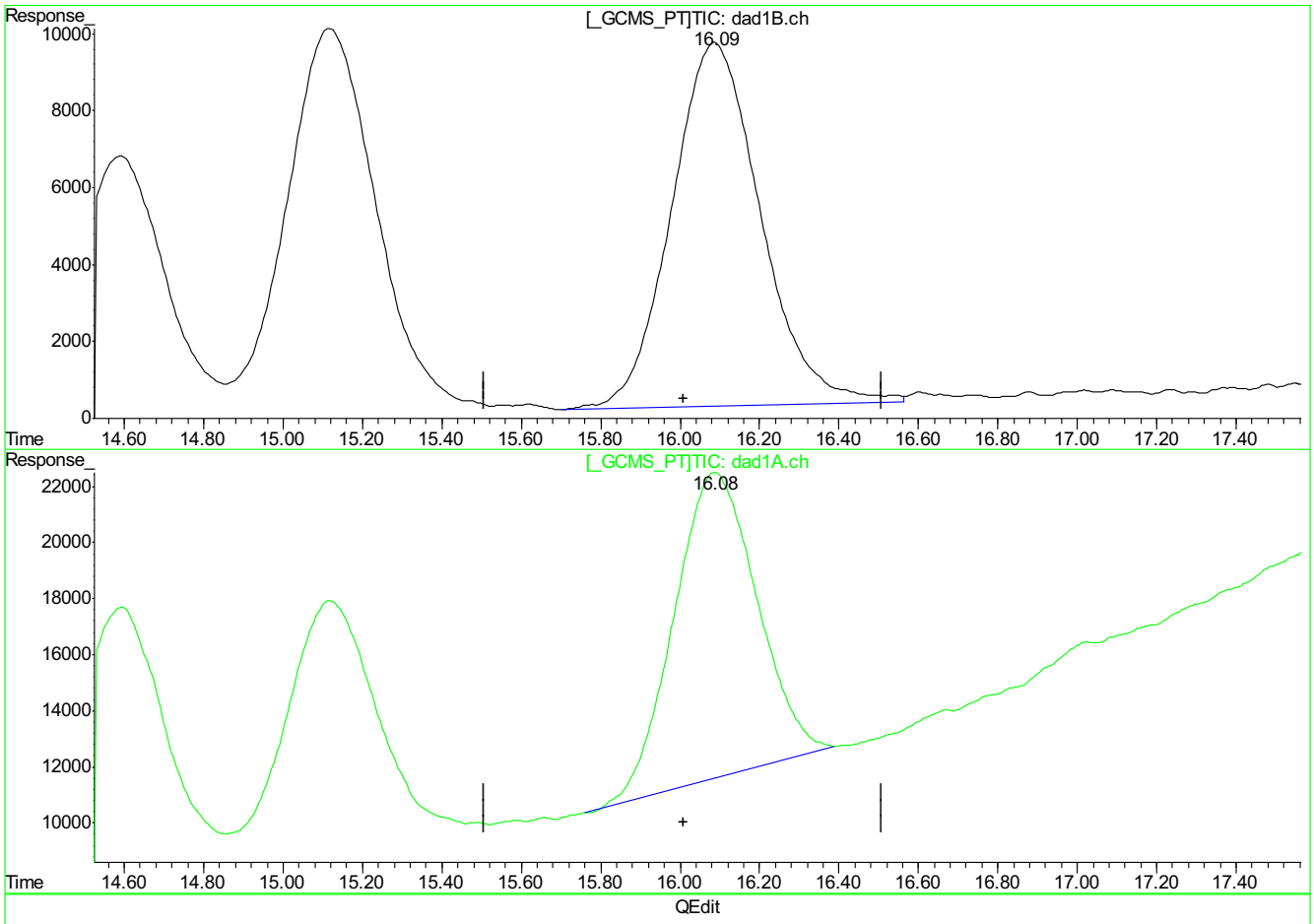
(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:34 2017

9.4.2.8
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.09min 409.254ppb

response 1474093

(20) m-Nitrotoluene #2

16.08min 449.519ppb m

response 1579225

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:38 2017

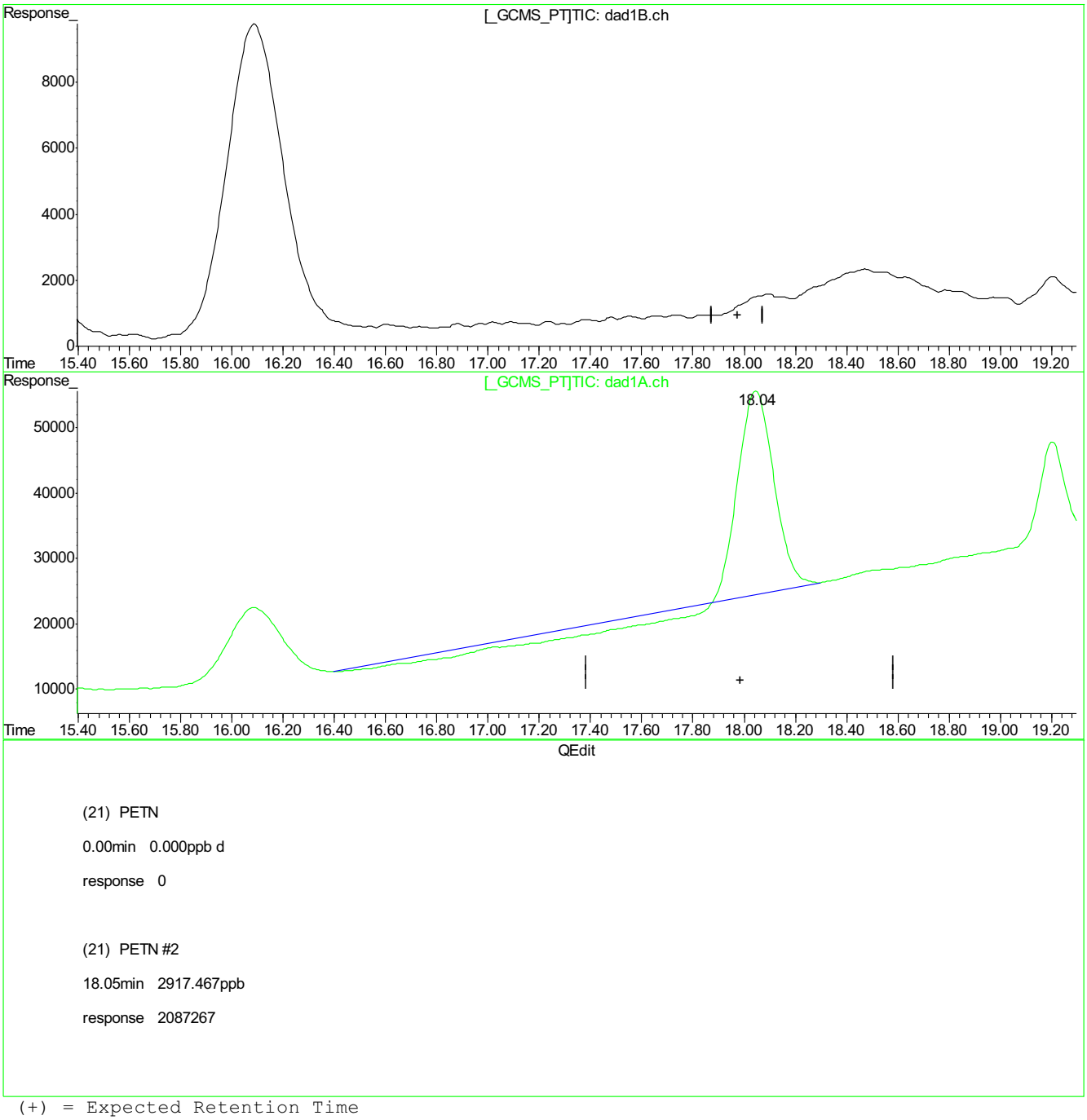
9.4.2.9

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.05min 2917.467ppb

response 2087267

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:48 2017

9.4.2.10

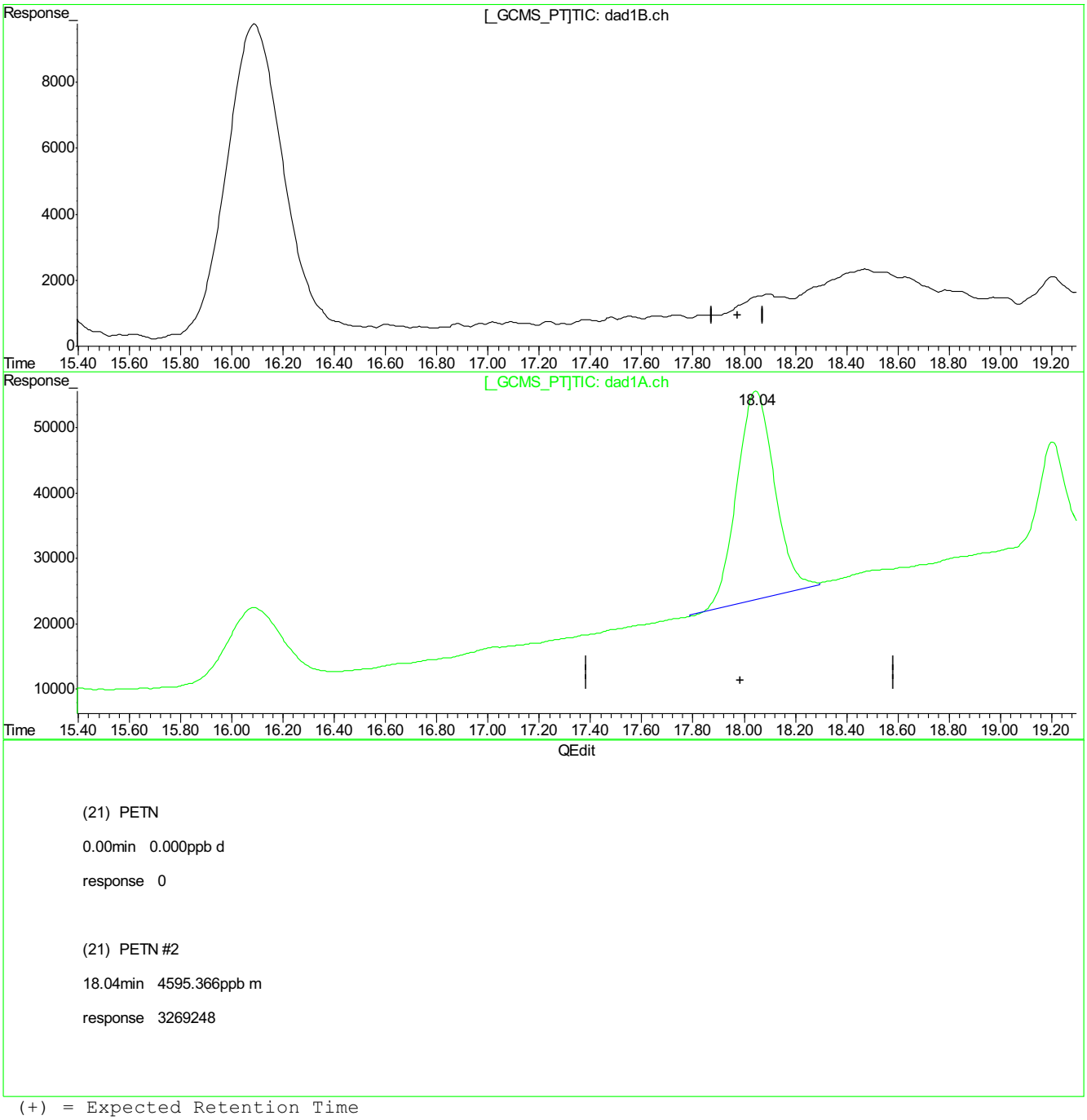
9

BB054291.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.04min 4595.366ppb m

response 3269248

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:53 2017

9.4.2.11

9

BB054291.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:00 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.31	10.31	44842	105766	17.827	25.955m#
Spiked Amount	500.000	Range	69 - 134	Recovery	=	3.57%#	5.19%#
	Target Compounds						
1)	TNX	1.36	1.36	50521	88218	15.387	17.158
2)	HMX	1.48	1.47	45570	119893	25.096	22.869
3)	DNX	1.73	1.72	75577	221170	25.963m	42.585m#
4)	MNX	2.29	2.29	57508	88681	24.825	24.357
5)	RDX	2.87	2.86	74403	84831	34.564	24.980m
6)	1,3,5-Trinitrobe	4.49	4.49	100342	177351	22.720m	20.455m
7)	1,3-Dinitrobenze	5.74	5.73	119086	87556	20.831	22.486m
8)	3,5-Dinitroanili	6.10	6.09	115837	163555	23.822	20.411m
9)	Nitrobenzene	7.32	7.30	86310	71902	26.551	23.581m
10)	Nitroglycerin	0.00	8.58	0	123290	N.D. d	100.580m
11)	Tetryl	8.76	8.67	80894	128977	25.242	24.846m
12)	2,4,6-Trinitroto	9.16	9.16	106956	138211	25.833	28.774m
13)	2-Amino-4,6-Dini	9.57	9.55	87397	126474	24.685	25.039m
14)	4-Amino-2,6-Dini	10.03	10.03	60607	132018	22.494	26.090m
16)	2,4-Dinitrotolue	10.93	10.92	116393	88776	22.077	27.178
17)	2,6-Dinitrotolue	11.43	11.48	78290	70229	25.866	18.598
18)	o-Nitrotoluene	14.65	14.69	34341	100747	15.005m	48.534 #
19)	p-Nitrotoluene	15.21	15.26	100206	48132	29.829	19.702
20)	m-Nitrotoluene	16.13	16.31	86087	59952	34.921m	16.262m#
21)	PETN	0.00	18.14	0	113877	N.D. d	84.171m

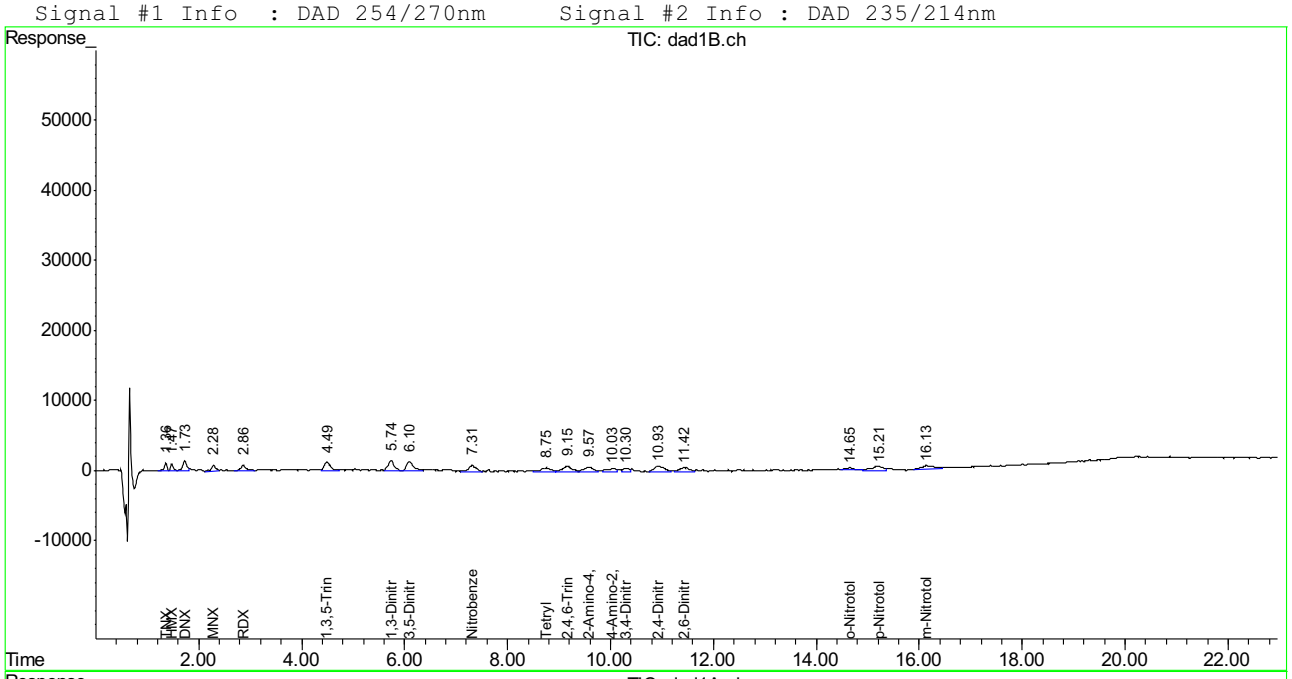
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054261.D 8330B_0419PLUS.M Thu Apr 20 11:04:49 2017 Page 1

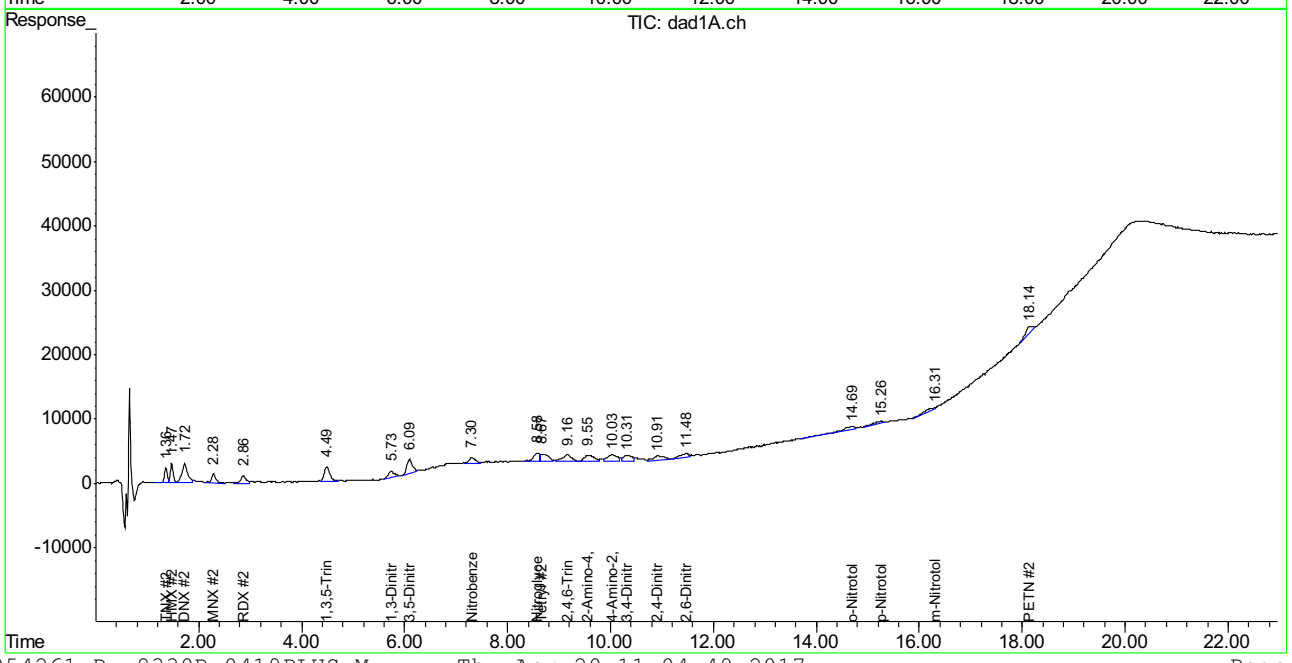
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 14:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

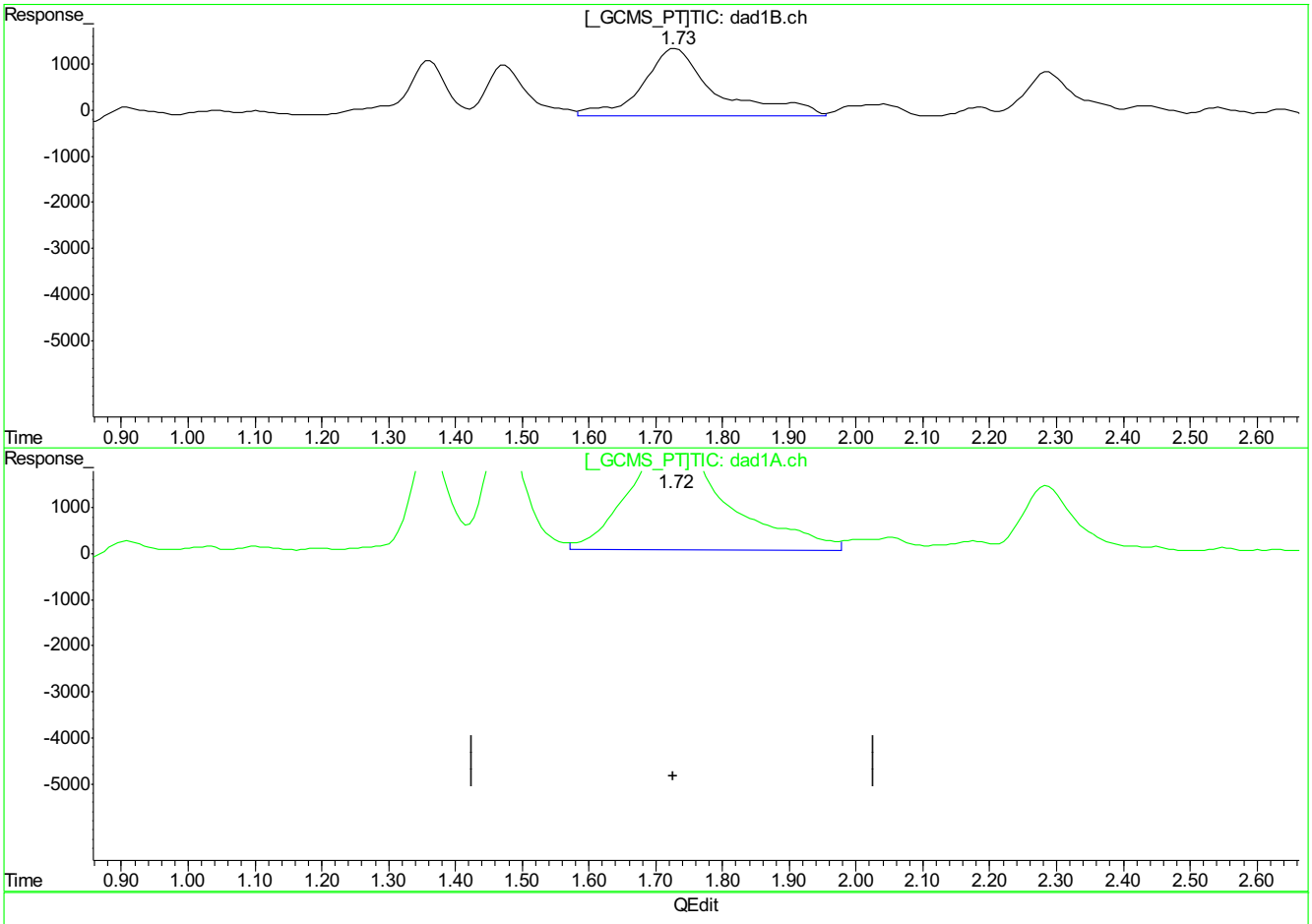
Sample Number: GBB1578-IC1578
Lab FileID: BB054261.D
Injection Time: 04/19/17 10:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	1.72	Poorly defined baseline
DNX		1	1.73	Poorly defined baseline
RDX	121-82-4	2	2.86	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.49	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	2	4.49	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	5.73	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.09	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.30	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.58	Poorly defined baseline
Tetryl	479-45-8	2	8.67	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.16	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.55	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.03	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.31	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	14.65	Poorly defined baseline
m-Nitrotoluene	99-08-1	1	16.13	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.31	Poorly defined baseline
PETN	78-11-5	2	18.14	Poorly defined baseline

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On    : 19-Apr-2017, 10:13:52                    Operator: evitam
Sample    : ic1578-20                                Inst    : G1315B
Misc      : op64647,gbb1578,2.00,,,20,1,SOIL         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
```



(3) DNX

1.73min 37.819ppb

response 110053

(3) DNX #2

1.73min 49.909ppb

response 259207

(+) = Expected Retention Time

BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:47:55 2017

9.5.1.2

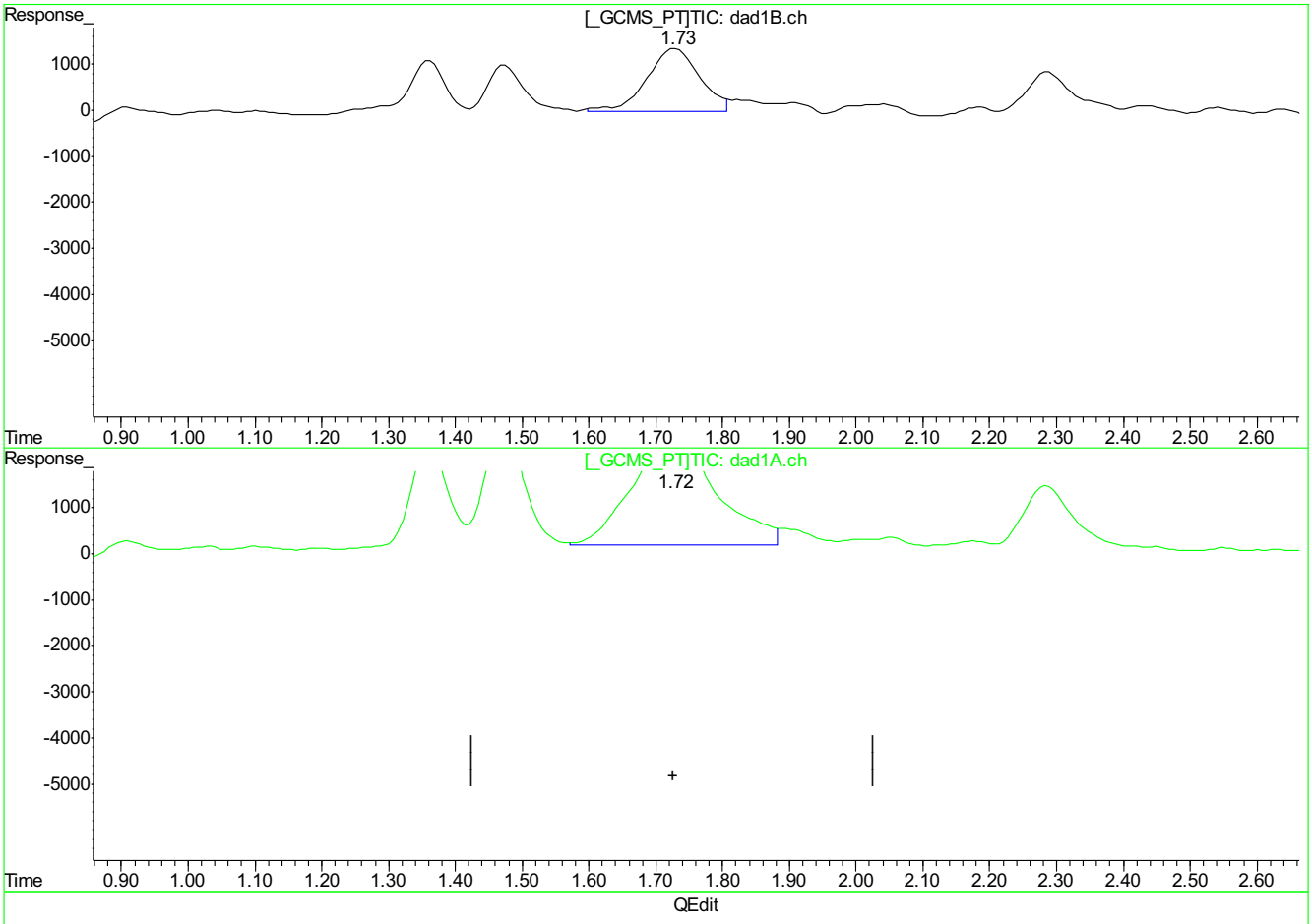
9

BB054261.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(3) DNX

1.73min 25.963ppb m

response 75577

(3) DNX #2

1.72min 42.585ppb m

response 221170

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:04 2017

9.5.1.3

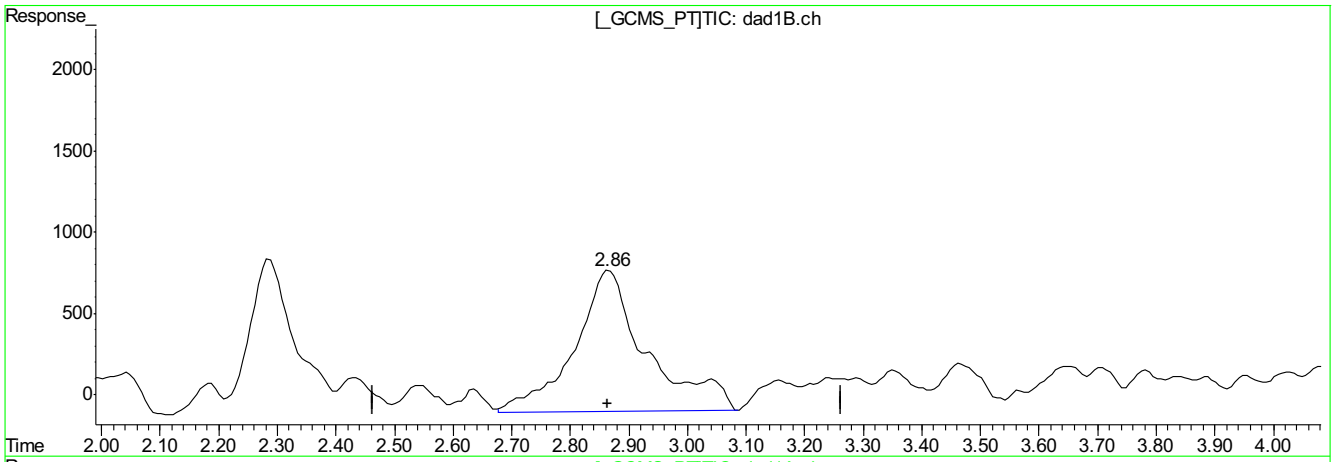
9

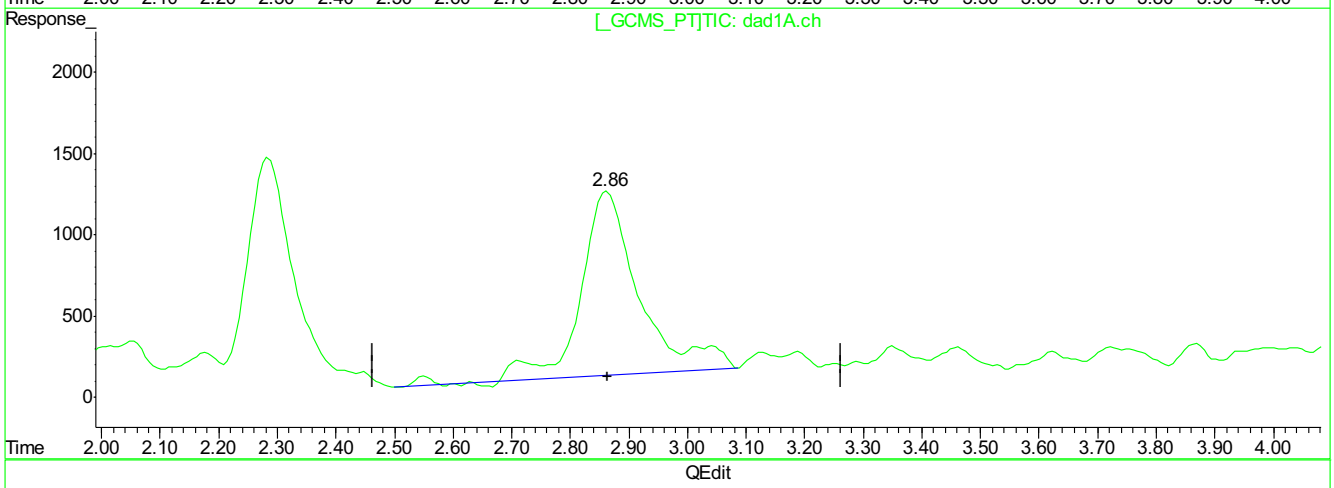
BB054261.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration





QEdit

(5) RDX

2.87min 34.564ppb

response 74403

(5) RDX #2

2.86min 23.369ppb

response 79360

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:16 2017

9.5.1.4

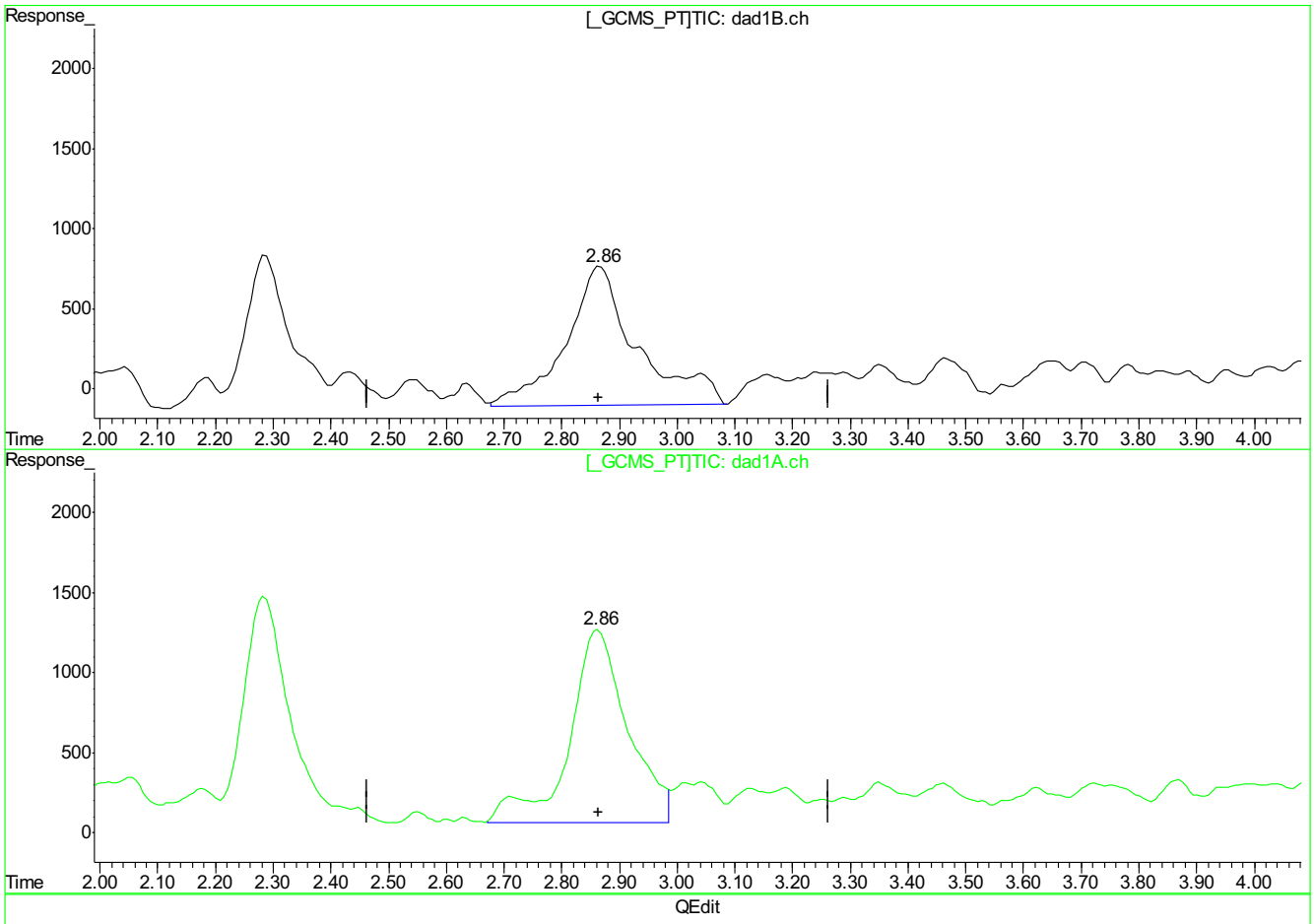
9

BB054261.D edits: RDX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(5) RDX

2.87min 34.564ppb

response 74403

(5) RDX #2

2.86min 24.980ppb m

response 84831

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:25 2017

9.5.1.5

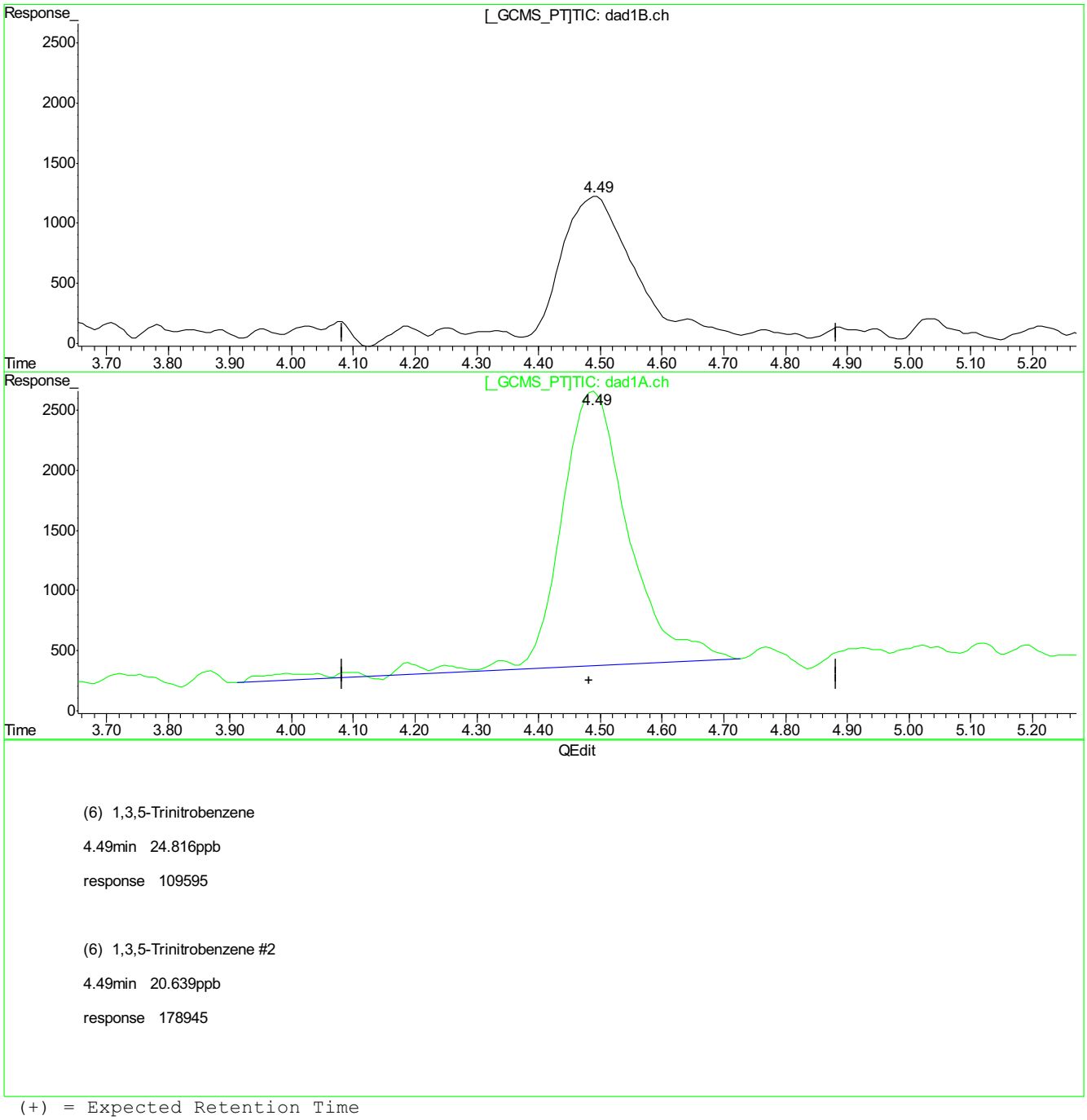
9

BB054261.D edits: RDX

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On    : 19-Apr-2017, 10:13:52                    Operator: evitam
Sample    : ic1578-20                                Inst    : G1315B
Misc      : op64647,gbb1578,2.00,,,20,1,SOIL         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017  Quant Results File: 8330B_0419PLUS.RES


Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
```



(6) 1,3,5-Trinitrobenzene

4.49min 24.816ppb

response 109595

(6) 1,3,5-Trinitrobenzene #2

4.49min 20.639ppb

response 178945

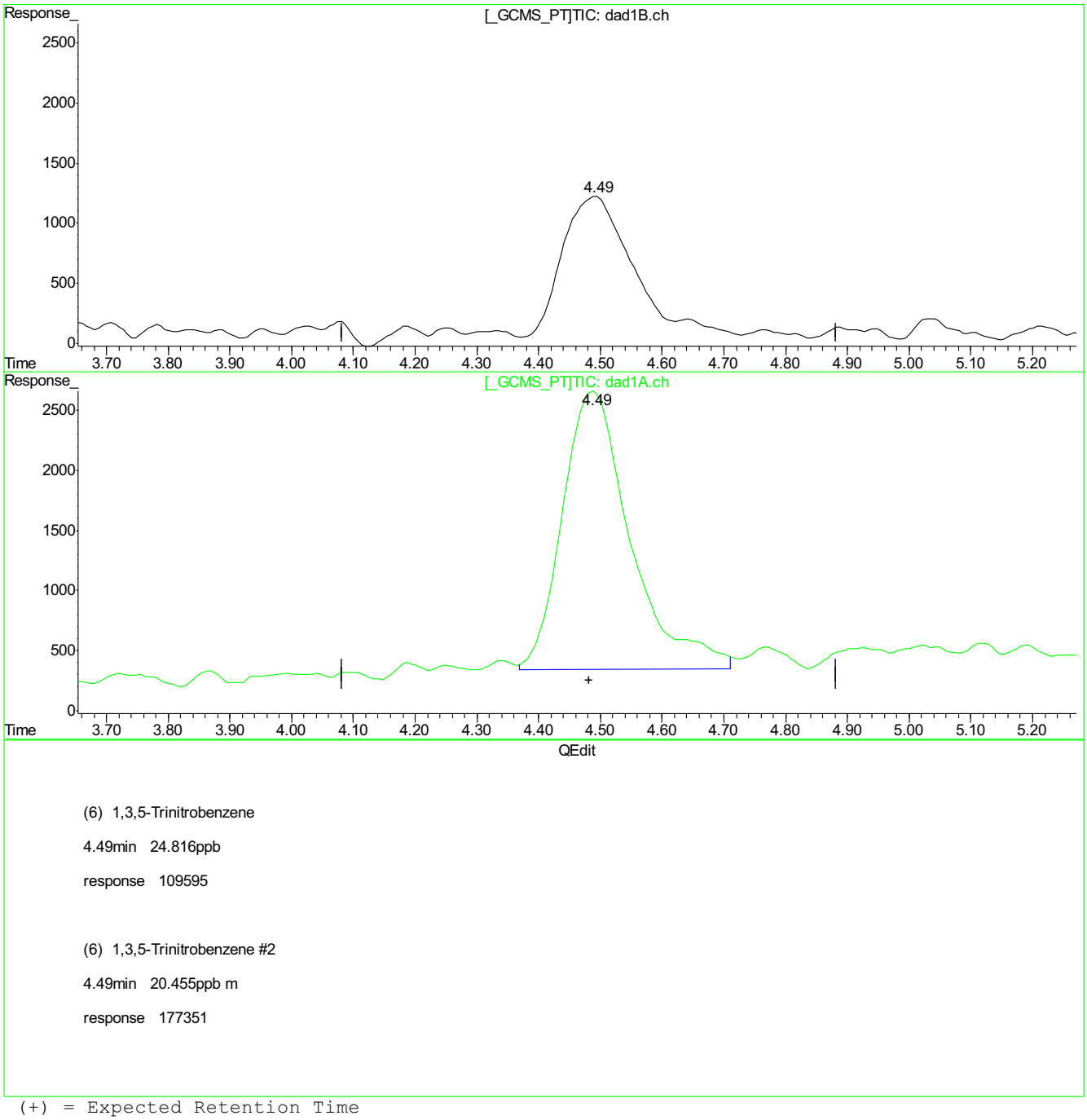
(+) = Expected Retention Time

BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:40 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On    : 19-Apr-2017, 10:13:52                    Operator: evitam
Sample    : ic1578-20                                Inst    : G1315B
Misc      : op64647,gbb1578,2.00,,,20,1,SOIL         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017  Quant Results File: 8330B_0419PLUS.RES


Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
```



(6) 1,3,5-Trinitrobenzene

4.49min 24.816ppb

response 109595

(6) 1,3,5-Trinitrobenzene #2

4.49min 20.455ppb m

response 177351

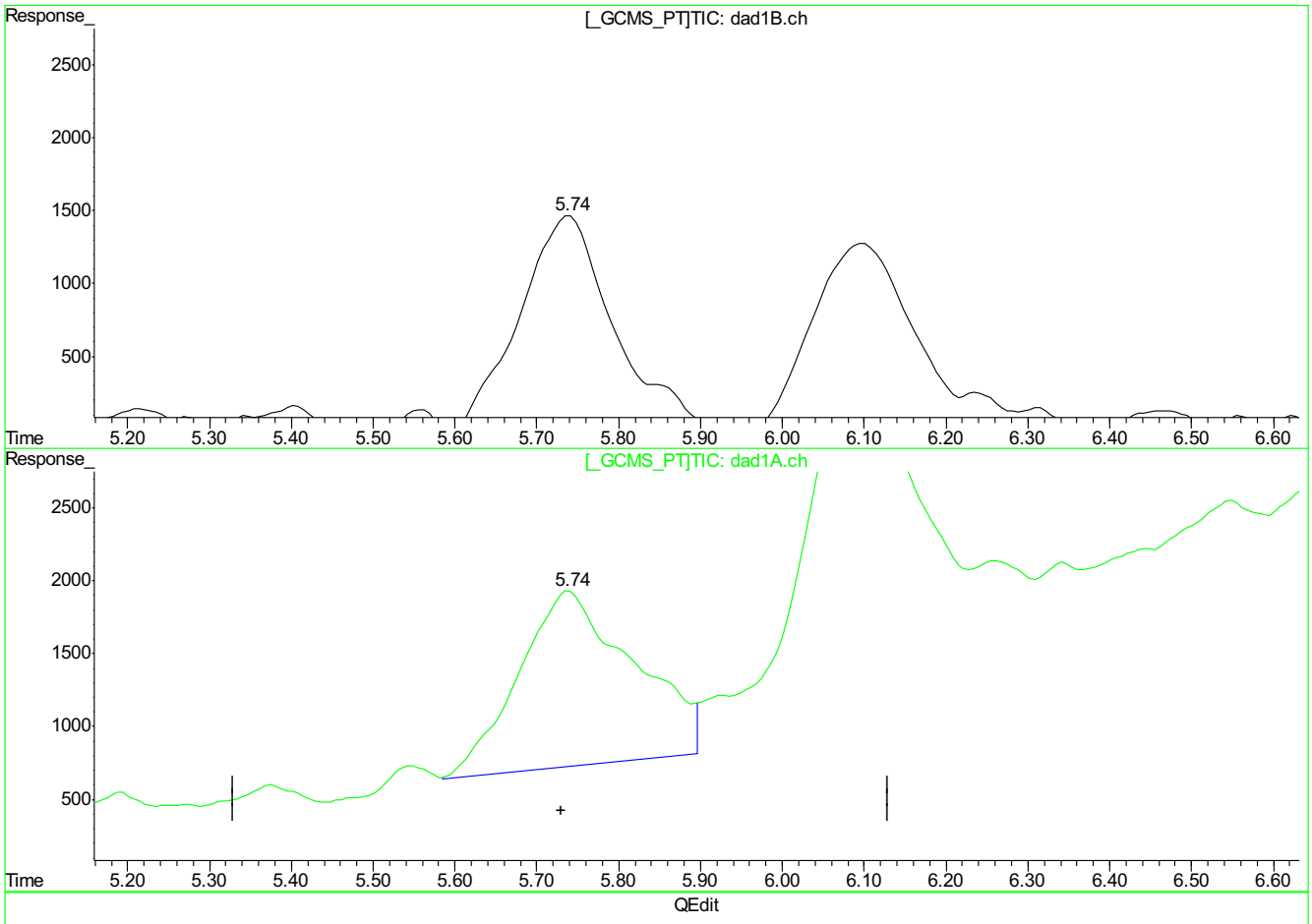
(+) = Expected Retention Time

BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:45 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 20.831ppb

response 119086

(7) 1,3-Dinitrobenzene #2

5.74min 29.810ppb

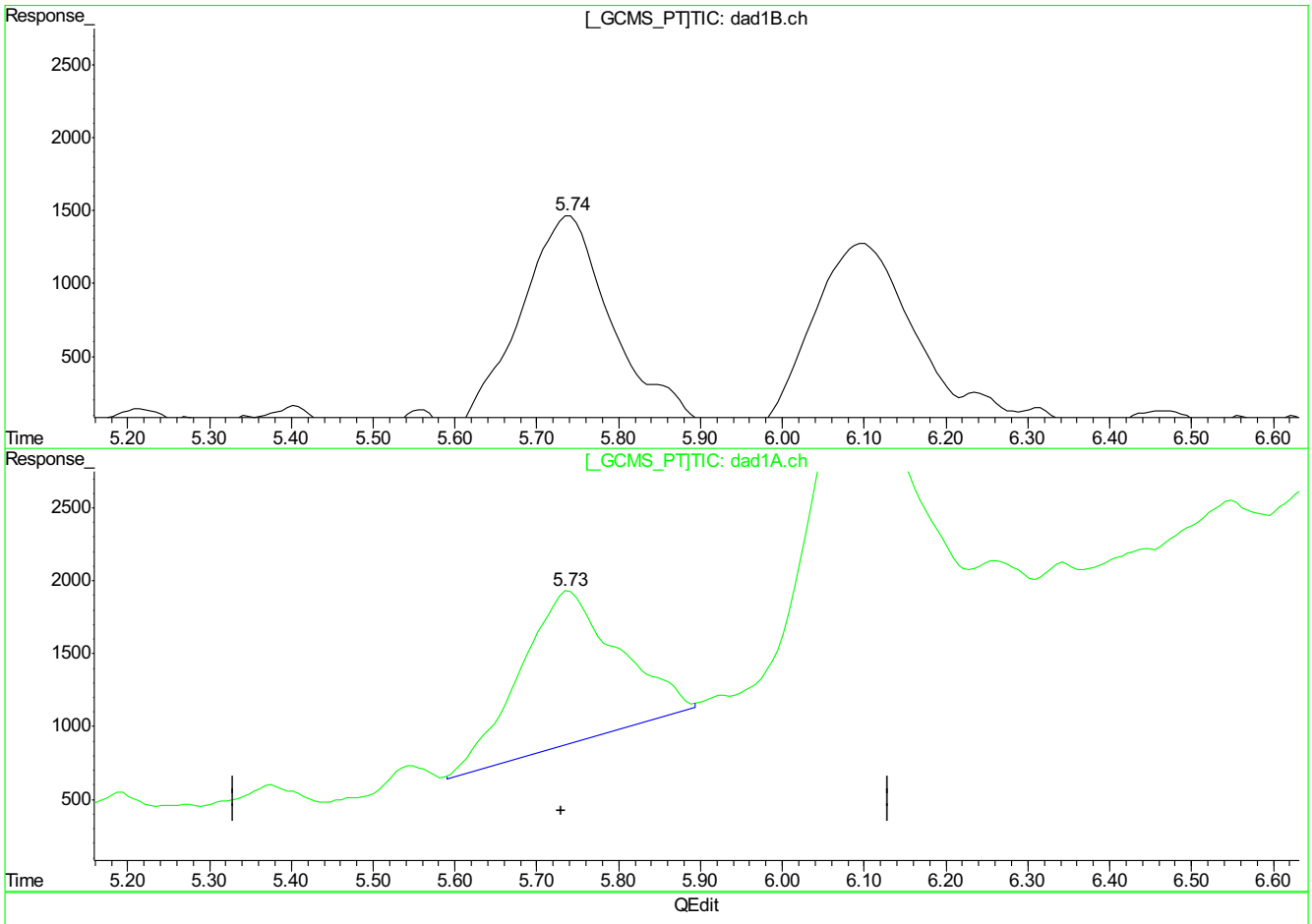
response 116078

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 20.831ppb

response 119086

(7) 1,3-Dinitrobenzene #2

5.73min 22.486ppb m

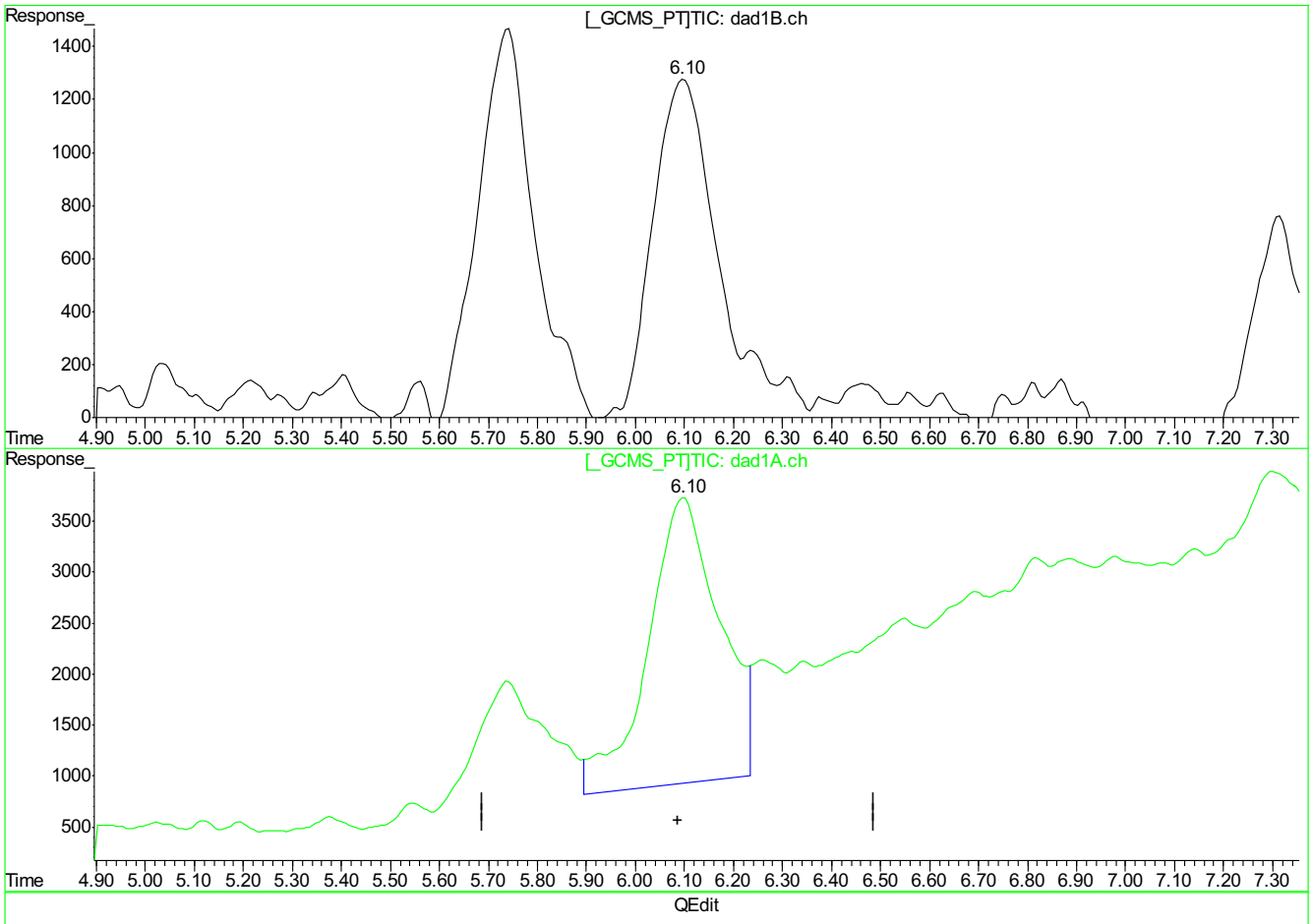
response 87556

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 23.822ppb

response 115837

(8) 3,5-Dinitroaniline #2

6.10min 35.225ppb

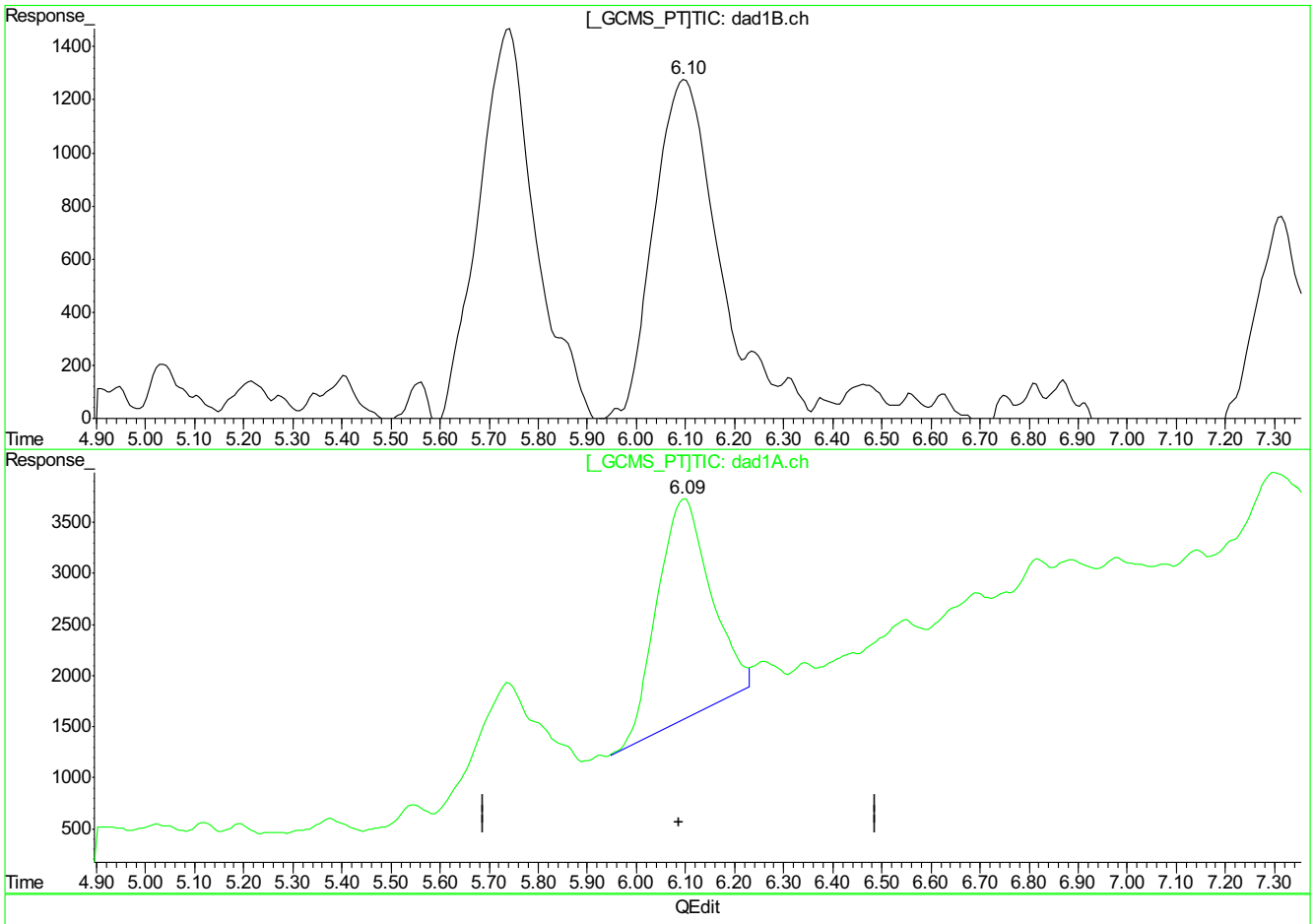
response 282264

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:18 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 23.822ppb

response 115837

(8) 3,5-Dinitroaniline #2

6.09min 20.411ppb m

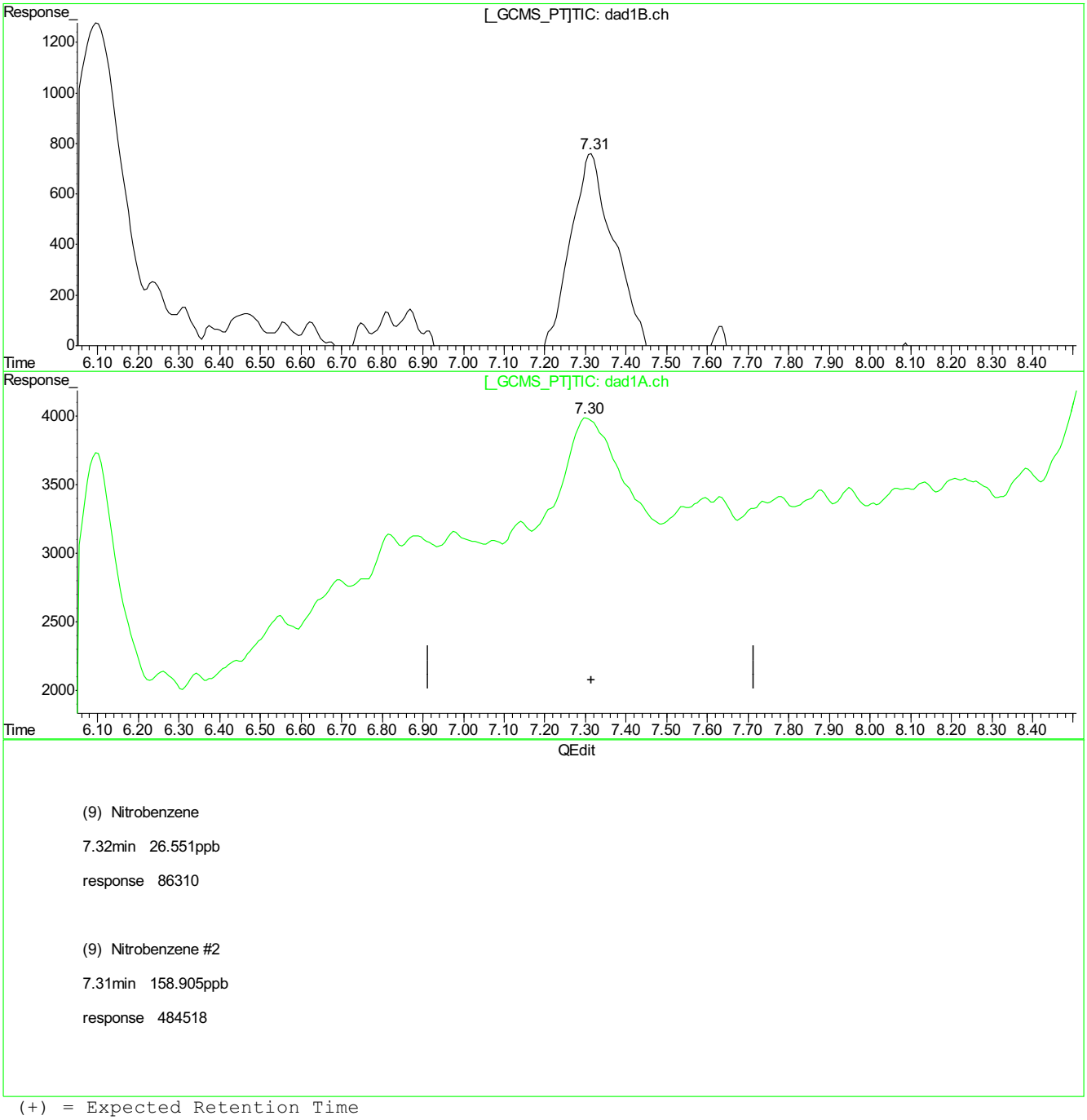
response 163555

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:25 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 26.551ppb

response 86310

(9) Nitrobenzene #2

7.31min 158.905ppb

response 484518

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:38 2017

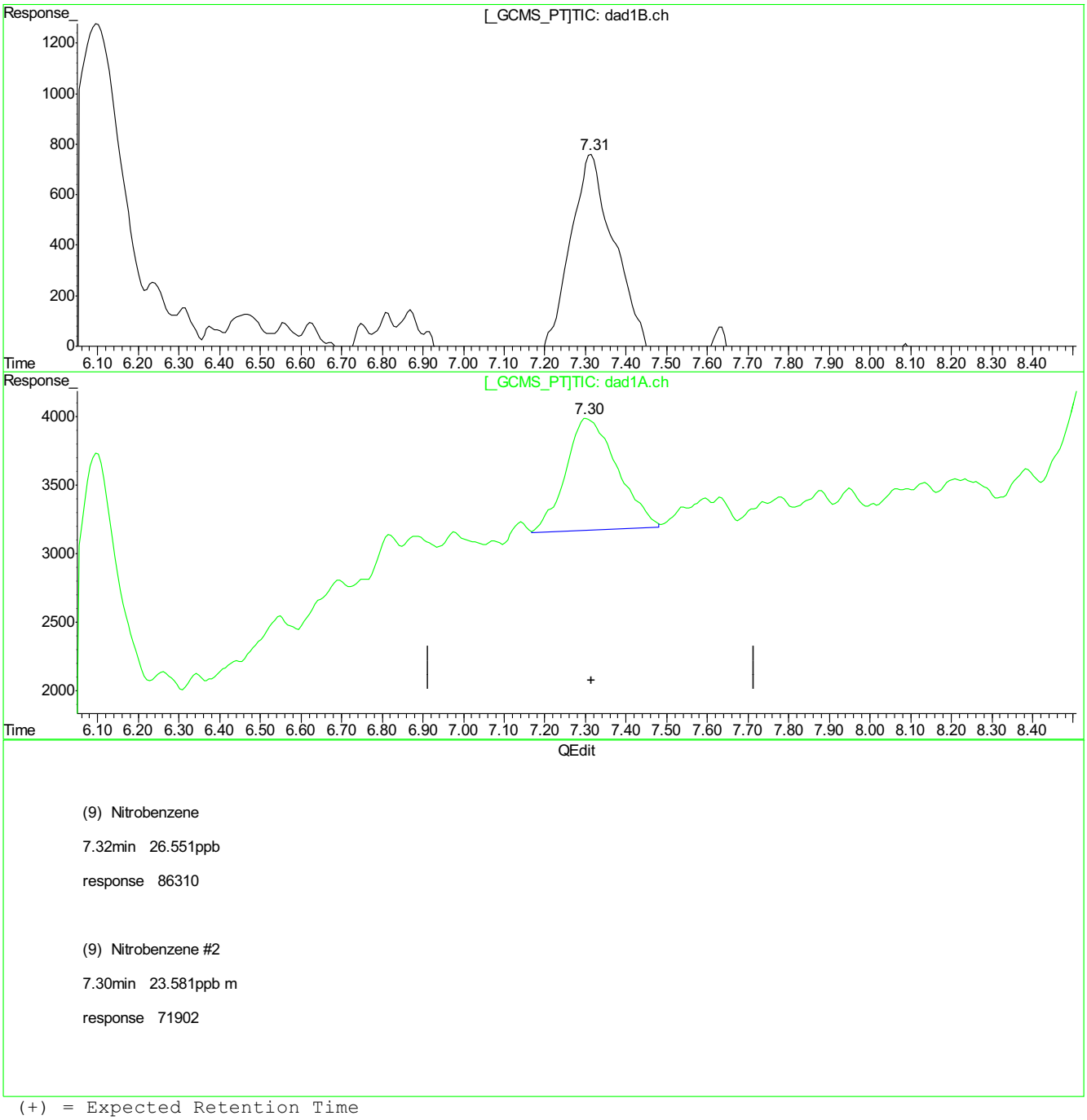
9.5.1.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 26.551ppb

response 86310

(9) Nitrobenzene #2

7.30min 23.581ppb m

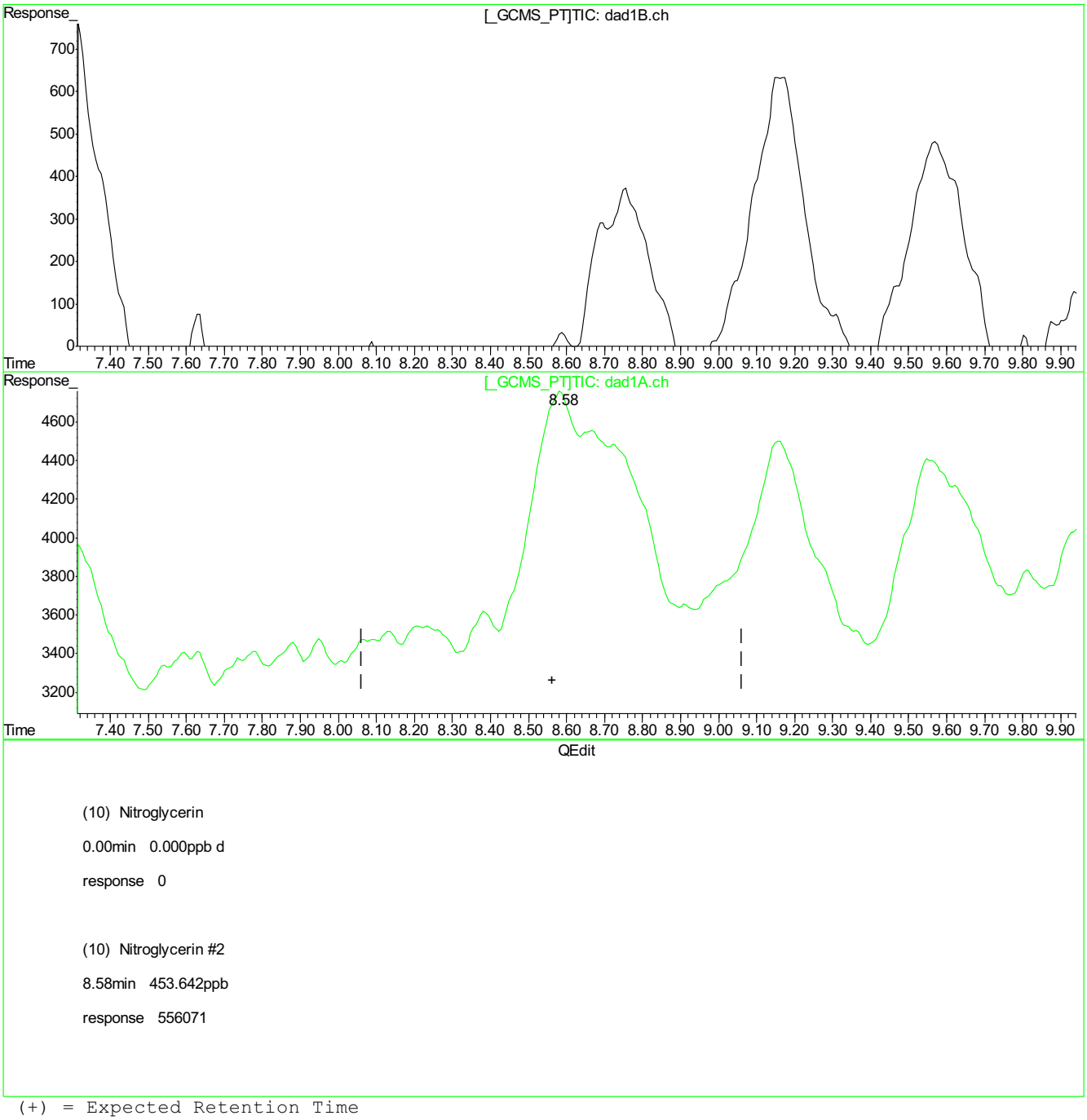
response 71902

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:43 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.58min 453.642ppb

response 556071

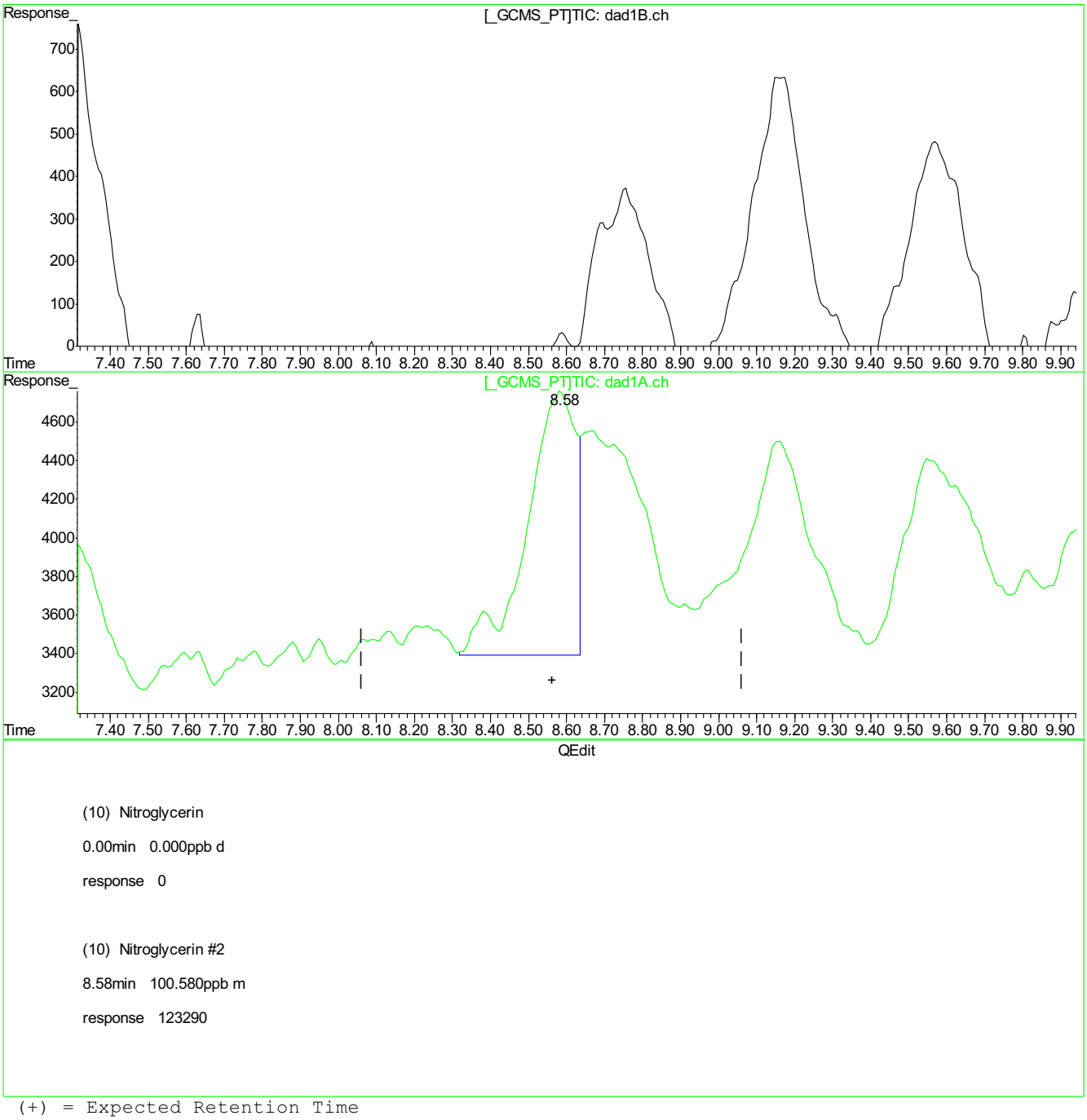
(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:49 2017

SGS ACCUTEST FA43019

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.58min 100.580ppb m

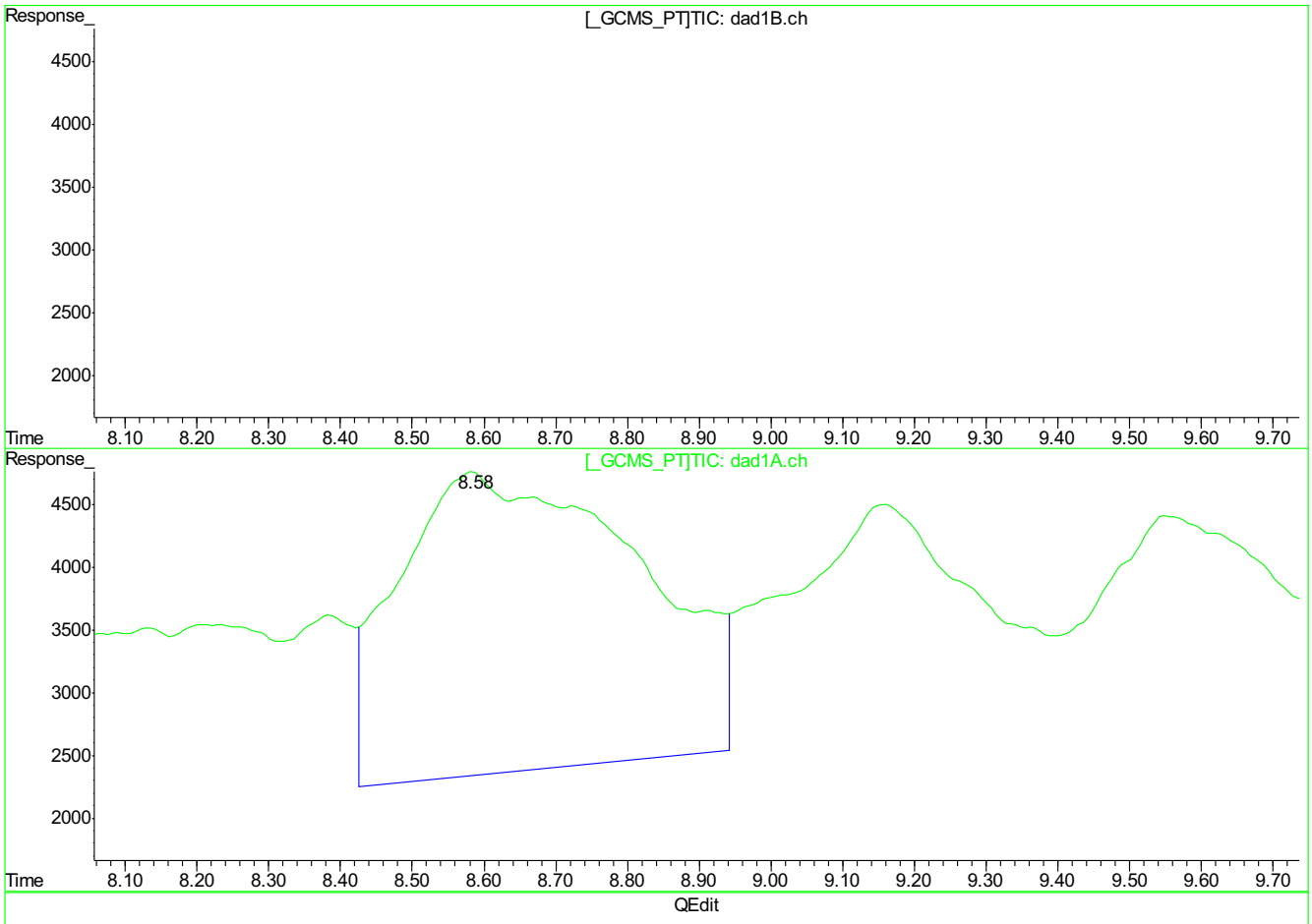
response 123290

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:50:09 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 25.242ppb

response 80894

(11) Tetryl #2

8.58min 107.122ppb

response 556071

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:50:23 2017

9.5.1.16

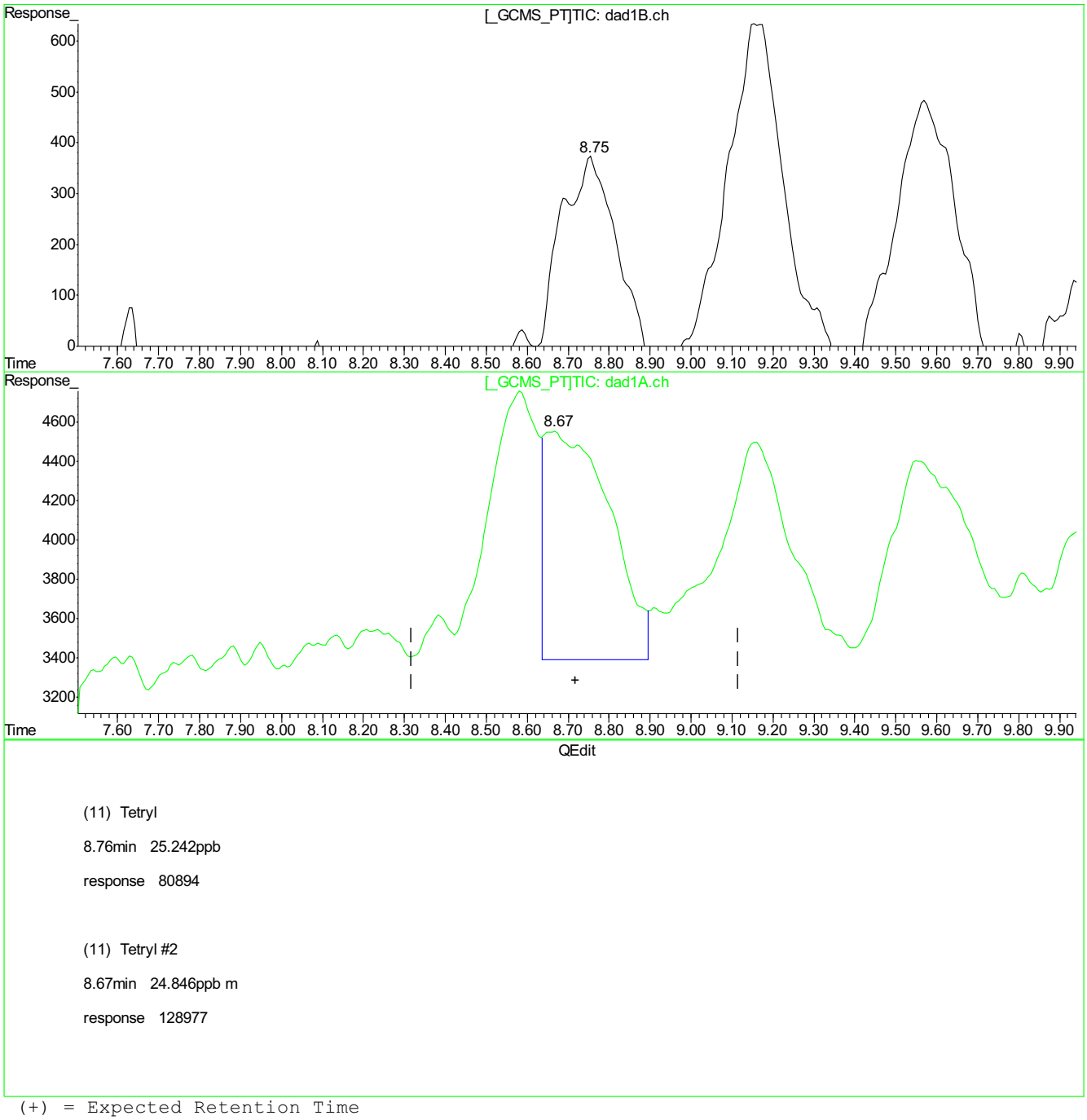
9

BB054261.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 25.242ppb

response 80894

(11) Tetryl #2

8.67min 24.846ppb m

response 128977

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:50:58 2017

9.5.1.17

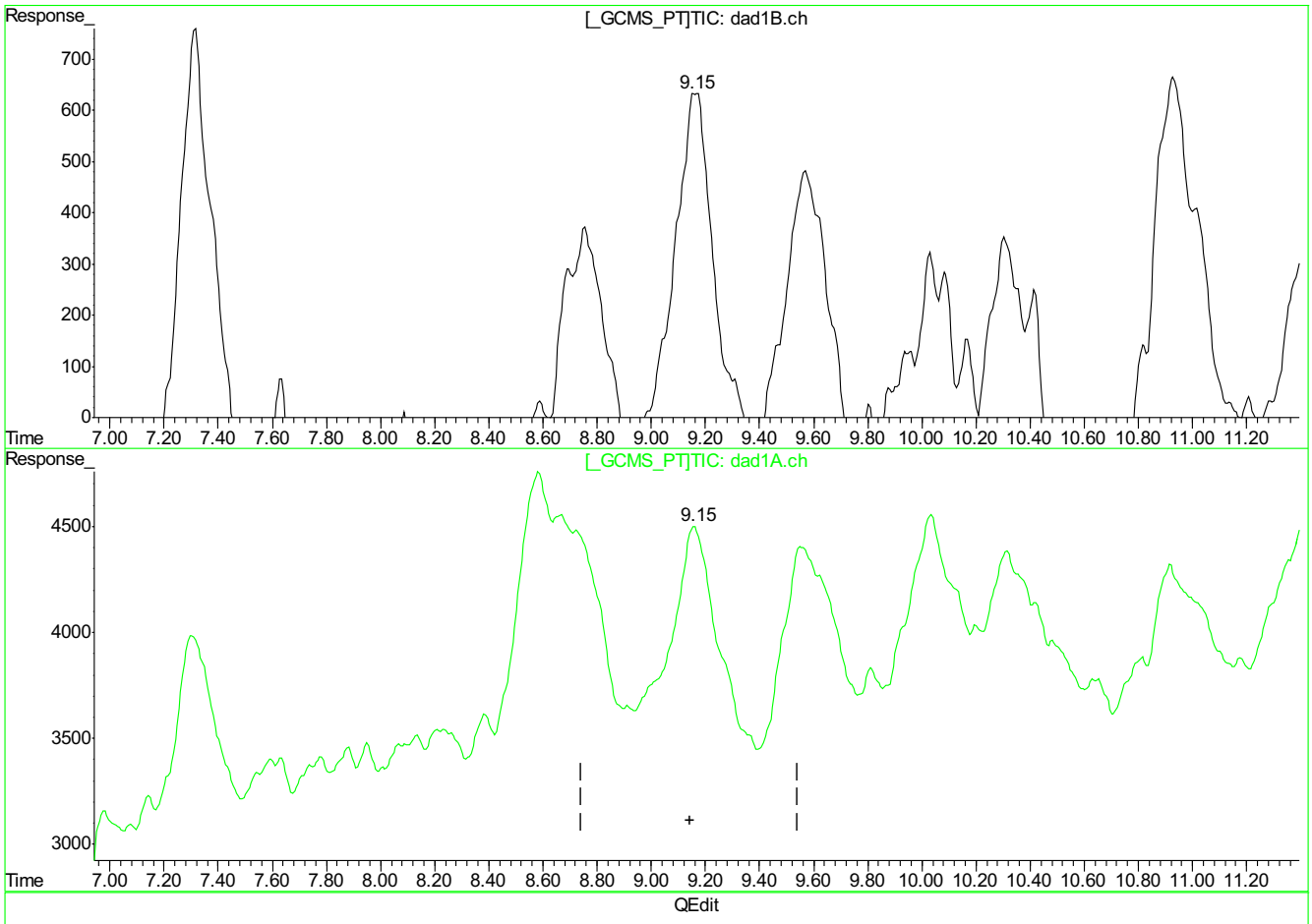
9

BB054261.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 25.833ppb

response 106956

(12) 2,4,6-Trinitrotoluene #2

9.16min 70.582ppb

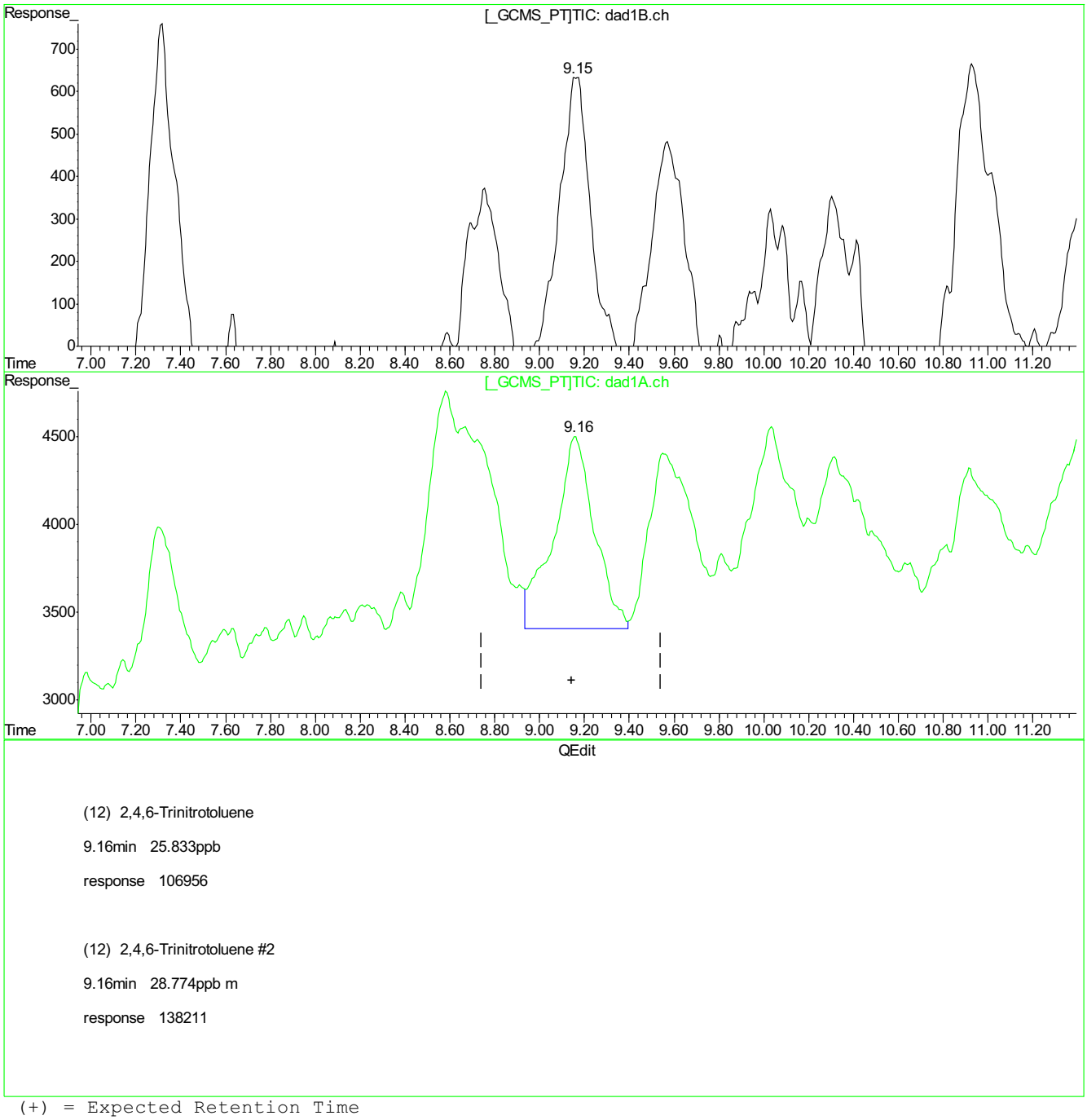
response 339029

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:51:07 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:51:28 2017

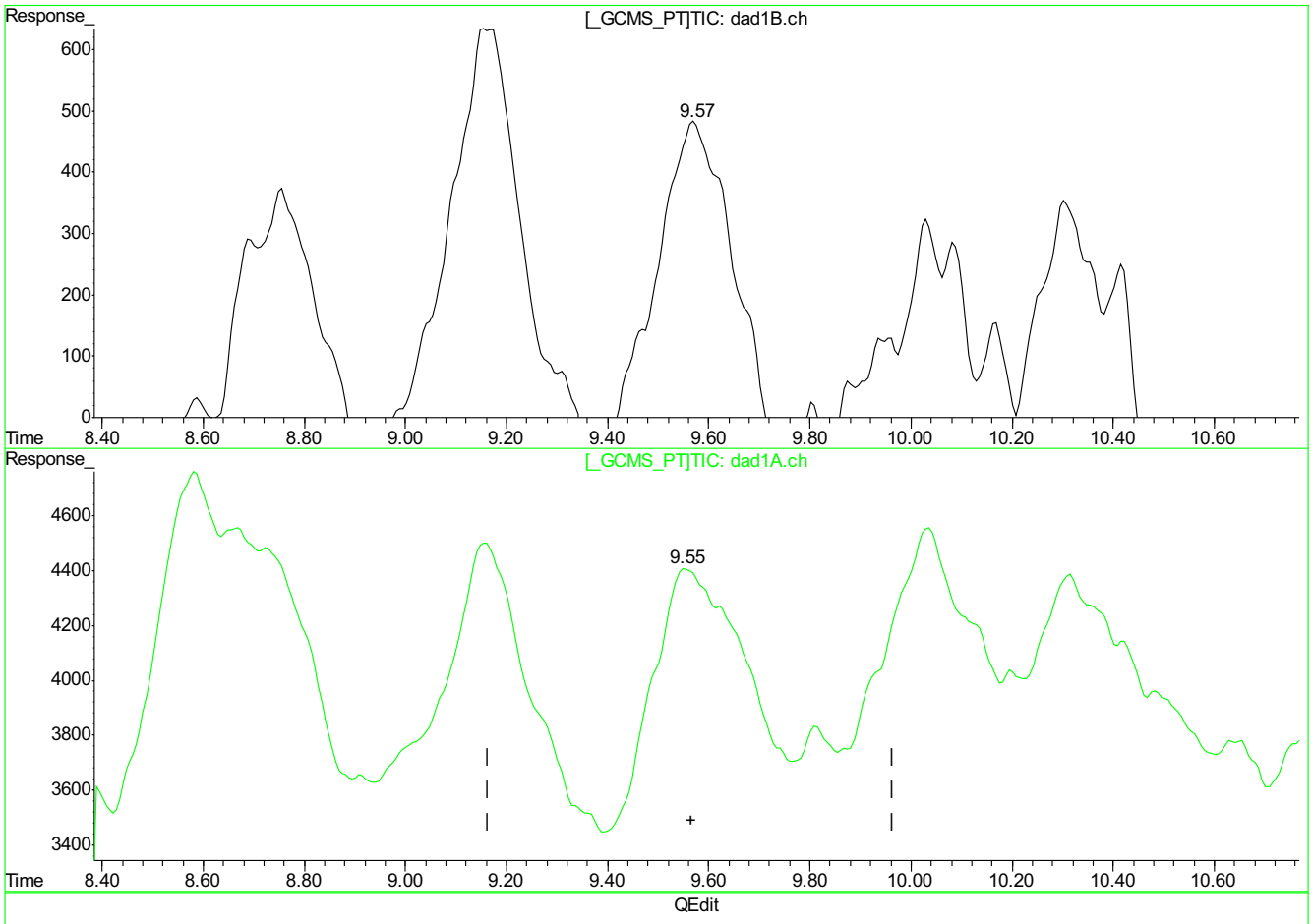
9.5.1.19

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 24.685ppb

response 87397

(13) 2-Amino-4,6-Dinitrotoluene #2

9.56min 48.484ppb

response 244776

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:51:33 2017

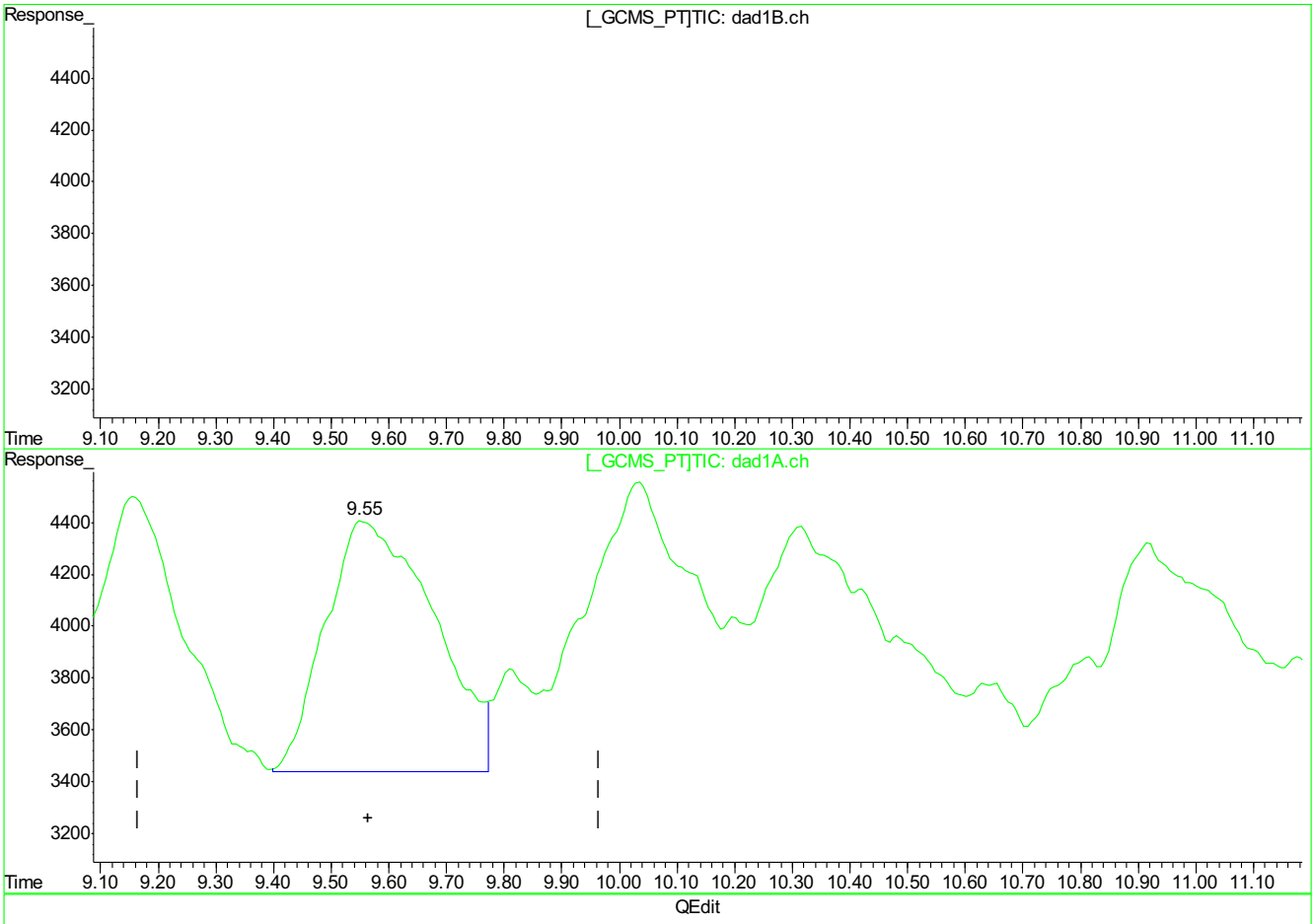
9.5.1.20

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 24.685ppb

response 87397

(13) 2-Amino-4,6-Dinitrotoluene #2

9.55min 25.039ppb m

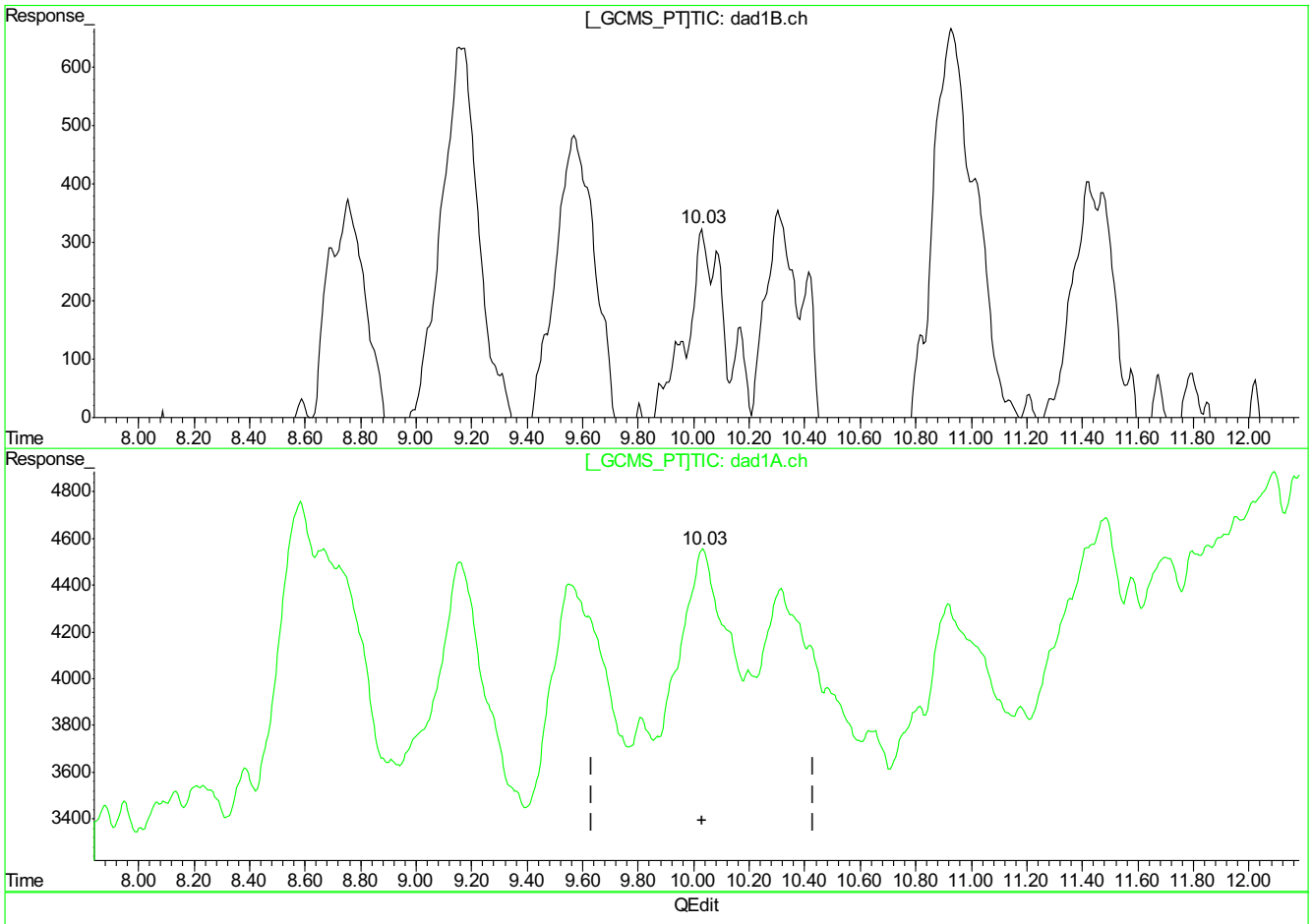
response 126474

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:04 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.03min 22.494ppb

response 60607

(14) 4-Amino-2,6-Dinitrotoluene #2

10.03min 39.233ppb

response 198528

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:11 2017

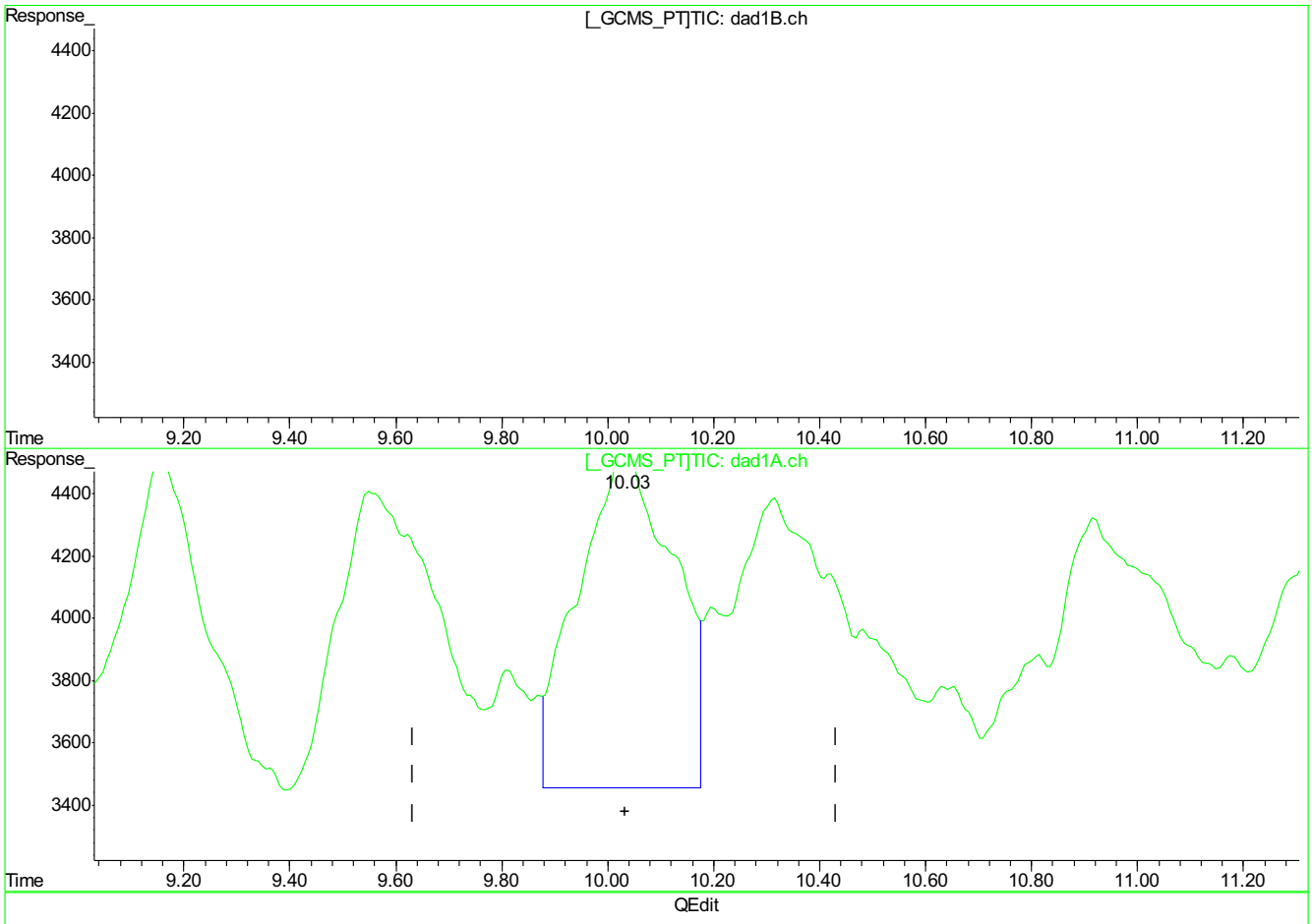
9.5.1.22

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.03min 22.494ppb

response 60607

(14) 4-Amino-2,6-Dinitrotoluene #2

10.03min 26.090ppb m

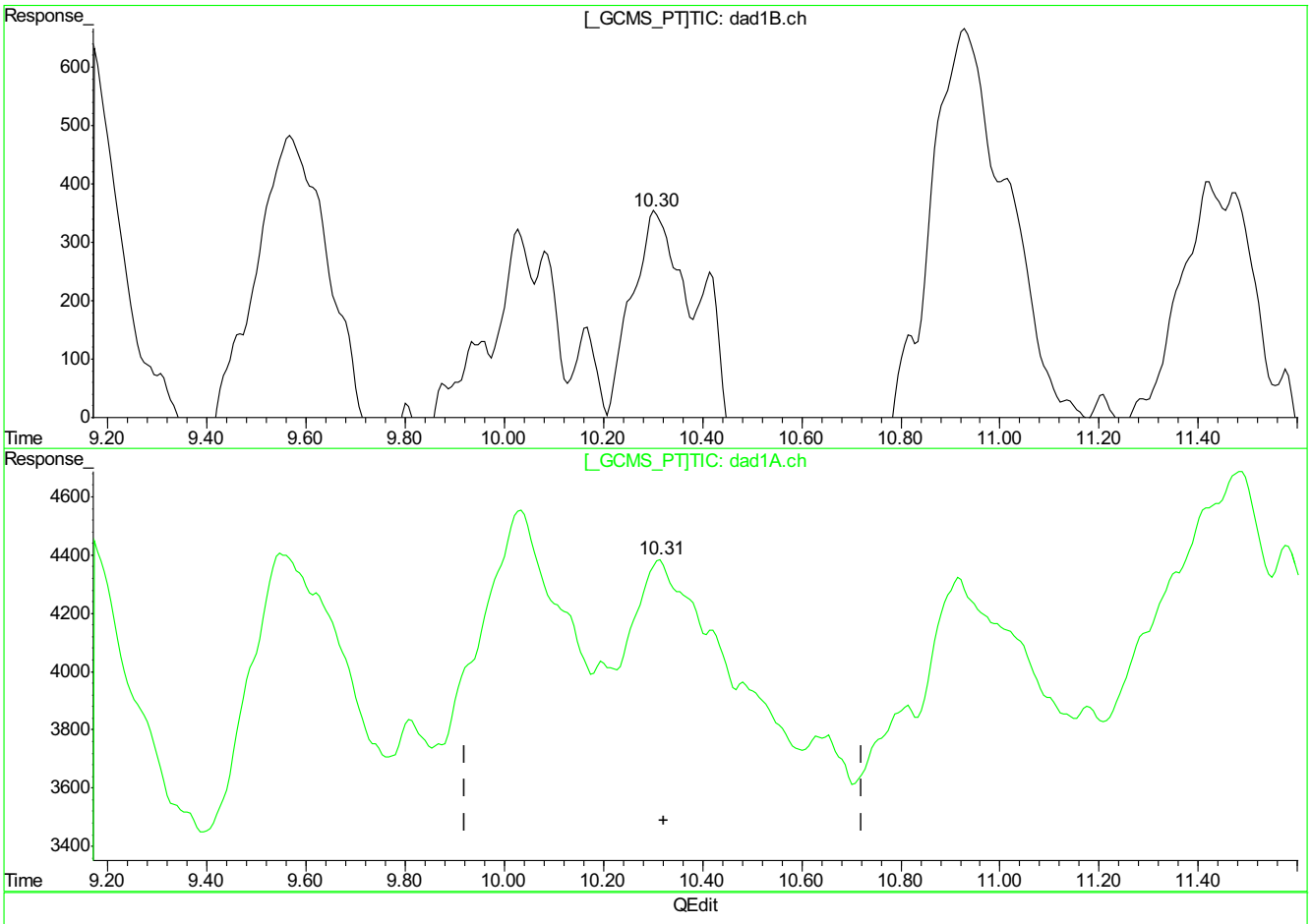
response 132018

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.31min 17.827ppb

response 44842

(15) 3,4-Dinitrotoluene #2 (S)

10.31min 43.764ppb

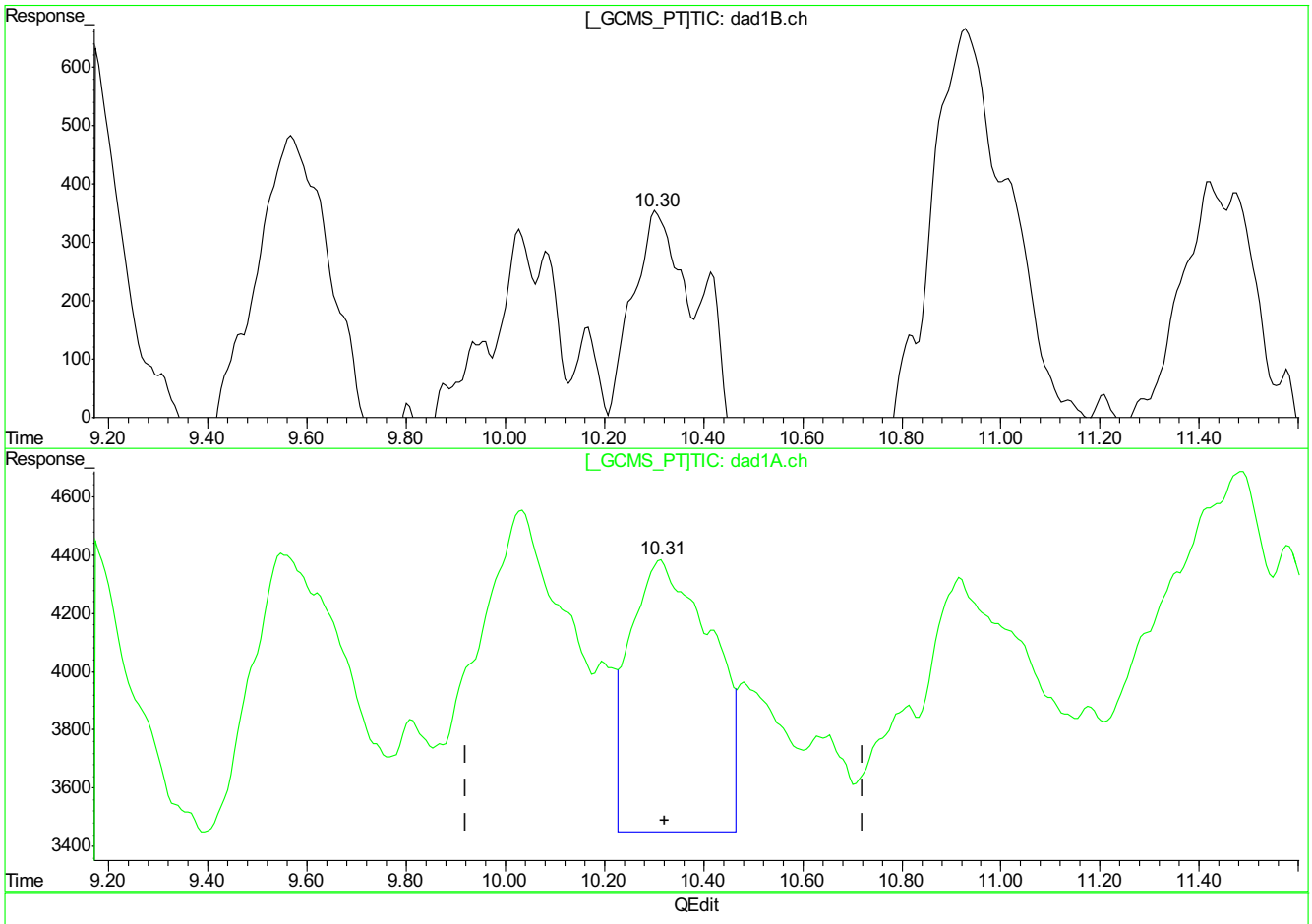
response 178335

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:42 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.31min 17.827ppb

response 44842

(15) 3,4-Dinitrotoluene #2 (S)

10.31min 25.955ppb m

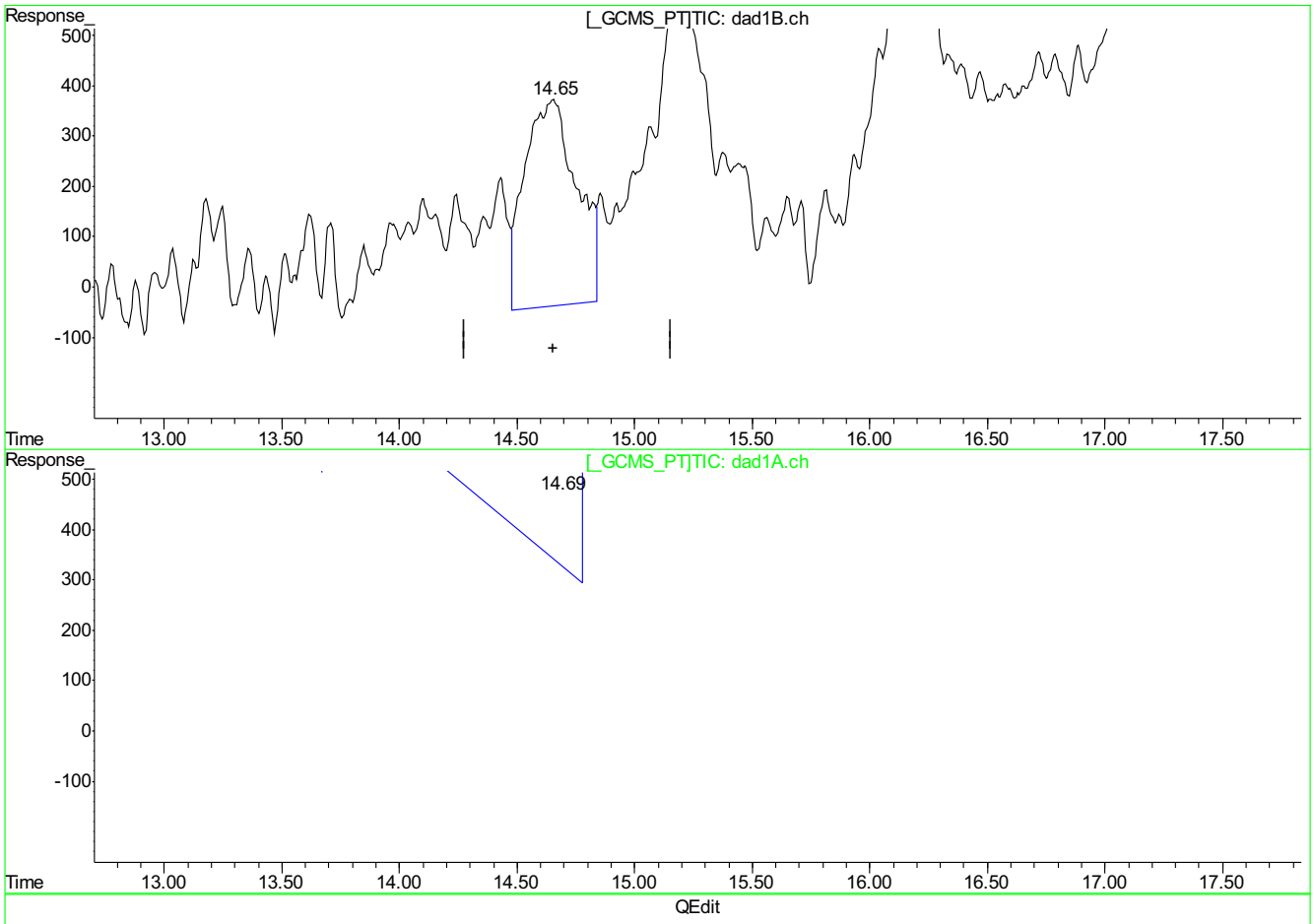
response 105766

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:15 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:34 2017

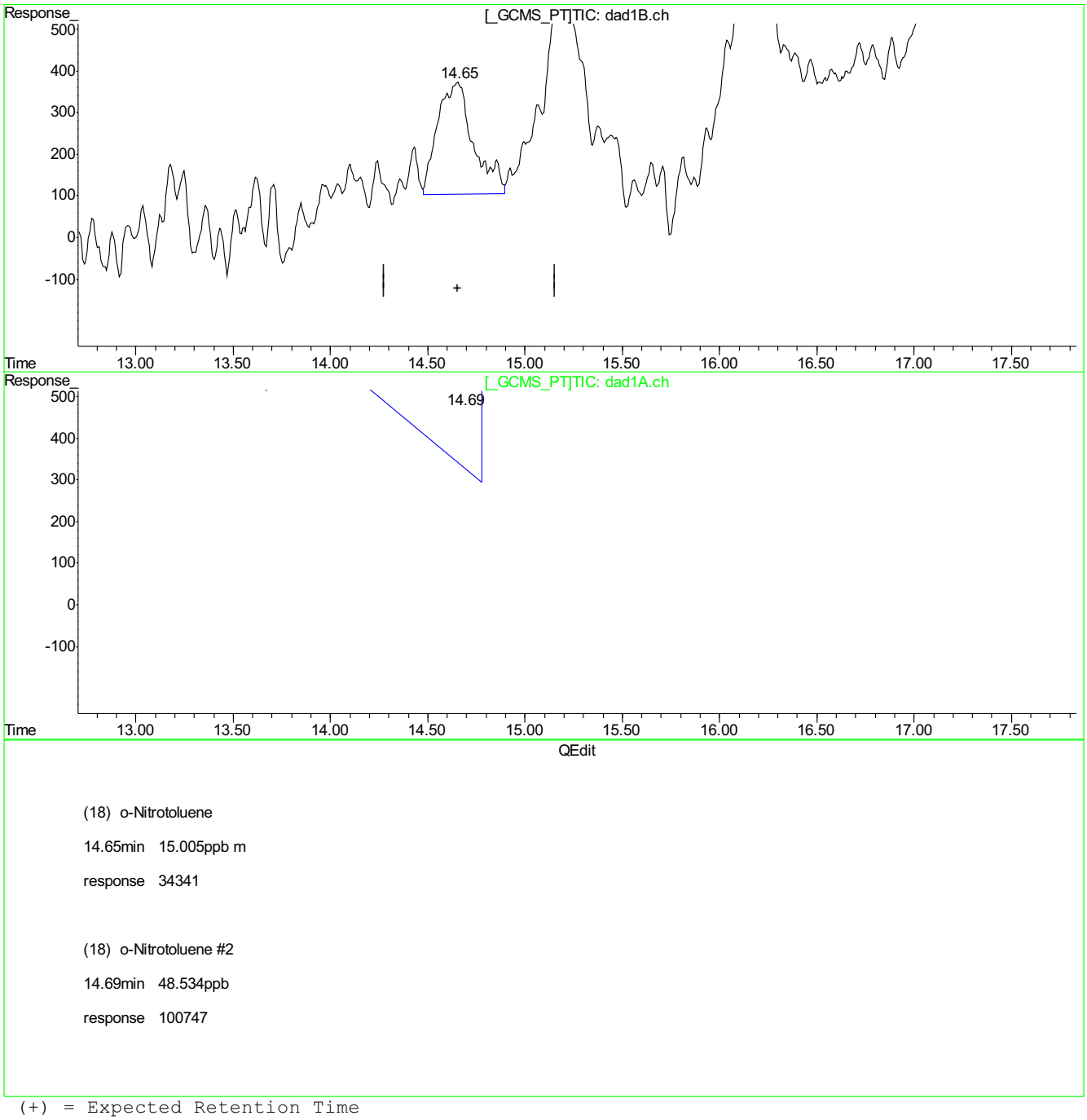
9.5.1.26

9

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On    : 19-Apr-2017, 10:13:52                    Operator: evitam
Sample    : ic1578-20                                Inst    : G1315B
Misc      : op64647,gbb1578,2.00,,,20,1,SOIL         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
```



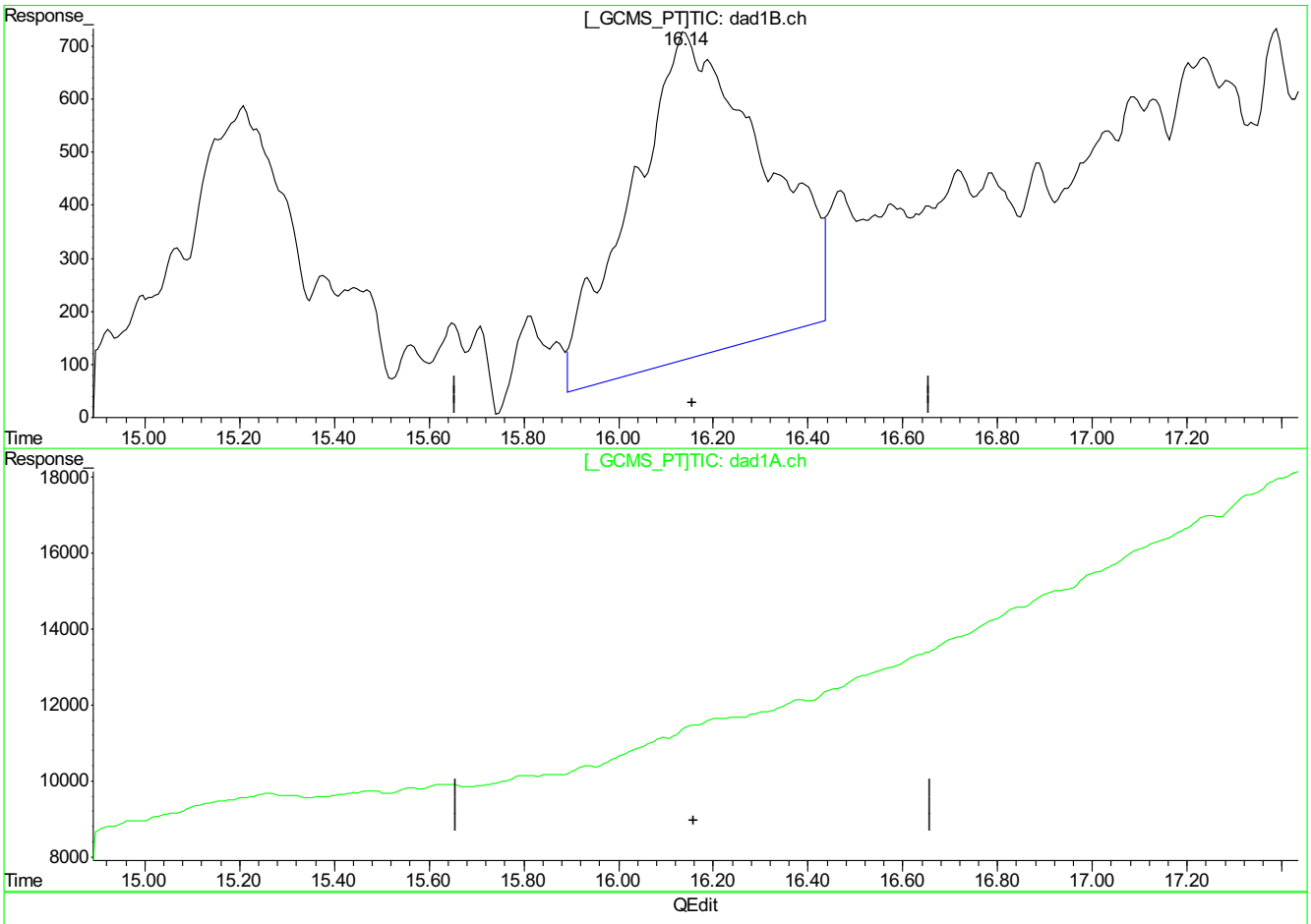
(+) = Expected Retention Time

BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:42 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.14min 47.510ppb

response 117597

(20) m-Nitrotoluene #2

0.00min 0.000ppb

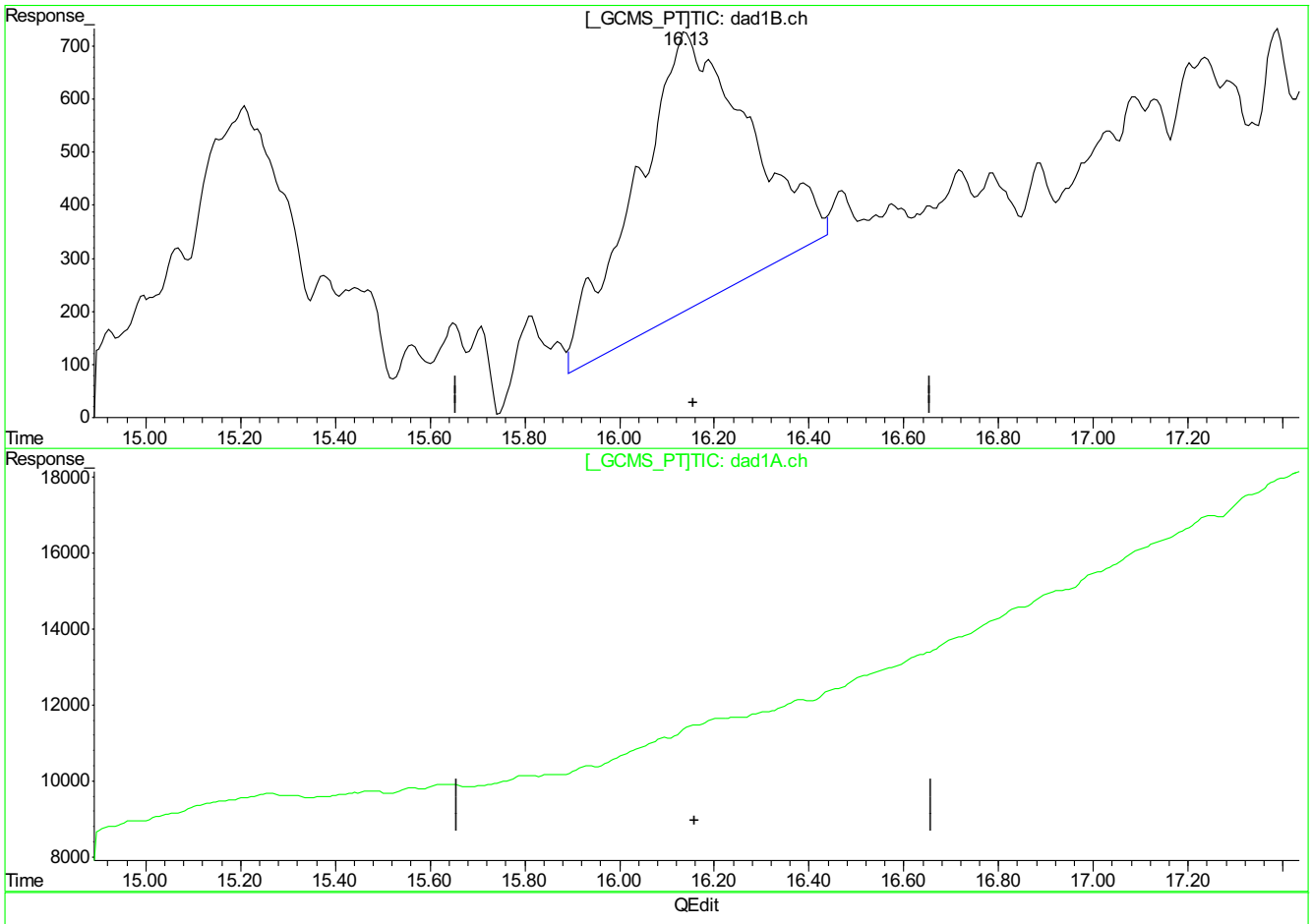
response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:49 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.13min 34.921ppb m

response 86087

(20) m-Nitrotoluene #2

0.00min 0.000ppb

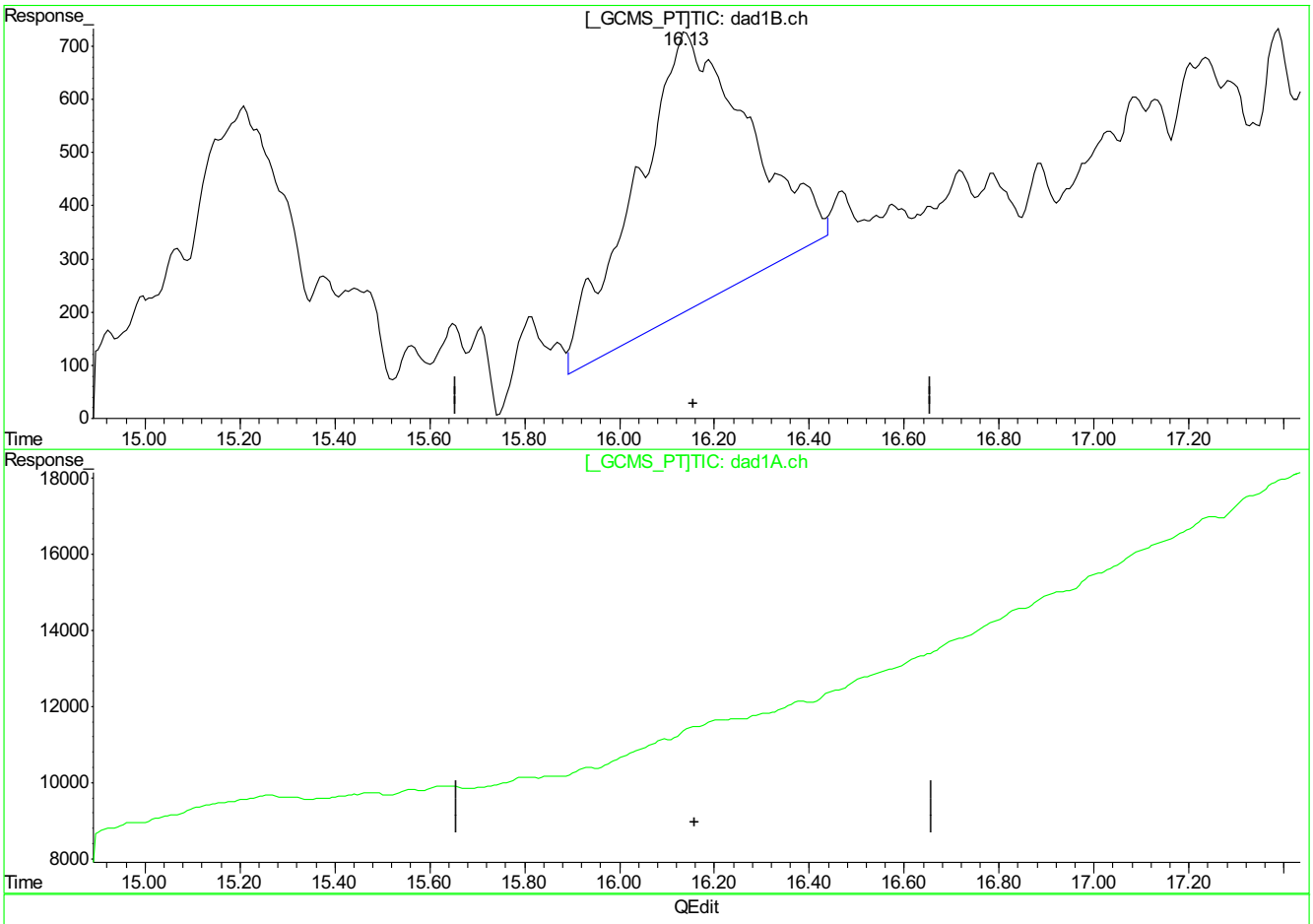
response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.13min 34.921ppb m

response 86087

(20) m-Nitrotoluene #2

0.00min 0.000ppb

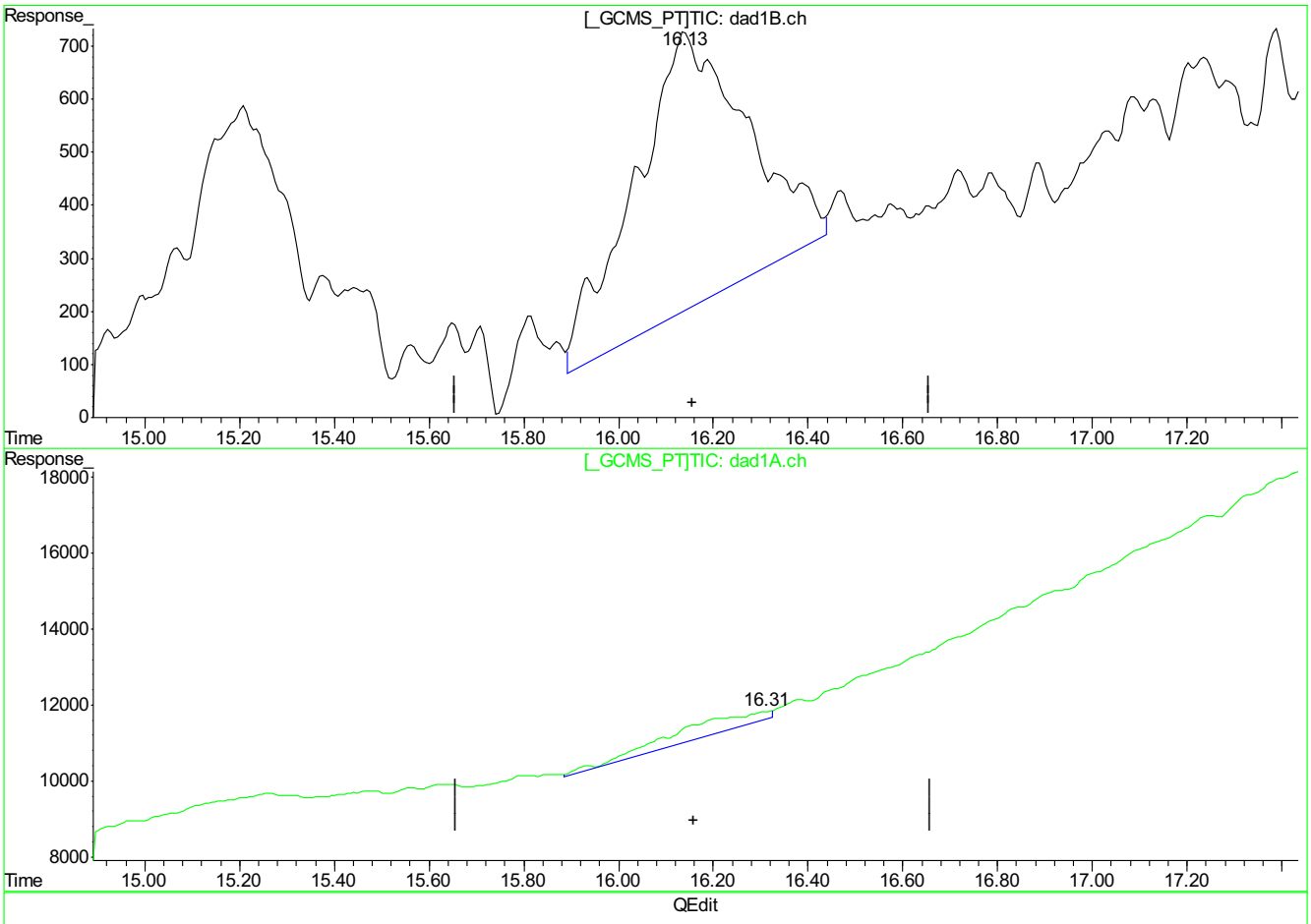
response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:21 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.13min 34.921ppb m

response 86087

(20) m-Nitrotoluene #2

16.31min 16.262ppb m

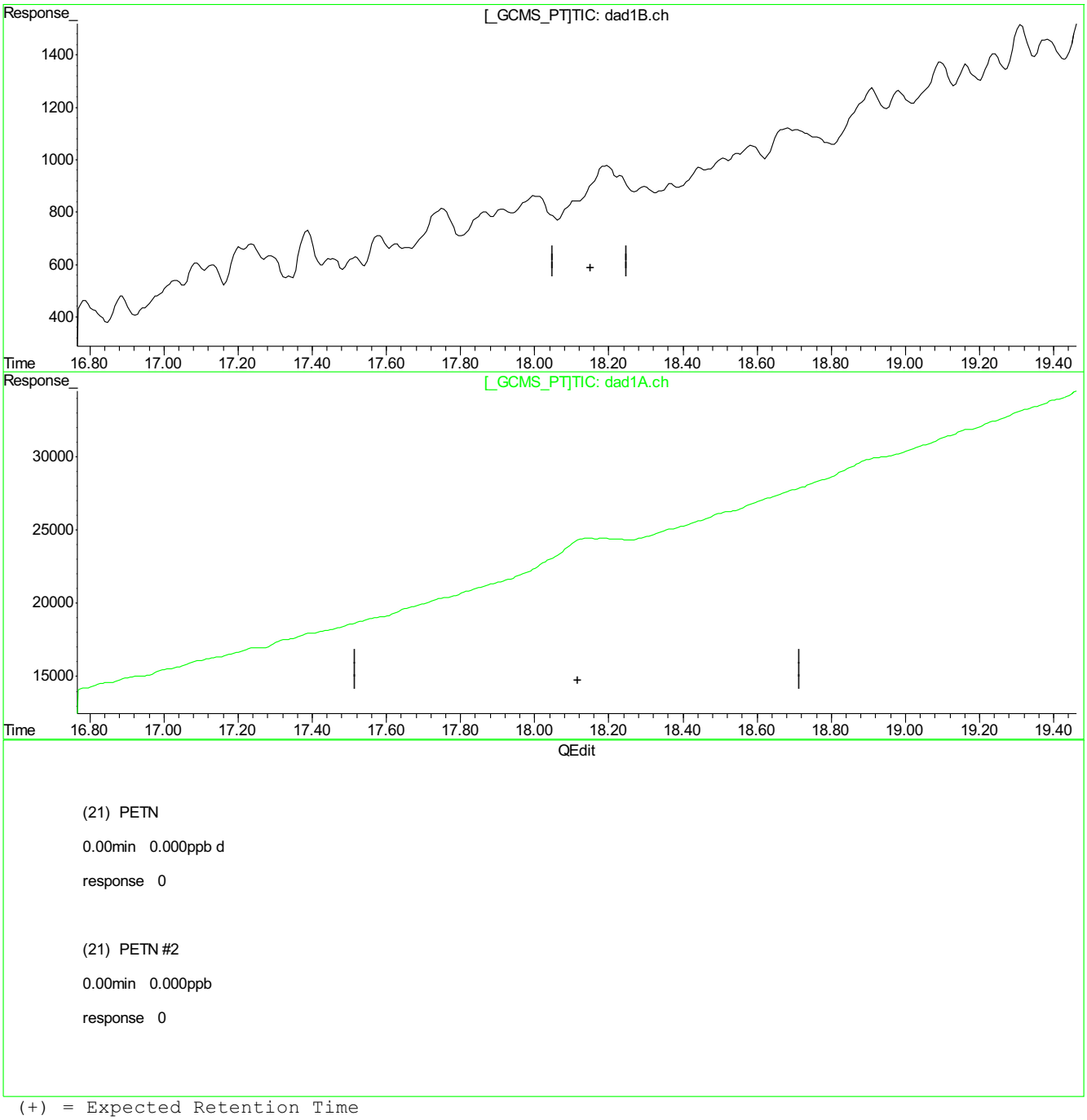
response 59952

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:28 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:32 2017

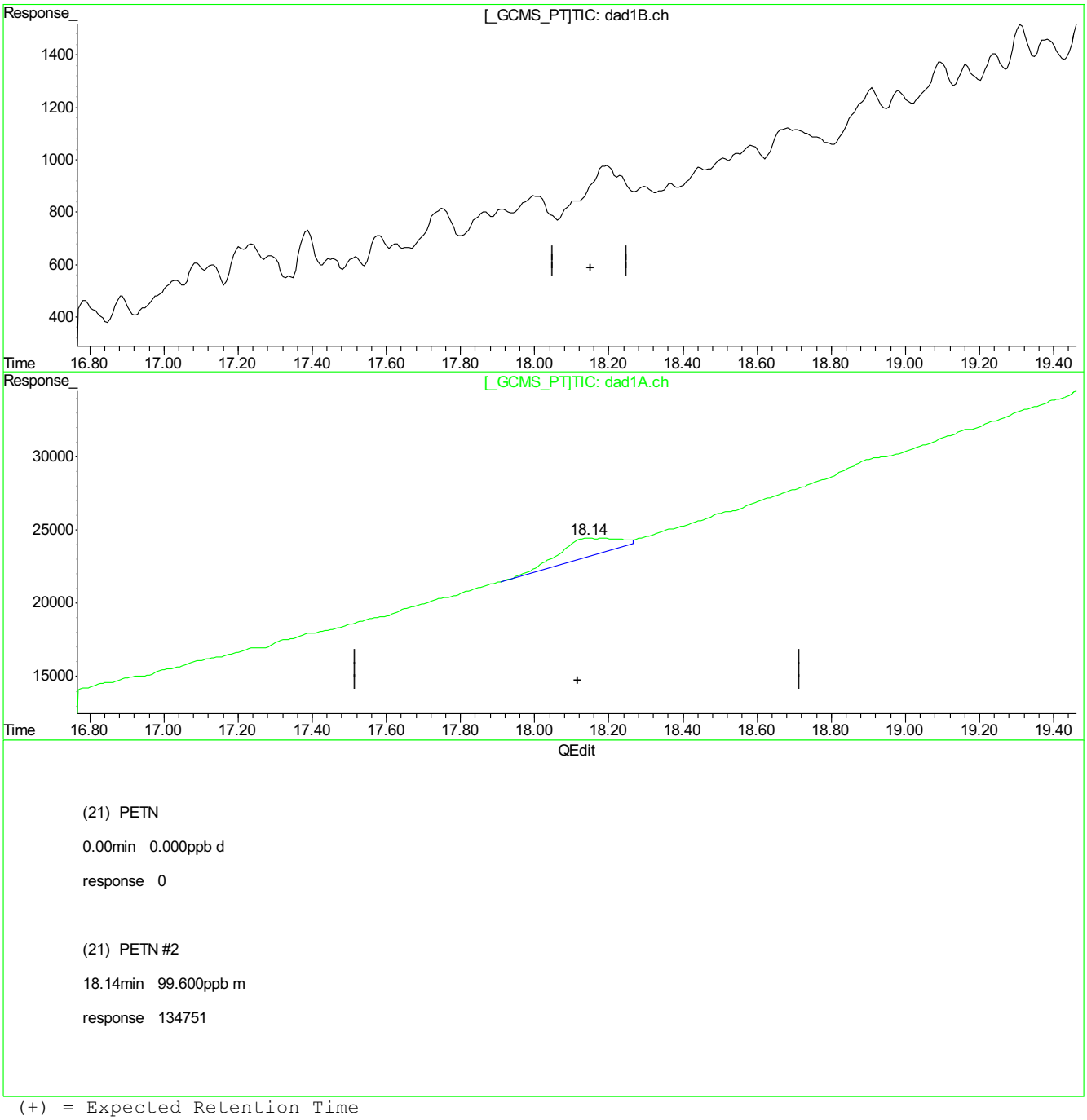
9.5.1.32

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.14min 99.600ppb m

response 134751

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:41 2017

9.5.1.33

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:01 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.38	10.34	130277	233981	51.980	57.420m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		10.40%#	11.48%#
	Target Compounds						
1)	TNX	1.36	1.36	138037	230626	42.040	44.855
2)	HMX	1.48	1.48	85249	223810	47.046	42.807
3)	DNX	1.73	1.73	164322	307884	56.497	59.281
4)	MNX	2.29	2.29	118001	186926	50.938	51.341
5)	RDX	2.87	2.87	102890	162404	47.797m	47.823m
6)	1,3,5-Trinitrobe	4.49	4.49	229688	401883	52.008	46.352
7)	1,3-Dinitrobenze	5.74	5.74	273022	181664	47.759	46.654m
8)	3,5-Dinitroanili	6.10	6.10	210696	312214	43.329	38.963m
9)	Nitrobenzene	7.33	7.34	179295	164503	55.155	53.951m
10)	Nitroglycerin	0.00	8.60	0	321067	N.D. d	261.926m
11)	Tetryl	8.75	8.74	147543	224795	46.040	43.304m
12)	2,4,6-Trinitroto	9.17	9.17	208462	256865	50.349	53.477m
13)	2-Amino-4,6-Dini	9.59	9.59	188621	279592	53.377	55.388m
14)	4-Amino-2,6-Dini	10.06	10.05	128016	275315	47.514	54.408m
16)	2,4-Dinitrotolue	10.96	10.96	246749	165725	46.802	50.735
17)	2,6-Dinitrotolue	11.46	11.47	173679	173562	57.382	45.963
18)	o-Nitrotoluene	14.68	14.67	120879	161420	52.818	76.834m#
19)	p-Nitrotoluene	15.20	15.22	175675	166589	52.295	68.192
20)	m-Nitrotoluene	16.18	16.19	171530	141359	68.825	38.343m#
21)	PETN	0.00	18.16	0	170717	N.D. d	126.184m

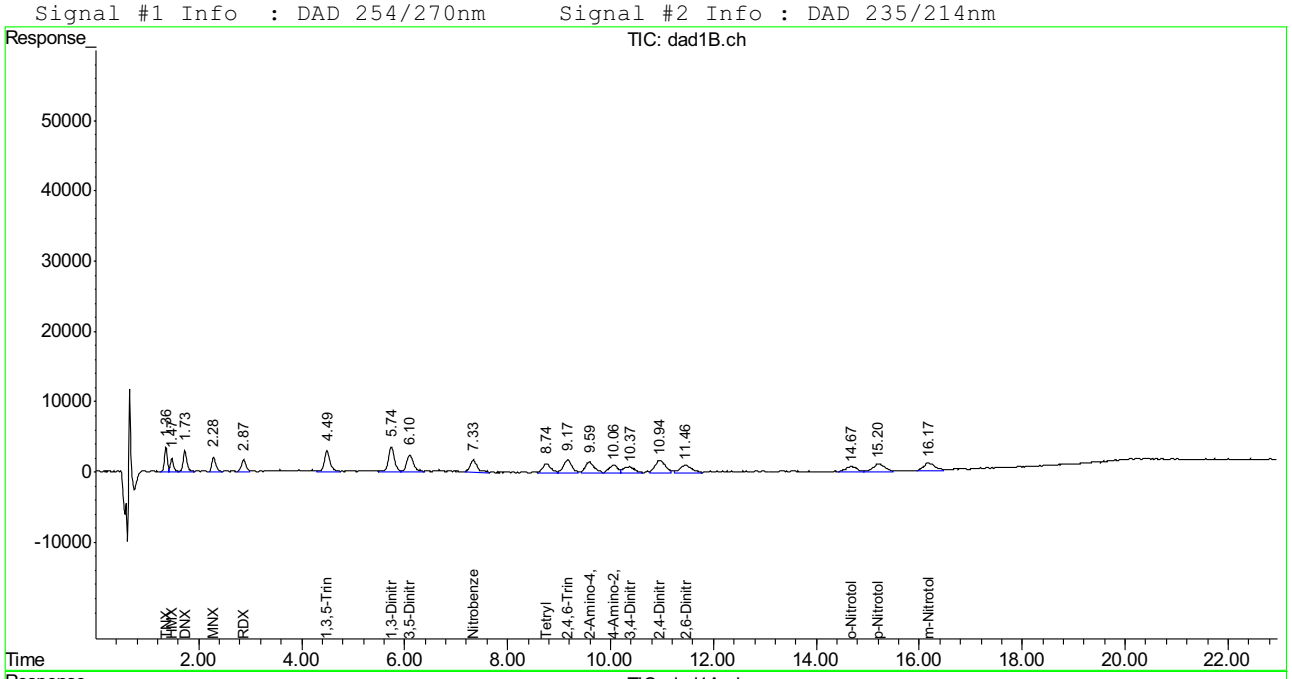
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054262.D 8330B_0419PLUS.M Thu Apr 20 11:04:50 2017 Page 1

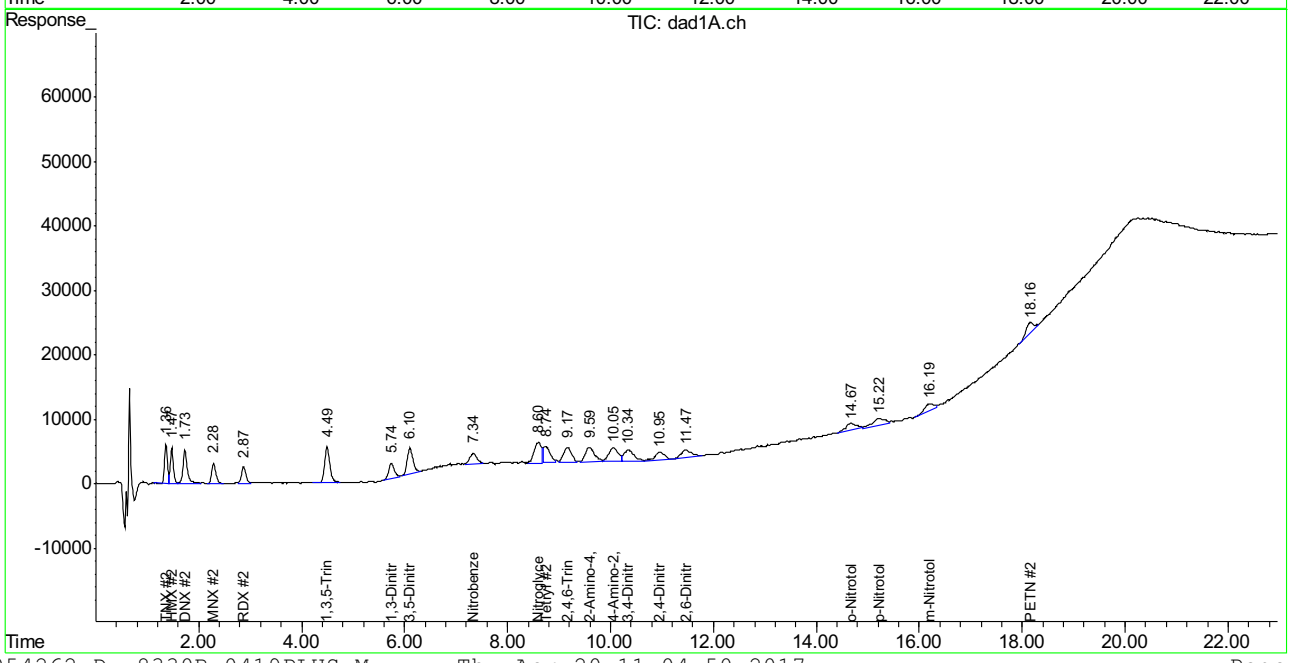
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 14:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

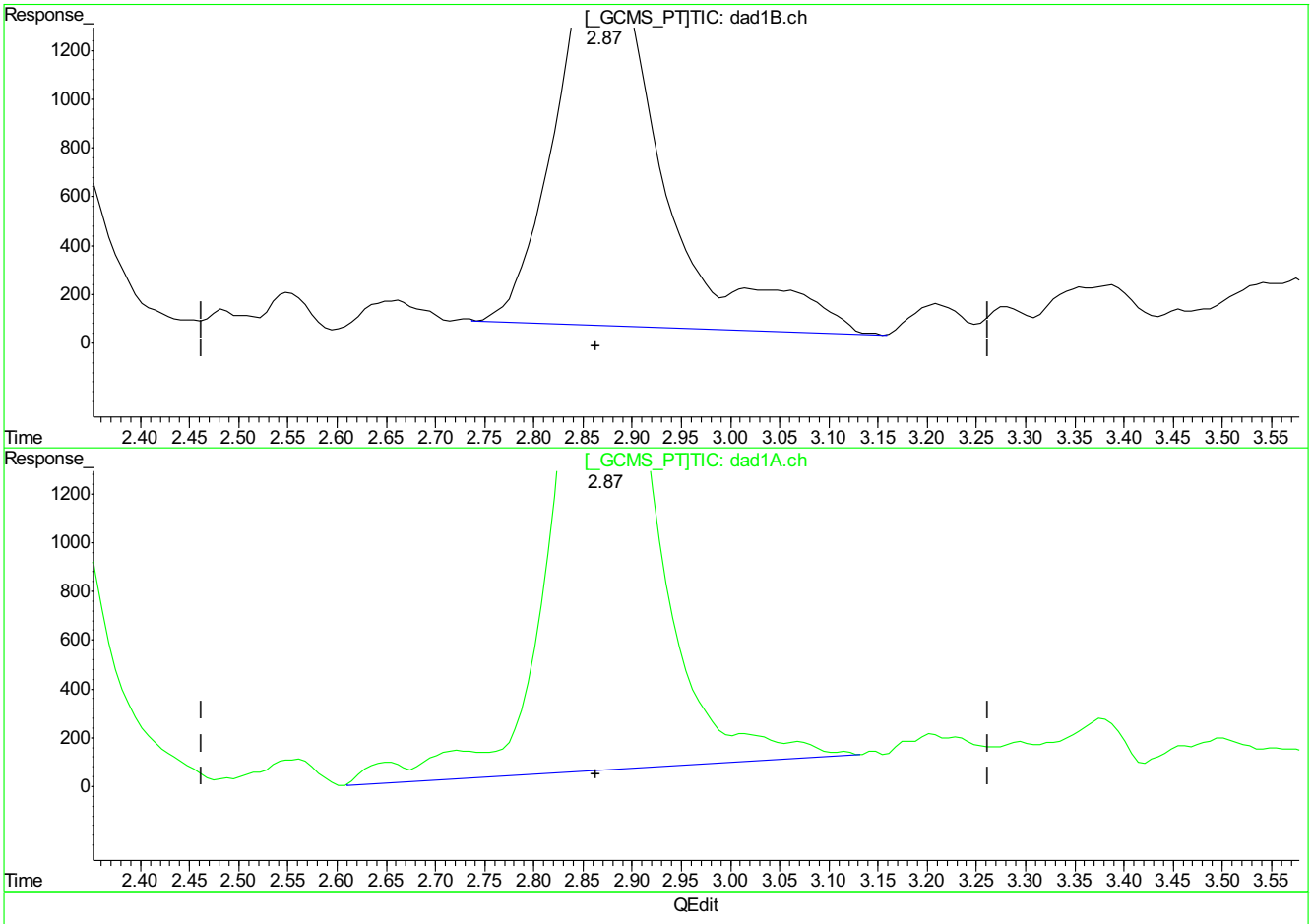
Sample Number: GBB1578-IC1578
Lab FileID: BB054262.D
Injection Time: 04/19/17 10:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.87	Poorly defined baseline
RDX	121-82-4	2	2.87	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	5.74	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.34	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.60	Poorly defined baseline
Tetryl	479-45-8	2	8.74	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.17	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.59	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.05	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.34	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.67	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.19	Poorly defined baseline
PETN	78-11-5	2	18.16	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(5) RDX

2.87min 54.258ppb

response 116798

(5) RDX #2

2.87min 48.869ppb

response 165956

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:09 2017

9.5.2.2

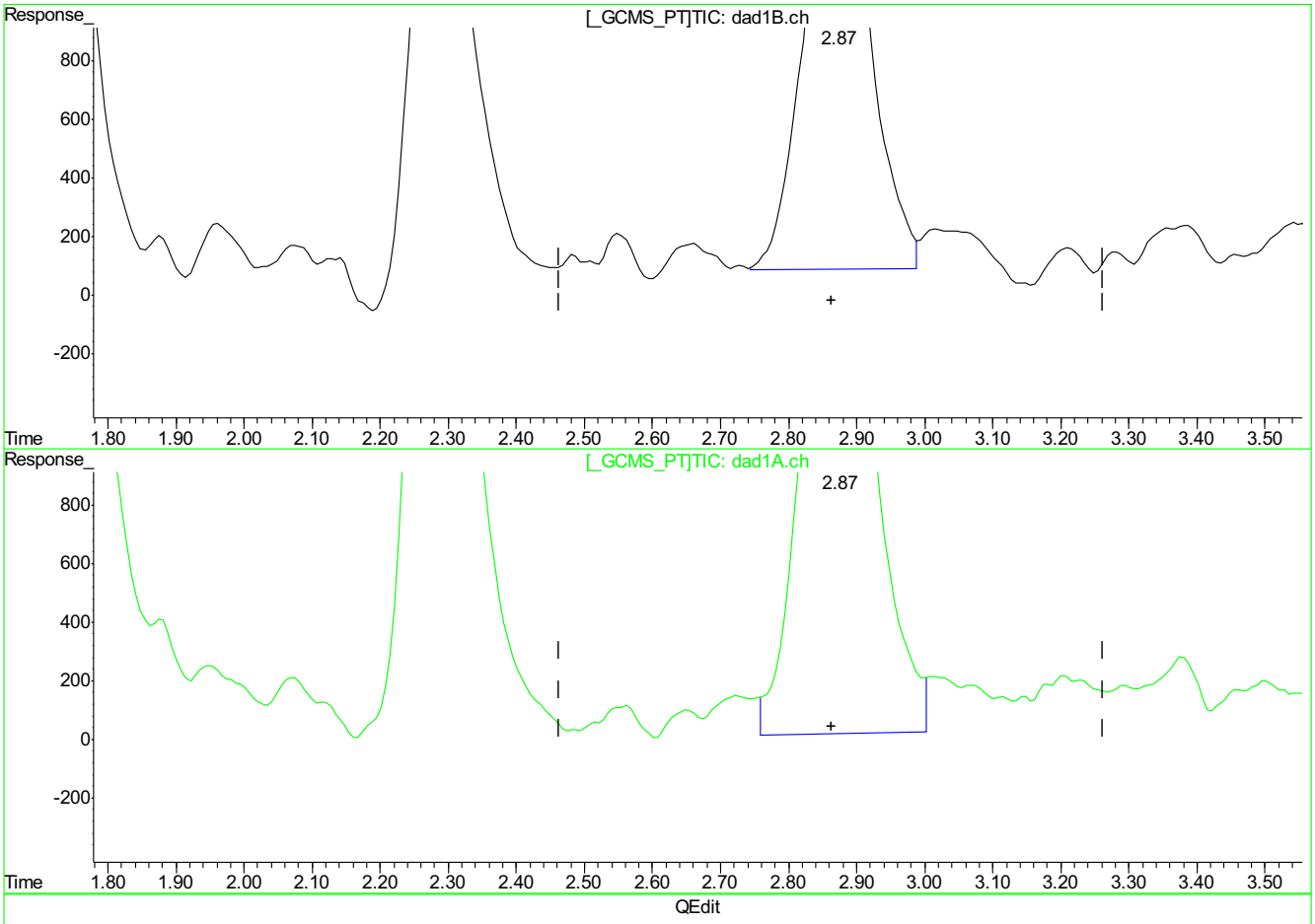
9

BB054262.D edits: RDX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(5) RDX

2.87min 47.797ppb m

response 102890

(5) RDX #2

2.87min 47.823ppb m

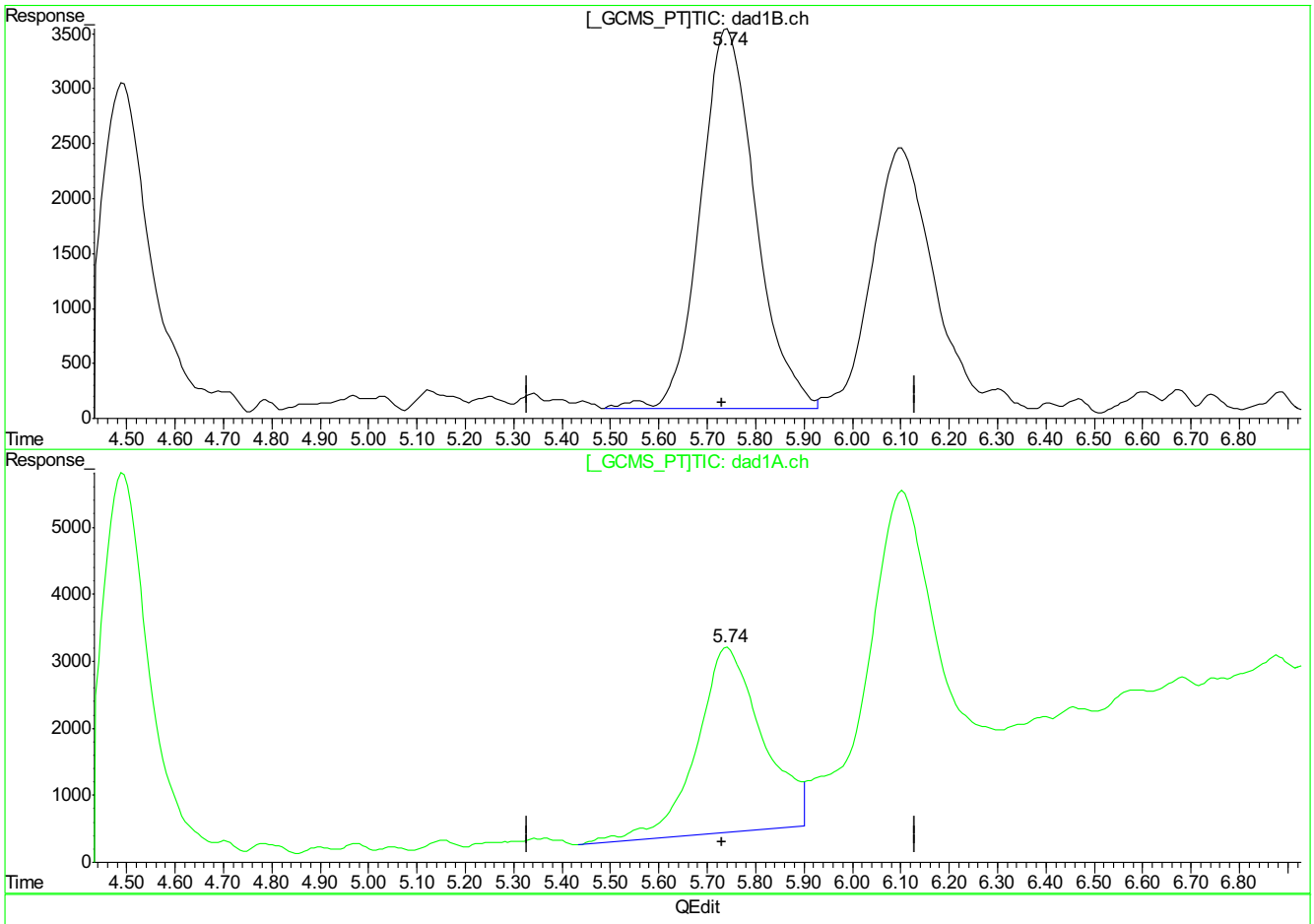
response 162404

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:37 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On    : 19-Apr-2017, 10:43:49                    Operator: evitam
Sample    : ic1578-50                                Inst    : G1315B
Misc      : op64647,gbb1578,2.00,,,20,1,SOIL         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

5.74min 47.759ppb

response 273022

(7) 1,3-Dinitrobenzene #2

5.74min 66.997ppb

response 260875

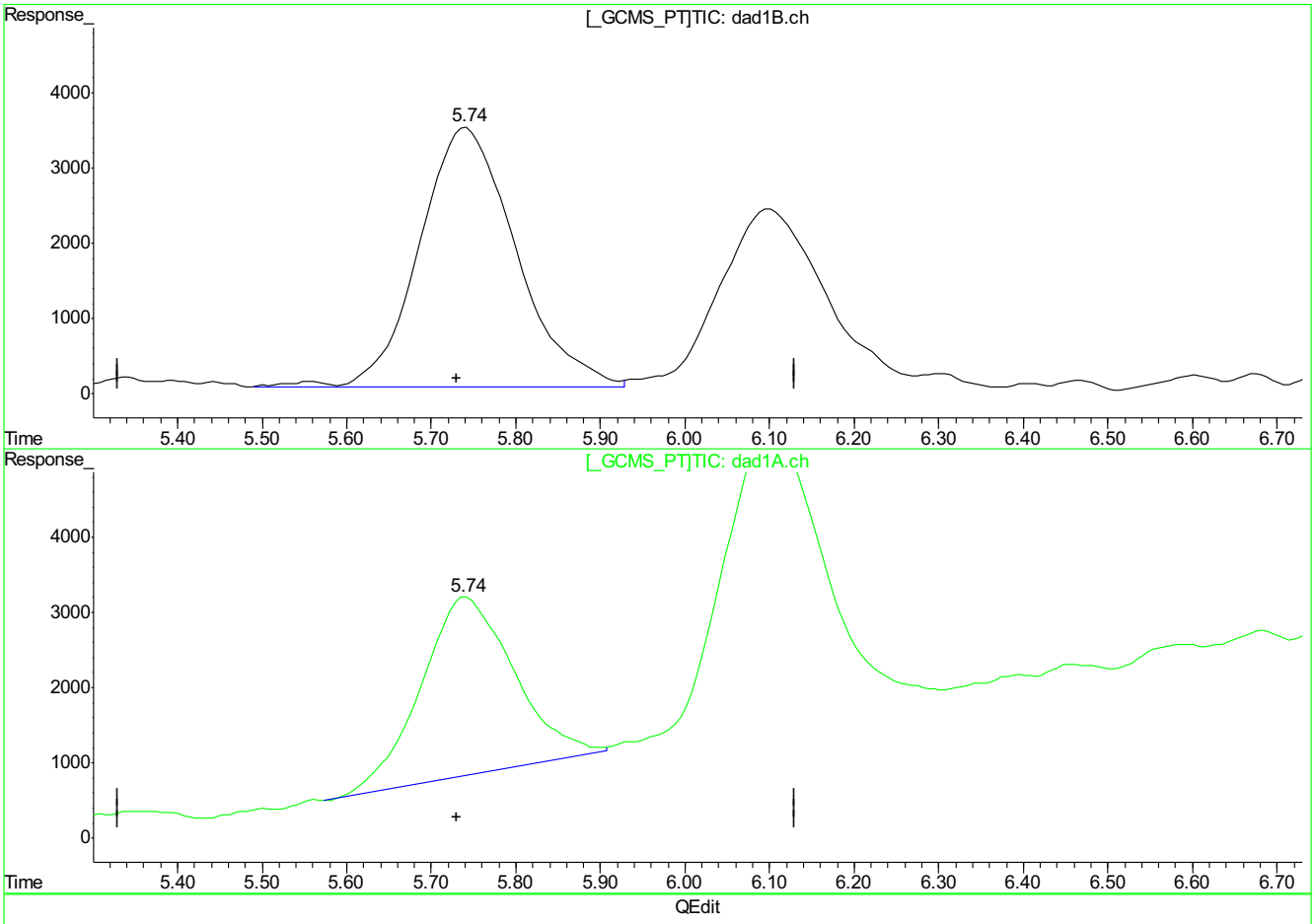
(+) = Expected Retention Time

BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 47.759ppb

response 273022

(7) 1,3-Dinitrobenzene #2

5.74min 46.654ppb m

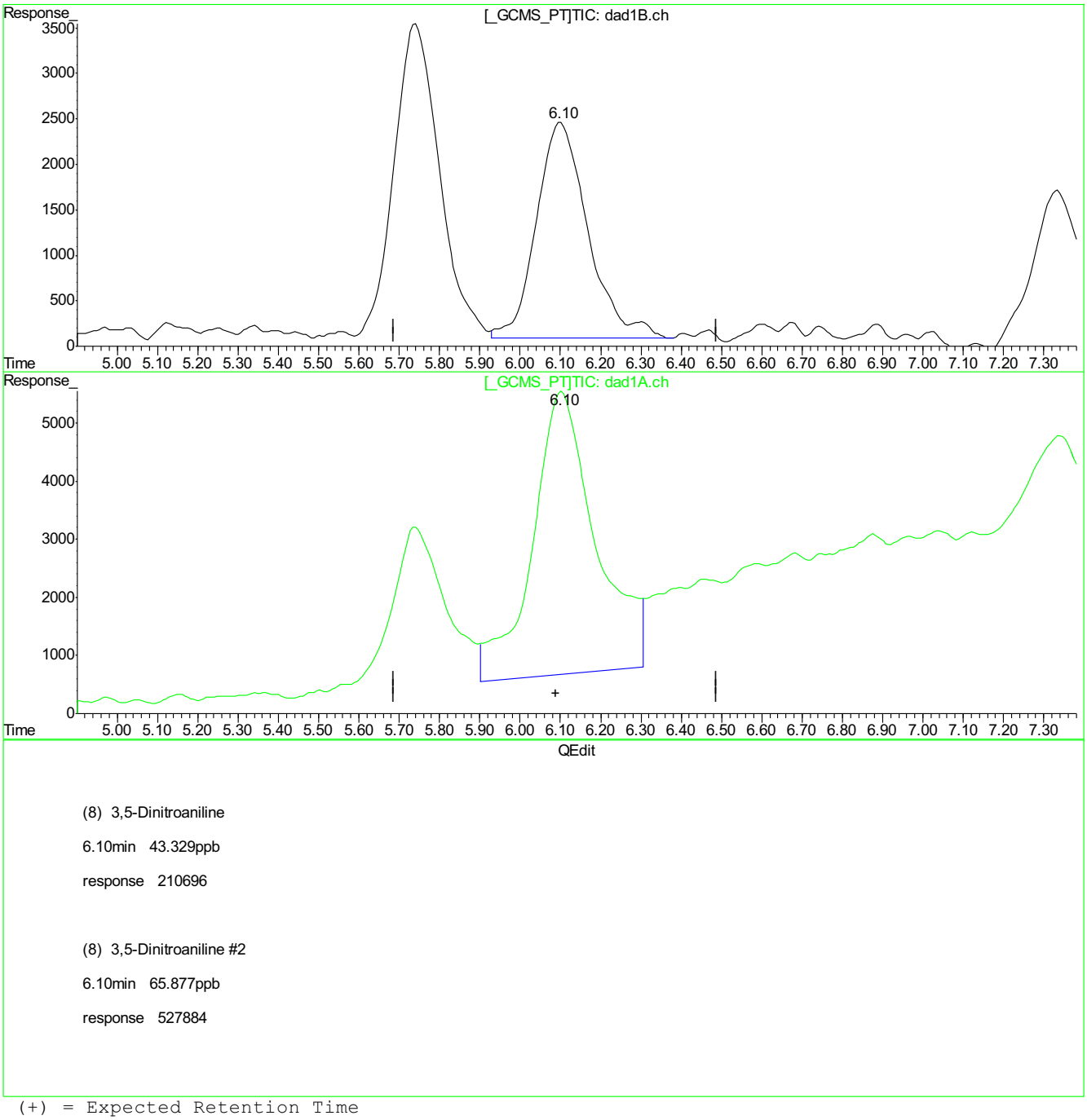
response 181664

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:50 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 43.329ppb

response 210696

(8) 3,5-Dinitroaniline #2

6.10min 65.877ppb

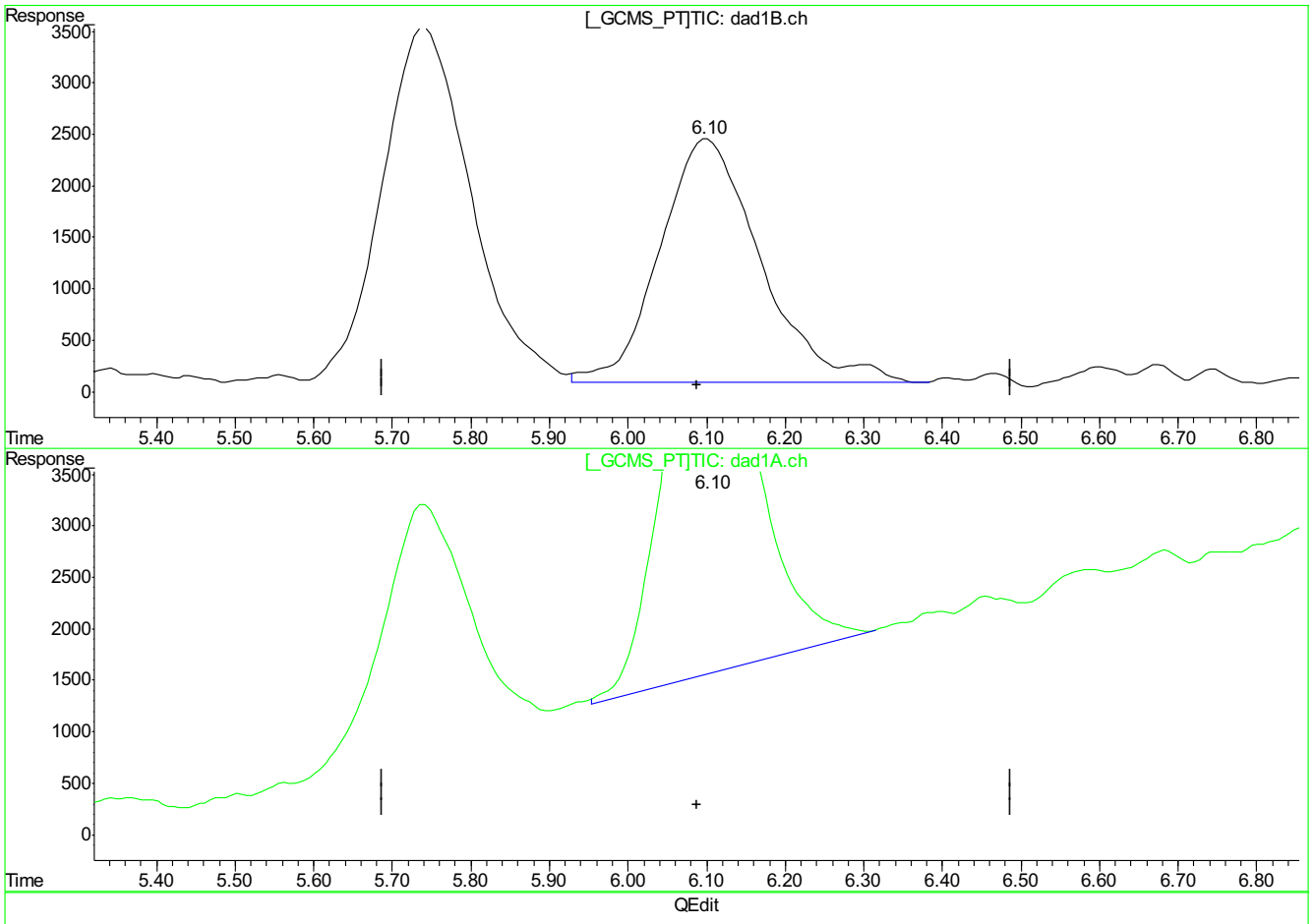
response 527884

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:52 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 43.329ppb

response 210696

(8) 3,5-Dinitroaniline #2

6.10min 38.963ppb m

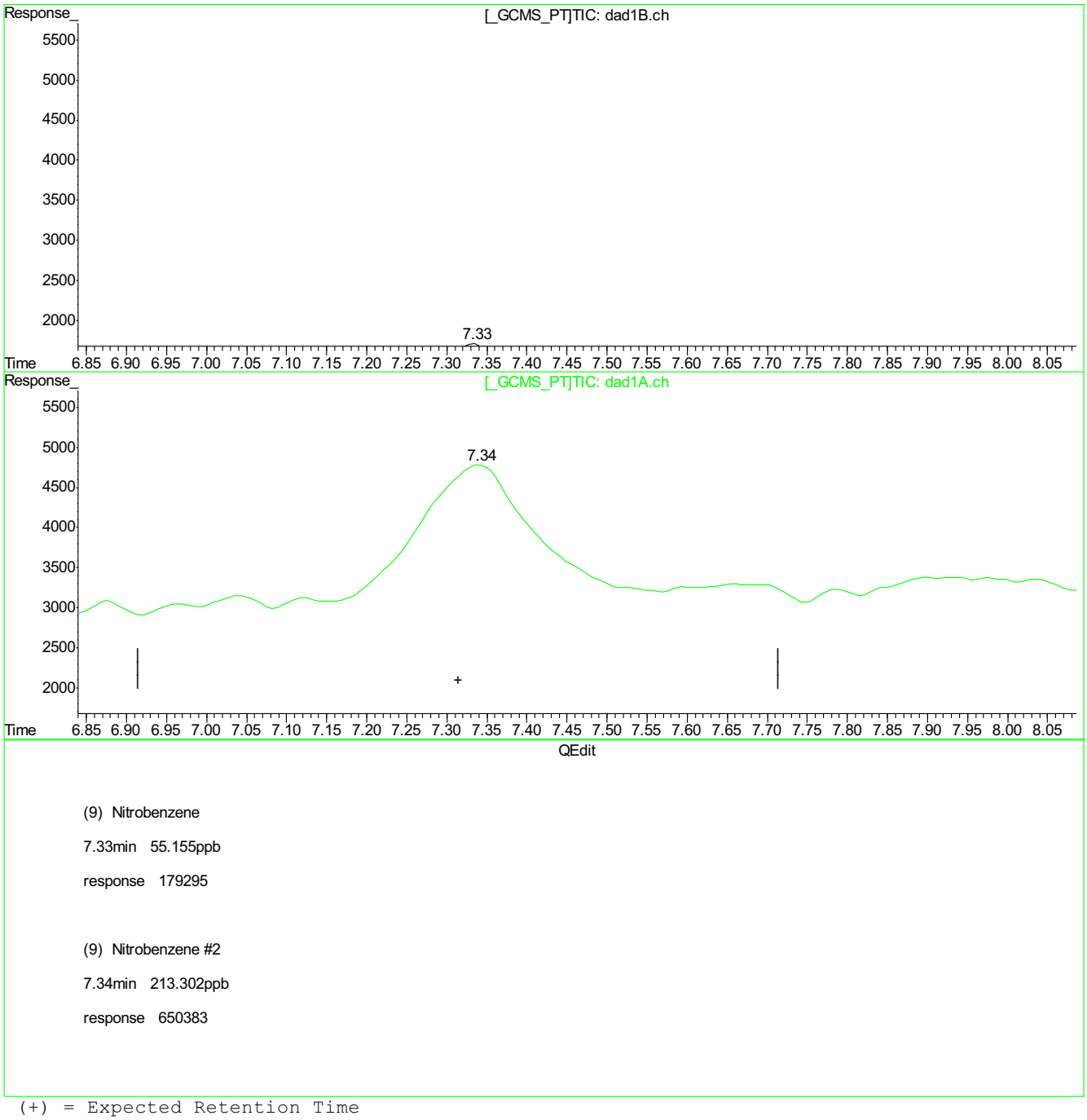
response 312214

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:05 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 55.155ppb

response 179295

(9) Nitrobenzene #2

7.34min 213.302ppb

response 650383

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:11 2017

9.5.2.8

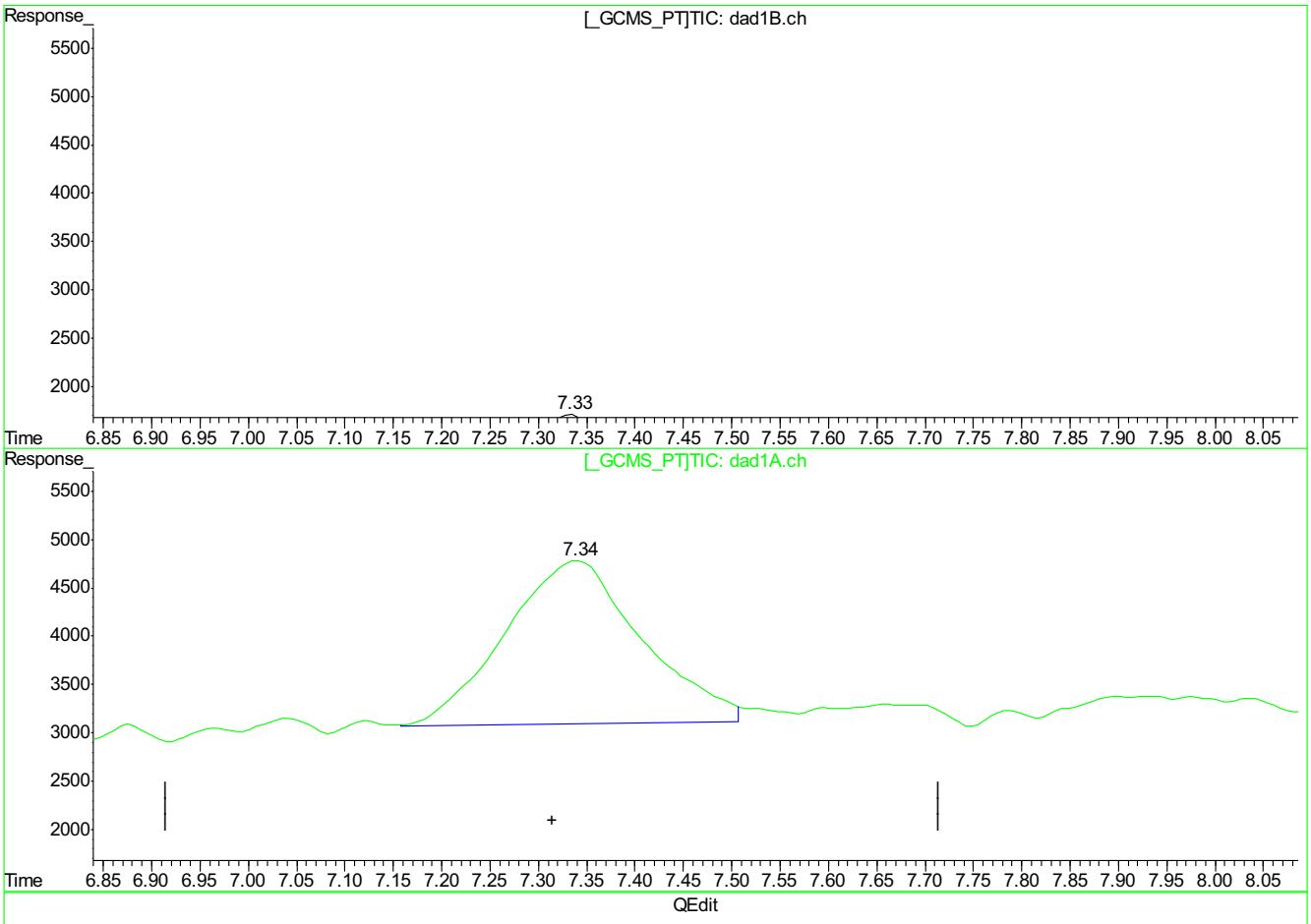
9

BB054262.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 55.155ppb

response 179295

(9) Nitrobenzene #2

7.34min 53.951ppb m

response 164503

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:14 2017

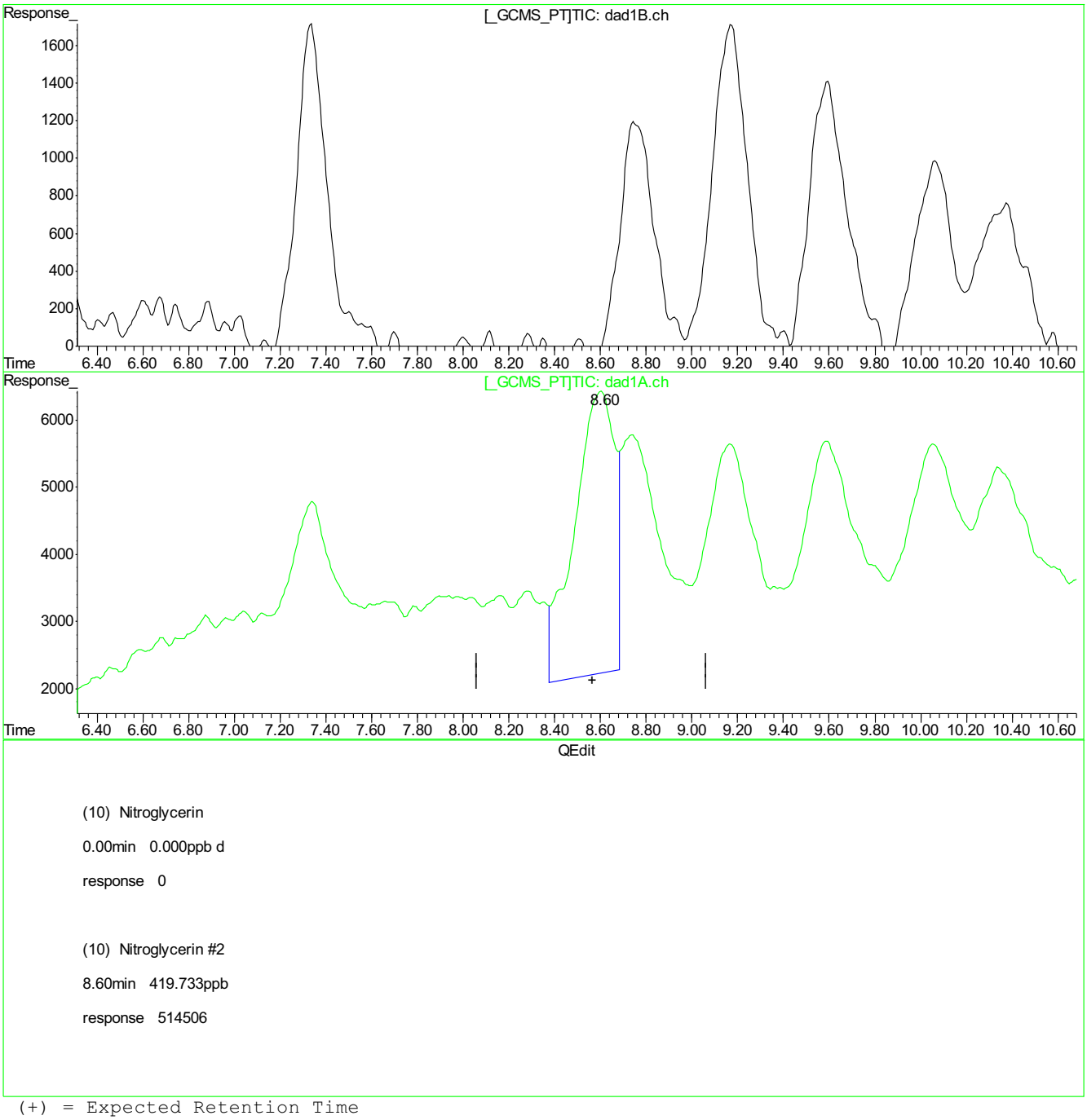
9.5.2.9

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.60min 419.733ppb

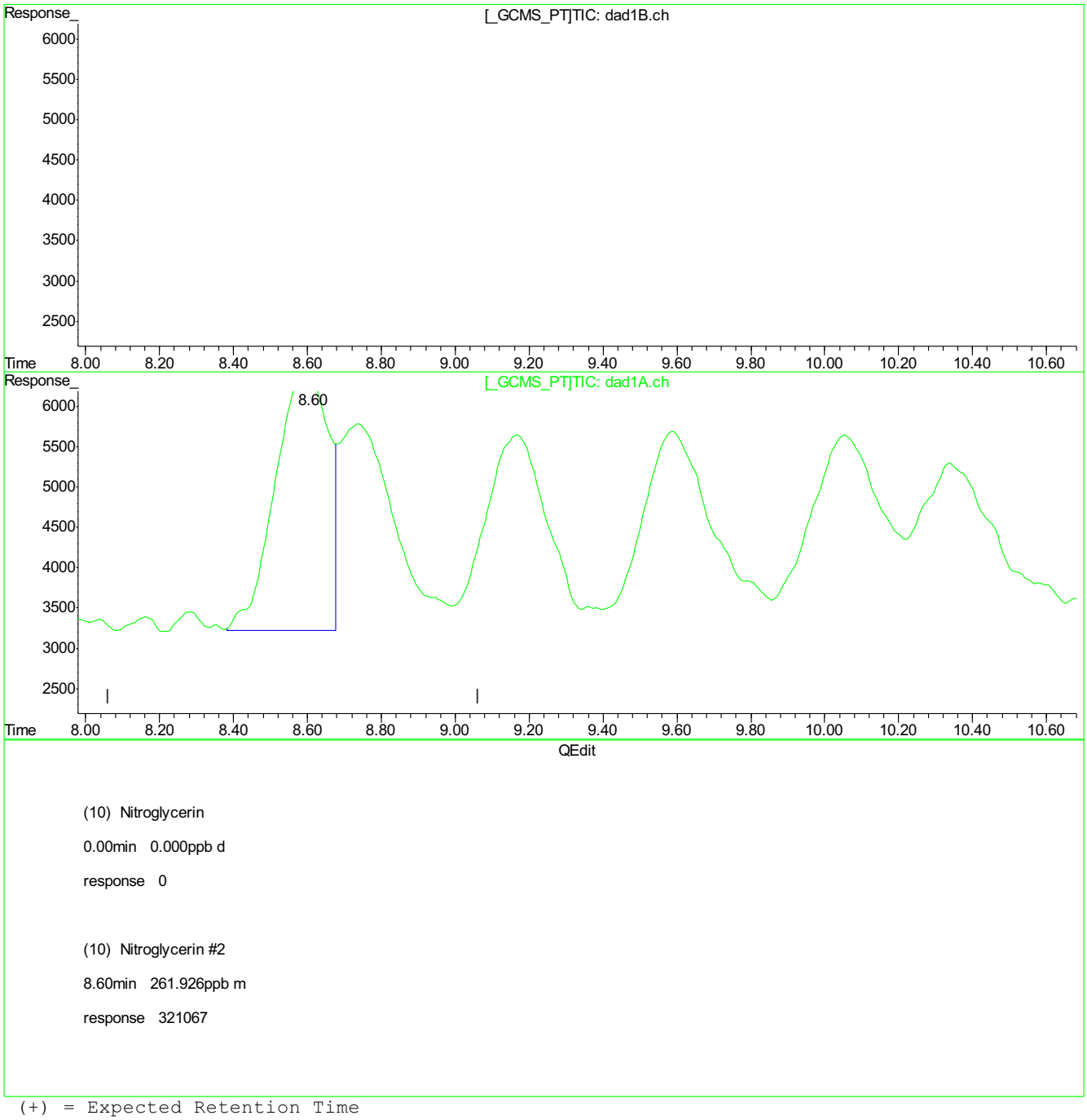
response 514506

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:22 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:54 2017

9.5.2.11

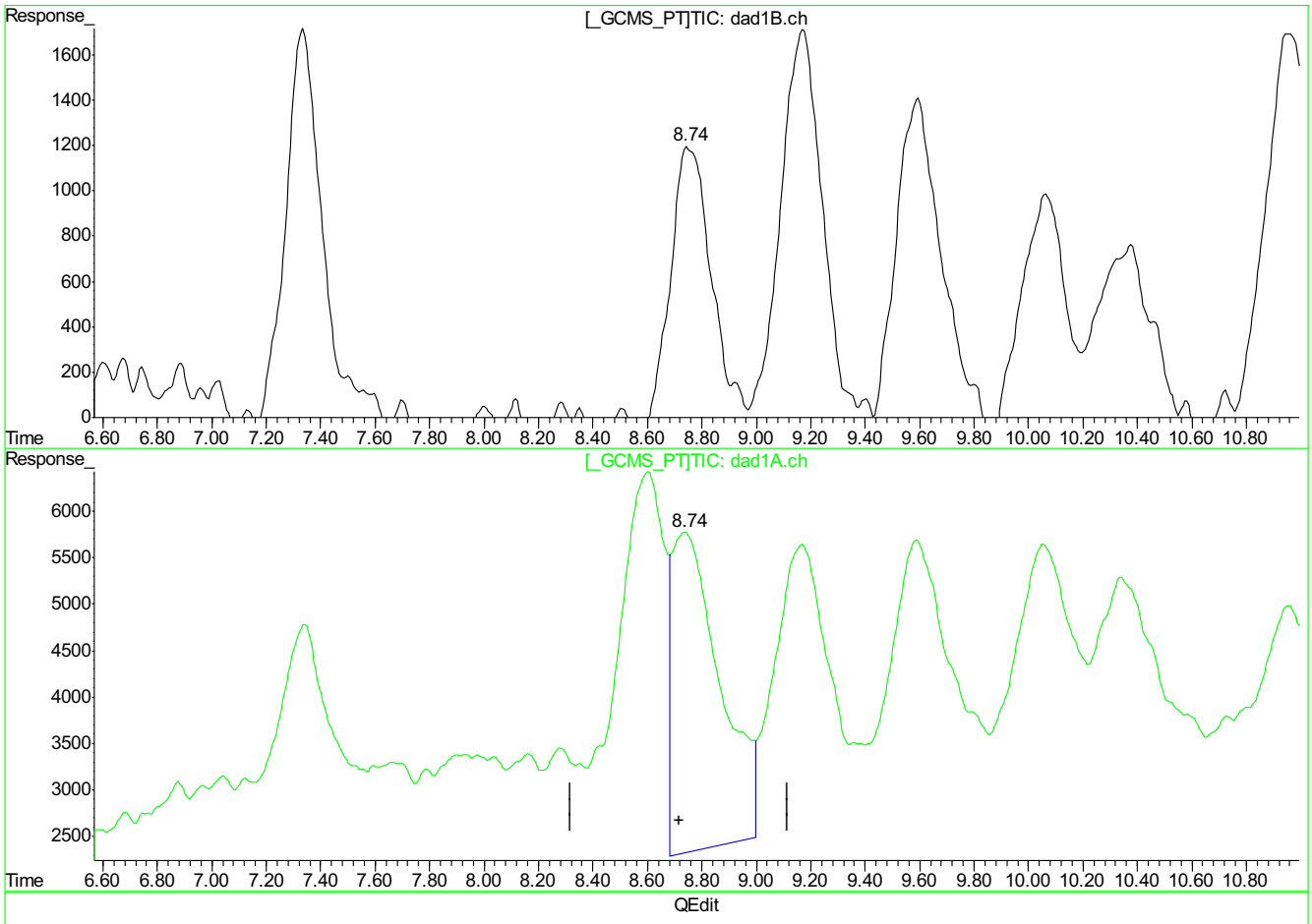
9

BB054262.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 46.040ppb

response 147543

(11) Tetryl #2

8.74min 80.939ppb

response 420158

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:00 2017

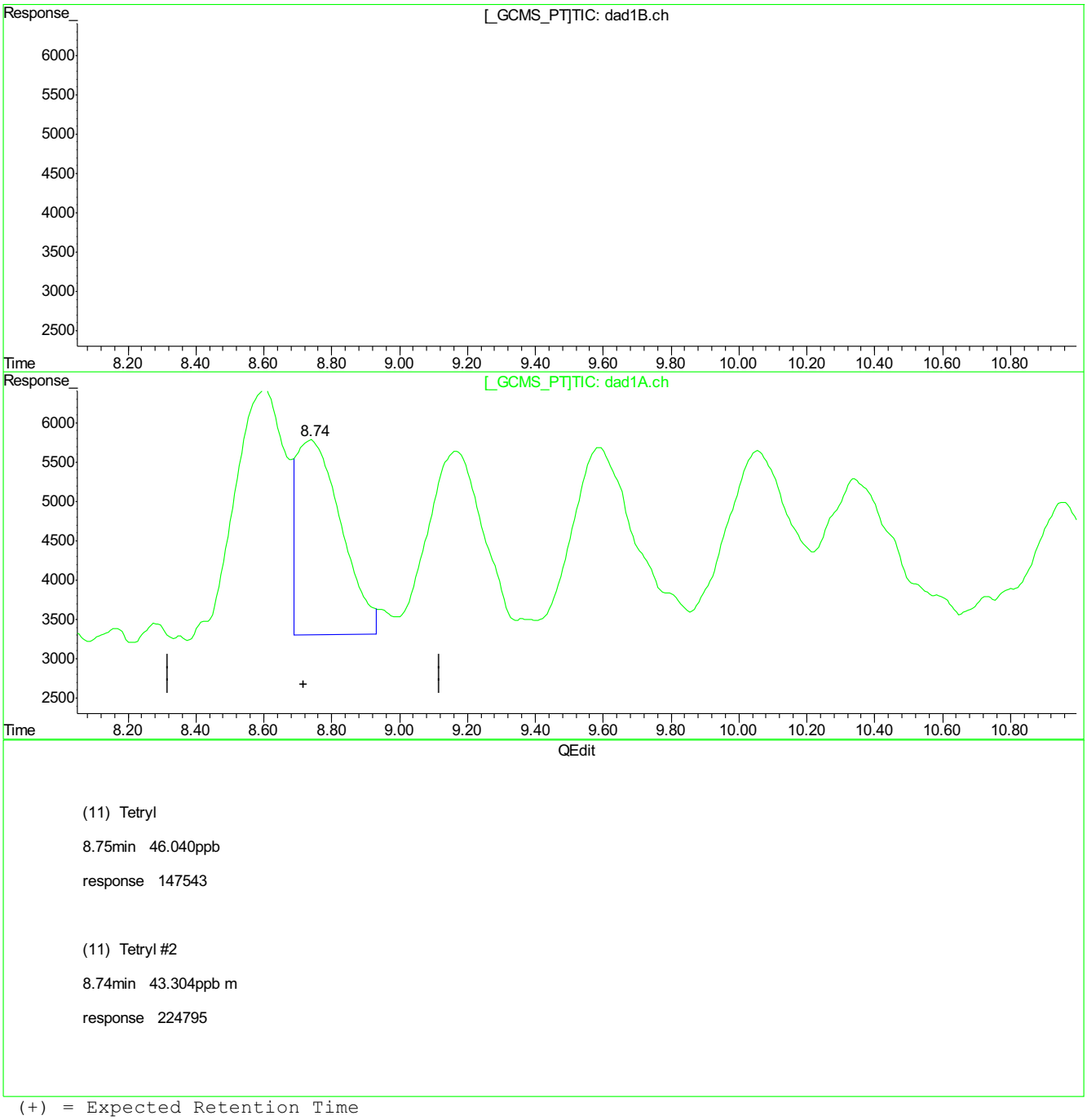
9.5.2.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 46.040ppb

response 147543

(11) Tetryl #2

8.74min 43.304ppb m

response 224795

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:18 2017

9.5.2.13

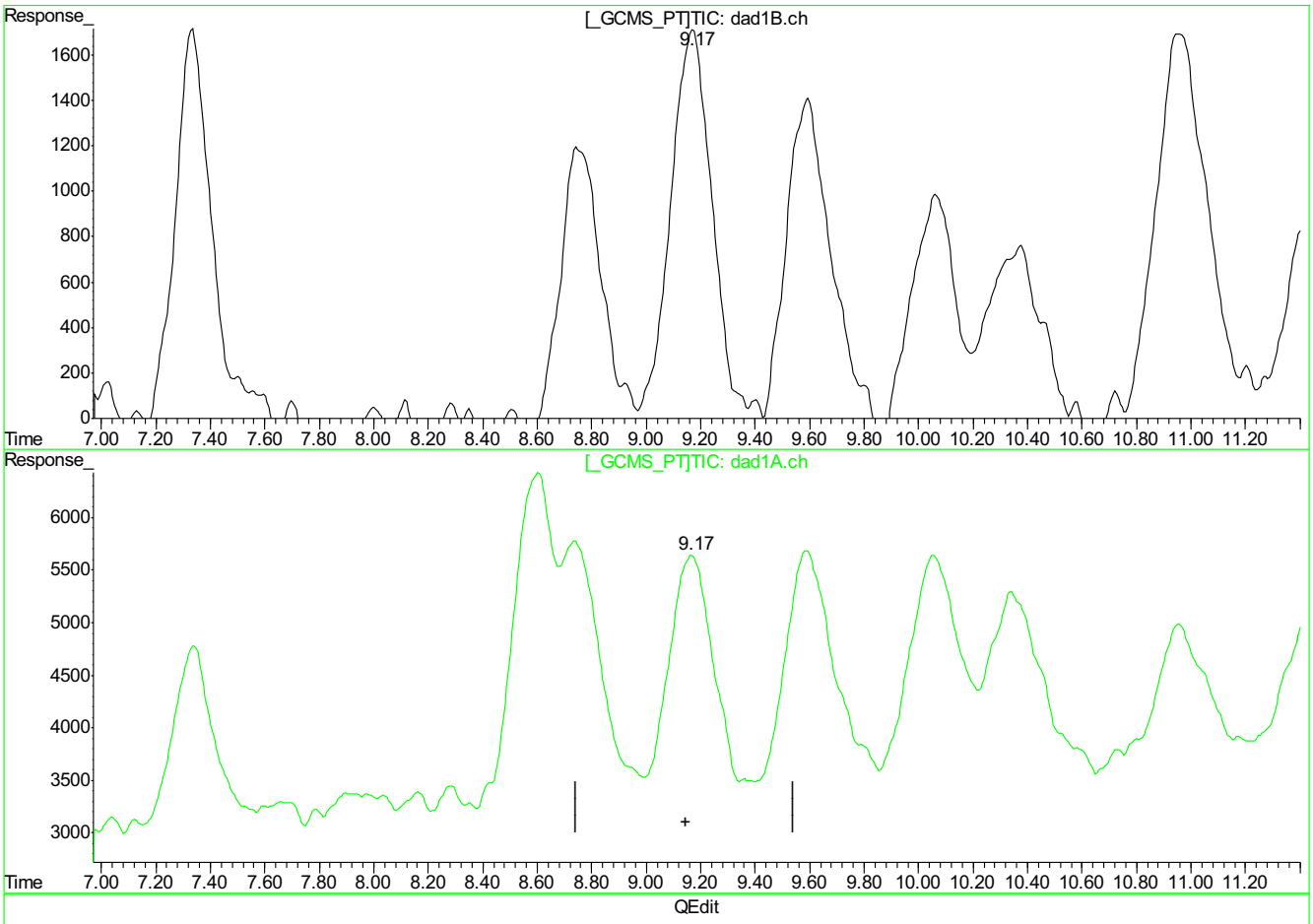
9

BB054262.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.17min 50.349ppb

response 208462

(12) 2,4,6-Trinitrotoluene #2

9.17min 91.635ppb

response 440151

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:22 2017

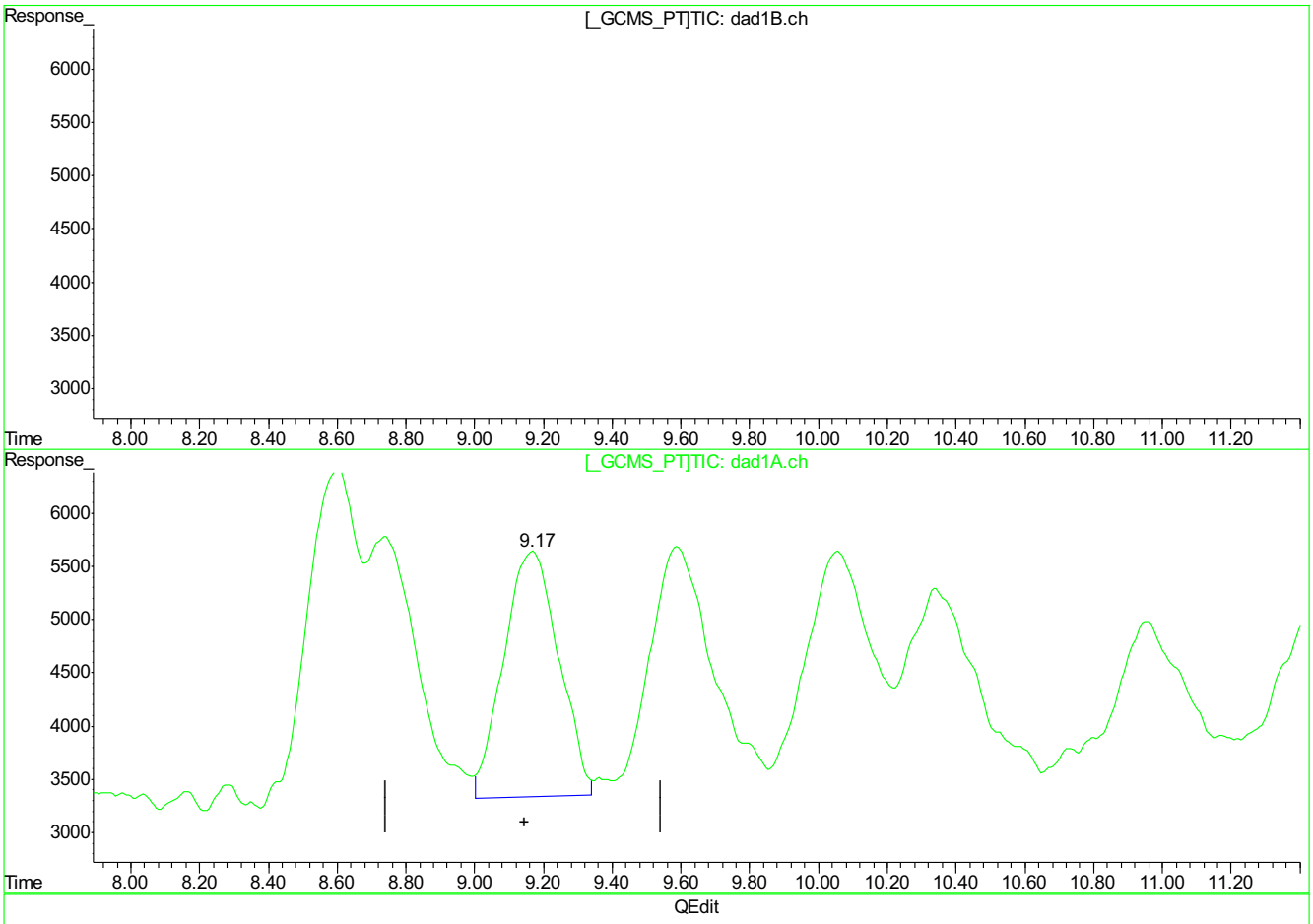
9.5.2.14

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.17min 50.349ppb

response 208462

(12) 2,4,6-Trinitrotoluene #2

9.17min 53.477ppb m

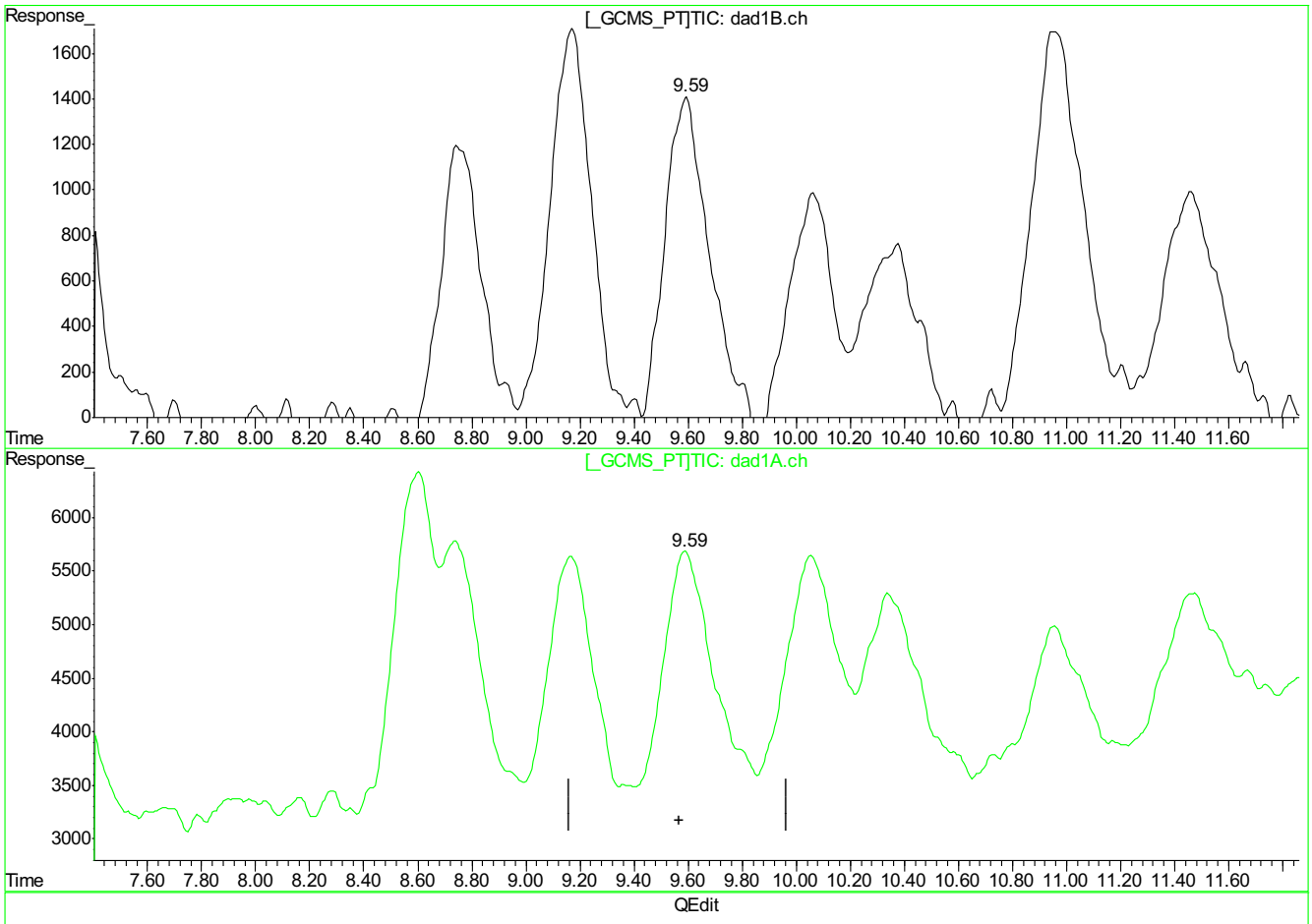
response 256865

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:38 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.59min 53.377ppb

response 188621

(13) 2-Amino-4,6-Dinitrotoluene #2

9.59min 85.587ppb

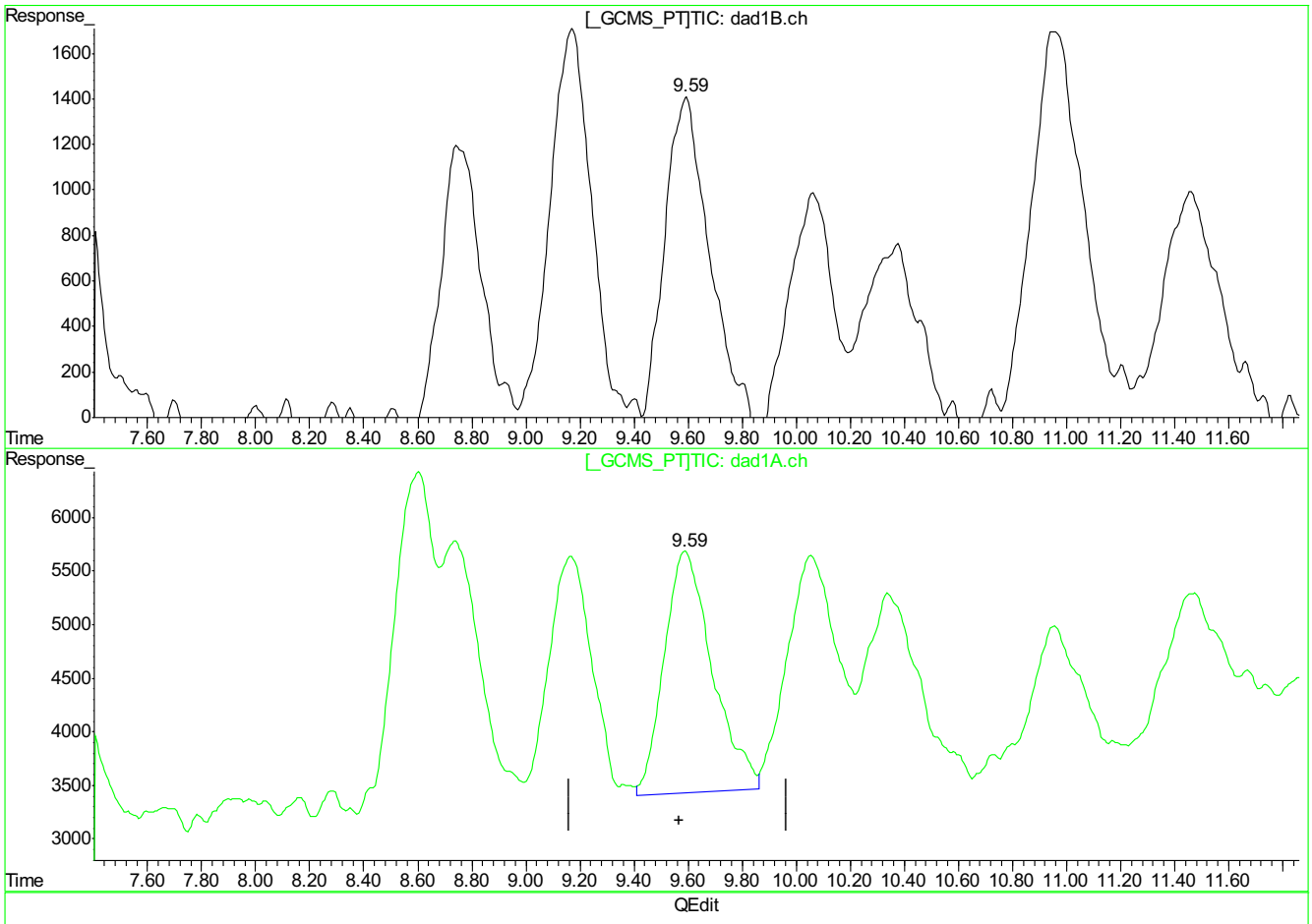
response 431749

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.59min 53.377ppb

response 188621

(13) 2-Amino-4,6-Dinitrotoluene #2

9.59min 55.388ppb m

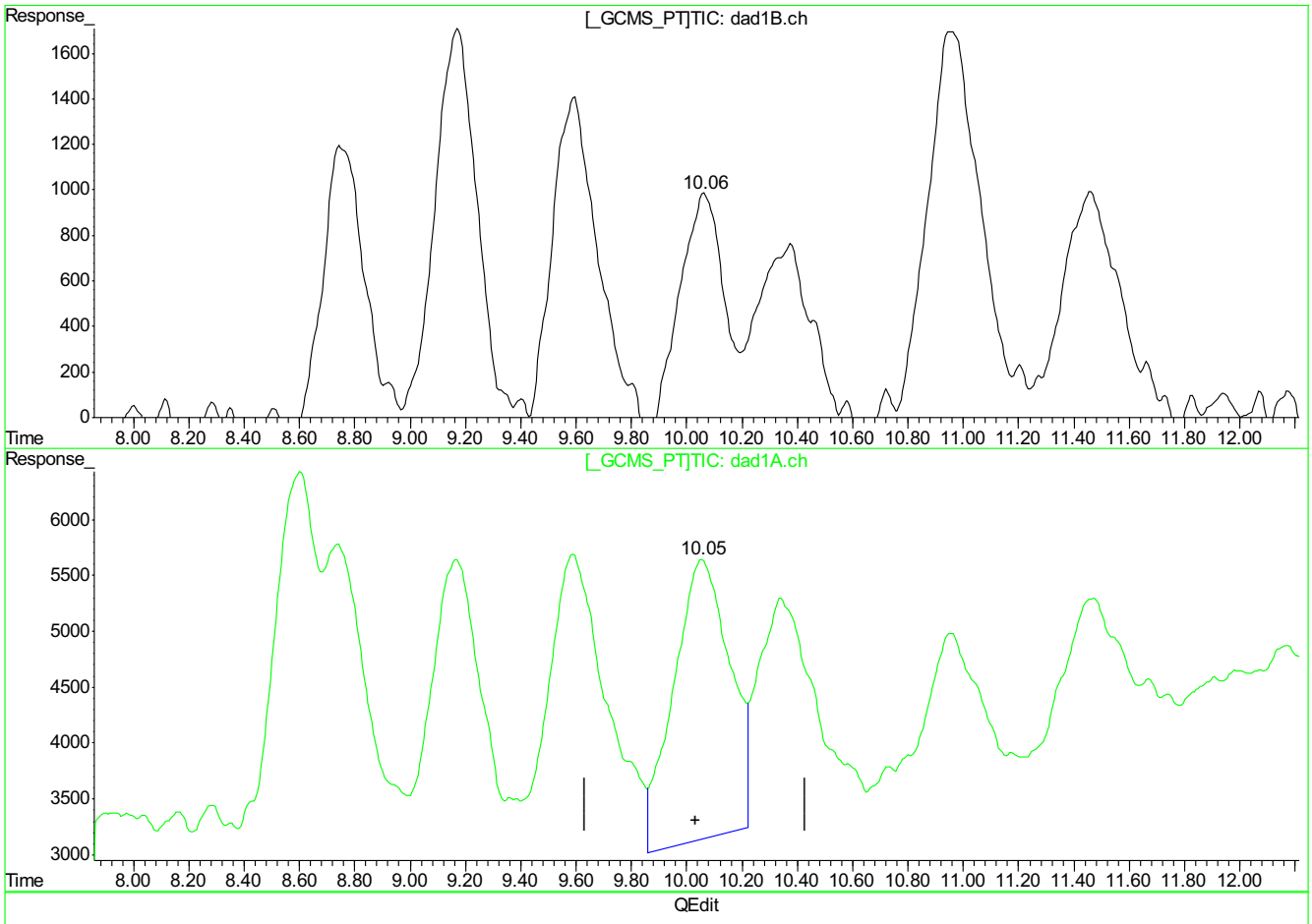
response 279592

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:50 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.06min 47.514ppb

response 128016

(14) 4-Amino-2,6-Dinitrotoluene #2

10.06min 69.454ppb

response 351452

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:54 2017

9.5.2.18

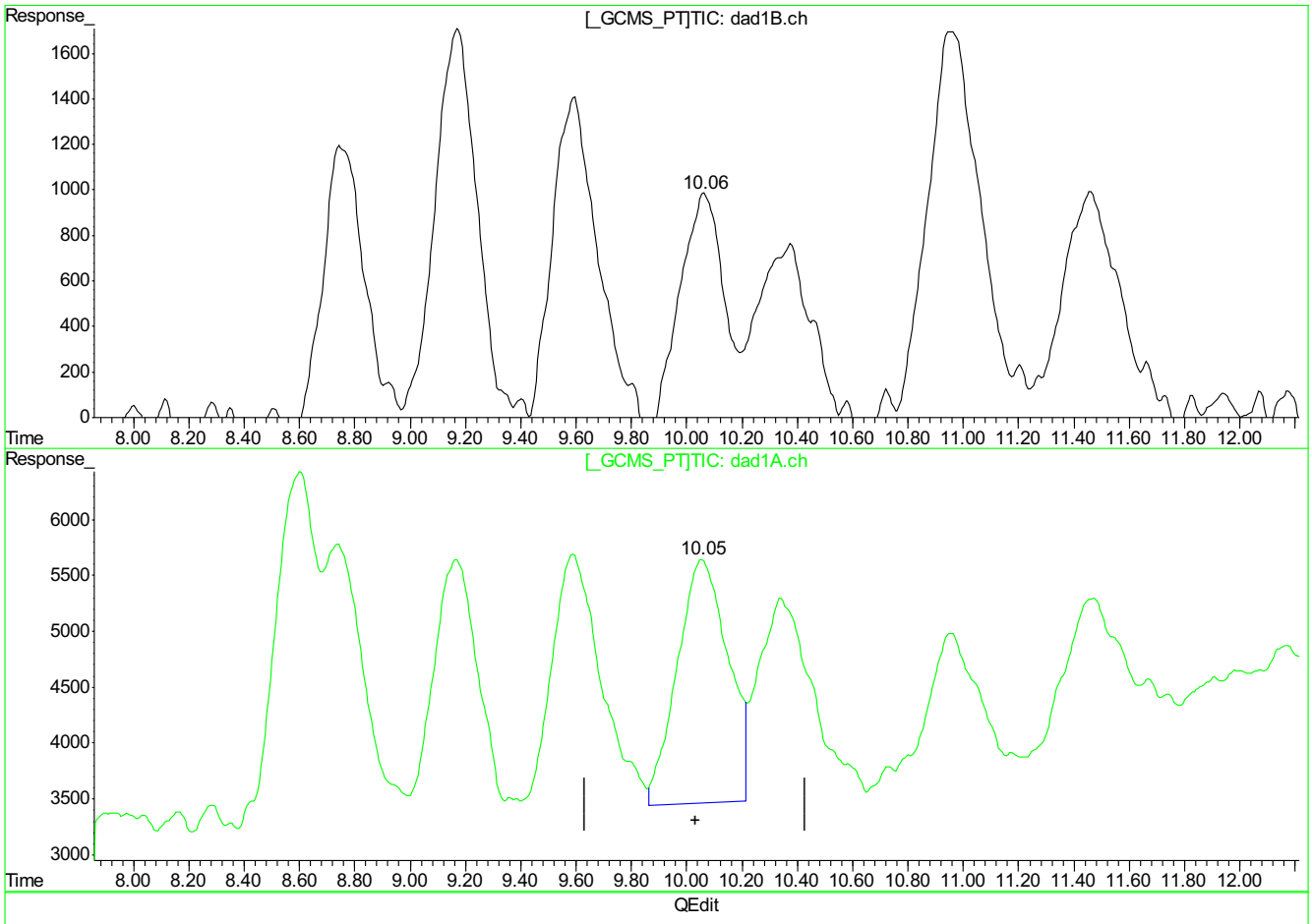
9

BB054262.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.06min 47.514ppb

response 128016

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 54.408ppb m

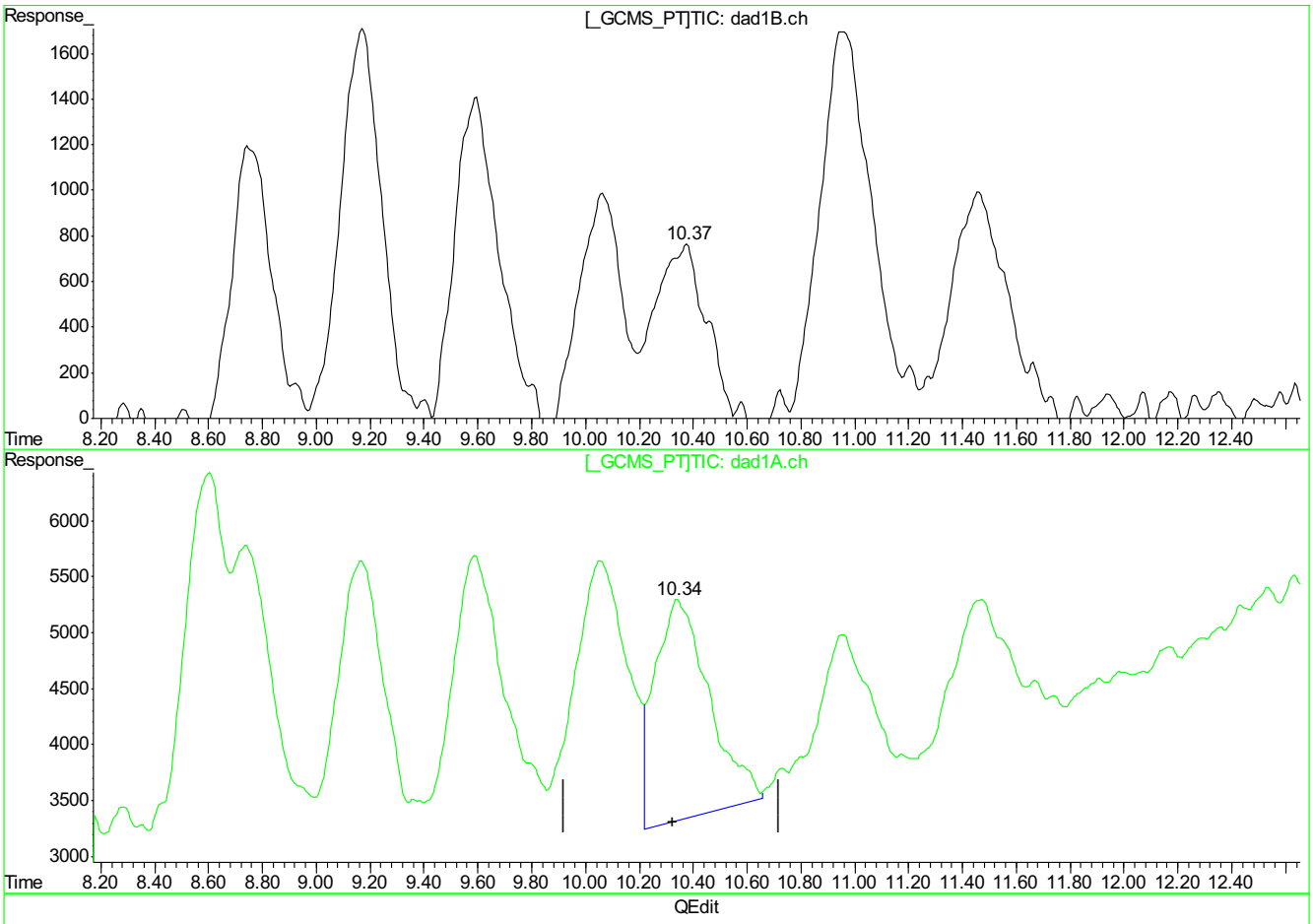
response 275315

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:07 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.38min 51.980ppb

response 130277

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 67.896ppb

response 276669

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:10 2017

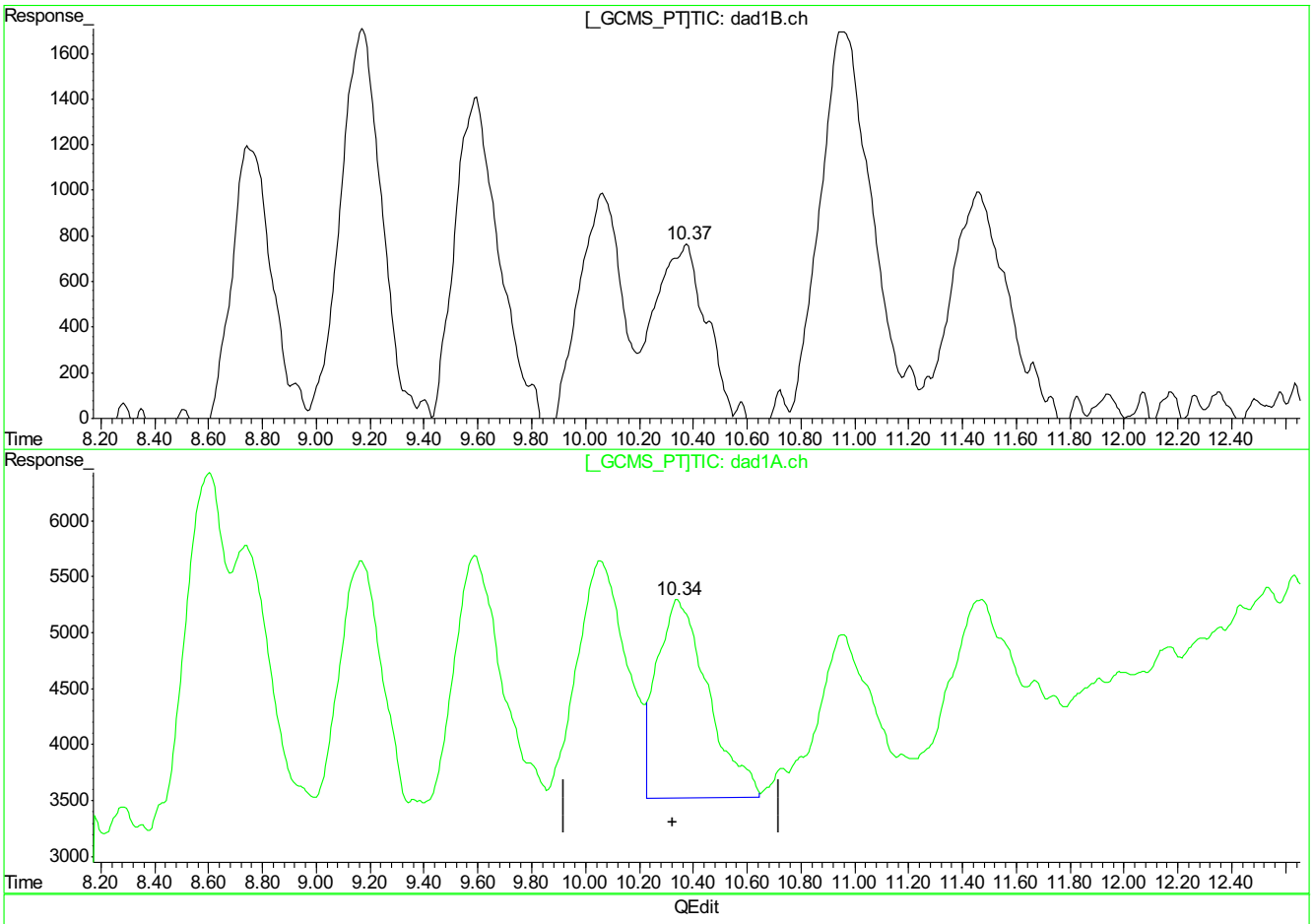
9.5.2.20

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.38min 51.980ppb

response 130277

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 57.420ppb m

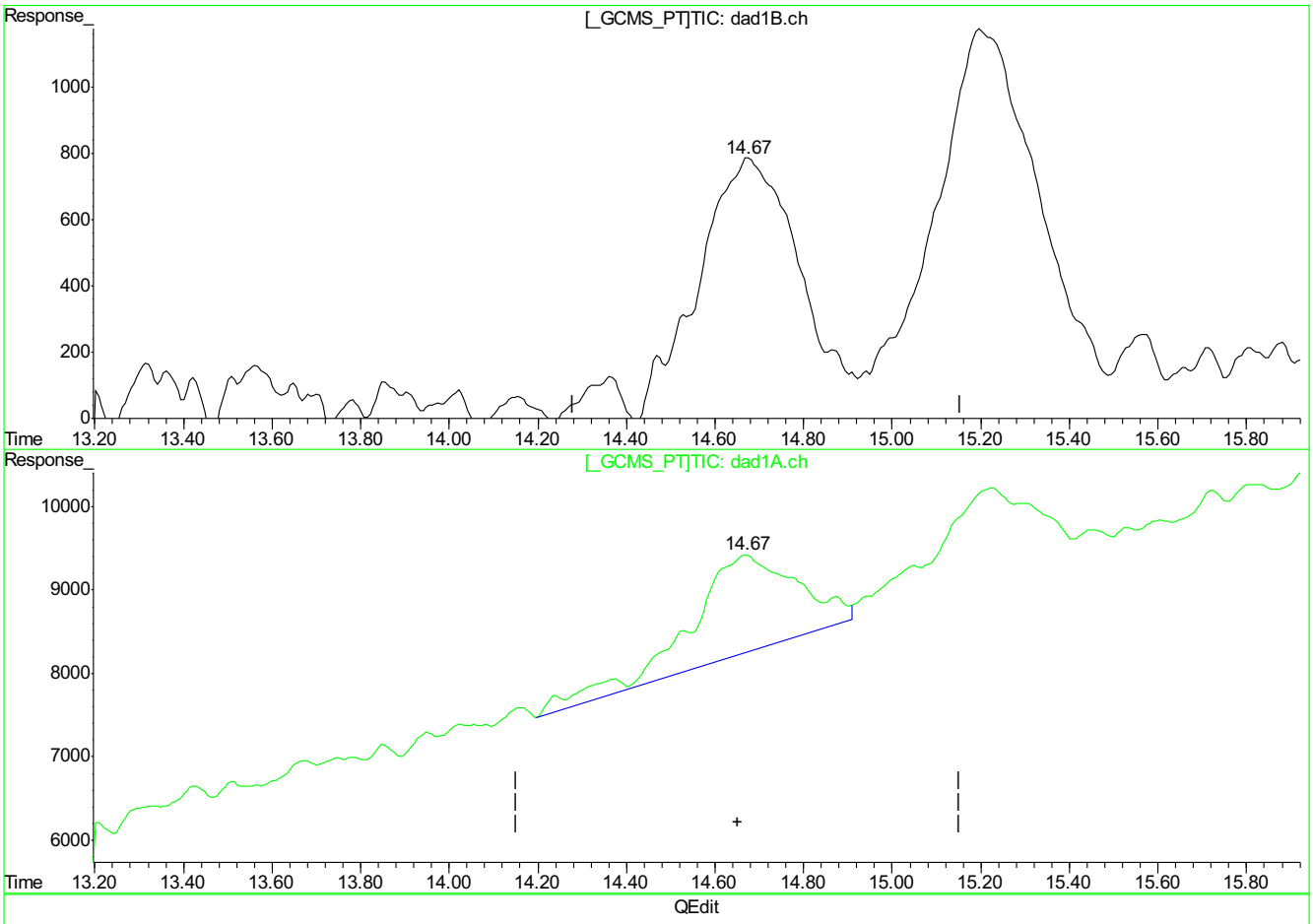
response 233981

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:27 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.68min 52.818ppb

response 120879

(18) o-Nitrotoluene #2

14.67min 92.709ppb

response 196076

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:39 2017

9.5.2.22

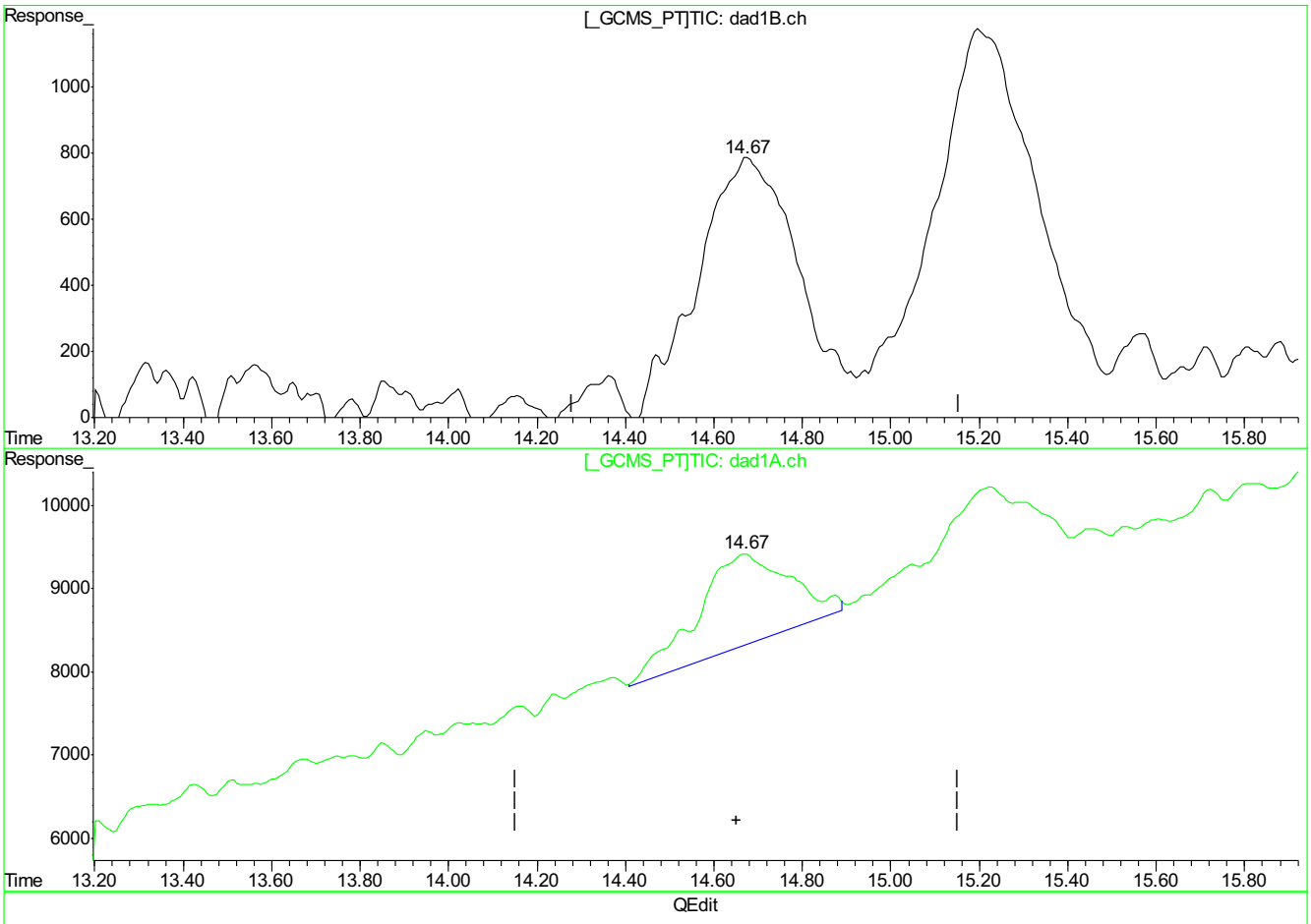
9

BB054262.D edits: o-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.68min 52.818ppb

response 120879

(18) o-Nitrotoluene #2

14.67min 76.834ppb m

response 161420

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:43 2017

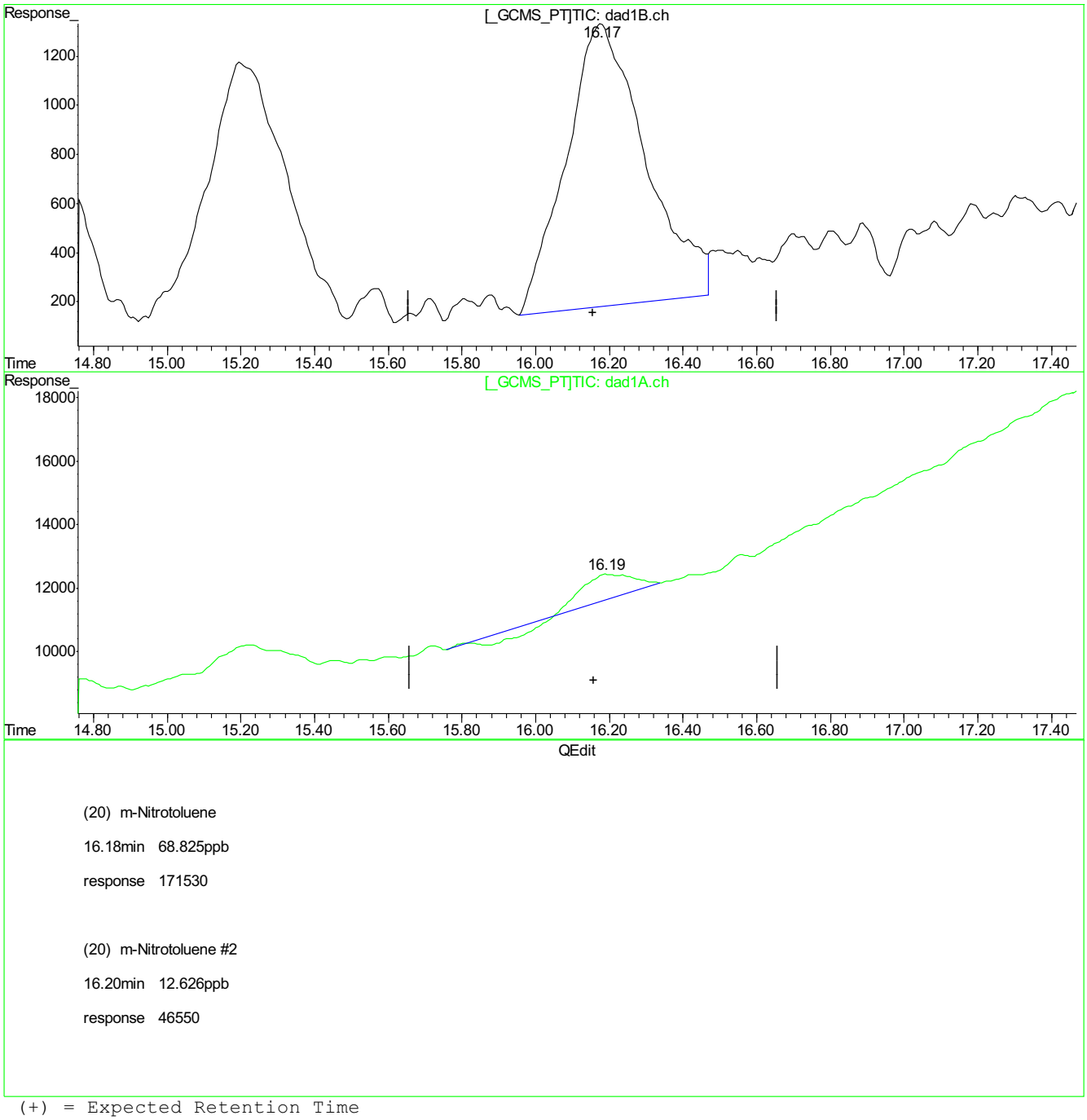
9.5.2.23

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.18min 68.825ppb

response 171530

(20) m-Nitrotoluene #2

16.20min 12.626ppb

response 46550

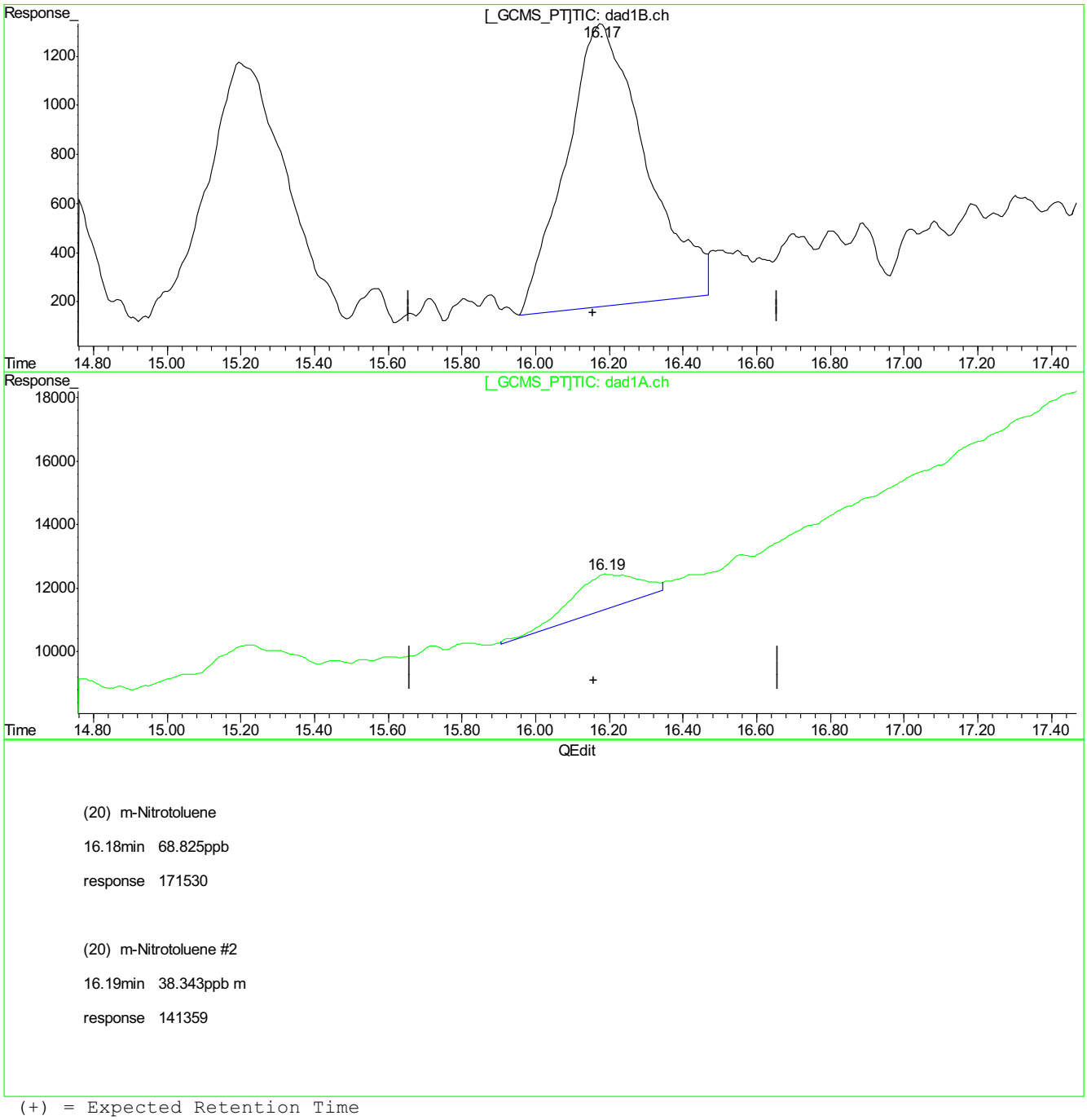
(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:48 2017

BB054262.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.18min 68.825ppb

response 171530

(20) m-Nitrotoluene #2

16.19min 38.343ppb m

response 141359

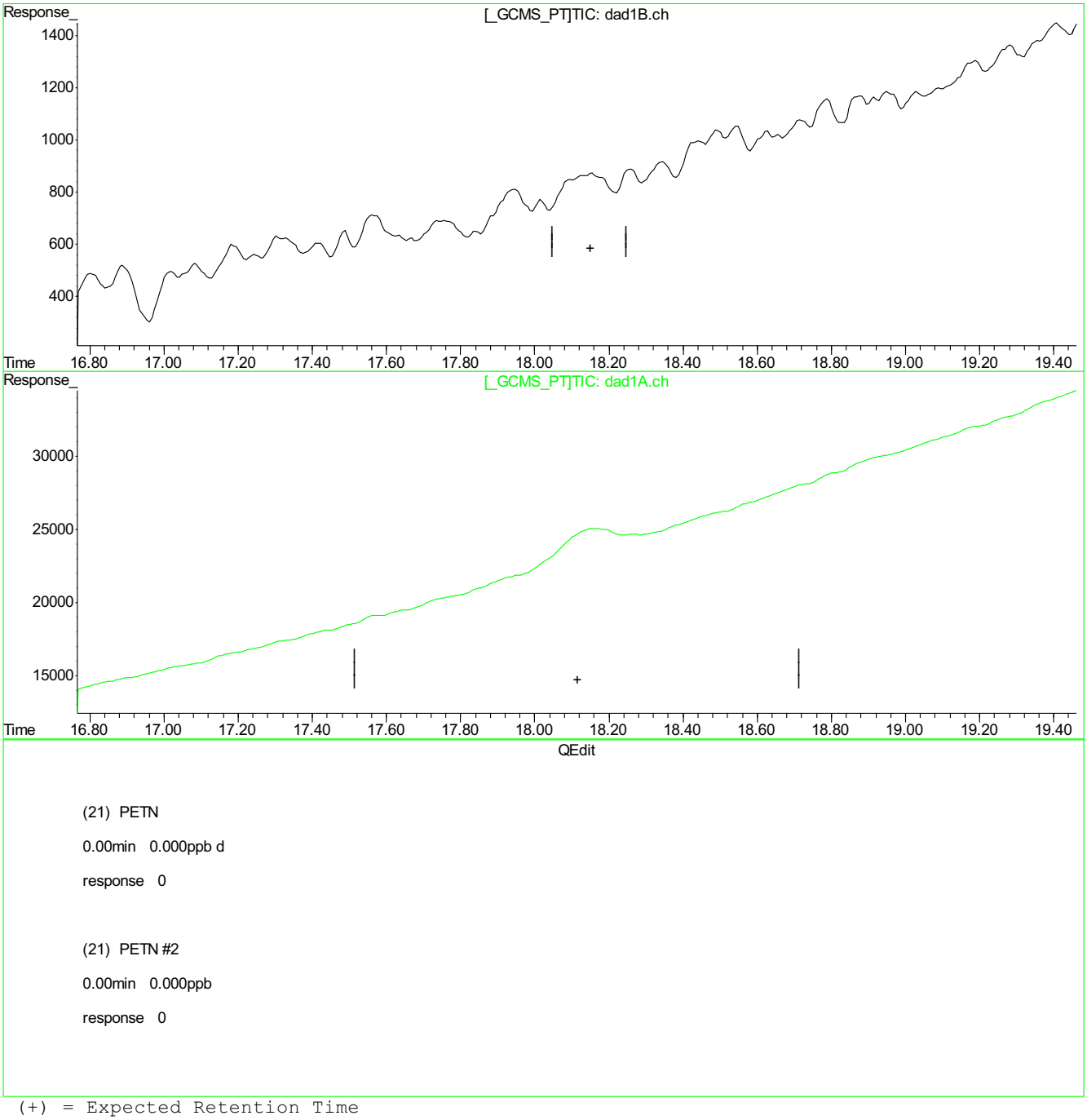
(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:54 2017

BB054262.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:58 2017

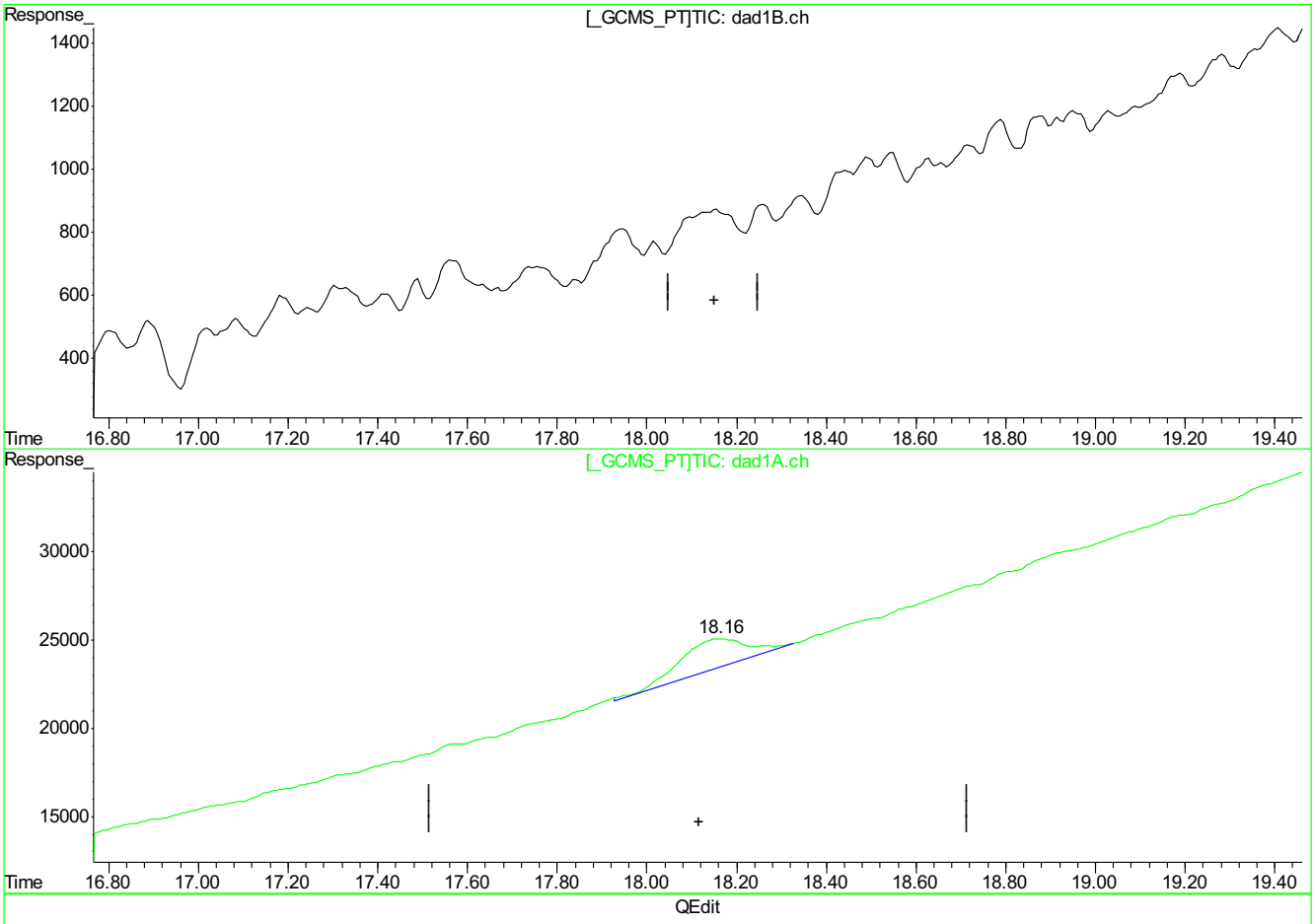
9.5.2.26

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.16min 126.184ppb m

response 170717

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:59:03 2017

9.5.2.27

6

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:02 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.35	10.34	243051	421281	97.450	103.384m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	19.49%#	20.68%#
	Target Compounds						
1)	TNX	1.36	1.36	313078	516565	95.351	100.468
2)	HMX	1.48	1.48	156594	485797	86.753	93.566
3)	DNX	1.73	1.73	309883	681179	106.692	131.157
4)	MNX	2.29	2.29	255945	398983	110.486	109.585
5)	RDX	2.87	2.87	231380	340103	107.487	100.149
6)	1,3,5-Trinitrobe	4.49	4.49	447776	852048	101.390	98.272
7)	1,3-Dinitrobenze	5.74	5.74	584870	425081	102.309	109.167m
8)	3,5-Dinitroanili	6.10	6.10	423681	666332	87.129	83.155m
9)	Nitrobenzene	7.33	7.33	362263	313694	111.439	102.880m
10)	Nitroglycerin	0.00	8.59	0	702045	N.D. d	572.726m
11)	Tetryl	8.76	8.73	288957	452757	90.166	87.219m
12)	2,4,6-Trinitroto	9.16	9.15	420824	508546	101.640	105.874m
13)	2-Amino-4,6-Dini	9.58	9.58	372160	538610	105.688	106.819m
14)	4-Amino-2,6-Dini	10.04	10.04	277691	509299	103.066	100.648m
16)	2,4-Dinitrotolue	10.96	10.97	543842	313689	103.154	96.032
17)	2,6-Dinitrotolue	11.46	11.45	331149	366261	109.409	96.994
18)	o-Nitrotoluene	14.67	14.68	283805	342635	124.008	157.709
19)	p-Nitrotoluene	15.21	15.21	411025	299597	122.354	122.637
20)	m-Nitrotoluene	16.17	16.18	379131	355148	148.344	96.332m
21)	PETN	0.00	18.14	0	367205	N.D. d	271.416m

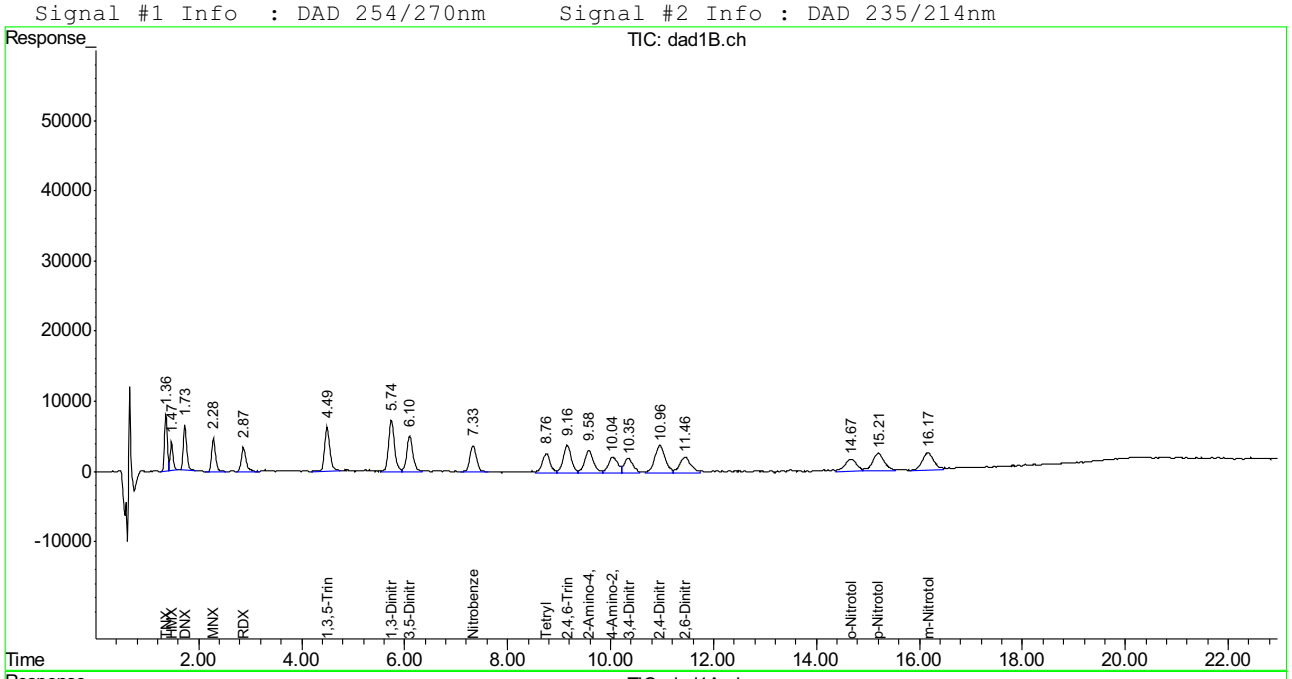
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054263.D 8330B_0419PLUS.M Thu Apr 20 11:04:51 2017 Page 1

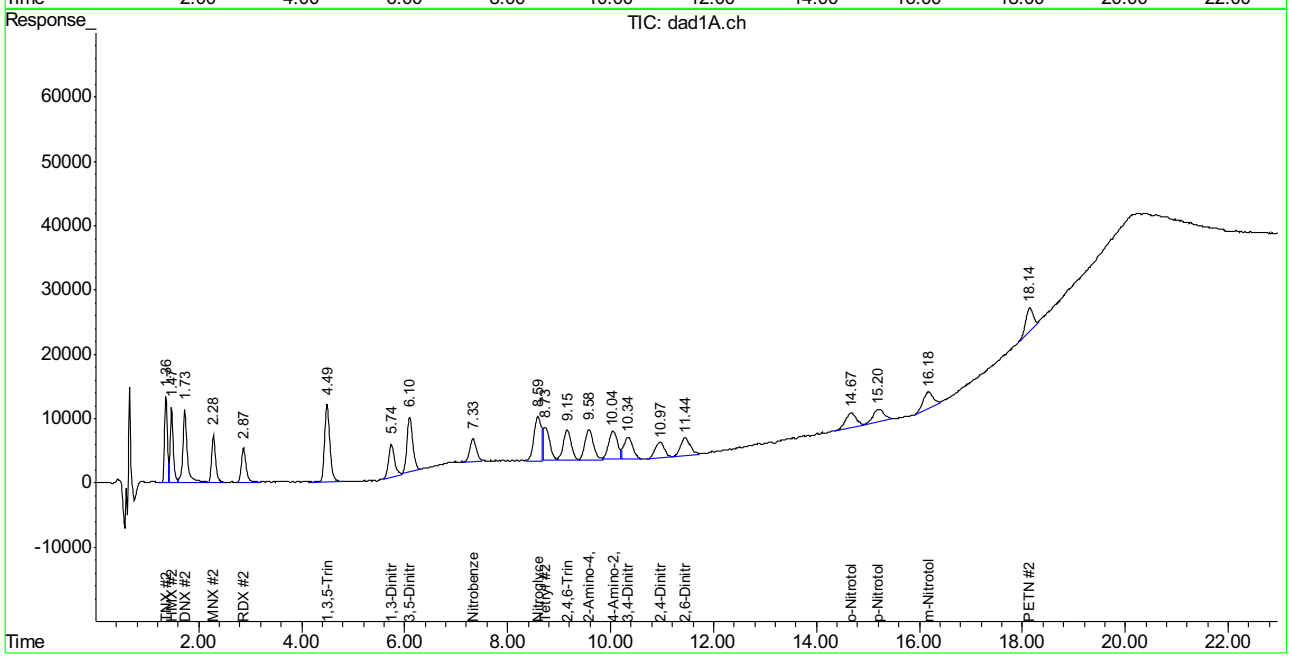
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:03 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

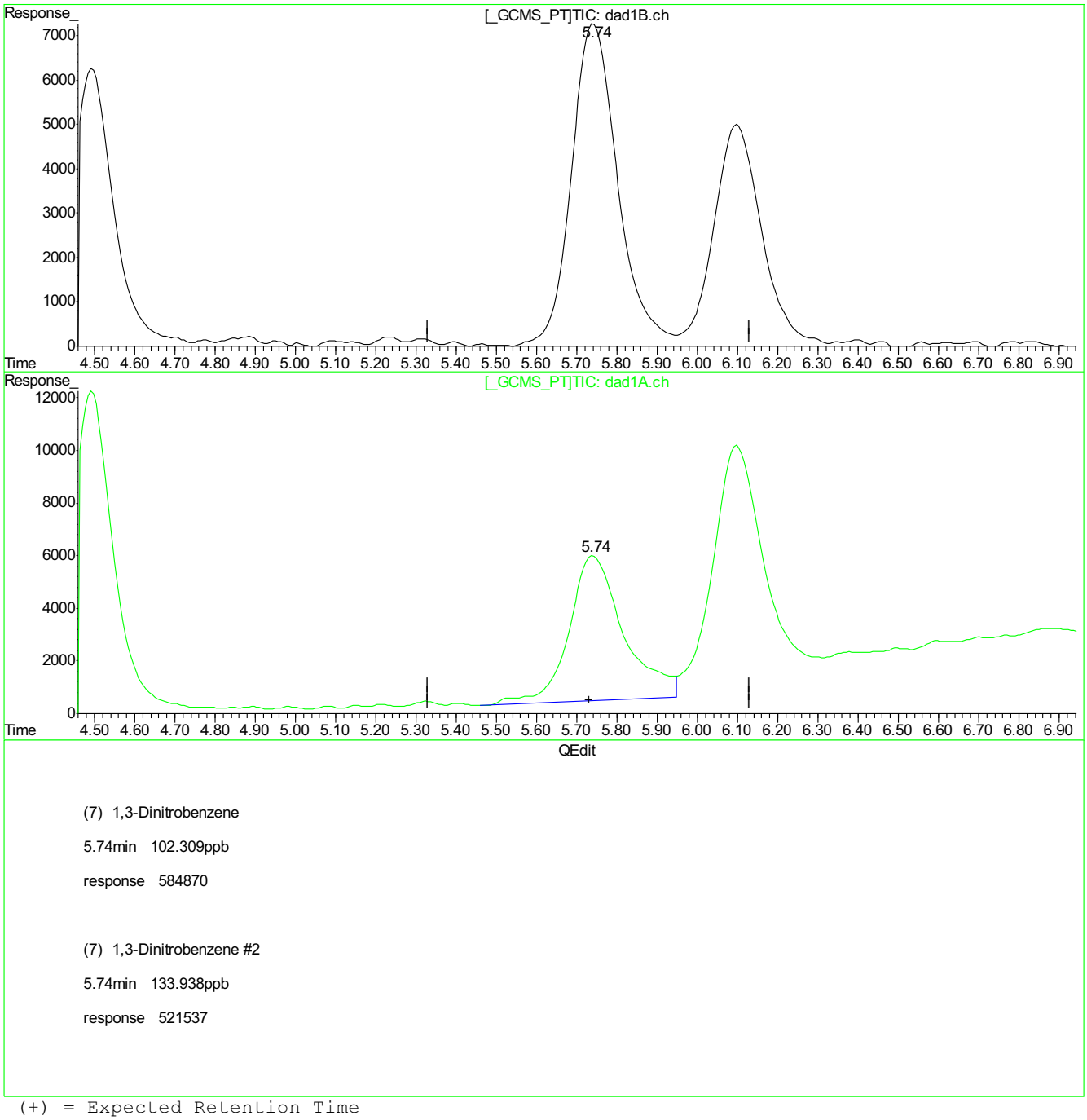
Sample Number: GBB1578-IC1578
Lab FileID: BB054263.D
Injection Time: 04/19/17 11:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.74	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.33	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.59	Poorly defined baseline
Tetryl	479-45-8	2	8.73	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.15	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.58	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.04	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.34	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.18	Poorly defined baseline
PETN	78-11-5	2	18.14	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 102.309ppb

response 584870

(7) 1,3-Dinitrobenzene #2

5.74min 133.938ppb

response 521537

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 14:59:40 2017

9.5.3.2

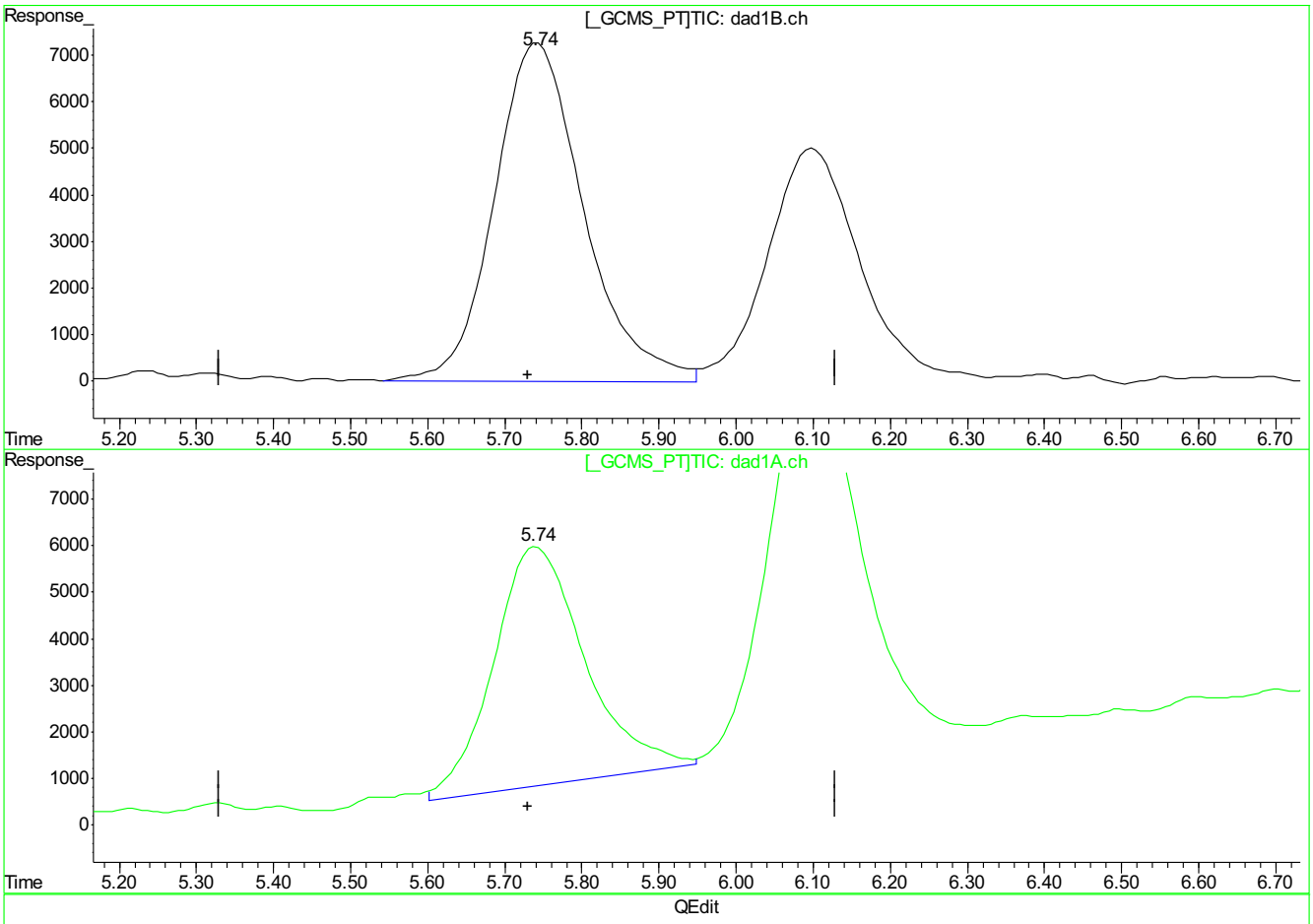
9

BB054263.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 102.309ppb

response 584870

(7) 1,3-Dinitrobenzene #2

5.74min 109.167ppb m

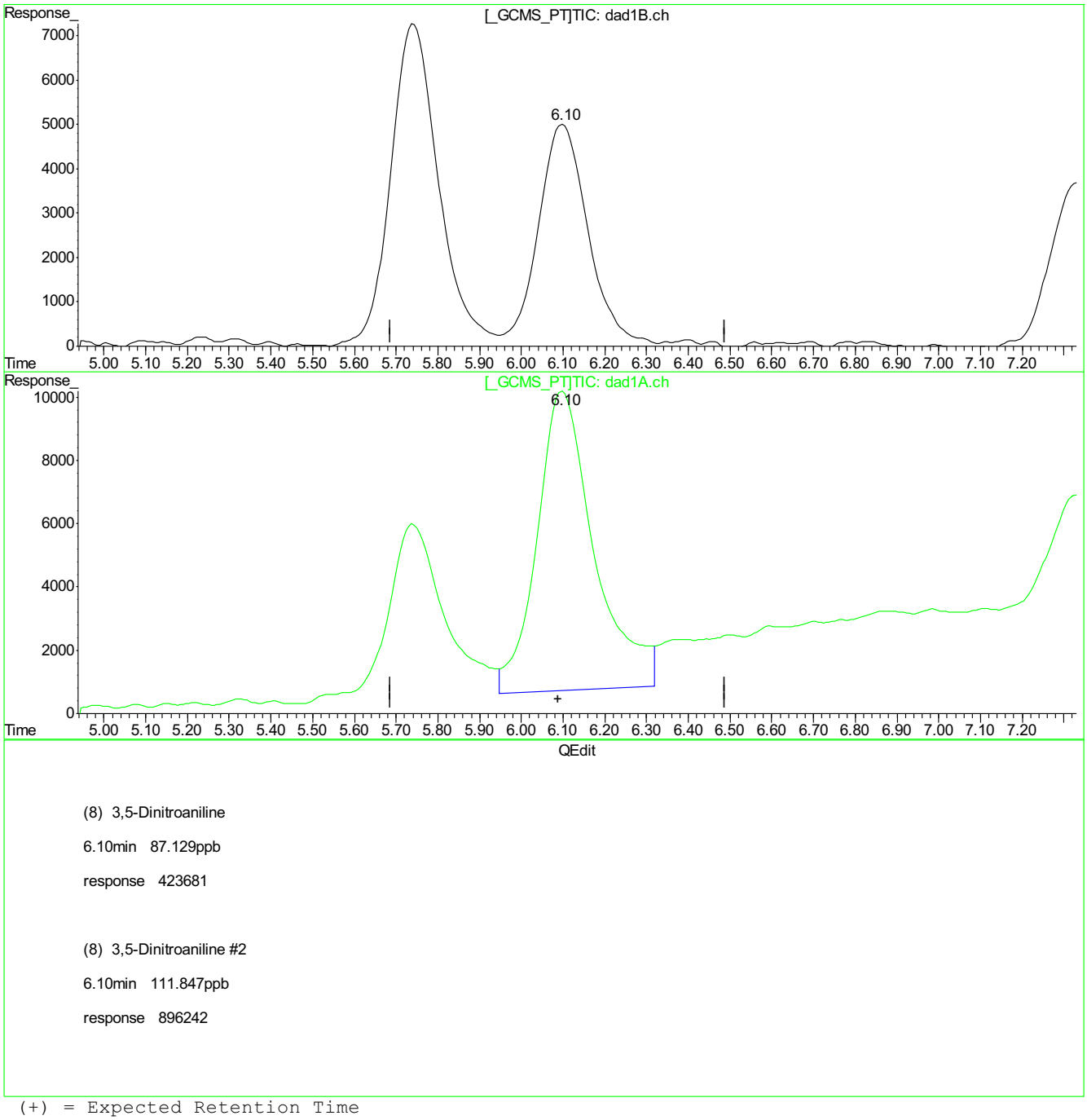
response 425081

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 14:59:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 87.129ppb

response 423681

(8) 3,5-Dinitroaniline #2

6.10min 111.847ppb

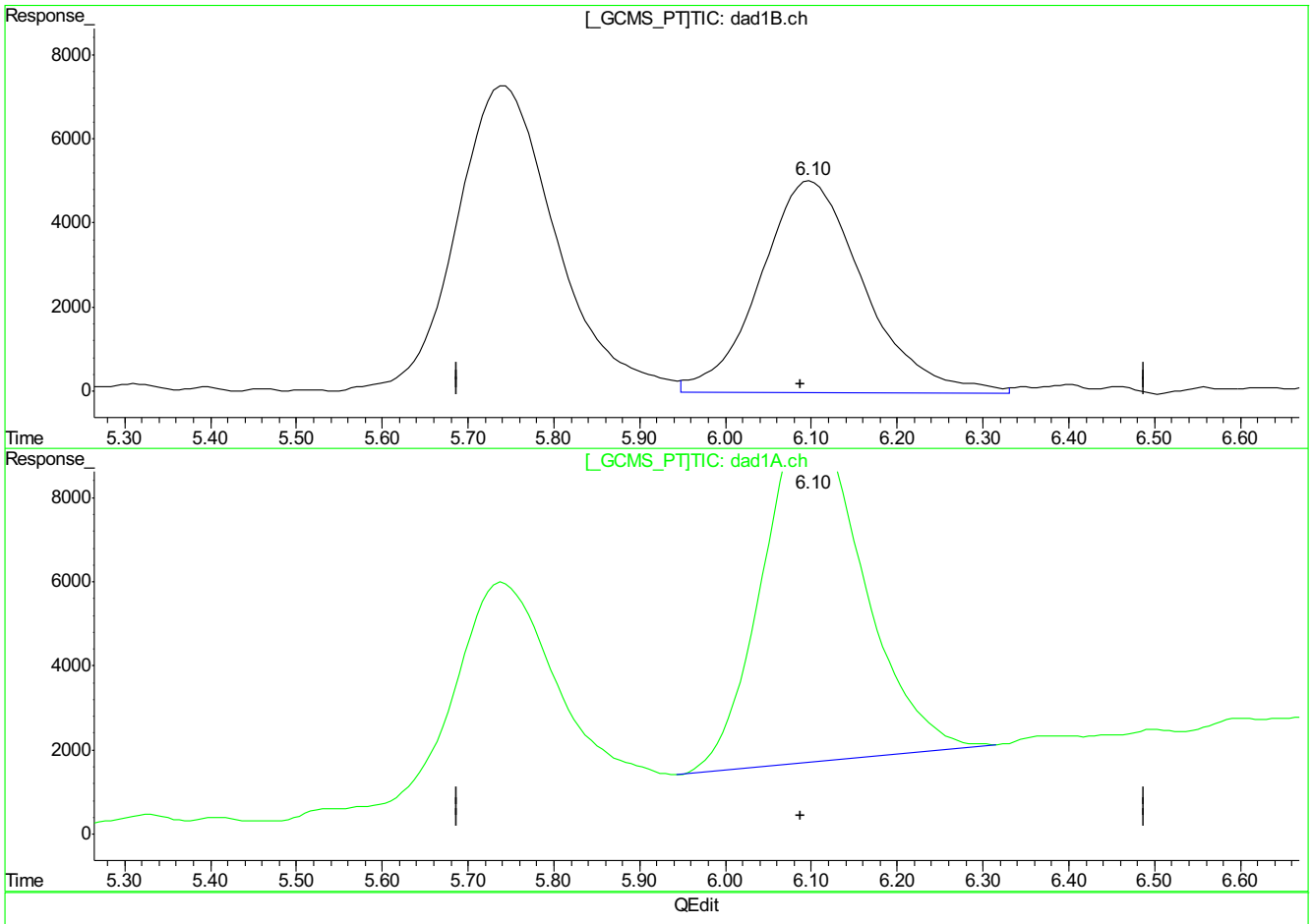
response 896242

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 14:59:56 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 87.129ppb

response 423681

(8) 3,5-Dinitroaniline #2

6.10min 83.155ppb m

response 666332

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:04 2017

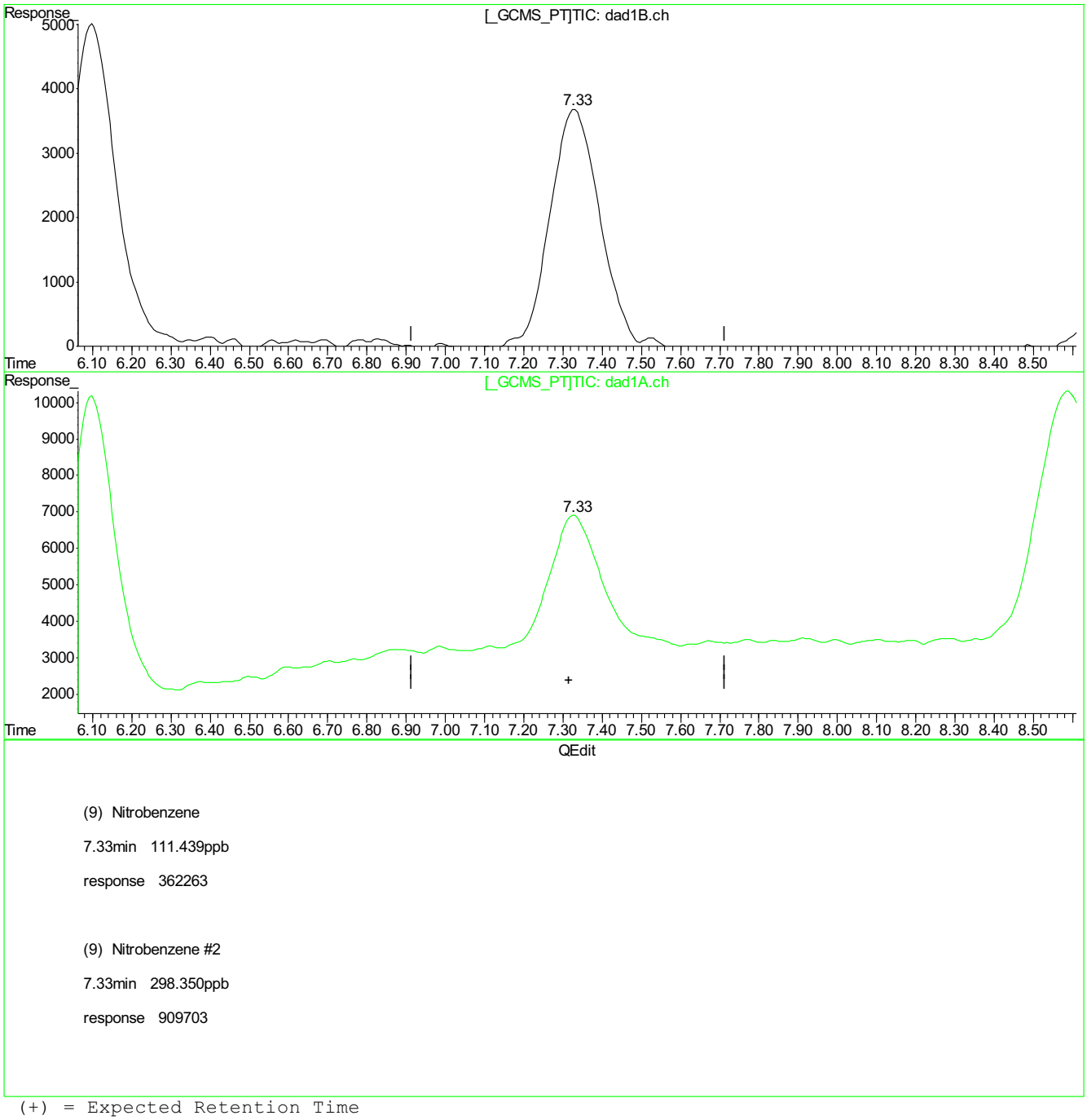
9.5.3.5

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 111.439ppb

response 362263

(9) Nitrobenzene #2

7.33min 298.350ppb

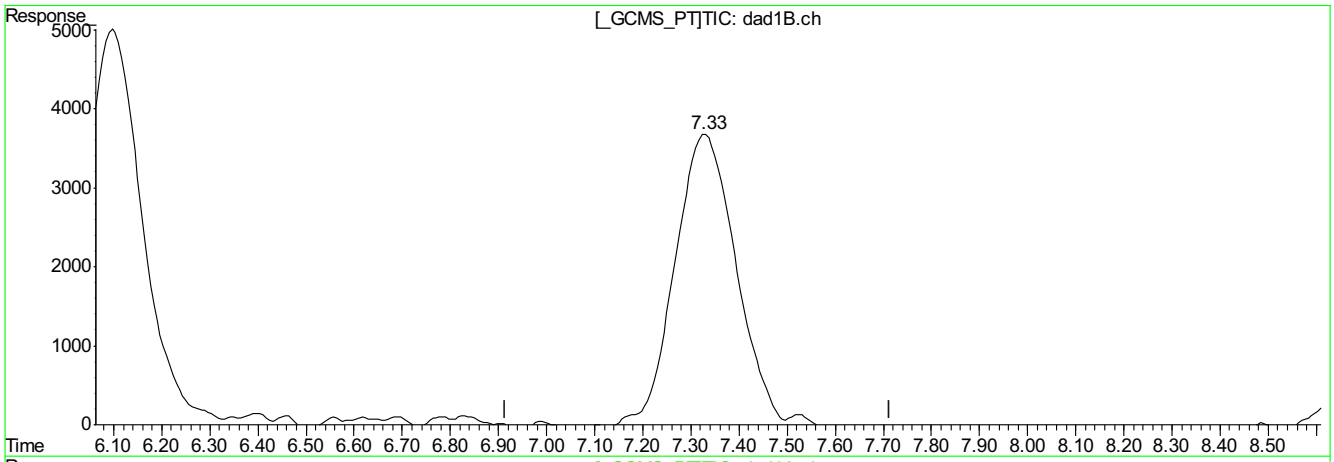
response 909703

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:07 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 111.439ppb

response 362263

(9) Nitrobenzene #2

7.33min 102.880ppb m

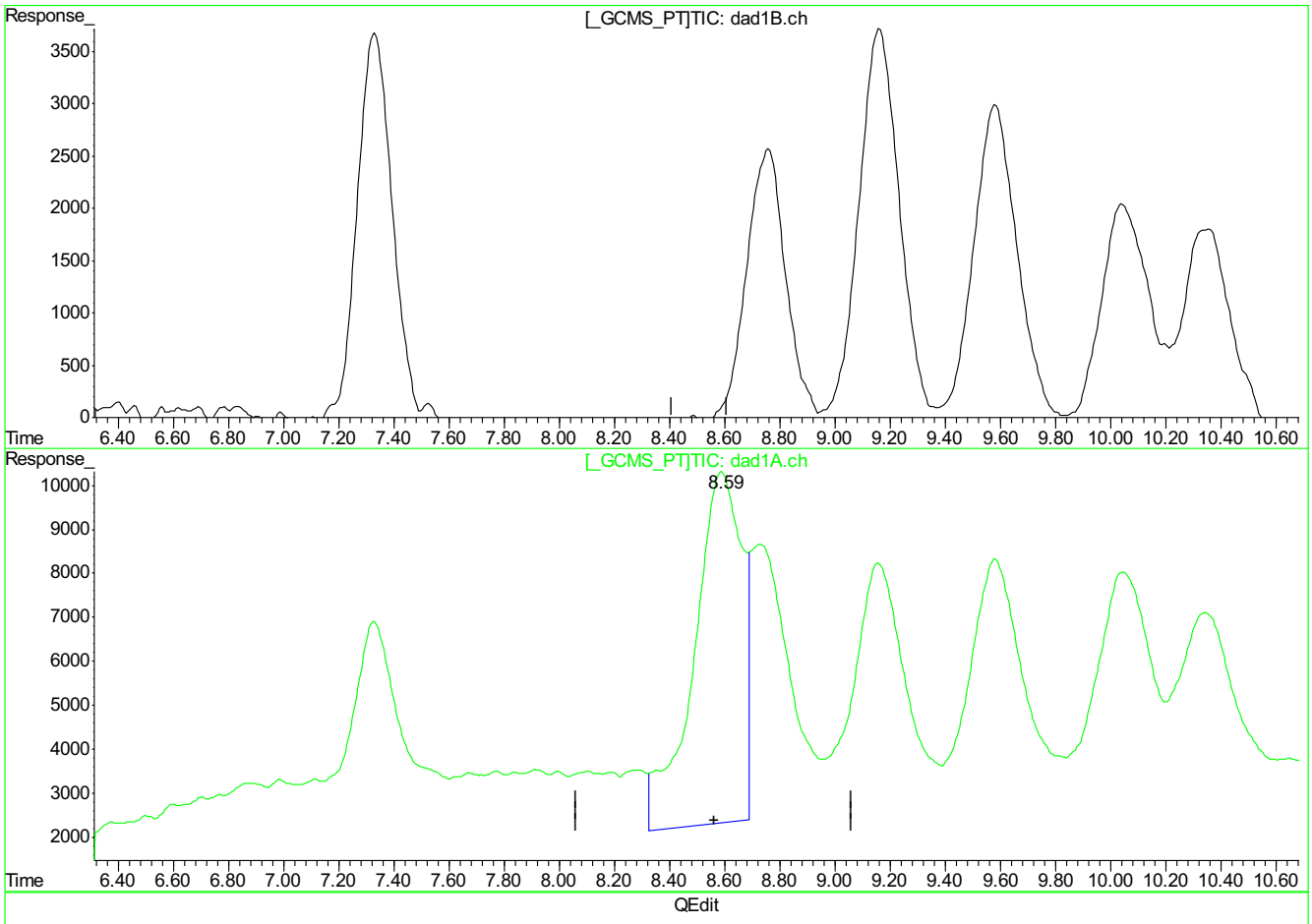
response 313694

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.59min 784.986ppb

response 962231

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:18 2017

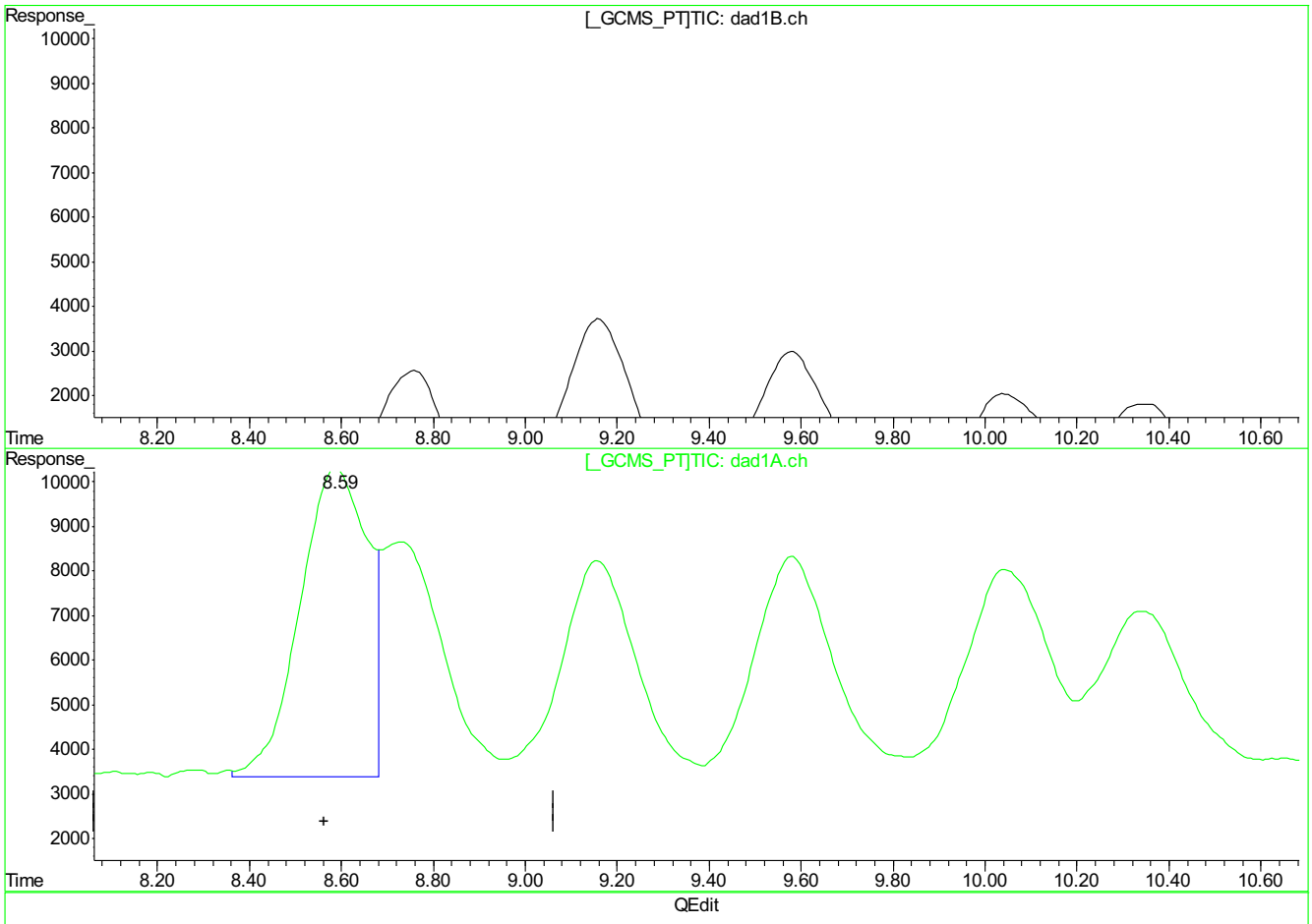
9.5.3.8

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.59min 572.726ppb m

response 702045

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:43 2017

9.5.3.9

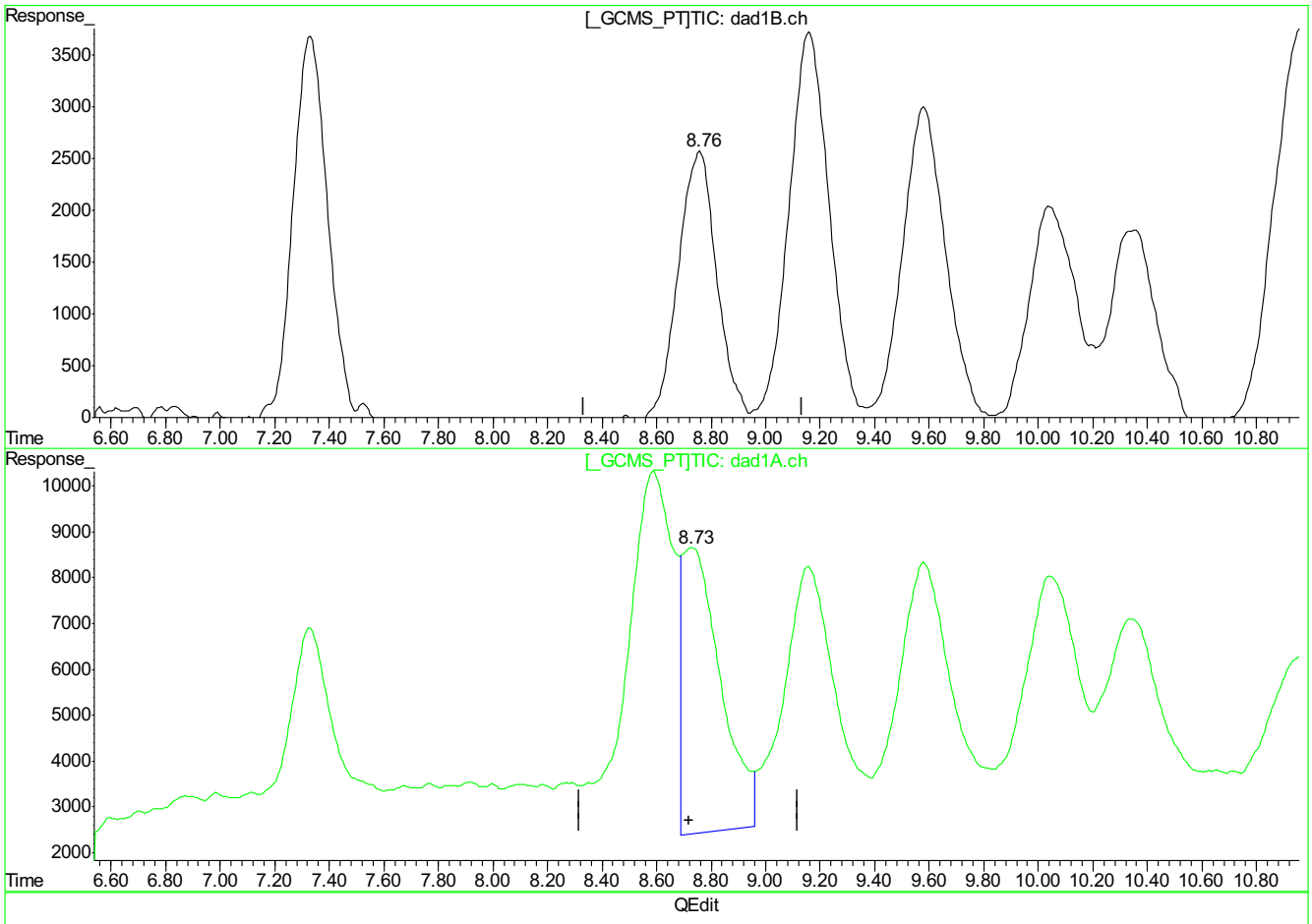
6

BB054263.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 90.166ppb

response 288957

(11) Tetryl #2

8.73min 119.174ppb

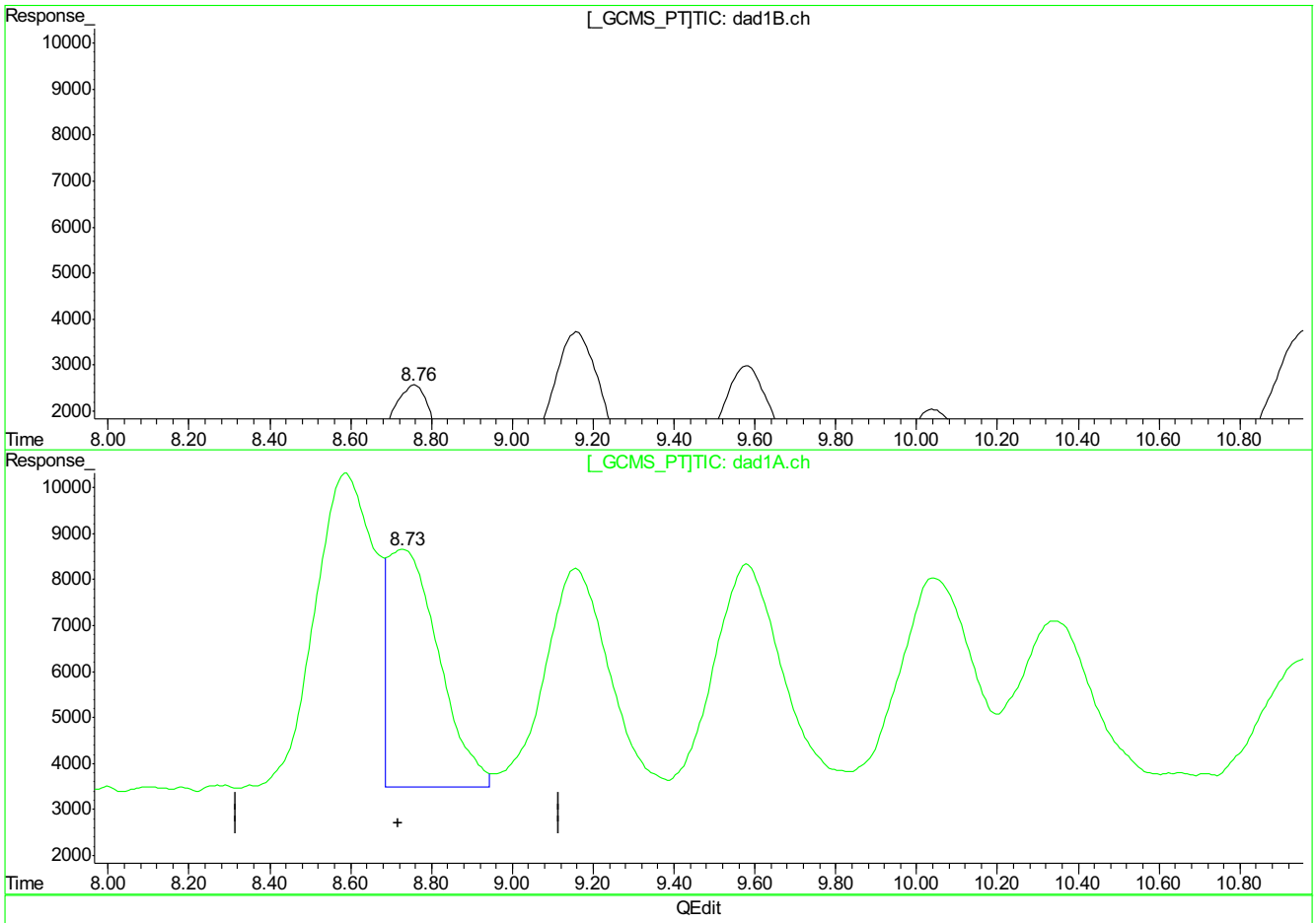
response 618638

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:47 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 90.166ppb

response 288957

(11) Tetryl #2

8.73min 87.219ppb m

response 452757

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:09 2017

9.5.3.11

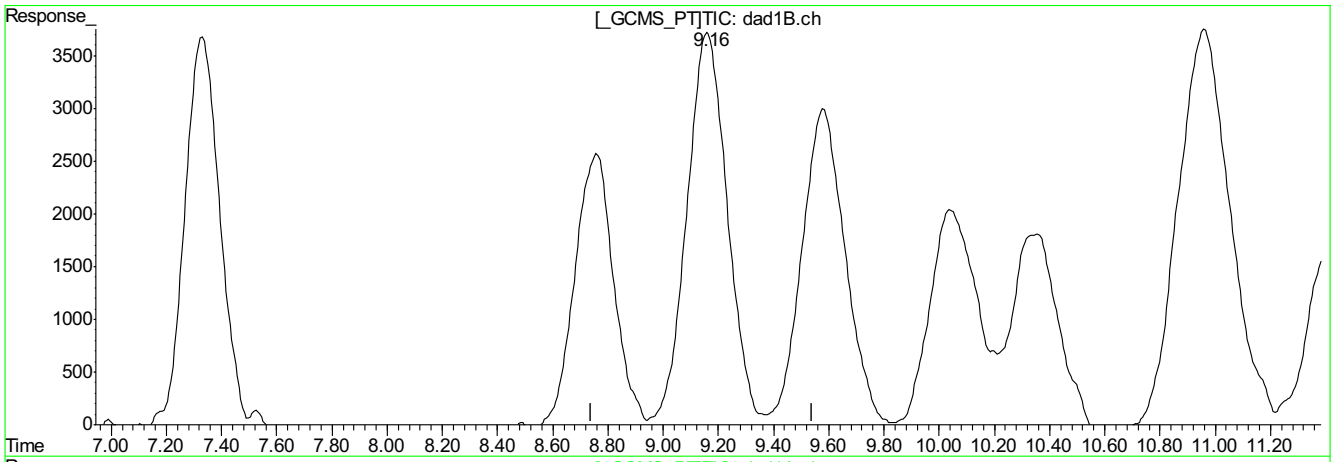
9

BB054263.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 101.640ppb

response 420824

(12) 2,4,6-Trinitrotoluene #2

9.16min 150.200ppb

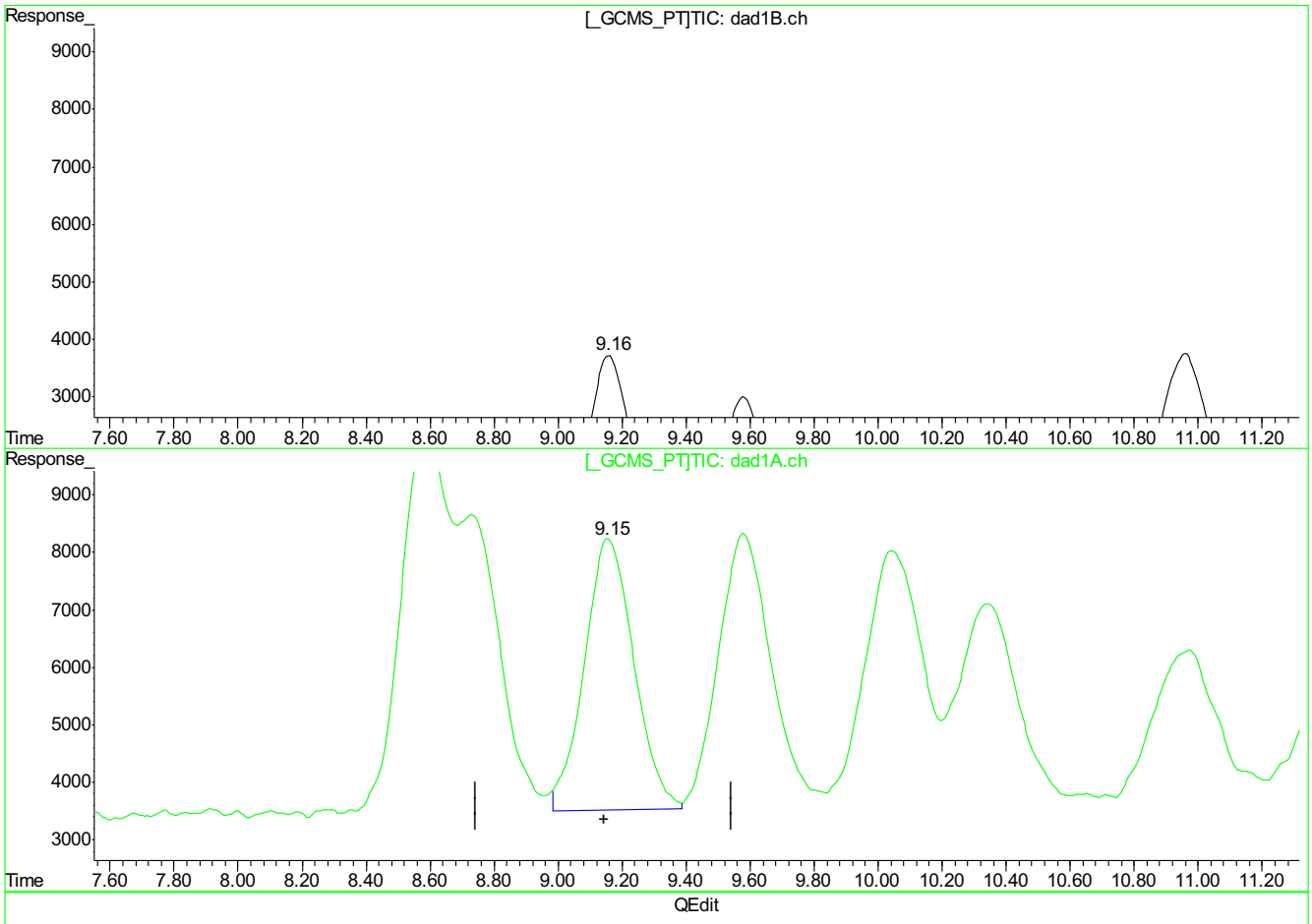
response 721457

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 101.640ppb

response 420824

(12) 2,4,6-Trinitrotoluene #2

9.15min 105.874ppb m

response 508546

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:43 2017

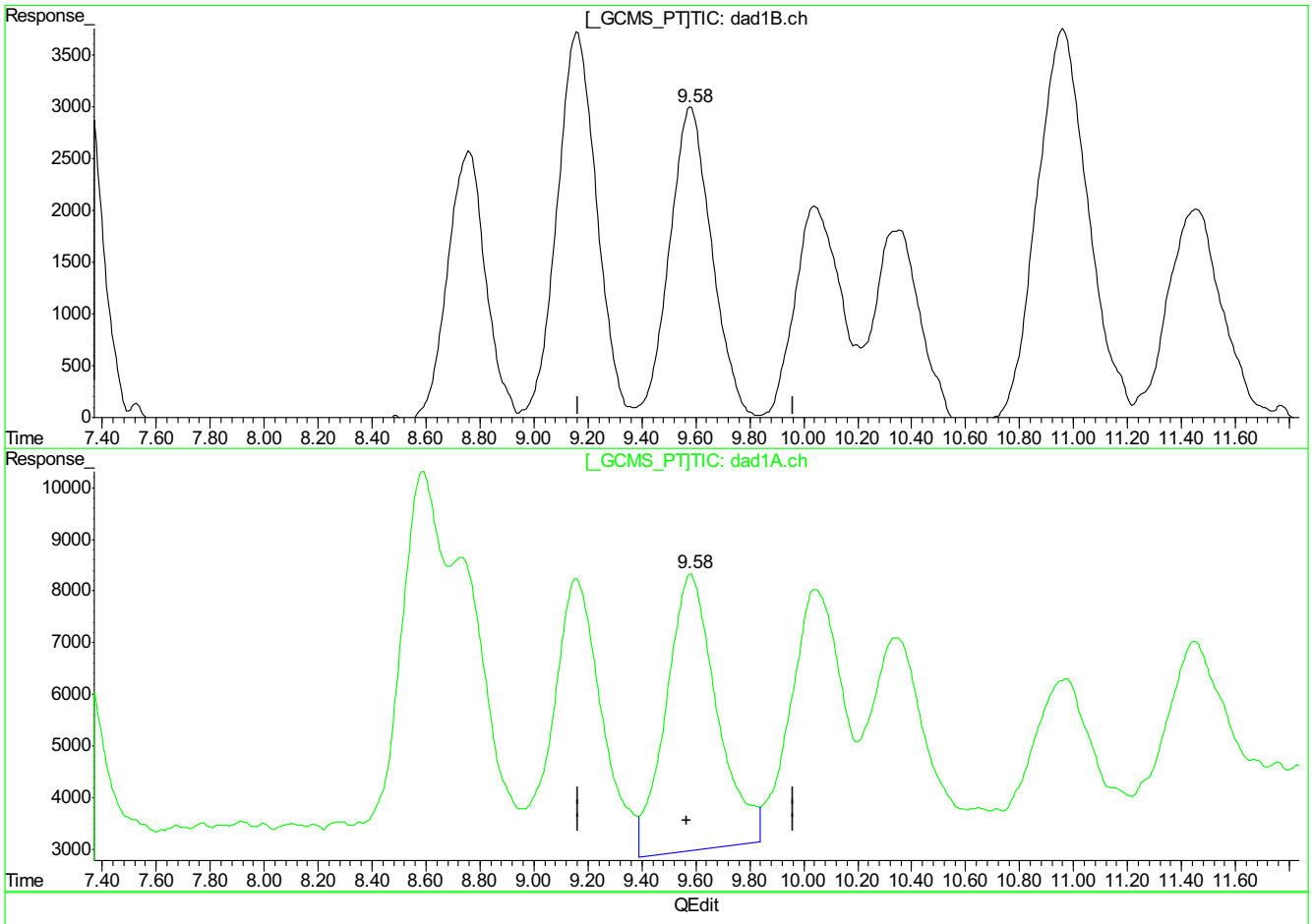
9.5.3.13

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 105.688ppb

response 372160

(13) 2-Amino-4,6-Dinitrotoluene #2

9.58min 138.726ppb

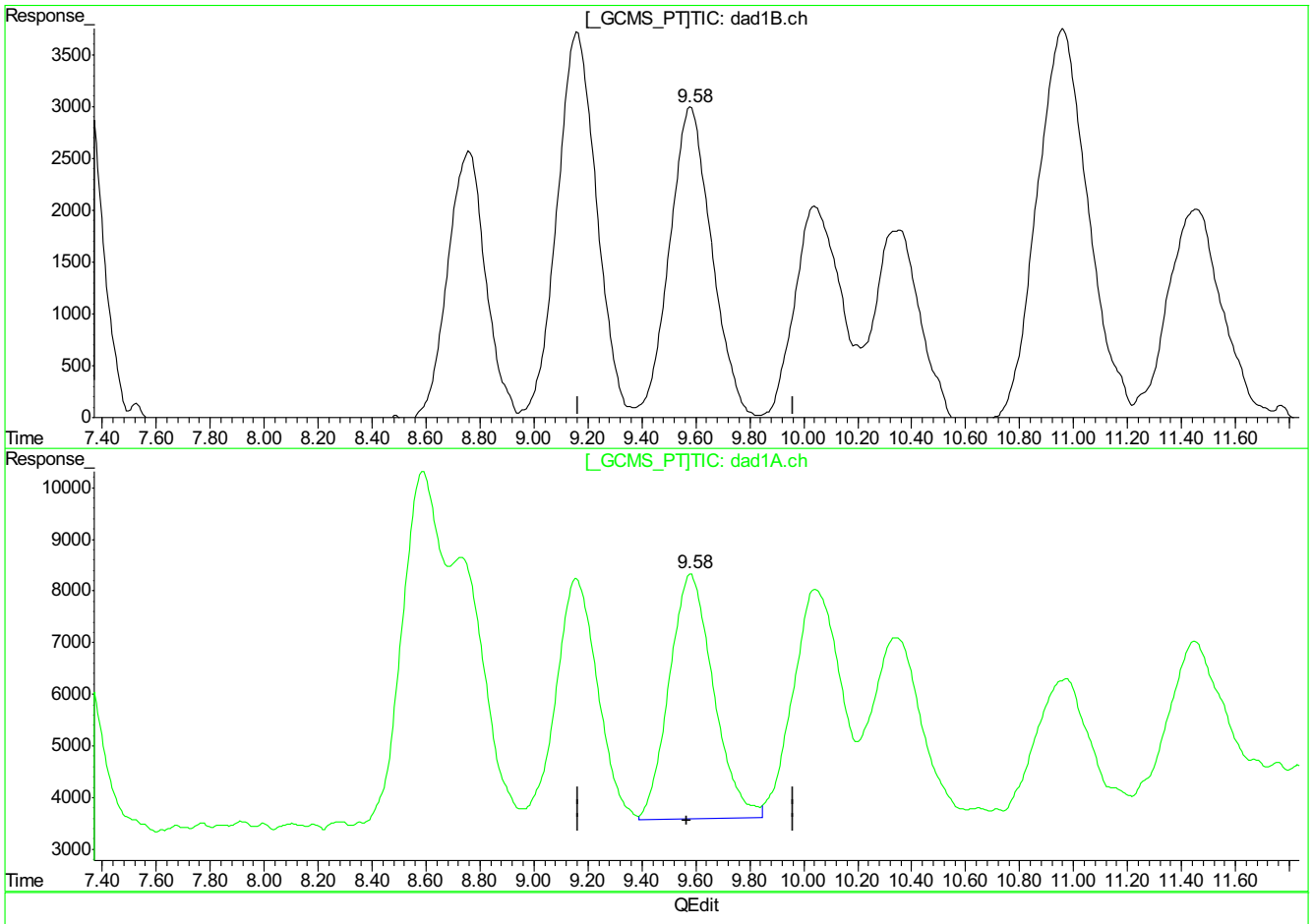
response 699010

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:46 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 105.688ppb

response 372160

(13) 2-Amino-4,6-Dinitrotoluene #2

9.58min 106.819ppb m

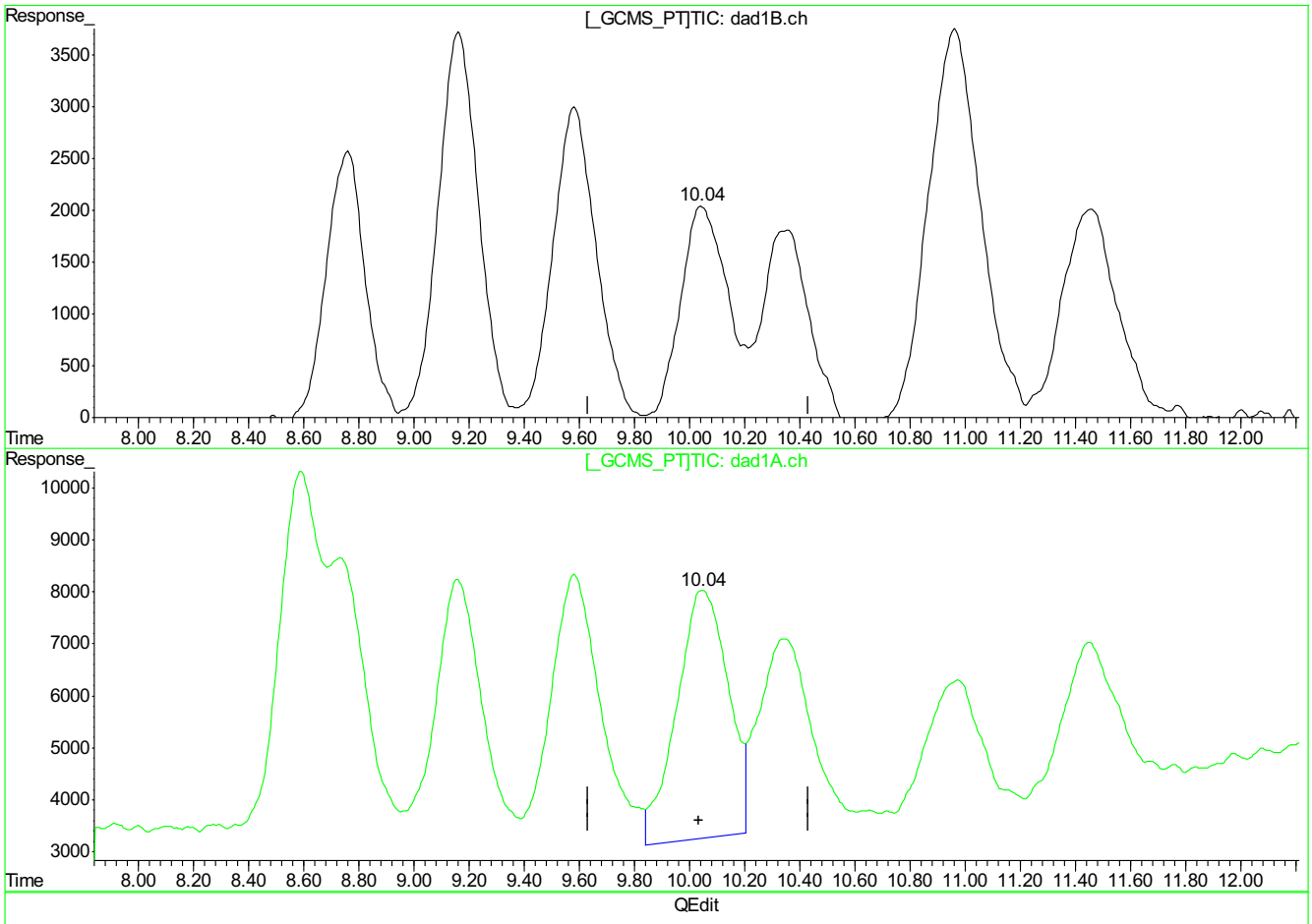
response 538610

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 103.066ppb

response 277691

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 121.248ppb

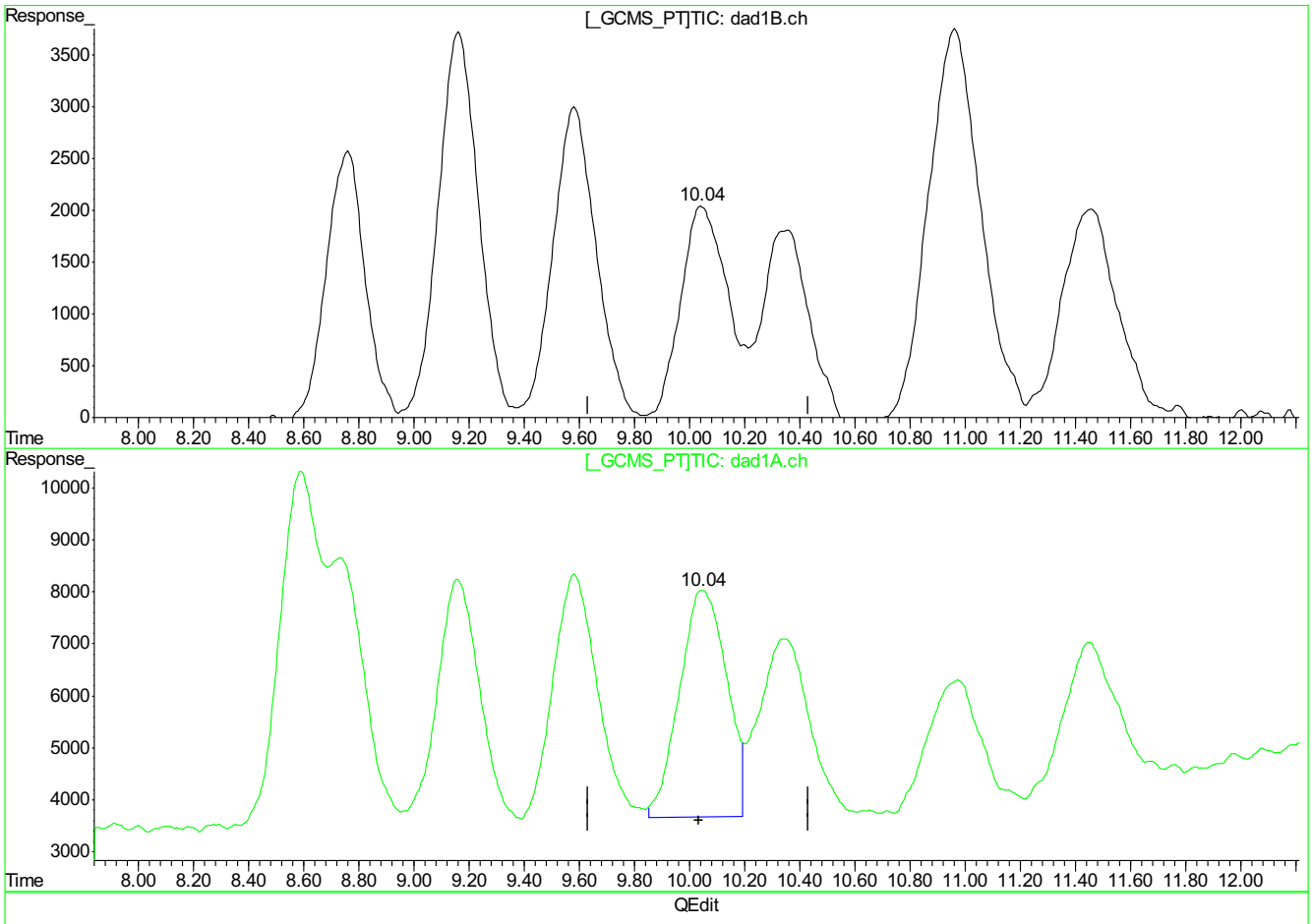
response 613539

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:56 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 103.066ppb

response 277691

(14) 4-Amino-2,6-Dinitrotoluene #2

10.04min 100.648ppb m

response 509299

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:02:05 2017

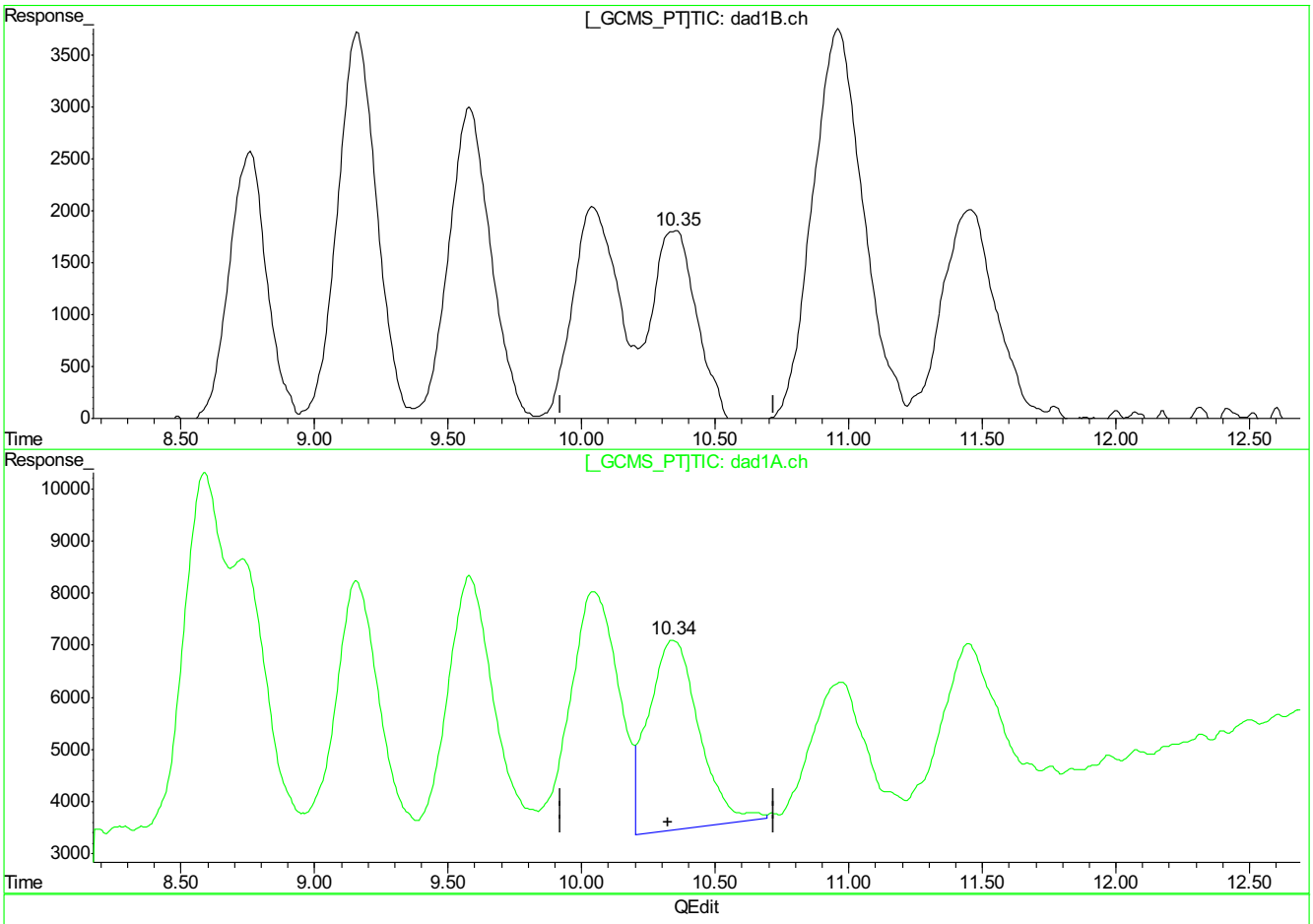
9.5.3.17

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 97.450ppb

response 243051

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 117.668ppb

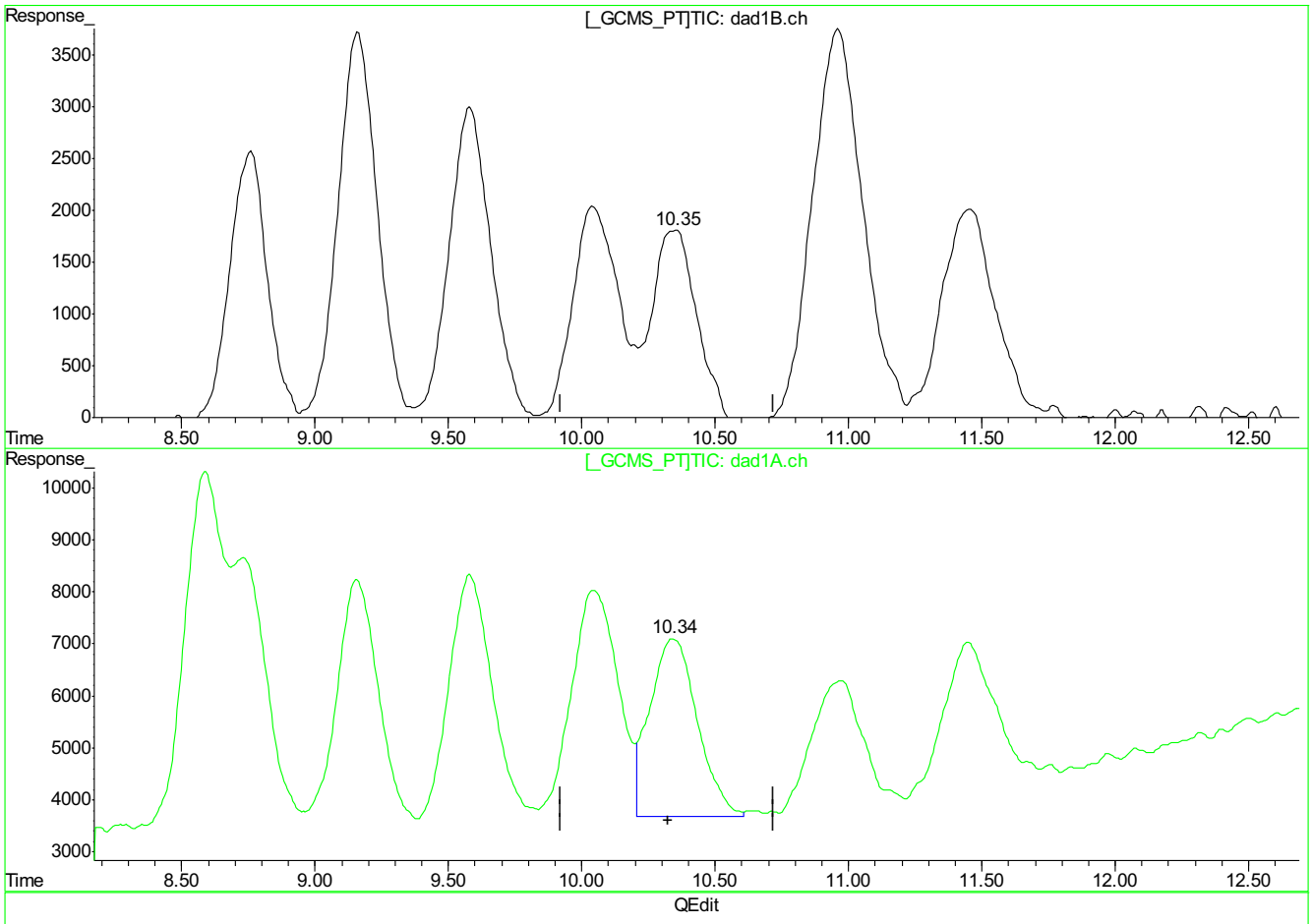
response 479486

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:02:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 97.450ppb

response 243051

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 103.384ppb m

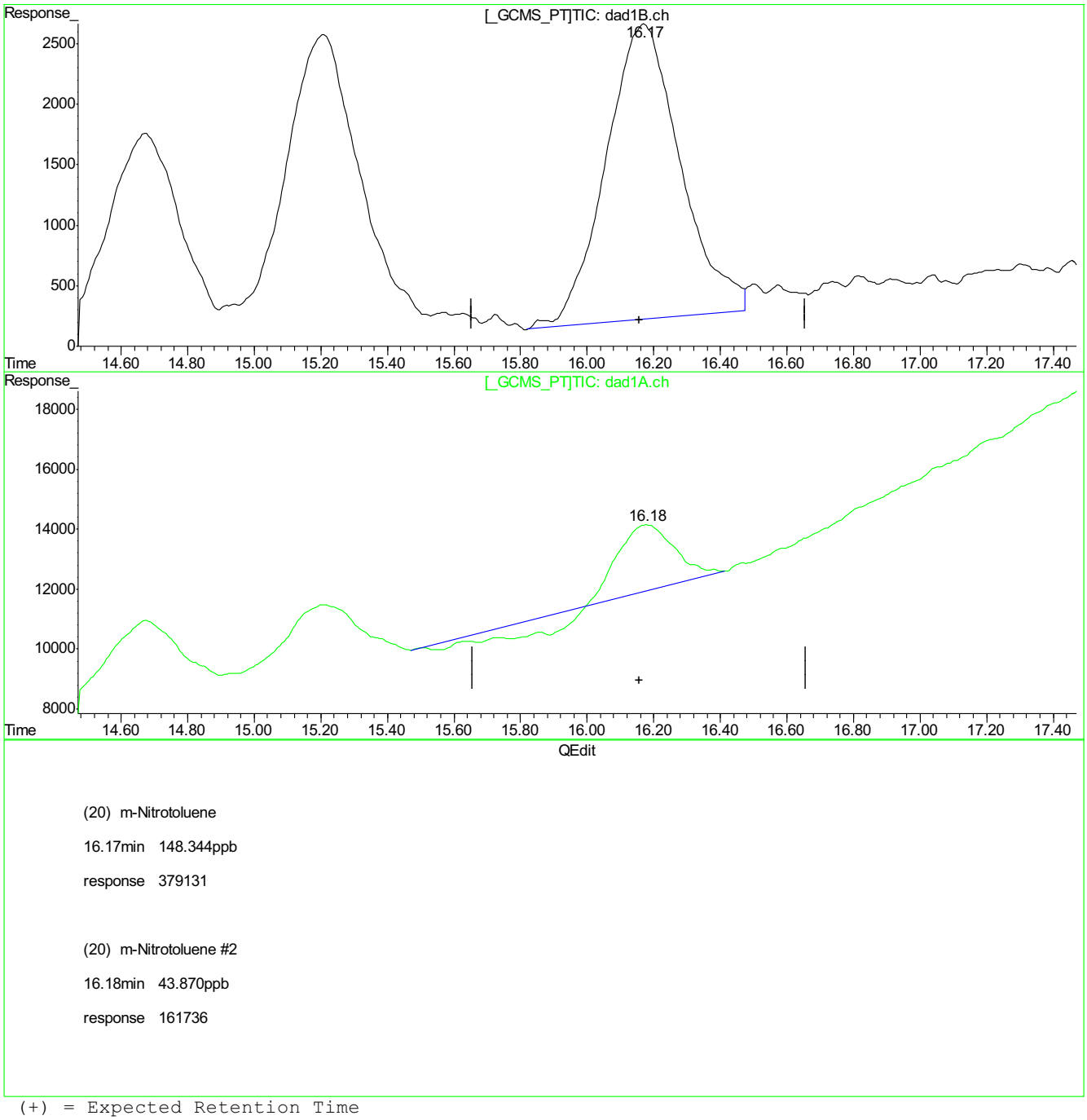
response 421281

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:02:32 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 148.344ppb

response 379131

(20) m-Nitrotoluene #2

16.18min 43.870ppb

response 161736

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:01 2017

9.5.3.20

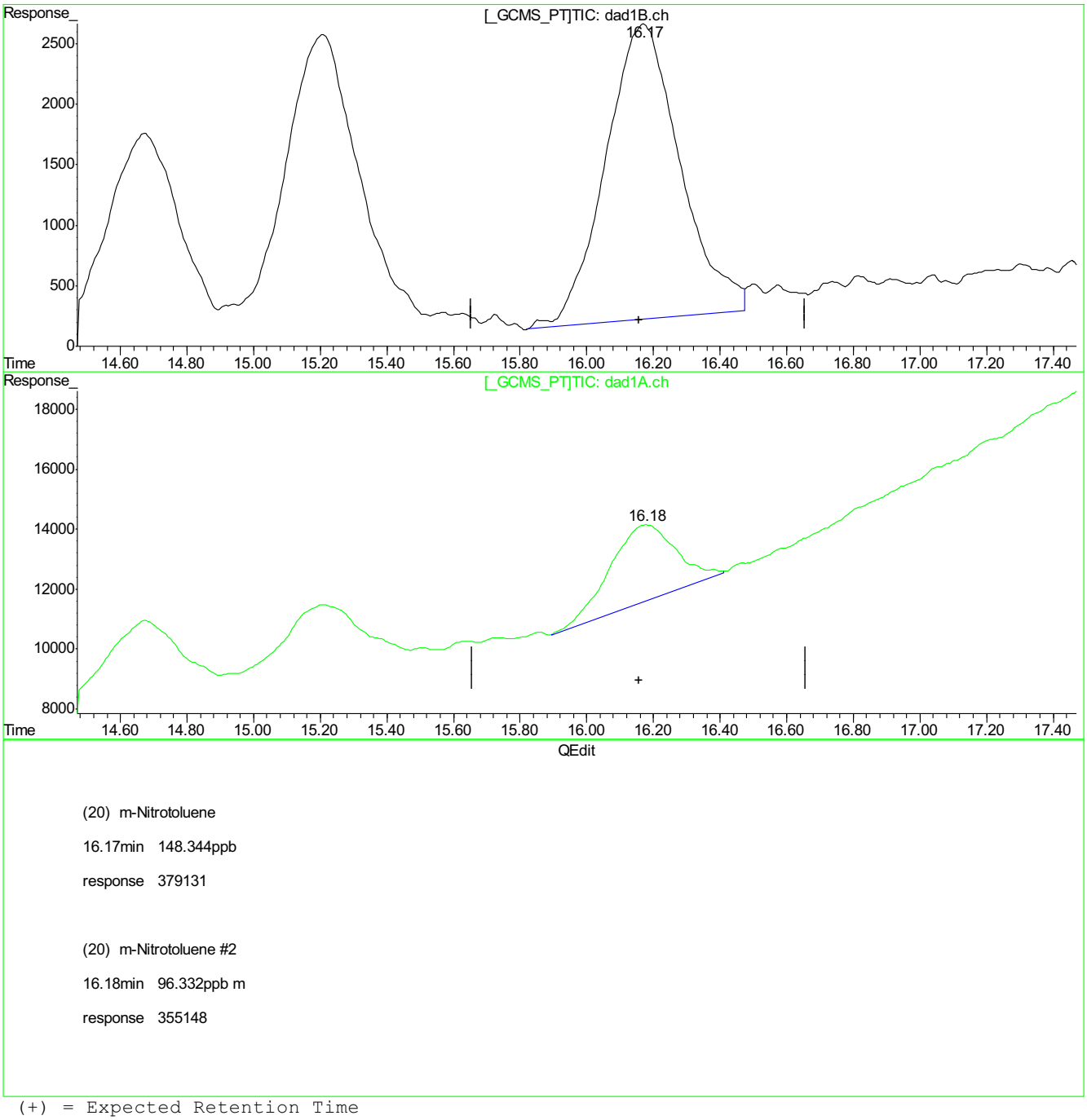
9

BB054263.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 148.344ppb

response 379131

(20) m-Nitrotoluene #2

16.18min 96.332ppb m

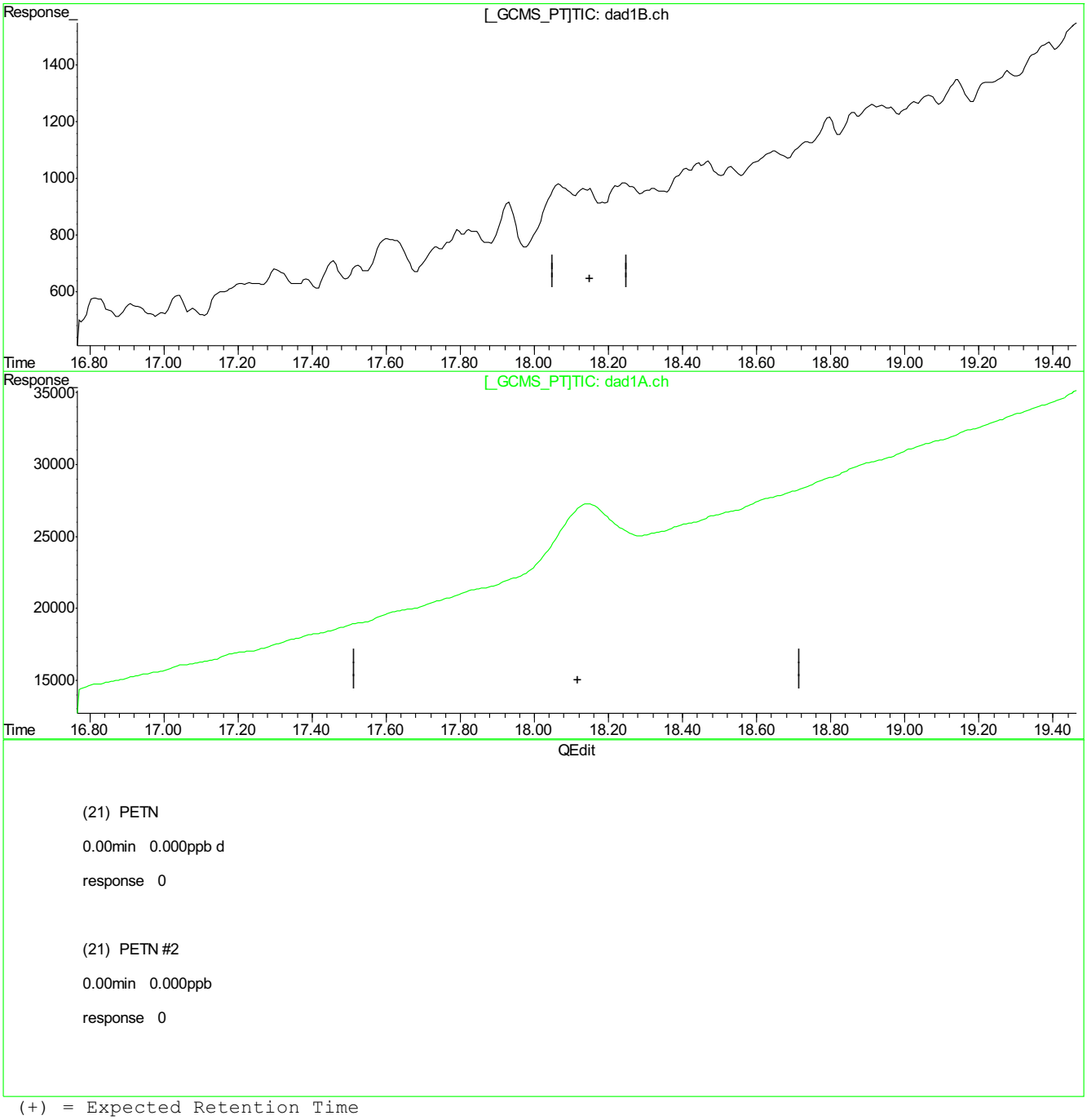
response 355148

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:05 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



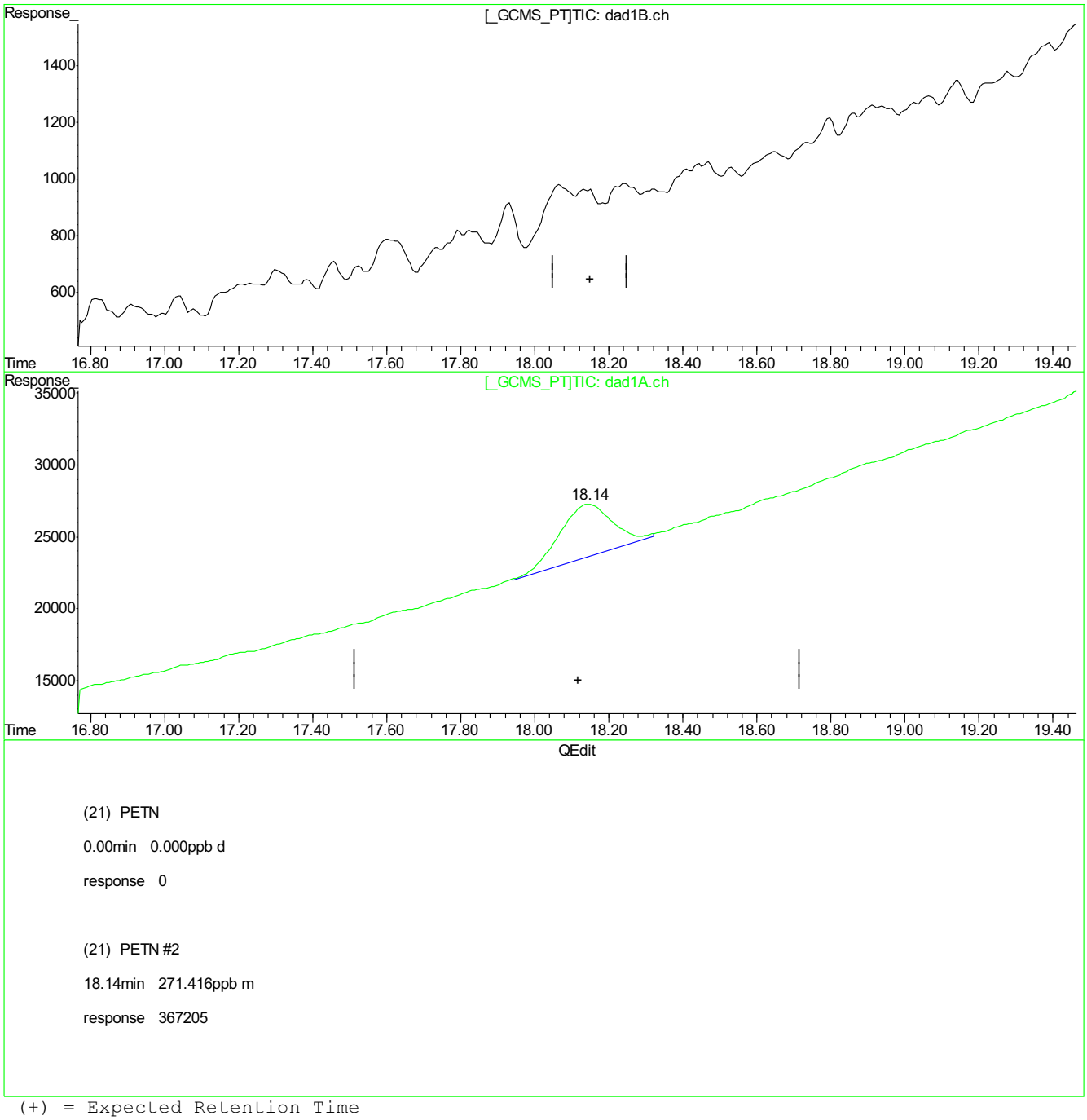
(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:08 2017

BB054263.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:12 2017

9.5.3.23

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:03 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.35	10.35	460960	842323	186.605	206.710m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	37.32%#	41.34%#
	Target Compounds						
1)	TNX	1.36	1.36	630291	1002590	191.961	194.997
2)	HMX	1.47	1.47	345985	945397	193.685	184.399
3)	DNX	1.73	1.73	608975	1012125	210.275	194.879
4)	MNX	2.29	2.29	506062	758333	218.456	208.284
5)	RDX	2.87	2.87	411616	629058	191.215	185.238
6)	1,3,5-Trinitrobe	4.49	4.49	828292	1619046	187.550	186.735
7)	1,3-Dinitrobenze	5.74	5.74	1092813	755386	191.162	193.994m
8)	3,5-Dinitroanili	6.10	6.10	781964	1322254	160.809	165.011m
9)	Nitrobenzene	7.33	7.33	669641	649300	205.994	212.947m
10)	Nitroglycerin	0.00	8.58	0	1319500	N.D. d	1076.445m
11)	Tetryl	8.75	8.73	555265	792319	173.265	152.632m
12)	2,4,6-Trinitroto	9.16	9.16	784280	994514	189.424	207.047m
13)	2-Amino-4,6-Dini	9.58	9.57	695400	1067880	198.731	212.269m
14)	4-Amino-2,6-Dini	10.05	10.05	510802	1018097	189.586	201.197m
16)	2,4-Dinitrotolue	10.96	10.96	999816	624189	189.642	191.088
17)	2,6-Dinitrotolue	11.46	11.46	592858	698215	195.876	184.903
18)	o-Nitrotoluene	14.67	14.67	492546	660115	215.216	288.452
19)	p-Nitrotoluene	15.21	15.22	740777	587792	220.514	240.606
20)	m-Nitrotoluene	16.17	16.17	719529	735016	271.131	199.370m
21)	PETN	0.00	18.14	0	868792	N.D. d	642.160m

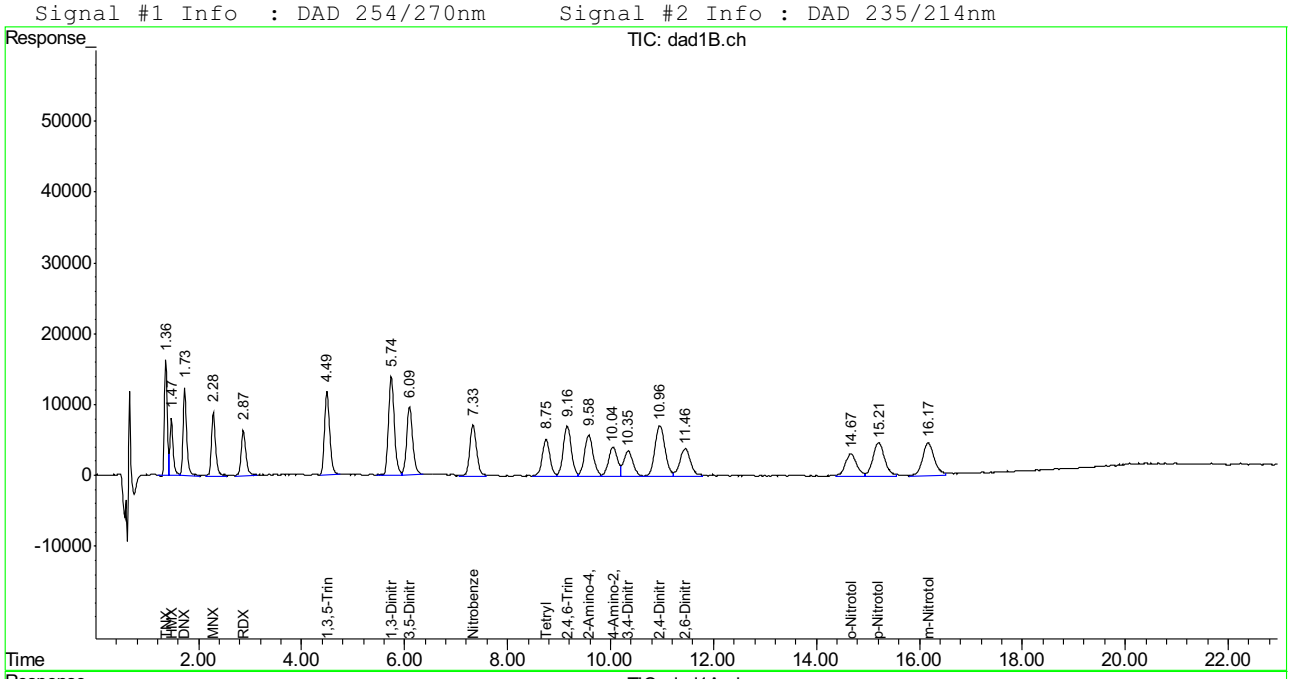
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054264.D 8330B_0419PLUS.M Thu Apr 20 11:04:52 2017 Page 1

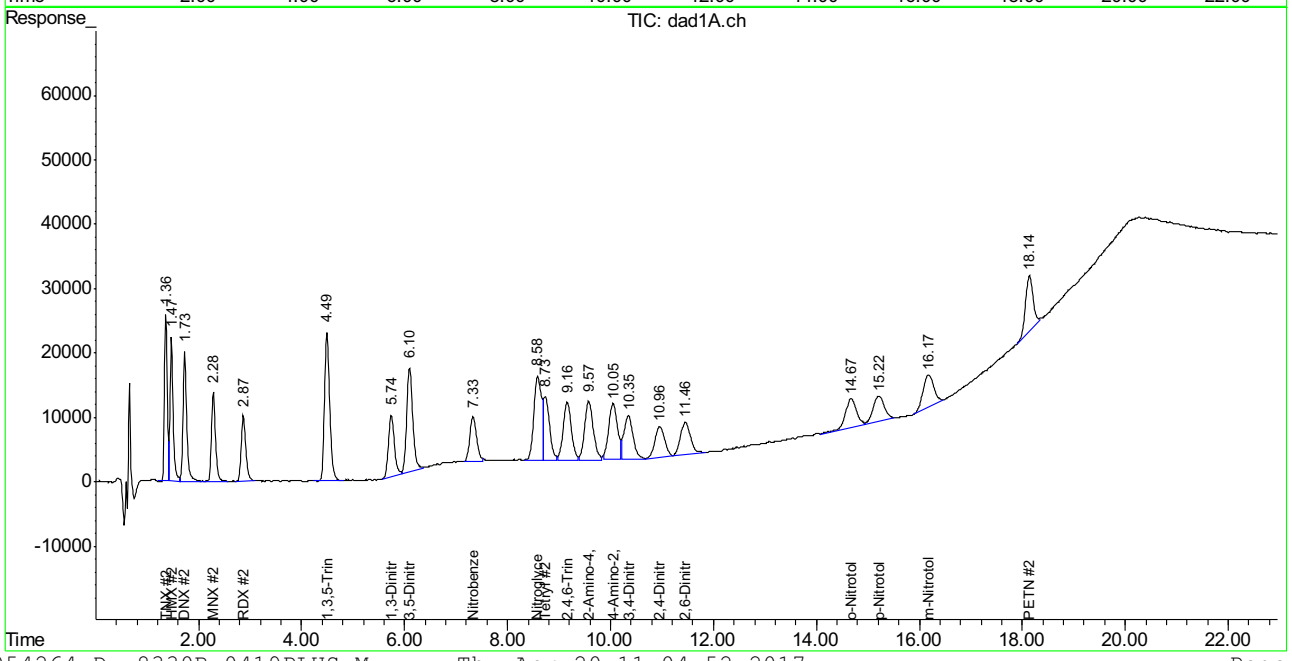
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

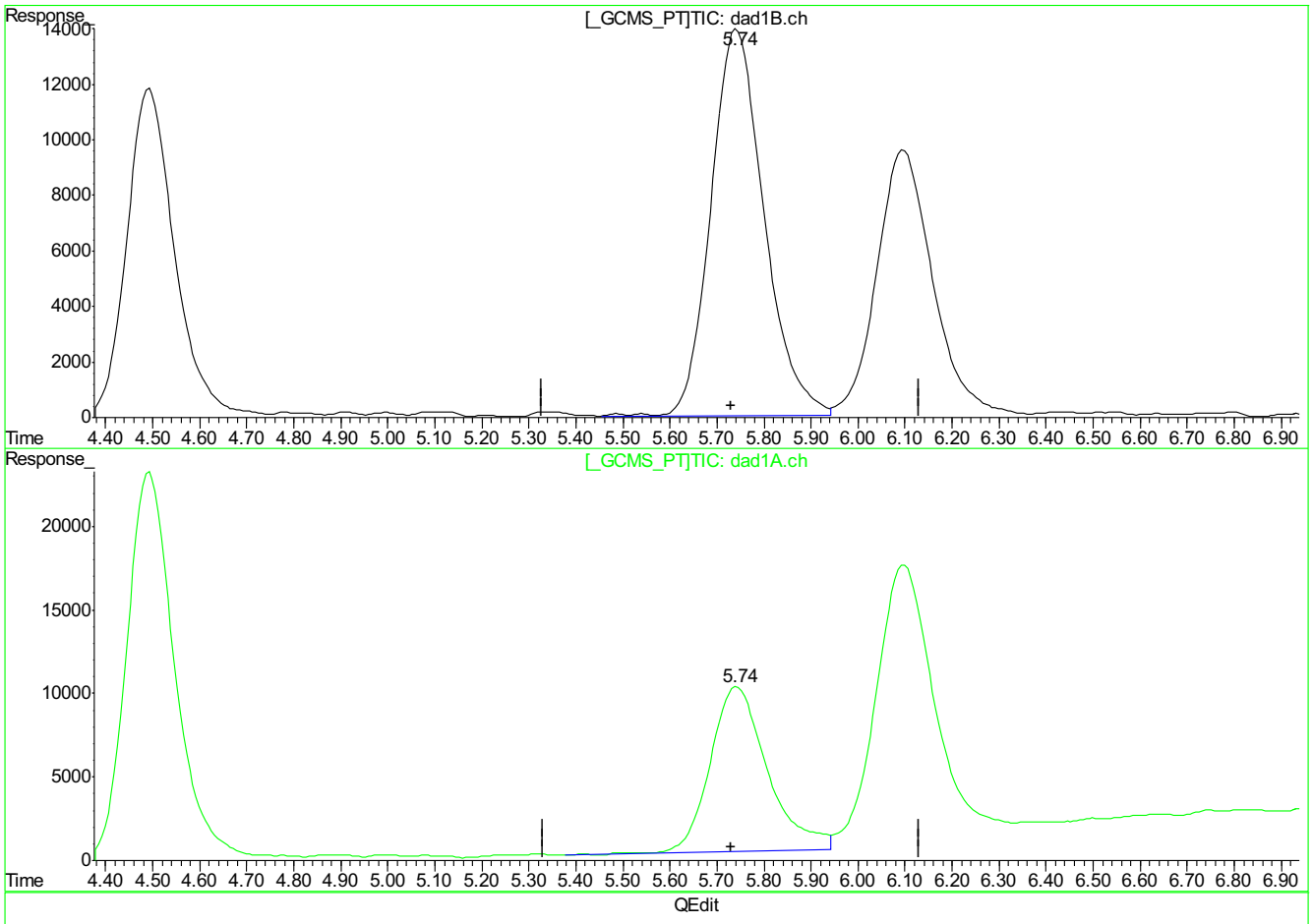
Sample Number: GBB1578-IC1578
Lab FileID: BB054264.D
Injection Time: 04/19/17 11:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.74	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.33	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.58	Poorly defined baseline
Tetryl	479-45-8	2	8.73	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.16	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.57	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.05	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.35	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.17	Poorly defined baseline
PETN	78-11-5	2	18.14	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 191.162ppb

response 1092813

(7) 1,3-Dinitrobenzene #2

5.74min 215.042ppb

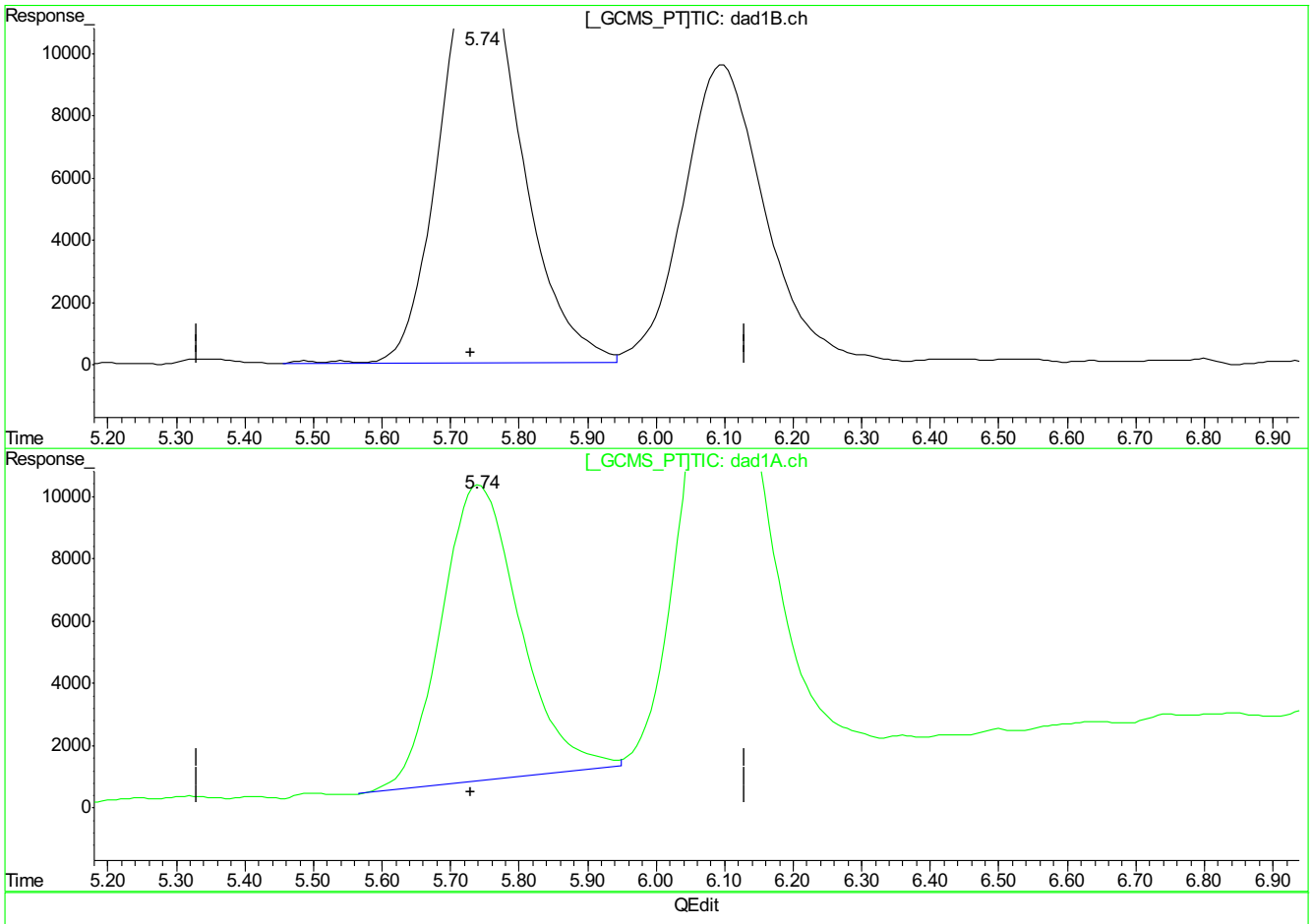
response 837345

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:30 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 191.162ppb

response 1092813

(7) 1,3-Dinitrobenzene #2

5.74min 193.994ppb m

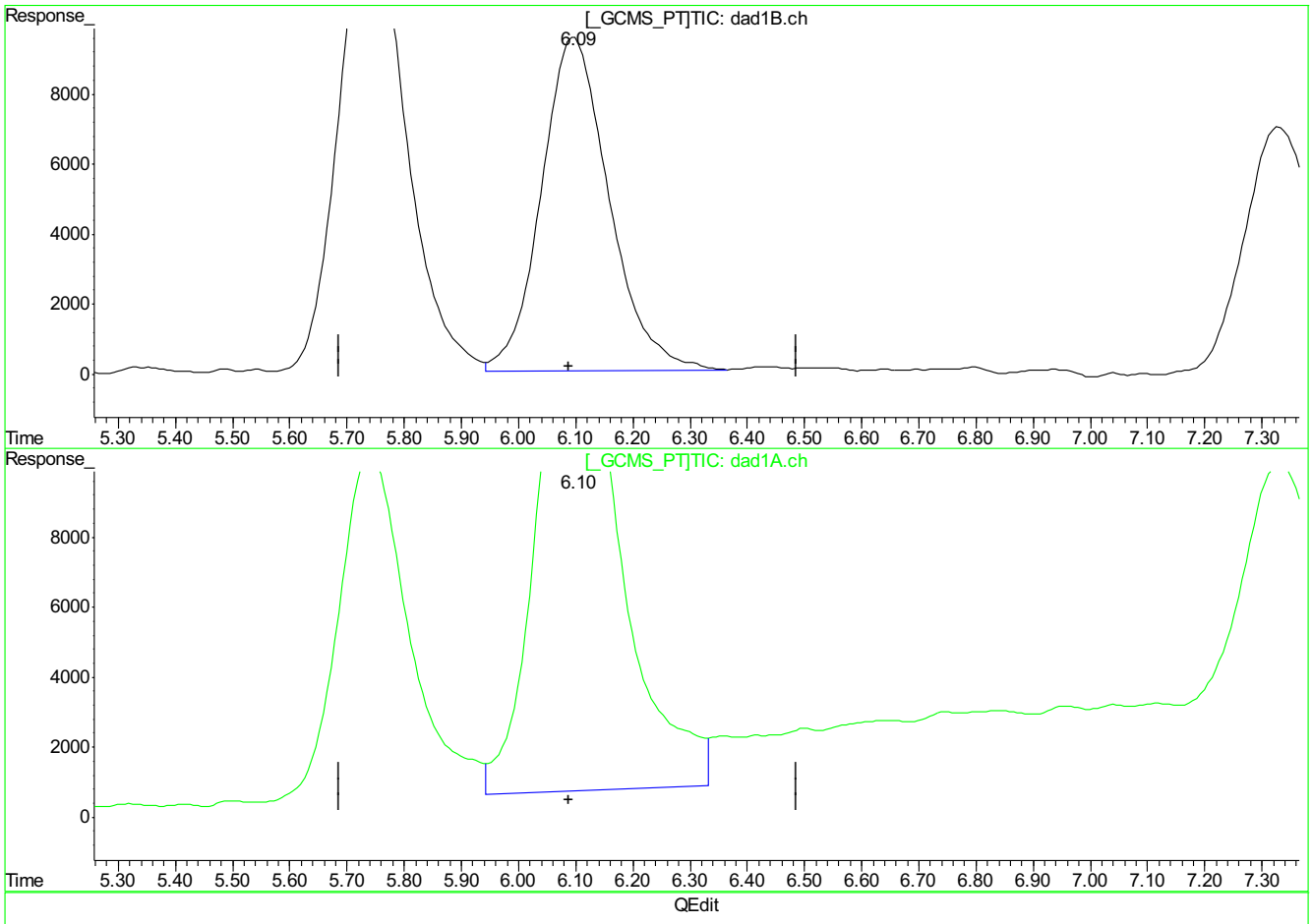
response 755386

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:35 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 160.809ppb

response 781964

(8) 3,5-Dinitroaniline #2

6.10min 190.841ppb

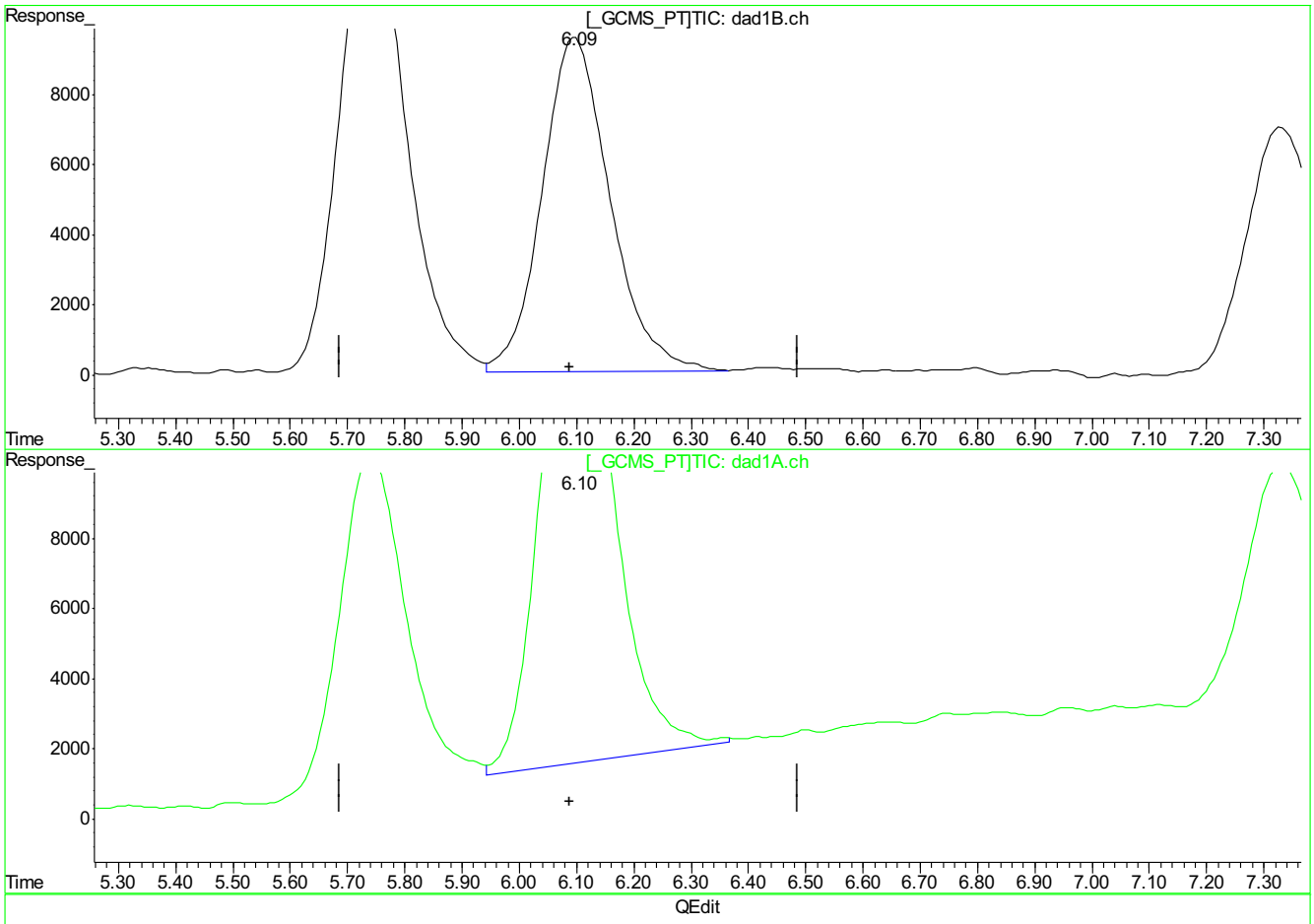
response 1529234

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 160.809ppb

response 781964

(8) 3,5-Dinitroaniline #2

6.10min 165.011ppb m

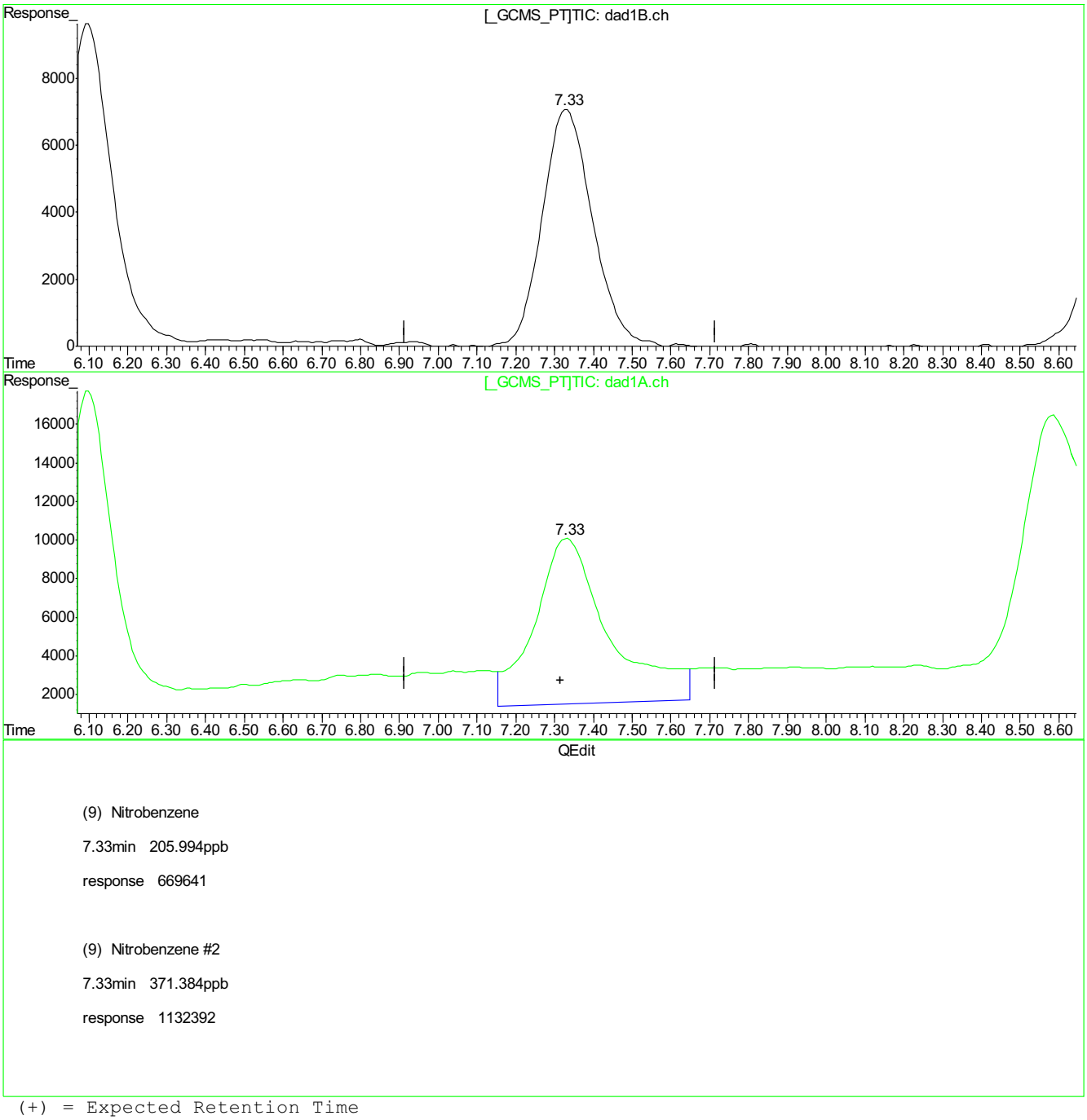
response 1322254

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:43 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 205.994ppb

response 669641

(9) Nitrobenzene #2

7.33min 371.384ppb

response 1132392

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:45 2017

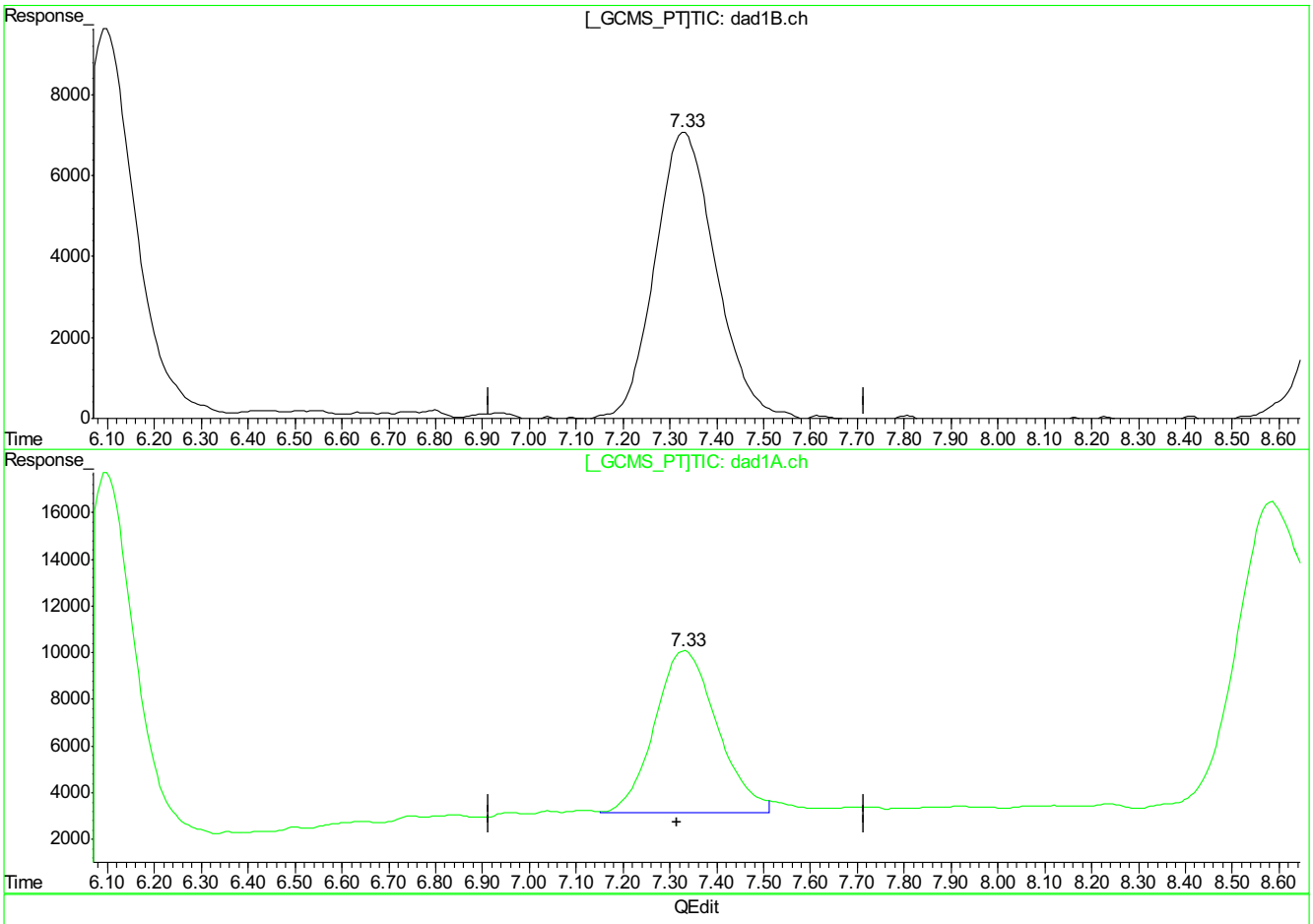
9.5.4.6

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 205.994ppb

response 669641

(9) Nitrobenzene #2

7.33min 212.947ppb m

response 649300

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:48 2017

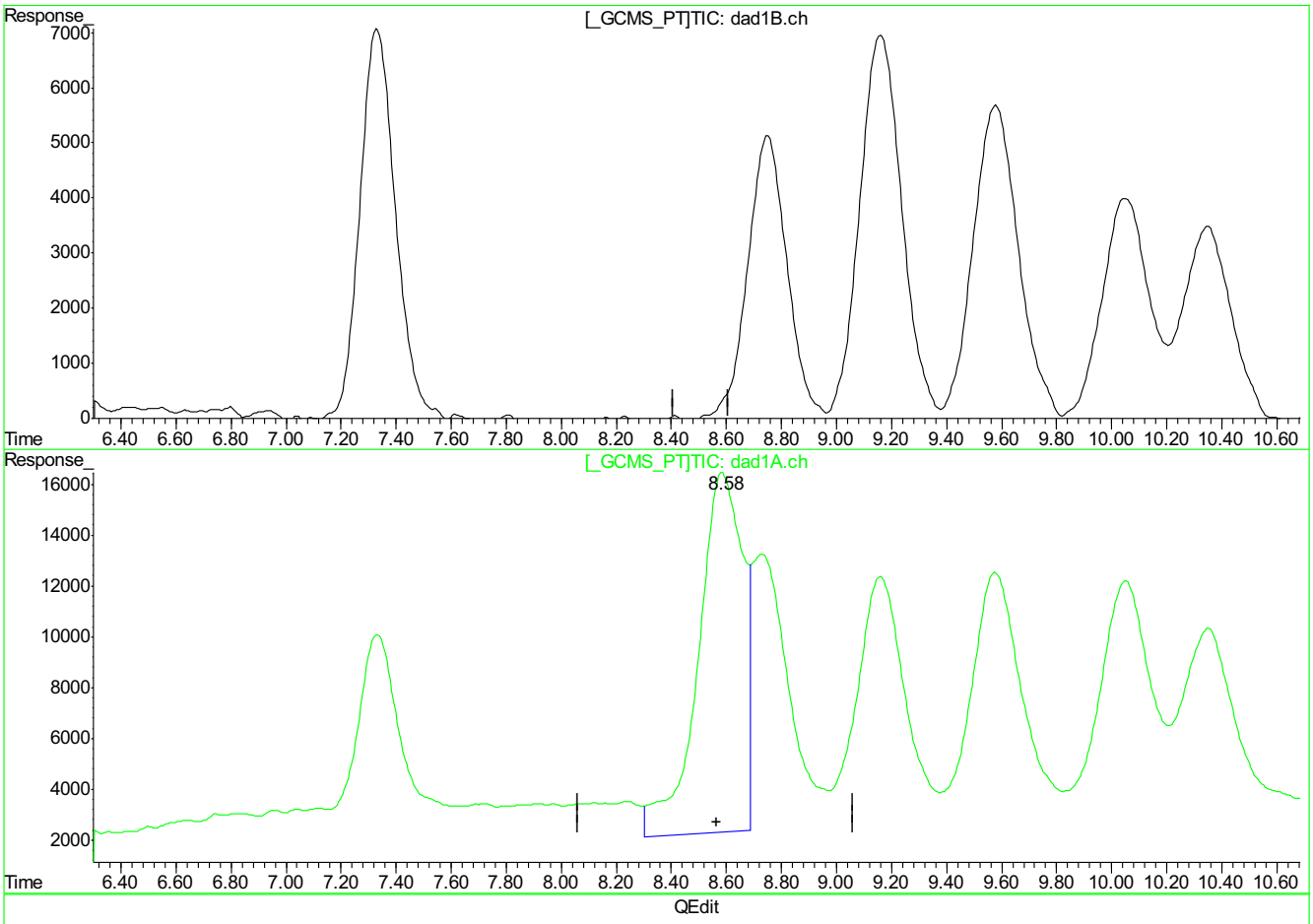
9.5.4.7

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.59min 1305.092ppb

response 1599774

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:53 2017

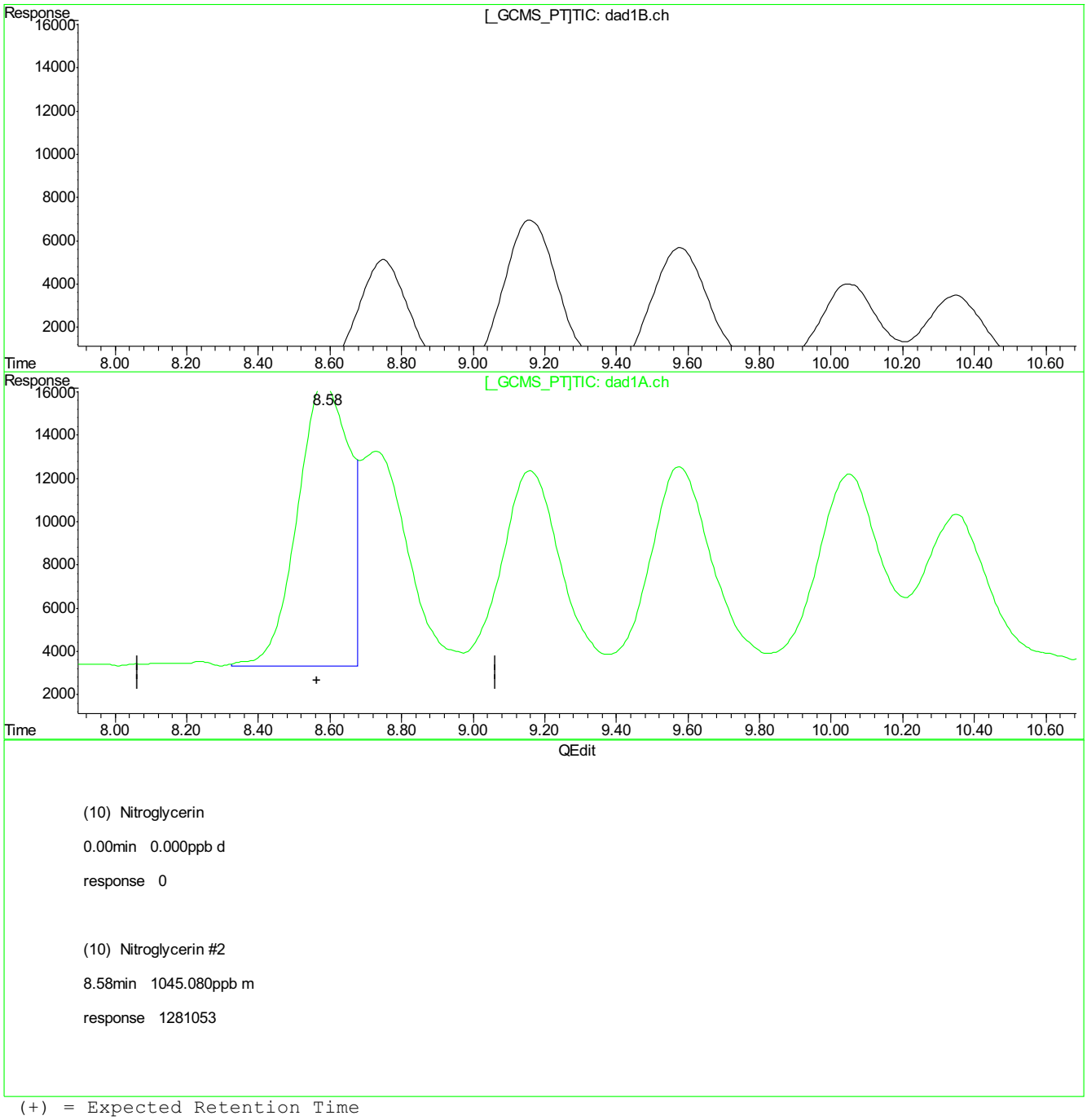
9.5.4.8

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



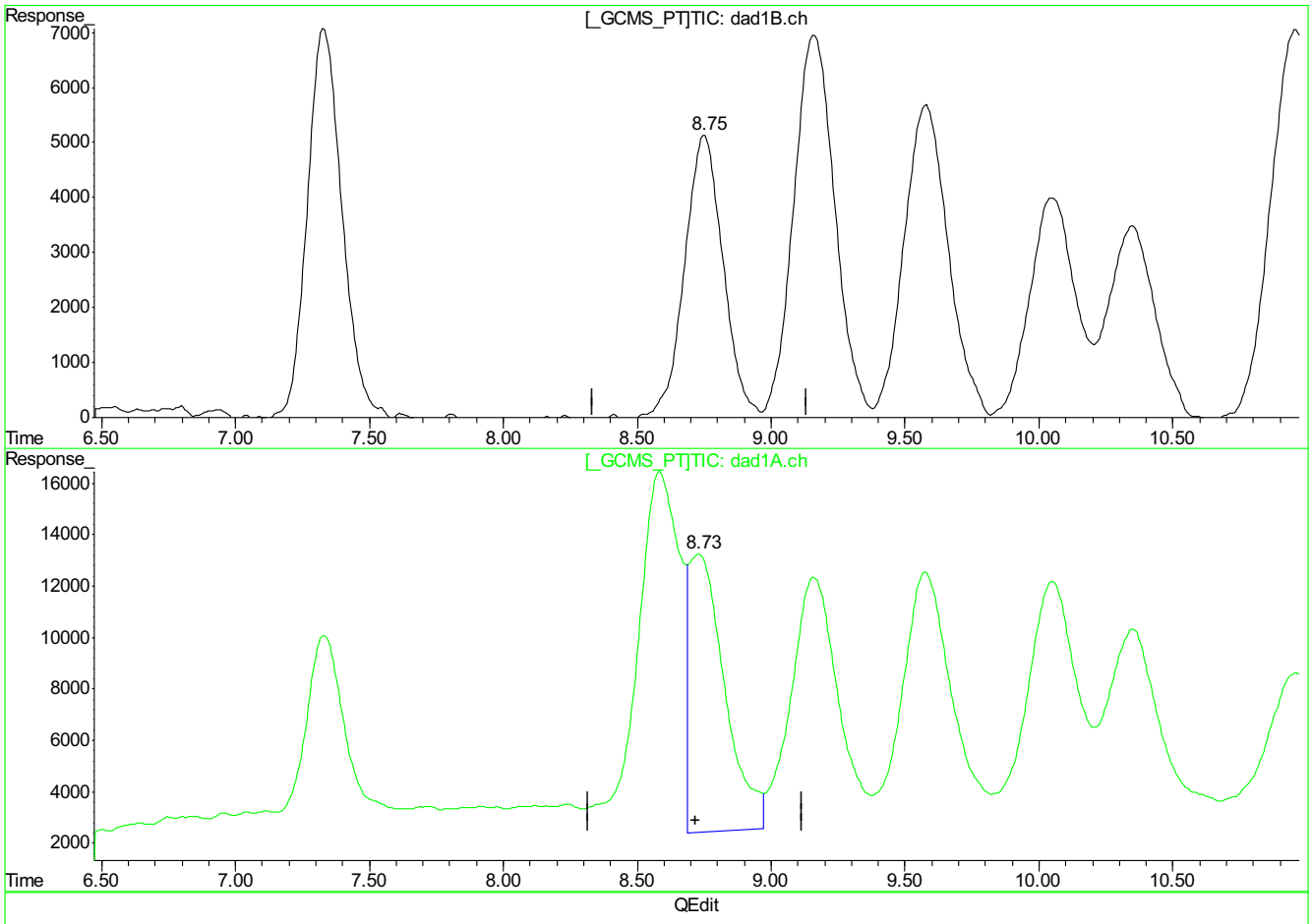
(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:04:20 2017

9.5.4.9
6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 173.265ppb

response 555265

(11) Tetryl #2

8.73min 195.766ppb

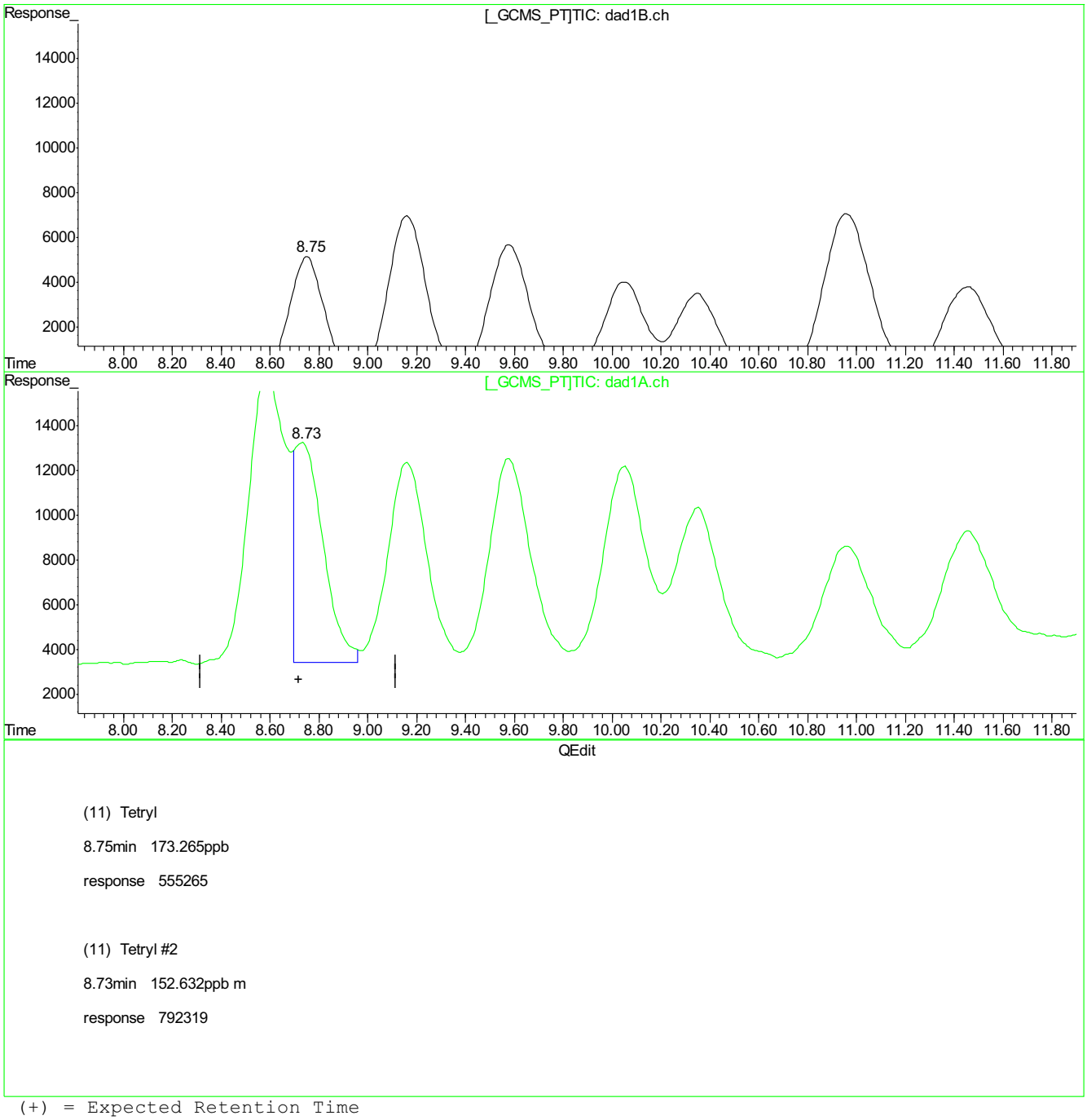
response 1016226

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:04:23 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 173.265ppb

response 555265

(11) Tetryl #2

8.73min 152.632ppb m

response 792319

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:26 2017

9.5.4.11

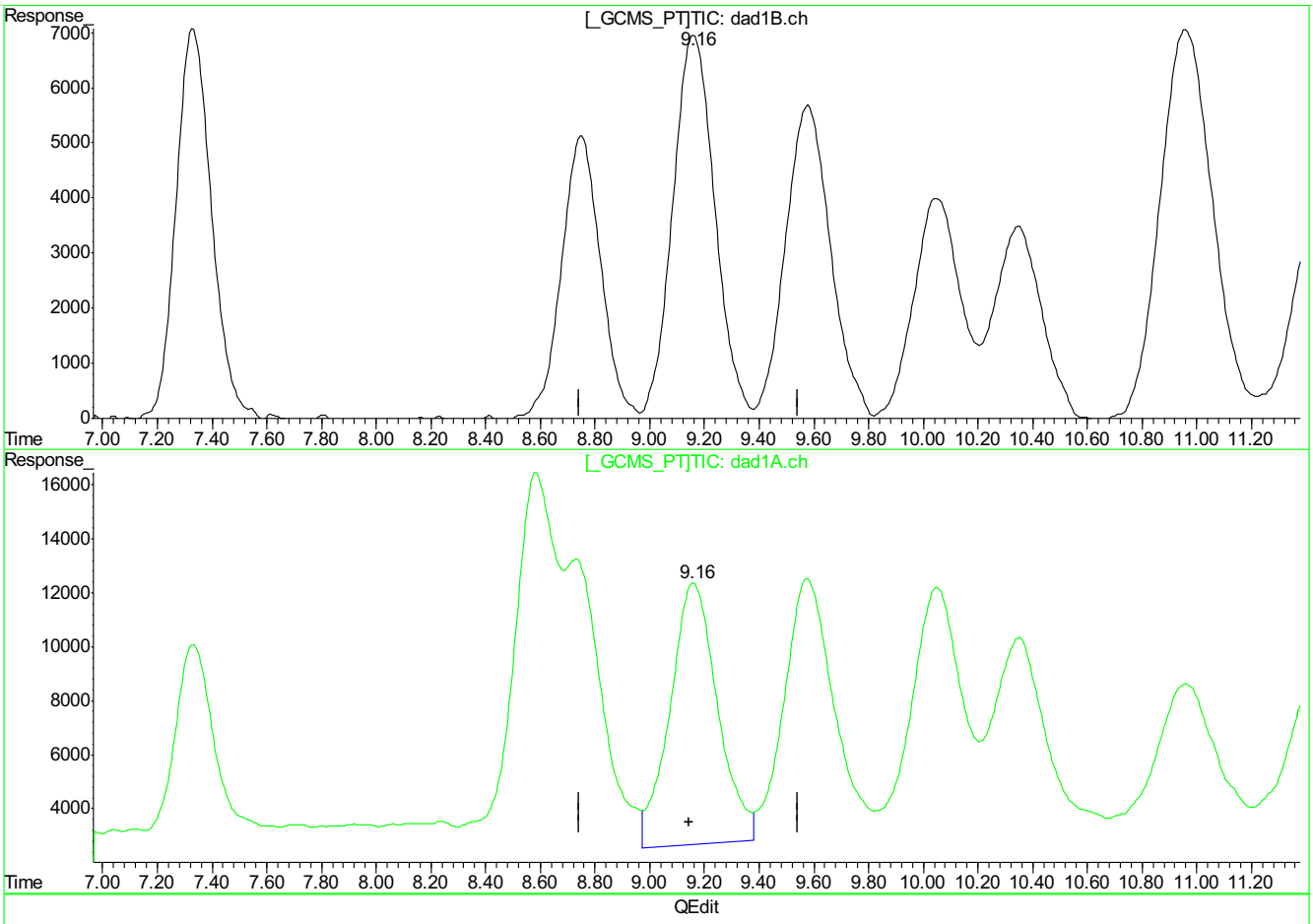
9

BB054264.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 189.424ppb

response 784280

(12) 2,4,6-Trinitrotoluene #2

9.16min 243.679ppb

response 1170466

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:31 2017

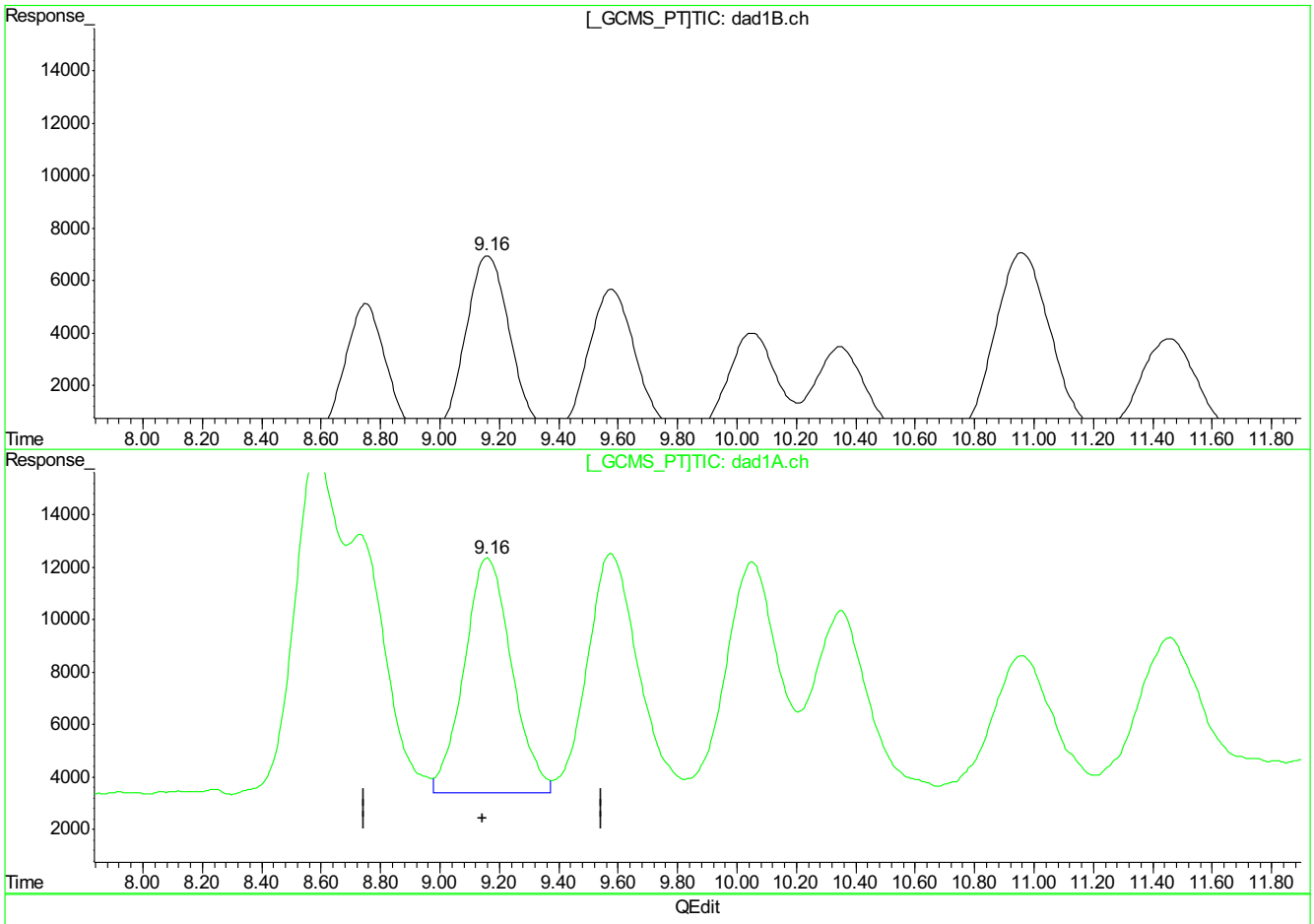
9.5.4.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 189.424ppb

response 784280

(12) 2,4,6-Trinitrotoluene #2

9.16min 207.047ppb m

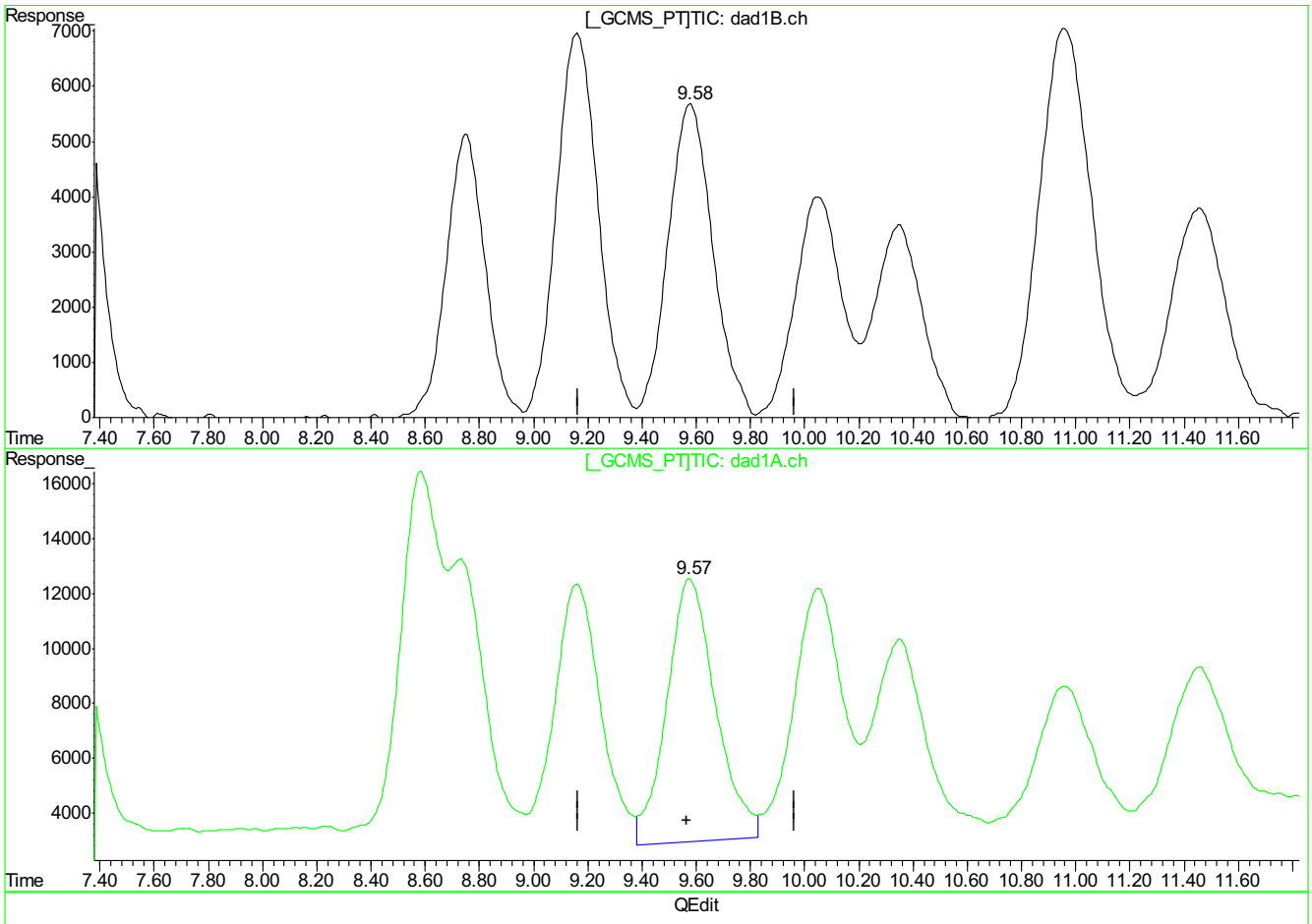
response 994514

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:42 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 198.731ppb

response 695400

(13) 2-Amino-4,6-Dinitrotoluene #2

9.58min 238.829ppb

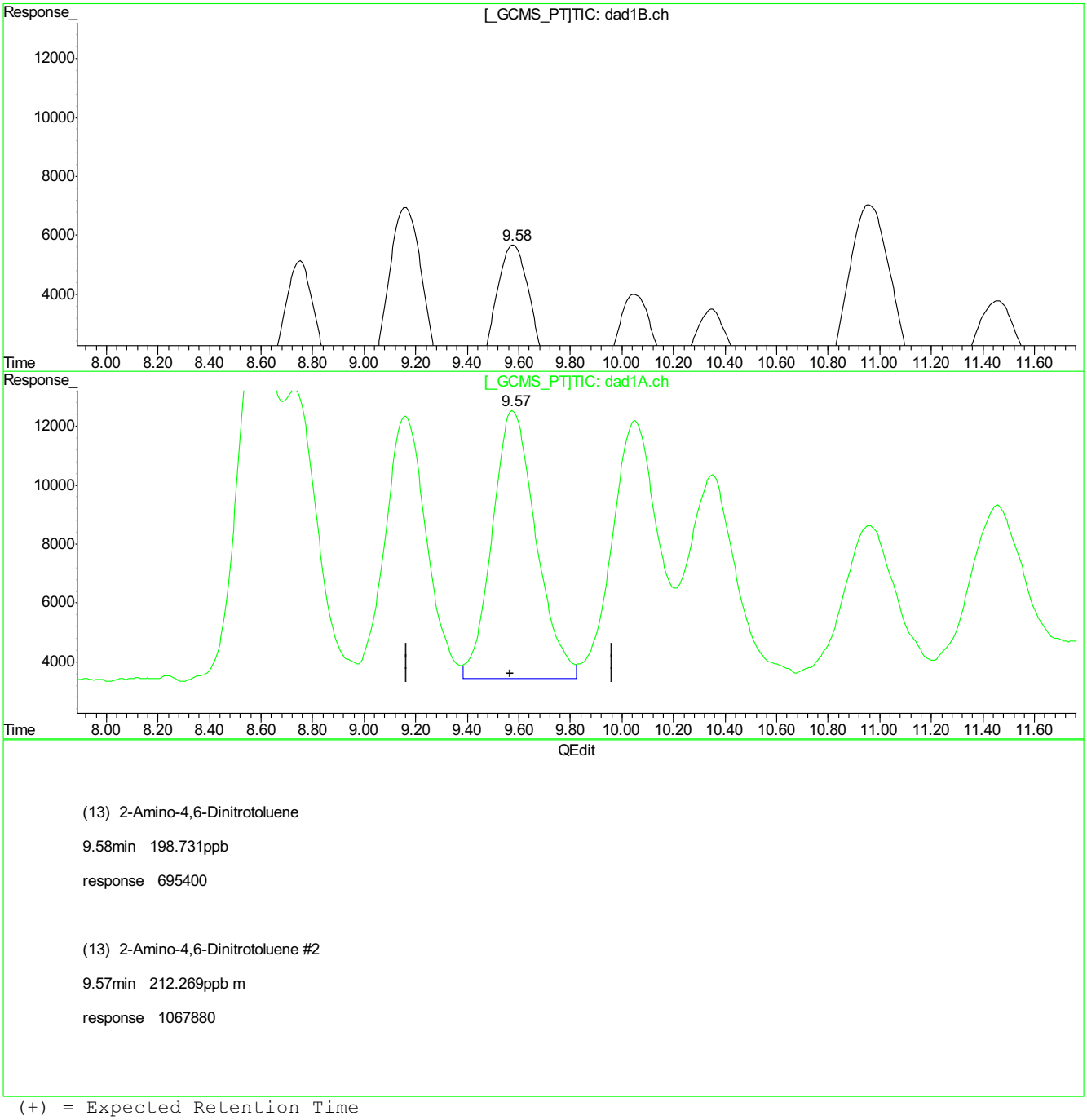
response 1200805

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:45 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 198.731ppb

response 695400

(13) 2-Amino-4,6-Dinitrotoluene #2

9.57min 212.269ppb m

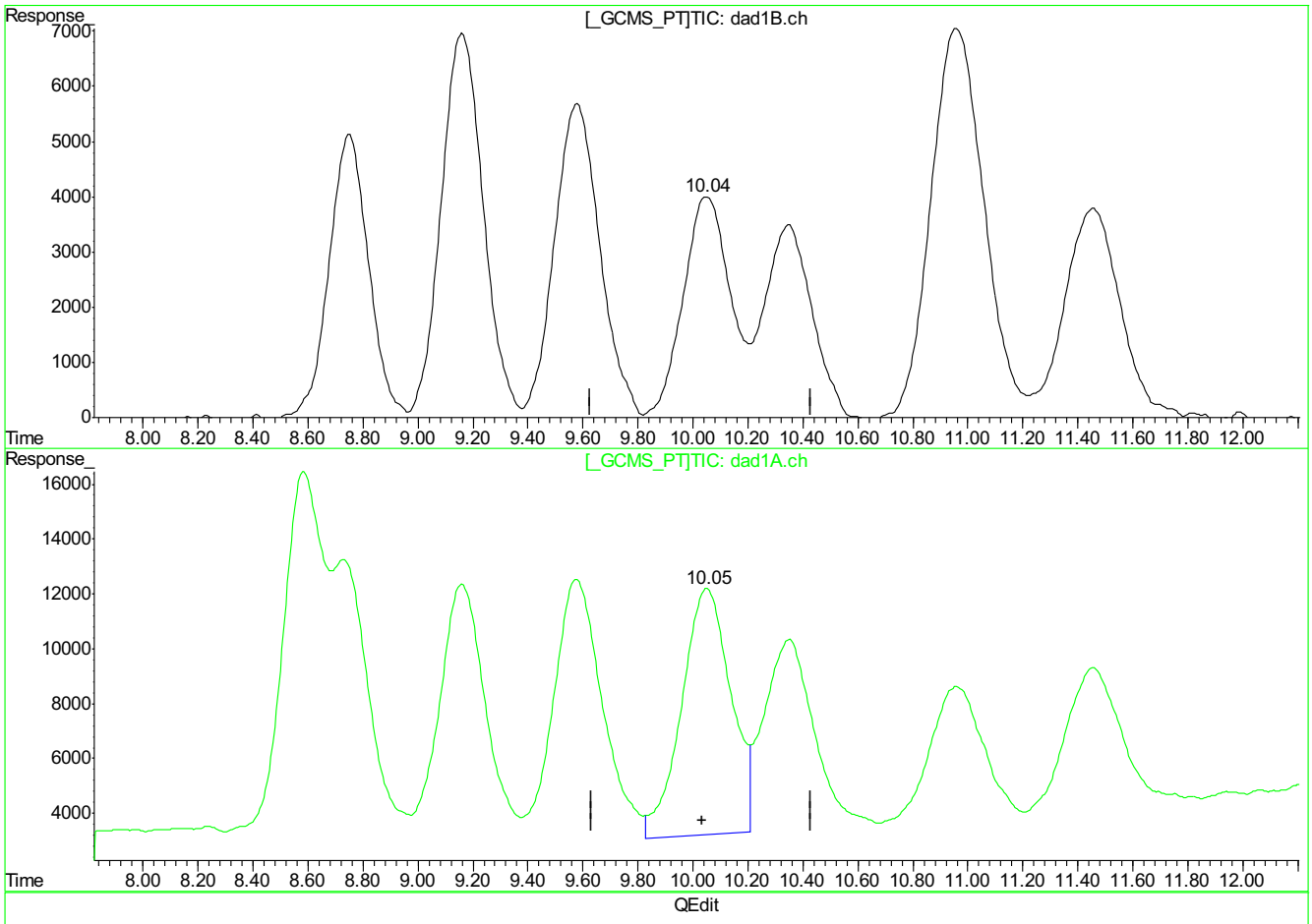
response 1067880

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.05min 189.586ppb

response 510802

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 219.551ppb

response 1110973

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:57 2017

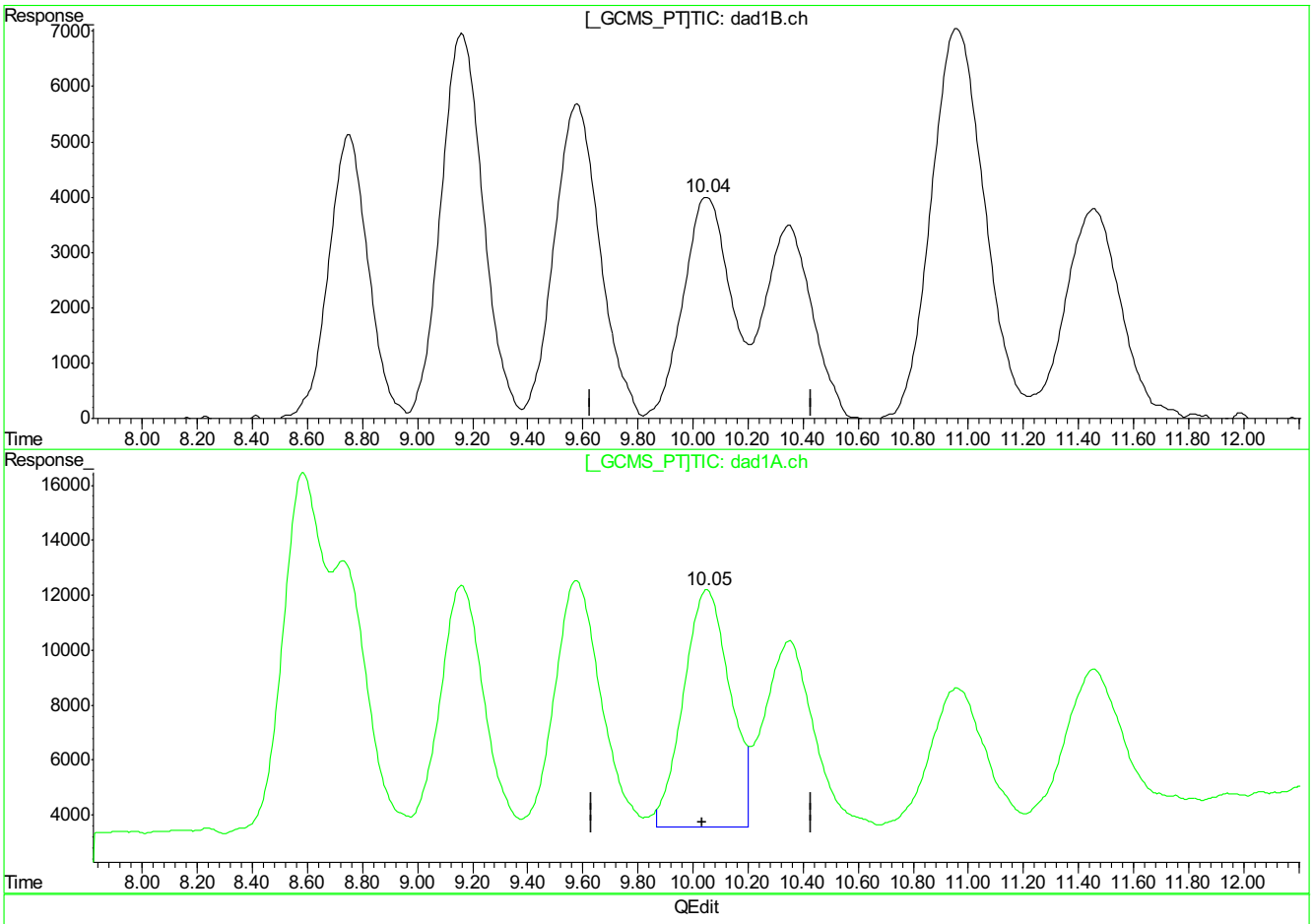
9.5.4.16

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.05min 189.586ppb

response 510802

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 201.197ppb m

response 1018097

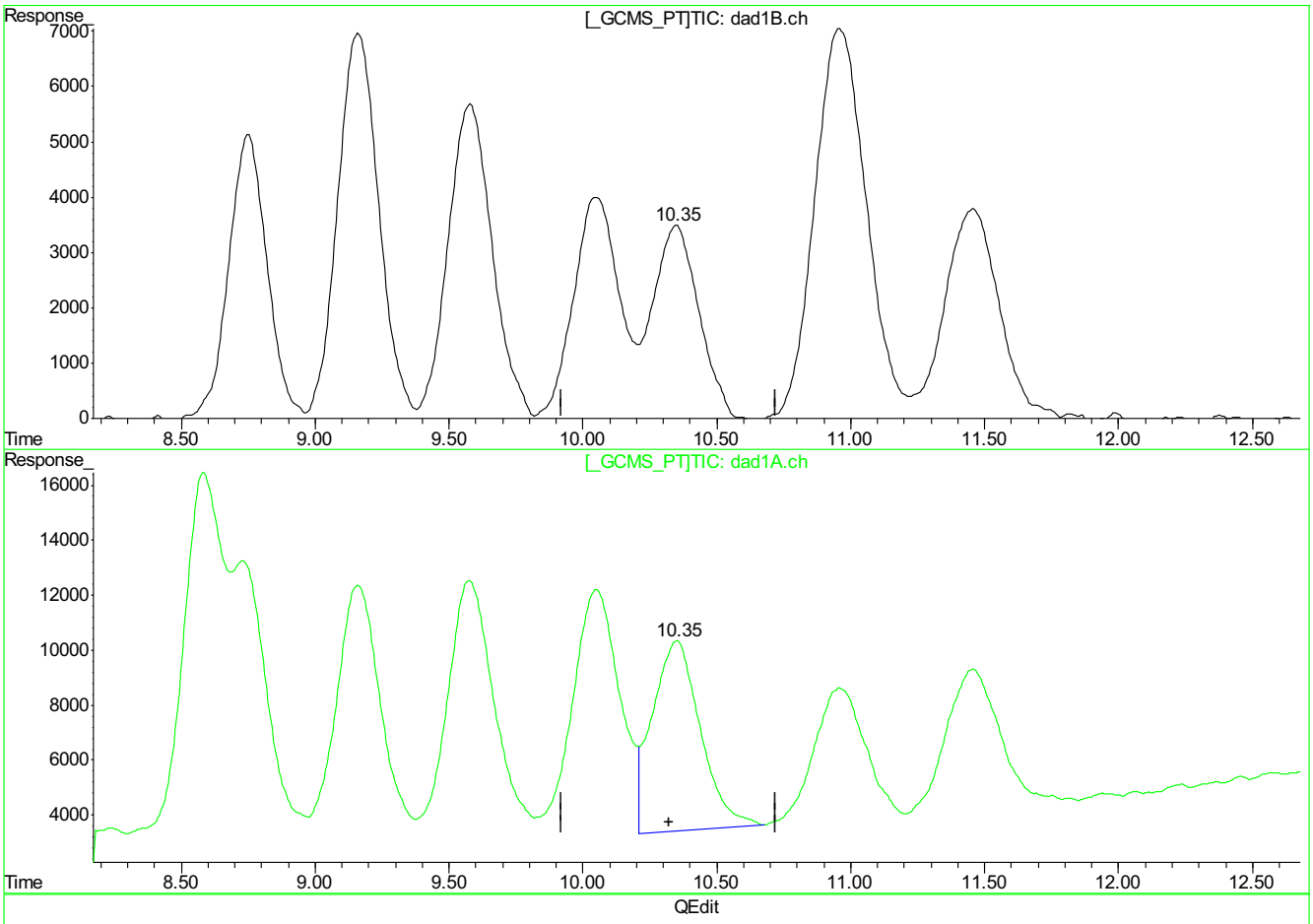
(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:09 2017

9.5.4.17
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 186.605ppb

response 460960

(15) 3,4-Dinitrotoluene #2 (S)

10.35min 213.542ppb

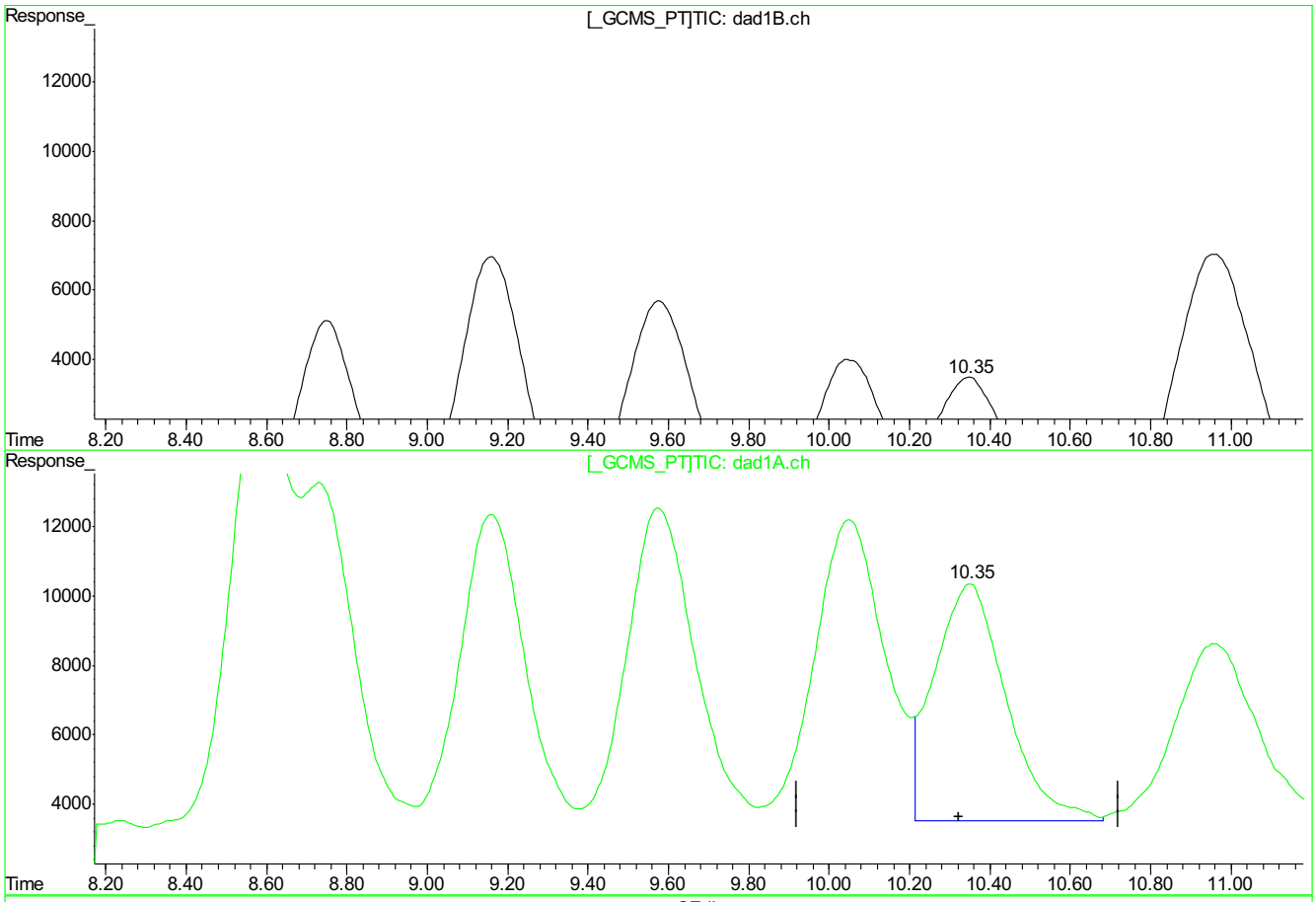
response 870164

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 186.605ppb

response 460960

(15) 3,4-Dinitrotoluene #2 (S)

10.35min 206.710ppb m

response 842323

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:29 2017

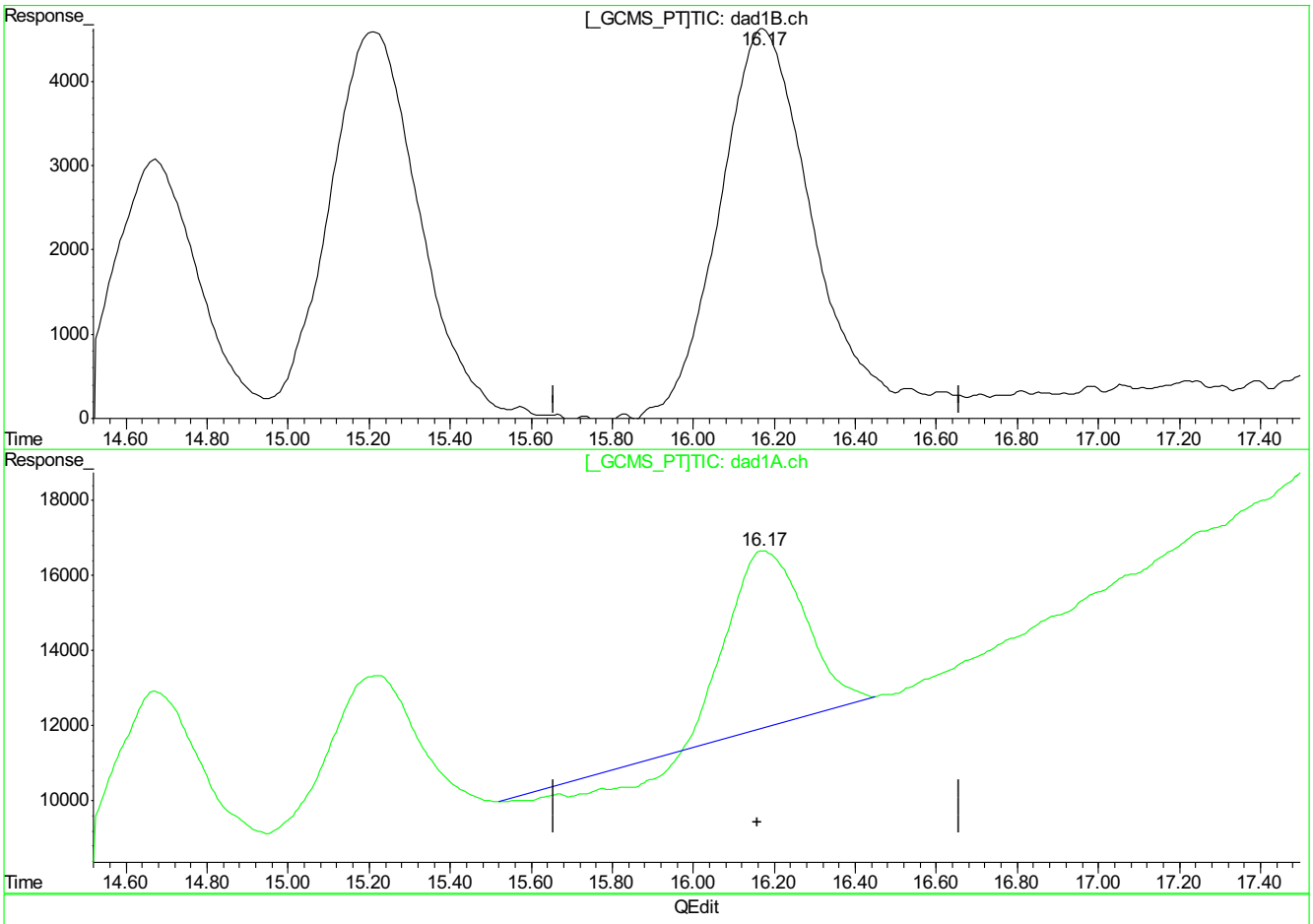
9.5.4.19

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 271.131ppb

response 719529

(20) m-Nitrotoluene #2

16.17min 144.998ppb

response 534563

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:35 2017

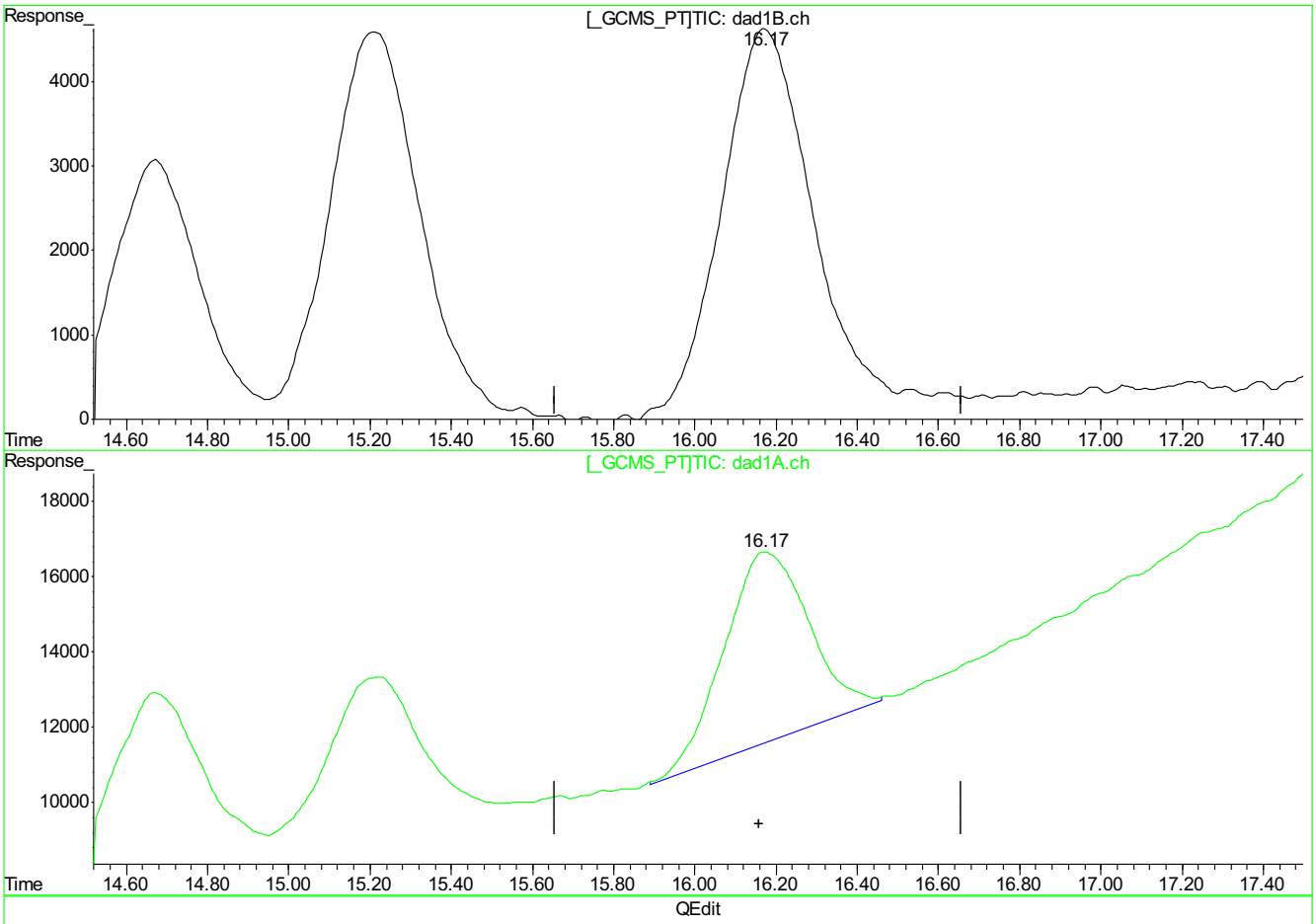
9.5.4.20

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 271.131ppb

response 719529

(20) m-Nitrotoluene #2

16.17min 199.370ppb m

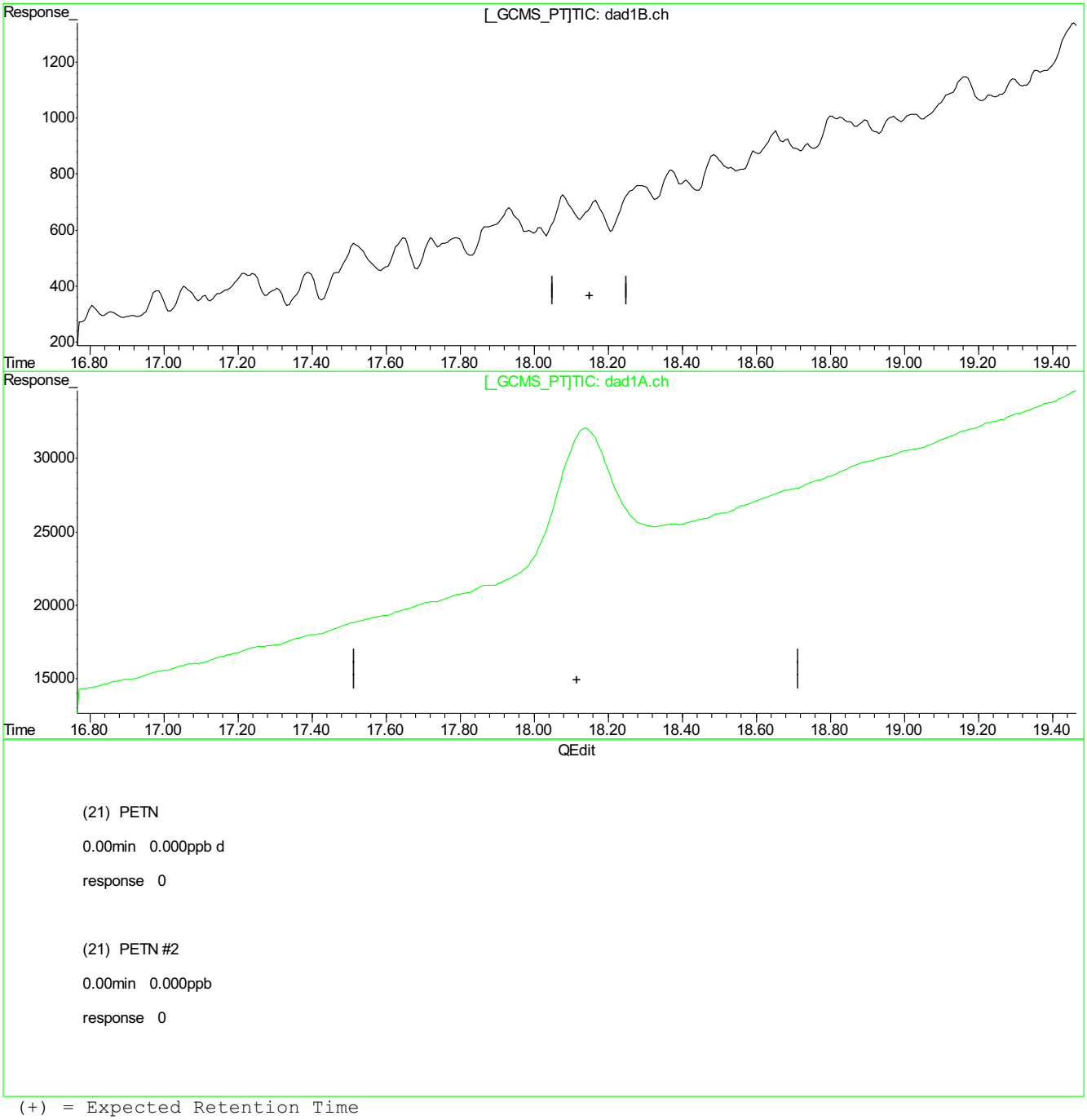
response 735016

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:38 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:43 2017

9.5.4.22

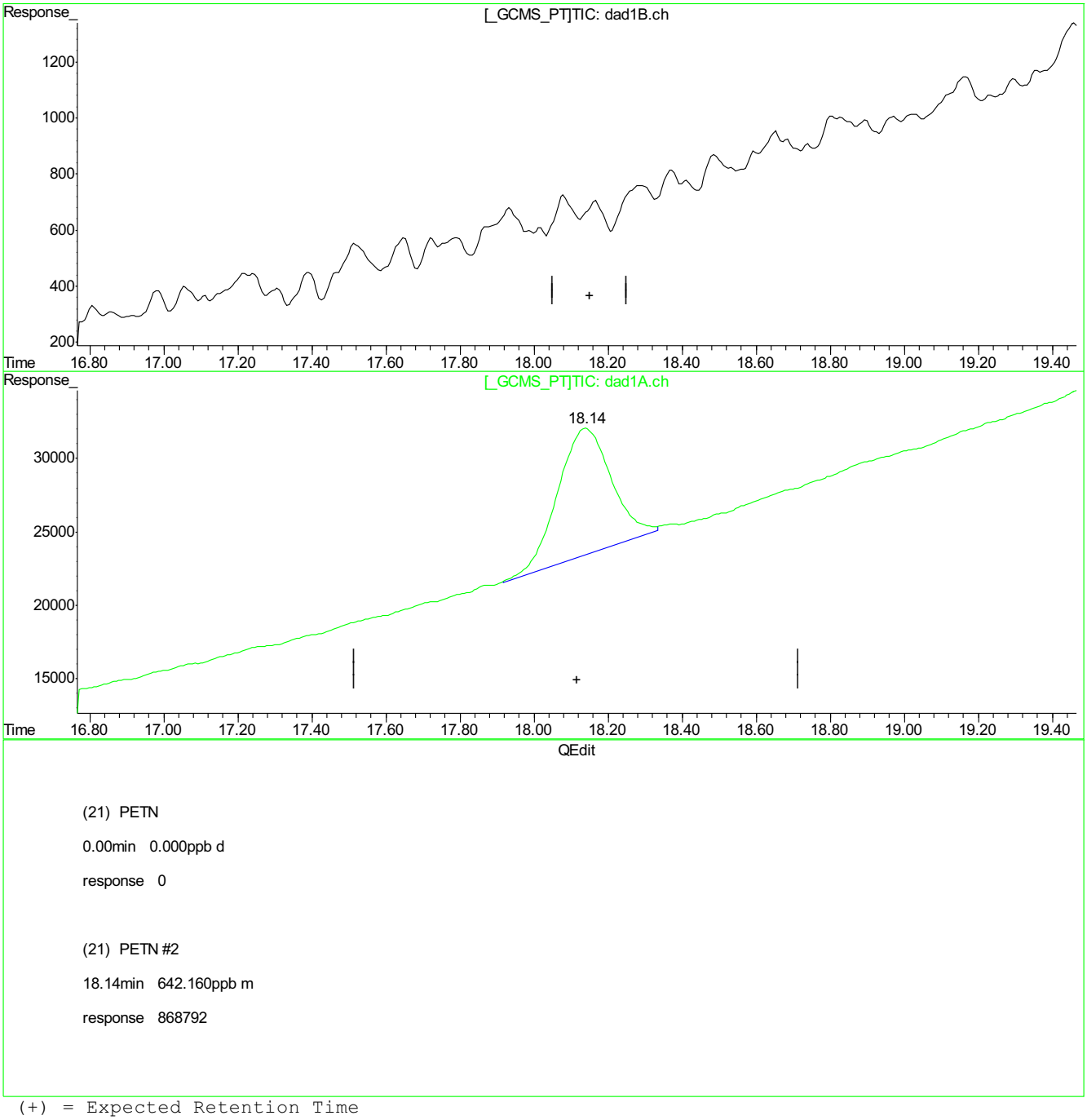
9

BB054264.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.14min 642.160ppb m

response 868792

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:46 2017

9.5.4.23

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.34	10.33	1084794	1962687	466.769	447.398m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	93.35%	89.48%
	Target Compounds						
1)	TNX	1.36	1.36	1571248	2439110	520.365	499.481
2)	HMX	1.47	1.47	828435	2259238	493.290	482.844
3)	DNX	1.73	1.73	1446870	2436001	500.036	382.393
4)	MNX	2.29	2.29	1174455	1824388	471.508	473.448
5)	RDX	2.87	2.87	951257	1494637	409.508	447.930
6)	1,3,5-Trinitrobe	4.49	4.49	1995333	3867925	456.980	472.685
7)	1,3-Dinitrobenze	5.74	5.74	2621704	1867357	469.638	477.103
8)	3,5-Dinitroanili	6.09	6.09	1879485	3143386	419.134	445.054m
9)	Nitrobenzene	7.33	7.32	1598148	1523444	470.402	493.884m
10)	Nitroglycerin	0.00	8.58	0	3085786	N.D. d	2420.890m
11)	Tetryl	8.74	8.72	1319490	1965214	427.580	405.167m
12)	2,4,6-Trinitroto	9.16	9.15	1876477	2339483	446.656	449.516m
13)	2-Amino-4,6-Dini	9.57	9.56	1656585	2529655	488.345	501.439m
14)	4-Amino-2,6-Dini	10.04	10.04	1189910	2479981	455.085	467.335m
16)	2,4-Dinitrotolue	10.95	10.95	2372673	1561916	460.591	460.044
17)	2,6-Dinitrotolue	11.44	11.44	1378456	1725973	429.294	486.424
18)	o-Nitrotoluene	14.66	14.66	1131069	1602496	504.419	612.724
19)	p-Nitrotoluene	15.20	15.20	1733102	1523606	463.173	551.675
20)	m-Nitrotoluene	16.17	16.17	1678737	1898358	575.324	572.919m
21)	PETN	0.00	18.13	0	1745455	N.D. d	1732.597m

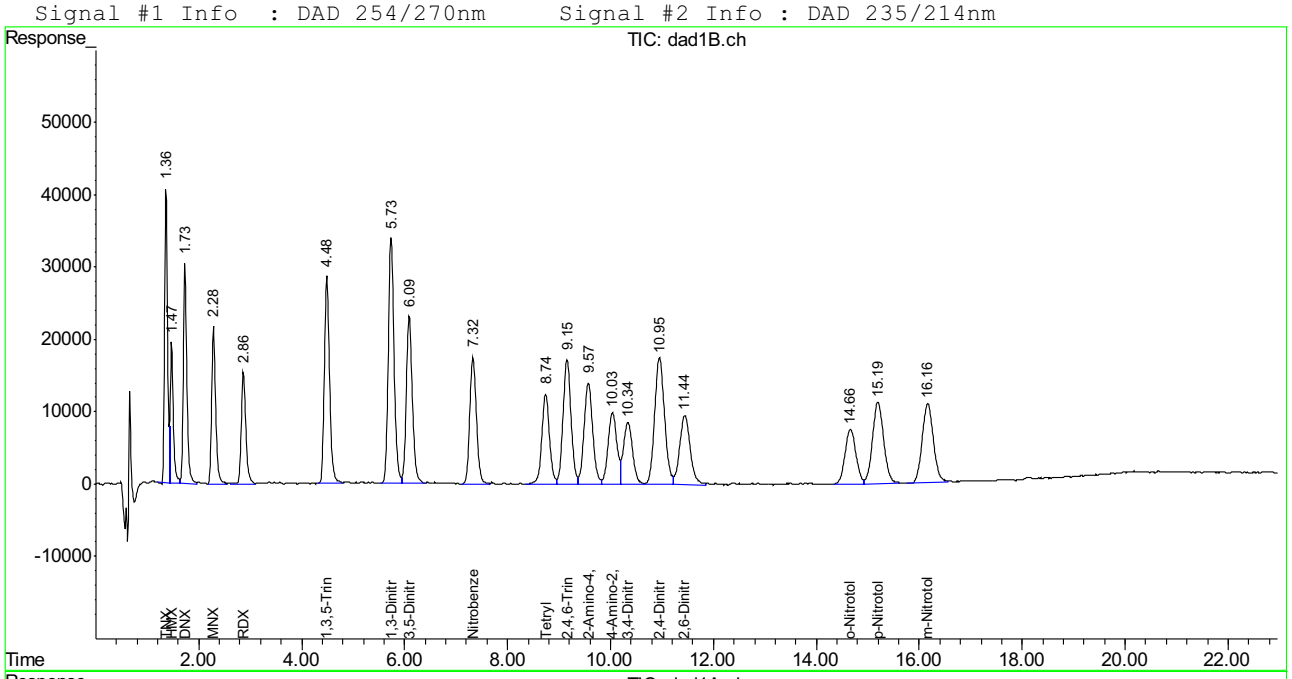
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054265.D 8330B_0419PLUS.M Thu Apr 20 11:04:53 2017 Page 1

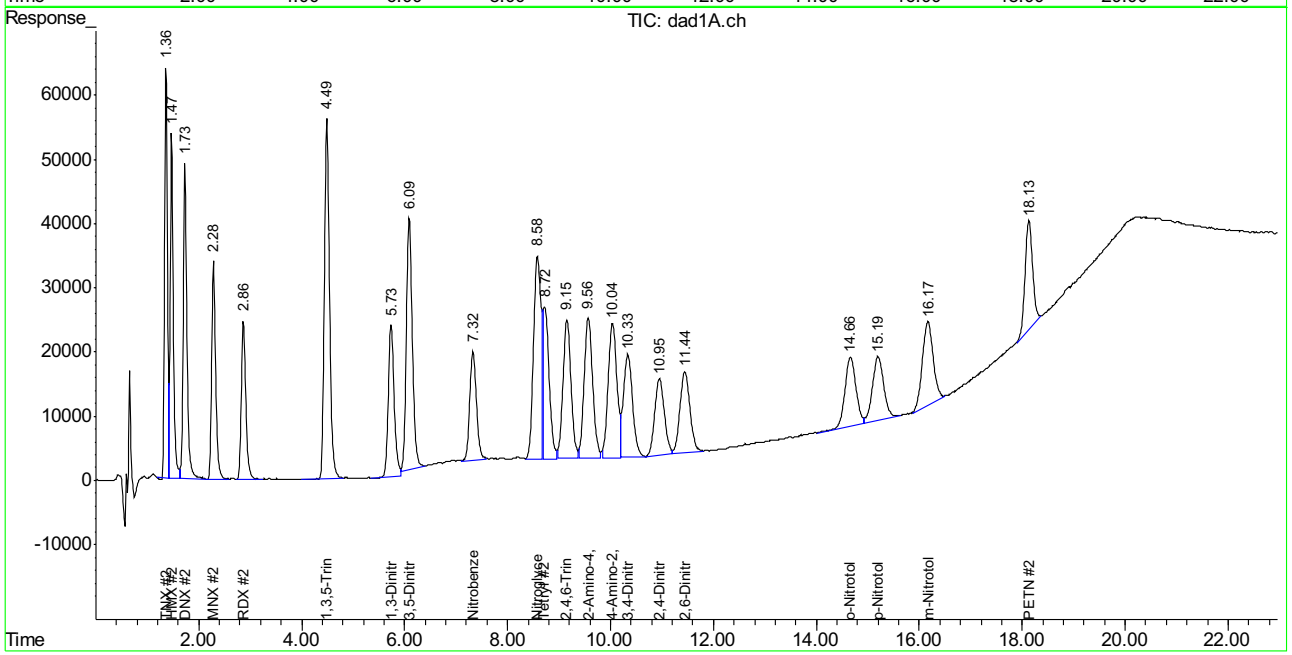
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:09 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

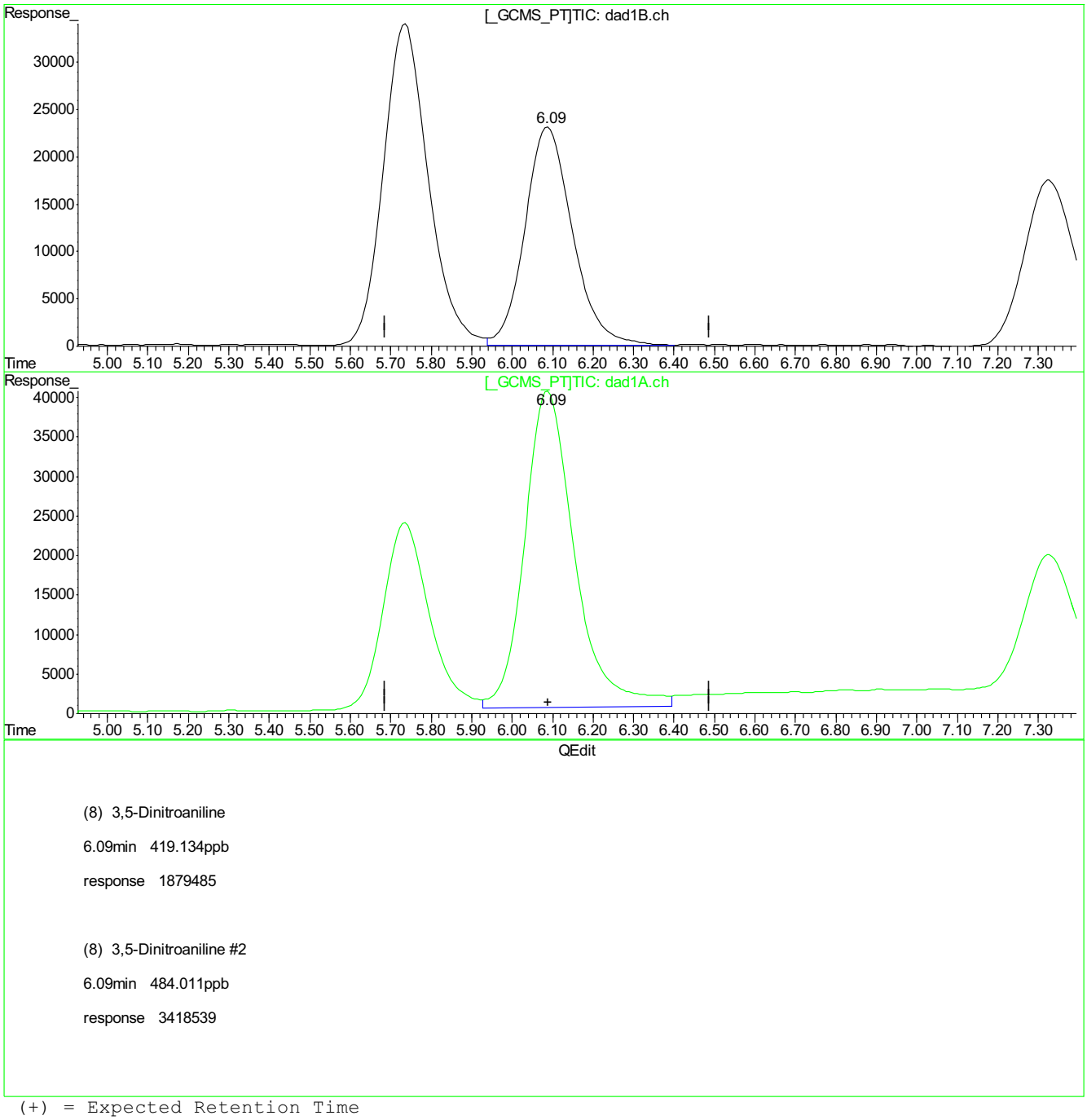
Sample Number: GBB1578-ICC1578
Lab FileID: BB054265.D
Injection Time: 04/19/17 12:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.09	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.32	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.58	Poorly defined baseline
Tetryl	479-45-8	2	8.72	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.15	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.56	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.04	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.33	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.17	Poorly defined baseline
PETN	78-11-5	2	18.13	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.09min 419.134ppb

response 1879485

(8) 3,5-Dinitroaniline #2

6.09min 484.011ppb

response 3418539

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:08 2017

9.5.5.2

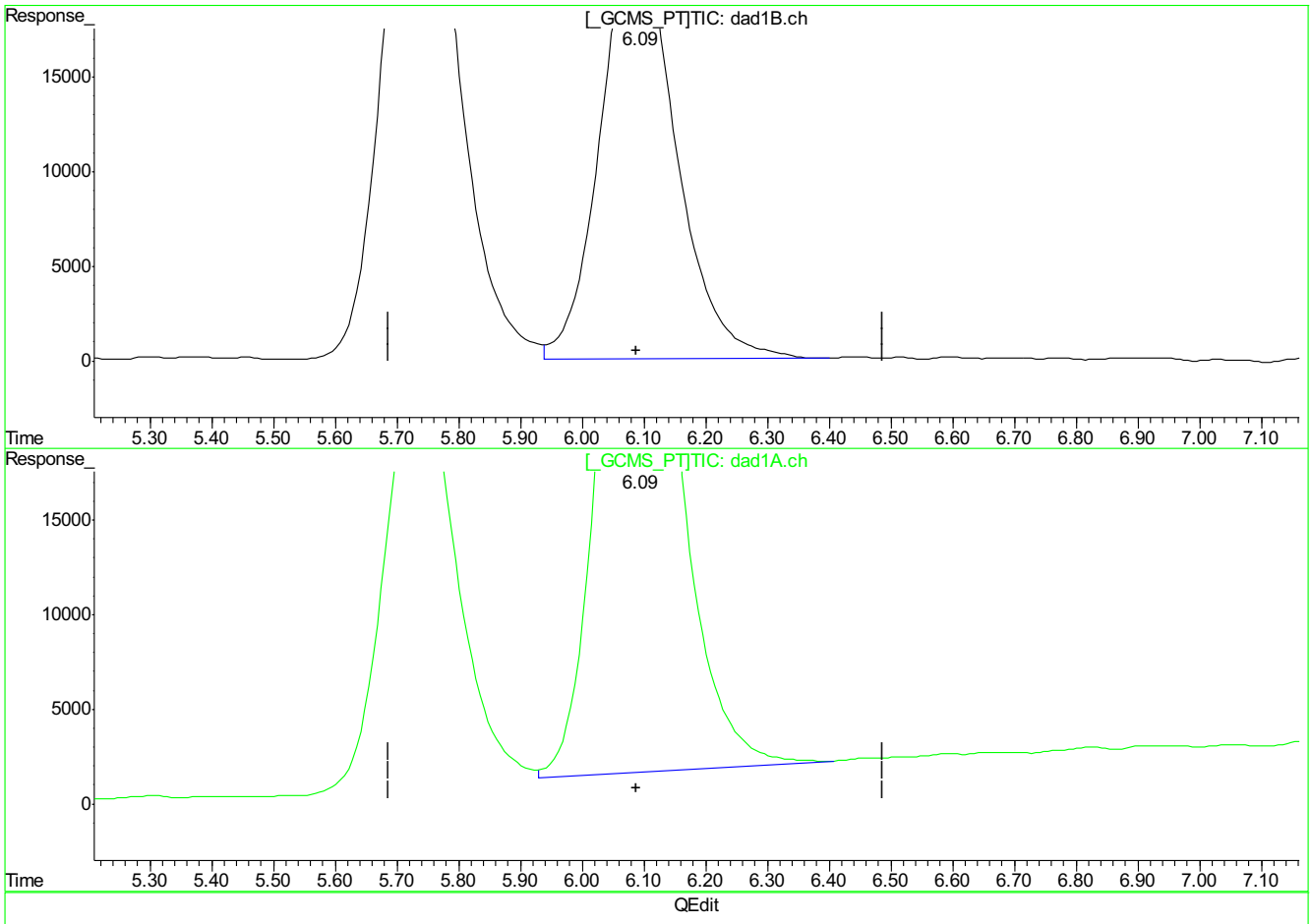
9

BB054265.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.09min 419.134ppb

response 1879485

(8) 3,5-Dinitroaniline #2

6.09min 445.054ppb m

response 3143386

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:13 2017

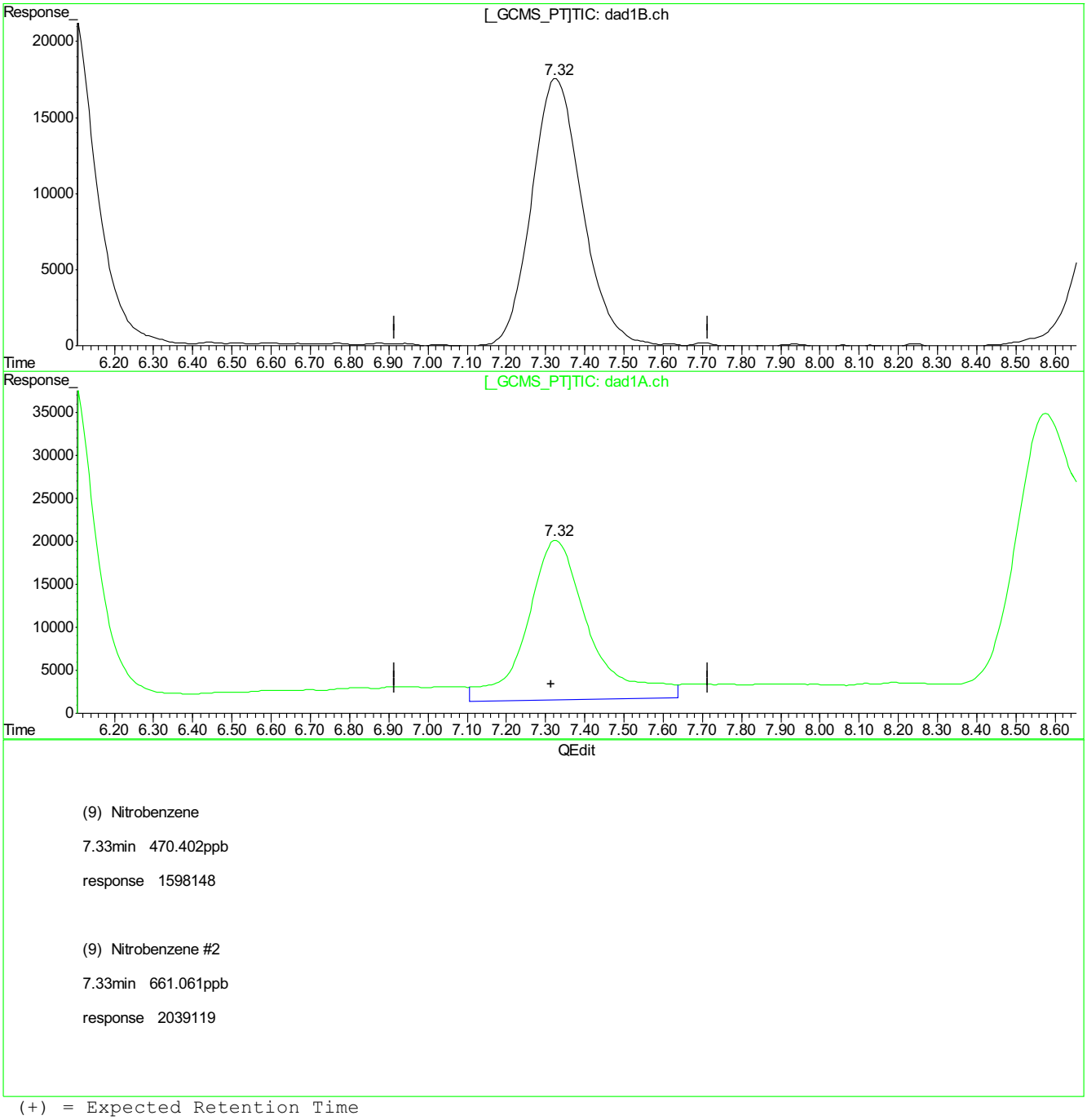
9.5.5.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 470.402ppb

response 1598148

(9) Nitrobenzene #2

7.33min 661.061ppb

response 2039119

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:15 2017

9.5.5.4

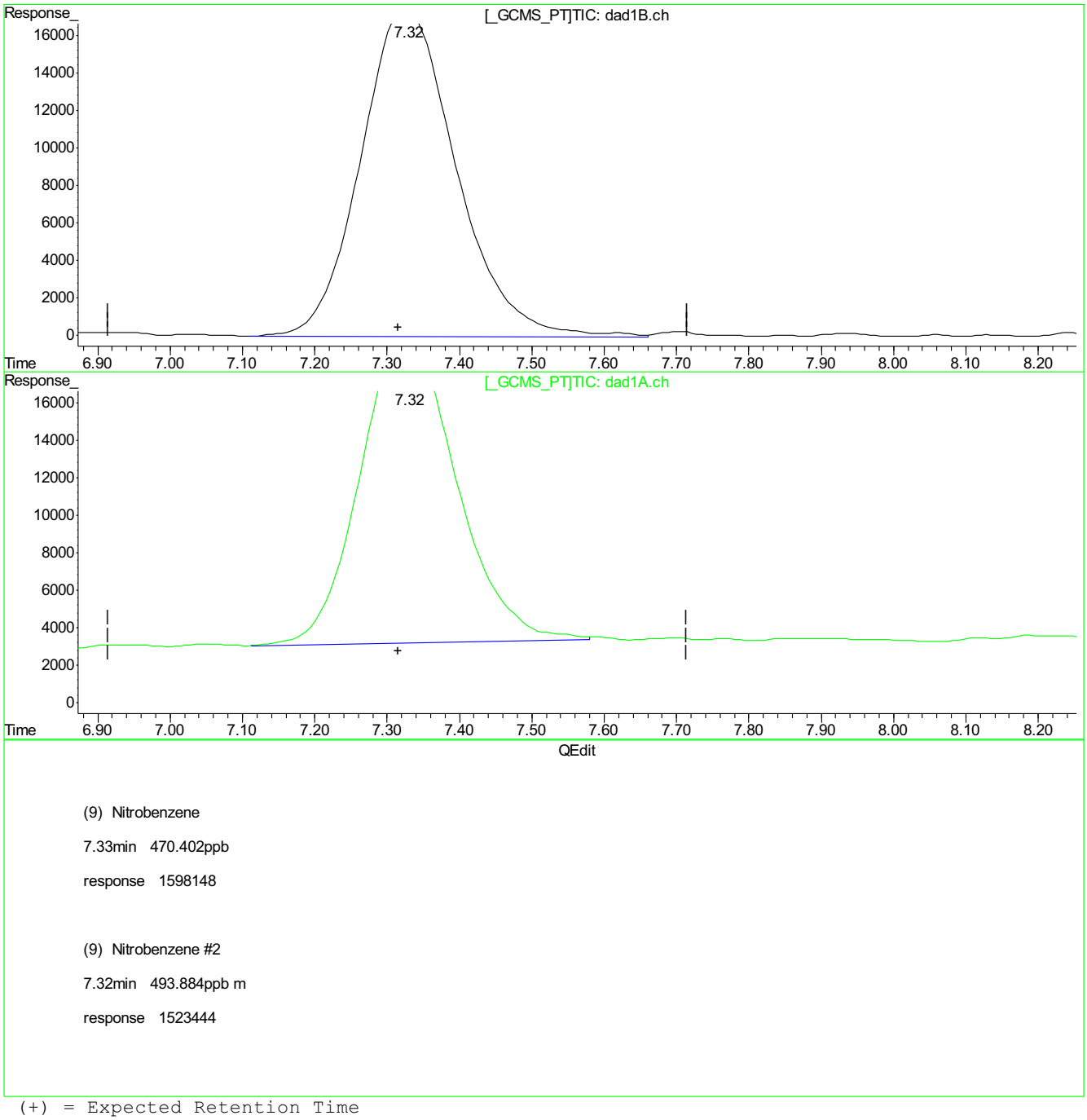
9

BB054265.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 470.402ppb

response 1598148

(9) Nitrobenzene #2

7.32min 493.884ppb m

response 1523444

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:19 2017

9.5.5.5

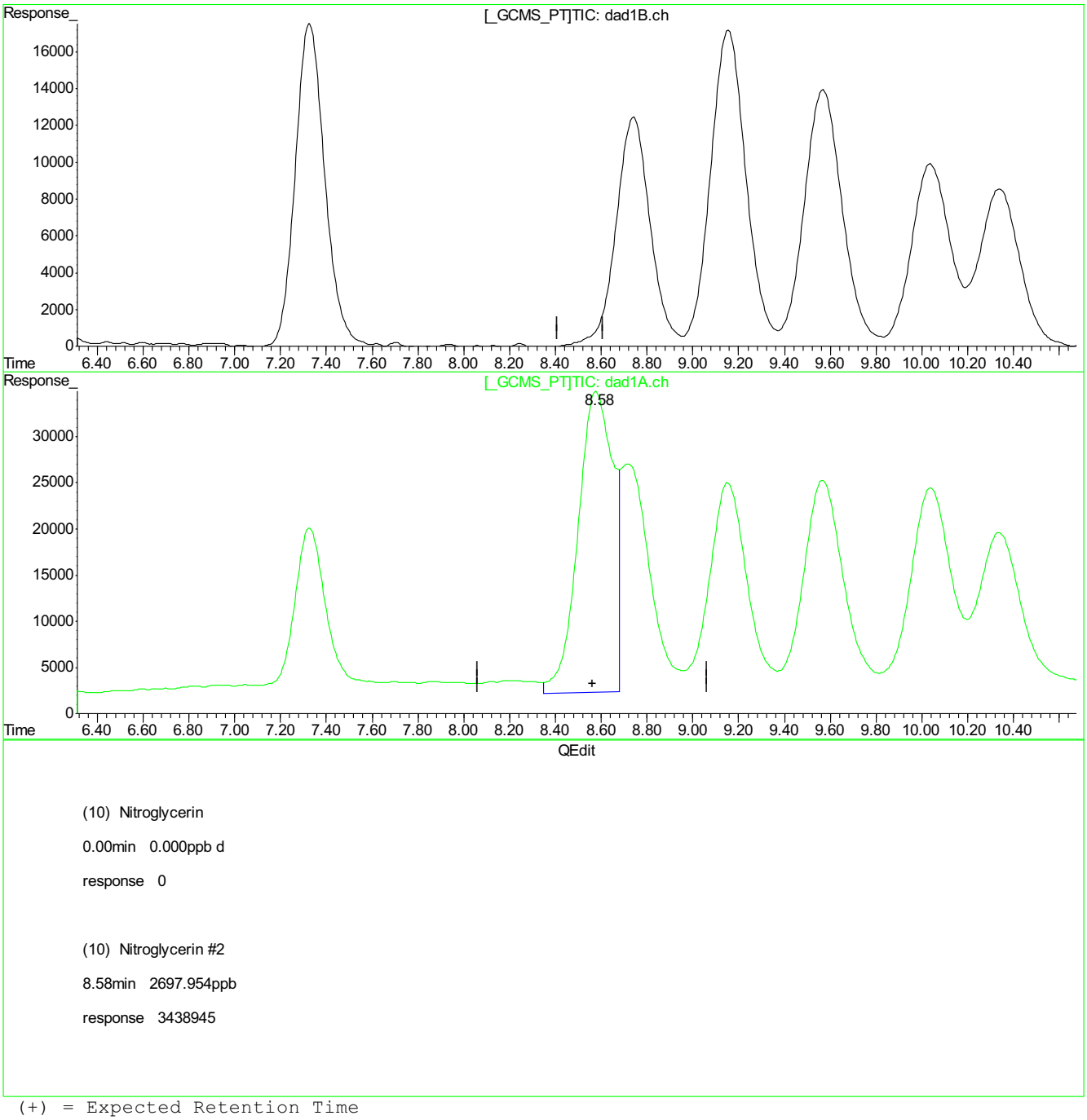
6

BB054265.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



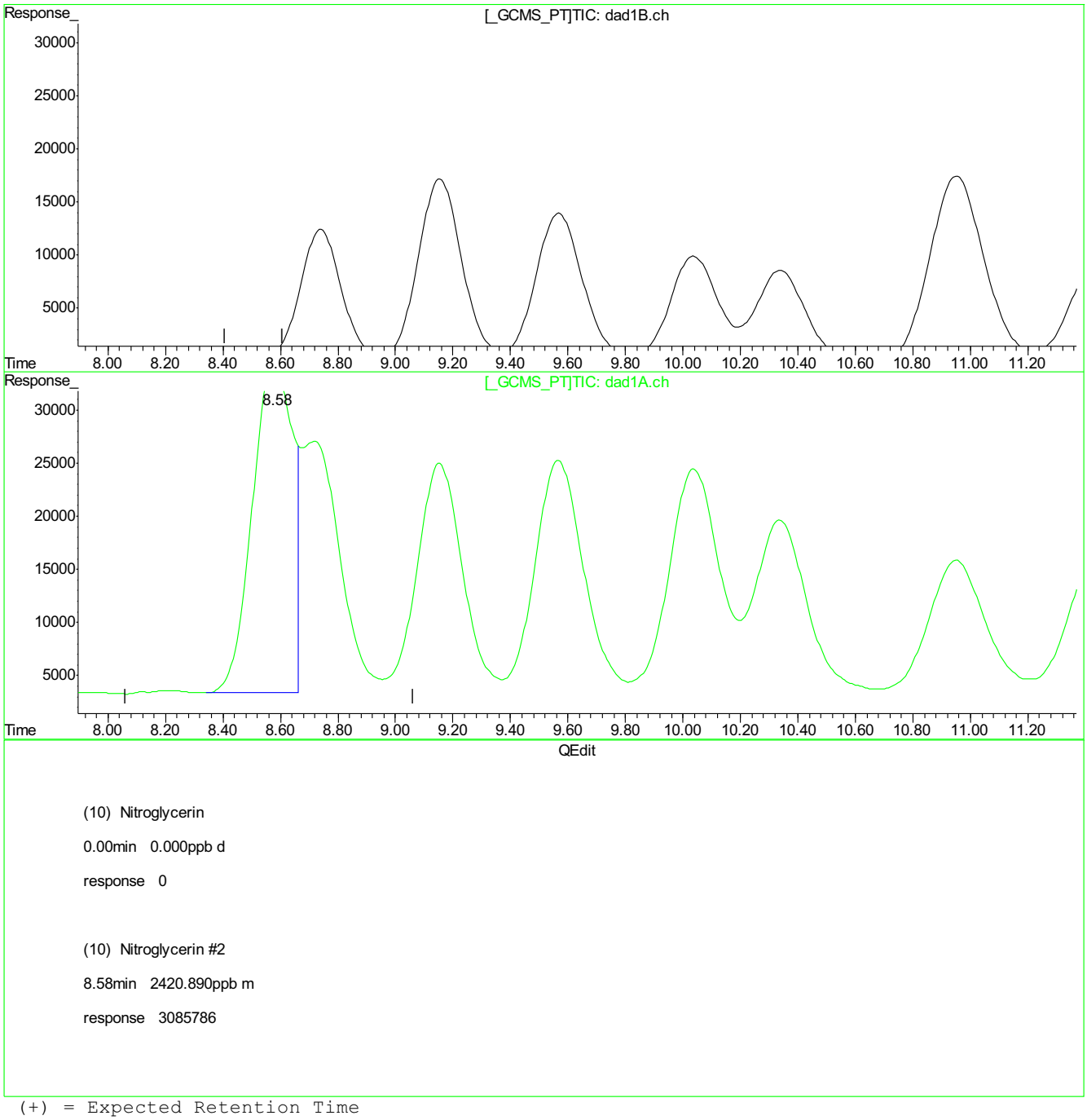
(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:24 2017

BB054265.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.58min 2420.890ppb m

response 3085786

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:41 2017

9.5.5.7

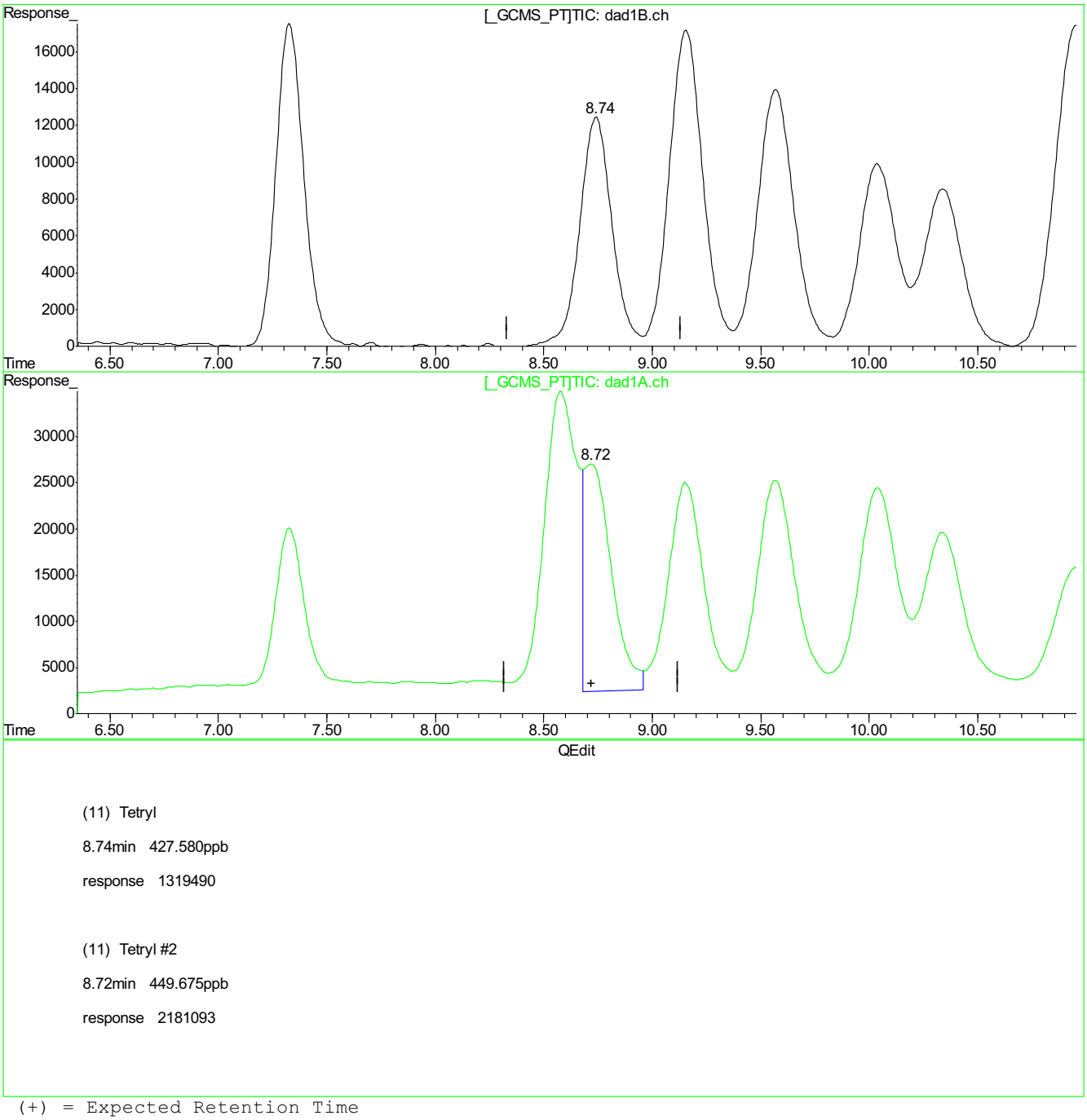
6

BB054265.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.74min 427.580ppb

response 1319490

(11) Tetryl #2

8.72min 449.675ppb

response 2181093

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:45 2017

9.5.5.8

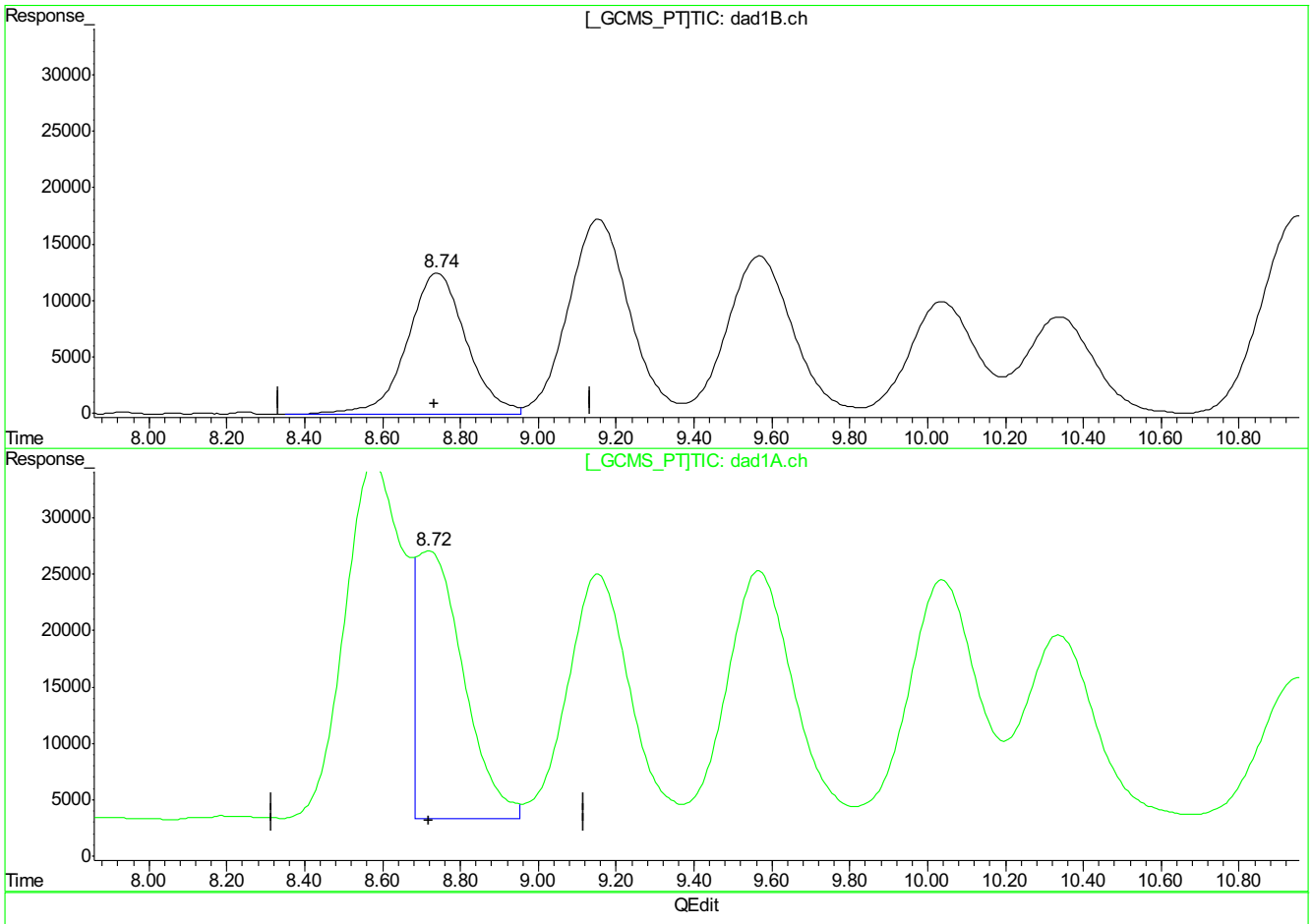
6

BB054265.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.74min 427.580ppb

response 1319490

(11) Tetryl #2

8.72min 405.167ppb m

response 1965214

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:24 2017

9.5.5.9

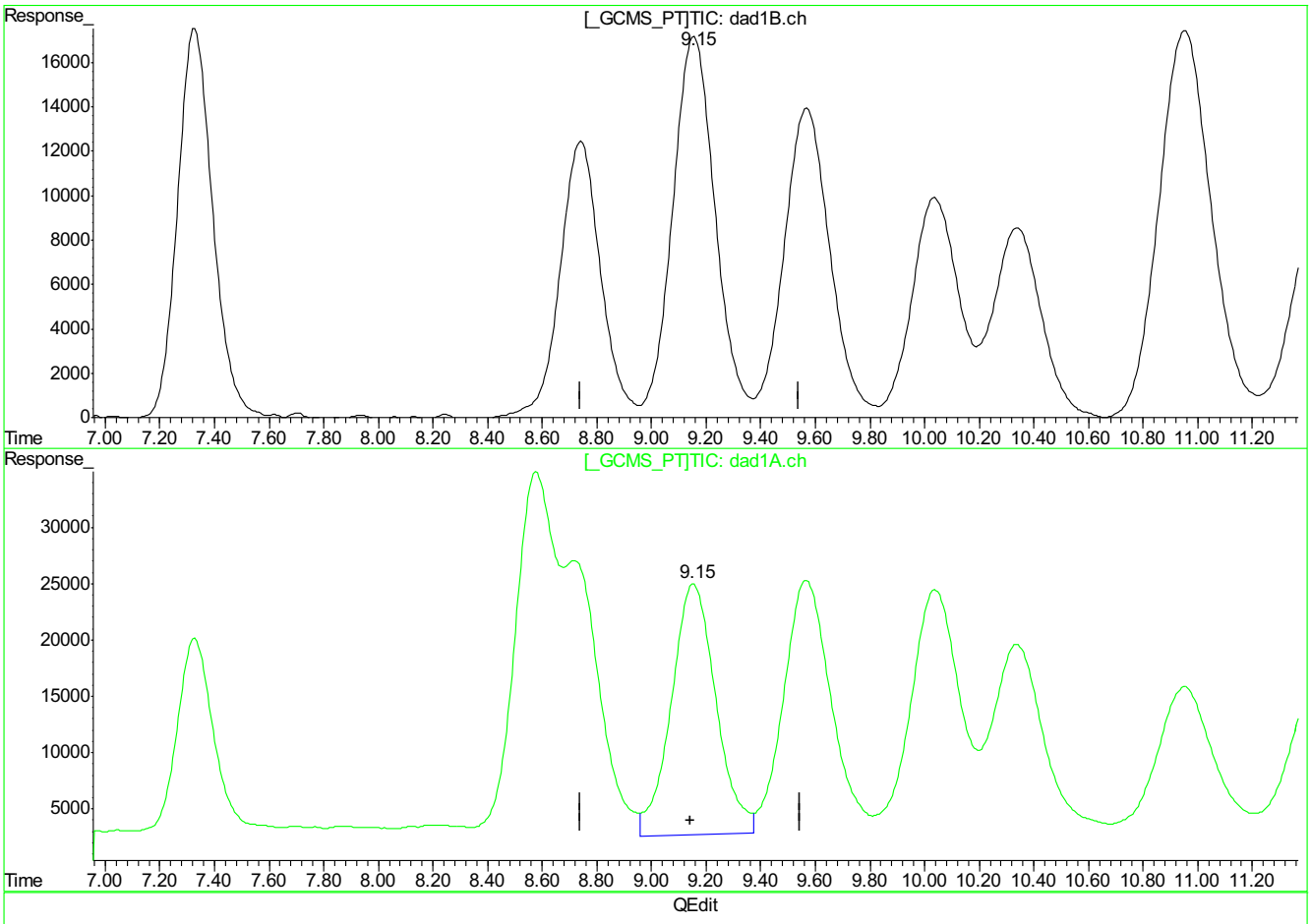
6

BB054265.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 446.656ppb

response 1876477

(12) 2,4,6-Trinitrotoluene #2

9.15min 485.272ppb

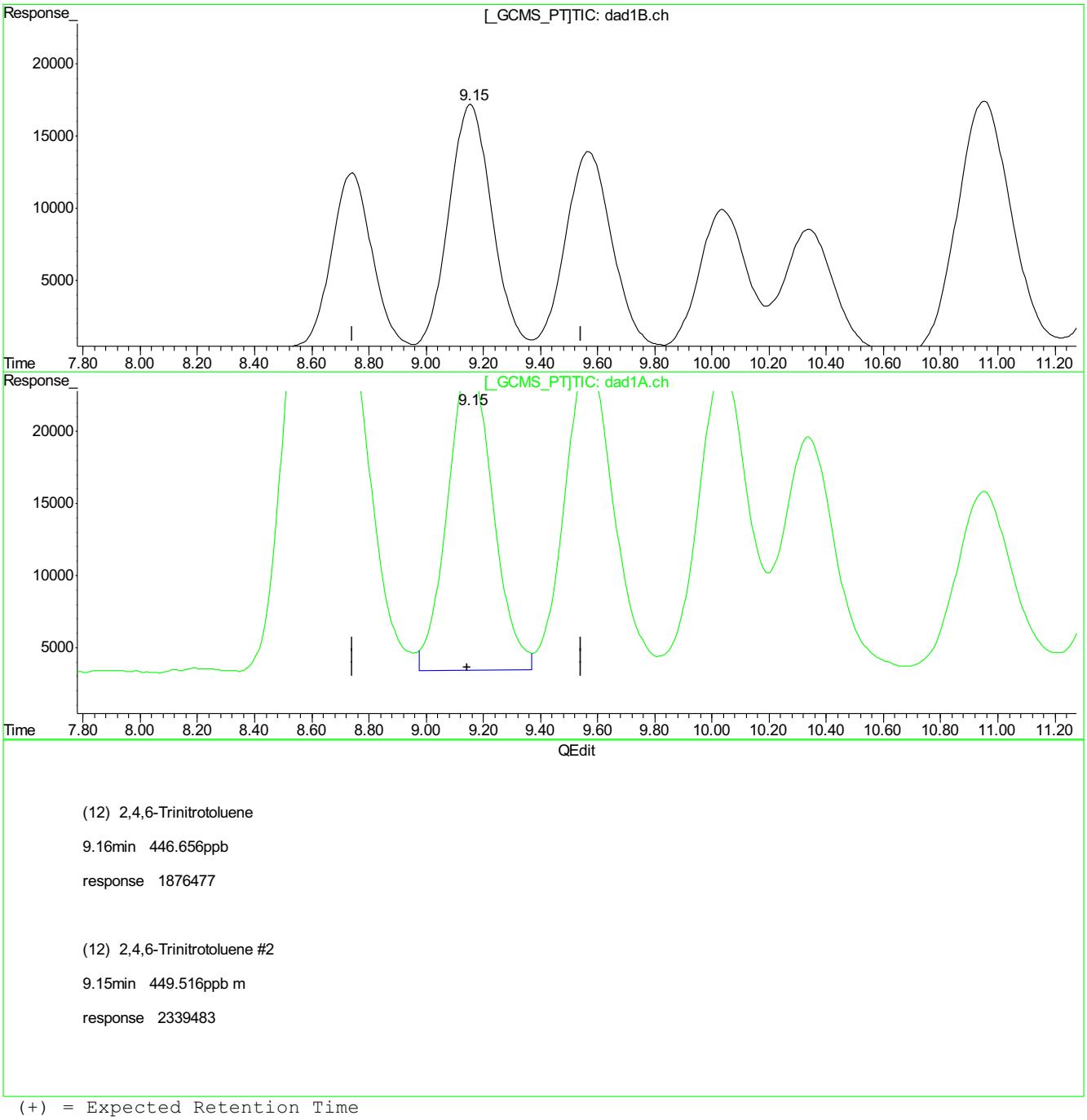
response 2525578

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:29 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 446.656ppb

response 1876477

(12) 2,4,6-Trinitrotoluene #2

9.15min 449.516ppb m

response 2339483

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:38 2017

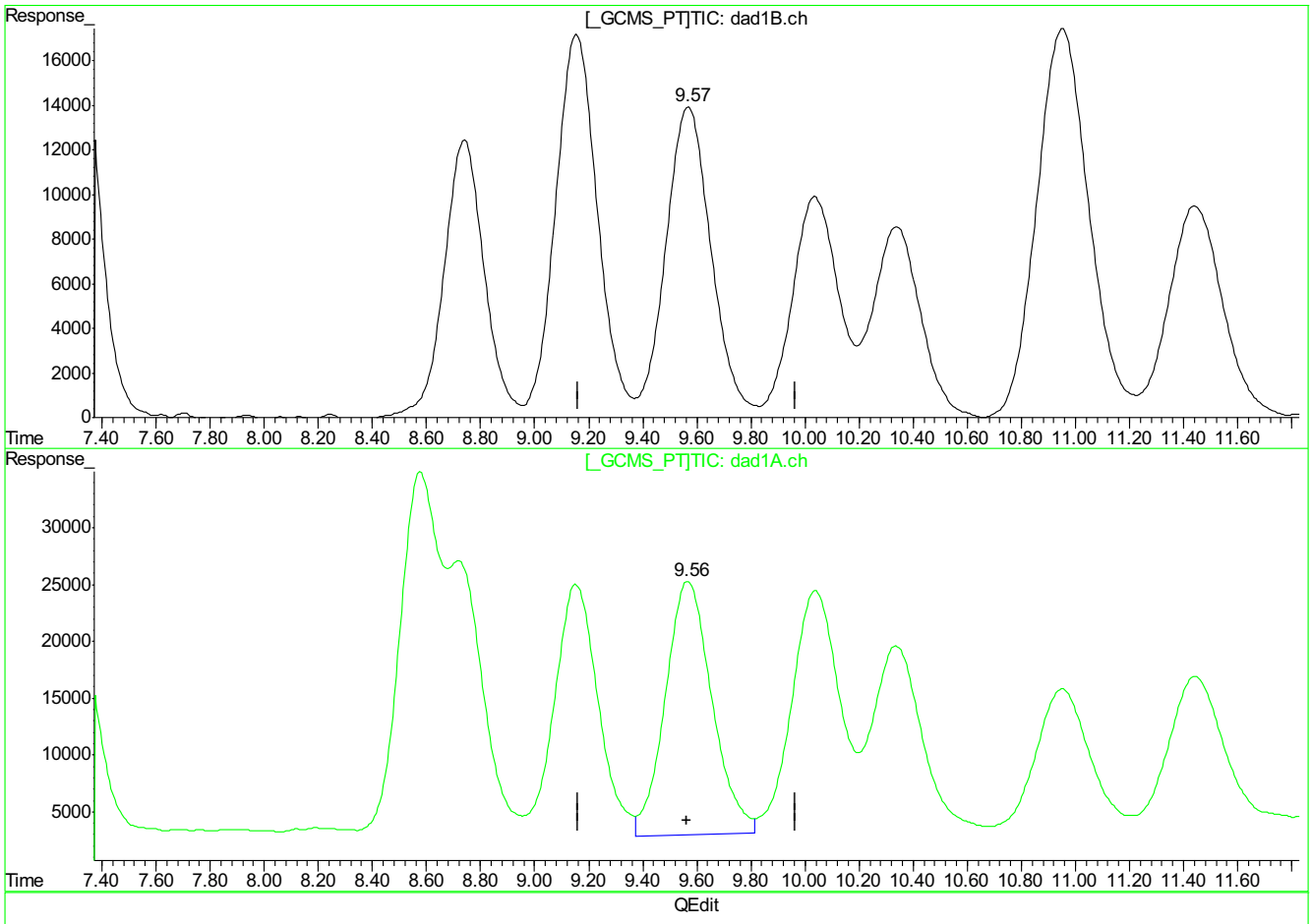
9.5.5.11

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 488.345ppb

response 1656585

(13) 2-Amino-4,6-Dinitrotoluene #2

9.57min 529.269ppb

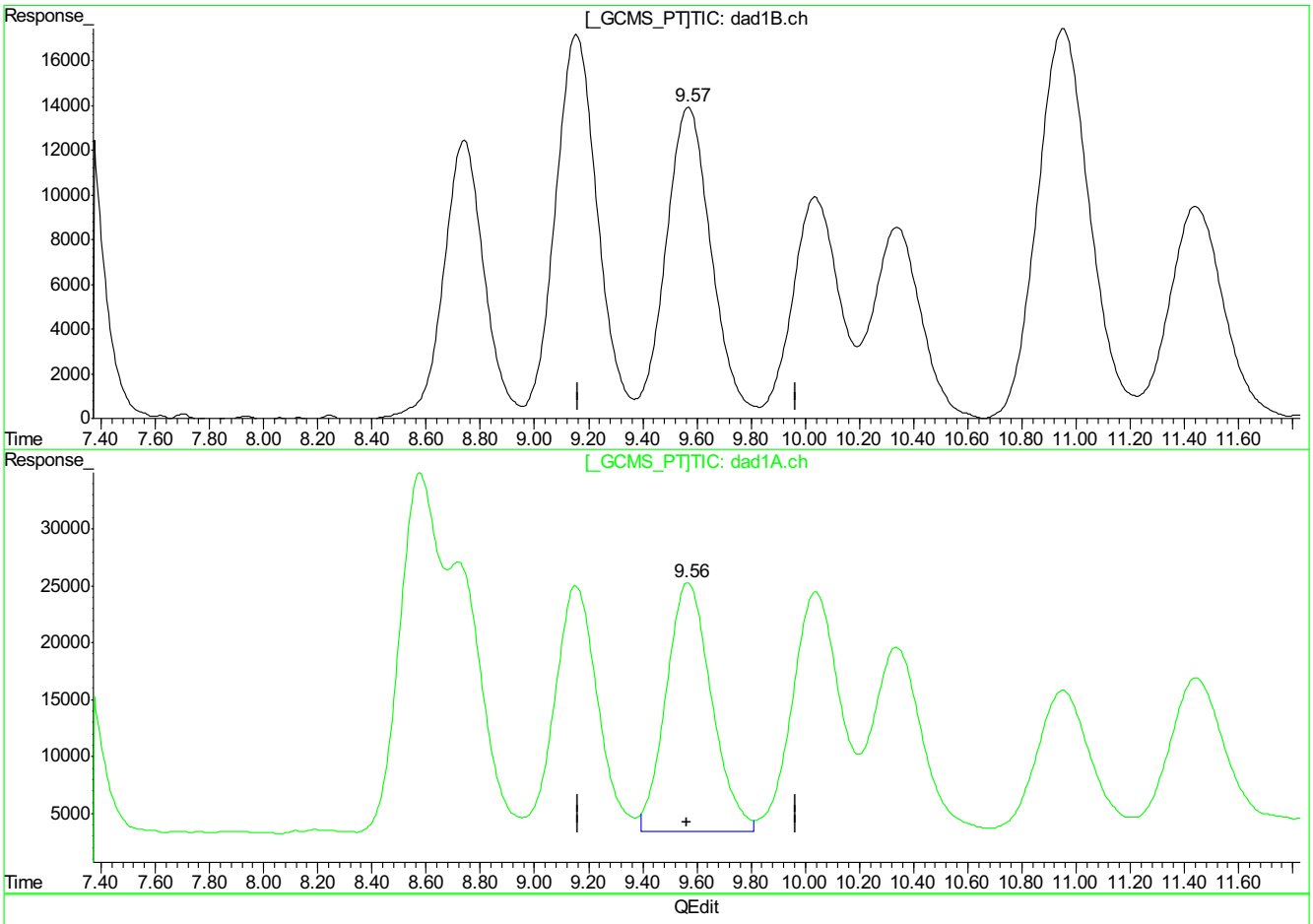
response 2666972

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 488.345ppb

response 1656585

(13) 2-Amino-4,6-Dinitrotoluene #2

9.56min 501.439ppb m

response 2529655

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:48 2017

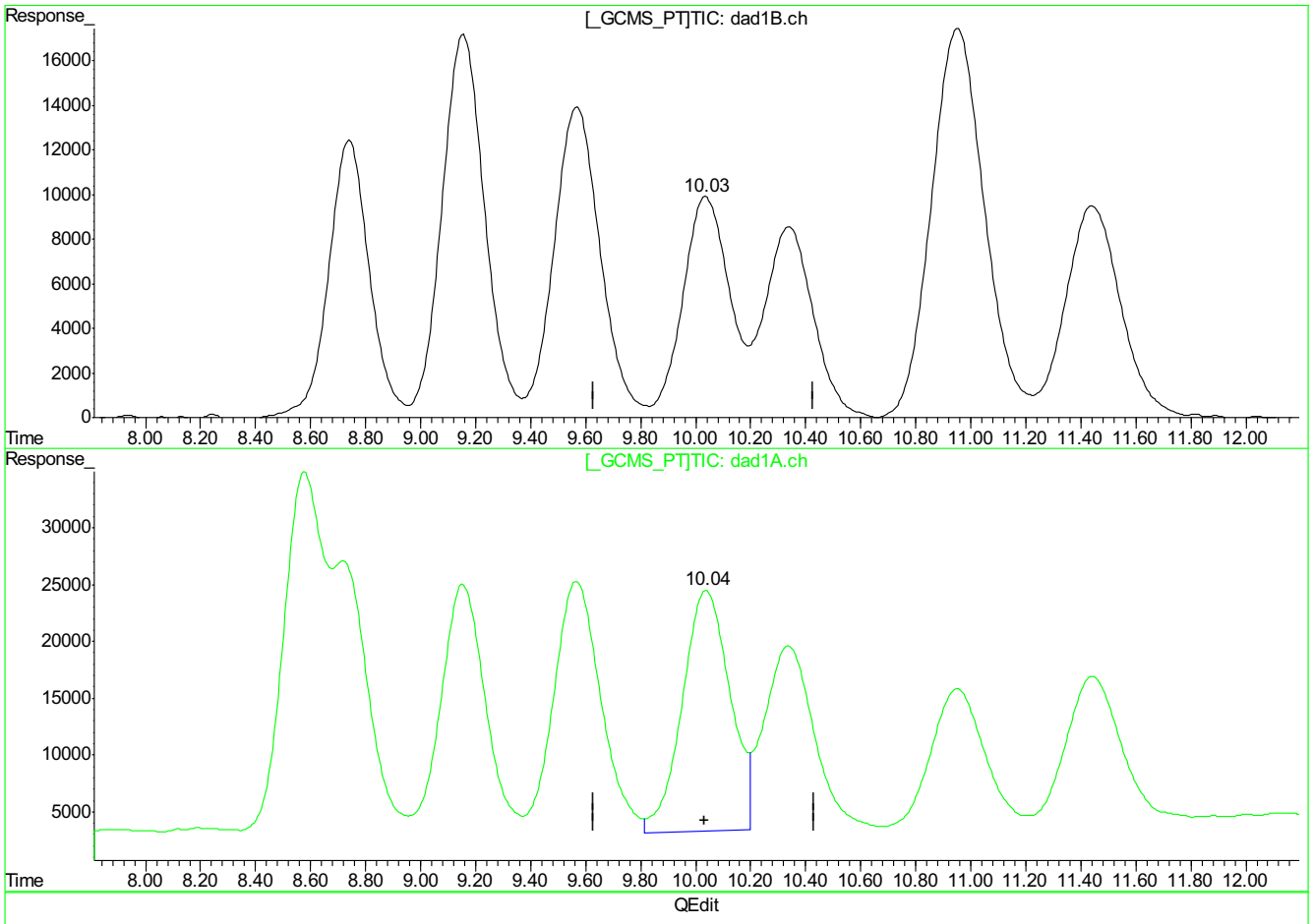
9.5.5.13

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 455.085ppb

response 1189910

(14) 4-Amino-2,6-Dinitrotoluene #2

10.04min 483.609ppb

response 2566343

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:51 2017

9.5.5.14

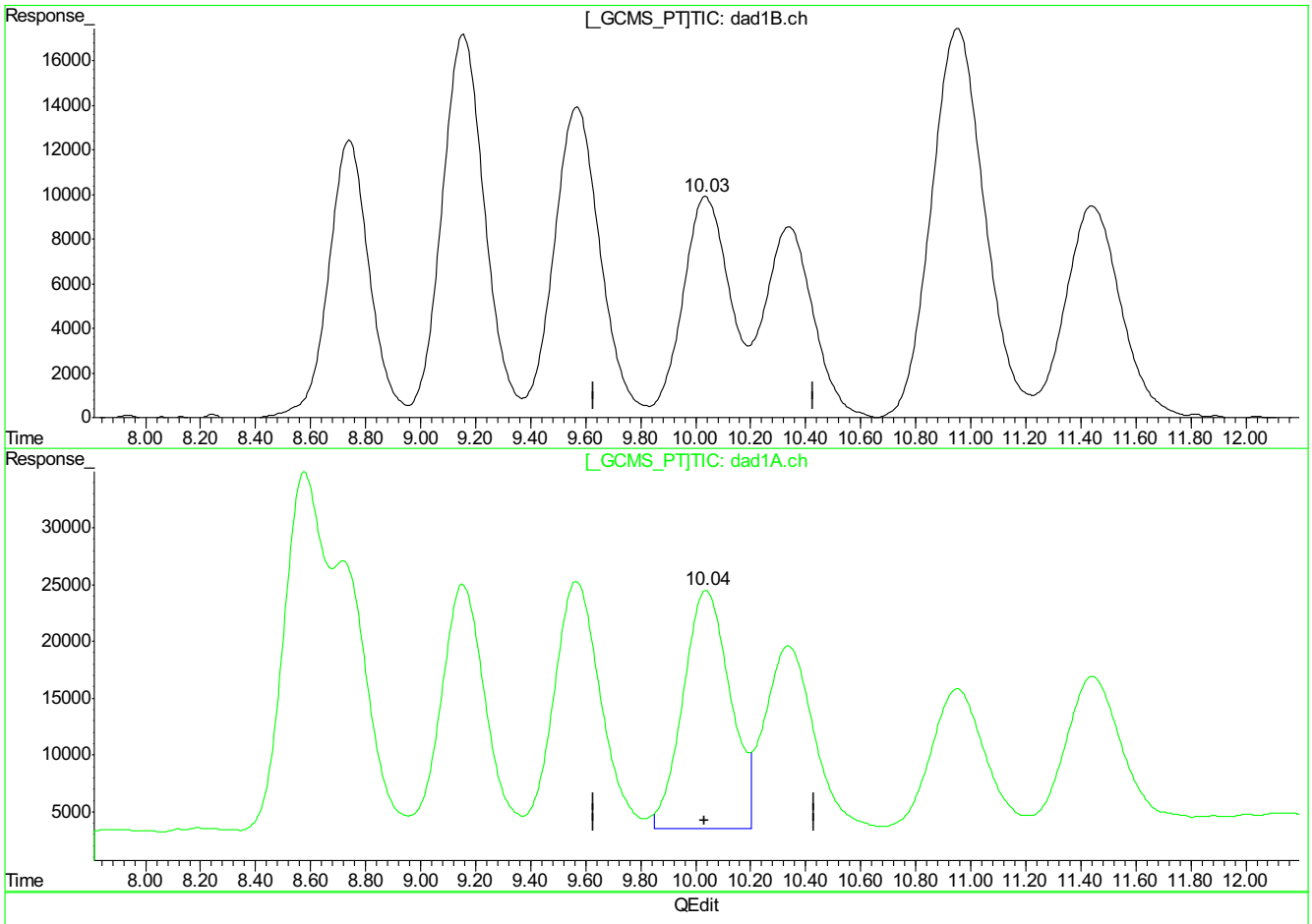
9

BB054265.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 455.085ppb

response 1189910

(14) 4-Amino-2,6-Dinitrotoluene #2

10.04min 465.704ppb m

response 2471328

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:00 2017

9.5.5.15

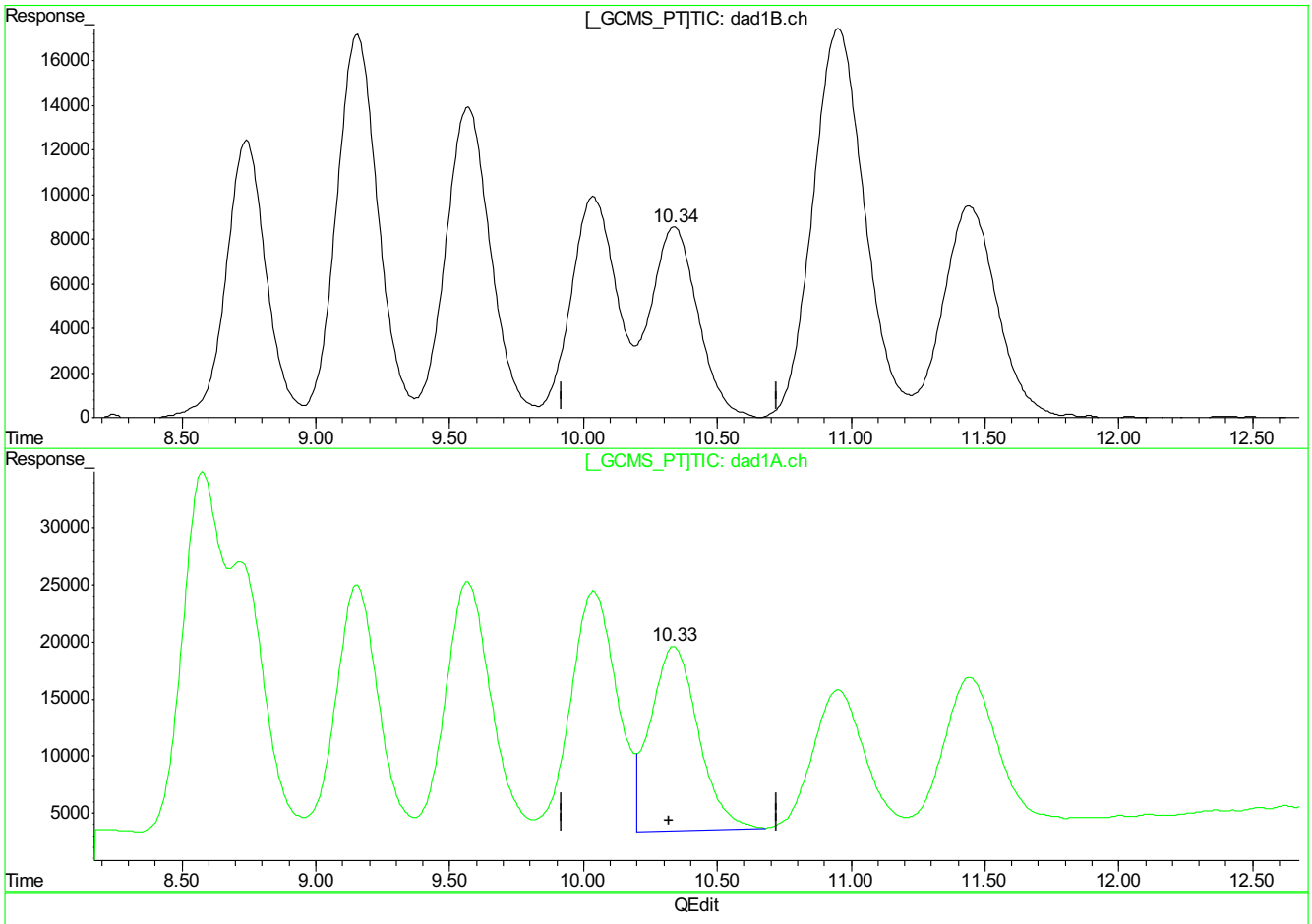
9

BB054265.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.34min 466.769ppb

response 1084794

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 457.841ppb

response 2008496

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:23 2017

9.5.5.16

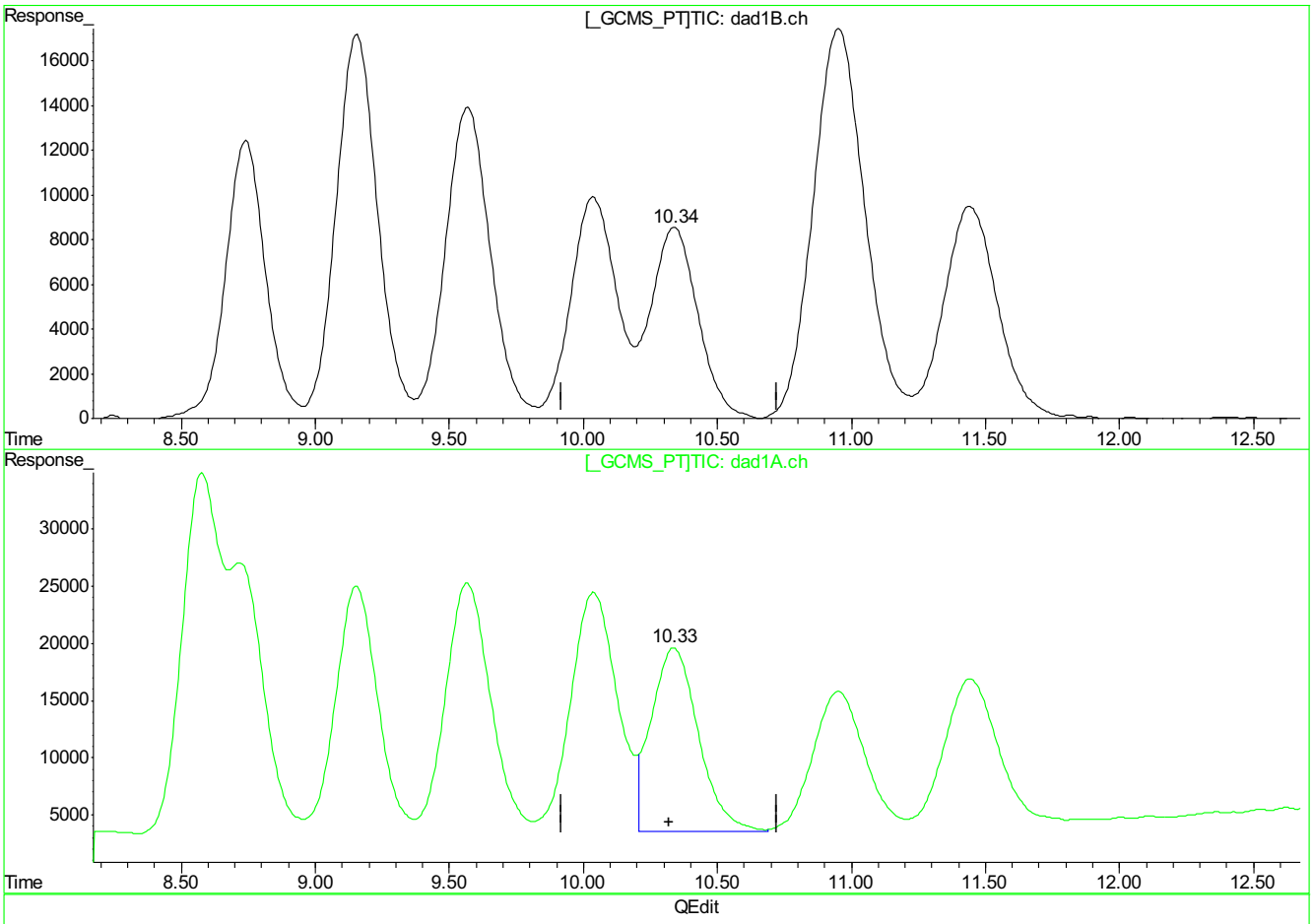
9

BB054265.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.34min 466.769ppb

response 1084794

(15) 3,4-Dinitrotoluene #2 (S)

10.33min 447.398ppb m

response 1962687

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:41 2017

9.5.5.17

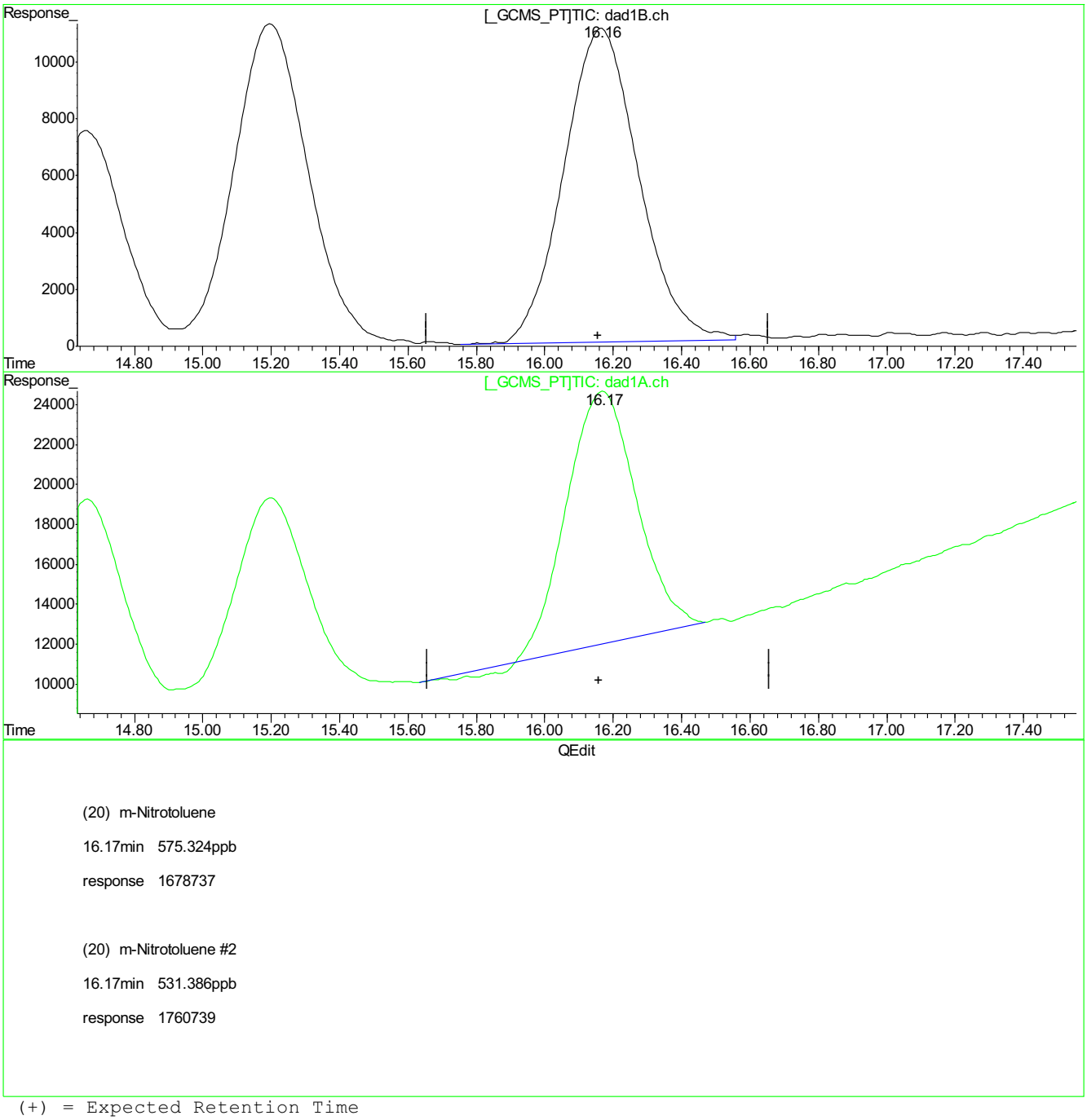
9

BB054265.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 575.324ppb

response 1678737

(20) m-Nitrotoluene #2

16.17min 531.386ppb

response 1760739

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:45 2017

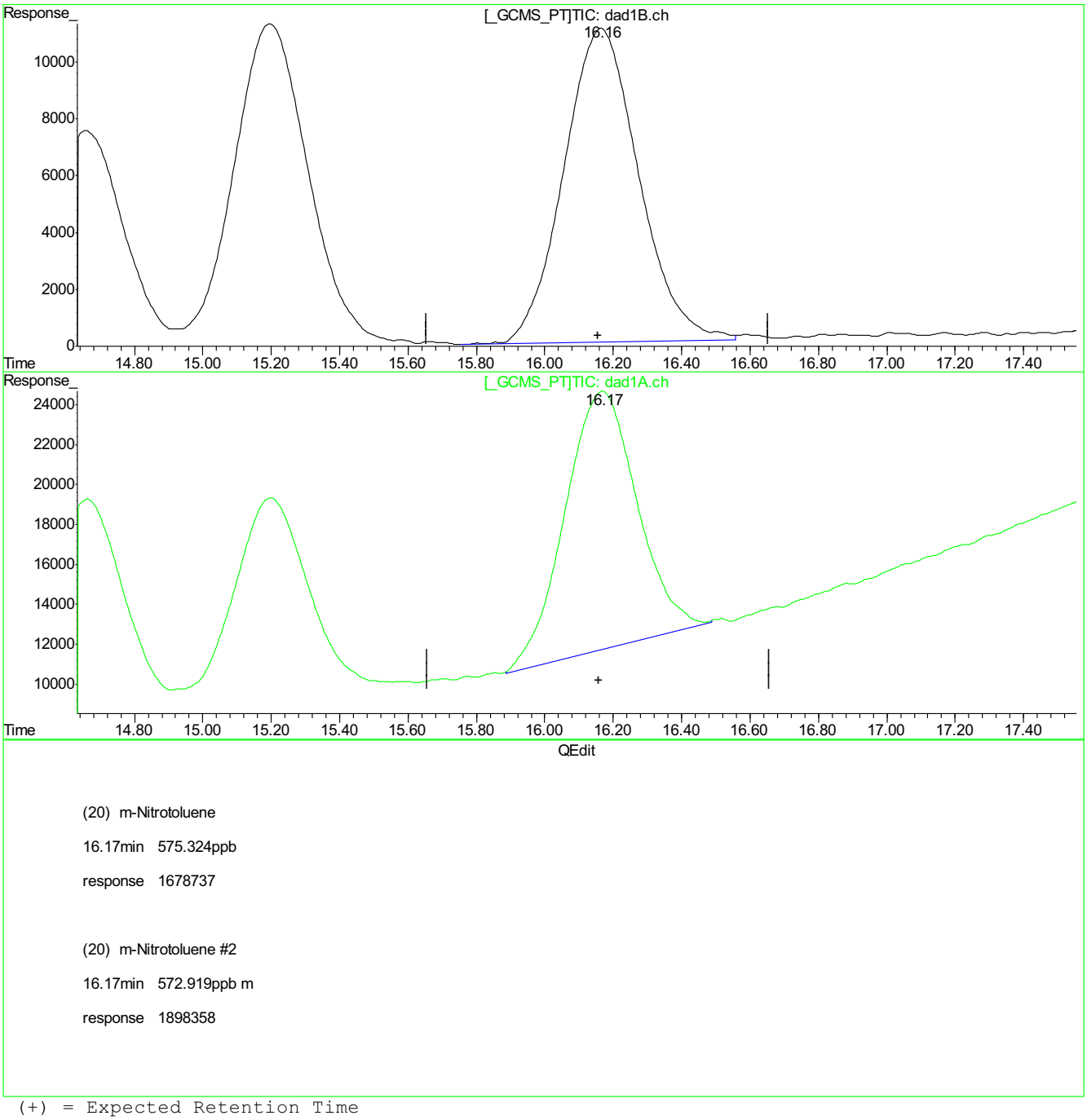
9.5.5.18

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 575.324ppb

response 1678737

(20) m-Nitrotoluene #2

16.17min 572.919ppb m

response 1898358

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:50 2017

9.5.5.19

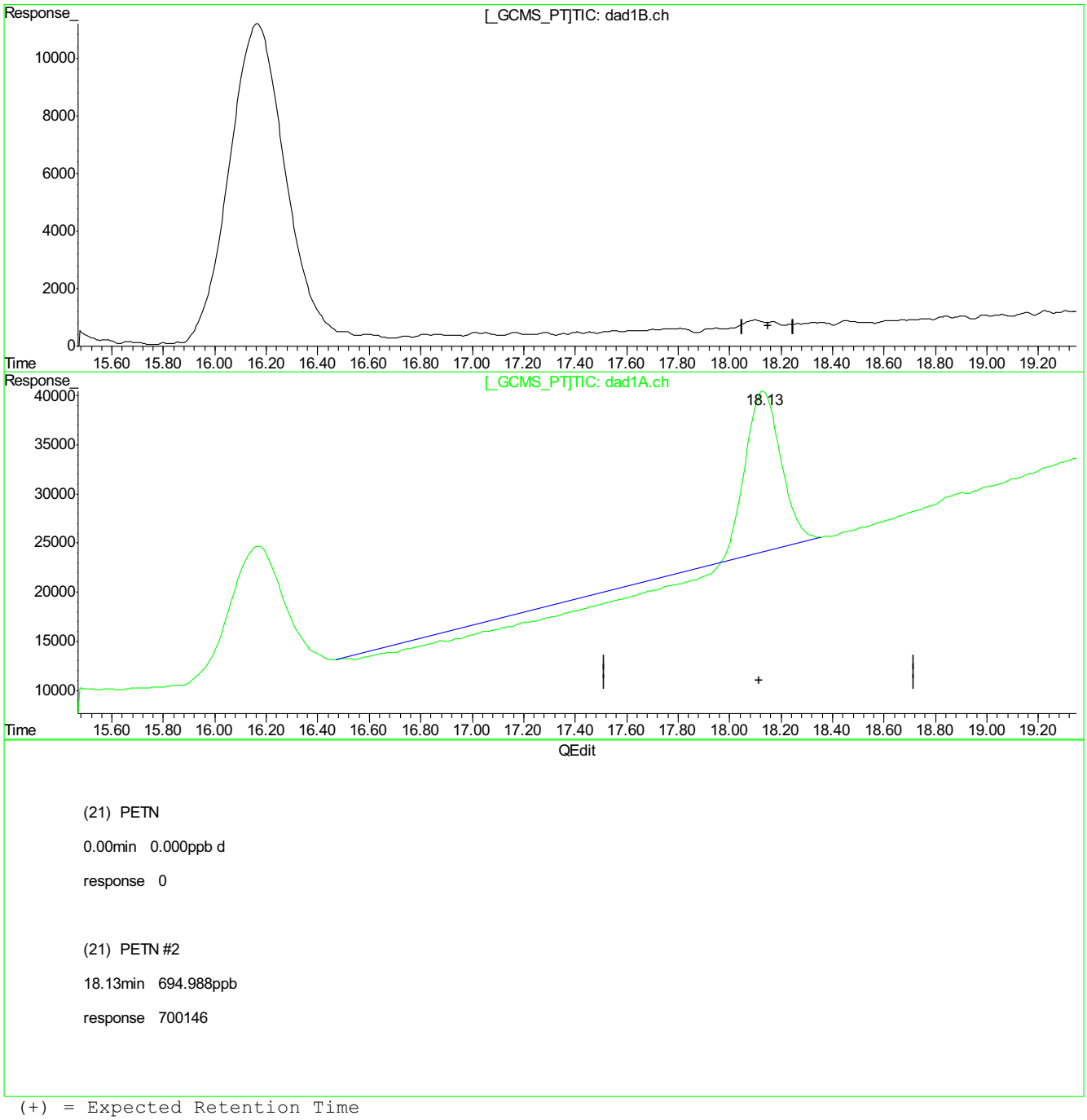
9

BB054265.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.13min 694.988ppb

response 700146

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:54 2017

9.5.5.20

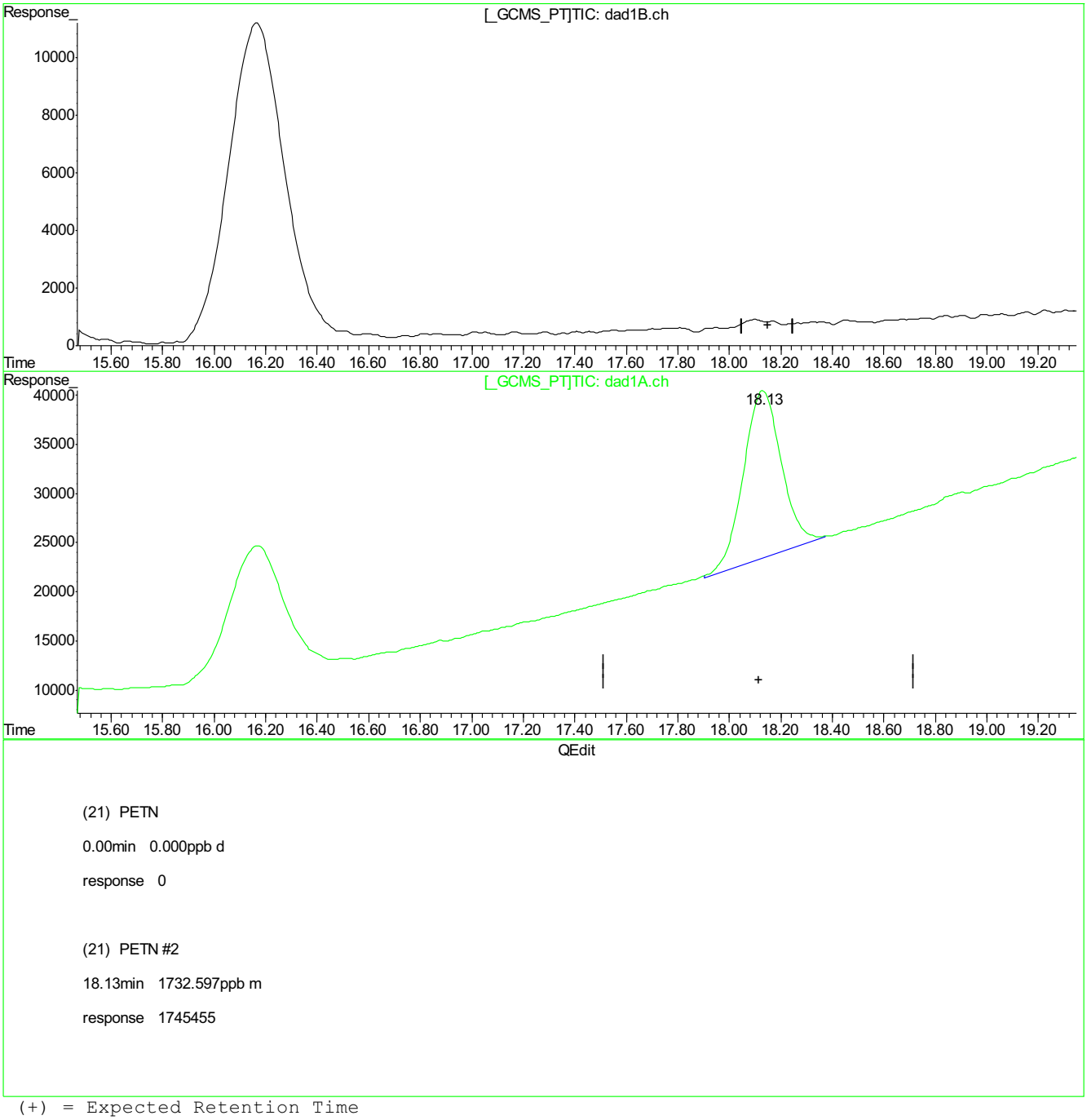
6

BB054265.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.13min 1732.597ppb m

response 1745455

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:57 2017

9.5.5.21

9

BB054265.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10:07 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.32	10.32	2157333	3879430	958.368	885.899
Spiked Amount	500.000	Range	69 - 134	Recovery	=	191.67%#	177.18%#
	Target Compounds						
1)	TNX	1.36	1.36	3160346	4872964	1054.423	1003.937
2)	HMX	1.47	1.47	1637132	4497971	991.934	986.170
3)	DNX	1.73	1.73	2823981	4542971	996.985	707.919
4)	MNX	2.28	2.28	2328033	3621119	931.860	937.676
5)	RDX	2.86	2.86	1851610	2979709	799.387	894.659
6)	1,3,5-Trinitrobe	4.48	4.48	3968585	7764317	909.603	950.279
7)	1,3-Dinitrobenze	5.73	5.73	5217339	3609555	939.586	922.050m
8)	3,5-Dinitroanili	6.08	6.08	3716621	6344631	849.728	921.309m
9)	Nitrobenzene	7.32	7.32	3225153	3033559	914.377	943.988m
10)	Nitroglycerin	0.00	8.56	0	6460477	N.D.	5047.824 #
11)	Tetryl	8.73	8.71	2650090	3981548	873.266	847.401
12)	2,4,6-Trinitroto	9.14	9.14	3755869	4633209	896.042	887.083
13)	2-Amino-4,6-Dini	9.55	9.55	3316493	5040139	1001.627	1020.836
14)	4-Amino-2,6-Dini	10.02	10.02	2389958	4943669	915.130	926.010
16)	2,4-Dinitrotolue	10.94	10.94	4757268	3125651	927.109	923.676
17)	2,6-Dinitrotolue	11.43	11.43	2698501	3431513	843.215	972.973
18)	o-Nitrotoluene	14.65	14.65	2277030	3225682	985.013	1113.692
19)	p-Nitrotoluene	15.19	15.19	3487629	3029667	902.750	1039.939
20)	m-Nitrotoluene	16.16	16.16	3370197	3853074	1035.687	1115.941
21)	PETN	0.00	18.12	0	3530992	N.D. d	3892.828m

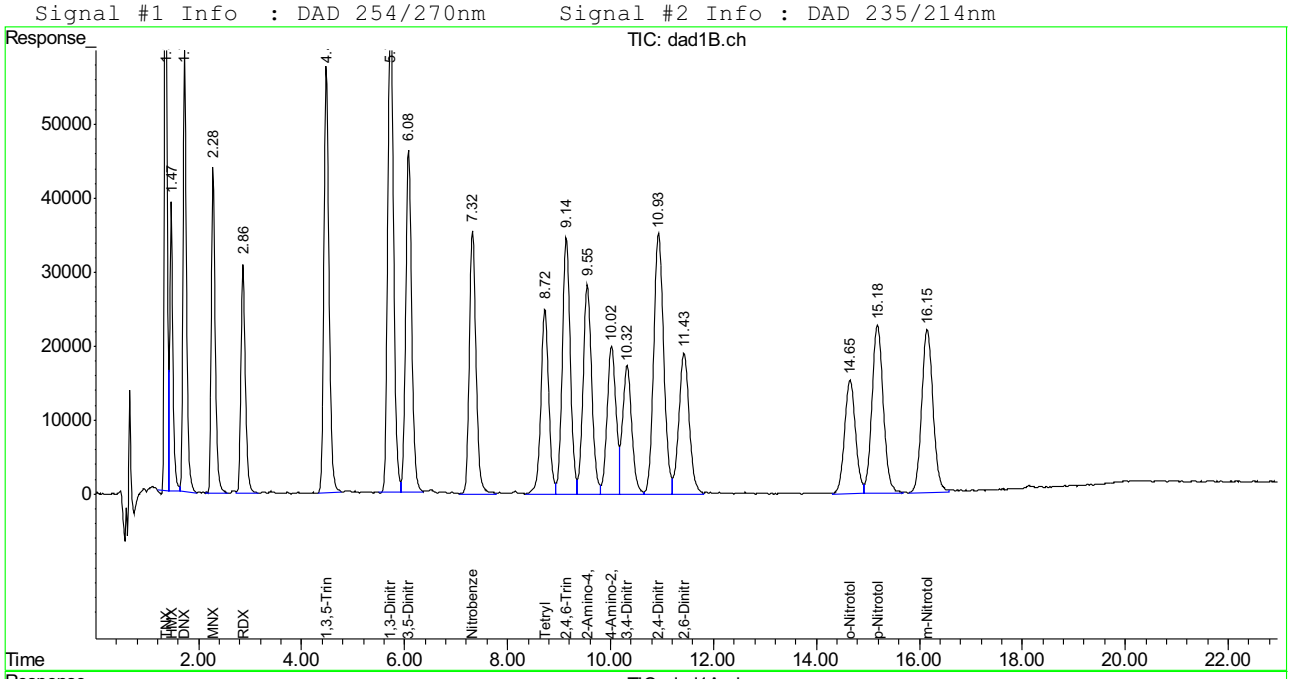
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054266.D 8330B_0419PLUS.M Thu Apr 20 11:04:54 2017 Page 1

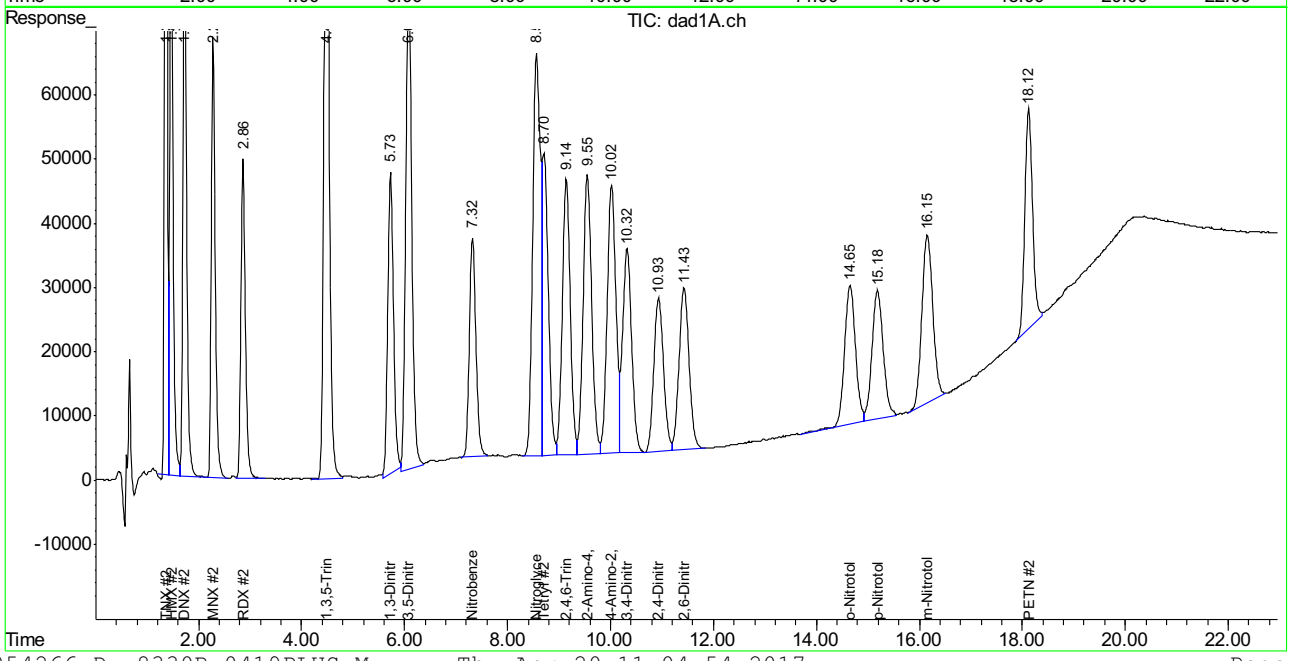
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

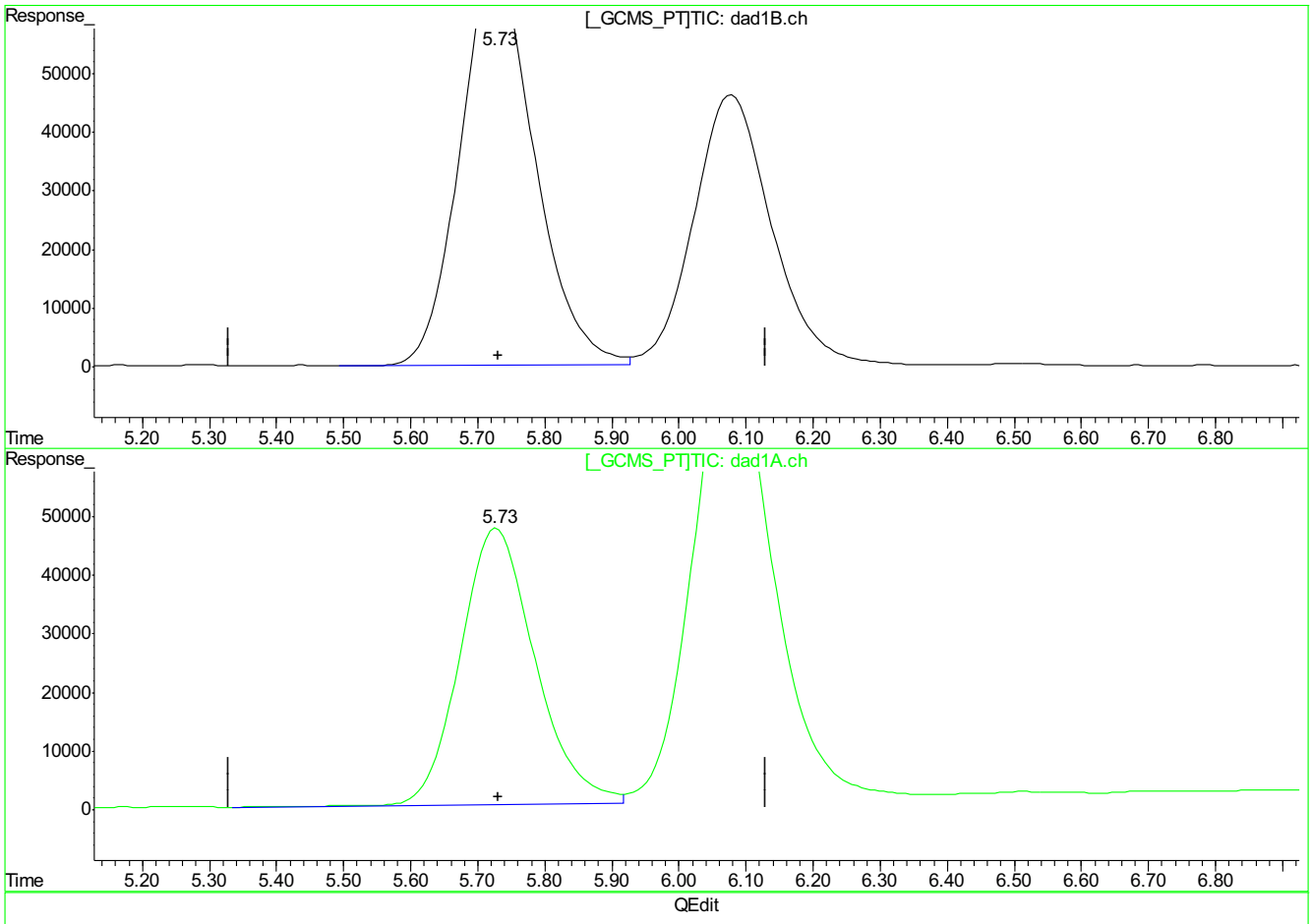
Sample Number: GBB1578-IC1578
Lab FileID: BB054266.D
Injection Time: 04/19/17 12:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.73	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.08	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.32	Poorly defined baseline
PETN	78-11-5	2	18.12	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.73min 939.586ppb

response 5217339

(7) 1,3-Dinitrobenzene #2

5.73min 933.163ppb

response 3653056

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:15 2017

9.5.9.2

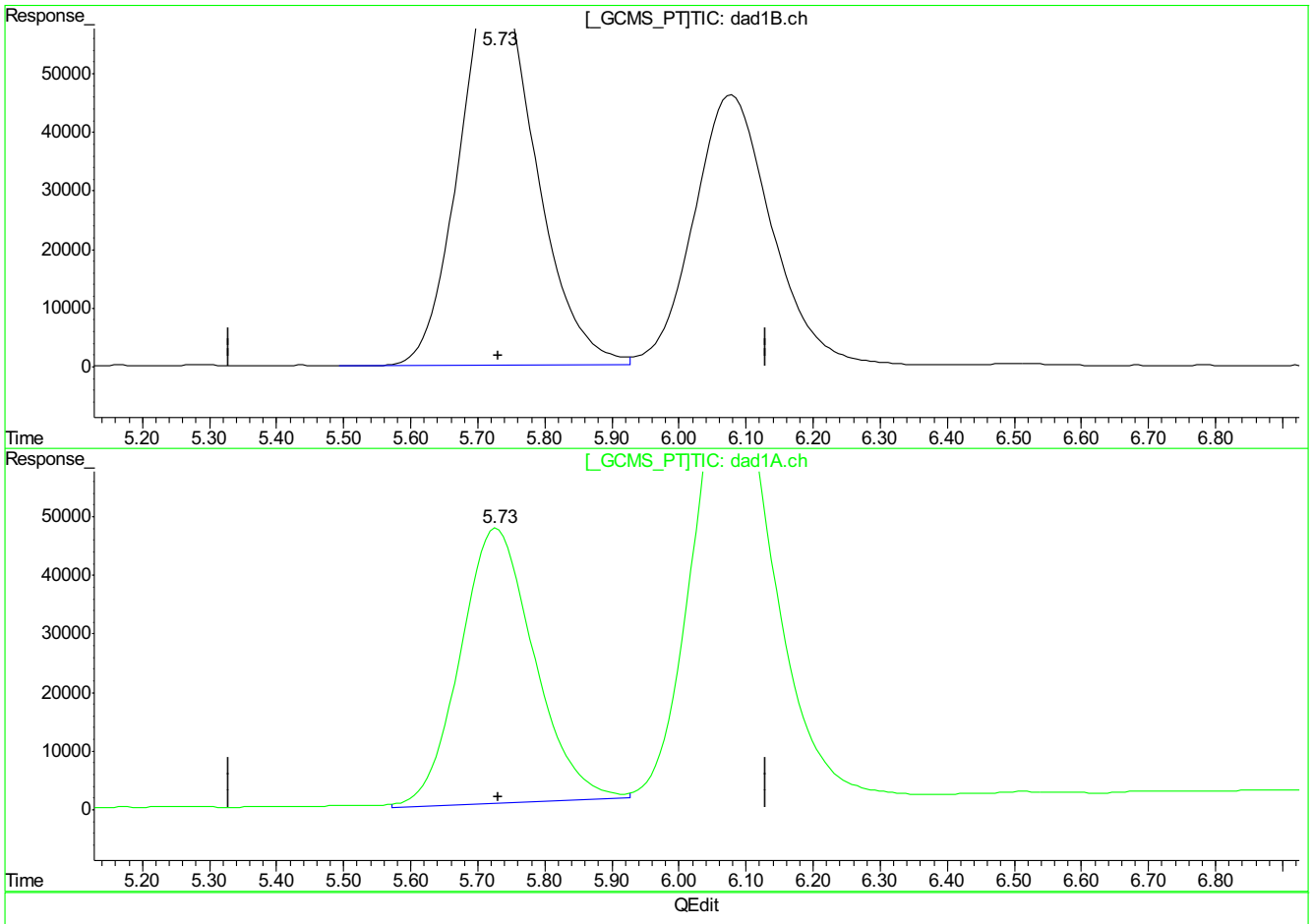
6

BB054266.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.73min 939.586ppb

response 5217339

(7) 1,3-Dinitrobenzene #2

5.73min 922.050ppb m

response 3609555

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:20 2017

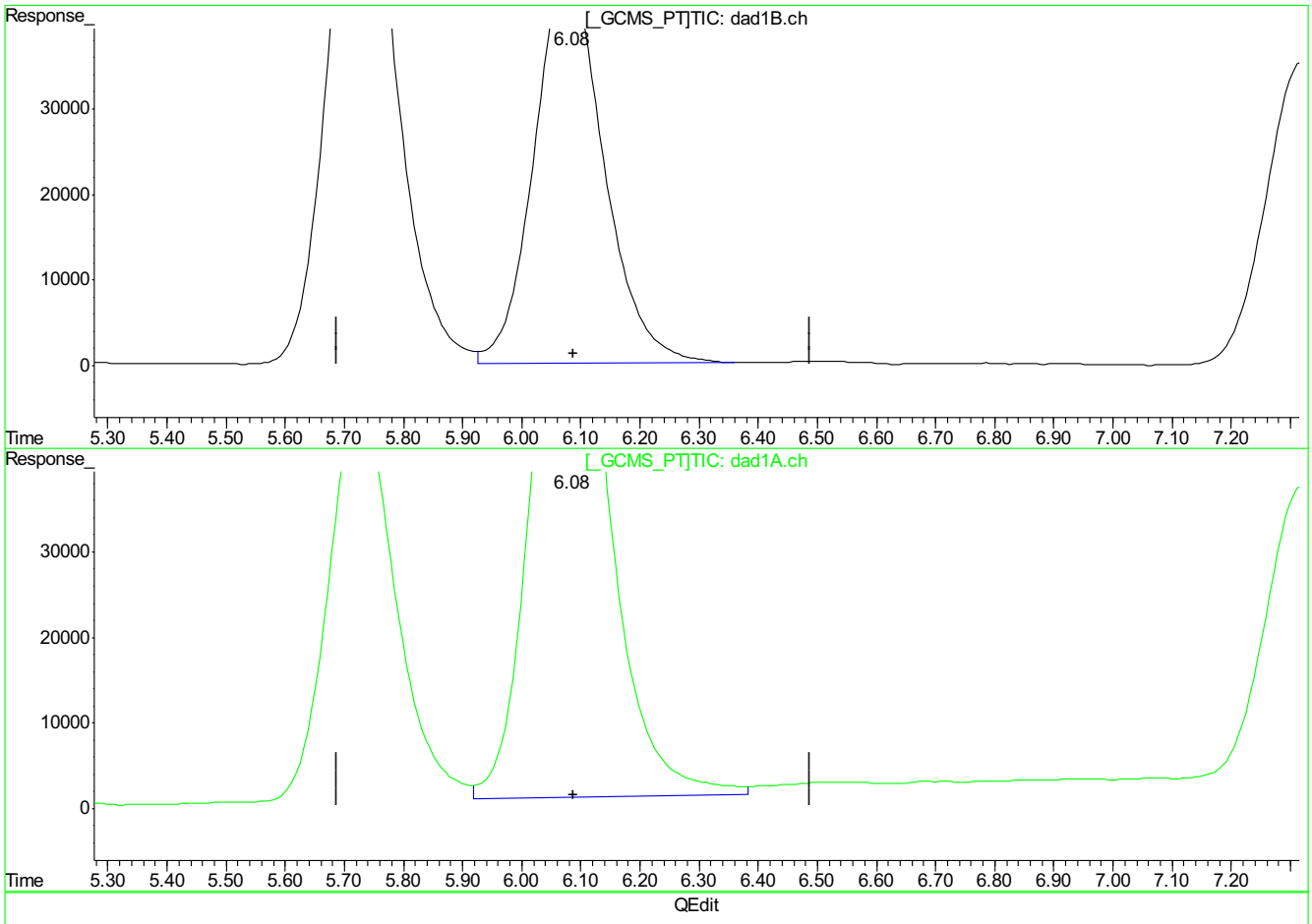
9.5.6.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.08min 849.728ppb

response 3716621

(8) 3,5-Dinitroaniline #2

6.08min 942.220ppb

response 6488634

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:23 2017

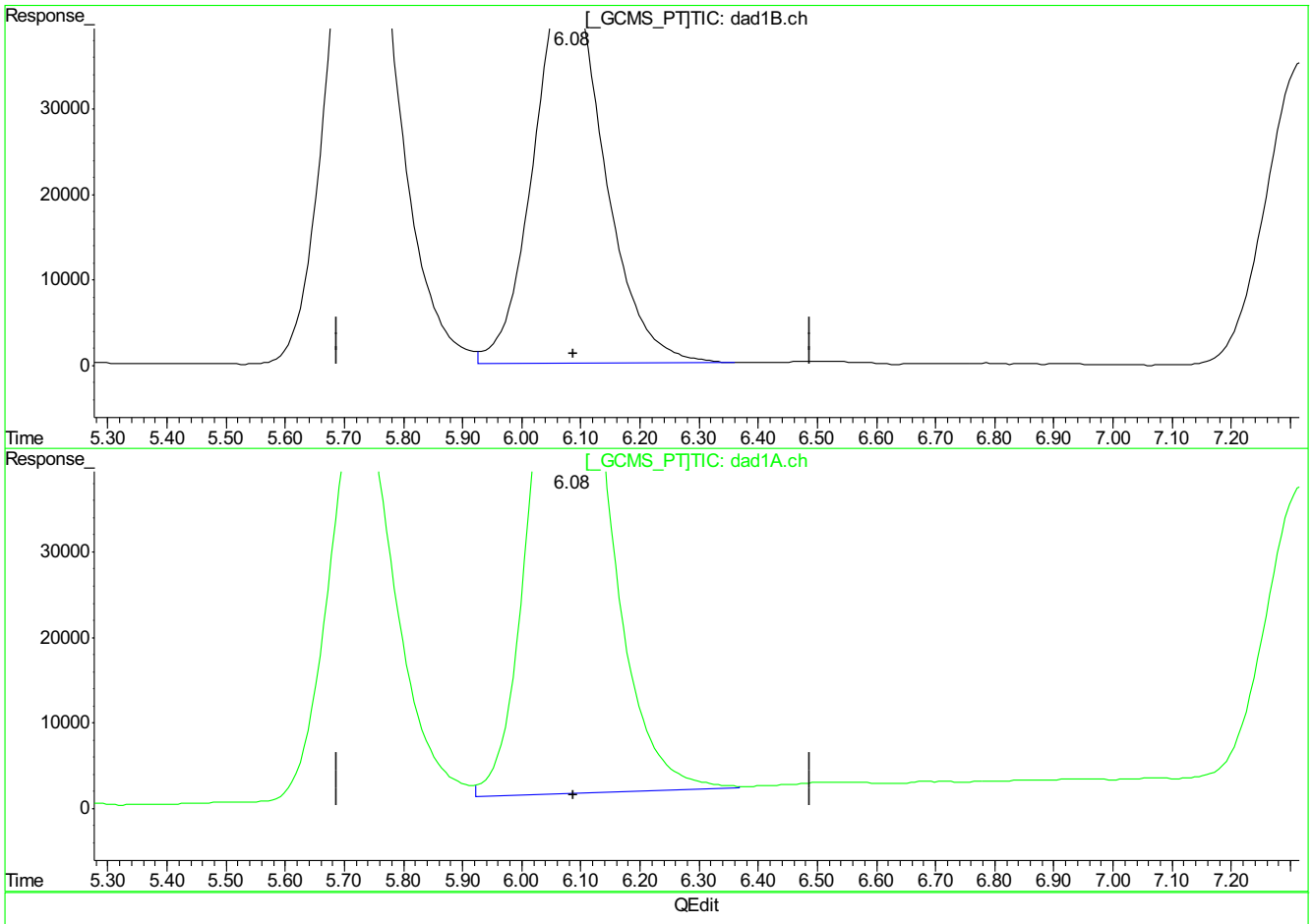
9.5.9.4

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.08min 849.728ppb

response 3716621

(8) 3,5-Dinitroaniline #2

6.08min 921.309ppb m

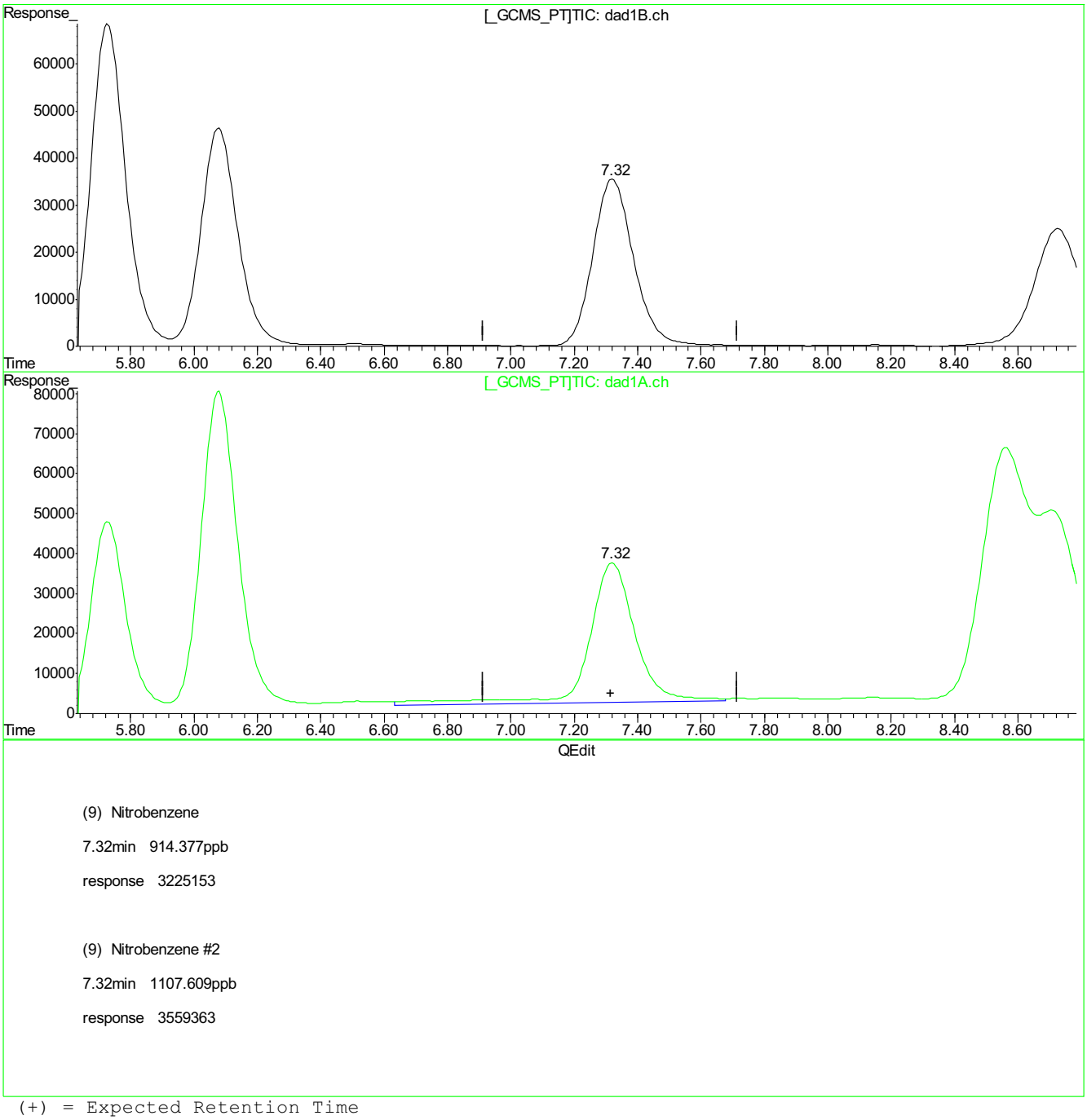
response 6344631

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:28 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 914.377ppb

response 3225153

(9) Nitrobenzene #2

7.32min 1107.609ppb

response 3559363

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:31 2017

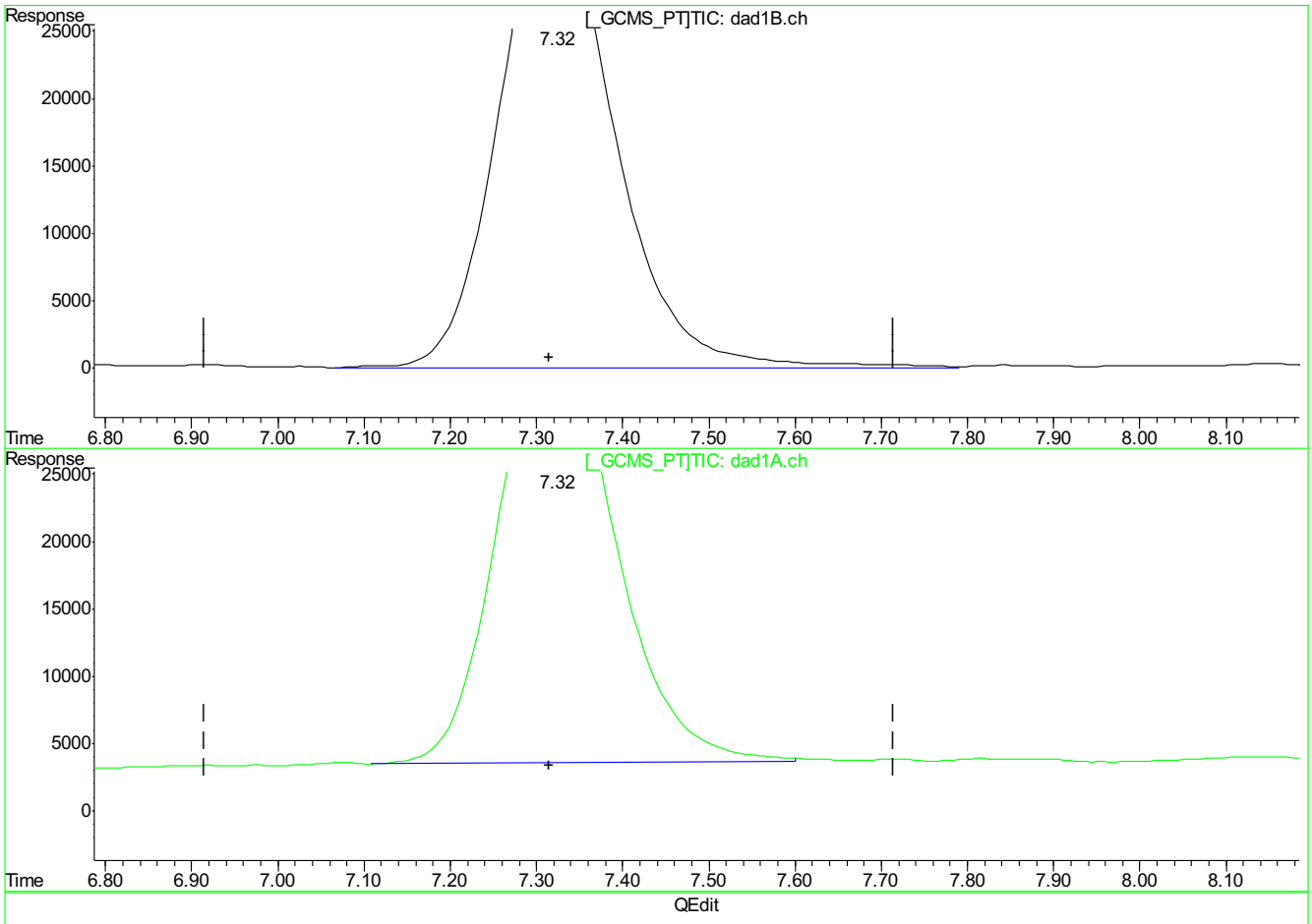
6.5.6.6

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 914.377ppb

response 3225153

(9) Nitrobenzene #2

7.32min 943.988ppb m

response 3033559

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:34 2017

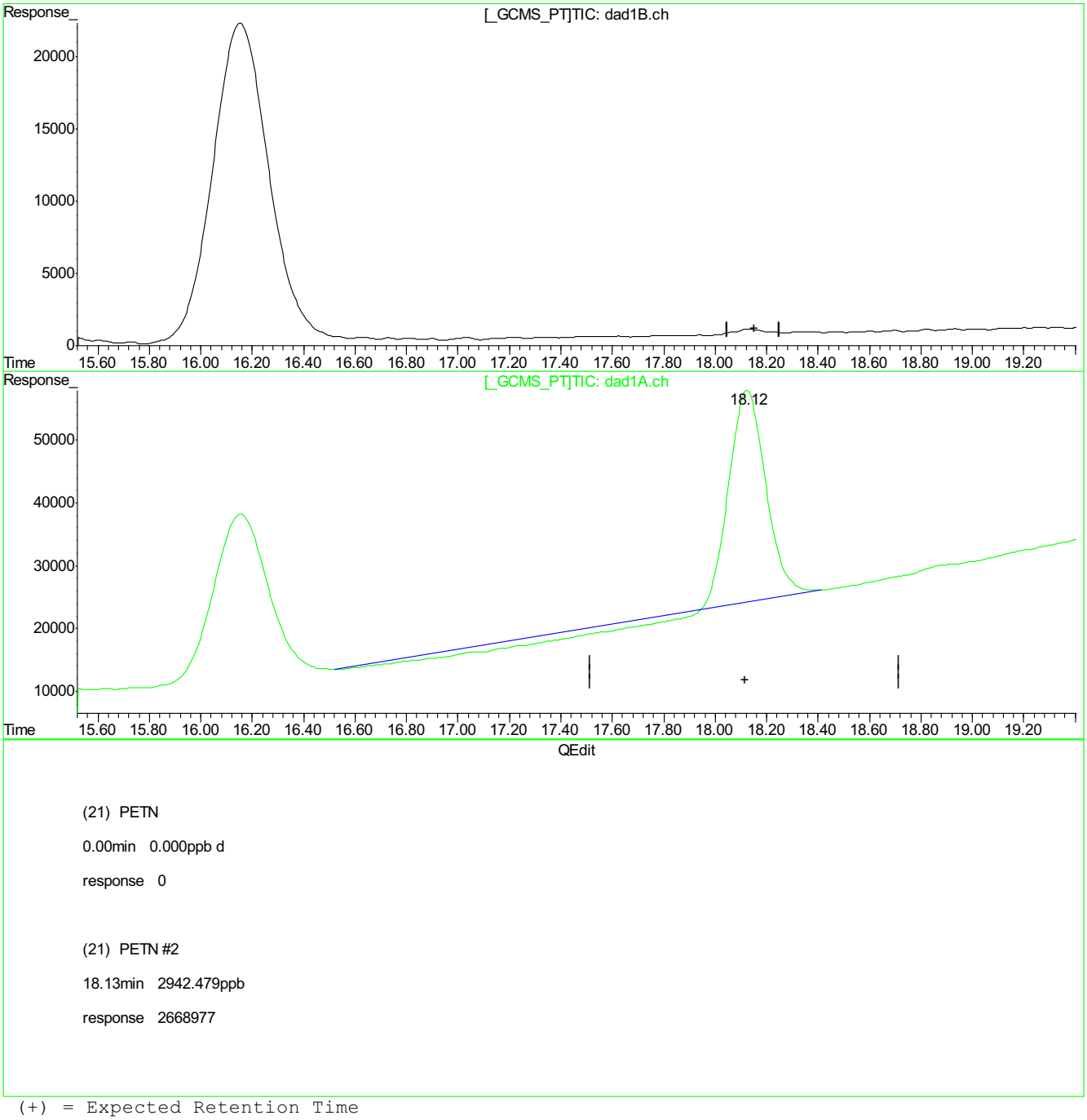
9.5.6.7

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.13min 2942.479ppb

response 2668977

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:42 2017

9.5.8

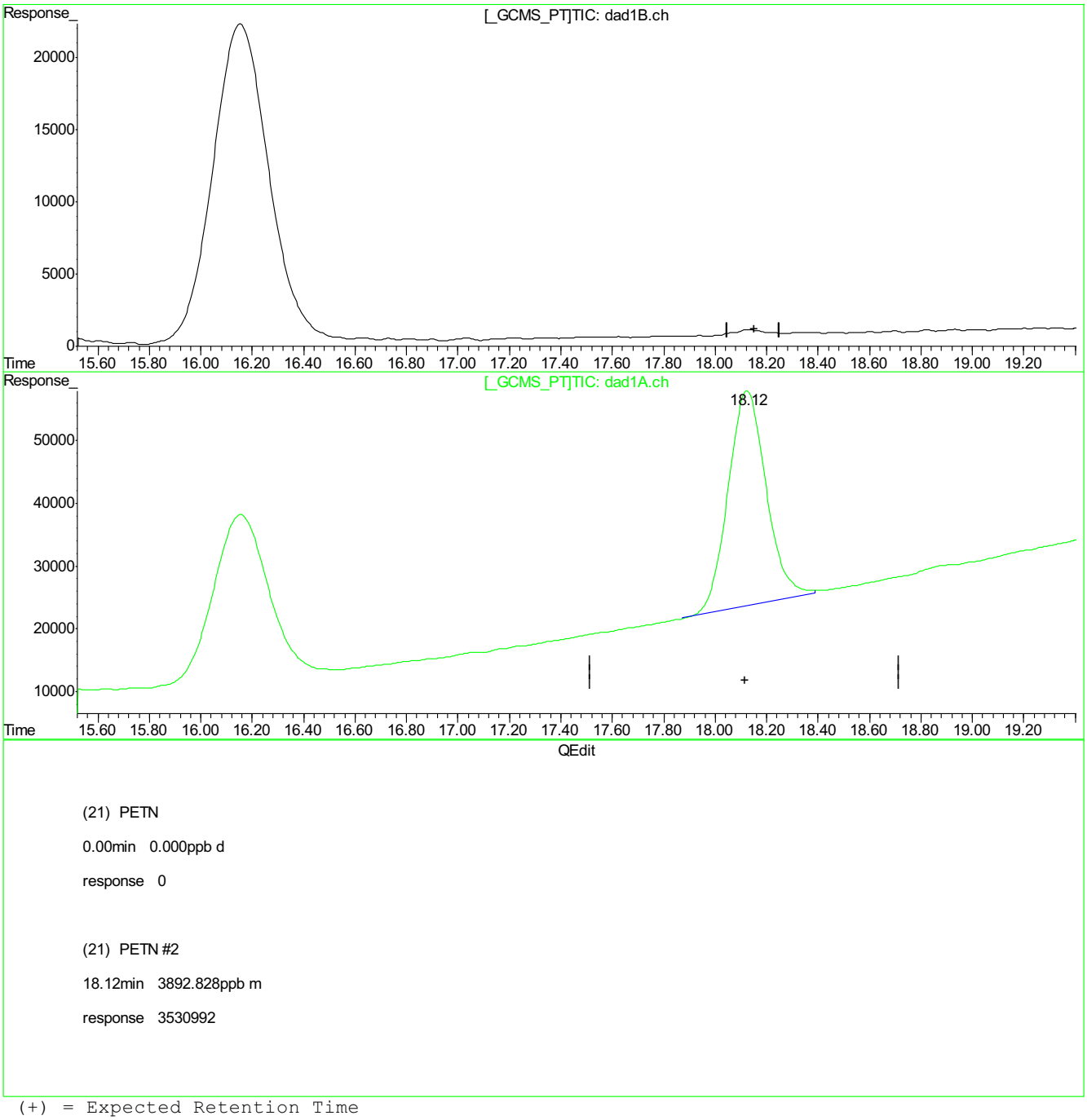
6

BB054266.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:45 2017

9.5.6.9

6

BB054266.D edits: PETN

BB054267.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10:57 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.30	10.29	4325266	7840609	2126.089	1795.757m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		425.22%#	359.15%#
	Target Compounds						
1)	TNX	1.36	1.36	6457308	9912235	2167.868	2054.123
2)	HMX	1.47	1.47	3306574	9077699	2095.561	2095.174
3)	DNX	1.73	1.73	5733405	9224532	2232.340	1437.456
4)	MNX	2.28	2.28	4721166	7345081	1888.203	1897.630
5)	RDX	2.85	2.85	3730274	5998197	1609.730	1799.015
6)	1,3,5-Trinitrobe	4.47	4.47	8098745	15764941	1855.429	1929.571
7)	1,3-Dinitrobenze	5.72	5.71	10628527	7281295	1921.498	1868.351m
8)	3,5-Dinitroanili	6.07	6.06	7579594	12865817	1774.526	1914.174m
9)	Nitrobenzene	7.31	7.31	6381290	6076976	1798.079	1884.425m
10)	Nitroglycerin	0.00	8.53	0	13136087	N.D.	10147.390m#
11)	Tetryl	8.70	8.68	5348765	8134840	1787.833	1784.878m
12)	2,4,6-Trinitroto	9.12	9.12	7609941	9448198	1815.094	1804.351m
13)	2-Amino-4,6-Dini	9.52	9.52	6721912	10454051	2107.216	2168.704m
14)	4-Amino-2,6-Dini	9.99	9.99	4882495	10306263	1866.951	1920.760m
16)	2,4-Dinitrotolue	10.91	10.91	9695296	6609470	1895.169	1957.333
17)	2,6-Dinitrotolue	11.40	11.40	5444384	7122447	1708.556	2033.064
18)	o-Nitrotoluene	14.63	14.63	4514616	6340648	1938.351	1985.565
19)	p-Nitrotoluene	15.16	15.16	6932134	6063959	1785.731	2049.768
20)	m-Nitrotoluene	16.13	16.13	6723461	7781743	2072.615	2255.457
21)	PETN	0.00	18.10	0	6991561	N.D. d	8686.571m

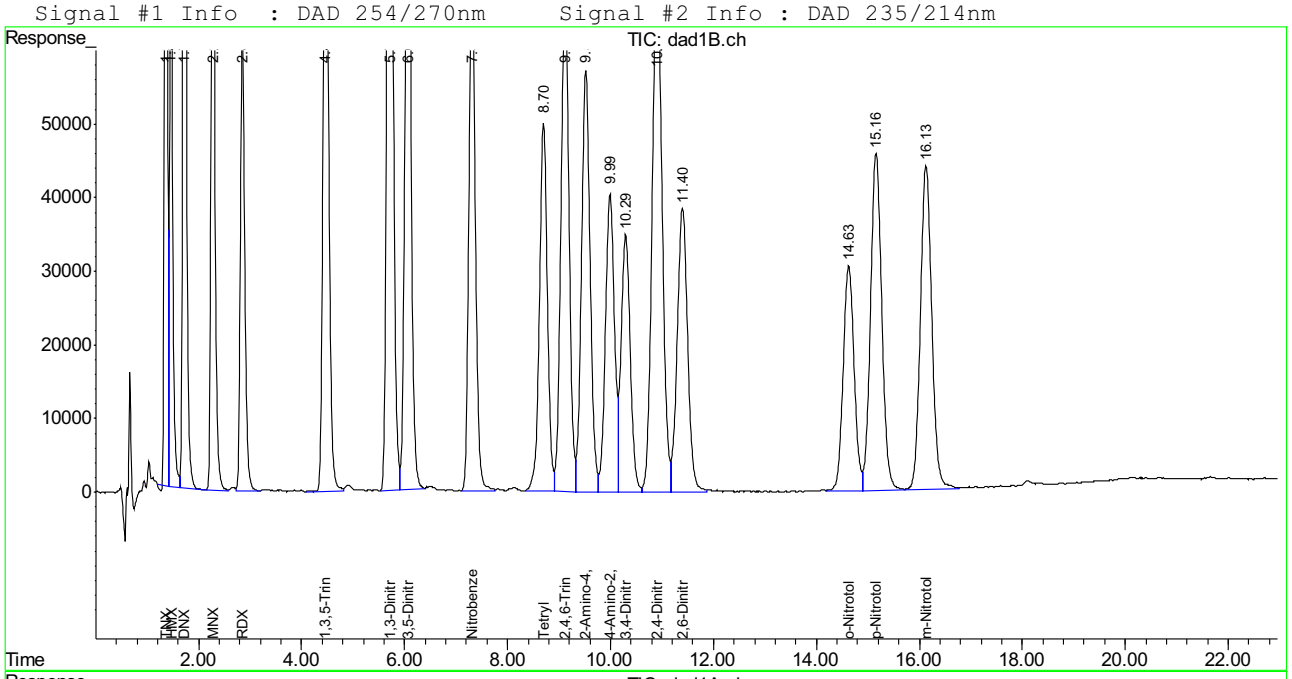
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054267.D 8330B_0419PLUS.M Thu Apr 20 11:48:56 2017 Page 1

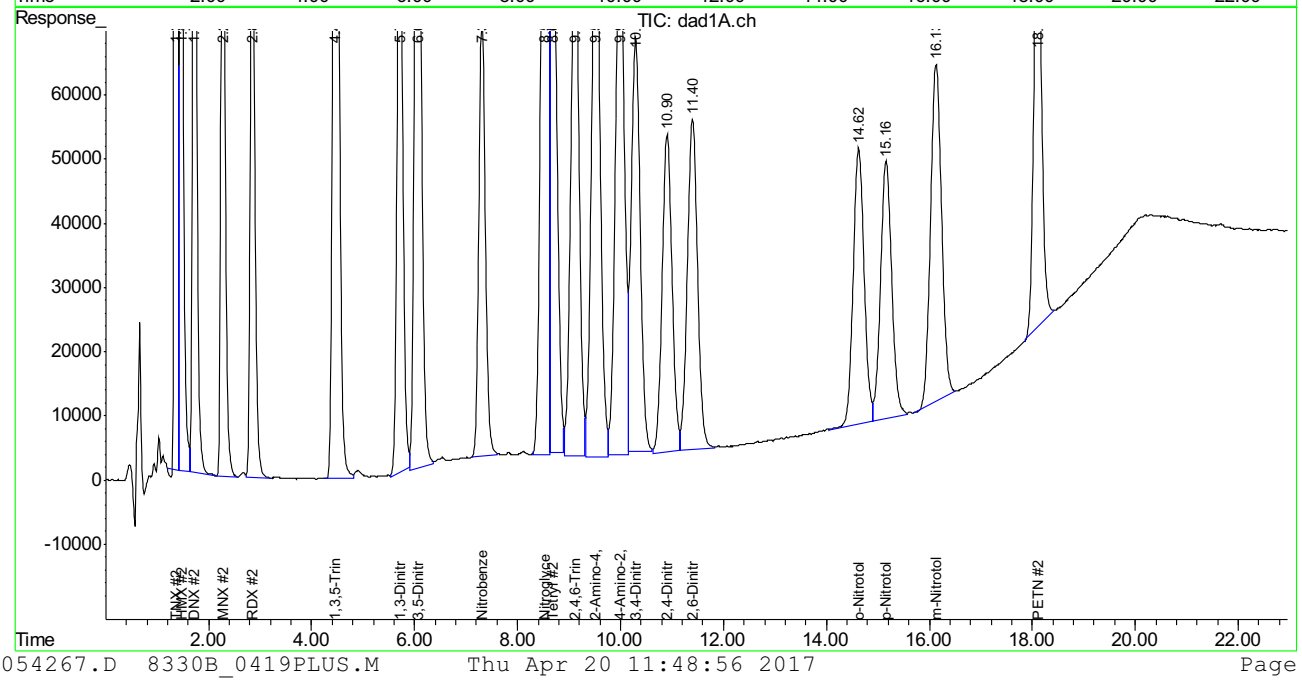
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 11:48 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

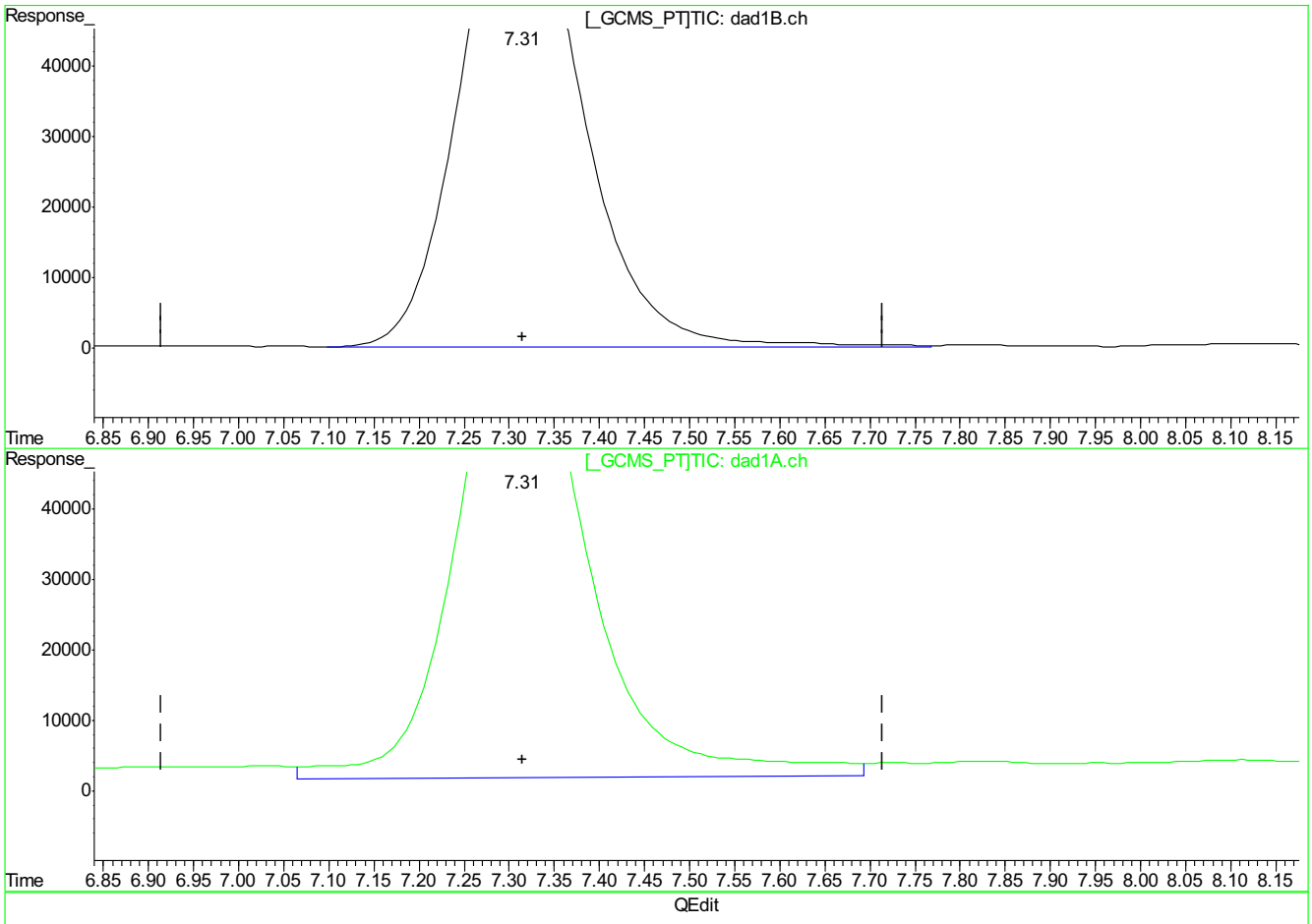
Sample Number: GBB1578-IC1578
Lab FileID: BB054267.D
Injection Time: 04/19/17 13:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.71	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.06	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.31	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.53	Poorly defined baseline
Tetryl	479-45-8	2	8.68	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.12	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.52	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	9.99	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.29	Poorly defined baseline
PETN	78-11-5	2	18.10	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 1798.079ppb

response 6381290

(9) Nitrobenzene #2

7.31min 2095.143ppb

response 6756508

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:07 2017

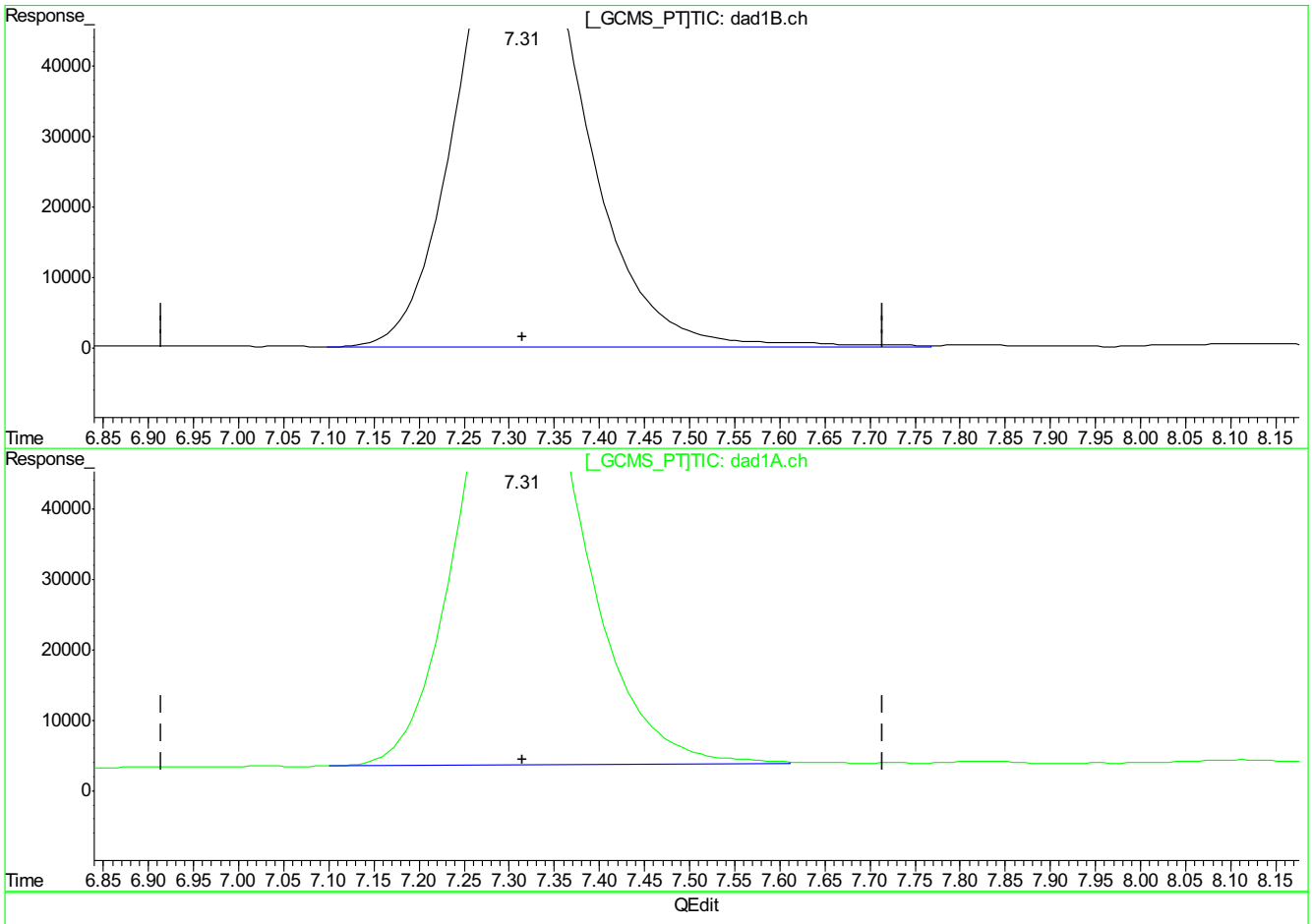
9.5.7.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 1798.079ppb

response 6381290

(9) Nitrobenzene #2

7.31min 1884.425ppb m

response 6076976

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:10 2017

9.5.7.3

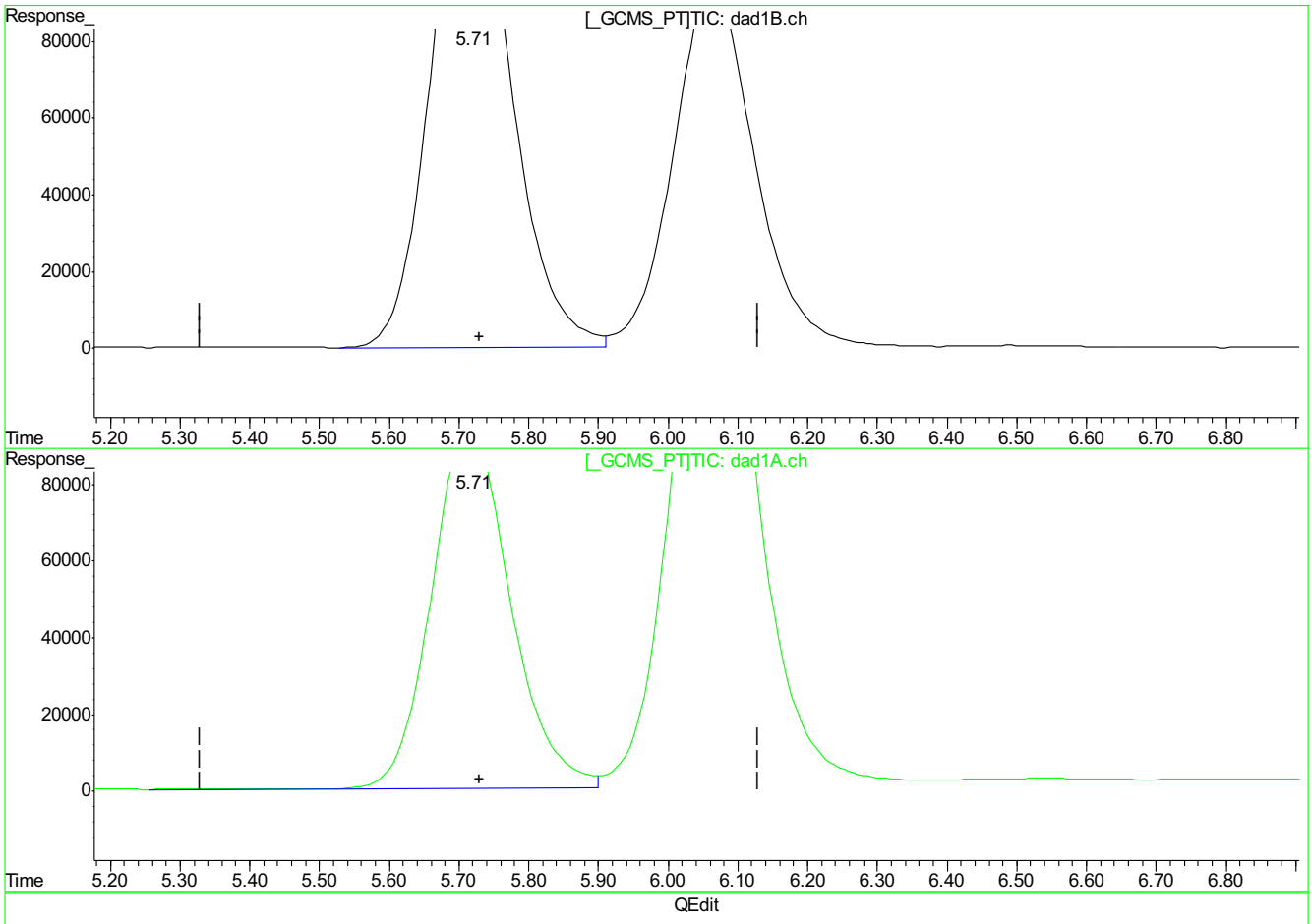
9

BB054267.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 1921.498ppb

response 10628527

(7) 1,3-Dinitrobenzene #2

5.72min 1895.742ppb

response 7388044

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:16 2017

9.5.7.4

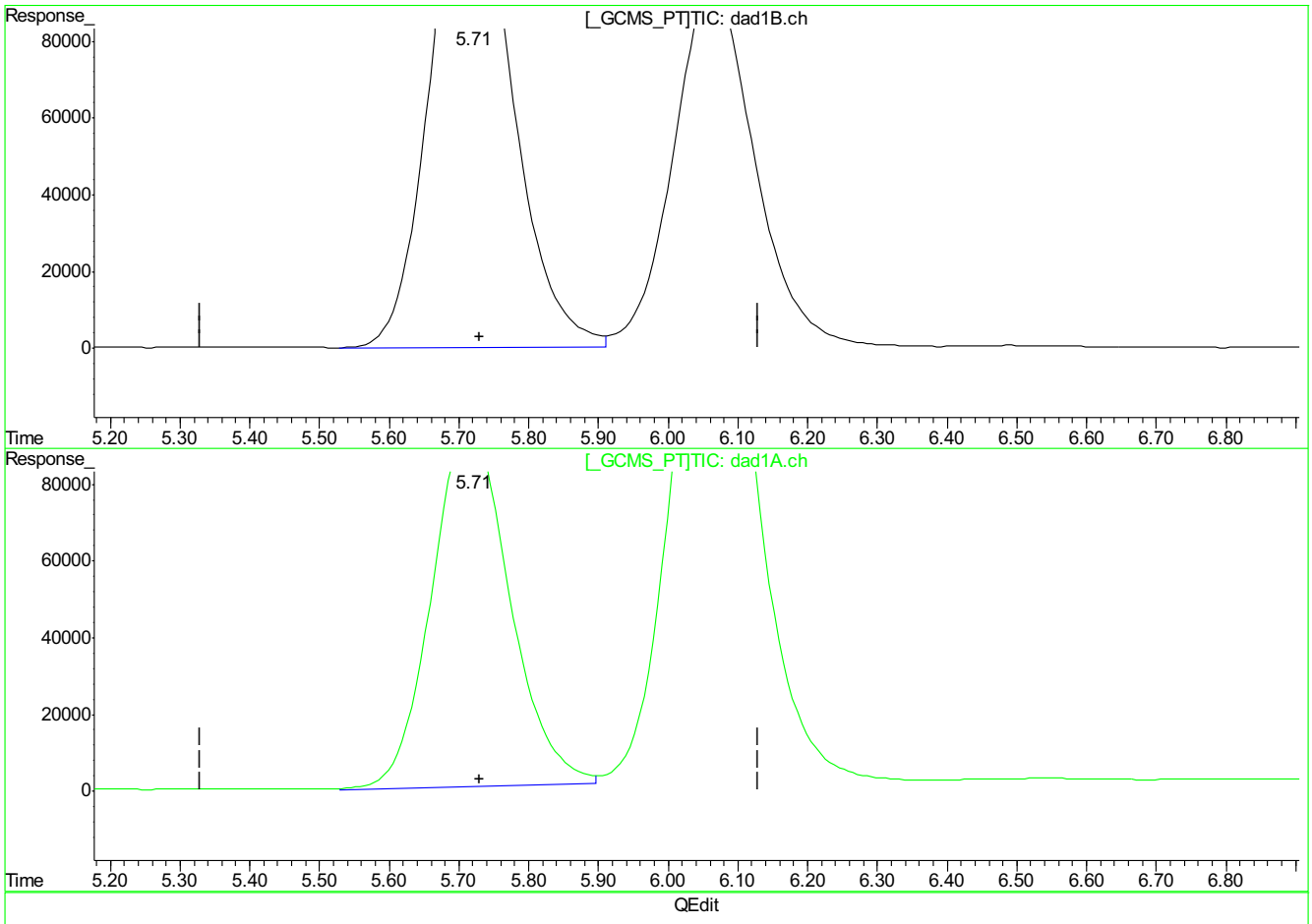
9

BB054267.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 1921.498ppb

response 10628527

(7) 1,3-Dinitrobenzene #2

5.71min 1868.351ppb m

response 7281295

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:21 2017

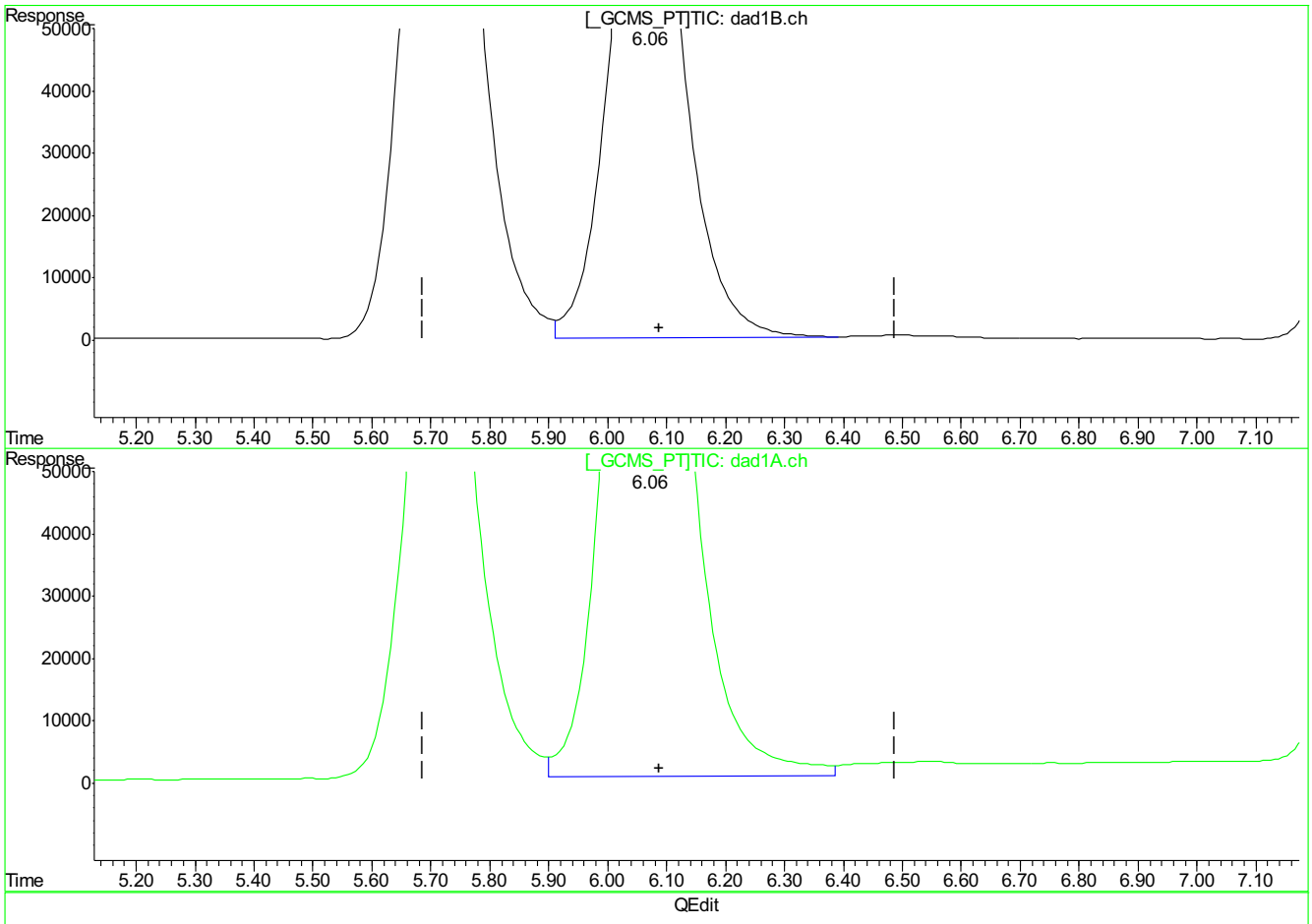
9.5.7.5
9

BB054267.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:13:34                    Operator: evitam
Sample    : ic1578-2000                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration
```



(8) 3,5-Dinitroaniline

6.07min 1774.526ppb

response 7579594

(8) 3,5-Dinitroaniline #2

6.07min 1957.508ppb

response 13157082

(+) = Expected Retention Time

BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:24 2017

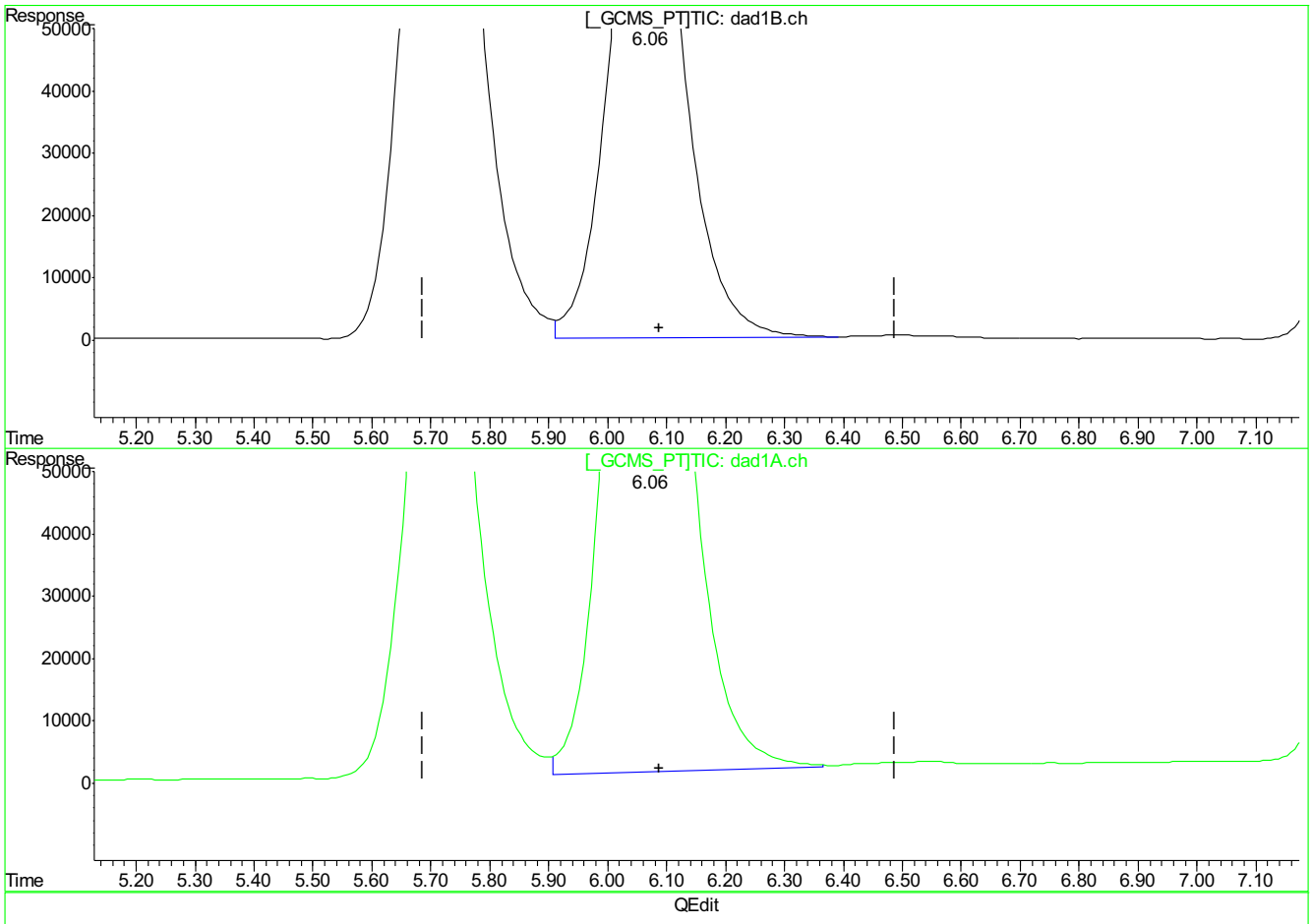
9.5.7.6

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 1774.526ppb

response 7579594

(8) 3,5-Dinitroaniline #2

6.06min 1914.174ppb m

response 12865817

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:30 2017

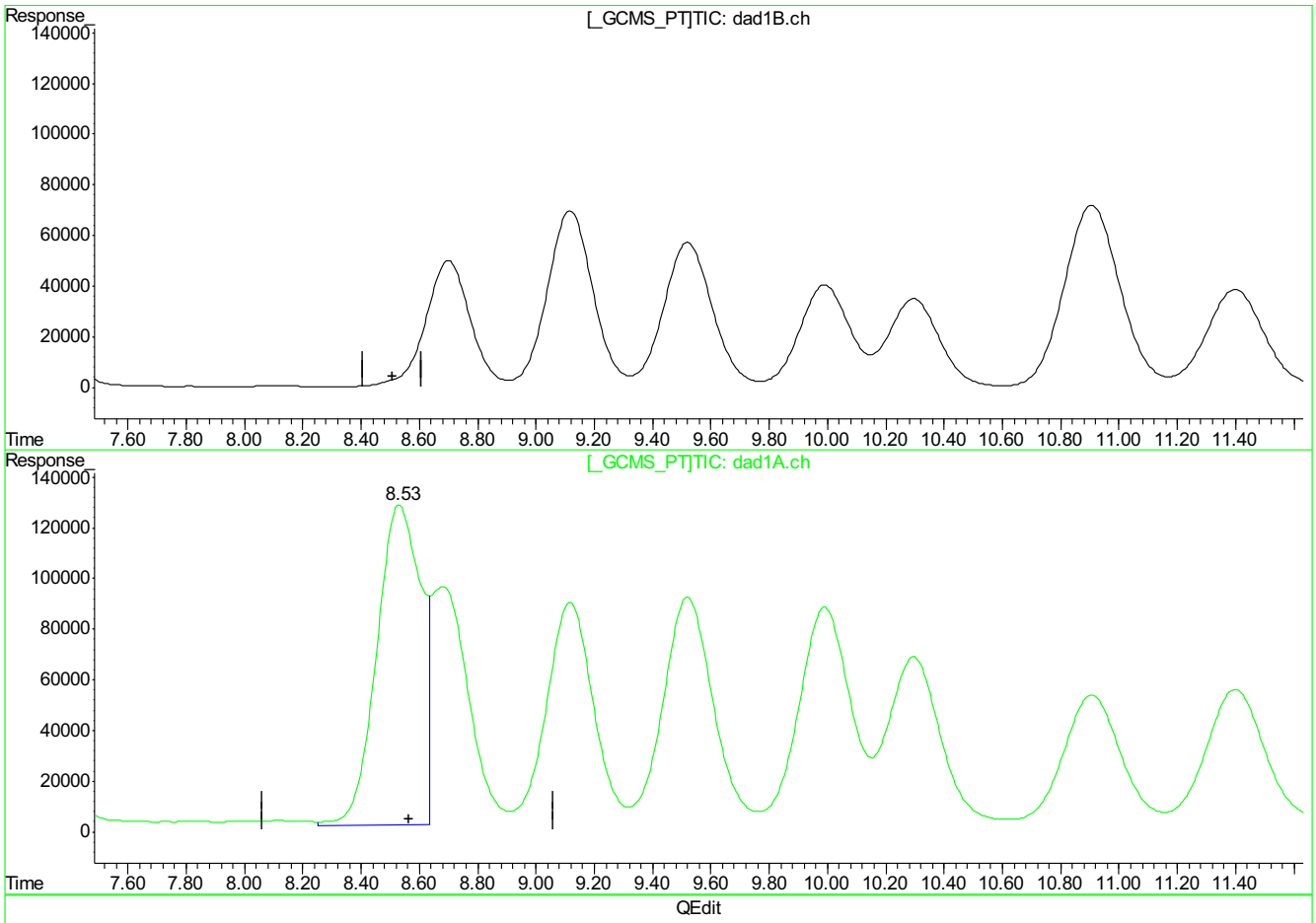
9.5.7.7

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

8.53min 10267.785ppb

response 13291941

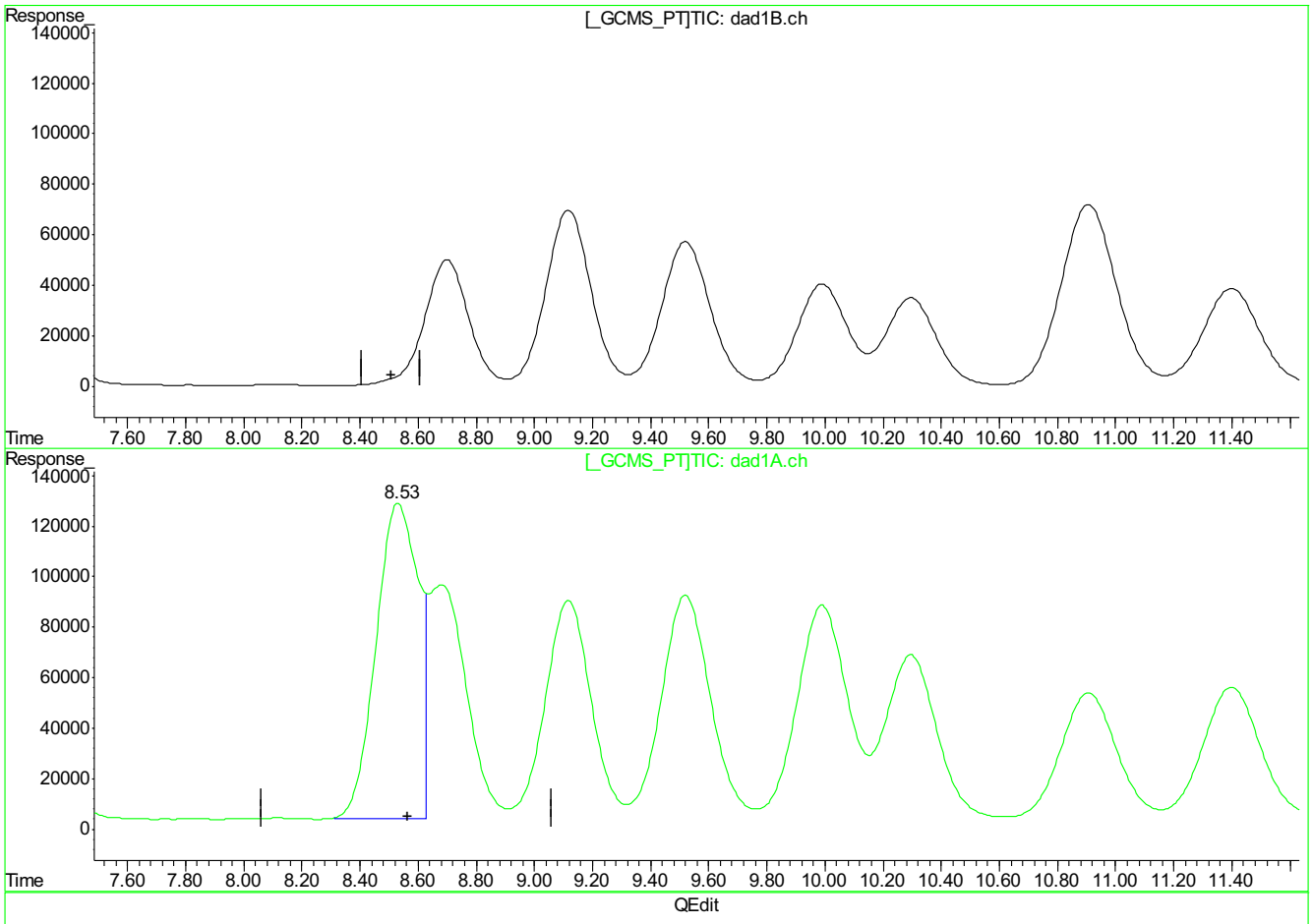
(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:40 2017

9.57.8
6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

8.53min 9885.271ppb m

response 12796766

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:53 2017

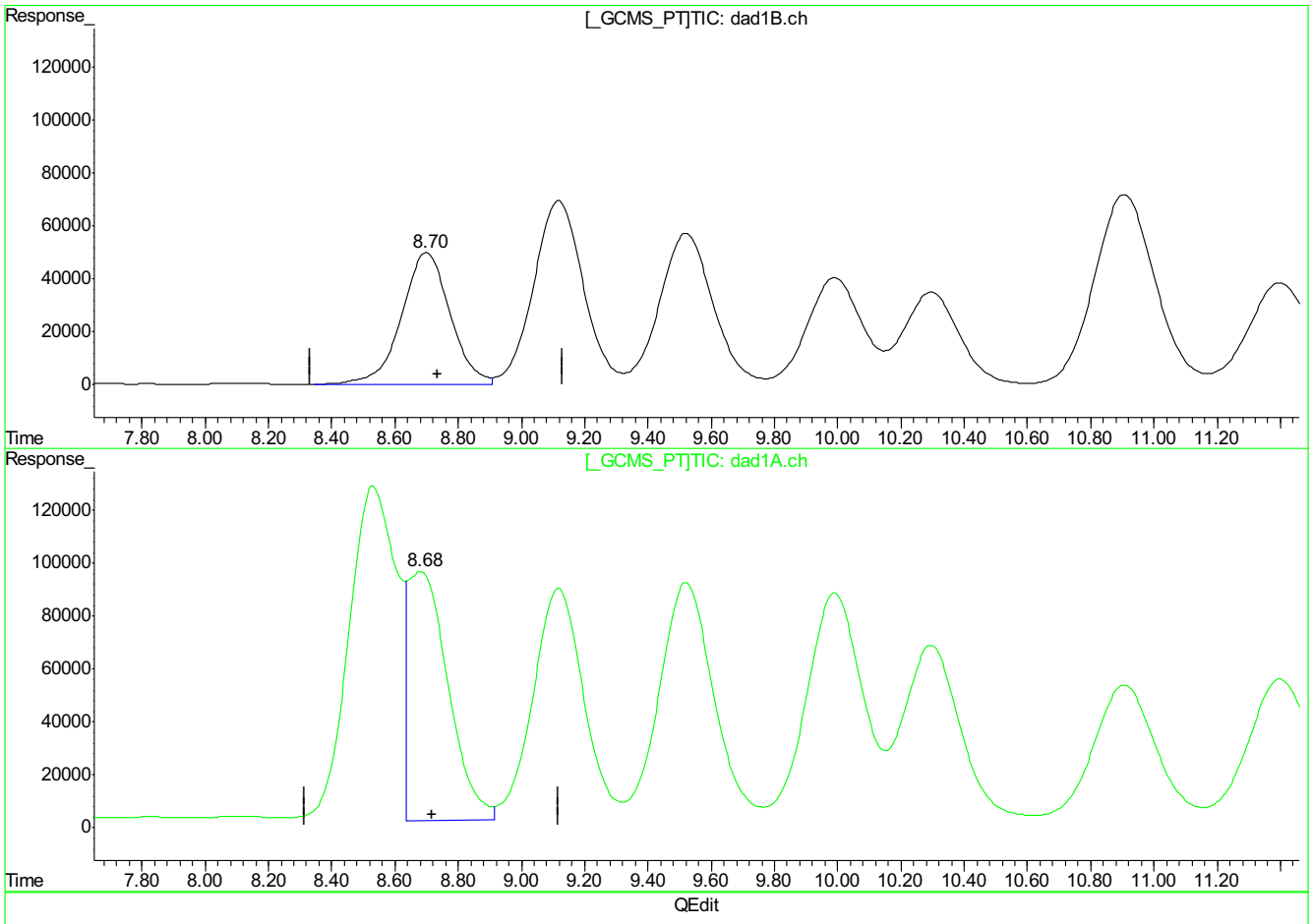
9.5.7.9

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.70min 1787.833ppb

response 5348765

(11) Tetryl #2

8.68min 1838.622ppb

response 8379784

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:58 2017

9.5.7.10

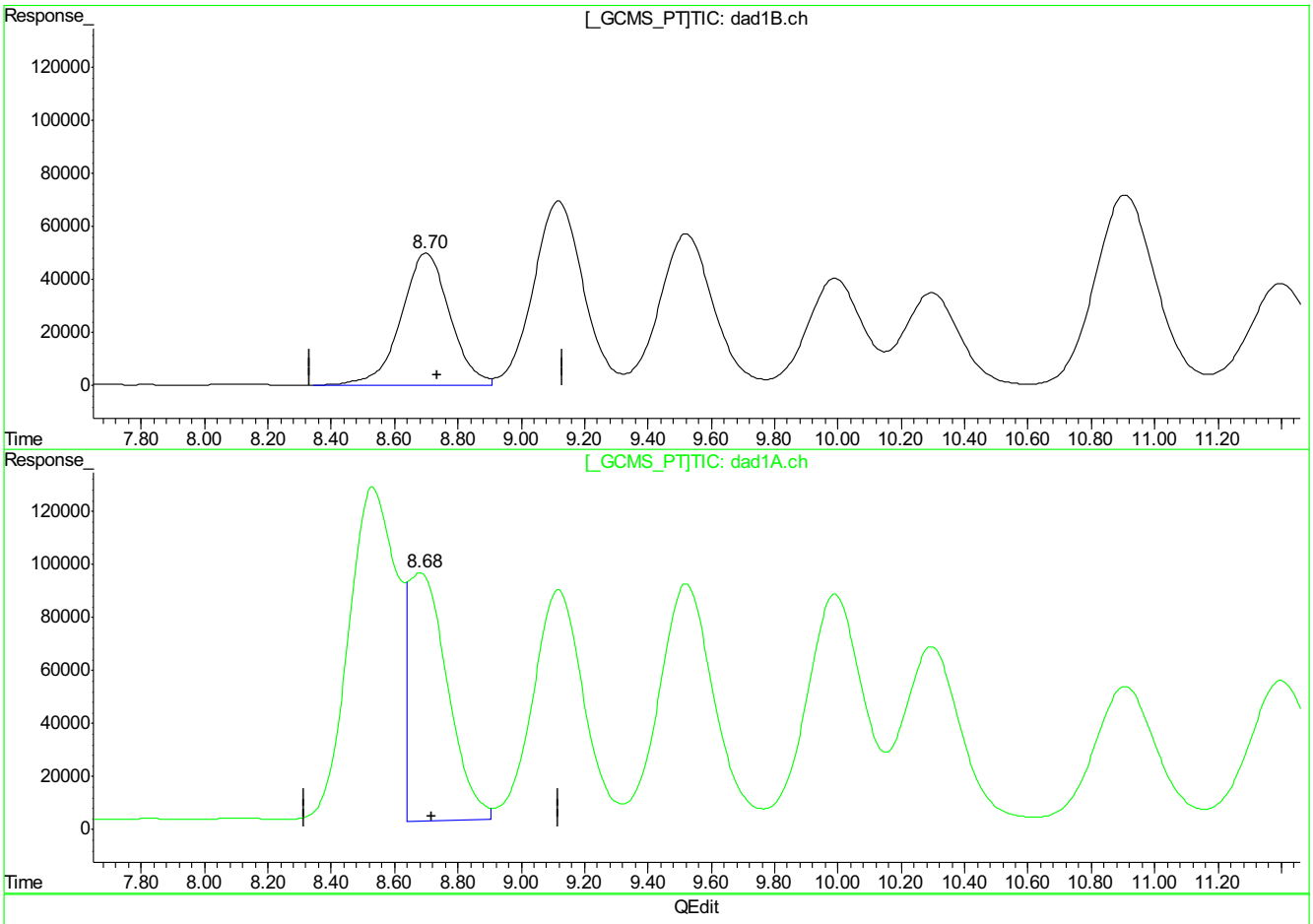
9

BB054267.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.70min 1787.833ppb

response 5348765

(11) Tetryl #2

8.68min 1717.809ppb m

response 7829164

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:29 2017

9.5.7.11

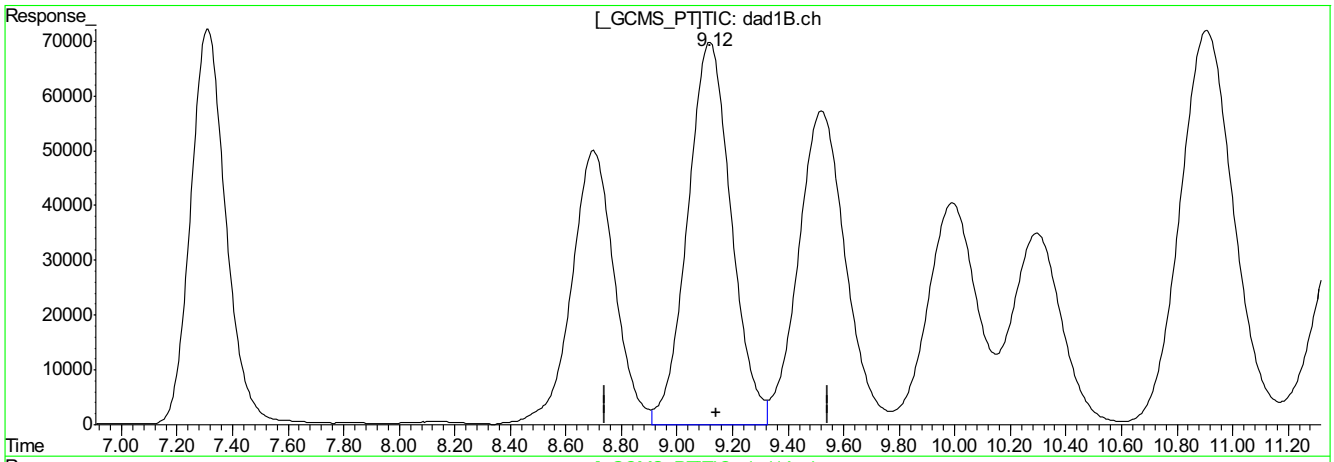
9

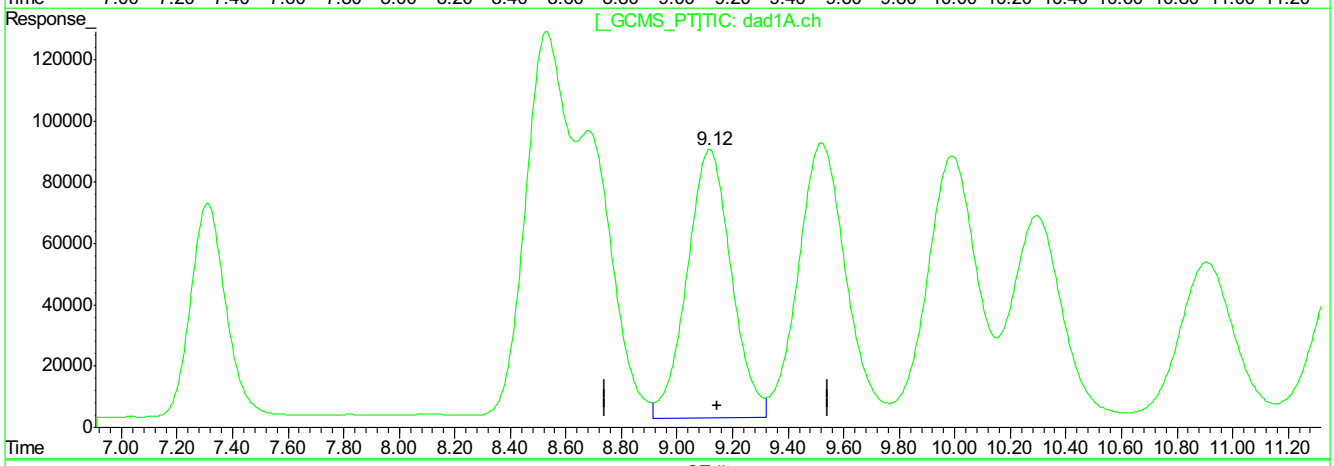
BB054267.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.12min 1815.094ppb

response 7609941

(12) 2,4,6-Trinitrotoluene #2

9.12min 1845.924ppb

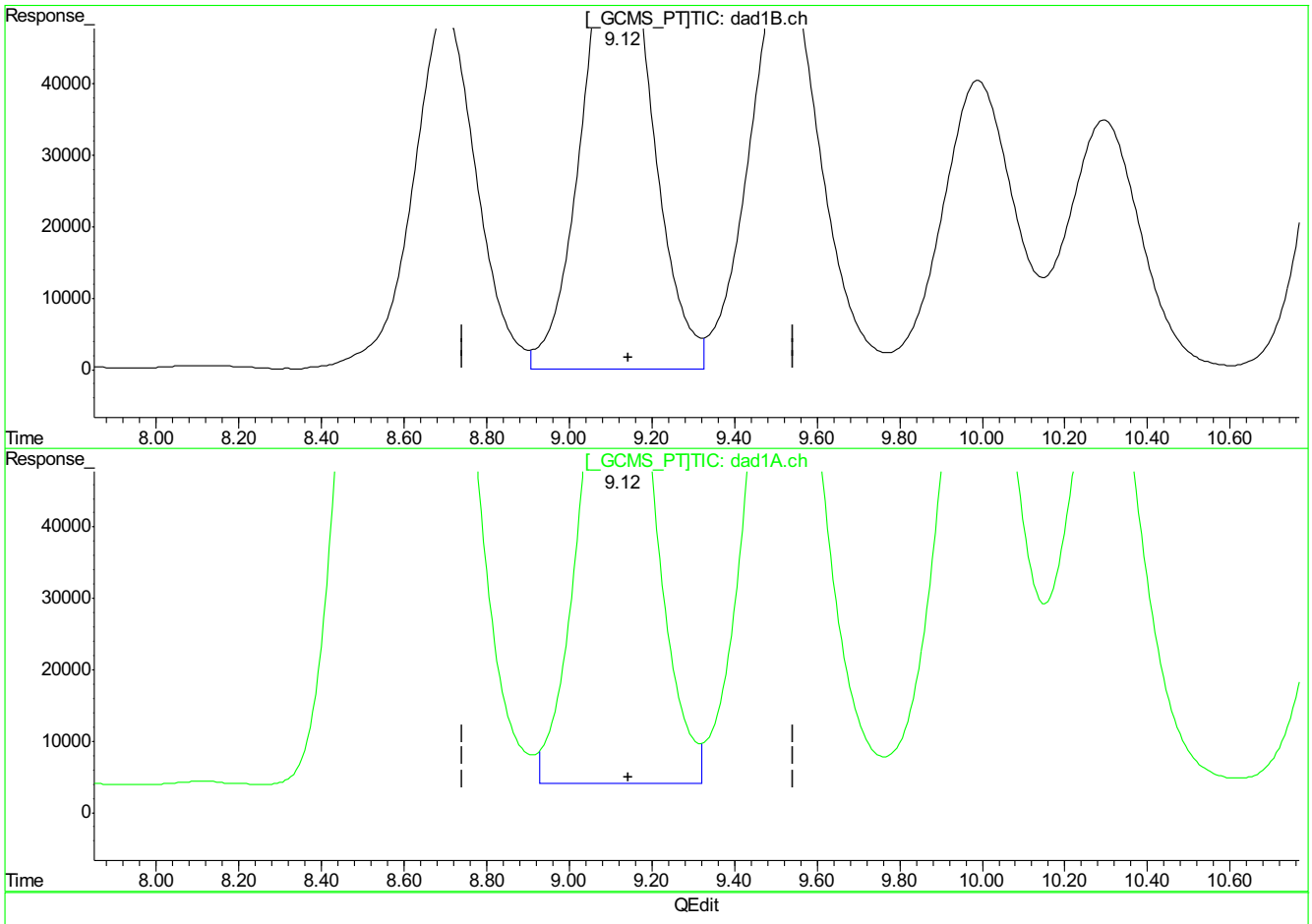
response 9665889

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:32 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.12min 1815.094ppb

response 7609941

(12) 2,4,6-Trinitrotoluene #2

9.12min 1799.273ppb m

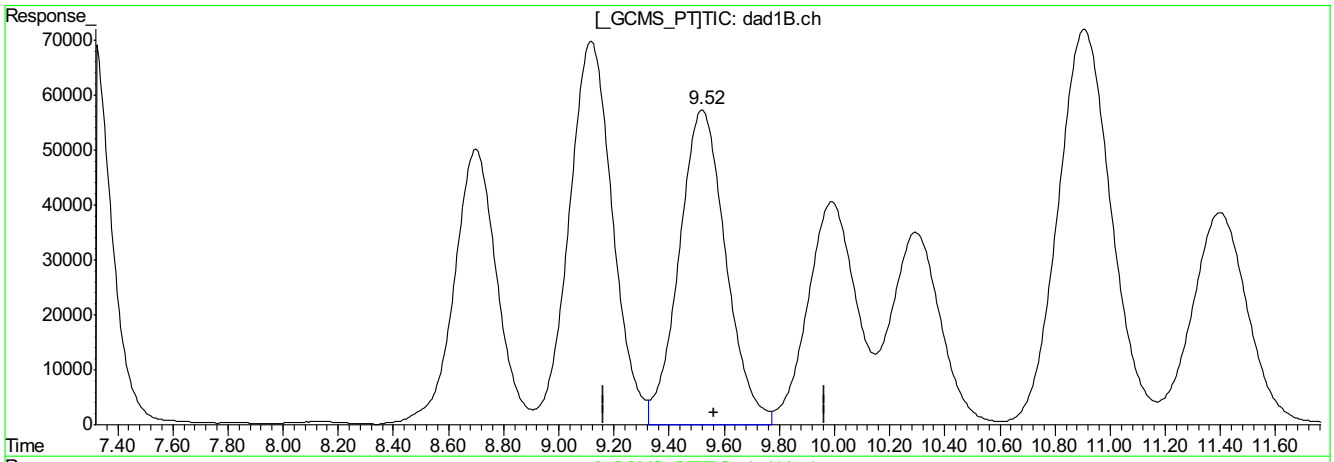
response 9421604

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.52min 2107.216ppb

response 6721912

(13) 2-Amino-4,6-Dinitrotoluene #2

9.52min 2184.464ppb

response 10523745

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:44 2017

9.5.7.14

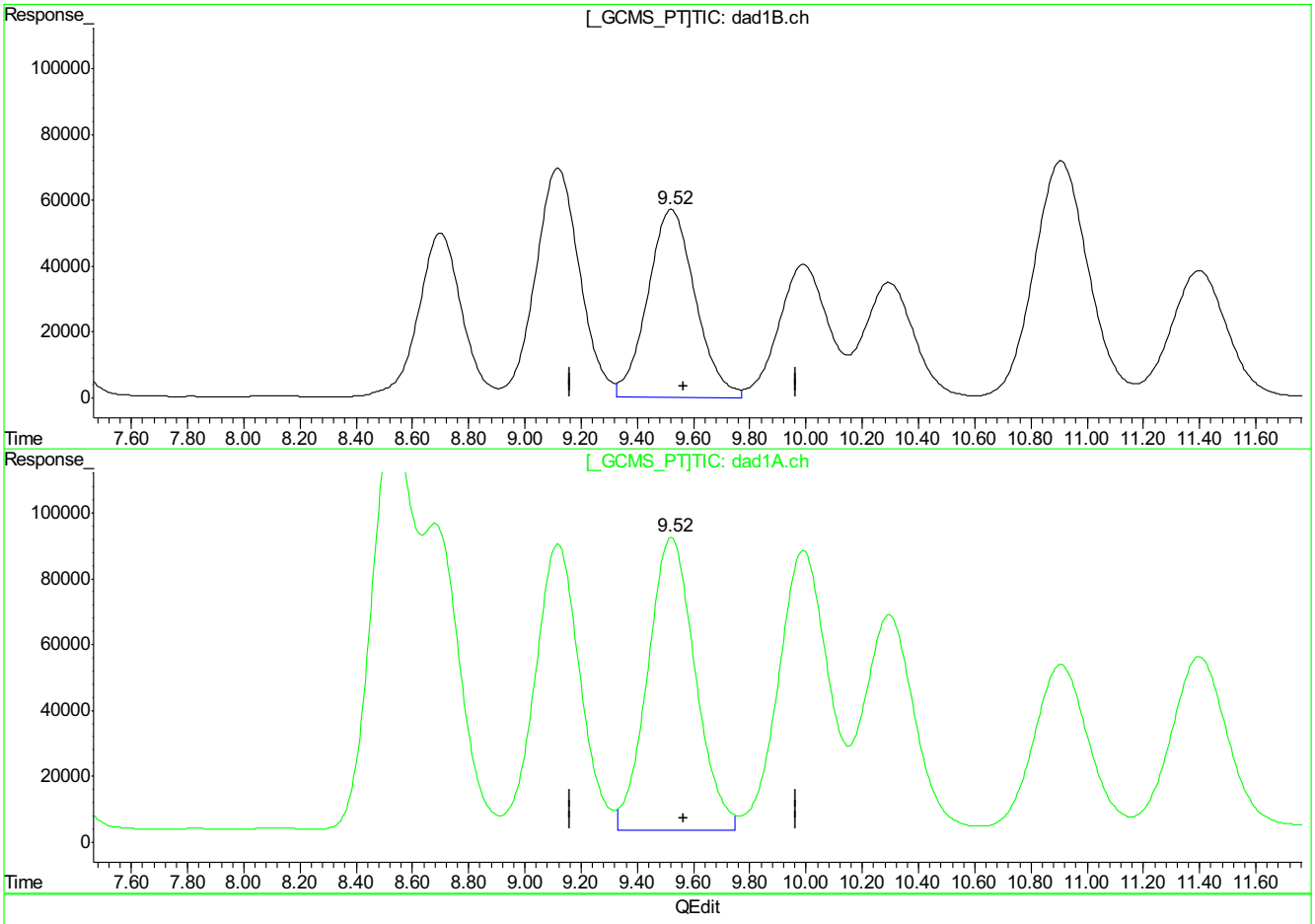
9

BB054267.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.52min 2107.216ppb

response 6721912

(13) 2-Amino-4,6-Dinitrotoluene #2

9.52min 2148.842ppb m

response 10366091

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:51 2017

9.5.7.15

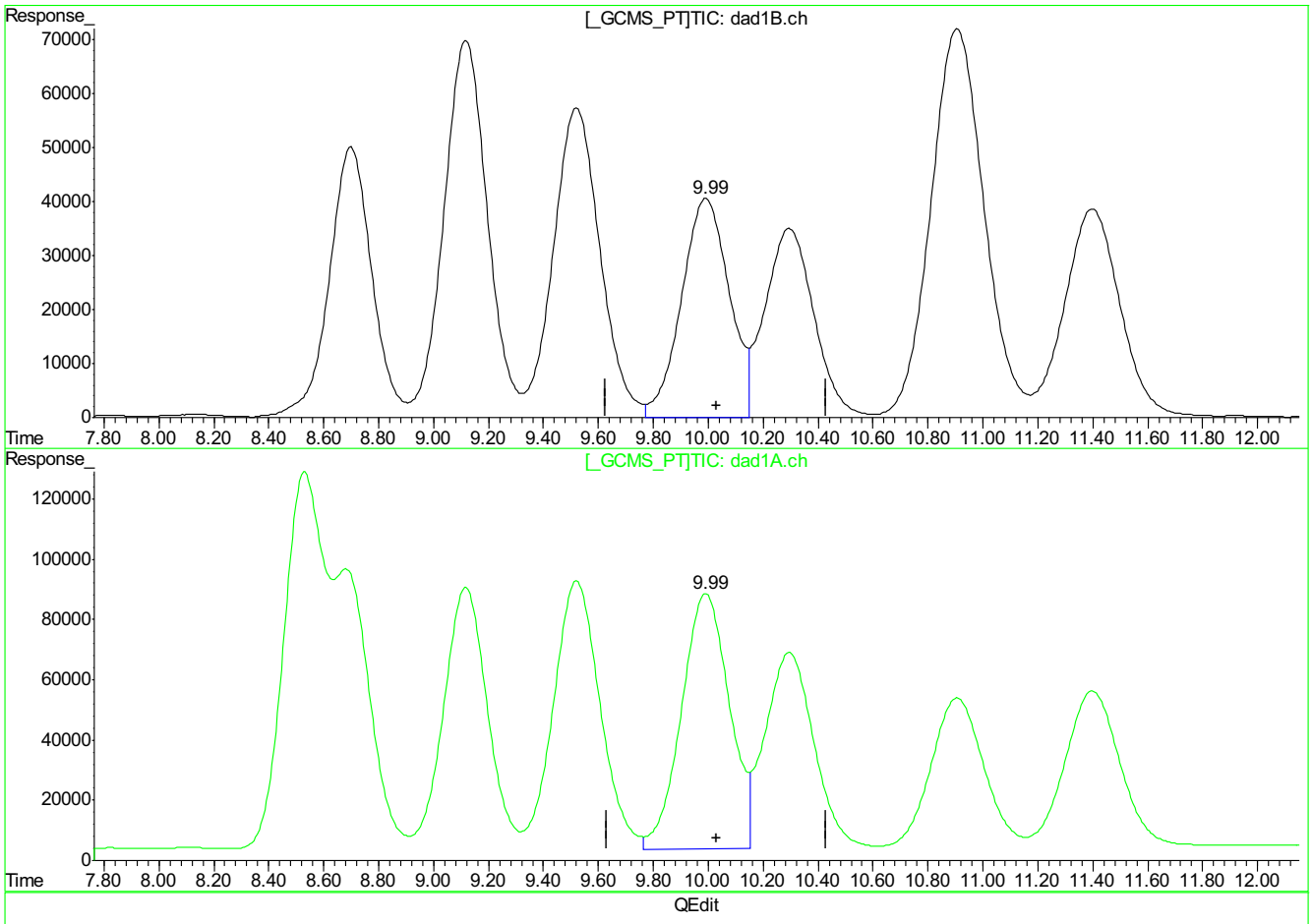
9

BB054267.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

9.99min 1866.951ppb

response 4882495

(14) 4-Amino-2,6-Dinitrotoluene #2

9.99min 1917.513ppb

response 10288838

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:55 2017

9.5.7.16

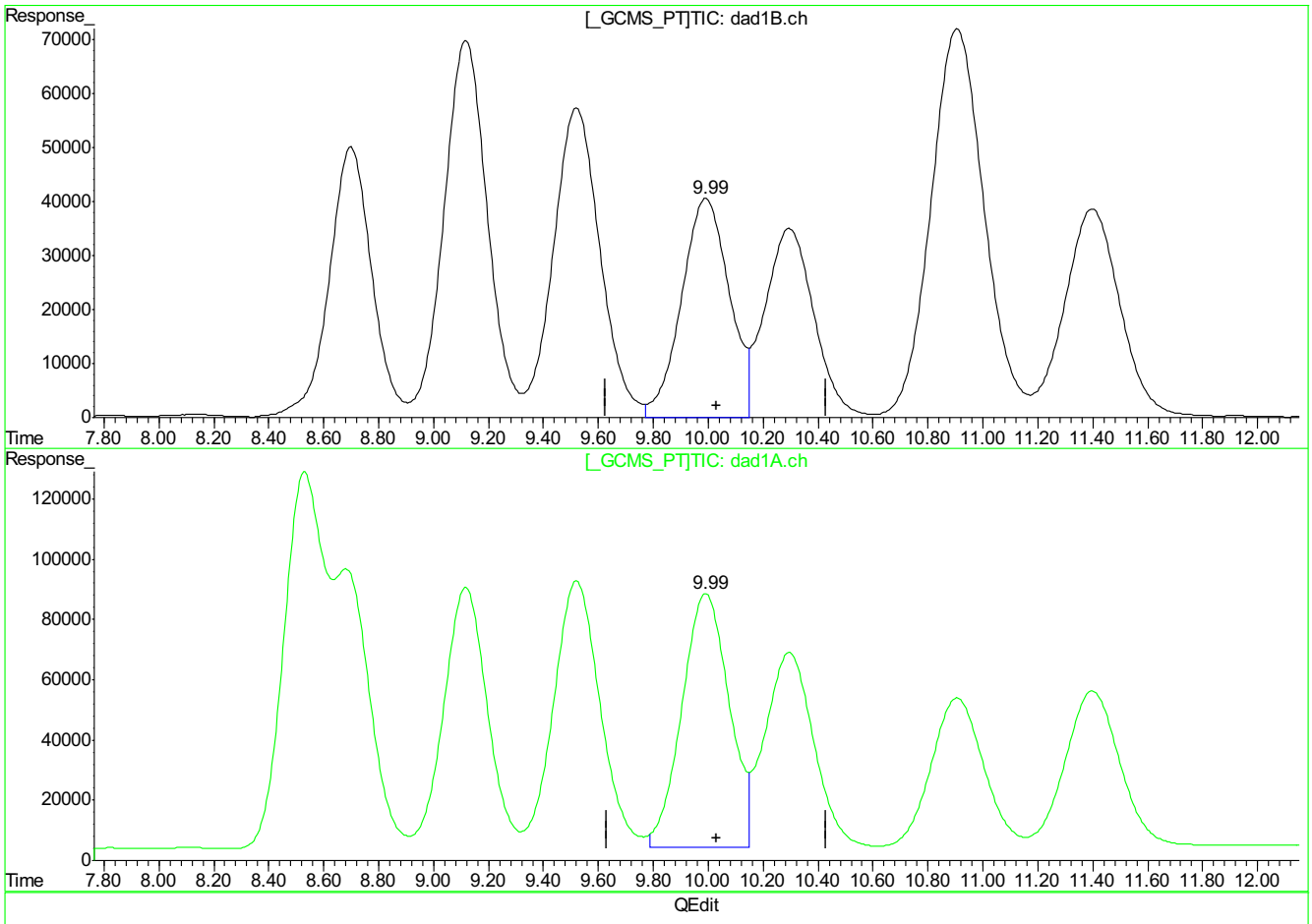
9

BB054267.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

9.99min 1866.951ppb

response 4882495

(14) 4-Amino-2,6-Dinitrotoluene #2

9.99min 1865.767ppb m

response 10011189

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:22 2017

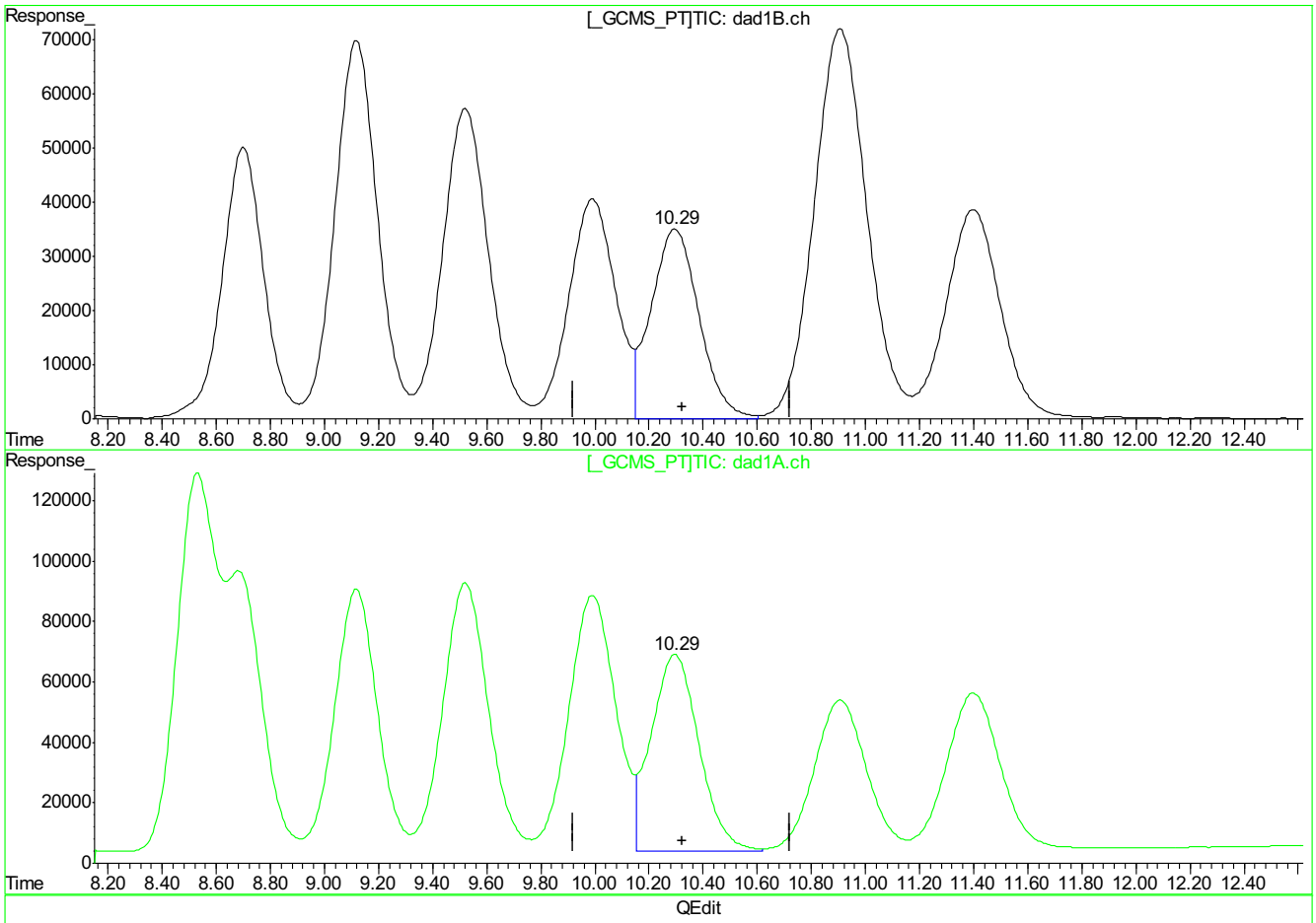
9.5.17
9

BB054267.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.30min 2126.089ppb

response 4325266

(15) 3,4-Dinitrotoluene #2 (S)

10.30min 1838.499ppb

response 8027228

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:25 2017

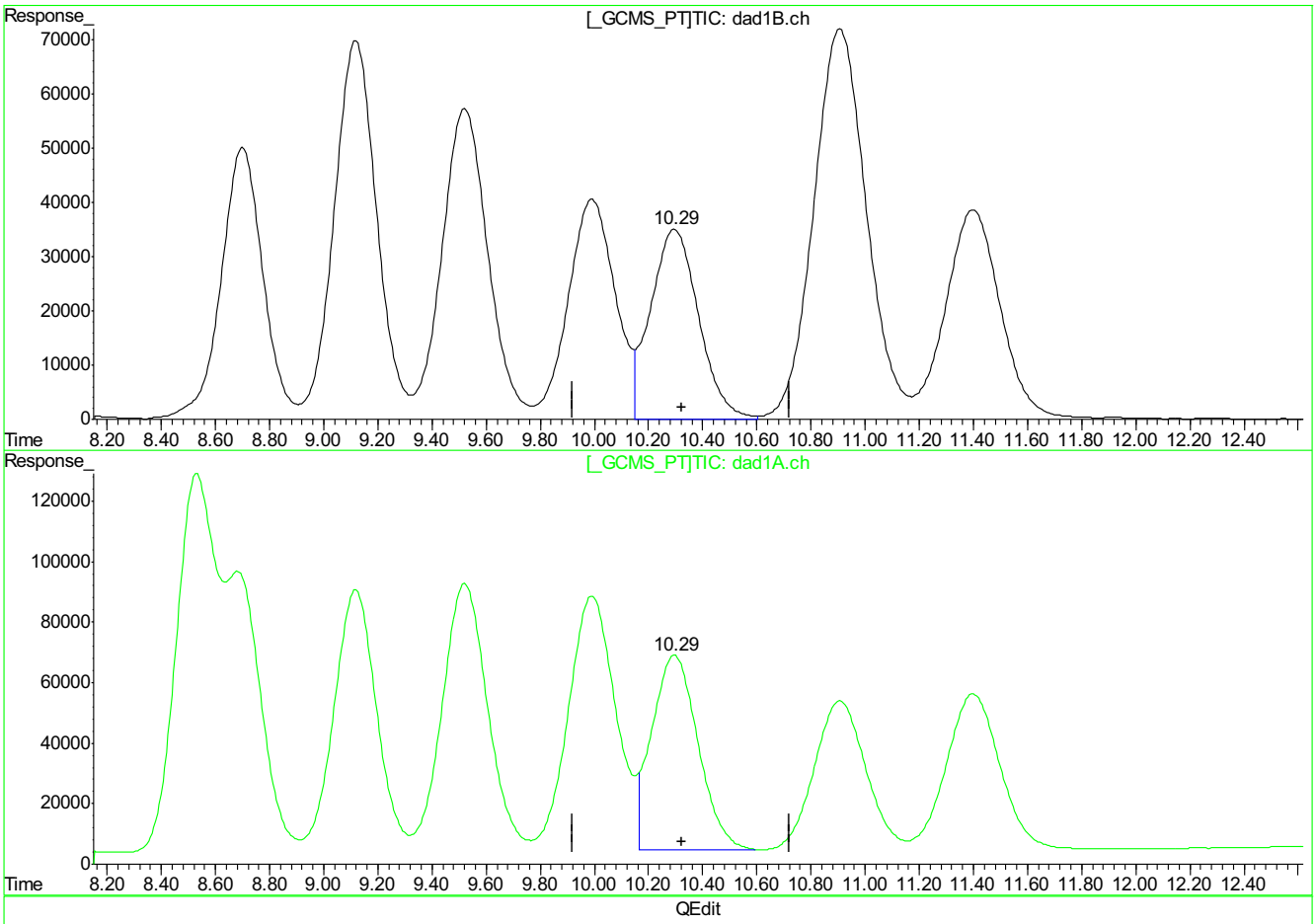
9.5.7.18

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.30min 2126.089ppb

response 4325266

(15) 3,4-Dinitrotoluene #2 (S)

10.29min 1730.813ppb m

response 7557054

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:47 2017

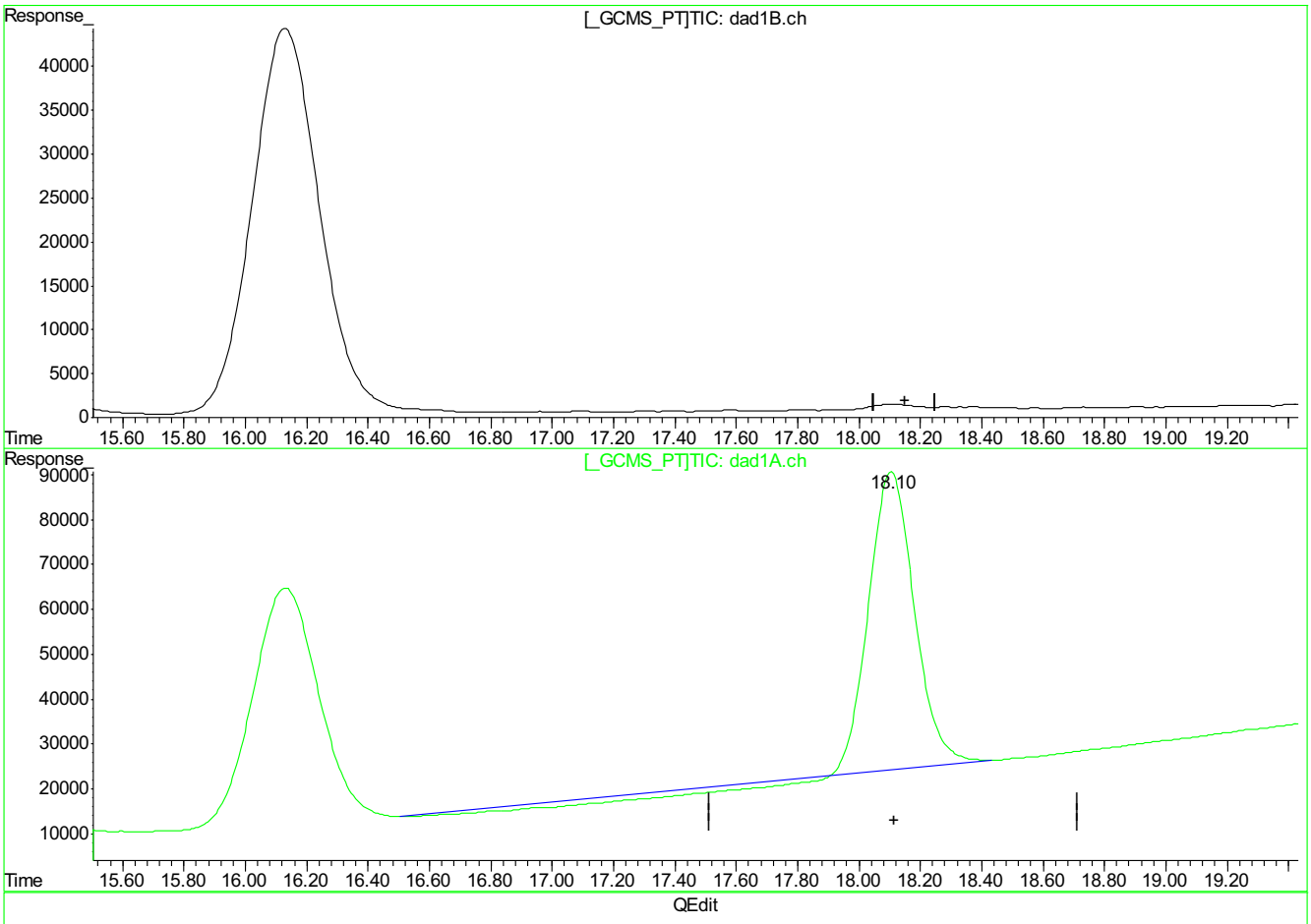
9.5.7.19

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.11min 7505.284ppb

response 6040779

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:52 2017

9.5.7.20

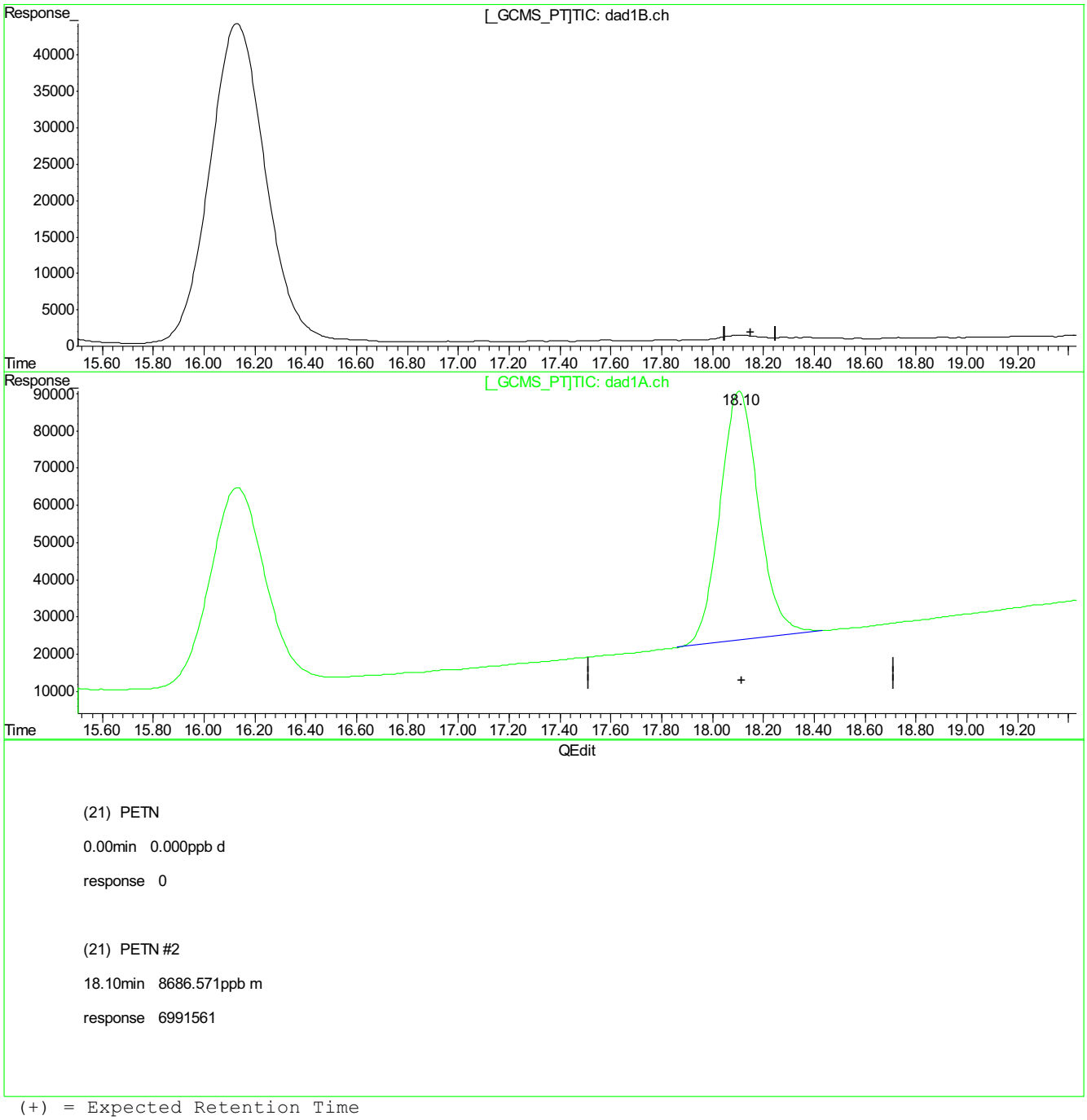
6

BB054267.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:55 2017

9.5.7.21

9

BB054267.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:23:21 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
Spiked Amount	500.000	Range	69 - 134	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.35	1.35	1573327	2468613	521.944	509.603
2)	HMX	1.47	1.47	855649	2401389	489.877	500.124
3)	DNX	1.72	1.72	1387437	2294746	445.642	486.589
4)	MNX	2.27	2.27	1191573	1848206	480.399	481.008
5)	RDX	2.85	2.85	931275	1477807	493.289	449.689
6)	1,3,5-Trinitrobe	4.47	4.47	1954736	3724630	452.504	458.186
7)	1,3-Dinitrobenze	5.72	5.72	2395545	1621707	435.525	420.074m
8)	3,5-Dinitroanili	6.07	6.07	1969943	3317690	527.203	496.650m
9)	Nitrobenzene	7.31	7.31	1565716	1515247	447.634	473.778m
10)	Nitroglycerin	0.00	8.56	0	3517988	N.D. d	2722.043m
11)	Tetryl	8.72	8.68	1296223	1668445	488.373	417.239m
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	9.53	9.53	1644535	2463417	454.444	454.703m
14)	4-Amino-2,6-Dini	10.01	10.00	1202460	2430705	464.204	457.392m
16)	2,4-Dinitrotolue	10.92	10.92	2291396	1498689	451.285	445.180
17)	2,6-Dinitrotolue	11.42	11.42	1343935	1701511	430.720	484.543
18)	o-Nitrotoluene	14.64	14.64	1134148	1631211	489.100	503.018
19)	p-Nitrotoluene	15.17	15.17	1707771	1495468	486.251	503.715
20)	m-Nitrotoluene	16.14	16.14	1634372	1766479	453.753	502.820
21)	PETN	0.00	18.11	0	3872883	N.D. d	5459.730m

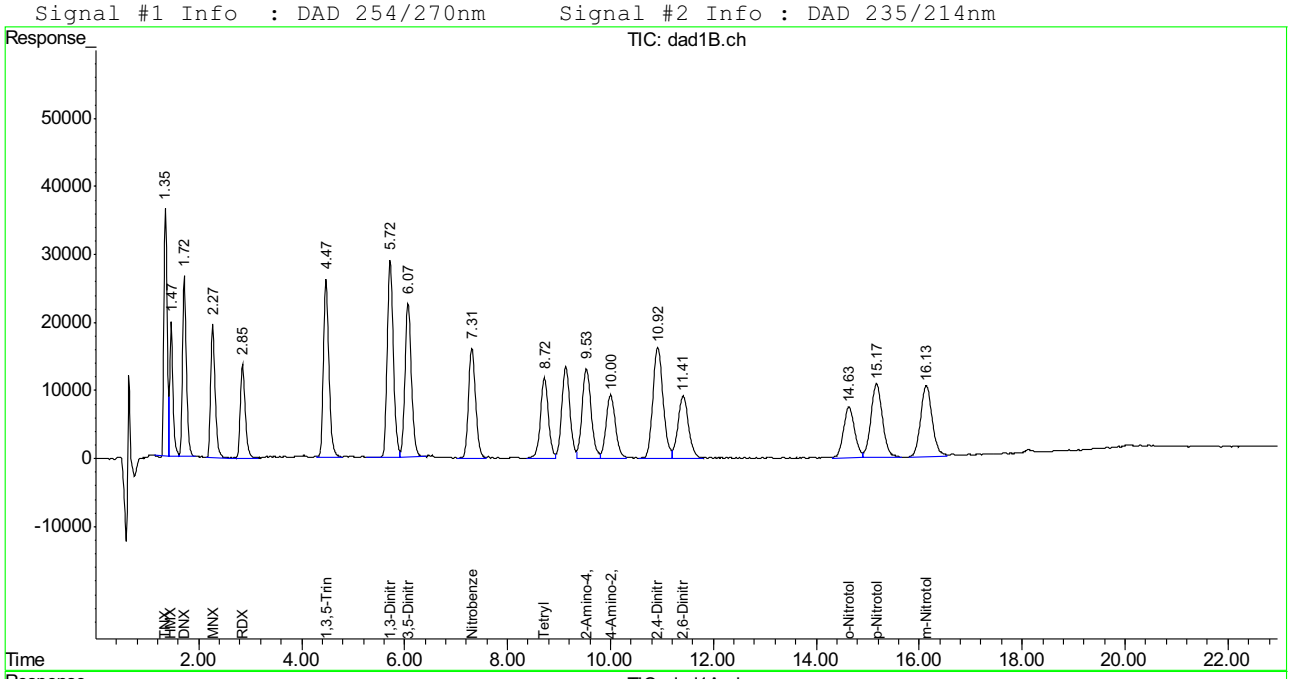
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054268.D 8330B_0419PLUS.M Thu Apr 20 11:04:56 2017 Page 1

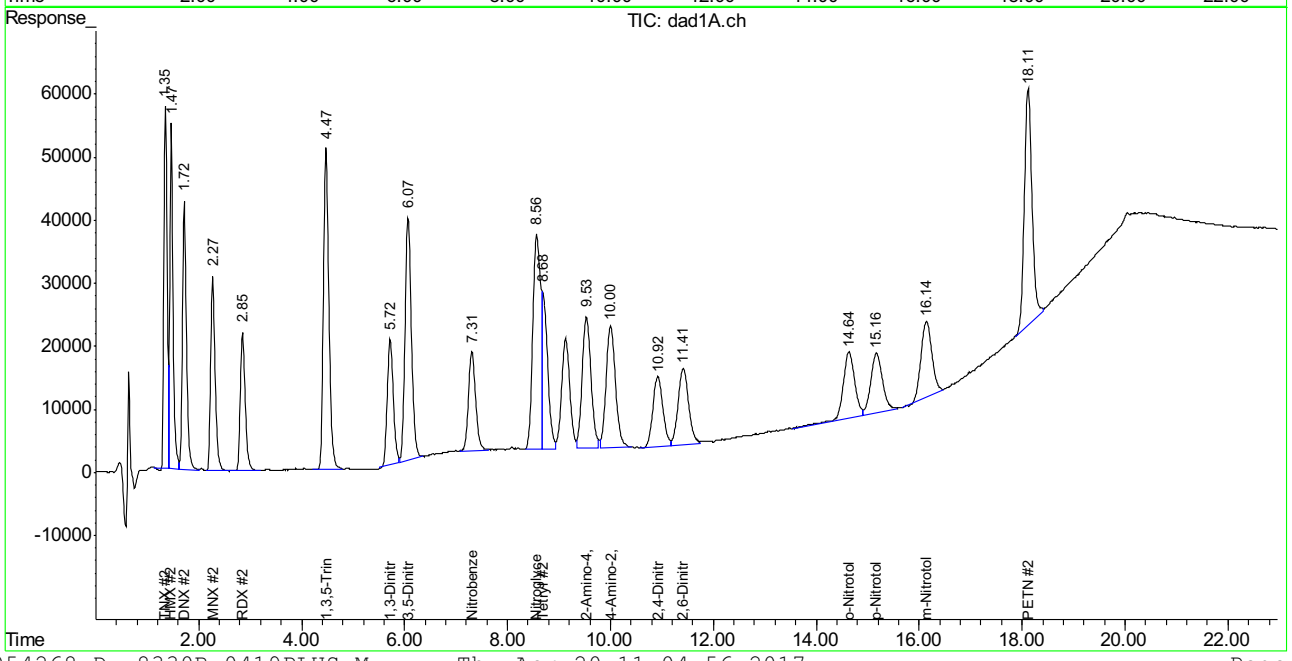
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 10:40 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

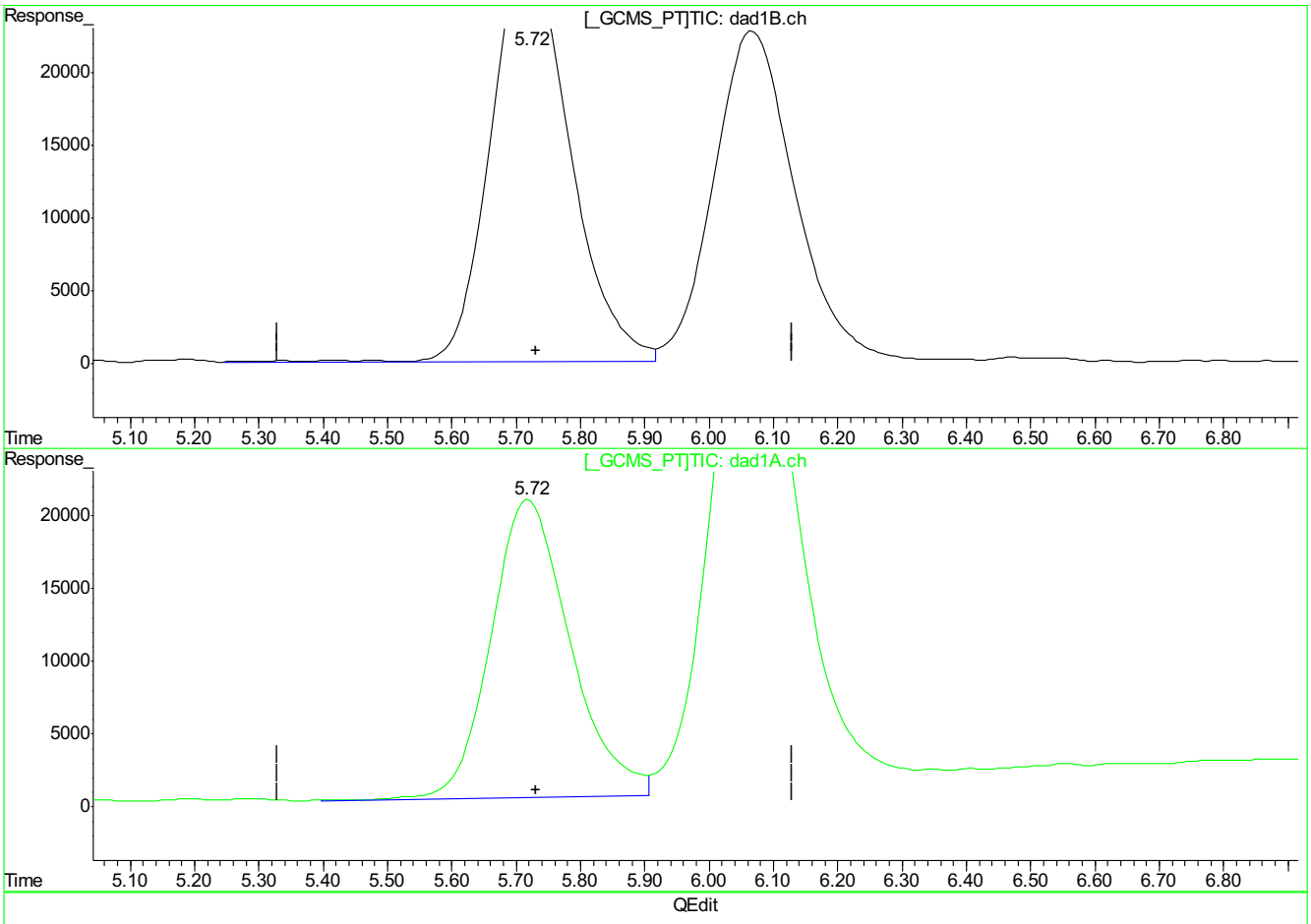
Sample Number: GBB1578-ICV1578 **Method:** SW846 8330A
Lab FileID: BB054268.D **Analyst approved:** 04/20/17 11:26 Evita Martinez
Injection Time: 04/19/17 13:43 **Supervisor approved:** 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.72	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.07	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.31	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.56	Poorly defined baseline
Tetryl	479-45-8	2	8.68	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.53	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.00	Poorly defined baseline
PETN	78-11-5	2	18.11	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 435.525ppb

response 2395545

(7) 1,3-Dinitrobenzene #2

5.72min 452.970ppb

response 1748703

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:15:51 2017

9.5.8.2

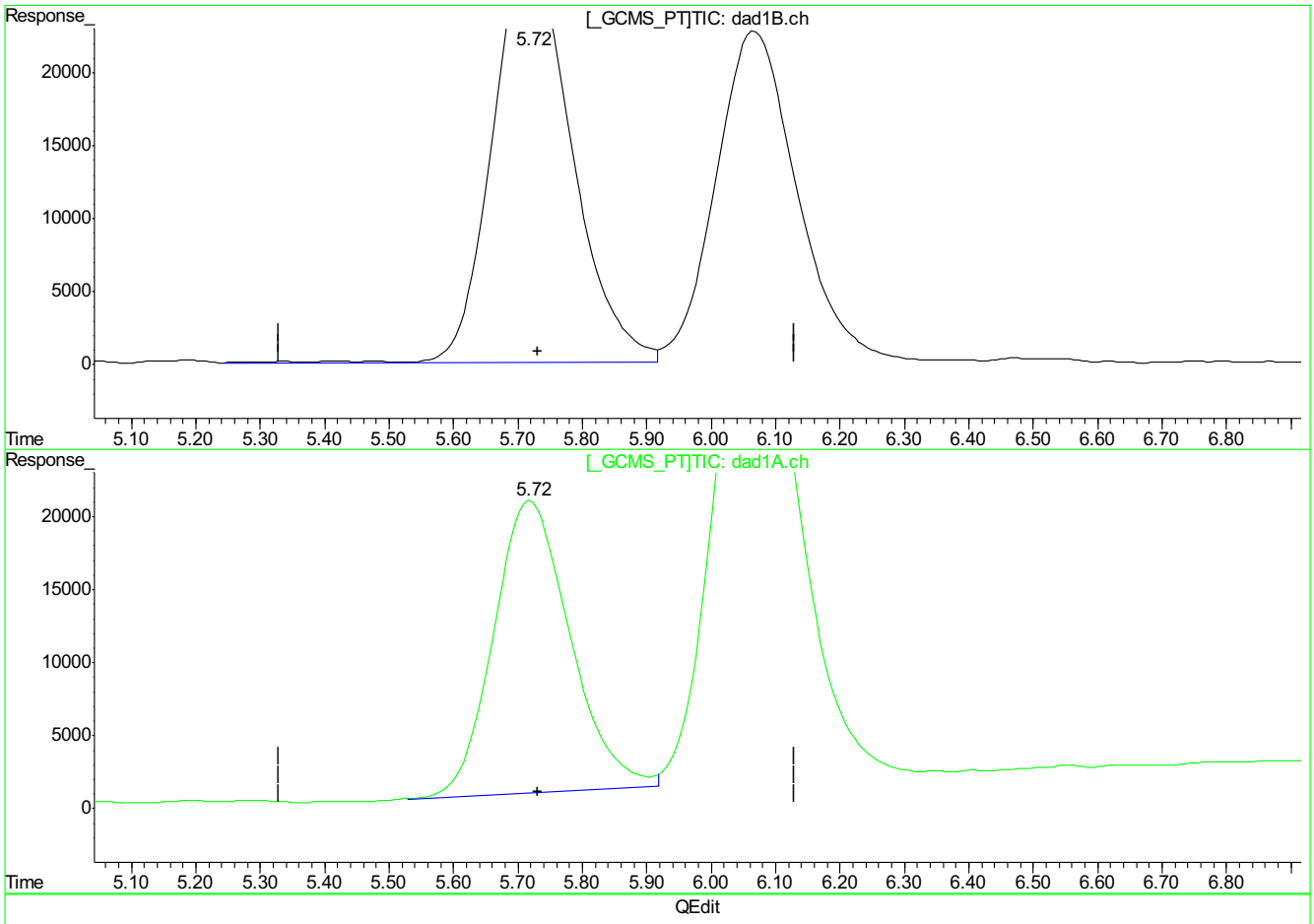
6

BB054268.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:43:32                    Operator: evitam
Sample    : icv1578-500                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

5.72min 435.525ppb

response 2395545

(7) 1,3-Dinitrobenzene #2

5.72min 430.306ppb m

response 1661208

(+) = Expected Retention Time

BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:15:57 2017

9.5.8.3

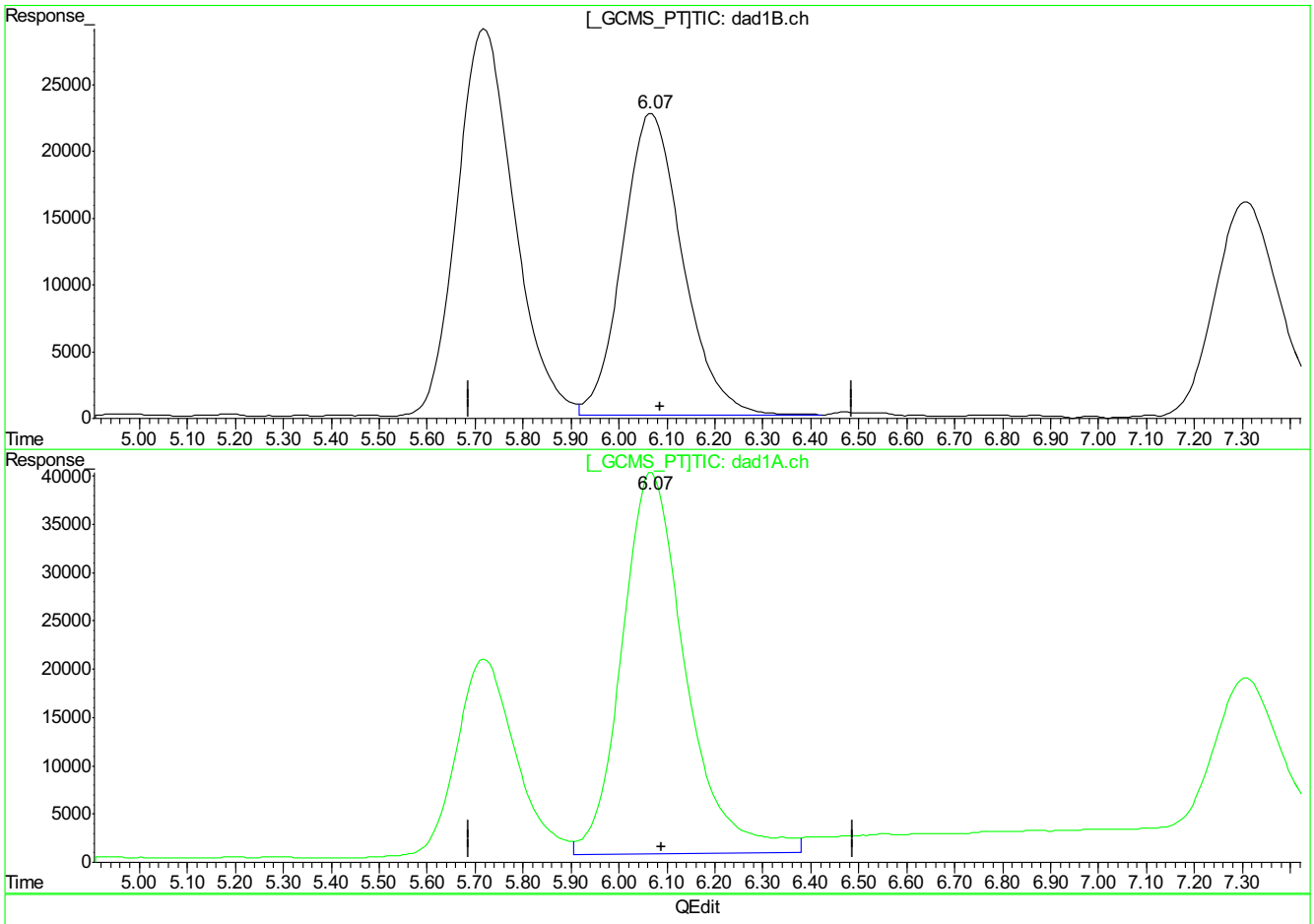
9

BB054268.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 527.203ppb

response 1969943

(8) 3,5-Dinitroaniline #2

6.07min 543.704ppb

response 3632016

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:00 2017

9.5.8.4

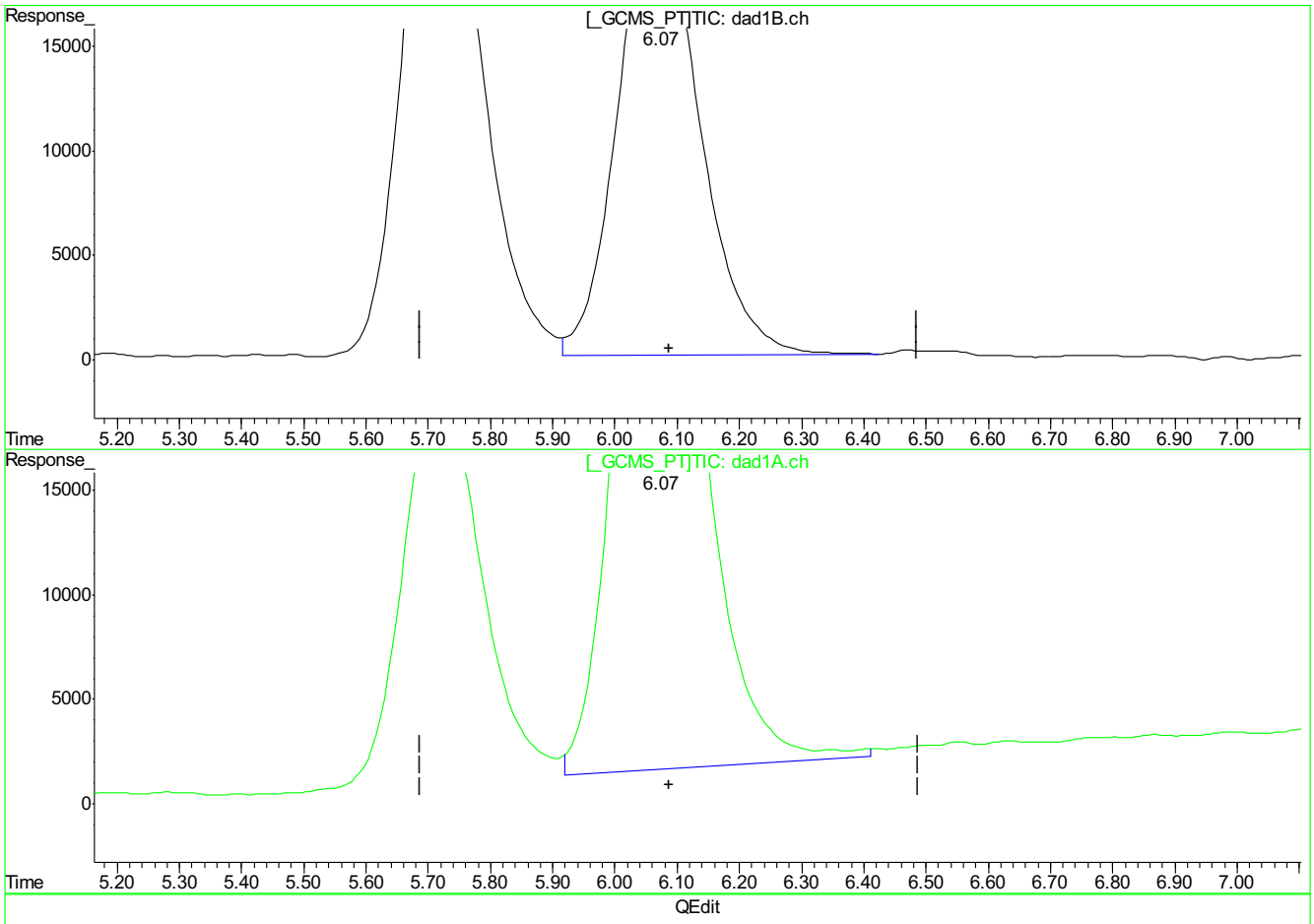
6

BB054268.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 527.203ppb

response 1969943

(8) 3,5-Dinitroaniline #2

6.07min 506.562ppb m

response 3383903

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:07 2017

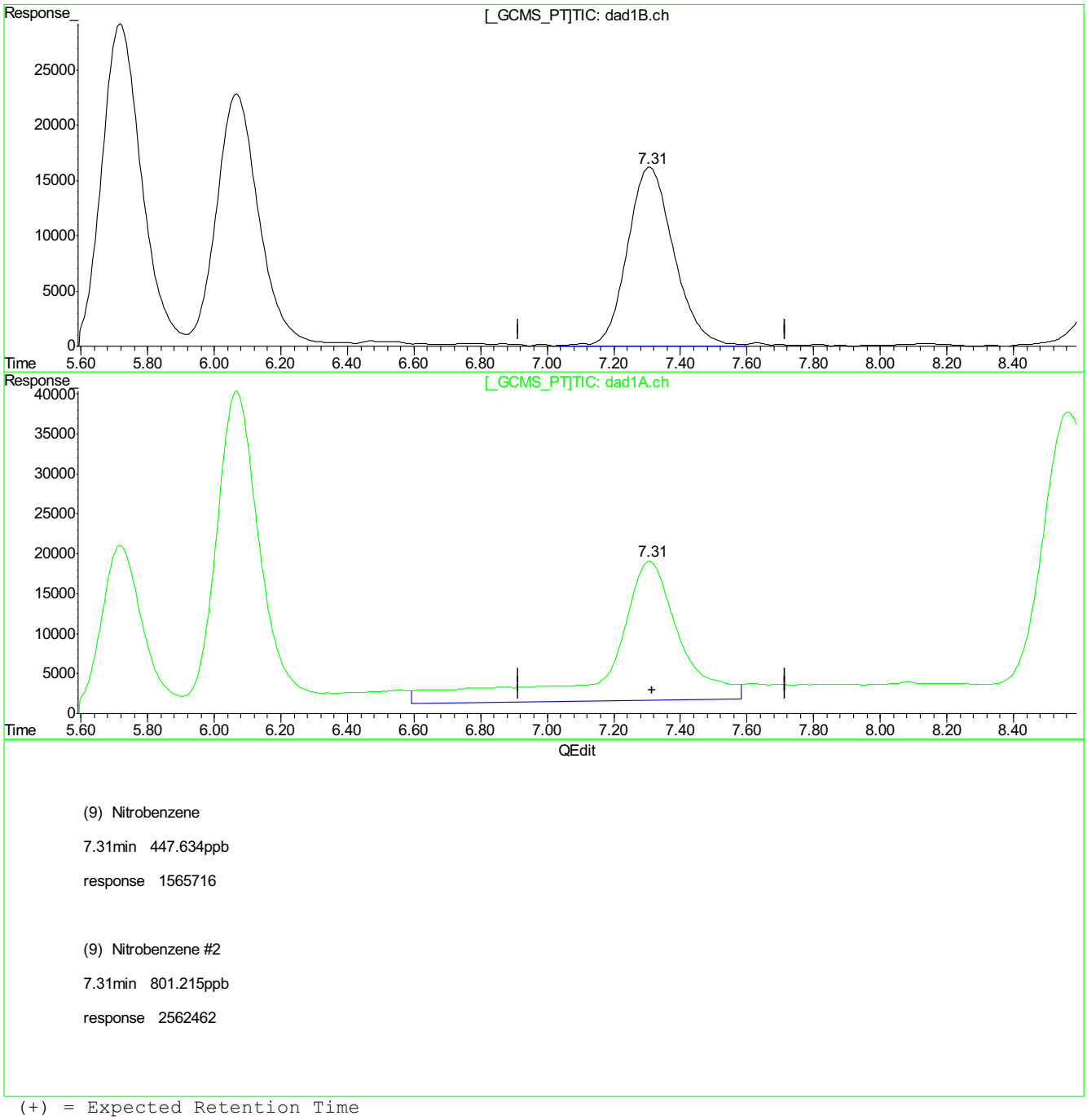
9.5.8.5

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 447.634ppb

response 1565716

(9) Nitrobenzene #2

7.31min 801.215ppb

response 2562462

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:10 2017

9.5.8.6

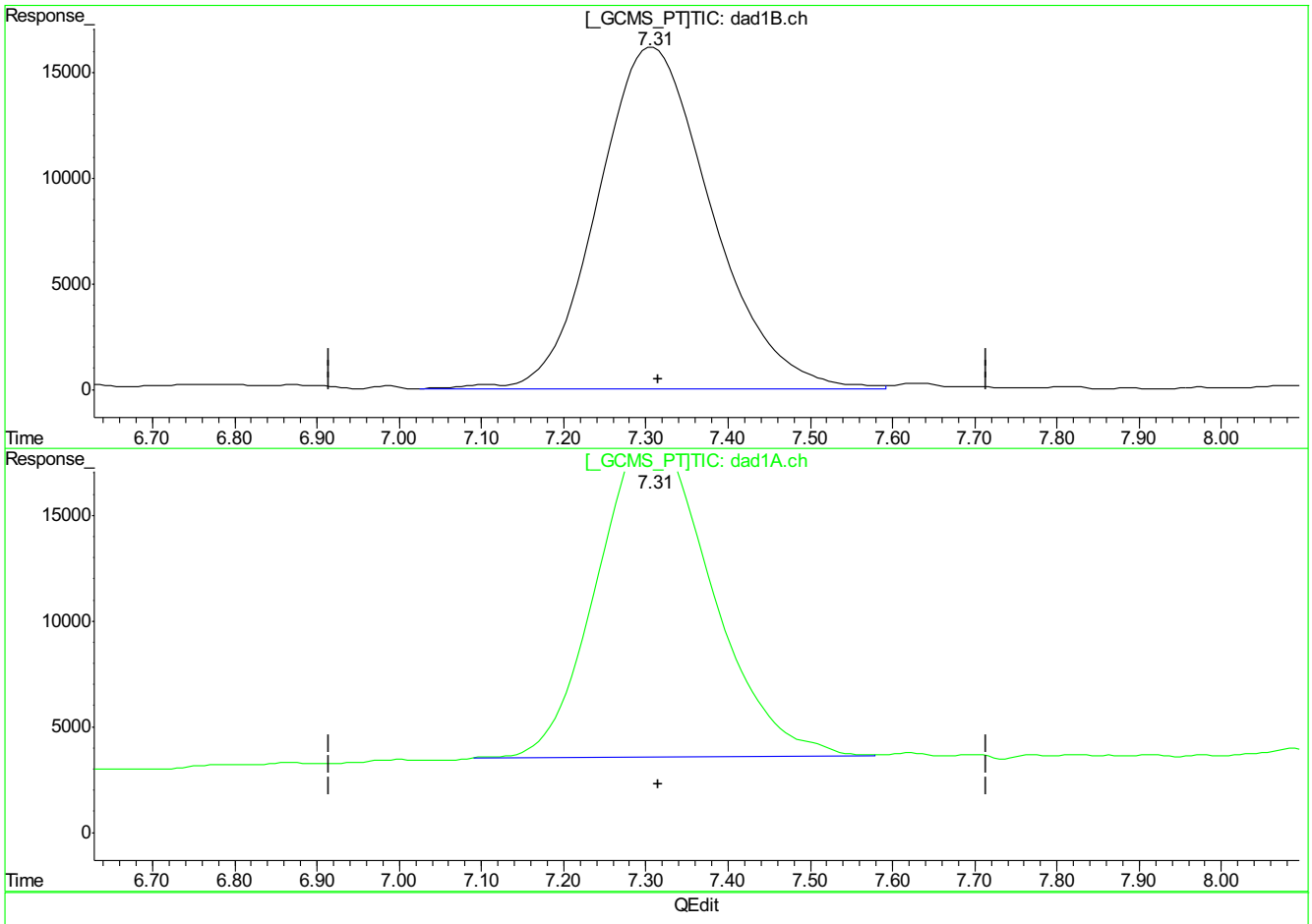
6

BB054268.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 447.634ppb

response 1565716

(9) Nitrobenzene #2

7.31min 460.470ppb m

response 1472685

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:13 2017

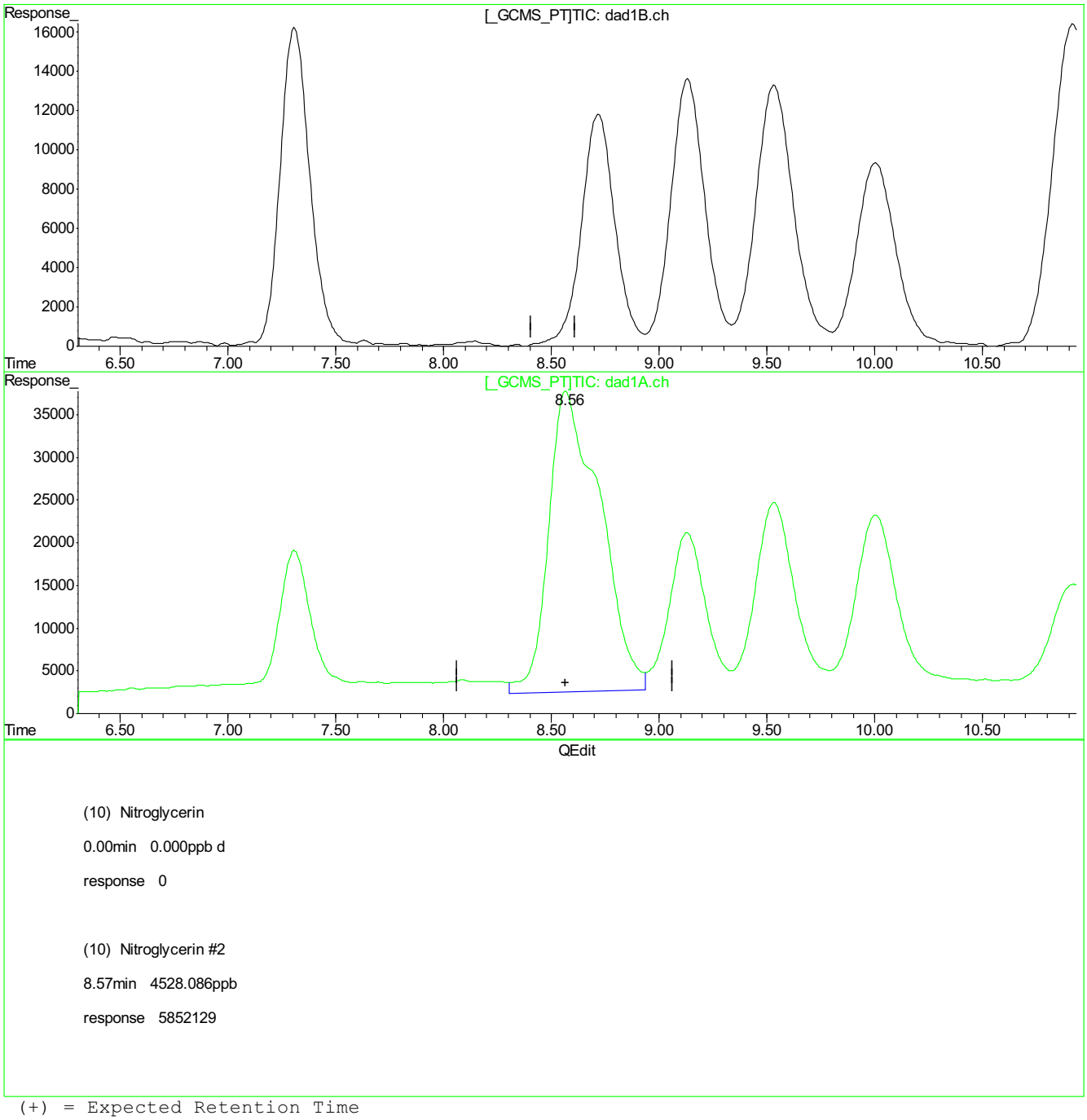
9.58.7

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.57min 4528.086ppb

response 5852129

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:20 2017

9.5.8.8

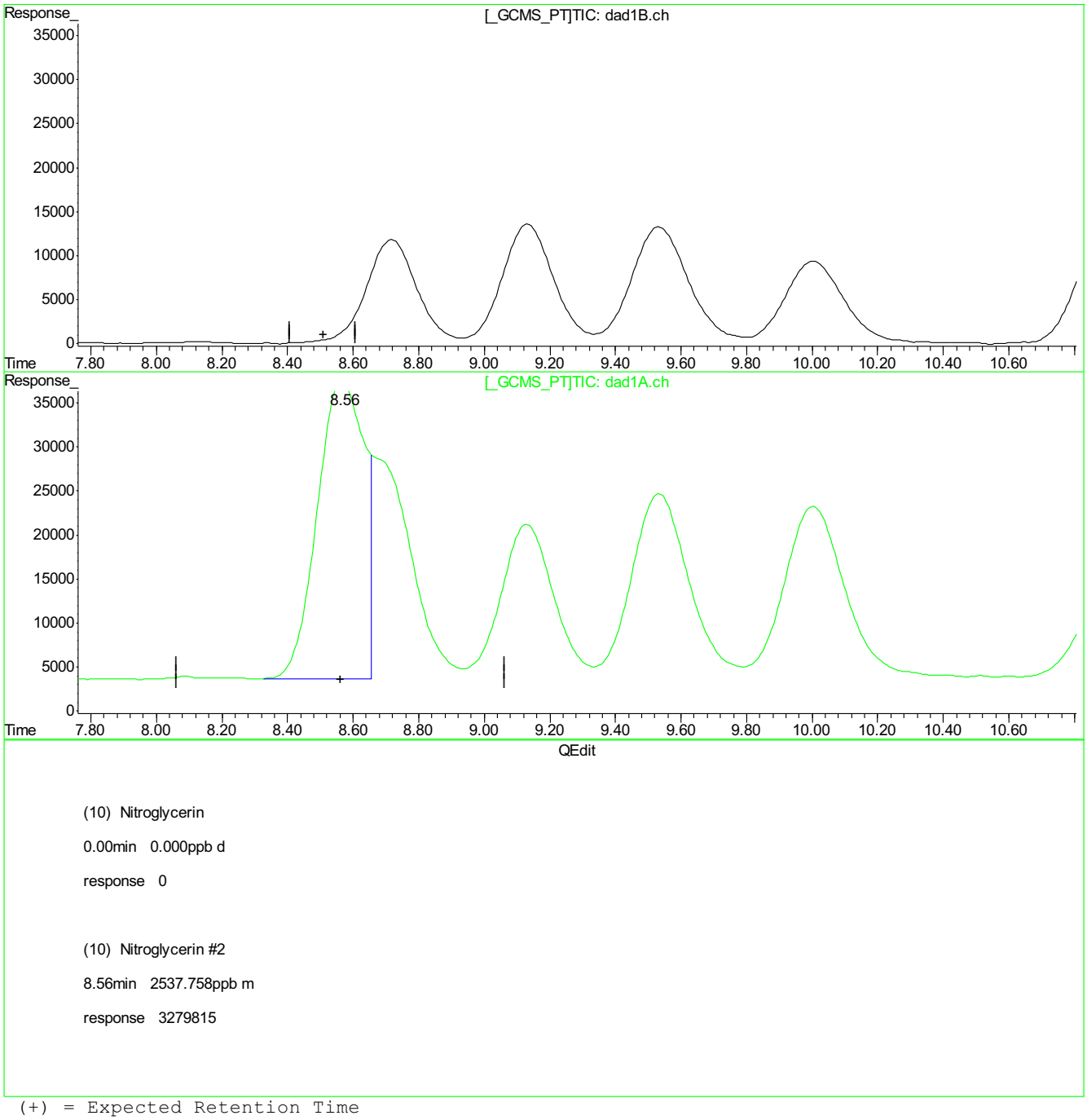
6

BB054268.D edits: Nitroglycerin

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:43:32                    Operator: evitam
Sample    : icv1578-500                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:30 2017

9.5.8.9

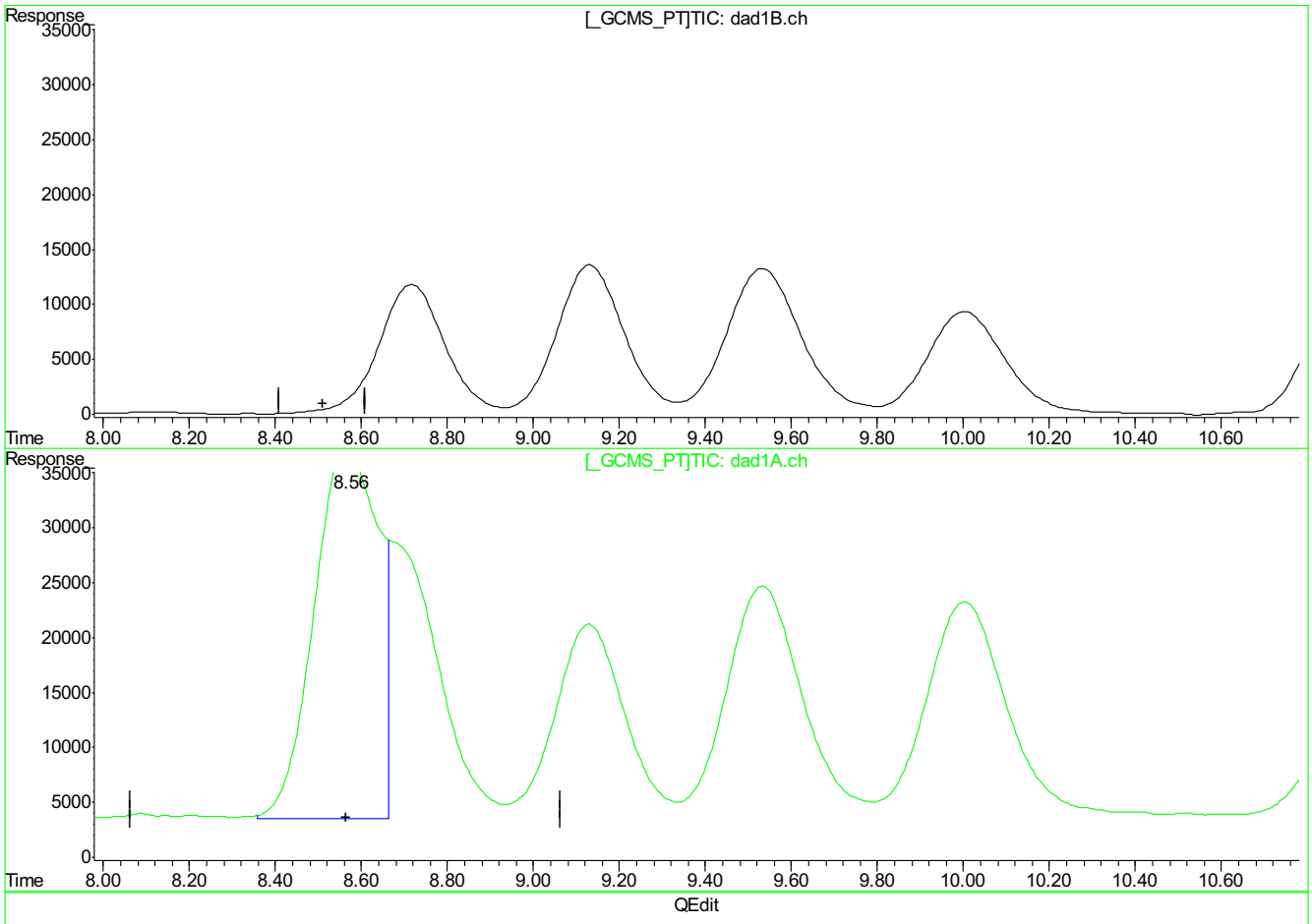
6

BB054268.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.56min 2770.223ppb m

response 3580255

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:12 2017

9.5.8.10

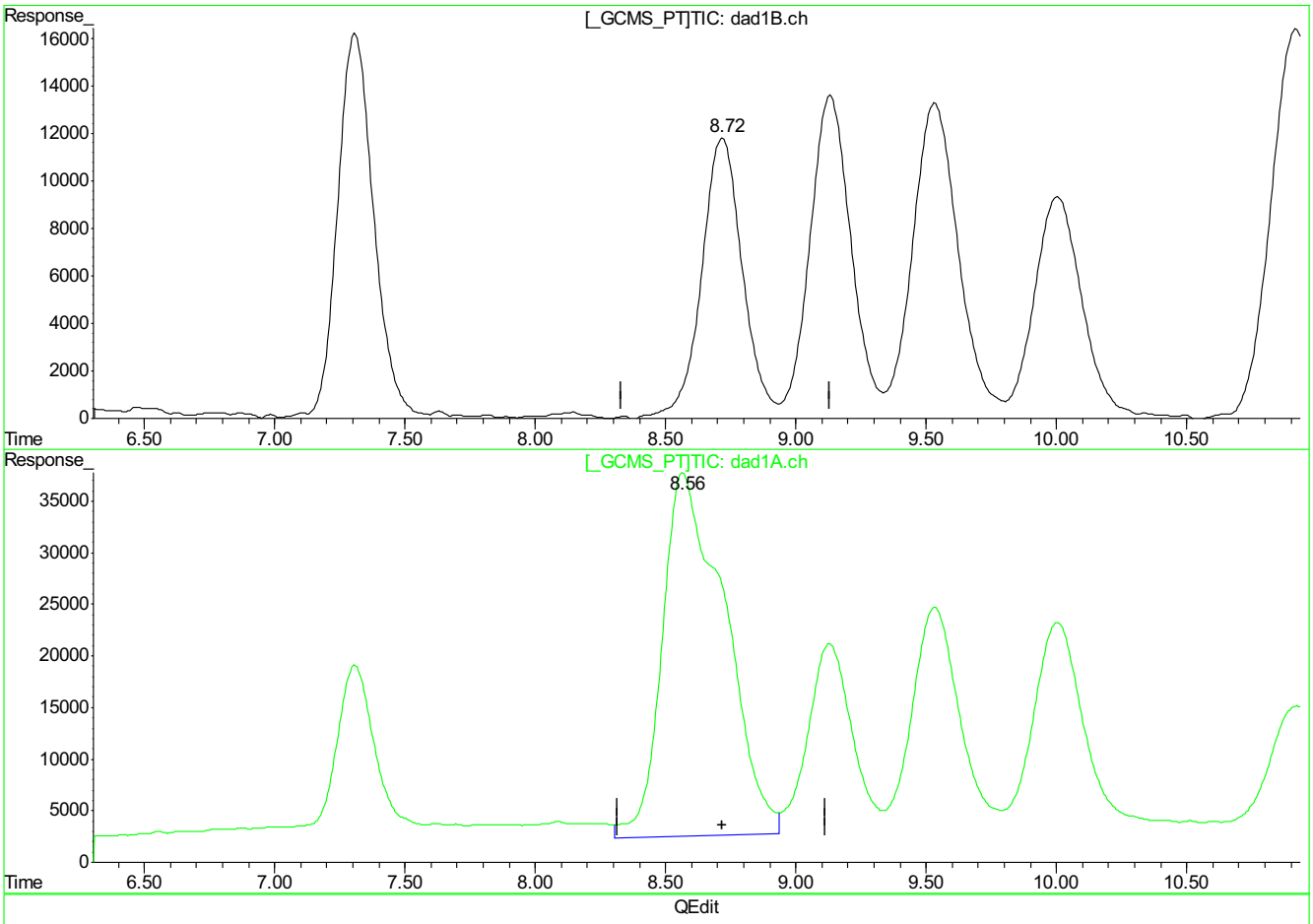
9

BB054268.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.72min 488.373ppb

response 1296223

(11) Tetryl #2

8.57min 1484.374ppb

response 5852129

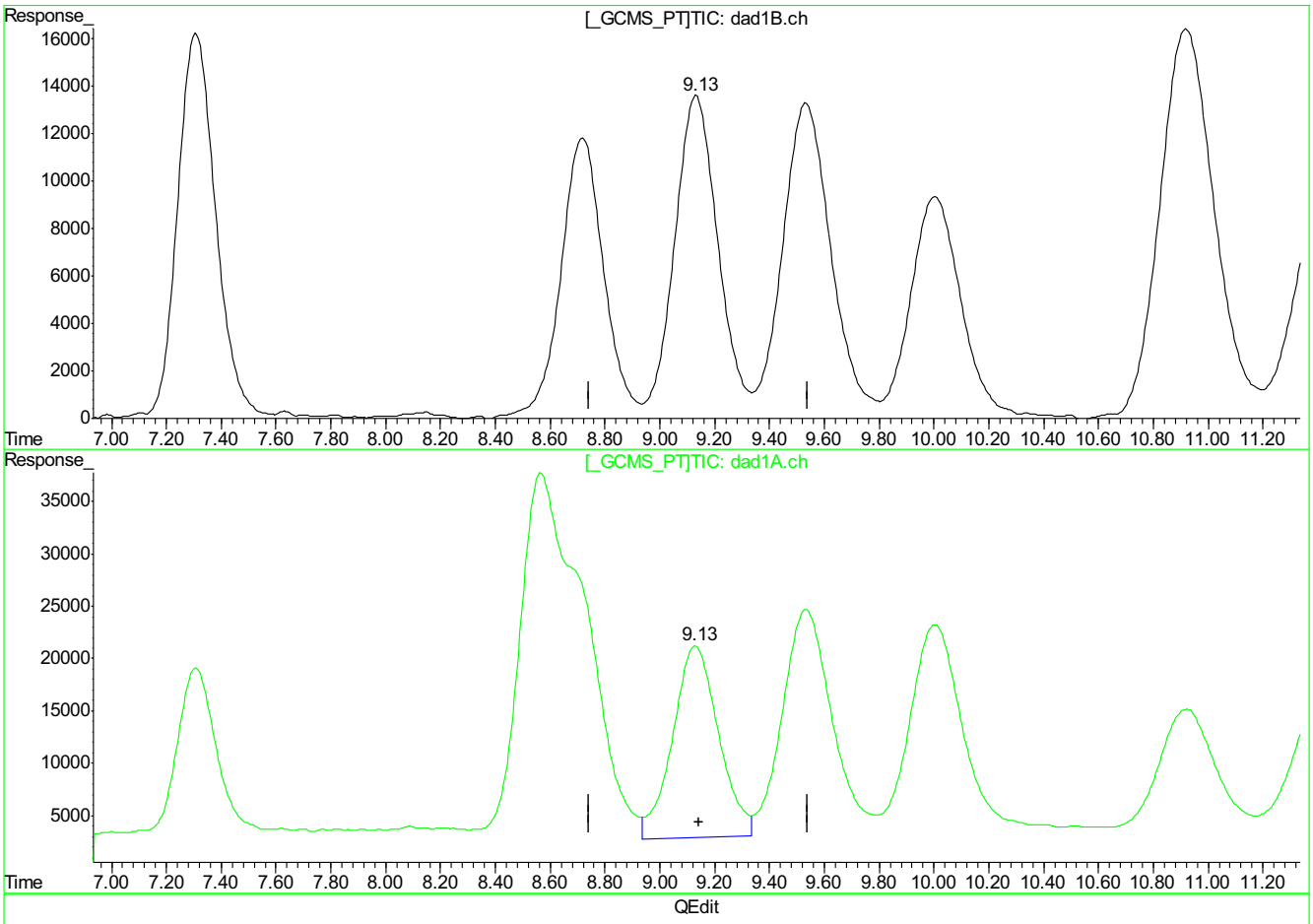
(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:16 2017

BB054268.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.13min 363.916ppb

response 1505599

(12) 2,4,6-Trinitrotoluene #2

9.13min 458.910ppb

response 2138190

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:35 2017

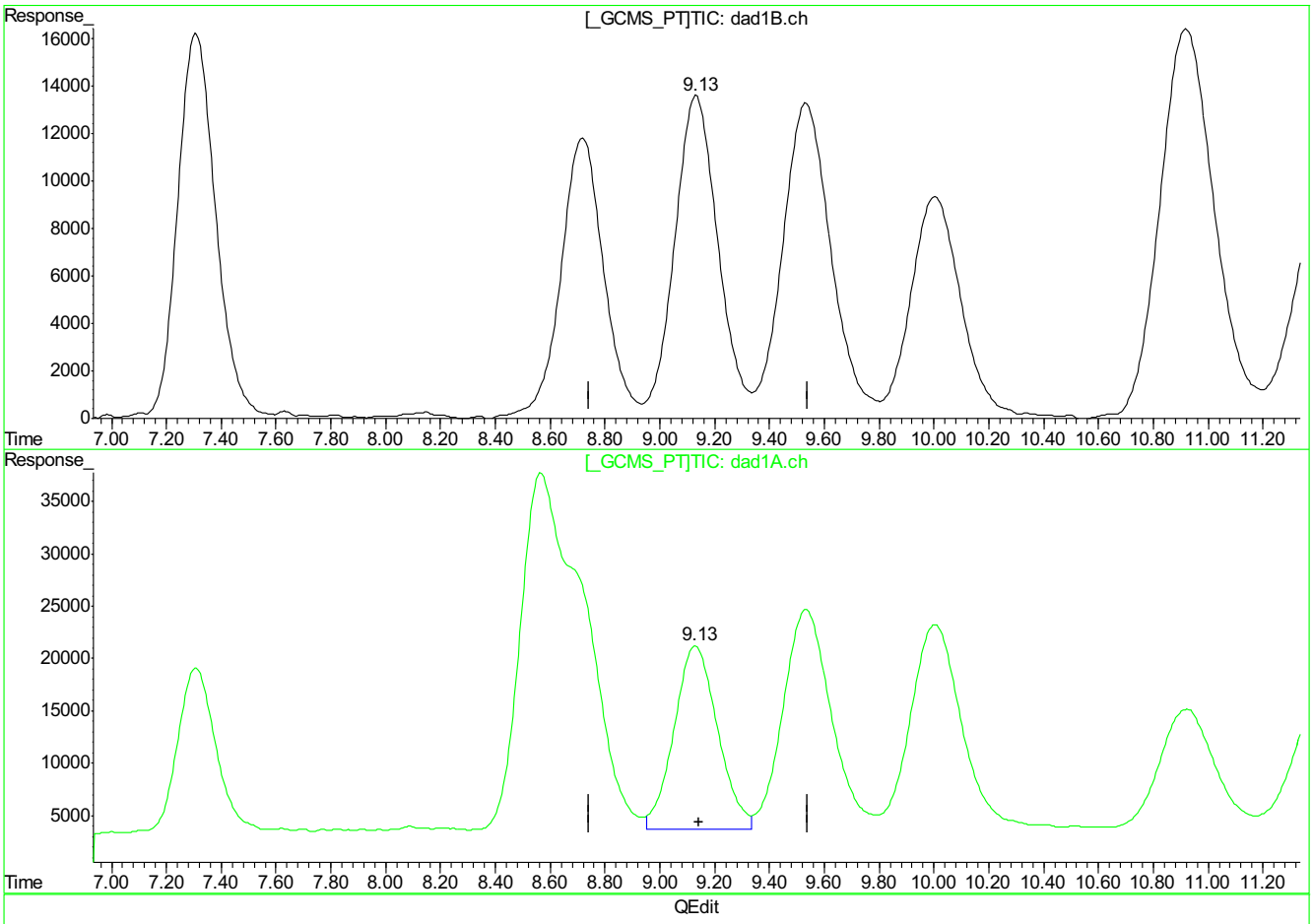
9.5.8.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.13min 363.916ppb

response 1505599

(12) 2,4,6-Trinitrotoluene #2

9.13min 413.123ppb m

response 1924280

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:48 2017

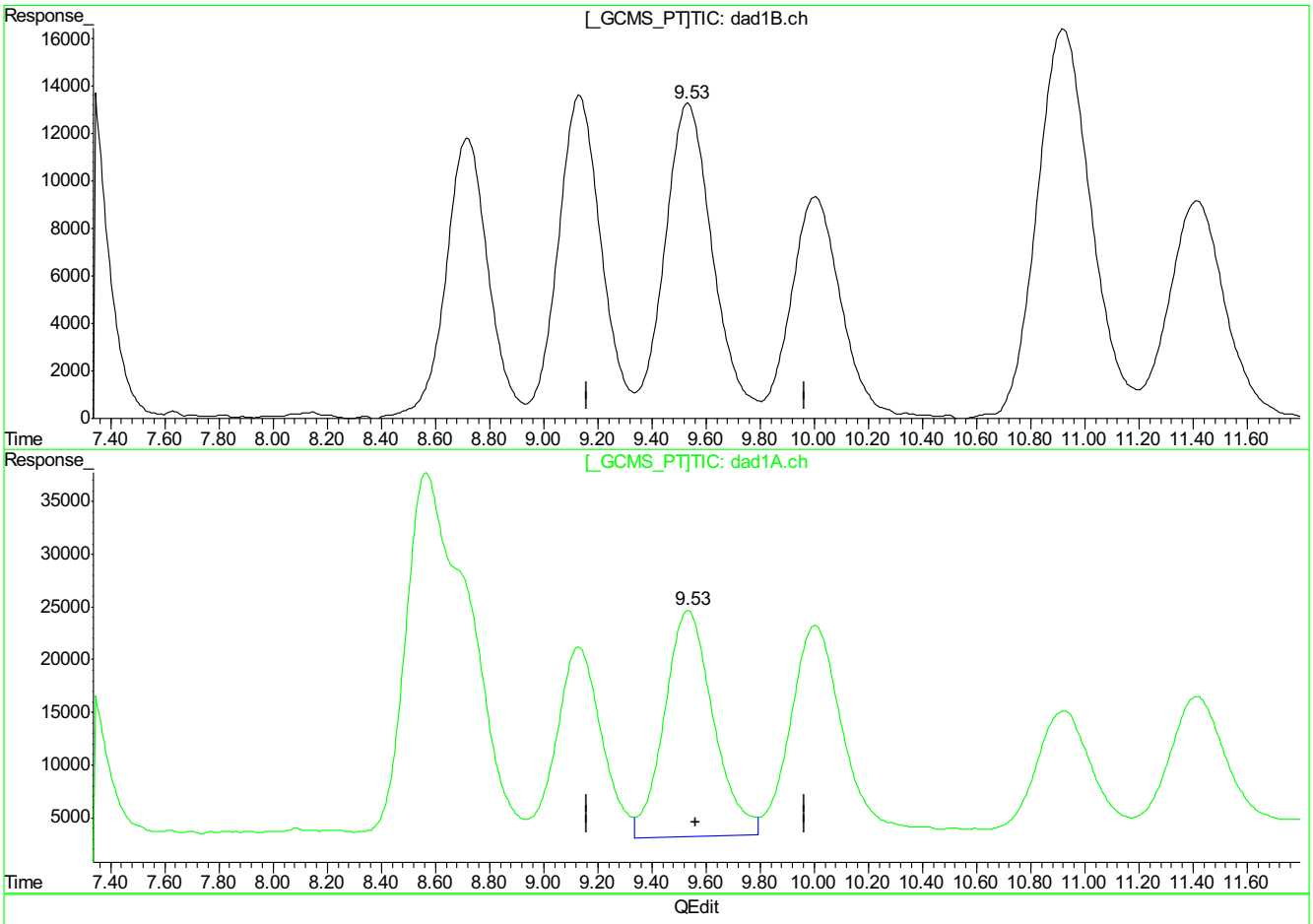
9.5.8.13

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.53min 454.444ppb

response 1644535

(13) 2-Amino-4,6-Dinitrotoluene #2

9.53min 497.423ppb

response 2694864

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:53 2017

9.5.8.14

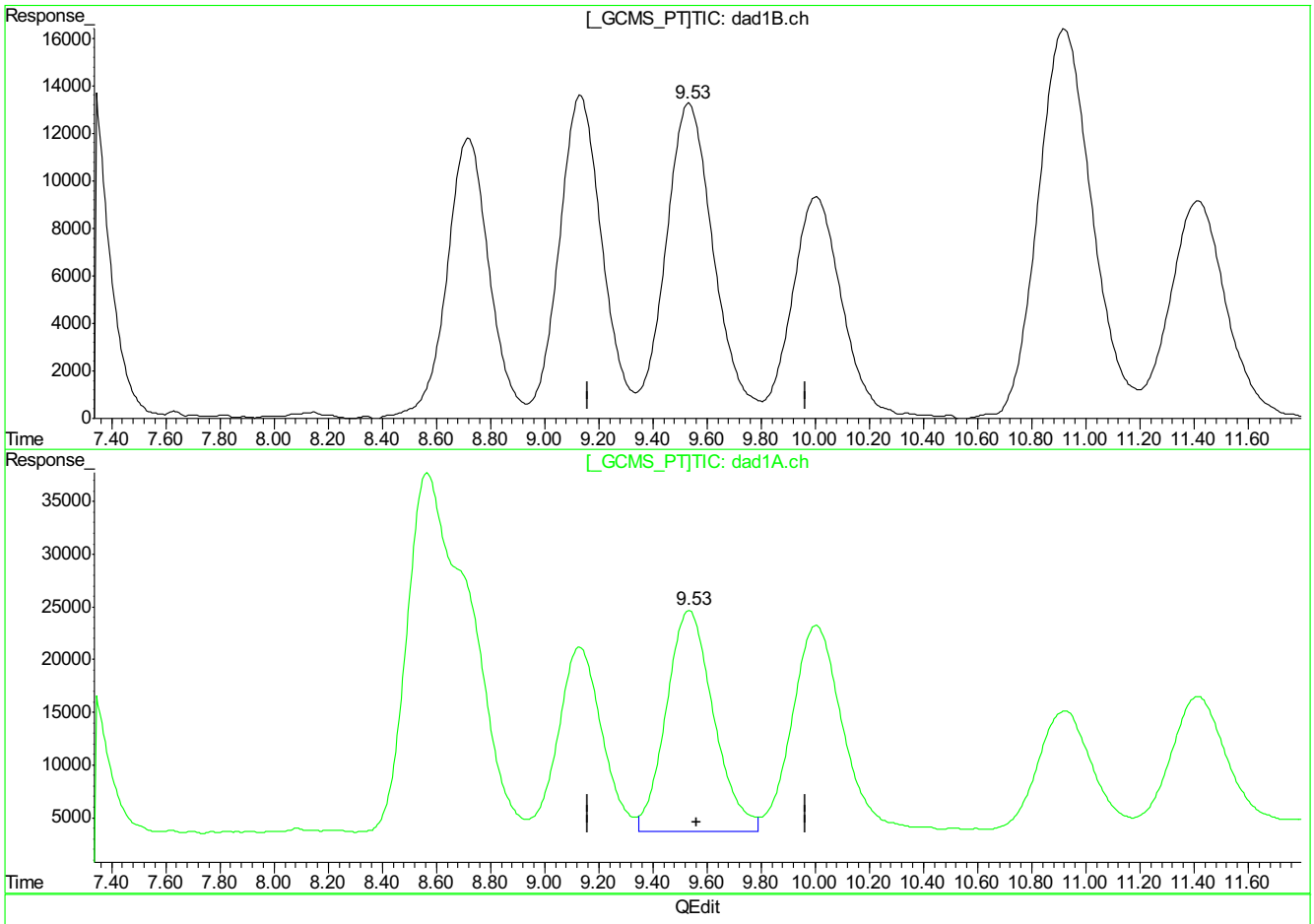
9

BB054268.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:43:32                    Operator: evitam
Sample    : icv1578-500                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration
```



(13) 2-Amino-4,6-Dinitrotoluene

9.53min 454.444ppb

response 1644535

(13) 2-Amino-4,6-Dinitrotoluene #2

9.53min 467.988ppb m

response 2535394

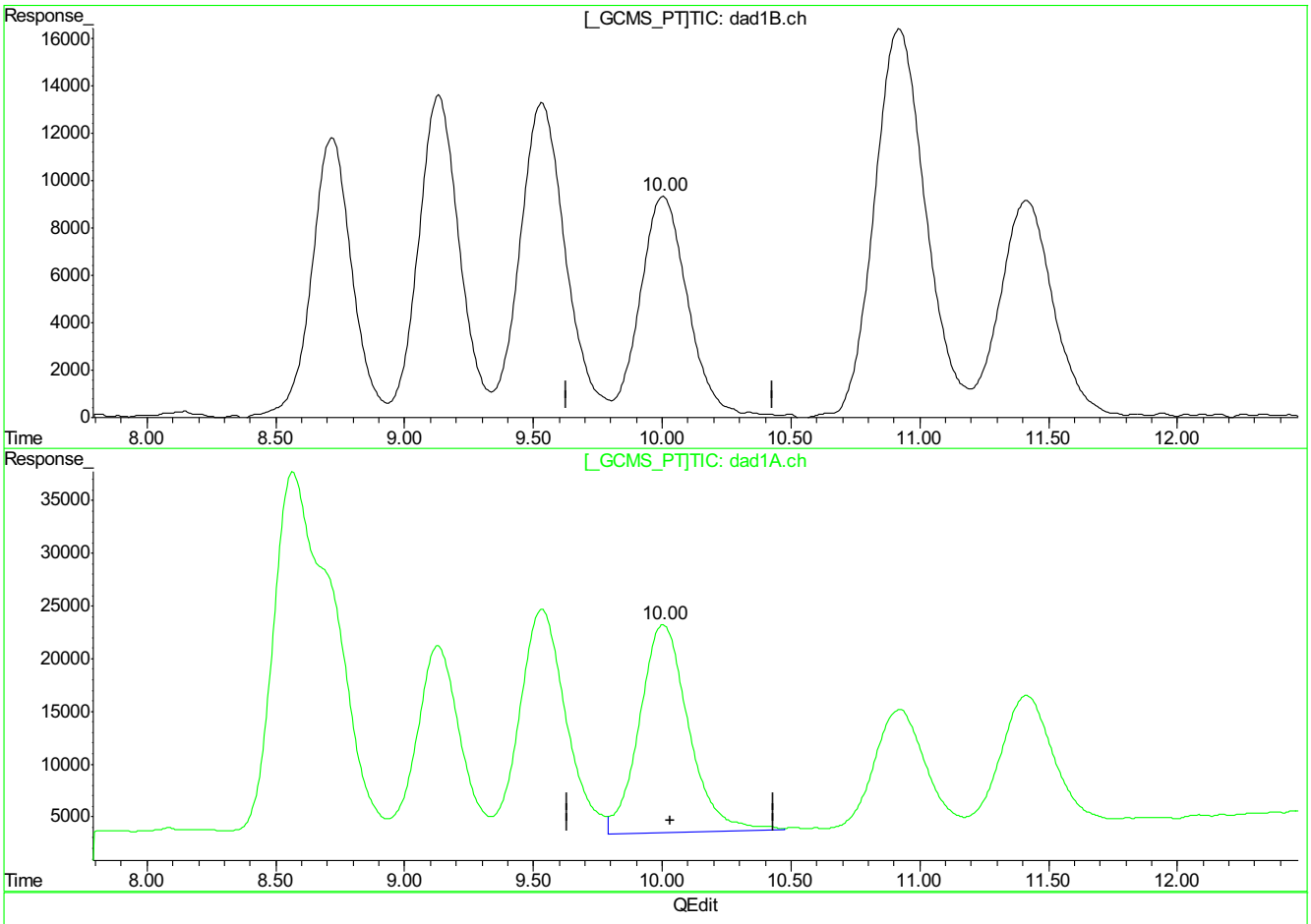
(+) = Expected Retention Time

BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:00 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.01min 464.204ppb

response 1202460

(14) 4-Amino-2,6-Dinitrotoluene #2

10.00min 491.629ppb

response 2612650

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:03 2017

9.5.8.16

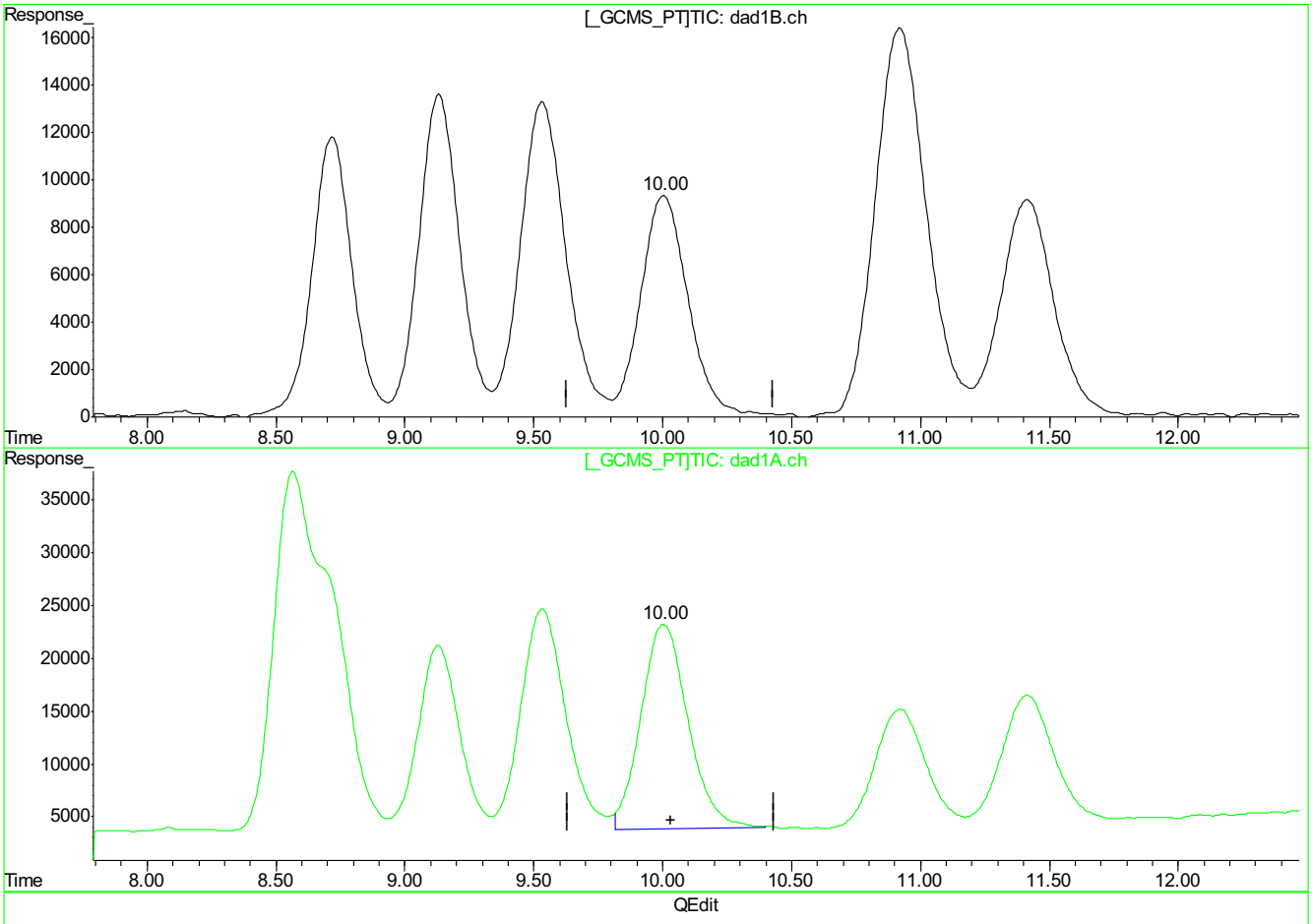
9

BB054268.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.01min 464.204ppb

response 1202460

(14) 4-Amino-2,6-Dinitrotoluene #2

10.00min 460.009ppb m

response 2444612

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:10 2017

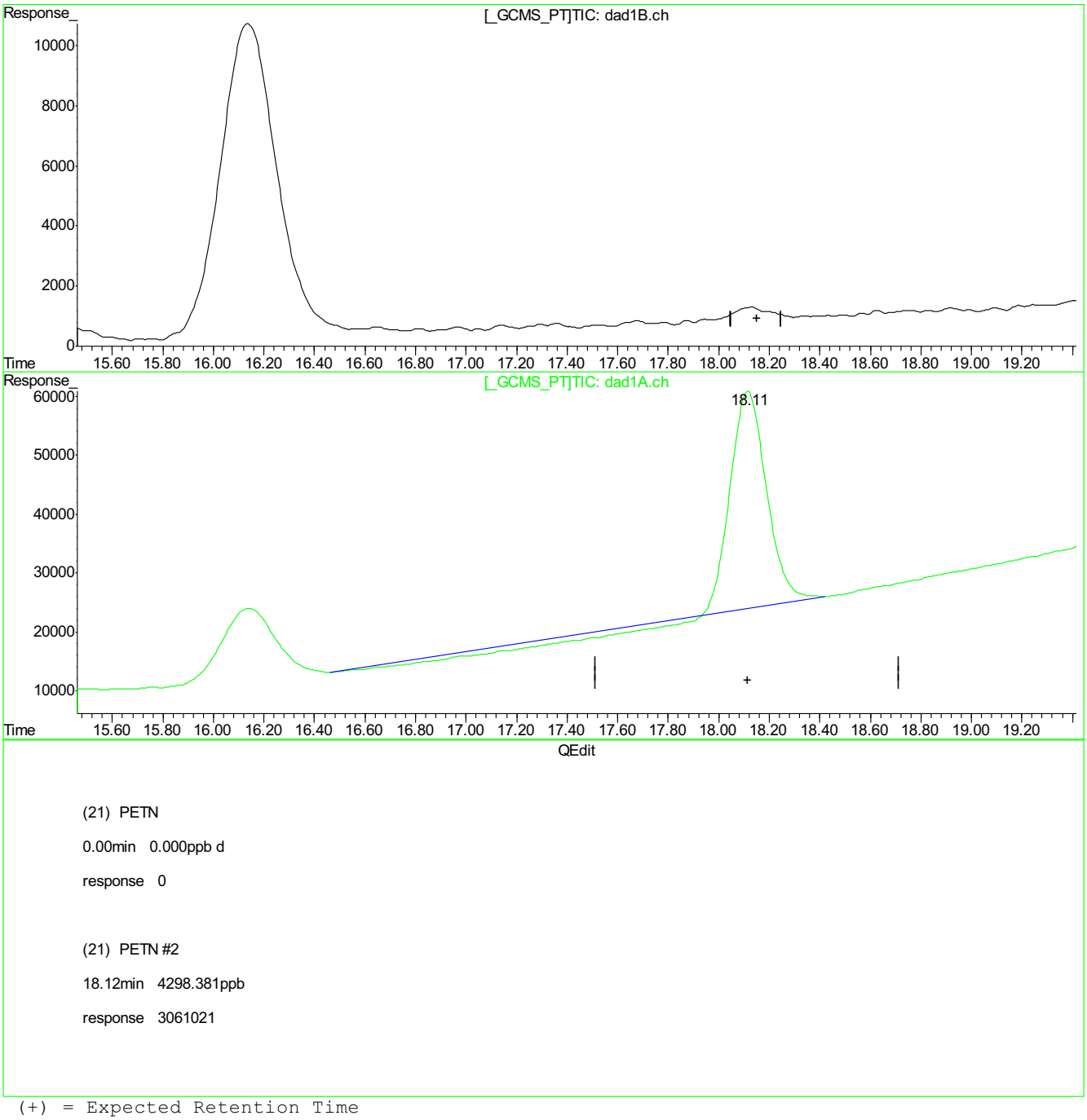
9.5.8.17

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.12min 4298.381ppb

response 3061021

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:23 2017

9.5.8.18

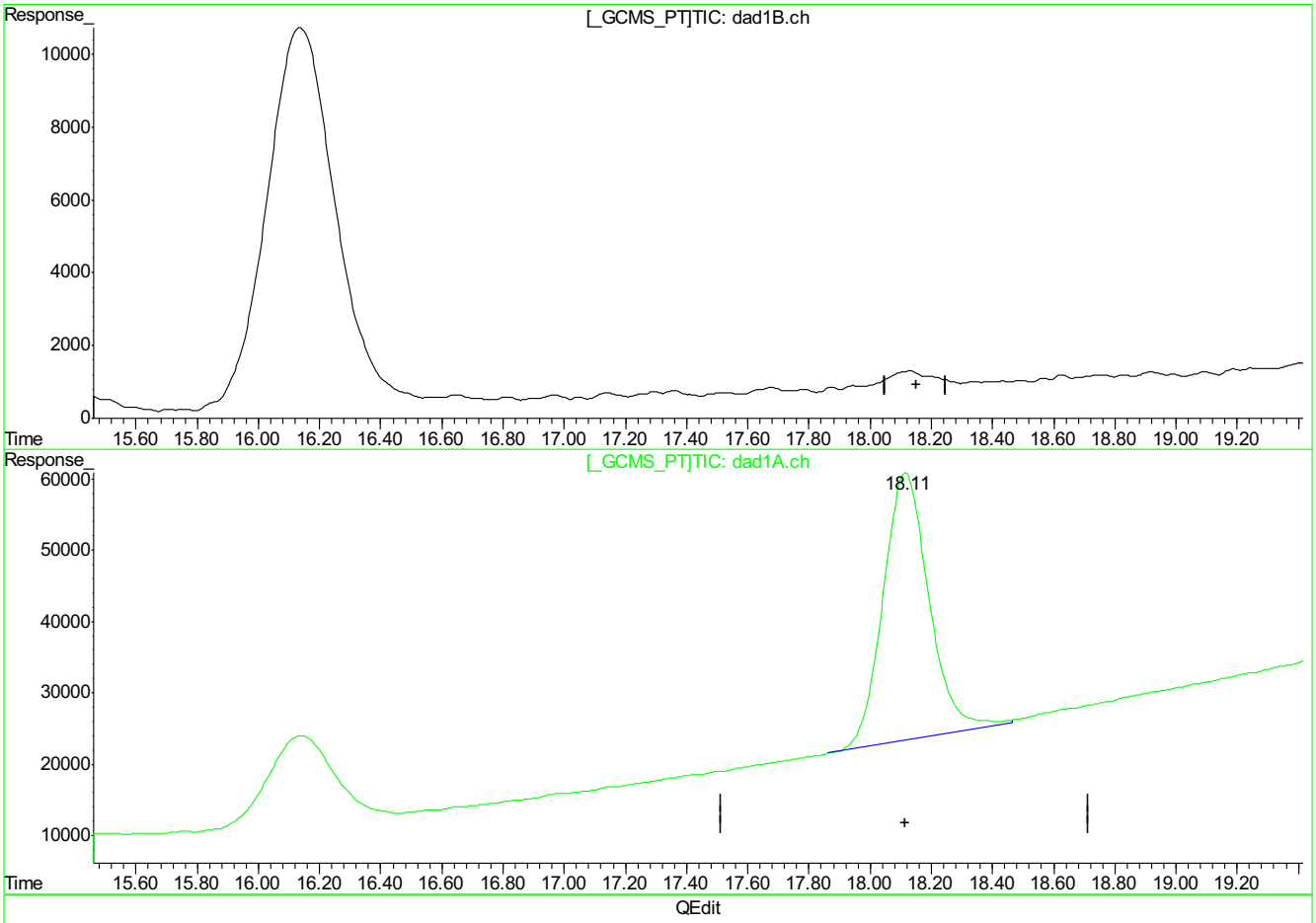
9

BB054268.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.11min 5462.601ppb m

response 3874882

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:26 2017

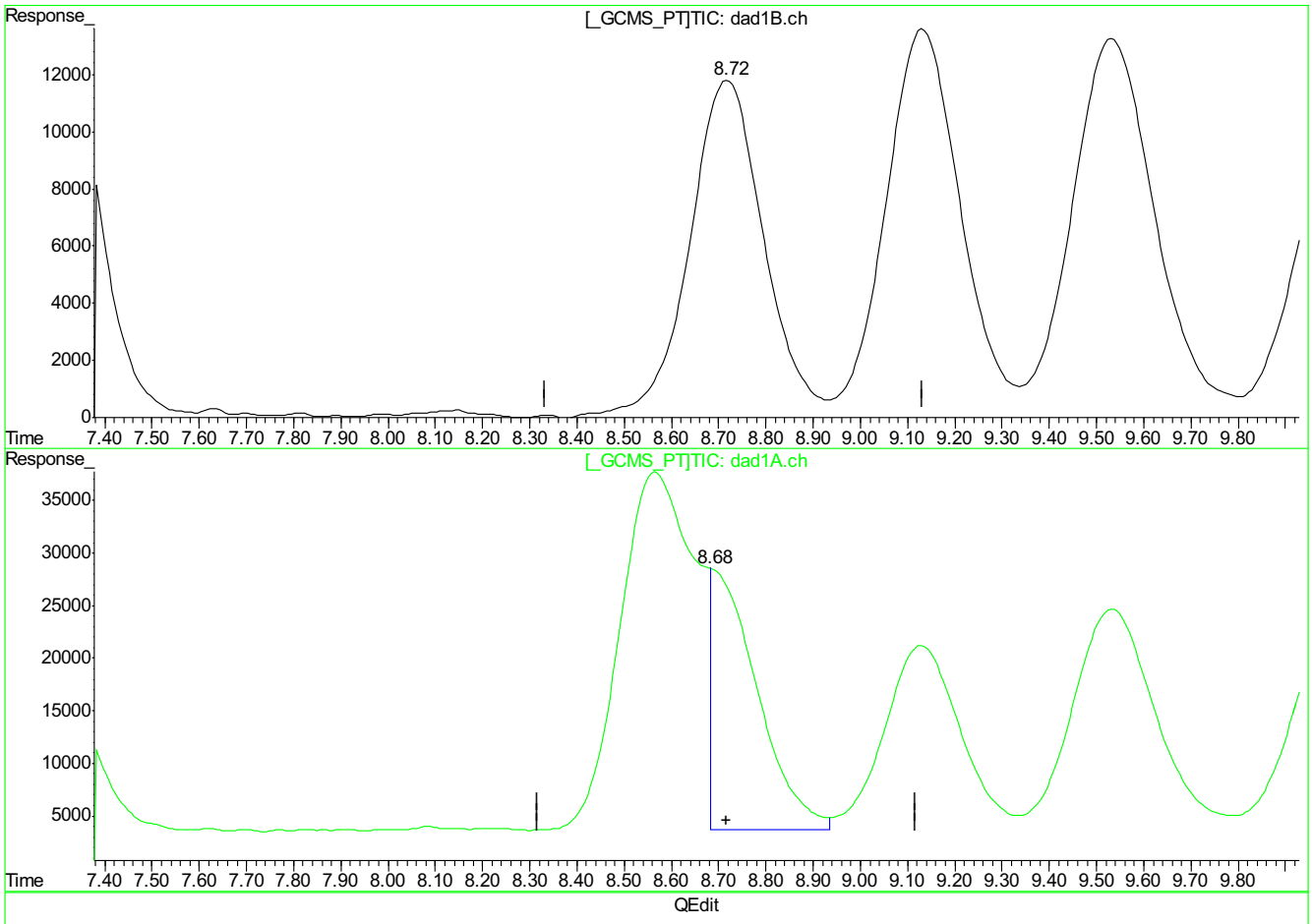
9.5.8.19

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 10:40 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.72min 488.373ppb

response 1296223

(11) Tetryl #2

8.68min 417.239ppb m

response 1668445

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Thu Apr 20 11:42:39 2017

9.5.8.20

6

BB054268.D edits: Tetryl

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1A.ch
Acq On : 19-Apr-2017, 15:57:04 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 16:48:00 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.15	9.15	1933074	2387703	513.672	512.284
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

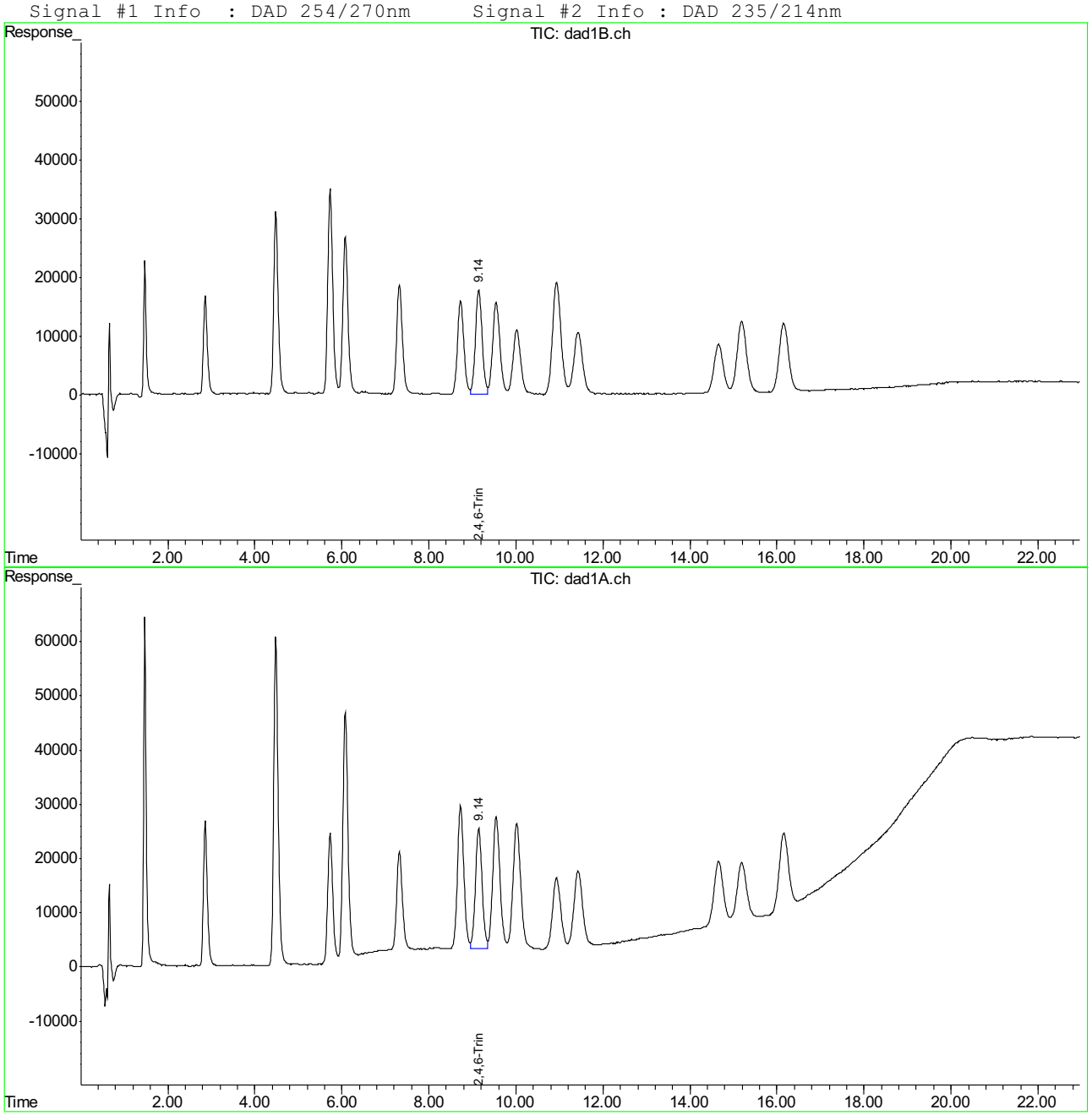
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054270.D 8330B_0419PLUS.M Thu Apr 20 11:04:58 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1A.ch
Acq On : 19-Apr-2017, 15:57:04 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 10:35 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



BB054270.D 8330B_0419PLUS.M Thu Apr 20 11:04:58 2017 Page 2

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/24/17 14:55

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:39 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.19	10.18	2190014	3970847	953.809	927.284
	Spiked Amount 500.000	Range 70 - 136		Recovery =		190.76%#	185.46%#
	Target Compounds						
1)	TNX	1.35	1.35	3113252	4777211	1032.807	986.174
2)	HMX	1.45	1.45	1614016	4451967	924.058	927.187
3)	DNX	1.71	1.71	2817590	4592154	905.004	981.732
4)	MNX	2.26	2.26	2298594	3588062	926.709	933.818
5)	RDX	2.83	2.83	1841937	2945003	979.977	896.148
6)	1,3,5-Trinitrobe	4.42	4.42	3962587	7725220	917.304	950.320
7)	1,3-Dinitrobenze	5.66	5.66	5281090	3634257	960.135	941.388
8)	3,5-Dinitroanili	6.00	6.00	3806056	6450789	1014.161	965.667
9)	Nitrobenzene	7.25	7.25	3143849	2994992	898.817	936.456m
10)	Nitroglycerin	0.00	8.46	0	6388135	N.D. d	4942.820m
11)	Tetryl	8.61	8.57	2632917	3436027	989.666	864.368m
12)	2,4,6-Trinitroto	9.02	9.02	3777622	4673163	913.084	999.453
13)	2-Amino-4,6-Dini	9.42	9.42	3328996	5082254	919.921	938.093
14)	4-Amino-2,6-Dini	9.89	9.89	2392036	4947212	923.434	930.929
16)	2,4-Dinitrotolue	10.79	10.79	4808610	3187366	947.045	946.794
17)	2,6-Dinitrotolue	11.28	11.28	2716724	3436529	870.687	978.627
18)	o-Nitrotoluene	14.52	14.52	2200974	3158607	949.168	980.996
19)	p-Nitrotoluene	15.04	15.05	3394296	2970856	970.658	1000.665
20)	m-Nitrotoluene	16.01	16.01	3258460	3713439	904.651	1057.014
21)	PETN	0.00	17.99	0	7665557	N.D. d	11012.693m

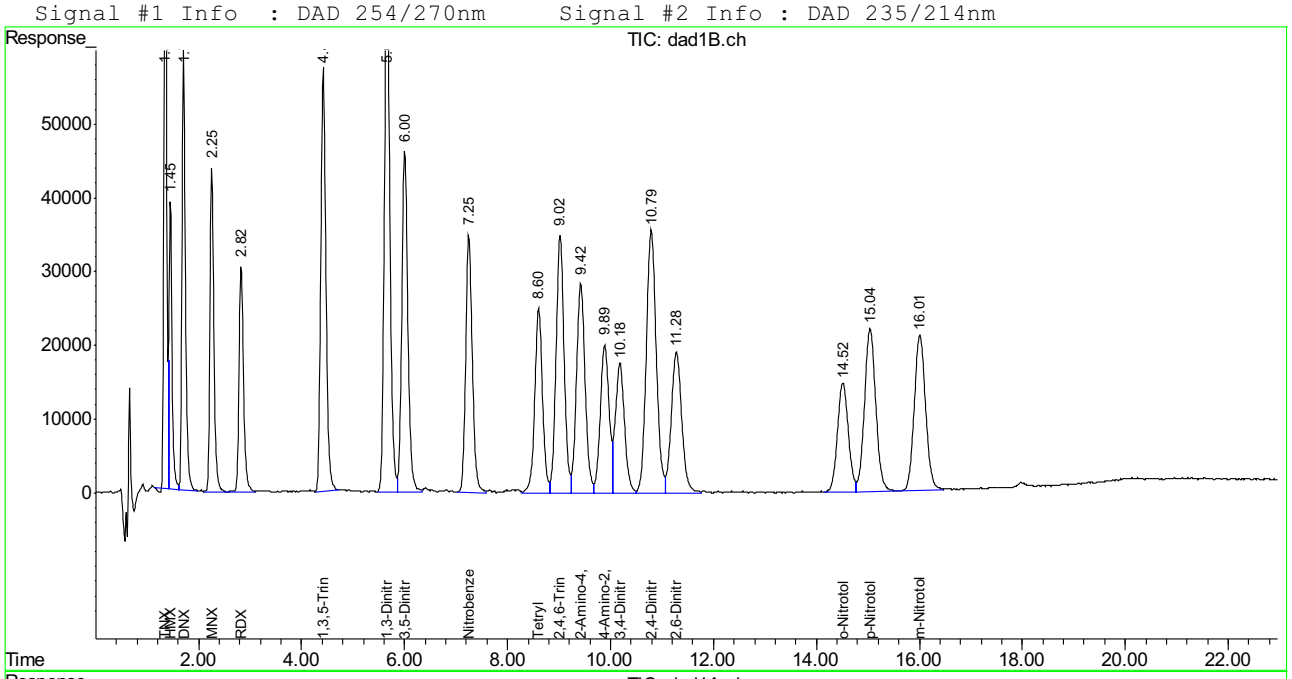
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054283.D 8330B_0419PLUS.M Fri Apr 21 10:12:18 2017 Page 1

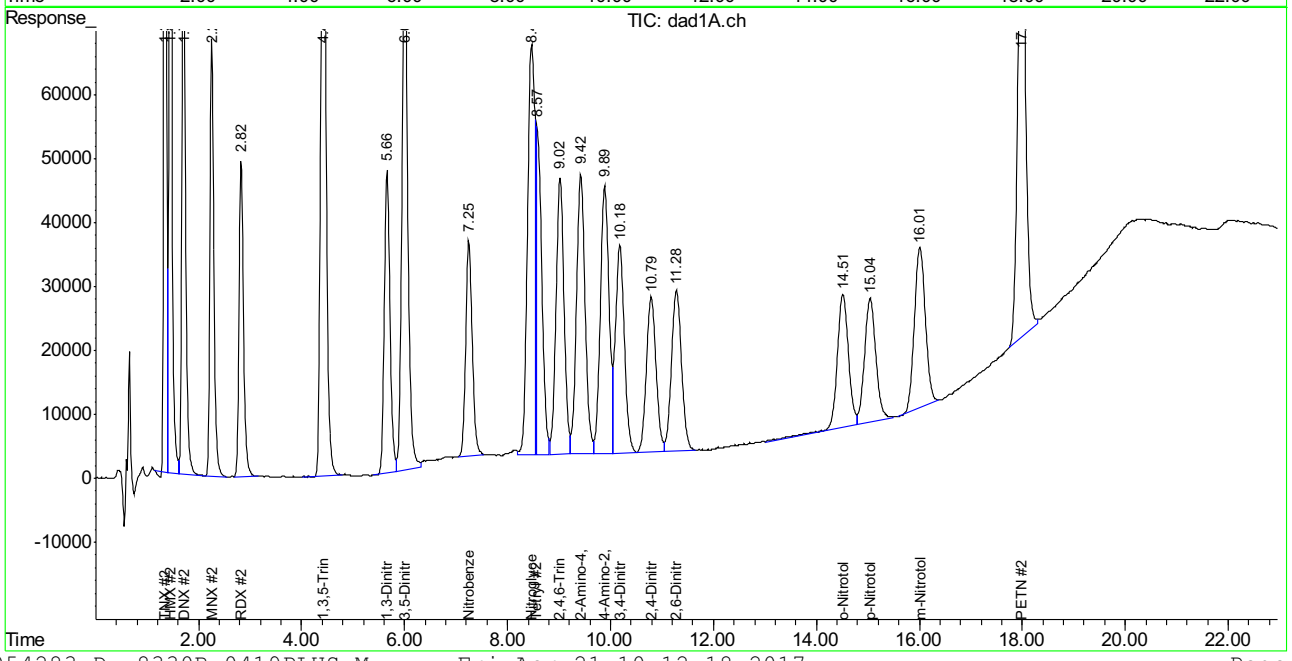
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:07 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

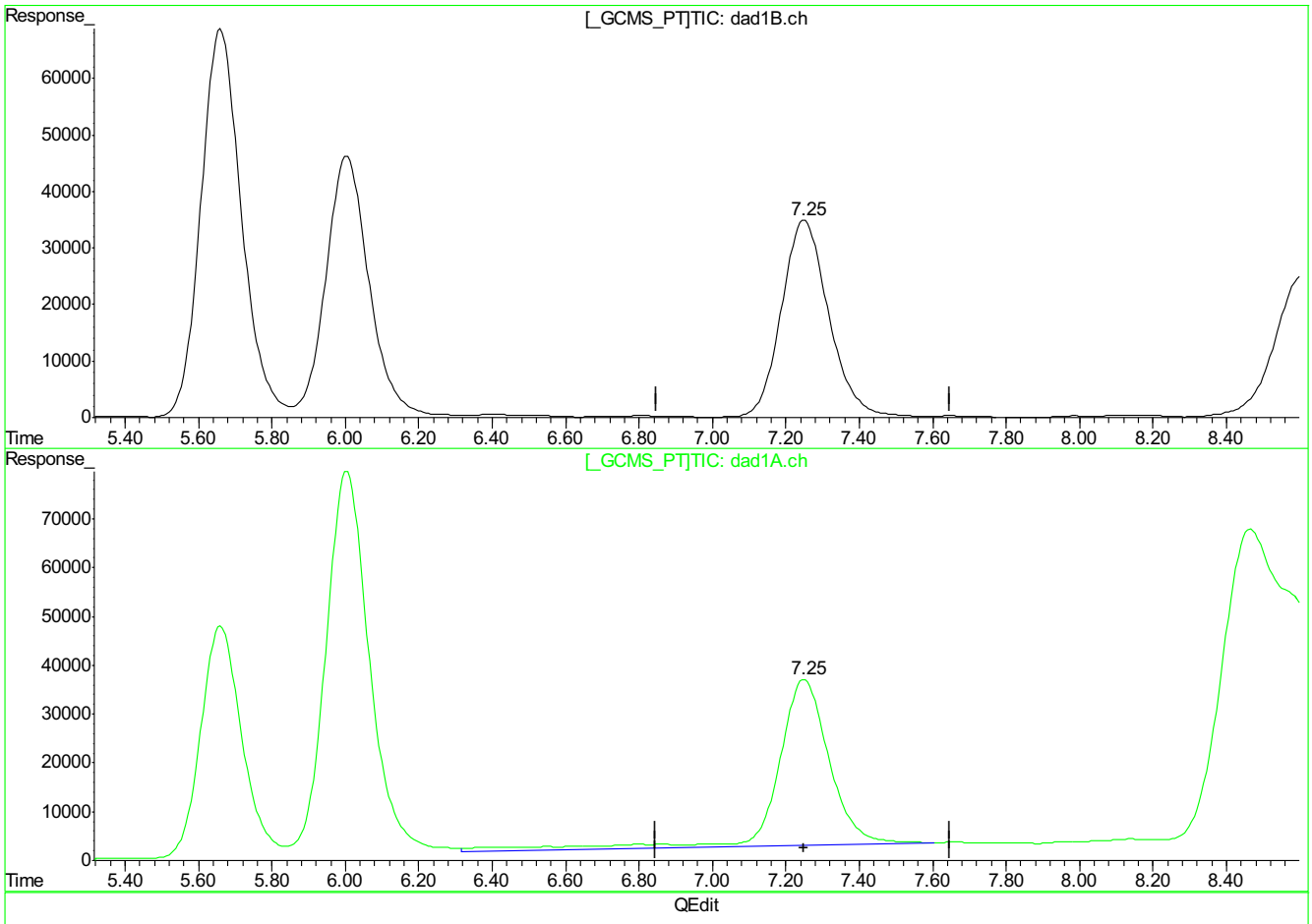
Sample Number: GBB1579-CC1578
Lab FileID: BB054283.D
Injection Time: 04/20/17 09:36
Method: SW846 8330A
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/24/17 14:55 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.25	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.46	Poorly defined baseline
Tetryl	479-45-8	2	8.57	Poorly defined baseline
PETN	78-11-5	2	17.99	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.25min 898.817ppb

response 3143849

(9) Nitrobenzene #2

7.25min 1056.394ppb

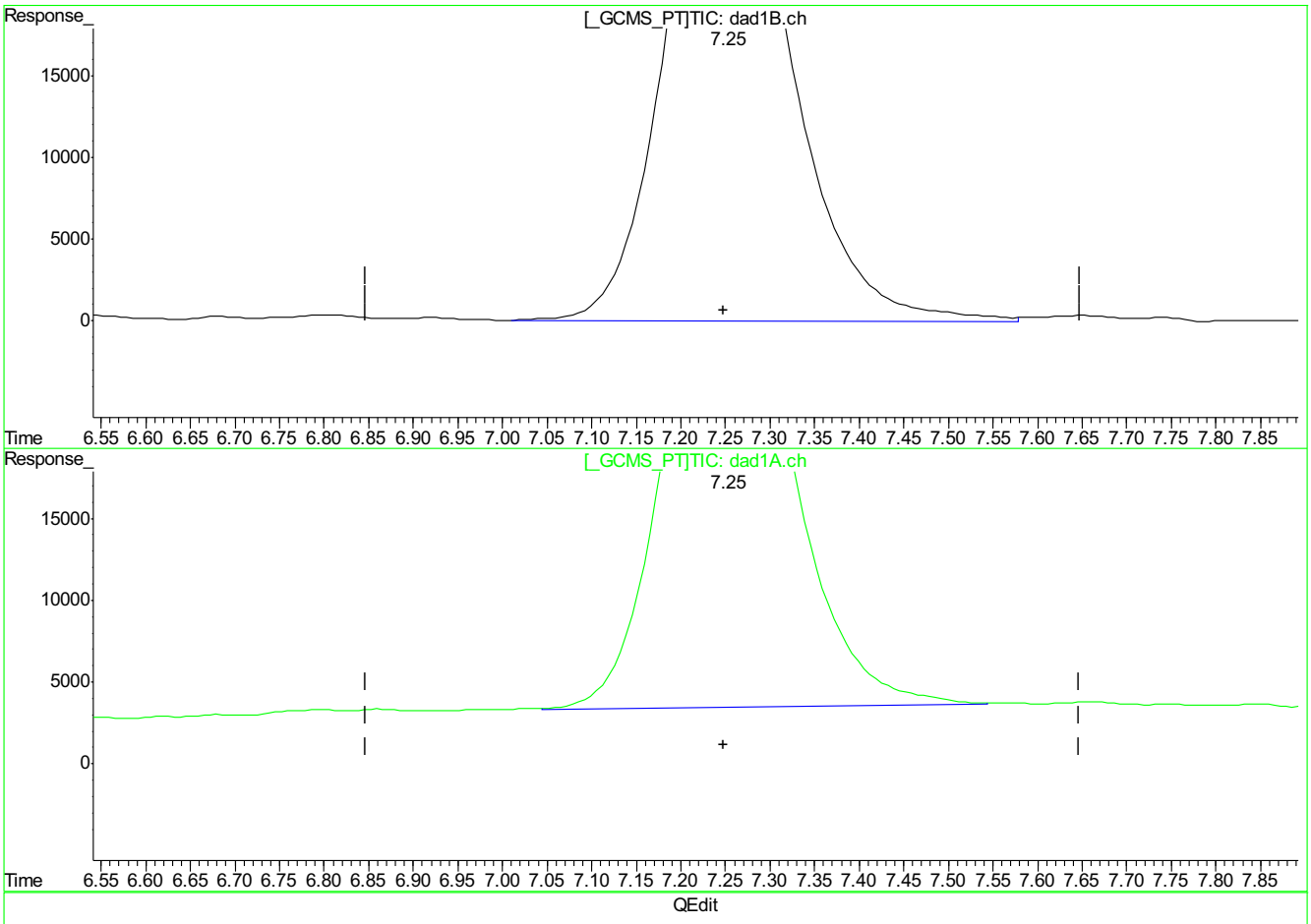
response 3378580

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:04 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.25min 898.817ppb

response 3143849

(9) Nitrobenzene #2

7.25min 936.456ppb m

response 2994992

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:08 2017

9.5.10.3

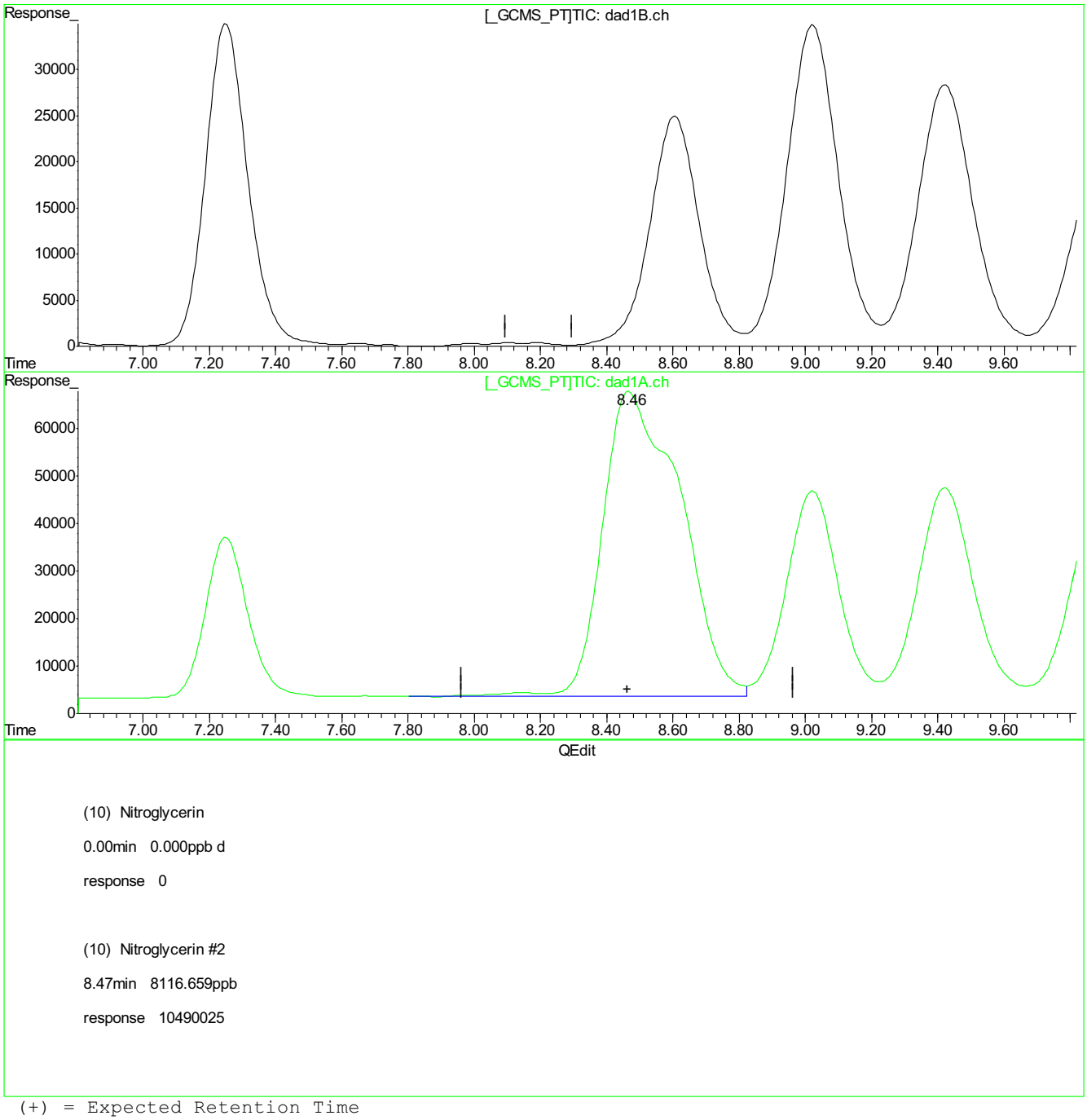
9

BB054283.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.47min 8116.659ppb

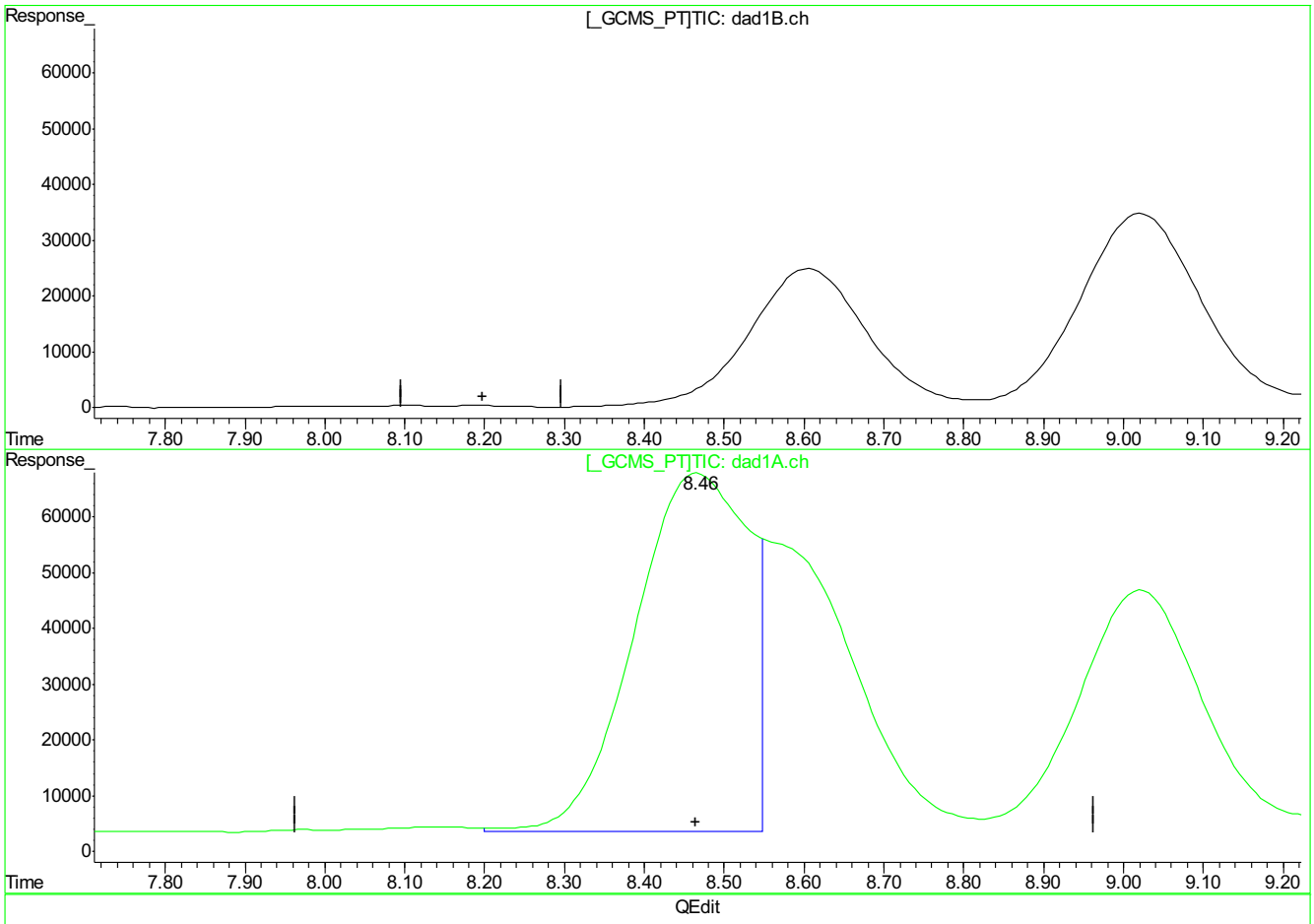
response 10490025

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:11 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On    : 20-Apr-2017, 09:36:24                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      : op64675,gbb1579,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 21  9:00 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
```



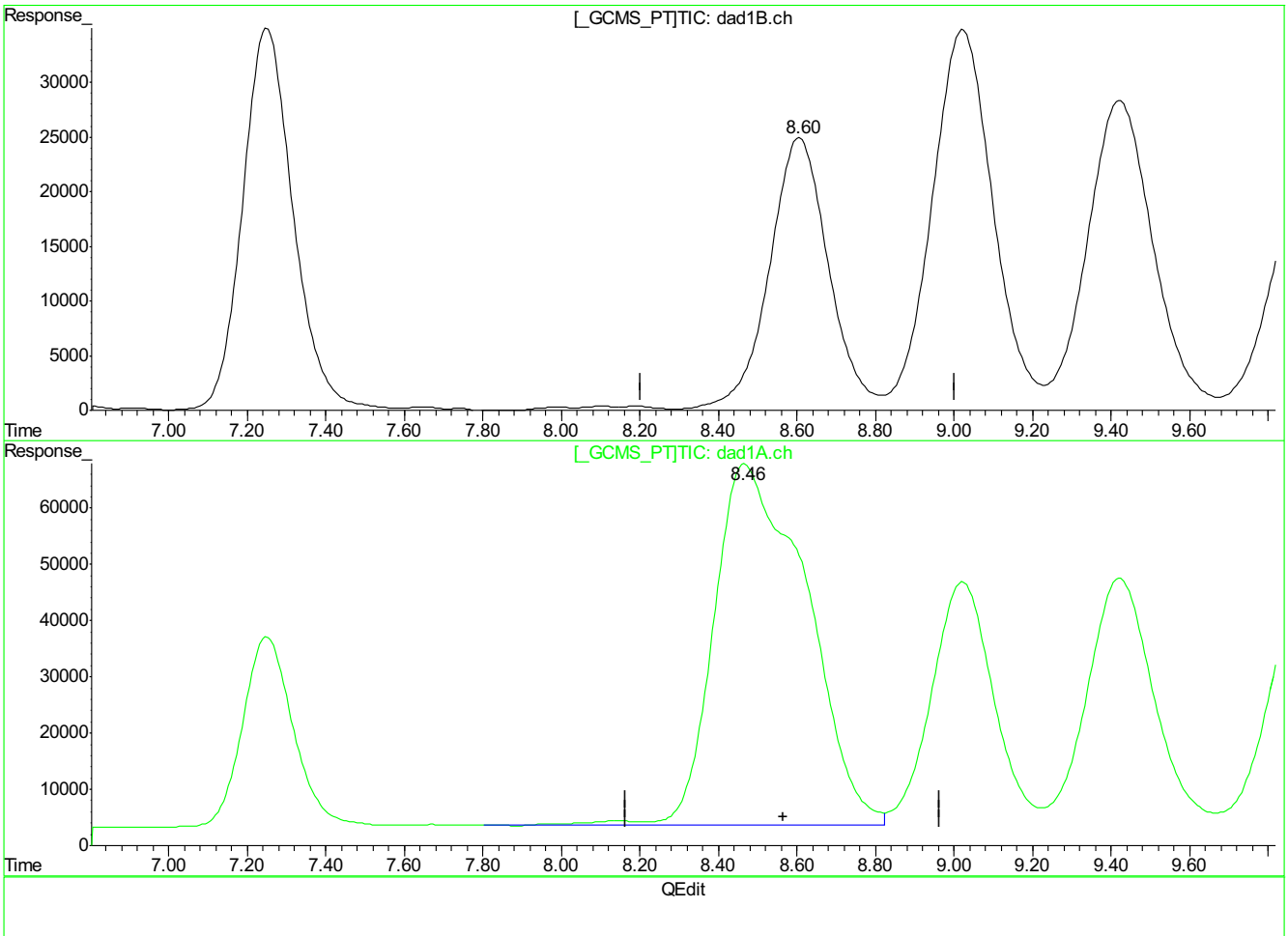
(+) = Expected Retention Time

BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:24 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.61min 989.666ppb

response 2632917

(11) Tetryl #2

8.47min 2704.927ppb

response 10490025

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:27 2017

9.5.10.6

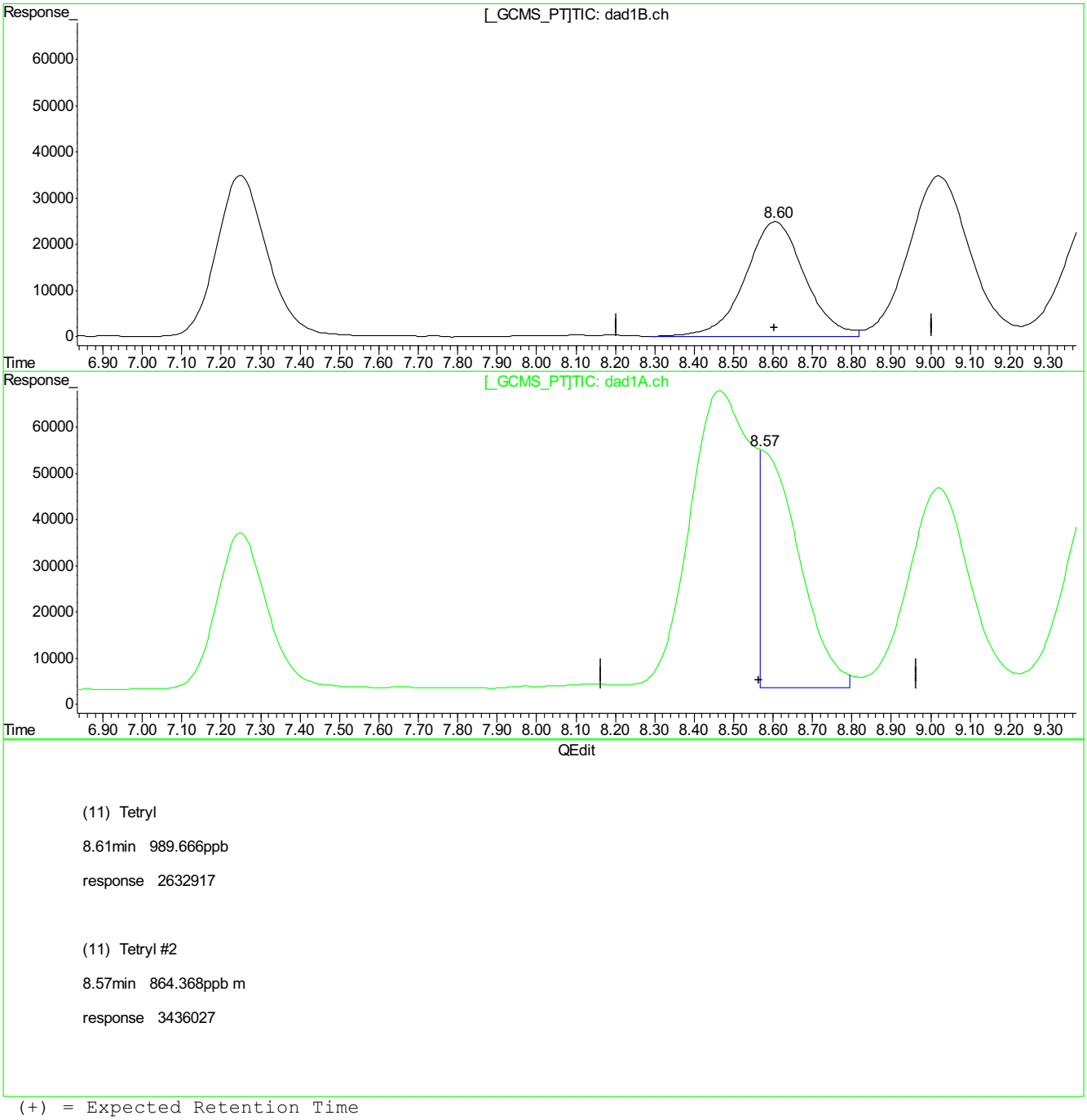
9

BB054283.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.61min 989.666ppb

response 2632917

(11) Tetryl #2

8.57min 864.368ppb m

response 3436027

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:58 2017

9.5.10.7

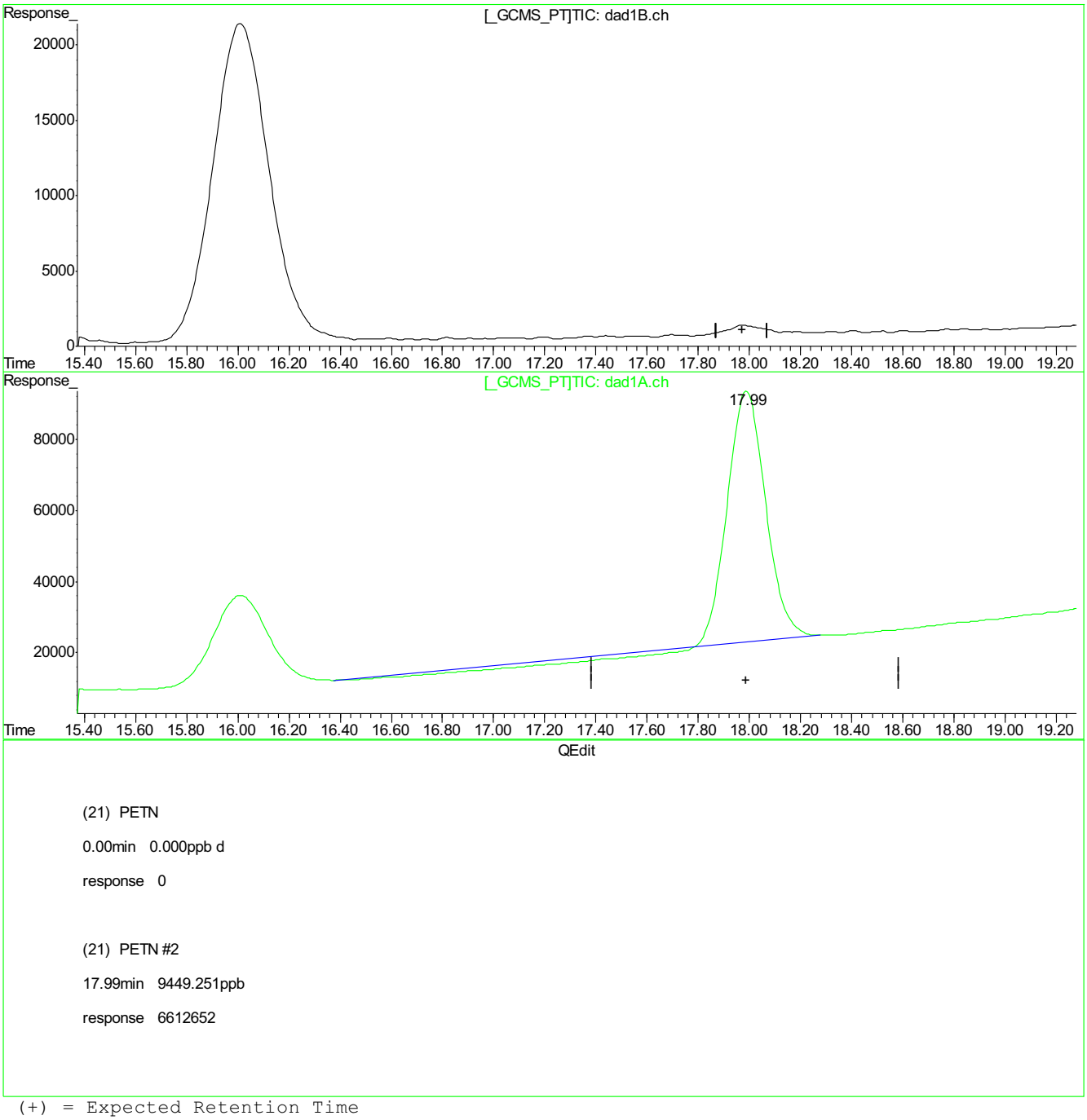
6

BB054283.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

17.99min 9449.251ppb

response 6612652

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:07:07 2017

9.5.10.8

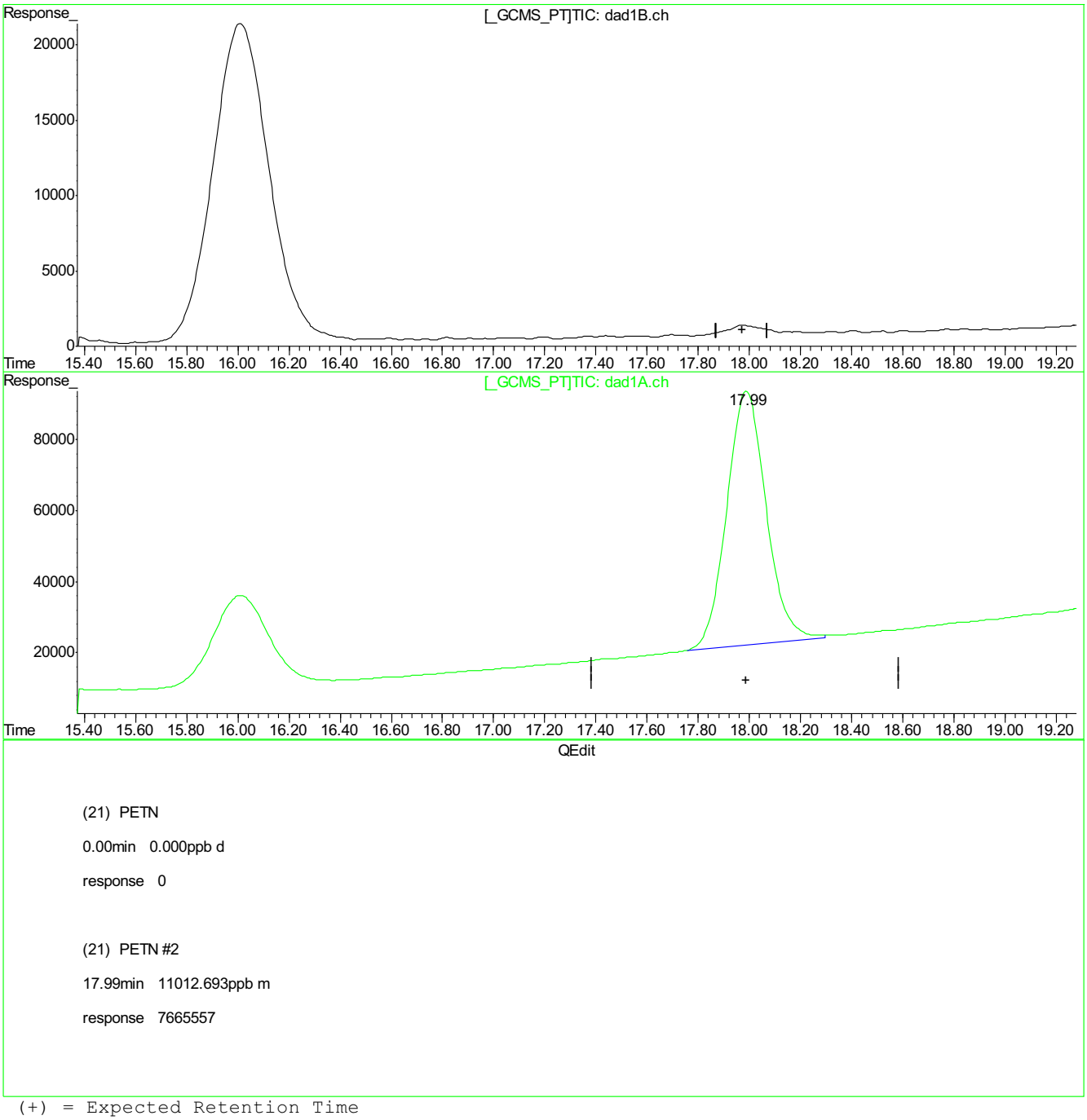
6

BB054283.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

17.99min 11012.693ppb m

response 7665557

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:07:13 2017

9.5.10.9

6

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/24/17 14:55

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:51 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.23	10.23	2171698	3916979	945.831	914.704
	Spiked Amount 500.000	Range 70 - 136		Recovery =		189.17%#	182.94%#
	Target Compounds						
1)	TNX	1.35	1.35	3139900	4817300	1041.647	994.450
2)	HMX	1.46	1.46	1620438	4456672	927.735	928.167
3)	DNX	1.71	1.71	2830881	4592262	909.274	981.755
4)	MNX	2.26	2.26	2300664	3593594	927.544	935.258
5)	RDX	2.83	2.83	1840588	2970561	979.252	903.925
6)	1,3,5-Trinitrobe	4.43	4.43	4001029	7876702	926.203	968.954
7)	1,3-Dinitrobenze	5.68	5.68	5279394	3636223	959.827	941.897
8)	3,5-Dinitroanili	6.01	6.01	3827762	6525310	1019.893	976.823
9)	Nitrobenzene	7.28	7.27	3155979	3019973	902.285	944.267m
10)	Nitroglycerin	0.00	8.49	0	6331344	N.D. d	4898.878m
11)	Tetryl	8.63	8.59	2631300	3534773	989.061	889.505m
12)	2,4,6-Trinitroto	9.06	9.05	3780553	4667854	913.792	998.325
13)	2-Amino-4,6-Dini	9.45	9.44	3344002	5080893	924.068	937.842
14)	4-Amino-2,6-Dini	9.92	9.92	2420357	4969866	934.367	935.192
16)	2,4-Dinitrotolue	10.84	10.84	4804127	3178472	946.162	944.153
17)	2,6-Dinitrotolue	11.34	11.33	2708940	3444984	868.193	981.035
18)	o-Nitrotoluene	14.59	14.59	2203799	3084371	950.386	957.605
19)	p-Nitrotoluene	15.12	15.12	3400614	2936332	972.480	989.037
20)	m-Nitrotoluene	16.09	16.09	3276406	3696152	909.633	1052.093
21)	PETN	0.00	18.03	0	7463335	N.D. d	10711.063m

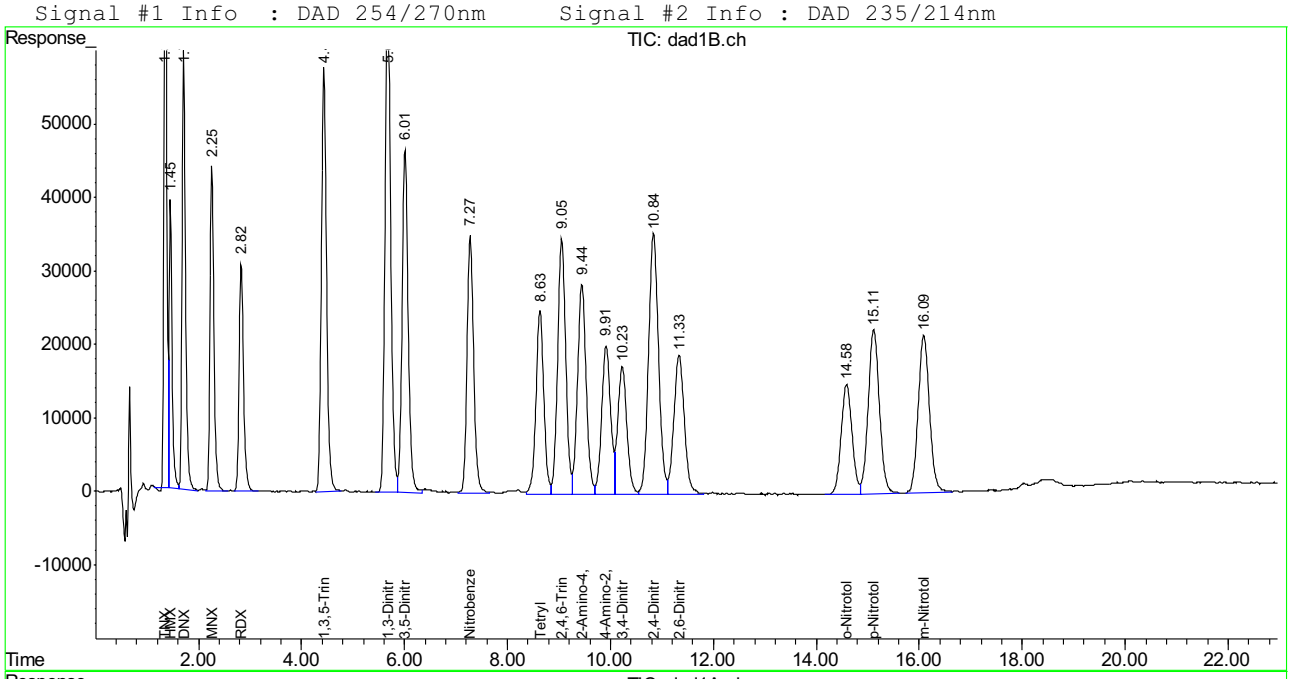
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054295.D 8330B_0419PLUS.M Fri Apr 21 10:12:30 2017 Page 1

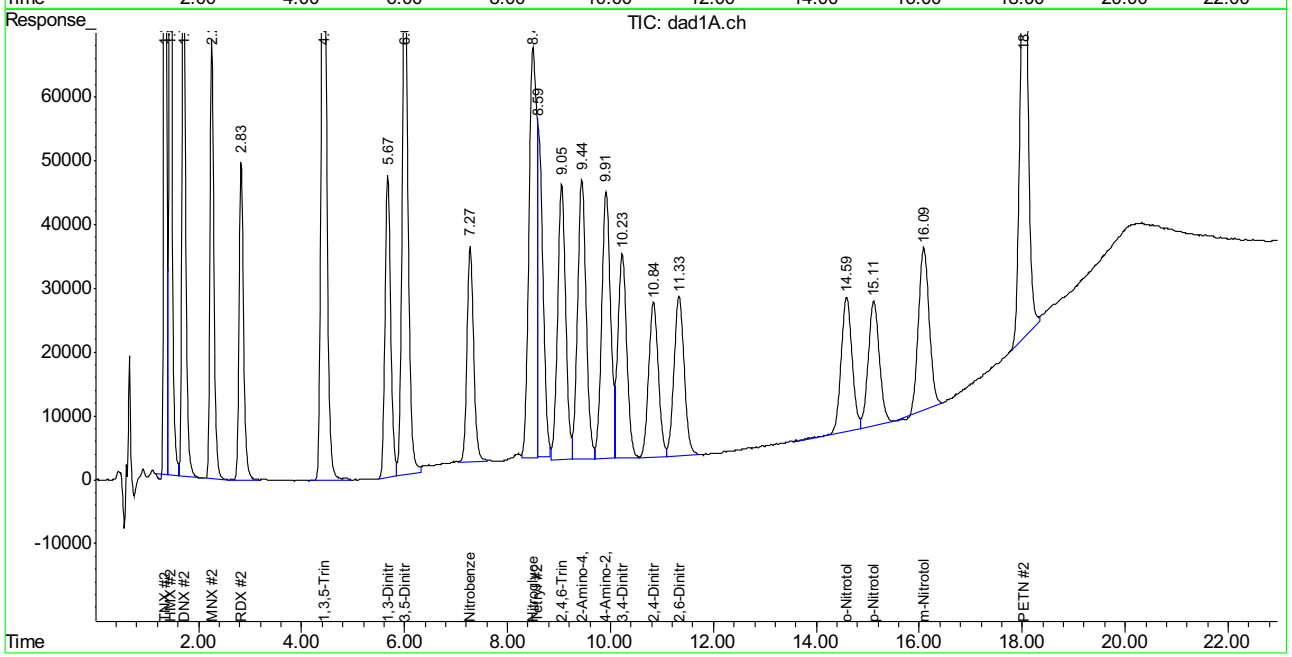
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:09 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

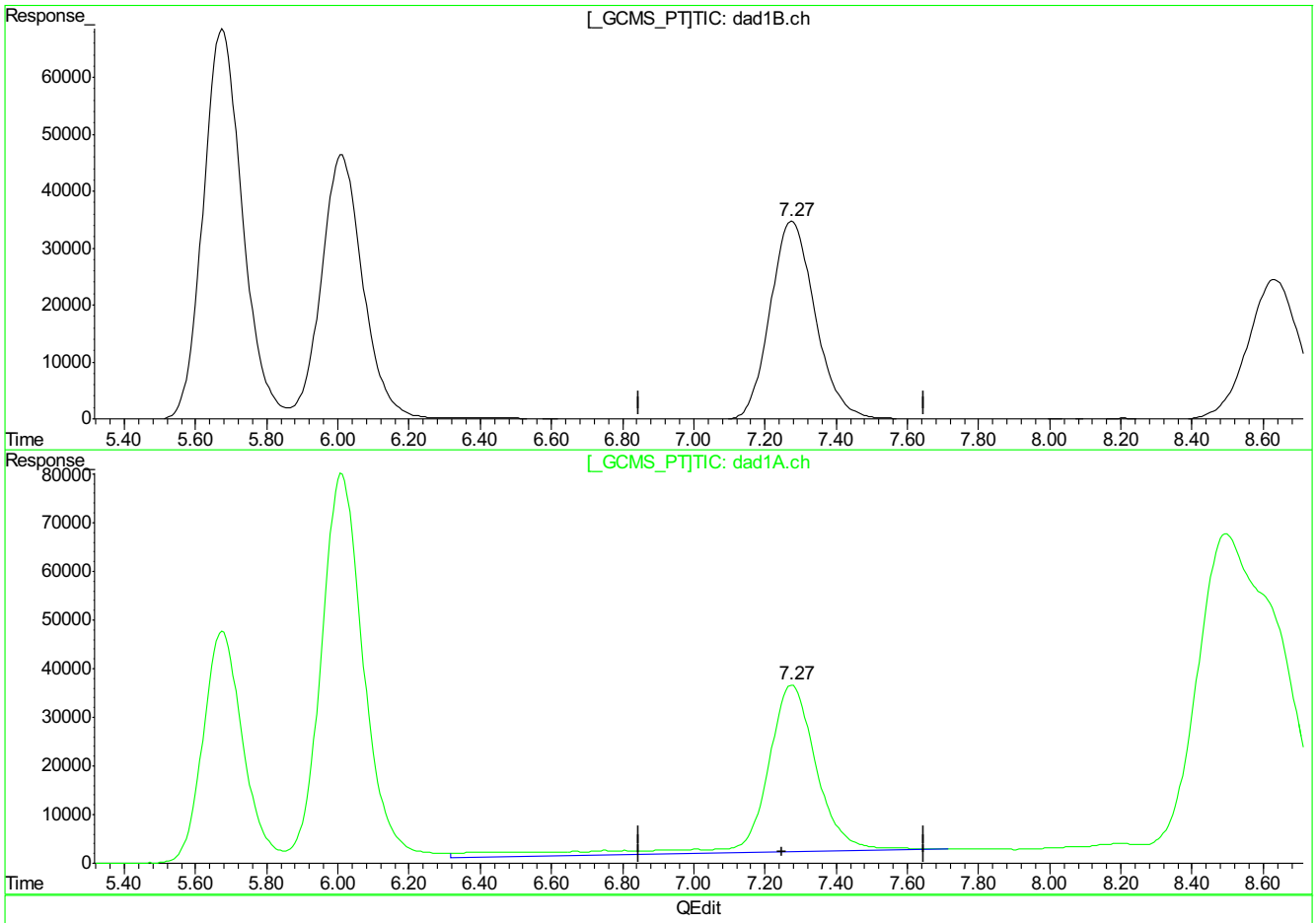
Sample Number: GBB1579-CC1578
Lab FileID: BB054295.D
Injection Time: 04/20/17 15:36
Method: SW846 8330A
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/24/17 14:55 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.27	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.49	Poorly defined baseline
Tetryl	479-45-8	2	8.59	Poorly defined baseline
PETN	78-11-5	2	18.03	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 902.285ppb

response 3155979

(9) Nitrobenzene #2

7.28min 1116.878ppb

response 3572022

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:07:34 2017

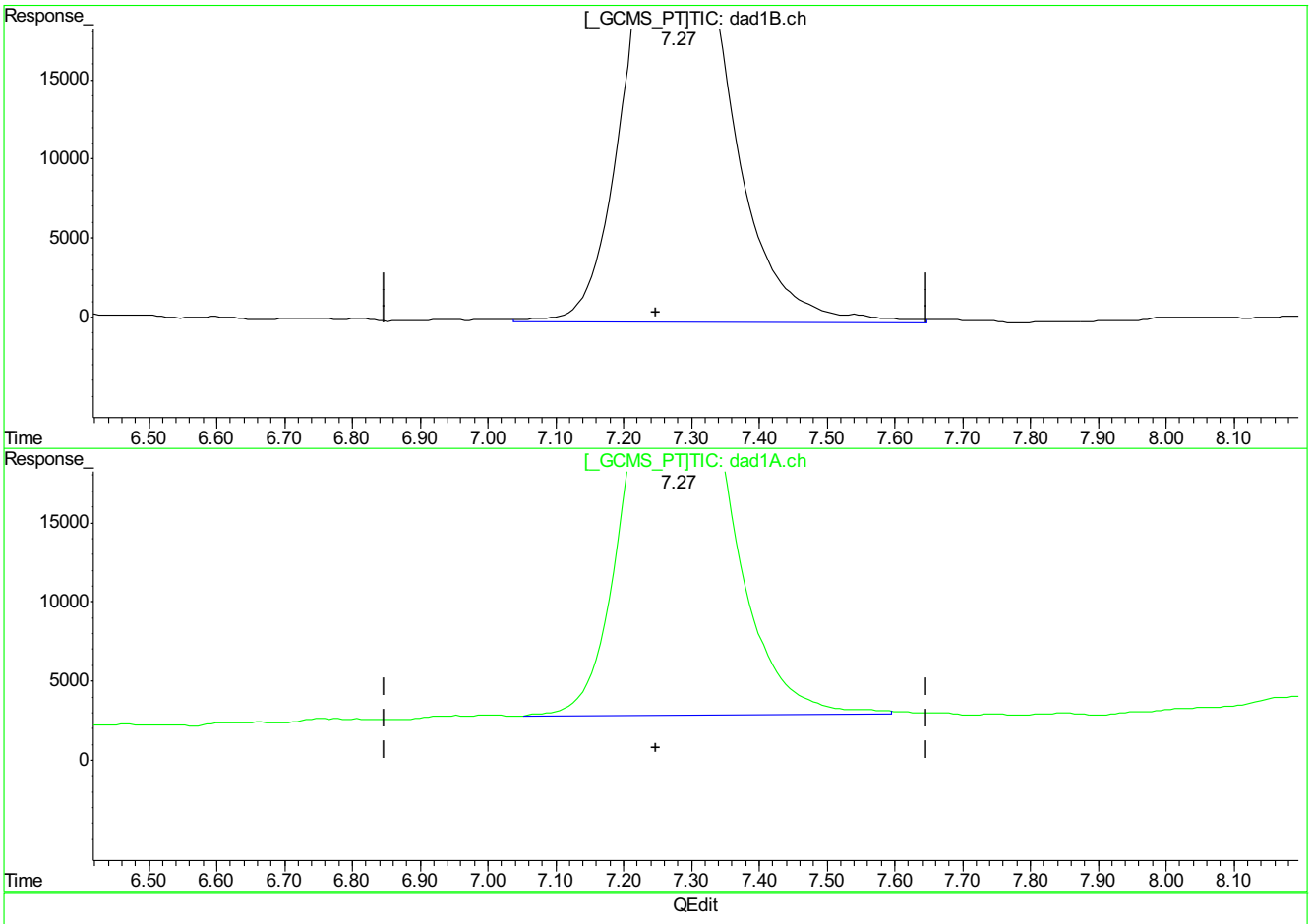
9.5.11.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 902.285ppb

response 3155979

(9) Nitrobenzene #2

7.27min 944.267ppb m

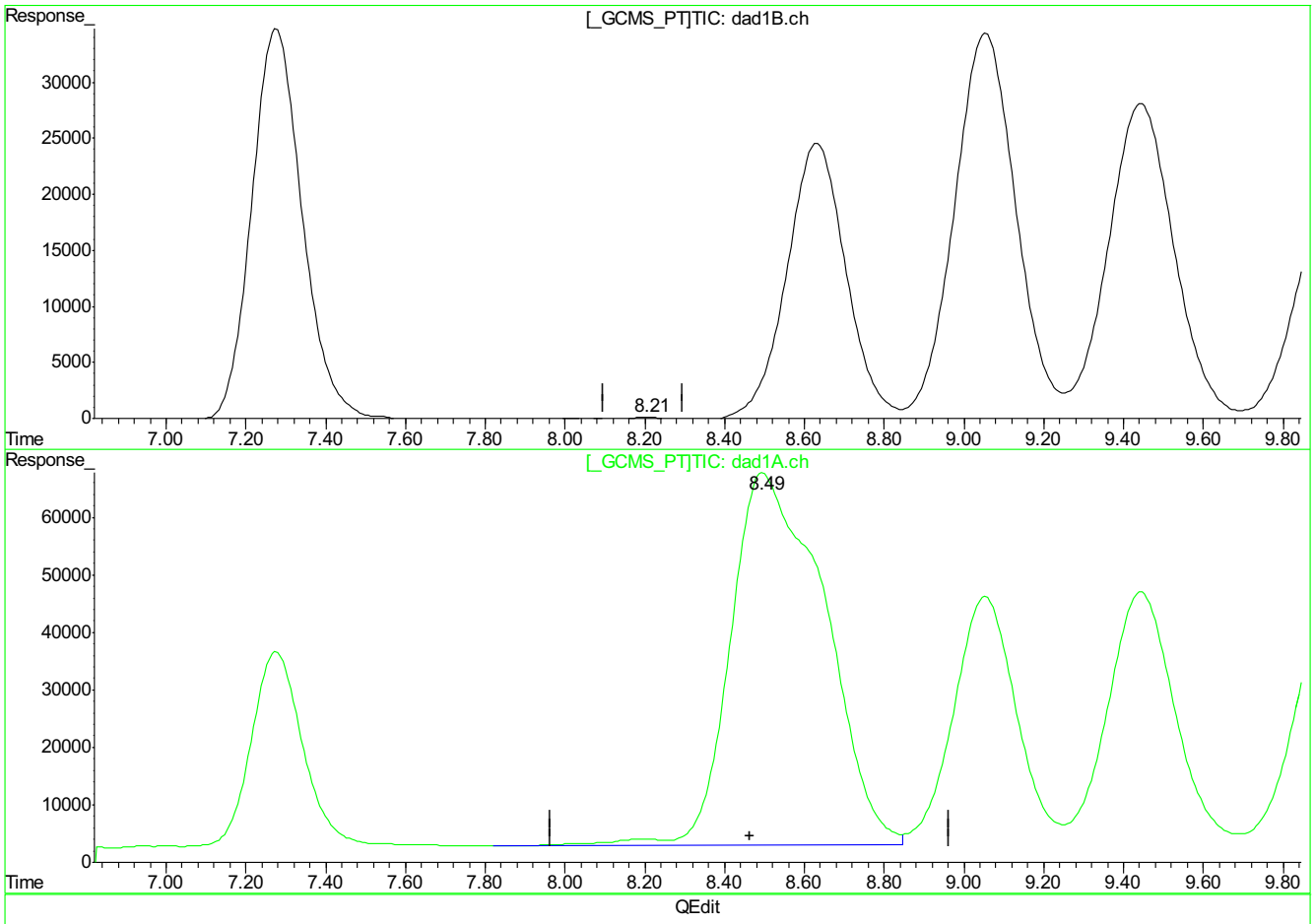
response 3019973

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:07:39 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On    : 20-Apr-2017, 15:36:17                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 21  9:00 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

8.21min 0.000ppb

response 37380

(10) Nitroglycerin #2

8.50min 8175.250ppb

response 10565749

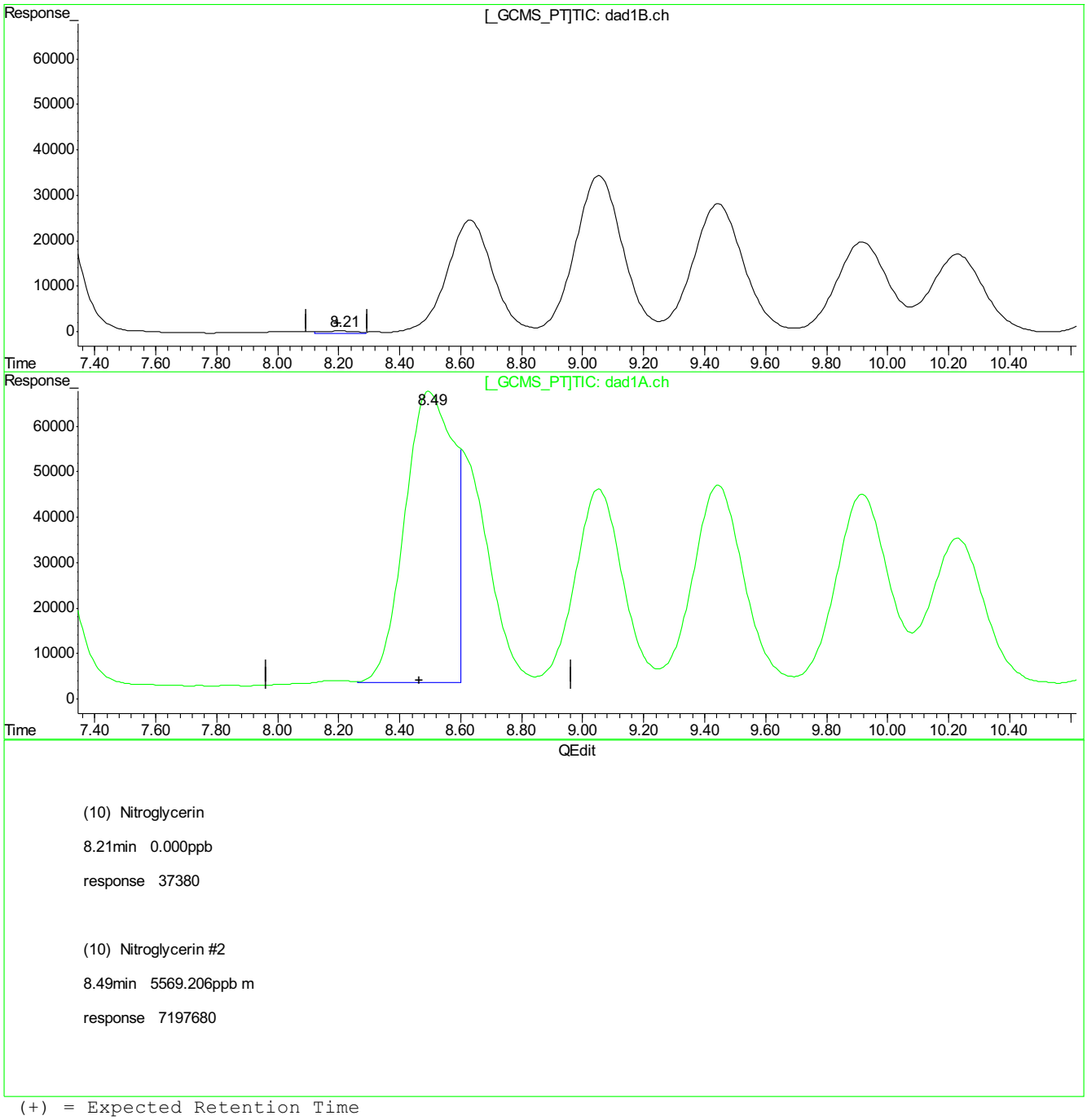
(+) = Expected Retention Time

BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:07:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

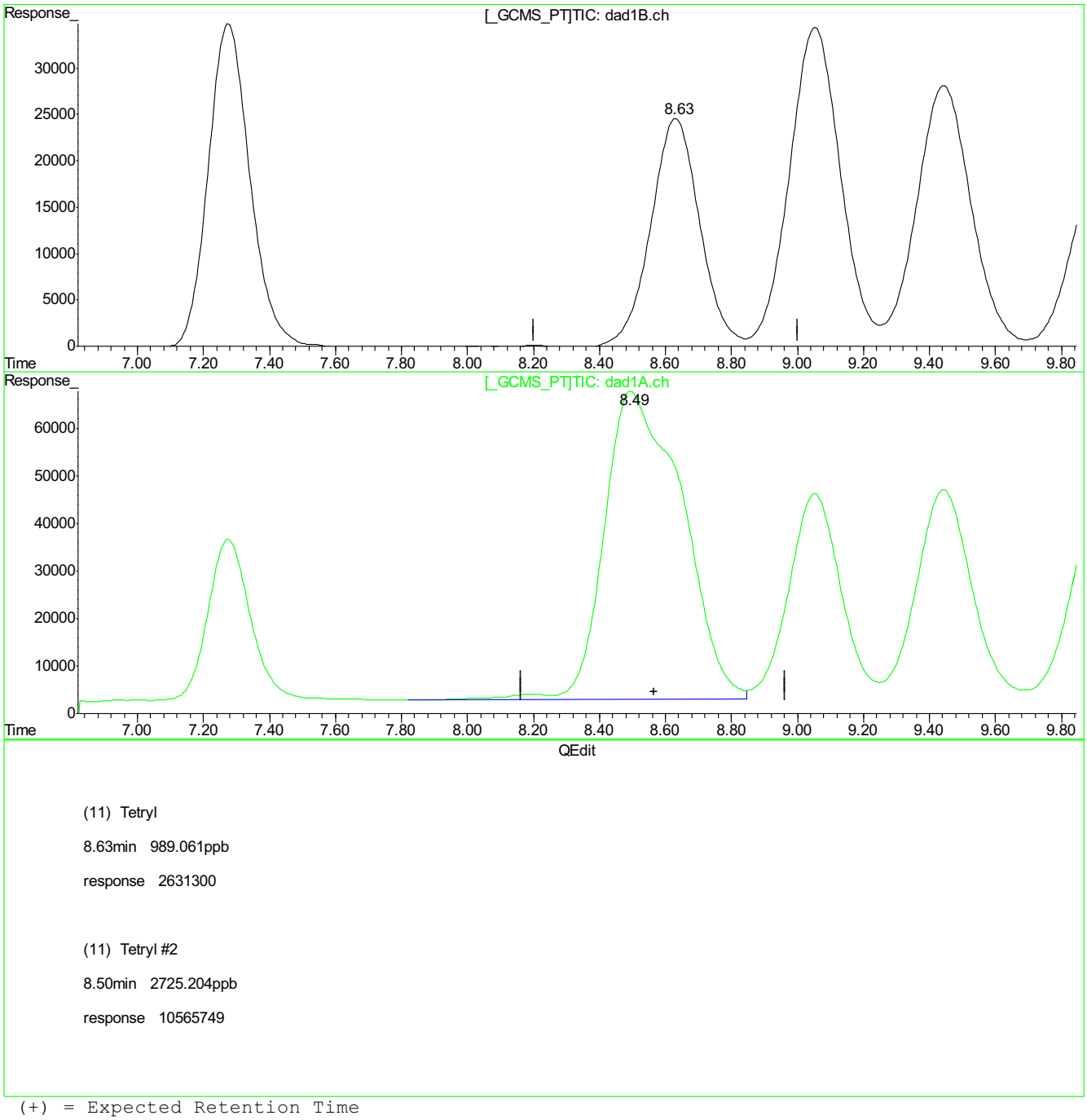


(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:08:31 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On    : 20-Apr-2017, 15:36:17                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 21  9:00 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
```



(11) Tetryl

8.63min 989.061ppb

response 2631300

(11) Tetryl #2

8.50min 2725.204ppb

response 10565749

(+) = Expected Retention Time

BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:08:36 2017

9.5.11.6

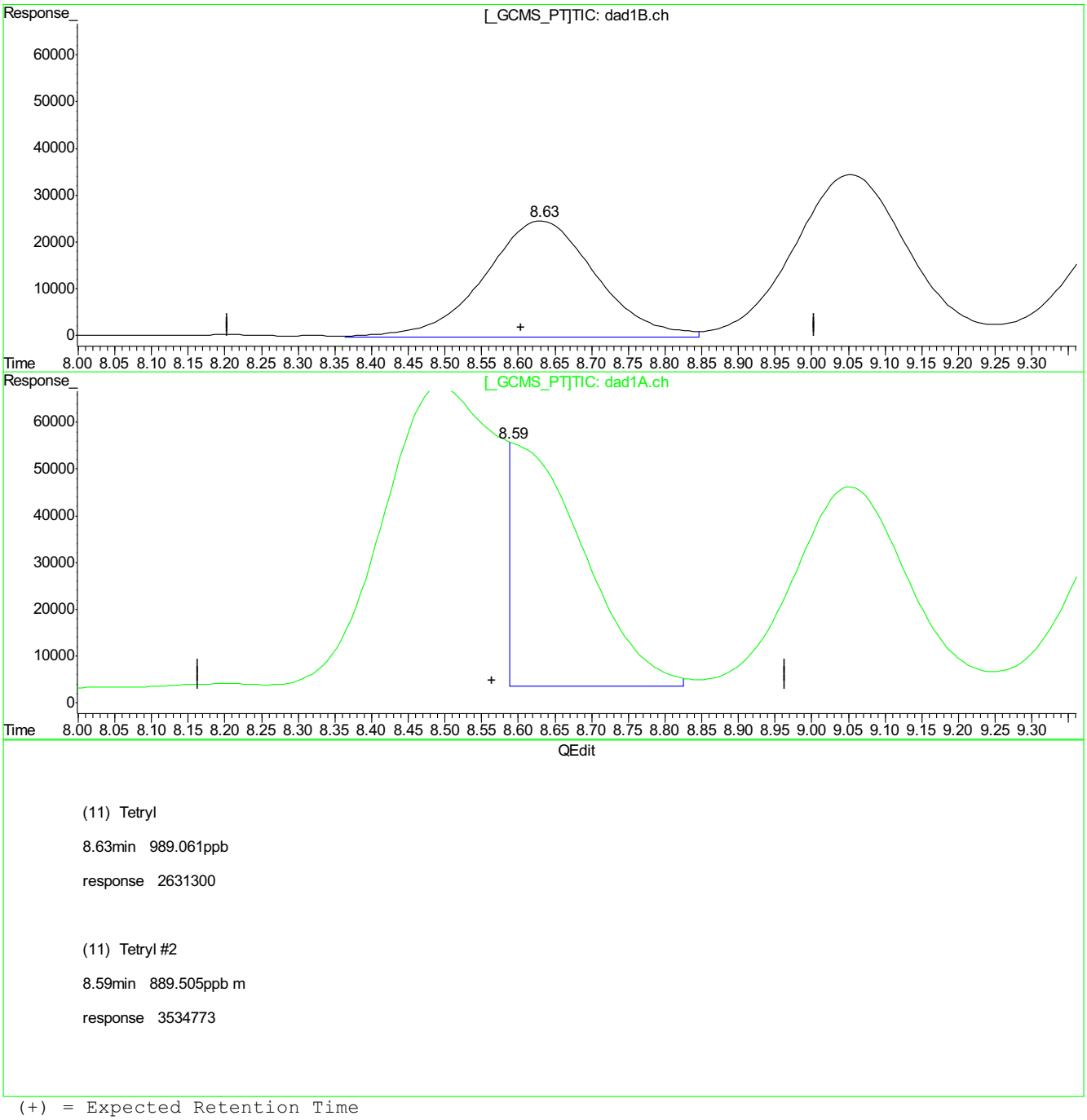
9

BB054295.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 989.061ppb

response 2631300

(11) Tetryl #2

8.59min 889.505ppb m

response 3534773

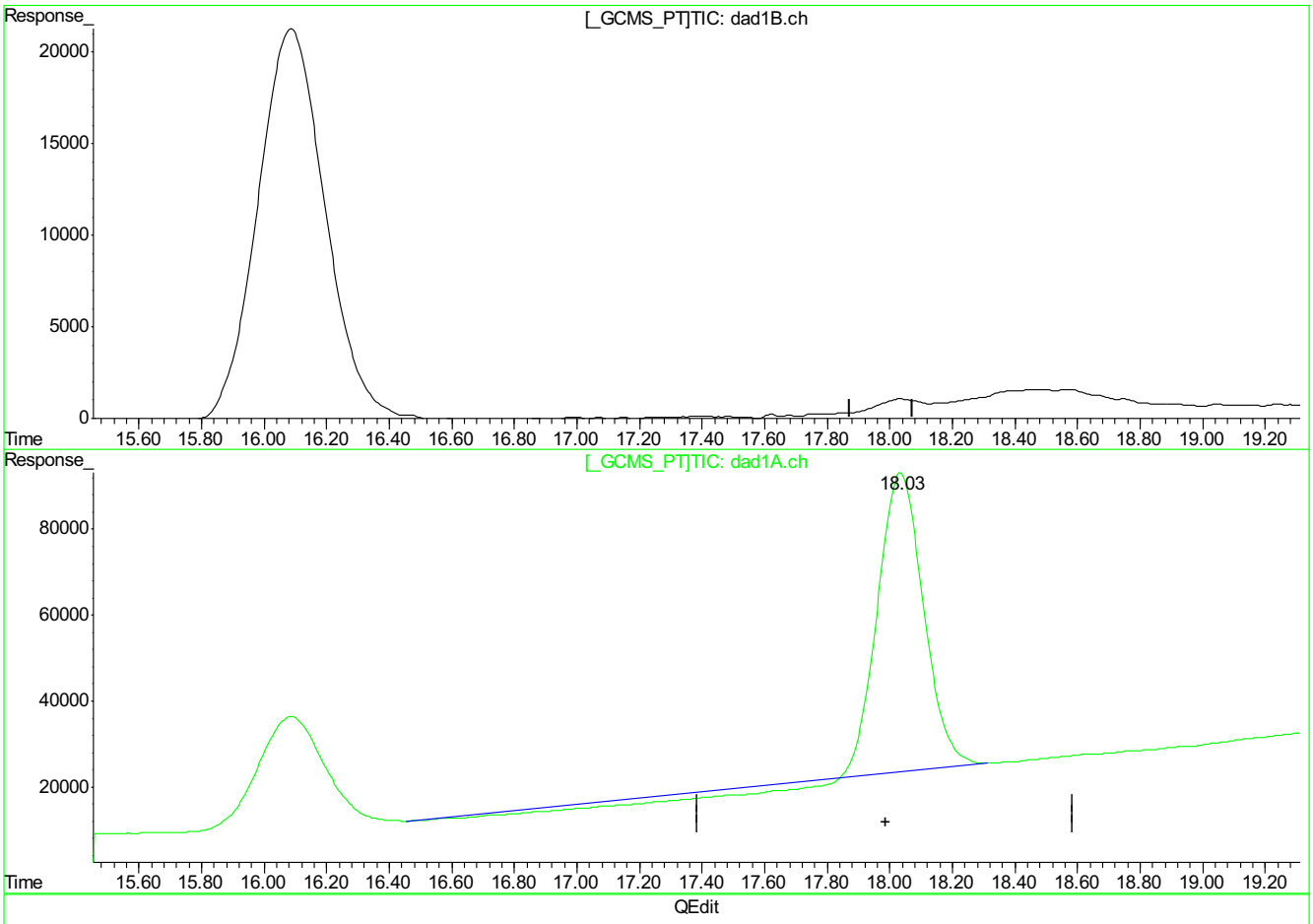
(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:09:41 2017

BB054295.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.04min 8911.562ppb

response 6247841

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:09:47 2017

9.5.11.8

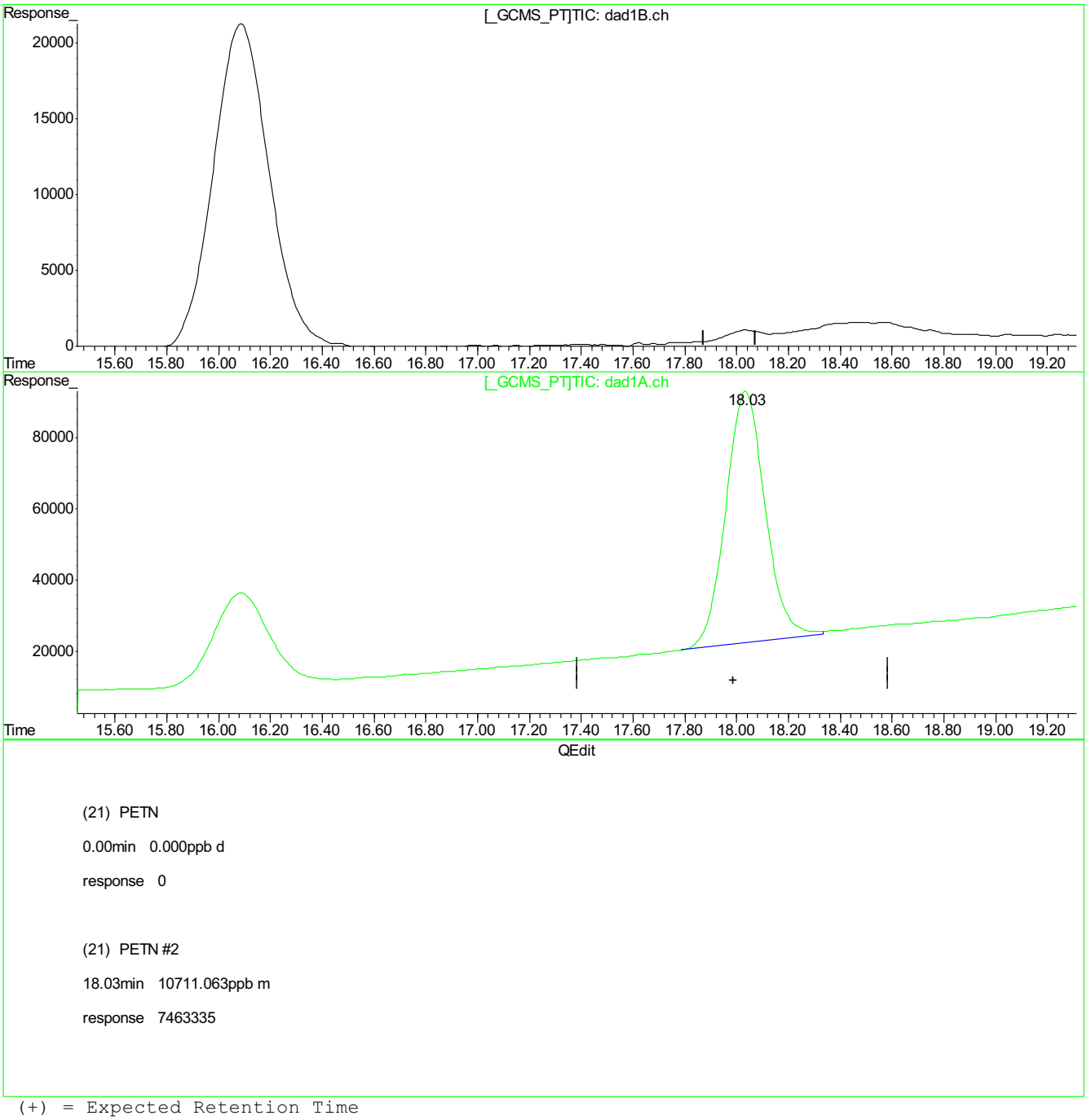
9

BB054295.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:09:51 2017

9.5.11.9

9

BB054295.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/24/17 14:55

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:01:01 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.23	10.23	2174079	3893449	946.869	909.210
	Spiked Amount 500.000	Range 70 - 136		Recovery =		189.37%#	181.84%#
	Target Compounds						
1)	TNX	1.35	1.35	3126838	4794222	1037.314	989.685
2)	HMX	1.45	1.46	1614832	4462375	924.525	929.355
3)	DNX	1.71	1.71	2801781	4489589	899.927	959.451
4)	MNX	2.26	2.26	2315699	3573513	933.605	930.031
5)	RDX	2.83	2.83	1872413	2951357	996.339	898.081
6)	1,3,5-Trinitrobe	4.43	4.43	4007208	7794613	927.634	958.856
7)	1,3-Dinitrobenze	5.67	5.67	5268942	3591601	957.927	930.339
8)	3,5-Dinitroanili	6.01	6.01	3820940	6484665	1018.091	970.738
9)	Nitrobenzene	7.28	7.28	3169047	3018141	906.021	943.694m
10)	Nitroglycerin	8.15	8.49	60371	6404765	NoCal	4955.688m#
11)	Tetryl	8.63	8.59	2636867	3455177	991.143	869.242m
12)	2,4,6-Trinitroto	9.05	9.05	3795970	4663909	917.519	997.486
13)	2-Amino-4,6-Dini	9.45	9.45	3348005	5066896	925.174	935.258
14)	4-Amino-2,6-Dini	9.92	9.92	2416155	4946629	932.745	930.819
16)	2,4-Dinitrotolue	10.84	10.84	4789353	3159355	943.253	938.474
17)	2,6-Dinitrotolue	11.34	11.34	2701408	3438651	865.779	979.232
18)	o-Nitrotoluene	14.60	14.60	2192743	3096882	945.618	961.546
19)	p-Nitrotoluene	15.13	15.13	3409984	2998975	975.184	1010.137
20)	m-Nitrotoluene	16.10	16.10	3273290	3718221	908.768	1058.375
21)	PETN	0.00	18.03	0	7250945	N.D. d	10394.966m

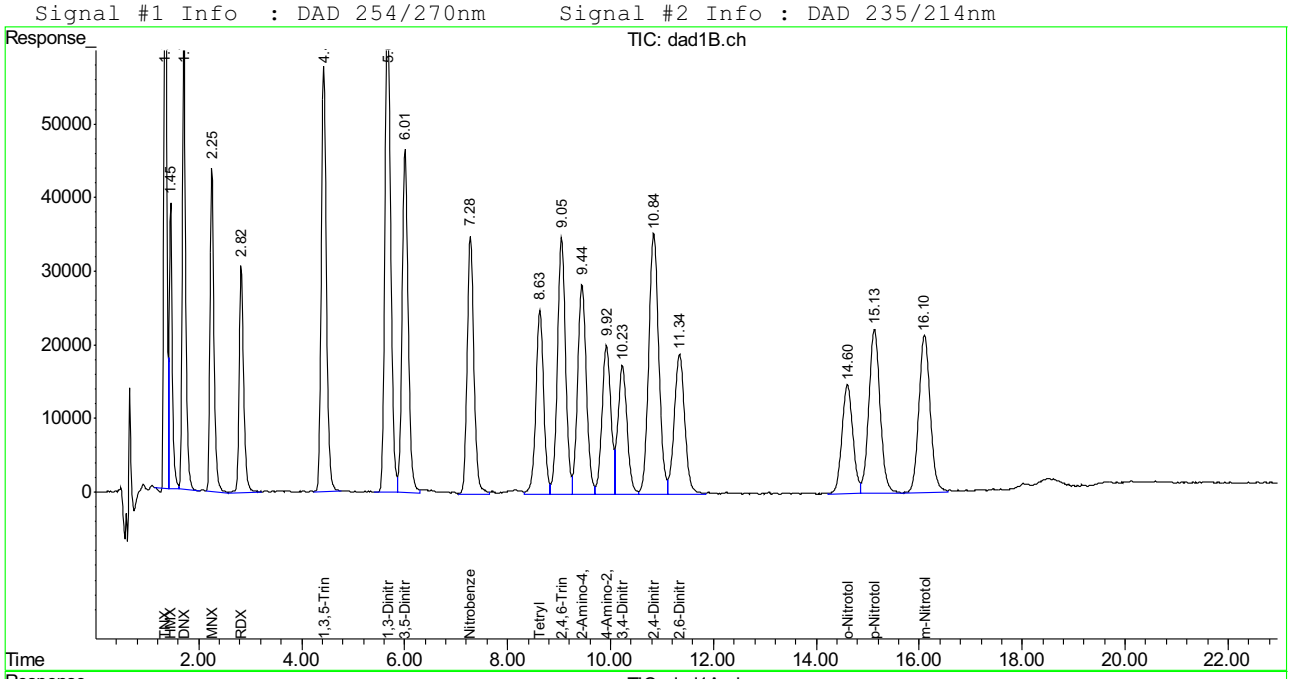
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054305.D 8330B_0419PLUS.M Fri Apr 21 10:12:39 2017 Page 1

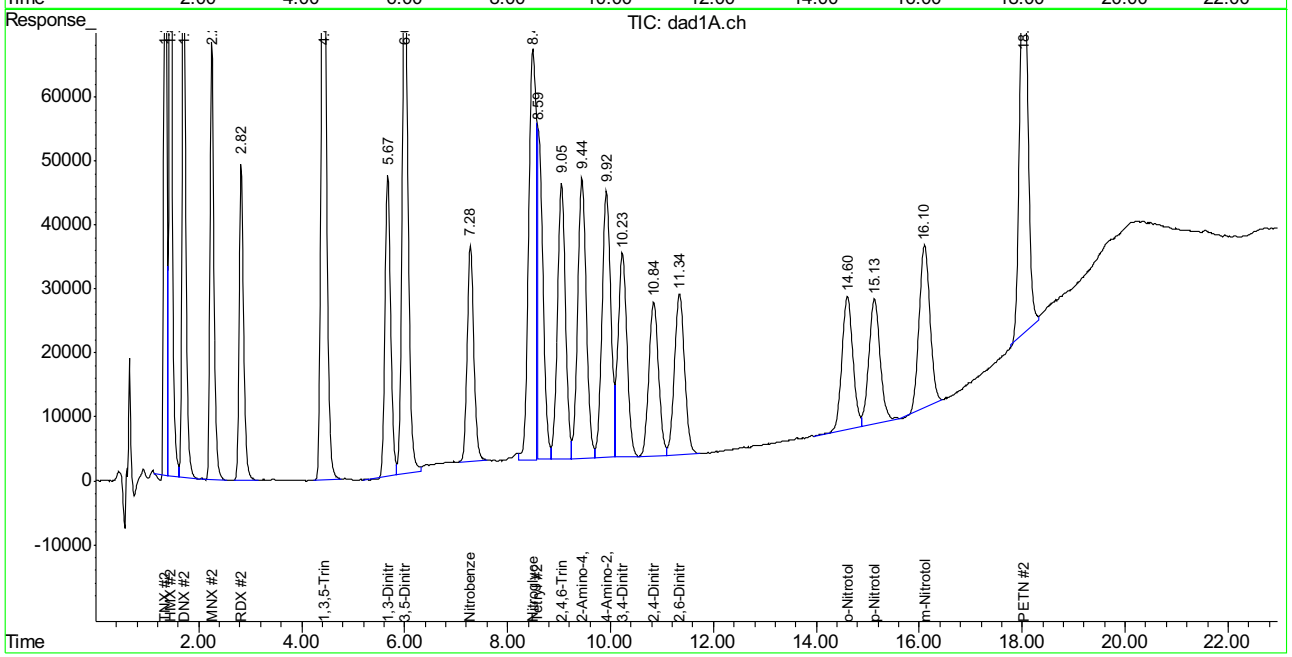
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:11 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

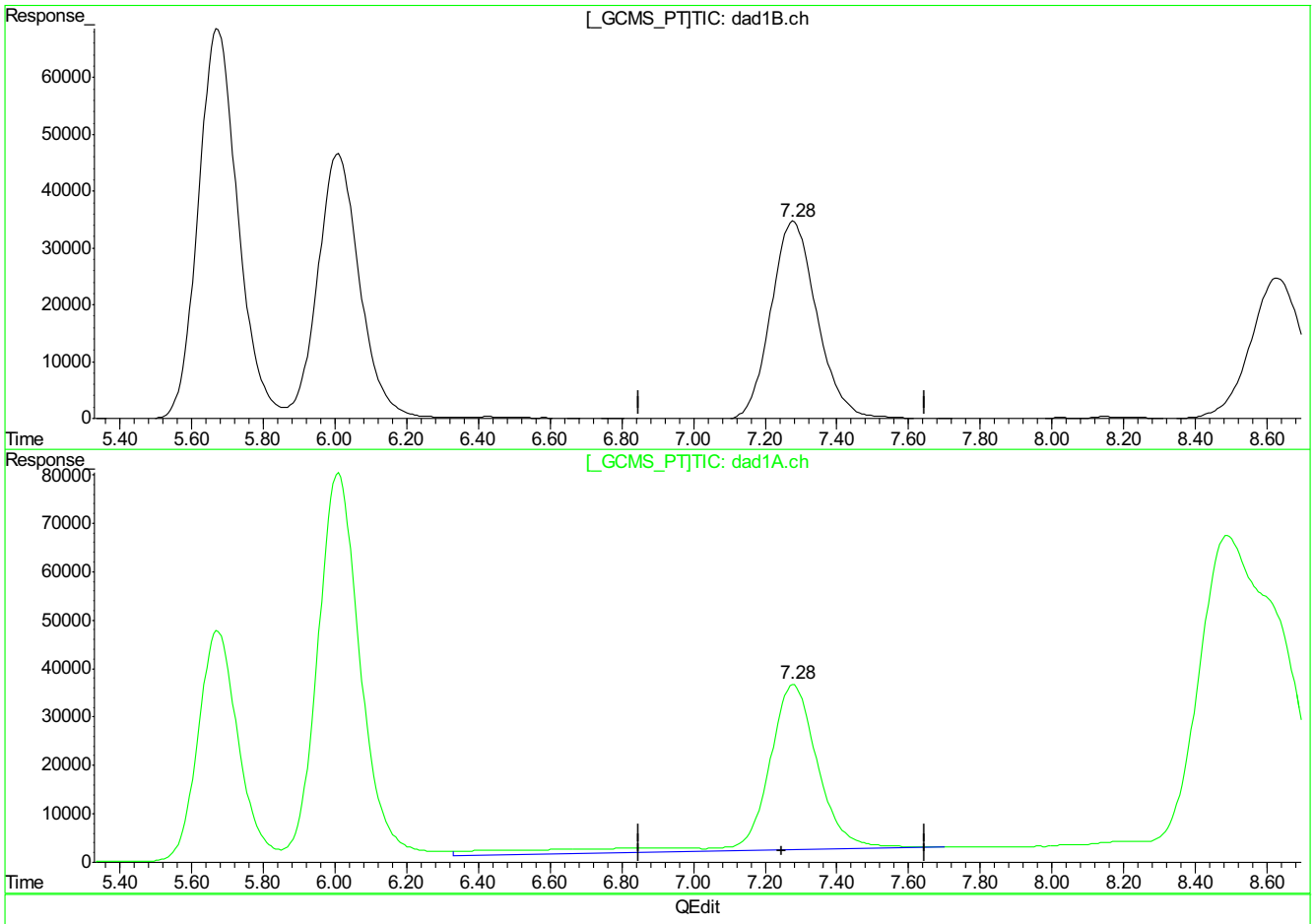
Sample Number: GBB1579-CC1578
Lab FileID: BB054305.D
Injection Time: 04/20/17 20:36
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/24/17 14:55 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.28	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.49	Poorly defined baseline
Tetryl	479-45-8	2	8.59	Poorly defined baseline
PETN	78-11-5	2	18.03	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 906.021ppb

response 3169047

(9) Nitrobenzene #2

7.28min 1088.268ppb

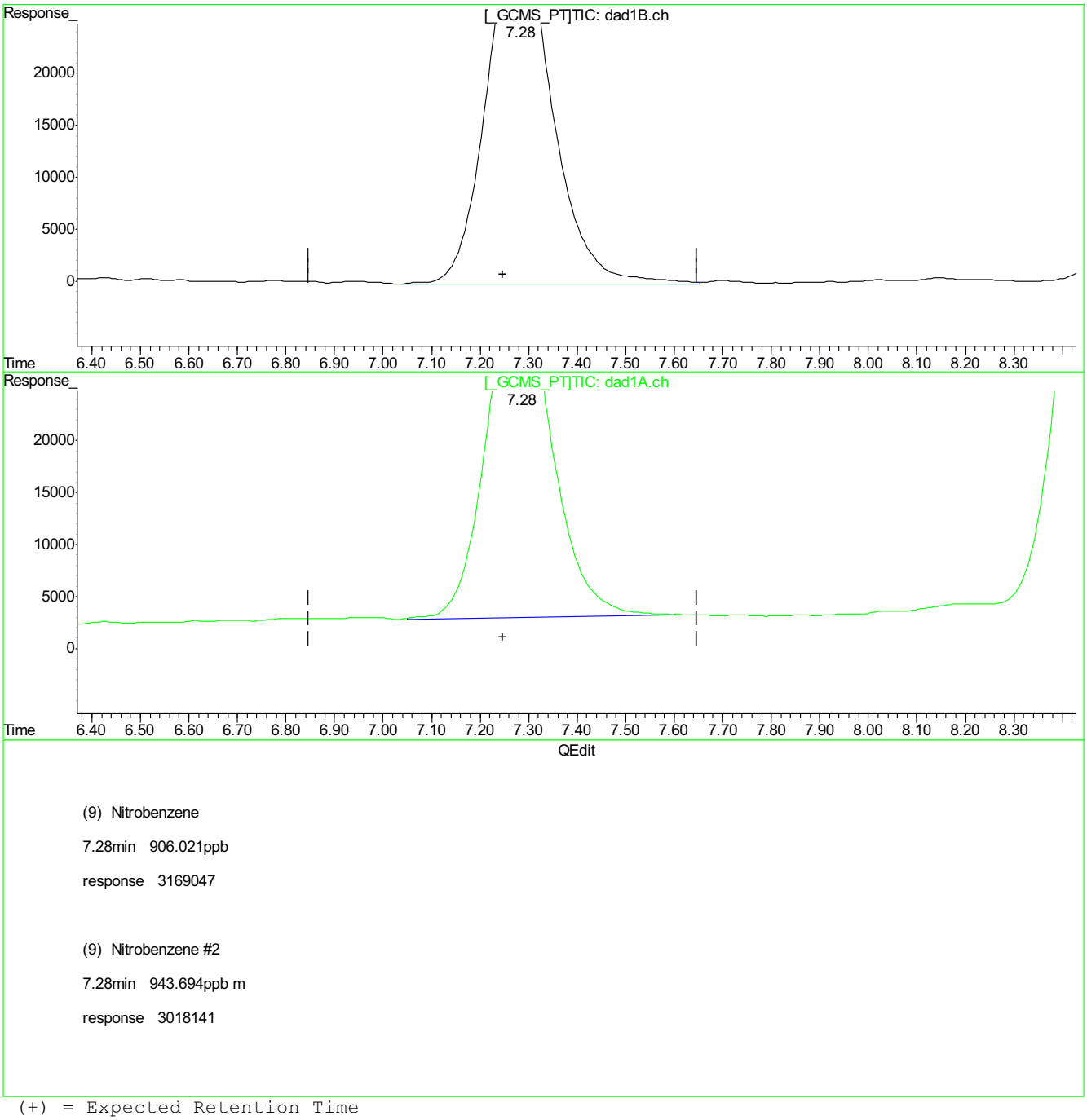
response 3480520

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 906.021ppb

response 3169047

(9) Nitrobenzene #2

7.28min 943.694ppb m

response 3018141

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:16 2017

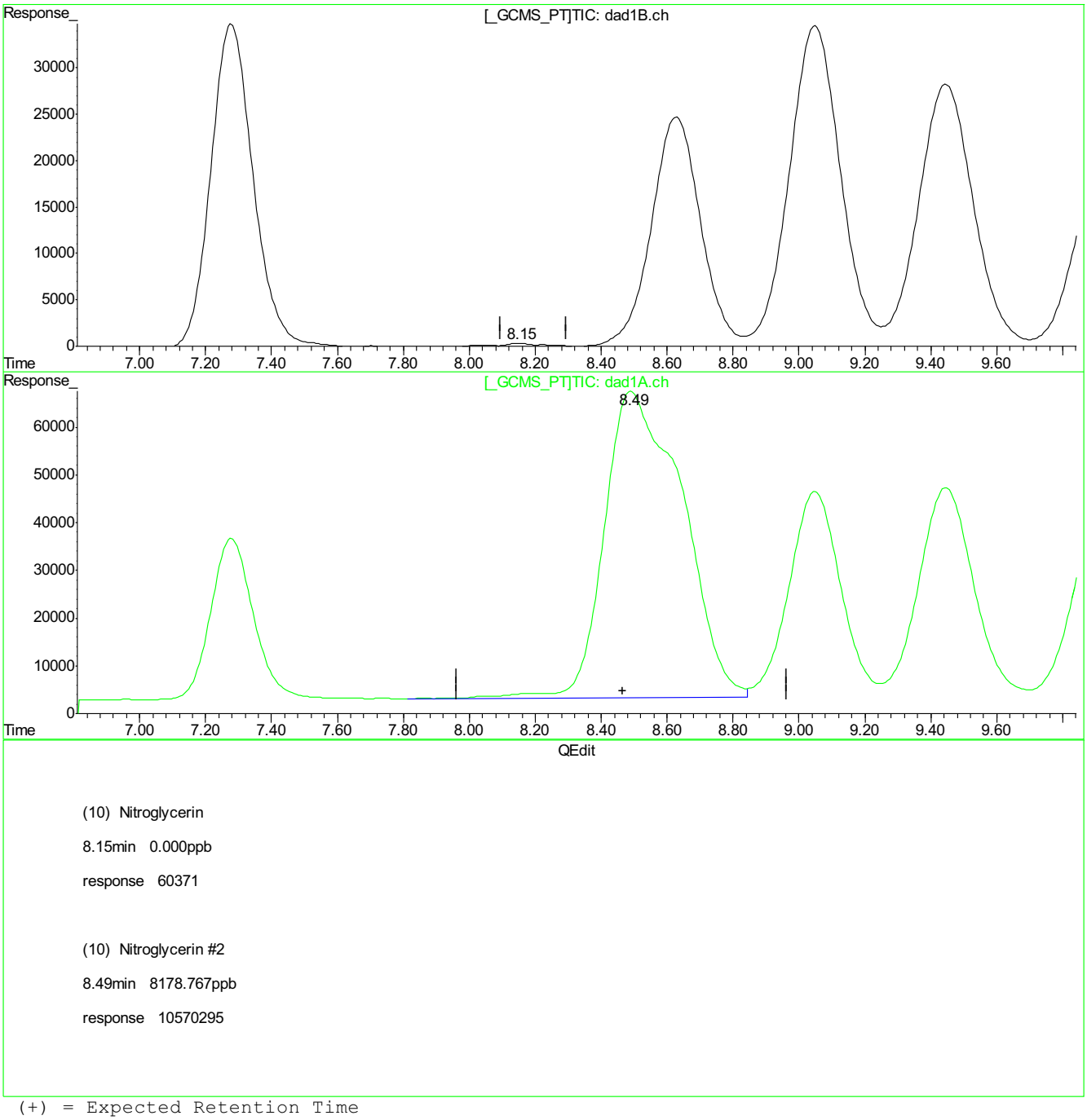
9.5.12.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.15min 0.000ppb

response 60371

(10) Nitroglycerin #2

8.49min 8178.767ppb

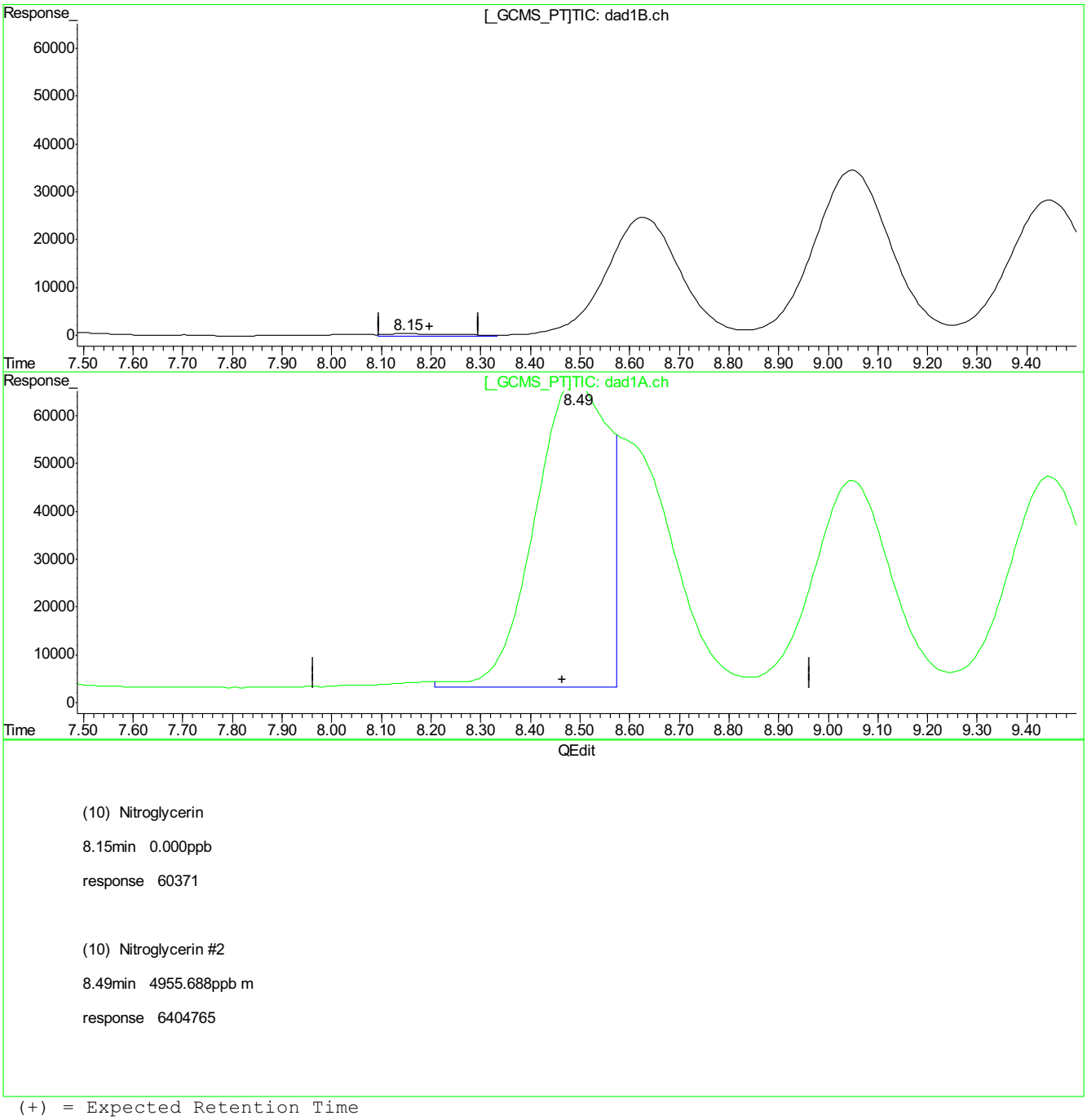
response 10570295

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:19 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On    : 20-Apr-2017, 20:36:01                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 21  9:01 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

8.15min 0.000ppb

response 60371

(10) Nitroglycerin #2

8.49min 4955.688ppb m

response 6404765

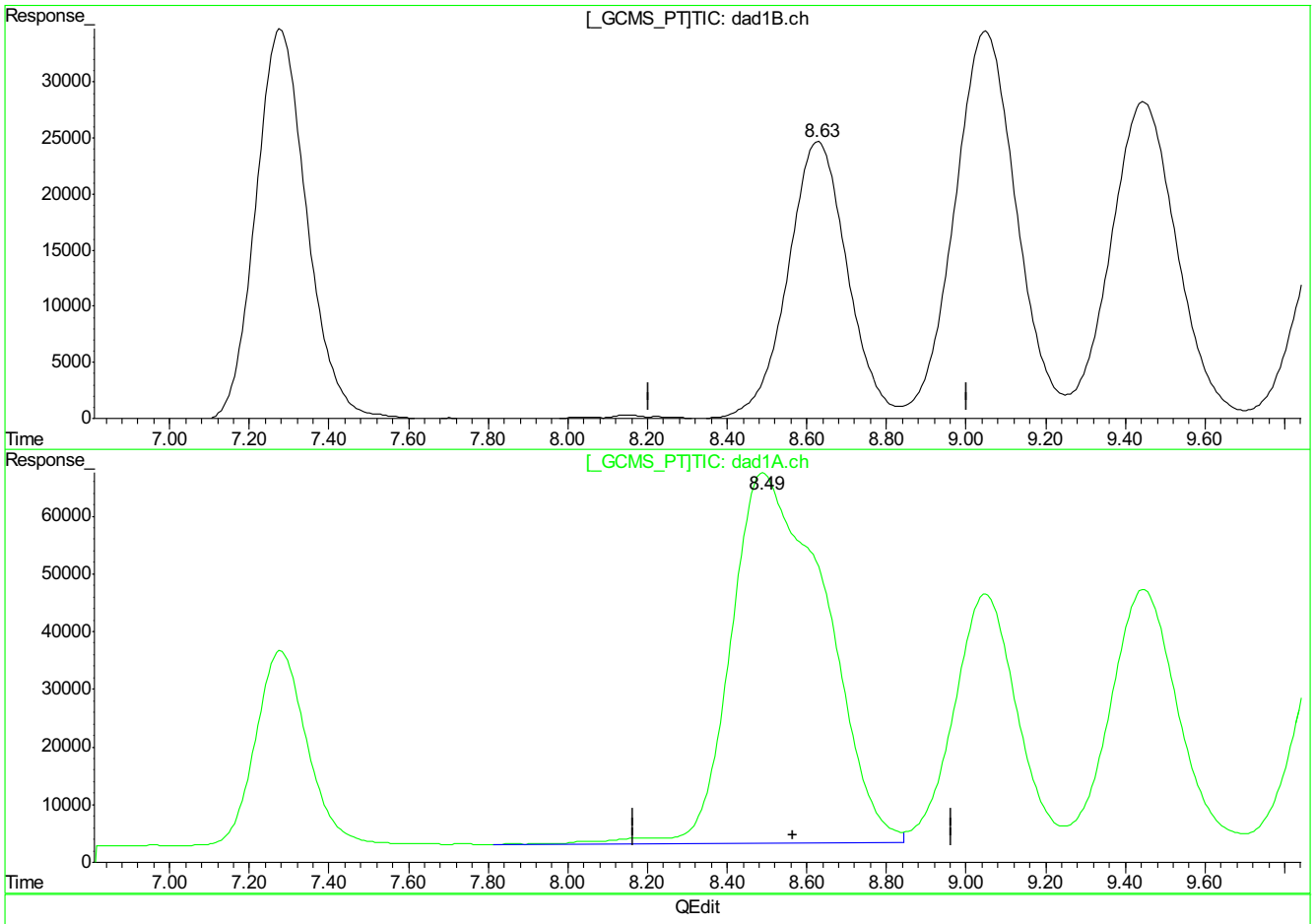
(+) = Expected Retention Time

BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 991.143ppb

response 2636867

(11) Tetryl #2

8.49min 2726.422ppb

response 10570295

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:55 2017

9.5.12.6

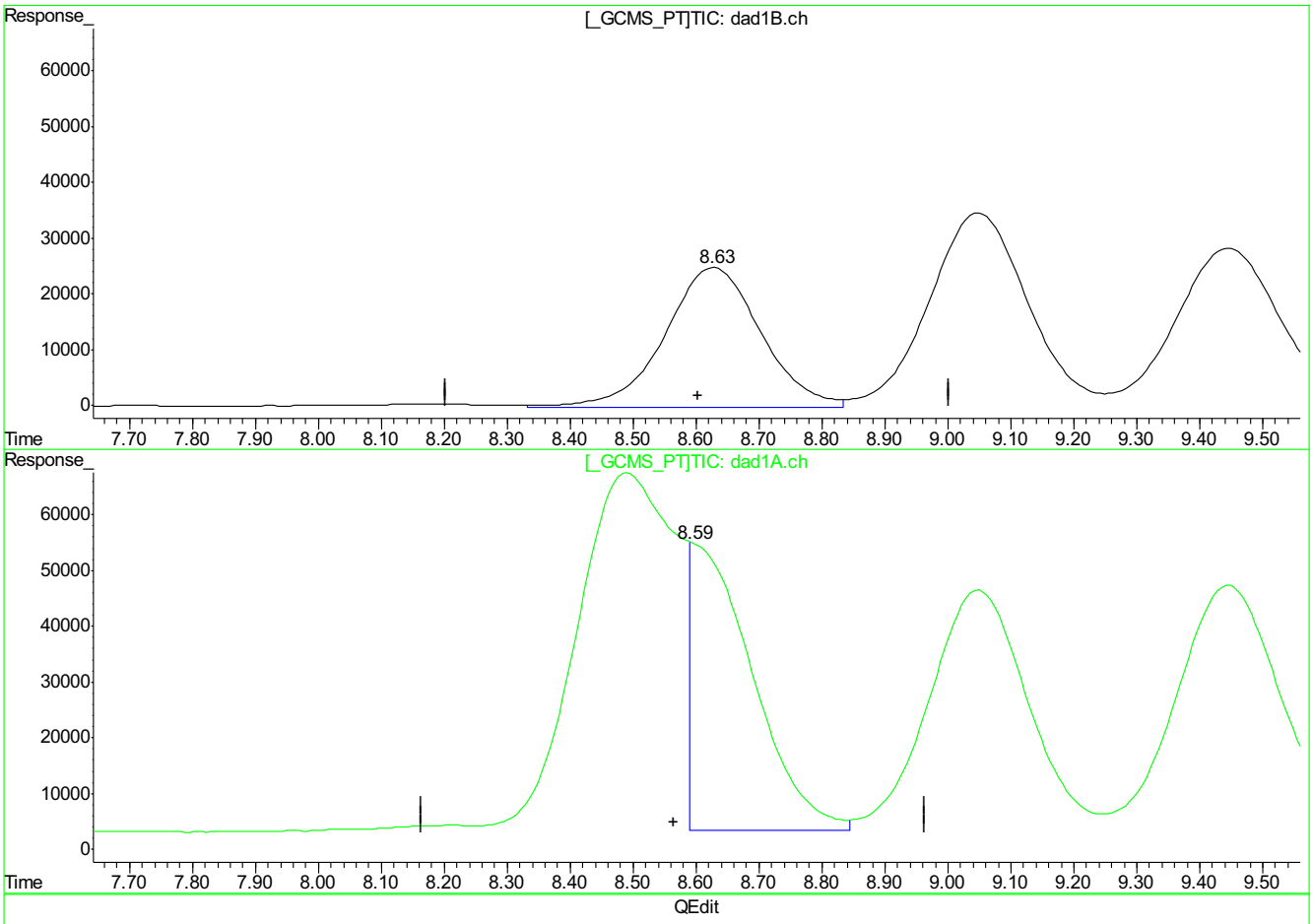
9

BB054305.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 991.143ppb

response 2636867

(11) Tetryl #2

8.59min 869.242ppb m

response 3455177

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:11:04 2017

9.5.12.7

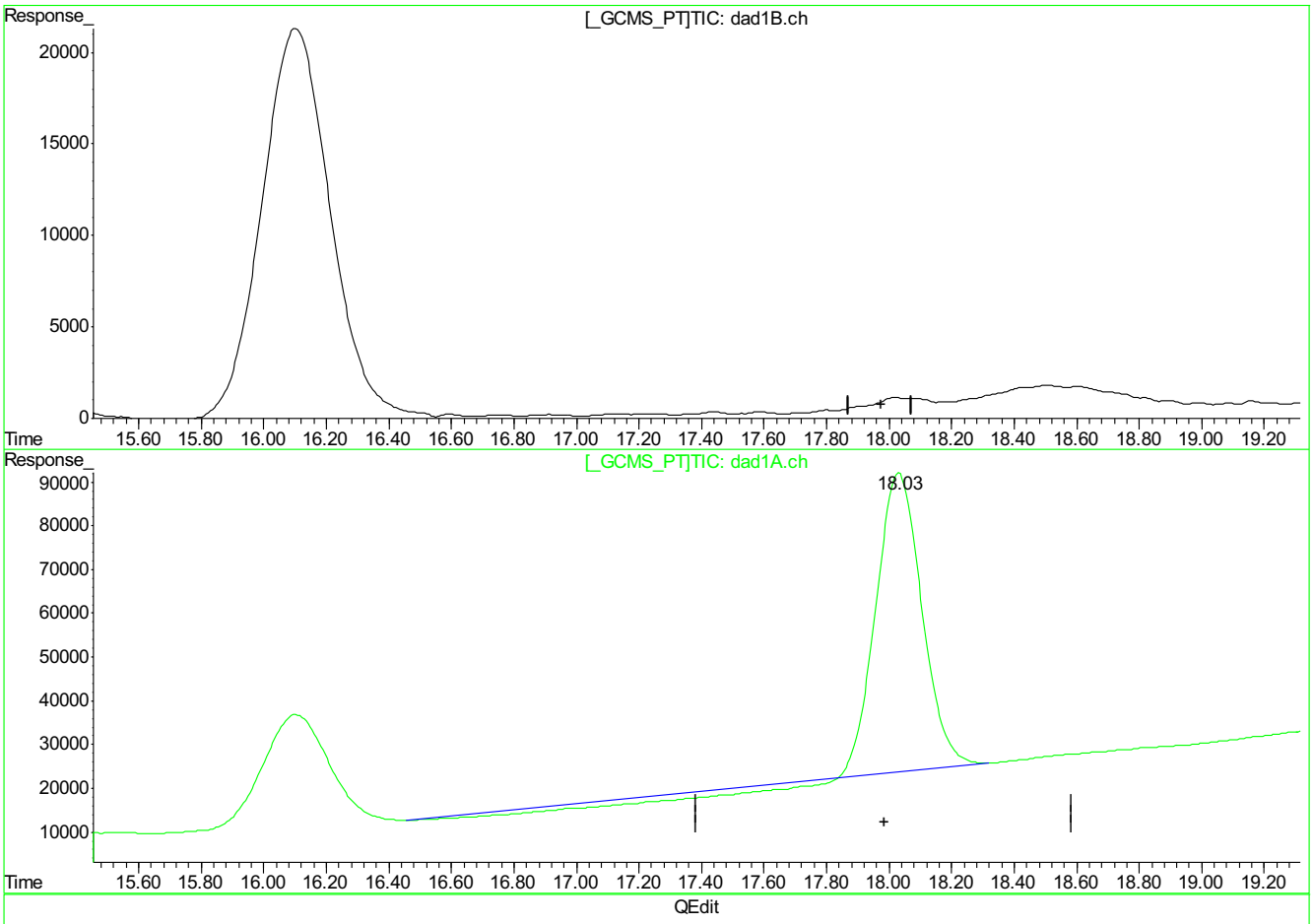
9

BB054305.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.03min 8777.765ppb

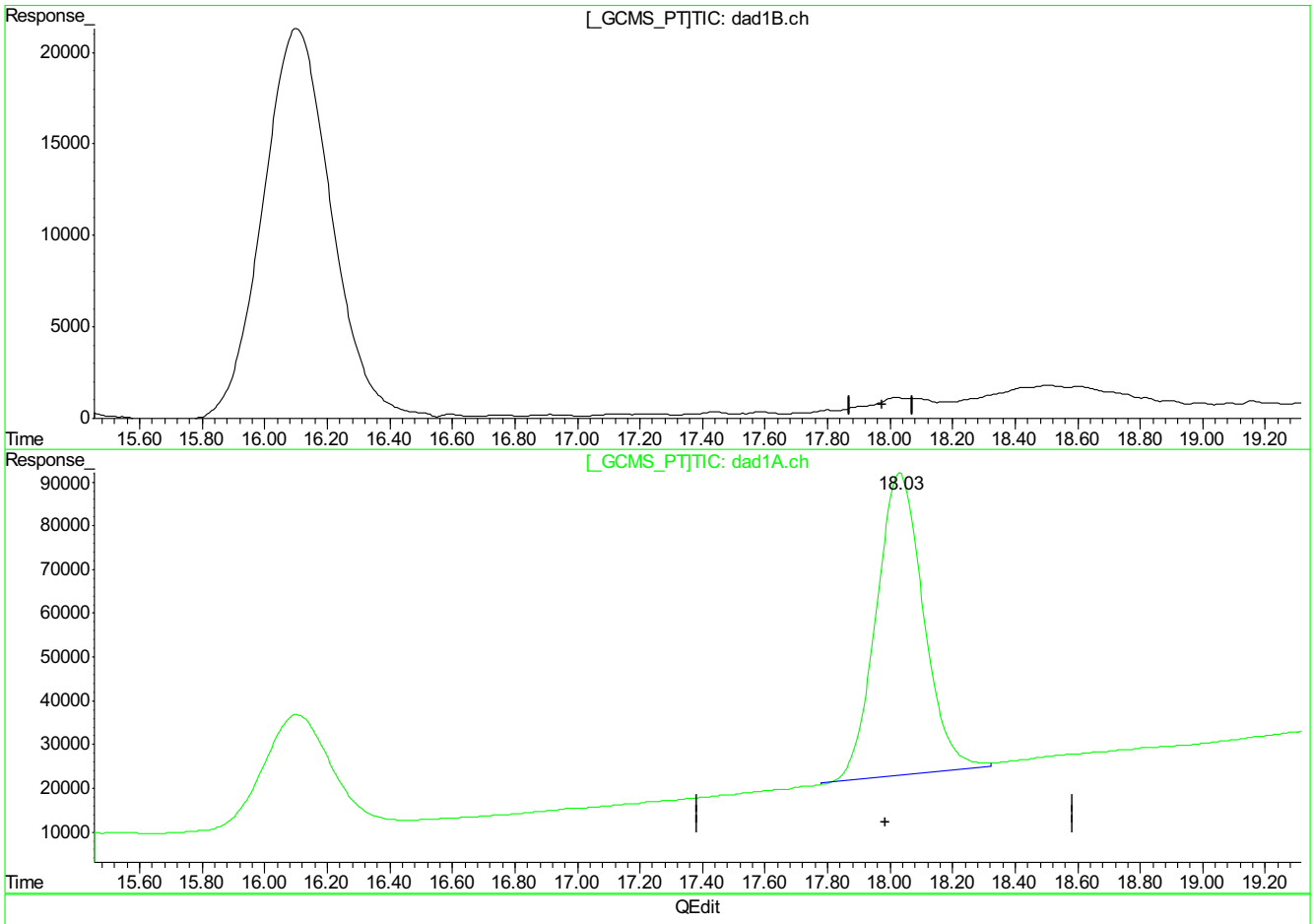
response 6156847

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:11:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.03min 10394.966ppb m

response 7250945

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:11:14 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03:15 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.72	15.68	80199	158430	17.396m	17.077m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.48%#	3.42%#
	Target Compounds						
1)	TNX	4.81	4.81	172095	262542	20.302m	20.926m
2)	HMX	5.20	5.21	121714	343017	37.334m	33.092m
3)	DNX	5.36	5.36	173814	553991	21.402m	41.134m#
4)	MNX	6.50	6.52	112624	281174	20.678	32.992 #
5)	1,3,5-Trinitrobe	7.54	7.54	239896	413404	24.231	24.888
6)	RDX	7.99	7.97	104308	171567	23.508	20.728
7)	1,3-Dinitrobenze	10.16	10.15	301455	238950	22.581	24.353
8)	Nitrobenzene	11.30	11.31	166615	159808	19.625	19.621
9)	2,4,6-Trinitroto	12.37	12.38	225730	279164	23.883	22.892
10)	Nitroglycerin	0.00	13.45	0	316014	N.D. d	106.019m
11)	Tetryl	14.29	14.27	179590	254906	25.634m	22.504m
13)	2,6-Dinitrotolue	16.19	16.15	185256	251554	26.282m	25.496m
14)	2,4-Dinitrotolue	17.05	17.05	292098	226875	23.799m	24.168m
15)	o-Nitrotoluene	19.47	19.47	122334	156895	27.880m	19.825m
16)	3,5-Dinitroanili	18.62	18.69	180648	248912	16.501m	13.801m
17)	p-Nitrotoluene	21.14	21.12	114749	29722	22.516m	5.144 #
18)	4-Amino-2,6-Dini	21.80	21.98	55506	104053	8.315m	9.989m
19)	m-Nitrotoluene	22.84	22.84	66230	128950	10.045	10.075m
20)	2-Amino-4,6-Dini	23.78	23.84	299668	322677	32.542	25.321m
21)	PETN	0.00	25.06	0	271165	N.D. d	81.900m

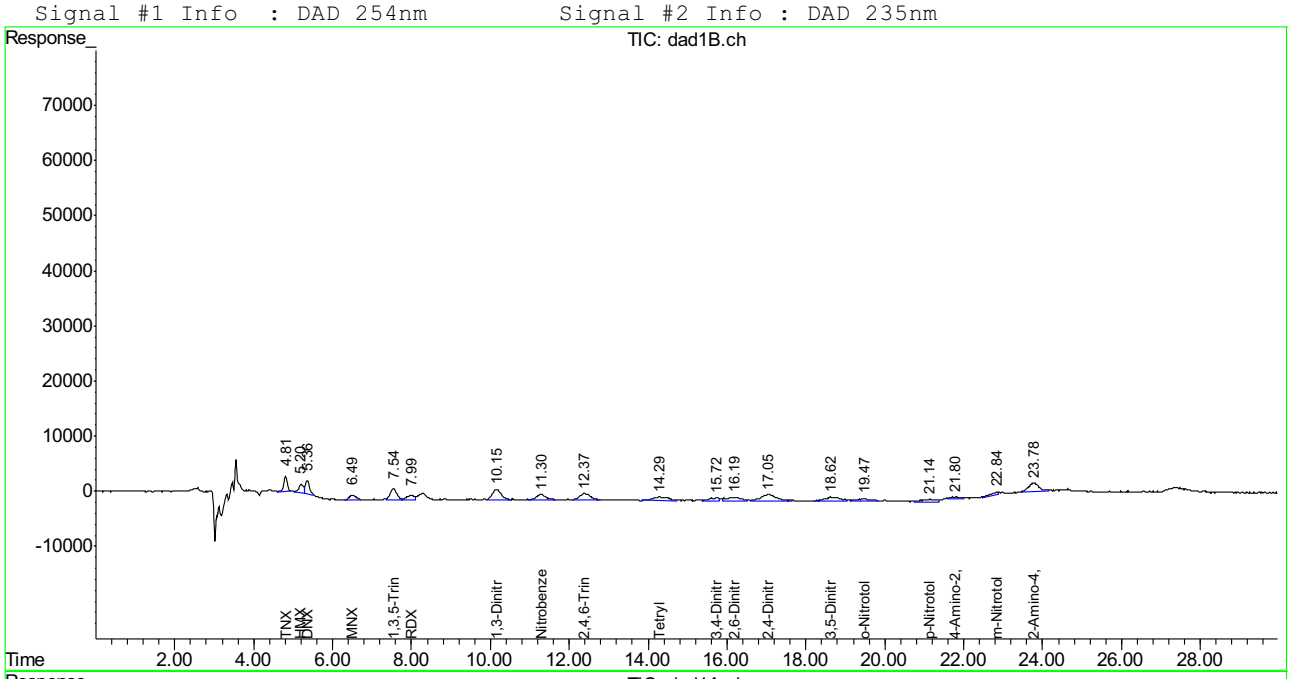
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381821.D 0424_8330RPB.M Tue Apr 25 10:59:38 2017 Page 1

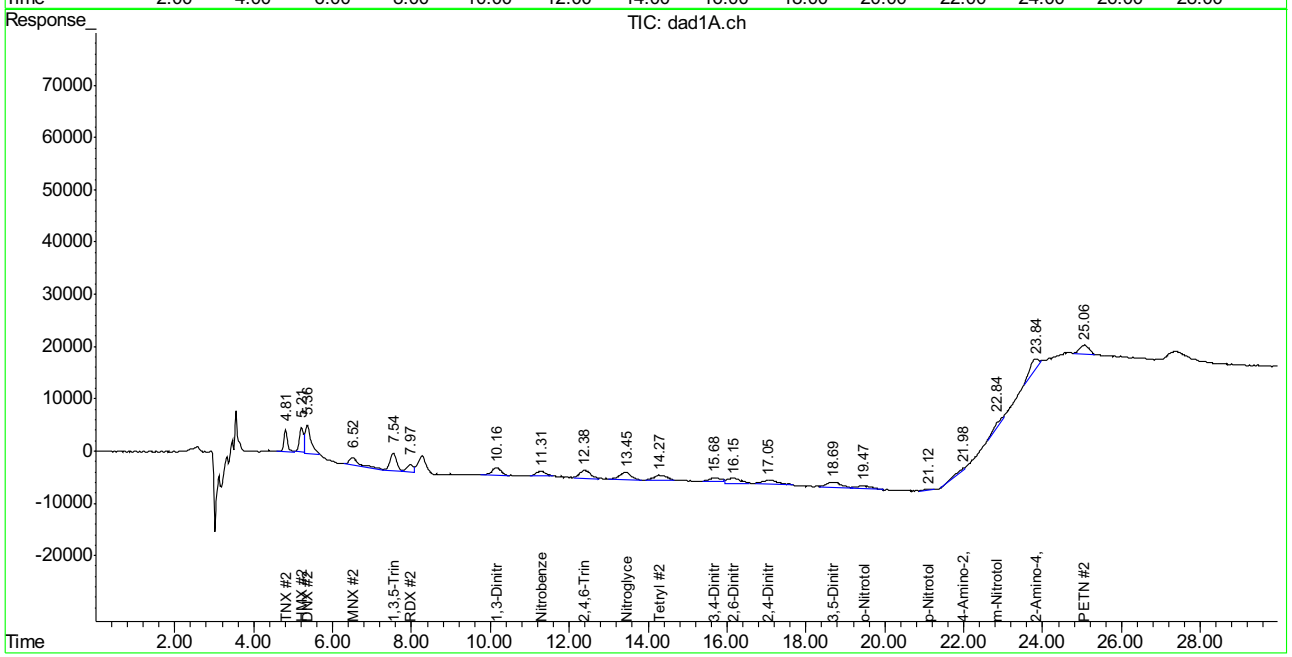
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

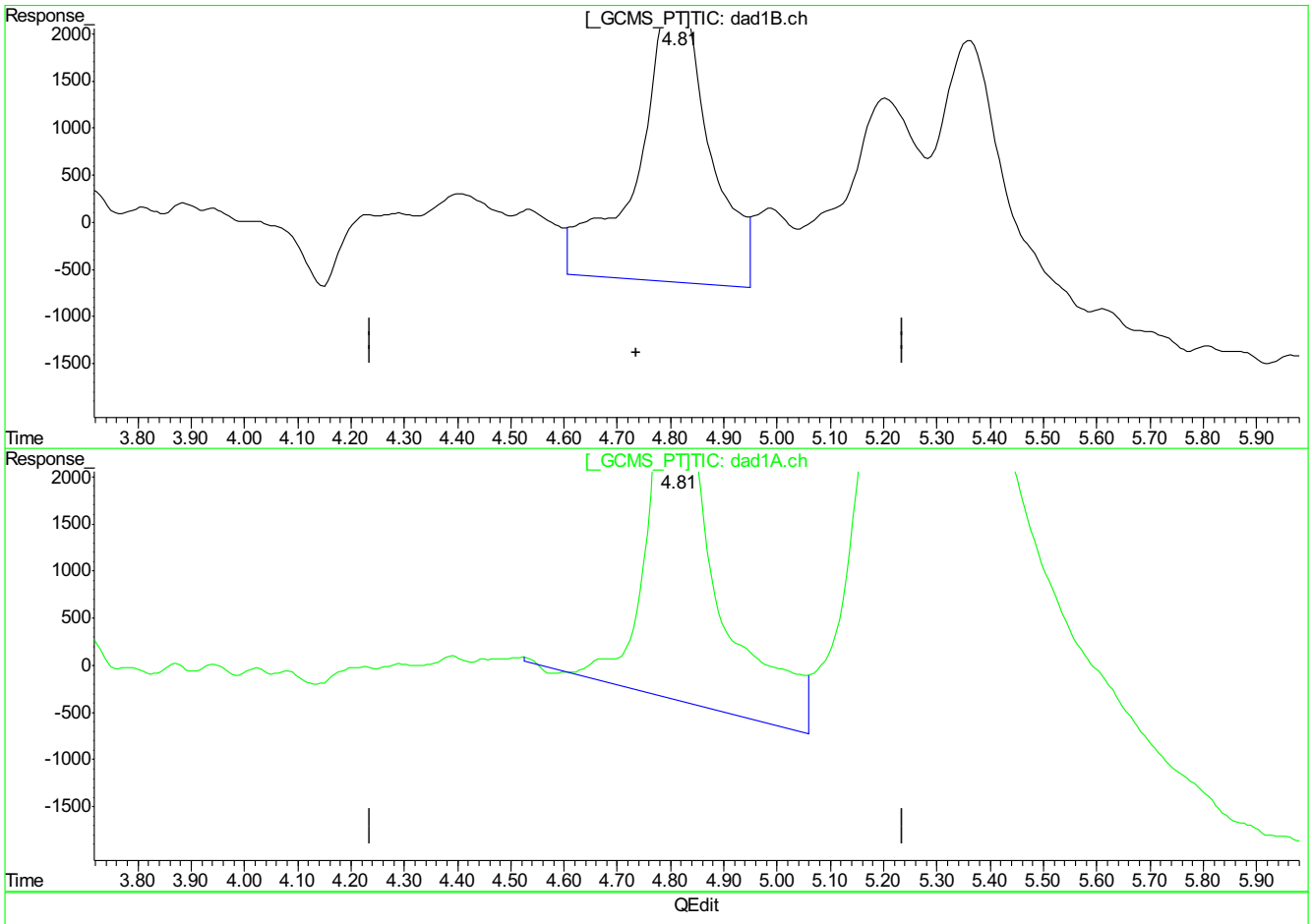
Sample Number: GPP2096-IC2096
Lab FileID: PP381821.D
Injection Time: 04/24/17 12:22
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.81	Poorly defined baseline
TNX		2	4.81	Poorly defined baseline
HMX	2691-41-0	1	5.20	Poorly defined baseline
HMX	2691-41-0	2	5.21	Poorly defined baseline
DNX		1	5.36	Poorly defined baseline
DNX		2	5.36	Poorly defined baseline
Nitroglycerine	55-63-0	2	13.45	Poorly defined baseline
Tetryl	479-45-8	2	14.27	Poorly defined baseline
Tetryl	479-45-8	1	14.29	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	15.68	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	15.72	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	16.15	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	1	16.19	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	1	17.05	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	17.05	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	18.62	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	18.69	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	19.47	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	19.47	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	21.14	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.80	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.98	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.84	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.84	Poorly defined baseline
PETN	78-11-5	2	25.06	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(1) TNX

4.81min 34.359ppb

response 291252

(1) TNX #2

4.81min 27.084ppb

response 339790

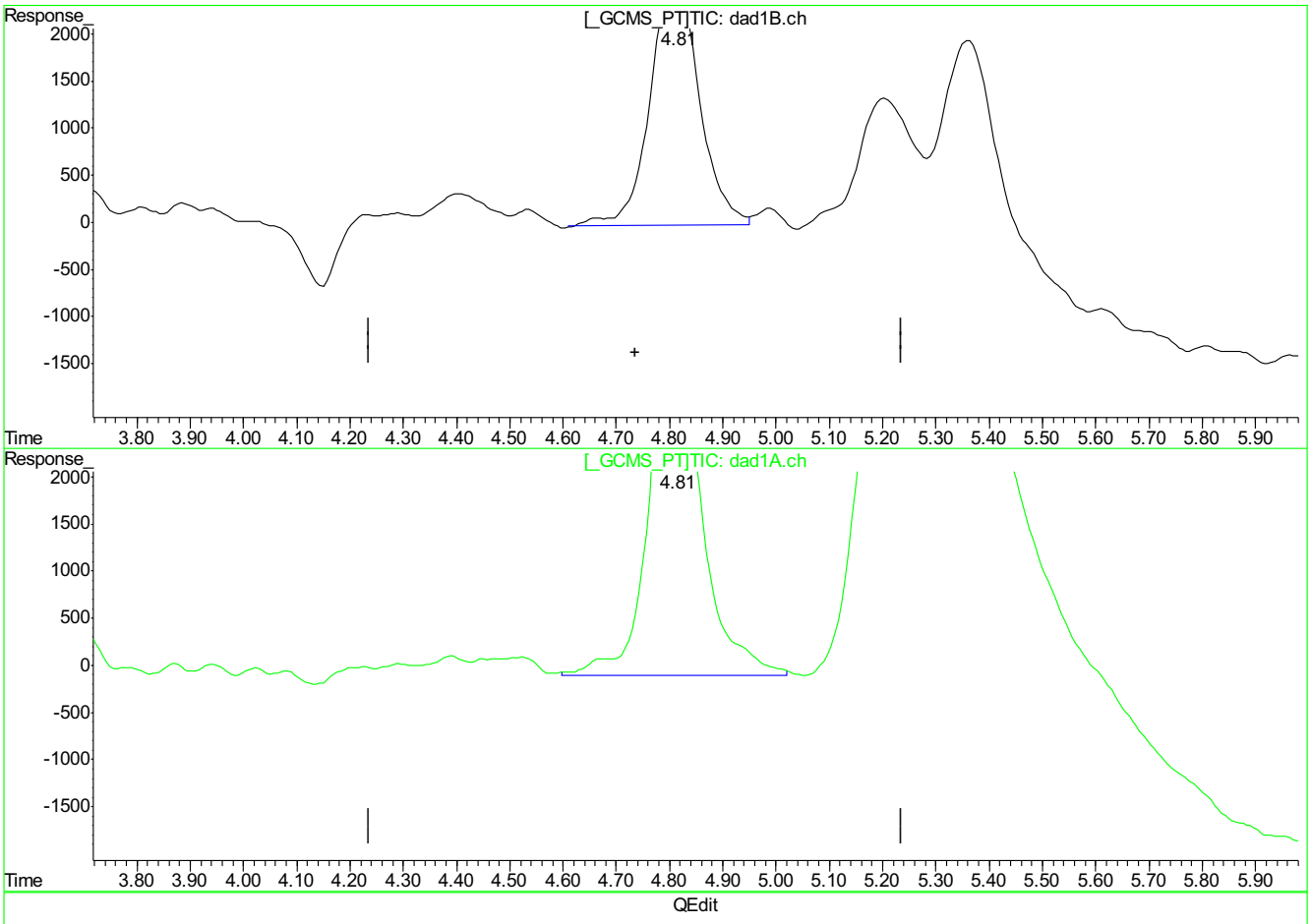
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:15 2017

PP381821.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(1) TNX

4.81min 20.106ppb m

response 170430

(1) TNX #2

4.81min 20.734ppb m

response 260122

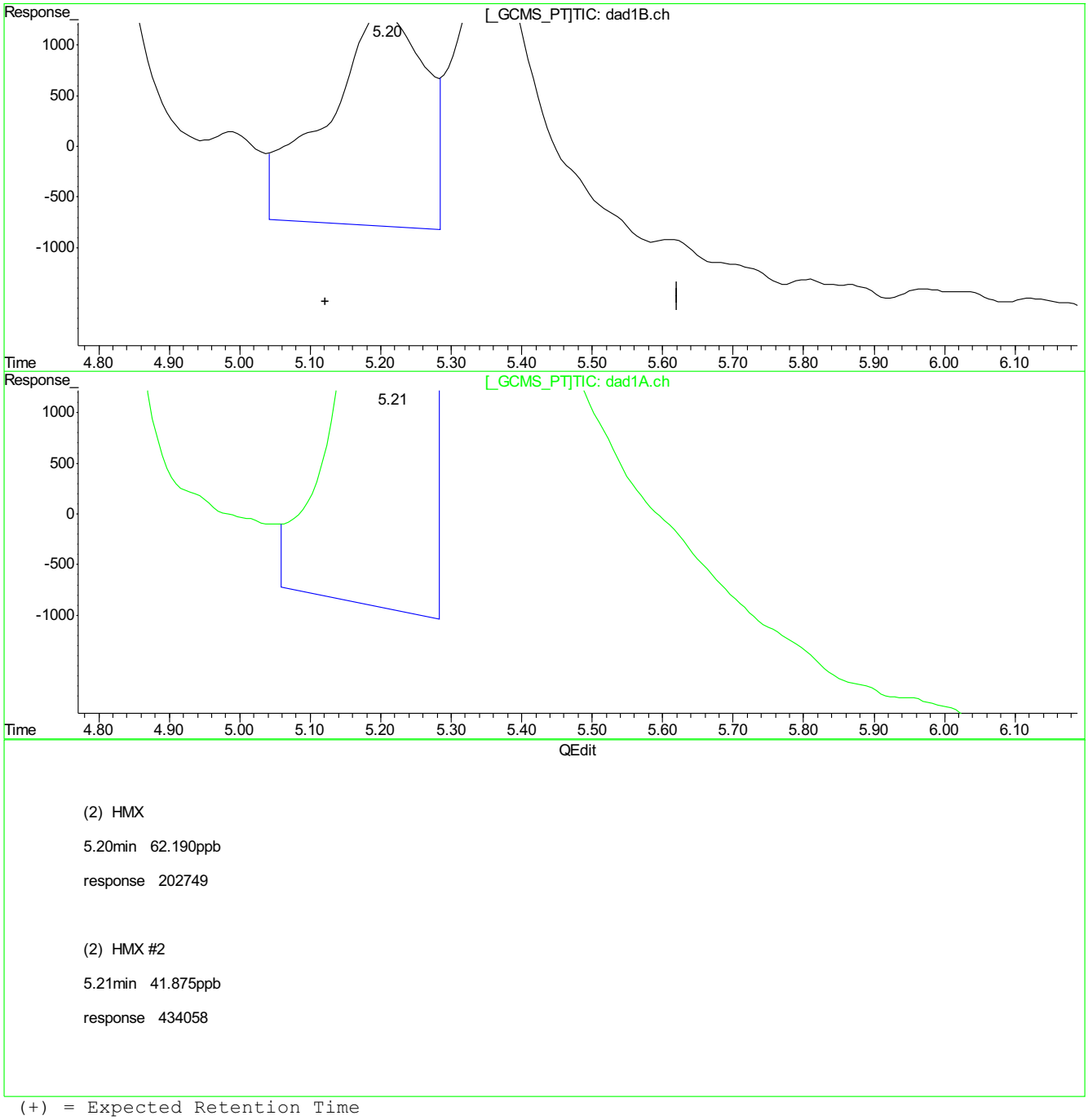
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:22 2017

PP381821.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



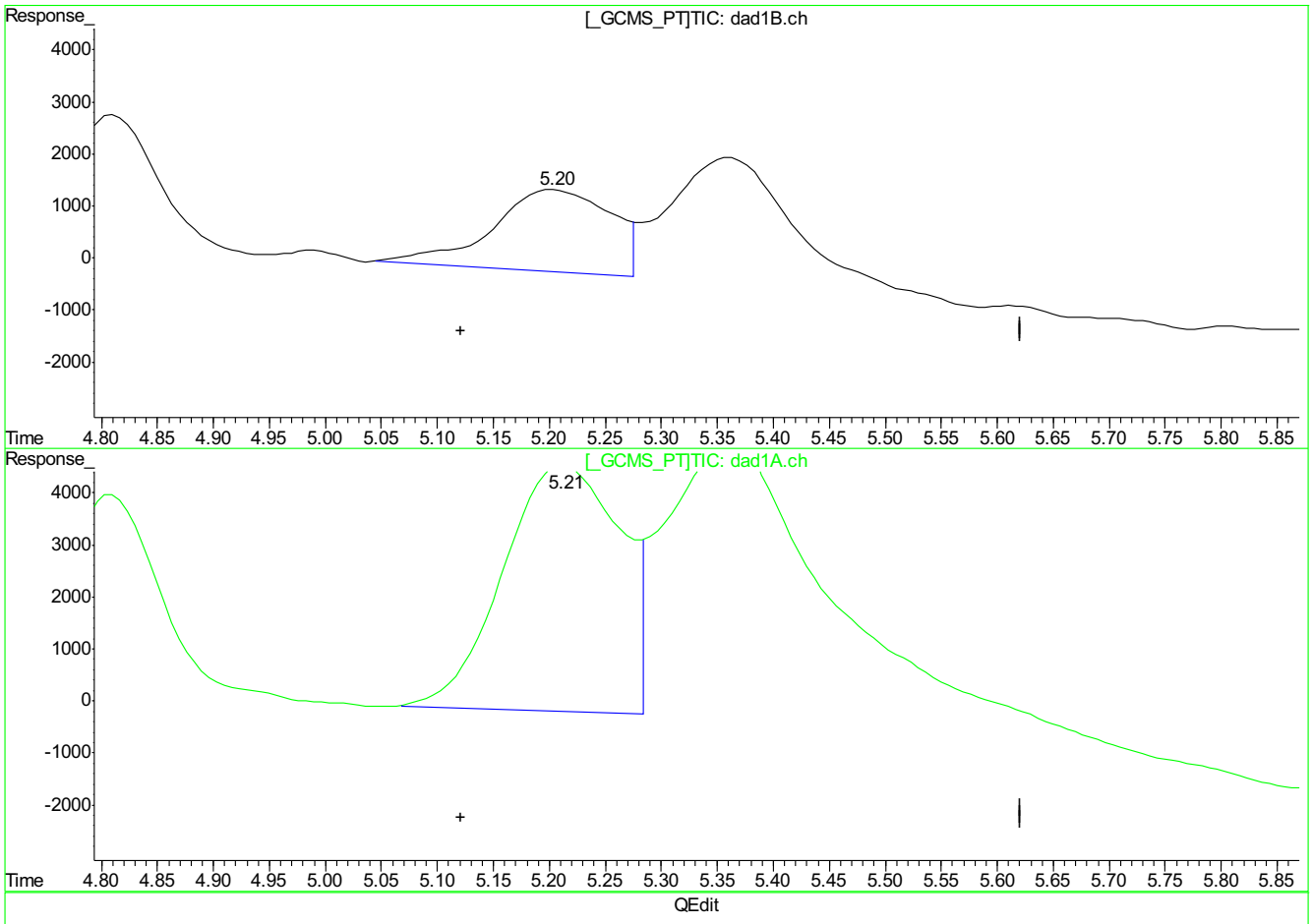
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:26 2017

PP381821.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(2) HMX

5.20min 34.587ppb m

response 112757

(2) HMX #2

5.21min 34.186ppb m

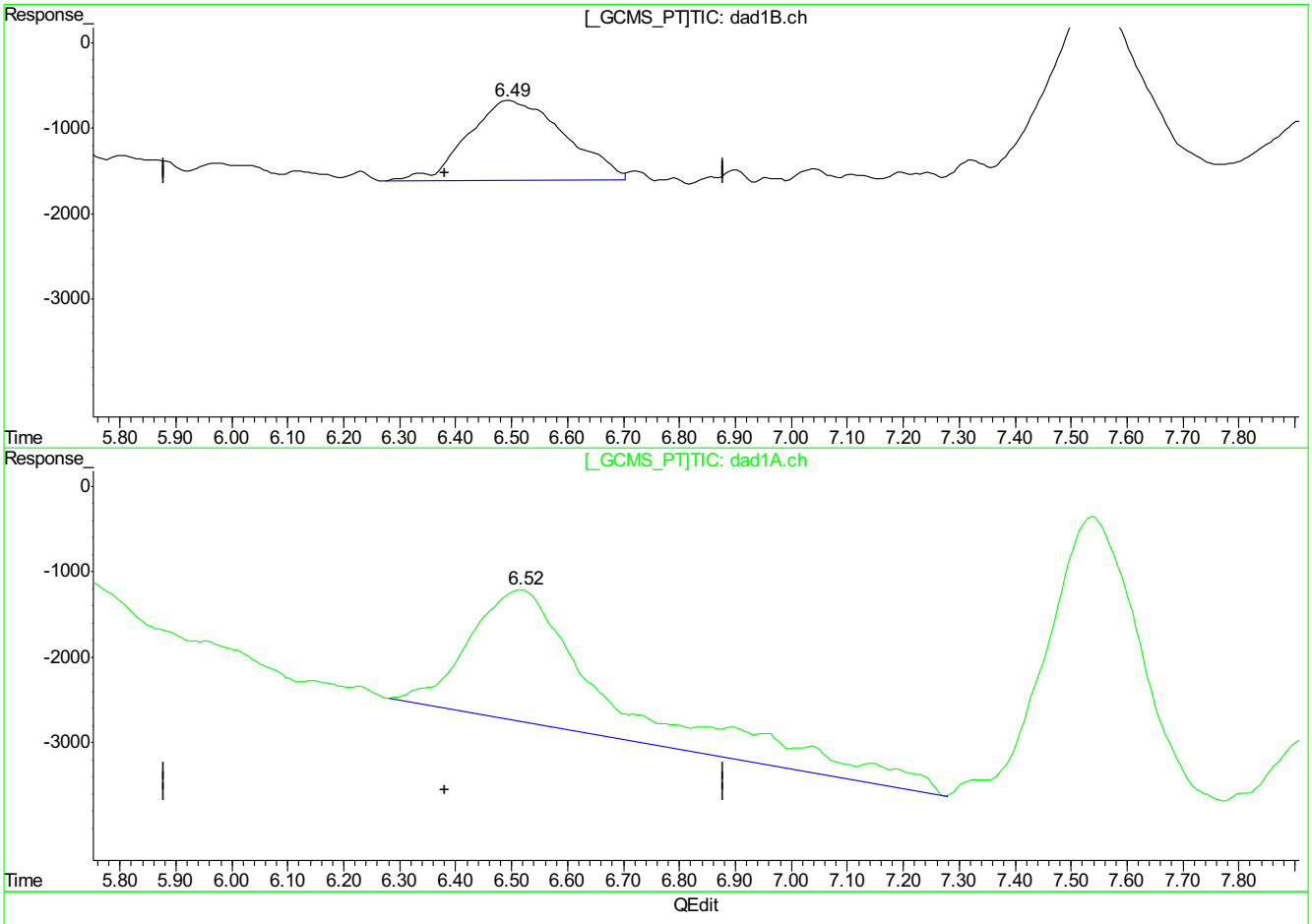
response 354356

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:51 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(4) MNX

6.50min 20.678ppb

response 112624

(4) MNX #2

6.52min 32.992ppb

response 281174

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:19 2017

9.5.13.6

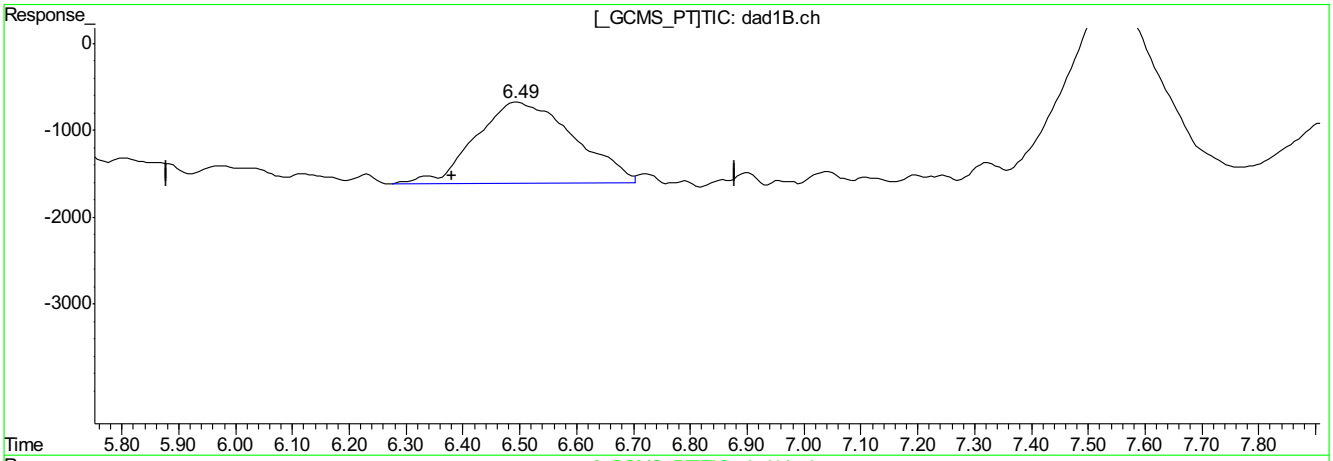
9

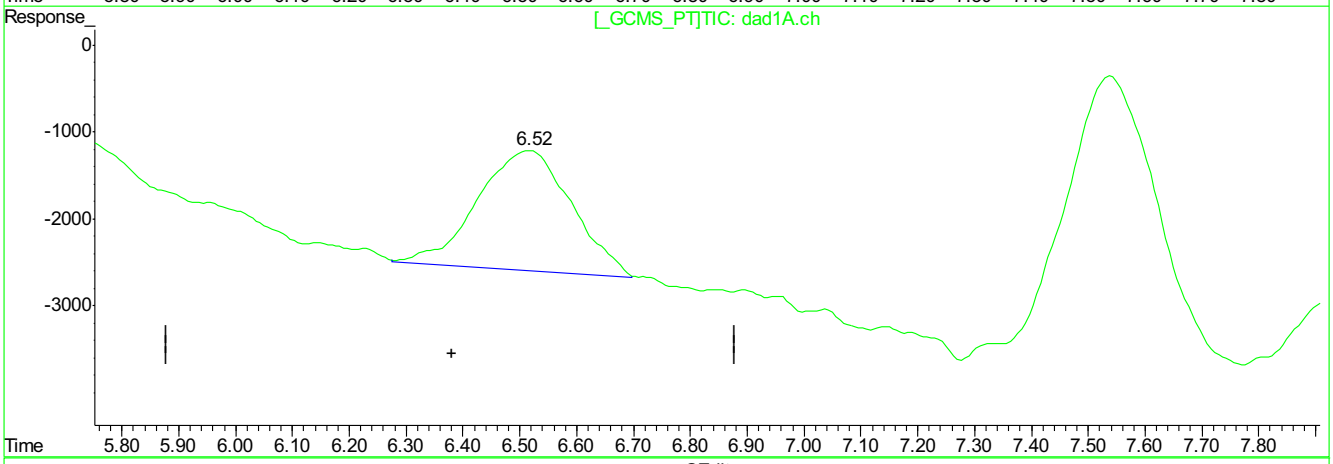
PP381821.D edits: MNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration





QEdit

(4) MNX

6.50min 20.678ppb

response 112624

(4) MNX #2

6.52min 18.707ppb m

response 159430

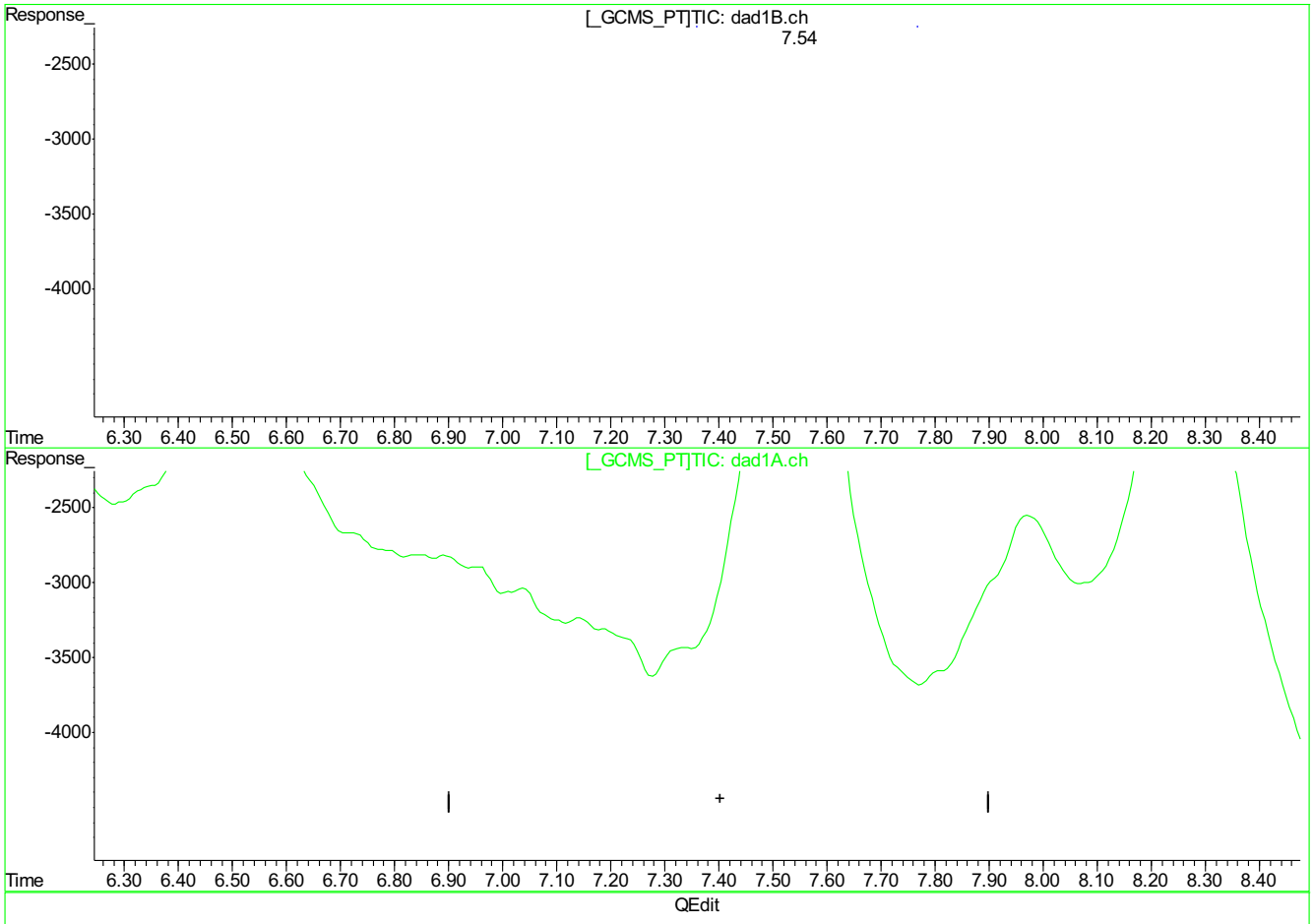
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:24 2017

PP381821.D edits: MNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.54min 24.231ppb

response 239896

(5) 1,3,5-Trinitrobenzene #2

7.54min 24.888ppb

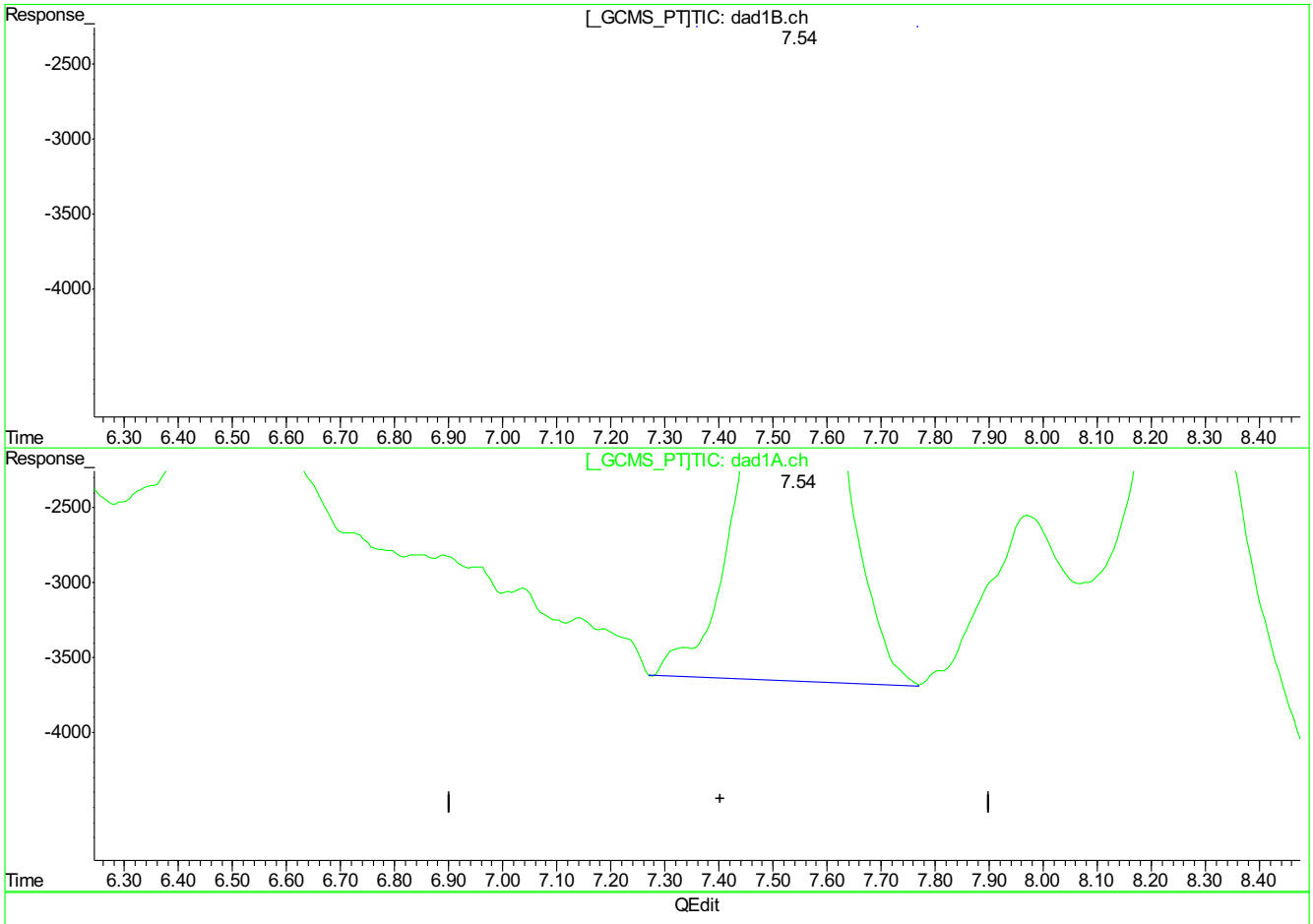
response 413404

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.54min 24.231ppb

response 239896

(5) 1,3,5-Trinitrobenzene #2

7.54min 22.565ppb m

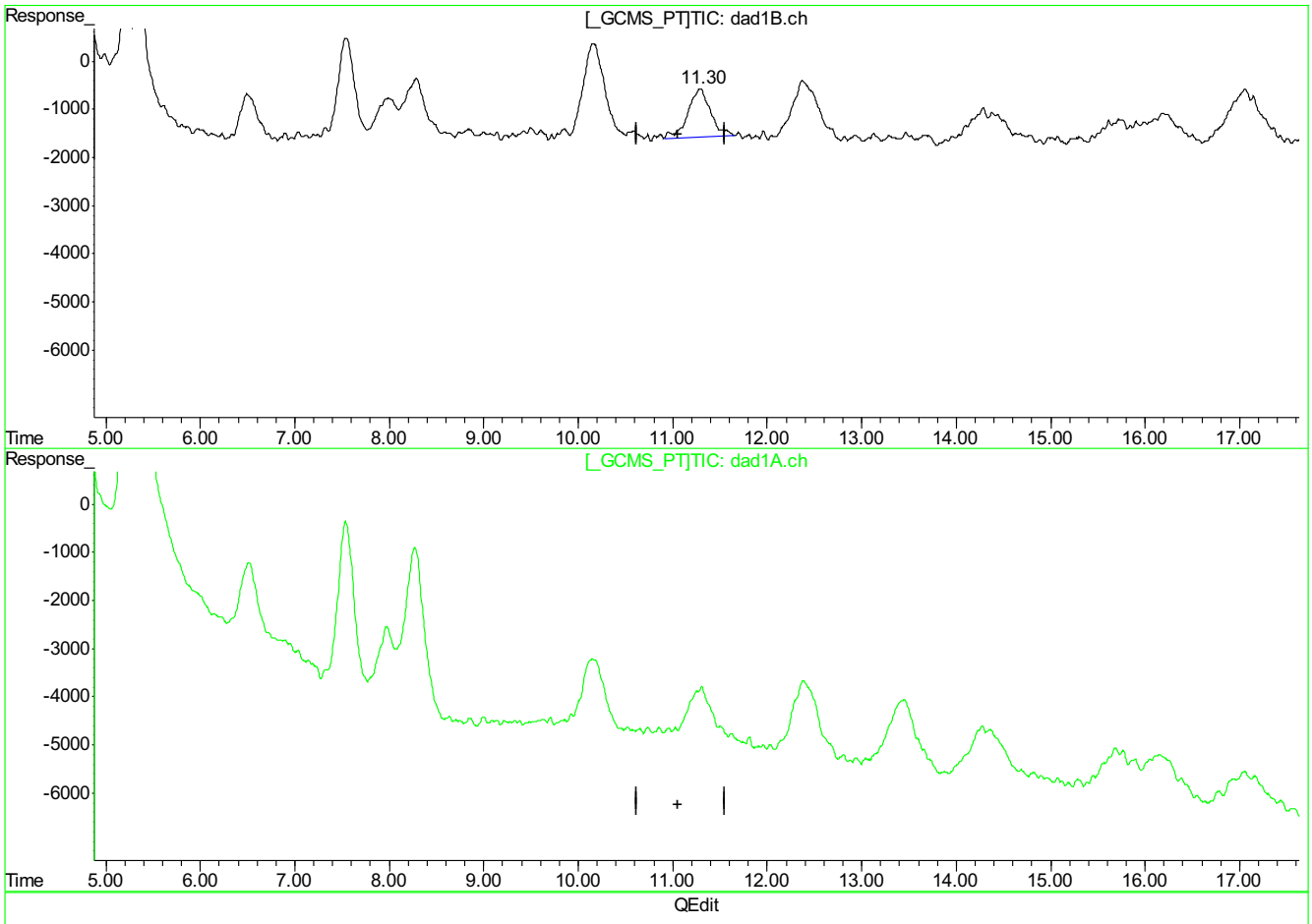
response 374810

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:39 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



(8) Nitrobenzene

11.30min 19.625ppb

response 166615

(8) Nitrobenzene #2

0.00min 0.000ppb

response 0

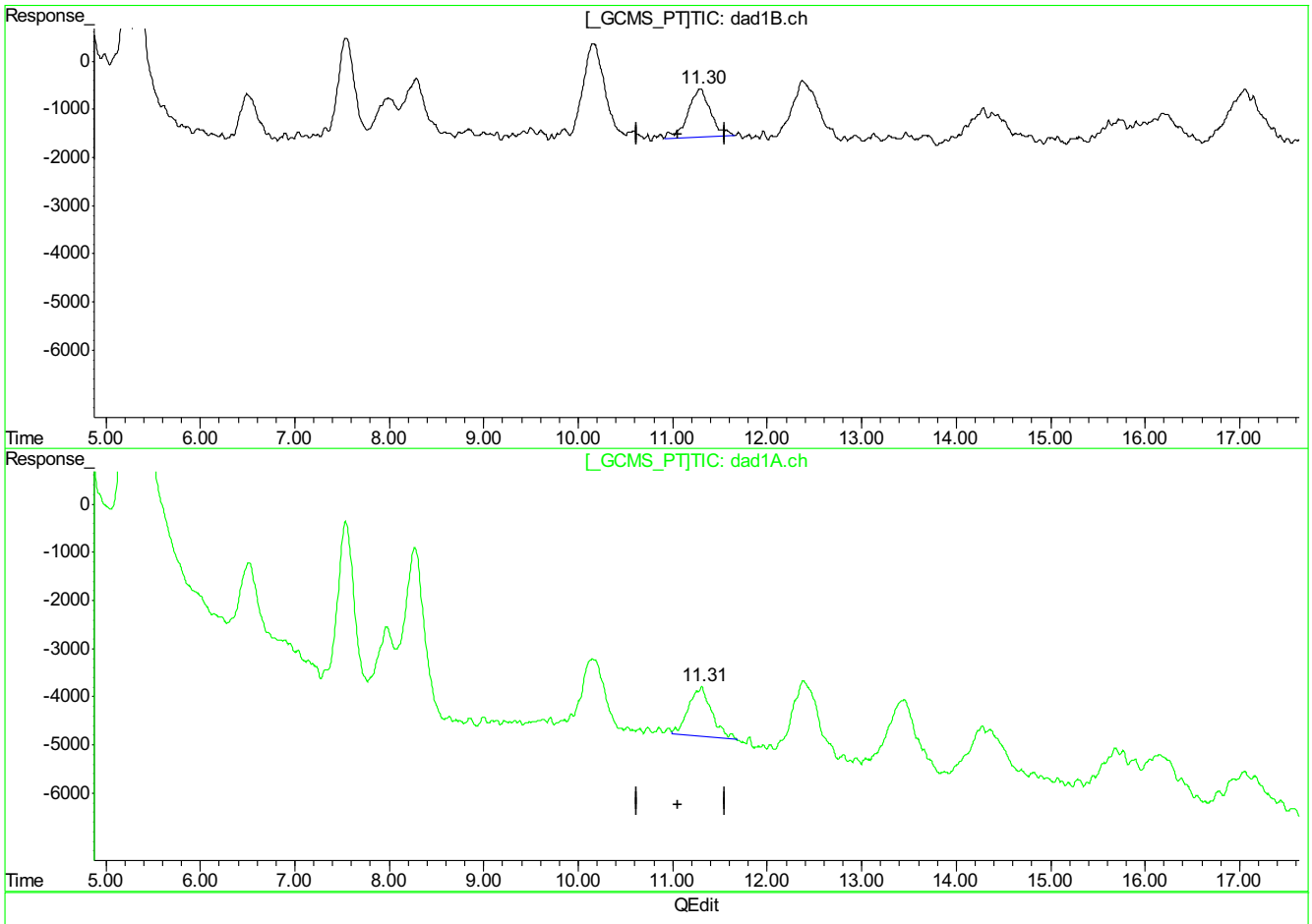
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:39:27 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



(8) Nitrobenzene

11.30min 19.625ppb

response 166615

(8) Nitrobenzene #2

11.31min 21.194ppb m

response 172615

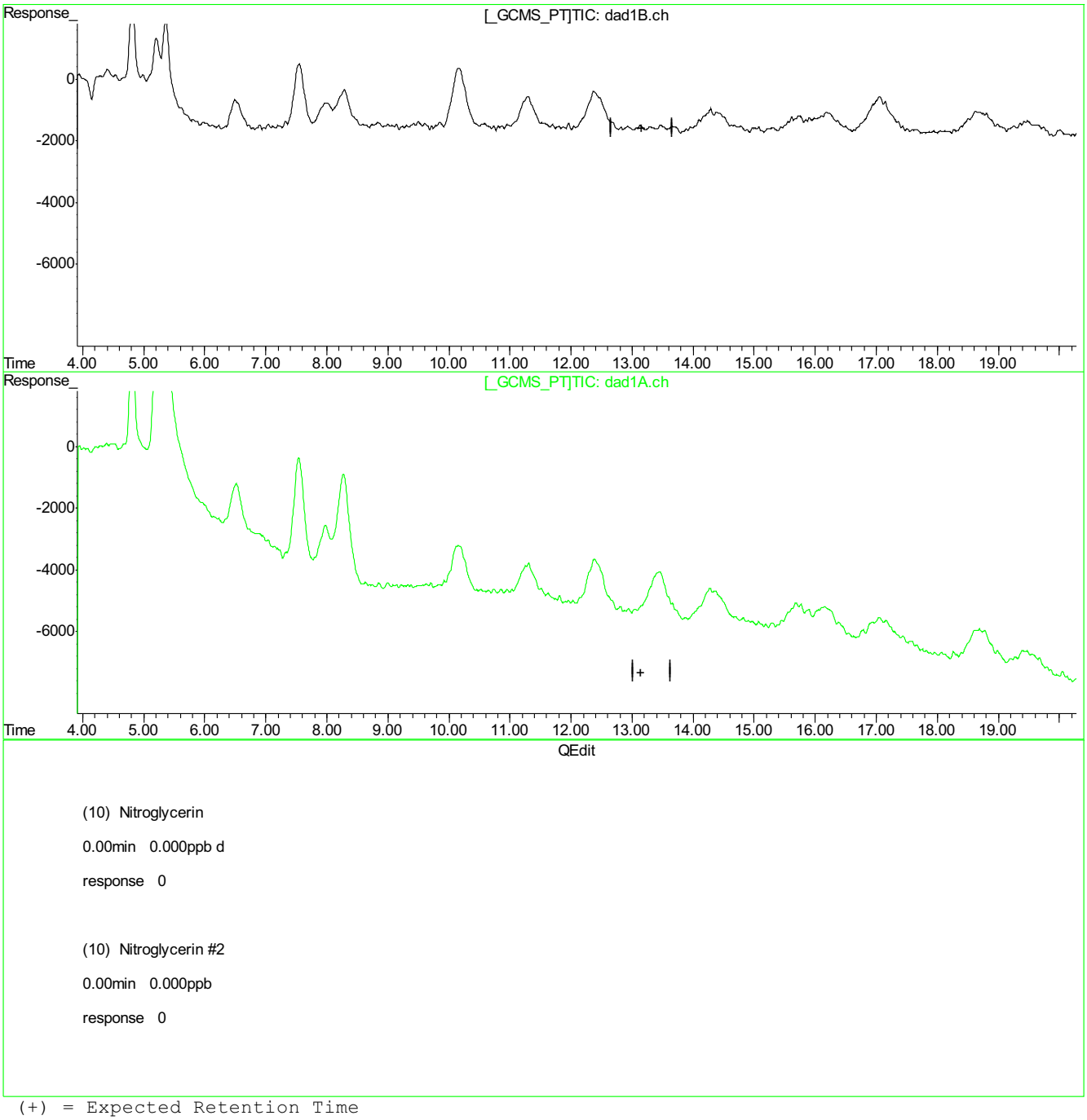
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:39:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

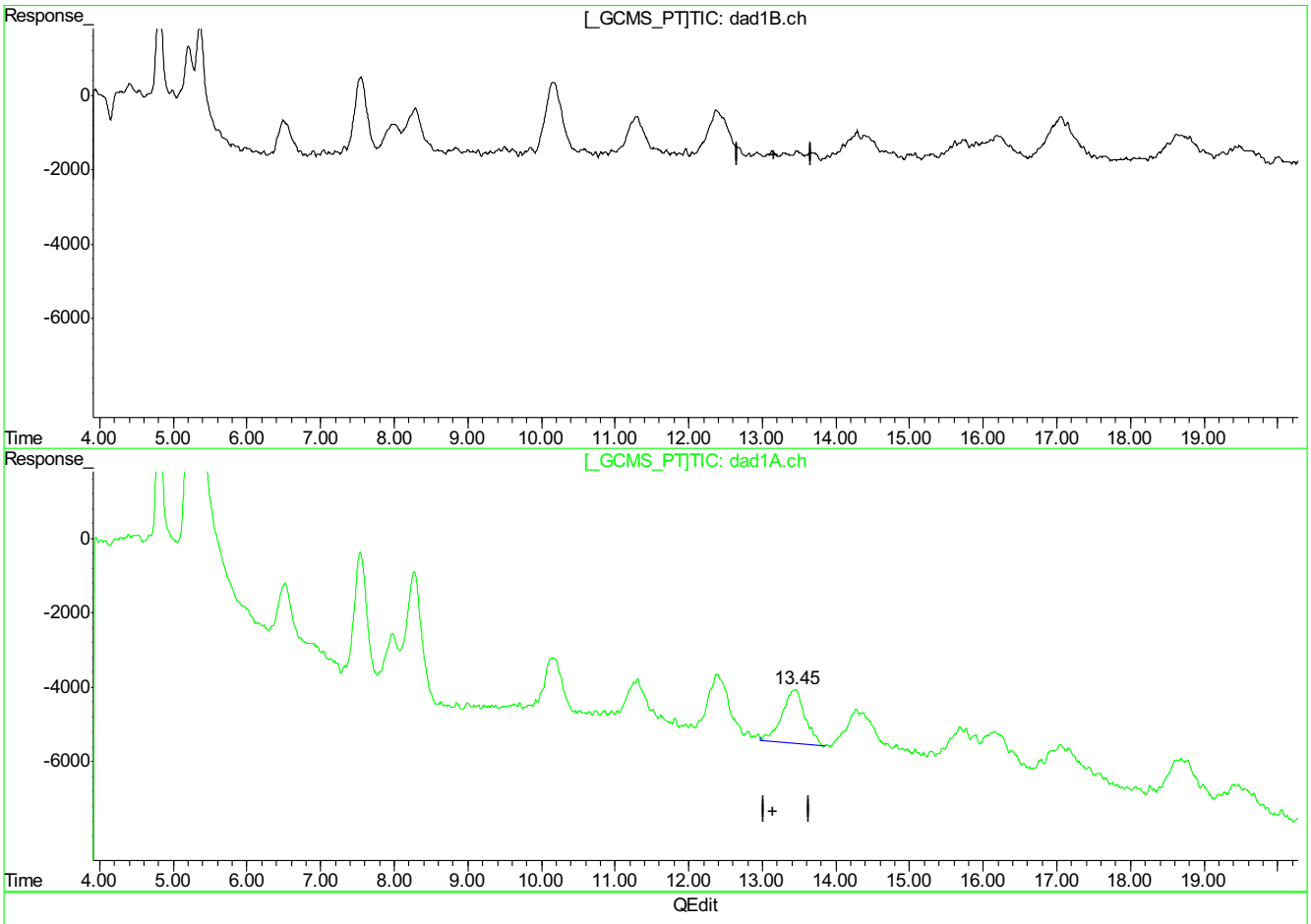
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:17 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.45min 104.962ppb m

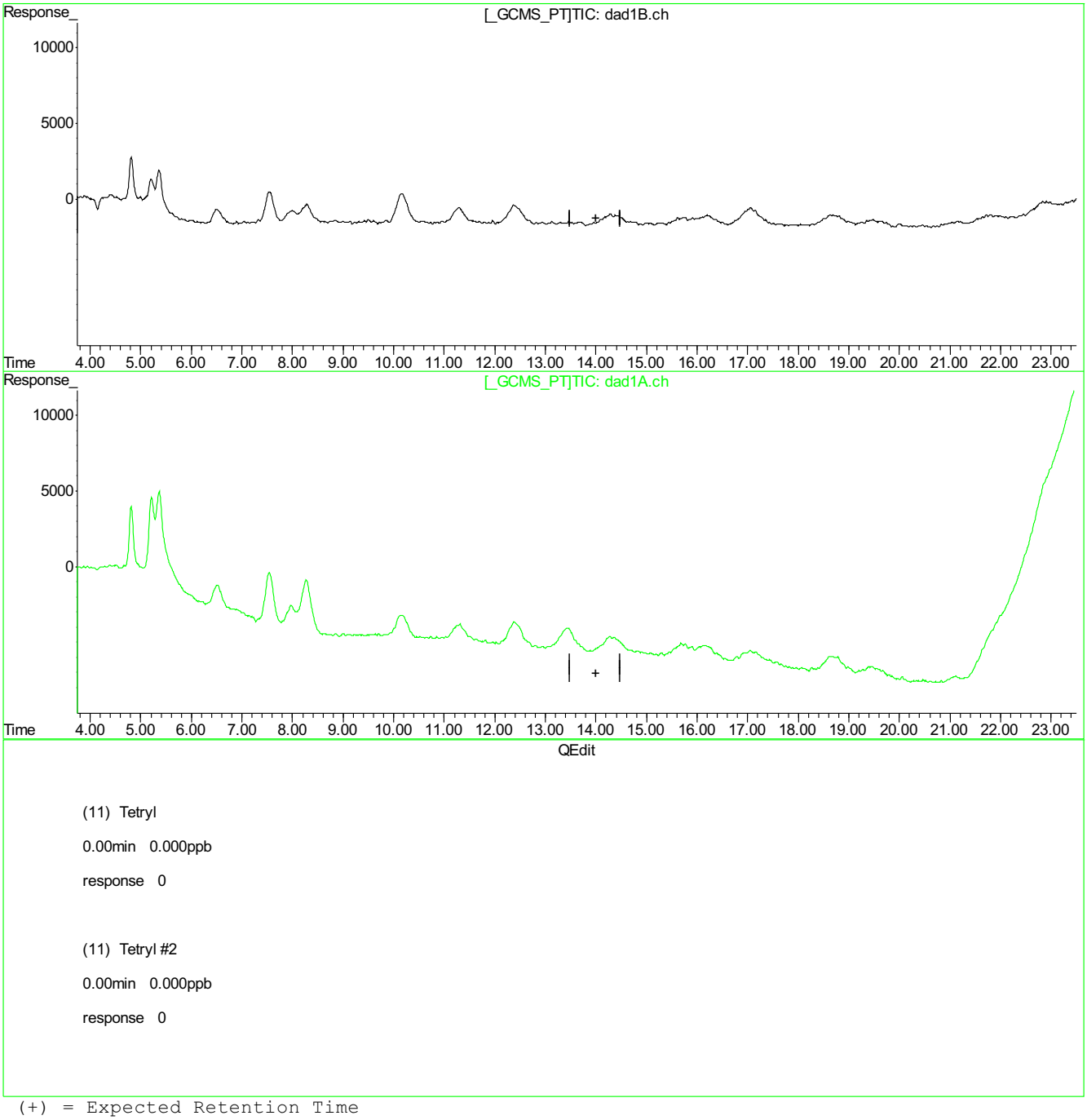
response 312865

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:23 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(11) Tetryl

0.00min 0.000ppb

response 0

(11) Tetryl #2

0.00min 0.000ppb

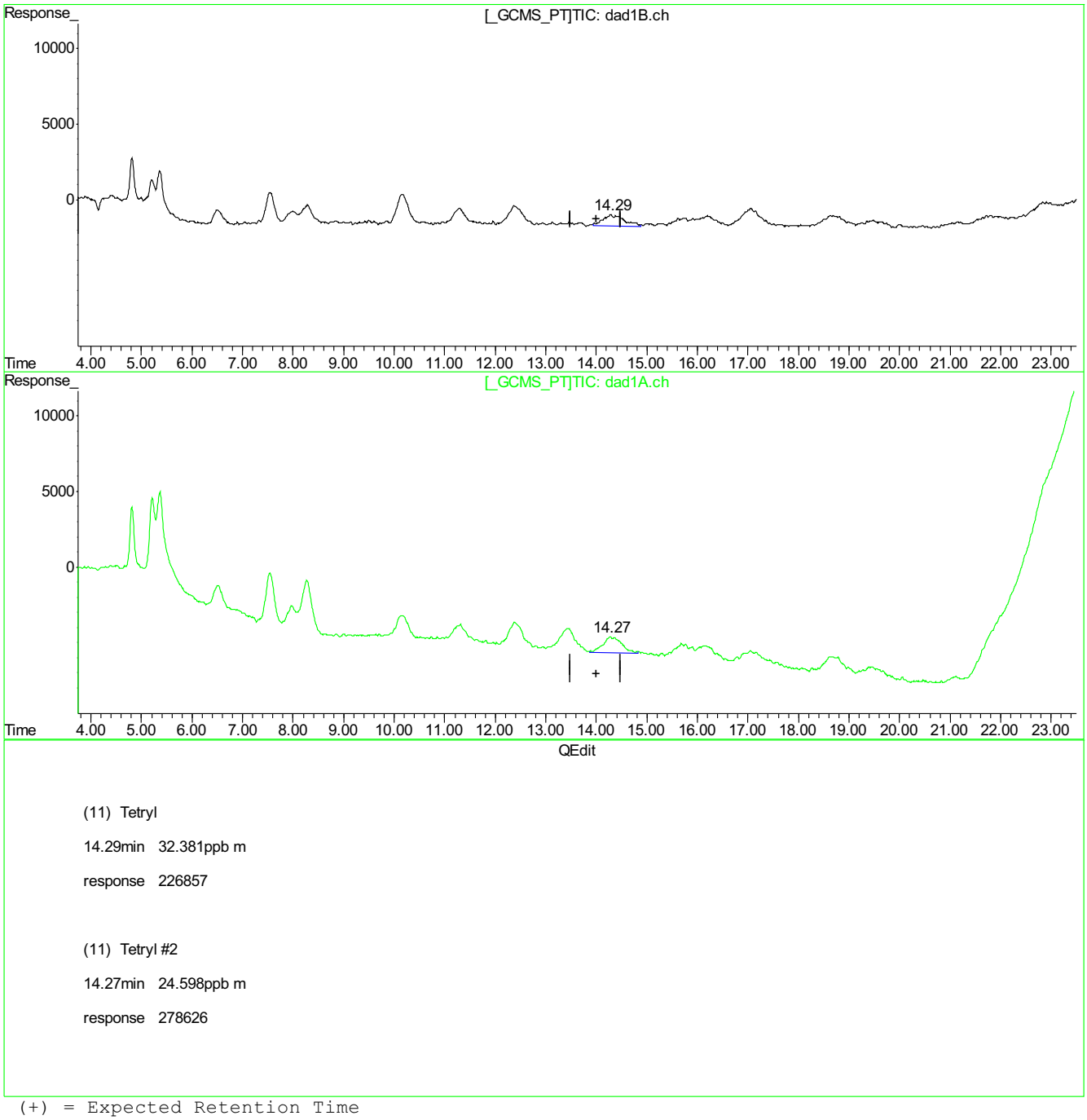
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:43 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                    Operator: evitam
Sample    : ic2096-20                                Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



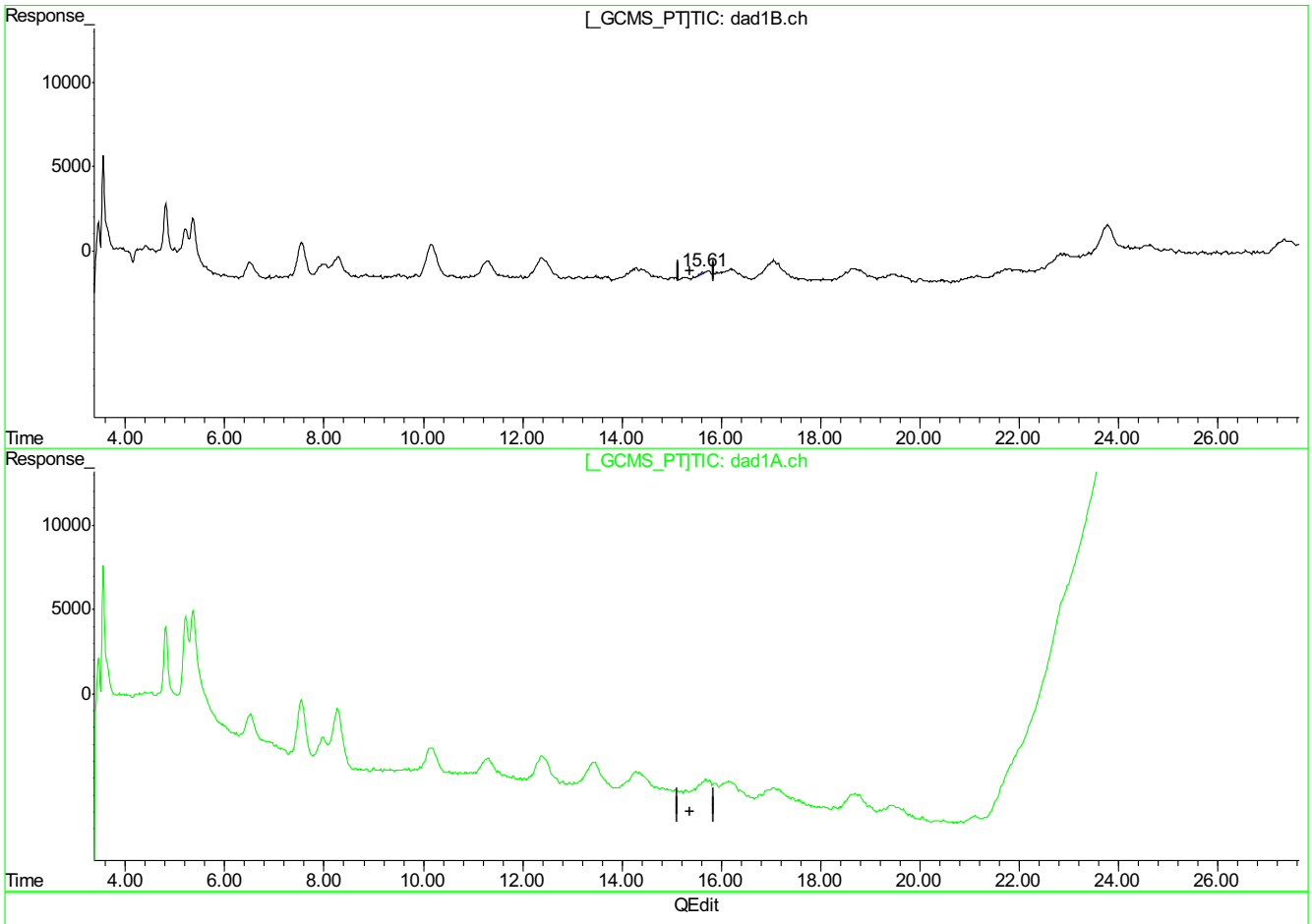
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



QEdit

(12) 3,4-Dinitrotoluene (S)

15.62min 1.226ppb

response 5653

(12) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

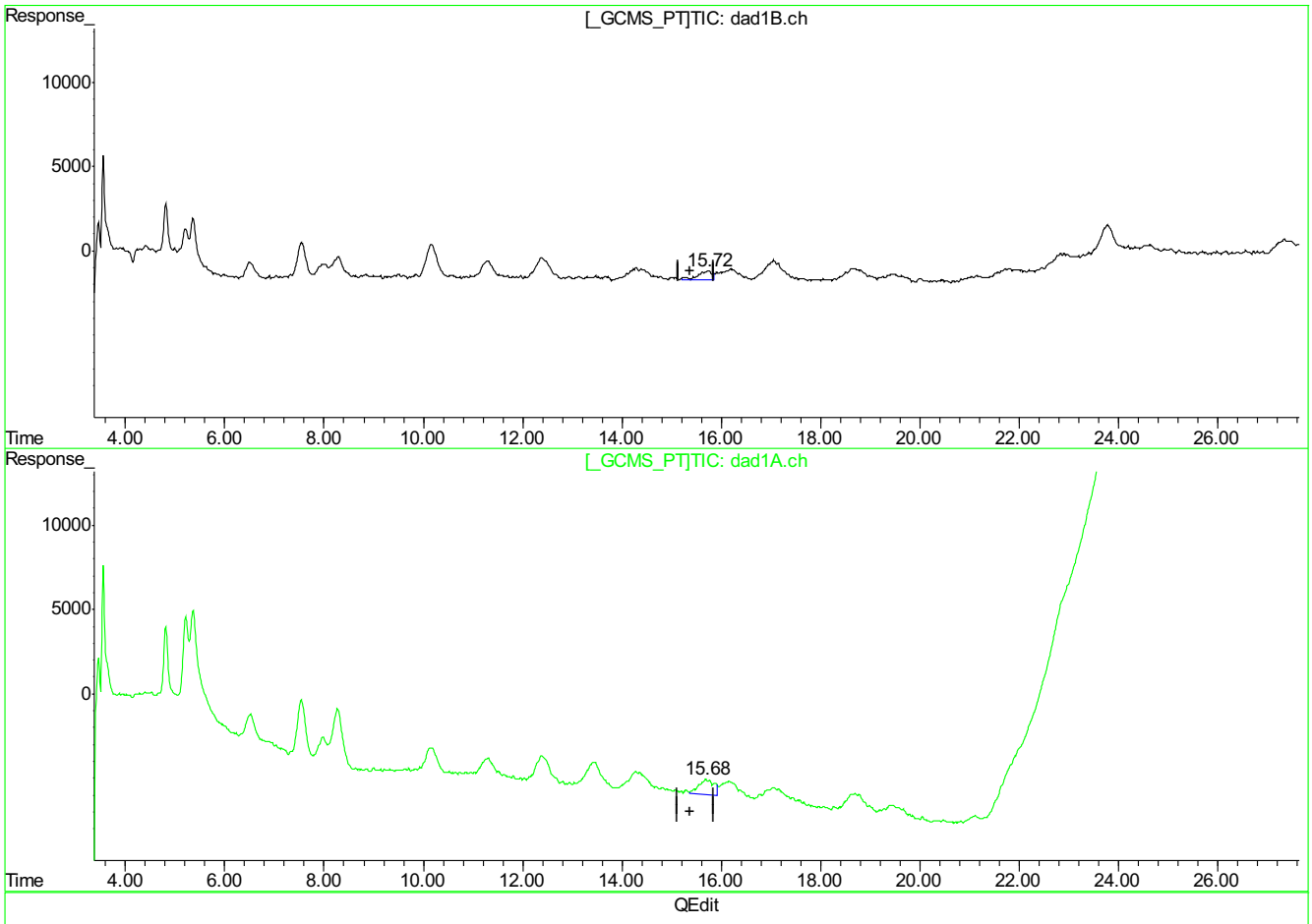
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:14 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

15.72min 20.333ppb m

response 93741

(12) 3,4-Dinitrotoluene #2 (S)

15.68min 21.066ppb m

response 195429

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:25 2017

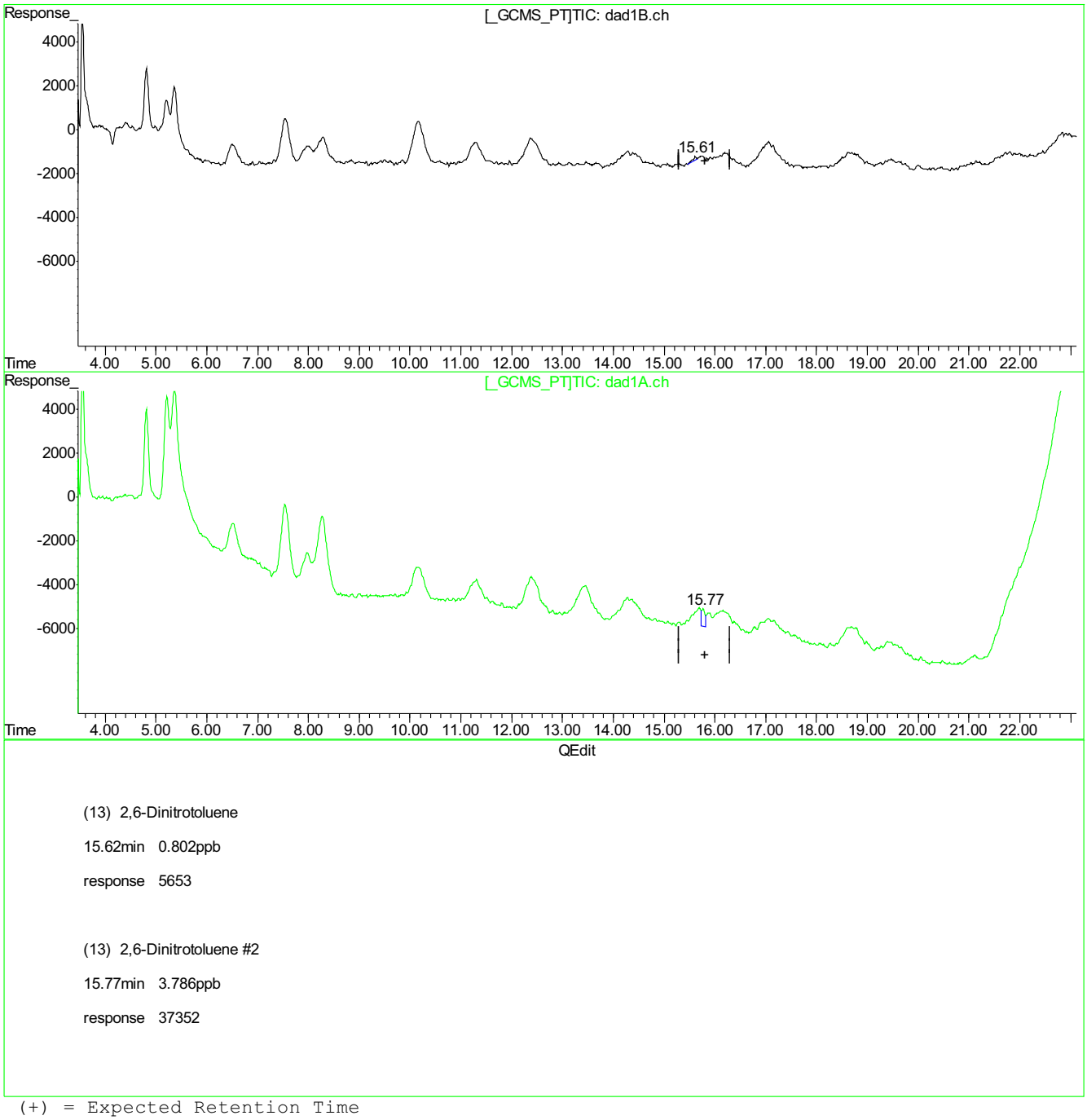
9.5.13.17

9

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                    Operator: evitam
Sample    : ic2096-20                                Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

15.62min 0.802ppb

response 5653

(13) 2,6-Dinitrotoluene #2

15.77min 3.786ppb

response 37352

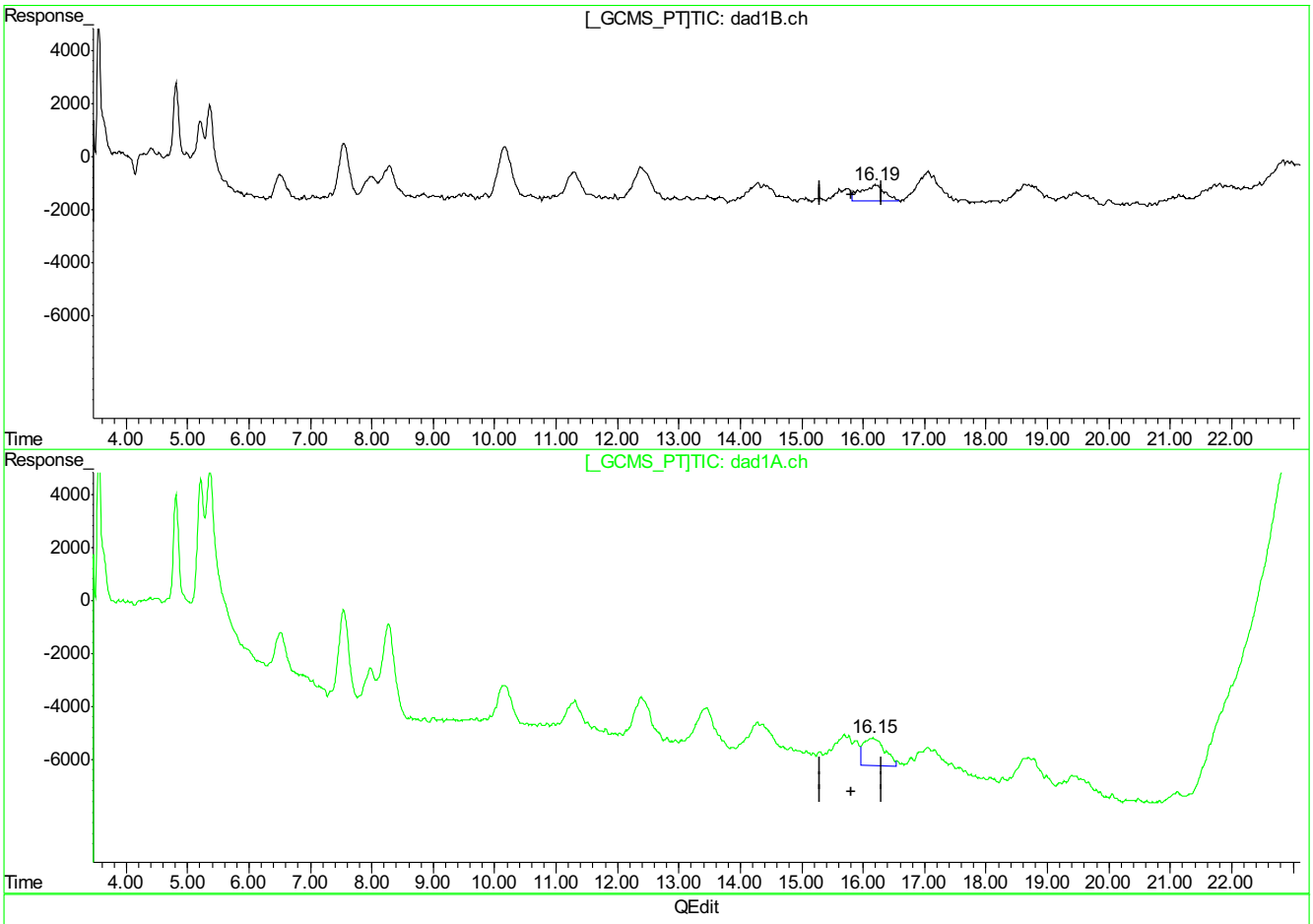
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:41 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

16.19min 23.835ppb m

response 168010

(13) 2,6-Dinitrotoluene #2

16.15min 25.708ppb m

response 253647

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:55 2017

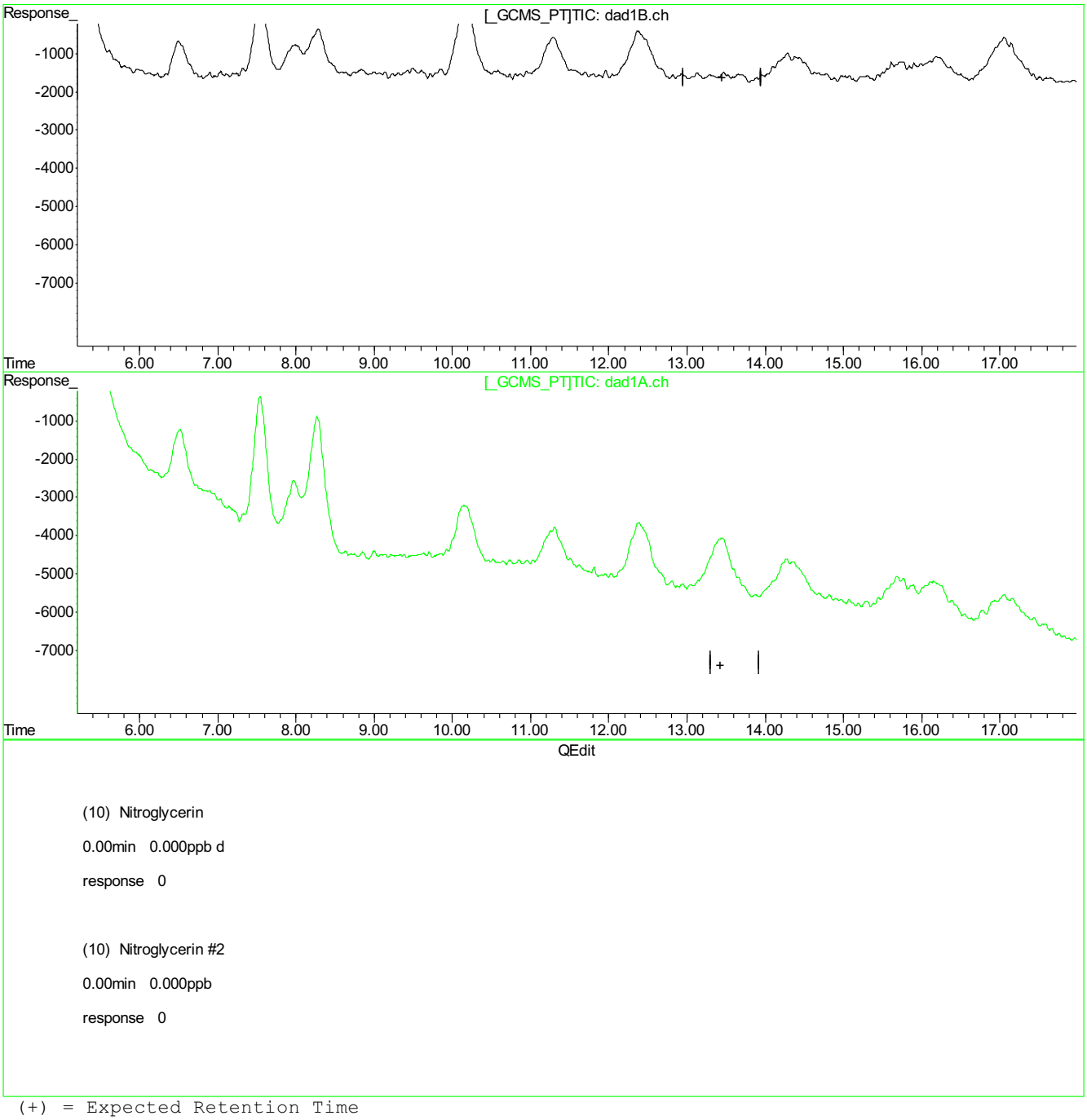
9.5.13.19

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

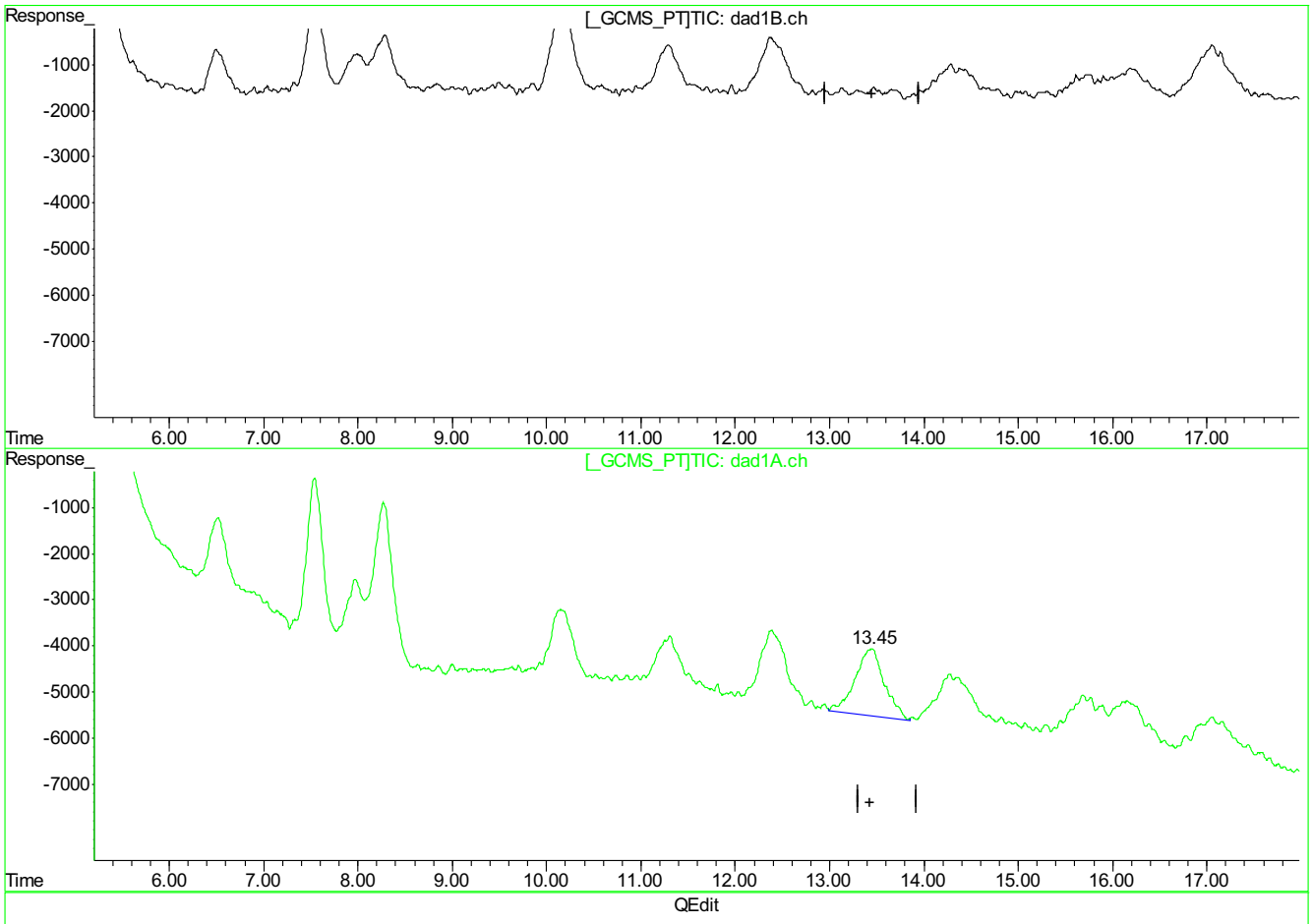
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:04:49 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.45min 106.019ppb m

response 316014

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:04:52 2017

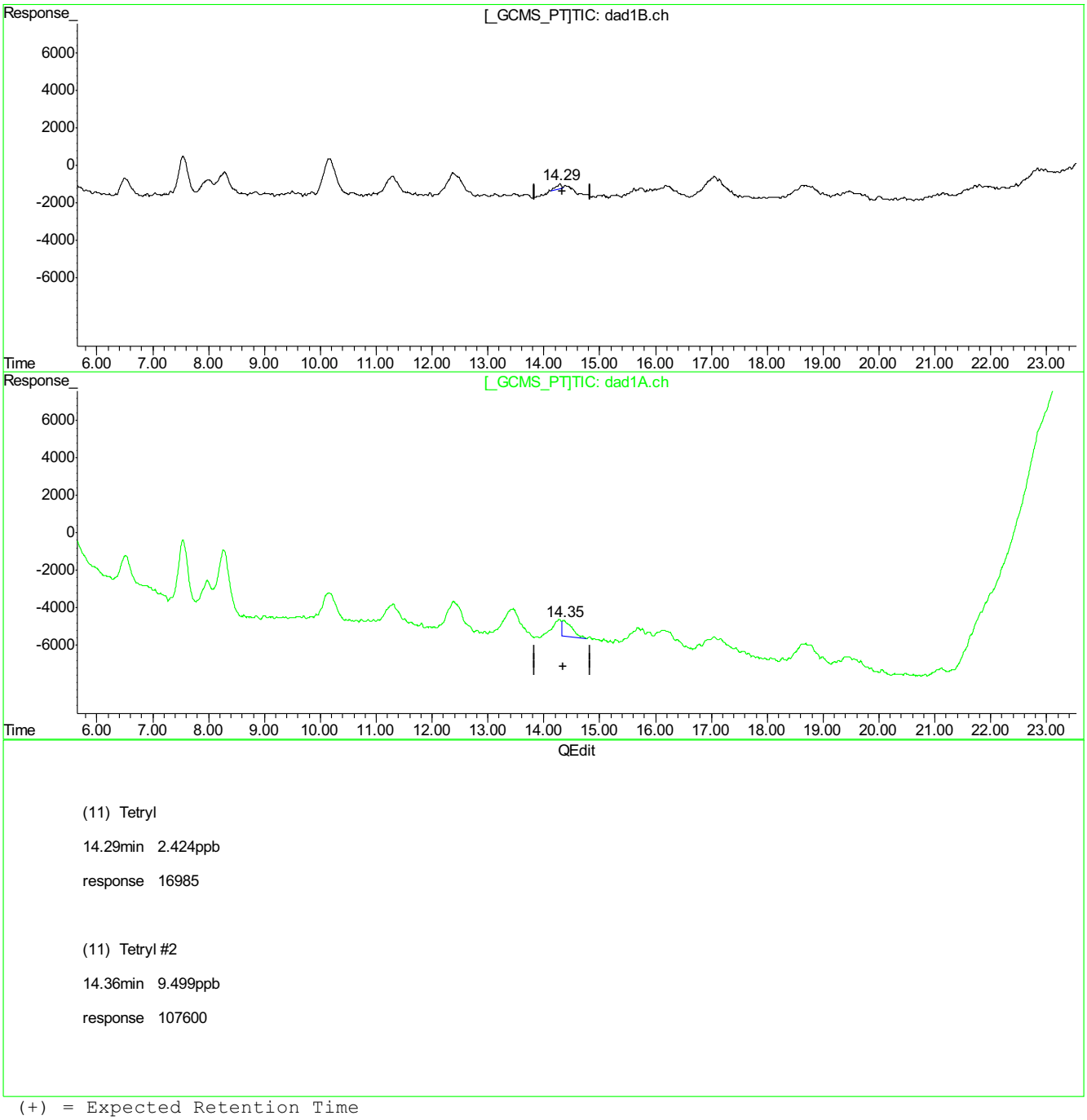
9.5.13.21

9

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:07 2017

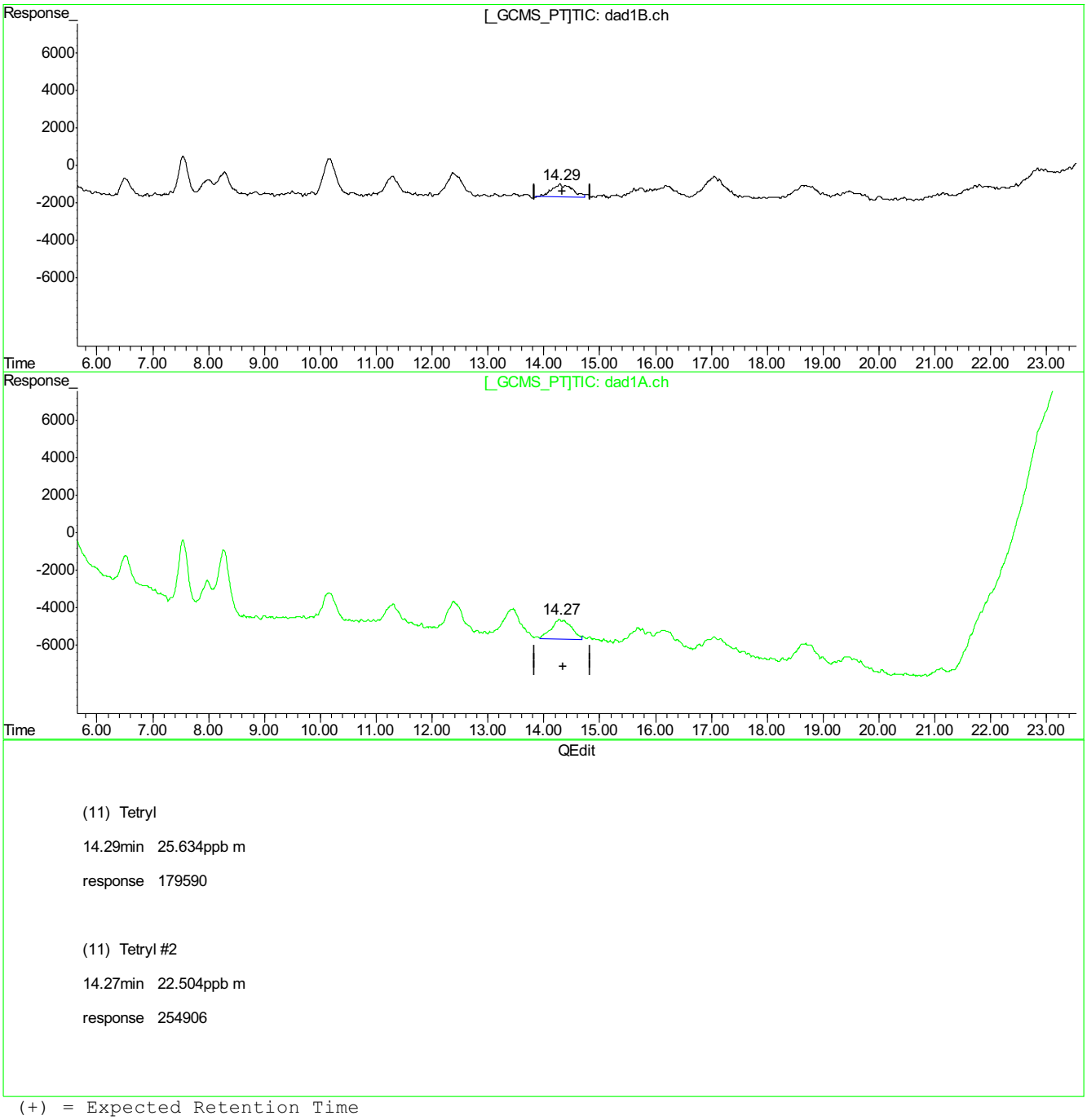
PP381821.D edits: Tetryl

9.5.13.22
9
SGS ACCUTEST FA43019

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.29min 25.634ppb m

response 179590

(11) Tetryl #2

14.27min 22.504ppb m

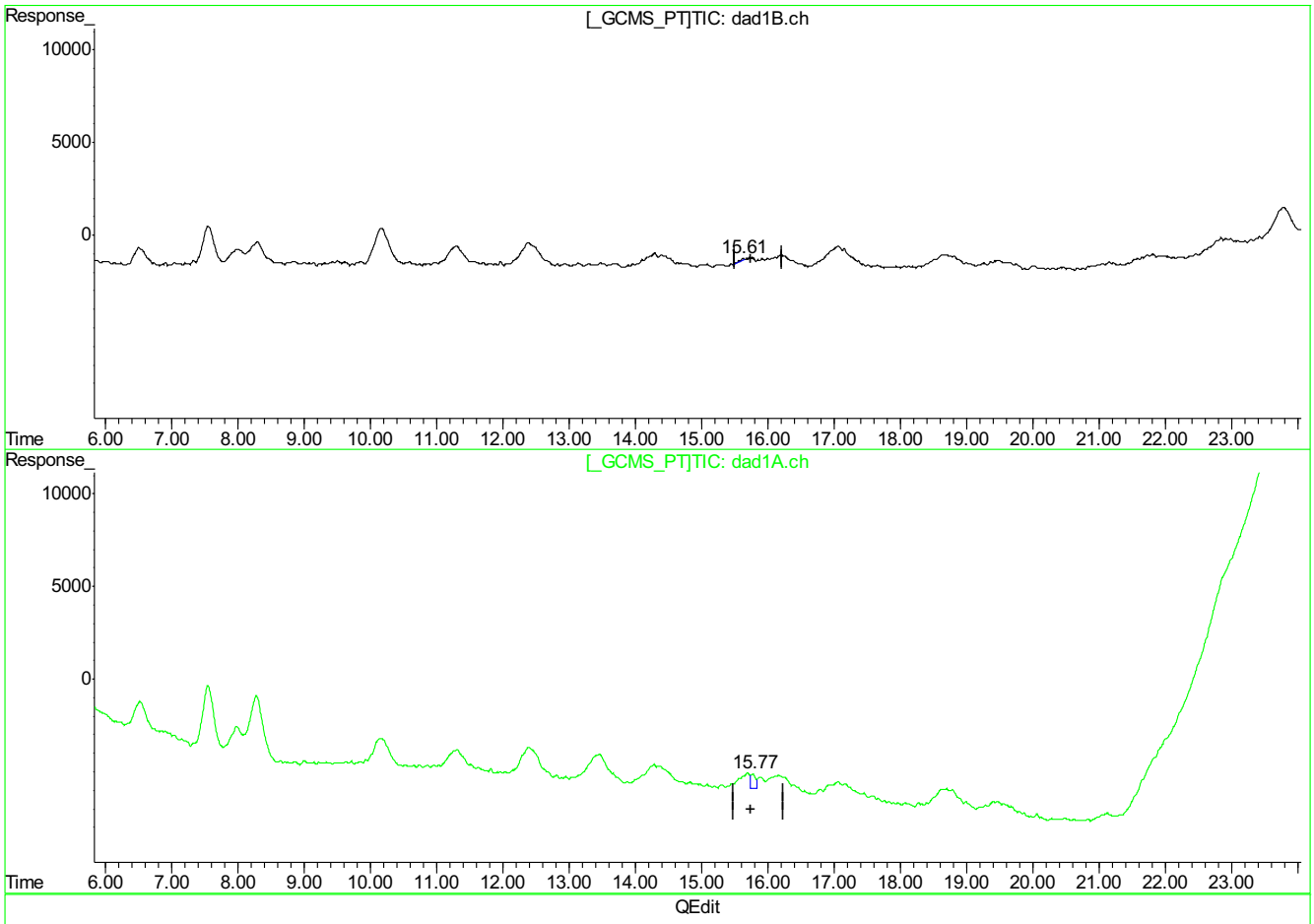
response 254906

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:18 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

15.62min 1.226ppb

response 5653

(12) 3,4-Dinitrotoluene #2 (S)

15.77min 4.026ppb

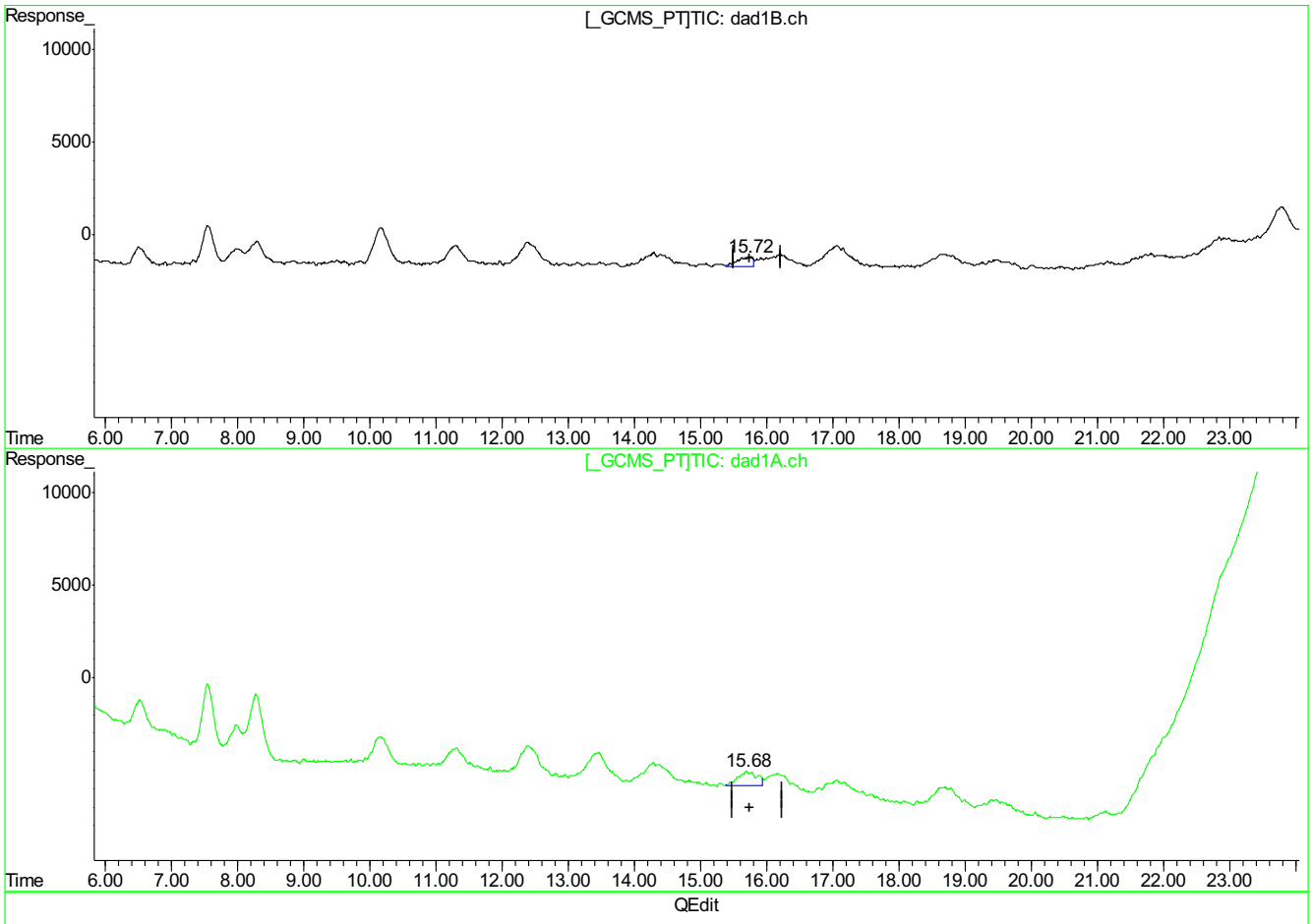
response 37352

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:36 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

15.72min 17.396ppb m

response 80199

(12) 3,4-Dinitrotoluene #2 (S)

15.68min 17.077ppb m

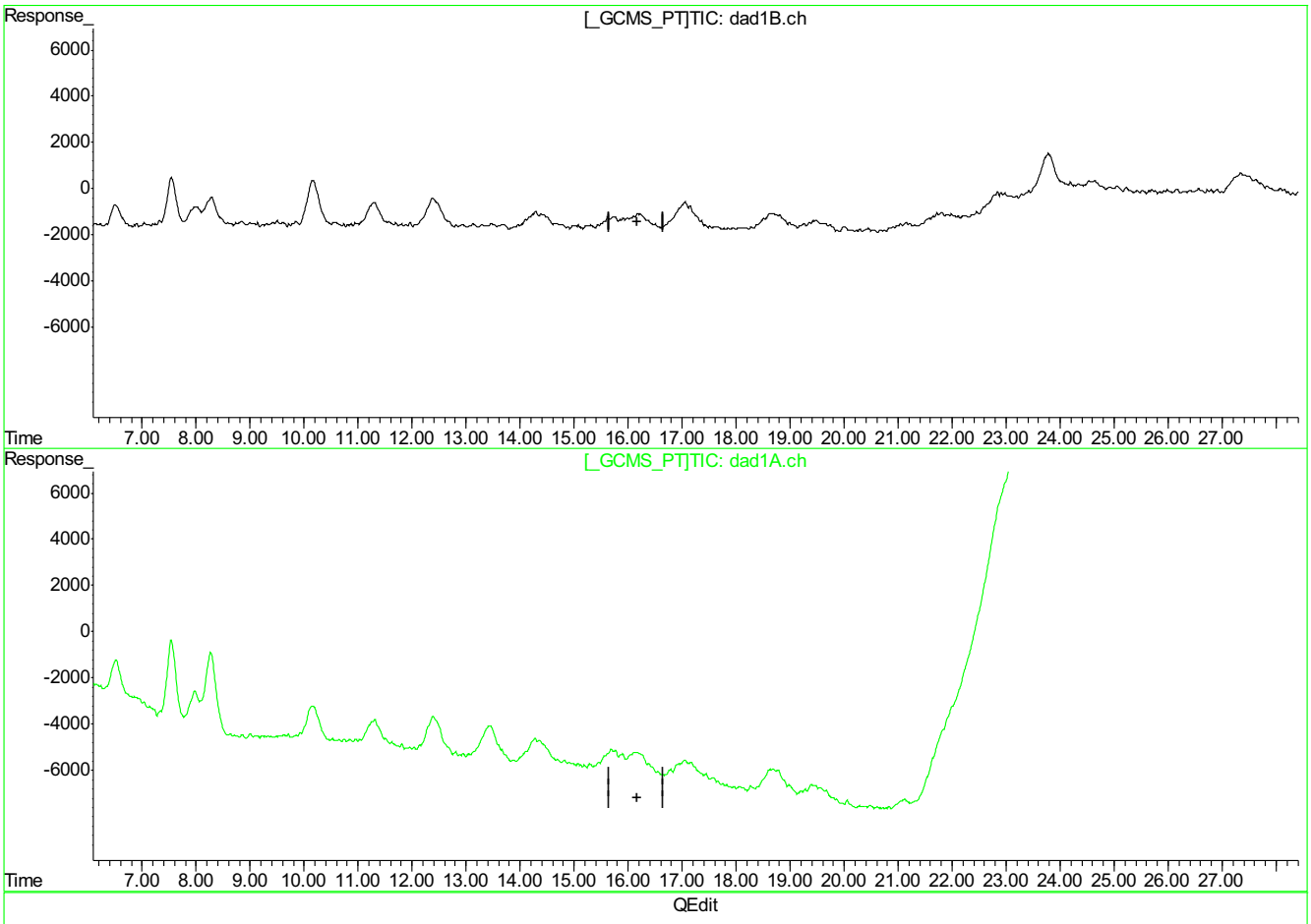
response 158430

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



QEdit

(13) 2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(13) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

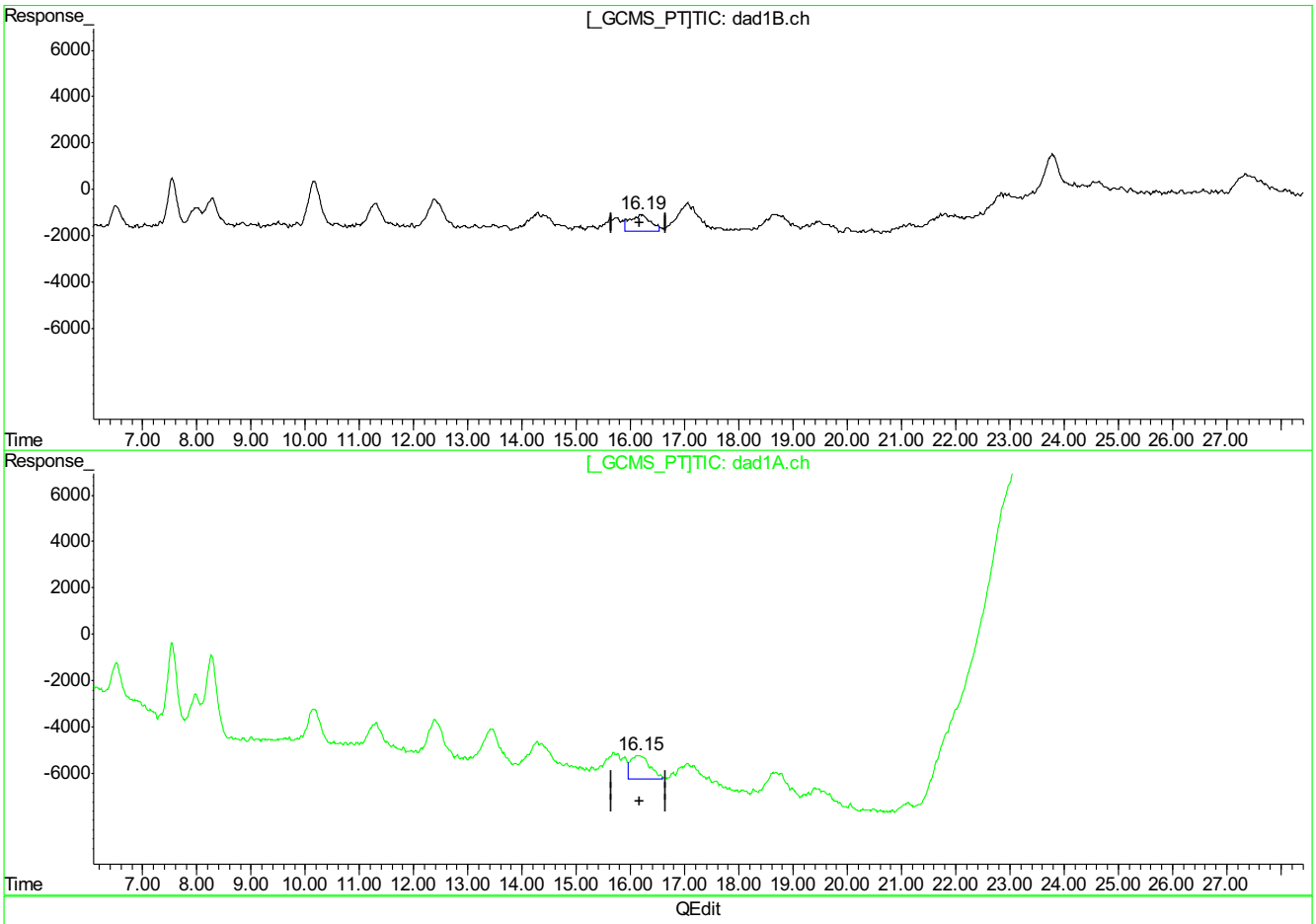
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:58 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

16.19min 26.282ppb m

response 185256

(13) 2,6-Dinitrotoluene #2

16.15min 25.496ppb m

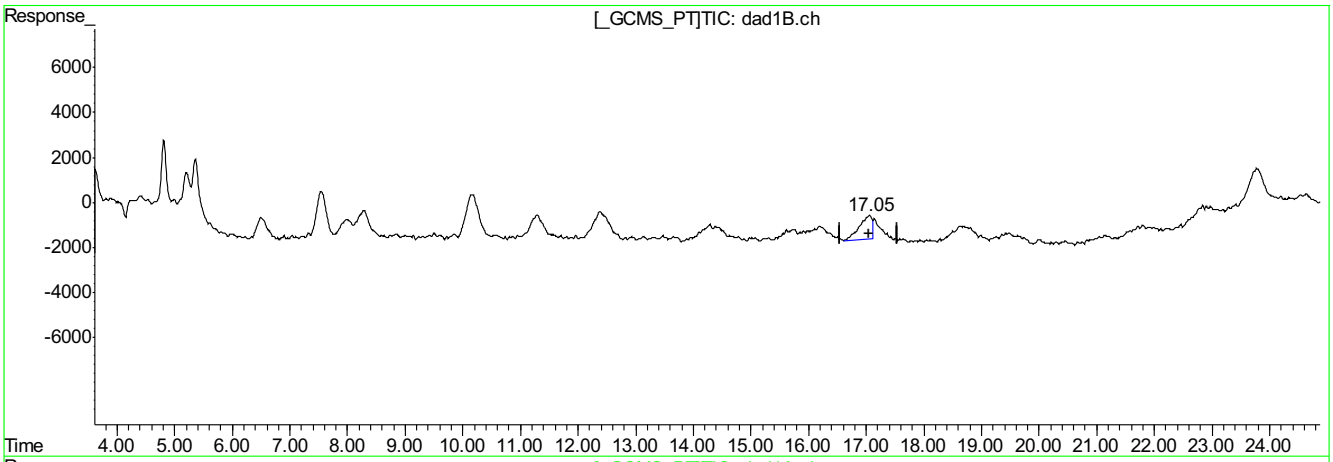
response 251554

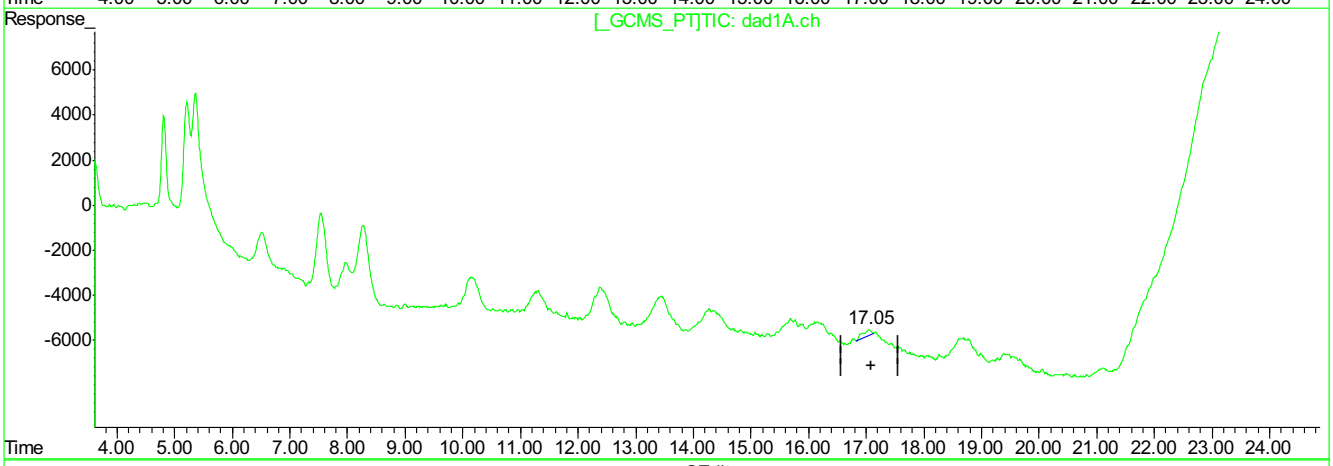
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:08 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

17.06min 13.206ppb

response 162085

(14) 2,4-Dinitrotoluene #2

17.05min 2.980ppb

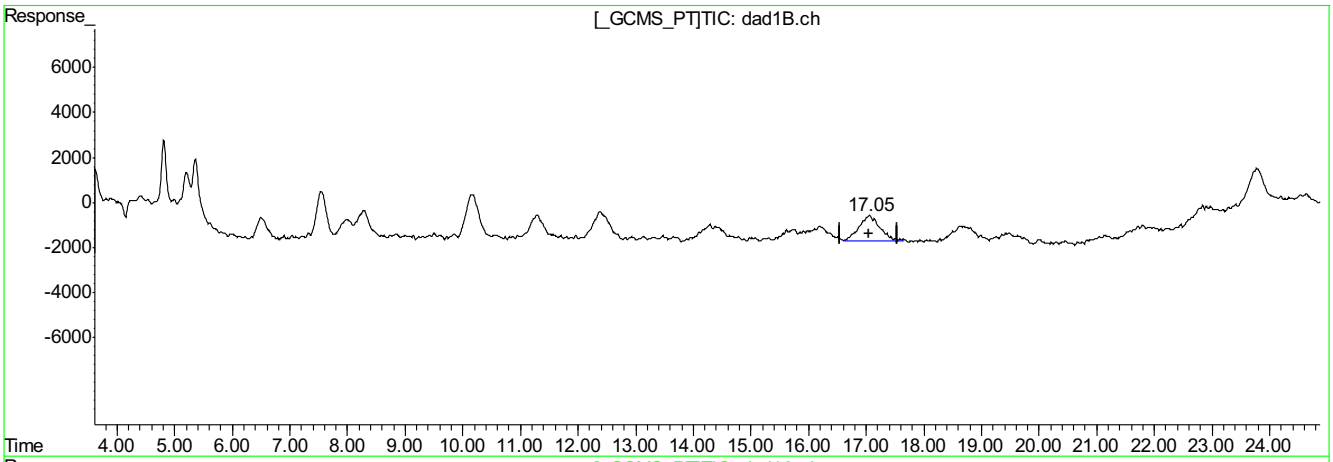
response 27970

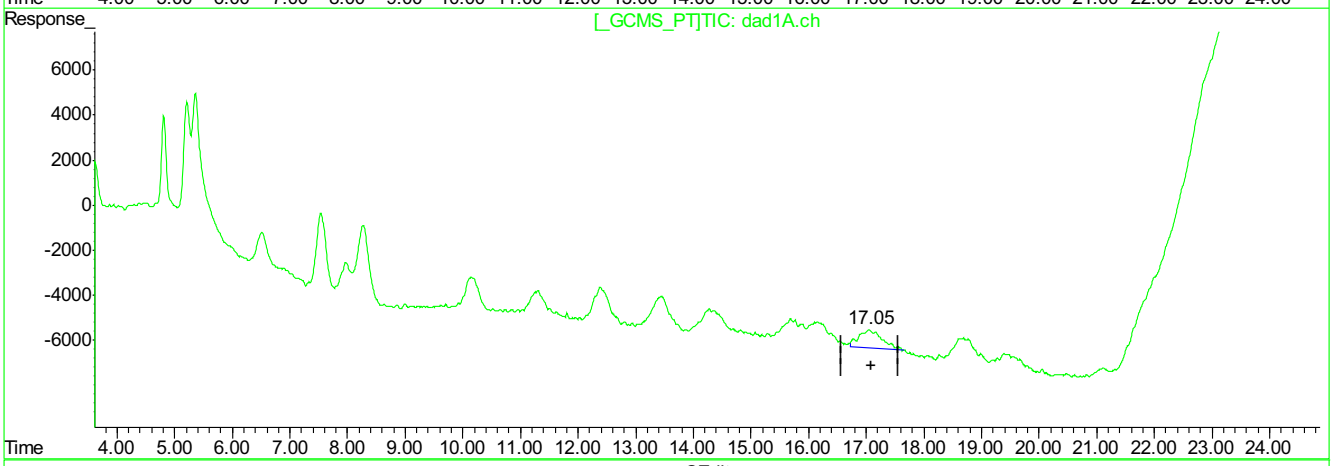
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:26 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

17.05min 23.799ppb m

response 292098

(14) 2,4-Dinitrotoluene #2

17.05min 24.168ppb m

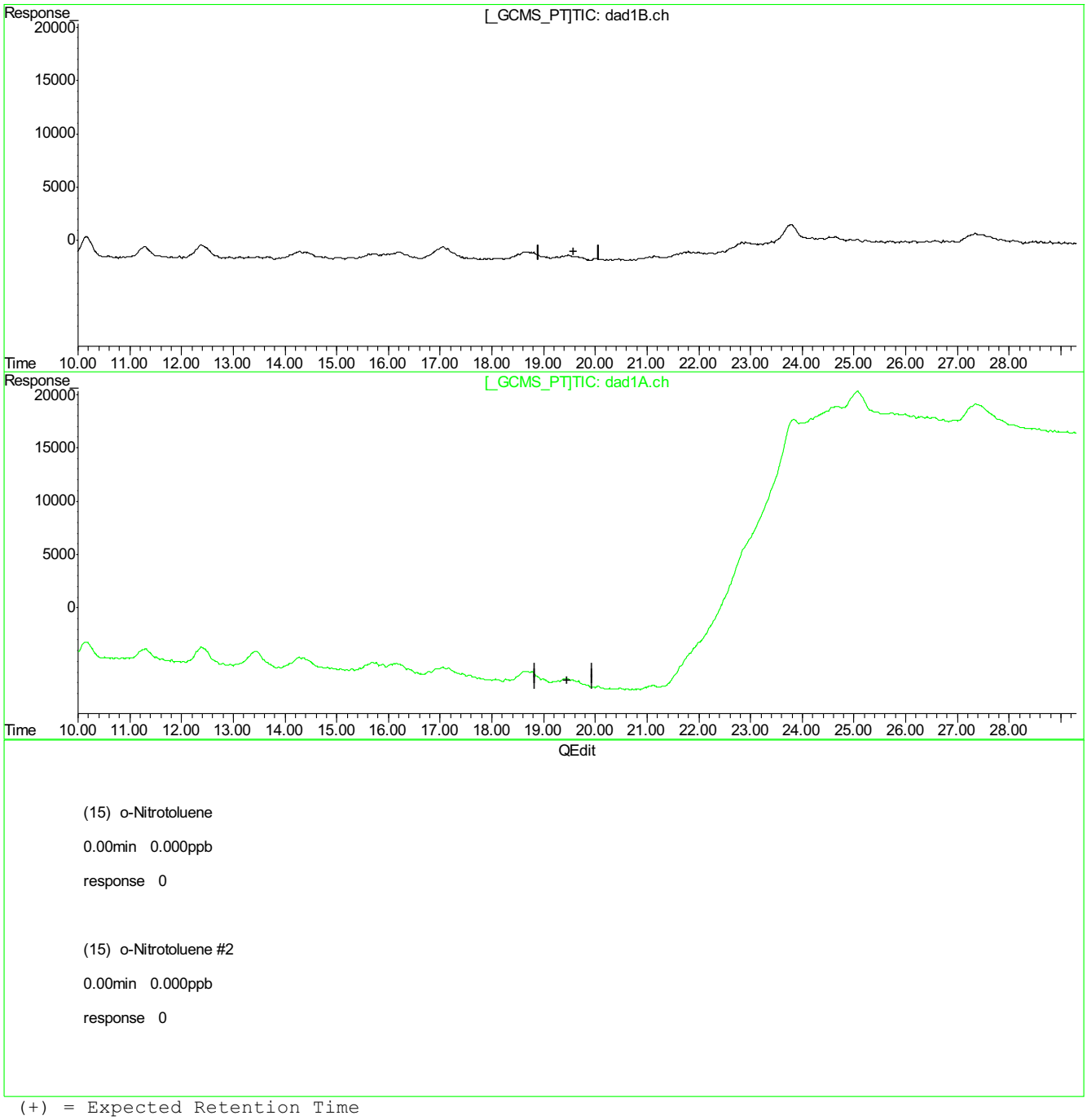
response 226875

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:35 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
```



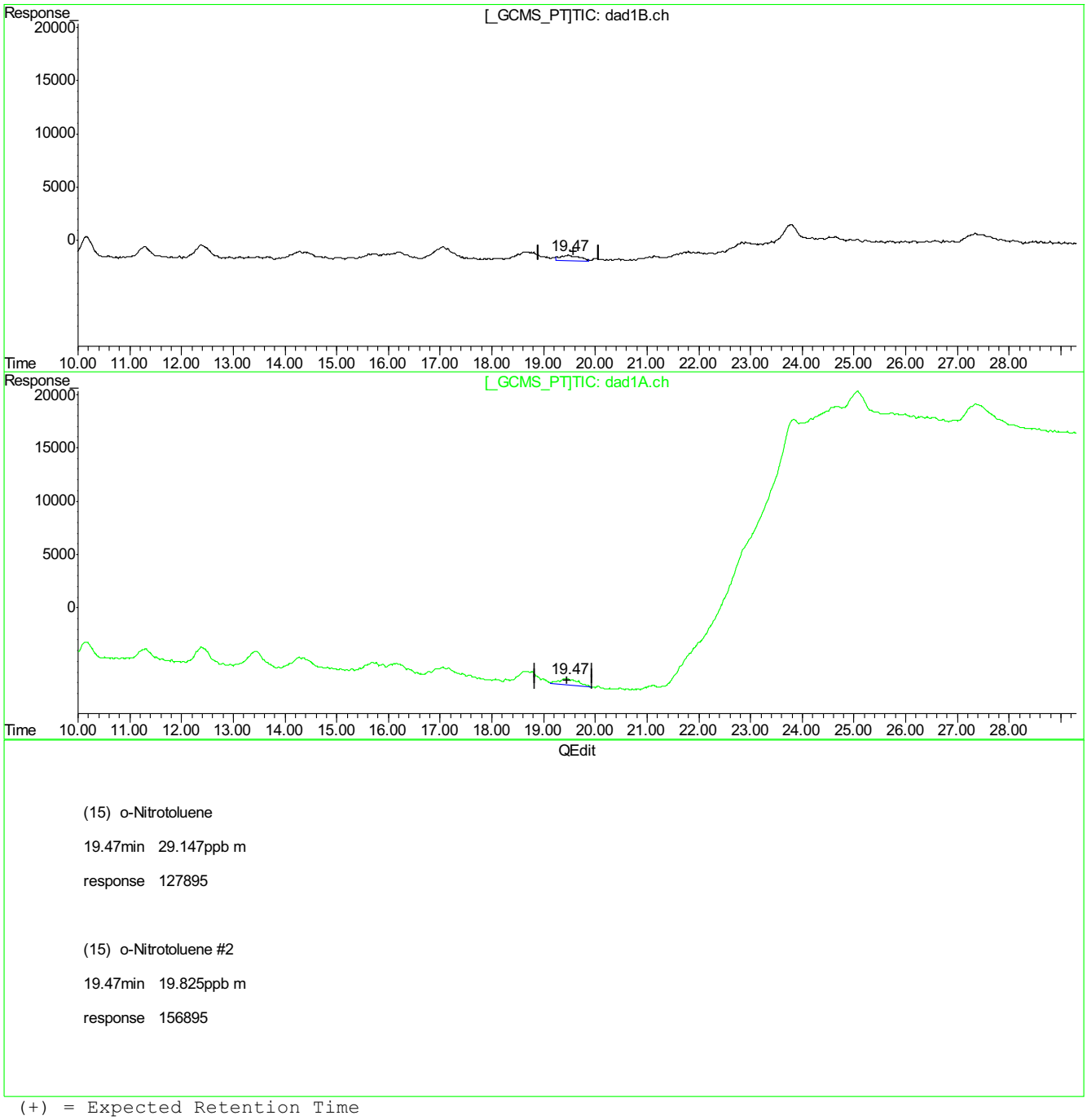
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(15) o-Nitrotoluene

19.47min 29.147ppb m

response 127895

(15) o-Nitrotoluene #2

19.47min 19.825ppb m

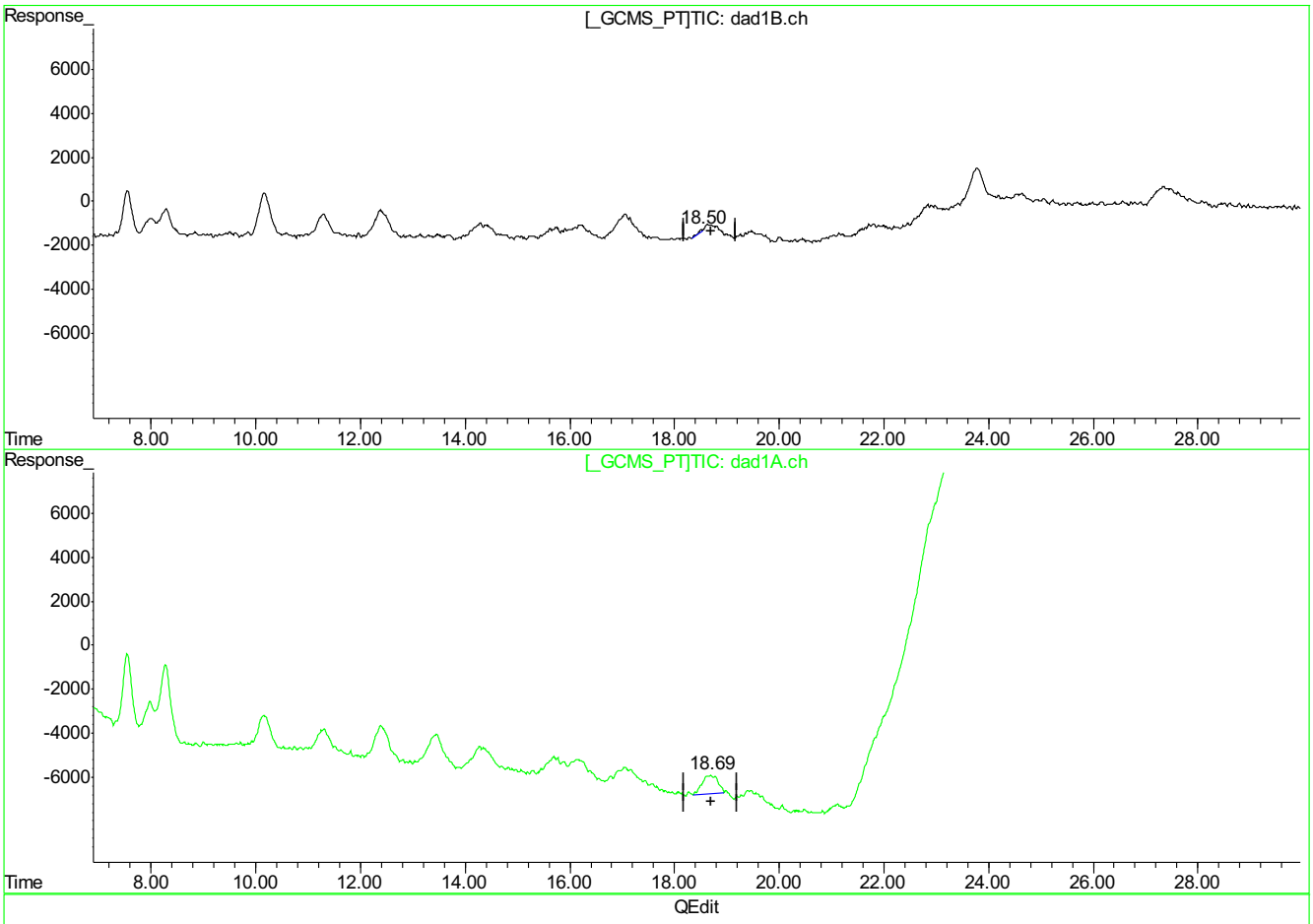
response 156895

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:58 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(16) 3,5-Dinitroaniline

18.51min 0.512ppb

response 5609

(16) 3,5-Dinitroaniline #2

18.69min 9.654ppb

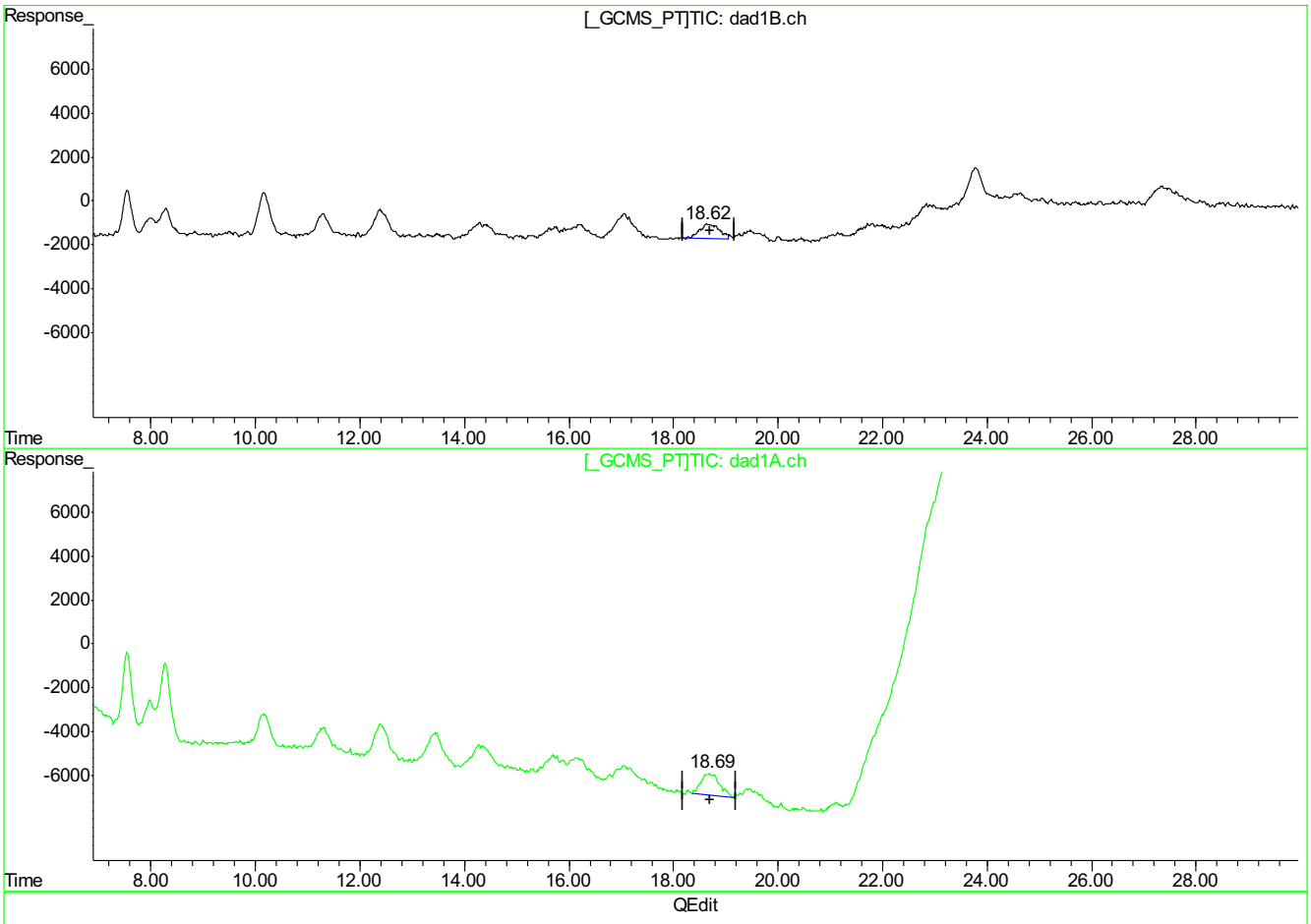
response 174114

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:07:33 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(16) 3,5-Dinitroaniline

18.62min 16.501ppb m

response 180648

(16) 3,5-Dinitroaniline #2

18.69min 13.801ppb m

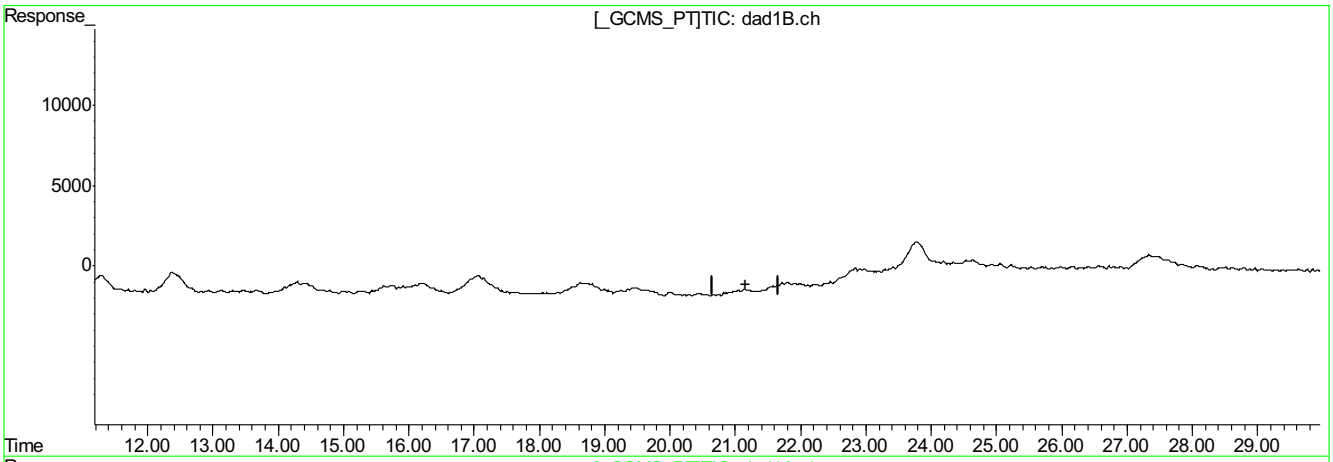
response 248912

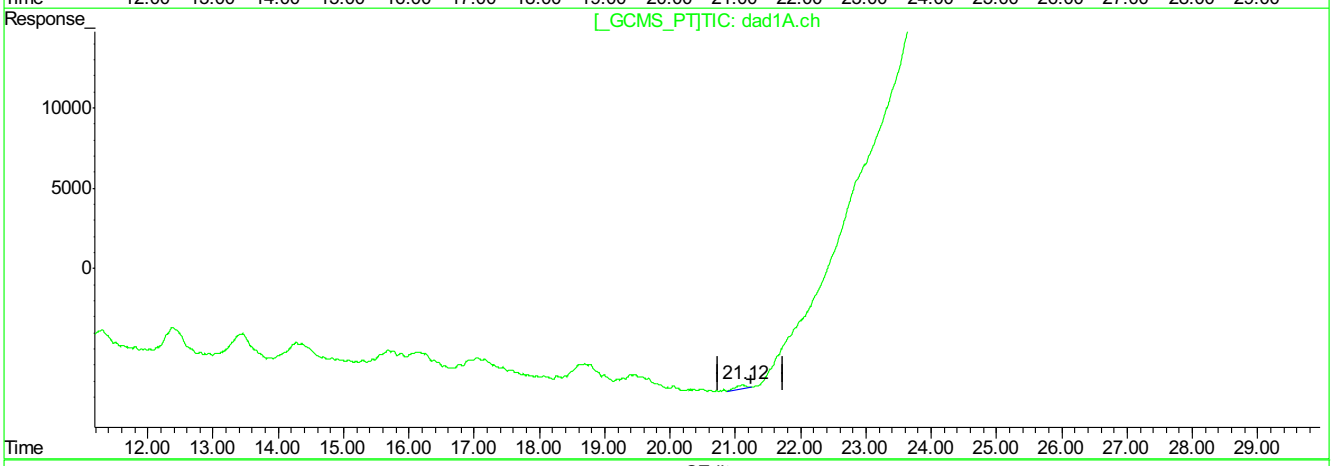
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:07:41 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

0.00min 0.000ppb

response 0

(17) p-Nitrotoluene #2

21.12min 5.144ppb

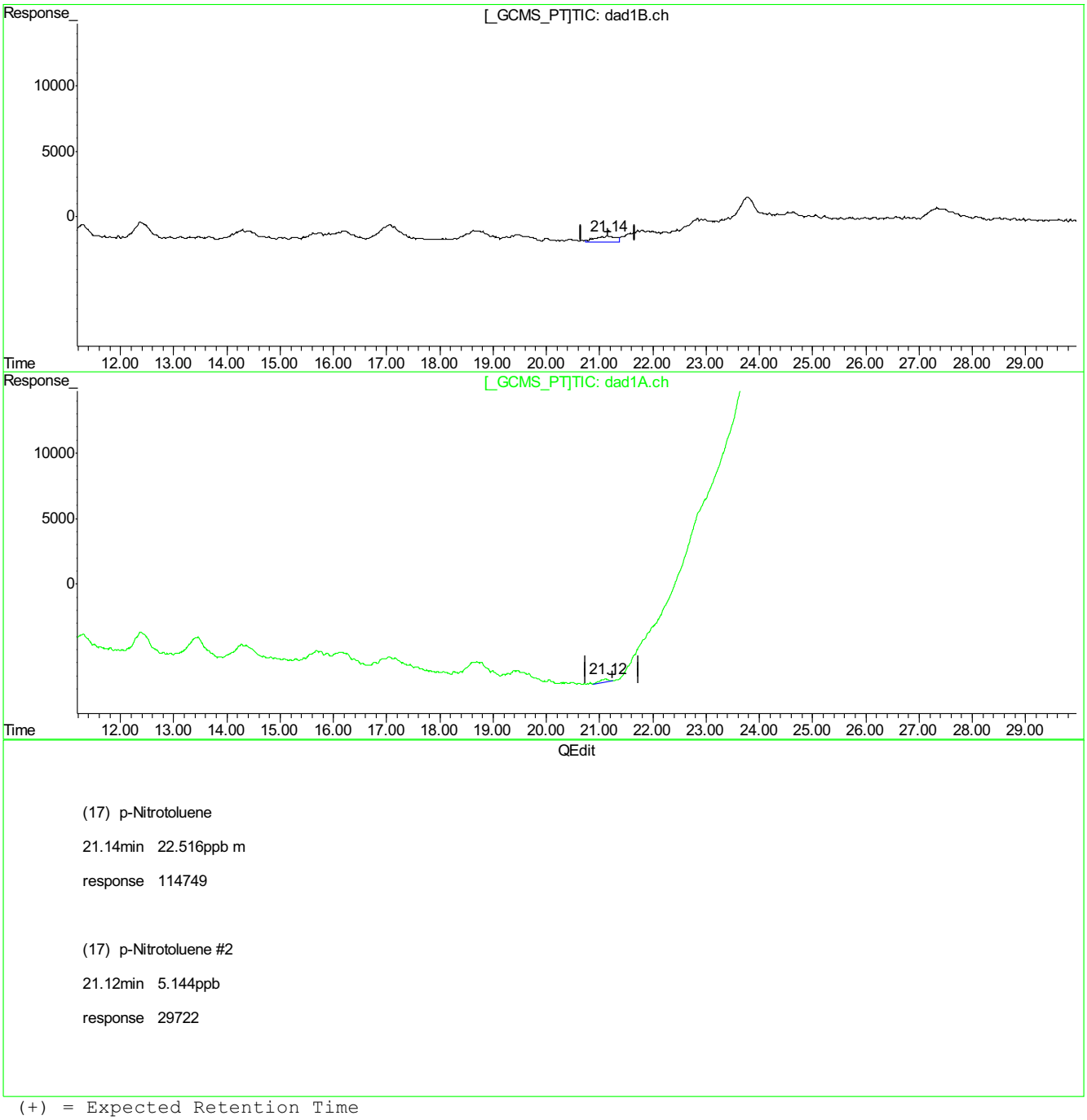
response 29722

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:01 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.14min 22.516ppb m

response 114749

(17) p-Nitrotoluene #2

21.12min 5.144ppb

response 29722

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:10 2017

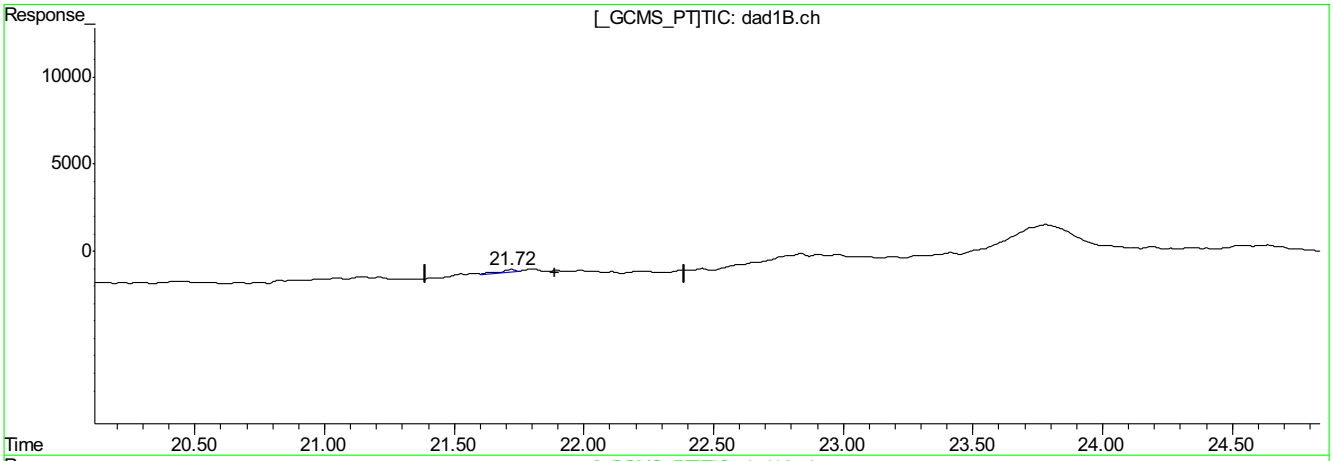
9.5.13.35

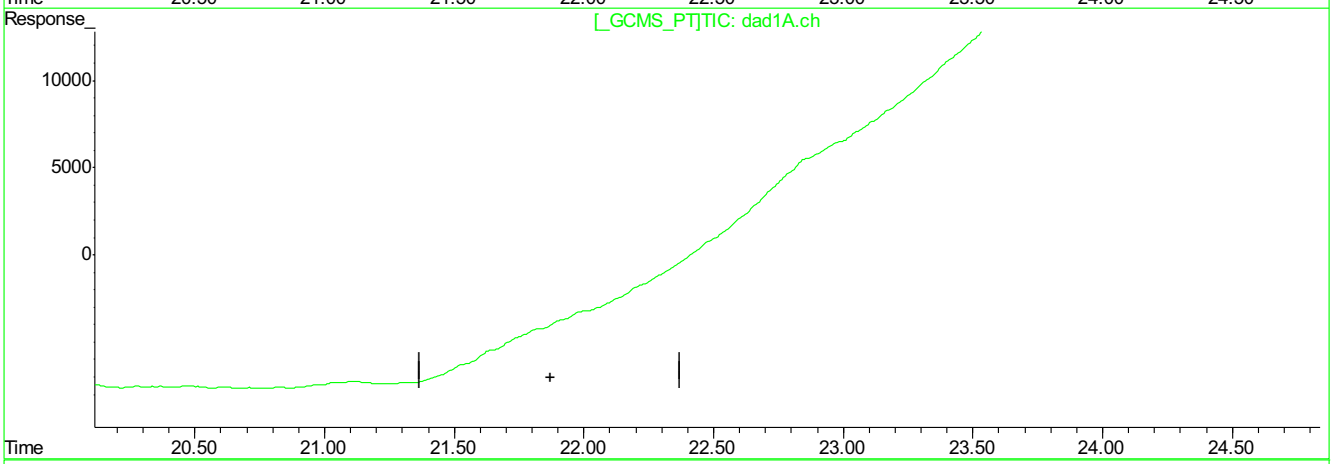
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.72min 0.772ppb

response 5156

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

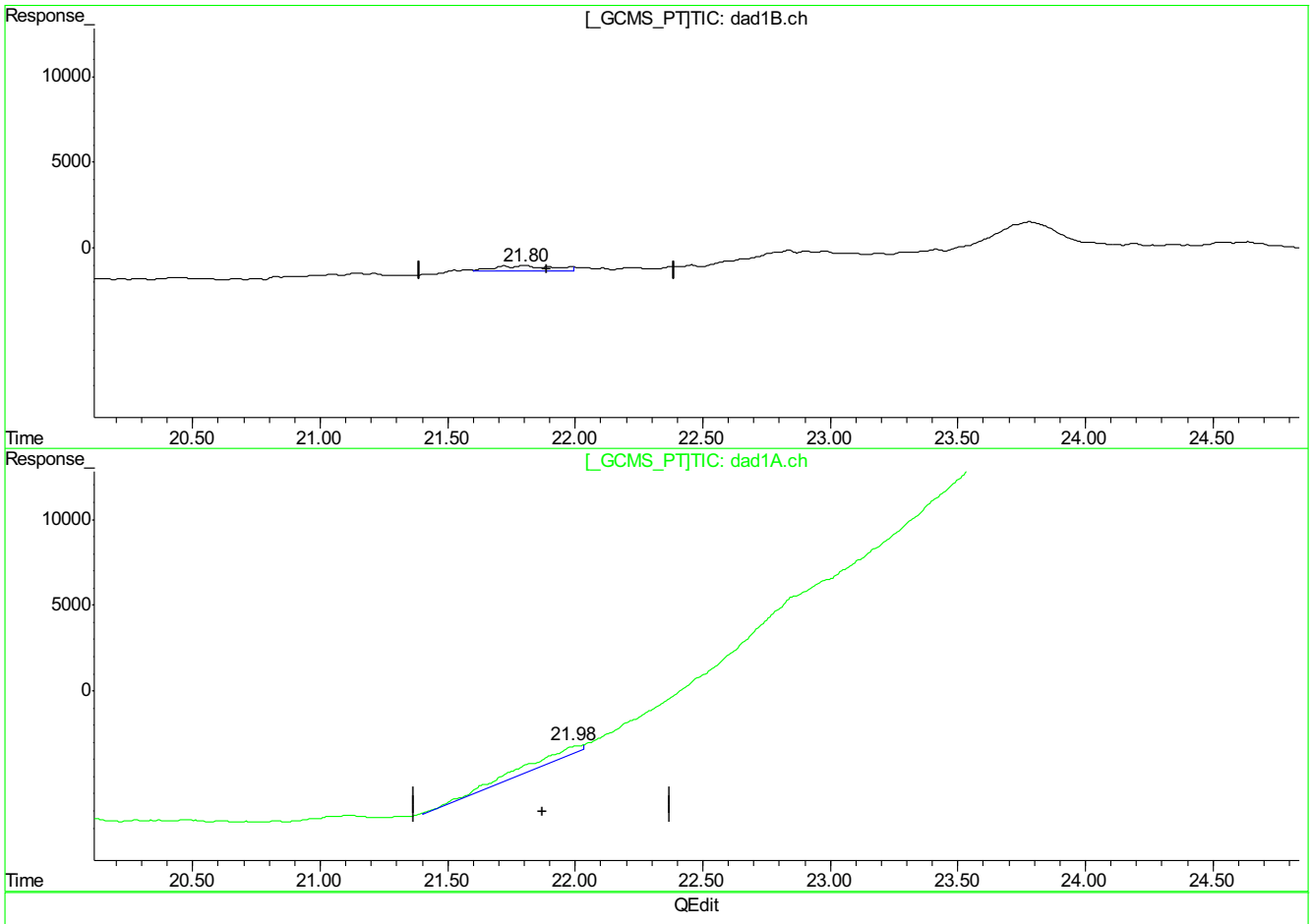
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:28 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.80min 8.315ppb m

response 55506

(18) 4-Amino-2,6-Dinitrotoluene #2

21.98min 9.989ppb m

response 104053

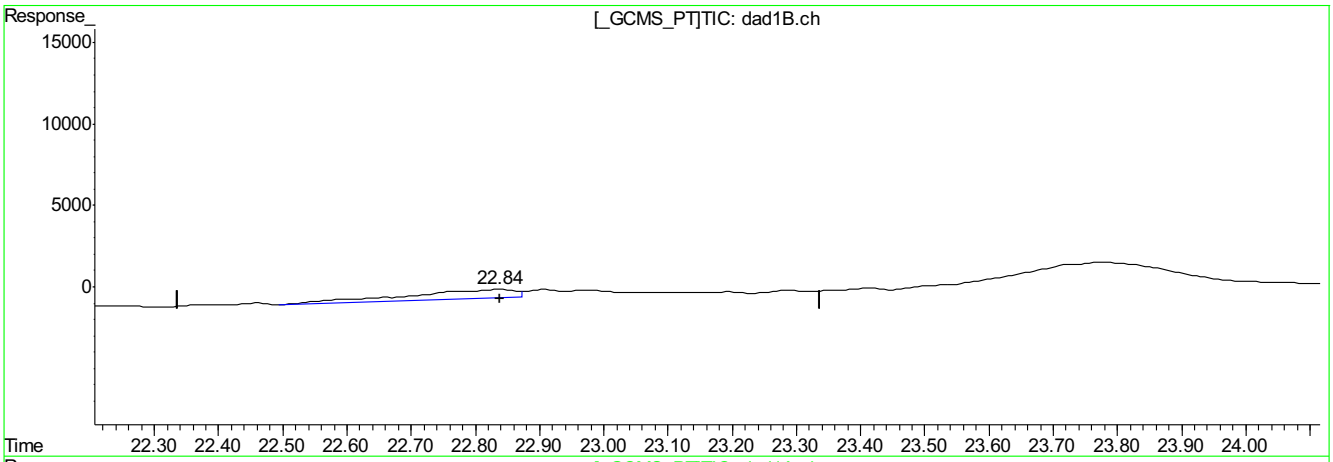
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:37 2017

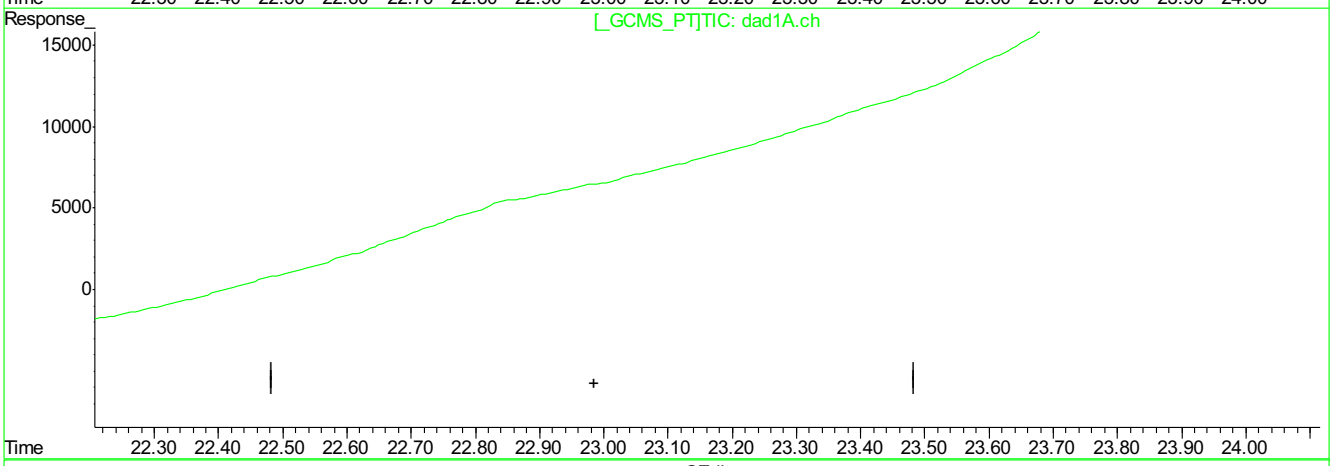
9.5.13.37
9
SGS ACCUTEST FA43019

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

22.84min 10.045ppb

response 66230

(19) m-Nitrotoluene #2

0.00min 0.000ppb

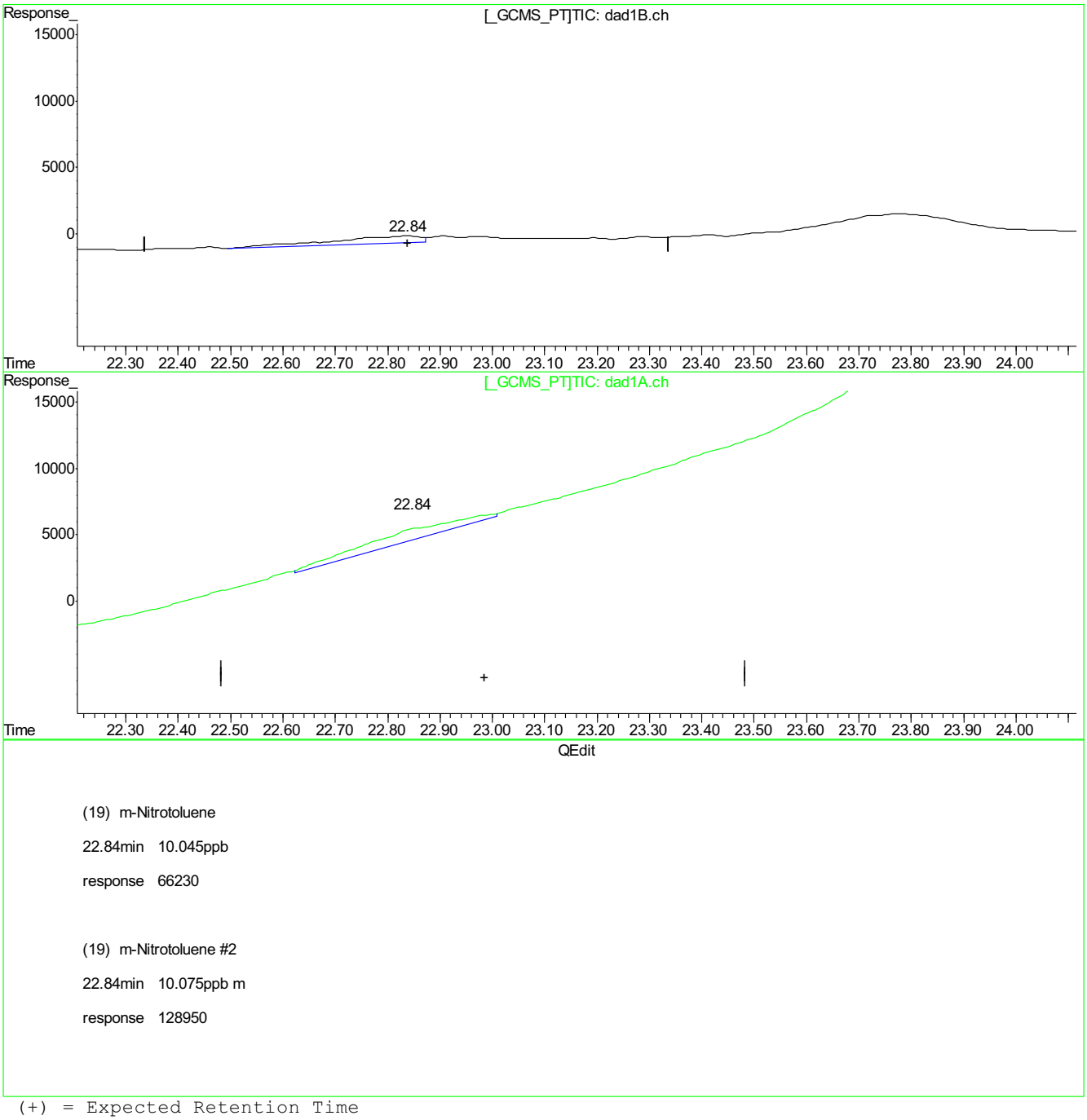
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.84min 10.045ppb

response 66230

(19) m-Nitrotoluene #2

22.84min 10.075ppb m

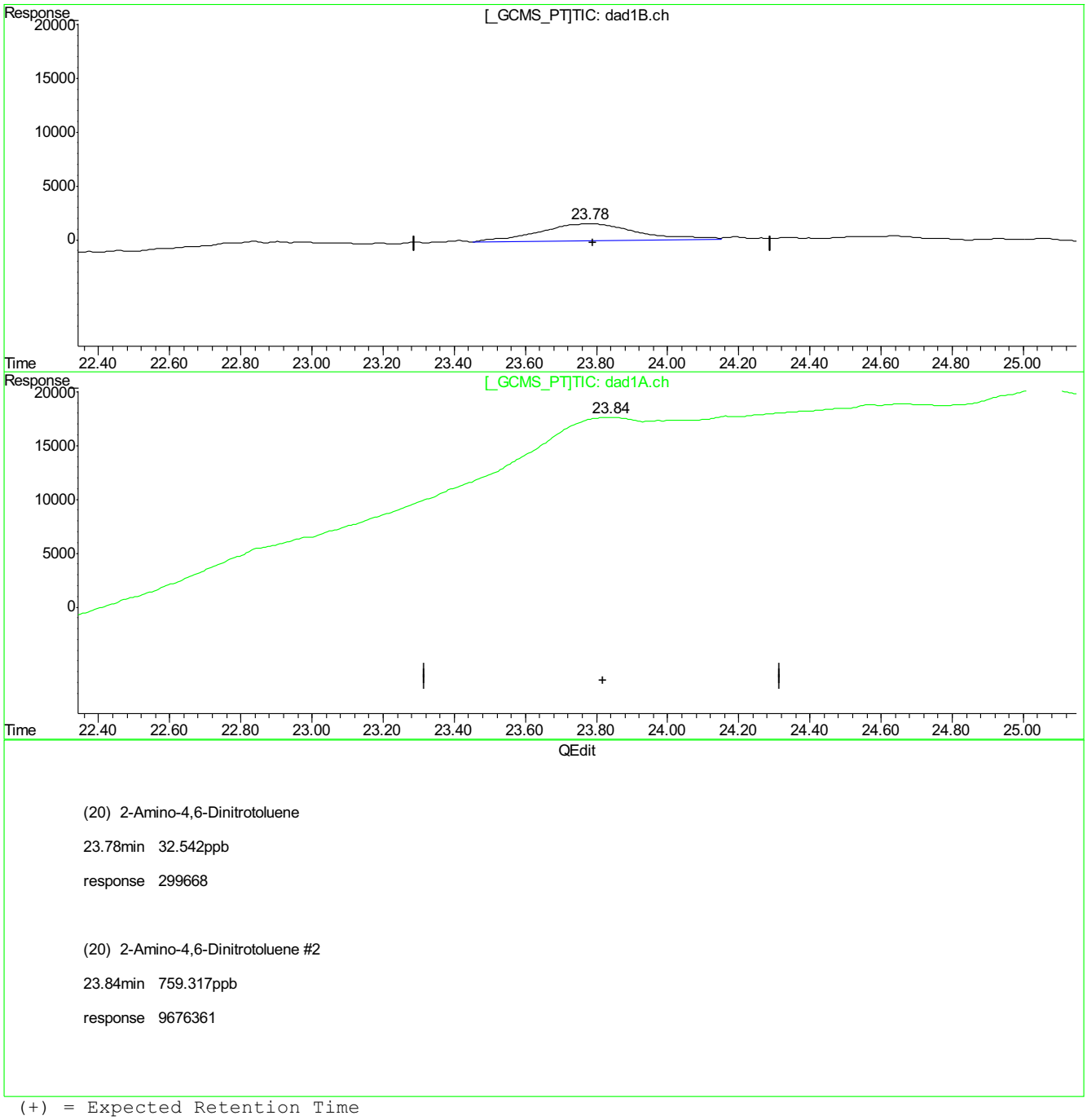
response 128950

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:47 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.78min 32.542ppb

response 299668

(20) 2-Amino-4,6-Dinitrotoluene #2

23.84min 759.317ppb

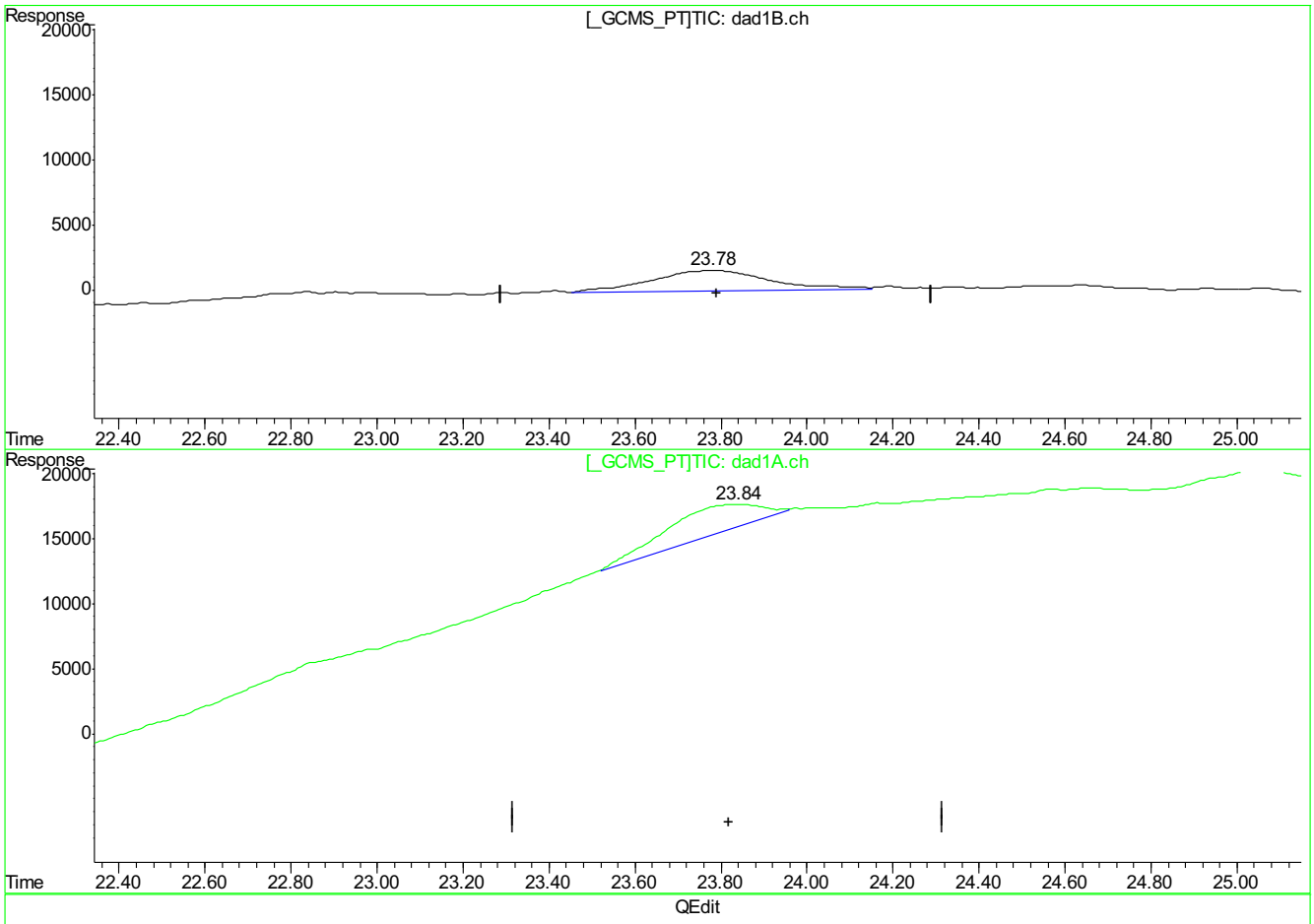
response 9676361

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:52 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.78min 32.542ppb

response 299668

(20) 2-Amino-4,6-Dinitrotoluene #2

23.84min 25.321ppb m

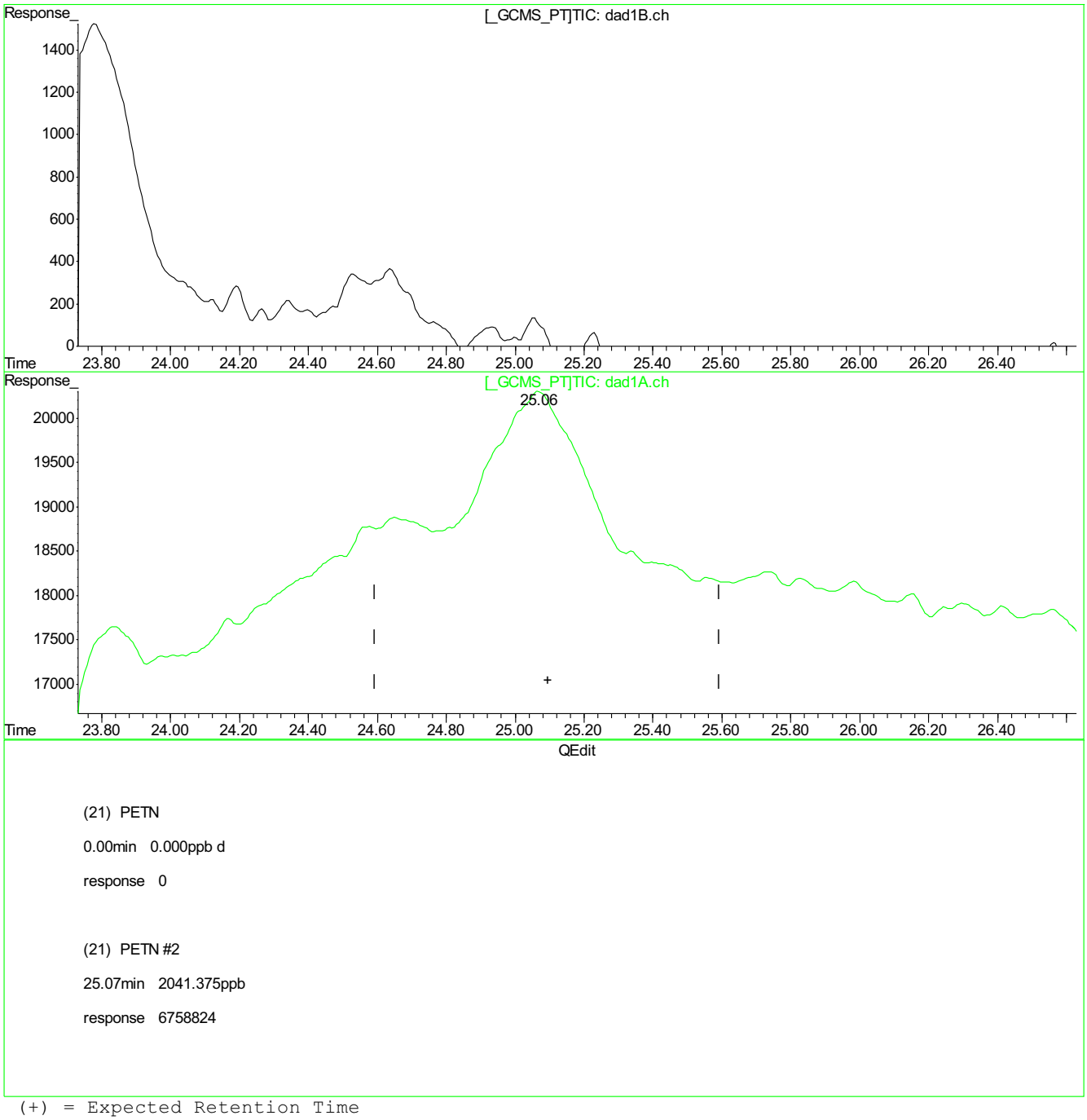
response 322677

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:55 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.07min 2041.375ppb

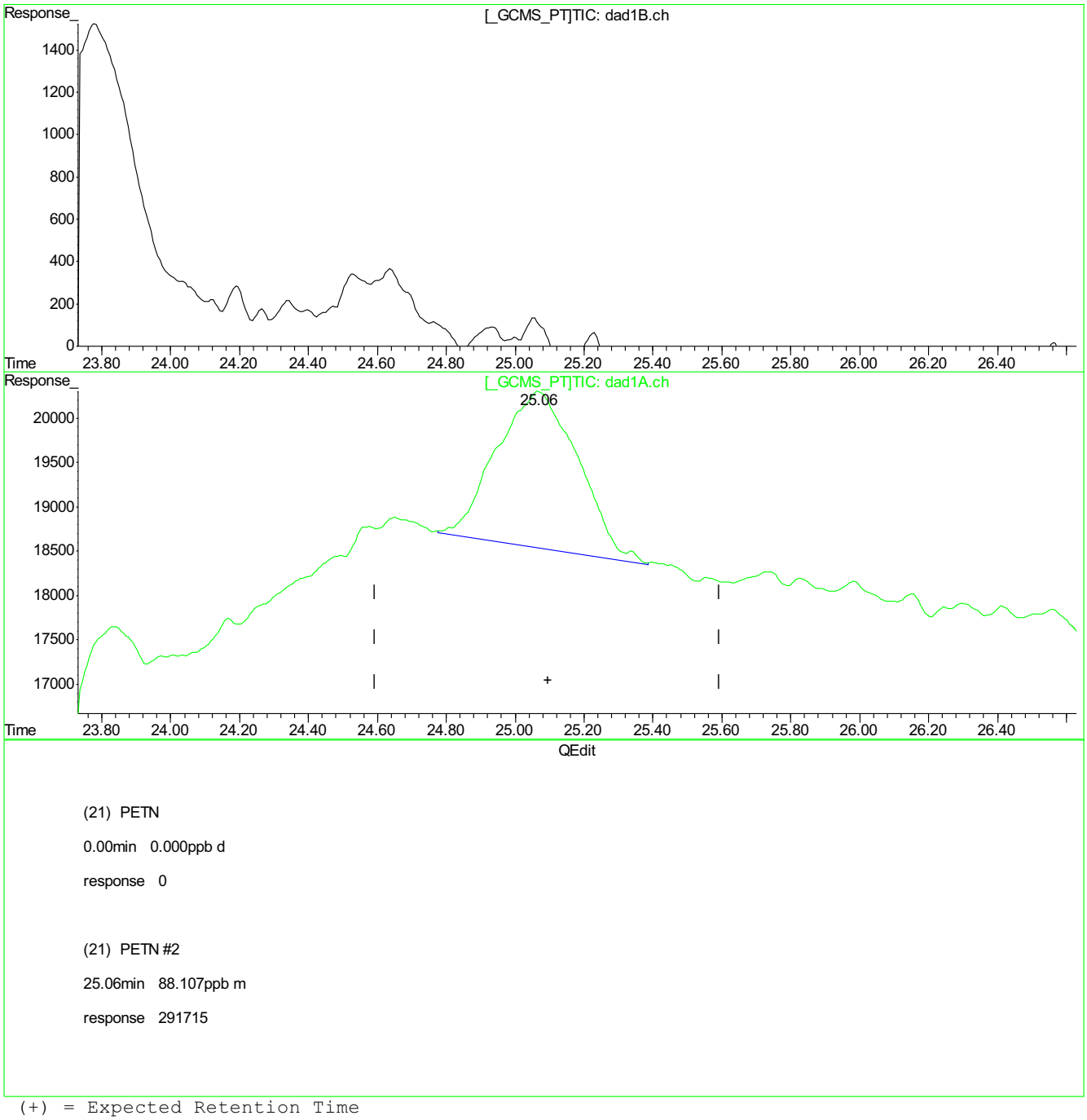
response 6758824

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:59 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.06min 88.107ppb m

response 291715

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:09:07 2017

9.5.13.43

9

PP381821.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 09:57:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.73	15.74	180993	499526	39.258	53.845
	Spiked Amount 500.000	Range 70 - 136		Recovery =		7.85%#	10.77%#
	Target Compounds						
1)	TNX	4.79	4.79	356875	544204	42.101m	43.377m
2)	HMX	5.19	5.19	175493	560602	53.830m	54.083m
3)	DNX	5.34	5.34	338390	776413	41.667m	57.668m
4)	MNX	6.49	6.49	240690	422775	44.192	49.607
5)	1,3,5-Trinitrobe	7.53	7.52	476454	768011	48.125	46.236
6)	RDX	7.94	7.96	242576	362373	54.670	43.781
7)	1,3-Dinitrobenze	10.16	10.14	570039	456145	42.701	46.488
8)	Nitrobenzene	11.27	11.26	320583	343405	37.761	42.163
9)	2,4,6-Trinitroto	12.40	12.38	436493	597955	46.182	49.034
10)	Nitroglycerin	0.00	13.43	0	686583	N.D. d	230.340m
11)	Tetryl	14.34	14.34	275603	372266	39.339	32.865
13)	2,6-Dinitrotolue	16.16	16.17	303660	385744	43.079	39.096
14)	2,4-Dinitrotolue	17.05	17.08	552671	401704	45.030	42.793
15)	o-Nitrotoluene	19.58	19.46	246660	316601	56.213m	40.054
16)	3,5-Dinitroanili	18.70	18.70	473262	709710	43.230	39.351
17)	p-Nitrotoluene	21.16	21.24	135096	189710	26.522m	32.865m
18)	4-Amino-2,6-Dini	21.89	22.09	229518	329278	34.415	31.612m
19)	m-Nitrotoluene	22.85	22.98	279868	384329	42.507	30.077m
20)	2-Amino-4,6-Dini	23.79	23.82	587238	736816	63.769	57.819m
21)	PETN	0.00	25.10	0	392173	N.D. d	118.449m

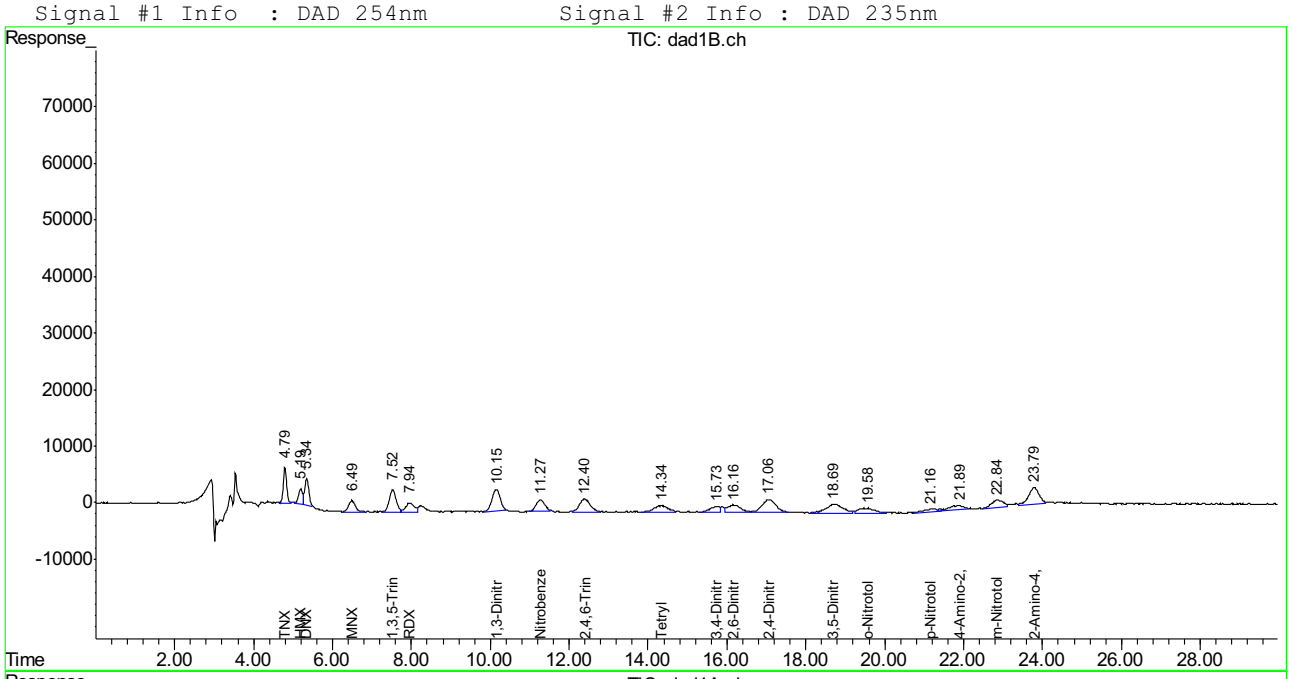
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381822.D 0424_8330RPB.M Tue Apr 25 10:59:39 2017 Page 1

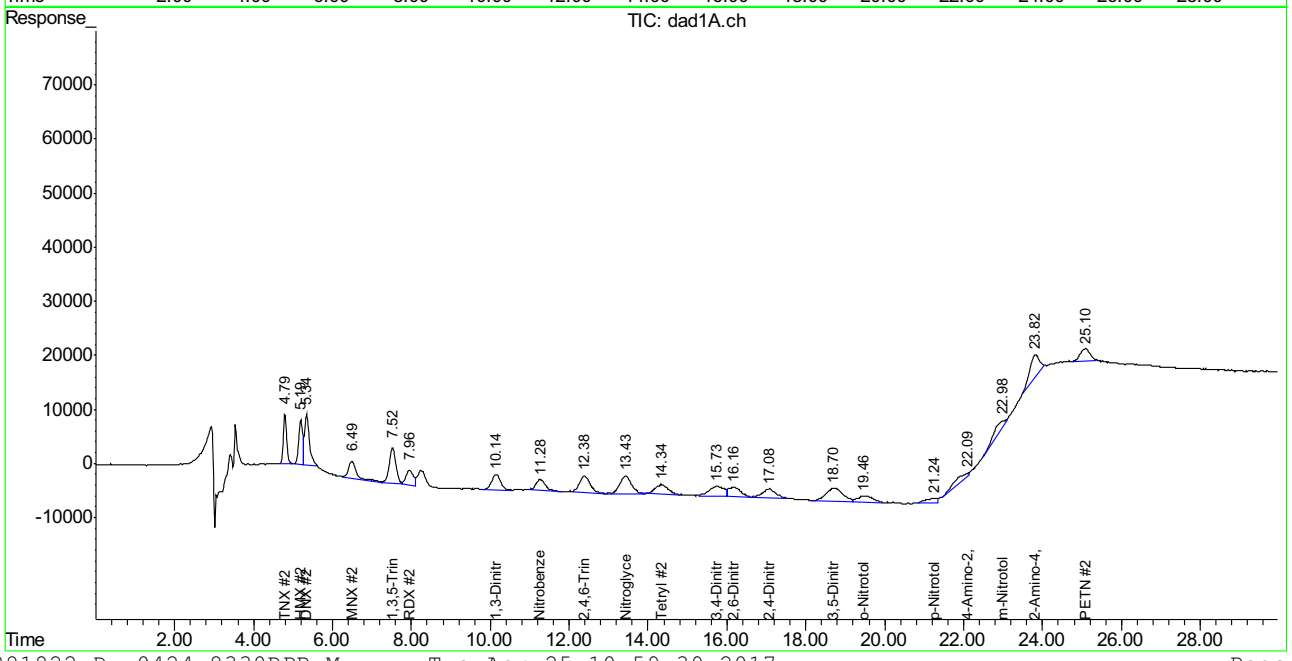
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

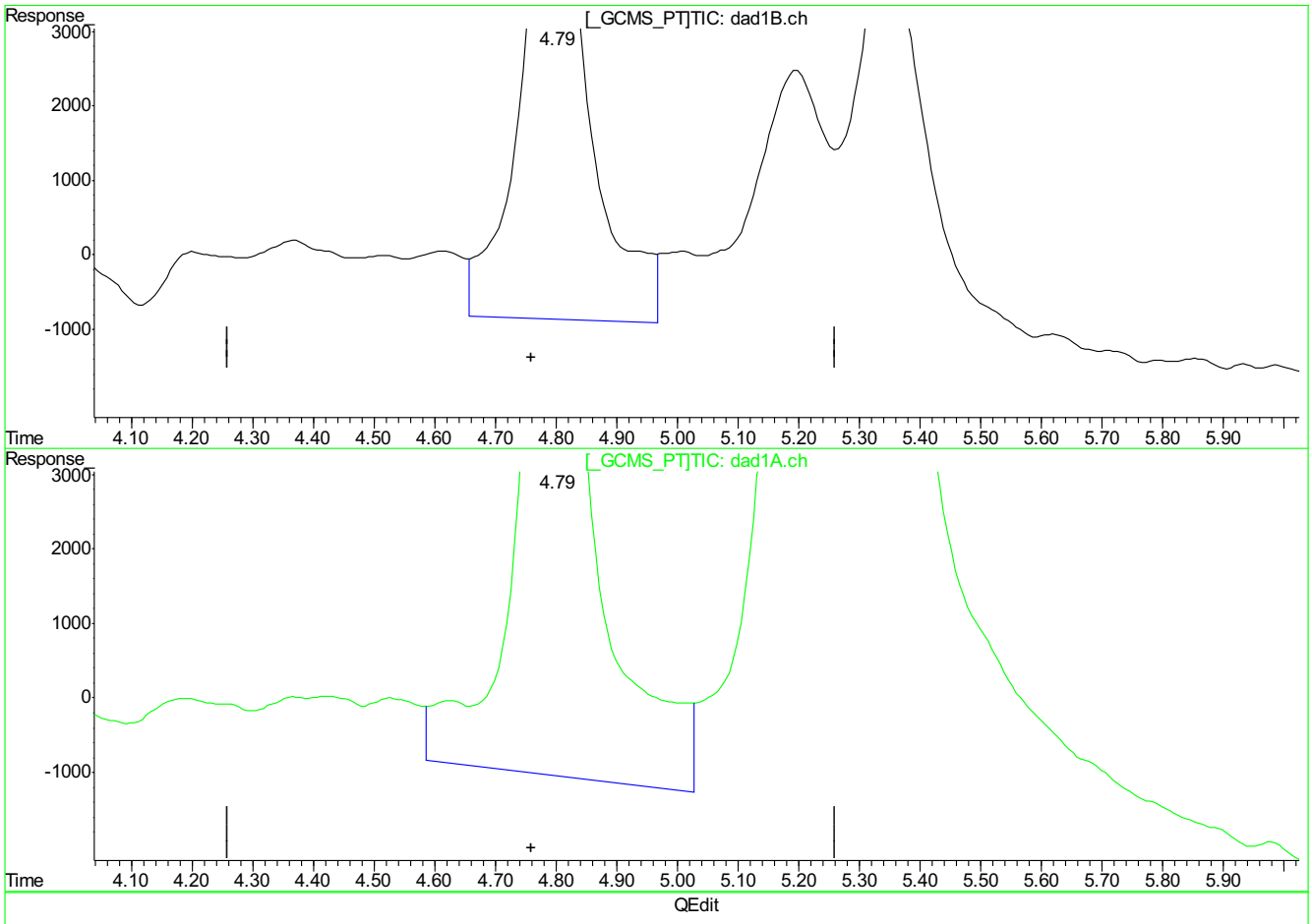
Sample Number: GPP2096-IC2096
Lab FileID: PP381822.D
Injection Time: 04/24/17 13:00
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.79	Poorly defined baseline
TNX		2	4.79	Poorly defined baseline
HMX	2691-41-0	1	5.19	Poorly defined baseline
HMX	2691-41-0	2	5.19	Poorly defined baseline
DNX		1	5.34	Poorly defined baseline
DNX		2	5.34	Poorly defined baseline
Nitroglycerine	55-63-0	2	13.43	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	19.58	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	21.16	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	21.24	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.09	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.98	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.82	Poorly defined baseline
PETN	78-11-5	2	25.10	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(1) TNX

4.80min 60.475ppb

response 512621

(1) TNX #2

4.80min 63.631ppb

response 798306

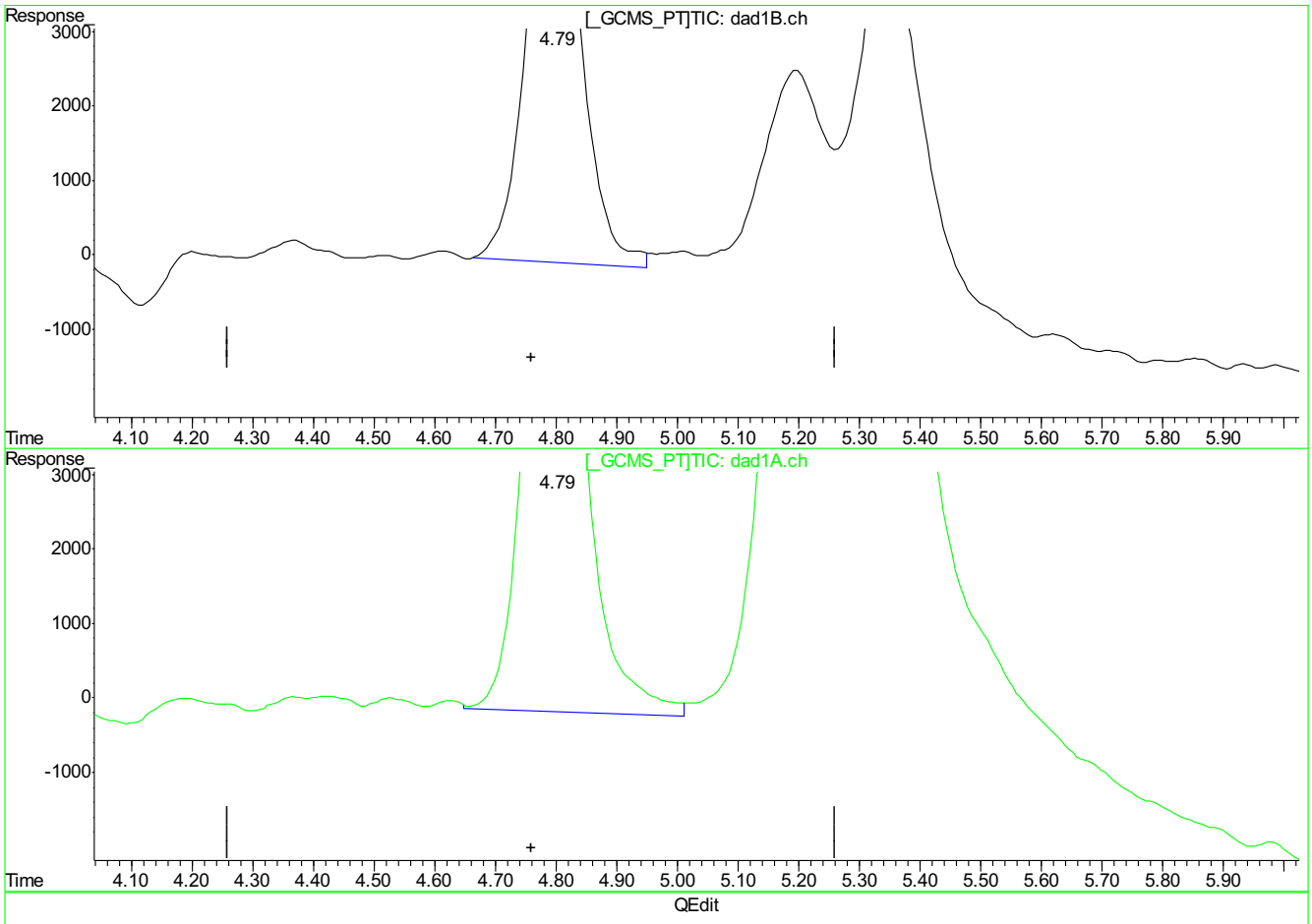
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:47:33 2017

PP381822.D edits: TNX

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch         Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On    : 24-Apr-2017, 13:00:34                  Operator: evitam
Sample    : ic2096-50                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:46 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration
```



(1) TNX

4.79min 43.367ppb m

response 367609

(1) TNX #2

4.79min 45.070ppb m

response 565450

(+) = Expected Retention Time

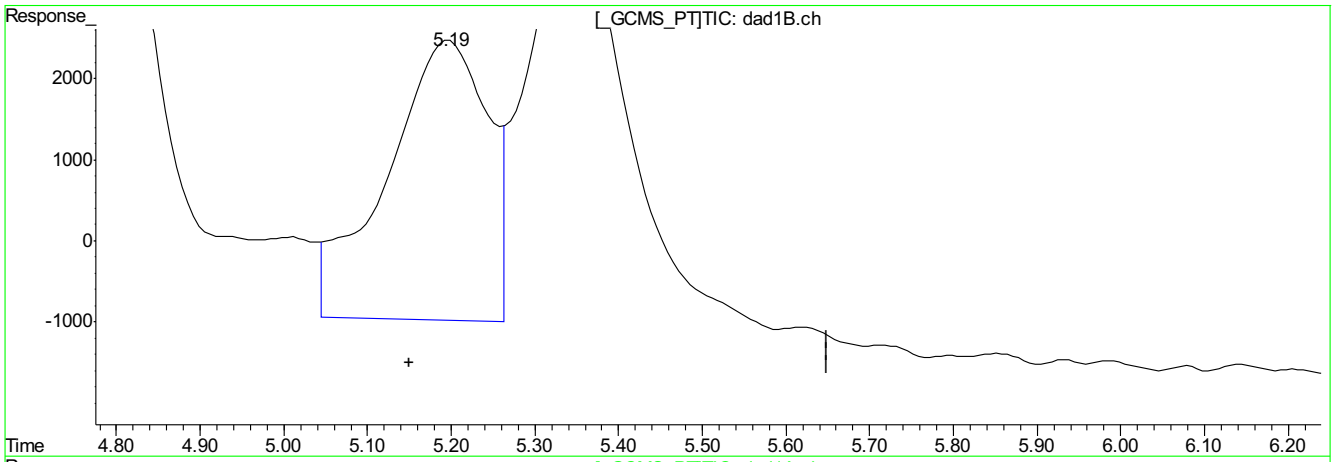
PP381822.D 0424_8330RPB.M Tue Apr 25 09:47:38 2017

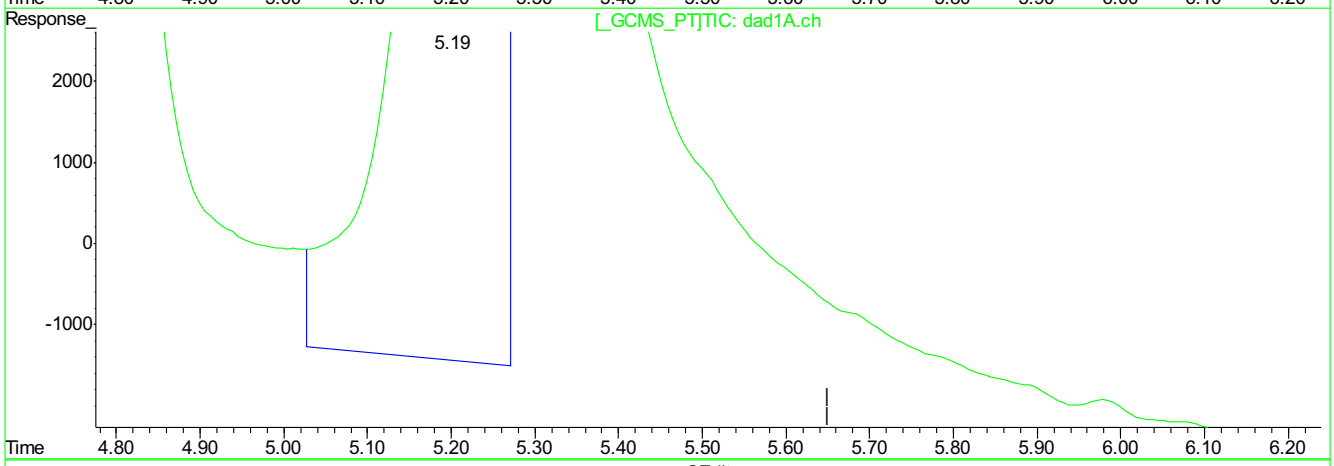
PP381822.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.20min 88.319ppb

response 287931

(2) HMX #2

5.20min 72.842ppb

response 755049

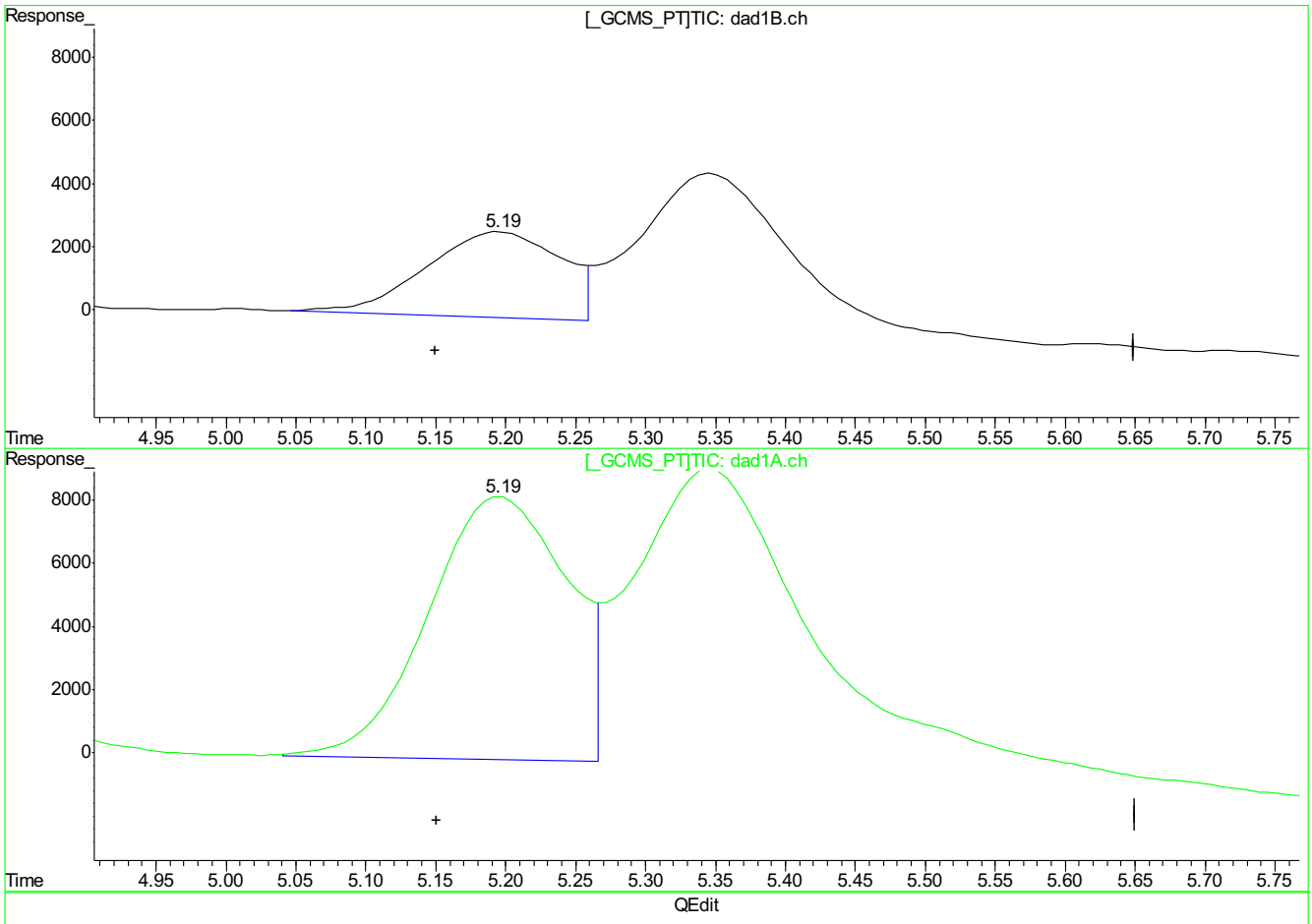
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:47:41 2017

PP381822.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(2) HMX

5.19min 57.483ppb m

response 187402

(2) HMX #2

5.19min 56.457ppb m

response 585215

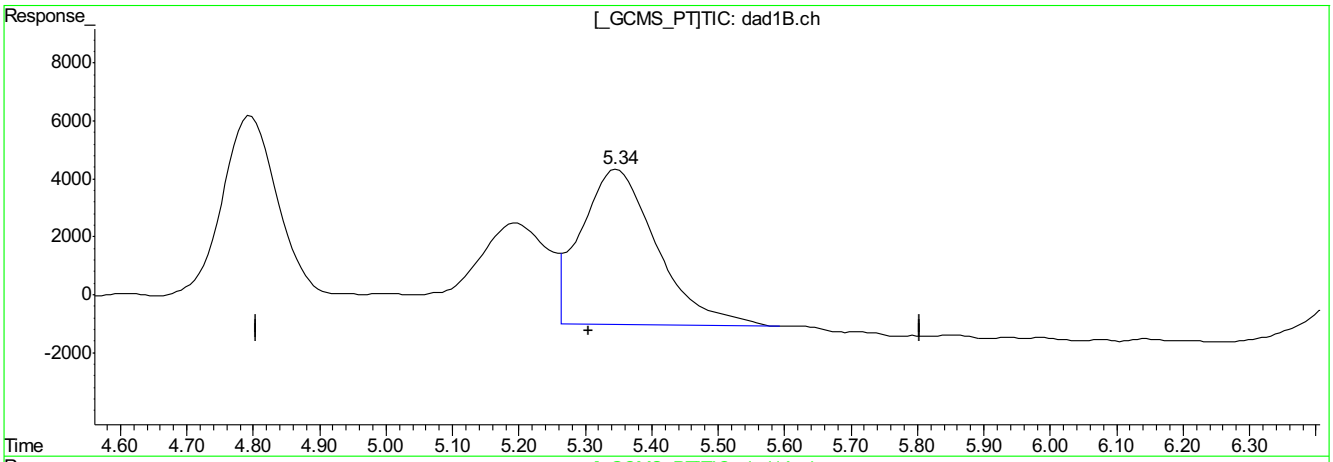
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:48:07 2017

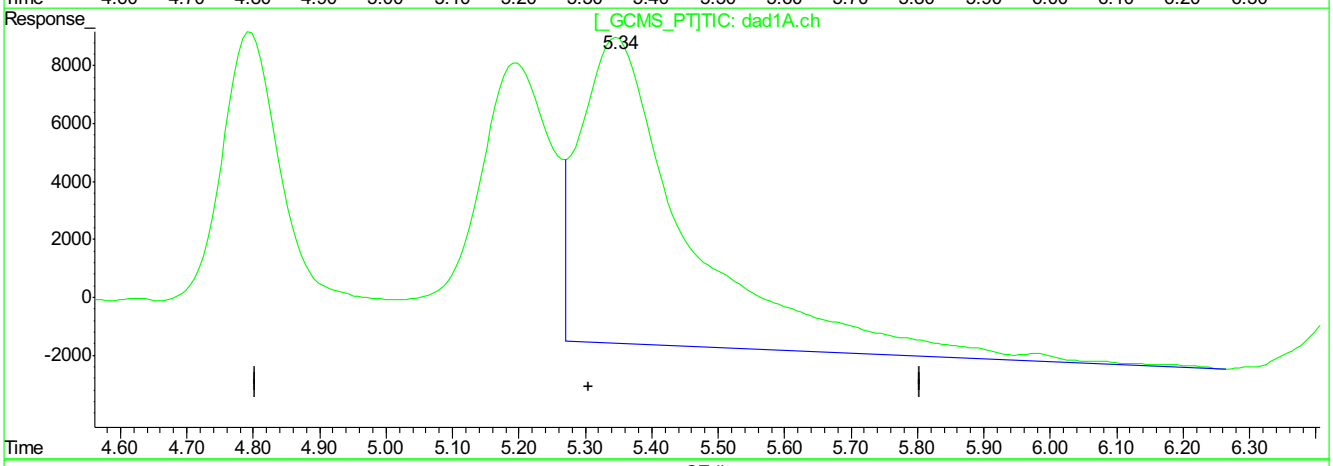
PP381822.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.35min 52.823ppb

response 428993

(3) DNX #2

5.35min 90.804ppb

response 1221726

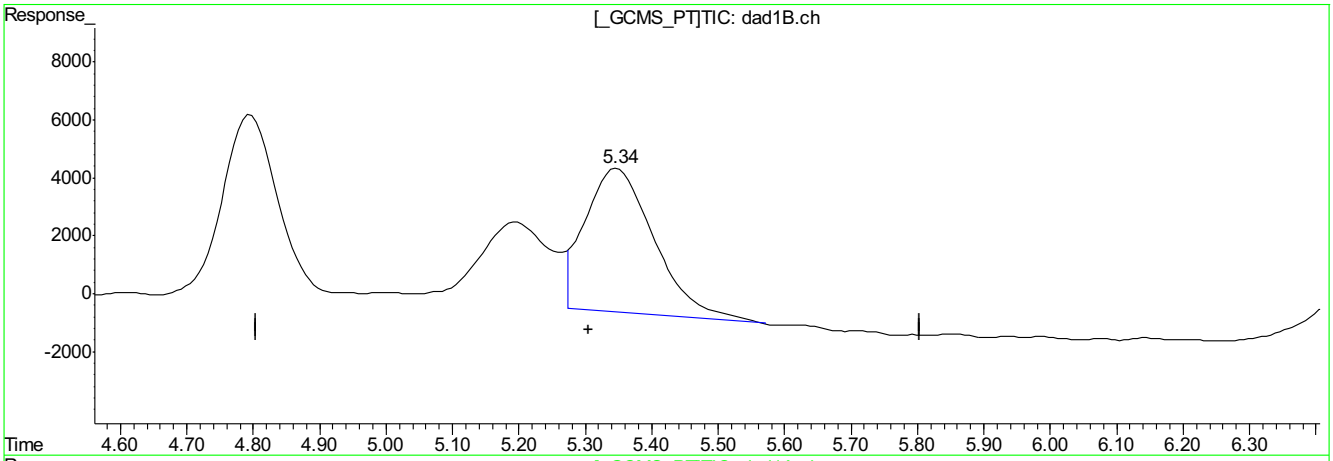
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:48:12 2017

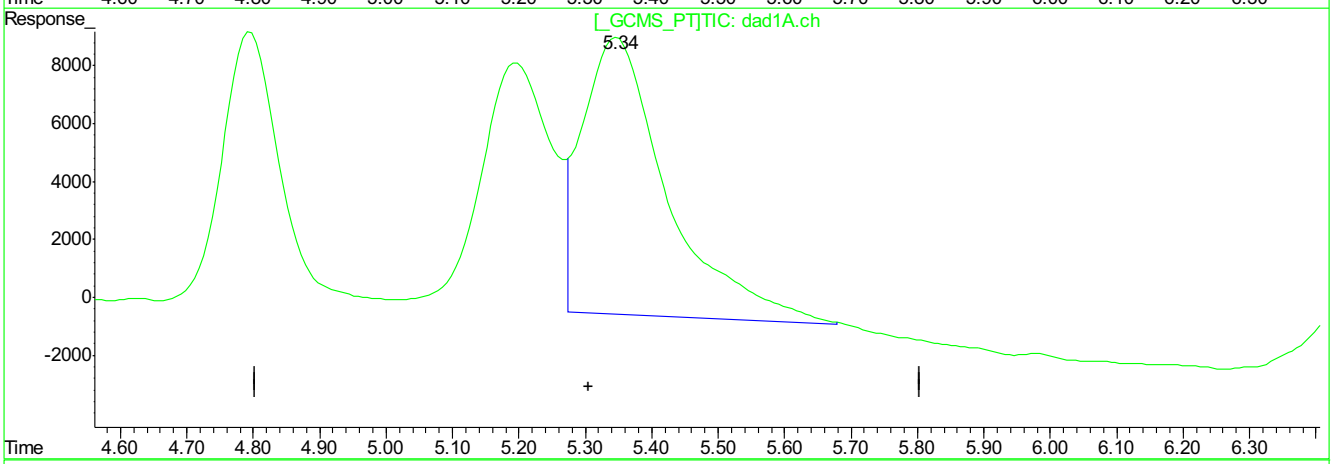
PP381822.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.34min 44.087ppb m

response 358049

(3) DNX #2

5.34min 62.961ppb m

response 847589

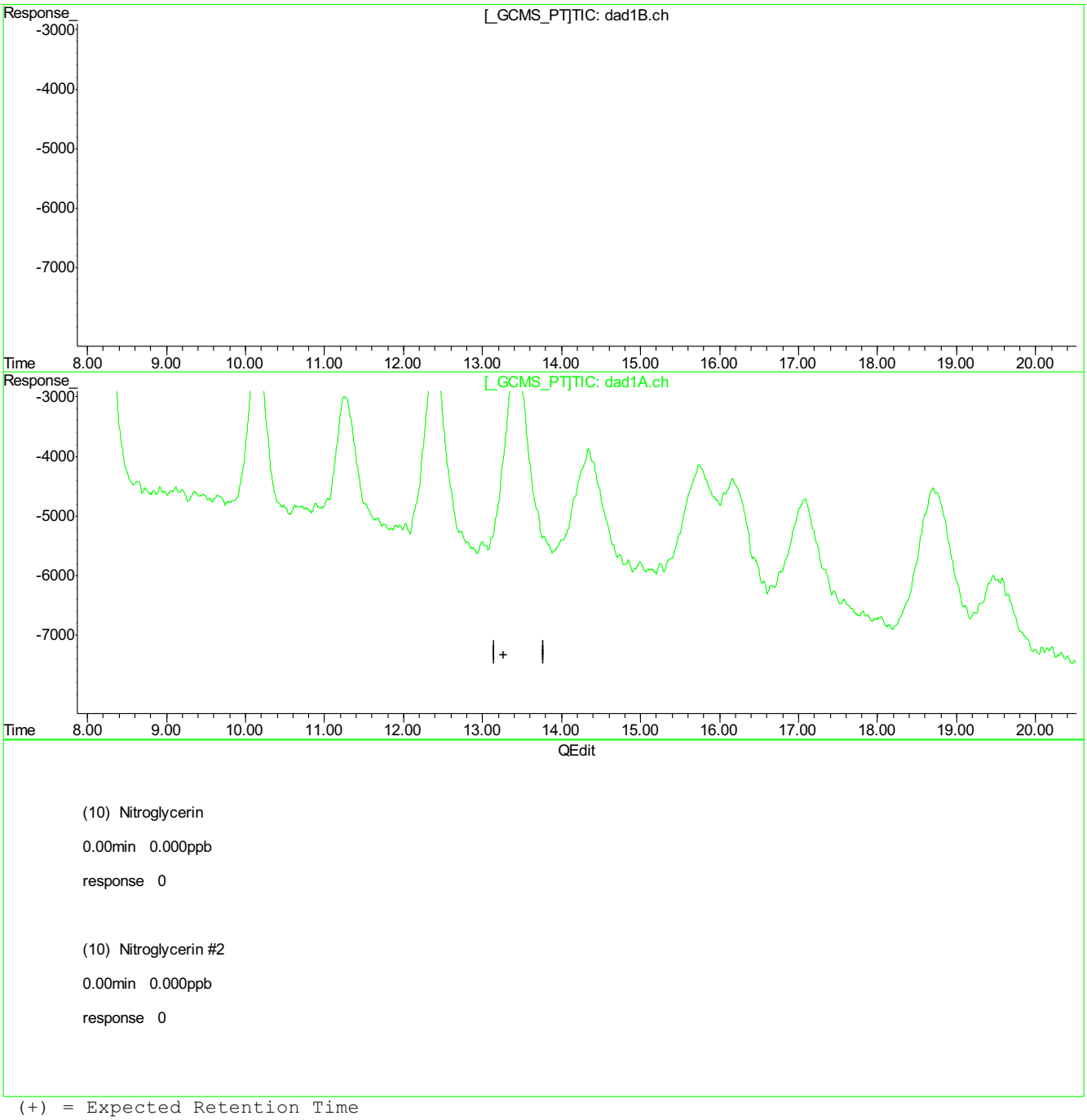
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:48:27 2017

PP381822.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration

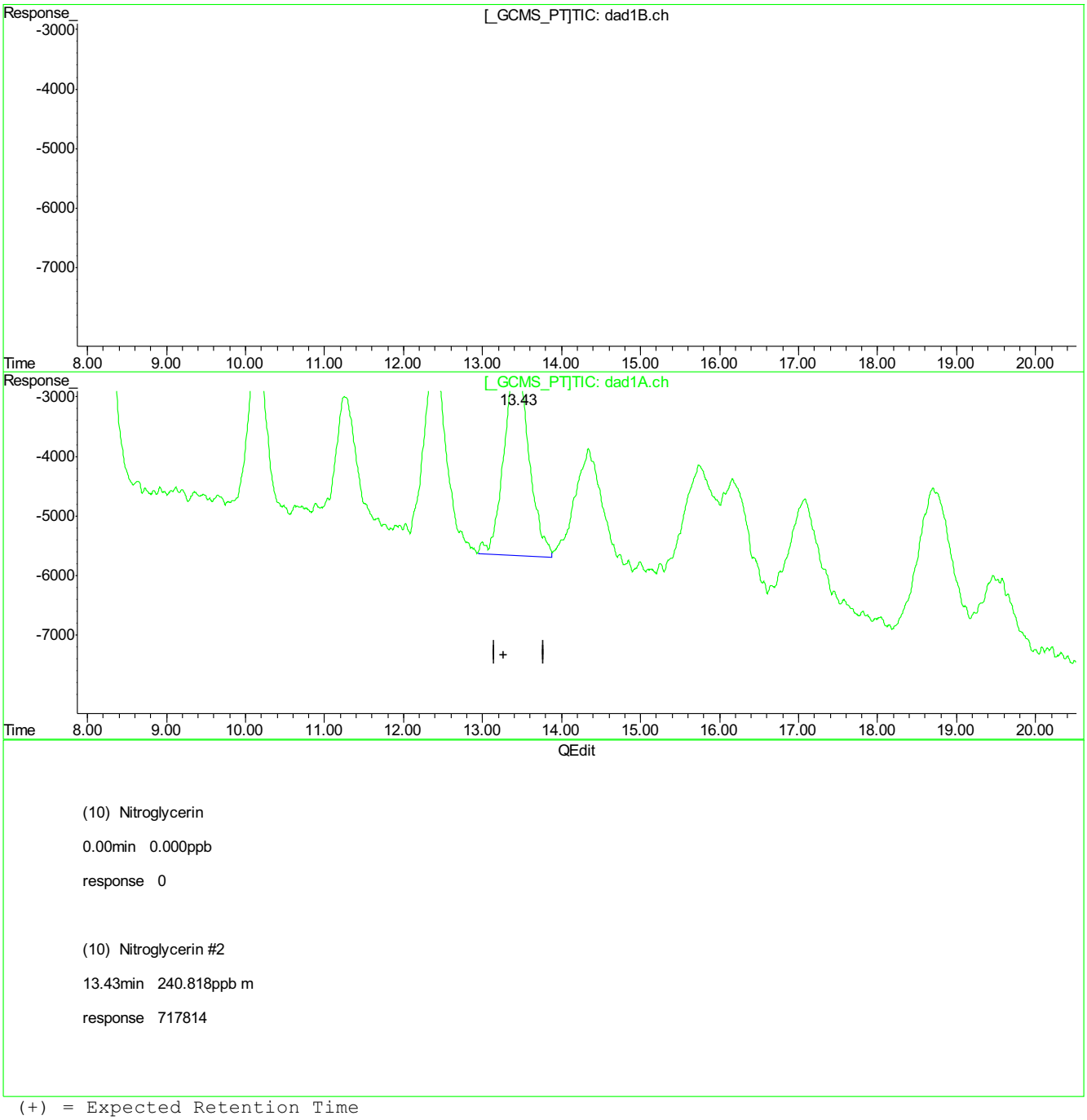


(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

13.43min 240.818ppb m

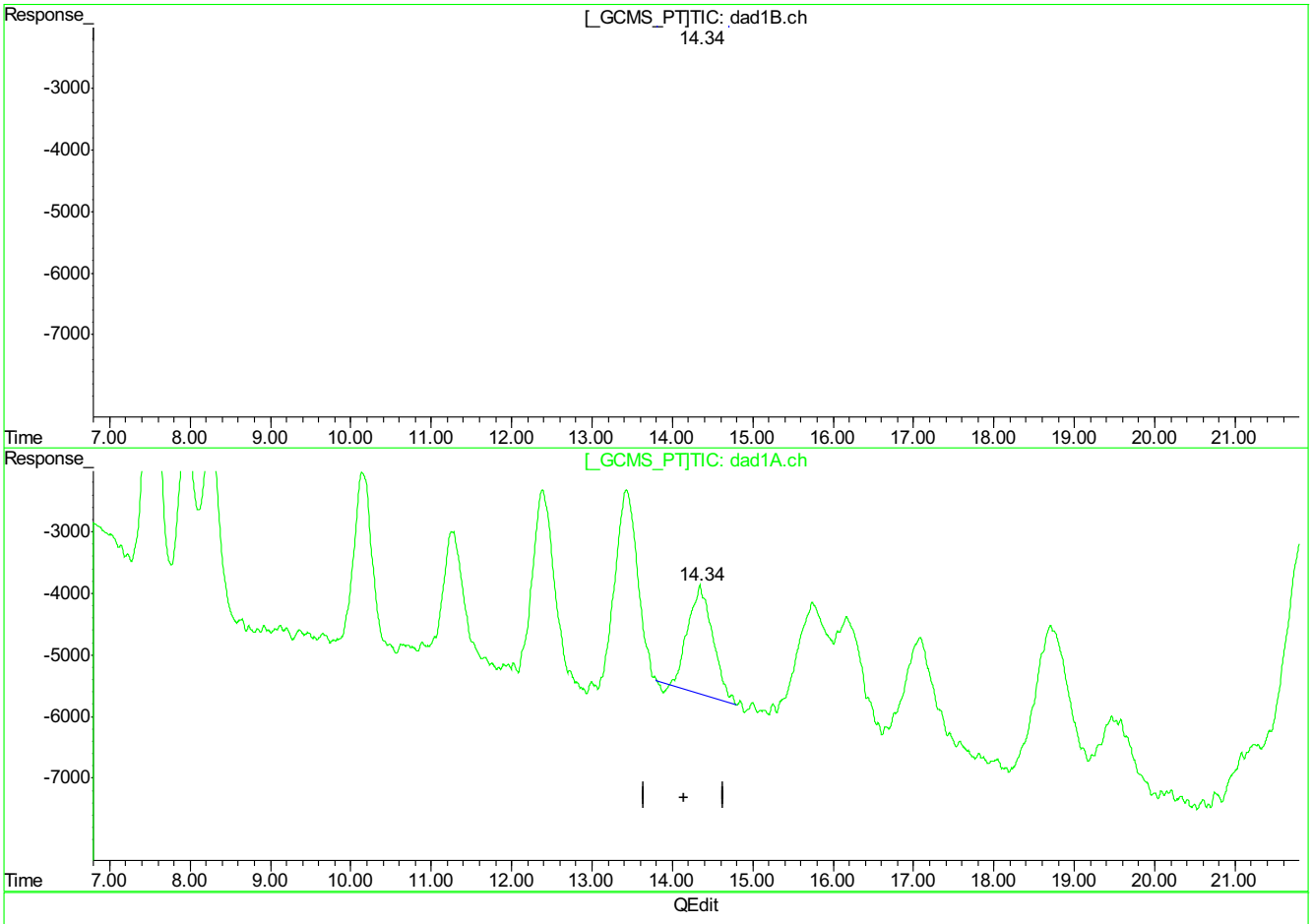
response 717814

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:37 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.34min 39.339ppb

response 275603

(11) Tetryl #2

14.34min 32.865ppb

response 372266

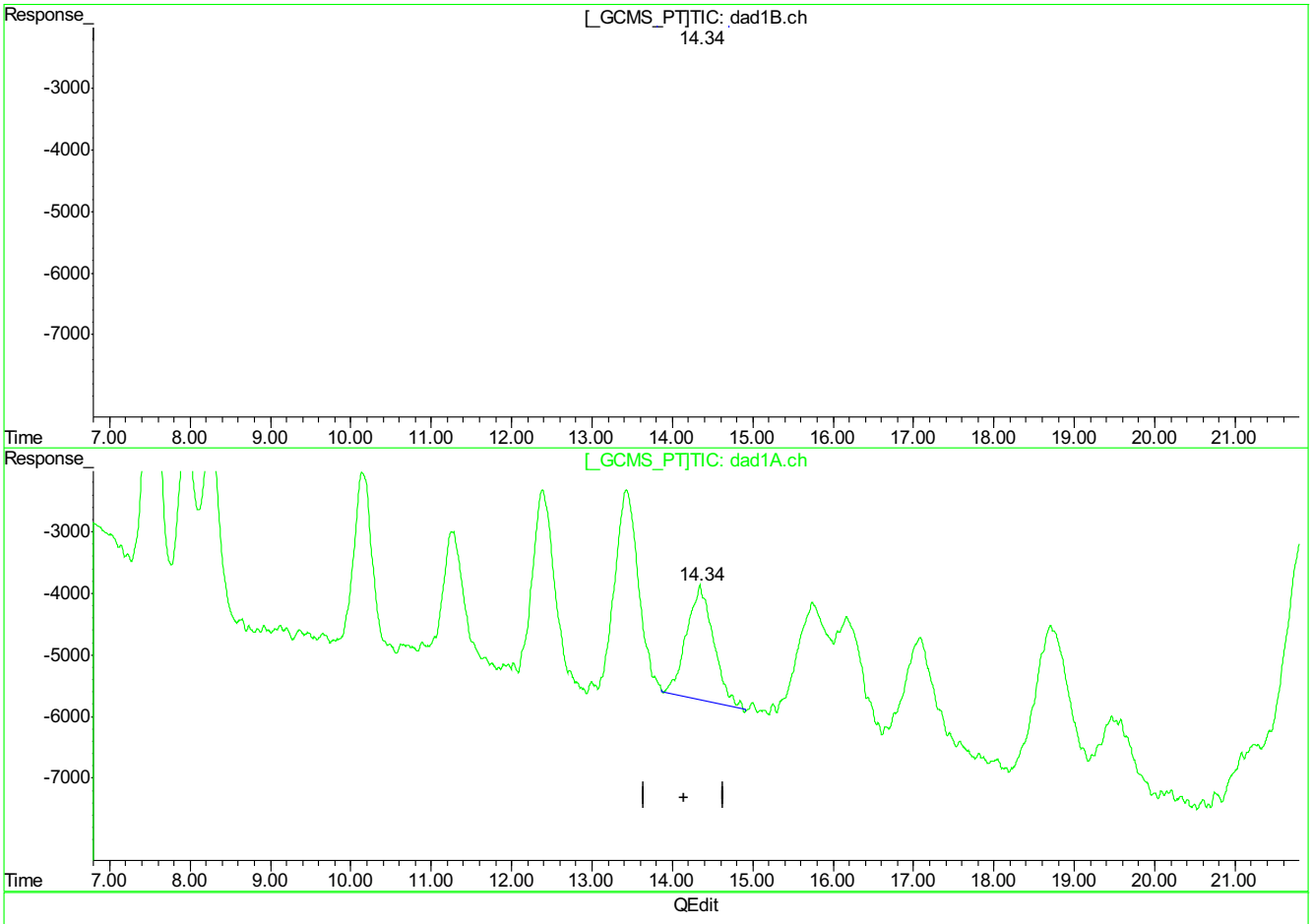
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:50 2017

SGS ACCUTEST FA43019

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.34min 39.339ppb

response 275603

(11) Tetryl #2

14.34min 38.178ppb m

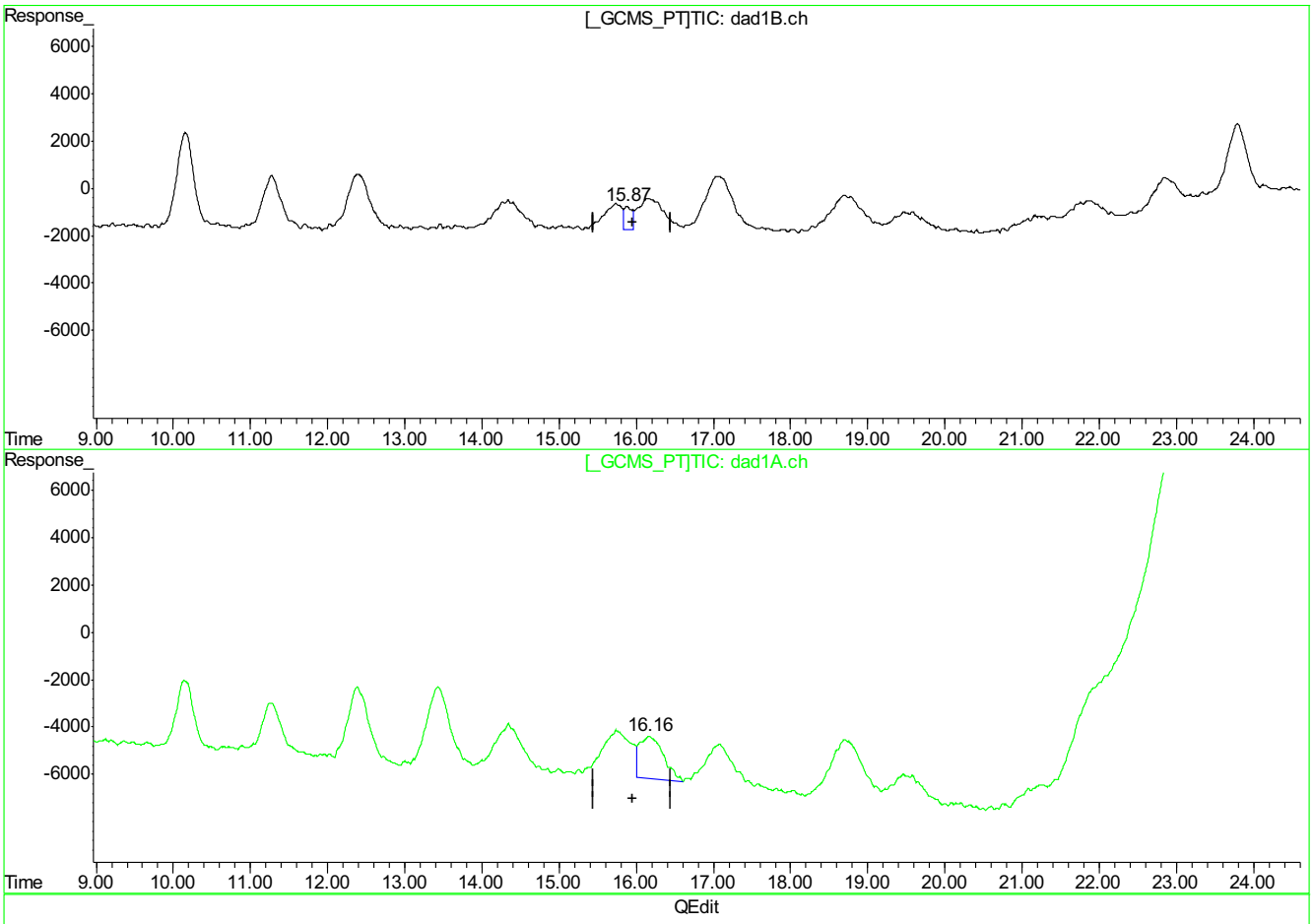
response 432449

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:55 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

15.88min 9.329ppb

response 65758

(13) 2,6-Dinitrotoluene #2

16.17min 39.096ppb

response 385744

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:50:29 2017

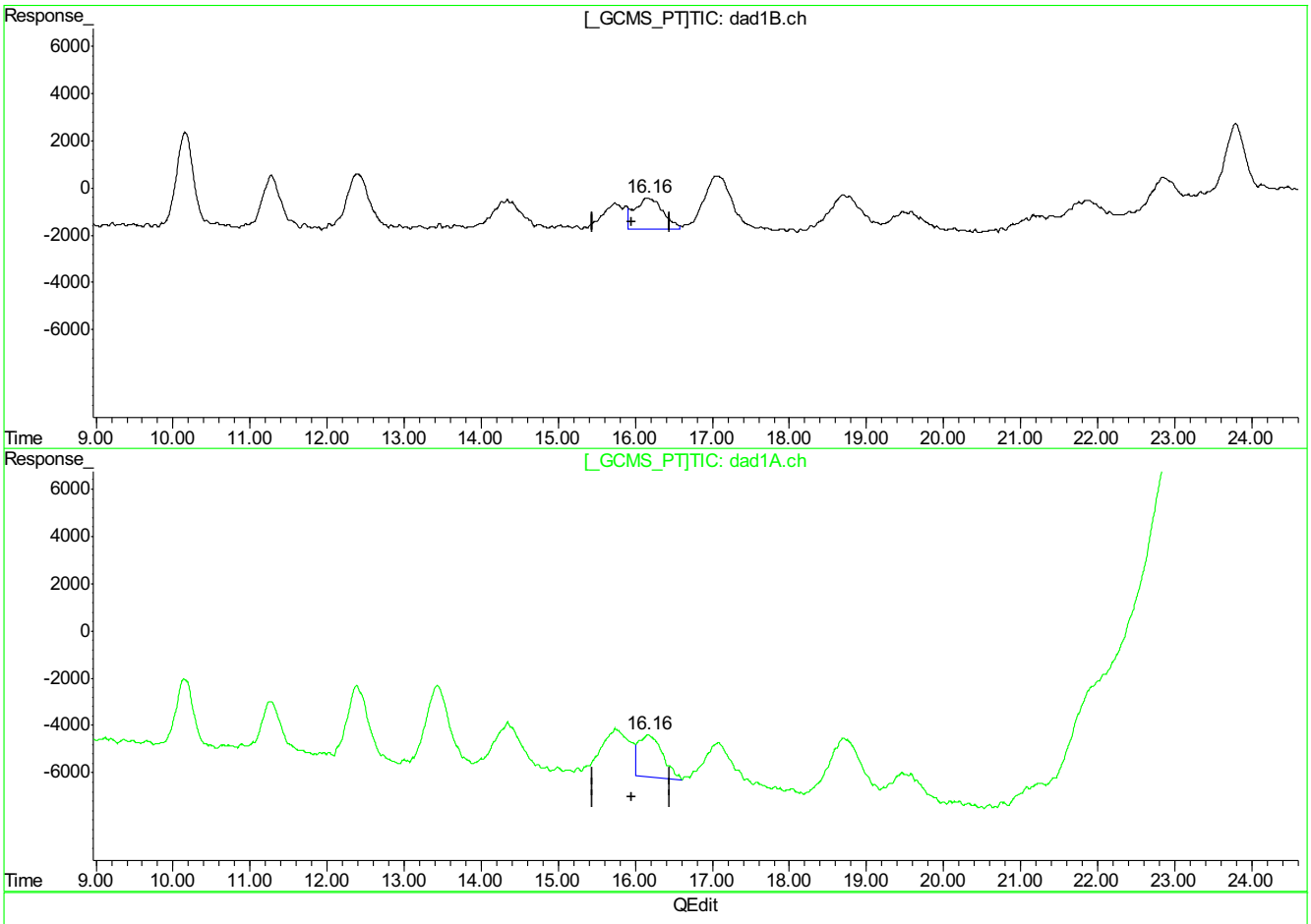
9.5.14.12

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

16.16min 47.544ppb m

response 335128

(13) 2,6-Dinitrotoluene #2

16.17min 39.096ppb

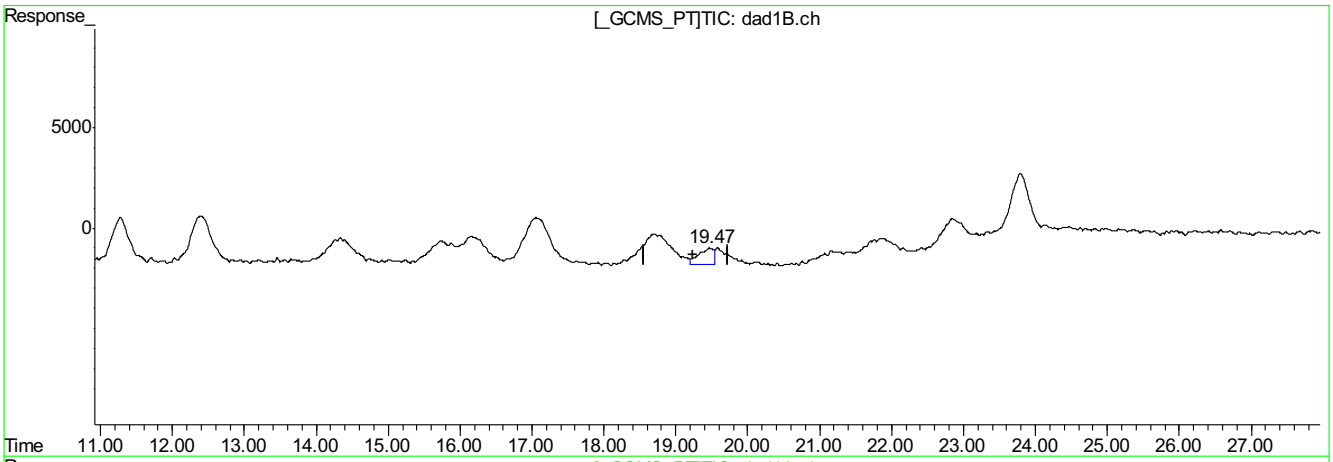
response 385744

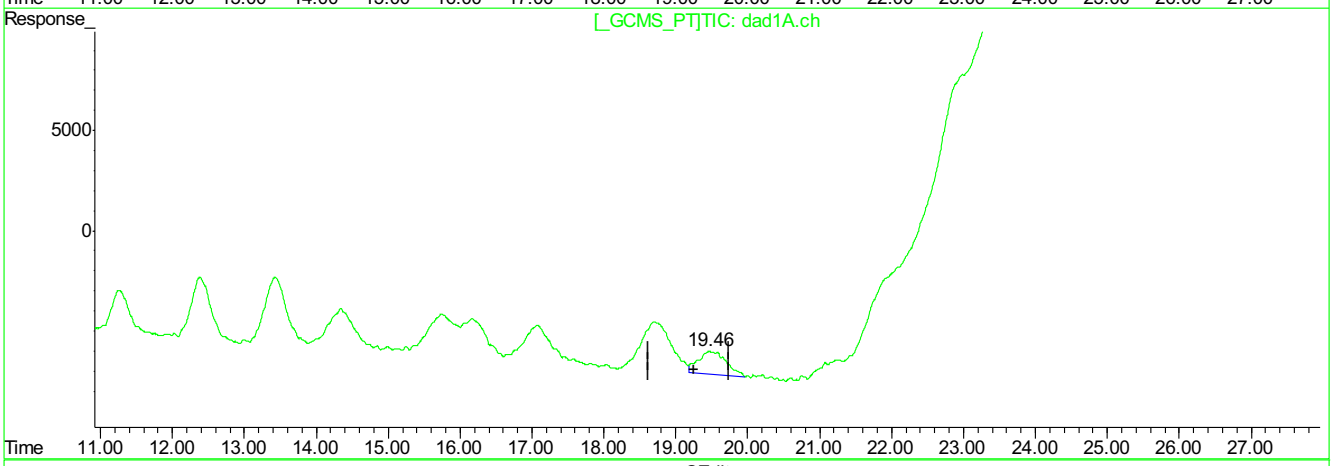
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:50:39 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.47min 27.523ppb

response 120769

(15) o-Nitrotoluene #2

19.46min 40.054ppb

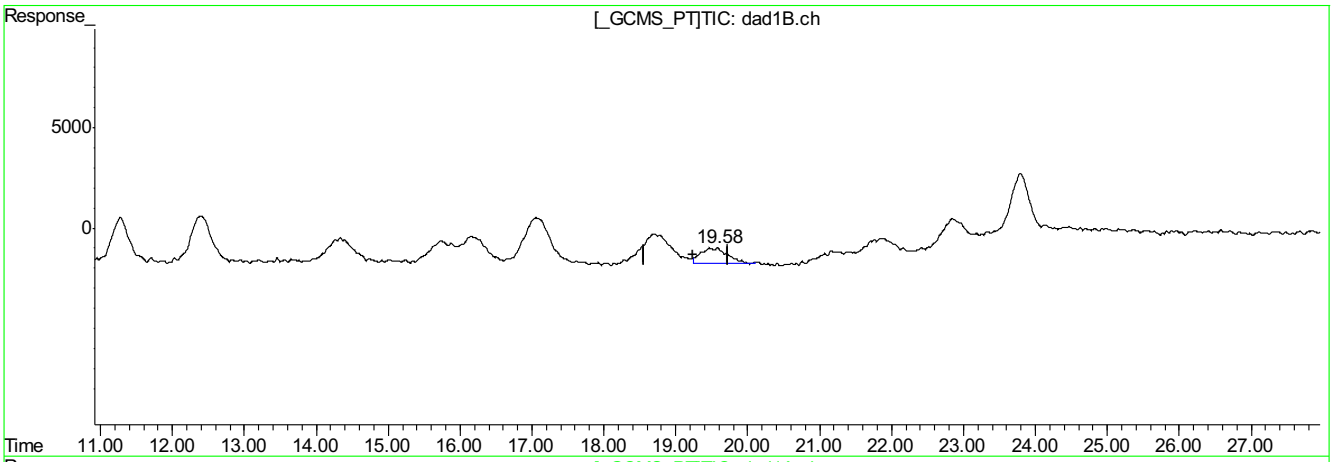
response 316601

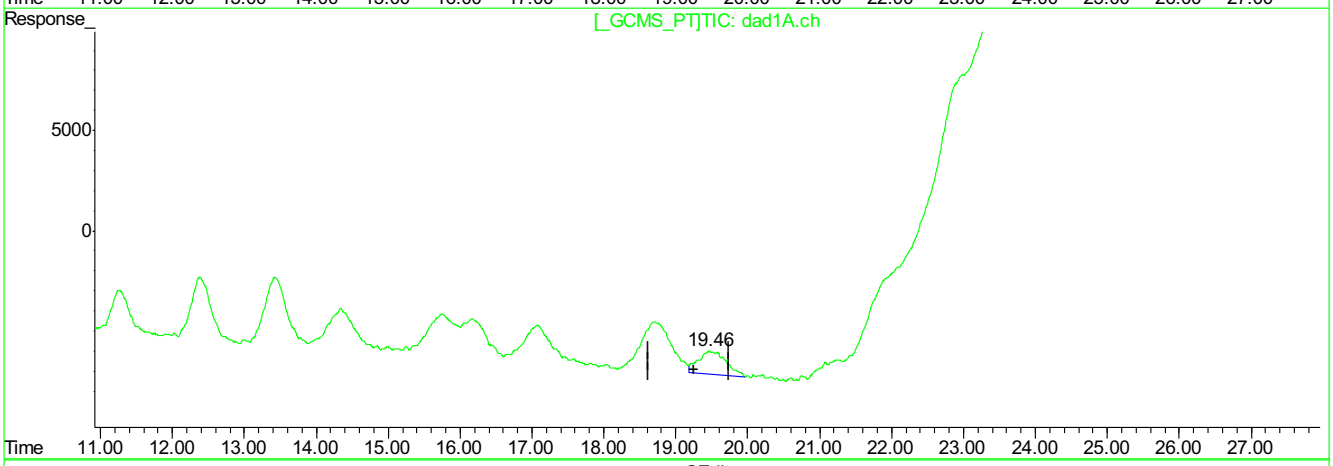
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:51:45 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.58min 41.899ppb m

response 183848

(15) o-Nitrotoluene #2

19.46min 40.054ppb

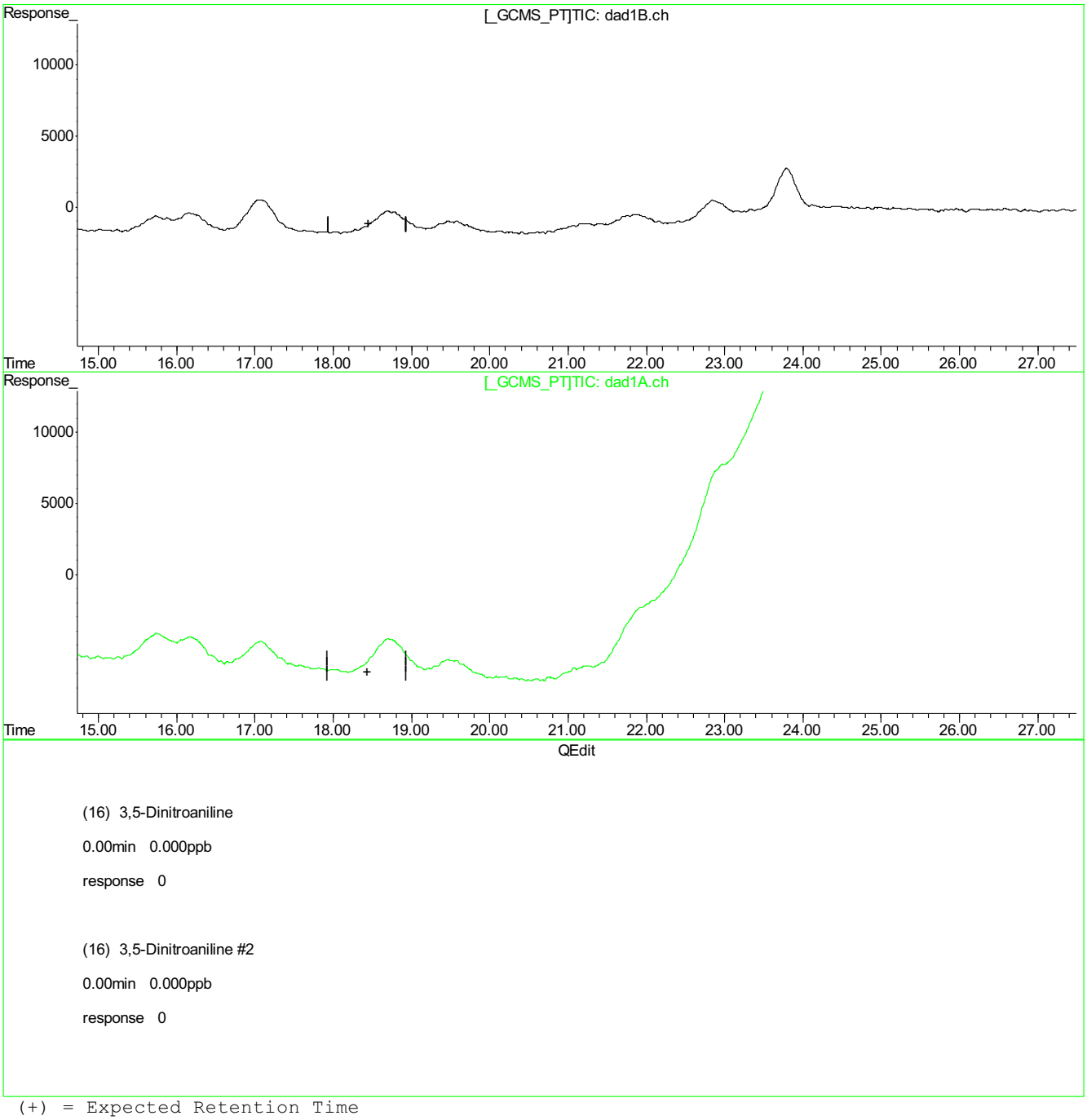
response 316601

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:51:49 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:05 2017

9.5.14.16

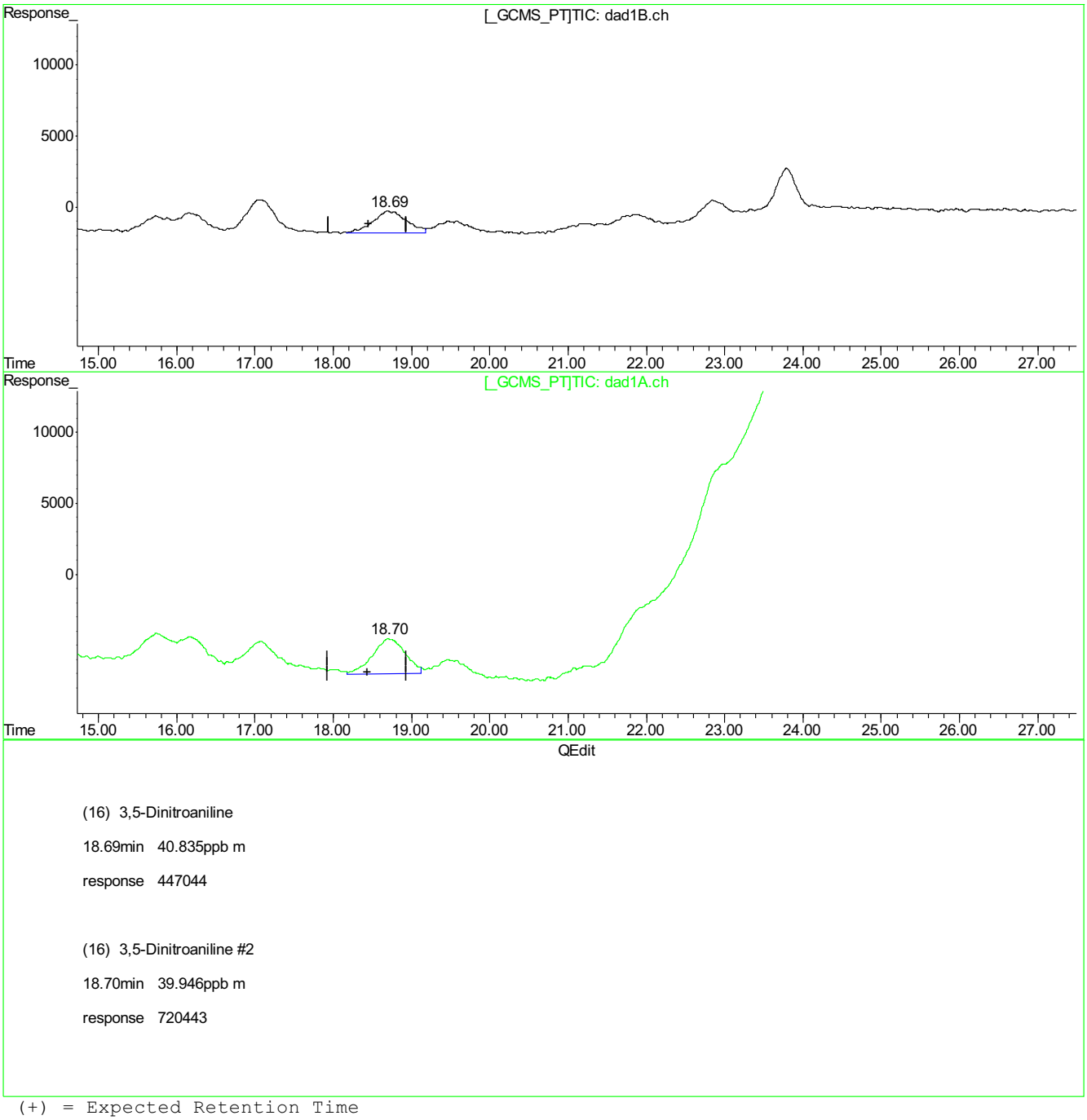
9

PP381822.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:11 2017

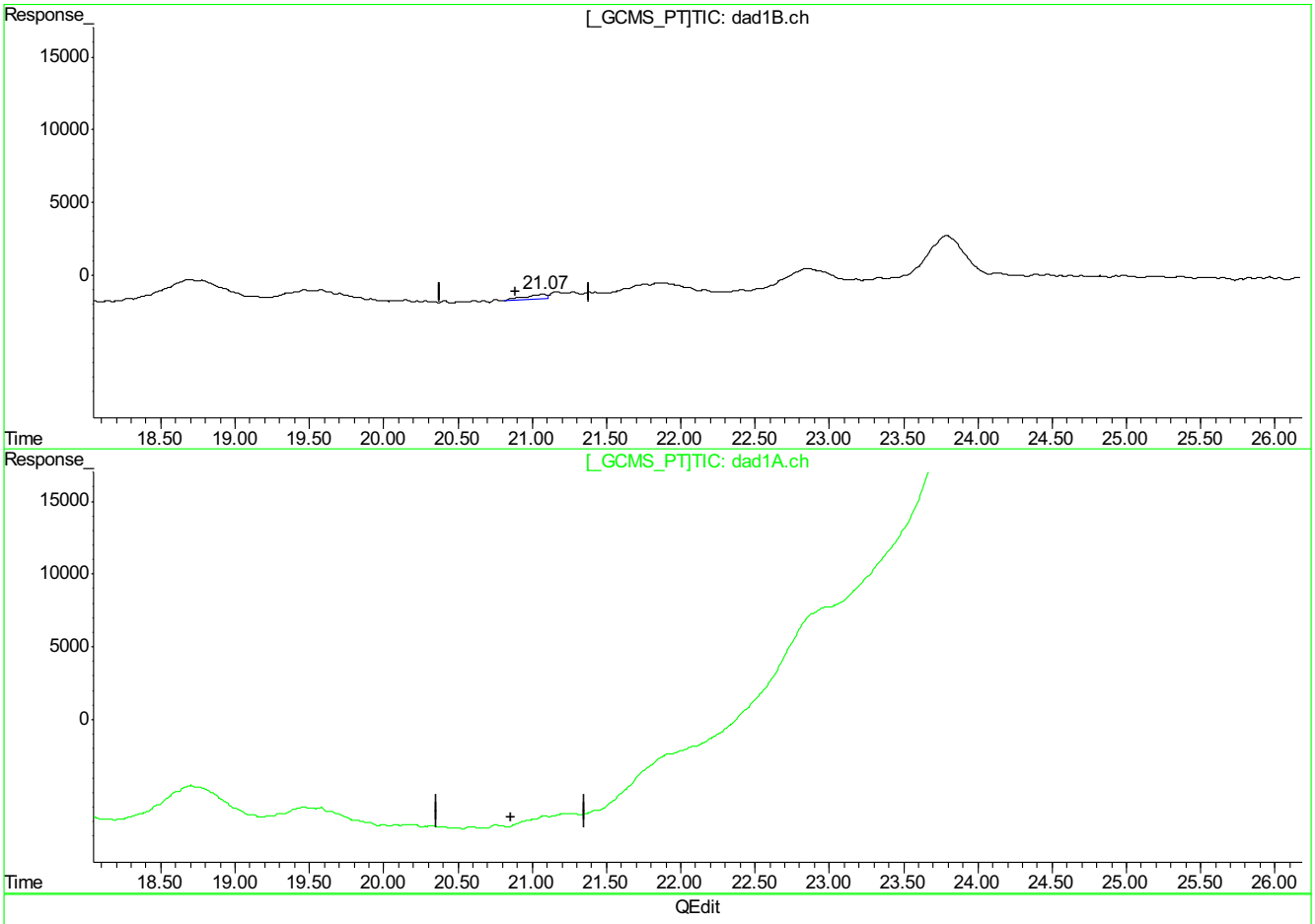
9.5.14.17

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.07min 7.265ppb

response 37099

(17) p-Nitrotoluene #2

0.00min 0.000ppb

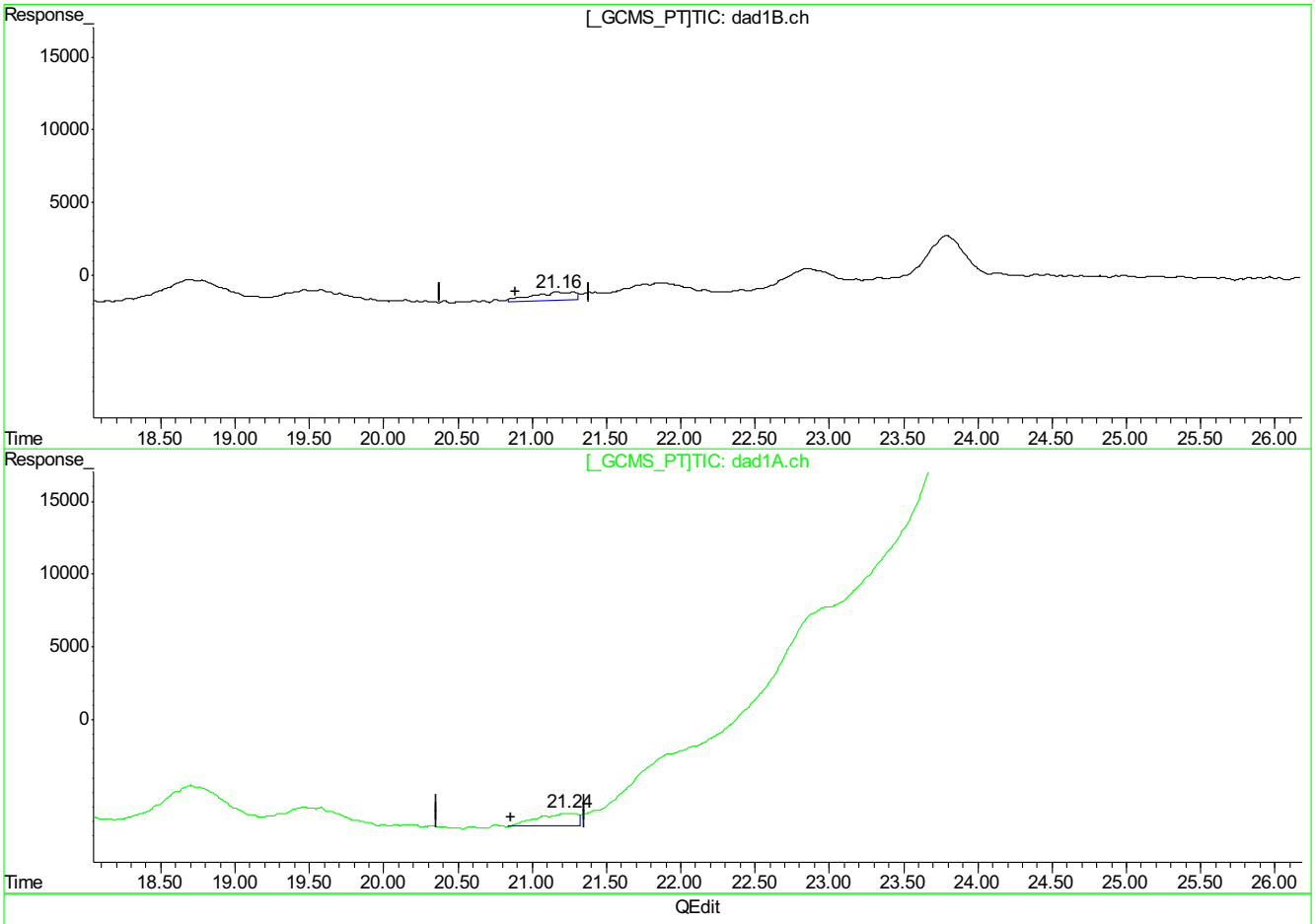
response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:21 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.16min 21.762ppb m

response 110921

(17) p-Nitrotoluene #2

21.24min 28.065ppb m

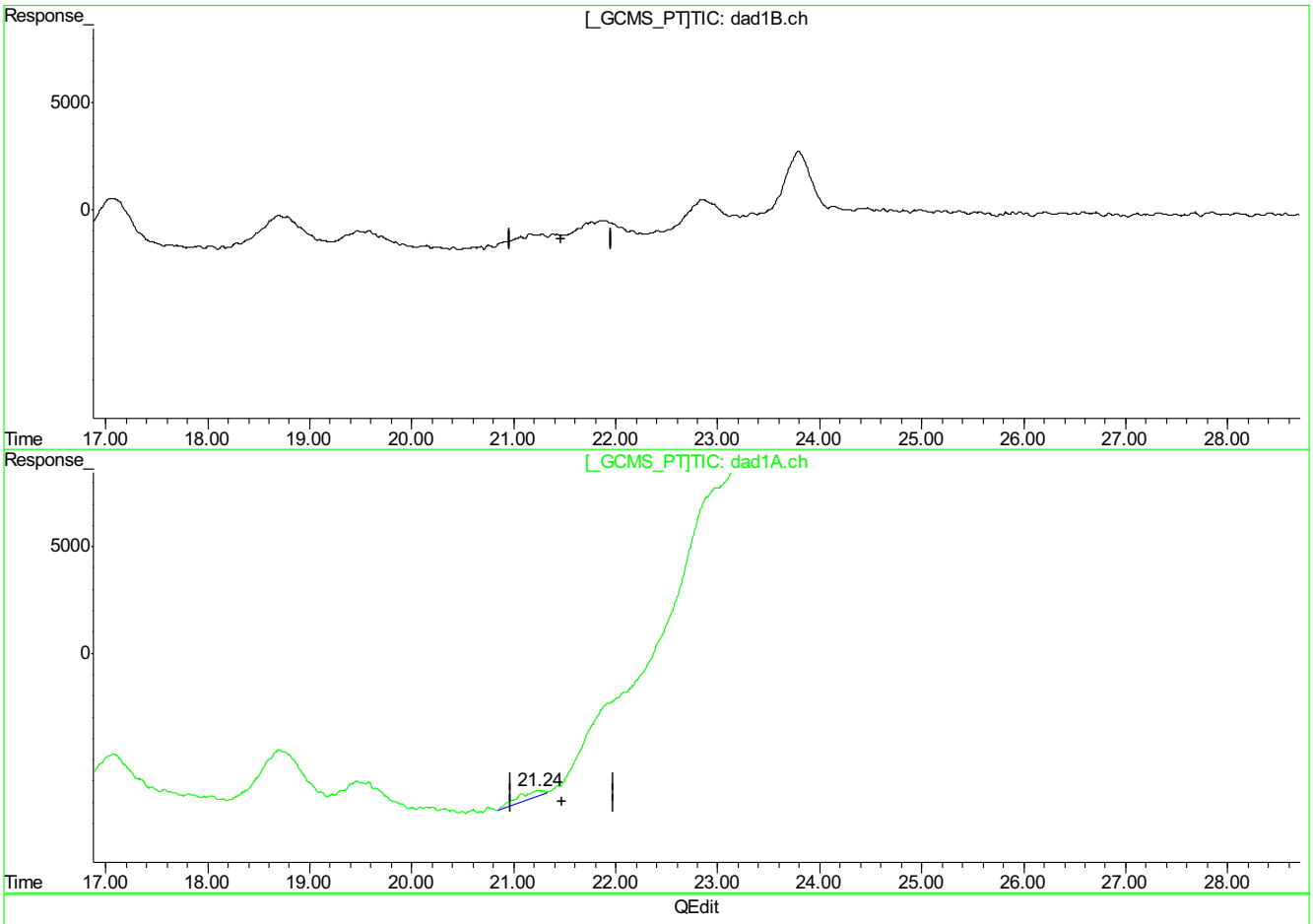
response 162028

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:29 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

21.24min 5.499ppb

response 57280

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:45 2017

9.5.14.20

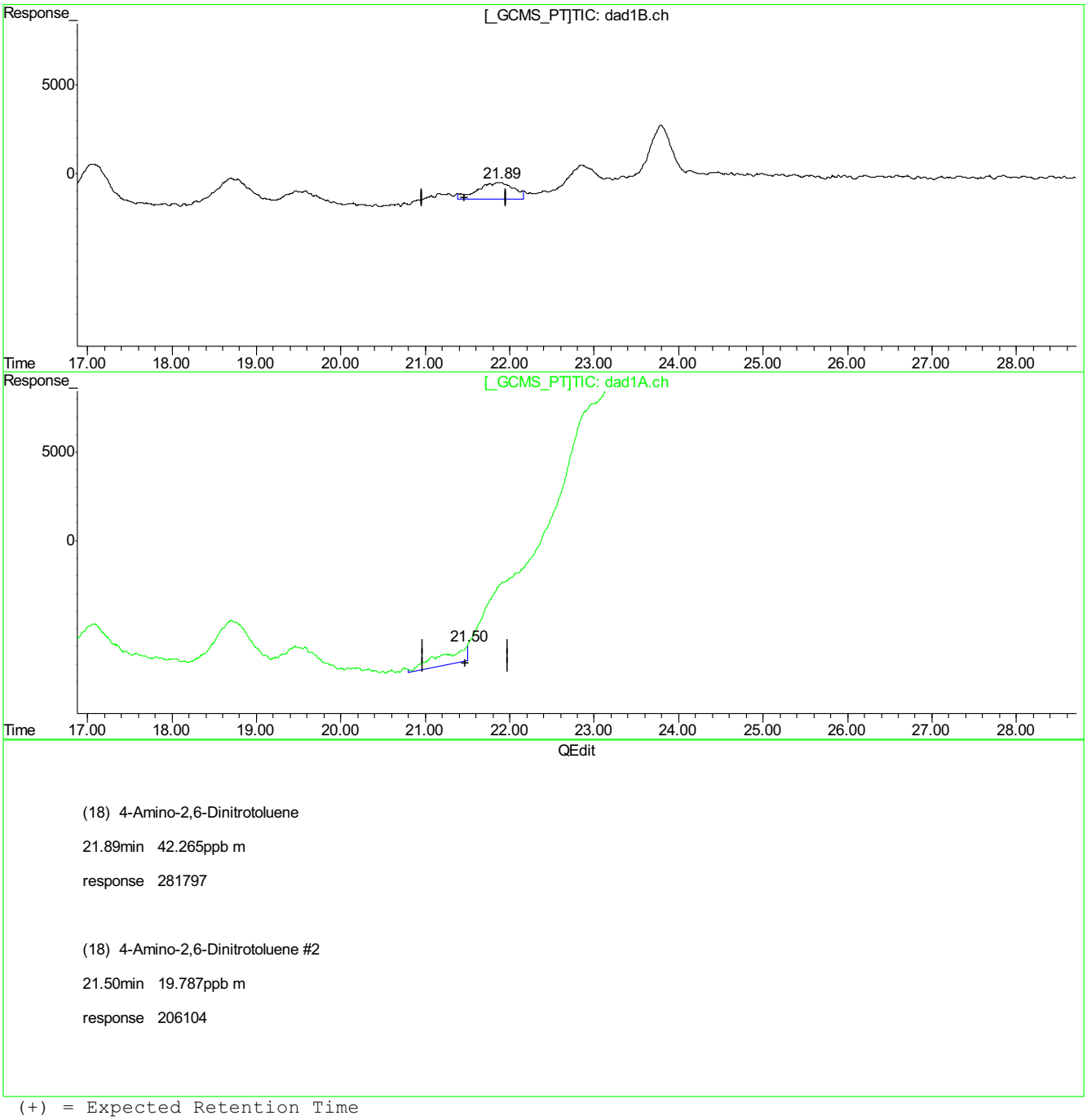
9

PP381822.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



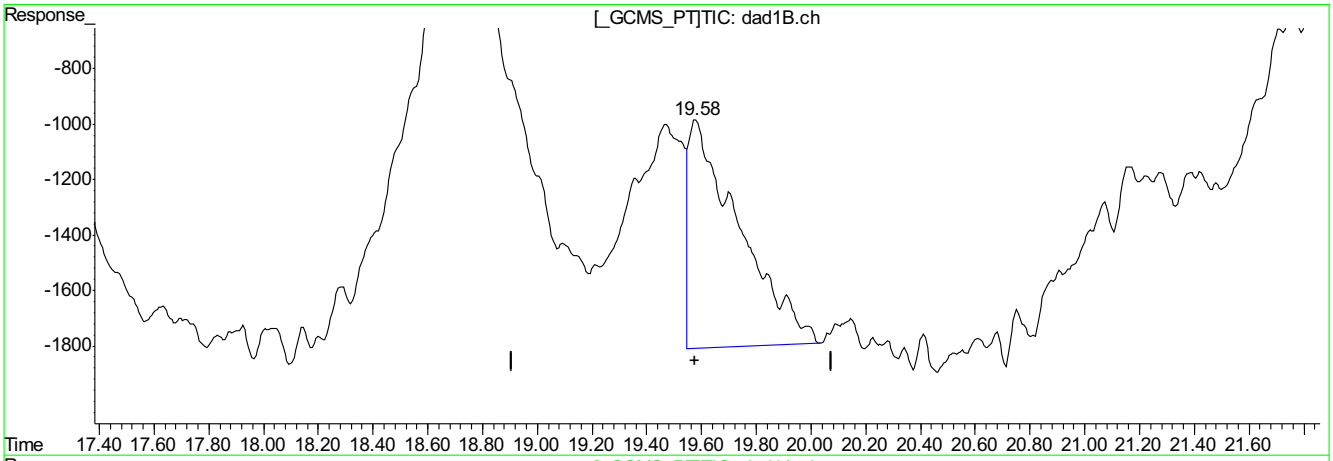
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:53:14 2017

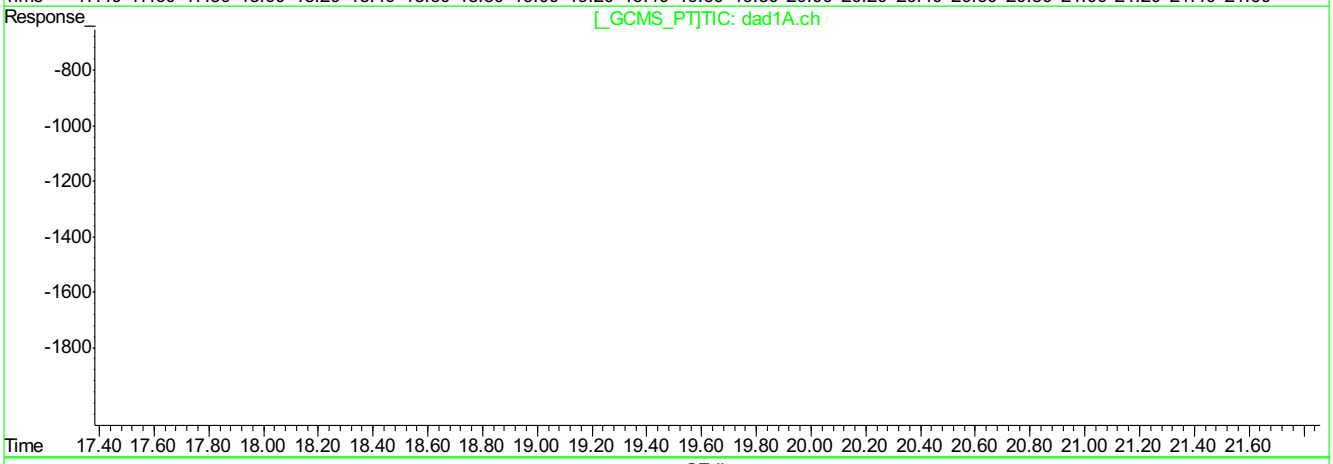
PP381822.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.58min 24.393ppb

response 107036

(15) o-Nitrotoluene #2

19.46min 40.054ppb

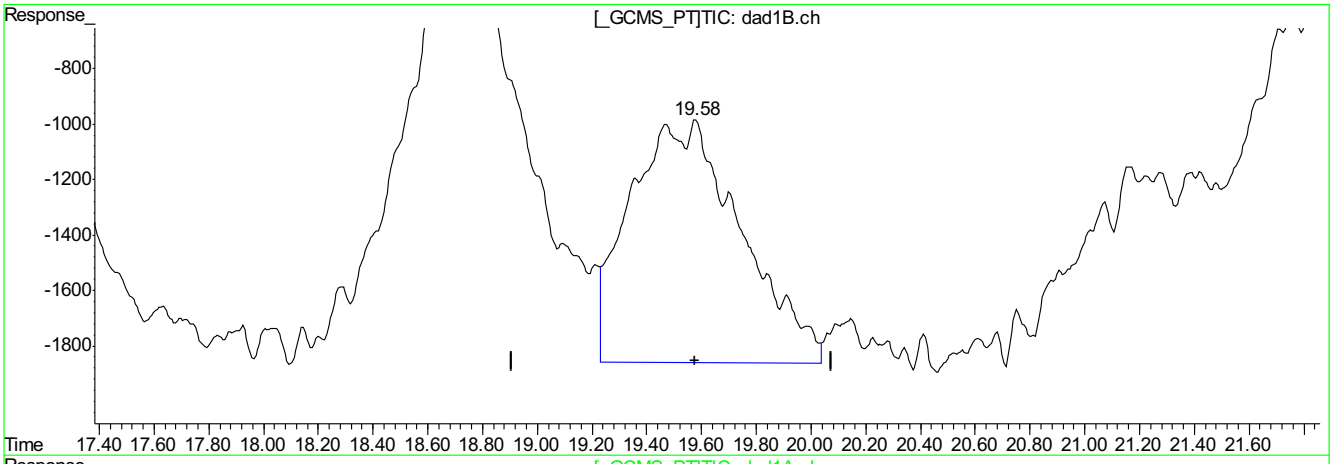
response 316601

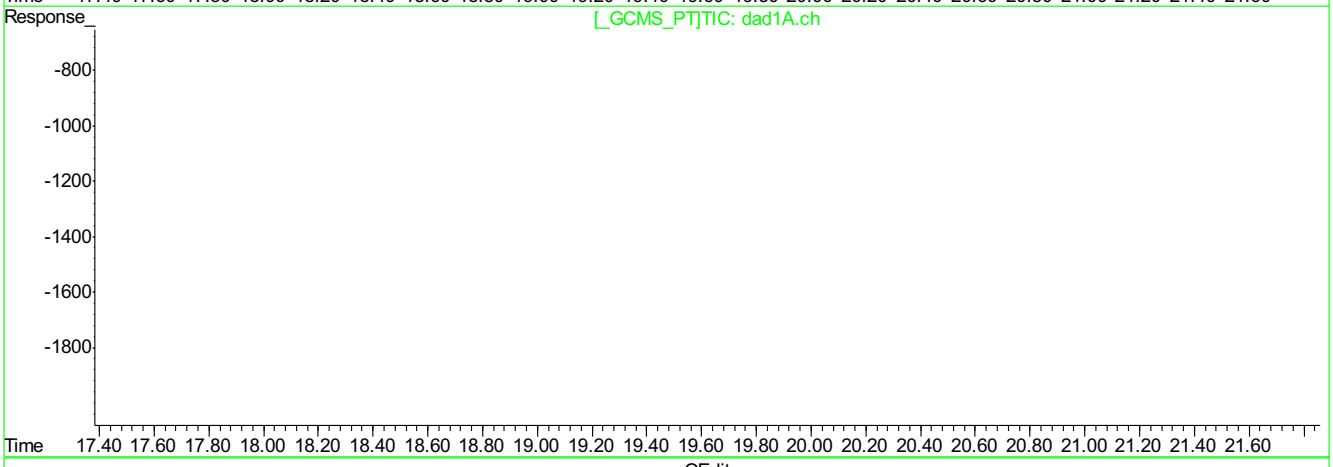
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:00:54 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.58min 56.213ppb m

response 246660

(15) o-Nitrotoluene #2

19.46min 40.054ppb

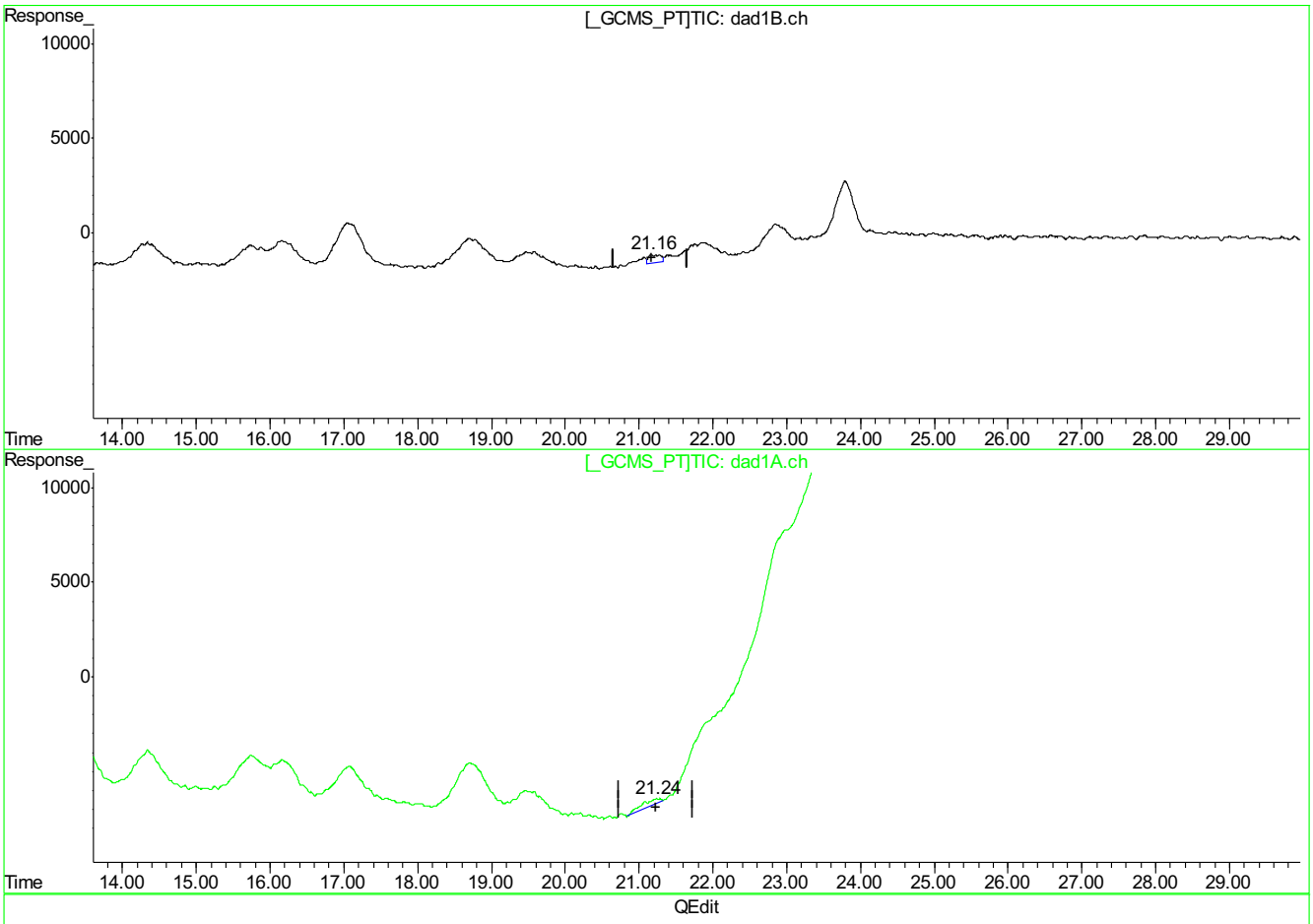
response 316601

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:01:02 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.16min 9.796ppb

response 50008

(17) p-Nitrotoluene #2

21.24min 9.915ppb

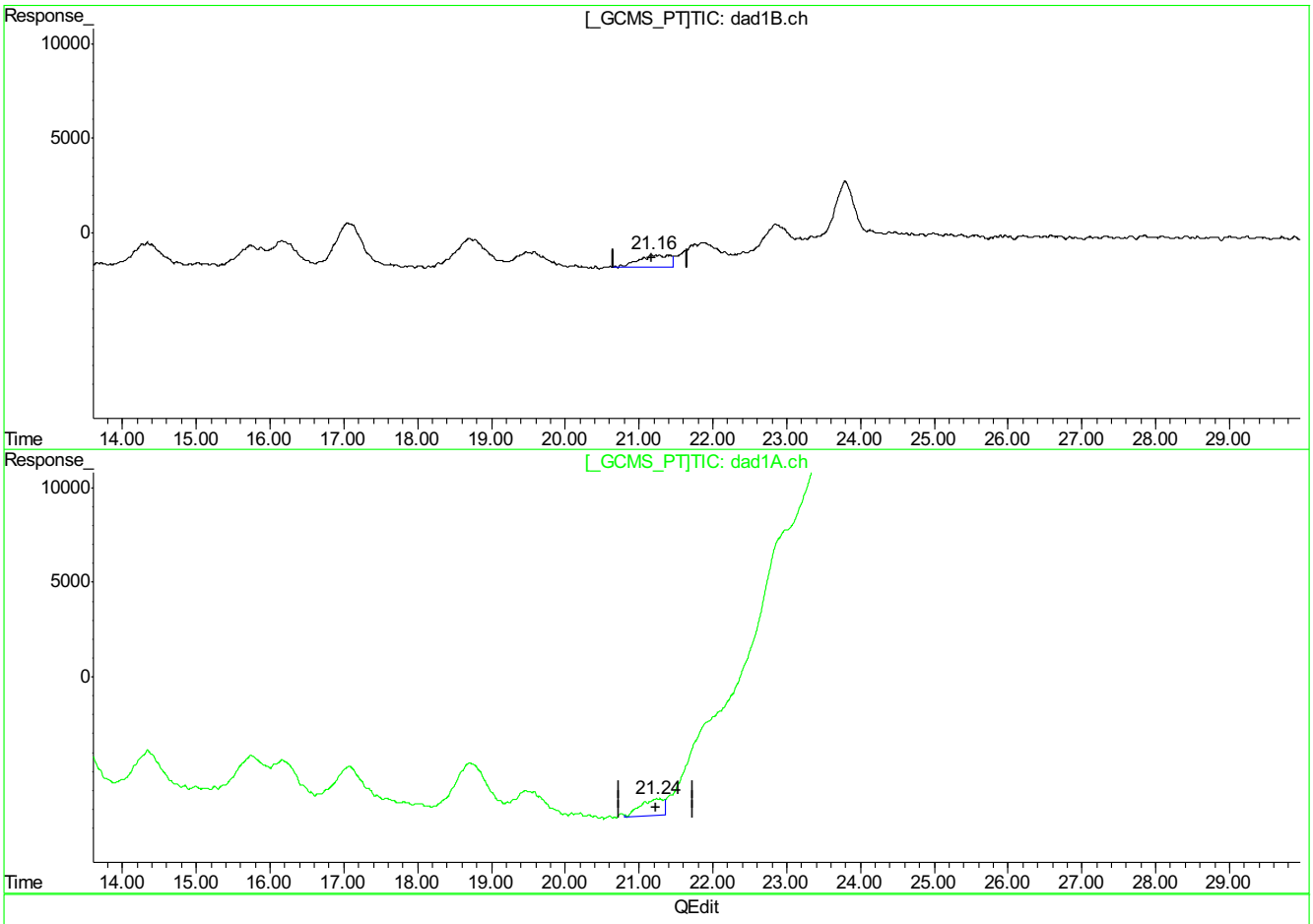
response 57280

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:01:27 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.16min 36.646ppb m

response 186422

(17) p-Nitrotoluene #2

21.24min 33.025ppb m

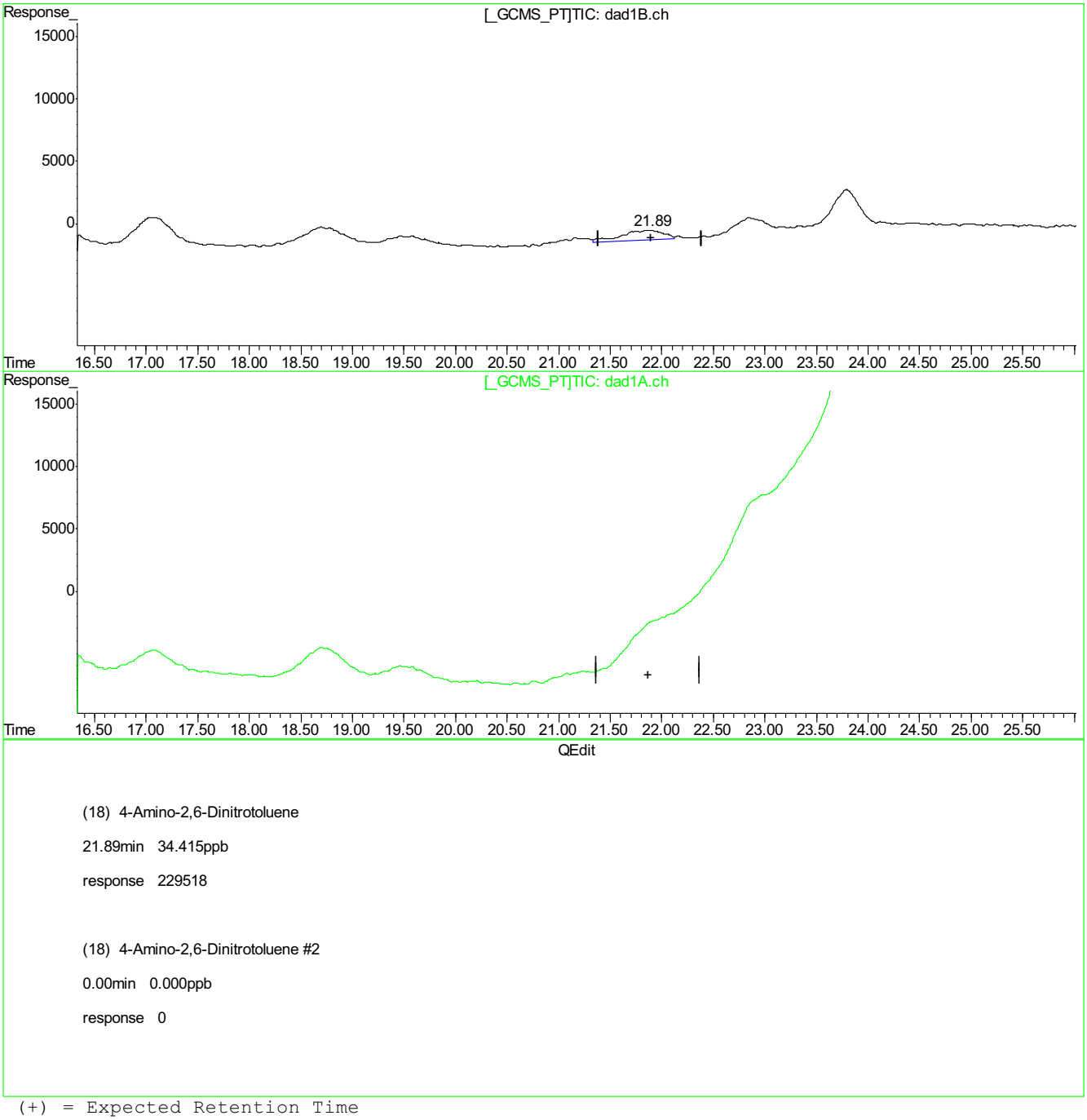
response 190631

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:01:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.89min 34.415ppb

response 229518

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:19 2017

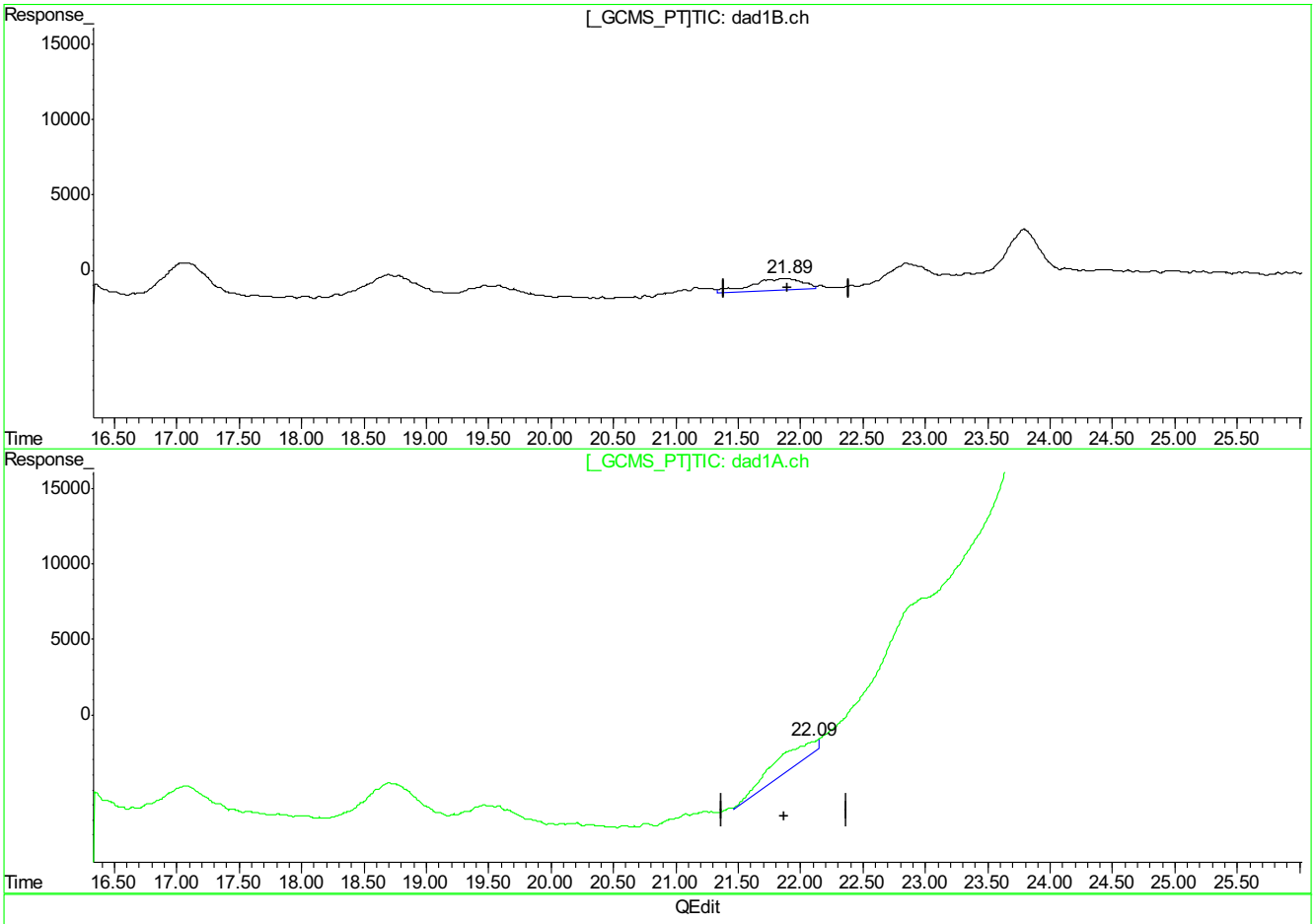
9.5.14.26

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.89min 34.415ppb

response 229518

(18) 4-Amino-2,6-Dinitrotoluene #2

22.09min 31.612ppb m

response 329278

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:27 2017

9.5.14.27

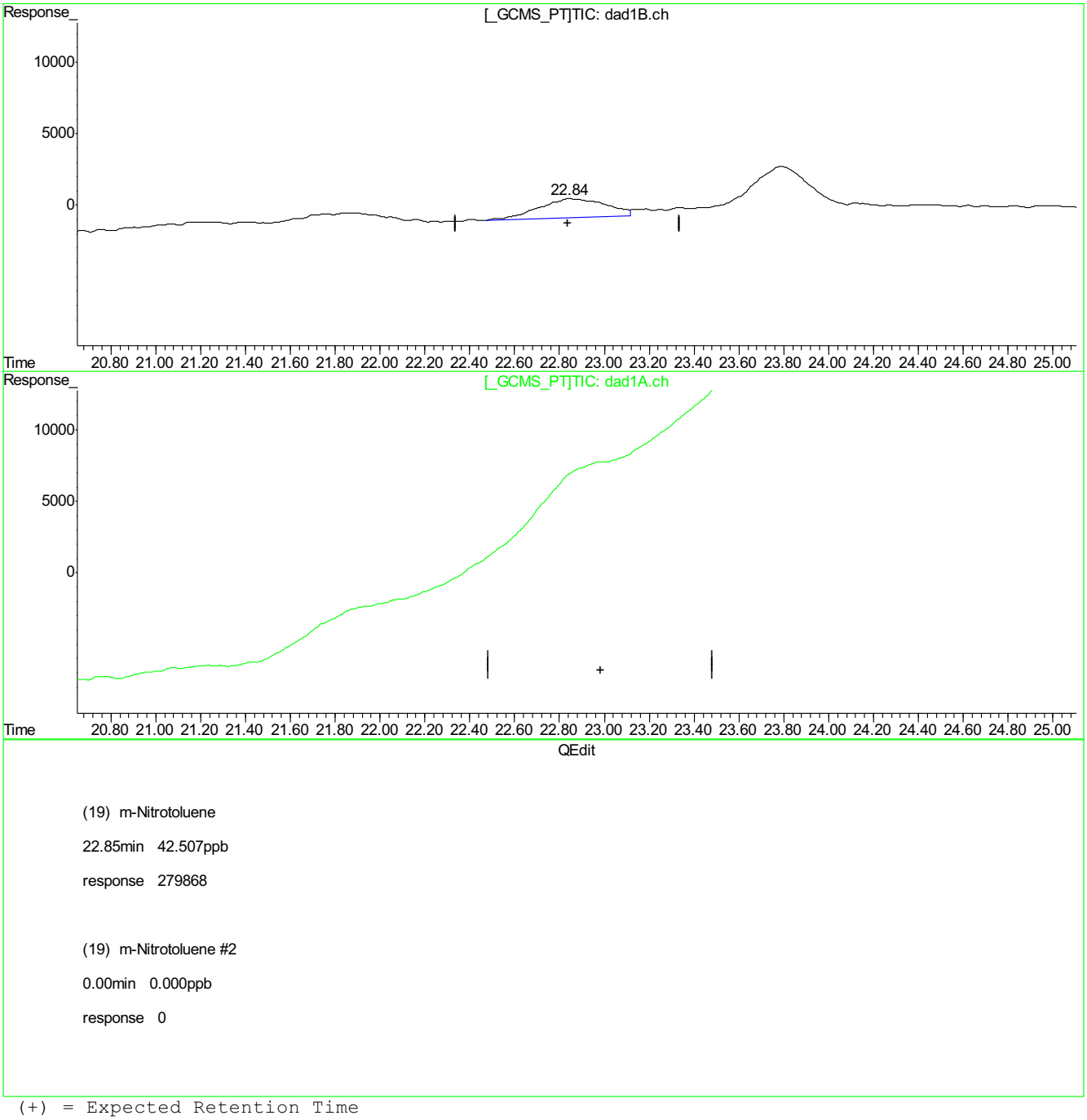
9

PP381822.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:36 2017

9.5.14.28

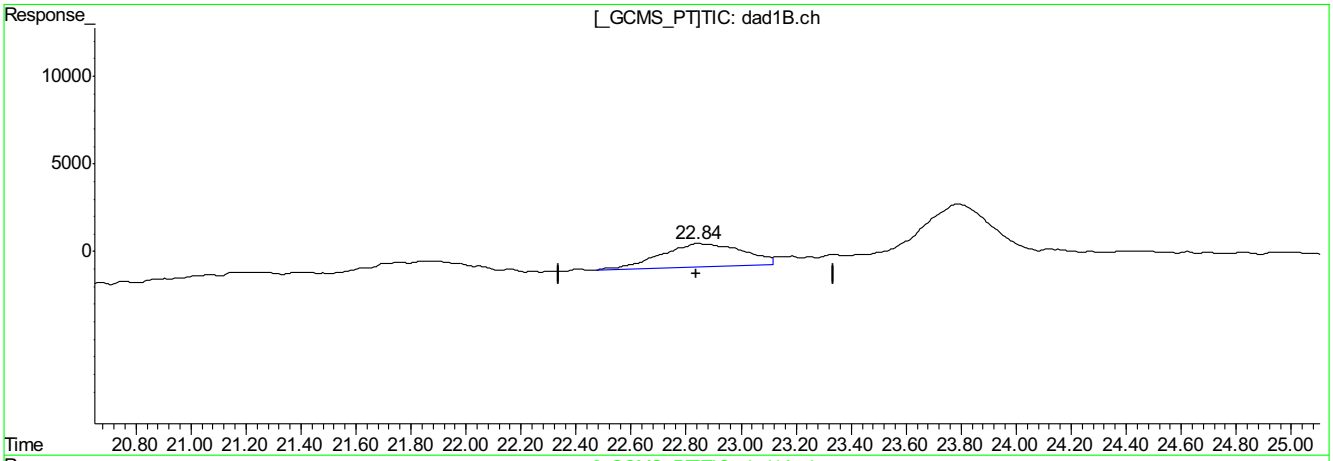
9

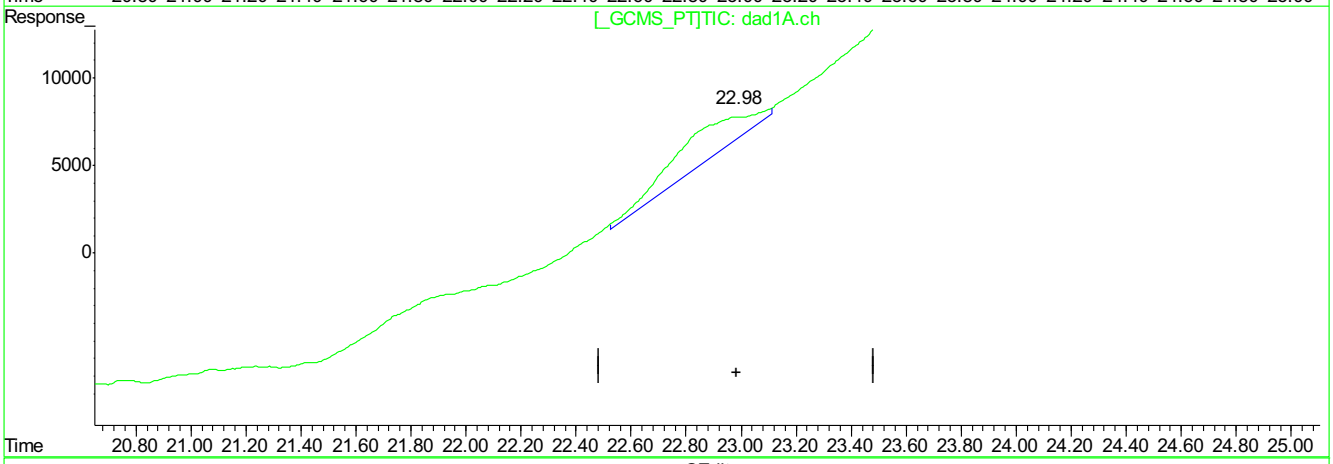
PP381822.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

22.85min 42.507ppb

response 279868

(19) m-Nitrotoluene #2

22.98min 30.077ppb m

response 384329

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:41 2017

9.5.14.29

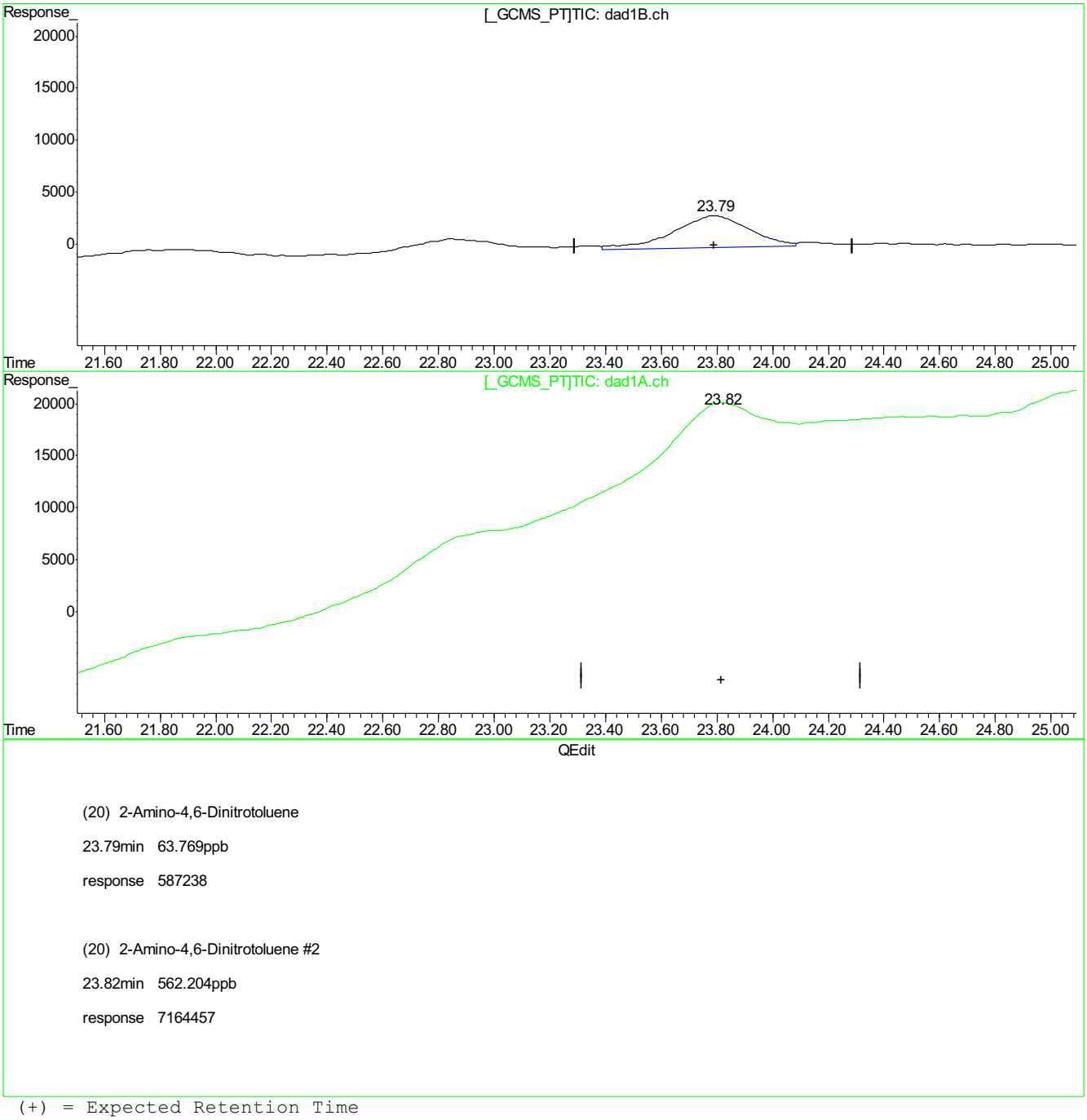
9

PP381822.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.79min 63.769ppb

response 587238

(20) 2-Amino-4,6-Dinitrotoluene #2

23.82min 562.204ppb

response 7164457

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:50 2017

9.5.14.30

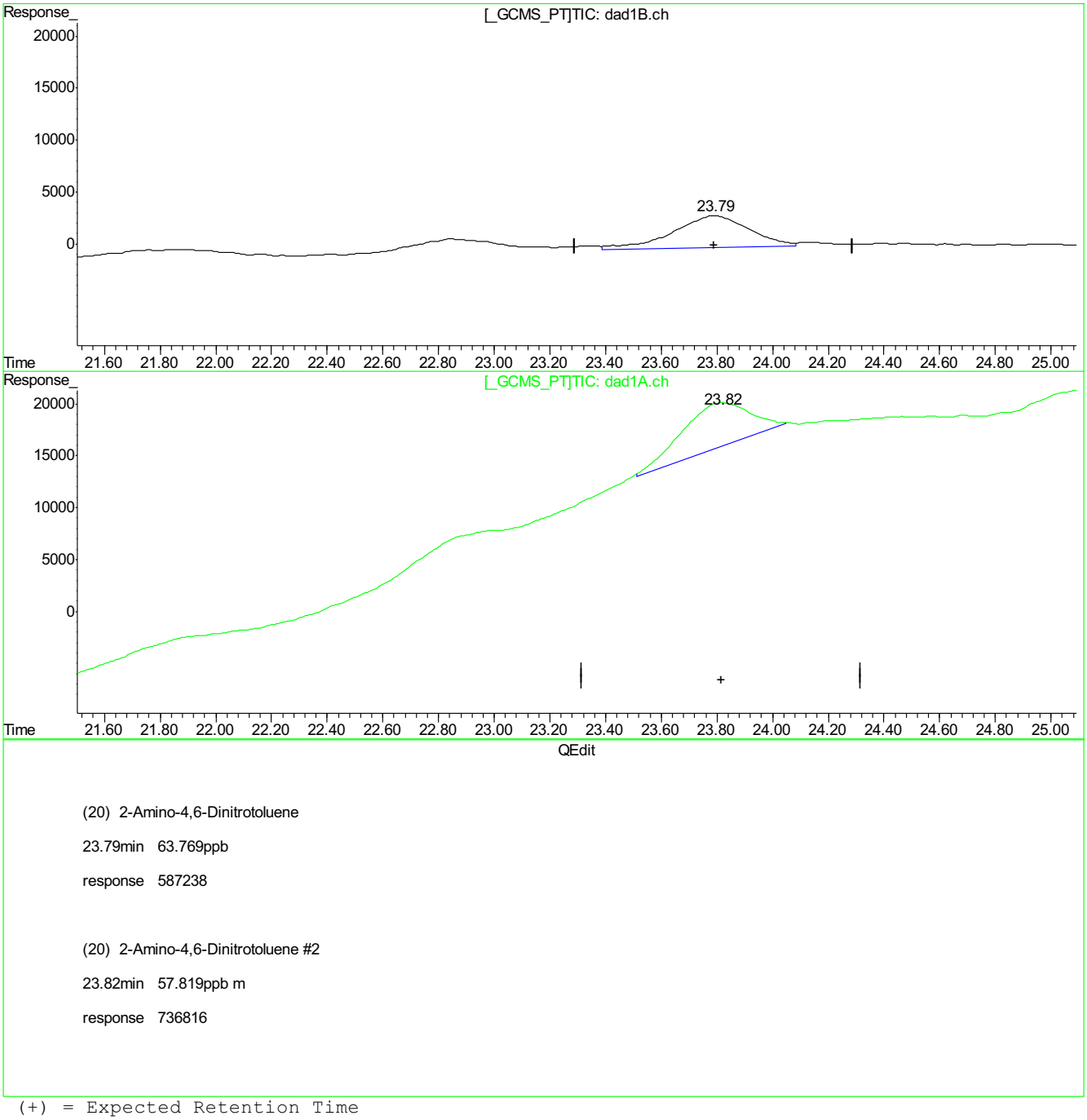
9

PP381822.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.79min 63.769ppb

response 587238

(20) 2-Amino-4,6-Dinitrotoluene #2

23.82min 57.819ppb m

response 736816

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:55 2017

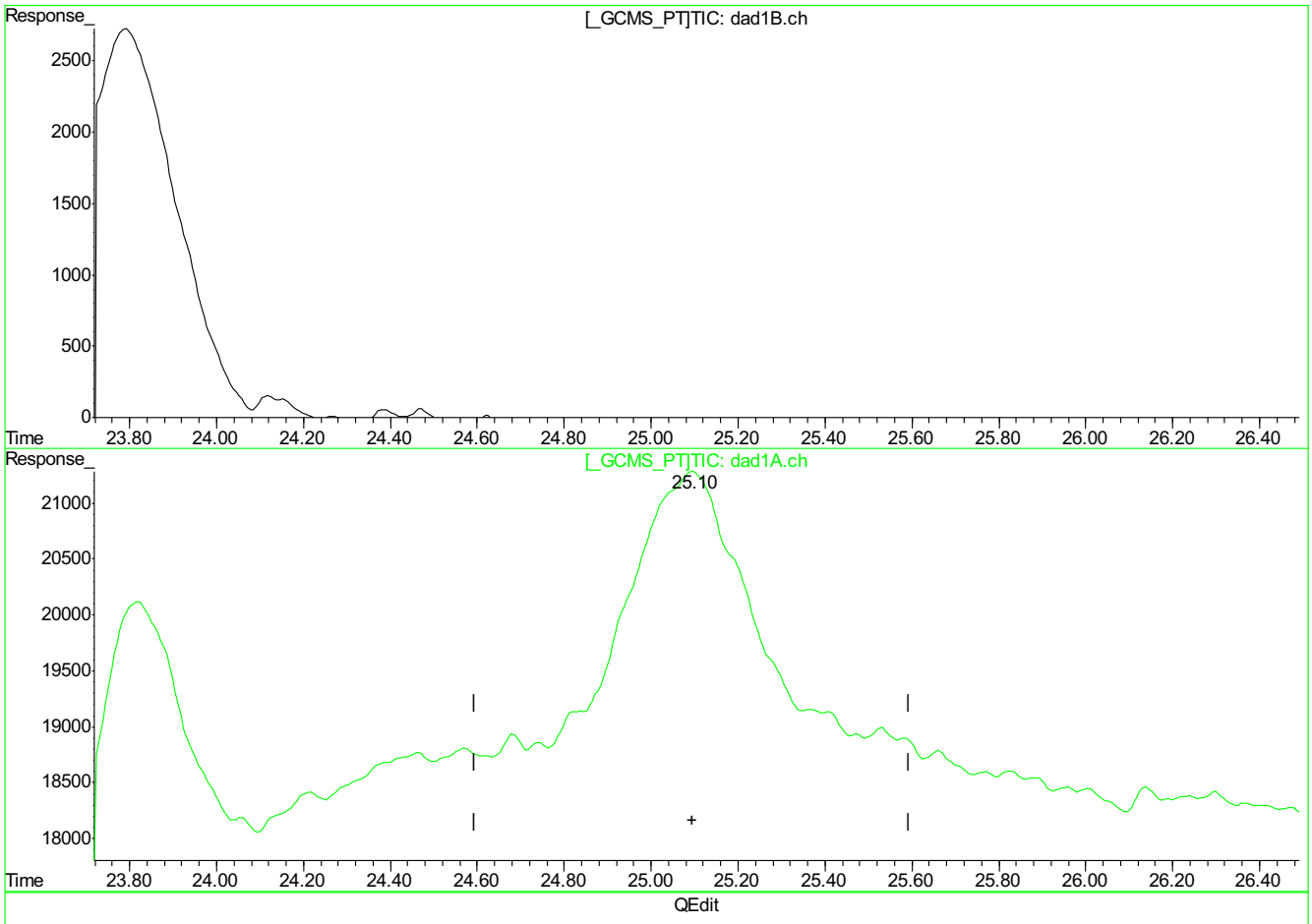
9.5.14.31

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.10min 822.315ppb

response 2722617

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:58 2017

9.5.14.32

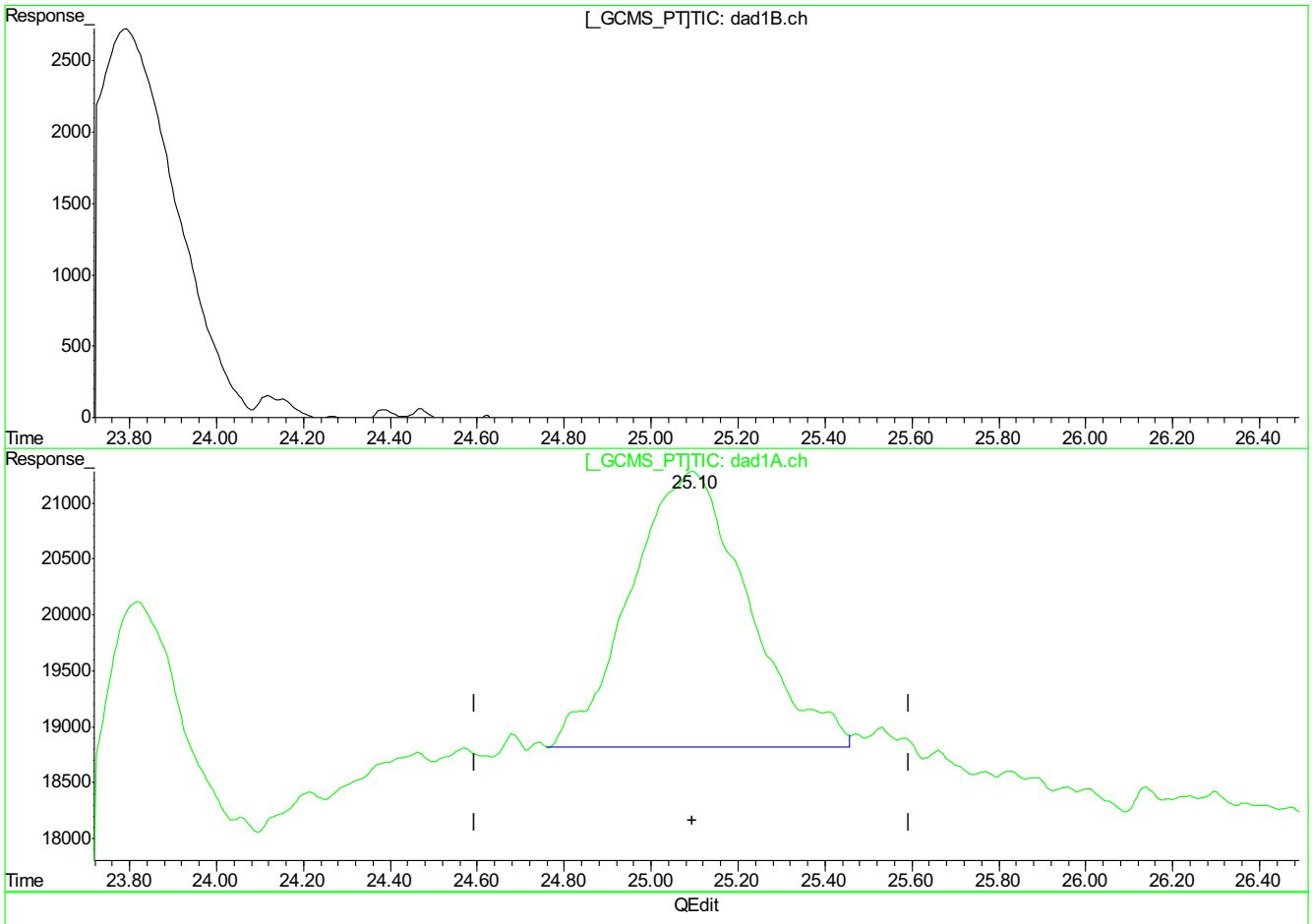
9

PP381822.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.10min 138.515ppb m

response 458612

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:03:01 2017

9.5.14.33

9

PP381822.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 09:44:05 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.65	15.63	553965	1153732	120.157	124.363
	Spiked Amount 500.000	Range 70 - 136		Recovery =		24.03%#	24.87%#
	Target Compounds						
1)	TNX	4.78	4.78	1069546	1503530	126.176	119.842
2)	HMX	5.17	5.17	500531	1286935	153.531	124.154
3)	DNX	5.32	5.32	955398	1926006	117.641	143.298
4)	MNX	6.46	6.46	583677	915114	107.165	107.377
5)	1,3,5-Trinitrobe	7.49	7.49	1051088	1747034	106.166	105.177
6)	RDX	7.92	7.92	481989	850350	108.628	102.737
7)	1,3-Dinitrobenze	10.10	10.10	1378793	1019599	103.283	103.913
8)	Nitrobenzene	11.21	11.22	830471	833749	97.821	102.367
9)	2,4,6-Trinitroto	12.33	12.33	1005191	1279730	106.352	104.941
10)	Nitroglycerin	0.00	13.35	0	1633633	N.D. d	548.063m
11)	Tetryl	14.23	14.24	692380	1075760	98.829	94.972m
13)	2,6-Dinitrotolue	16.09	16.06	708538	1003855	100.518	101.744
14)	2,4-Dinitrotolue	16.93	16.93	1296355	1050678	105.624	111.926
15)	o-Nitrotoluene	19.40	19.36	505142	740009	115.121	93.919
16)	3,5-Dinitroanili	18.55	18.55	977294	1615930	89.271	89.597
17)	p-Nitrotoluene	21.01	21.04	365368	161193	72.155m	27.920 #
18)	4-Amino-2,6-Dini	21.58	21.67	351499	328406	52.738	31.528 #
19)	m-Nitrotoluene	22.73	22.75	655738	1080977	99.840	84.972m
20)	2-Amino-4,6-Dini	23.67	23.69	970740	1475343	105.415m	115.772m
21)	PETN	0.00	24.99	0	1054182	N.D. d	318.396m

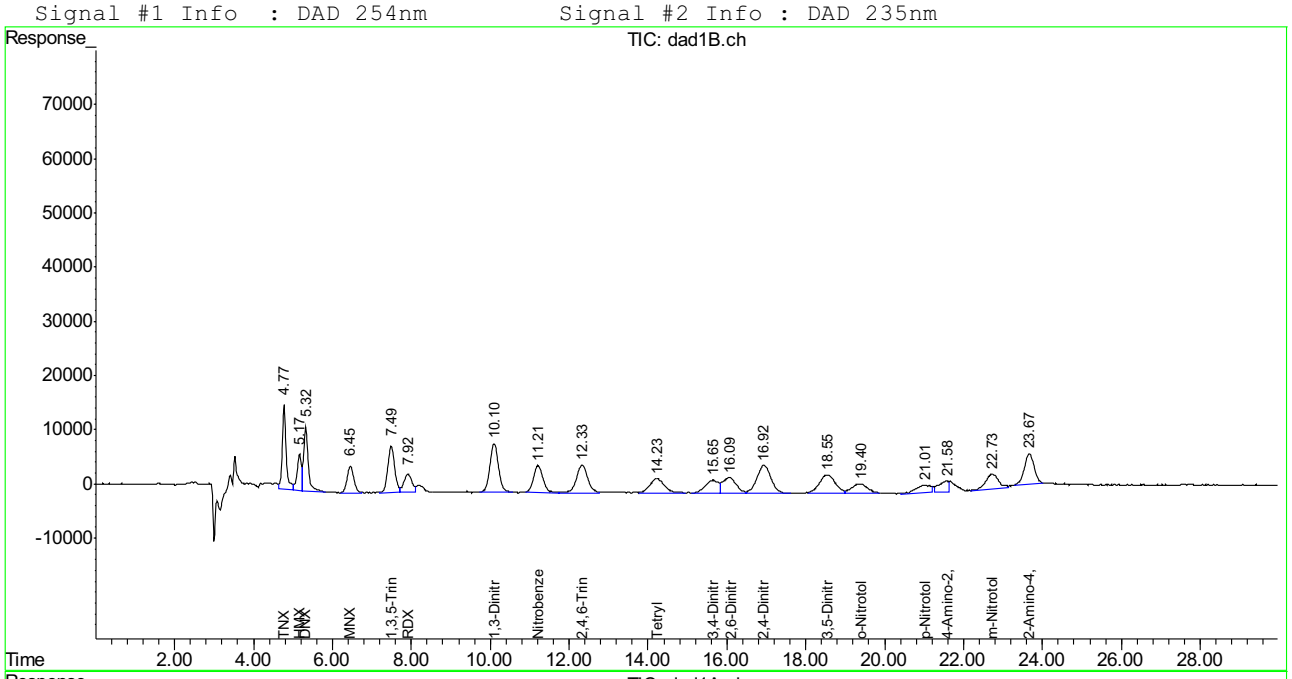
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381823.D 0424_8330RPB.M Tue Apr 25 10:59:40 2017 Page 1

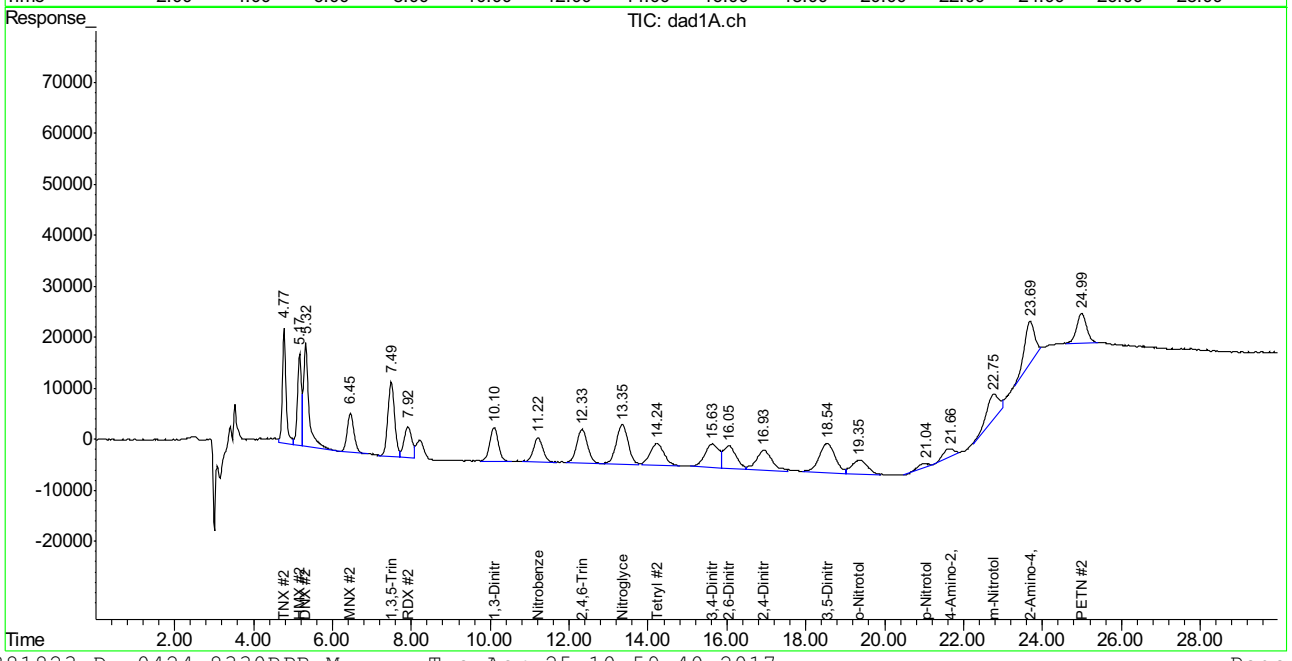
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:42 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

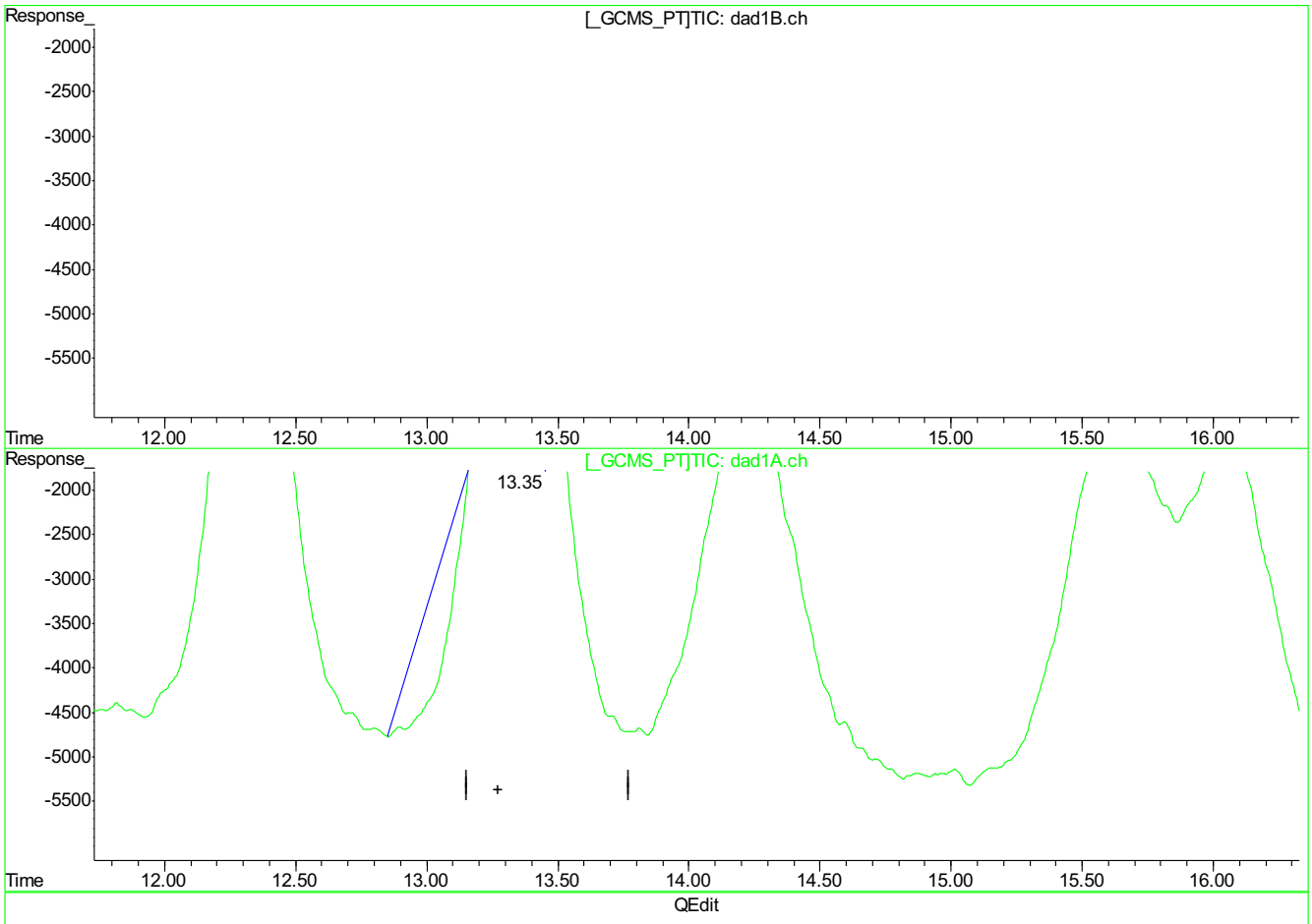
Sample Number: GPP2096-IC2096
Lab FileID: PP381823.D
Injection Time: 04/24/17 13:33
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.35	Poorly defined baseline
Tetryl	479-45-8	2	14.24	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	21.01	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.75	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.67	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.69	Poorly defined baseline
PETN	78-11-5	2	24.99	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.35min 61.561ppb

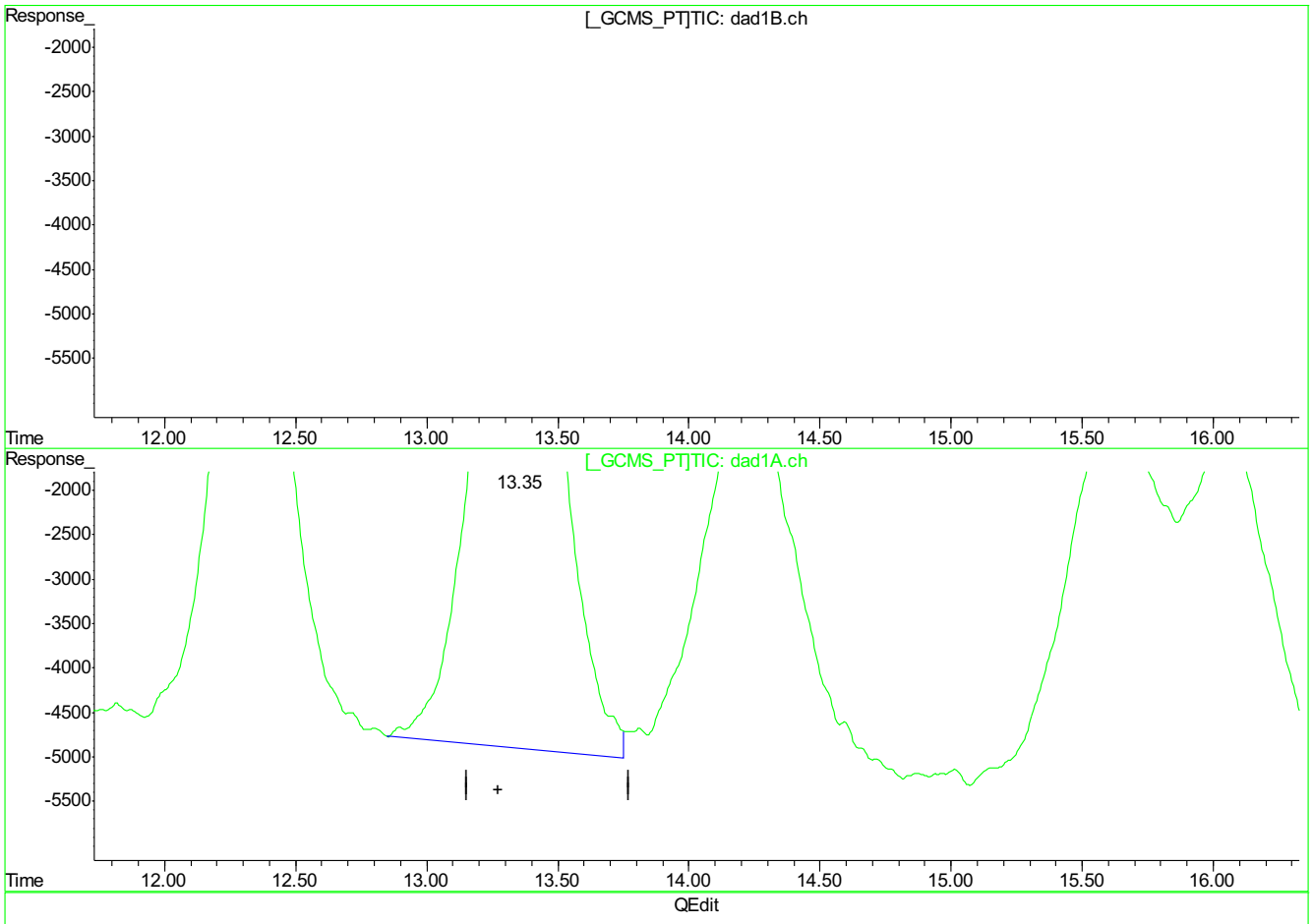
response 183496

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:34 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.35min 548.063ppb m

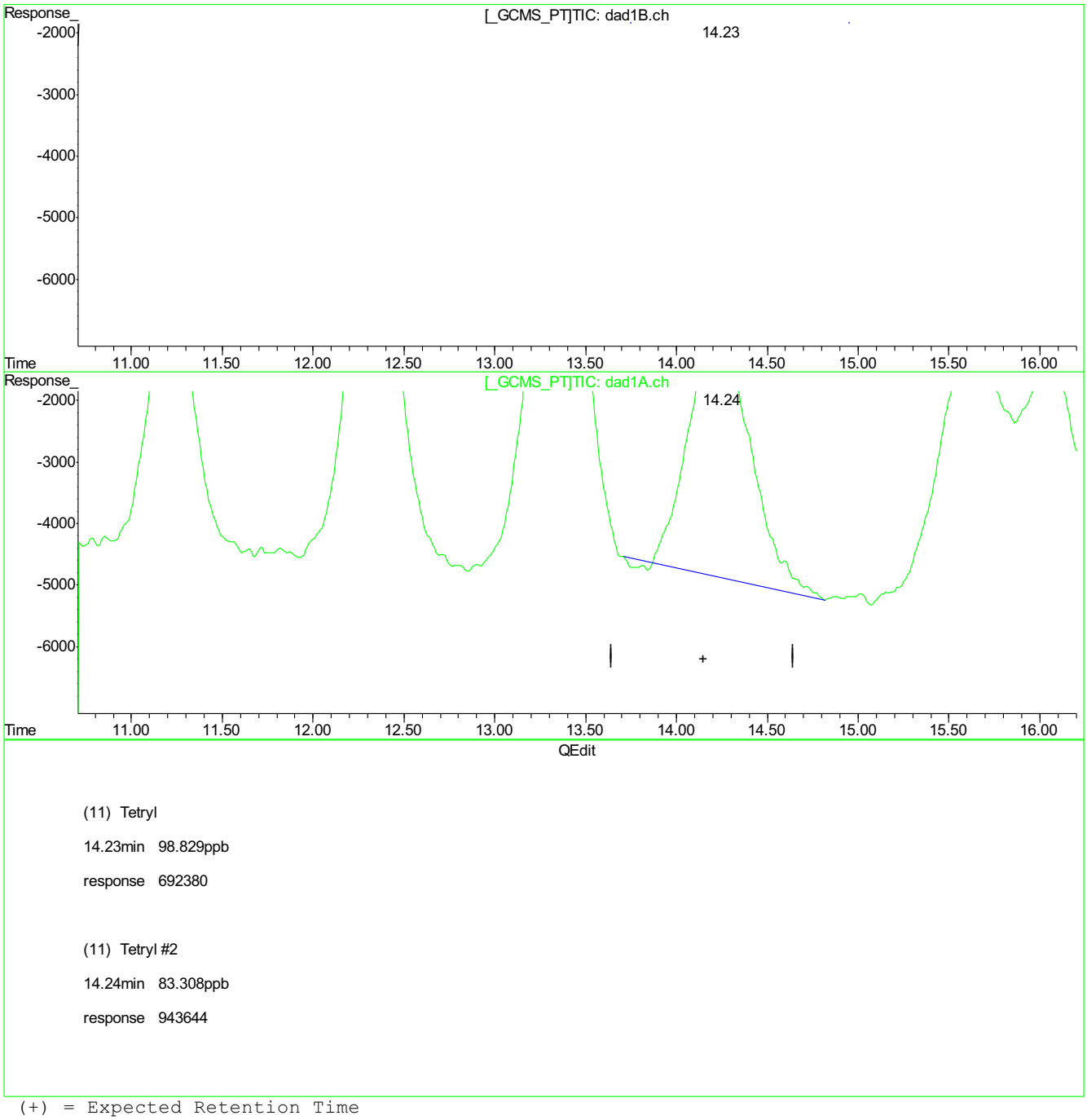
response 1633633

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:41 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.23min 98.829ppb

response 692380

(11) Tetryl #2

14.24min 83.308ppb

response 943644

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:48 2017

9.5.15.4

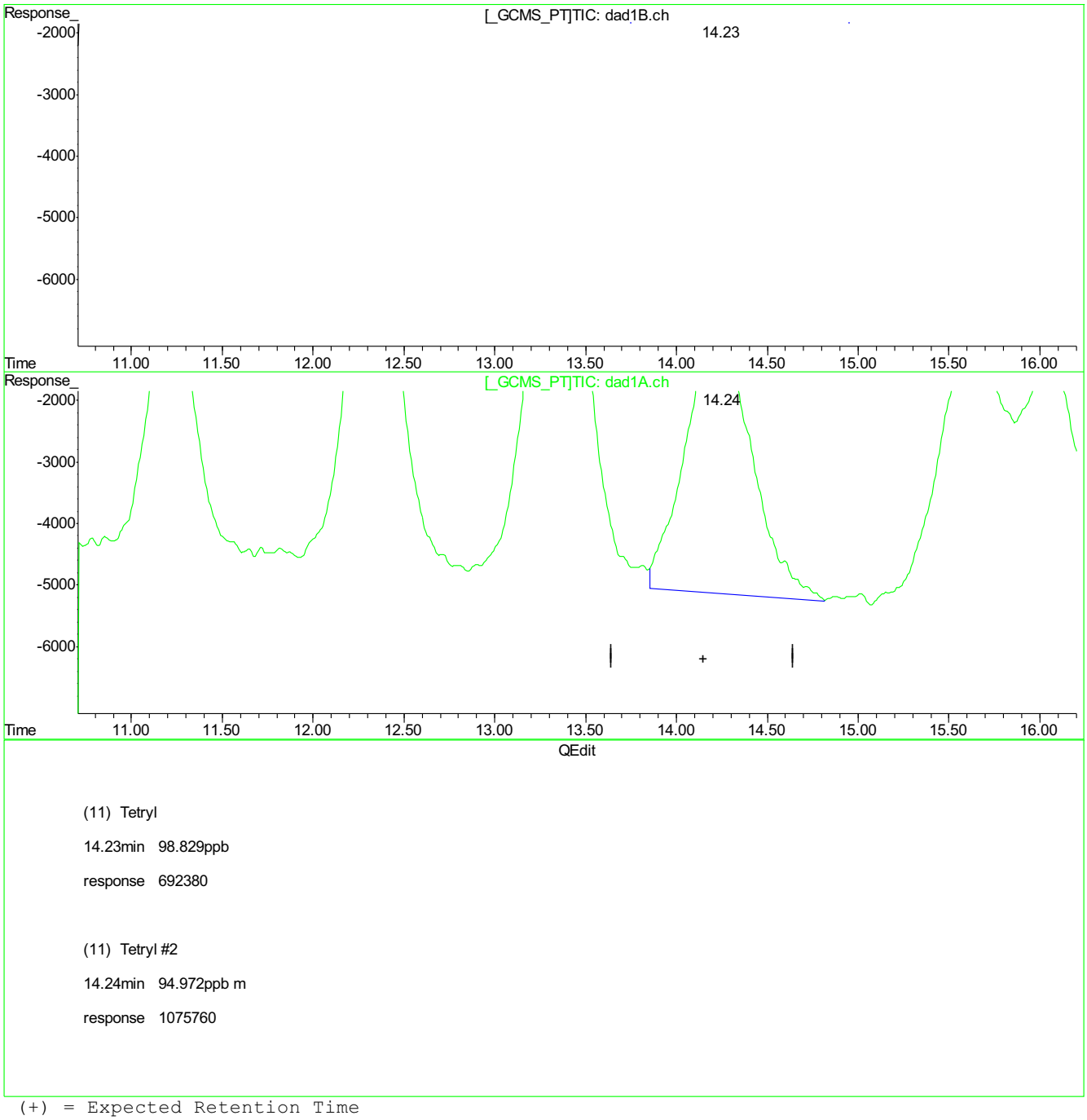
9

PP381823.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.23min 98.829ppb

response 692380

(11) Tetryl #2

14.24min 94.972ppb m

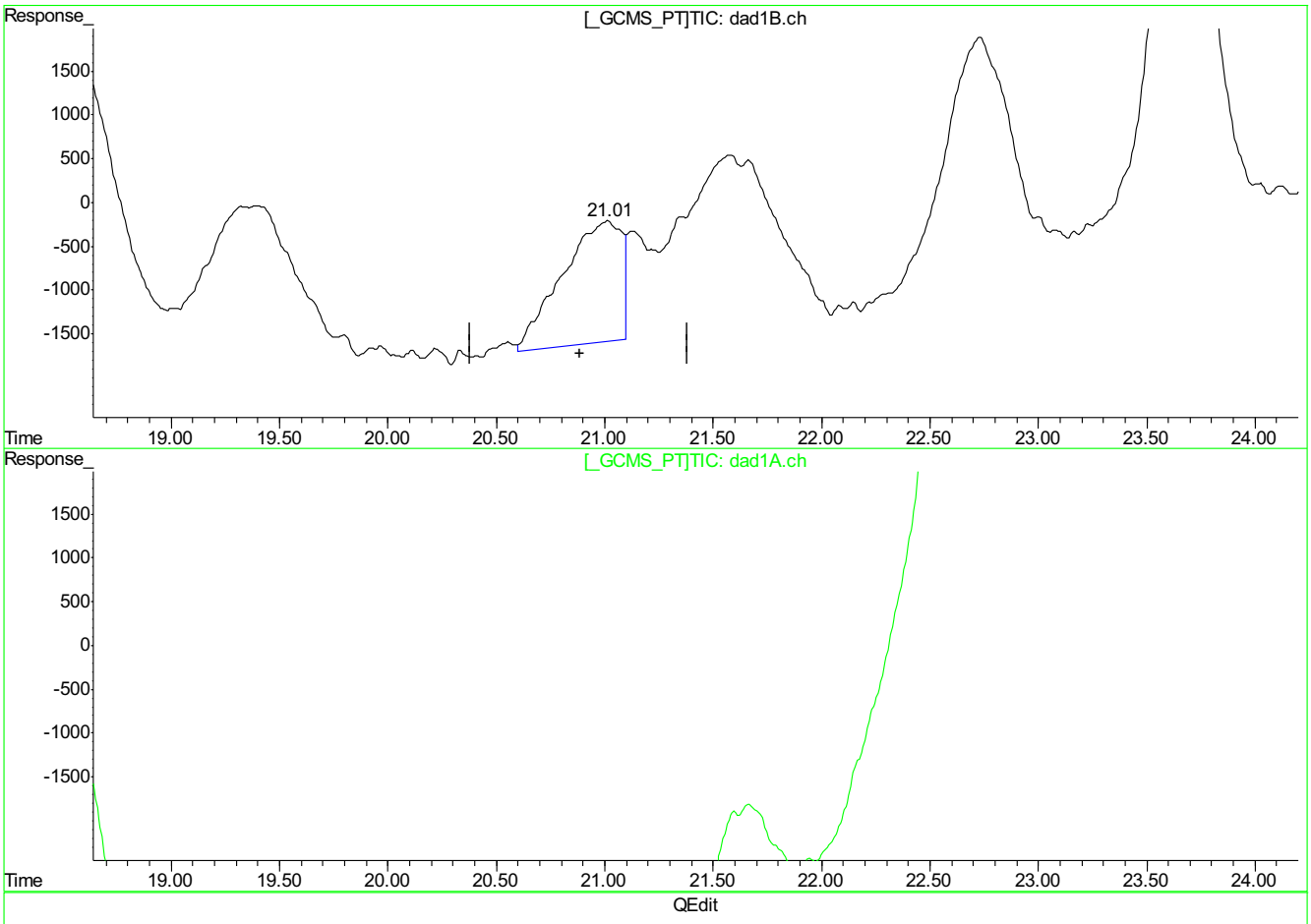
response 1075760

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:54 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.01min 52.048ppb

response 264245

(17) p-Nitrotoluene #2

21.04min 27.920ppb

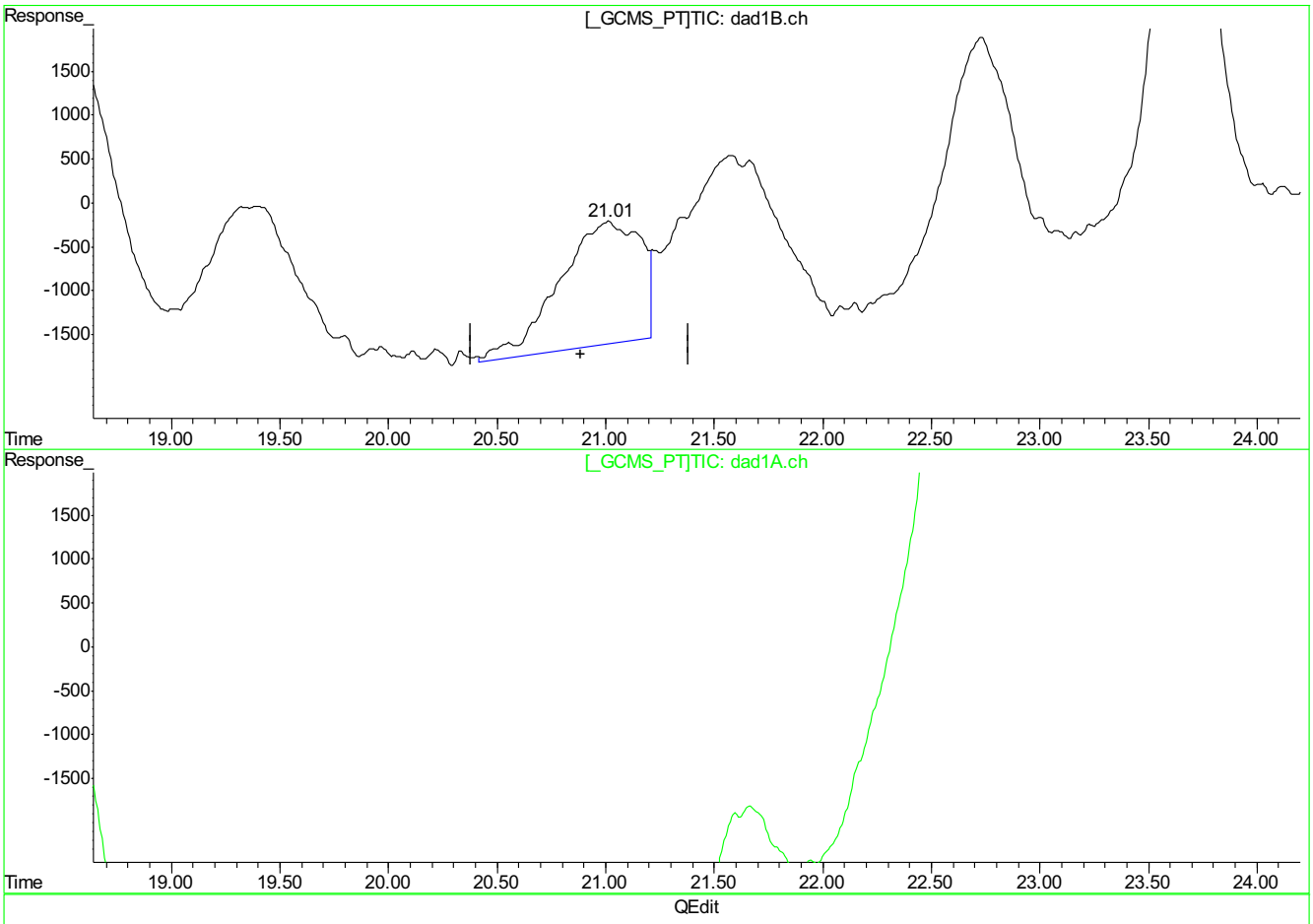
response 161193

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:45:39 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.01min 72.155ppb m

response 365368

(17) p-Nitrotoluene #2

21.04min 27.920ppb

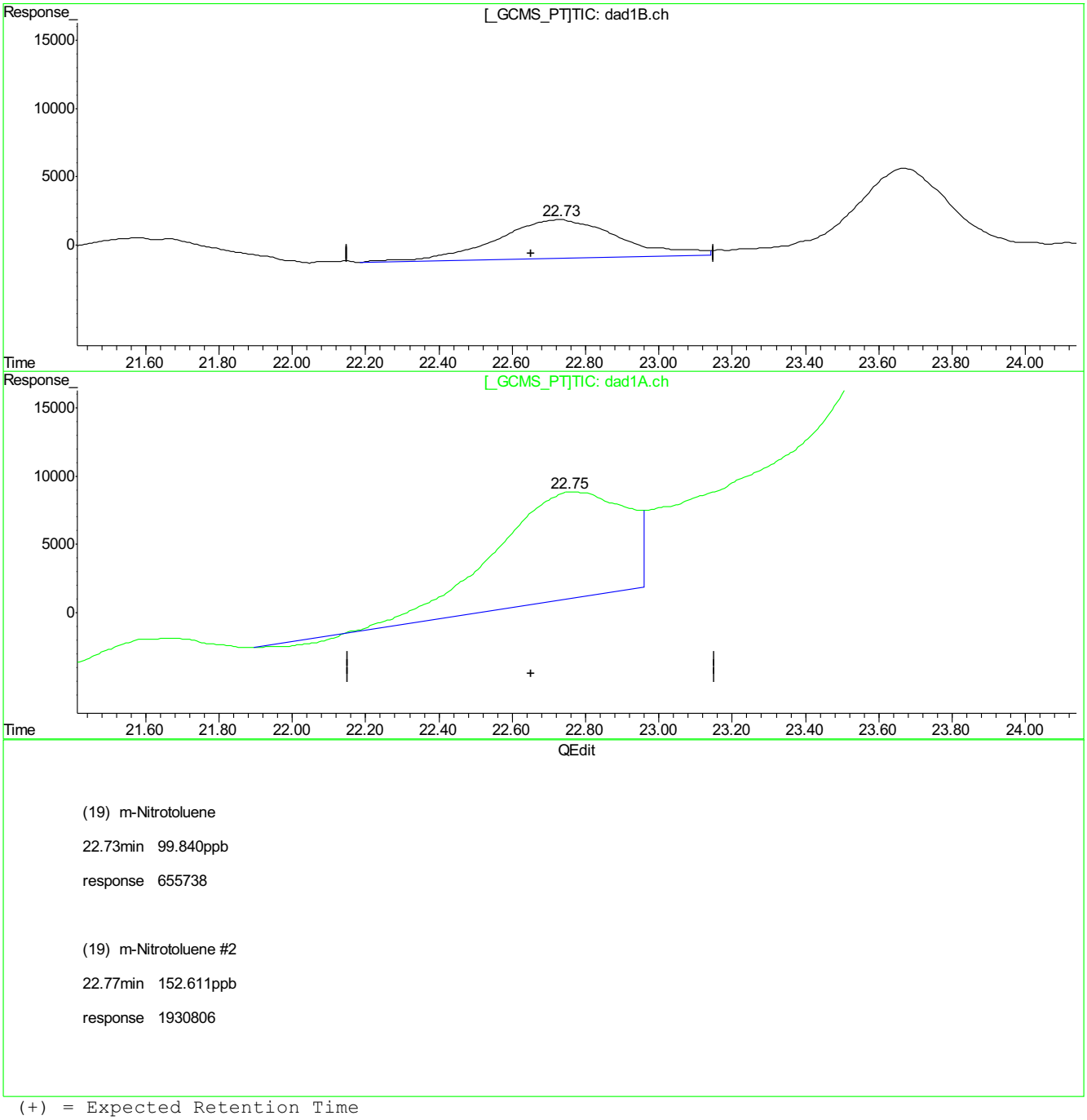
response 161193

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:45:47 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.73min 99.840ppb

response 655738

(19) m-Nitrotoluene #2

22.77min 152.611ppb

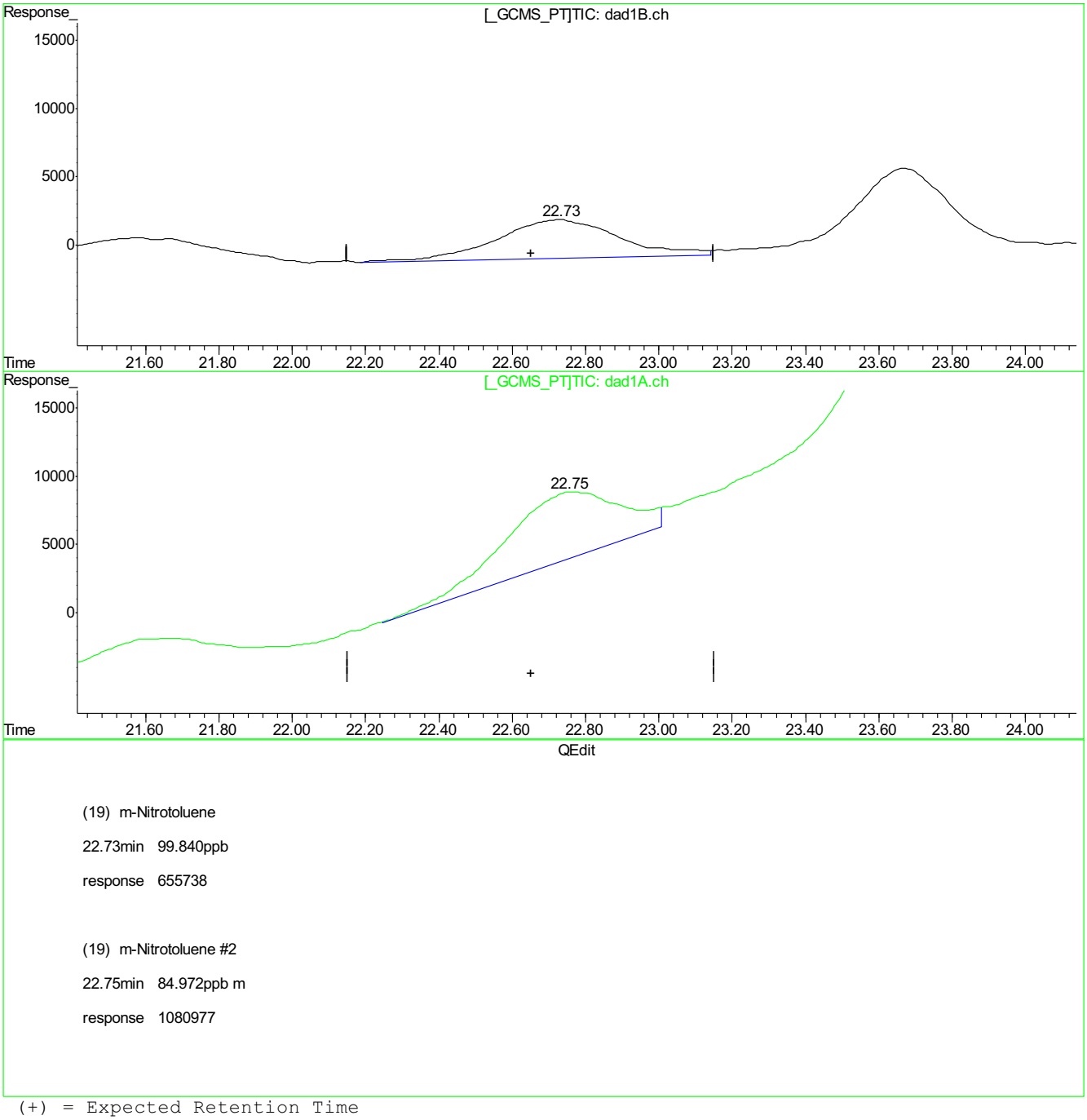
response 1930806

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:00 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.73min 99.840ppb

response 655738

(19) m-Nitrotoluene #2

22.75min 84.972ppb m

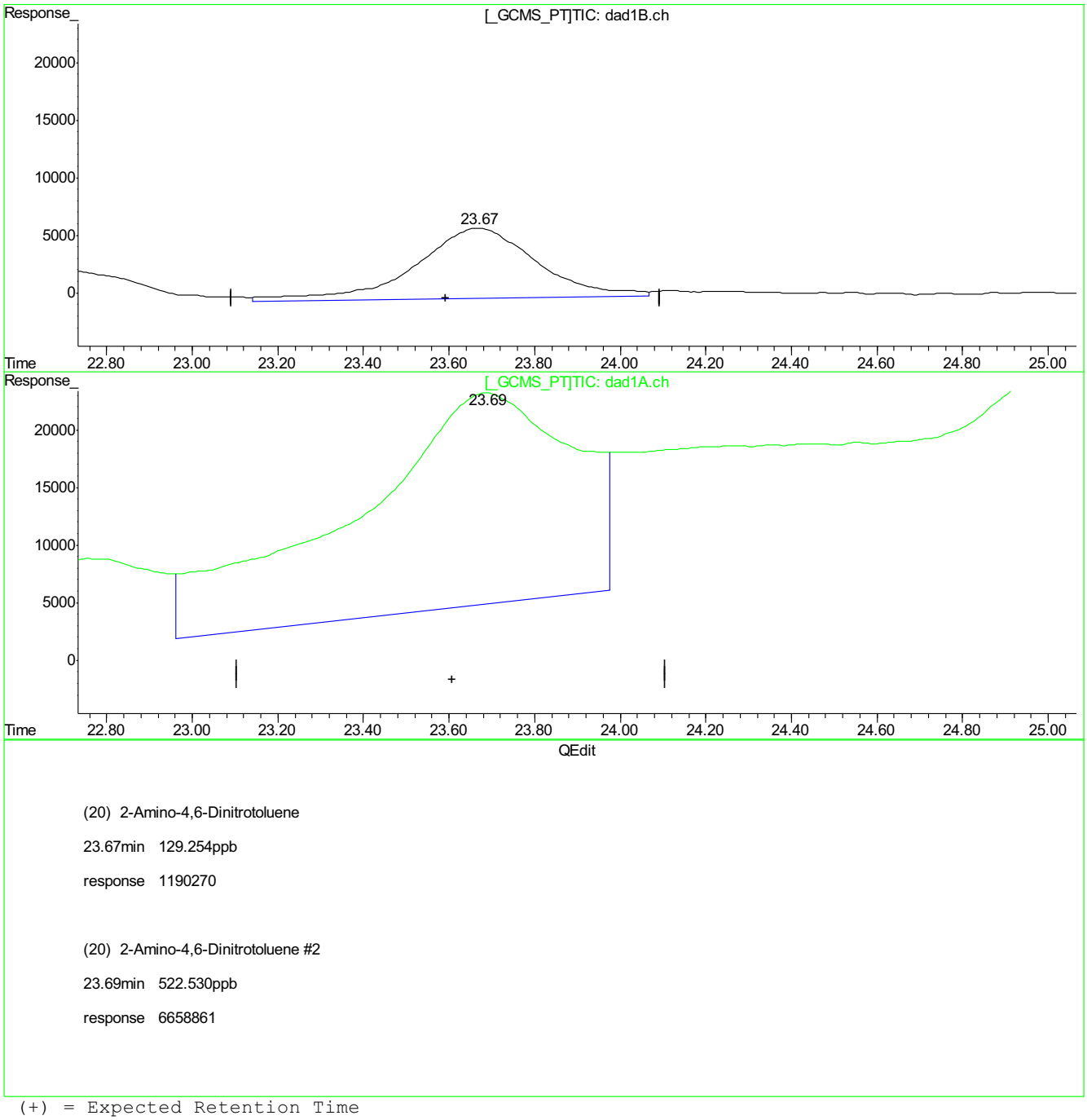
response 1080977

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:08 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.67min 129.254ppb

response 1190270

(20) 2-Amino-4,6-Dinitrotoluene #2

23.69min 522.530ppb

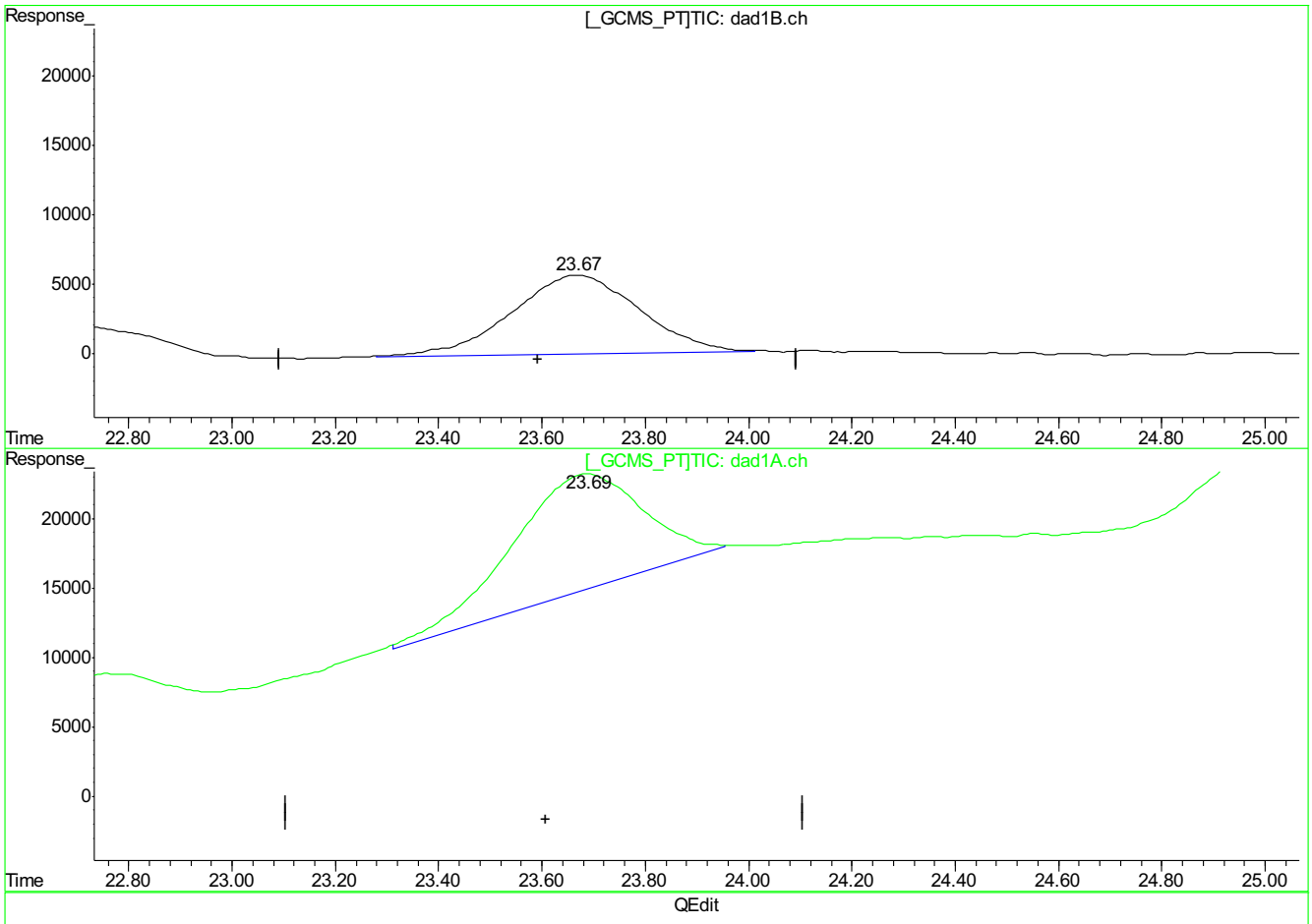
response 6658861

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:18 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.67min 105.415ppb m

response 970740

(20) 2-Amino-4,6-Dinitrotoluene #2

23.69min 115.772ppb m

response 1475343

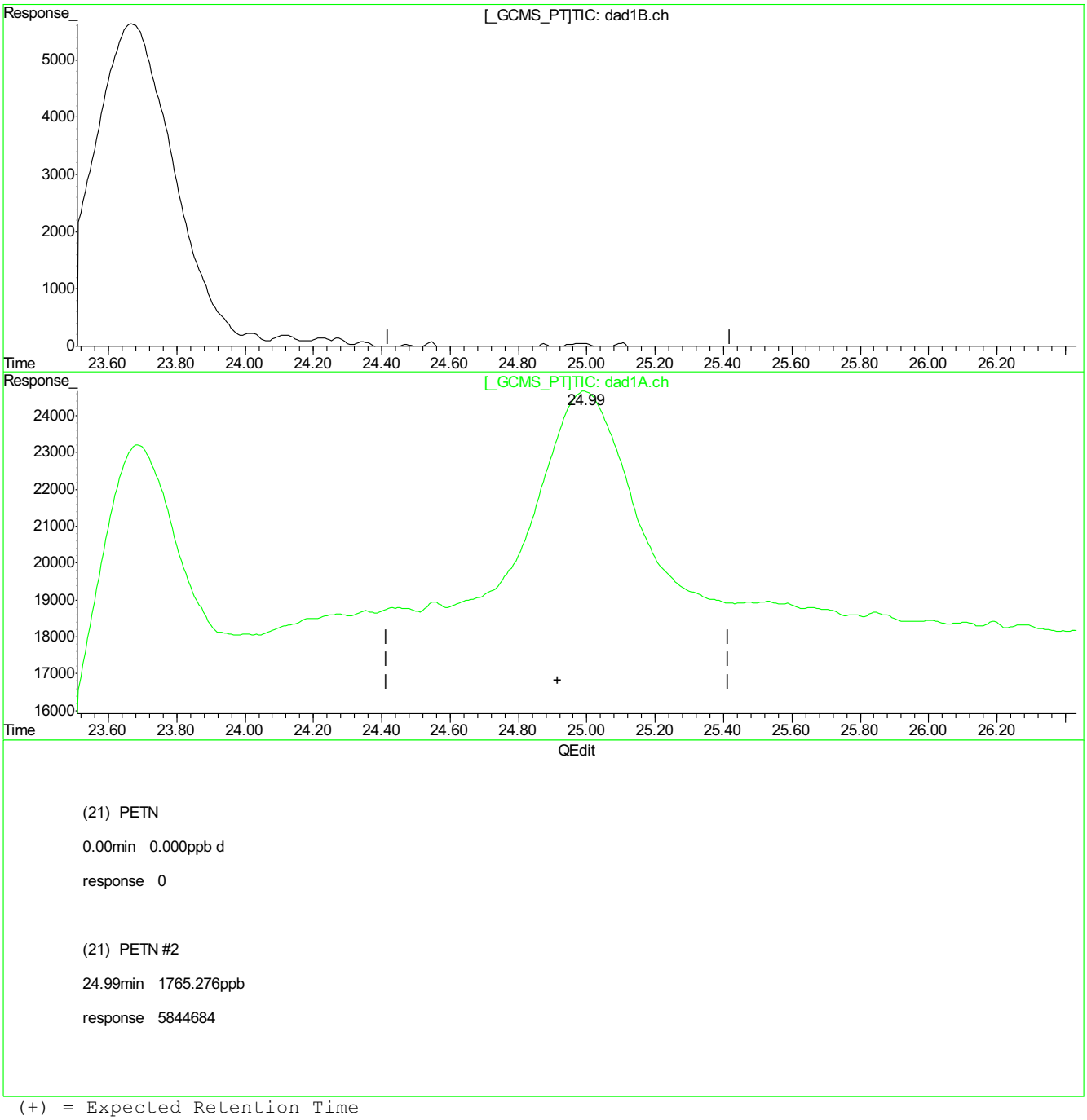
(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:34 2017

SGS ACCUTEST FA43019

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration

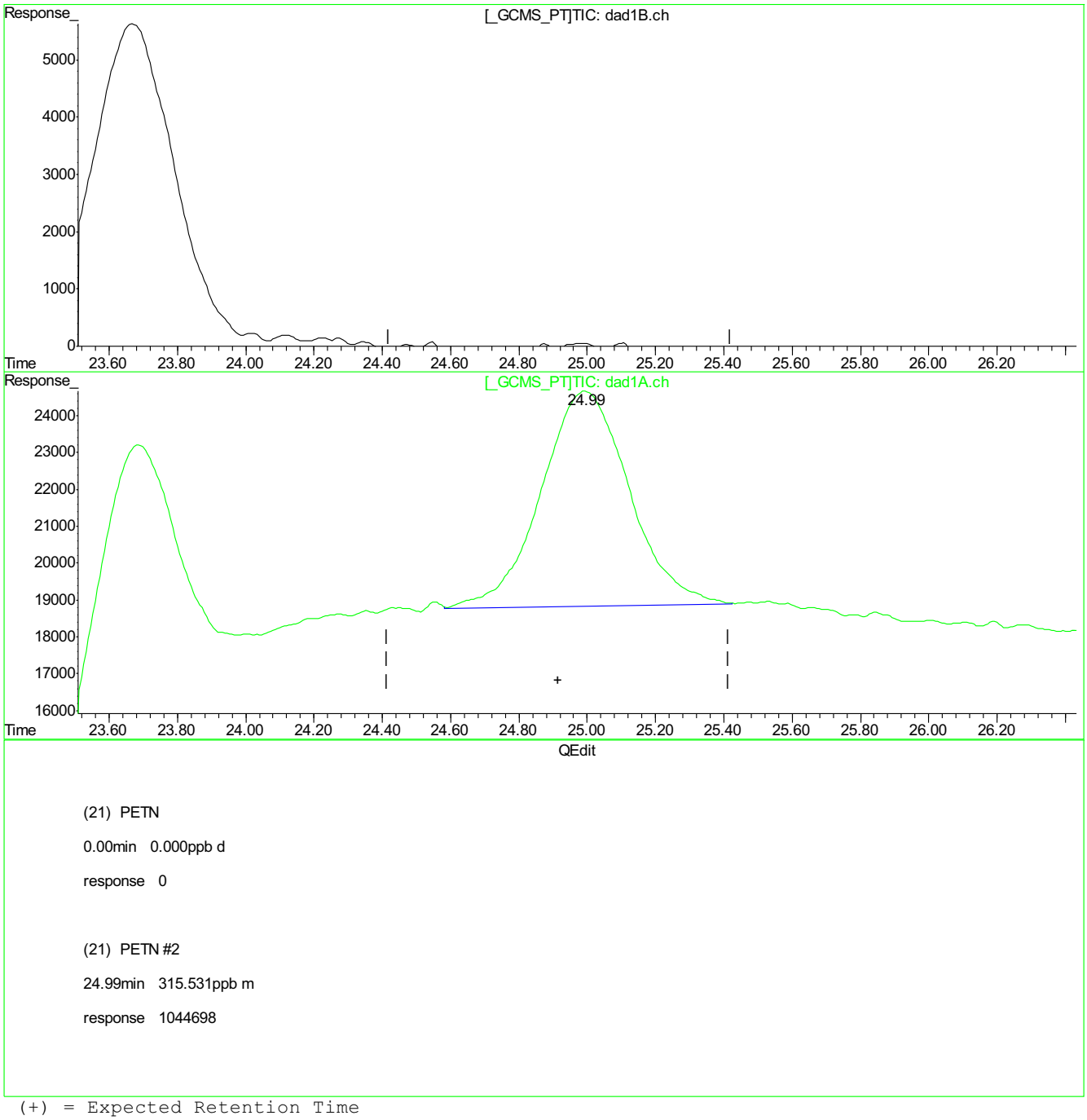


(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:38 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:42 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14:05 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.52	15.53	1070885	2075372	186.254	172.276
	Spiked Amount 500.000	Range 70 - 136		Recovery =		37.25%#	34.46%#
	Target Compounds						
1)	TNX	4.76	4.76	1667573	2577322	157.005m	163.344
2)	HMX	5.15	5.15	773722	2157555	164.924	155.144
3)	DNX	5.31	5.31	1593650	2884295	161.924	191.697
4)	MNX	6.42	6.43	1084346	1716786	157.901	146.927
5)	1,3,5-Trinitrobe	7.46	7.46	1926877	3275675	155.593	155.254
6)	RDX	7.88	7.88	939538	1708811	159.308	159.679
7)	1,3-Dinitrobenze	10.05	10.05	2605750	1879291	158.808	152.097
8)	Nitrobenzene	11.16	11.16	1595116	1488318	161.080	154.822
9)	2,4,6-Trinitroto	12.27	12.27	1850958	2293736	157.554	153.101
10)	Nitroglycerin	0.00	13.27	0	2988556	N.D. d	790.299m
11)	Tetryl	14.13	14.15	1153687	1810764	135.517	137.982m
13)	2,6-Dinitrotolue	15.96	15.96	1255517	1826864	142.066	150.055
14)	2,4-Dinitrotolue	16.84	16.84	2379224	1745827	155.180	153.324
15)	o-Nitrotoluene	19.25	19.24	994291	1450474	161.714	163.768
16)	3,5-Dinitroanili	18.45	18.44	1817932	3053736	149.475	155.655
17)	p-Nitrotoluene	20.89	20.86	662199	739909	121.631	115.418m
18)	4-Amino-2,6-Dini	21.47	21.48	1191156	1313761	163.338	123.862
19)	m-Nitrotoluene	22.65	22.65	1068490	1823985	150.420	131.109m
20)	2-Amino-4,6-Dini	23.60	23.61	1988586	2508647	157.315	147.859m
21)	PETN	0.00	24.92	0	1417125	N.D. d	403.655m

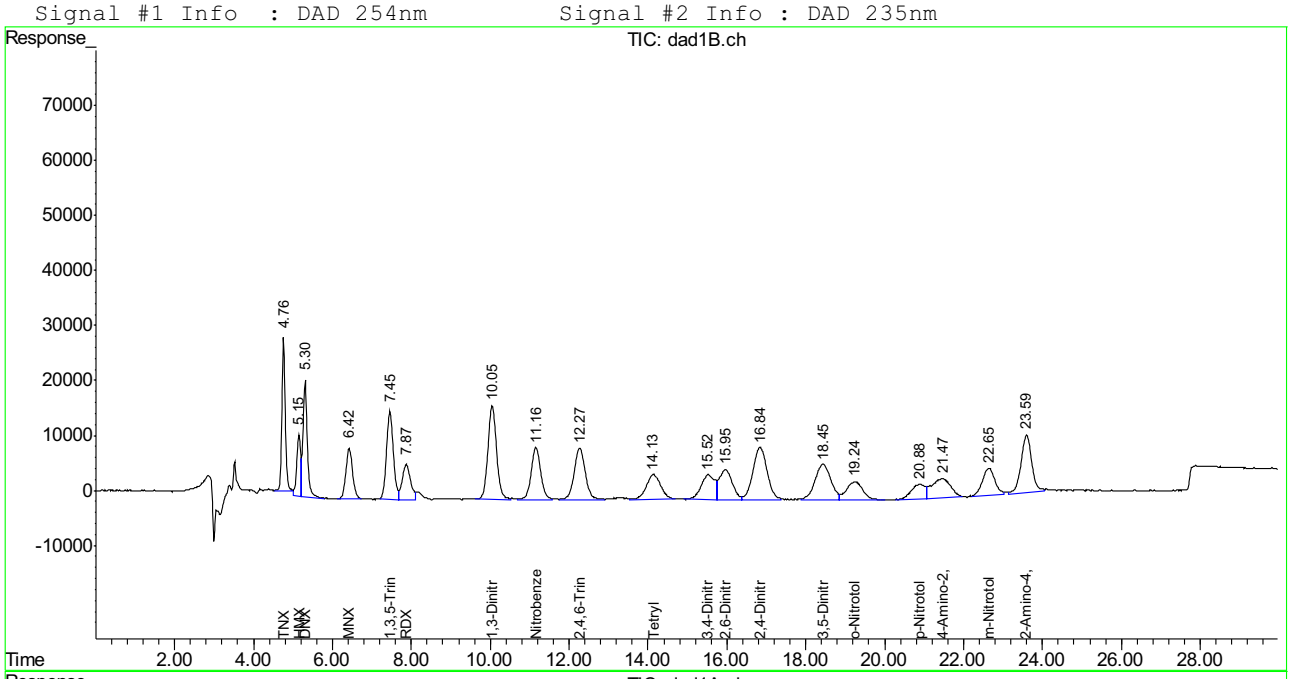
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381824.D 0424_8330RPB.M Tue Apr 25 10:59:41 2017 Page 1

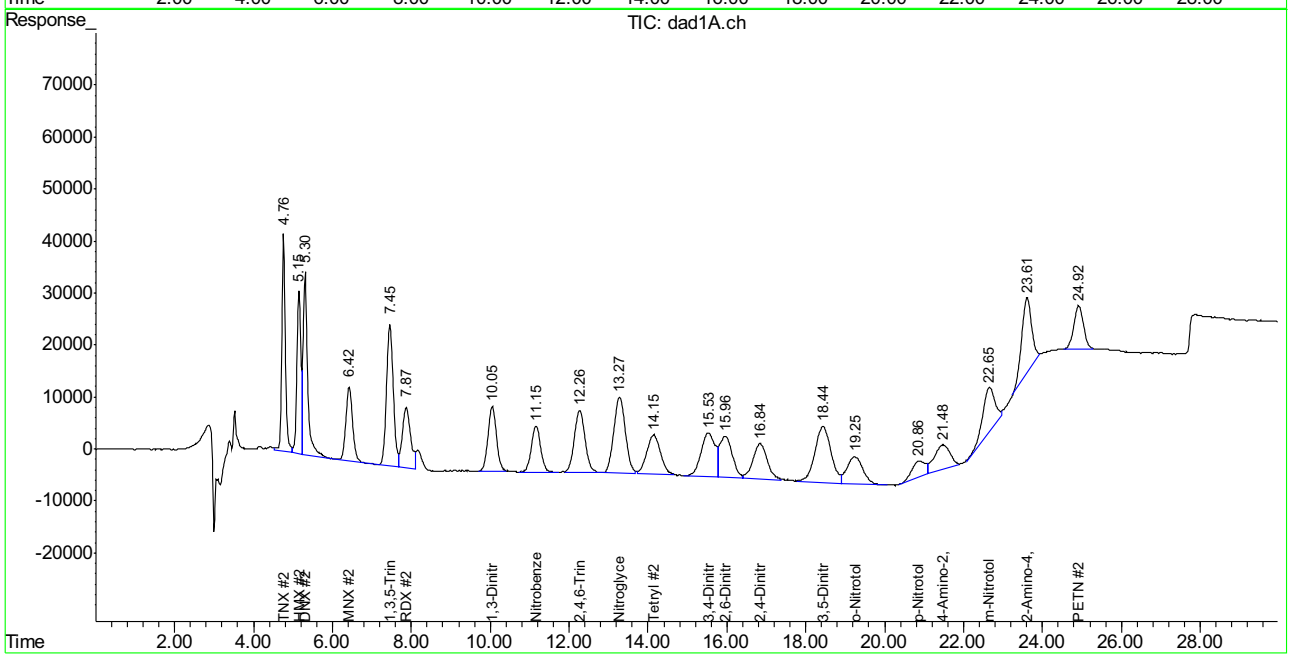
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:45 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

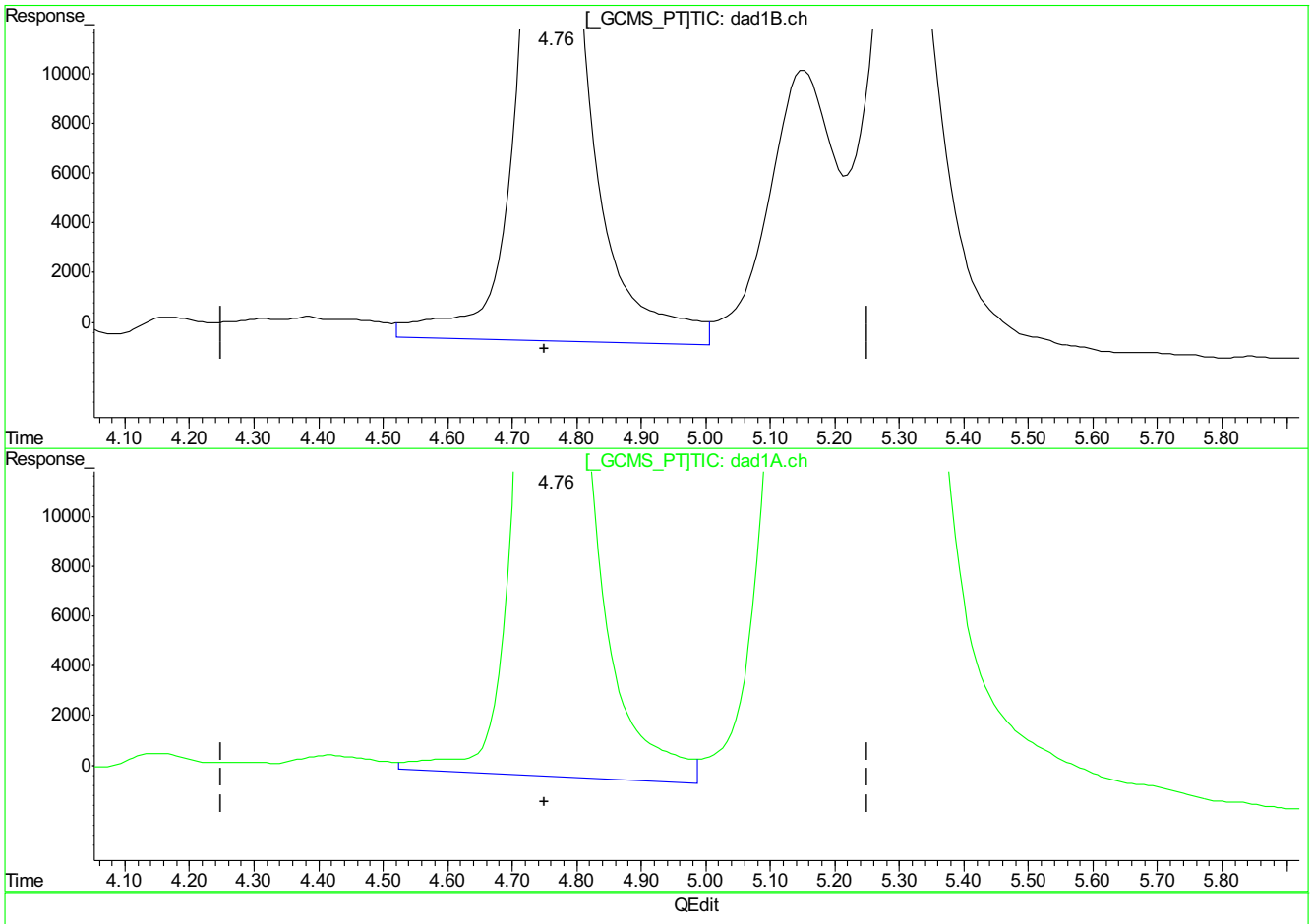
Sample Number: GPP2096-IC2096 **Method:** SW846 8330A
Lab FileID: PP381824.D **Analyst approved:** 04/25/17 13:42 Evita Martinez
Injection Time: 04/24/17 14:05 **Supervisor approved:** 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.76	Poorly defined baseline
Nitroglycerine	55-63-0	2	13.27	Poorly defined baseline
Tetryl	479-45-8	2	14.15	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.86	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.65	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.61	Poorly defined baseline
PETN	78-11-5	2	24.92	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(1) TNX

4.76min 175.013ppb

response 1858841

(1) TNX #2

4.76min 163.344ppb

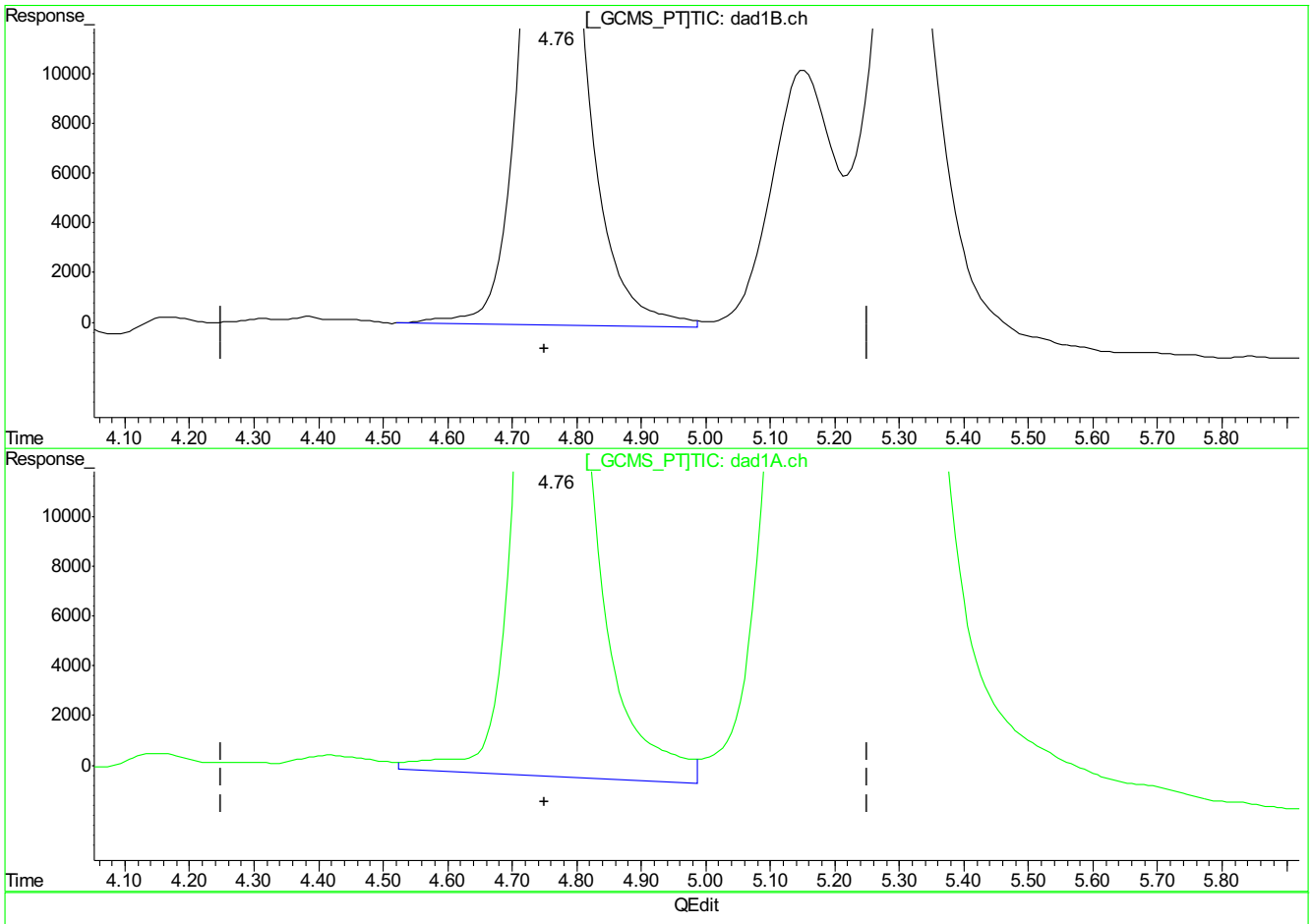
response 2577322

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:11 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



QEdit

(1) TNX

4.76min 157.005ppb m

response 1667573

(1) TNX #2

4.76min 163.344ppb

response 2577322

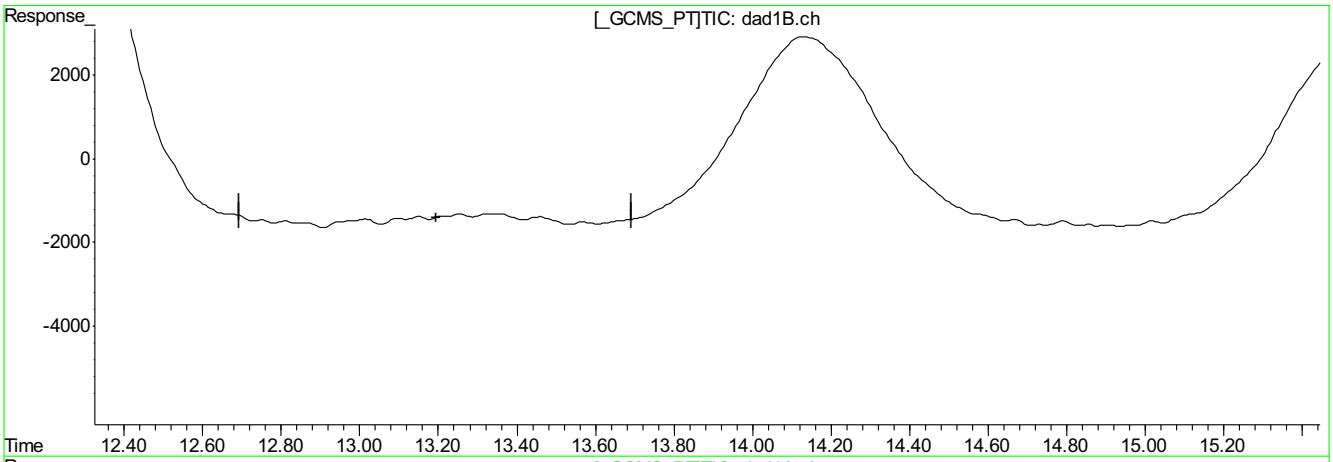
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:14 2017

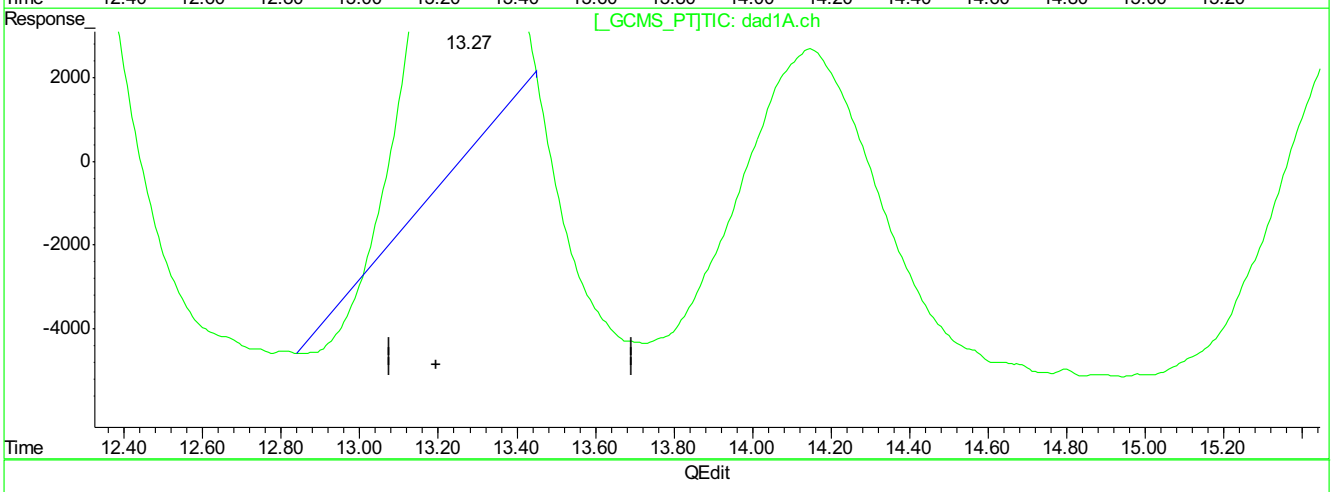
PP381824.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.28min 373.726ppb

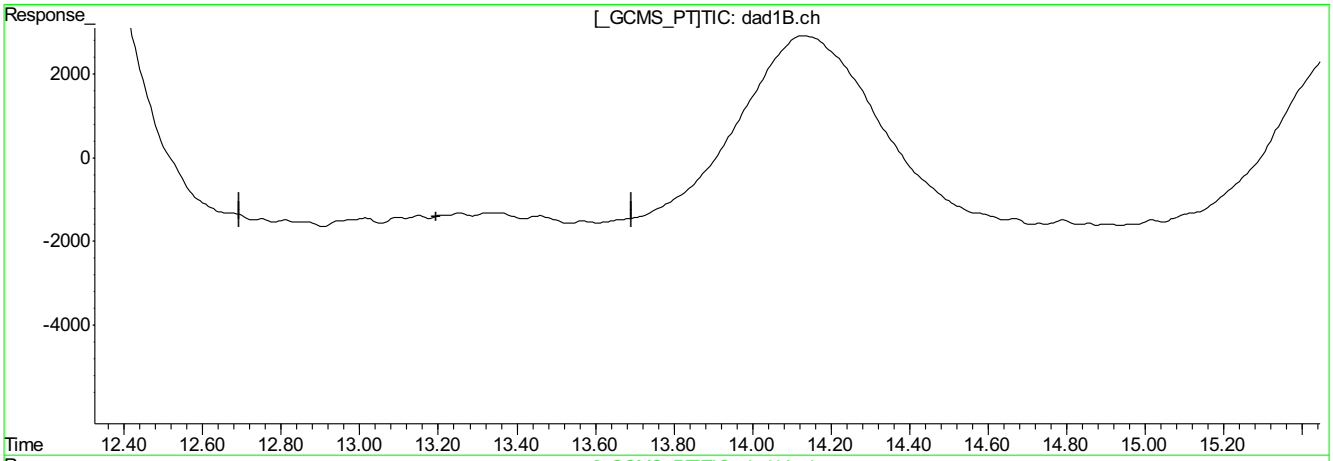
response 1413265

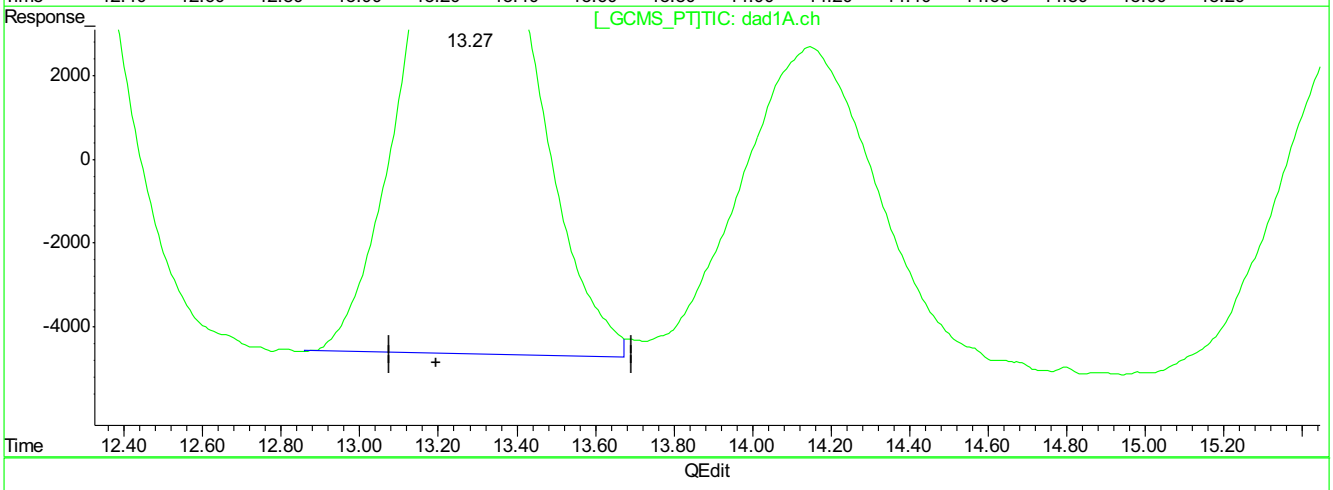
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:27 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.27min 790.299ppb m

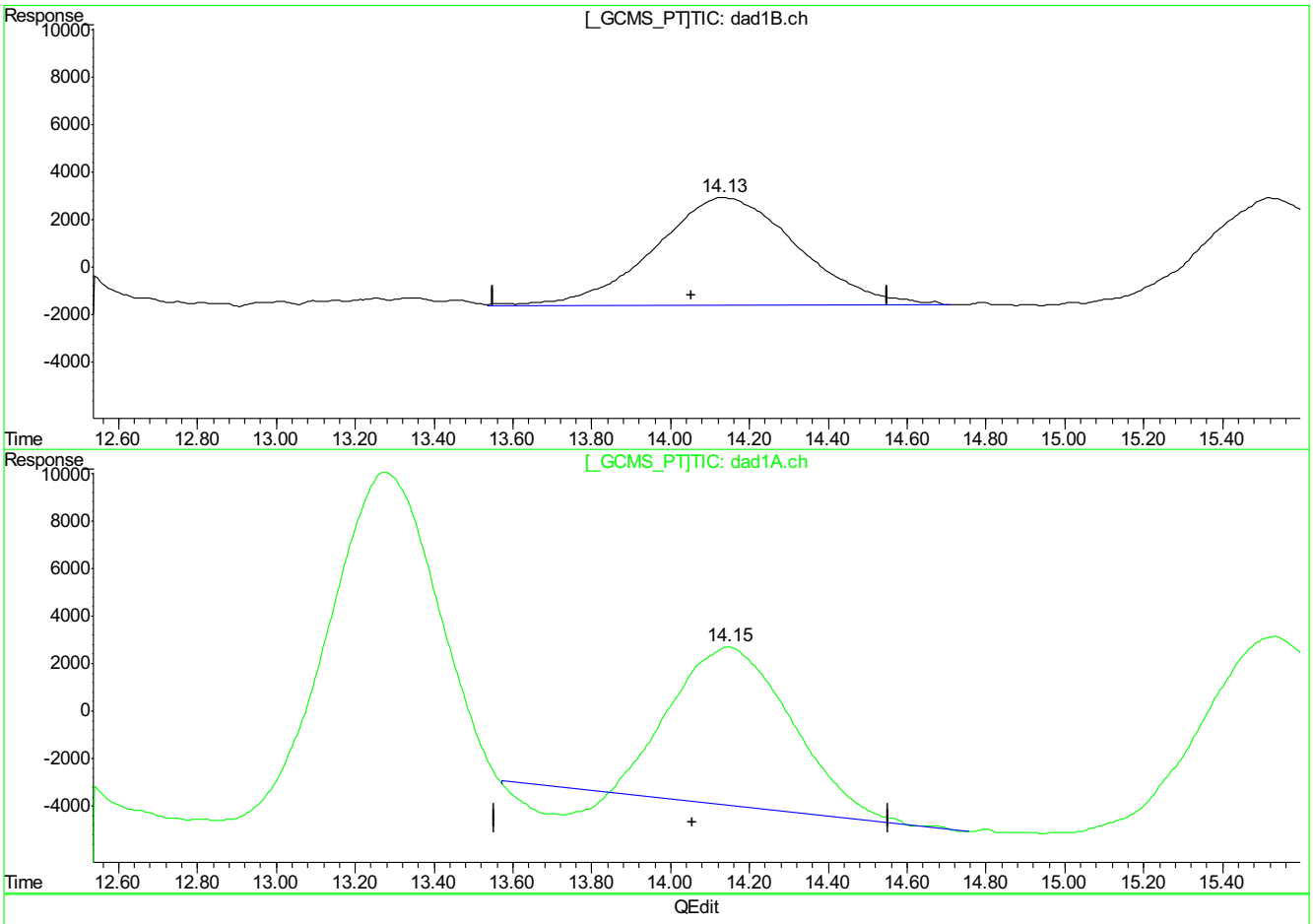
response 2988556

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



QEdit

(11) Tetryl

14.13min 135.517ppb

response 1153687

(11) Tetryl #2

14.15min 100.548ppb

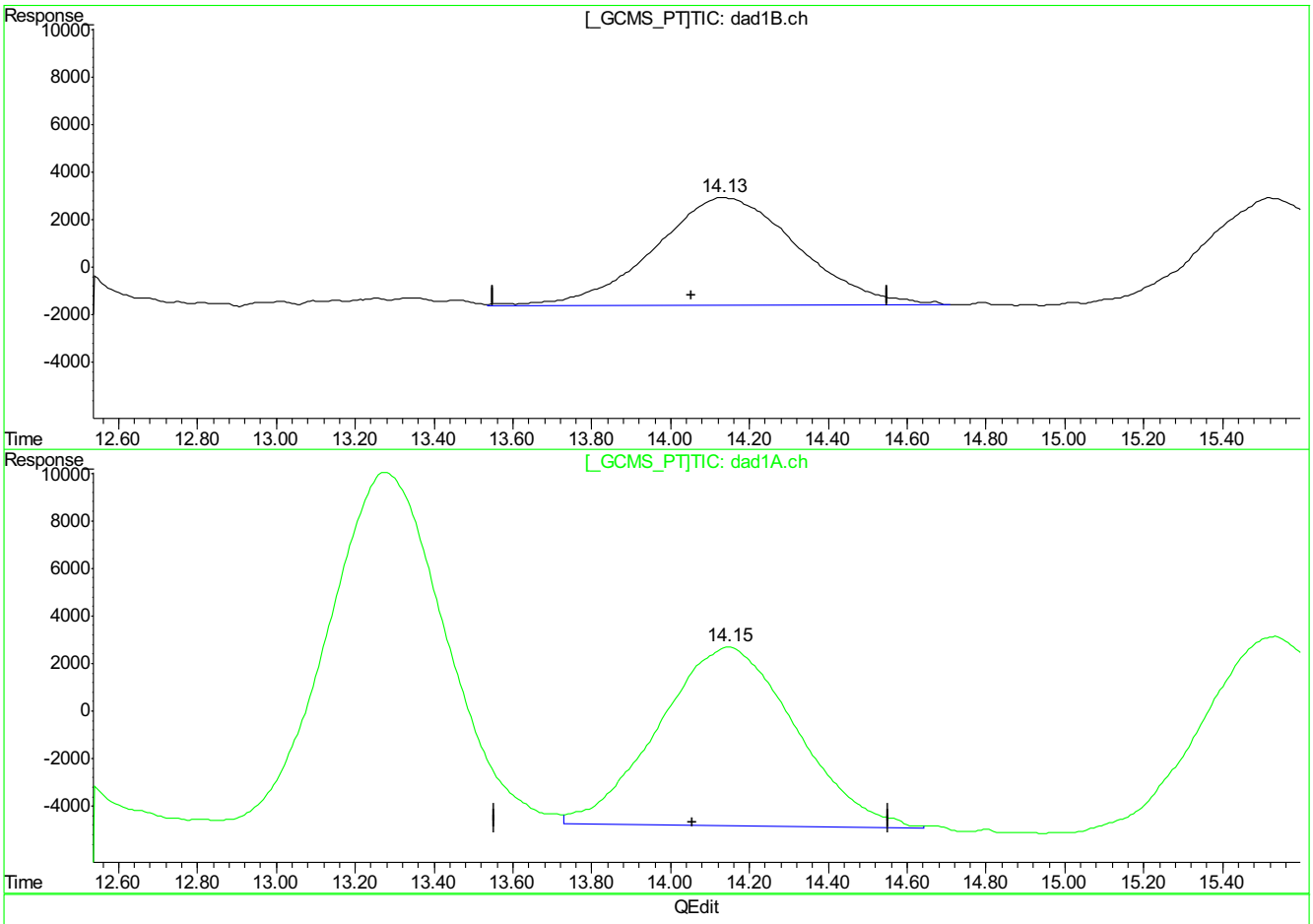
response 1319510

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:36 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.13min 135.517ppb

response 1153687

(11) Tetryl #2

14.15min 137.982ppb m

response 1810764

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:42 2017

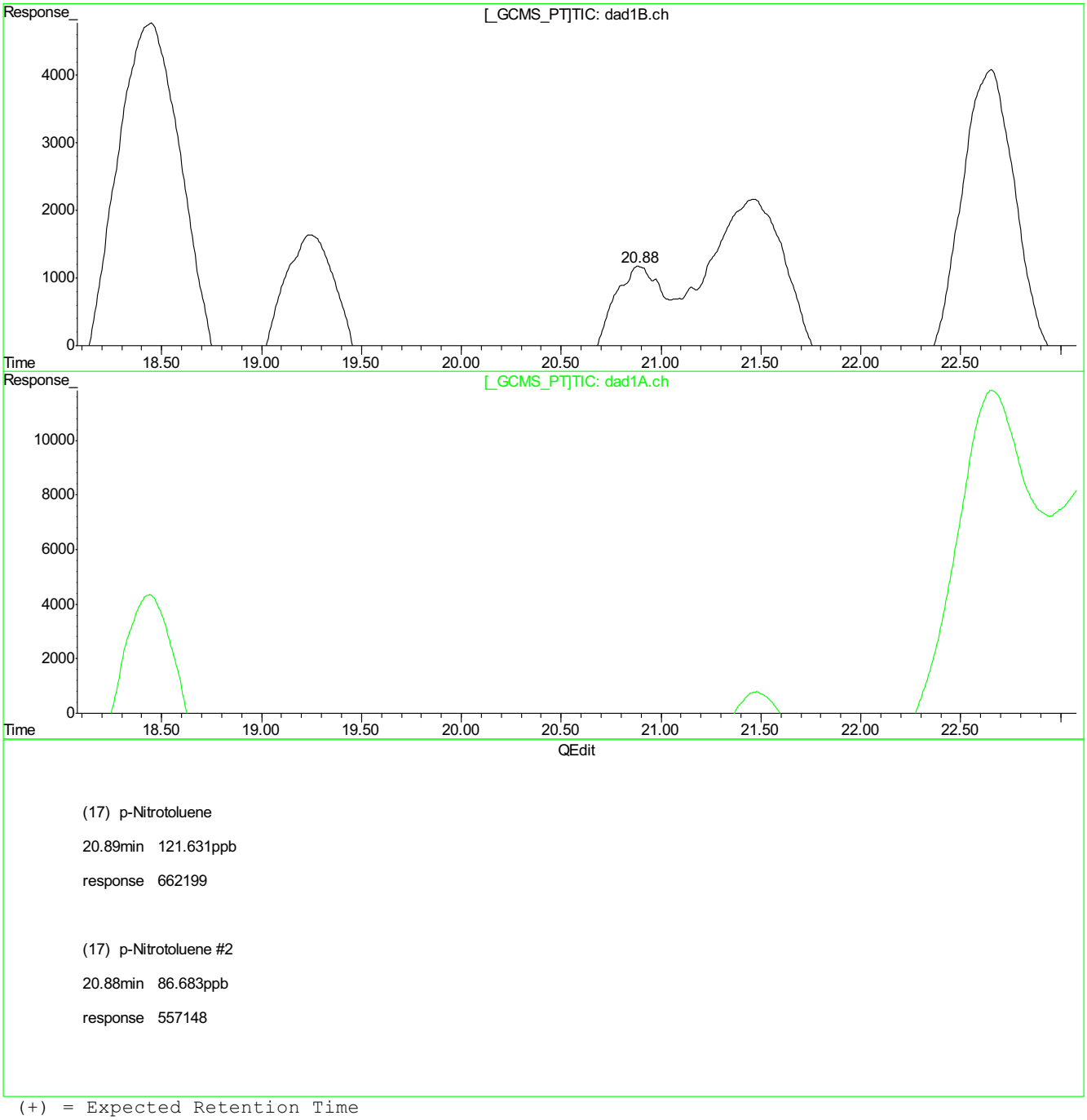
9.5.16.7

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

20.89min 121.631ppb

response 662199

(17) p-Nitrotoluene #2

20.88min 86.683ppb

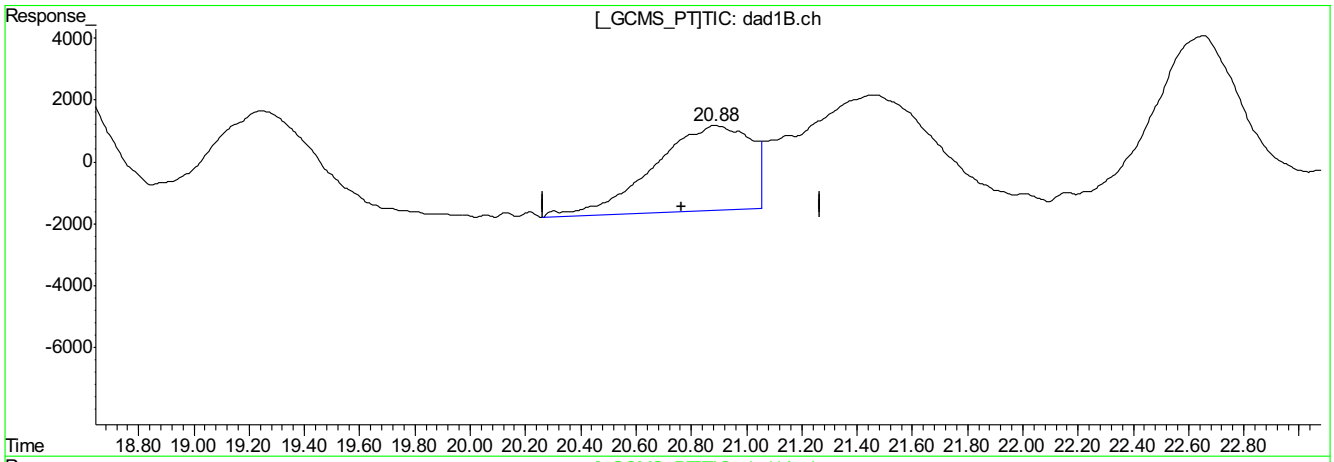
response 557148

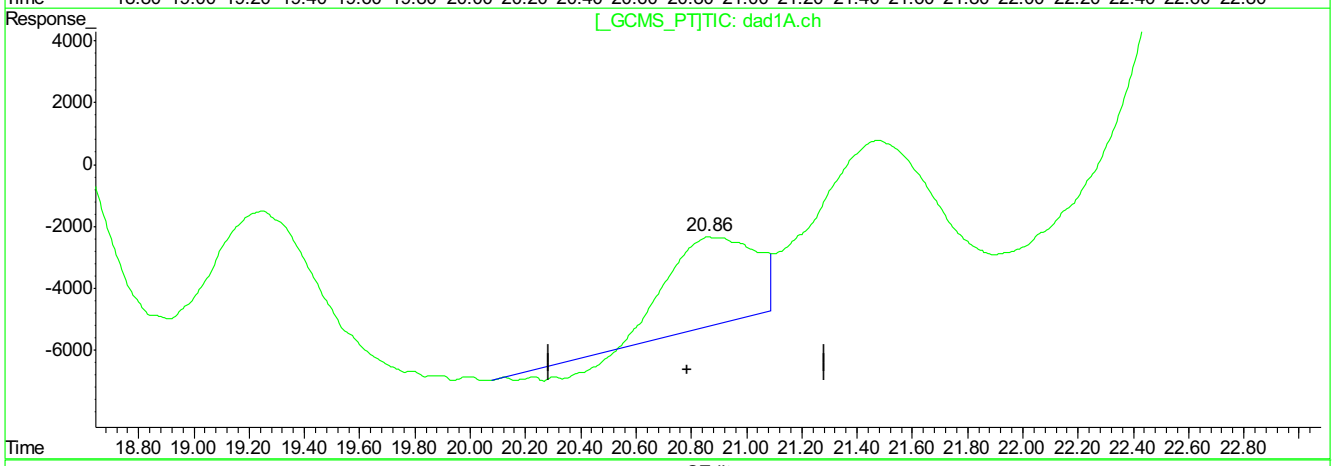
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:15:10 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch         Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On    : 24-Apr-2017, 14:05:26                    Operator: evitam
Sample    : ic2096-200                               Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration
```





QEdit

(17) p-Nitrotoluene

20.89min 121.631ppb

response 662199

(17) p-Nitrotoluene #2

20.88min 86.683ppb

response 557148

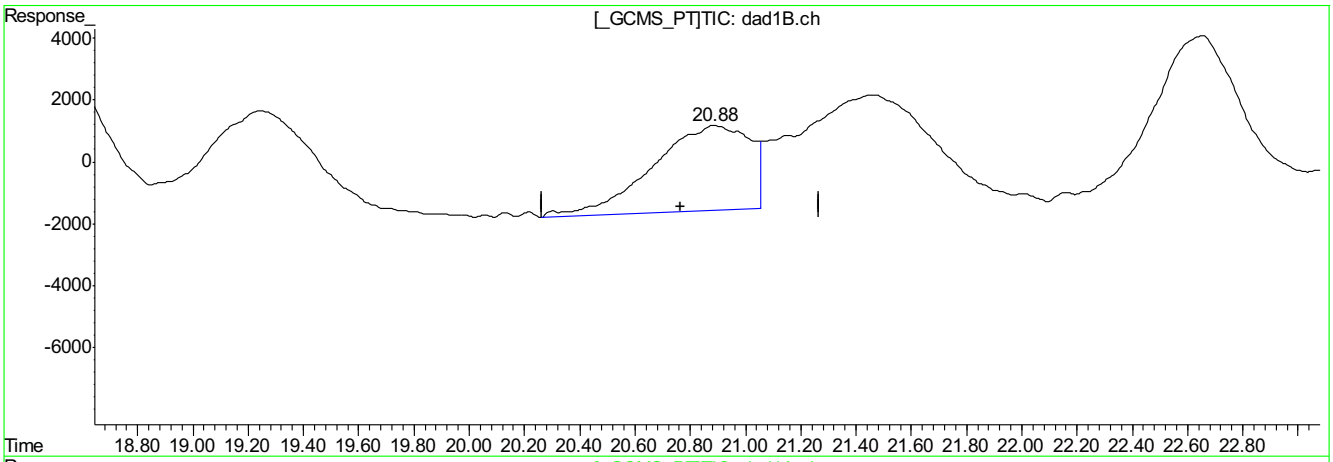
(+) = Expected Retention Time

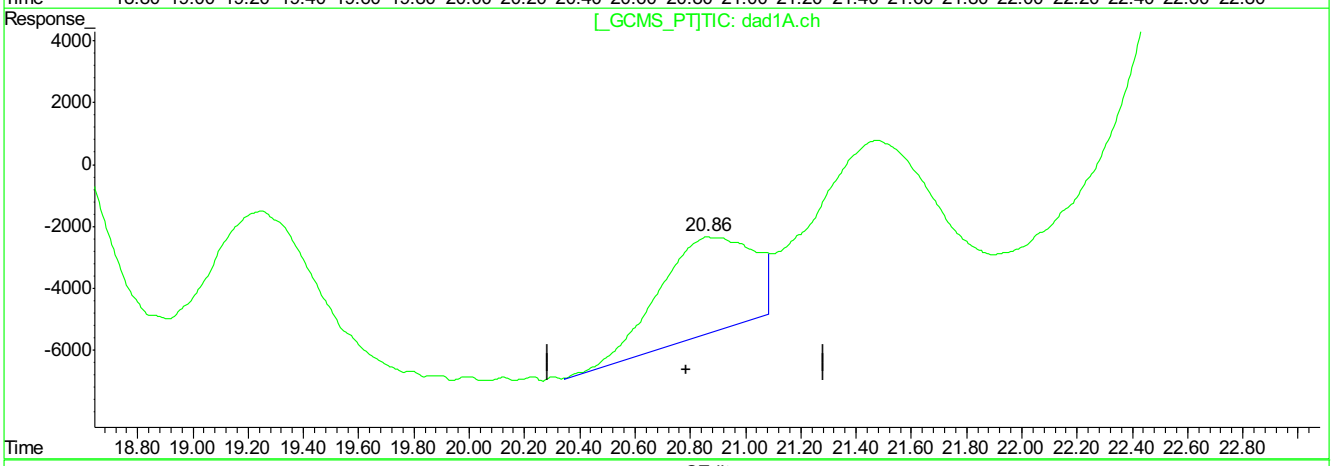
PP381824.D 0424_8330RPB.M Tue Apr 25 10:15:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

20.89min 121.631ppb

response 662199

(17) p-Nitrotoluene #2

20.86min 115.418ppb m

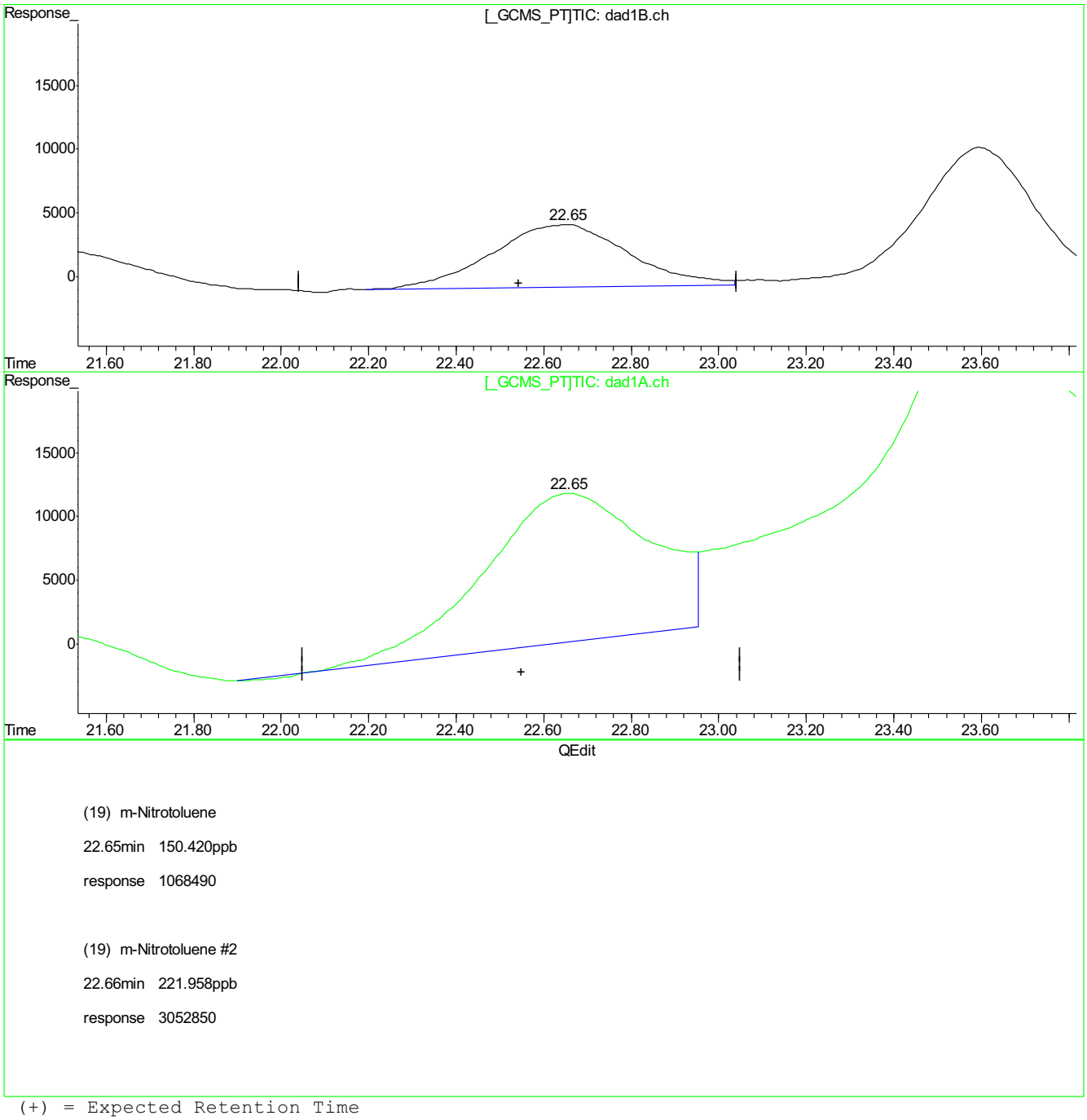
response 739909

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:15:43 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.65min 150.420ppb

response 1068490

(19) m-Nitrotoluene #2

22.66min 221.958ppb

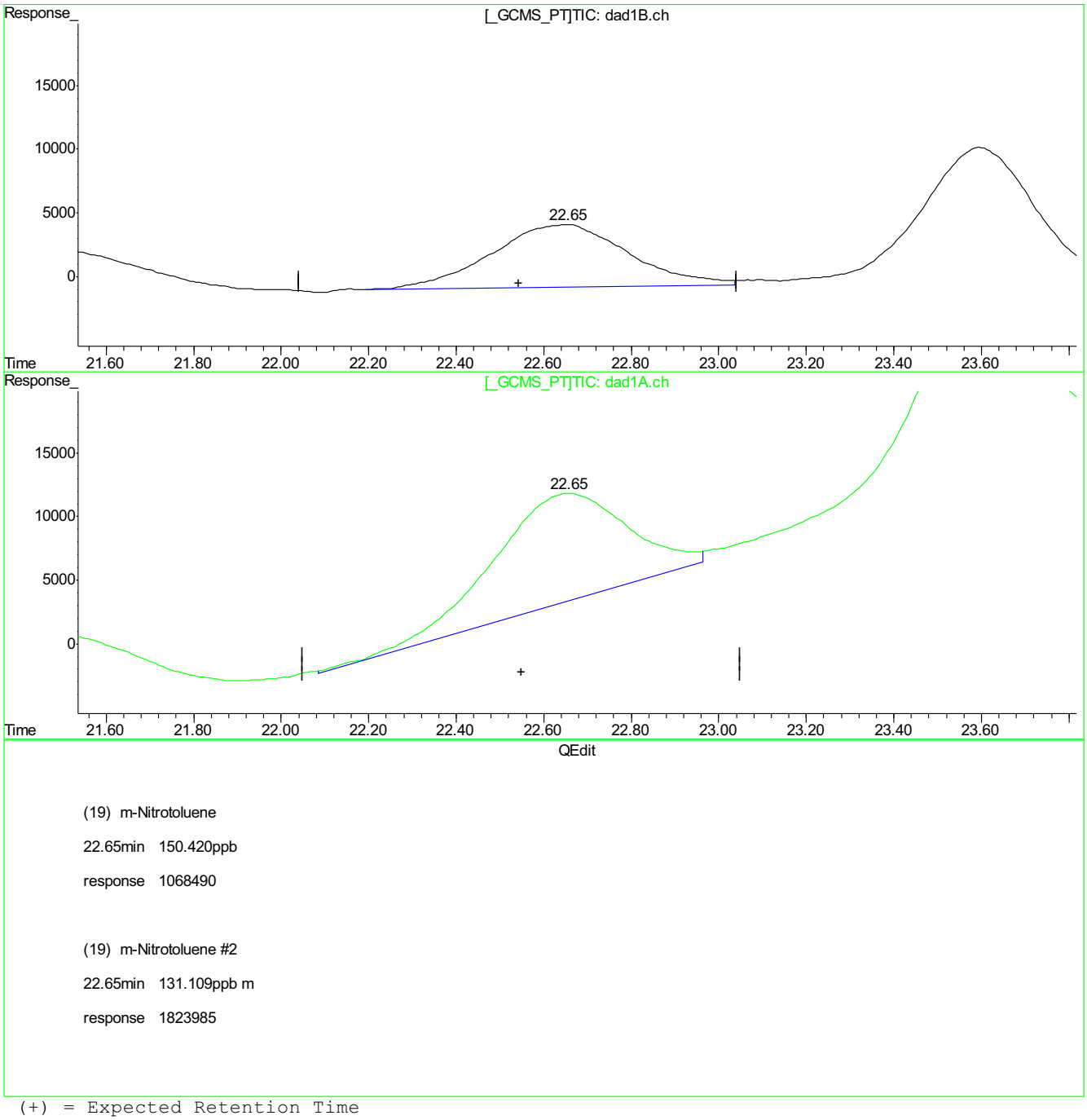
response 3052850

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:16 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.65min 150.420ppb

response 1068490

(19) m-Nitrotoluene #2

22.65min 131.109ppb m

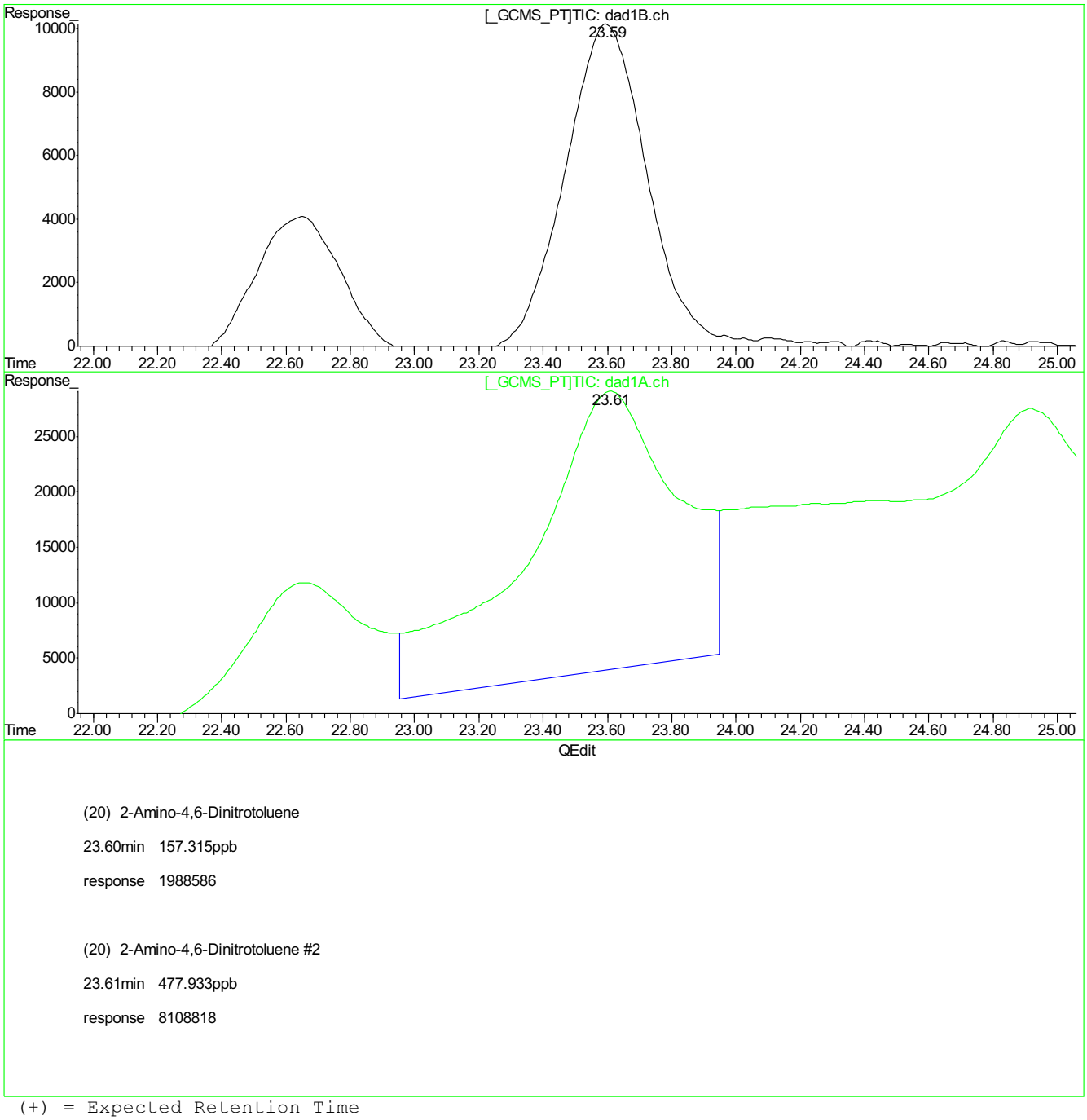
response 1823985

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:20 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.60min 157.315ppb

response 1988586

(20) 2-Amino-4,6-Dinitrotoluene #2

23.61min 477.933ppb

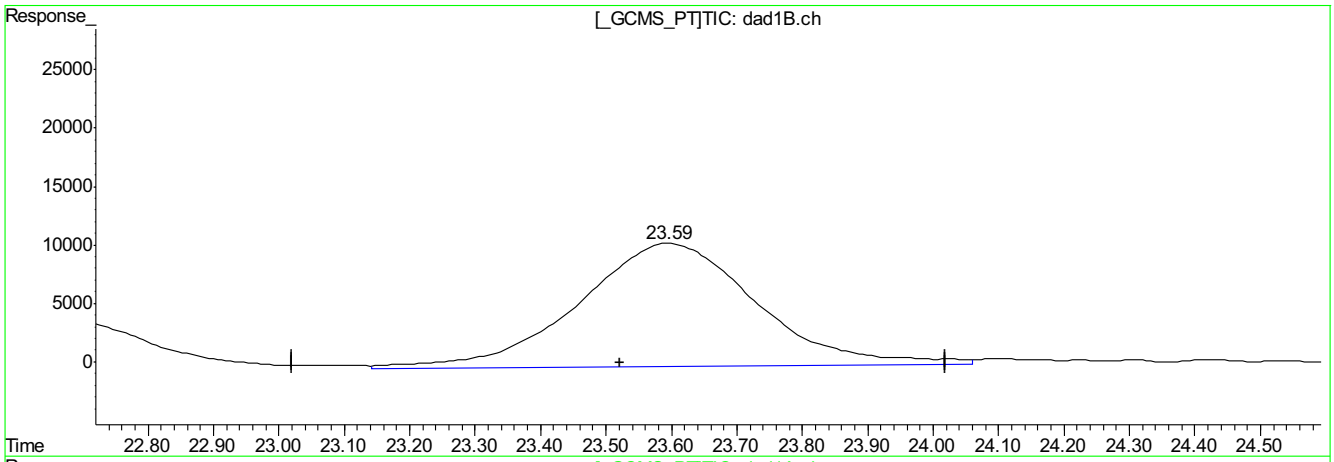
response 8108818

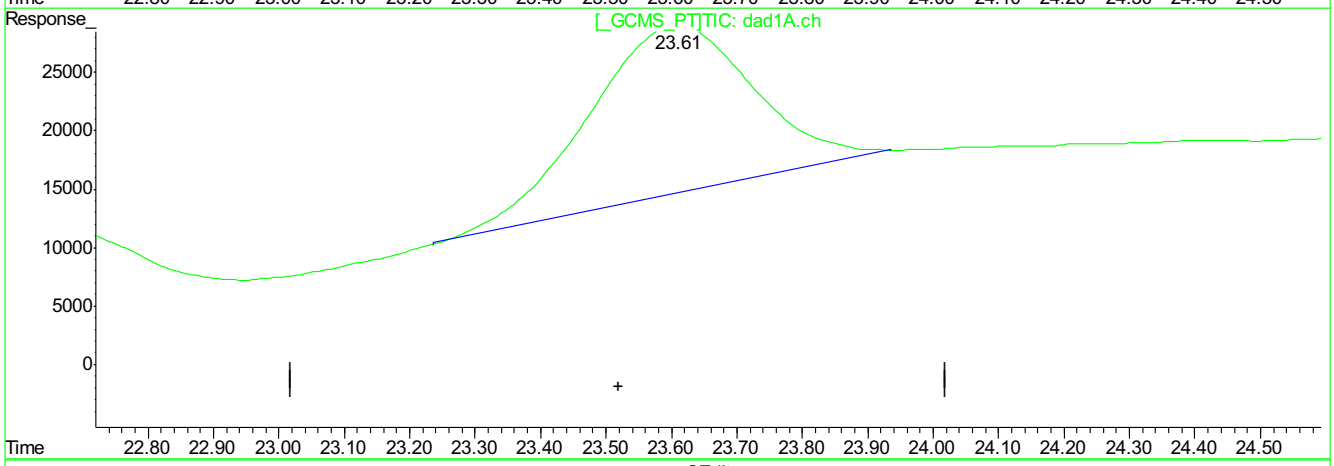
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:25 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

23.60min 157.315ppb

response 1988586

(20) 2-Amino-4,6-Dinitrotoluene #2

23.61min 147.859ppb m

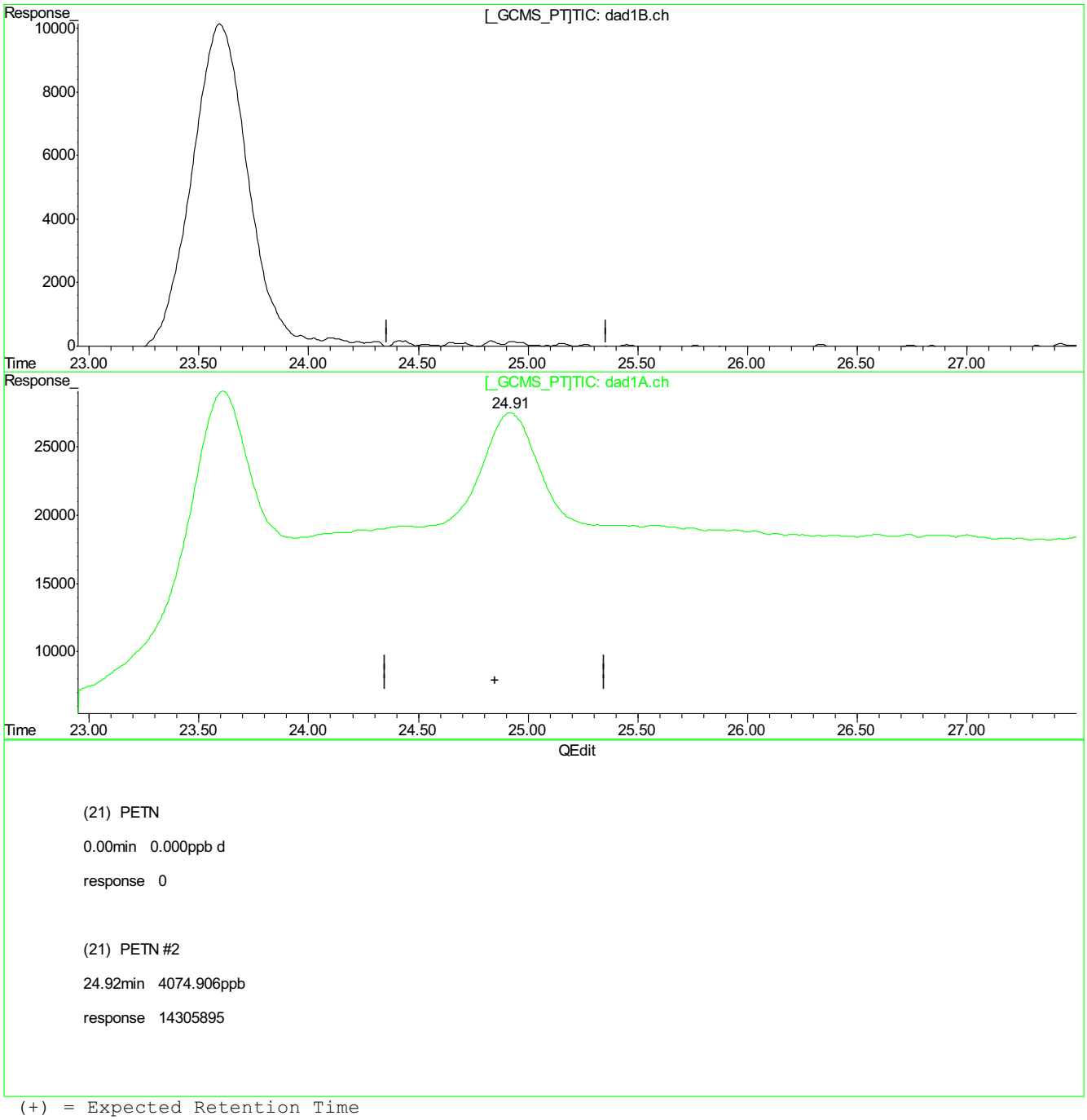
response 2508647

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



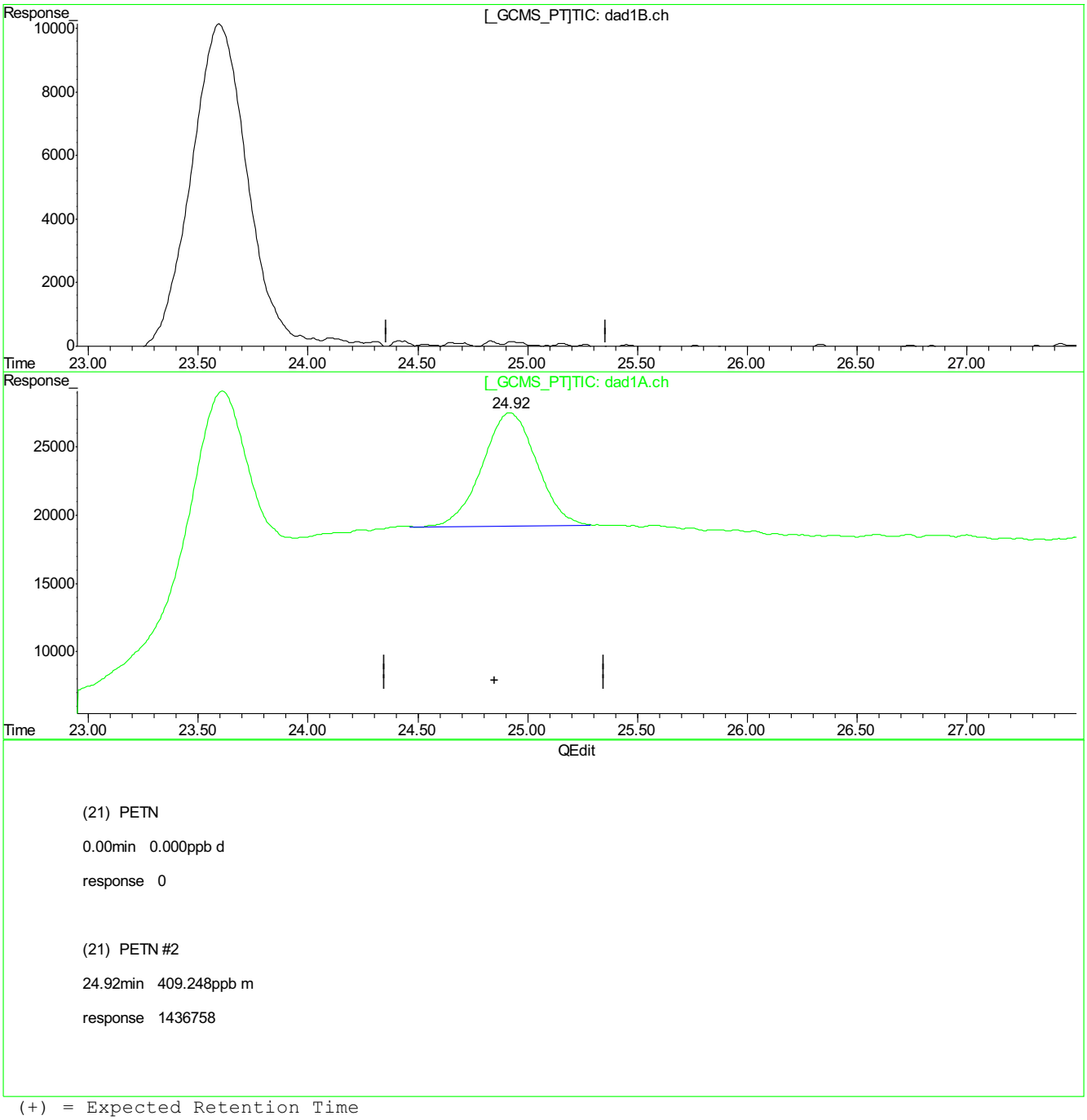
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:39 2017

PP381824.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.92min 409.248ppb m

response 1436758

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:44 2017

9.5.16.16

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11:51 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.43	15.43	2796935	5361271	632.521	558.257
	Spiked Amount 500.000	Range 70 - 136		Recovery =		126.50%	111.65%
	Target Compounds						
1)	TNX	4.75	4.75	4556477	6743234	533.058	530.279
2)	HMX	5.14	5.14	1811487	5355932	467.749	465.964
3)	DNX	5.29	5.29	3947600	6730613	485.663	502.230
4)	MNX	6.40	6.40	2985255	4784349	541.298	504.848
5)	1,3,5-Trinitrobe	7.43	7.43	5040955	8691222	494.930	503.207
6)	RDX	7.84	7.84	2477367	4829588	514.968	572.049
7)	1,3-Dinitrobenze	10.00	10.00	6861064	5138233	511.629	510.162
8)	Nitrobenzene	11.10	11.10	4118118	3942556	504.005	495.377
9)	2,4,6-Trinitroto	12.20	12.20	4752875	6048202	489.622	488.973
10)	Nitroglycerin	0.00	13.19	0	8193596	N.D. d	2689.910m
11)	Tetryl	14.05	14.06	3203603	5252520	443.980	476.707m
13)	2,6-Dinitrotolue	15.87	15.87	3403132	4899458	459.494	483.694
14)	2,4-Dinitrotolue	16.74	16.75	6315935	4593492	503.283	484.089
15)	o-Nitrotoluene	19.13	19.14	2543777	3900359	508.622	506.276
16)	3,5-Dinitroanili	18.33	18.33	4856249	7934083	470.124	476.518
17)	p-Nitrotoluene	20.77	20.79	2040009	2856135	422.621	508.141
18)	4-Amino-2,6-Dini	21.30	21.31	3150413	5275863	481.586	608.947
19)	m-Nitrotoluene	22.54	22.55	2796695	4711480	430.252	378.161m
20)	2-Amino-4,6-Dini	23.52	23.52	4955265	6647012	475.906	475.324m
21)	PETN	0.00	24.85	0	7612051	N.D. d	2572.422m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381825.D 0424_8330RPB.M Tue Apr 25 10:59:42 2017 Page 1

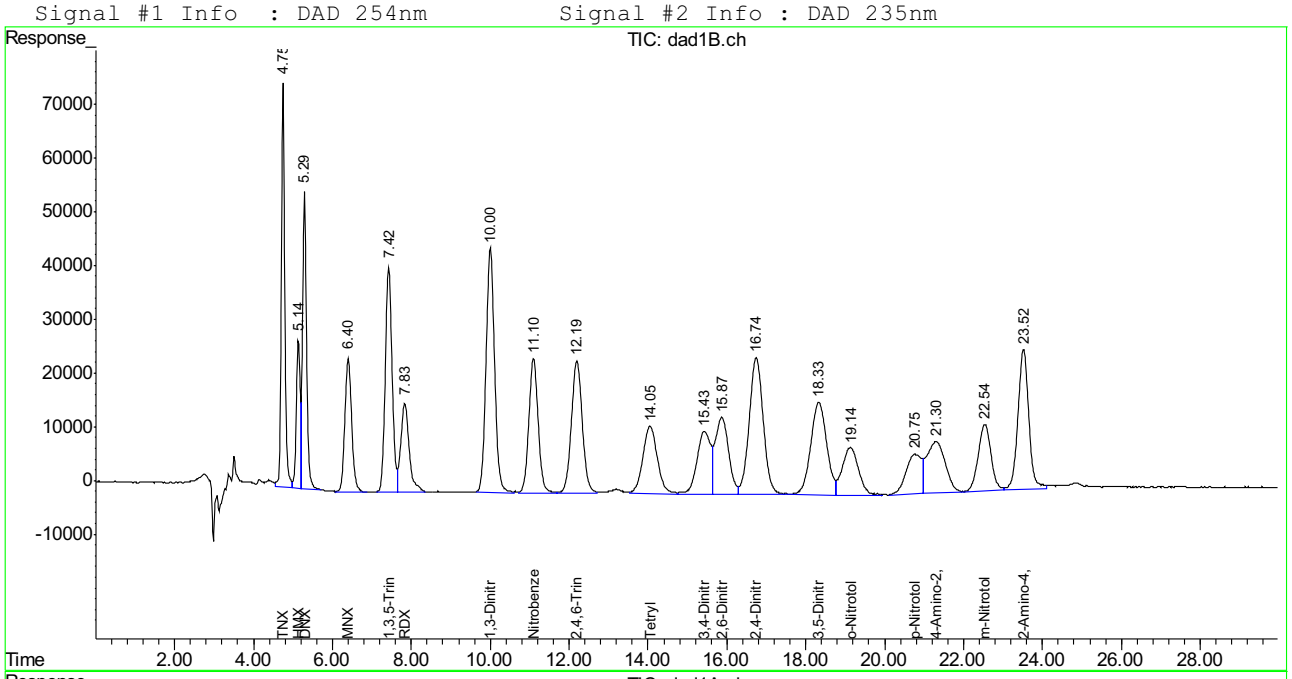
SGS ACCUTEST FA43019

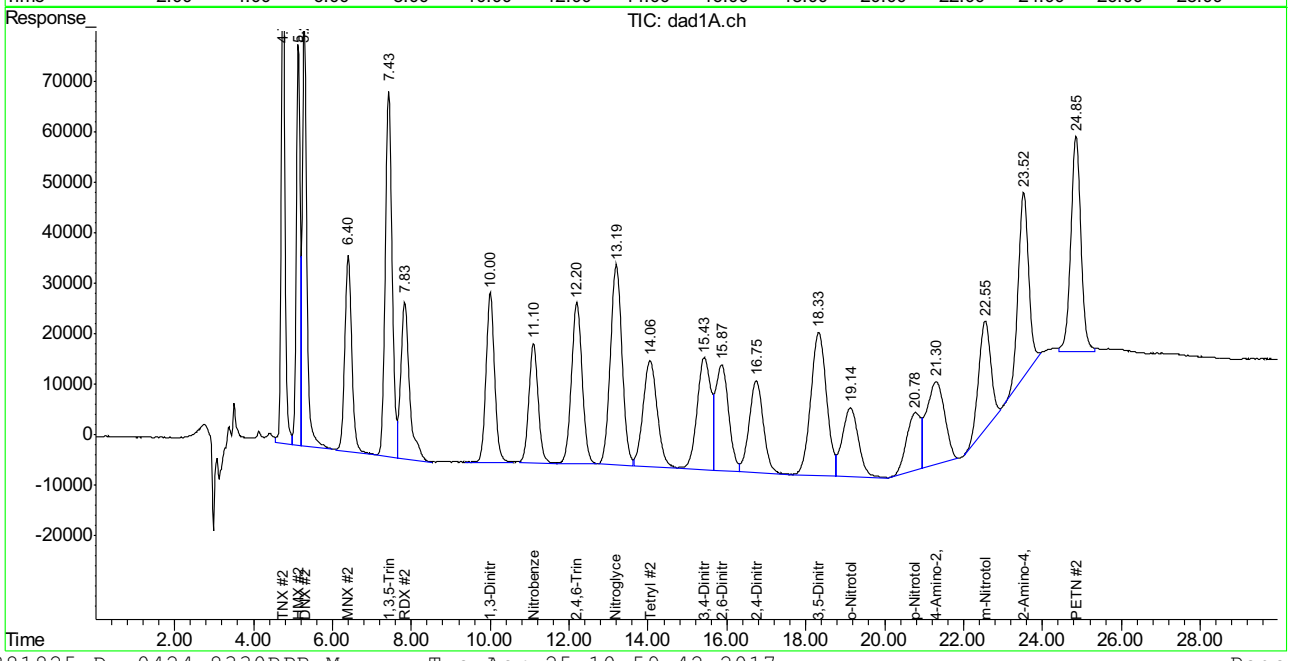
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:39 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

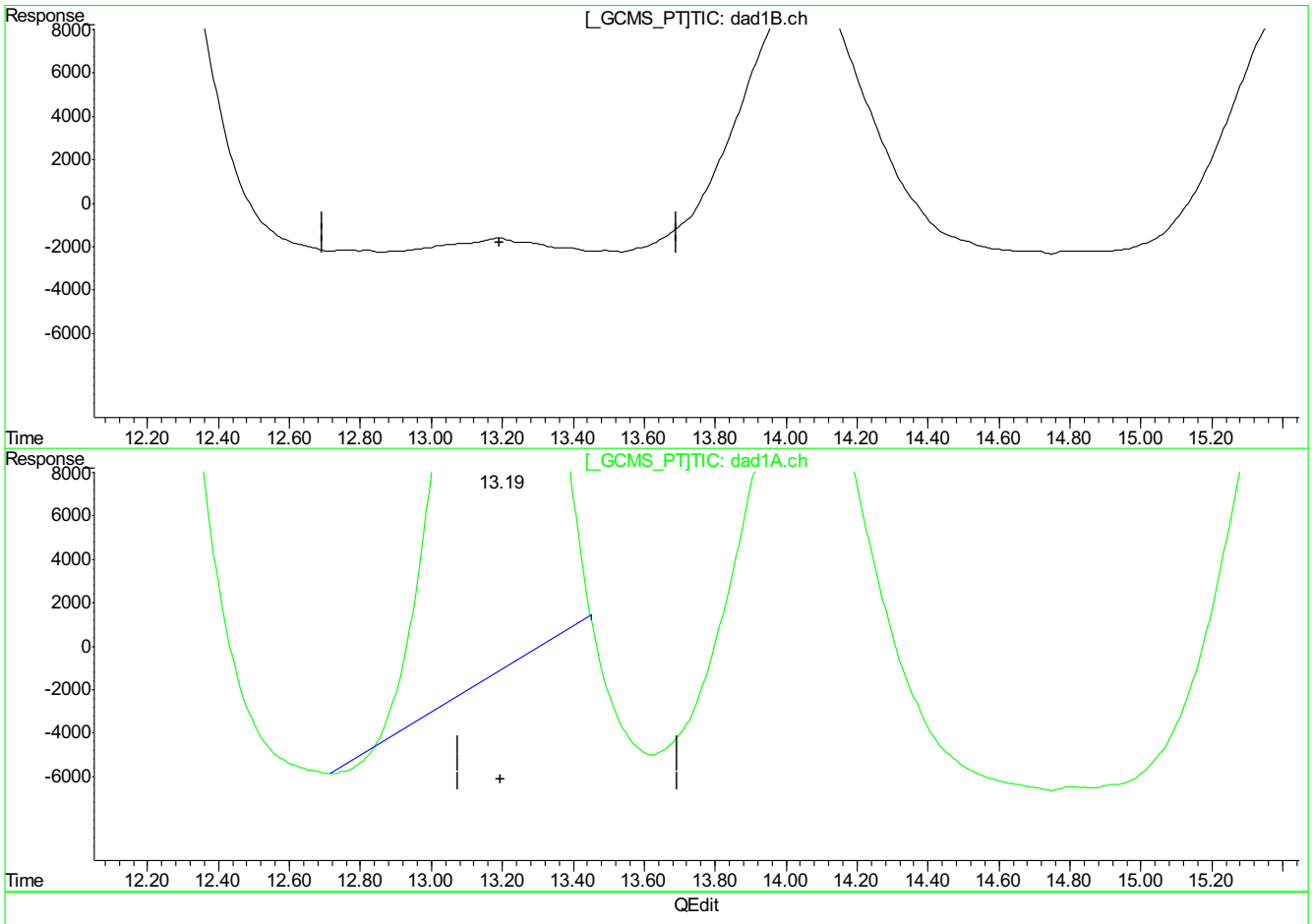
Sample Number: GPP2096-ICC2096
Lab FileID: PP381825.D
Injection Time: 04/24/17 14:37
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.19	Poorly defined baseline
Tetryl	479-45-8	2	14.06	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.55	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.52	Poorly defined baseline
PETN	78-11-5	2	24.85	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.20min 2037.156ppb

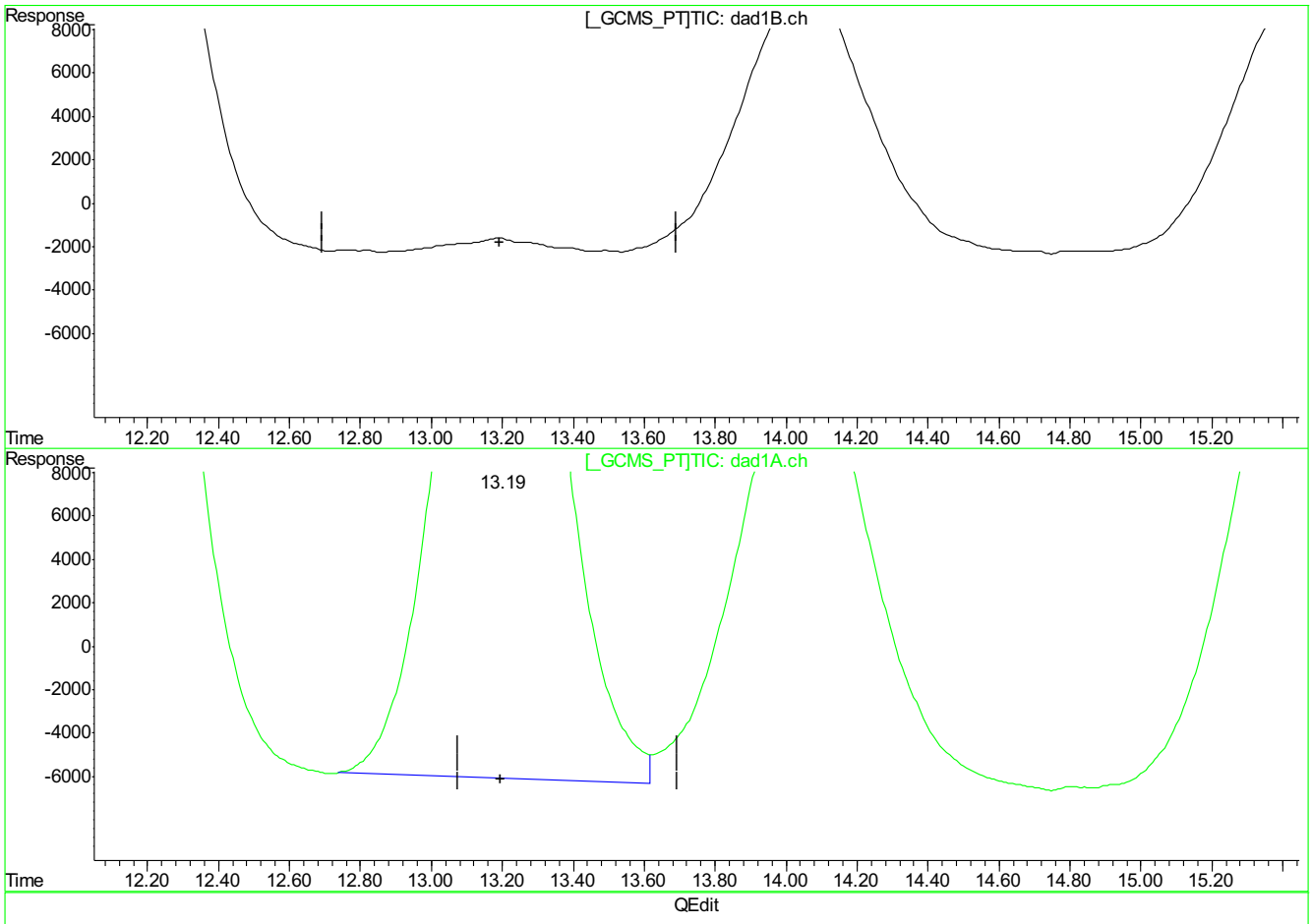
response 6205276

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:19 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.19min 2689.910ppb m

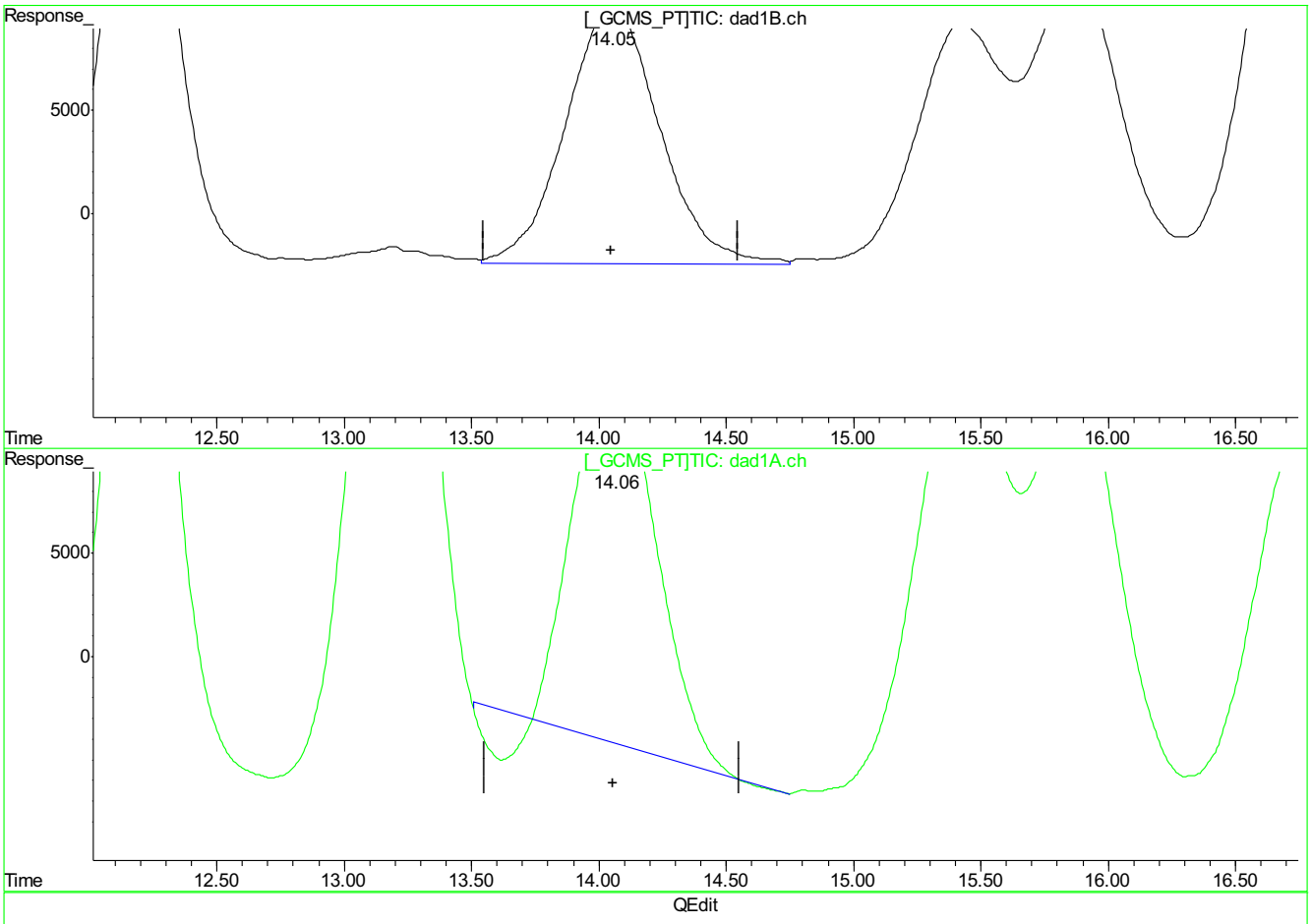
response 8193596

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:26 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.05min 443.980ppb

response 3203603

(11) Tetryl #2

14.06min 362.737ppb

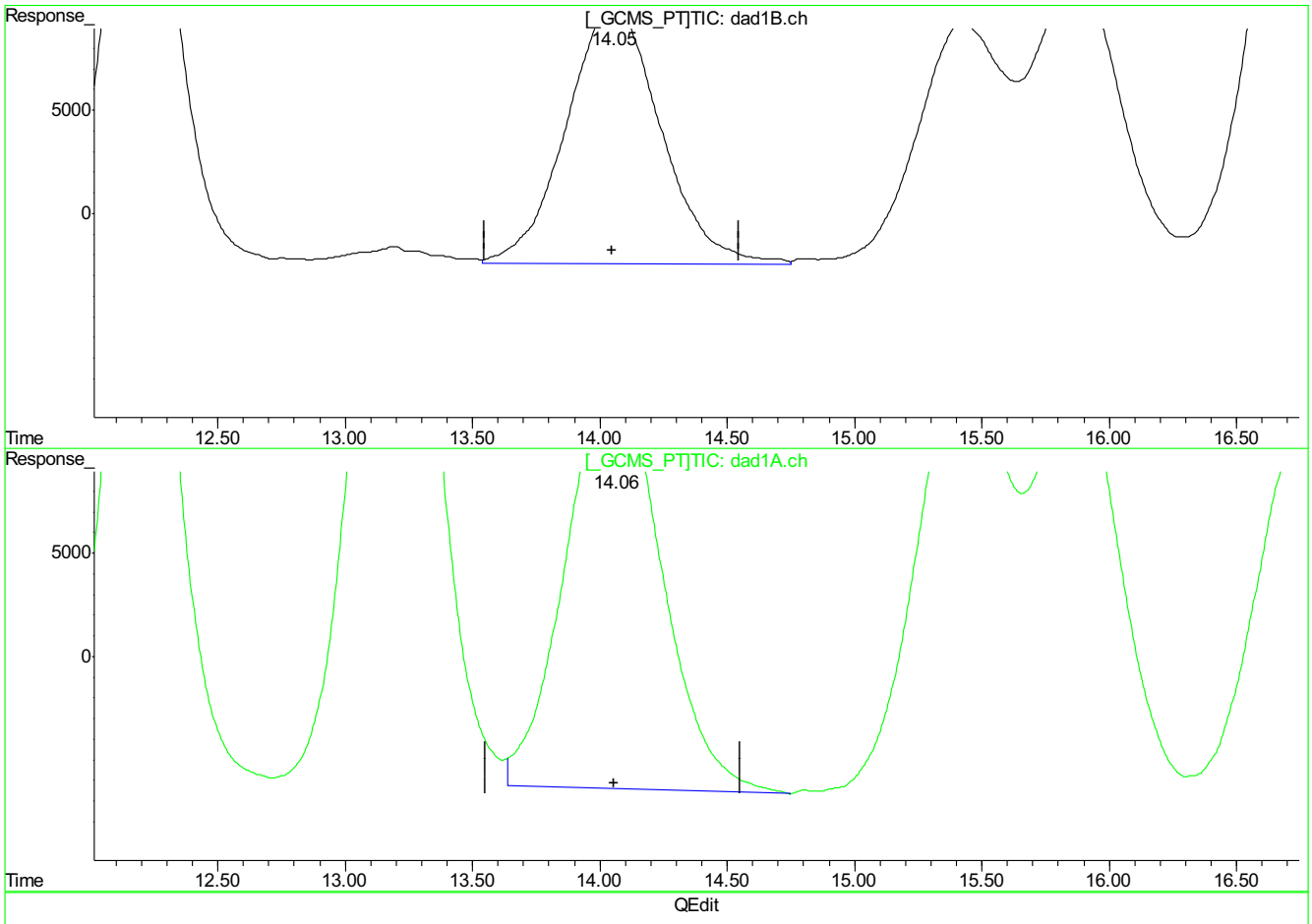
response 3996757

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.05min 443.980ppb

response 3203603

(11) Tetryl #2

14.06min 476.707ppb m

response 5252520

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:38 2017

9.5.17.5

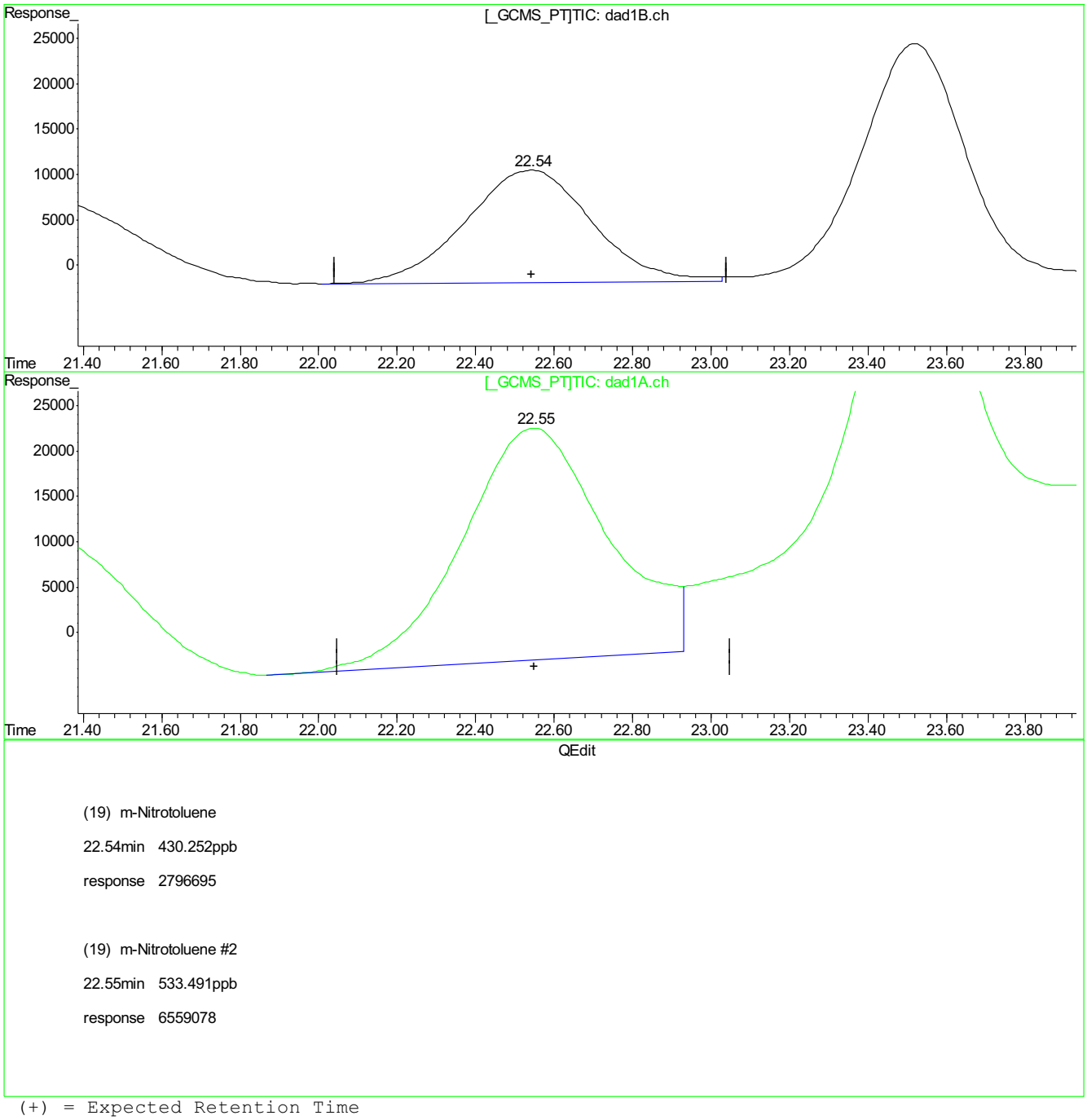
9

PP381825.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.54min 430.252ppb

response 2796695

(19) m-Nitrotoluene #2

22.55min 533.491ppb

response 6559078

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:55 2017

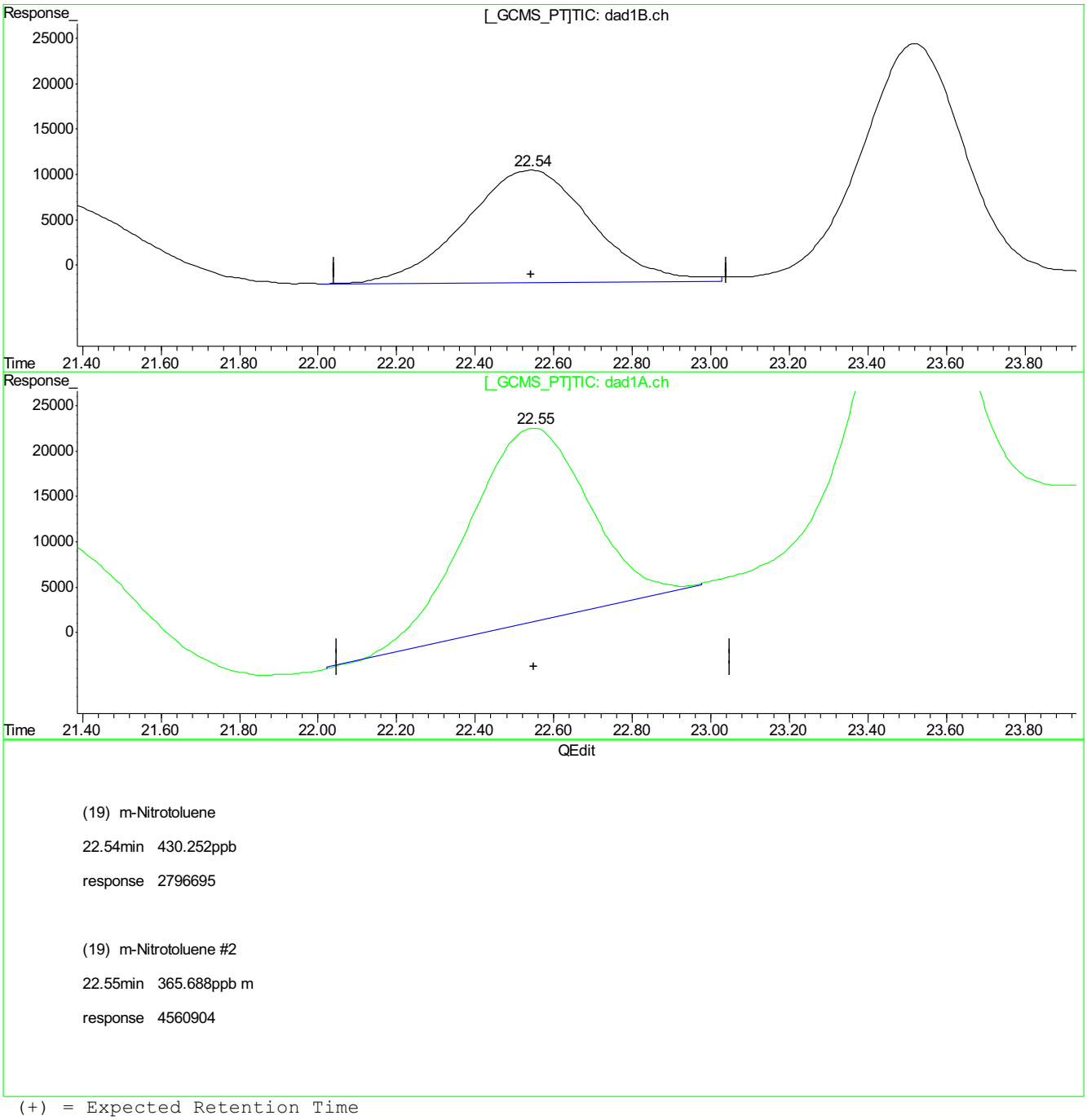
9.5.17.6

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:58 2017

9.5.17.7

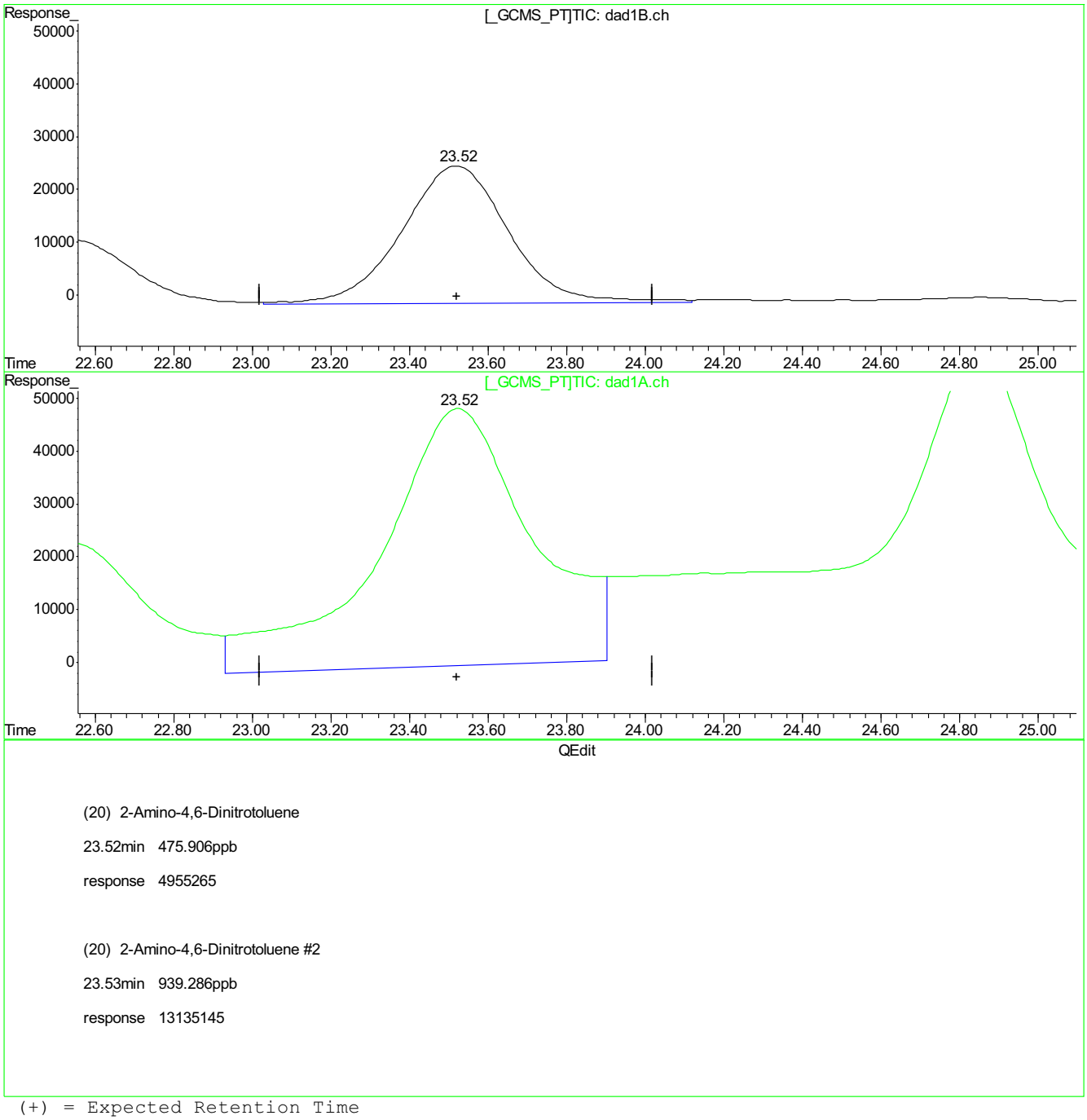
6

PP381825.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.52min 475.906ppb

response 4955265

(20) 2-Amino-4,6-Dinitrotoluene #2

23.53min 939.286ppb

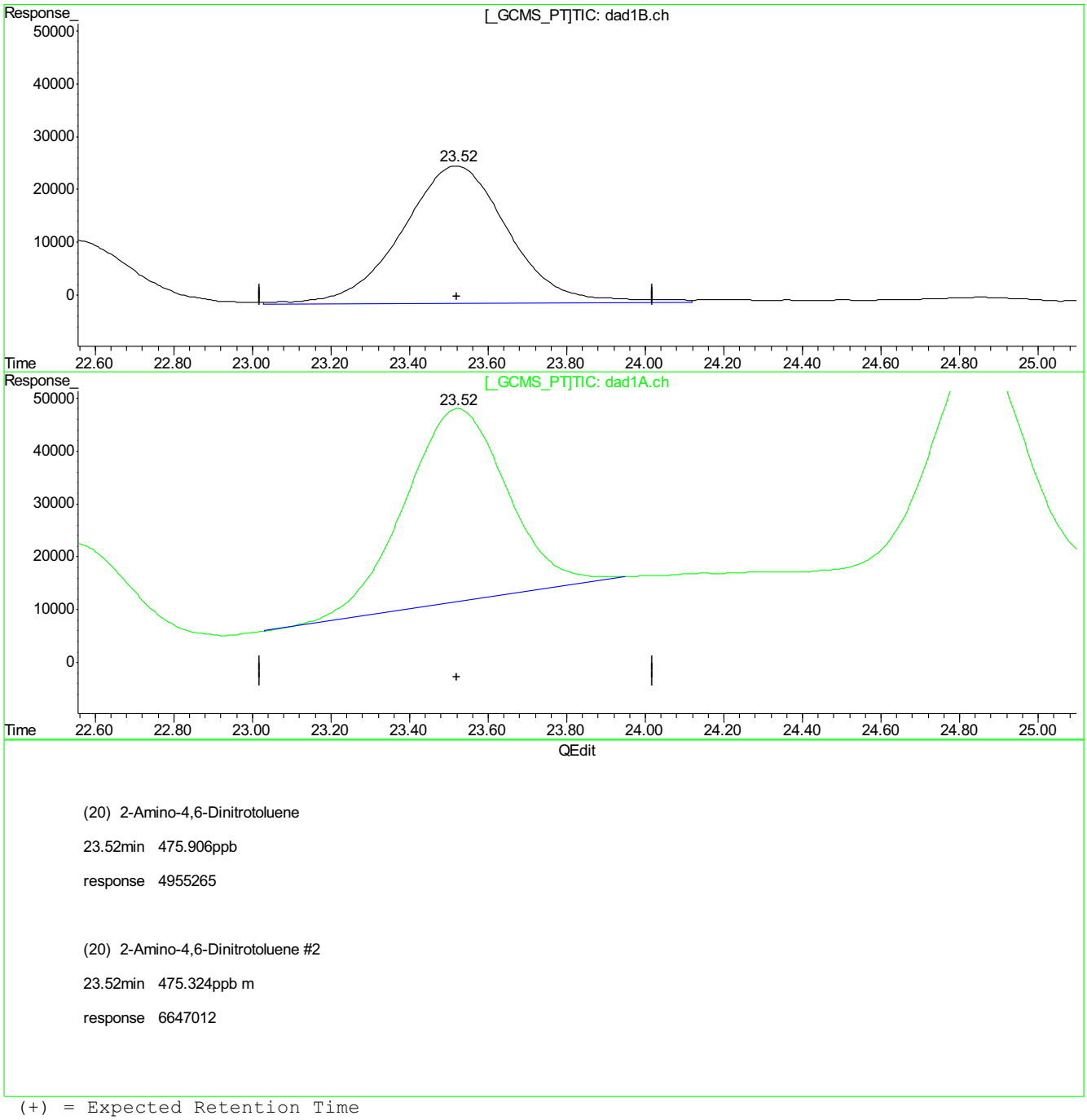
response 13135145

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:09 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.52min 475.906ppb

response 4955265

(20) 2-Amino-4,6-Dinitrotoluene #2

23.52min 475.324ppb m

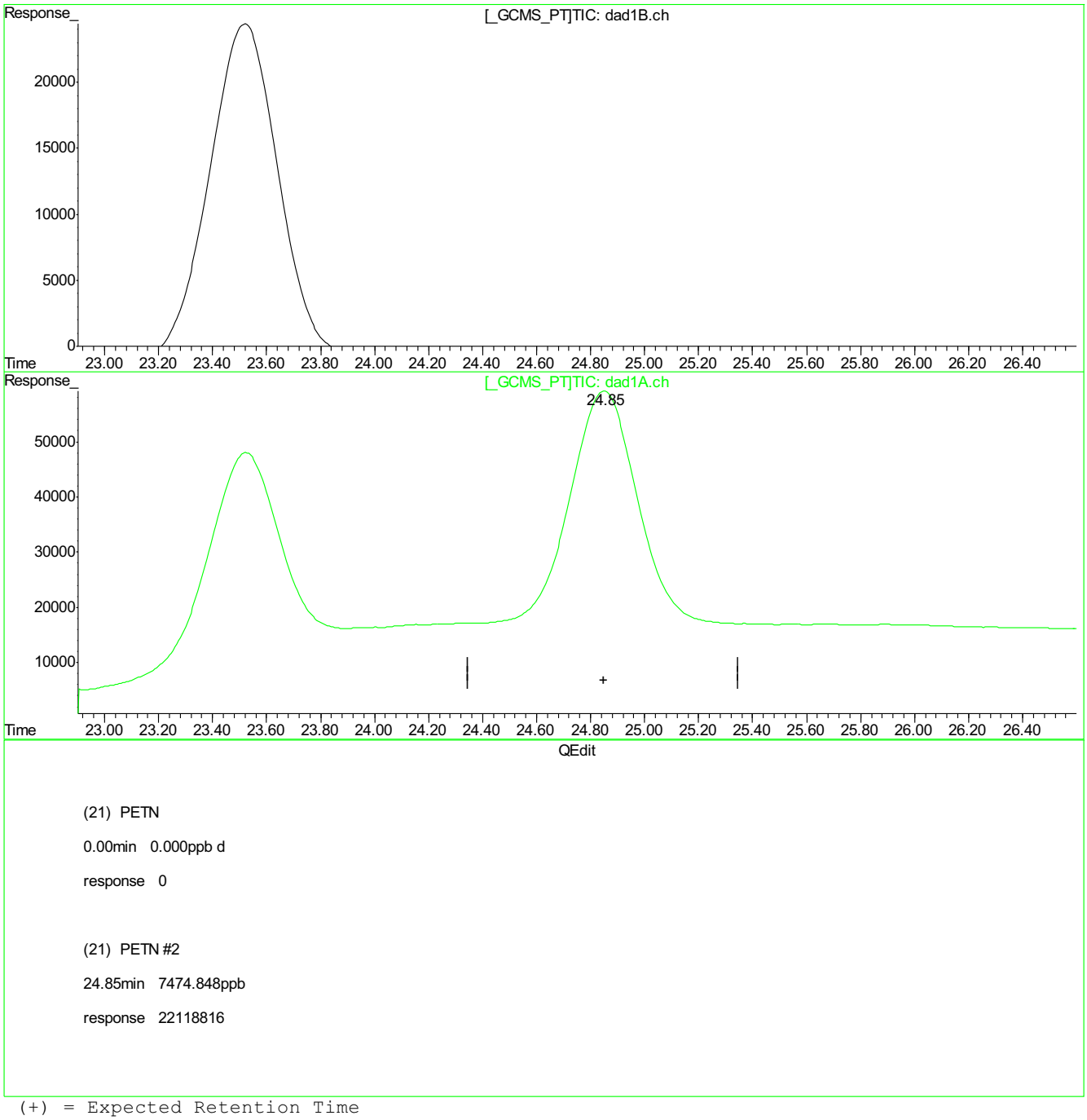
response 6647012

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:12 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:17 2017

9.5.17.10

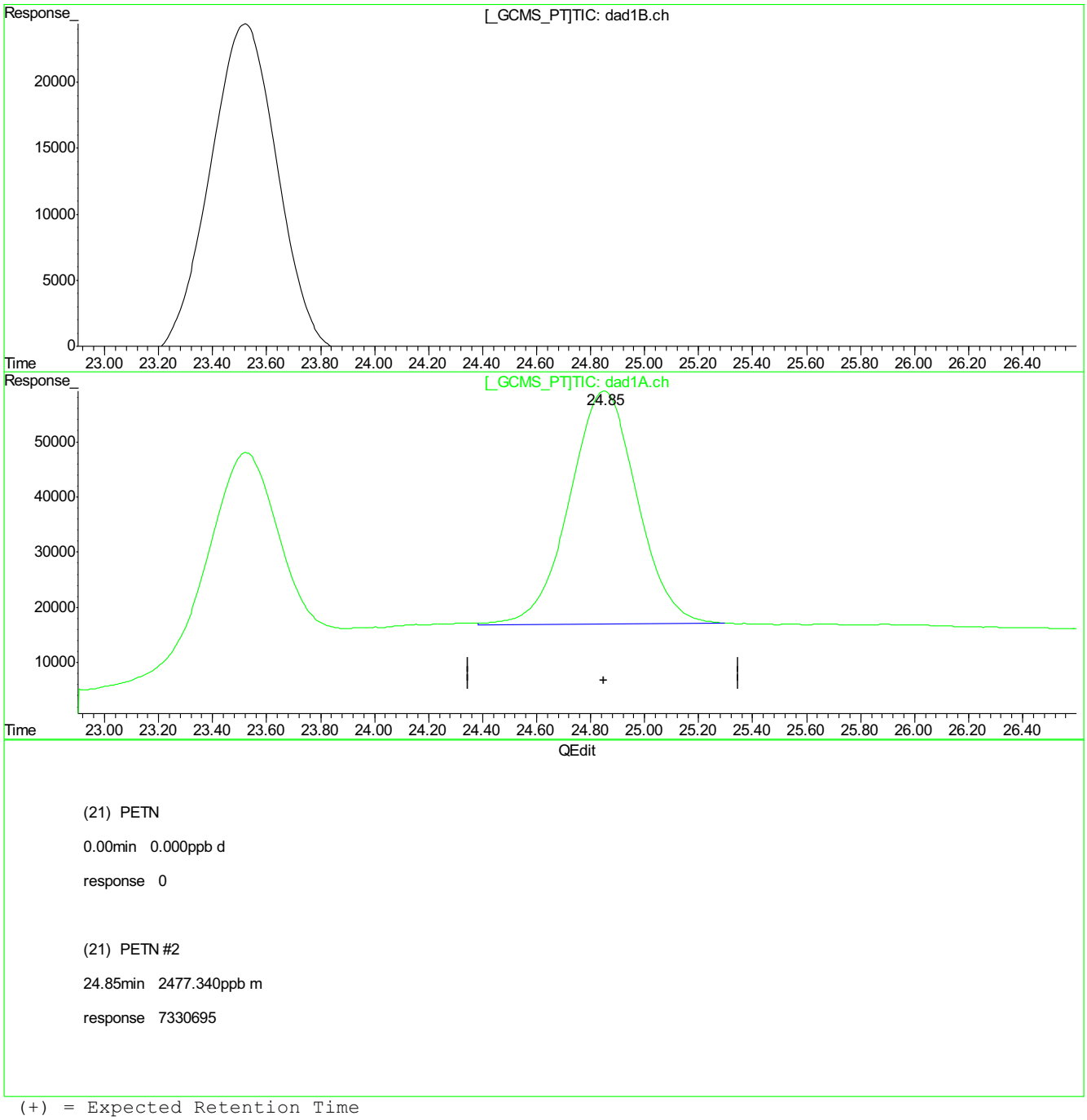
9

PP381825.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:20 2017

9.5.17.11

9

PP381825.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 09:36:13 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.37	15.37	5202174	10171556	1128.373	1096.411
	Spiked Amount 500.000	Range 70 - 136		Recovery =		225.67%#	219.28%#
	Target Compounds						
1)	TNX	4.74	4.74	8548293	12651327	1008.456	1008.400
2)	HMX	5.12	5.12	3353803	9976591	1028.732	962.471
3)	DNX	5.28	5.28	7389401	12085056	909.876	913.159
4)	MNX	6.38	6.38	5706813	9060076	1047.794	1063.086
5)	1,3,5-Trinitrobe	7.40	7.40	9584064	16601286	968.047	999.446
6)	RDX	7.81	7.81	4562833	8652707	1028.344	1045.394
7)	1,3-Dinitrobenze	9.97	9.97	12990061	9661539	973.065	984.664
8)	Nitrobenzene	11.06	11.06	3501535	3400747	412.444	417.541
9)	2,4,6-Trinitroto	12.15	12.15	8964828	11473909	948.504	940.892
10)	Nitroglycerin	0.00	13.14	0	15519463	N.D. d	5206.582m
11)	Tetryl	14.00	13.99	6059285	9826916	864.892	867.555m
13)	2,6-Dinitrotolue	15.81	15.81	6410364	9119268	909.422	924.264
14)	2,4-Dinitrotolue	16.68	16.68	11932281	8601863	972.214	916.338
15)	o-Nitrotoluene	19.05	19.05	1668431	2564515	380.234	330.097
16)	3,5-Dinitroanili	18.25	18.25	9262949	15351876	846.123	851.206
17)	p-Nitrotoluene	20.82	20.79	1910652	3005484	393.853m	530.364m
18)	4-Amino-2,6-Dini	21.20	21.20	5885714	11952281	909.668m	1147.462m
19)	m-Nitrotoluene	22.47	22.48	2350850	3510977	362.014	280.429m
20)	2-Amino-4,6-Dini	23.46	23.46	9664423	12589518	1049.480	987.916m
21)	PETN	0.00	24.80	0	9376493	N.D. d	2831.992m

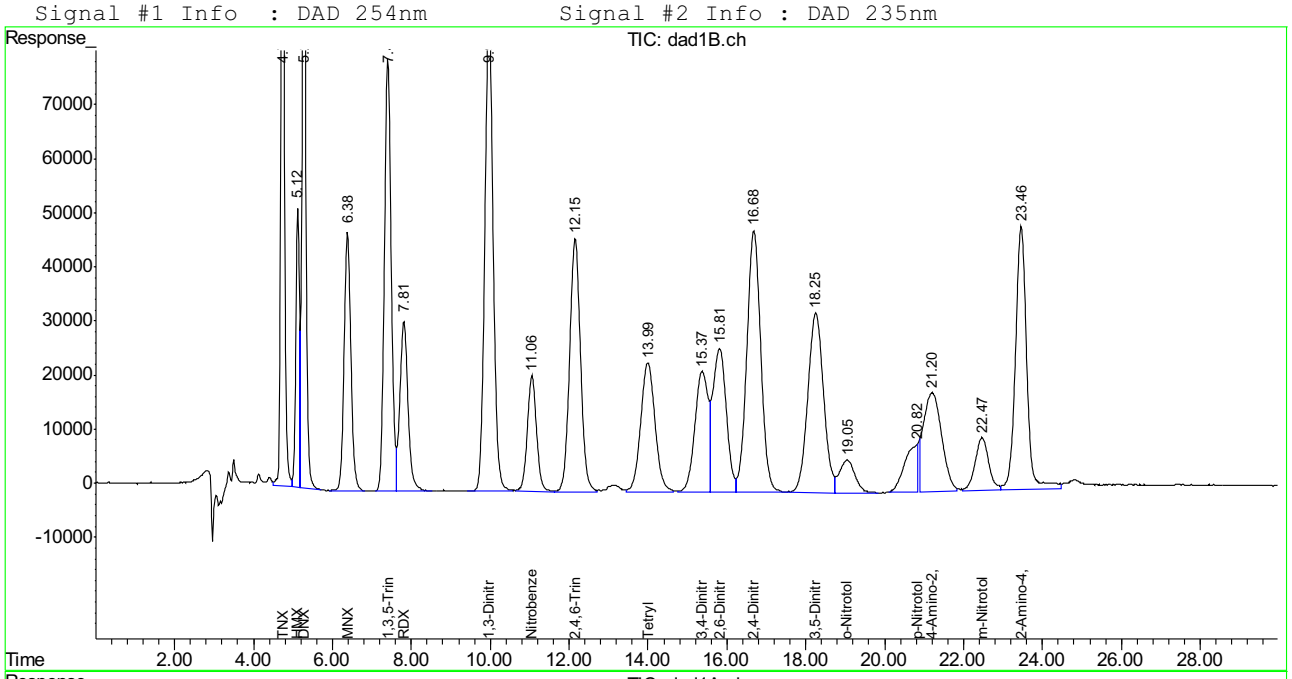
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381826.D 0424_8330RPB.M Tue Apr 25 15:48:56 2017 Page 1

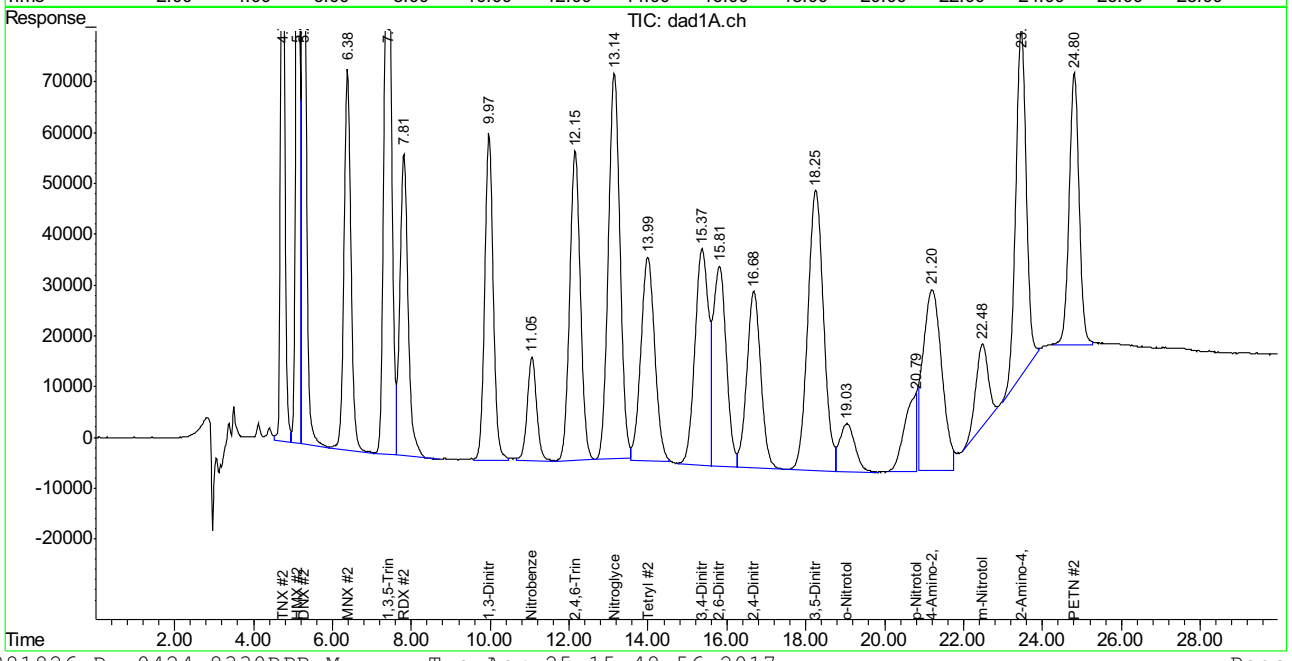
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 15:48 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43019

Manual Integration Approval Summary

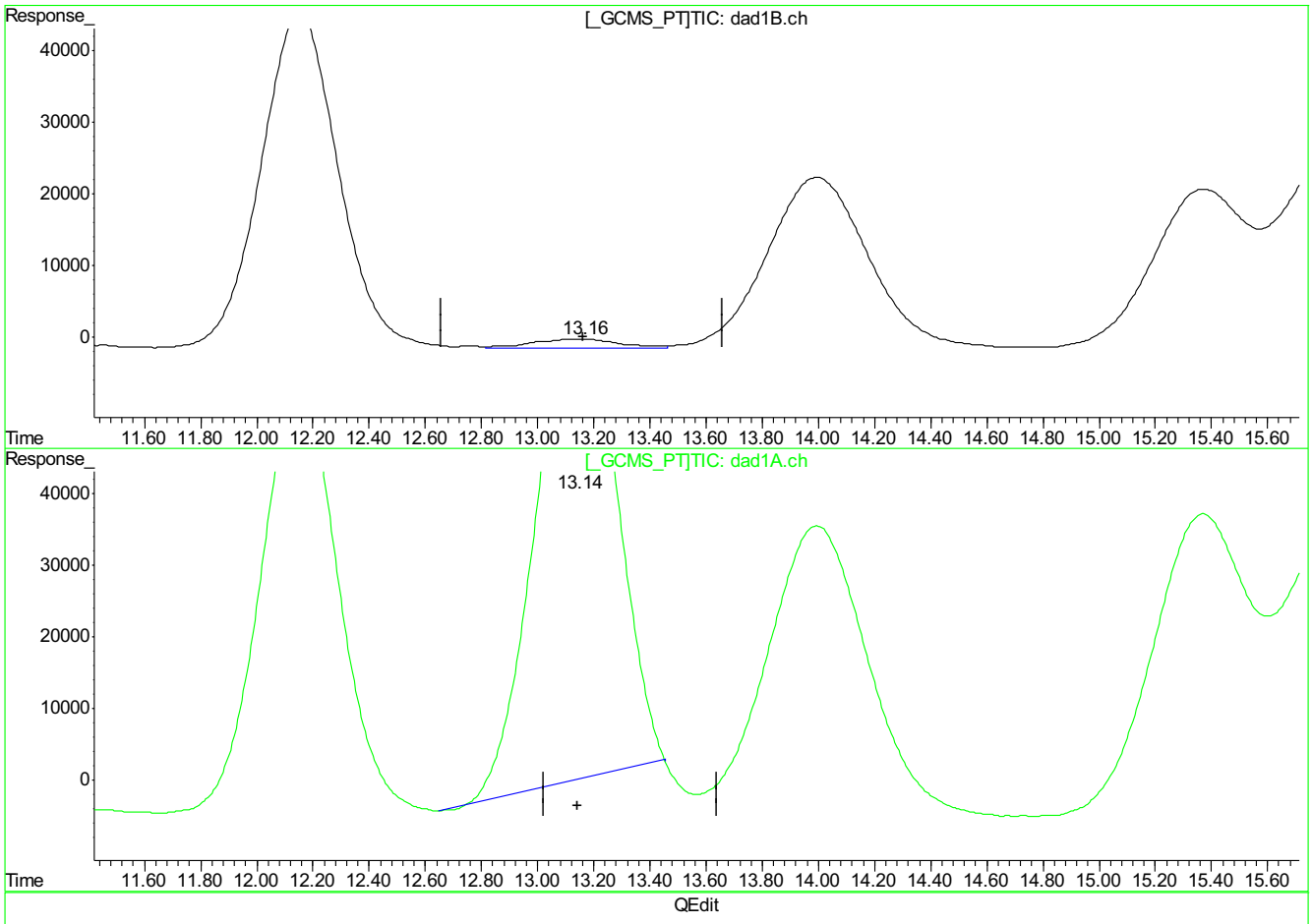
Sample Number: GPP2096-IC2096
Lab FileID: PP381826.D
Injection Time: 04/24/17 15:10
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.14	Poorly defined baseline
Tetryl	479-45-8	2	13.99	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.79	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	20.82	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.20	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.20	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.46	Poorly defined baseline
PETN	78-11-5	2	24.80	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

13.17min 0.000ppb

response 285464

(10) Nitroglycerin #2

13.15min 4560.930ppb

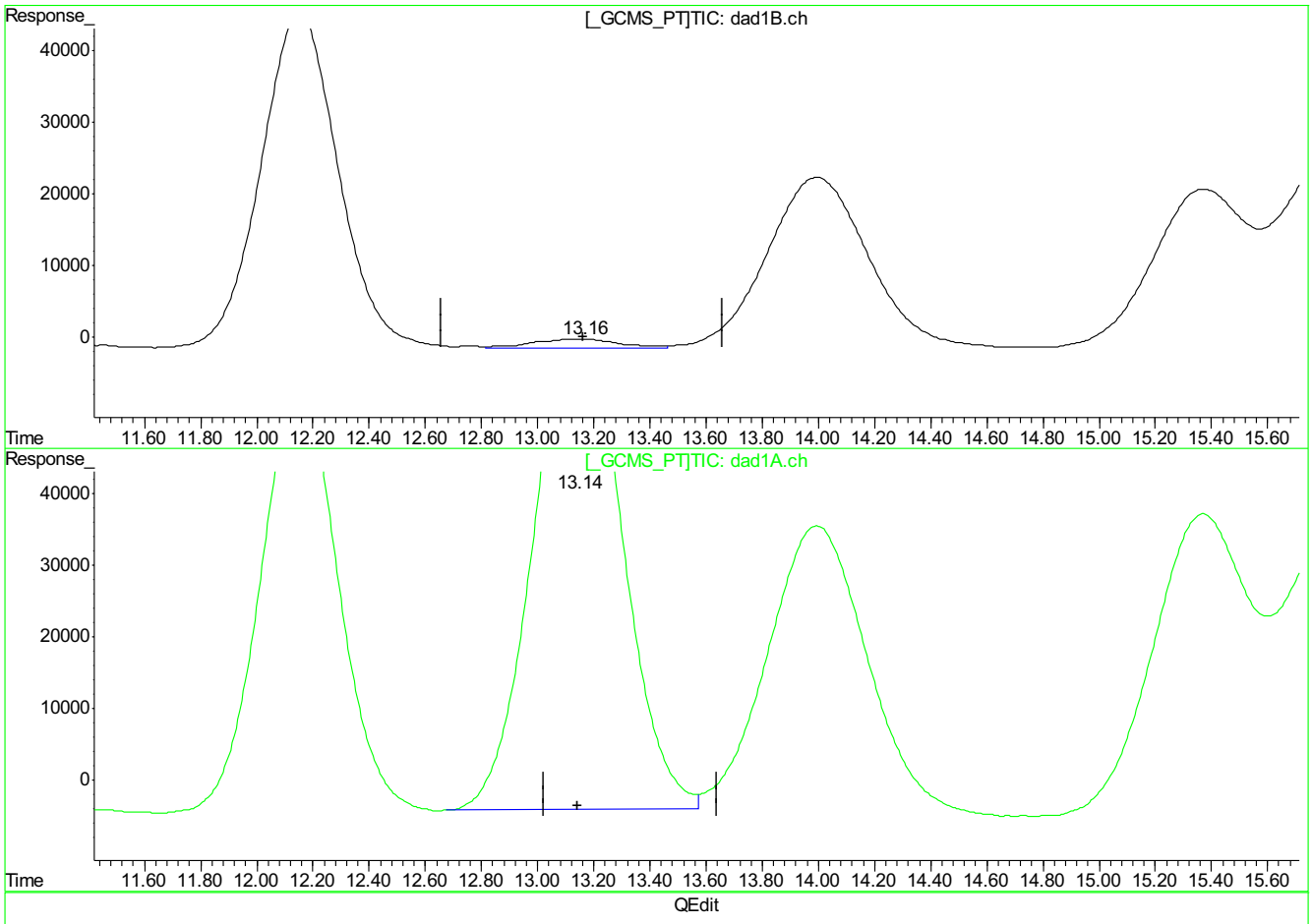
response 13594944

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:31 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

13.17min 0.000ppb

response 285464

(10) Nitroglycerin #2

13.14min 5206.582ppb m

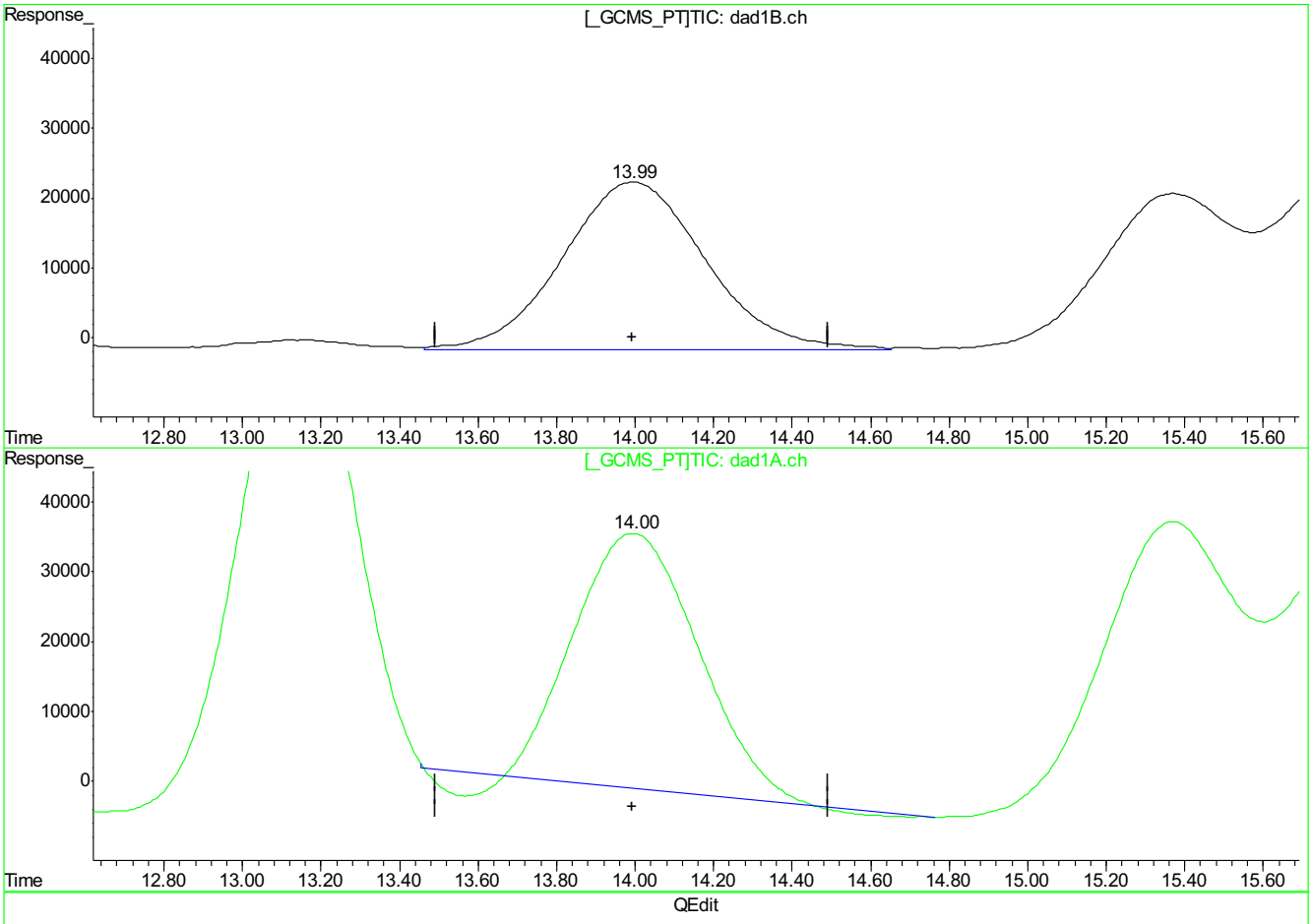
response 15519463

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:37 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.00min 864.892ppb

response 6059285

(11) Tetryl #2

14.00min 686.529ppb

response 7776417

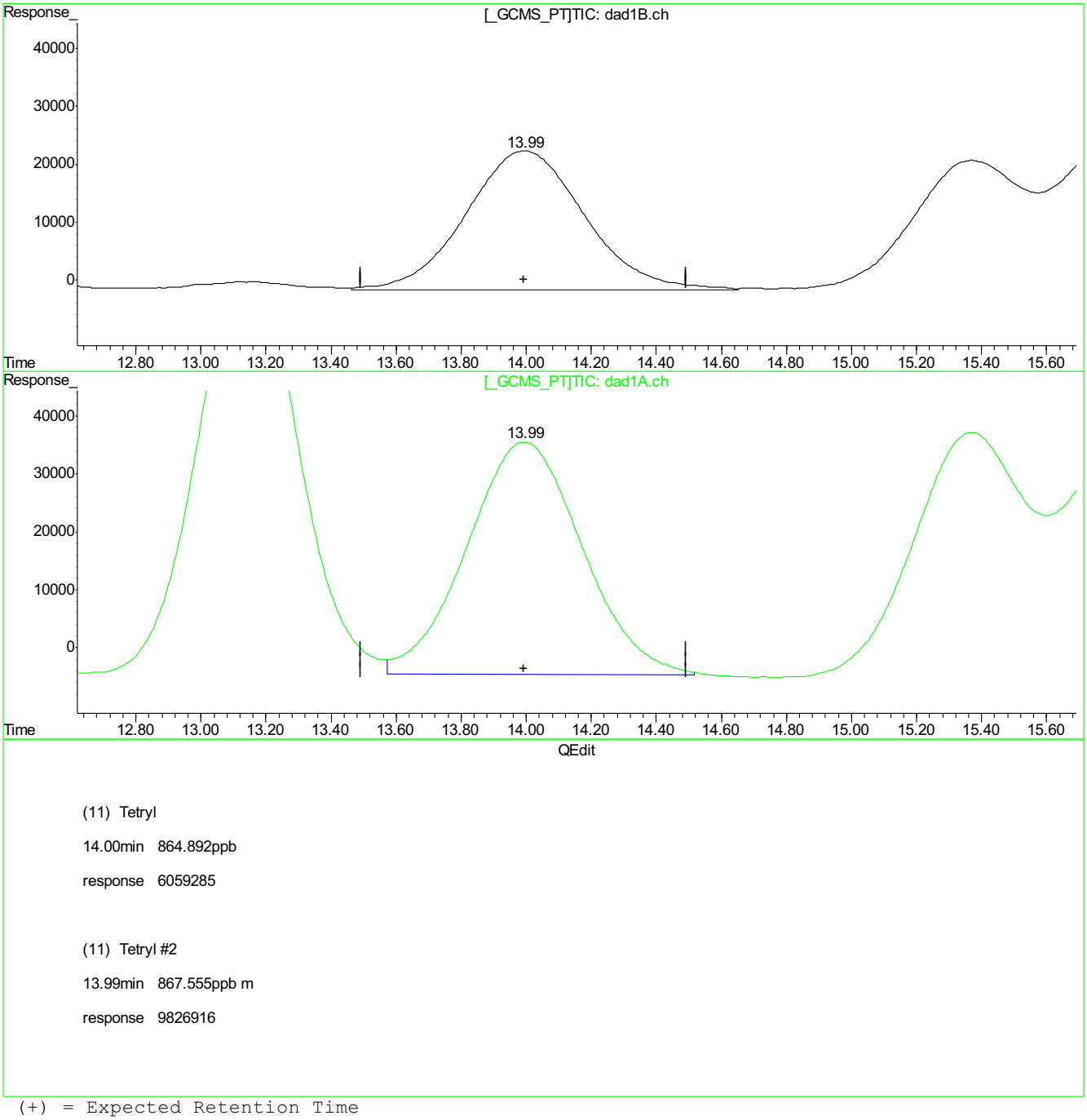
(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:41 2017

PP381826.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.00min 864.892ppb

response 6059285

(11) Tetryl #2

13.99min 867.555ppb m

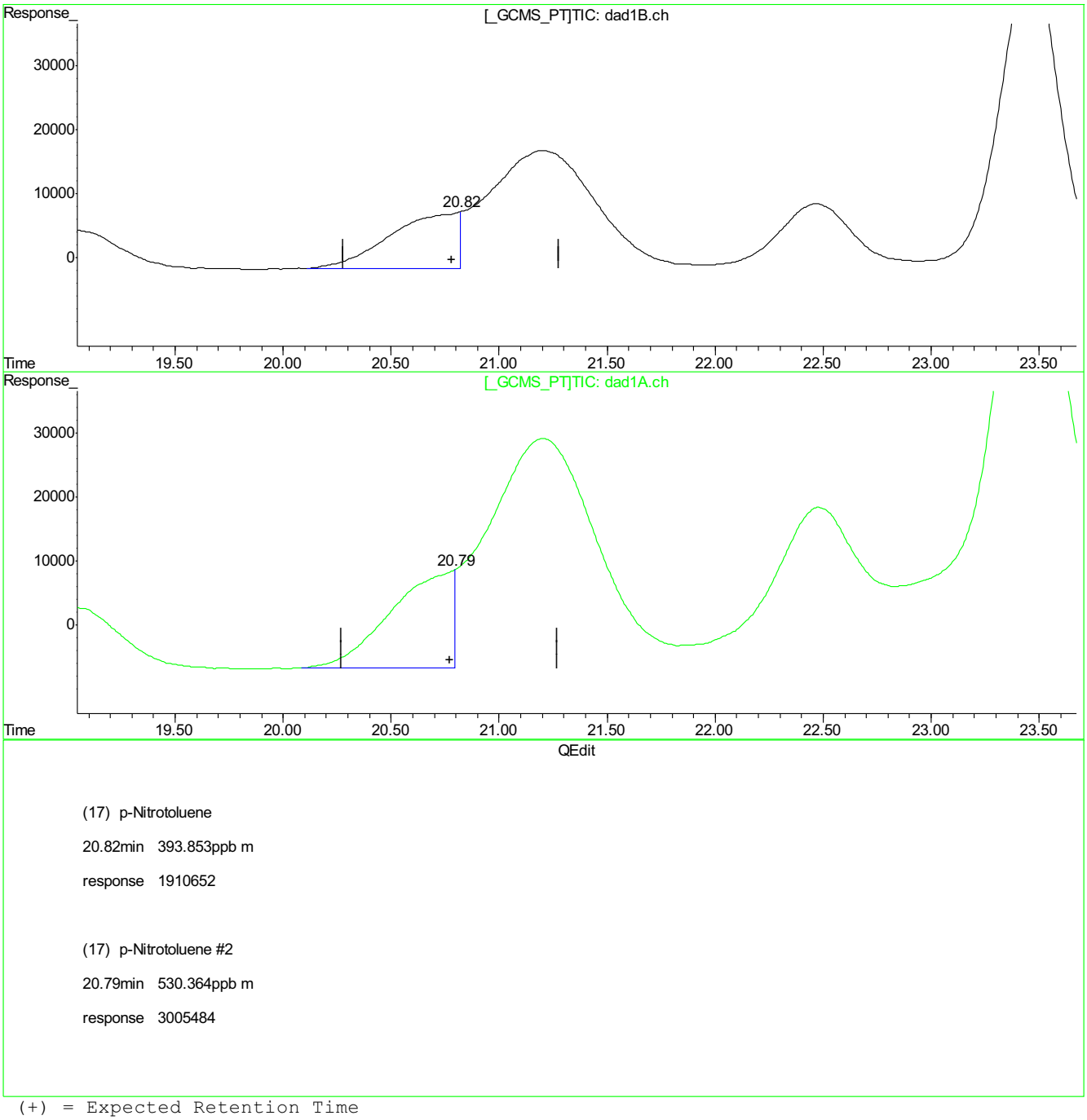
response 9826916

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:48 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:18:28 2017

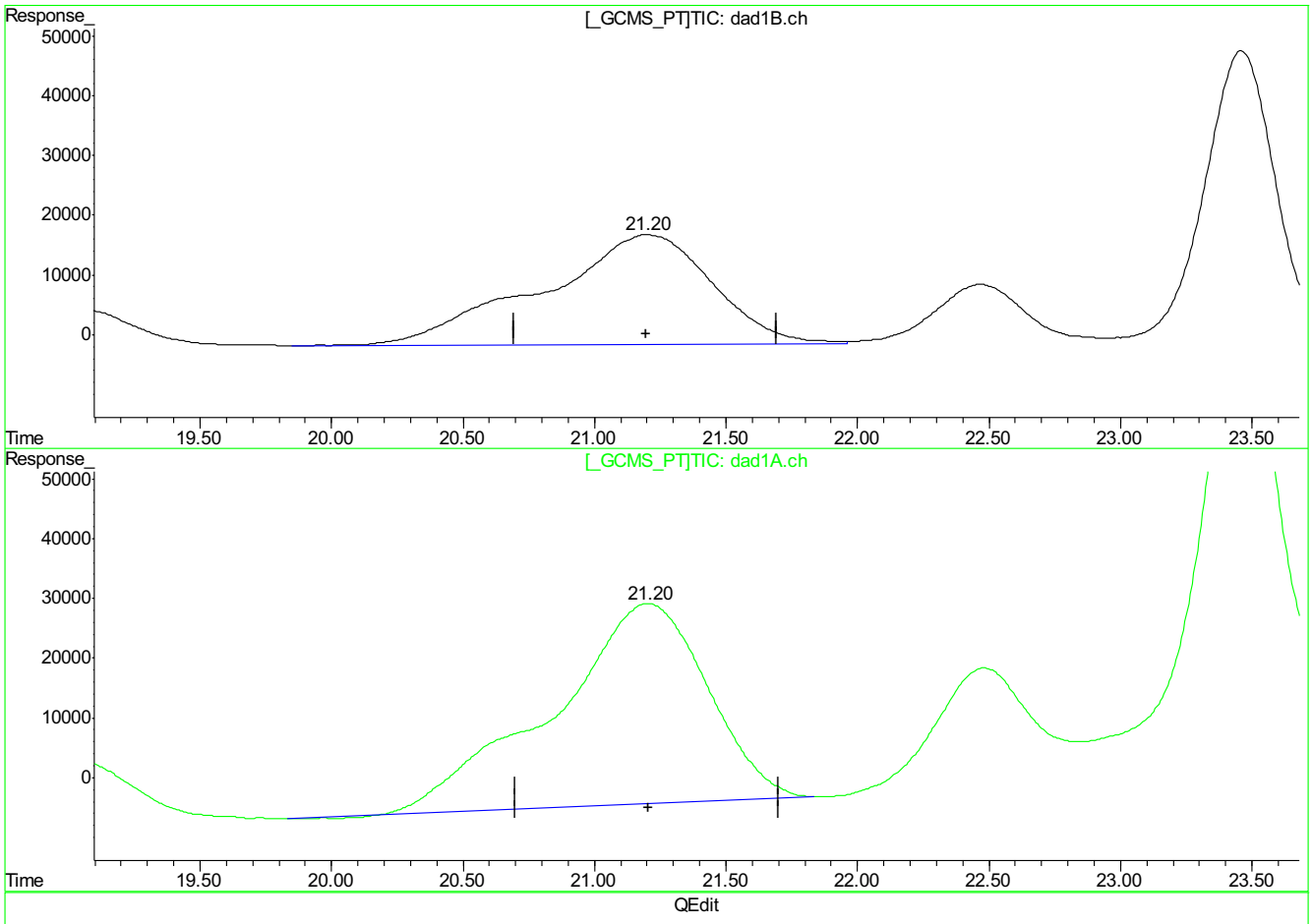
9.5.18.6

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.20min 1283.214ppb

response 8193656

(18) 4-Amino-2,6-Dinitrotoluene #2

21.20min 1316.711ppb

response 13715222

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:18:38 2017

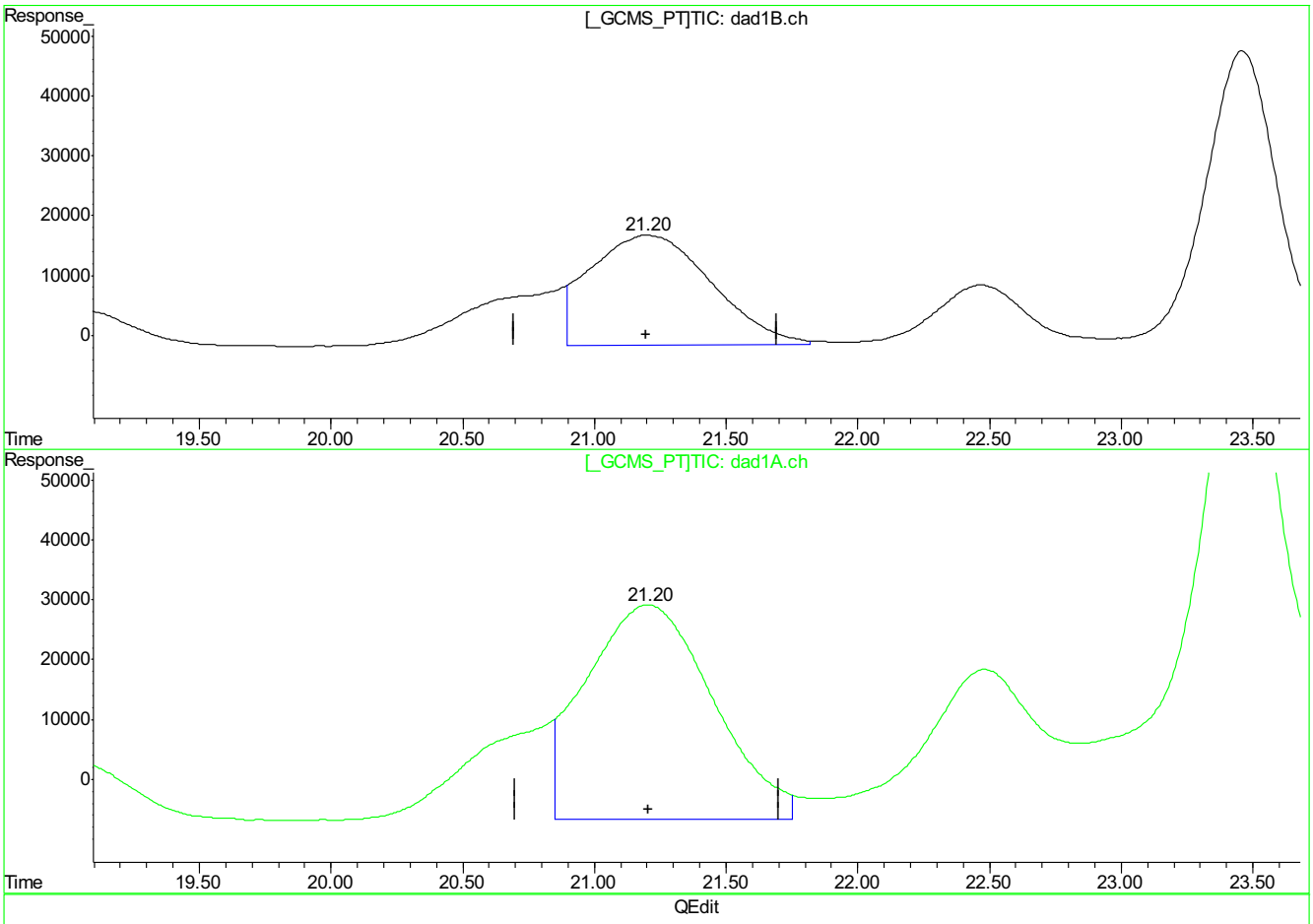
9.5.18.7

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.20min 909.668ppb m

response 5885714

(18) 4-Amino-2,6-Dinitrotoluene #2

21.20min 1147.462ppb m

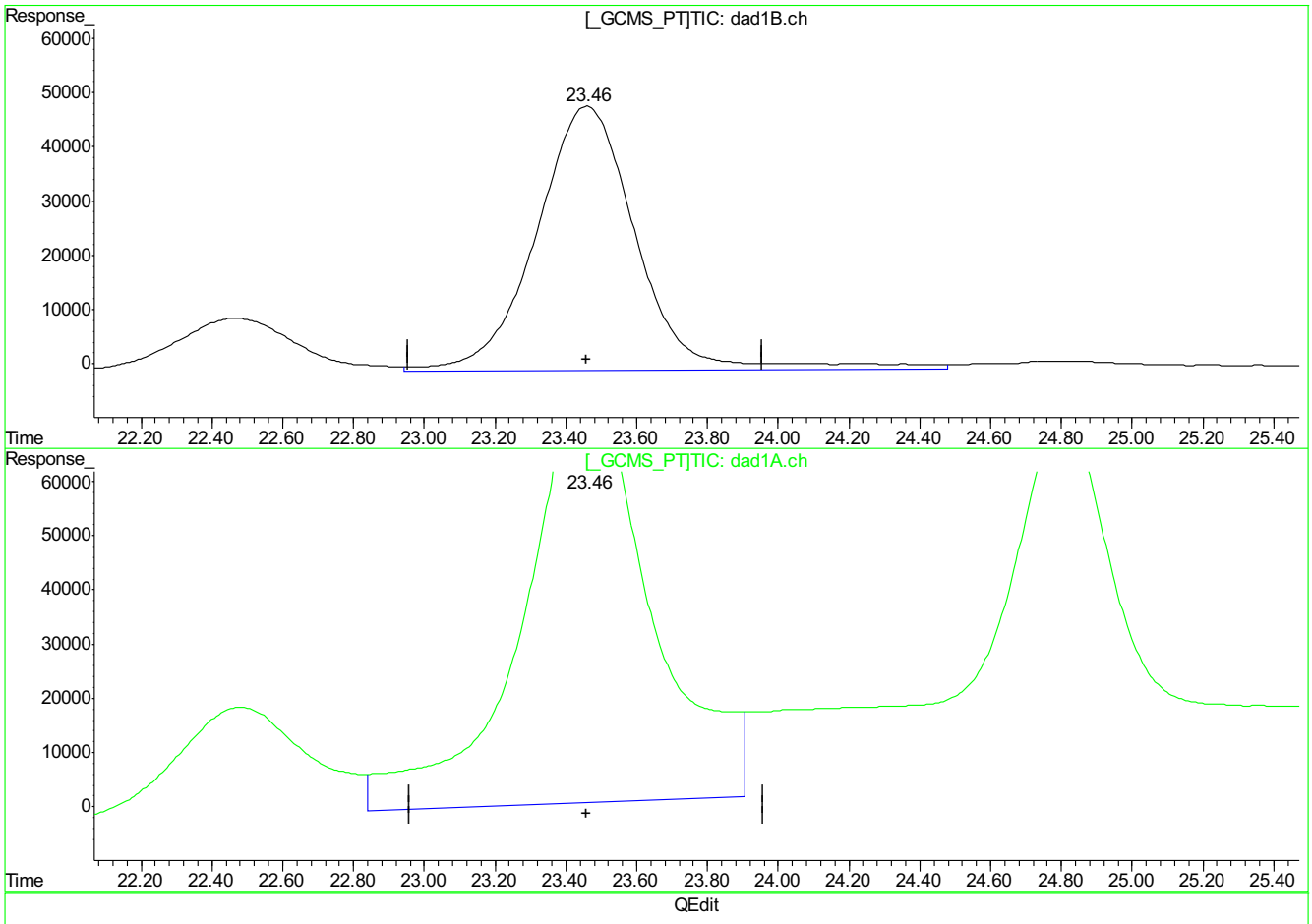
response 11952281

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:04 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.46min 1049.480ppb

response 9664423

(20) 2-Amino-4,6-Dinitrotoluene #2

23.46min 1529.951ppb

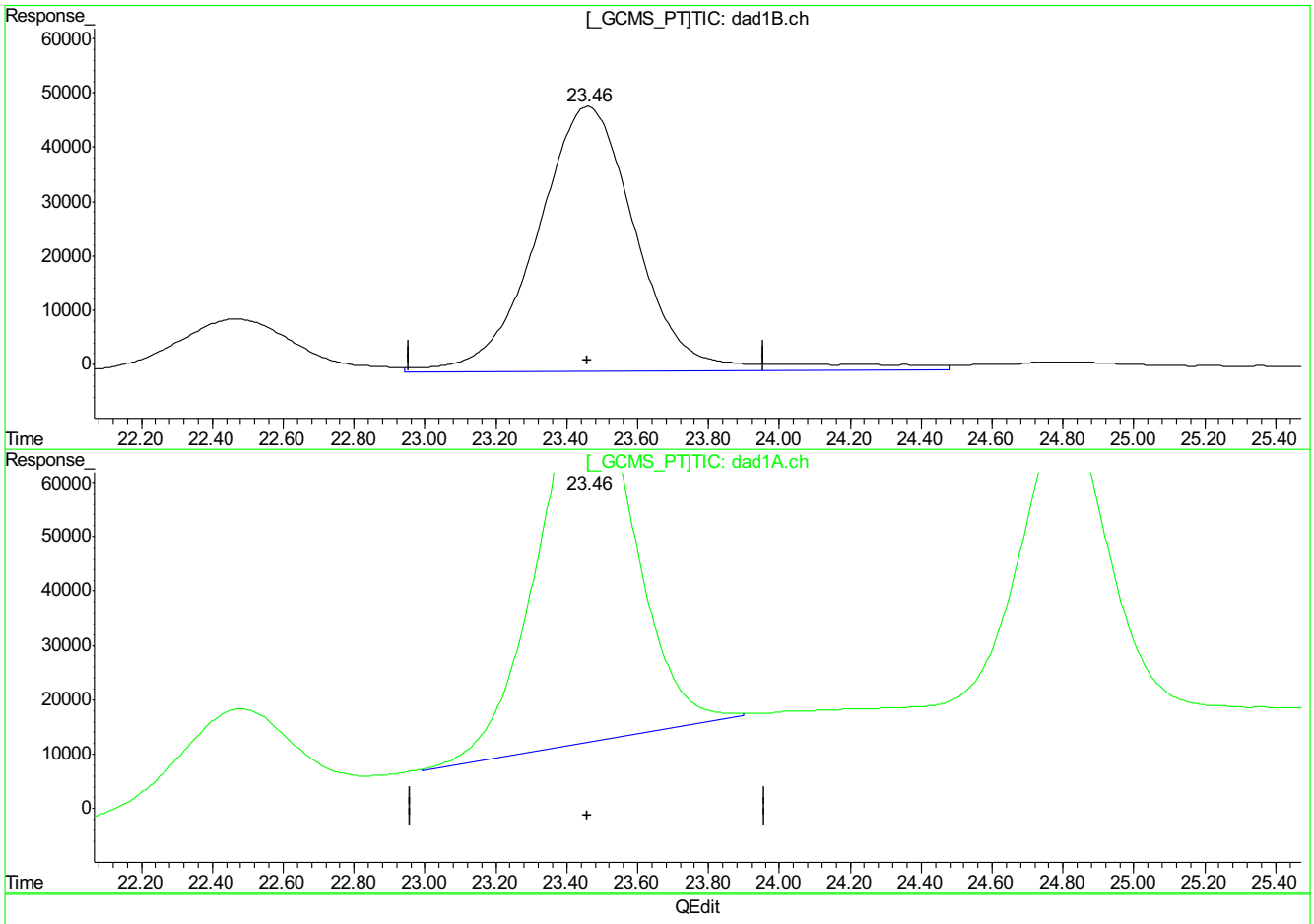
response 19496939

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:14 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.46min 1049.480ppb

response 9664423

(20) 2-Amino-4,6-Dinitrotoluene #2

23.46min 987.916ppb m

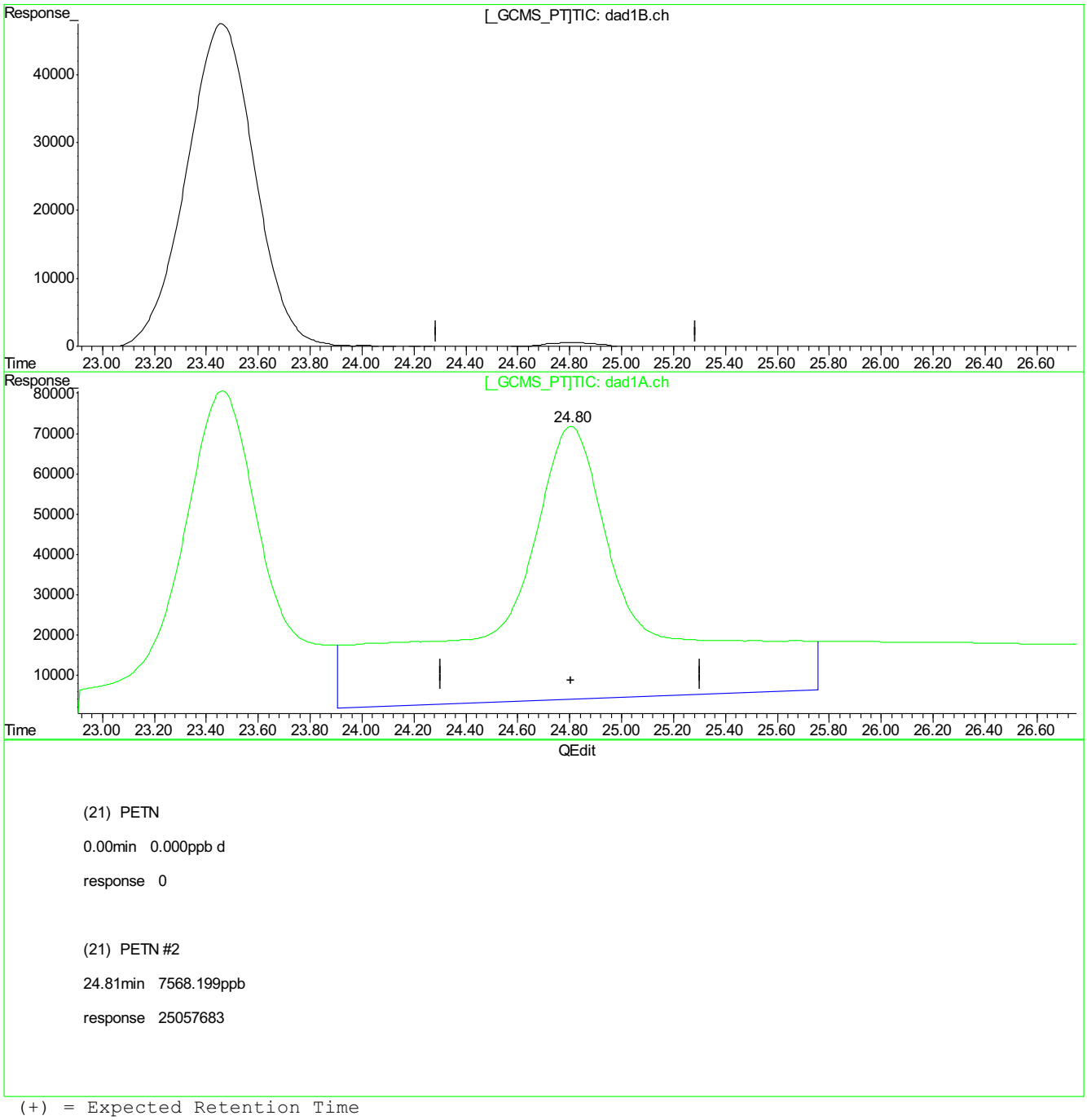
response 12589518

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:18 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.81min 7568.199ppb

response 25057683

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:24 2017

9.5.18.11

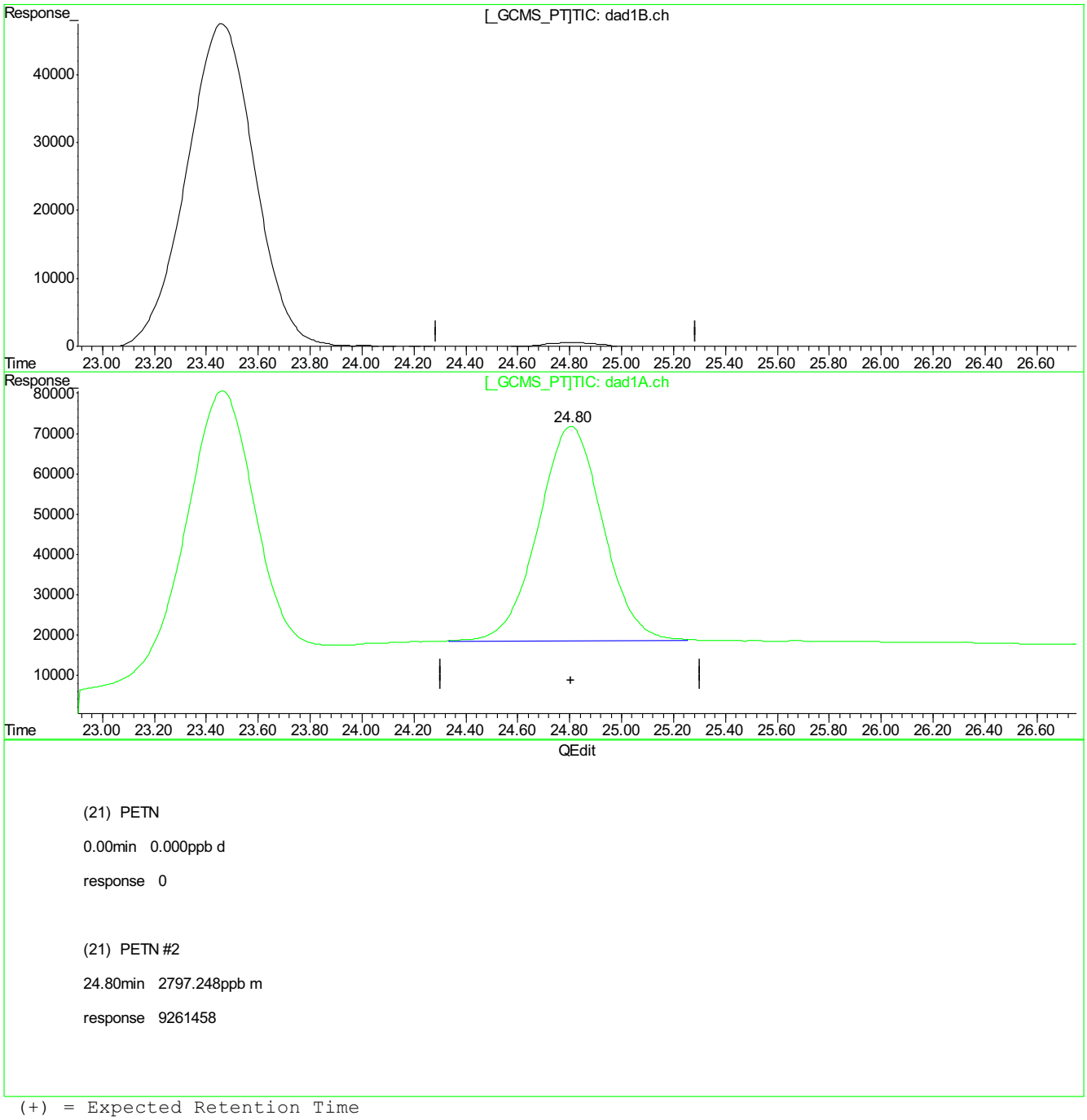
9

PP381826.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.80min 2797.248ppb m

response 9261458

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:29 2017

9.5.18.12

9

PP381826.D edits: PETN

PP381827.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19:53 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.42	15.42	10360964	20207754	2168.135	2031.820
	Spiked Amount 500.000	Range 70 - 136		Recovery =		433.63%#	406.36%#
	Target Compounds						
1)	TNX	4.73	4.73	16806824	24896904	1933.436	1923.934
2)	HMX	5.12	5.12	6593084	19709100	1643.941	1685.257
3)	DNX	5.28	5.28	14537218	23353428	1804.583	1814.775
4)	MNX	6.39	6.39	11340995	18035492	2036.516	1867.776
5)	1,3,5-Trinitrobe	7.41	7.41	18978103	32906566	1869.935	1909.296
6)	RDX	7.82	7.82	9196668	17785450	1904.266	2070.881
7)	1,3-Dinitrobenze	9.97	9.97	25844204	19114929	1937.698	1901.471
8)	Nitrobenzene	11.07	11.07	13318915	12693702	1819.593	1781.181
9)	2,4,6-Trinitroto	12.18	12.18	17802038	22674434	1854.352	1855.128
10)	Nitroglycerin	0.00	13.18	0	31244827	N.D. d	10180.586m
11)	Tetryl	14.03	14.03	12126374	20212583	1804.790	1971.693m
13)	2,6-Dinitrotolue	15.85	15.85	12854397	18415341	1814.537	1874.772
14)	2,4-Dinitrotolue	16.72	16.72	23738773	16996309	1900.248	1827.647
15)	o-Nitrotoluene	19.10	19.10	7454581	11602868	1616.217	1817.065
16)	3,5-Dinitroanili	18.28	18.28	18419146	30478152	1944.310	1986.643
17)	p-Nitrotoluene	20.76	20.78	5953950	9405975	1727.427	1853.124m
18)	4-Amino-2,6-Dini	21.24	21.25	12866733	24436639	2065.387	3137.751m#
19)	m-Nitrotoluene	22.51	22.51	8335049	14062833	1627.475	1553.315m
20)	2-Amino-4,6-Dini	23.48	23.48	17997572	24661322	1679.029	1777.929m
21)	PETN	0.00	24.82	0	14642719	N.D. d	6218.909m

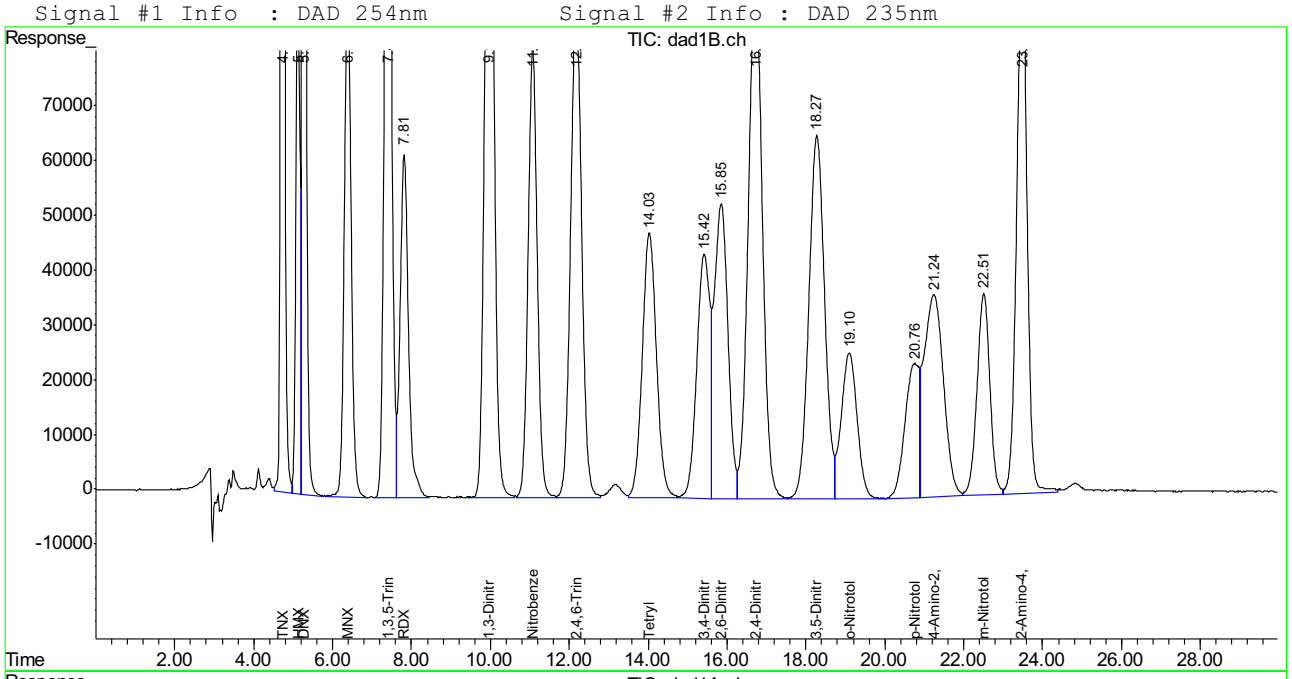
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381827.D 0424_8330RPB.M Tue Apr 25 15:49:19 2017 Page 1

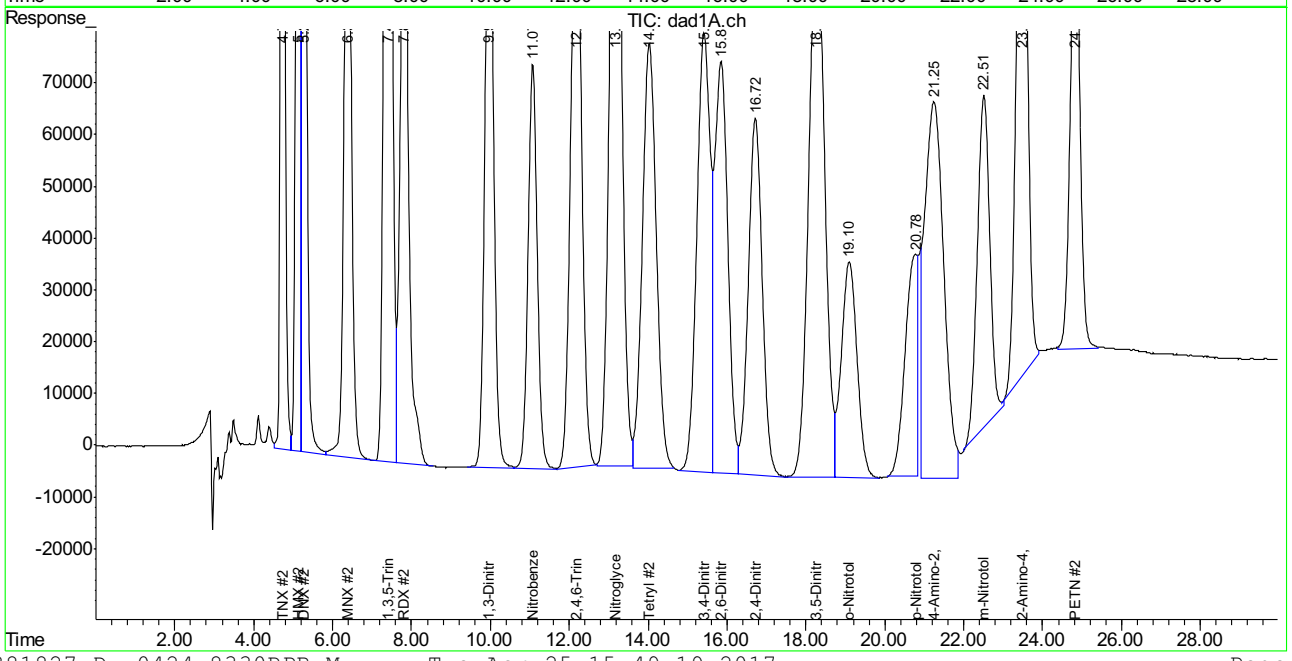
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 15:49 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

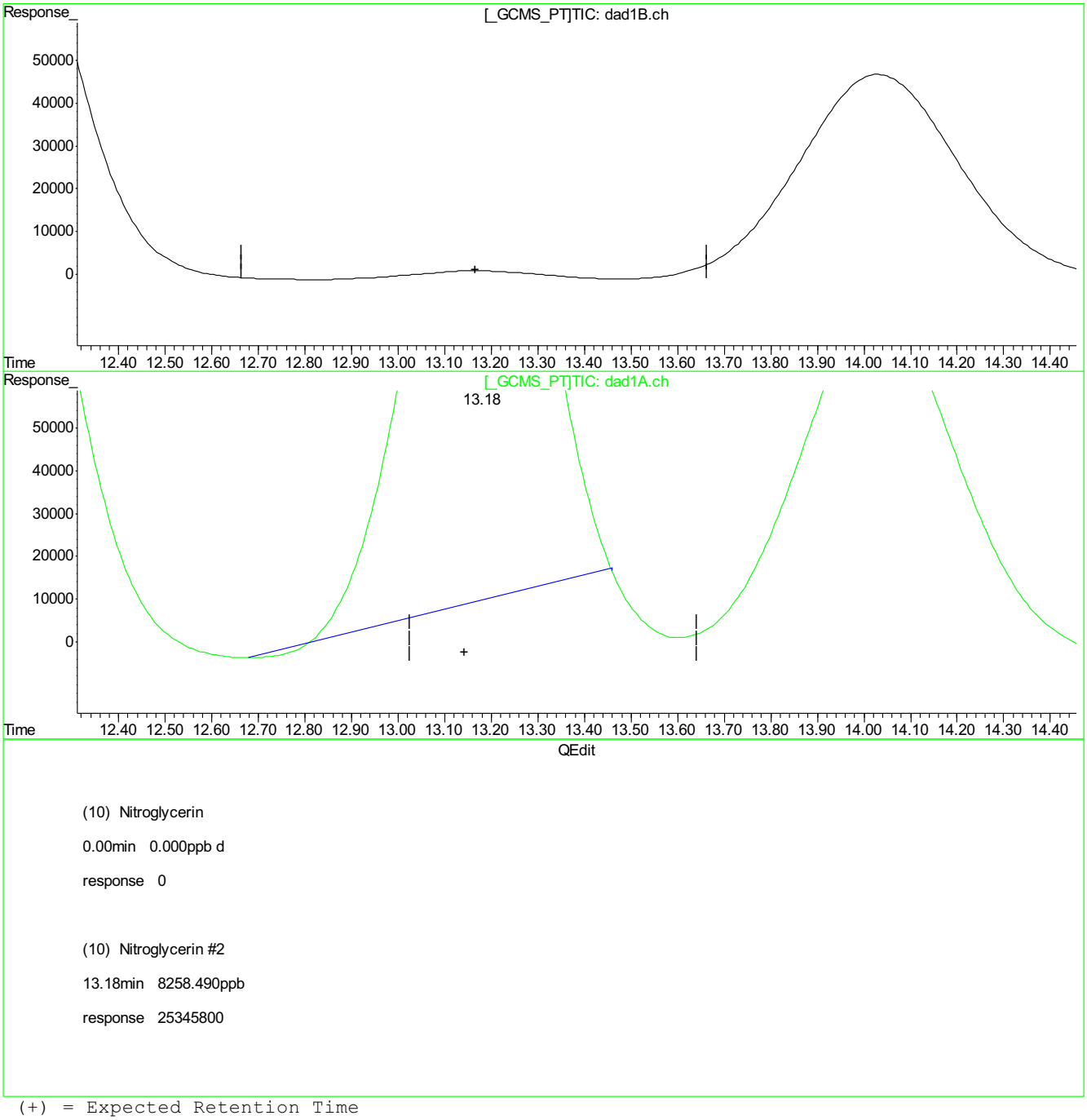
Sample Number: GPP2096-IC2096
Lab FileID: PP381827.D
Injection Time: 04/24/17 15:42
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.18	Poorly defined baseline
Tetryl	479-45-8	2	14.03	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.78	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.25	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.48	Poorly defined baseline
PETN	78-11-5	2	24.82	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.18min 8258.490ppb

response 25345800

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:20:32 2017

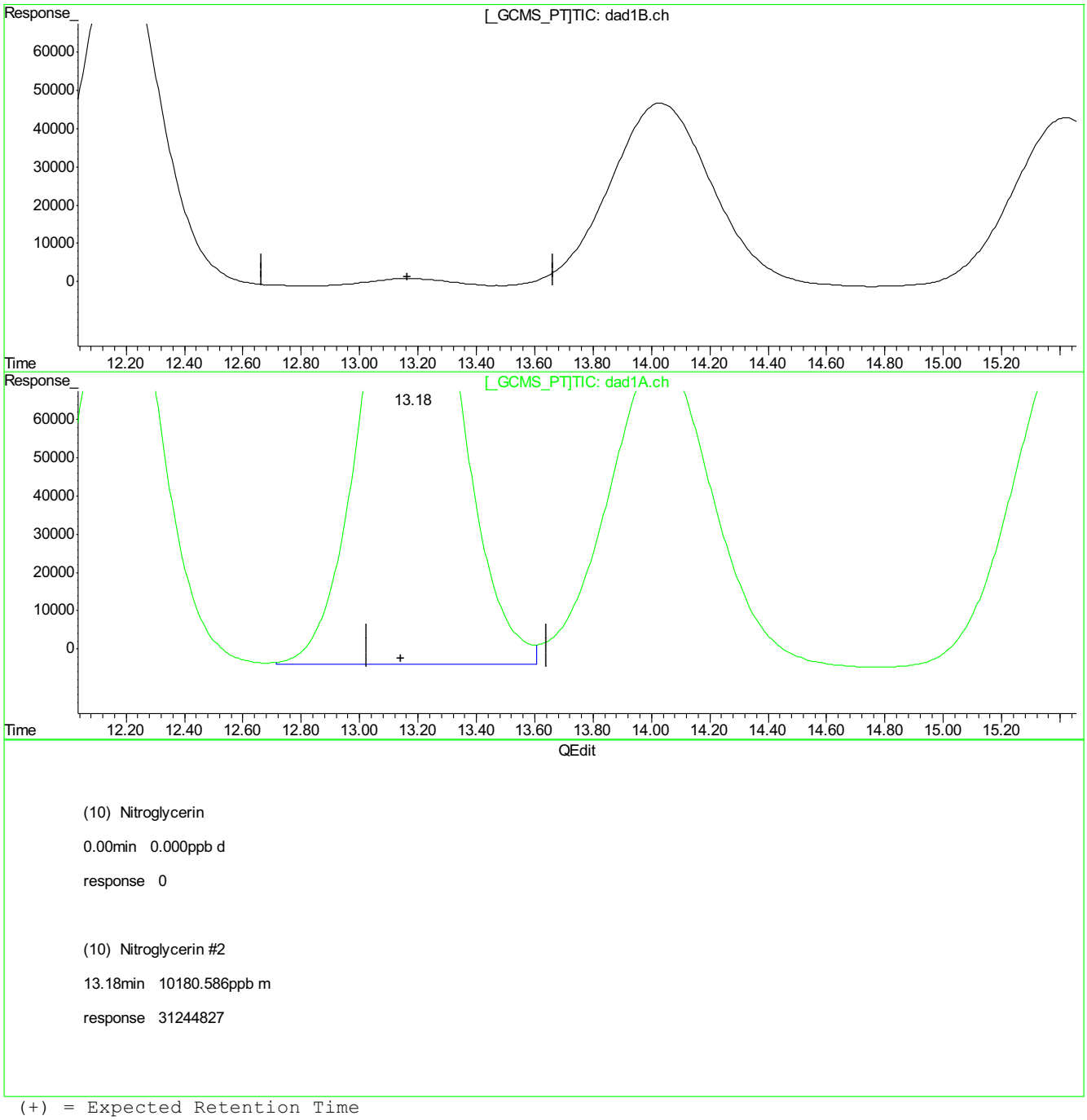
9.5.19.2

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.18min 10180.586ppb m

response 31244827

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:20:42 2017

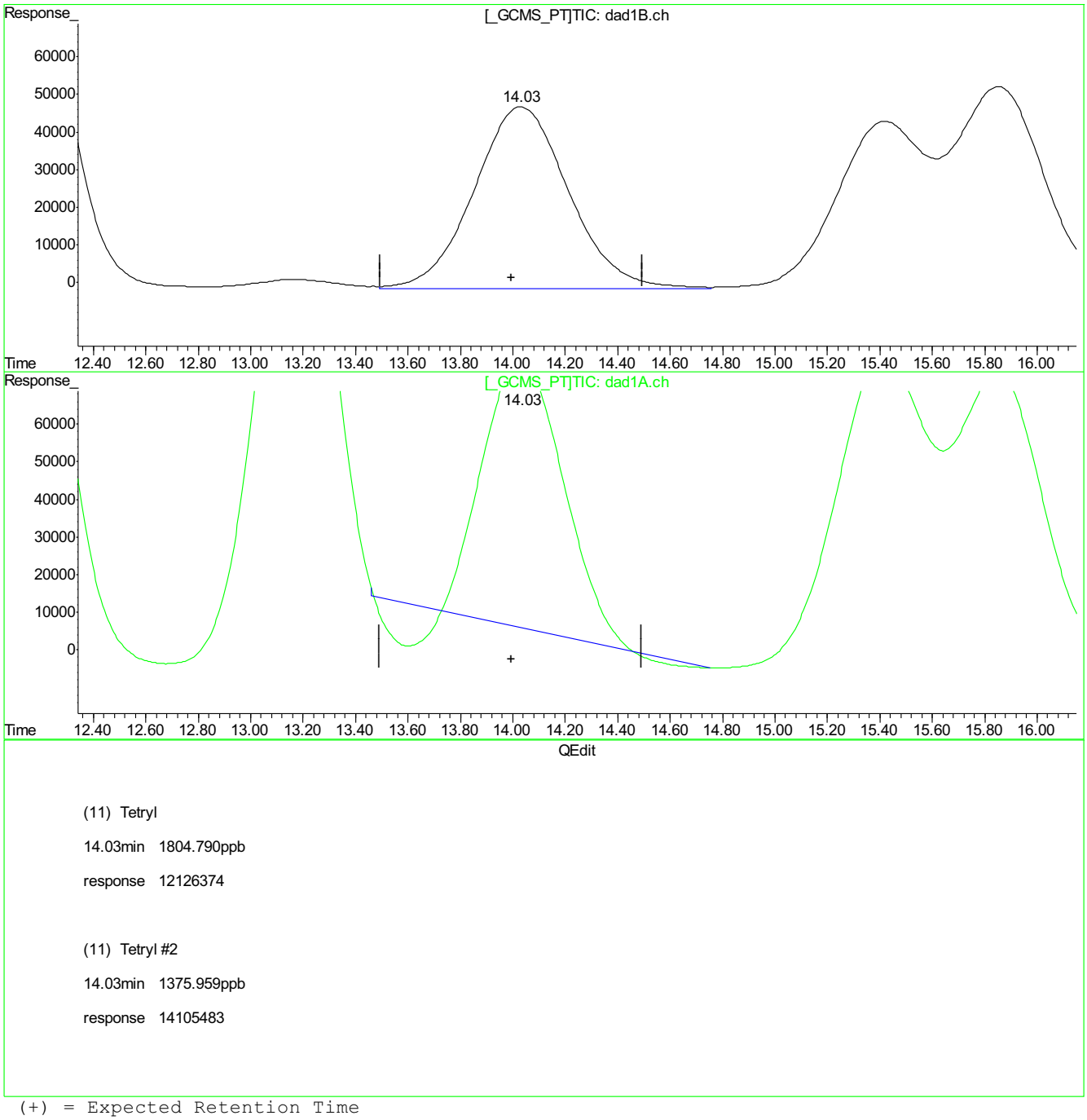
PP381827.D edits: Nitroglycerin

SGS ACCUTEST FA43019

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.03min 1804.790ppb

response 12126374

(11) Tetryl #2

14.03min 1375.959ppb

response 14105483

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:20:49 2017

9.5.19.4

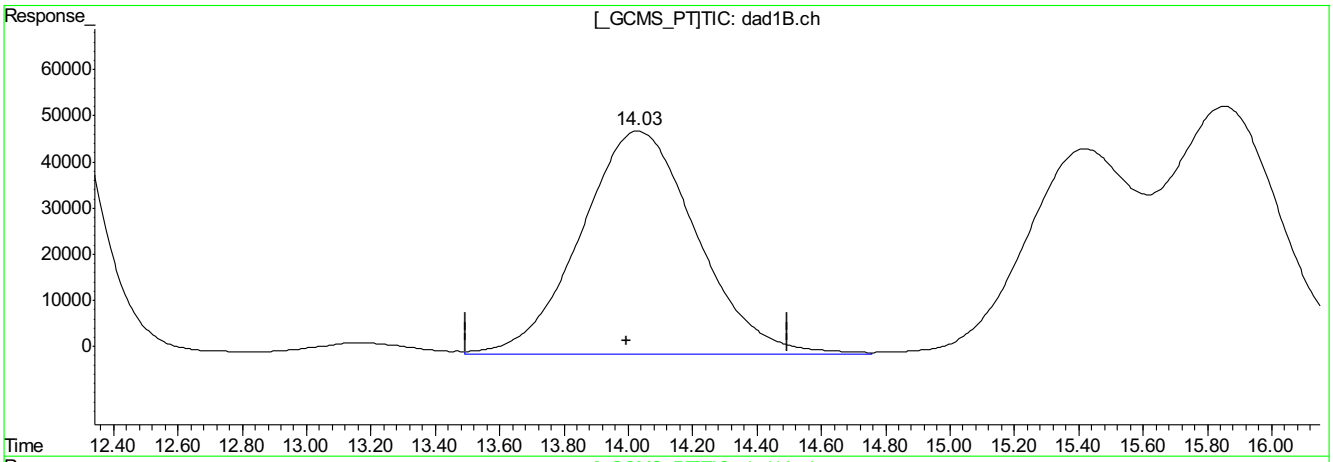
9

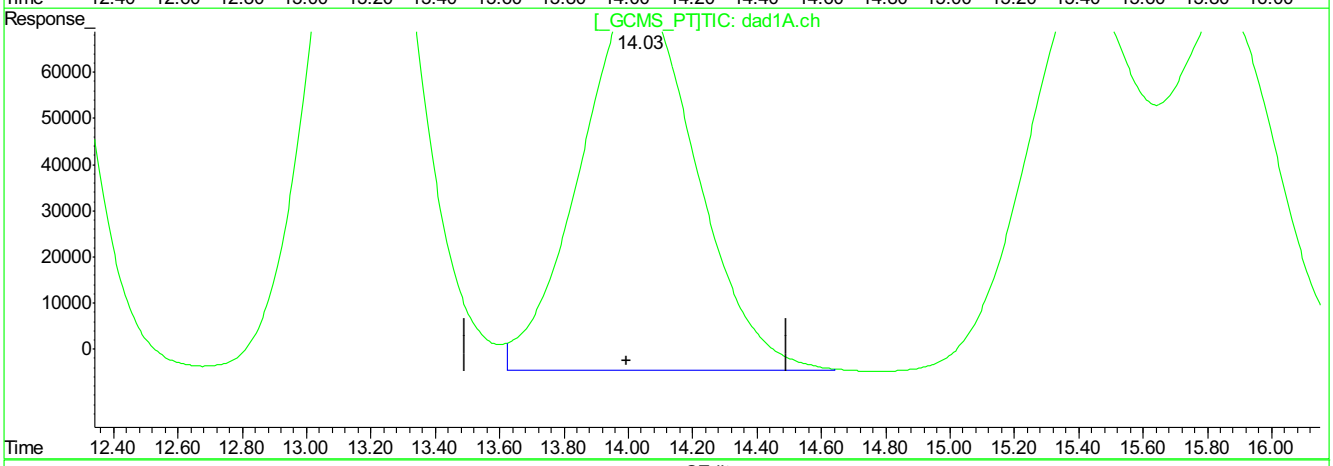
PP381827.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

14.03min 1804.790ppb

response 12126374

(11) Tetryl #2

14.03min 1971.693ppb m

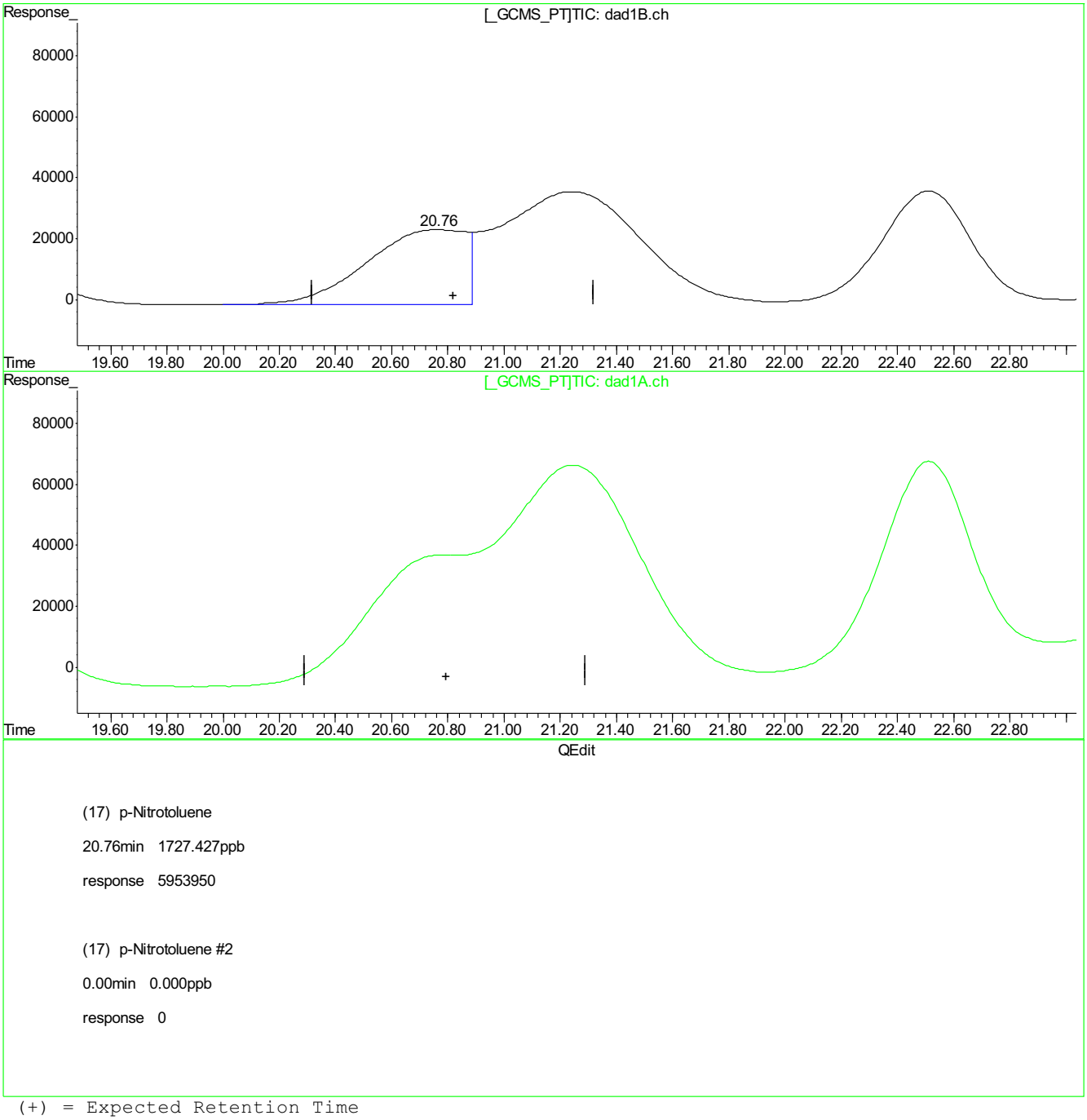
response 20212583

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:21:04 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

20.76min 1727.427ppb

response 5953950

(17) p-Nitrotoluene #2

0.00min 0.000ppb

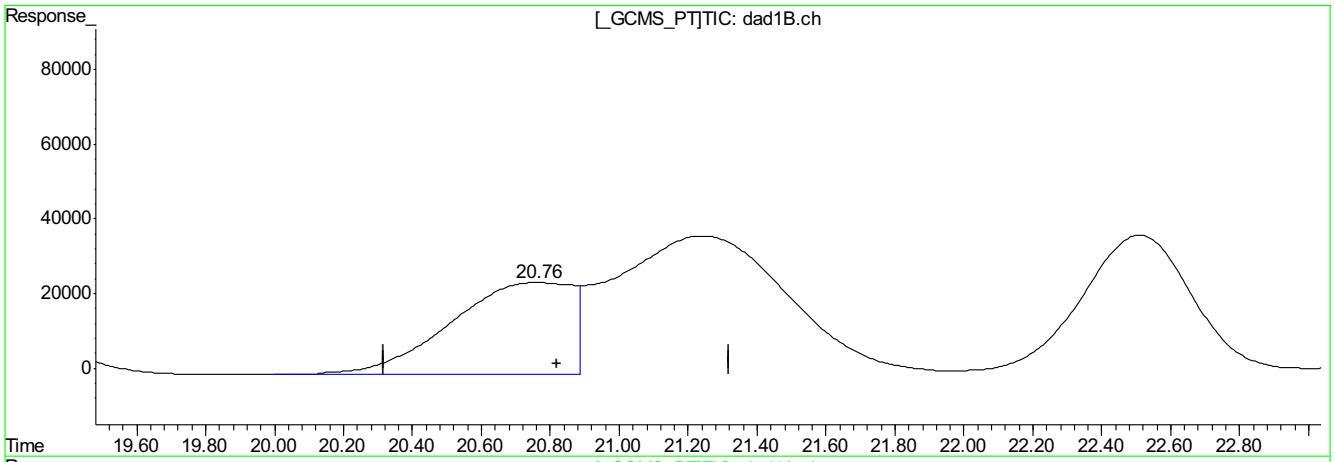
response 0

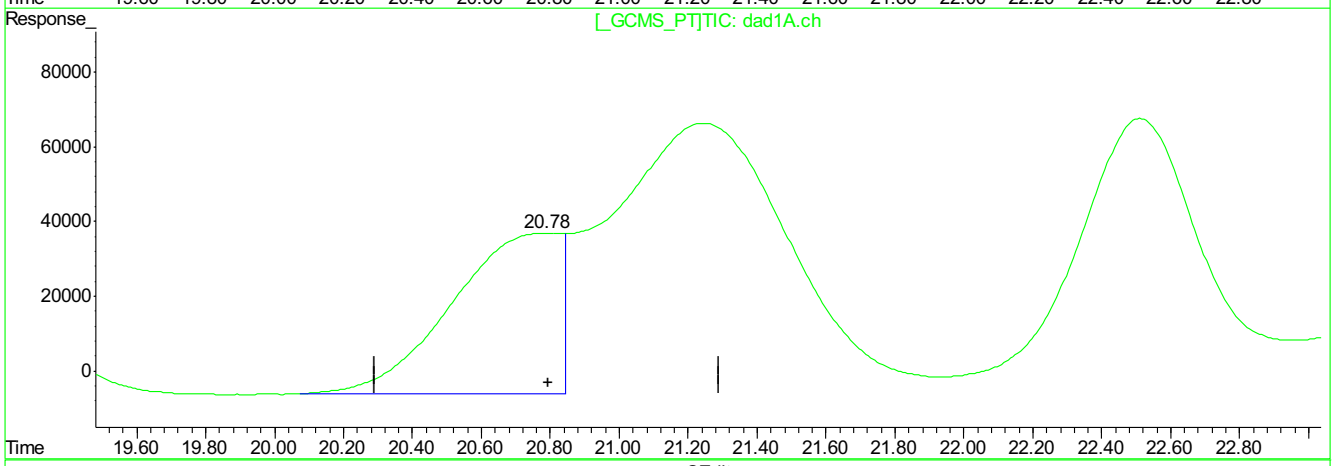
(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:21:45 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

20.76min 1727.427ppb

response 5953950

(17) p-Nitrotoluene #2

20.78min 1853.124ppb m

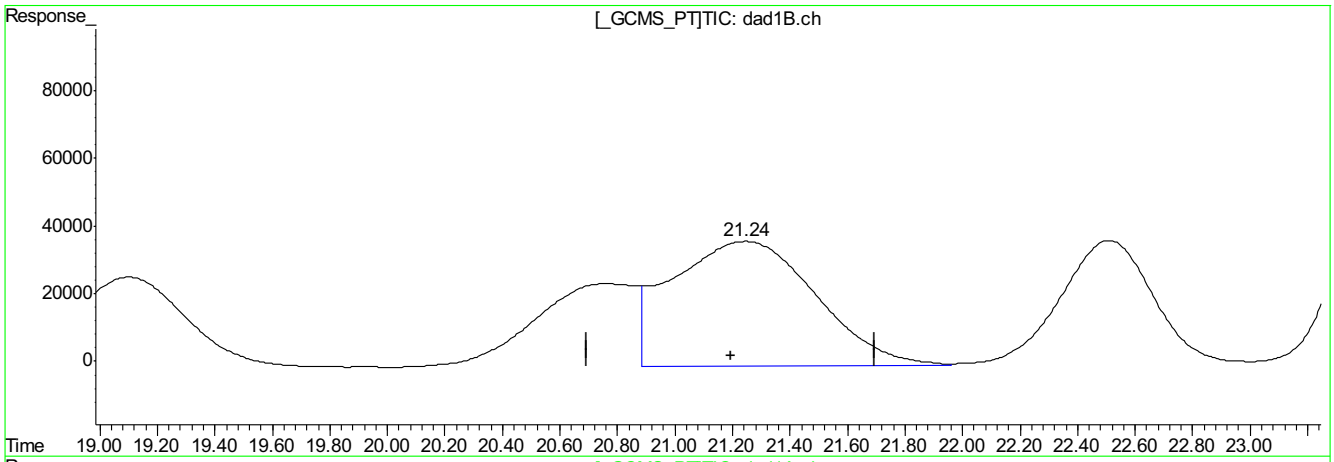
response 9405975

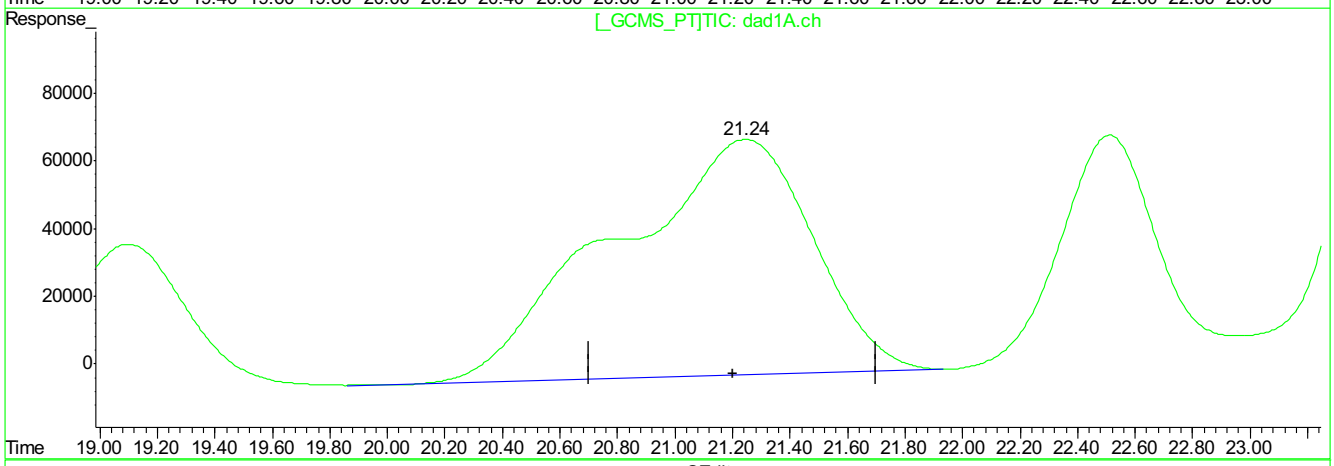
(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:04 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.24min 2065.387ppb

response 12866733

(18) 4-Amino-2,6-Dinitrotoluene #2

21.25min 4260.133ppb

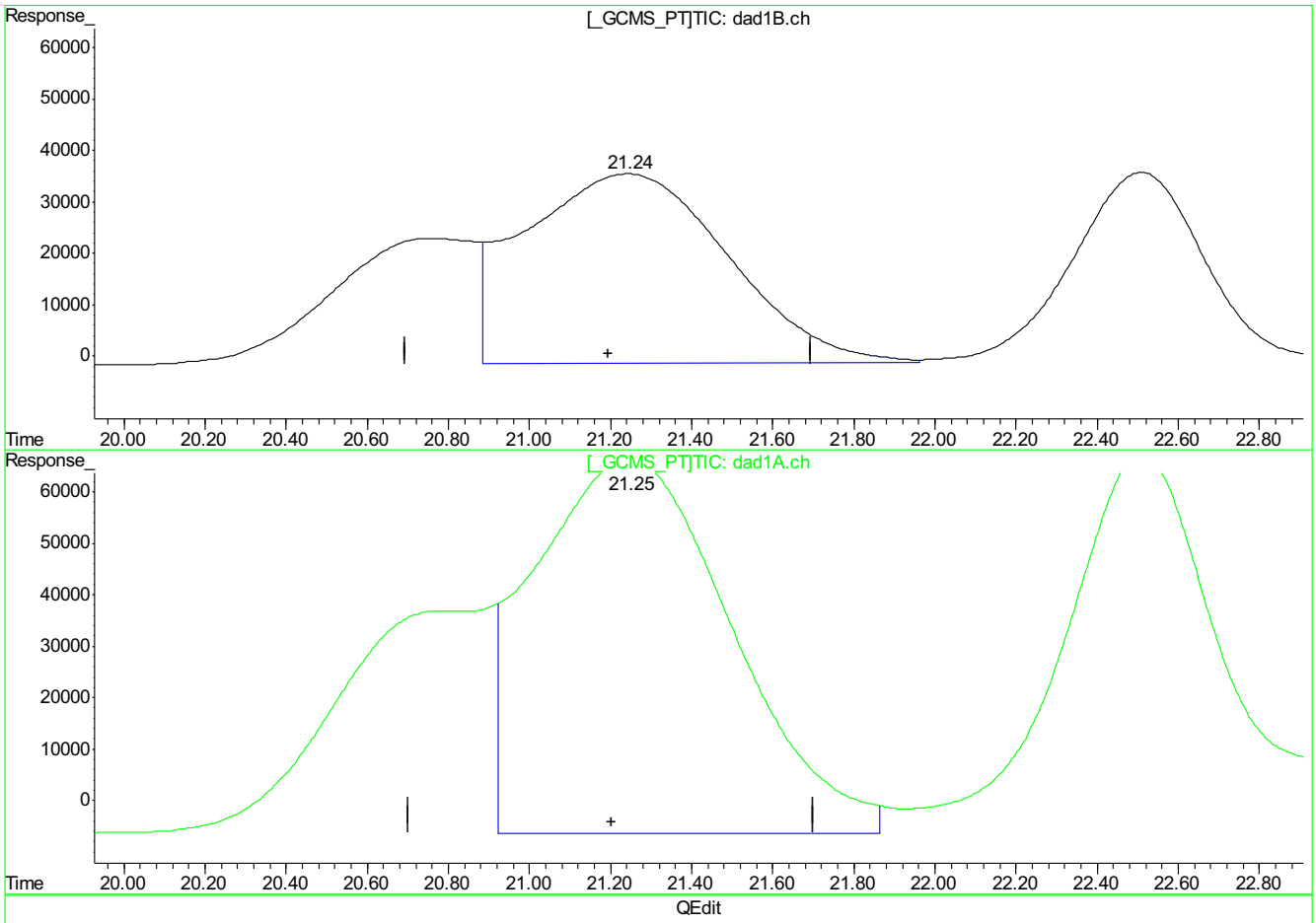
response 33177697

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:12 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.24min 2065.387ppb

response 12866733

(18) 4-Amino-2,6-Dinitrotoluene #2

21.25min 3137.751ppb m

response 24436639

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:27 2017

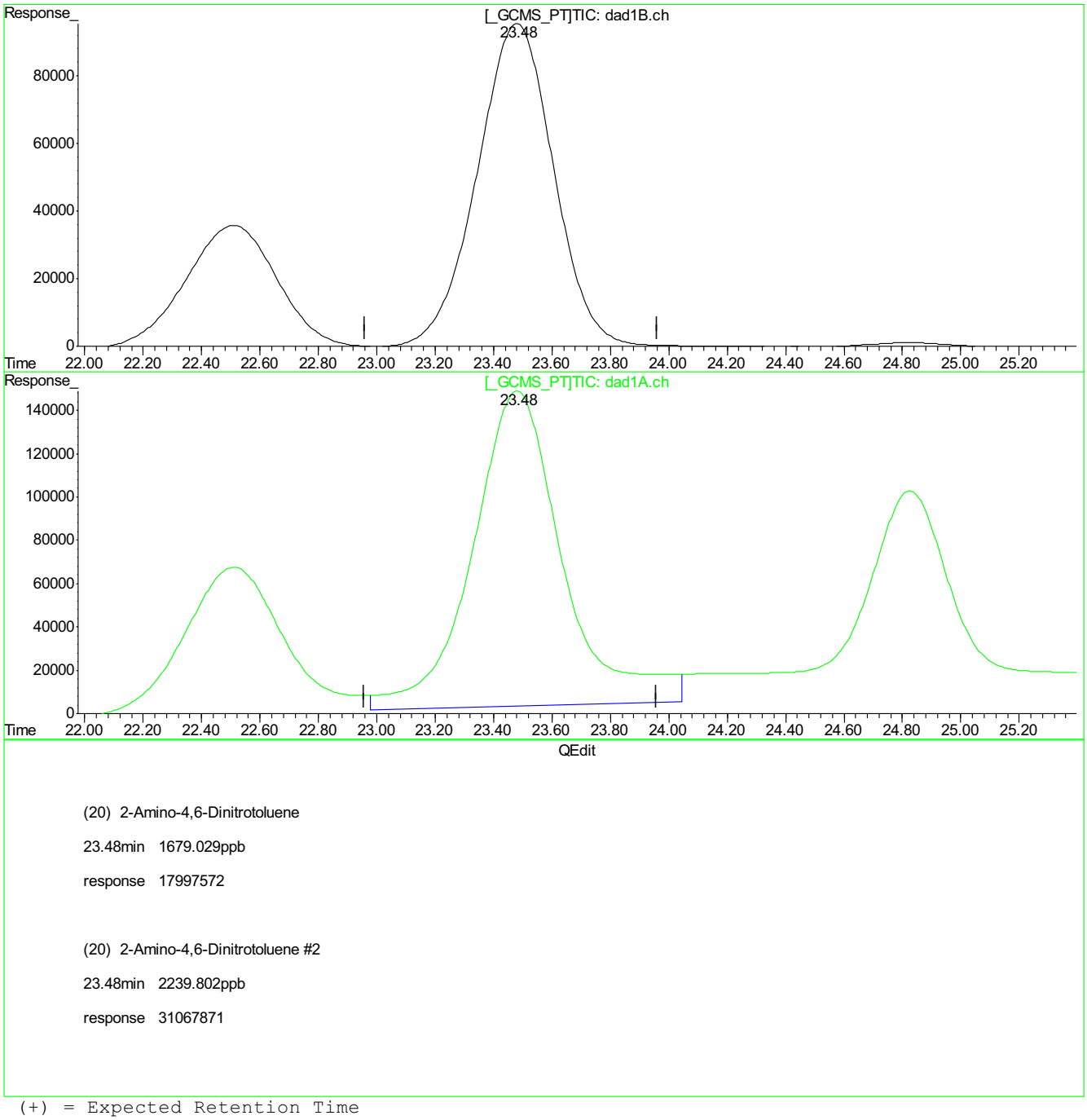
9.5.19.9

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.48min 1679.029ppb

response 17997572

(20) 2-Amino-4,6-Dinitrotoluene #2

23.48min 2239.802ppb

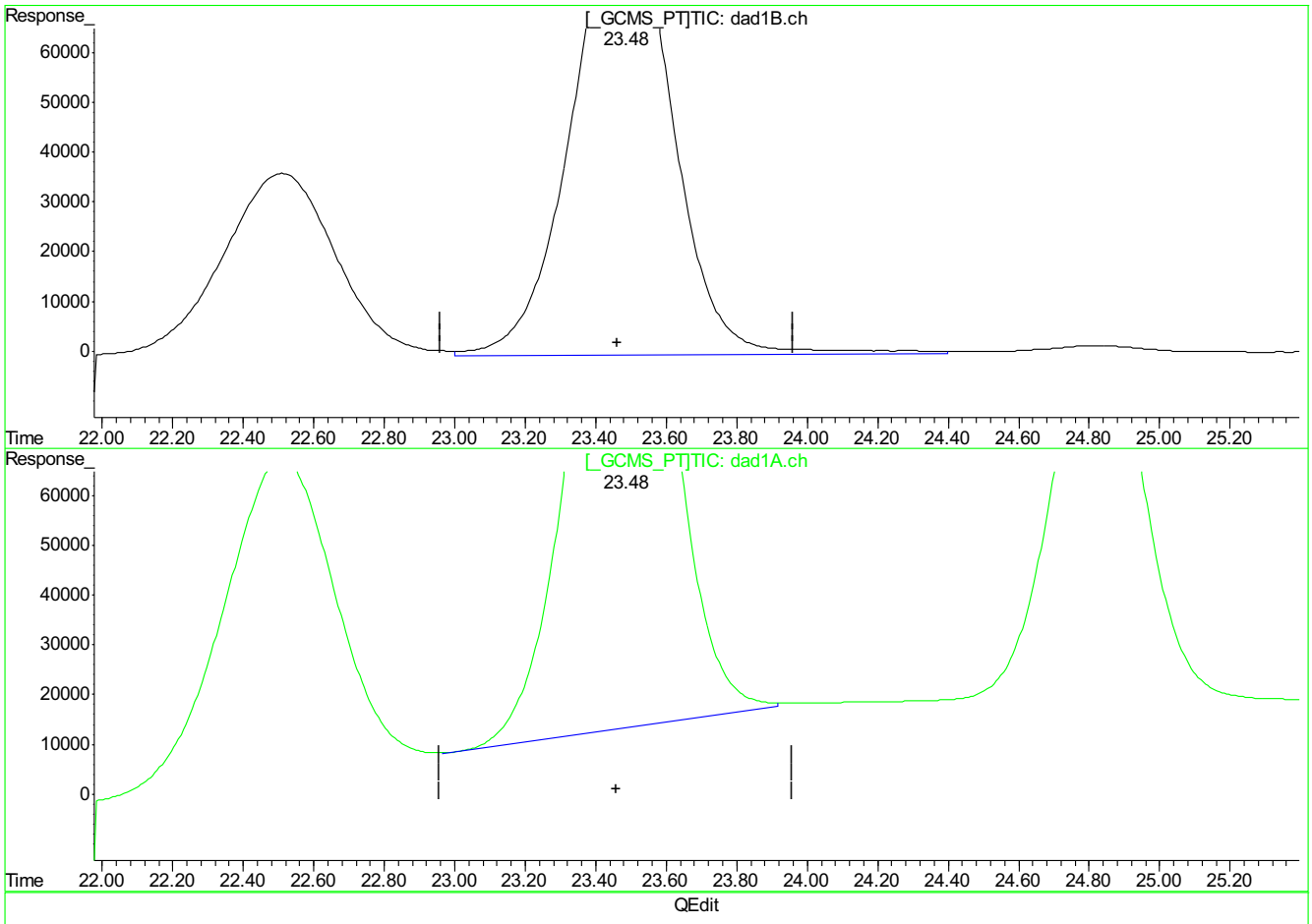
response 31067871

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:37 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.48min 1679.029ppb

response 17997572

(20) 2-Amino-4,6-Dinitrotoluene #2

23.48min 1777.929ppb m

response 24661322

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:45 2017

9.5.19.11

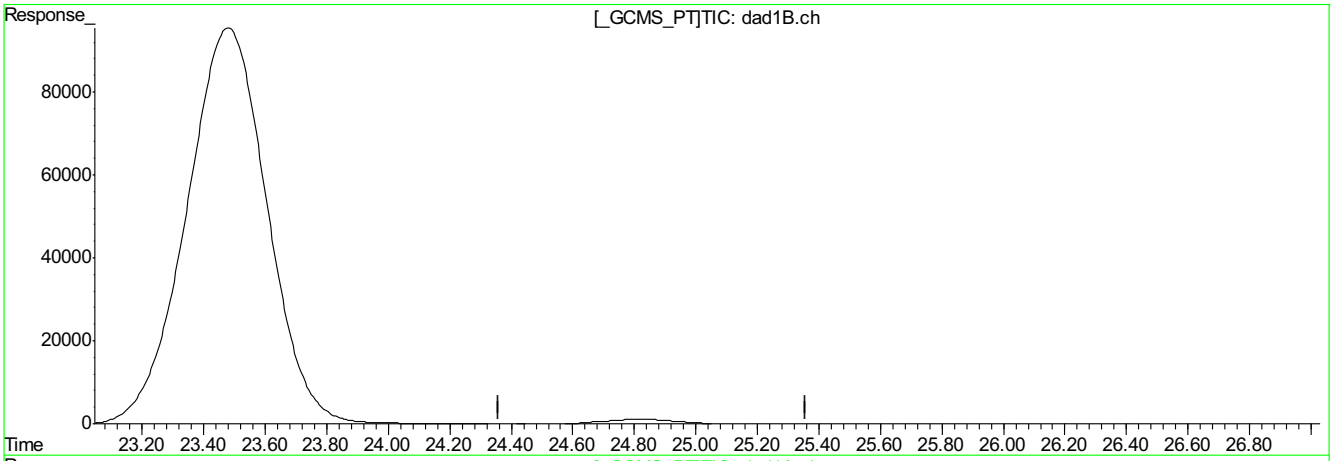
9

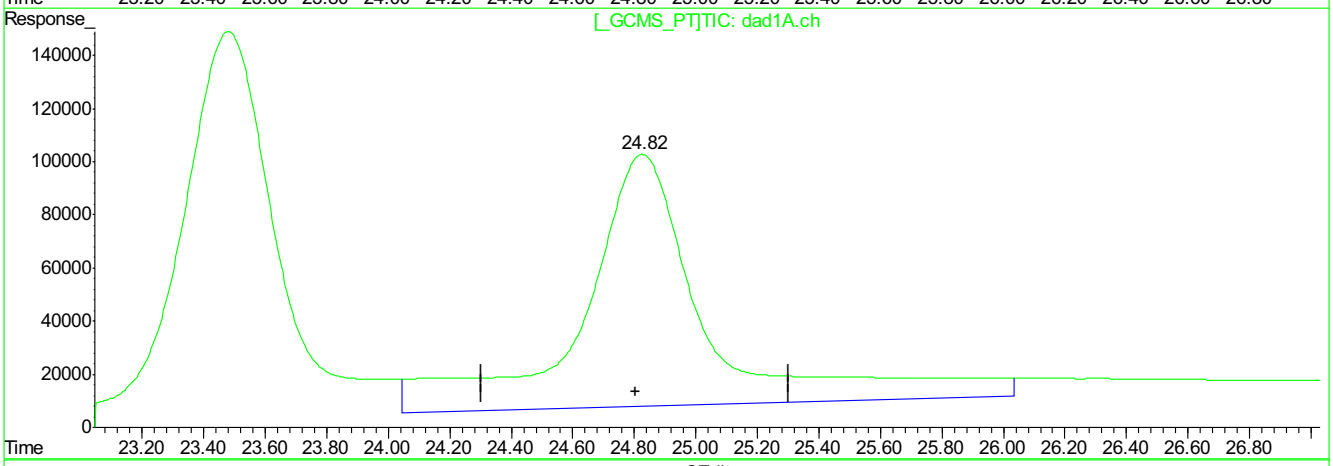
PP381827.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.83min 11301.822ppb

response 26610680

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:49 2017

9.5.19.12

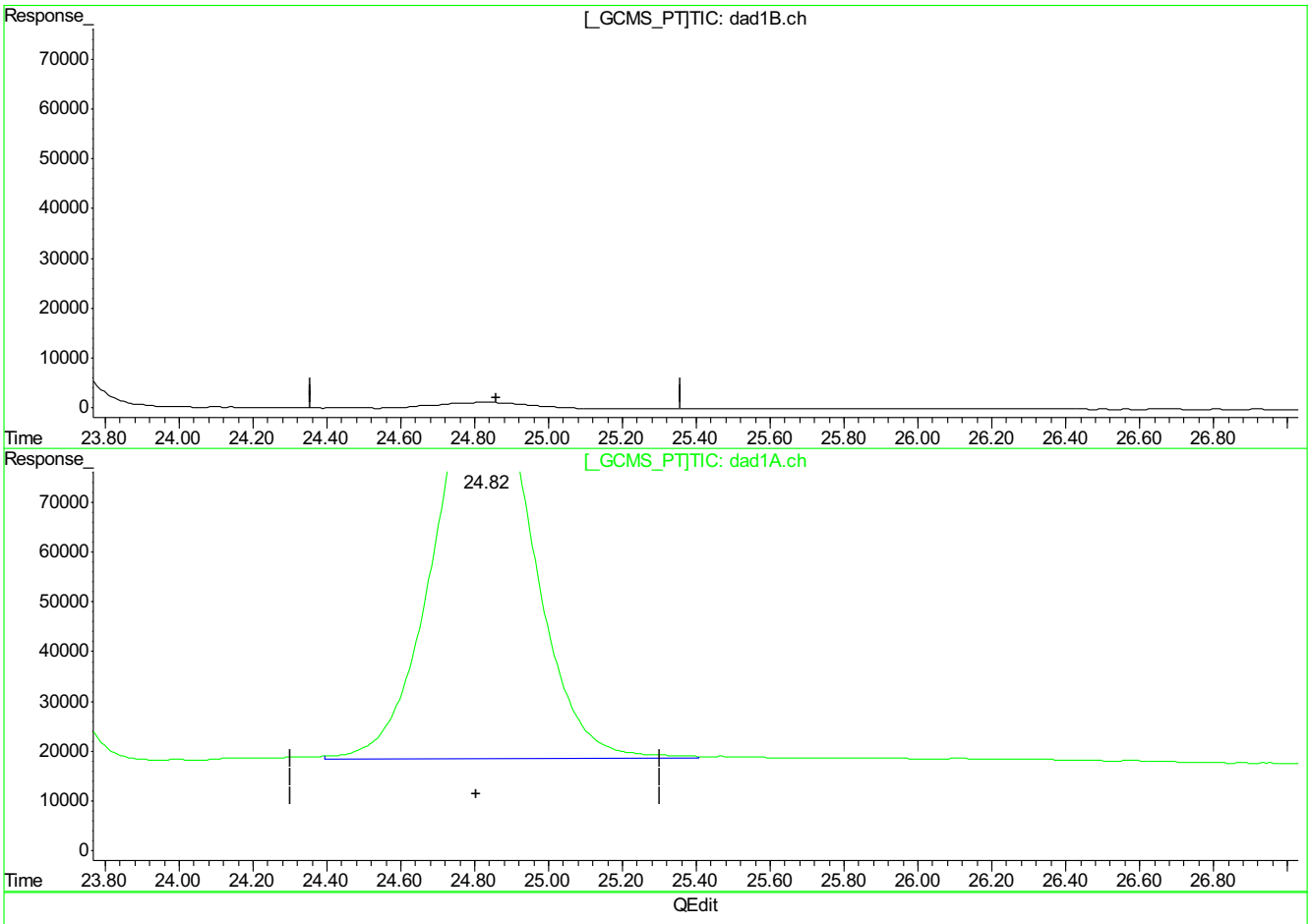
9

PP381827.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.82min 6218.909ppb m

response 14642719

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:57 2017

9.5.19.13

9

PP381827.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53:12 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.71	4.71	4405934	6270660	505.539	483.176
2)	HMX	5.10	5.10	1929143	5528462	522.104	513.013
3)	DNX	5.25	5.25	3798758	6290240	473.419	453.954
4)	MNX	6.33	6.33	2828134	4381611	508.894	466.656
5)	1,3,5-Trinitrobe	7.35	7.35	4948136	8482530	484.794	490.722
6)	RDX	7.74	7.74	2487561	4723282	512.238	551.085
7)	1,3-Dinitrobenze	9.90	9.90	6188298	4586647	464.503	454.898
8)	Nitrobenzene	10.98	10.98	3528290	3312663	461.030	442.973
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	13.05	0	8012815	N.D. d	2486.109m
11)	Tetryl	13.88	13.88	2993776	5144383	473.796	501.454m
13)	2,6-Dinitrotolue	15.69	15.69	3449875	5333027	513.558	547.239
14)	2,4-Dinitrotolue	16.55	16.55	5994342	4382443	479.424	467.055
15)	o-Nitrotoluene	18.90	18.90	2195940	3380436	433.300	478.010
16)	3,5-Dinitroanili	18.11	18.12	5336145	8985257	568.862m	604.559
17)	p-Nitrotoluene	20.52	20.54	2087739	3056211	539.634m	592.097m
18)	4-Amino-2,6-Dini	21.02	21.02	3055038	5480977	498.703	558.593
19)	m-Nitrotoluene	22.34	22.35	2538322	4159848	455.785	442.527m
20)	2-Amino-4,6-Dini	23.37	23.37	5058989	6584176	511.650	498.077m
21)	PETN	0.00	24.72	0	9325564	N.D. d	4543.543m

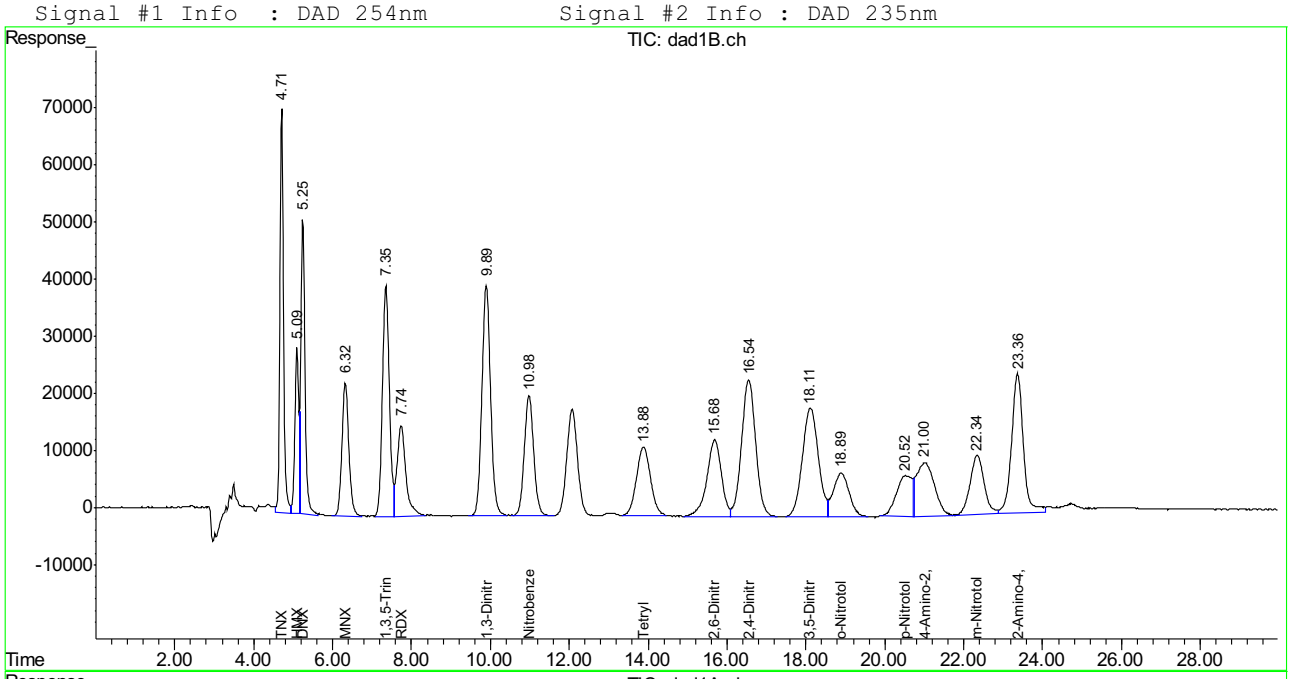
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381828.D 0424_8330RPB.M Tue Apr 25 14:45:01 2017 Page 1

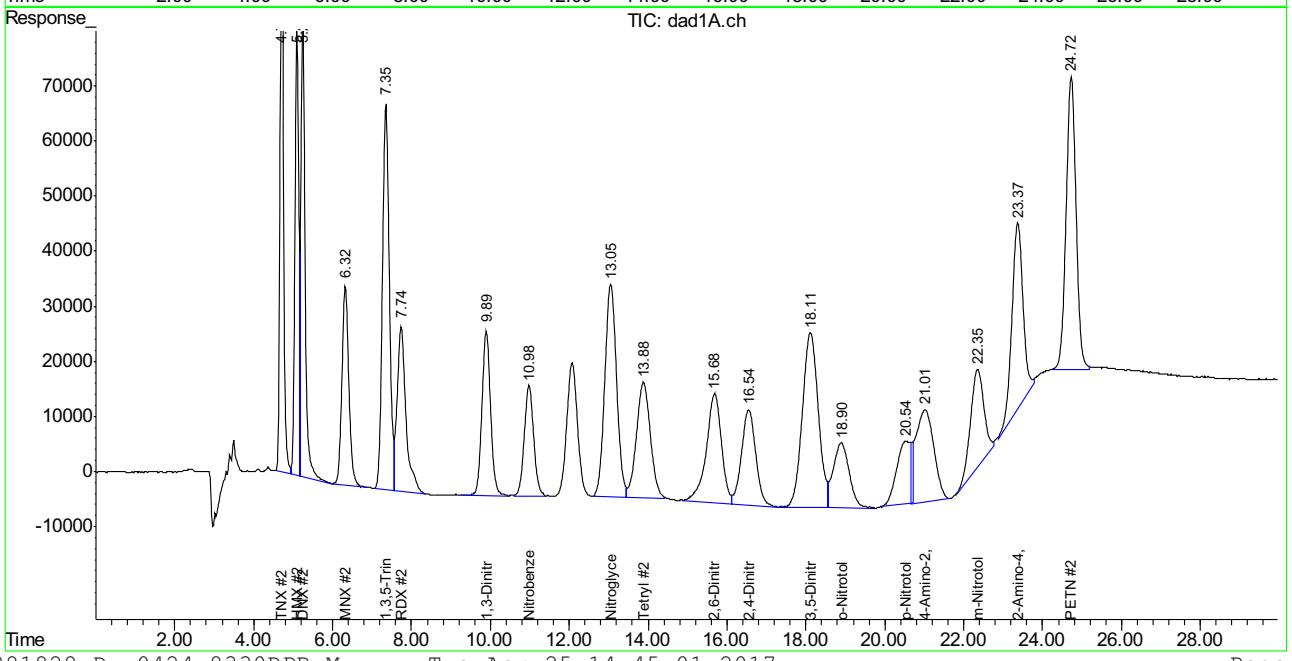
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 14:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

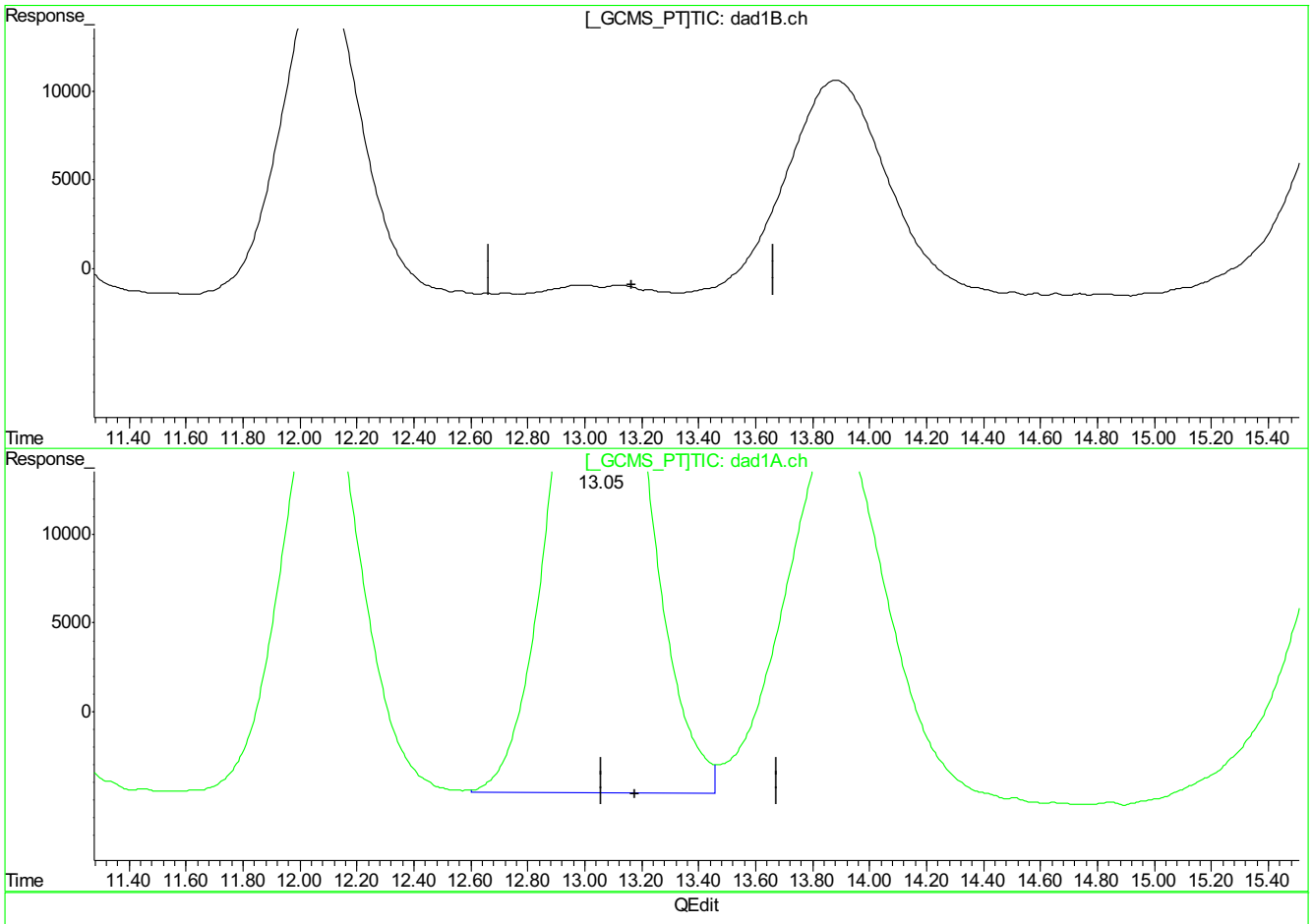
Sample Number: GPP2096-ICV2096 **Method:** SW846 8330A
Lab FileID: PP381828.D **Analyst approved:** 04/25/17 13:47 Evita Martinez
Injection Time: 04/24/17 16:15 **Supervisor approved:** 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.05	Poorly defined baseline
Tetryl	479-45-8	2	13.88	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	18.11	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	20.52	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.54	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.35	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.37	Poorly defined baseline
PETN	78-11-5	2	24.72	Poorly defined baseline

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch         Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On    : 24-Apr-2017, 16:15:18                    Operator: evitam
Sample    : icv2096-500                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.05min 2486.109ppb m

response 8012815

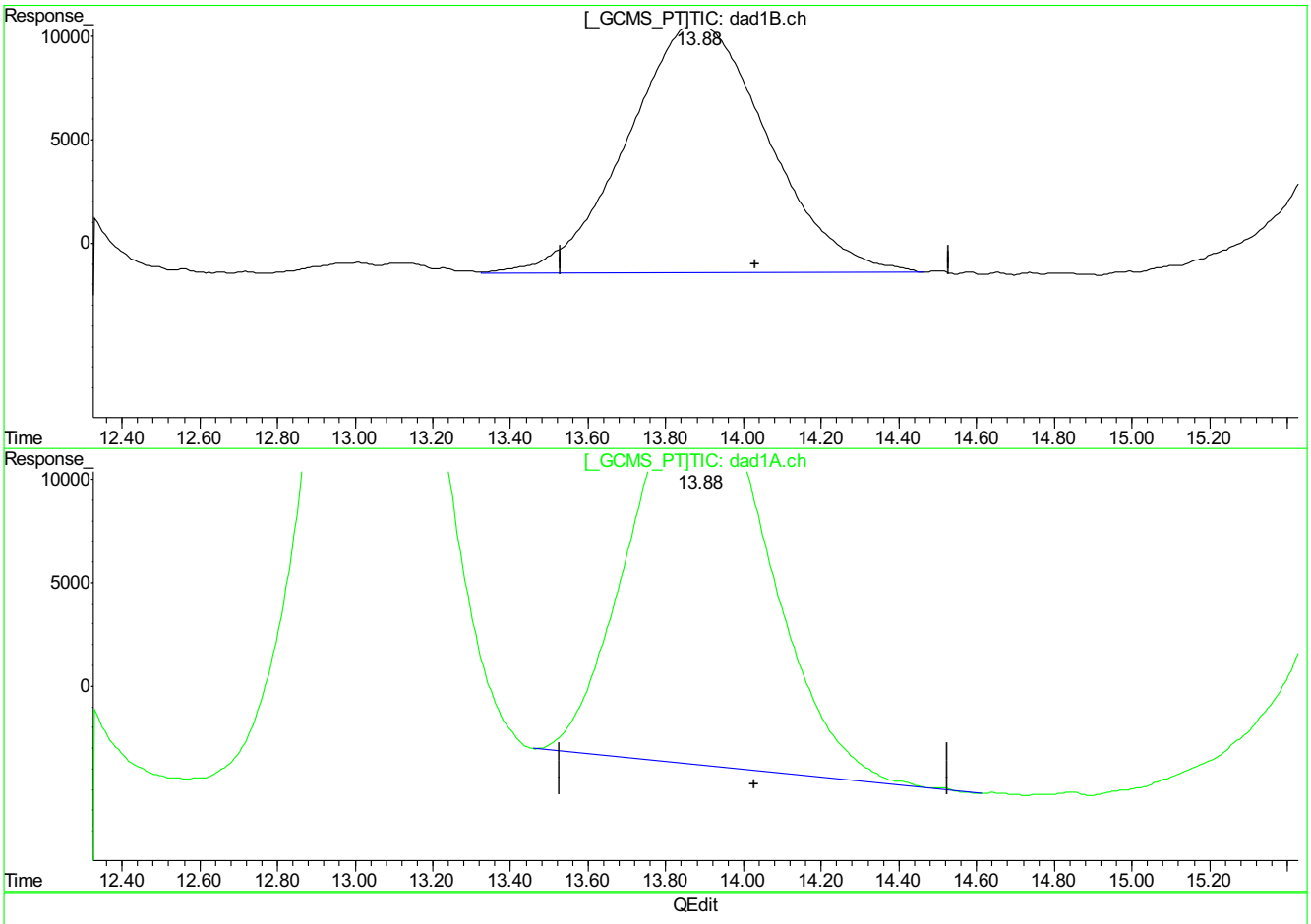
(+) = Expected Retention Time

PP381828.D 0424_8330RPB.M Tue Apr 25 10:53:35 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch         Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On    : 24-Apr-2017, 16:15:18                    Operator: evitam
Sample    : icv2096-500                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
```



(11) Tetryl

13.88min 473.796ppb

response 2993776

(11) Tetryl #2

13.88min 453.198ppb

response 4651515

(+) = Expected Retention Time

PP381828.D 0424_8330RPB.M Tue Apr 25 10:53:42 2017

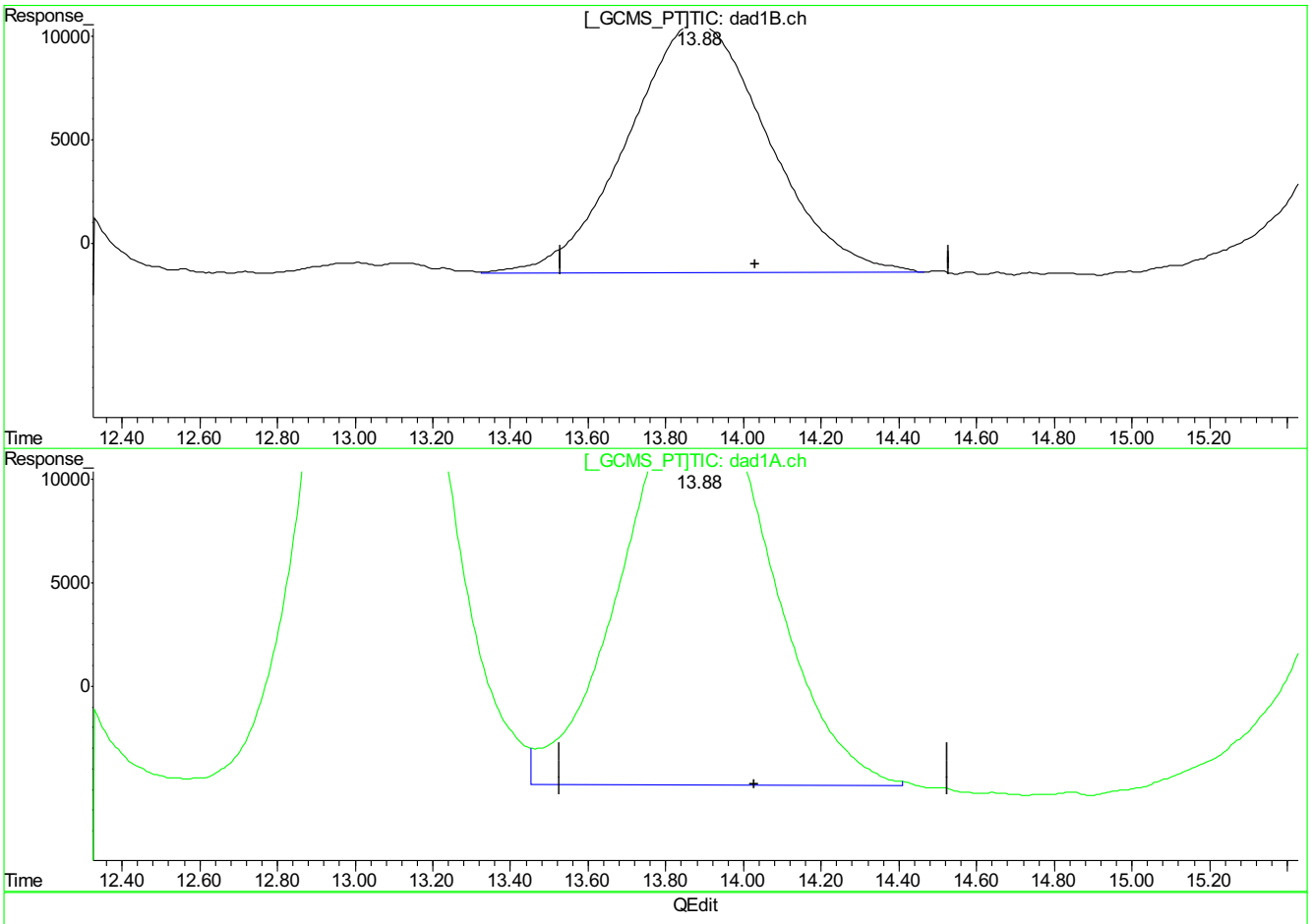
9.5.20.3

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.88min 473.796ppb

response 2993776

(11) Tetryl #2

13.88min 501.454ppb m

response 5144383

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:53:48 2017

9.5.20.4

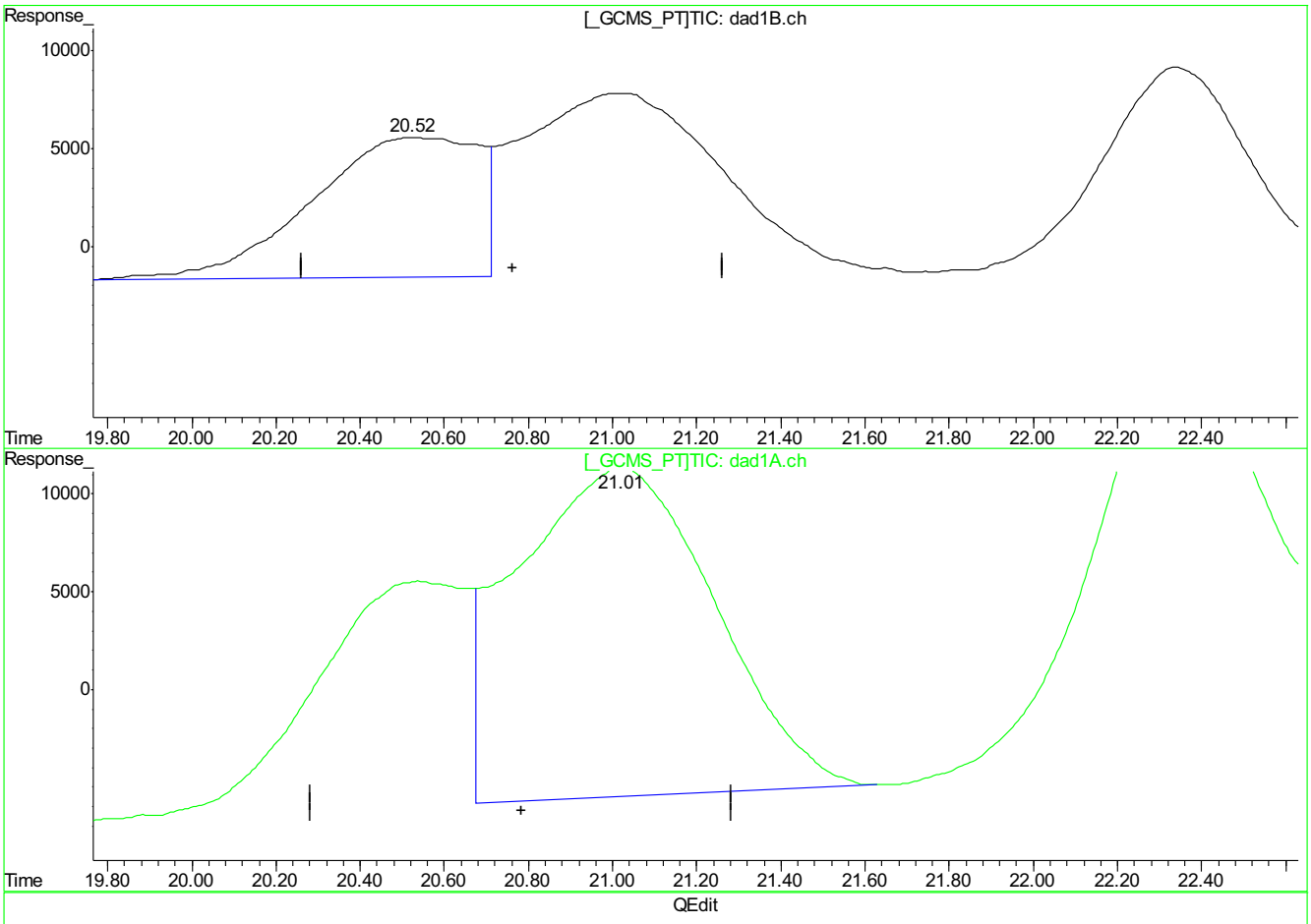
9

PP381828.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

20.53min 497.333ppb

response 1936901

(17) p-Nitrotoluene #2

21.02min 1096.288ppb

response 5480977

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:54:21 2017

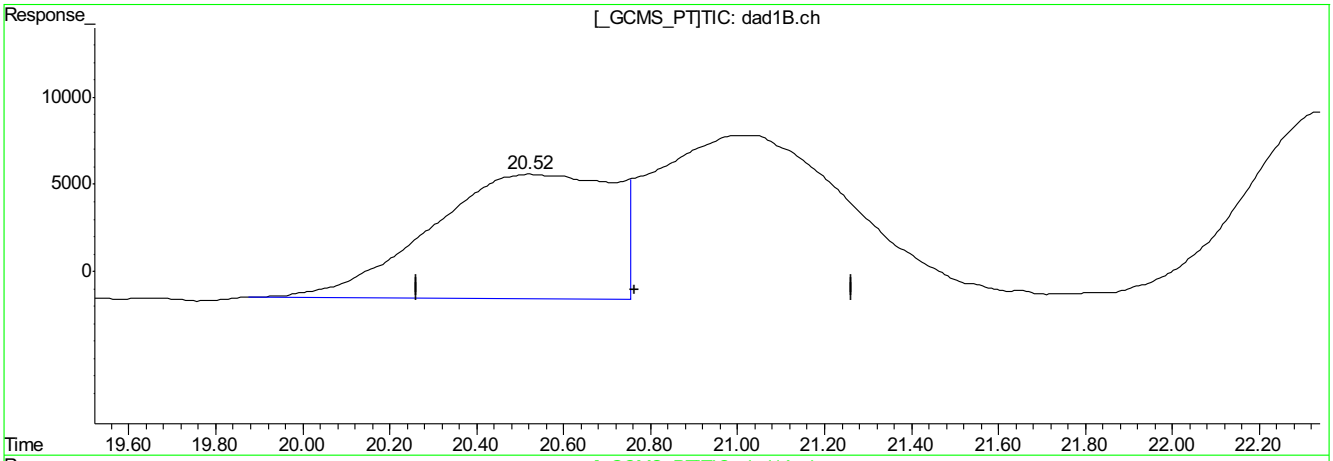
9.5.20.5

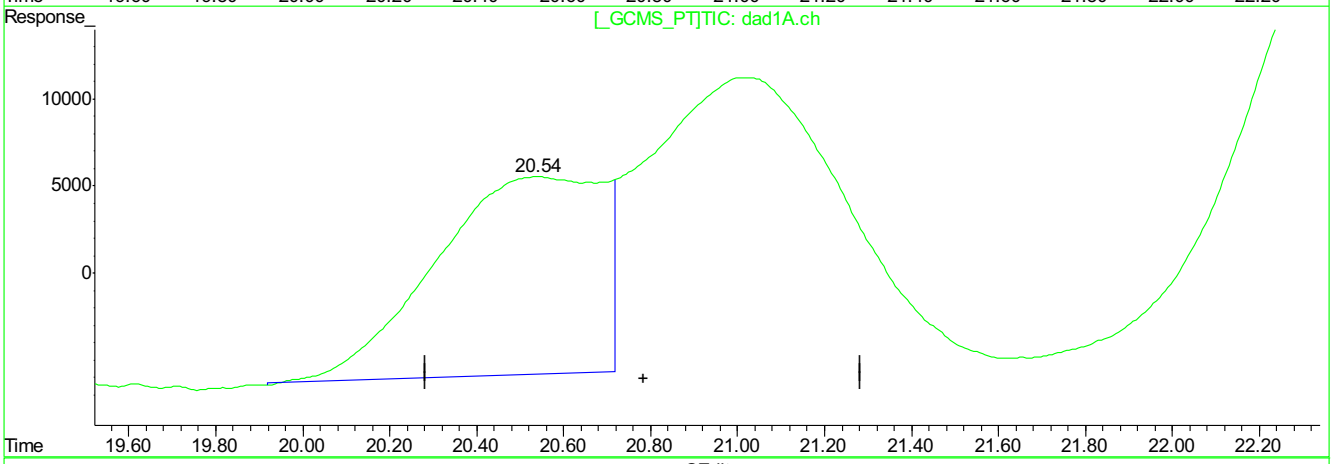
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

20.52min 539.634ppb m

response 2087739

(17) p-Nitrotoluene #2

20.54min 592.097ppb m

response 3056211

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:54:51 2017

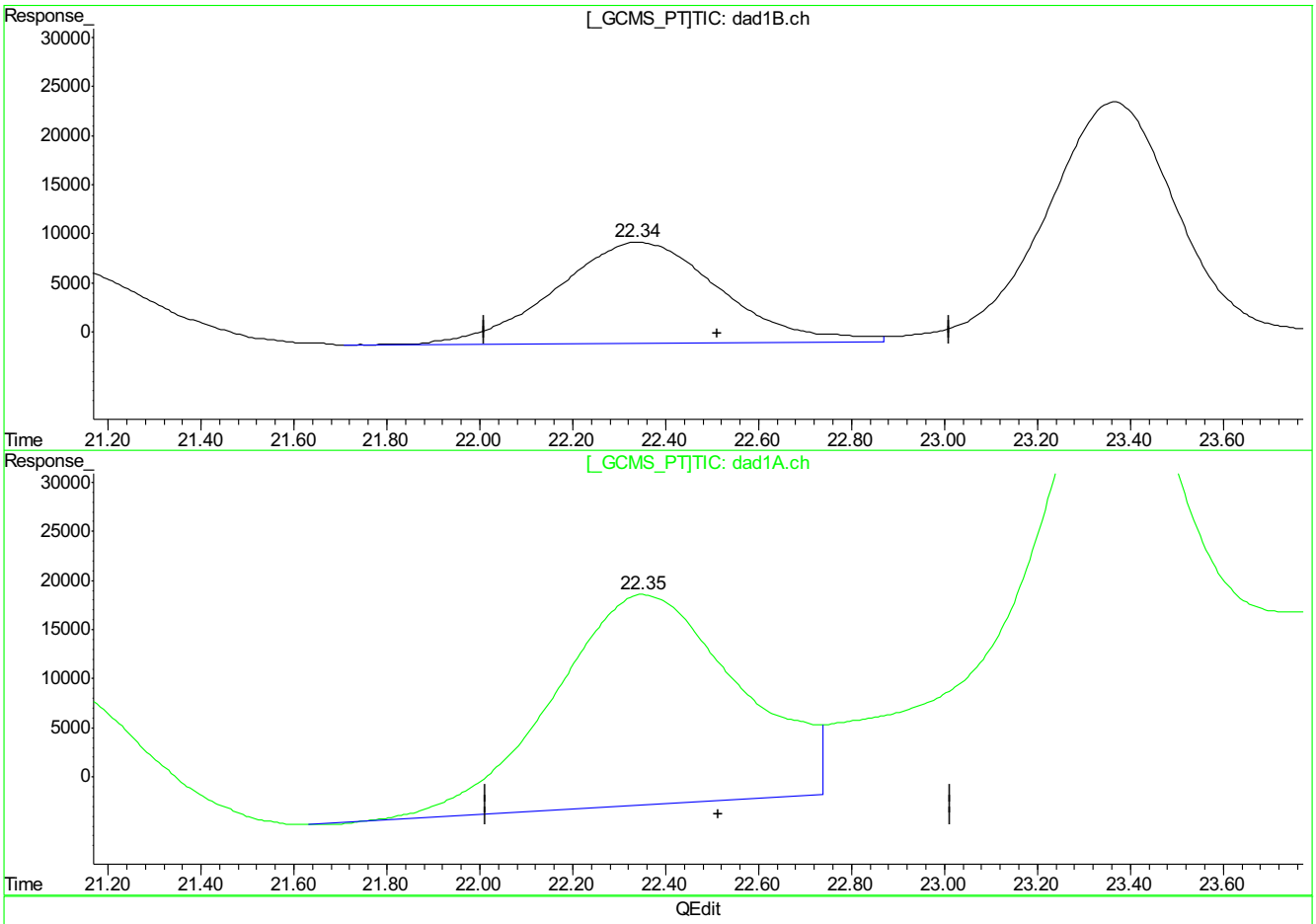
9.5.20.6

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.34min 455.785ppb

response 2538322

(19) m-Nitrotoluene #2

22.35min 642.978ppb

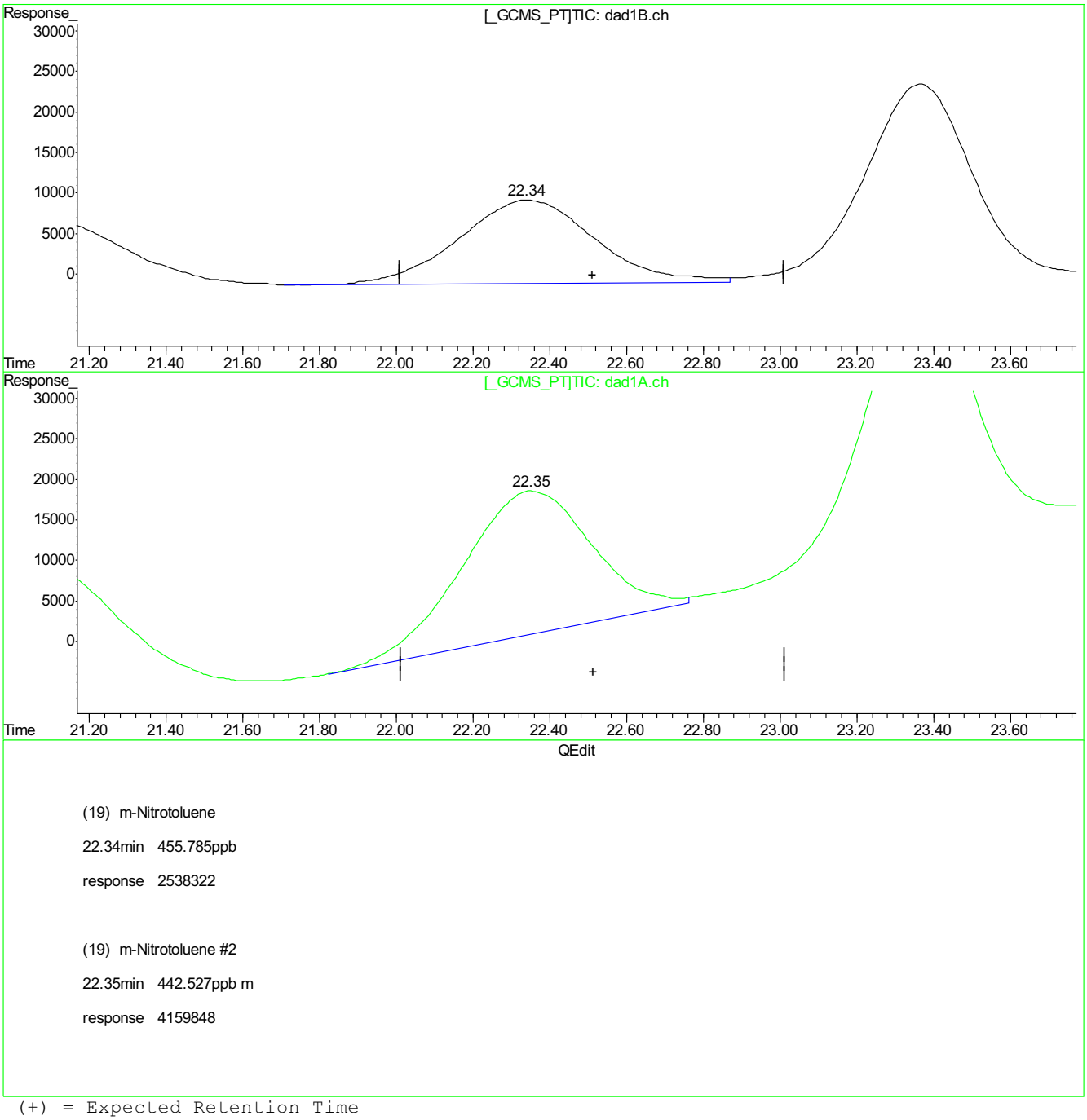
response 5921541

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:15 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.34min 455.785ppb

response 2538322

(19) m-Nitrotoluene #2

22.35min 442.527ppb m

response 4159848

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:19 2017

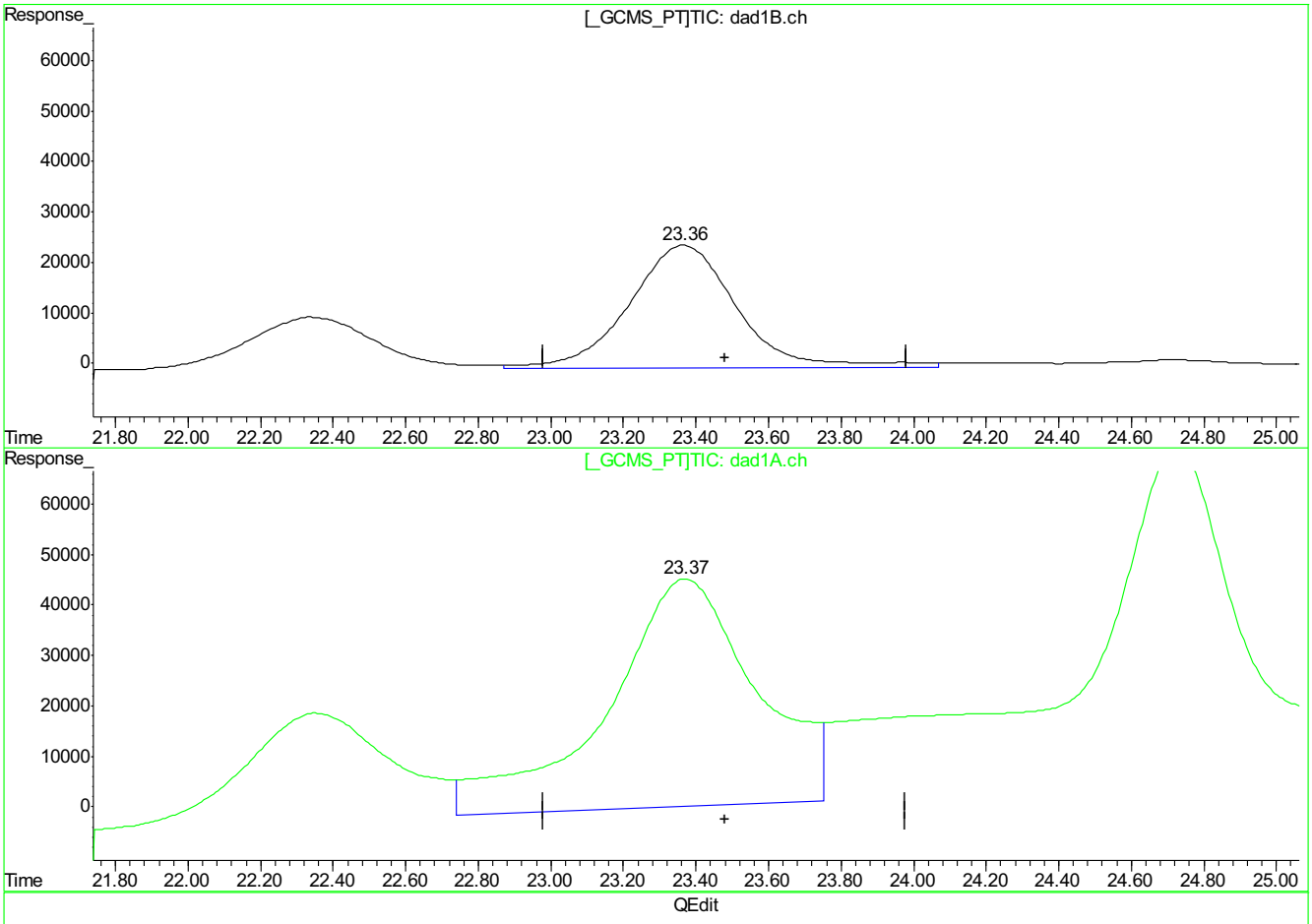
9.5.20.8

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 511.650ppb

response 5058989

(20) 2-Amino-4,6-Dinitrotoluene #2

23.37min 999.146ppb

response 12911900

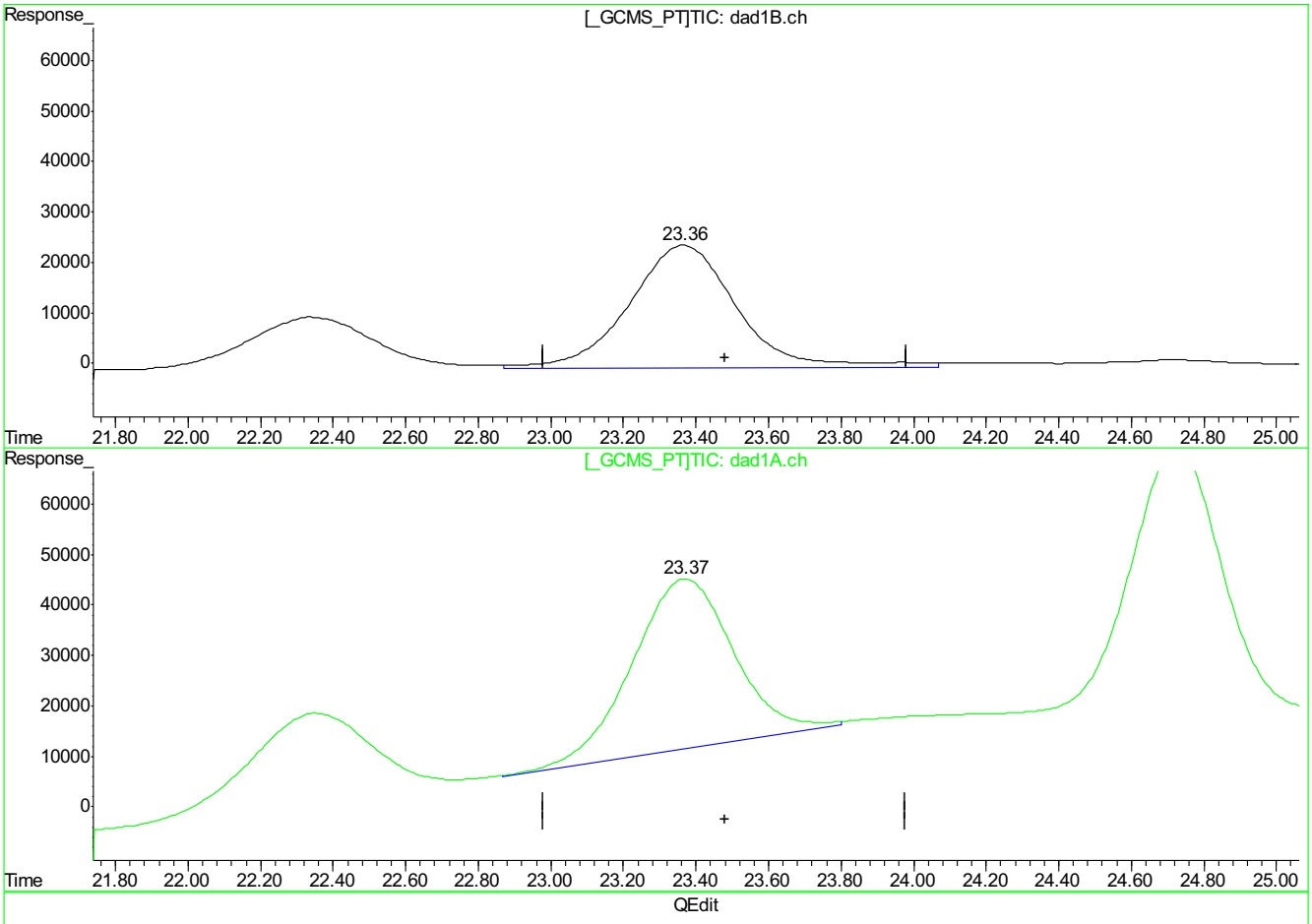
(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:22 2017

9.5.20.9
6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 511.650ppb

response 5058989

(20) 2-Amino-4,6-Dinitrotoluene #2

23.37min 498.077ppb m

response 6584176

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:26 2017

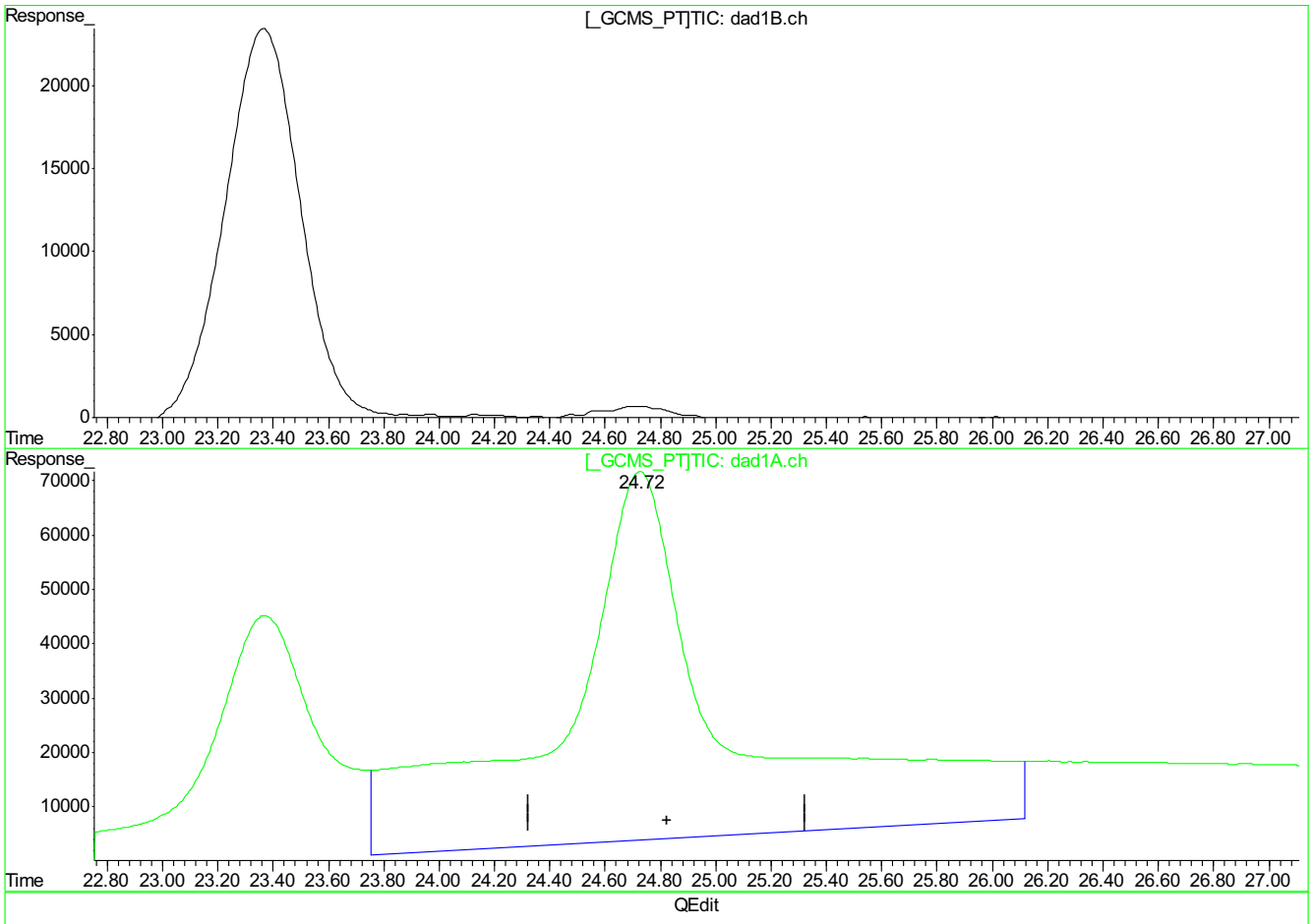
9.5.20.10

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.73min 14205.387ppb

response 29156376

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:28 2017

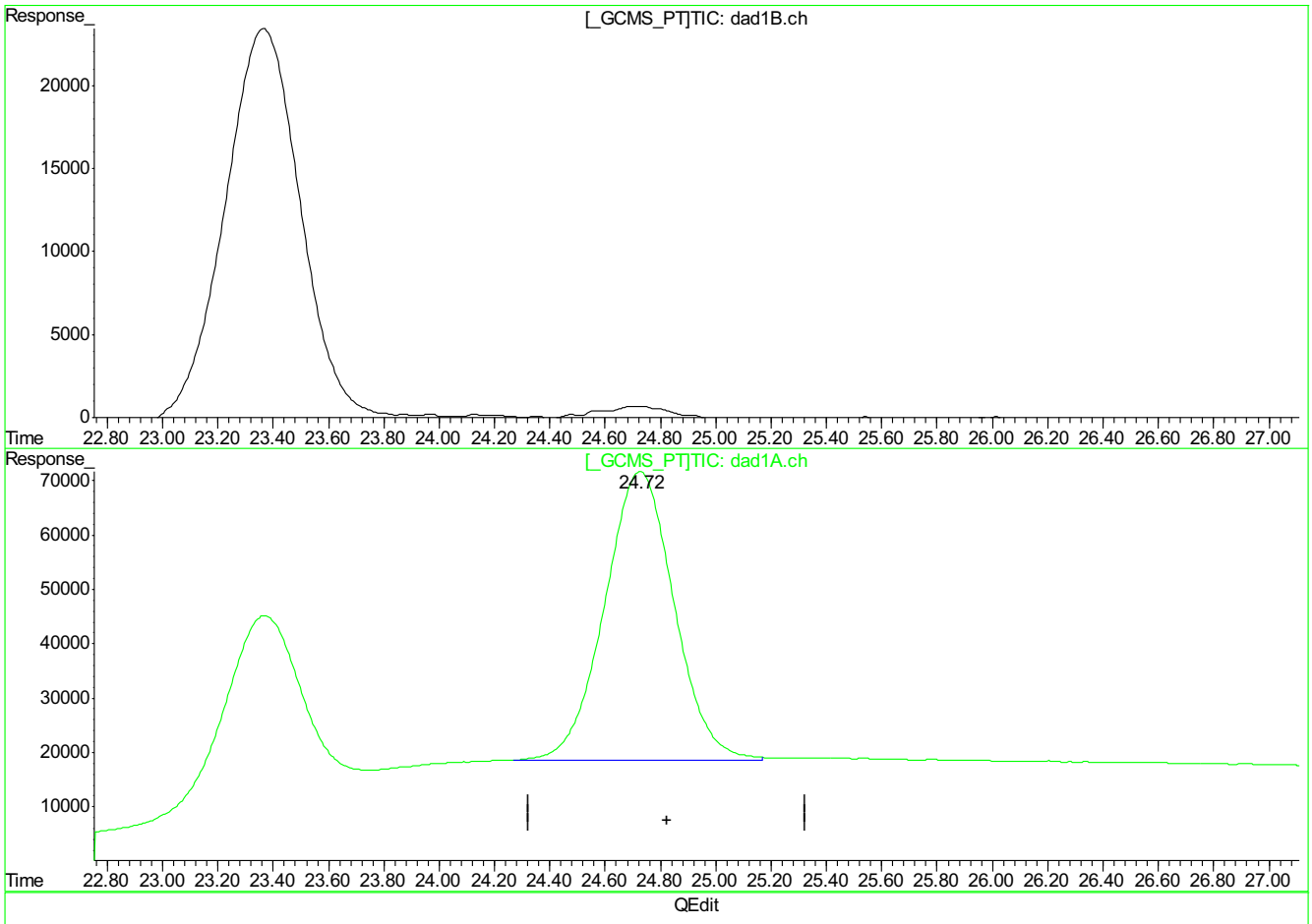
9.5.20.11

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.72min 4543.543ppb m

response 9325564

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:32 2017

9.5.20.12

9

PP381828.D edits: PETN

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381829.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0424_RPB\PP381829.D\dad1A.ch
Acq On : 24-Apr-2017, 16:47:49 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:56:16 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.14	12.14	4503710	5920404	468.081	482.531
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

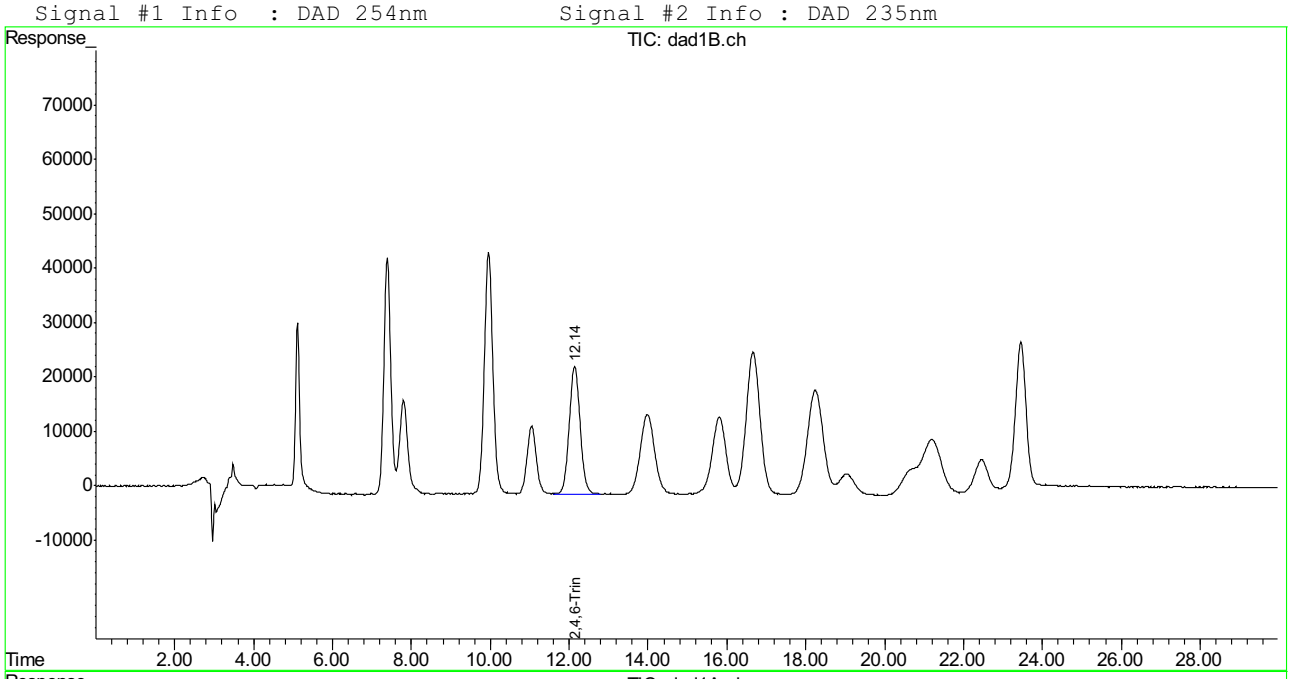
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381829.D 0424_8330RPB.M Tue Apr 25 10:59:46 2017 Page 1

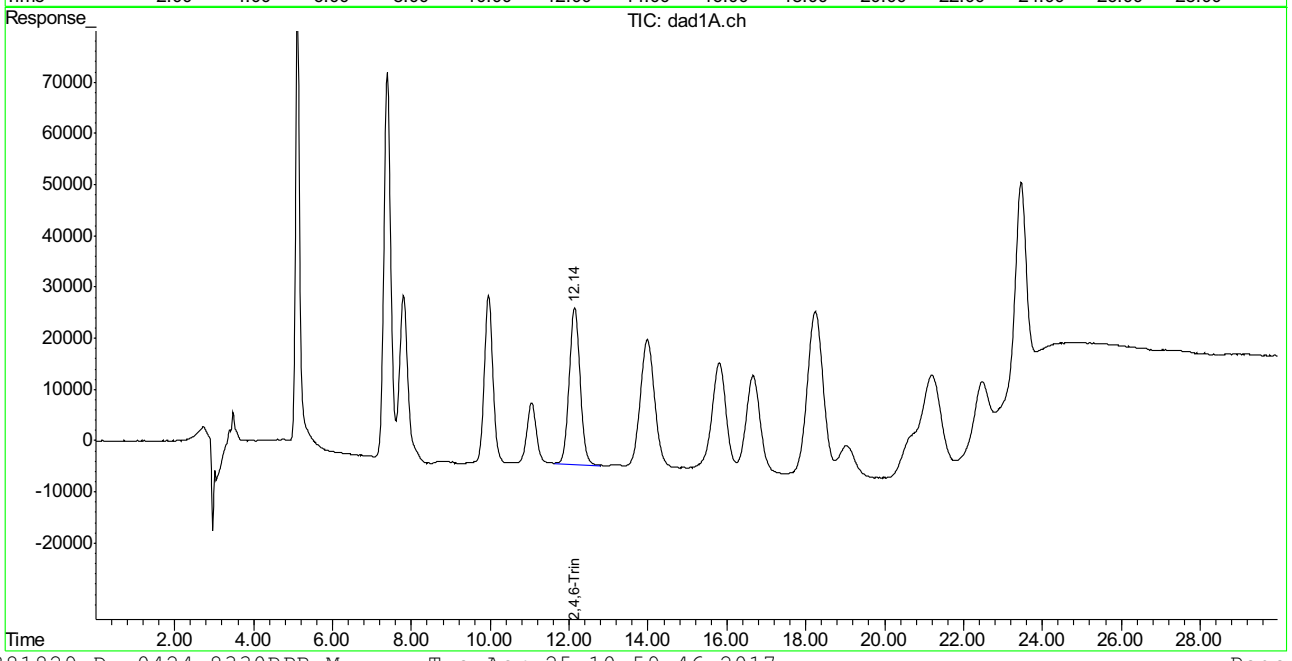
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381829.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0424_RPB\PP381829.D\dad1A.ch
Acq On : 24-Apr-2017, 16:47:49 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:56 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:43 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.25	15.24	4900201	9692005	902.955	958.772
	Spiked Amount 500.000	Range 70 - 136		Recovery =		180.59%#	191.75%#
	Target Compounds						
1)	TNX	4.70	4.70	8152361	12016829	935.406	925.939
2)	HMX	5.08	5.08	3197735	9492218	889.321	900.962
3)	DNX	5.24	5.24	7132946	11627701	888.941	876.970
4)	MNX	6.32	6.32	5423337	8528112	975.874	918.942
5)	1,3,5-Trinitrobe	7.33	7.33	9096253	15751486	891.206	911.238
6)	RDX	7.74	7.75	4230851	7975870	871.216	930.578
7)	1,3-Dinitrobenze	9.89	9.89	12332488	9090280	925.695	901.563
8)	Nitrobenzene	10.98	10.98	7876509	7492806	1029.197	1001.946
9)	2,4,6-Trinitroto	12.05	12.05	8590600	10932011	892.842	890.992
10)	Nitroglycerin	0.00	13.03	0	14867106	N.D. d	4653.566m
11)	Tetryl	13.88	13.88	5833317	9750877	934.550	954.699m
13)	2,6-Dinitrotolue	15.69	15.68	6171632	8790114	929.955	901.981
14)	2,4-Dinitrotolue	16.55	16.55	11356349	8246066	908.275	878.817
15)	o-Nitrotoluene	18.90	18.90	4954329	7691663	1101.898	1087.638
16)	3,5-Dinitroanili	18.15	18.15	8798350	14566291	937.952	980.070
17)	p-Nitrotoluene	20.50	20.51	4102674	6561432	1179.228	1332.652
18)	4-Amino-2,6-Dini	21.07	21.07	5718773	10443945	920.459	991.158
19)	m-Nitrotoluene	22.34	22.34	5451762	9245501	1092.146	1047.694m
20)	2-Amino-4,6-Dini	23.38	23.38	8750264	12085377	906.598	932.339m
21)	PETN	0.00	24.67	0	4645476	N.D. d	2263.340m

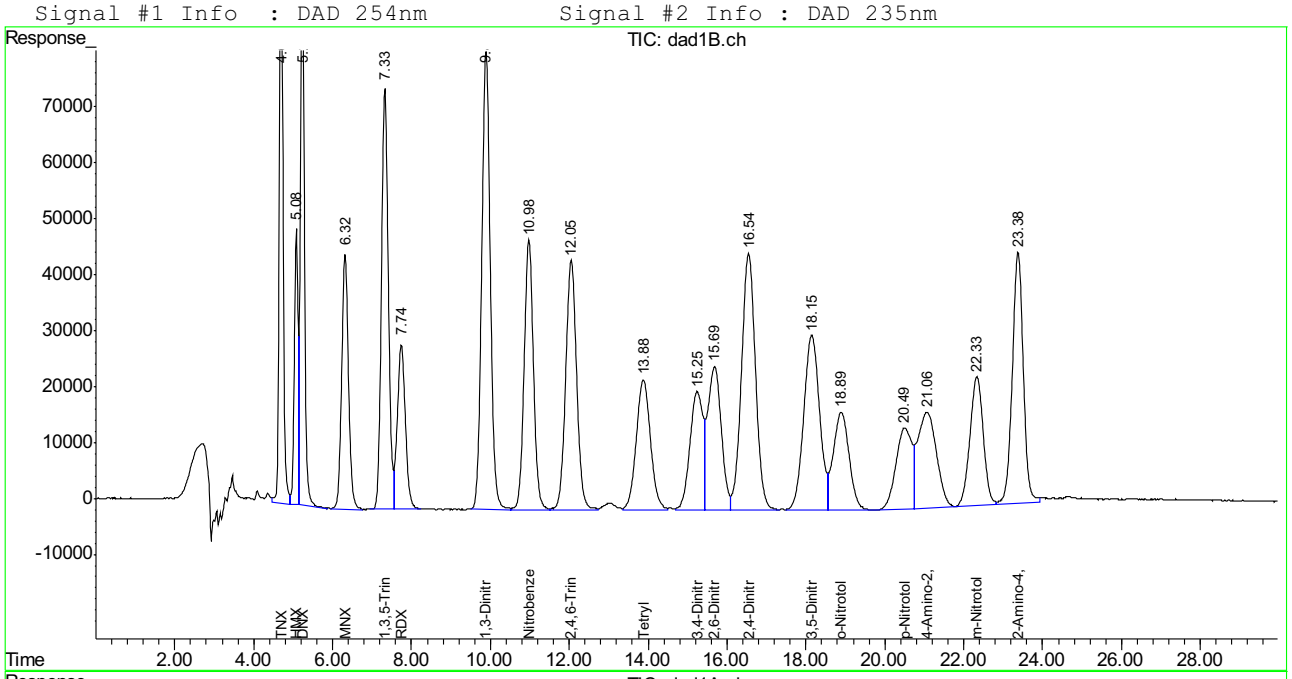
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381840.D 0424_8330RPB.M Tue Apr 25 14:37:01 2017 Page 1

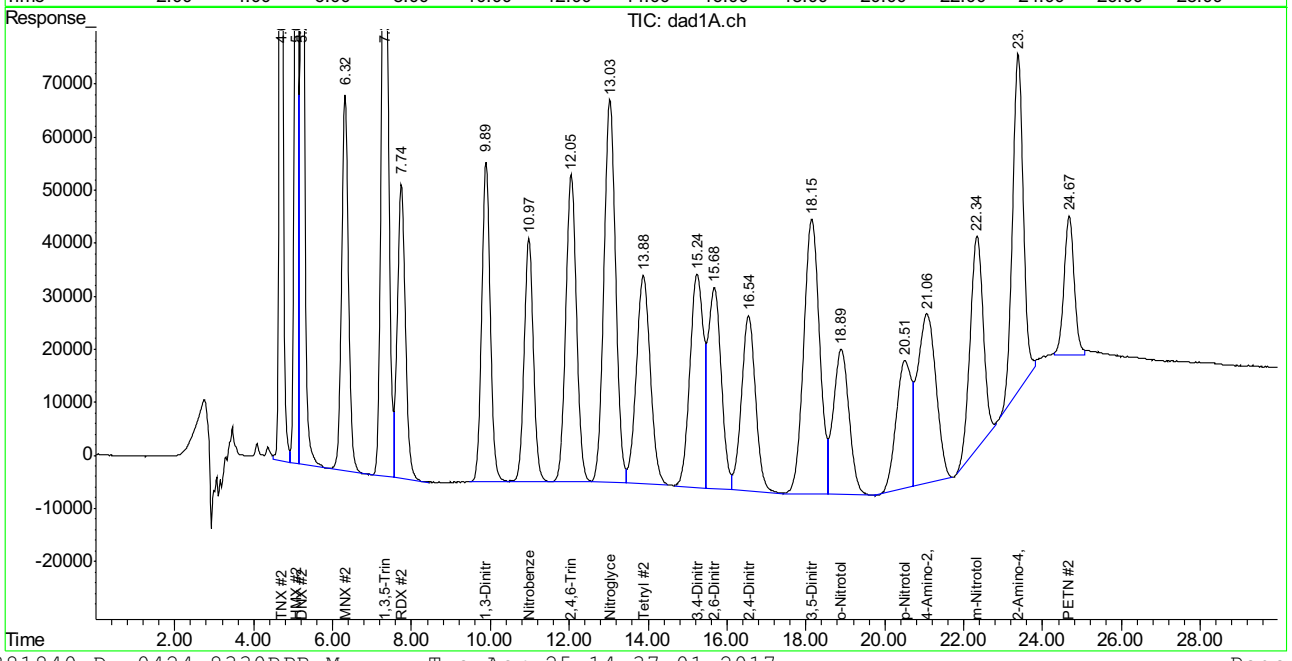
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:27 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

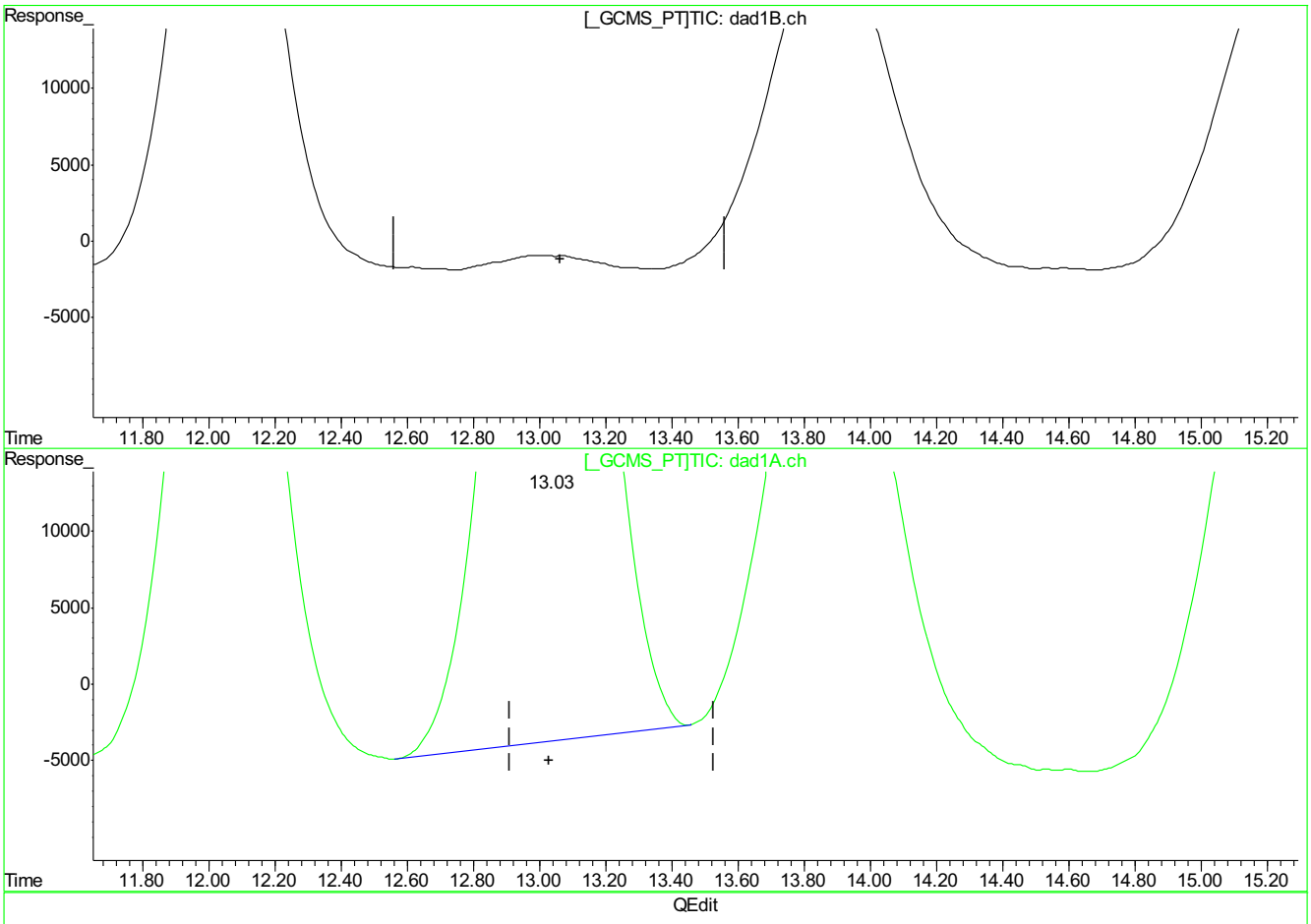
Sample Number: GPP2096-CC2096
Lab FileID: PP381840.D
Injection Time: 04/24/17 22:45
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.03	Poorly defined baseline
Tetryl	479-45-8	2	13.88	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.34	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.38	Poorly defined baseline
PETN	78-11-5	2	24.67	Poorly defined baseline

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:45:00                    Operator: evitam
Sample    : cc2096-1000                              Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.03min 4431.613ppb

response 14170840

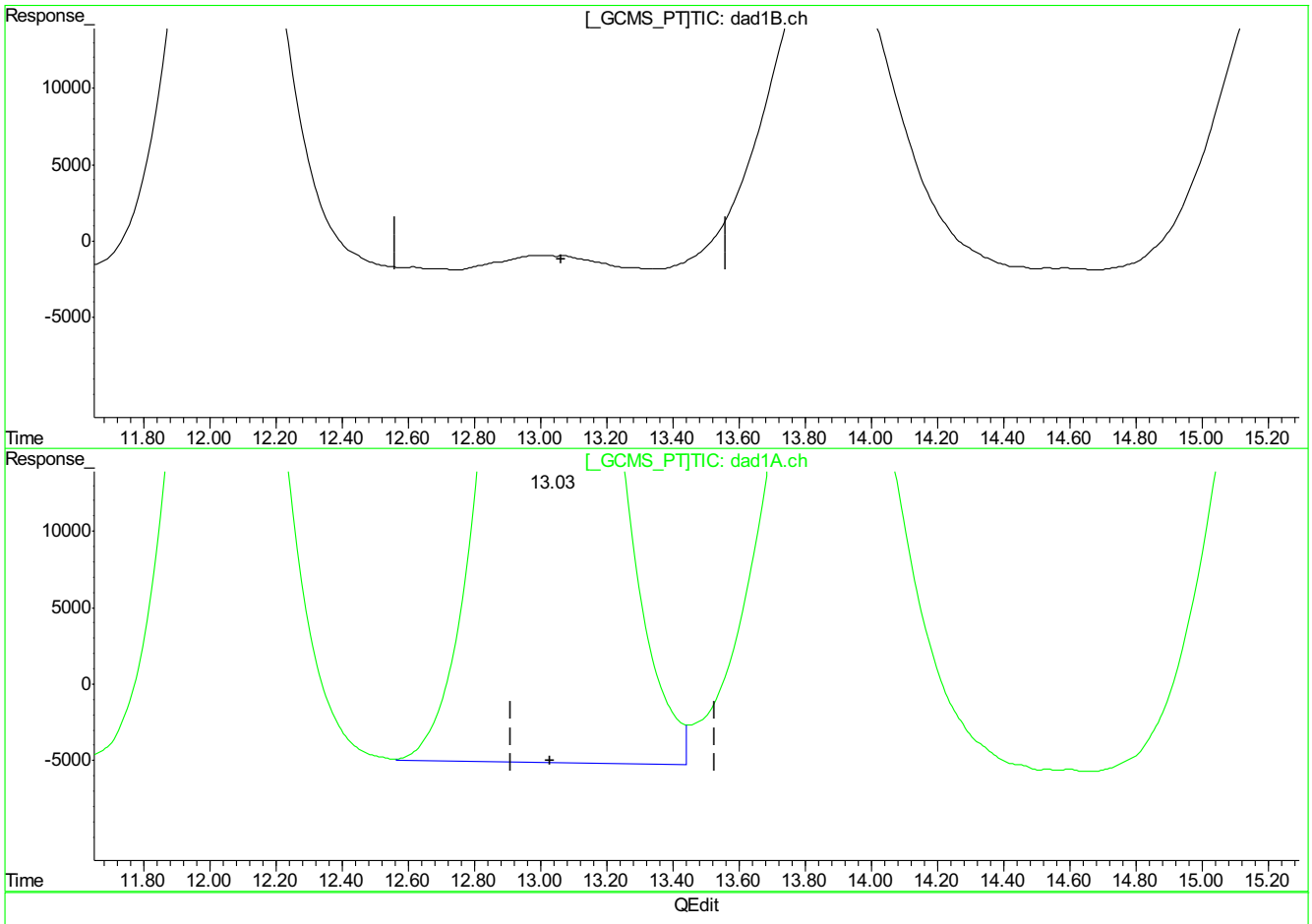
(+) = Expected Retention Time

PP381840.D 0424_8330RPB.M Tue Apr 25 12:26:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.03min 4653.566ppb m

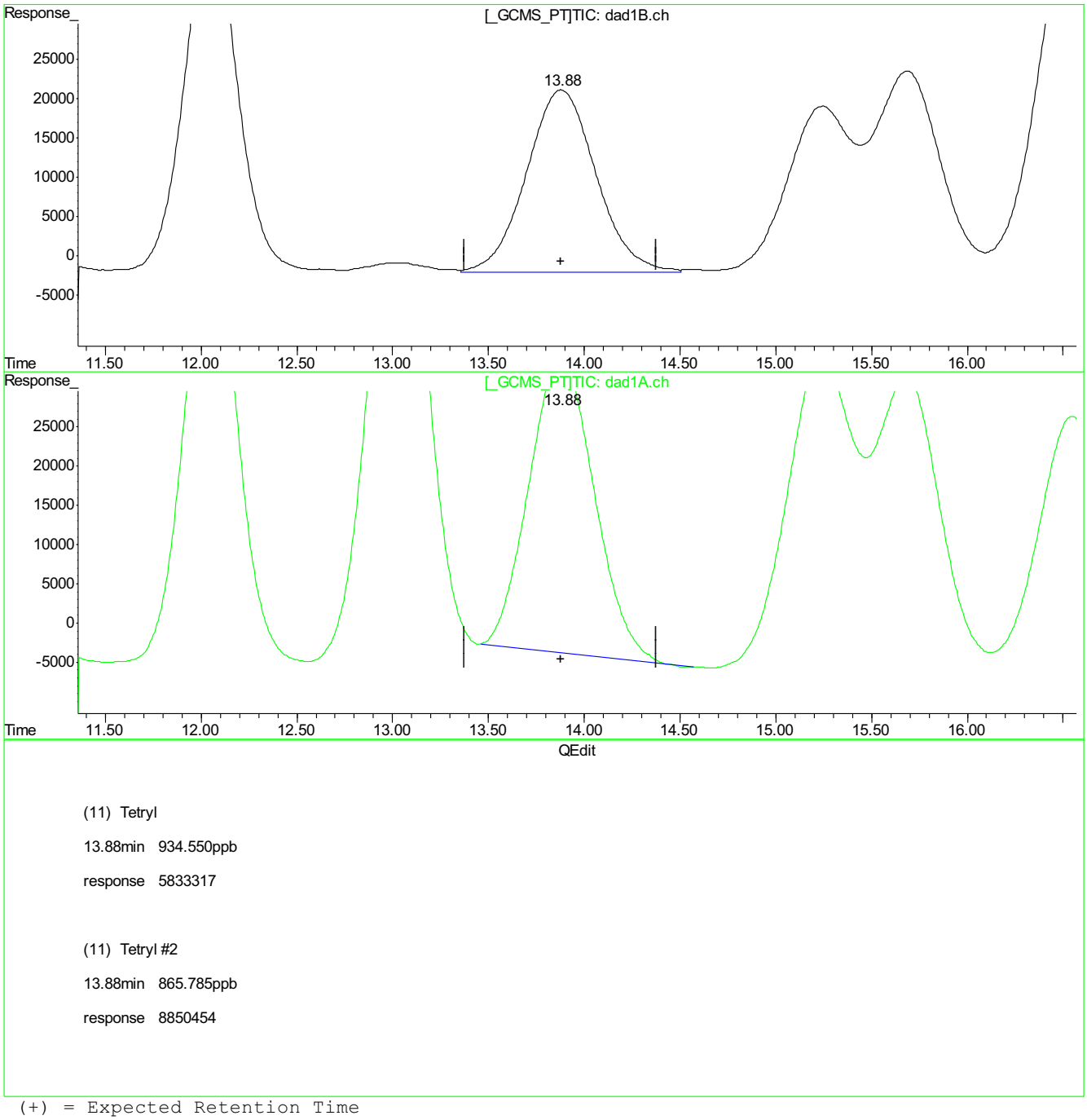
response 14867106

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:00 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:45:00                  Operator: evitam
Sample    : cc2096-1000                            Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
```



(11) Tetryl

13.88min 934.550ppb

response 5833317

(11) Tetryl #2

13.88min 865.785ppb

response 8850454

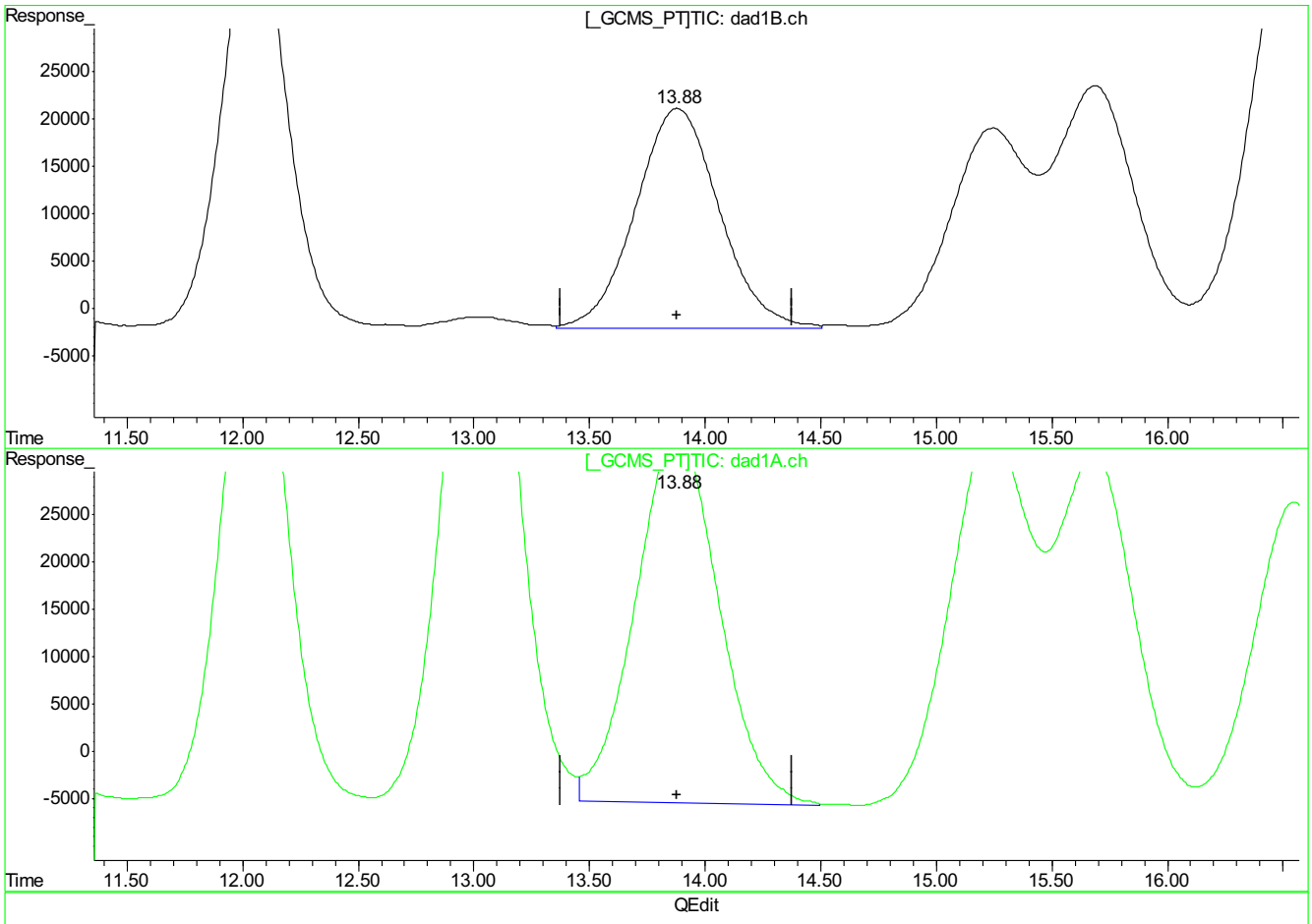
(+) = Expected Retention Time

PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:04 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.88min 934.550ppb

response 5833317

(11) Tetryl #2

13.88min 954.699ppb m

response 9750877

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:09 2017

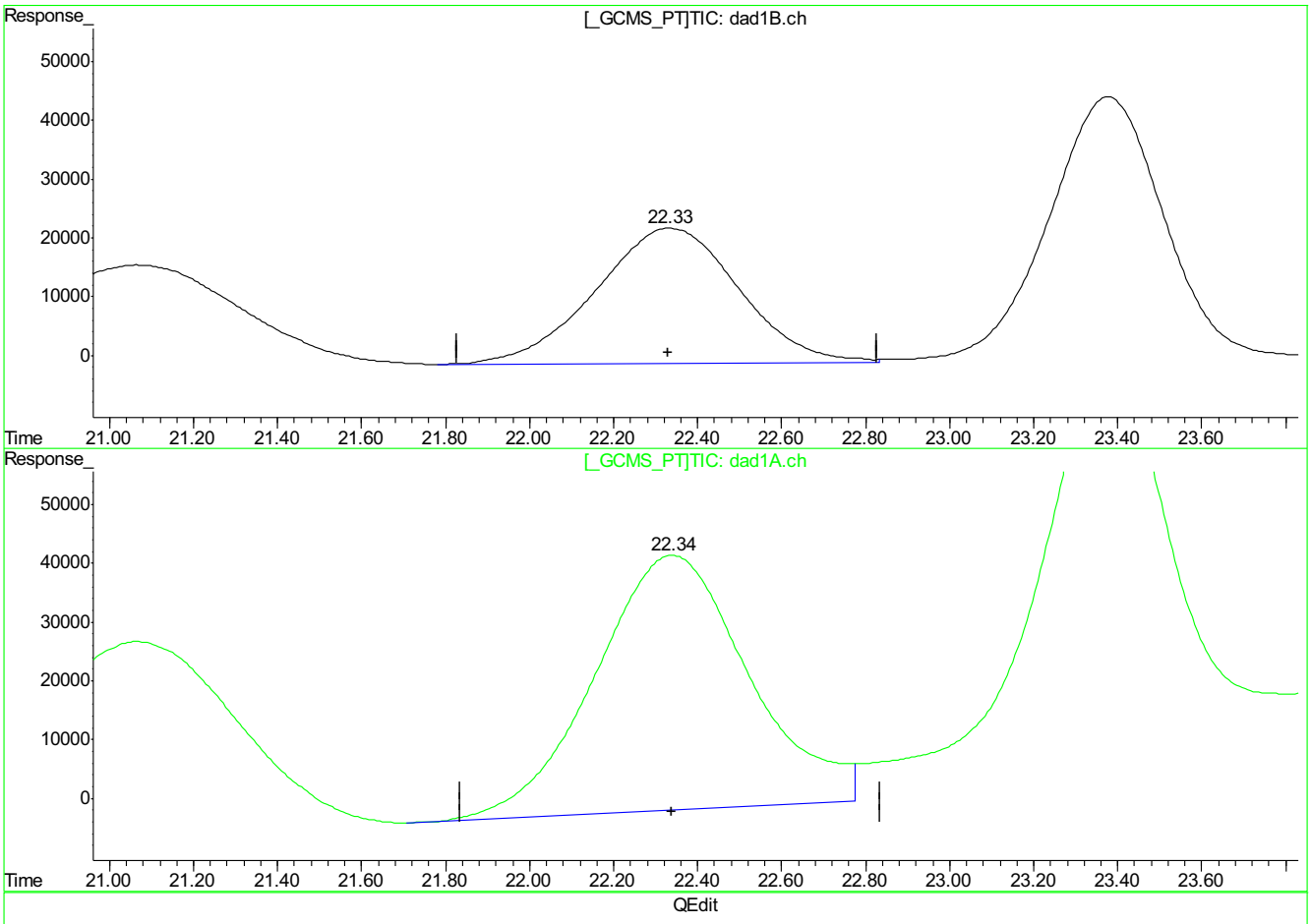
9.5.22.5

9

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:45:00                    Operator: evitam
Sample    : cc2096-1000                              Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
```



(19) m-Nitrotoluene

22.34min 1092.146ppb

response 5451762

(19) m-Nitrotoluene #2

22.34min 1268.612ppb

response 10928449

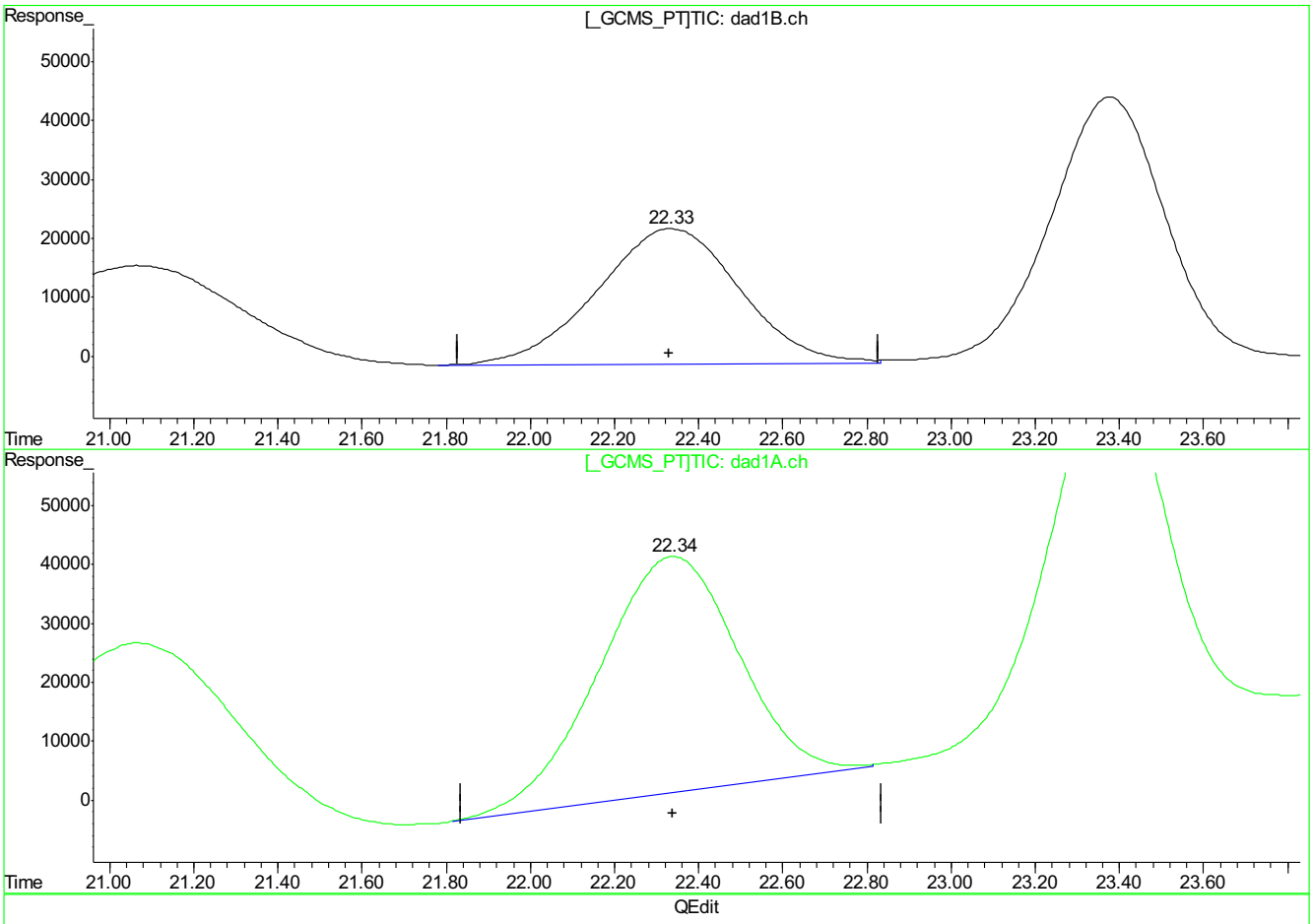
(+) = Expected Retention Time

PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:32 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:45:00                    Operator: evitam
Sample    : cc2096-1000                              Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
```



(19) m-Nitrotoluene

22.34min 1092.146ppb

response 5451762

(19) m-Nitrotoluene #2

22.34min 1047.694ppb m

response 9245501

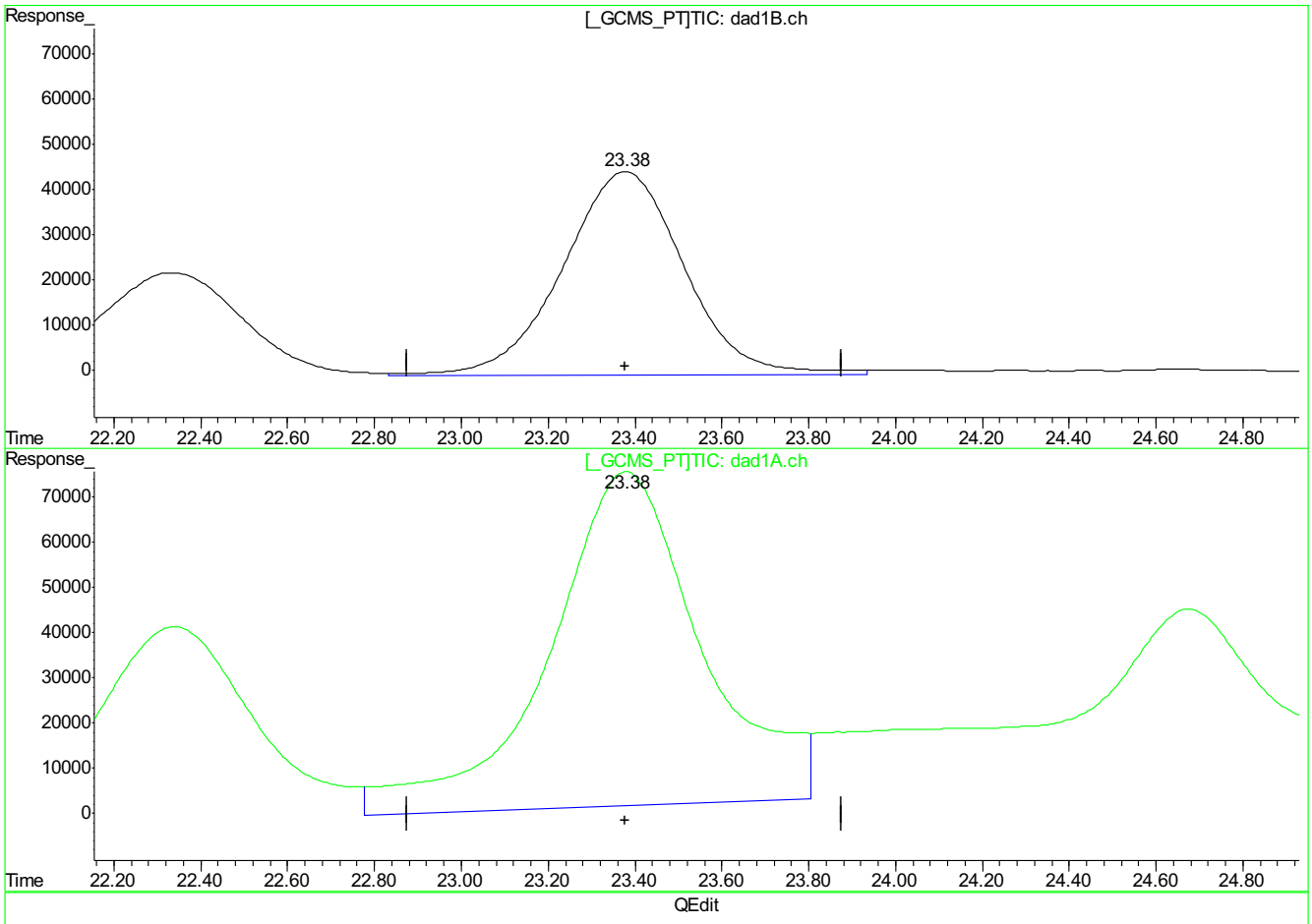
(+) = Expected Retention Time

PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.38min 906.598ppb

response 8750264

(20) 2-Amino-4,6-Dinitrotoluene #2

23.38min 1418.056ppb

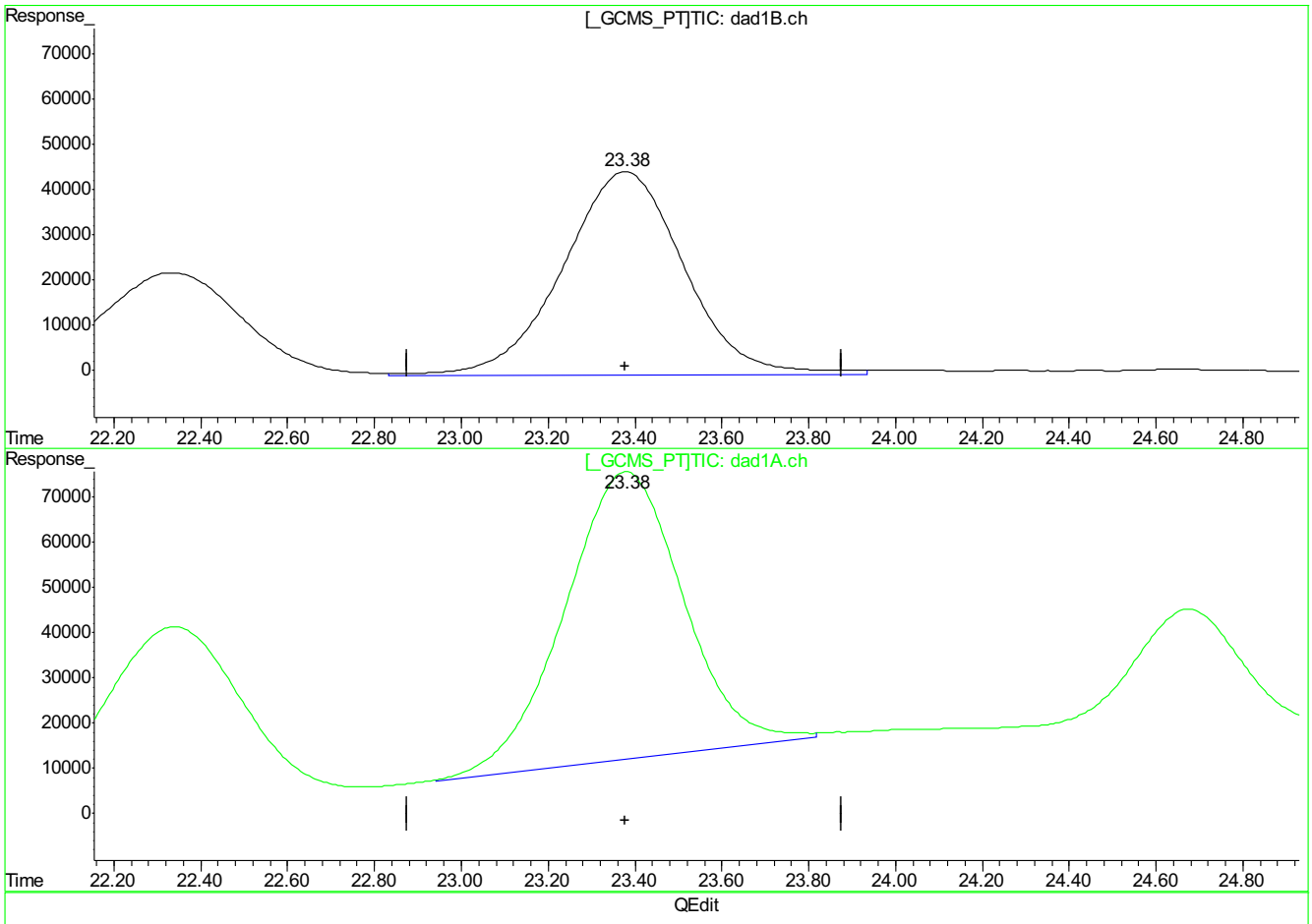
response 17974219

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:39 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.38min 906.598ppb

response 8750264

(20) 2-Amino-4,6-Dinitrotoluene #2

23.38min 932.339ppb m

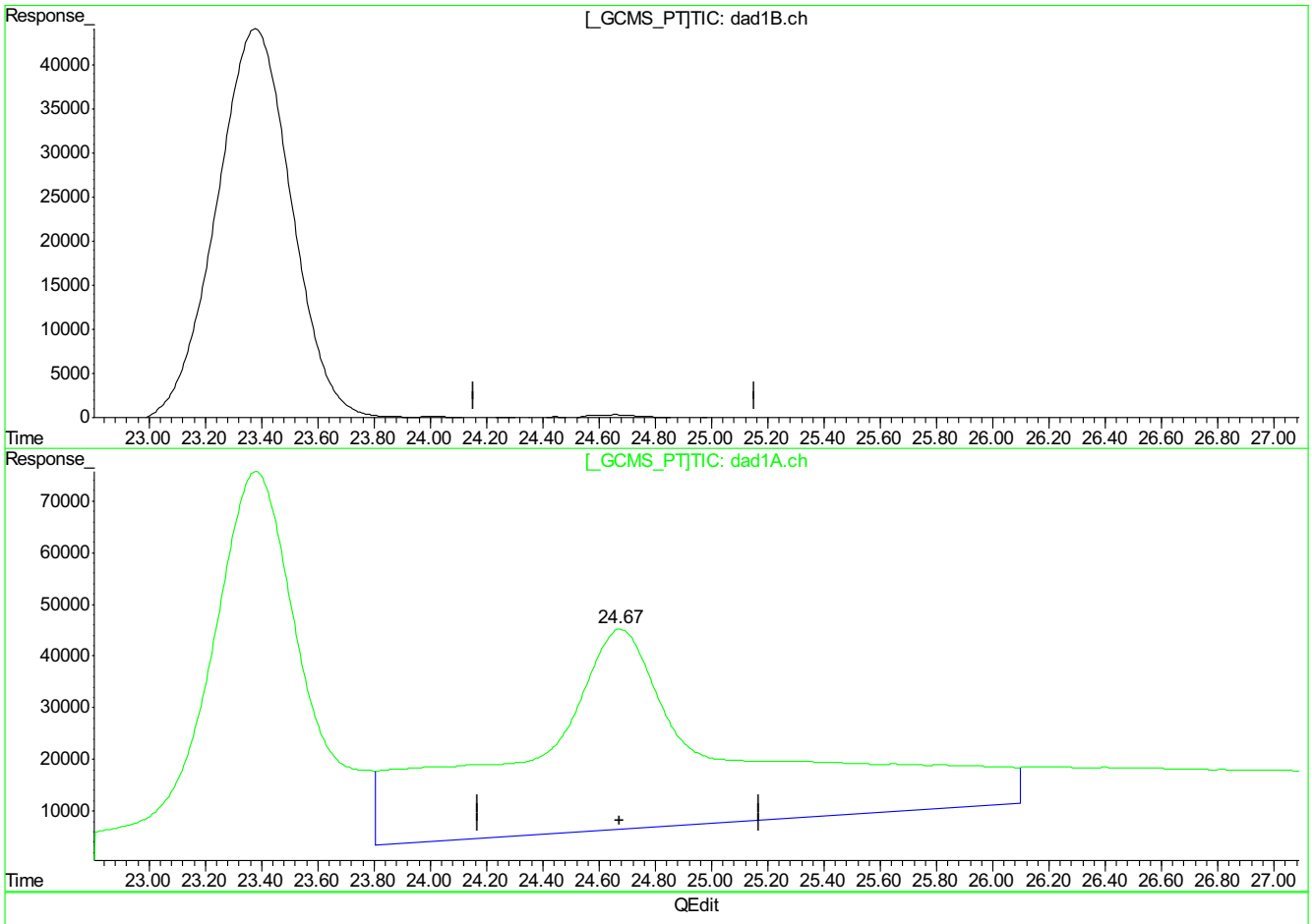
response 12085377

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.68min 9979.376ppb

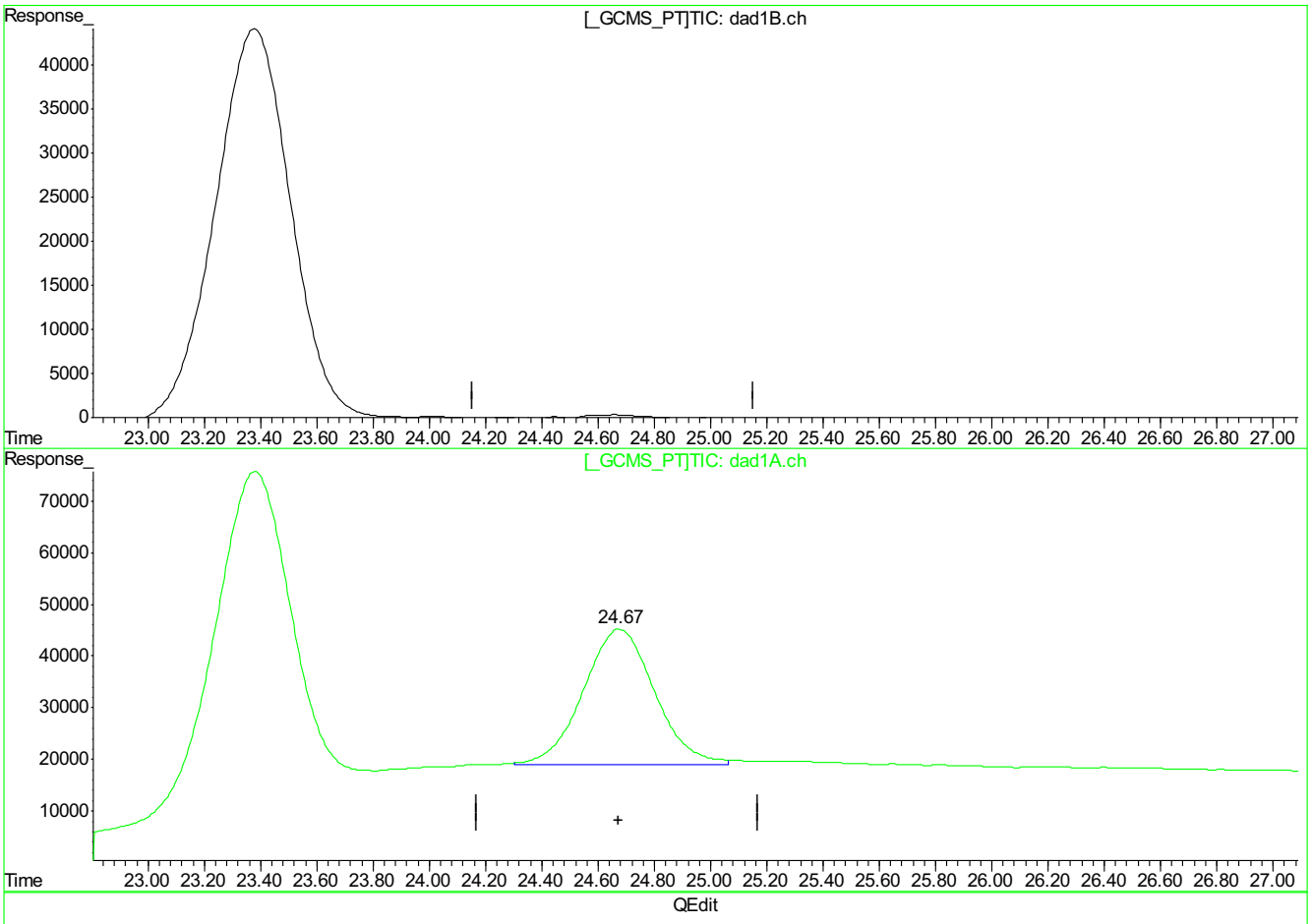
response 20482543

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:46 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.67min 2263.340ppb m

response 4645476

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:49 2017

SGS ACCUTEST-ORLANDO

DATE:	4/19/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 B 0419 pii
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1578

ANALYST:	GM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166151
HEAD PRESSURE:	233

DATA FILE '	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054259	1	CCB	8330				ND
BB 60	2	test					test
BB 61	3	IC1578-20		LC887	50+150	pii	CCMLE pass
BB 62	4	-50			100+300		
BB 63	5	-100			250+750		
BB 64	6	-200			500+1500		
BB 65	7	icc -500			1000+3000		
BB 66	8	ic -1000			2000+6000		
BB 67	9	-2000		✓	1X		
BB 68	10	icv -500		ES134 CCB LC824 ES125	20 25 10	1mL	PETN
BB 69	11	-500		ES858	10+40	40x	RL for cmf. not used
BB 70	91	-50		ES8-B	✓	✓	pass only used for 2,4T
BB 71	92	opr46675-BS		opr46675	1x	pii	low TNX, 2,4TNT spike
BB 72	13	-MB					ND
BB 73	14	fa42922-2,1e				pii	✓
BB 74	15	fa42923-1					✓
BB 75	16	-2					✓
BB 76	17	-3					
BB 77	18	opr46675-MS					ND
BB 78	19	-MSD				pii	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: G Mains

SGS ACCUTEST FA43019

SGS ACCUTEST-ORLANDO

DATE:	4/19/17
COLUMN TYPE:	EXT C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A13
ACQ. METHOD:	8330B
PROC. METHOD:	8330 5th replicate
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1578

ANALYST:	EM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166251
HEAD PRESSURE:	233

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 54279	2	RCC 1578-1000	8330	LC831	1:1	pl	pass
BB ↓ 80	1	CCB	↓	—	—		no
BB ↓ 81	20	opt calib-B4	↓	opt calib	1X		RT machine stop
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

NA 2nd 4hold

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: EM

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	ExtC18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A16
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04/9plus
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1579

ANALYST:	EM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166751
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB042782	1	CCB	8330				ND
BB 83	2	cc1578-1000		LC837	1.1	pii	PASS (PTEMP)
BB 84	20	opa4666-BS		opa4666	1x	↓	✓
BB 85	21	↓ -MB					ND
BB 86	22	F942969-1					✓
BB 87	23	-2				pii	
BB 88	11	E5858-40x		E5858	10/400	pii	✓
BB 89	24	F942969-6		opa4666	1x		Yes
BB 90	25	opa4666-LCS					ND
BB 91	26	↓ -MSd				pii	✓
BB 92	27	F942969-11				pii	✓
BB 93	18	-12					✓
BB 94	29	↓ -13					✓
BB 95	2	CC 1578-1000		LC837	1:1	↓	PASS PTEMP
BB 96	1	CCB					ND
BB 97	30	F942969-14		opa4666	1x		ND
BB 98	31	↓ -15				pii	✓
BB 99	32	Fa43019-1					✓
BB 300033	33	↓ -2					✓
BB 01	34	↓ -3	↓	↓	↓	↓	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

59 of 100

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 DAD/PLUS
CALIB. DATE:	4/6/17
RUN BATCH: GBB	1579

ANALYST:	EM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166751
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0543D7	35	FQ4228-1	8330	OP64466	1X	pii	RR @ 1X
BB 0543D8	36	-2					ND
BB 0543D9	37	-3					ND
BB 0543E5	2	CC 1578-1000		LC837	1:1	pii	PASS
BB 0543E6	1	CCB					ND
BB 0543E7	38	OP44684-BS		OP44684	1X	pii	✓
BB 0543E8	39	-MB					ND
BB 0543E9	40	FQ42969-3				pii	Psurg fed10
BB 0543F0	41	-4				pii	✓
BB 0543F1	42	-5					ND
BB 0543F2	43	-7				pii	✓
BB 0543F3	44	-8					✓
BB 0543F4	45	-9					✓
BB 0543F5	46	OP44684-MS					✓
BB 0543F6	47	-MSD					✓
BB 0543F7	2	CC 1578-1000		LC837	1:1		PASS
BB 0543F8	1	CCB					ND
BB 0543F9	48	FQ42969-10		OP44684	1X		ND
BB 0543G0	49	OP64465-BS					✓
BB 0543G1	50	-PDI					✓

4/20/17 KL

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04190417
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1579

ANALYST:	EH
ACETONITRILE LOT #:	3353
MEOH LOT #:	166351
HEAD PRESSURE:	263

DATA FILE ,	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054322	51	OP44695-MB	8330	OP44695	1X		ND
BB 23	52	F42421-20					ND
BB 24	53	OP44695-DUP					ND
BB 25	54	↓ -DUP2					ND
BB 26	55	F42421-21					ND
BB 27	56	↓ -23					ND
BB 28	57	↓ -24		↓	↓		ND
BB 29	91	CCI578-1000		IC837	1.1	pii	PASS
BB 30	1	CCB					ND
BB 31	58	F42421-25		OP44695	1X		ND
BB 32	59	↓ -30		↓	↓		ND
BB 33	60	F42633-1					ND
BB 34	61	OP44695-MS				pii	✓
BB 35		↓ -MSD				pii	✓
BB 36	62 to 63	gblank A					ND
BB 37	64	↓ B					ND
BB 38	65	↓ C		↓	↓		ND
BB 39	77	F43028-1		OP44666	40/400	10X pii GU Holds	ND ✓
BB 40	91	CCI578-1000		IC837	1.1	pii	PASS
BB 41	1	CCB	↓				ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04/19 plus
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1579

ANALYST:	EM
ACETONITRILE LOT #:	333
MEOH LOT #:	166251
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054342	66	op64709-BS	8330	op64709	1x		✓
BB 43	67	↓ -MB					ND
BB 44	68	F942092-1					ND
BB 45	69	op64709-MS					✓
BB 46	70	↓ -MSD					✓
BB 47	71	op64708-BS		op64708			✓
BB 48	72	↓ -MB					ND
BB 49	73	IA 32444a11				pii	✓
BB 50	74	F943141-1					ND
BB 51	91	CC 1378-1000		LC837	1:1	pii	pass
BB 52	1	CCB					ND
BB 53	75	~~op64708~~ op64708-BS		op64708	1x	pii	✓
BB 54	76	↓ -MS/MSD				↓	✓
BB 55	78	op64710-BS		op64710	1x	pii	✓
BB 56	79	↓ -MS				pii	✓
BB 57	80	↓ -MB					ND
BB 58	81	F942433-7 re					ND
BB 59	82	↓ -1 re					ND
BB 60	83	F942817-1					ND
BB 61	84	op64710-dup					ND

EM 4/21/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04/9 plus
CALIB. DATE:	4/6/17
RUN BATCH: GBB	1579

ANALYST:	EN
ACETONITRILE LOT #:	33553
MEOH LOT #:	166757
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054362	85	OP64710-D492	8330	OP64710	1X		ND
BB 63	86	FQ42917-2	↓	↓	J		ND
BB 64	91	CC 1578-1000	↓	LC837	1:1	PII	RLS
BB 65	1	CCB	↓	↓	↓		ND
BB 66	87	FQ42817-3	↓	OP64710	1X		ND
BB 67	88	↓ -4	↓	↓	↓		ND
BB 68	89	↓ -5	↓	↓	↓		ND
BB 69	90	OP64710-MS	↓	↓	↓	PII	✓
BB 70	92	↓ -MSD	↓	↓	↓	PII	✓
BB 71	93	gblank A	↓	↓	↓		ND
BB 72	94	↓ B	↓	↓	↓		ND
BB 73	95	↓ C	↓	↓	↓		ND
BB 74	91	CC 1578-1000	↓	LC837	1:1	PII	RLS
BB							
BB							
BB							
BB							
BB							
BB							
BB							

4/21/17

MA 4/21/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	04/24/17
COLUMN TYPE:	BOND RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 P PB
PROC. METHOD:	ODV-8330 P PB
CALIB. DATE:	4/24/17
RUN BATCH:	GPP 2096

ANALYST:	EH
ACETONITRILE LOT #:	133153
MEOH LOT #:	164163
HEAD PRESSURE:	1855

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 381818	1	CCB	8330				ND
PP 19	91	test					test only
PP 20	91	↓					↓
PP 21	2	ICV2096-20		LC8330	50+450 / 35+465	EH 4/24/17 PII	curve PASS PETN 4
PP 22	3	-50			10+390		
PP 23	4	-100			25+475		
PP 24	5	-200			50+450		
PP 25	6	ICL -500			100+450 EH 4/24/17 300		
PP 26	7	-1000			200+200		
PP 27	8	-2000			1X		
PP 28	9	ICV -500		ES724 LC827 ES825	20:20 25:10 1 mL		4 3,5di 2nd isomer & p-nitro
PP 29	10	↓ ↓ -500		ES813	10/400		only for 2,4T
PP 30	11	OP64666-MB		OP64666	1X		ND
PP 31	12	FA42969-1CF				PII	
PP 32	13	-2					
PP 33	14	-11					
PP 34	15	-12					
PP 35	16	-13					
PP 36	17	-15					
PP 37	18	FA43019-1					

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	4/24/17
COLUMN TYPE:	Bones RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 A PB
PROC. METHOD:	424 8330 A PB
CALIB. DATE:	4/24/17
RUN BATCH:	GPP 2096

ANALYST:	EM
ACETONITRILE LOT #:	3330
MEOH LOT #:	162362
HEAD PRESSURE:	135

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 381838	19	FA43019-2cf	8330	OP64684	1X	pii	✓
PP 39	20	↓ -3cf		↓	↓	pii	✓
PP 40	21	CC 2096-1000		LC837	1:1	pii	4 p-nitro
PP 41	1	CCB					ND ✓
PP 42	21	FA43028-1cf		OP64684	1X	pii	✓
PP 43	22	-1cf		↓	40/400	10X pii	✓
PP 44	23	OP64684-MB		OP64684	1X		ND
PP 45	24	FA42969-3cf				pii	✓ 1,4DO
PP 46	25	-4					✓
PP 47	26	-7					✓
PP 48	27	-8					✓
PP 49	28	-9		↓	↓	↓	ND no need
PP 50	29	OP64908-MB		OP64708			ND Noeed
PP 51	30	FA32446-11cf		↓	↓		ND noneed
PP ✓ 52	91	CC 2096-1000	↓	LC837	1:1		4 p-nitro & PCE N and signed
PP							
PP							
PP							
PP							
PP							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

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SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 04/17/17 1030 {mm/dd/yy 24:00}

Date/Time Finished: 04/17/17 1700 {mm/dd/yy 24:00}

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP64666 Ext. By: MB Conc. By: — Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP64666MB	X	1000	6	N/A	250ul		10ml	
OP64666BS	X	1000				250+250ul		200ul 8330 Plus
FA42969-1	2	1040						
-2	2	1040						
-6	5	1050						
-11	1	1040						
-12	2	1060						
-13	1	1060						
-14	2	1040						
-15	2	1050						
FA43019-1	2	1000	6	N/A	250ul			
-2	2	1000						
-3	3	1000						
FA43028-1	5	1000						
-2	3	1000						
-3	3	1000						
			MB 04/17/17					
FA42969-6 MS	1	520	6	N/A	250ul	MB 04/17/17 250+250ul	10ml	200ul 8330 Plus
-6 MSD	1	520	↓	↓	↓	↓	↓	↓
DUP								

Comments: ES734 25ppm 03/08/17 8330 Plus STK

Surr.1 ID: ES858B Conc: 20ppm Exp. Date: 09/28/17 Inj. By: MB Ver. By MB

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk.1 ID: ES858A Conc: 20ppm Exp. Date: 09/29/17 Inj. By: MB Ver. By MB

Spk.2 ID: LC827 Conc: 100ppm Exp. Date: 06/16/17 Inj. By: MB Ver. By MB

Initial Bath Temp (Therm ID): — Observed Temp °C: — Corr. Temp °C: —

Exchange Bath/N-Evap Temp (Therm ID): — Observed Temp °C: — Corr. Temp °C: —

Methanol Lot #: —

Acetonitrile Lot #: 161623

Water Lot#: DI H2O

SPE Lot #: S214-0065

SPE Lot #: —

Syringe Filter Lot#: —

pH Paper #: 230016

Reagent #: —

Solvent #: —

Relinquished By: [signature] Date: 04/17/17

Accepted By: [signature] Date: 4/17

NF 02/16

extwater_spe 020116.xls

9.7.1

9

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Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA43028

Sampling Date: 04/11/17

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **649**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA43028

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA43028-1	04/11/17	10:00	CTL	04/13/17	AQ	Ground Water	853081/54MW12
FA43028-2	04/11/17	08:45	CTL	04/13/17	AQ	Ground Water	853083/54MW1
FA43028-3	04/11/17	11:20	CTL	04/13/17	AQ	Ground Water	853085/041117R1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA43028

Site: Radford AAP; VA **Report Date** 4/27/2017 7:07:26 PM

3 Samples were collected on 04/11/2017 and were received at SGS Accutest Southeast (SASE) on 04/13/2017 properly preserved, at 2.3 Deg. C and intact. These Samples received an SASE job number of FA43028. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP64794

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) LA32446-11MS, LA32446-11MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP64666

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA42969-6MS, FA42969-6MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for TNX are outside control limits. Within control limits in MS/MSD.

Blank Spike Recovery(s) for PETN are outside control limits. Recovery is biased high. Compound is non-detect in associated samples.

Matrix Spike / Matrix Spike Duplicate Recovery(s) for PETN are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

OP64666-BS: Spike recoveries corrected for actual spike amount.

FA43028-1: All hits confirmed by reanalysis on a dissimilar column.

FA43028-1 for PETN: Associated CCV and BS outside control limits.

FA43028-1 for TNX: Associated BS recovery outside control limits.

FA43028-1: Confirmation run.

FA43028-2 for PETN: Associated CCV and BS outside control limits.

FA43028-2 for TNX: Associated BS recovery outside control limits.

FA43028-3 for PETN: Associated CCV and BS outside control limits.

FA43028-3 for TNX: Associated BS recovery outside control limits.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

_____ Date: April 27, 2017

Lovelie Metzgar, QA Officer (signature on file)

Summary of Hits

Job Number: FA43028
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/11/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA43028-1	**853081/54MW12**					
Perchlorate		4.3	0.20	0.10	ug/l	SW846 6850
HMX [a]		15.7	0.20	0.10	ug/l	SW846 8330B
RDX [a]		51.4	2.0	1.0	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		9.4	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		4.6	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		54.1	2.0	1.0	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		78.6	2.0	1.0	ug/l	SW846 8330B
FA43028-2	**853083/54MW1**					
No hits reported in this sample.						
FA43028-3	**853085/041117R1**					
No hits reported in this sample.						

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	853081/54MW12		
Lab Sample ID:	FA43028-1	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q33621.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	4.3	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	853081/54MW12		
Lab Sample ID:	FA43028-1	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB054302.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
Run #2 [b]	PP381842.D	1	04/24/17	EM	04/17/17	OP64666	GPP2096
Run #3 [a]	BB054339.D	10	04/21/17	EM	04/17/17	OP64666	GBB1579
Run #4 [b]	PP381843.D	10	04/25/17	EM	04/17/17	OP64666	GPP2096

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml
Run #3	1000 ml	10.0 ml
Run #4	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	15.7	0.20	0.10	0.080	ug/l	
121-82-4	RDX	51.4 [c]	2.0	1.0	0.80	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX [d]	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	9.4	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	4.6	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	54.1 [c]	2.0	1.0	0.99	ug/l	
118-96-7	2,4,6-Trinitrotoluene	78.6 [c]	2.0	1.0	0.80	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN [e]	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	98%	86%	104%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	853081/54MW12		
Lab Sample ID:	FA43028-1	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

(d) Associated BS recovery outside control limits.
(e) Associated CCV and BS outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	853083/54MW1		
Lab Sample ID:	FA43028-2	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q33622.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	853083/54MW1		
Lab Sample ID:	FA43028-2	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB054303.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX [a]	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN [b]	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	96%		70-136%

(a) Associated BS recovery outside DOD QSM control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	853085/041117R1		
Lab Sample ID:	FA43028-3	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q33626.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	853085/041117R1		
Lab Sample ID:	FA43028-3	**Date Sampled:**	04/11/17
Matrix:	AQ - Ground Water	**Date Received:**	04/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB054304.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX [a]	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN [b]	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	97%		70-136%

(a) Associated BS recovery outside DOD QSM control limits.
(b) Associated CCV and BS outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA43028

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 126534 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Accutest Southeast**
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

Government UPS Shipping Acct ? (Y) N

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM 5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: ERIS + Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
853081 } 1	04/11/2017 1000	GROUND WATER	54MW12	EXPLOSIVES	8330B	
853081	04/11/2017 1000	GROUND WATER	54MW12	PERCHLORATE	SW6850	
853083 } 2	04/11/2017 0845	GROUND WATER	54MW1	EXPLOSIVES	8330B	
853083	04/11/2017 0845	GROUND WATER	54MW1	PERCHLORATE	SW6850	
853085 } 3	04/11/2017 1120	GROUND WATER	041117R1	EXPLOSIVES	8330B	
853085	04/11/2017 1120	GROUND WATER	041117R1	PERCHLORATE	SW6850	

Relinquished by: Brett Szymanski Date/Time: 04/12/2017 13:55

Received by: Fx Date/Time: _____ Receipt Temperature (C) 2.3
Fx

COMMENTS: FULL-LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX). DESIGNATED MS/MSD SAMPLE = 54MW12

04/13/17 1000

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

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FA43028: Chain of Custody
Page 1 of 3

SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA43028 CLIENT: CT LAB PROJECT: Radford AAP

DATE/TIME RECEIVED: 04/13/17 1000 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 1Z 1A4 A85 01 4112 7045

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.4
- [ ] OBSERVED TEMPS: 1.9
- [ ] CORRECTED TEMPS: 2.3 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

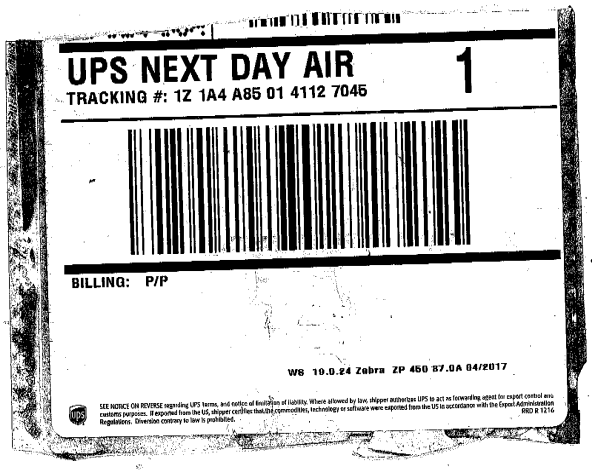
SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE: 04/14/17 REVIEWER SIGNATURE/DATE: 04/14/17

NF 02/16 receipt confirmation 020116.xls

5.1 5

FA43028: Chain of Custody
Page 2 of 3



FA43028: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA43028
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/11/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64794	SW846 6850						
OP64794-BS	14797-73-0	Perchlorate	BSP	REC	85	%	84-119
OP64794-MS*	14797-73-0	Perchlorate	MS	REC	100	%	84-119
OP64794-MSD*	14797-73-0	Perchlorate	MSD	REC	95	%	84-119
OP64794-MSD*	14797-73-0	Perchlorate	MSD	RPD	5	%	15
OP64666	SW846 8330B						
OP64666-BS	2691-41-0	HMX	BSP	REC	95	%	65-135
OP64666-BS	121-82-4	RDX	BSP	REC	106	%	68-130
OP64666-BS		DNX	BSP	REC	66	%	66-119
OP64666-BS		MNX	BSP	REC	82	%	57-132
OP64666-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	98	%	71-117
OP64666-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	86	%	78-120
OP64666-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	103	%	77-127
OP64666-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	104	%	78-120
OP64666-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	105	%	79-120
OP64666-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	110	%	76-125
OP64666-BS	98-95-3	Nitrobenzene	BSP	REC	107	%	65-134
OP64666-BS	88-72-2	o-Nitrotoluene	BSP	REC	106	%	70-127
OP64666-BS	99-08-1	m-Nitrotoluene	BSP	REC	107	%	73-125
OP64666-BS	99-99-0	p-Nitrotoluene	BSP	REC	105	%	71-127
OP64666-BS	479-45-8	Tetryl	BSP	REC	116	%	64-128
OP64666-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	106	%	73-125
OP64666-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	103	%	71-123
OP64666-BS	55-63-0	Nitroglycerine	BSP	REC	92	%	74-127
OP64666-BS	78-11-5	PETN	BSP	REC	187	%	73-127
OP64666-MS*	2691-41-0	HMX	MS	REC	106	%	65-135
OP64666-MS*	121-82-4	RDX	MS	REC	94	%	68-130
OP64666-MS*		DNX	MS	REC	76	%	66-119
OP64666-MS*		MNX	MS	REC	85	%	57-132
OP64666-MS*	618-87-1	3,5-Dinitroaniline	MS	REC	97	%	71-117
OP64666-MS*	99-65-0	1,3-Dinitrobenzene	MS	REC	83	%	78-120
OP64666-MS*	606-20-2	2,6-Dinitrotoluene	MS	REC	92	%	77-127
OP64666-MS*	121-14-2	2,4-Dinitrotoluene	MS	REC	97	%	78-120
OP64666-MS*	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	83	%	79-120
OP64666-MS*	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	90	%	76-125
OP64666-MS*	98-95-3	Nitrobenzene	MS	REC	83	%	65-134
OP64666-MS*	88-72-2	o-Nitrotoluene	MS	REC	94	%	70-127
OP64666-MS*	99-08-1	m-Nitrotoluene	MS	REC	92	%	73-125
OP64666-MS*	99-99-0	p-Nitrotoluene	MS	REC	94	%	71-127
OP64666-MS*	479-45-8	Tetryl	MS	REC	87	%	64-128
OP64666-MS*	99-35-4	1,3,5-Trinitrobenzene	MS	REC	89	%	73-125

* Sample used for QC is not from job FA43028

QC Evaluation: DOD QSM5 Limits

Job Number: FA43028
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/11/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP64666-MS*	118-96-7	2,4,6-Trinitrotoluene	MS	REC	96	%	71-123
OP64666-MS*	55-63-0	Nitroglycerine	MS	REC	102	%	74-127
OP64666-MS*	78-11-5	PETN	MS	REC	178	%	73-127
OP64666-MSD*	2691-41-0	HMX	MSD	REC	100	%	65-135
OP64666-MSD*	2691-41-0	HMX	MSD	RPD	6	%	20
OP64666-MSD*	121-82-4	RDX	MSD	REC	94	%	68-130
OP64666-MSD*	121-82-4	RDX	MSD	RPD	1	%	20
OP64666-MSD*		DNX	MSD	REC	77	%	66-119
OP64666-MSD*		DNX	MSD	RPD	1	%	20
OP64666-MSD*		MNX	MSD	REC	84	%	57-132
OP64666-MSD*		MNX	MSD	RPD	1	%	20
OP64666-MSD*	618-87-1	3,5-Dinitroaniline	MSD	REC	100	%	71-117
OP64666-MSD*	618-87-1	3,5-Dinitroaniline	MSD	RPD	3	%	20
OP64666-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	REC	87	%	78-120
OP64666-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	RPD	1	%	20
OP64666-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	REC	92	%	77-127
OP64666-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	RPD	1	%	20
OP64666-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	REC	98	%	78-120
OP64666-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	RPD	1	%	20
OP64666-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	94	%	79-120
OP64666-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	0	%	20
OP64666-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	90	%	76-125
OP64666-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	0	%	20
OP64666-MSD*	98-95-3	Nitrobenzene	MSD	REC	85	%	65-134
OP64666-MSD*	98-95-3	Nitrobenzene	MSD	RPD	3	%	20
OP64666-MSD*	88-72-2	o-Nitrotoluene	MSD	REC	97	%	70-127
OP64666-MSD*	88-72-2	o-Nitrotoluene	MSD	RPD	4	%	20
OP64666-MSD*	99-08-1	m-Nitrotoluene	MSD	REC	95	%	73-125
OP64666-MSD*	99-08-1	m-Nitrotoluene	MSD	RPD	4	%	20
OP64666-MSD*	99-99-0	p-Nitrotoluene	MSD	REC	97	%	71-127
OP64666-MSD*	99-99-0	p-Nitrotoluene	MSD	RPD	4	%	20
OP64666-MSD*	479-45-8	Tetryl	MSD	REC	88	%	64-128
OP64666-MSD*	479-45-8	Tetryl	MSD	RPD	1	%	20
OP64666-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	90	%	73-125
OP64666-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	0	%	20
OP64666-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	95	%	71-123
OP64666-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	0	%	20
OP64666-MSD*	55-63-0	Nitroglycerine	MSD	REC	105	%	74-127
OP64666-MSD*	55-63-0	Nitroglycerine	MSD	RPD	3	%	20
OP64666-MSD*	78-11-5	PETN	MSD	REC	184	%	73-127
OP64666-MSD*	78-11-5	PETN	MSD	RPD	3	%	20

* Sample used for QC is not from job FA43028

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64794-MB	Q33601.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876

The QC reported here applies to the following samples: **Method:** SW846 6850

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64794-BS	Q33613.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876

The QC reported here applies to the following samples: **Method:** SW846 6850

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.17	85	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64794-MS	Q33615.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
OP64794-MSD	Q33616.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876
LA32446-11	Q33614.D	1	04/26/17	NAF	04/25/17	OP64794	SQ876

The QC reported here applies to the following samples: **Method:** SW846 6850

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	LA32446-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	ND		0.2	0.20	100	0.2	0.19	95	5	80-120/15

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ876-ICC876	**Injection Date:**	04/26/17
Lab File ID:	Q33593.D	**Injection Time:**	09:22
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	116802	3.33
Check Std [b]	123645	3.33
Upper Limit [c]	175203	5.33
Lower Limit [d]	58401	1.33

Lab Sample ID	IS 1 AREA	RT
OP64794-MB	138496	3.38
ZZZZZZ	97068	3.31
ZZZZZZ	80413	3.29
ZZZZZZ	79456	3.25
ZZZZZZ	70663	3.14
ZZZZZZ	80907	3.26
ZZZZZZ	111348	3.38

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ876-ICC876 Q33593.D 04/26/17 09:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Semivolatile Internal Standard Area Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ876-CC876	**Injection Date:**	04/26/17
Lab File ID:	Q33610.D	**Injection Time:**	11:02
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	116802	3.33
Check Std [b]	116625	3.39
Upper Limit [c]	175203	5.39
Lower Limit [d]	58401	1.39

Lab Sample ID	IS 1 AREA	RT
OP64794-BS	123920	3.39
LA32446-11	78647	3.21
OP64794-MS	75649	3.23
OP64794-MSD	74142	3.22
ZZZZZZ	76242	3.22
ZZZZZZ	90485	3.21
ZZZZZZ	89723	3.22
ZZZZZZ	97194	3.25
FA43028-1	96766	3.23
FA43028-2	99152	3.25

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ876-ICC876 Q33593.D 04/26/17 09:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Semivolatile Internal Standard Area Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ876-CC876	**Injection Date:**	04/26/17
Lab File ID:	Q33623.D	**Injection Time:**	12:17
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	116802	3.33
Check Std [b]	126242	3.39
Upper Limit [c]	175203	5.39
Lower Limit [d]	58401	1.39

Lab Sample ID	IS 1 AREA	RT
FA43028-3	127113	3.39
ZZZZZZ	91188	3.30
ZZZZZZ	99134	3.37

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ876-ICC876 Q33593.D 04/26/17 09:22. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-ICC876
Lab FileID: Q33593.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2 : D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3 : D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4 : D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5 : D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6 : D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7 : D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8 : D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) Cl18O4	----------ISTD----------										
3) Perchlorate	1.1692	1.0336	1.0202	1.1057	1.1688	1.2465	1.3176	1.4016	1.1829	11.303	0.9995

*(value) - Average RF below (value)

6.5.1

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Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-ICV876
Lab FileID: Q33598.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33598
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.796	-10.2	89.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33610.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33610
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.883	-5.8	94.2

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33611.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33611
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.199	-0.3	99.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33623.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33623
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.897	-5.2	94.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33624.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0426_6850_SQ876\Q33590.d
2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33624
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.210	4.9	104.9

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ876-CC876
Lab FileID: Q33630.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0426_6850_SQ876\SQ876.batch.bin

Level ID:Calibration File
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2:D:\MassHunter\Data\0426_6850_SQ876\Q33591.d
3:D:\MassHunter\Data\0426_6850_SQ876\Q33592.d
4:D:\MassHunter\Data\0426_6850_SQ876\Q33593.d
5:D:\MassHunter\Data\0426_6850_SQ876\Q33594.d
6:D:\MassHunter\Data\0426_6850_SQ876\Q33595.d
7:D:\MassHunter\Data\0426_6850_SQ876\Q33596.d
8:D:\MassHunter\Data\0426_6850_SQ876\Q33597.d

Data File: Q33630
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.873	-6.3	93.7

CC Criteria: +/- 15%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33621.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:06
Sample Name	:	FA43028-1
Vial	:	Vial 29
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

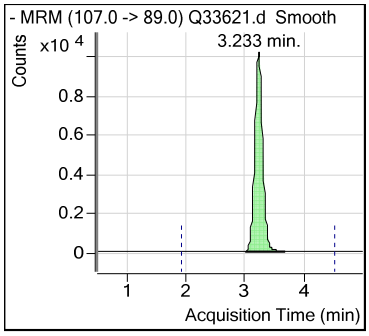
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.233	107.0 -> 89.0	96766	5.000	ng/ml	0.009	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.237	99.0 -> 83.0	99483	4.300	ng/ml	97	3.2
		101.0 -> 85.0	31346				

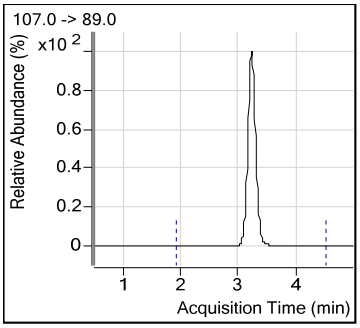
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

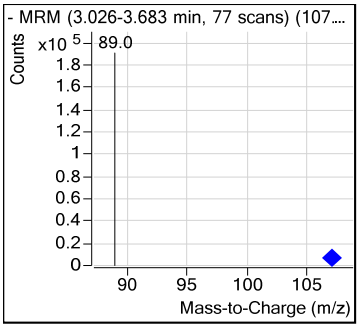
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33621.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:06
Sample Name	:	FA43028-1
Vial	:	Vial 29
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

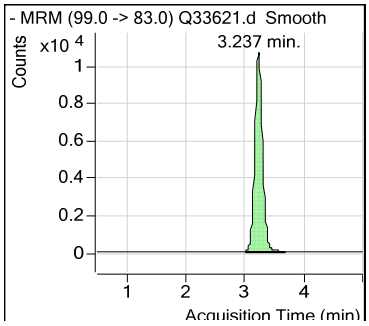
Cl18O4

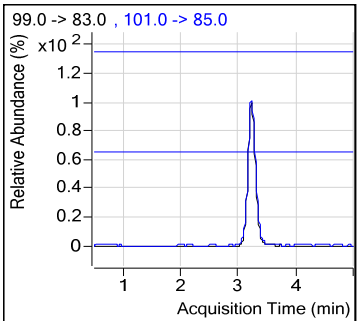


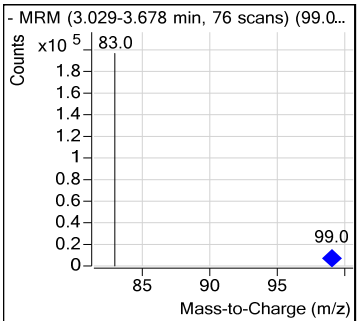




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33622.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:11
Sample Name	:	FA43028-2
Vial	:	Vial 30
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.251	107.0 -> 89.0	99152	5.000	ng/ml		0.026	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	2.087	99.0 -> 83.0	0	0.000	ng/ml	m	1	
		101.0 -> 85.0	260					

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

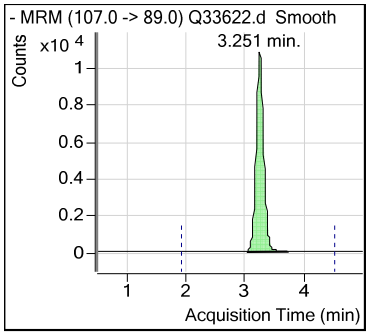
7.1.2

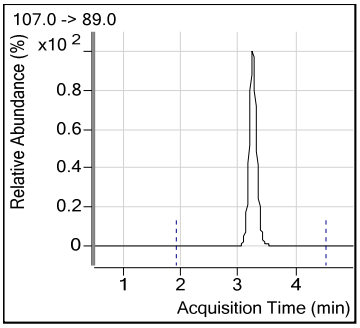
7

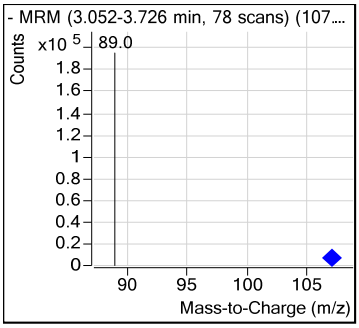
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33622.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:11
Sample Name	:	FA43028-2
Vial	:	Vial 30
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

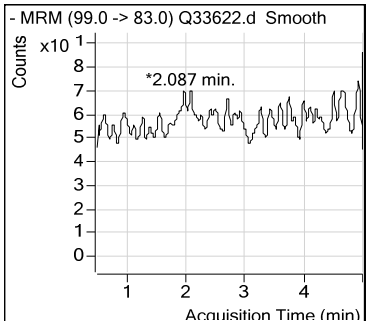
Cl18O4

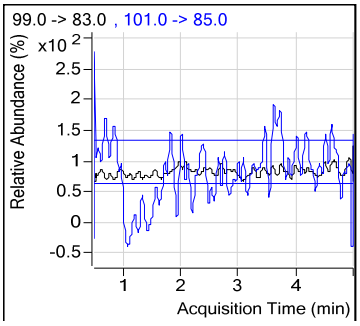


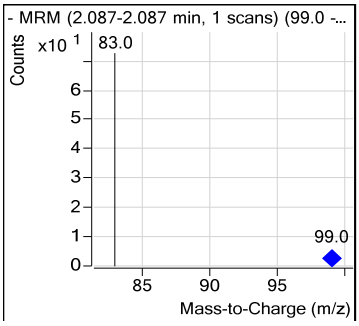




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33626.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:35
Sample Name	:	FA43028-3
Vial	:	Vial 31
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.389	107.0 -> 89.0	127113	5.000	ng/ml		0.164	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	1.024	99.0 -> 83.0	0	0.000	ng/ml	m	1	
		101.0 -> 85.0	176					

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.1.3

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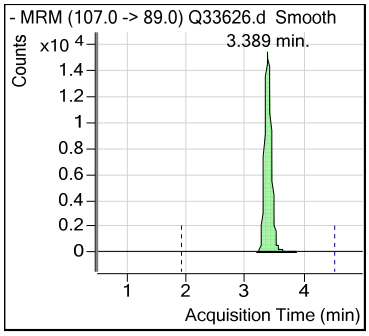
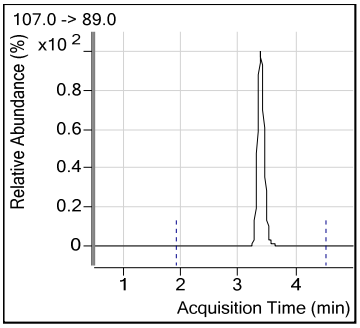
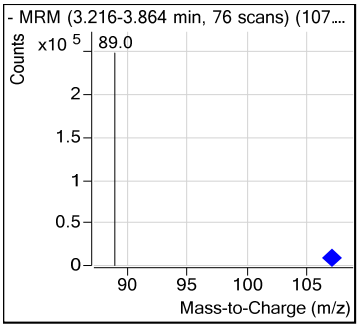
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33626.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:35
Sample Name	:	FA43028-3
Vial	:	Vial 31
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

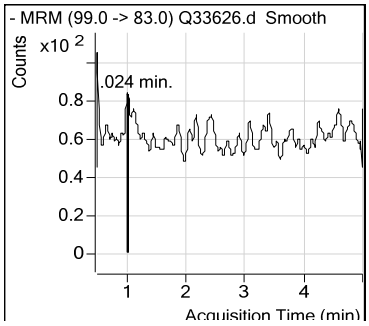
Cl18O4

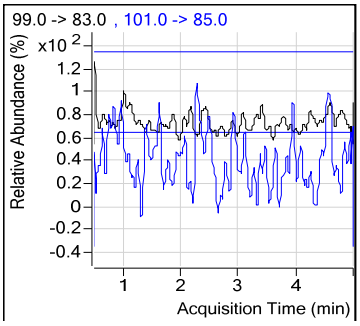


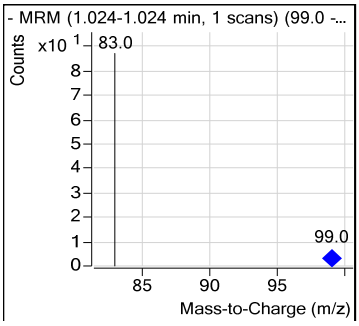




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33601.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 10:09
Sample Name	:	OP64794-MB
Vial	:	Vial 13
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

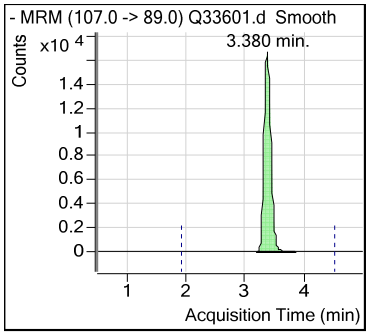
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.380	107.0 -> 89.0	138496	5.000	ng/ml	0.156	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

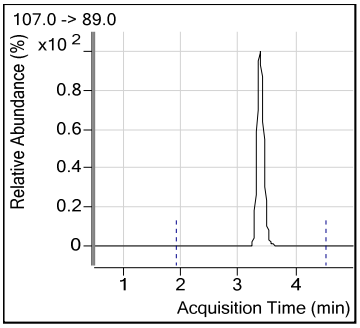
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

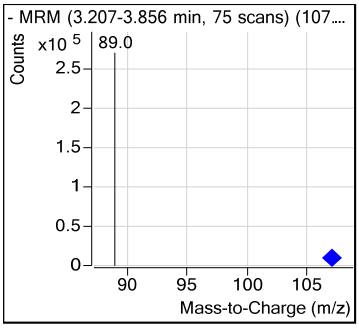
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33601.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 10:09
Sample Name	:	OP64794-MB
Vial	:	Vial 13
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

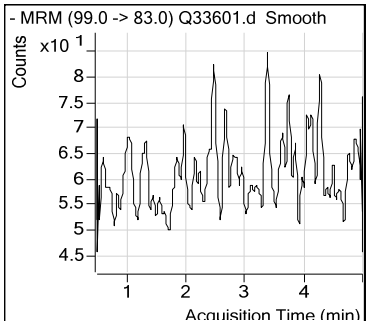
Cl18O4

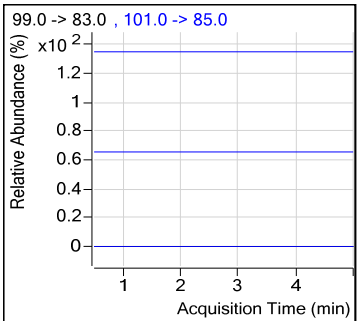


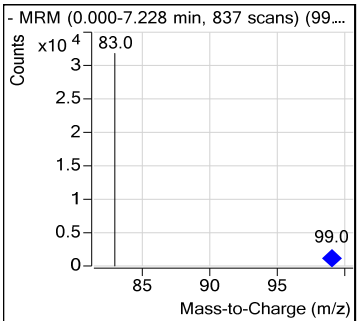




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33613.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:19
Sample Name	:	OP64794-BS
Vial	:	Vial 12
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

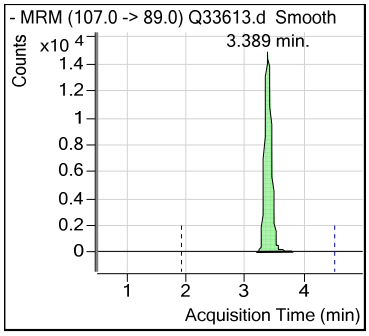
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.389	107.0 -> 89.0	123920	5.000	ng/ml		0.164	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	5000	0.172	ng/ml	#	75	2.3
		101.0 -> 85.0	2171					

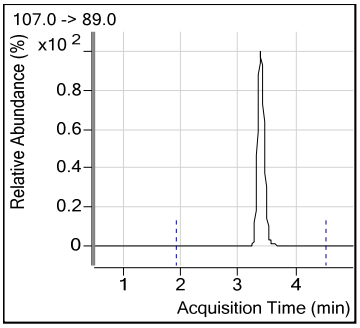
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

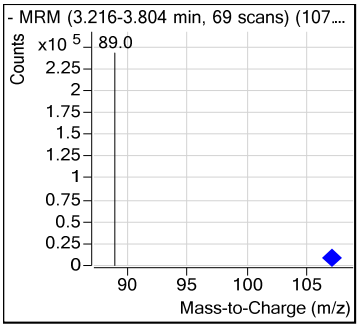
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33613.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:19
Sample Name	:	OP64794-BS
Vial	:	Vial 12
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

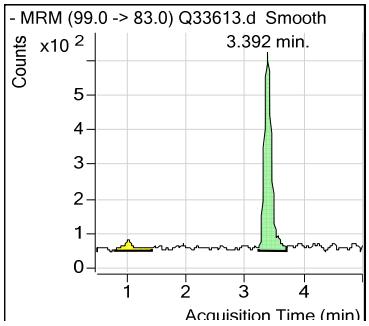
Cl18O4

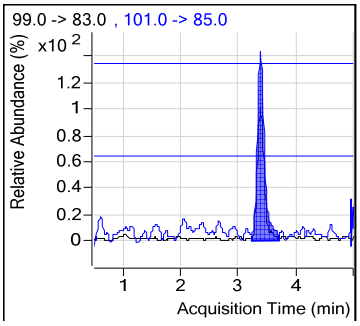


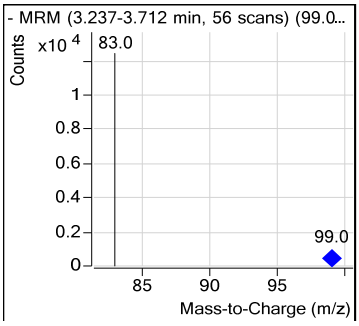




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33615.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:31
Sample Name	:	OP64794-MS
Vial	:	Vial 23
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.225	107.0 -> 89.0	75649	5.000	ng/ml	0.000	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.202	99.0 -> 83.0	3634	0.204	ng/ml	92	2.9
		101.0 -> 85.0	1241				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

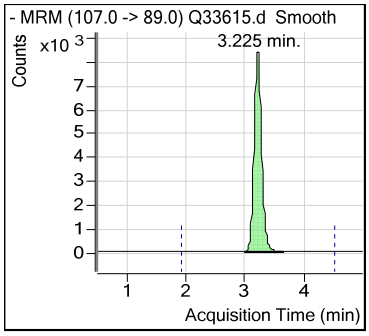
7.4.1

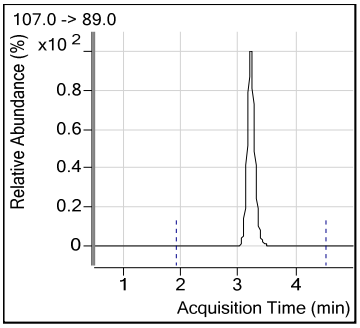
7

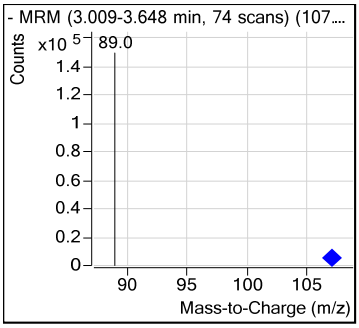
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33615.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:31
Sample Name	:	OP64794-MS
Vial	:	Vial 23
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

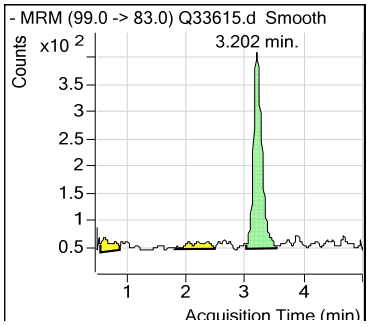
Cl18O4

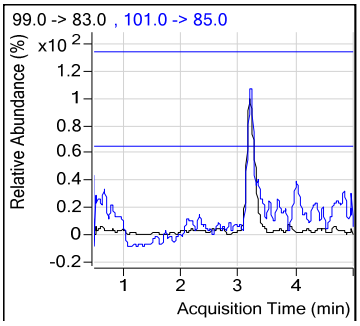


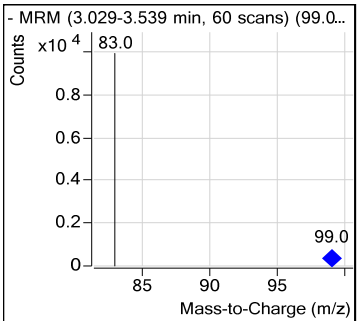




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33616.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:36
Sample Name	:	OP64794-MSD
Vial	:	Vial 24
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

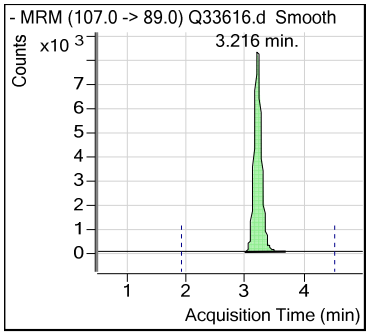
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.216	107.0 -> 89.0	74142	5.000	ng/ml	-0.009	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.219	99.0 -> 83.0	3374	0.193	ng/ml	83	2.5
		101.0 -> 85.0	1329				

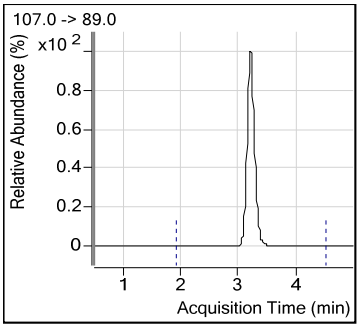
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

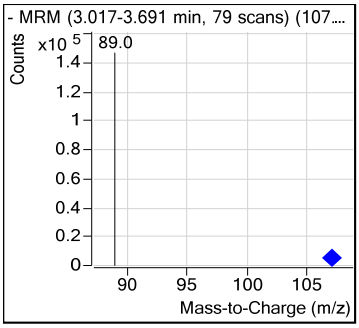
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33616.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:36
Sample Name	:	OP64794-MSD
Vial	:	Vial 24
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

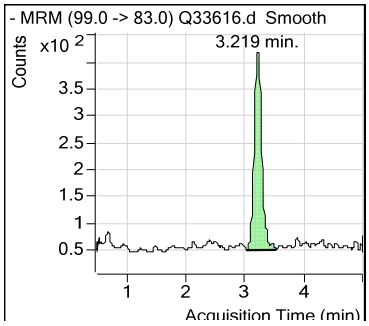
Cl18O4

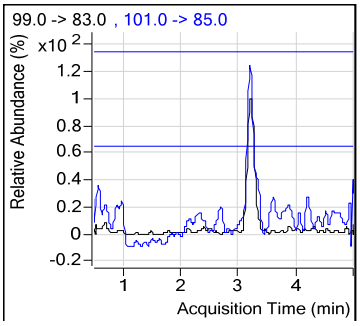


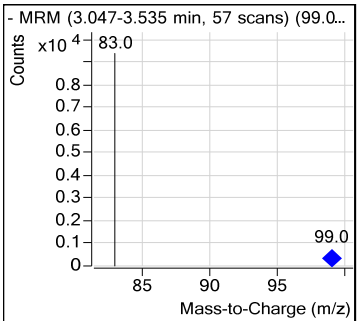




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:04
Sample Name	:	IC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

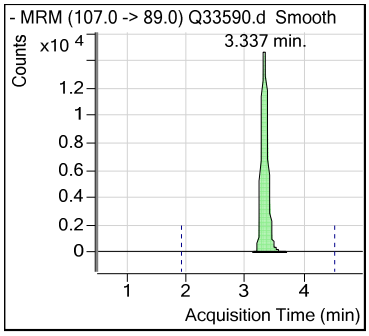
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	121607	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	5687	0.199	ng/ml	89	2.8
		101.0 -> 85.0	2047				

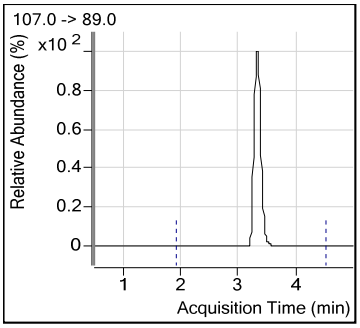
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

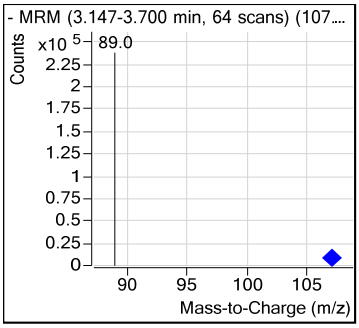
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:04
Sample Name	:	IC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

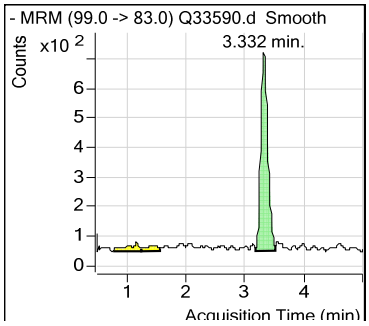
Cl18O4

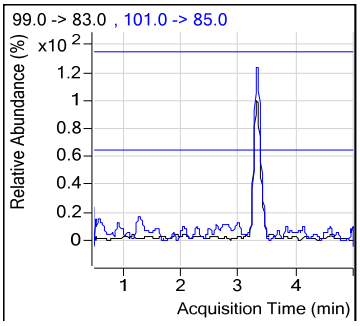


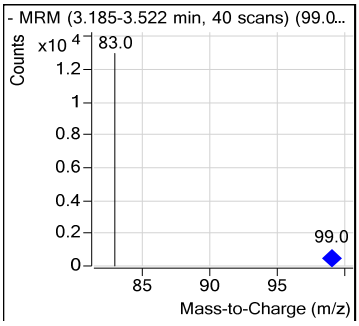




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:10
Sample Name	:	IC876-0.5
Vial	:	Vial 3
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

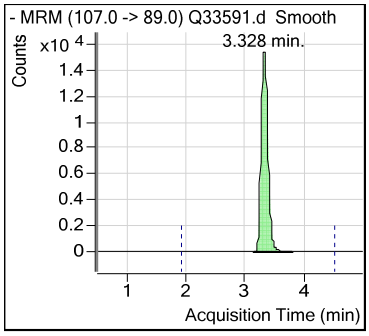
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	127079	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	13135	0.439	ng/ml	96	3.1
		101.0 -> 85.0	4214				

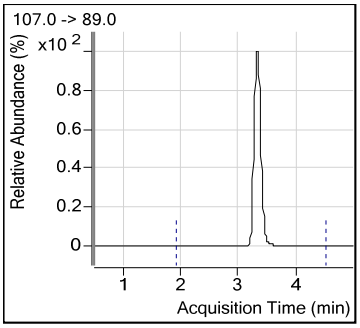
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

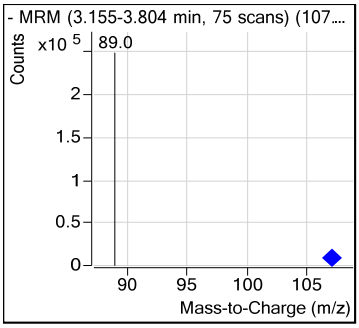
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:10
Sample Name	:	IC876-0.5
Vial	:	Vial 3
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

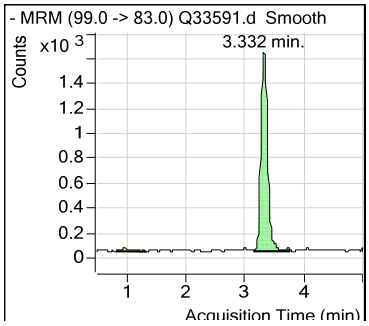
Cl18O4

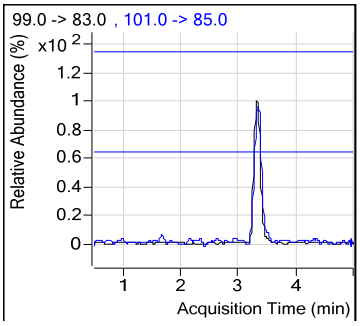


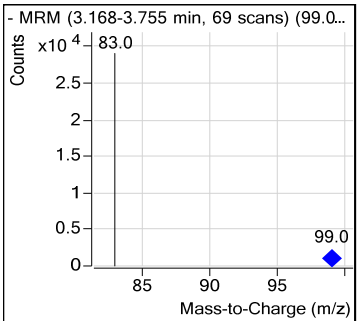




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33592.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:16
Sample Name	:	IC876-1.0
Vial	:	Vial 4
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

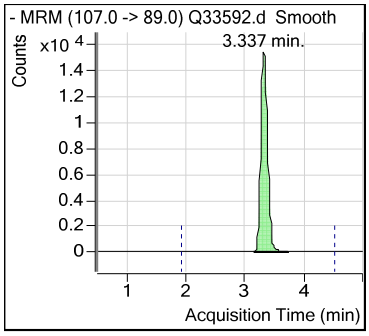
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	126805	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	25873	0.865	ng/ml	95	3.0
		101.0 -> 85.0	8498				

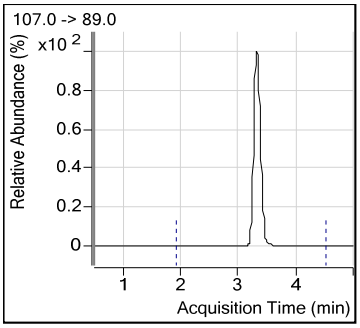
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

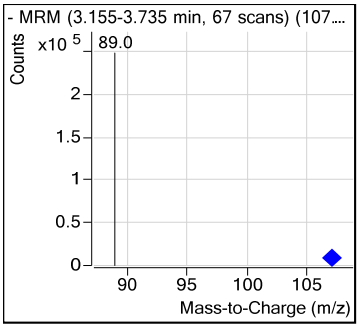
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33592.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:16
Sample Name	:	IC876-1.0
Vial	:	Vial 4
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

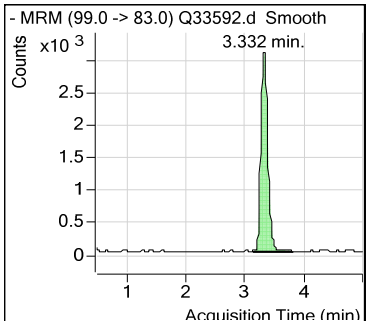
Cl18O4

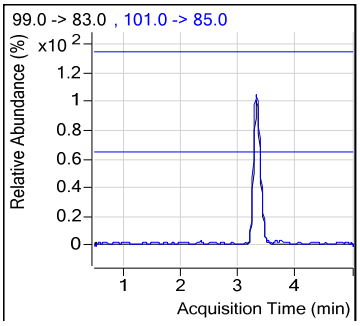


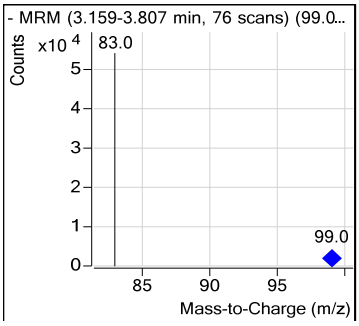




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33593.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:22
Sample Name	:	ICC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

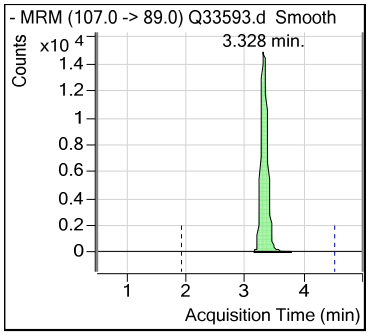
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	123645	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	54684	1.868	ng/ml	96	3.1
		101.0 -> 85.0	17687				

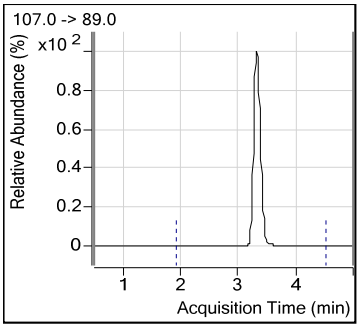
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

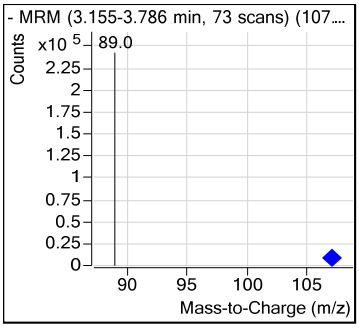
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33593.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:22
Sample Name	:	ICC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

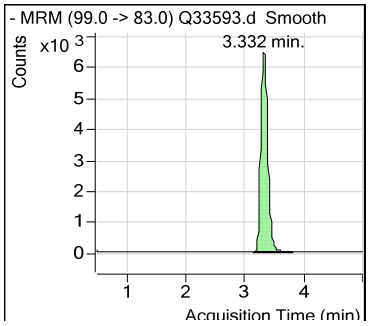
Cl18O4

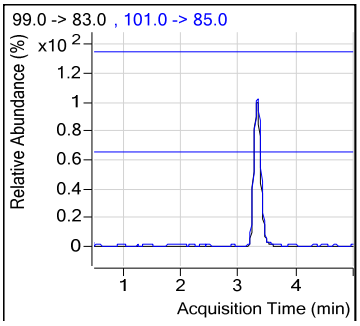


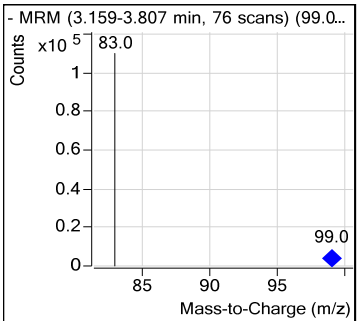




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33594.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:28
Sample Name	:	IC876-5.0
Vial	:	Vial 6
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

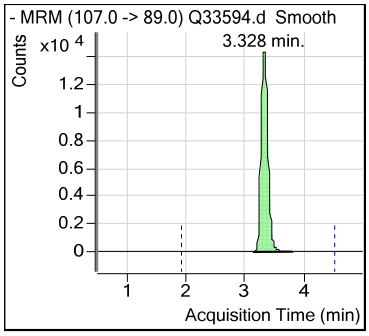
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	120016	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	140271	4.878	ng/ml	100	3.3
		101.0 -> 85.0	42110				

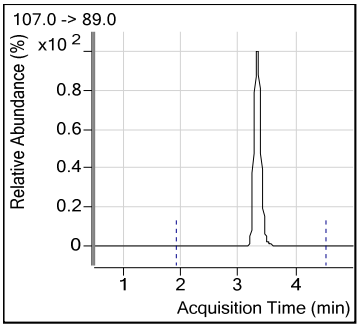
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

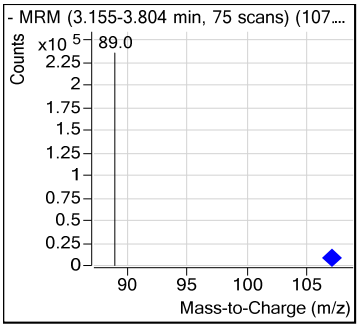
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33594.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:28
Sample Name	:	IC876-5.0
Vial	:	Vial 6
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

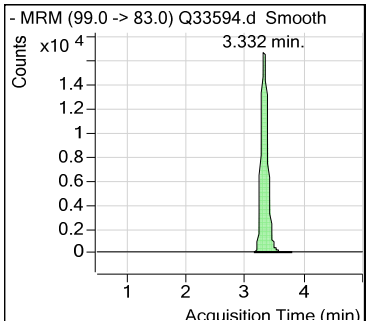
Cl18O4

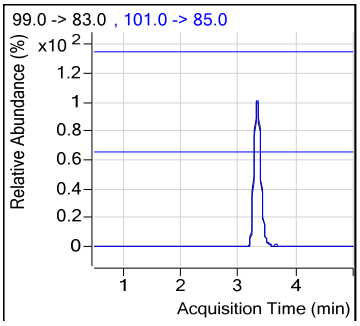


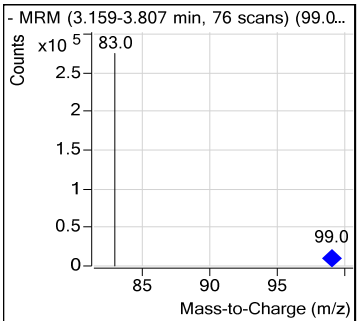




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33595.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:33
Sample Name	:	IC876-10
Vial	:	Vial 7
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	116352	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	290054	10.193	ng/ml	99	3.4
		101.0 -> 85.0	85870				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

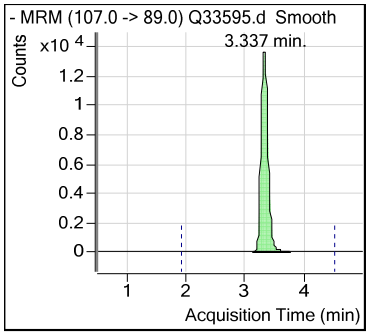
7.5.6

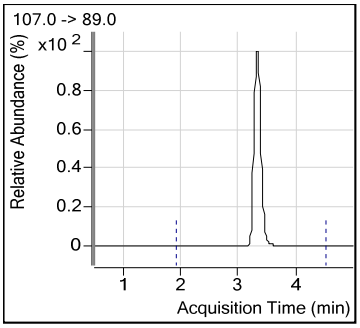
7

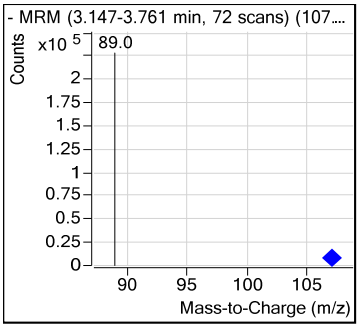
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33595.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:33
Sample Name	:	IC876-10
Vial	:	Vial 7
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

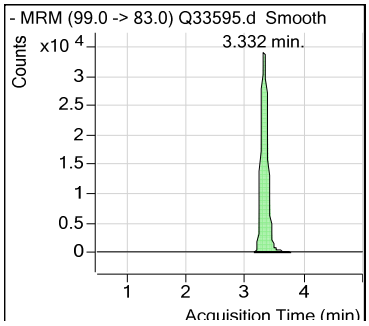
Cl18O4

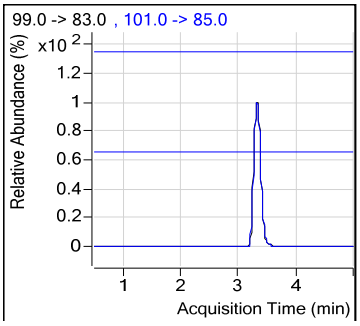


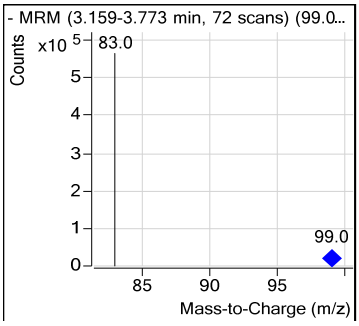




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33596.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:39
Sample Name	:	IC876-25
Vial	:	Vial 8
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

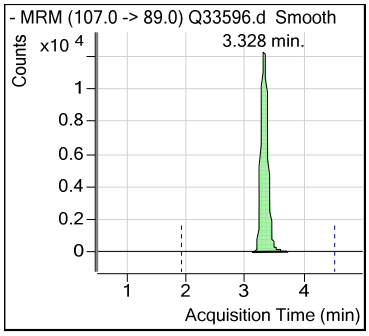
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	106469	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	701399	25.454	ng/ml	99	3.4
		101.0 -> 85.0	206605				

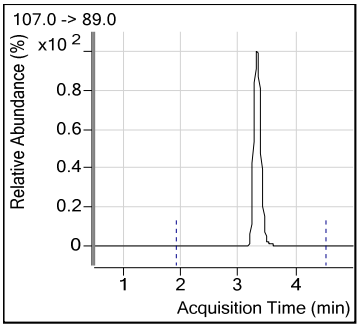
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

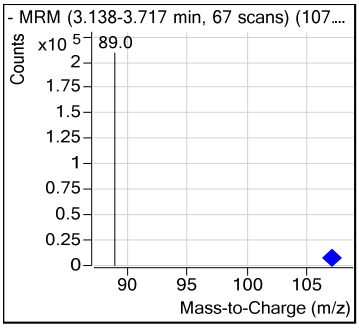
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33596.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:39
Sample Name	:	IC876-25
Vial	:	Vial 8
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

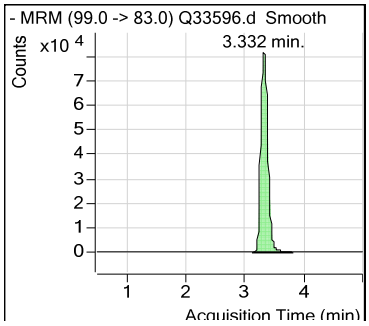
Cl18O4

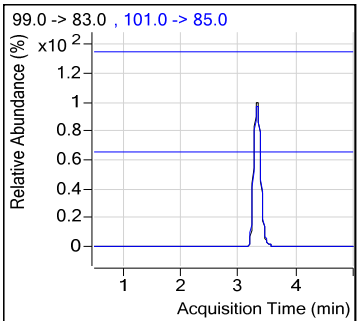


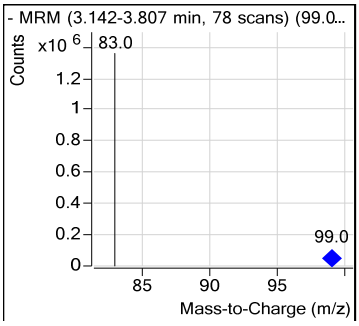




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33597.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:45
Sample Name	:	IC876-50
Vial	:	Vial 9
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

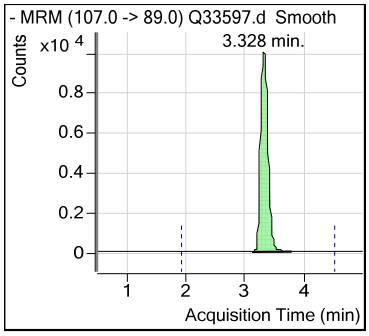
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.328	107.0 -> 89.0	92443	5.000	ng/ml	0.104	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	1295723	49.790	ng/ml	99	3.4
		101.0 -> 85.0	382585				

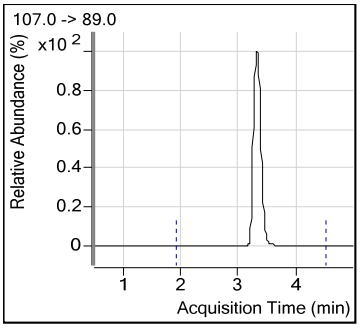
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

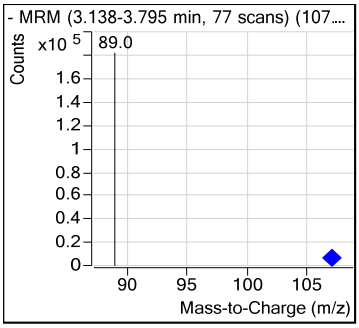
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33597.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:45
Sample Name	:	IC876-50
Vial	:	Vial 9
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

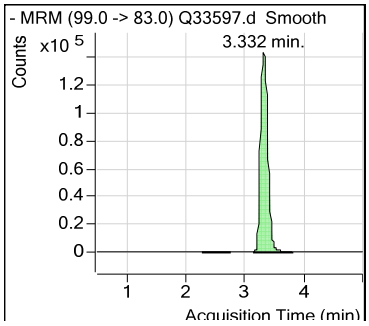
Cl18O4

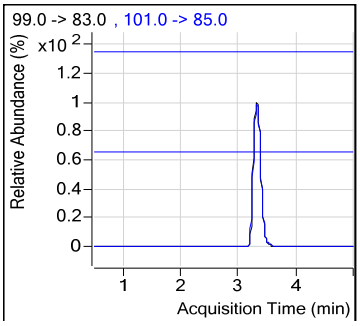


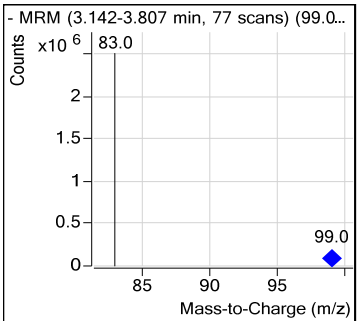




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33598.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:51
Sample Name	:	ICV876-2.0
Vial	:	Vial 10
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

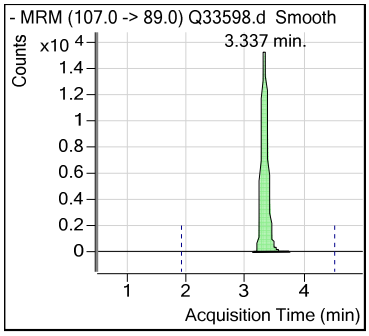
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.337	107.0 -> 89.0	126289	5.000	ng/ml	0.112	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.332	99.0 -> 83.0	53692	1.796	ng/ml	100	3.3
		101.0 -> 85.0	16229				

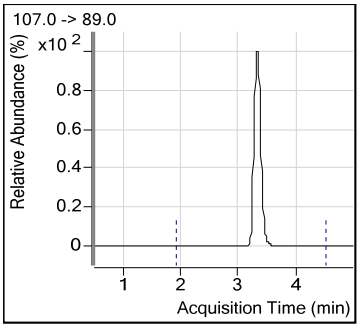
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

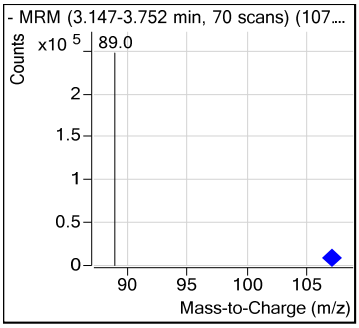
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33598.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 09:51
Sample Name	:	ICV876-2.0
Vial	:	Vial 10
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

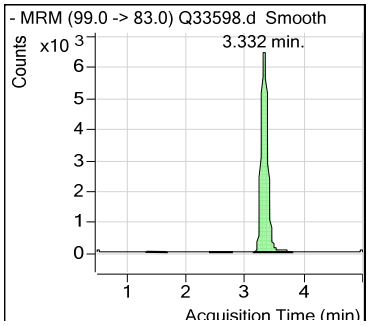
Cl18O4

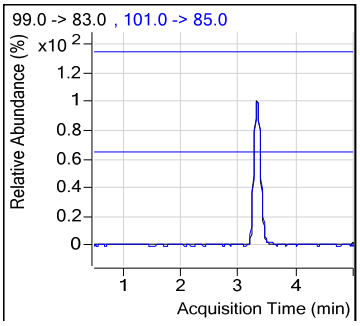


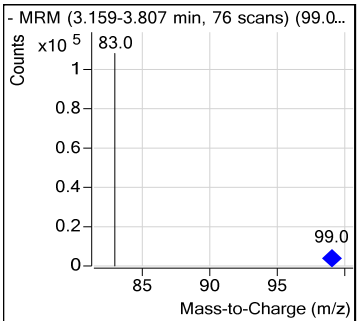




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33610.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:02
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

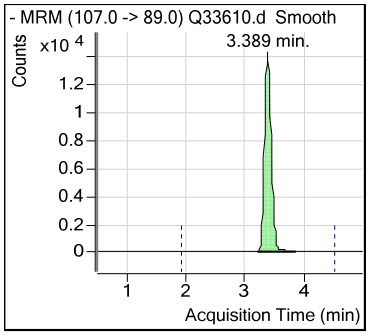
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	116625	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	52022	1.883	ng/ml	97	3.2
		101.0 -> 85.0	16342				

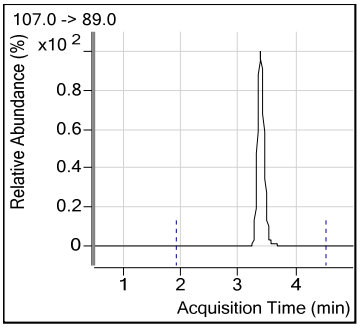
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

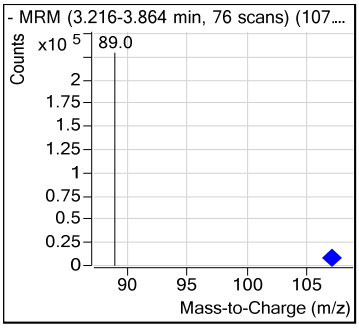
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33610.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:02
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

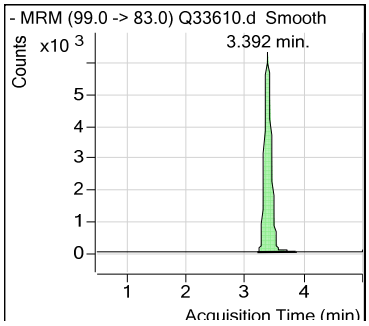
Cl18O4

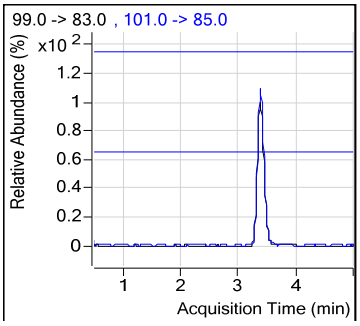


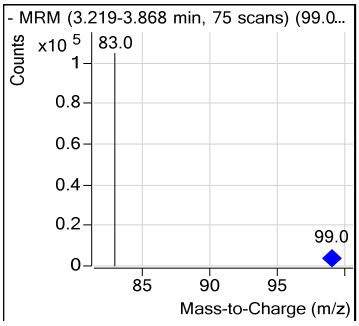




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33611.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:07
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

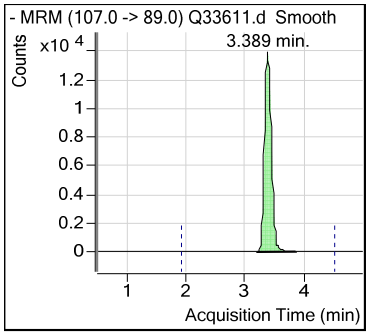
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	116493	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.401	99.0 -> 83.0	5466	0.199	ng/ml	87	2.7
		101.0 -> 85.0	2010				

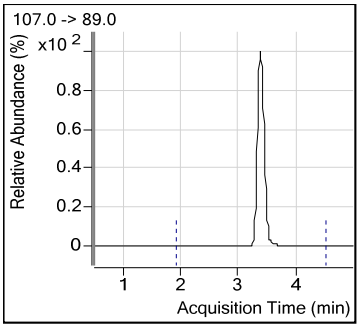
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

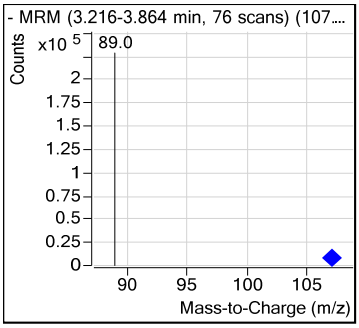
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33611.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 11:07
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

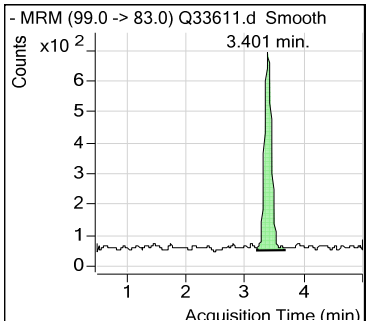
Cl18O4

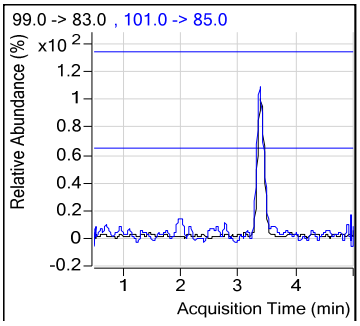


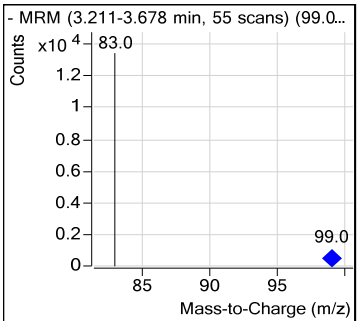




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33623.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:17
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

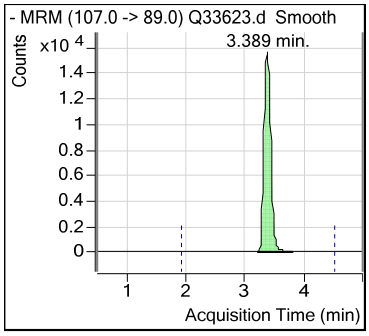
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	126242	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	56717	1.897	ng/ml	95	3.1
		101.0 -> 85.0	18566				

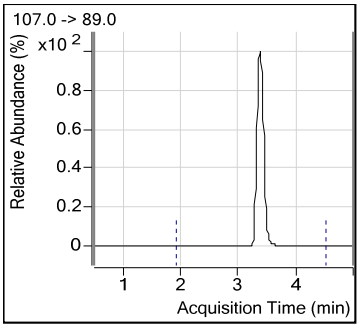
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

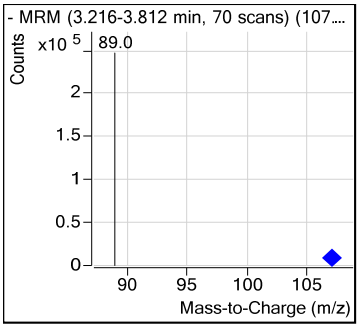
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33623.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:17
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

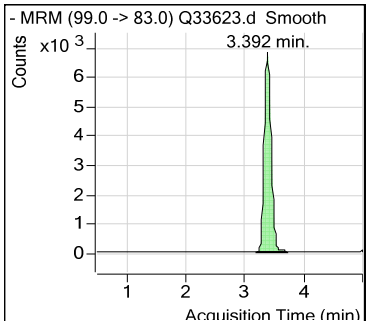
Cl18O4

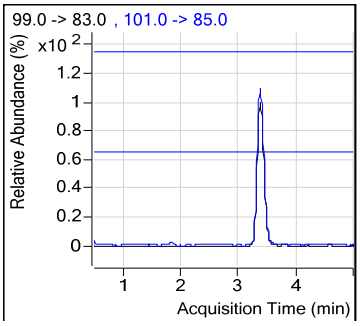


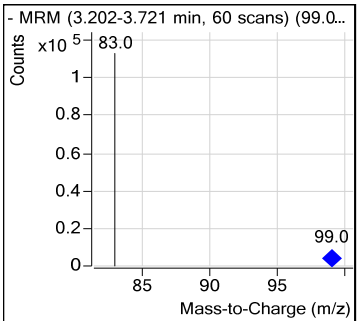




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33624.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:23
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

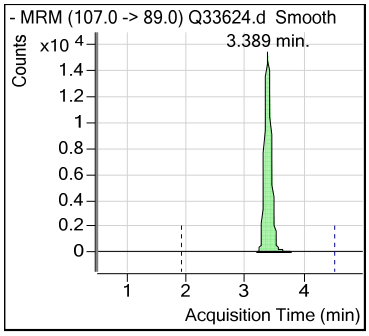
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	126795	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.384	99.0 -> 83.0	6257	0.210	ng/ml	84	2.6
		101.0 -> 85.0	2408				

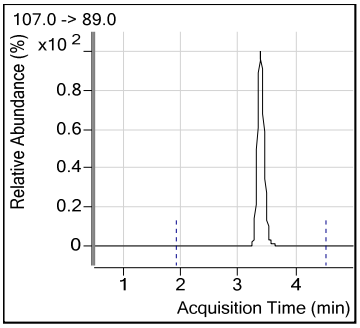
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

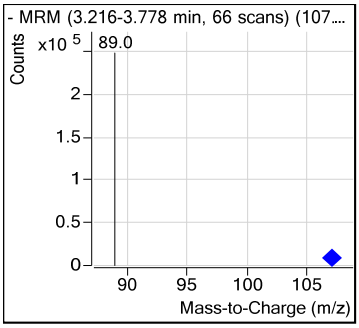
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33624.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 12:23
Sample Name	:	CC876-0.2
Vial	:	Vial 2
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

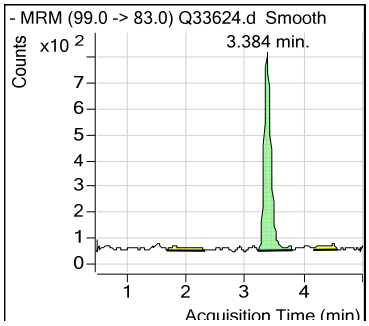
Cl18O4

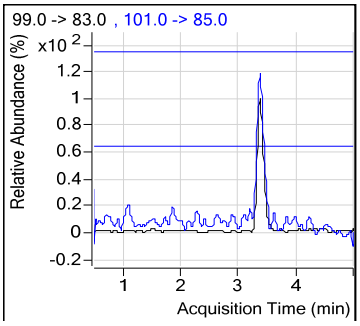


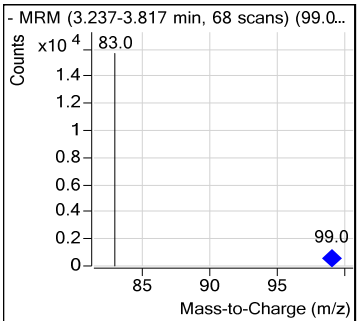




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33630.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 13:07
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ876.batch.bin
Last Calib Update	:	2017-04-26 10:55

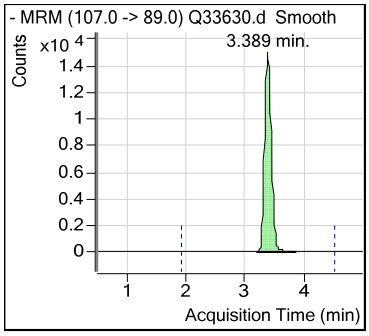
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.389	107.0 -> 89.0	122022	5.000	ng/ml	0.164	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.392	99.0 -> 83.0	54132	1.873	ng/ml	97	3.2
		101.0 -> 85.0	17122				

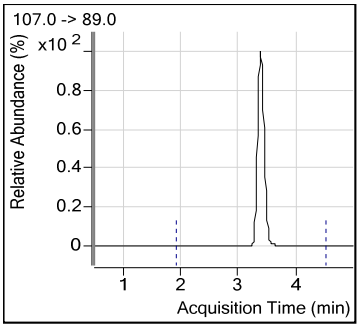
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

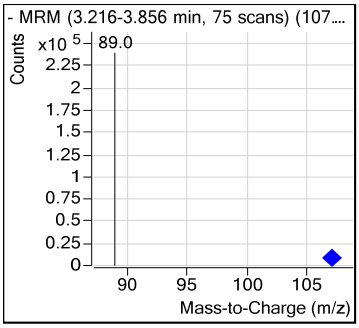
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q33630.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-04-26 13:07
Sample Name	:	CC876-2.0
Vial	:	Vial 5
Sample Info	:	OP64794,SQ876,10,,,10,1,WATER
Quant Method	:	6850_0426_SQ876.quantmethod.xml
Tune File	:	
Tune Date	:	

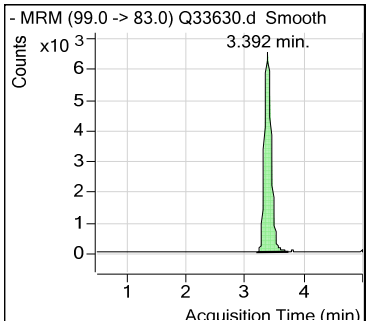
Cl18O4

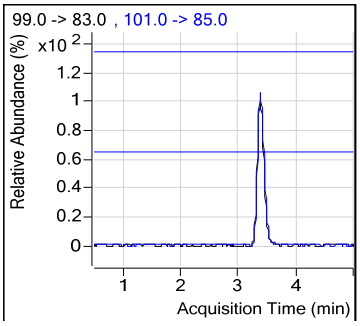


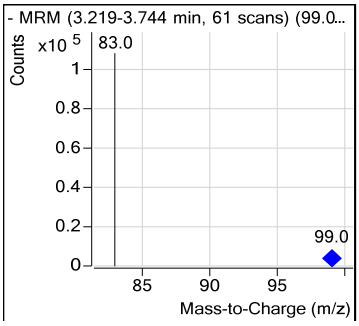




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	04-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	127

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0426 SQ874
CALIB. DATE:	04-26-17
RUN BATCH:	SQ ~~876~~ 876 (w 93617)

ANALYST:	MAS
ELUENT A LOT #:	167421 w Acetic
ELUENT B LOT #:	165388 "
WATER LOT #:	167421
ISTD Lot #:	8332

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 33582	1	CCB	6850	—	—	—		<10K	Response T run curve
Q 83	1	CCB		—	—	—			
Q 84	1	CCB		—	—	—			
Q 85	1	CCB		—	—	—			
Q 86	2	CC860-2.0		LC799	200ul 10ml	—			
Q 87	3	-0.2			20ul 10ml	—			
Q 88	4	FC860-0.2		LC800	"	—		7 10K <1K	
Q 89	1	CCB		—	—	—		<10K	✓
Q 90	2	IC876-0.2		LC799	20ul 10ml	2.8			✓
Q 91	3	-0.5			50ul 10ml	3.1			✓
Q 92	4	1.0			100ul 10ml	3.0			✓
Q 93	5	FCC876 ~~2.0~~ 2.0			200ul 10ml	3.1			✓
Q 94	6	1094617 -5.0			500ul 10ml	3.3			✓
Q 95	7	-10			1000ul 10ml	3.4			✓
Q 96	8	-25			2.5ml 10ml	3.4			✓
Q 97	9	-50			5ml 10ml	3.4			✓
Q 98	10	FCV876-2.0		LC800	200ul 10ml	3.3			Poss
Q 99	11	FCS876-0.2			20ul 10ml	~~3.3~~		>10K <1K	Pos S
Q 600	12	OP647944-BS		OP647944	1X	(2.1)		<10K	AR
Q 01	13	mB		—	—	—			BDL

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	04-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	127

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0426 SQ876
CALIB. DATE:	04-26-17
RUN BATCH: SQ	876

ANALYST:	MAS
ELUENT A LOT #:	167414 W Aquatic
ELUENT B LOT #:	165388 1
WATER LOT #:	167421
ISTD Lot #:	8332

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 33602	14	LA32446-1	6850	OP64794	1X	2.6		LVK	BDL
Q 03	15	-2				3.4			Run 2X
Q 04	16	-3				3.0			RA 1X C.O.
Q 05	17	-4				3.1			✓
Q 06	18	-5				2.9			✓
Q 07	19	-6				2.5			BDL
Q 08	20	-7				—			BDL
Q 09	21	-8		↓	↓	—			BDL
Q 10	5	CC876-2.0		LL799	2ml/10ml	3.2			Pos
Q 11	2	-0.2		↓	2ml/10ml	2.7			Poss
Q 12	1	CCB		—	—	—			ND
Q 13	12	OP64794-BS		OP64794	1X	2.3			✓
Q 14	22	LA32446-11				—			BDL
Q 15	23	OP64794-MS				2.9			✓
Q 16	24	-MSD				2.5			✓
Q 17	25	LA32446-12				—			BDL
Q 18	26	FA43019-1				3.0			✓
Q 19	27	-2				2.6			✓
Q 20	28	-3				2.5			✓
Q 21	29	FA43028-1	↓	↓	↓	3.2		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	04-21-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	127

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate X
PROC. METHOD:	6850 04426 SA876
CALIB. DATE:	04-26-17
RUN BATCH: SQ	876

ANALYST:	NAS
ELUENT A LOT #:	167421 w Revisit
ELUENT B LOT #:	165384 2
WATER LOT #:	167421
ISTD Lot #:	8331

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 33622	30	LA43028-2	6850	OP64794	1X	—		CLOK	BDL
Q 23	5	CCB876 -2.0		LC799	200uL (1ml)	3.1			Pass
Q 24	2	-0.2		↓		2.6			Pass
Q 25	1	CCB		—	—	—			ND
Q 26	31	LA43026-3		OP64794	1X	—			BDL
Q 27	36	LA32446-3			2X	3.2			✓
Q 28	32	-2			2X	3.4			Run 4X
Q 29	33	-2		↓	4X	3.5			✓
Q 30	5	CCB876-2.0		LC799	200uL (1ml)	3.2			Pass
Q 31	2	ECCB876-0.2		↓	200uL (1ml)	3.1			Pass
Q 32	1	CCB		—	—	—		↓	ND
Q									
Q									
Q									
Q									
Q									
Q									
Q							04-26-17		
Q									
Q									
Q									

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time: 04-25-17 1500 Started {mm/dd/yy 24:00}

Date/Time: 04-27-17 1530 Finished {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6810

Batch#: OP64794 Ext. By: MS Conc. By: — Vialed By: MS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP MB	/	10					10	
OP BS						20ul		
LA32446-1	1							
-2								
-3								
-4								
-5								
-6								
-7								
-8								
-11								MS/MSD
-11L								
LA43019-1								
-2								
-3								
LA43028-1								
-2								
-3	↓	↓						
								MS 042517
OP64794- MS	1	10				20ul	10	LA32446-11
— MSD	1	↓				↓	↓	-11
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LC800 Conc: 100ppb Exp. Date: 06-09-17 Inj. By: MS Ver. By MS

Initial Bath Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____

Exchange Bath/N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____

CH2CL2 Lot # —

Hexane Lot # —

Na2SO4 Lot# —

Acetonitrile Lot # —

Methanol Lot # —

Acetone Lot# —

Syringe Filter Lot# 970434

pH Paper # —

Reagent # —

Copper Lot # _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 04-25-17

Accepted By: _____ Date: 04-27-17

NF 02/16

extwater 020116.xls

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-MB	BB054285.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	94%	70-136%

Method Blank Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-MB	PP381830.D	1	04/24/17	EM	04/17/17	OP64666	GPP2096

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	91%	70-136%

Blank Spike Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-BS [a]	BB054284.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	4.2	4.4	95	77-144
121-82-4	RDX	4.8	4.5	106	77-125
	DNX	5.0	3.3	66	66-127
	MNX	5.0	4.1	82	71-137
	TNX	5.0	2.4	48* [b]	60-126
618-87-1	3,5-Dinitroaniline	5.0	5.0	98	77-115
99-65-0	1,3-Dinitrobenzene	4.8	4.2	86	79-122
606-20-2	2,6-Dinitrotoluene	4.4	4.1	103	81-131
121-14-2	2,4-Dinitrotoluene	4.3	4.3	104	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4	4.3	105	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	4.5	4.2	110	79-119
98-95-3	Nitrobenzene	4.7	4.0	107	78-130
88-72-2	o-Nitrotoluene	4.6	4.4	106	76-131
99-08-1	m-Nitrotoluene	4.3	4.1	107	78-122
99-99-0	p-Nitrotoluene	4.6	4.4	105	79-124
479-45-8	Tetryl	4.2	3.6	116	65-124
99-35-4	1,3,5-Trinitrobenzene	4.7	4.3	106	79-128
118-96-7	2,4,6-Trinitrotoluene	3.1	3.1	103	72-112
55-63-0	Nitroglycerine	25	23.1	92	69-123
78-11-5	PETN	25	46.8	187*	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	93%	70-136%

(a) Spike recoveries corrected for actual spike amount.
(b) Outside control limits. Within control limits in MS/MSD.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP64666-MS	BB054290.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
OP64666-MSD	BB054291.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579
FA42969-6	BB054289.D	1	04/20/17	EM	04/17/17	OP64666	GBB1579

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA43028-1, FA43028-2, FA43028-3

CAS No.	Compound	FA42969-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	0.19	U	8.08	8.6	106	8.08	8.1	100	6	77-144/21
121-82-4	RDX	0.19	U	9.23	8.7	94	9.23	8.6	94	1	77-125/19
	DNX	0.19	U	9.62	7.3	76	9.62	7.4	77	1	66-127/25
	MNX	0.19	U	9.62	8.2	85	9.62	8.1	84	1	71-137/20
	TNX	0.19	U	9.62	7.8	81	9.62	7.7	80	1	60-126/18
618-87-1	3,5-Dinitroaniline	0.19	U	9.62	9.3	97	9.62	9.6	100	3	77-115/19
99-65-0	1,3-Dinitrobenzene	0.19	U	9.23	7.9	83	9.23	8.0	87	1	79-122/17
606-20-2	2,6-Dinitrotoluene	0.19	U	8.46	7.7	92	8.46	7.8	92	1	81-131/17
121-14-2	2,4-Dinitrotoluene	0.19	U	8.27	8.0	97	8.27	8.1	98	1	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	0.19	U	8.46	8.0	83	8.46	8.0	94	0	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	0.19	U	8.65	7.8	90	8.65	7.8	90	0	79-119/20
98-95-3	Nitrobenzene	0.19	U	9.04	7.5	83	9.04	7.7	85	3	78-130/19
88-72-2	o-Nitrotoluene	0.19	U	8.85	8.3	94	8.85	8.6	97	4	76-131/20
99-08-1	m-Nitrotoluene	0.19	U	8.27	7.6	92	8.27	7.9	95	4	78-122/18
99-99-0	p-Nitrotoluene	0.19	U	8.85	8.3	94	8.85	8.6	97	4	79-124/18
479-45-8	Tetryl	0.19	U	8.08	7.0	87	8.08	7.1	88	1	65-124/20
99-35-4	1,3,5-Trinitrobenzene	0.19	U	9.04	8.1	89	9.04	8.1	90	0	79-128/16
118-96-7	2,4,6-Trinitrotoluene	0.19	U	5.96	5.7	96	5.96	5.7	95	0	72-112/16
55-63-0	Nitroglycerine	1.9	U	48.1	49.0	102	48.1	50.4	105	3	69-123/18
78-11-5	PETN	1.9	U	48.1	85.8	178*	48.1	88.4	184*	3	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA42969-6	Limits
610-39-9	3,4-Dinitrotoluene	91%	89%	90%	70-136%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA43028-1	BB054339.D	104
FA43028-1	PP381842.D	86
FA43028-1	PP381843.D	98
FA43028-1	BB054302.D	98
FA43028-2	BB054303.D	96
FA43028-3	BB054304.D	97
OP64666-BS	BB054284.D	93
OP64666-MB	BB054285.D	94
OP64666-MB	PP381830.D	91
OP64666-MS	BB054290.D	91
OP64666-MSD	BB054291.D	89

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1579-CC1578	**Injection Date:**	04/20/17
Lab File ID:	BB054283.D	**Injection Time:**	09:36
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.19

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP64666-BS	BB054284.D	04/20/17	10:06	10.21
OP64666-MB	BB054285.D	04/20/17	10:36	10.21
ZZZZZZ	BB054286.D	04/20/17	11:06	10.22
ZZZZZZ	BB054287.D	04/20/17	11:36	10.22
FA42969-6	BB054289.D	04/20/17	12:36	10.25
OP64666-MS	BB054290.D	04/20/17	13:06	10.24
OP64666-MSD	BB054291.D	04/20/17	13:36	10.25
ZZZZZZ	BB054292.D	04/20/17	14:06	10.24
ZZZZZZ	BB054293.D	04/20/17	14:36	10.24
ZZZZZZ	BB054294.D	04/20/17	15:06	10.24

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1579-CC1578	**Injection Date:**	04/20/17
Lab File ID:	BB054295.D	**Injection Time:**	15:36
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.23

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	BB054297.D	04/20/17	16:36	10.25
ZZZZZZ	BB054298.D	04/20/17	17:06	10.24
ZZZZZZ	BB054299.D	04/20/17	17:36	10.24
ZZZZZZ	BB054300.D	04/20/17	18:06	10.24
ZZZZZZ	BB054301.D	04/20/17	18:36	10.24
FA43028-1	BB054302.D	04/20/17	19:06	10.23
FA43028-2	BB054303.D	04/20/17	19:36	10.24
FA43028-3	BB054304.D	04/20/17	20:06	10.24

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1579-CC1578	**Injection Date:**	04/21/17
Lab File ID:	BB054329.D	**Injection Time:**	08:35
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.11

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FA42633-1	BB054333.D	04/21/17	10:35	10.11
OP64695-MS	BB054334.D	04/21/17	11:05	10.11
OP64695-MSD	BB054335.D	04/21/17	12:00	10.11
FA43028-1	BB054339.D	04/21/17	14:00	10.11

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2096-ICC2096	**Injection Date:**	04/24/17
Lab File ID:	PP381825.D	**Injection Time:**	14:37
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	15.43

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP64666-MB	PP381830.D	04/24/17	17:20	15.26
ZZZZZZ	PP381831.D	04/24/17	17:52	15.30
ZZZZZZ	PP381832.D	04/24/17	18:25	15.25
ZZZZZZ	PP381833.D	04/24/17	18:57	15.29
ZZZZZZ	PP381834.D	04/24/17	19:30	15.38
ZZZZZZ	PP381835.D	04/24/17	20:02	15.31
ZZZZZZ	PP381836.D	04/24/17	20:35	15.30
ZZZZZZ	PP381837.D	04/24/17	21:07	15.21
ZZZZZZ	PP381838.D	04/24/17	21:39	15.21
ZZZZZZ	PP381839.D	04/24/17	22:12	15.22

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP2096-CC2096	**Injection Date:**	04/24/17
Lab File ID:	PP381840.D	**Injection Time:**	22:45
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	15.24	15.25

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA43028-1	PP381842.D	04/24/17	23:49		15.17
FA43028-1	PP381843.D	04/25/17	00:22		15.26
OP64684-MB	PP381844.D	04/25/17	00:54		15.21
ZZZZZZ	PP381845.D	04/25/17	01:27		15.21
ZZZZZZ	PP381846.D	04/25/17	01:59		15.28
ZZZZZZ	PP381847.D	04/25/17	02:32		15.20
ZZZZZZ	PP381848.D	04/25/17	03:04		15.22
GPP2096-ECC2096	PP381852.D	04/25/17	05:14	15.36	15.36

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICC1578
Lab FileID: BB054265.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Initial Calibration

Calibration Files
20 =BB054261.D 50 =BB054262.D 100 =BB054263.D 200 =BB054264.D
500 =BB054265.D 1000=BB054266.D 2000=BB054267.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	2.526	2.761	3.131	3.151	3.142	3.160	3.229	3.014	E3	8.76
2)	HMX	2.279	1.705	1.566	1.730	1.657	1.637	1.653	1.747	E3	13.75
3)	DNX	3.779	3.286	3.099	3.045	2.894	2.824	2.867	3.113	E3	10.74
4)	MNX	2.875	2.360	2.559	2.530	2.349	2.328	2.361	2.480	E3	7.96
5)	RDX	3.720	2.058	2.314	2.058	1.903	1.852	1.865	2.253	E3	29.59
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998										
	Response Ratio = 0.00000 + 1896.32353 *A + -0.01709 *A^2										
6)	1,3,5-Trinitroben	5.017	4.594	4.478	4.141	3.991	3.969	4.049	4.320	E3	9.08
7)	1,3-Dinitrobenzen	5.954	5.460	5.849	5.464	5.243	5.217	5.314	5.500	E3	5.31
8)	3,5-Dinitroanilin	5.792	4.214	4.237	3.910	3.759	3.717	3.790	4.203	E3	17.42
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 3718.93100 *A + 0.03351 *A^2										
9)	Nitrobenzene	4.316	3.586	3.623	3.348	3.196	3.225	3.191	3.498	E3	11.52
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	4.045	2.951	2.890	2.776	2.639	2.650	2.674	2.946	E3	16.94
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 2648.08002 *A + 0.01246 *A^2										
12)	2,4,6-Trinitrotol	5.348	4.169	4.208	3.921	3.753	3.756	3.805	4.137	E3	13.68
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 3749.67375 *A + 0.02642 *A^2										
13)	2-Amino-4,6-Dinit	4.370	3.772	3.722	3.477	3.313	3.316	3.361	3.619	E3	10.52
14)	4-Amino-2,6-Dinit	3.030	2.560	2.777	2.554	2.380	2.390	2.441	2.590	E3	9.15
15)S	3,4-Dinitrotoluen	2.242	2.606	2.431	2.305	2.170	2.157	2.163	2.296	E3	7.33
16)	2,4-Dinitrotoluen	5.820	4.935	5.438	4.999	4.745	4.757	4.848	5.077	E3	7.93
17)	2,6-Dinitrotoluen	3.914	3.474	3.311	2.964	2.757	2.699	2.722	3.120	E3	14.83
18)	o-Nitrotoluene	1.717	2.418	2.838	2.463	2.262	2.277	2.257	2.319	E3	14.42
19)	p-Nitrotoluene	5.010	3.513	4.110	3.704	3.466	3.488	3.466	3.823	E3	14.99
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999										
	Response Ratio = 0.00000 + 3527.39338 *A + -0.03141 *A^2										
20)	m-Nitrotoluene	4.304	3.431	3.791	3.598	3.357	3.370	3.362	3.602	E3	9.68
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	4.411	4.613	5.166	5.013	4.878	4.873	4.956	4.844	E3	5.25
2)	HMX	5.995	4.476	4.858	4.727	4.518	4.498	4.539	4.802	E3	11.34
3)	DNX	1.106	0.616	0.681	0.506	0.487	0.454	0.461	0.616	E4	37.67
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993										
	Response Ratio = 0.00000 + 4753.70338 *A + -0.07751 *A^2										
4)	MNX	4.434	3.739	3.990	3.792	3.649	3.621	3.673	3.842	E3	7.52
5)	RDX	4.242	3.248	3.401	3.145	2.989	2.980	2.999	3.286	E3	13.67

8.6.1

8

Initial Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICC1578
Lab FileID: BB054265.D

```
 6)  1,3,5-Trinitroben 8.868 8.038 8.520 8.095 7.736 7.764 7.882 8.129 E3   5.16
 7)  1,3-Dinitrobenzen 4.378 3.633 4.251 3.777 3.735 3.610 3.641 3.861 E3   8.23
 8)  3,5-Dinitroanilin 8.178 6.244 6.663 6.611 6.287 6.345 6.433 6.680 E3  10.16
 9)  Nitrobenzene      3.595 3.290 3.137 3.246 3.047 3.034 3.038 3.198 E3   6.35
10)  Nitroglycerin     1.233 1.284 1.404 1.319 1.234 1.292 1.280 1.292 E3   4.51
11)  Tetryl            6.449 4.496 4.528 3.962 3.930 3.982 3.915 4.466 E3  20.47
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 4020.77712 *A + -0.05274 *A^2

12)  2,4,6-Trinitrotol 6.911 5.137 5.085 4.973 4.679 4.633 4.711 5.161 E3  15.45
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
             Response Ratio = 0.00000 + 4645.31617 *A + 0.03042 *A^2

13)  2-Amino-4,6-Dinit 6.324 5.592 5.386 5.339 5.059 5.040 5.183 5.418 E3   8.20
14)  4-Amino-2,6-Dinit 6.601 5.506 5.093 5.090 4.960 4.944 5.006 5.314 E3  11.26
15)S 3,4-Dinitrotoluen 5.288 4.680 4.213 4.212 3.925 3.879 3.779 4.282 E3  12.51
16)  2,4-Dinitrotoluen 4.439 3.315 3.137 3.121 3.124 3.126 3.305 3.366 E3  14.28
17)  2,6-Dinitrotoluen 3.511 3.471 3.663 3.491 3.452 3.432 3.561 3.512 E3   2.24
18)  o-Nitrotoluene    5.037 3.228 3.426 3.301 3.205 3.226 3.170 3.513 E3  19.28
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  1.0000
             Response Ratio = 0.00000 + 3267.11077 *A + -0.04823 *A^2

19)  p-Nitrotoluene    2.407 3.332 2.996 2.939 3.047 3.030 3.032 2.969 E3   9.36
20)  m-Nitrotoluene    2.998 2.827 3.551 3.675 3.797 3.853 3.891 3.513 E3  12.20
21)  PETN              1.139 0.683 0.734 0.869 0.698 0.706 0.699 0.790 E3  21.07
           ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
             Response Ratio = 0.00000 + 722.41976 *A + -0.00239 *A^2

--------------------------------------------------------------------------------
(#) = Out of Range

          8330B_0419PLUS.M        Thu Apr 20 11:15:03 2017
```

8.6.1

8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054268.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	521.944	-4.4	100	0.00	1.06- 1.66
2	HMX	500.000	489.877	2.0	103	0.00	1.17- 1.77
3	DNX	500.000	445.642	10.9	96	0.00	1.43- 2.03
4	MNX	500.000	480.399	3.9	101	0.00	1.98- 2.58
	----------	Amount	Calc.	%Drift			----------
5	RDX	500.000	493.289	1.3	98	0.00	2.46- 3.26
	----------	Amount	Calc.	%Drift			----------
6	1,3,5-Trinitrobenzene	500.000	452.504	9.5	98	0.00	4.08- 4.88
7	1,3-Dinitrobenzene	500.000	435.525	12.9	91	-0.01	5.33- 6.13
	----------	Amount	Calc.	%Drift			----------
8	3,5-Dinitroaniline	500.000	527.203	-5.4	105	-0.02	5.69- 6.49
	----------	Amount	Calc.	%Drift			----------
9	Nitrobenzene	500.000	447.634	10.5	98	0.00	6.92- 7.72
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift			----------
11	Tetryl	500.000	488.373	2.3	98	-0.01	8.33- 9.13
	----------	Amount	Calc.	%Drift			----------
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotol	500.000	454.444	9.1	99	-0.03	9.16- 9.96
14	4-Amino-2,6-Dinitrotol	500.000	464.204	7.2	101	-0.03	9.63-10.43
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	451.285	9.7	97	-0.02	10.54-11.34
17	2,6-Dinitrotoluene	500.000	430.720	13.9	97	-0.01	11.03-11.83
18	o-Nitrotoluene	500.000	489.100	2.2	100	-0.02	14.28-15.16
	----------	Amount	Calc.	%Drift			----------
19	p-Nitrotoluene	500.000	486.251	2.7	99	-0.02	14.69-15.69
	----------	Amount	Calc.	%Drift			----------
20	m-Nitrotoluene	500.000	453.753	9.2	97	-0.02	15.66-16.66
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	509.603	-1.9	101	0.00	1.06- 1.66

8.6.2

8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054268.D

2	HMX	500.000	500.124	-0.0	106	0.00	1.17-	1.77
		Amount	Calc.	%Drift				
3	DNX	500.000	486.589	2.7	94	0.00	1.43-	2.03
		Amount	Calc.	%Drift				
4	MNX	500.000	481.008	3.8	101	0.00	1.98-	2.58
5	RDX	500.000	449.689	10.1	99	-0.01	2.46-	3.26
6	1,3,5-Trinitrobenzene	500.000	458.186	8.4	96	0.00	4.08-	4.88
7	1,3-Dinitrobenzene	500.000	420.074	16.0#	87	-0.01	5.33-	6.13
8	3,5-Dinitroaniline	500.000	496.650	0.7	106	-0.02	5.69-	6.49
9	Nitrobenzene	500.000	473.778	5.2	99	0.00	6.91-	7.71
10	Nitroglycerin	2500.000	2722.043	-8.9	114	0.00	8.06-	9.06
		Amount	Calc.	%Drift				
11	Tetryl	500.000	417.239	16.6#	85	-0.03	8.32-	9.12
12	2,4,6-Trinitrotoluene			----------NA----------				
		Amount	Calc.	%Drift				
13	2-Amino-4,6-Dinitrotol	500.000	454.703	9.1	97	-0.03	9.16-	9.96
14	4-Amino-2,6-Dinitrotol	500.000	457.392	8.5	98	-0.03	9.63-	10.43
15 S	3,4-Dinitrotoluene			----------NA----------				
16	2,4-Dinitrotoluene	500.000	445.180	11.0	96	-0.01	10.54-	11.34
17	2,6-Dinitrotoluene	500.000	484.543	3.1	99	-0.01	11.03-	11.83
		Amount	Calc.	%Drift				
18	o-Nitrotoluene	500.000	503.018	-0.6	102	-0.01	14.15-	15.15
		Amount	Calc.	%Drift				
19	p-Nitrotoluene	500.000	503.715	-0.7	98	-0.02	14.69-	15.69
20	m-Nitrotoluene	500.000	502.820	-0.6	93	-0.02	15.66-	16.66
		Amount	Calc.	%Drift				
21	PETN	2500.000	5459.730	-118.4#	222	0.00	17.52-	18.72

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054265.D 8330B_0419PLUS.M Thu Apr 20 11:14:48 2017

8.6.2

8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054270.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1A.ch
Acq On : 19-Apr-2017, 15:57:04 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area% Dev(min)	RT Window
1	TNX		NA			
2	HMX		NA			
3	DNX		NA			
4	MNX		NA			
	Amount	Calc.	%Drift			
5	RDX		NA			
	Amount	Calc.	%Drift			
6	1,3,5-Trinitrobenzene		NA			
7	1,3-Dinitrobenzene		NA			
	Amount	Calc.	%Drift			
8	3,5-Dinitroaniline		NA			
	Amount	Calc.	%Drift			
9	Nitrobenzene		NA			
10	Nitroglycerin		NA			
	Amount	Calc.	%Drift			
11	Tetryl		NA			
	Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	500.000	513.672	-2.7	103 0.00	8.74- 9.54
13	2-Amino-4,6-Dinitrotoluen		NA			
14	4-Amino-2,6-Dinitrotoluen		NA			
15 S	3,4-Dinitrotoluene		NA			
16	2,4-Dinitrotoluene		NA			
17	2,6-Dinitrotoluene		NA			
18	o-Nitrotoluene		NA			
	Amount	Calc.	%Drift			
19	p-Nitrotoluene		NA			
	Amount	Calc.	%Drift			
20	m-Nitrotoluene		NA			
21	PETN		NA			
*****	Signal #2 *****					
1	TNX		NA			

8.6.3

8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1578-ICV1578
Lab FileID: BB054270.D

2	HMX			----------NA----------				
		Amount	Calc.	%Drift				
3	DNX			----------NA----------				
		Amount	Calc.	%Drift				
4	MNX			----------NA----------				
5	RDX			----------NA----------				
6	1,3,5-Trinitrobenzene			----------NA----------				
7	1,3-Dinitrobenzene			----------NA----------				
8	3,5-Dinitroaniline			----------NA----------				
9	Nitrobenzene			----------NA----------				
10	Nitroglycerin			----------NA----------				
		Amount	Calc.	%Drift				
11	Tetryl			----------NA----------				
12	2,4,6-Trinitrotoluene	500.000	512.284	-2.5	102	0.00	8.74-	9.54
		Amount	Calc.	%Drift				
13	2-Amino-4,6-Dinitrotoluen			----------NA----------				
14	4-Amino-2,6-Dinitrotoluen			----------NA----------				
15 S	3,4-Dinitrotoluene			----------NA----------				
16	2,4-Dinitrotoluene			----------NA----------				
17	2,6-Dinitrotoluene			----------NA----------				
		Amount	Calc.	%Drift				
18	o-Nitrotoluene			----------NA----------				
		Amount	Calc.	%Drift				
19	p-Nitrotoluene			----------NA----------				
20	m-Nitrotoluene			----------NA----------				
		Amount	Calc.	%Drift				
21	PETN			----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054265.D 8330B_0419PLUS.M Thu Apr 20 11:14:49 2017

8.6.3

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054283.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1032.807	-3.3	99	0.00	1.05- 1.65
2	HMX	1000.000	924.058	7.6	99	0.00	1.15- 1.75
3	DNX	1000.000	905.004	9.5	100	0.00	1.41- 2.01
4	MNX	1000.000	926.709	7.3	99	0.00	1.95- 2.55
	----------	Amount	Calc.	%Drift	----------		
5	RDX	1000.000	979.977	2.0	99	0.00	2.42- 3.22
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	1000.000	917.304	8.3	100	0.00	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	960.135	4.0	101	0.00	5.26- 6.06
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	1000.000	1014.161	-1.4	102	0.00	5.60- 6.40
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	1000.000	898.817	10.1	97	0.00	6.85- 7.65
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	989.666	1.0	99	0.00	8.20- 9.00
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene	1000.000	913.084	8.7	101	0.00	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	919.921	8.0	100	0.00	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	923.434	7.7	100	0.00	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	953.809	4.6	102	0.00	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	947.045	5.3	101	0.00	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	870.687	12.9	101	0.00	10.88-11.68
18	o-Nitrotoluene	1000.000	949.168	5.1	97	0.00	14.14-15.02
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	1000.000	970.658	2.9	97	0.00	14.54-15.54
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	1000.000	904.651	9.5	97	0.00	15.51-16.51
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	986.174	1.4	98	0.00	1.05- 1.65

8.6.4
8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054283.D

		Amount	Calc.	%Drift			
2	HMX	1000.000	927.187	7.3	99	0.00	1.15- 1.75
		Amount	Calc.	%Drift			
3	DNX	1000.000	981.732	1.8	101	0.00	1.41- 2.01
		Amount	Calc.	%Drift			
4	MNX	1000.000	933.818	6.6	99	0.00	1.95- 2.55
5	RDX	1000.000	896.148	10.4	99	0.00	2.42- 3.22
6	1,3,5-Trinitrobenzene	1000.000	950.320	5.0	99	0.00	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	941.388	5.9	101	0.00	5.26- 6.06
8	3,5-Dinitroaniline	1000.000	965.667	3.4	102	0.00	5.60- 6.40
9	Nitrobenzene	1000.000	936.456	6.4	99	0.00	6.85- 7.65
10	Nitroglycerin	5000.000	4942.820	1.1	99	0.00	7.96- 8.96
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	864.368	13.6	86	0.00	8.16- 8.96
12	2,4,6-Trinitrotoluene	1000.000	999.453	0.1	101	0.00	8.62- 9.42
		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	938.093	6.2	101	0.00	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	930.929	6.9	100	0.00	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	927.284	7.3	102	0.00	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	946.794	5.3	102	0.00	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	978.627	2.1	100	0.00	10.88-11.68
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	980.996	1.9	98	0.00	14.01-15.01
		Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	1000.665	-0.1	98	0.00	14.54-15.54
20	m-Nitrotoluene	1000.000	1057.014	-5.7	96	0.00	15.51-16.51
		Amount	Calc.	%Drift			
21	PETN	5000.000	11012.693	-120.3#	217	0.00	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Fri Apr 21 10:13:51 2017

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054295.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1041.647	-4.2	99	0.00	1.05- 1.65
2	HMX	1000.000	927.735	7.2	99	0.00	1.15- 1.75
3	DNX	1000.000	909.274	9.1	100	0.00	1.41- 2.01
4	MNX	1000.000	927.544	7.2	99	0.00	1.95- 2.55
	----------	Amount	Calc.	%Drift	----------		
5	RDX	1000.000	979.252	2.1	99	0.00	2.42- 3.22
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	1000.000	926.203	7.4	101	0.02	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	959.827	4.0	101	0.02	5.26- 6.06
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	1000.000	1019.893	-2.0	103	0.00	5.60- 6.40
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	1000.000	902.285	9.8	98	0.03	6.85- 7.65
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	989.061	1.1	99	0.03	8.20- 9.00
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene	1000.000	913.792	8.6	101	0.03	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	924.068	7.6	101	0.02	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	934.367	6.6	101	0.03	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	945.831	5.4	101	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	946.162	5.4	101	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	868.193	13.2	100	0.06	10.88-11.68
18	o-Nitrotoluene	1000.000	950.386	5.0	97	0.07	14.14-15.02
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	1000.000	972.480	2.8	98	0.07	14.54-15.54
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	1000.000	909.633	9.0	97	0.08	15.51-16.51
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	994.450	0.6	99	0.00	1.05- 1.65

8.6.5

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054295.D

2	HMX	1000.000	928.167	7.2	99	0.00	1.15- 1.75
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	981.755	1.8	101	0.00	1.41- 2.01
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	935.258	6.5	99	0.00	1.95- 2.55
5	RDX	1000.000	903.925	9.6	100	0.00	2.42- 3.22
6	1,3,5-Trinitrobenzene	1000.000	968.954	3.1	101	0.02	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	941.897	5.8	101	0.02	5.26- 6.06
8	3,5-Dinitroaniline	1000.000	976.823	2.3	103	0.00	5.60- 6.40
9	Nitrobenzene	1000.000	944.267	5.6	100	0.03	6.85- 7.65
10	Nitroglycerin	5000.000	4898.878	2.0	98	0.03	7.96- 8.96
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	889.505	11.0	89	0.02	8.16- 8.96
12	2,4,6-Trinitrotoluene	1000.000	998.325	0.2	101	0.03	8.62- 9.42
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	937.842	6.2	101	0.02	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	935.192	6.5	101	0.03	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	914.704	8.5	101	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	944.153	5.6	102	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	981.035	1.9	100	0.05	10.88-11.68
	---------- Amount	Calc.	%Drift	----------			
18	o-Nitrotoluene	1000.000	957.605	4.2	96	0.08	14.01-15.01
	---------- Amount	Calc.	%Drift	----------			
19	p-Nitrotoluene	1000.000	989.037	1.1	97	0.07	14.54-15.54
20	m-Nitrotoluene	1000.000	1052.093	-5.2	96	0.08	15.51-16.51
	---------- Amount	Calc.	%Drift	----------			
21	PETN	5000.000	10711.063	-114.2#	211	0.05	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Fri Apr 21 10:13:52 2017

8.6.5

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054305.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1037.314	-3.7	99	0.00	1.05- 1.65
2	HMX	1000.000	924.525	7.5	99	0.00	1.15- 1.75
3	DNX	1000.000	899.927	10.0	99	0.00	1.41- 2.01
4	MNX	1000.000	933.605	6.6	99	0.00	1.95- 2.55
	----------	Amount	Calc.	%Drift	----------		
5	RDX	1000.000	996.339	0.4	101	0.00	2.42- 3.22
	----------	Amount	Calc.	%Drift	----------		
6	1,3,5-Trinitrobenzene	1000.000	927.634	7.2	101	0.01	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	957.927	4.2	101	0.02	5.26- 6.06
	----------	Amount	Calc.	%Drift	----------		
8	3,5-Dinitroaniline	1000.000	1018.091	-1.8	103	0.00	5.60- 6.40
	----------	Amount	Calc.	%Drift	----------		
9	Nitrobenzene	1000.000	906.021	9.4	98	0.03	6.85- 7.65
10	Nitroglycerin	5000.000	0.000	100.0#	0	-0.05	8.10- 8.30
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	1000.000	991.143	0.9	100	0.03	8.20- 9.00
	----------	Amount	Calc.	%Drift	----------		
12	2,4,6-Trinitrotoluene	1000.000	917.519	8.2	101	0.03	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	925.174	7.5	101	0.03	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	932.745	6.7	101	0.04	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	946.869	5.3	101	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	943.253	5.7	101	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	865.779	13.4	100	0.06	10.88-11.68
18	o-Nitrotoluene	1000.000	945.618	5.4	96	0.09	14.14-15.02
	----------	Amount	Calc.	%Drift	----------		
19	p-Nitrotoluene	1000.000	975.184	2.5	98	0.09	14.54-15.54
	----------	Amount	Calc.	%Drift	----------		
20	m-Nitrotoluene	1000.000	908.768	9.1	97	0.10	15.51-16.51
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	989.685	1.0	98	0.00	1.05- 1.65

8.6.9

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054305.D

2	HMX	1000.000	929.355	7.1	99	0.00	1.15- 1.75
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	959.451	4.1	99	0.00	1.41- 2.01
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	930.031	7.0	99	0.00	1.95- 2.55
5	RDX	1000.000	898.081	10.2	99	0.00	2.42- 3.22
6	1,3,5-Trinitrobenzene	1000.000	958.856	4.1	100	0.01	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	930.339	7.0	100	0.02	5.26- 6.06
8	3,5-Dinitroaniline	1000.000	970.738	2.9	102	0.00	5.60- 6.40
9	Nitrobenzene	1000.000	943.694	5.6	99	0.03	6.85- 7.65
10	Nitroglycerin	5000.000	4955.688	0.9	99	0.02	7.96- 8.96
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	869.242	13.1	87	0.03	8.16- 8.96
12	2,4,6-Trinitrotoluene	1000.000	997.486	0.3	101	0.03	8.62- 9.42
	---------- Amount	Calc.	%Drift	----------			
13	2-Amino-4,6-Dinitrotol	1000.000	935.258	6.5	101	0.03	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	930.819	6.9	100	0.04	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	909.210	9.1	100	0.05	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	938.474	6.2	101	0.05	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	979.232	2.1	100	0.06	10.88-11.68
	---------- Amount	Calc.	%Drift	----------			
18	o-Nitrotoluene	1000.000	961.546	3.8	96	0.09	14.01-15.01
	---------- Amount	Calc.	%Drift	----------			
19	p-Nitrotoluene	1000.000	1010.137	-1.0	99	0.09	14.54-15.54
20	m-Nitrotoluene	1000.000	1058.375	-5.8	97	0.10	15.51-16.51
	---------- Amount	Calc.	%Drift	----------			
21	PETN	5000.000	10394.966	-107.9#	205	0.04	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Fri Apr 21 10:13:53 2017

8.6.9

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054329.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On    : 21-Apr-2017, 08:35:27                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      : op64675,gbb1579,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Apr 24 13:52:31 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1024.422	-2.4	98	0.00	1.05- 1.65
2	HMX	1000.000	928.983	7.1	99	0.00	1.15- 1.75
3	DNX	1000.000	899.234	10.1	99	-0.01	1.41- 2.01
4	MNX	1000.000	925.385	7.5	99	-0.02	1.95- 2.55
		Amount	Calc.	%Drift			
5	RDX	1000.000	979.257	2.1	99	0.01	2.38- 3.18
		Amount	Calc.	%Drift			
6	1,3,5-Trinitrobenzene	1000.000	922.274	7.8	100	-0.04	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	967.090	3.3	102	-0.04	5.26- 6.06
		Amount	Calc.	%Drift			
8	3,5-Dinitroaniline	1000.000	1017.599	-1.8	103	-0.06	5.60- 6.40
		Amount	Calc.	%Drift			
9	Nitrobenzene	1000.000	919.442	8.1	100	-0.02	6.85- 7.65
10	Nitroglycerin		----------NA----------				
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	991.110	0.9	99	-0.08	8.20- 9.00
		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	1000.000	914.410	8.6	101	-0.08	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	921.517	7.8	101	-0.09	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	929.399	7.1	101	-0.09	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	956.757	4.3	102	-0.07	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	950.064	5.0	101	-0.08	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	867.885	13.2	100	-0.07	10.88-11.68
18	o-Nitrotoluene	1000.000	966.316	3.4	98	-0.03	14.14-15.02
		Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	992.041	0.8	99	-0.04	14.54-15.54
		Amount	Calc.	%Drift			
20	m-Nitrotoluene	1000.000	925.770	7.4	99	-0.03	15.51-16.51
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	973.732	2.6	97	0.00	1.05- 1.65

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054329.D

			Amount	Calc.	%Drift			
2	HMX		1000.000	928.205	7.2	99	0.00	1.15- 1.75
		Amount	Calc.	%Drift				
3	DNX		1000.000	957.107	4.3	99	-0.01	1.41- 2.01
		Amount	Calc.	%Drift				
4	MNX		1000.000	926.960	7.3	98	-0.02	1.95- 2.55
5	RDX		1000.000	894.373	10.6	99	0.01	2.38- 3.18
6	1,3,5-Trinitrobenzene		1000.000	957.018	4.3	100	-0.04	4.02- 4.82
7	1,3-Dinitrobenzene		1000.000	951.276	4.9	102	-0.04	5.26- 6.06
8	3,5-Dinitroaniline		1000.000	944.355	5.6	99	-0.06	5.60- 6.40
9	Nitrobenzene		1000.000	986.886	1.3	104	-0.03	6.85- 7.65
10	Nitroglycerin		5000.000	4855.093	2.9	97	-0.07	7.96- 8.96
		Amount	Calc.	%Drift				
11	Tetryl		1000.000	860.379	14.0	86	-0.07	8.16- 8.96
12	2,4,6-Trinitrotoluene		1000.000	999.114	0.1	101	-0.08	8.62- 9.42
		Amount	Calc.	%Drift				
13	2-Amino-4,6-Dinitrotol		1000.000	951.598	4.8	102	-0.09	9.02- 9.82
14	4-Amino-2,6-Dinitrotol		1000.000	954.034	4.6	103	-0.08	9.49-10.29
15	S 3,4-Dinitrotoluene		1000.000	956.690	4.3	106	-0.07	9.78-10.58
16	2,4-Dinitrotoluene		1000.000	986.965	1.3	106	-0.08	10.39-11.19
17	2,6-Dinitrotoluene		1000.000	1009.357	-0.9	103	-0.07	10.88-11.68
		Amount	Calc.	%Drift				
18	o-Nitrotoluene		1000.000	955.421	4.5	95	-0.03	14.01-15.01
		Amount	Calc.	%Drift				
19	p-Nitrotoluene		1000.000	1003.782	-0.4	98	-0.04	14.54-15.54
20	m-Nitrotoluene		1000.000	1080.289	-8.0	98	-0.03	15.51-16.51
		Amount	Calc.	%Drift				
21	PETN		5000.000	4778.160	4.4	96	-0.08	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Mon Apr 24 14:14:17 2017

8.6.7

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054340.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On    : 21-Apr-2017, 14:30:08                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      : op64666,gbb1579,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Apr 24 13:52:31 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1033.273	-3.3	99	0.00	1.05- 1.65
2	HMX	1000.000	928.250	7.2	99	-0.01	1.15- 1.75
3	DNX	1000.000	903.763	9.6	100	-0.01	1.41- 2.01
4	MNX	1000.000	927.399	7.3	99	-0.03	1.95- 2.55
	Compound	Amount	Calc.	%Drift			
5	RDX	1000.000	962.118	3.8	98	0.00	2.38- 3.18
	Compound	Amount	Calc.	%Drift			
6	1,3,5-Trinitrobenzene	1000.000	925.512	7.4	101	-0.05	4.02- 4.82
7	1,3-Dinitrobenzene	1000.000	961.319	3.9	101	-0.05	5.26- 6.06
	Compound	Amount	Calc.	%Drift			
8	3,5-Dinitroaniline	1000.000	1017.540	-1.8	103	-0.07	5.60- 6.40
	Compound	Amount	Calc.	%Drift			
9	Nitrobenzene	1000.000	917.919	8.2	100	-0.02	6.85- 7.65
10	Nitroglycerin		----------NA----------				
	Compound	Amount	Calc.	%Drift			
11	Tetryl	1000.000	1004.162	-0.4	101	-0.10	8.20- 9.00
	Compound	Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	1000.000	915.286	8.5	101	-0.09	8.62- 9.42
13	2-Amino-4,6-Dinitrotol	1000.000	925.312	7.5	101	-0.11	9.02- 9.82
14	4-Amino-2,6-Dinitrotol	1000.000	933.675	6.6	101	-0.11	9.49-10.29
15 S	3,4-Dinitrotoluene	1000.000	943.998	5.6	100	-0.09	9.78-10.58
16	2,4-Dinitrotoluene	1000.000	951.908	4.8	102	-0.09	10.39-11.19
17	2,6-Dinitrotoluene	1000.000	872.446	12.8	101	-0.08	10.88-11.68
18	o-Nitrotoluene	1000.000	975.378	2.5	99	-0.02	14.14-15.02
	Compound	Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	1005.928	-0.6	101	-0.04	14.54-15.54
	Compound	Amount	Calc.	%Drift			
20	m-Nitrotoluene	1000.000	931.471	6.9	100	-0.02	15.51-16.51
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	982.658	1.7	98	0.00	1.05- 1.65

8.6.8

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1579-CC1578
Lab FileID: BB054340.D

			Amount	Calc.	%Drift			
2	HMX		1000.000	930.067	7.0	99	-0.01	1.15- 1.75
		Amount	Calc.	%Drift				
3	DNX		1000.000	963.625	3.6	99	-0.01	1.41- 2.01
		Amount	Calc.	%Drift				
4	MNX		1000.000	932.775	6.7	99	-0.03	1.95- 2.55
5	RDX		1000.000	900.279	10.0	99	0.00	2.38- 3.18
6	1,3,5-Trinitrobenzene		1000.000	955.770	4.4	100	-0.05	4.02- 4.82
7	1,3-Dinitrobenzene		1000.000	930.589	6.9	100	-0.05	5.26- 6.06
8	3,5-Dinitroaniline		1000.000	947.626	5.2	100	-0.07	5.60- 6.40
9	Nitrobenzene		1000.000	961.504	3.8	101	-0.03	6.85- 7.65
10	Nitroglycerin		5000.000	4548.037	9.0	91	-0.07	7.96- 8.96
		Amount	Calc.	%Drift				
11	Tetryl		1000.000	1071.047	-7.1	107	-0.11	8.16- 8.96
12	2,4,6-Trinitrotoluene		1000.000	997.000	0.3	101	-0.09	8.62- 9.42
		Amount	Calc.	%Drift				
13	2-Amino-4,6-Dinitrotol		1000.000	932.454	6.8	100	-0.11	9.02- 9.82
14	4-Amino-2,6-Dinitrotol		1000.000	927.420	7.3	100	-0.11	9.49-10.29
15	S 3,4-Dinitrotoluene		1000.000	911.079	8.9	101	-0.08	9.78-10.58
16	2,4-Dinitrotoluene		1000.000	947.557	5.2	102	-0.09	10.39-11.19
17	2,6-Dinitrotoluene		1000.000	981.953	1.8	100	-0.08	10.88-11.68
		Amount	Calc.	%Drift				
18	o-Nitrotoluene		1000.000	987.993	1.2	99	-0.02	14.01-15.01
		Amount	Calc.	%Drift				
19	p-Nitrotoluene		1000.000	1034.132	-3.4	101	-0.04	14.54-15.54
20	m-Nitrotoluene		1000.000	1092.516	-9.3	100	-0.03	15.51-16.51
		Amount	Calc.	%Drift				
21	PETN		5000.000	4972.498	0.6	100	-0.08	17.39-18.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB054266.D 8330B_0419PLUS.M Mon Apr 24 14:14:18 2017

8.6.8

8

Initial Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICC2096
Lab FileID: PP381825.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration

Calibration Files
20 =PP381821.D 50 =PP381822.D 100 =PP381823.D 200 =PP381824.D
500 =PP381825.D 1000=PP381826.D 2000=PP381827.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	0.860	0.714	1.070	0.834	0.911			0.840	0.872 E4 13.40
2)	HMX	6.086	3.510	5.005	3.869	3.623			3.297	4.231 E3 25.74
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995									
	Response Ratio = 0.00000 + 3836.03476 *A + -0.27024 *A^2									
3)	DNX	8.691	6.768	9.554	7.968	7.895			7.269	8.024 E3 12.40
4)	MNX	5.631	4.814	5.837	5.422	5.971			5.670	5.557 E3 7.37
5)	1,3,5-Trinitroben	1.199	0.953	1.051	0.963	1.008			0.949	1.021 E4 9.40
6)	RDX	5.215	4.852	4.820	4.698	4.955			4.598	4.856 E3 4.43
7)	1,3-Dinitrobenzen	1.507	1.140	1.379	1.303	1.372			1.292	1.332 E4 9.12
8)	Nitrobenzene	8.331	6.412	8.305	7.976	8.236			6.659	7.653 E3 11.48
9)	2,4,6-Trinitrotol	1.129	0.873	1.005	0.925	0.951			0.890	0.962 E4 9.77
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	8.979	5.512	6.924	5.768	6.407			6.063	6.609 E3 19.10
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9998									
	Response Ratio = 0.00000 + 6397.74918 *A + -0.16683 *A^2									
12)S	3,4-Dinitrotoluen	4.010	3.620	5.540	5.354	5.594			5.180	4.883 E3 17.39
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 5628.86426 *A + -0.22373 *A^2									
13)	2,6-Dinitrotoluen	9.263	6.073	7.085	6.278	6.806			6.427	6.989 E3 16.78
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 6817.61964 *A + -0.19478 *A^2									
14)	2,4-Dinitrotoluen	1.460	1.105	1.296	1.190	1.263			1.187	1.250 E4 9.81
15)	o-Nitrotoluene	6.117	4.933	5.051	4.971	5.088			3.727	4.981 E3 15.24
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 5438.48444 *A + -0.85517 *A^2									
16)	3,5-Dinitroanilin	9.032	9.465	9.773	9.090	9.712			9.210	9.380 E3 3.39
17)	p-Nitrotoluene	5.737	2.702	3.654	3.311	4.080			2.977	3.744 E3 29.16
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9987									
	Response Ratio = 0.00000 + 4197.58216 *A + -0.60927 *A^2									
18)	4-Amino-2,6-Dinit	2.775	4.590	3.515	5.956	6.301			6.433	4.928 E3 31.37
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996									
	Response Ratio = 0.00000 + 6023.09332 *A + 0.20628 *A^2									
19)	m-Nitrotoluene	3.311	5.597	6.557	5.342	5.593			4.168	5.095 E3 22.79
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9997									
	Response Ratio = 0.00000 + 5982.62957 *A + -0.90724 *A^2									
20)	2-Amino-4,6-Dinit	1.498	1.174	0.971	0.994	0.991			0.900	1.088 E4 20.27
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
	Response Ratio = 0.00000 + 10193.10050 *A + -0.59711 *A^2									

Initial Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICC2096
Lab FileID: PP381825.D

```
 21)  PETN                                                    0.000  -1.00

Signal #2

  1)  TNX              1.313 1.088 1.504 1.289 1.349       1.245 1.298 E4  10.44
  2)  HMX              1.715 1.121 1.287 1.079 1.071       0.985 1.210 E4  22.05
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 11094.88170 *A + -0.62071 *A^2

  3)  DNX              2.770 1.553 1.926 1.442 1.346       1.168 1.701 E4  34.21
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 14497.87120 *A + -1.41273 *A^2

  4)  MNX              1.406 0.846 0.915 0.858 0.957       0.902 0.981 E4  21.64
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 9501.87997 *A + -0.24106 *A^2

  5)  1,3,5-Trinitroben 2.067 1.536 1.747 1.638 1.738      1.645 1.729 E4  10.58
  6)  RDX              8.578 7.247 8.504 8.544 9.659       8.893 8.571 E3   9.10
  7)  1,3-Dinitrobenzen 1.195 0.912 1.020 0.940 1.028      0.956 1.008 E4  10.11
  8)  Nitrobenzene     7.990 6.868 8.337 7.442 7.885       6.347 7.478 E3  10.04
  9)  2,4,6-Trinitrotol 1.396 1.196 1.280 1.147 1.210      1.134 1.227 E4   7.96
 10)  Nitroglycerin    3.160 2.746 3.267 2.989 3.277       3.124 3.094 E3   6.48
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 3255.44572 *A + -0.01304 *A^2

 11)  Tetryl           1.275 0.745 1.076 0.905 1.051       1.011 1.010 E4  17.56
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 10309.13232 *A + -0.10011 *A^2

 12)S 3,4-Dinitrotoluen 0.792 0.999 1.154 1.038 1.072      1.010 1.011 E4  11.94
 13)  2,6-Dinitrotoluen 1.258 0.771 1.004 0.913 0.980      0.921 0.975 E4  16.48
 14)  2,4-Dinitrotoluen 1.134 0.803 1.051 0.873 0.919      0.850 0.938 E4  13.63
 15)  o-Nitrotoluene   7.845 6.332 7.400 7.252 7.801       5.801 7.072 E3  11.71
 16)  3,5-Dinitroanilin 1.245 1.419 1.616 1.527 1.587      1.524 1.486 E4   9.17
 17)  p-Nitrotoluene   1.486 3.794 1.612 3.700 5.712       4.703 3.501 E3  47.94
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9966
              Response Ratio = 0.00000 + 5352.01950 *A + -0.32149 *A^2

 18)  4-Amino-2,6-Dinit 0.520 0.659 0.328 0.657 1.055      1.222 0.740 E4  45.32
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 8875.87272 *A + 1.67607 *A^2

 19)  m-Nitrotoluene   0.645 0.769 1.081 0.912 0.942       0.792 0.857 E4  17.90
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 9821.12034 *A + -0.95114 *A^2

 20)  2-Amino-4,6-Dinit 1.613 1.474 1.475 1.254 1.329      1.233 1.397 E4  10.65
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 13513.67368 *A + -0.59125 *A^2

 21)  PETN             2.712 1.569 2.108 1.417 3.045       1.464 2.052 E3  33.80
-------------------------------------------------------------------------------
(#) = Out of Range

          0424_8330RPB.M       Tue Apr 25 11:00:34 2017
```

8.6.9

8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381828.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	505.539	-1.1	97	0.02	4.19- 5.19
2	HMX	500.000	522.104	-4.4	106	0.02	4.58- 5.58
3	DNX	500.000	473.419	5.3	96	0.01	4.73- 5.73
4	MNX	500.000	508.894	-1.8	95	0.00	5.82- 6.82
5	1,3,5-Trinitrobenzene	500.000	484.794	3.0	98	0.03	6.83- 7.83
6	RDX	500.000	512.238	-2.4	100	0.00	7.24- 8.24
7	1,3-Dinitrobenzene	500.000	464.503	7.1	90	0.00	9.39-10.39
8	Nitrobenzene	500.000	461.030	7.8	86	0.00	10.55-11.48
9	2,4,6-Trinitrotoluene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	473.796	5.2	93	0.00	13.38-14.38
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	513.558	-2.7	101	0.00	15.19-16.19
14	2,4-Dinitrotoluene	500.000	479.424	4.1	95	0.00	16.04-17.04
15	o-Nitrotoluene	500.000	433.300	13.3	86	0.01	18.22-19.39
16	3,5-Dinitroaniline	500.000	568.862	-13.8	110	-0.04	17.65-18.65
17	p-Nitrotoluene	500.000	539.634	-7.9	102	0.03	19.99-20.99
18	4-Amino-2,6-Dinitrotol	500.000	498.703	0.3	97	-0.05	20.56-21.56
19	m-Nitrotoluene	500.000	455.785	8.8	91	0.01	21.83-22.83
20	2-Amino-4,6-Dinitrotol	500.000	511.650	-2.3	102	0.00	22.88-23.88
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	483.176	3.4	93	0.02	4.19- 5.19

8.6.10
8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381828.D

			Amount	Calc.	%Drift			
2		HMX	500.000	513.013	-2.6	103	0.02	4.58- 5.58
3		DNX	500.000	453.954	9.2	93	0.01	4.73- 5.73
4		MNX	500.000	466.656	6.7	92	0.00	5.82- 6.82
			Amount	Calc.	%Drift			
5		1,3,5-Trinitrobenzene	500.000	490.722	1.9	98	0.03	6.83- 7.83
6		RDX	500.000	551.085	-10.2	98	0.00	7.24- 8.24
7		1,3-Dinitrobenzene	500.000	454.898	9.0	89	0.00	9.39-10.39
8		Nitrobenzene	500.000	442.973	11.4	84	0.00	10.55-11.47
9		2,4,6-Trinitrotoluene	----------NA----------					
			Amount	Calc.	%Drift			
10		Nitroglycerin	2500.000	2486.109	0.6	98	0.02	12.91-13.53
11		Tetryl	500.000	501.454	-0.3	98	0.00	13.38-14.38
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	----------NA----------					
13		2,6-Dinitrotoluene	500.000	547.239	-9.4	109	0.00	15.18-16.18
14		2,4-Dinitrotoluene	500.000	467.055	6.6	95	0.00	16.04-17.04
15		o-Nitrotoluene	500.000	478.010	4.4	87	0.01	18.28-19.39
16		3,5-Dinitroaniline	500.000	604.559	-20.9#	113	-0.03	17.65-18.65
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	500.000	592.097	-18.4#	107	0.03	20.01-21.01
18		4-Amino-2,6-Dinitrotol	500.000	558.593	-11.7	104	-0.04	20.56-21.56
19		m-Nitrotoluene	500.000	442.527	11.5	88	0.00	21.84-22.84
20		2-Amino-4,6-Dinitrotol	500.000	498.077	0.4	99	0.00	22.88-23.88
			Amount	Calc.	%Drift			
21		PETN	2500.000	4543.543	-81.7#	123	0.05	24.17-25.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381825.D 0424_8330RPB.M Tue Apr 25 14:45:12 2017

8.6.10

8

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381829.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0424_RPB\PP381829.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0424_RPB\PP381829.D\dad1A.ch
Acq On : 24-Apr-2017, 16:47:49 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
2	HMX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene		----------NA----------				
9	2,4,6-Trinitrotoluene	500.000	468.081	6.4	95	0.09	11.69-12.55
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl		----------NA----------				
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
14	2,4-Dinitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
15	o-Nitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
16	3,5-Dinitroaniline		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
17	p-Nitrotoluene		----------NA----------				
18	4-Amino-2,6-Dinitrotoluen		----------NA----------				
19	m-Nitrotoluene		----------NA----------				
20	2-Amino-4,6-Dinitrotoluen		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX		----------NA----------				

Initial Calibration Verification

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ICV2096
Lab FileID: PP381829.D

			Amount	Calc.	%Drift	
2		HMX		----------NA----------		
3		DNX		----------NA----------		
4		MNX		----------NA----------		
			Amount	Calc.	%Drift	
5		1,3,5-Trinitrobenzene		----------NA----------		
6		RDX		----------NA----------		
7		1,3-Dinitrobenzene		----------NA----------		
8		Nitrobenzene		----------NA----------		
9		2,4,6-Trinitrotoluene	500.000	482.531	3.5 98 0.09	11.67-12.55
			Amount	Calc.	%Drift	
10		Nitroglycerin		----------NA----------		
11		Tetryl		----------NA----------		
			Amount	Calc.	%Drift	
12	S	3,4-Dinitrotoluene		----------NA----------		
13		2,6-Dinitrotoluene		----------NA----------		
14		2,4-Dinitrotoluene		----------NA----------		
15		o-Nitrotoluene		----------NA----------		
16		3,5-Dinitroaniline		----------NA----------		
			Amount	Calc.	%Drift	
17		p-Nitrotoluene		----------NA----------		
18		4-Amino-2,6-Dinitrotoluen		----------NA----------		
19		m-Nitrotoluene		----------NA----------		
20		2-Amino-4,6-Dinitrotoluen		----------NA----------		
			Amount	Calc.	%Drift	
21		PETN		----------NA----------		

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381825.D 0424_8330RPB.M Tue Apr 25 11:00:20 2017

8.6.11

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-CC2096
Lab FileID: PP381840.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On    : 24-Apr-2017, 22:45:00                    Operator: evitam
Sample    : cc2096-1000                              Inst    : G1315B
Misc      : OP64666,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	935.406	6.5	0	0.00	4.19- 5.19
		Amount	Calc.	%Drift			
2	HMX	1000.000	889.321	11.1	0	0.00	4.58- 5.58
		Amount	Calc.	%Drift			
3	DNX	1000.000	888.941	11.1	0	0.00	4.73- 5.73
4	MNX	1000.000	975.874	2.4	0	0.00	5.82- 6.82
5	1,3,5-Trinitrobenzene	1000.000	891.206	10.9	0	0.00	6.83- 7.83
6	RDX	1000.000	871.216	12.9	0	0.00	7.24- 8.24
7	1,3-Dinitrobenzene	1000.000	925.695	7.4	0	0.00	9.39-10.39
8	Nitrobenzene	1000.000	1029.197	-2.9	0	0.00	10.55-11.48
9	2,4,6-Trinitrotoluene	1000.000	892.842	10.7	0	0.00	11.69-12.55
10	Nitroglycerin	----------NA----------					
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	934.550	6.5	0	0.00	13.38-14.38
12 S	3,4-Dinitrotoluene	1000.000	902.955	9.7	0	0.00	15.02-15.75
13	2,6-Dinitrotoluene	1000.000	929.955	7.0	0	0.00	15.19-16.19
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	908.275	9.2	0	0.00	16.04-17.04
		Amount	Calc.	%Drift			
15	o-Nitrotoluene	1000.000	1101.898	-10.2	0	0.00	18.22-19.39
		Amount	Calc.	%Drift			
16	3,5-Dinitroaniline	1000.000	937.952	6.2	0	0.00	17.65-18.65
		Amount	Calc.	%Drift			
17	p-Nitrotoluene	1000.000	1179.228	-17.9#	0	0.01	19.99-20.99
18	4-Amino-2,6-Dinitrotol	1000.000	920.459	8.0	0	0.00	20.56-21.56
19	m-Nitrotoluene	1000.000	1092.146	-9.2	0	0.00	21.83-22.83
20	2-Amino-4,6-Dinitrotol	1000.000	906.598	9.3	0	0.00	22.88-23.88
		Amount	Calc.	%Drift			
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	925.939	7.4	0	0.00	4.19- 5.19

8.6.12

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-CC2096
Lab FileID: PP381840.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	900.962	9.9	0	0.00	4.58- 5.58
3		DNX	1000.000	876.970	12.3	0	0.00	4.73- 5.73
4		MNX	1000.000	918.942	8.1	0	0.00	5.82- 6.82
			Amount	Calc.	%Drift			
5		1,3,5-Trinitrobenzene	1000.000	911.238	8.9	0	0.00	6.83- 7.83
6		RDX	1000.000	930.578	6.9	0	0.00	7.24- 8.24
7		1,3-Dinitrobenzene	1000.000	901.563	9.8	0	0.00	9.39-10.39
8		Nitrobenzene	1000.000	1001.946	-0.2	0	0.00	10.55-11.47
9		2,4,6-Trinitrotoluene	1000.000	890.992	10.9	0	0.00	11.67-12.55
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4653.566	6.9	0	0.00	12.91-13.53
11		Tetryl	1000.000	954.699	4.5	0	0.00	13.38-14.38
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	958.772	4.1	0	0.00	14.99-15.74
13		2,6-Dinitrotoluene	1000.000	901.981	9.8	0	0.00	15.18-16.18
14		2,4-Dinitrotoluene	1000.000	878.817	12.1	0	0.00	16.04-17.04
15		o-Nitrotoluene	1000.000	1087.638	-8.8	0	0.00	18.28-19.39
16		3,5-Dinitroaniline	1000.000	980.070	2.0	0	0.00	17.65-18.65
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	1332.652	-33.3#	0	0.00	20.01-21.01
18		4-Amino-2,6-Dinitrotol	1000.000	991.158	0.9	0	0.00	20.56-21.56
19		m-Nitrotoluene	1000.000	1047.694	-4.8	0	0.00	21.84-22.84
20		2-Amino-4,6-Dinitrotol	1000.000	932.339	6.8	0	0.00	22.88-23.88
			Amount	Calc.	%Drift			
21		PETN	5000.000	2263.340	54.7#	0	0.00	24.17-25.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381826.D 0424_8330RPB.M Tue Apr 25 14:41:21 2017

8.6.12

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ECC2096
Lab FileID: PP381852.D

Evaluate Continuing Calibration Report

```
Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On    : 25-Apr-2017, 05:14:26                  Operator: evitam
Sample    : ecc2096-1000                           Inst    : G1315B
Misc      : OP64684,GPP2096,1040,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 26 15:36:20 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	933.638	6.6	0	0.00	4.19- 5.19
	Amount	Calc.	%Drift				
2	HMX	1000.000	884.332	11.6	0	0.02	4.58- 5.58
	Amount	Calc.	%Drift				
3	DNX	1000.000	889.057	11.1	0	0.02	4.73- 5.73
4	MNX	1000.000	965.296	3.5	0	0.04	5.80- 6.80
5	1,3,5-Trinitrobenzene	1000.000	881.848	11.8	0	0.04	6.80- 7.80
6	RDX	1000.000	865.209	13.5	0	0.07	7.21- 8.21
7	1,3-Dinitrobenzene	1000.000	930.374	7.0	0	0.08	9.35-10.35
8	Nitrobenzene	1000.000	1023.317	-2.3	0	0.09	10.51-11.44
9	2,4,6-Trinitrotoluene	1000.000	883.444	11.7	0	0.11	11.64-12.50
10	Nitroglycerin	----------NA----------					
	Amount	Calc.	%Drift				
11	Tetryl	1000.000	930.031	7.0	0	0.17	13.31-14.31
12 S	3,4-Dinitrotoluene	1000.000	897.742	10.2	0	0.17	14.96-15.69
13	2,6-Dinitrotoluene	1000.000	933.401	6.7	0	0.14	15.15-16.15
	Amount	Calc.	%Drift				
14	2,4-Dinitrotoluene	1000.000	904.644	9.5	0	0.14	16.02-17.02
	Amount	Calc.	%Drift				
15	o-Nitrotoluene	1000.000	1037.345	-3.7	0	0.14	18.22-19.39
	Amount	Calc.	%Drift				
16	3,5-Dinitroaniline	1000.000	929.988	7.0	0	0.16	17.62-18.62
	Amount	Calc.	%Drift				
17	p-Nitrotoluene	1000.000	1140.463	-14.0	0	0.14	20.01-21.01
18	4-Amino-2,6-Dinitrotol	1000.000	894.913	10.5	0	0.22	20.54-21.54
19	m-Nitrotoluene	1000.000	1049.803	-5.0	0	0.12	21.85-22.85
20	2-Amino-4,6-Dinitrotol	1000.000	897.331	10.3	0	0.10	22.88-23.88
	Amount	Calc.	%Drift				
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	924.911	7.5	0	0.00	4.19- 5.19

8.6.13

8

Continuing Calibration Summary

Job Number: FA43028
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP2096-ECC2096
Lab FileID: PP381852.D

			Amount	Calc.	%Drift			
2		HMX	1000.000	895.453	10.5	0	0.02	4.58- 5.58
3		DNX	1000.000	873.157	12.7	0	0.02	4.73- 5.73
4		MNX	1000.000	910.081	9.0	0	0.04	5.80- 6.80
			Amount	Calc.	%Drift			
5		1,3,5-Trinitrobenzene	1000.000	902.096	9.8	0	0.04	6.80- 7.80
6		RDX	1000.000	926.053	7.4	0	0.07	7.22- 8.22
7		1,3-Dinitrobenzene	1000.000	921.319	7.9	0	0.08	9.35-10.35
8		Nitrobenzene	1000.000	1016.144	-1.6	0	0.09	10.51-11.44
9		2,4,6-Trinitrotoluene	1000.000	879.593	12.0	0	0.11	11.62-12.50
			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	4555.136	8.9	0	0.13	12.85-13.47
11		Tetryl	1000.000	929.154	7.1	0	0.16	13.31-14.31
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	946.827	5.3	0	0.18	14.94-15.68
13		2,6-Dinitrotoluene	1000.000	914.695	8.5	0	0.14	15.15-16.15
14		2,4-Dinitrotoluene	1000.000	876.348	12.4	0	0.14	16.02-17.02
15		o-Nitrotoluene	1000.000	1036.726	-3.7	0	0.15	18.27-19.39
16		3,5-Dinitroaniline	1000.000	976.441	2.4	0	0.16	17.62-18.62
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	1000.000	1219.129	-21.9#	0	0.13	20.03-21.03
18		4-Amino-2,6-Dinitrotol	1000.000	948.231	5.2	0	0.23	20.54-21.54
19		m-Nitrotoluene	1000.000	1010.721	-1.1	0	0.11	21.85-22.85
20		2-Amino-4,6-Dinitrotol	1000.000	926.640	7.3	0	0.10	22.88-23.88
			Amount	Calc.	%Drift			
21		PETN	5000.000	2189.661	56.2#	0	0.07	24.16-25.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP381826.D 0424_8330RPB.M Thu Apr 27 10:07:07 2017

8.6.13

8

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054302.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054302.D\dad1A.ch
Acq On : 20-Apr-2017, 19:06:08 Operator: evitam
Sample : fa43028-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:58 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.23	10.23	1126782	2121213	490.743	495.352
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.15%	99.07%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	2736221	7507179	1566.544	1563.479
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.81	2.81	5476589	8782033	2967.374	2672.324
6)	1,3,5-Trinitrobe	4.42	4.42	22290703	43332670	5160.104	5330.577
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D.
12)	2,4,6-Trinitroto	9.06	9.06	31830666	39371254	7693.745	8050.983
13)	2-Amino-4,6-Dini	9.43	9.43	3403932	5263327	940.629	971.516
14)	4-Amino-2,6-Dini	9.91	9.91	1191625	2438868	460.021	458.928
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D.

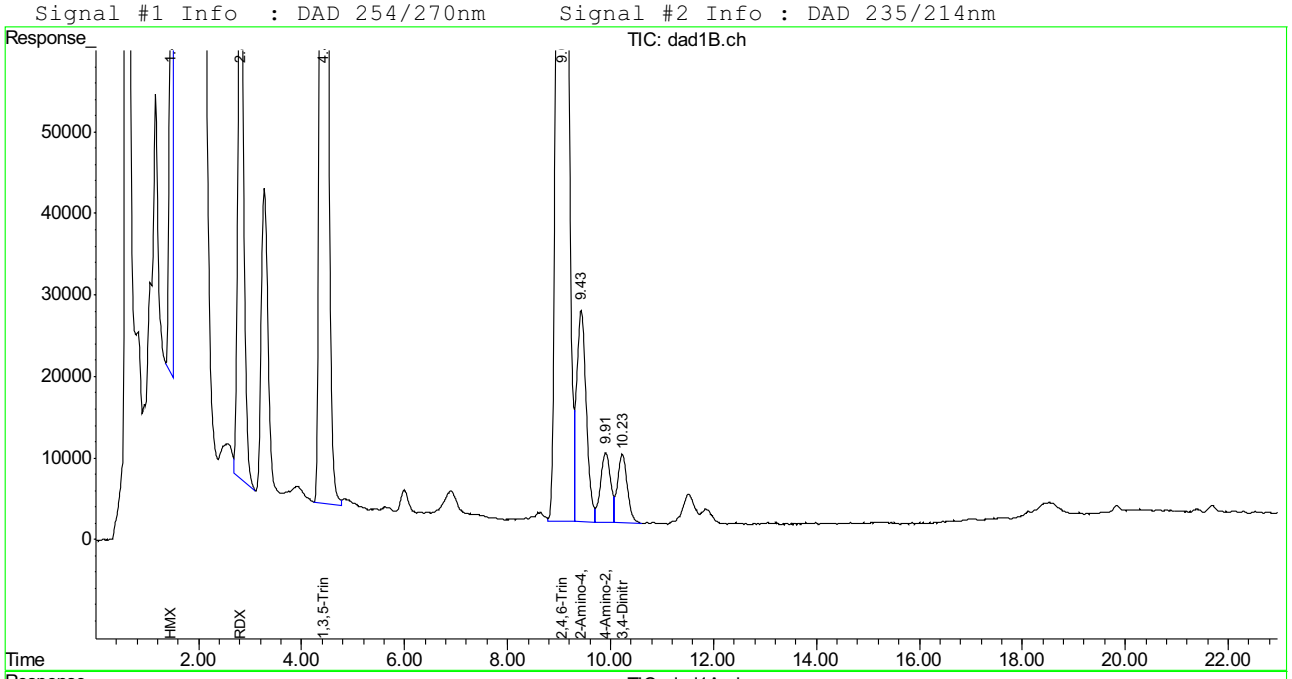
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054302.D 8330B_0419PLUS.M Tue Apr 25 11:47:32 2017 Page 1

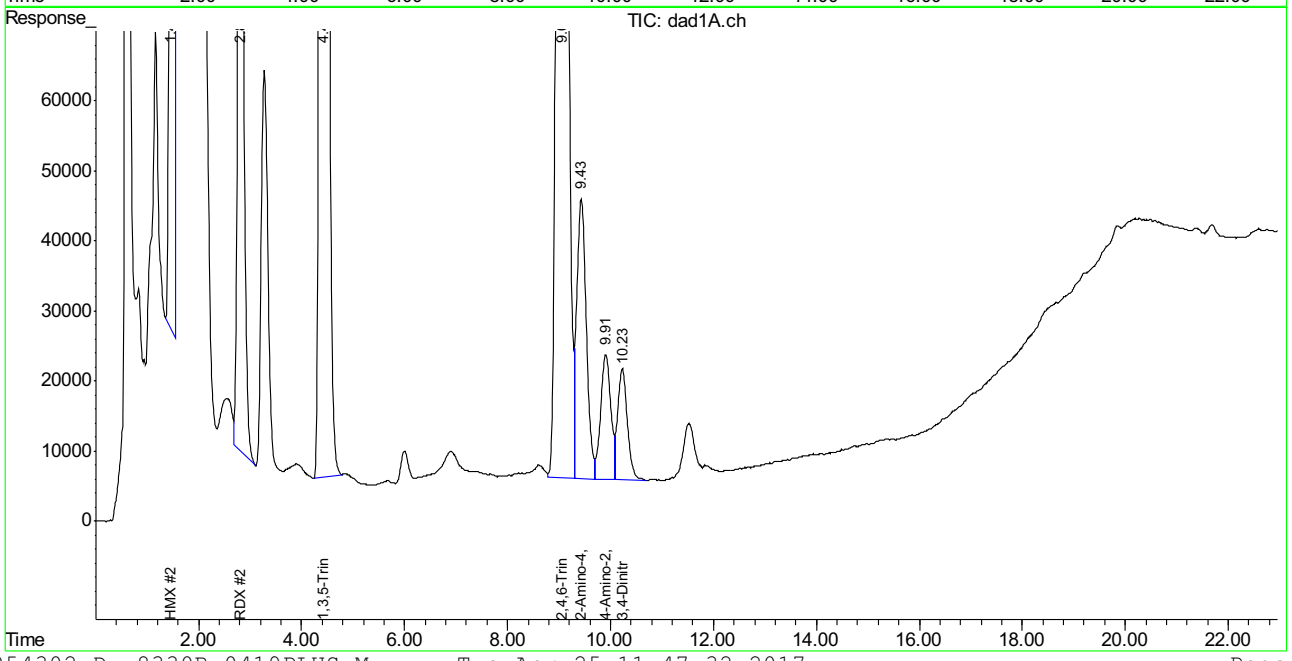
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054302.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054302.D\dad1A.ch
Acq On : 20-Apr-2017, 19:06:08 Operator: evitam
Sample : fa43028-1 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 11:47 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1B.ch Vial: 77
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1A.ch
Acq On : 21-Apr-2017, 14:00:09 Operator: evitam
Sample : fa43028-1,10x Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:34:06 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.11	10.10	119313	167972	51.964	39.225m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		10.39%#	7.85%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.44	1.44	722486	1937207	413.638	403.451
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.79	2.79	969346	1550568	513.548	471.829
6)	1,3,5-Trinitrobe	4.37	4.37	2337019	4458126	541.000	548.417
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	8.94	8.94	3252763	3957810	786.221	847.298
13)	2-Amino-4,6-Dini	9.32	9.32	838285	1141975	231.648	210.788
14)	4-Amino-2,6-Dini	9.79	9.79	455502	714153	175.844	134.384
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

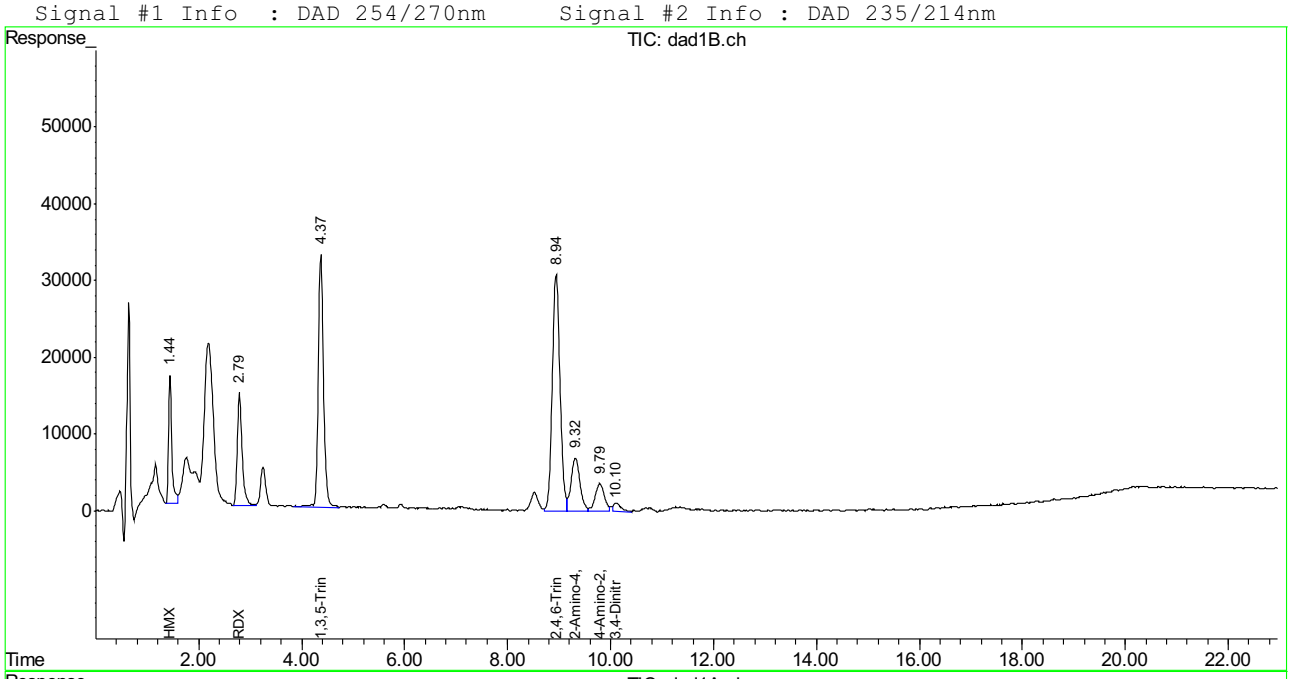
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054339.D 8330B_0419PLUS.M Mon Apr 24 14:12:30 2017 Page 1

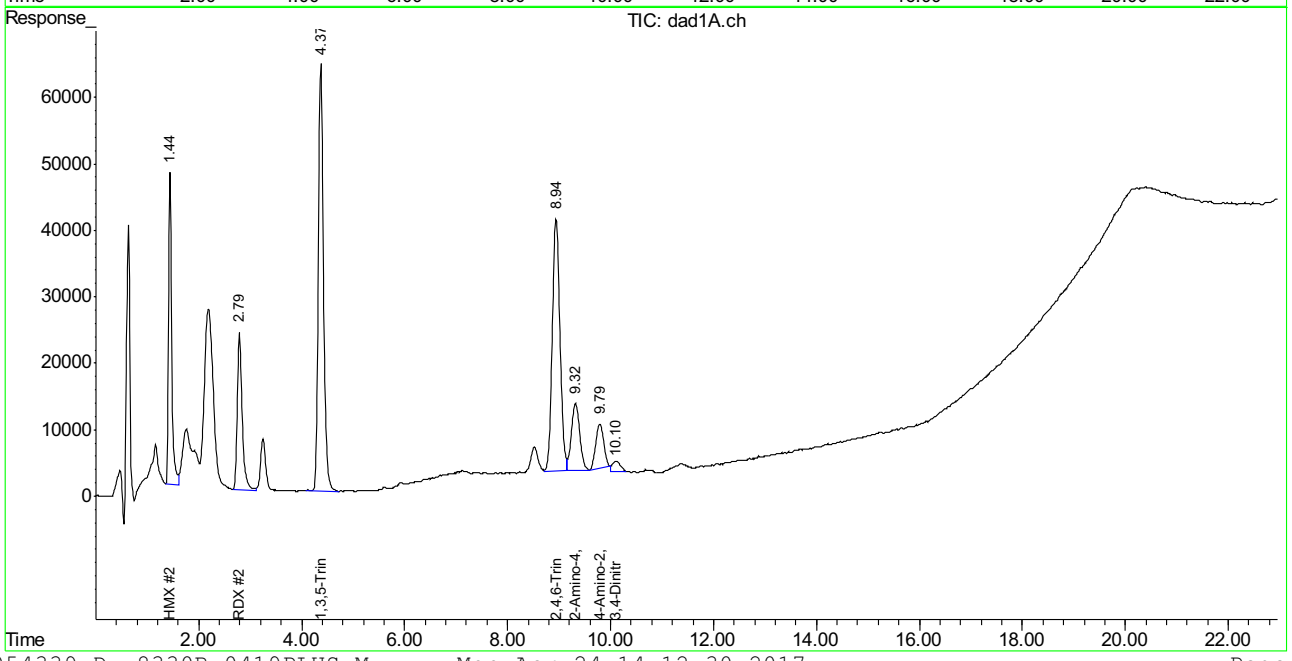
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1B.ch Vial: 77
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1A.ch
Acq On : 21-Apr-2017, 14:00:09 Operator: evitam
Sample : fa43028-1,10x Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

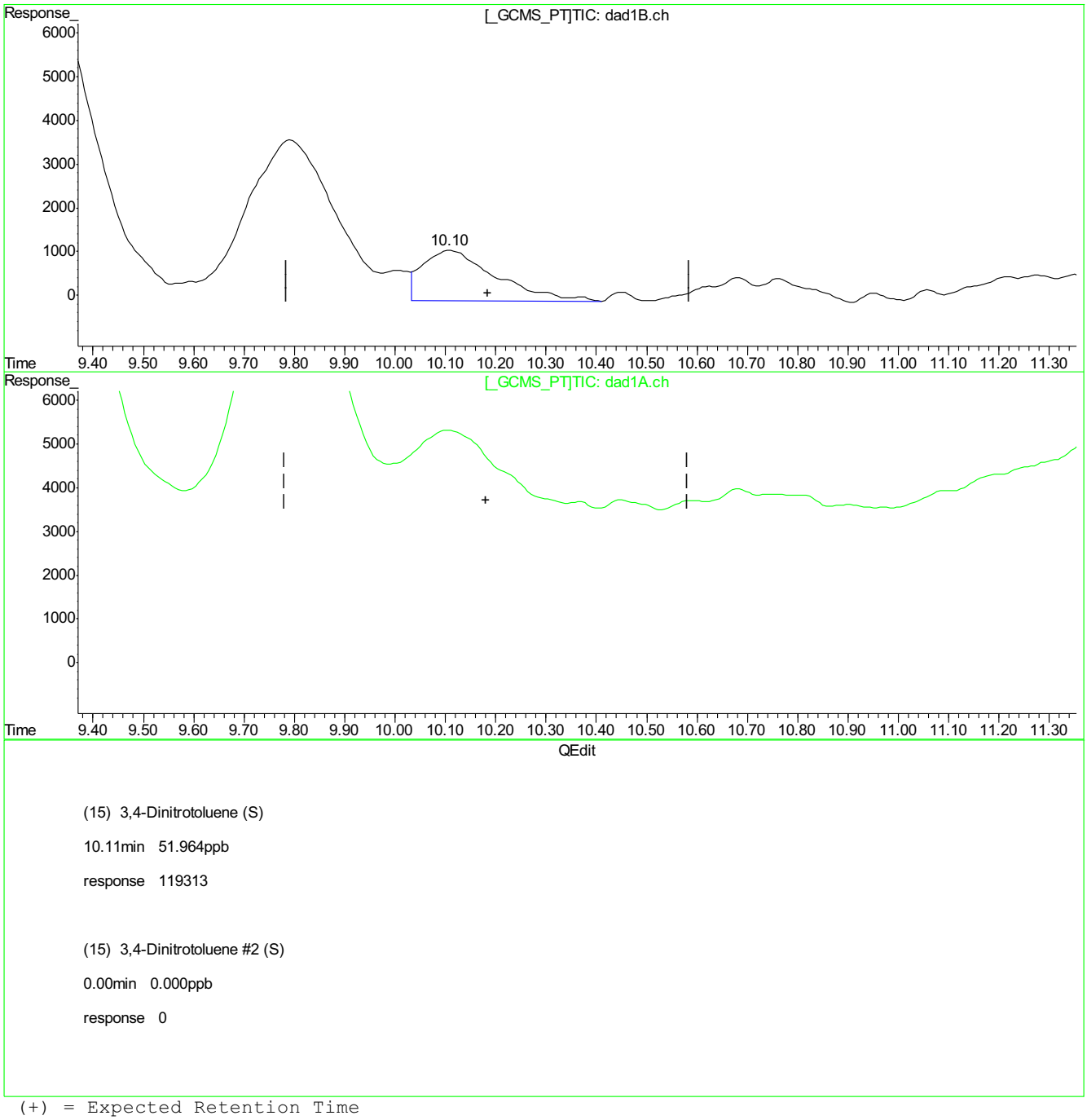
Sample Number: FA43028-1
Lab FileID: BB054339.D
Injection Time: 04/21/17 14:00
Method: SW846 8330B
Analyst approved: 04/25/17 13:59 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	10.10	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1B.ch Vial: 77
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1A.ch
Acq On : 21-Apr-2017, 14:00:09 Operator: evitam
Sample : fa43028-1,10x Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:35 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.11min 51.964ppb

response 119313

(15) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

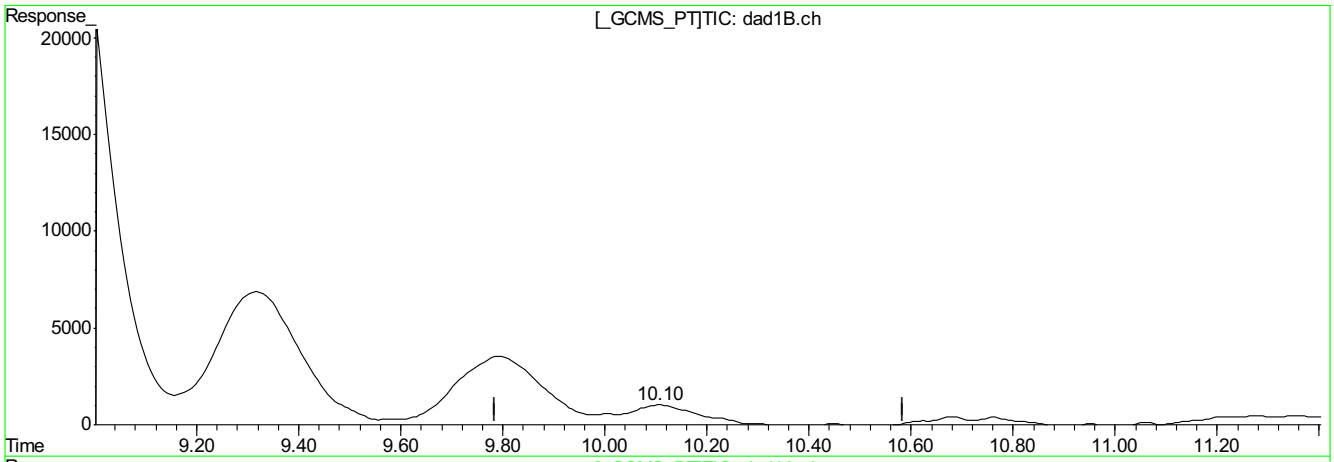
response 0

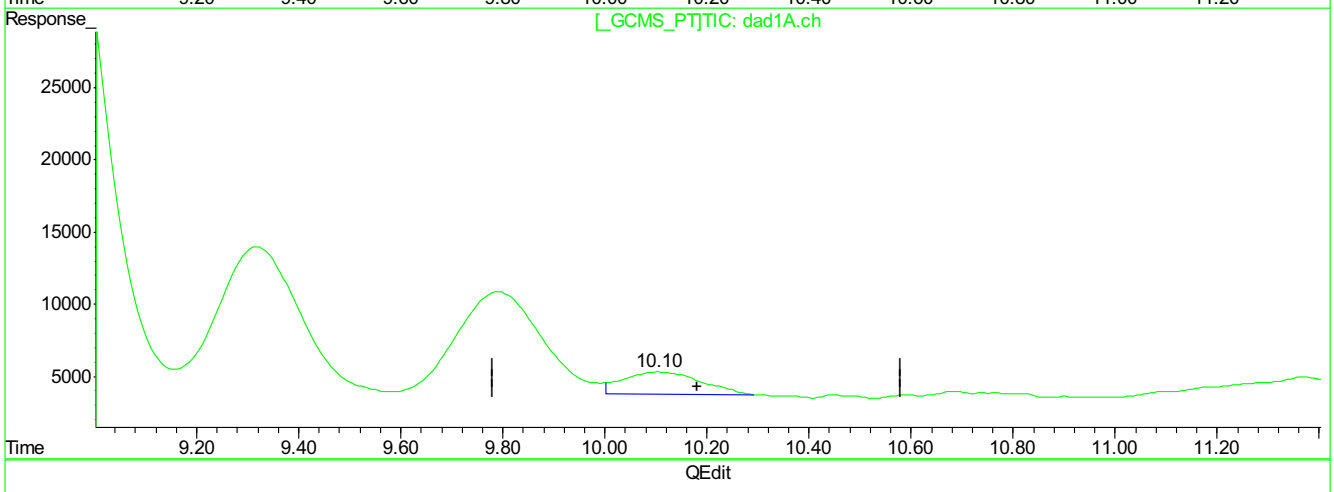
(+) = Expected Retention Time
BB054339.D 8330B_0419PLUS.M Mon Apr 24 13:36:52 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1B.ch Vial: 77
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054339.D\dad1A.ch
Acq On : 21-Apr-2017, 14:00:09 Operator: evitam
Sample : fa43028-1,10x Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:35 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration





QEdit

(15) 3,4-Dinitrotoluene (S)

10.11min 51.964ppb

response 119313

(15) 3,4-Dinitrotoluene #2 (S)

10.10min 39.225ppb m

response 167972

(+) = Expected Retention Time
BB054339.D 8330B_0419PLUS.M Mon Apr 24 13:37:06 2017

9.1.2.3

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381842.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0424_RPB\PP381842.D\dad1A.ch
Acq On : 24-Apr-2017, 23:49:51 Operator: evitam
Sample : fa43028-1cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:45 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.17	15.16	2387782	4518336	431.607	446.972
	Spiked Amount 500.000	Range 70 - 136		Recovery =		86.32%	89.39%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.07	5.07	5394781	16844204	1582.841	1675.194
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.31	7.31	43811729	76063103	4292.456	4400.322
6)	RDX	7.69	7.69	11893756	22966602	2449.161	2679.608
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.00	12.00	62967388	82155407	6544.353	6695.912
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	21.03	21.02	2413546	3648266	395.362	383.290
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	23.35	23.35	7783754	10169527	801.237	779.093m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

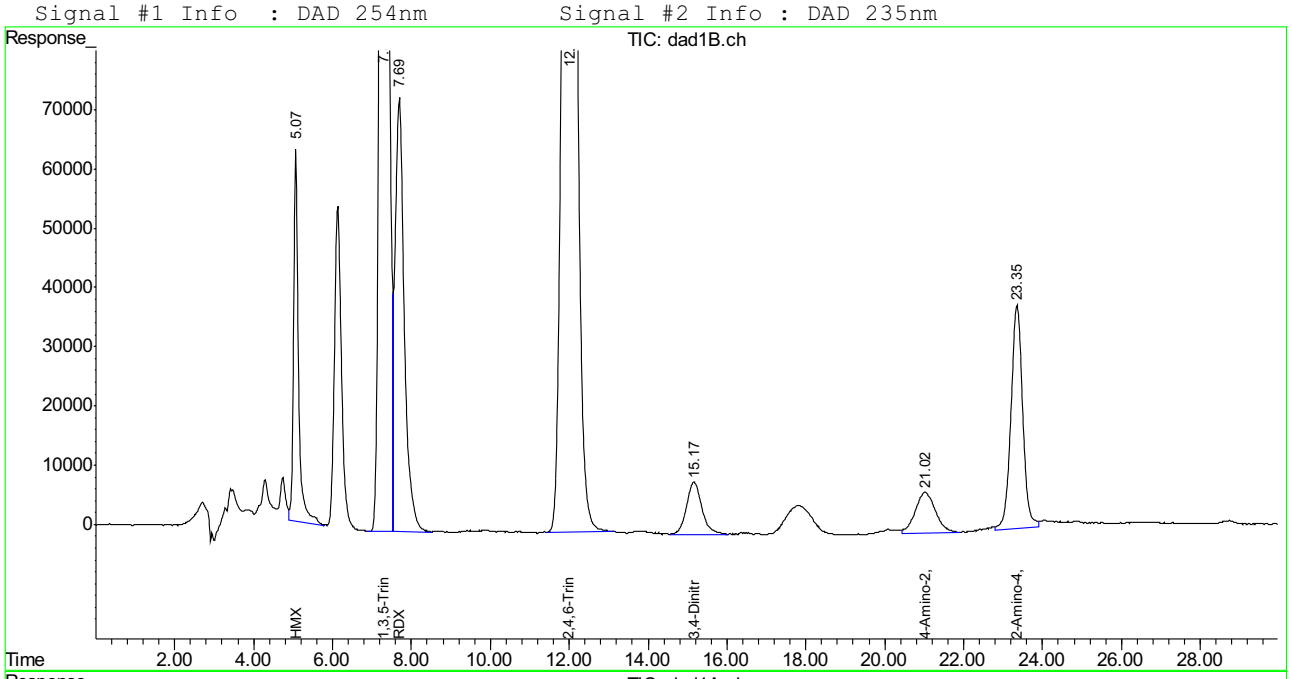
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381842.D 0424_8330RPB.M Tue Apr 25 14:37:02 2017 Page 1

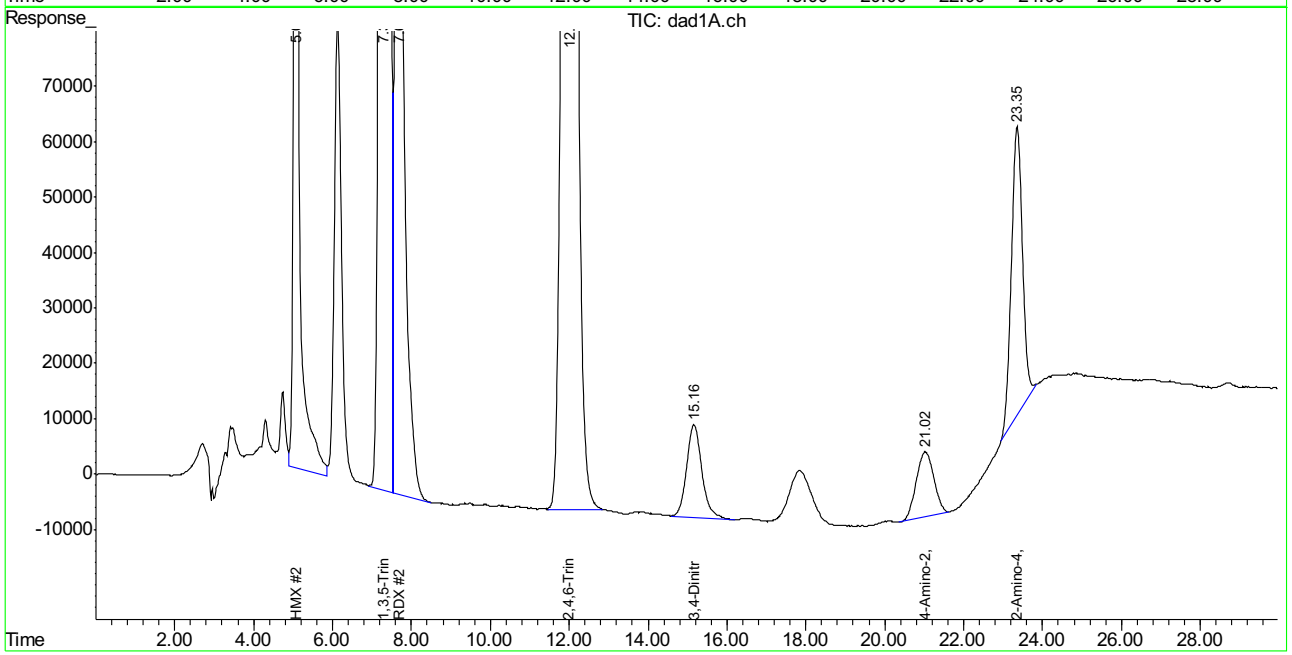
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381842.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0424_RPB\PP381842.D\dad1A.ch
Acq On : 24-Apr-2017, 23:49:51 Operator: evitam
Sample : fa43028-1cf Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:45 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

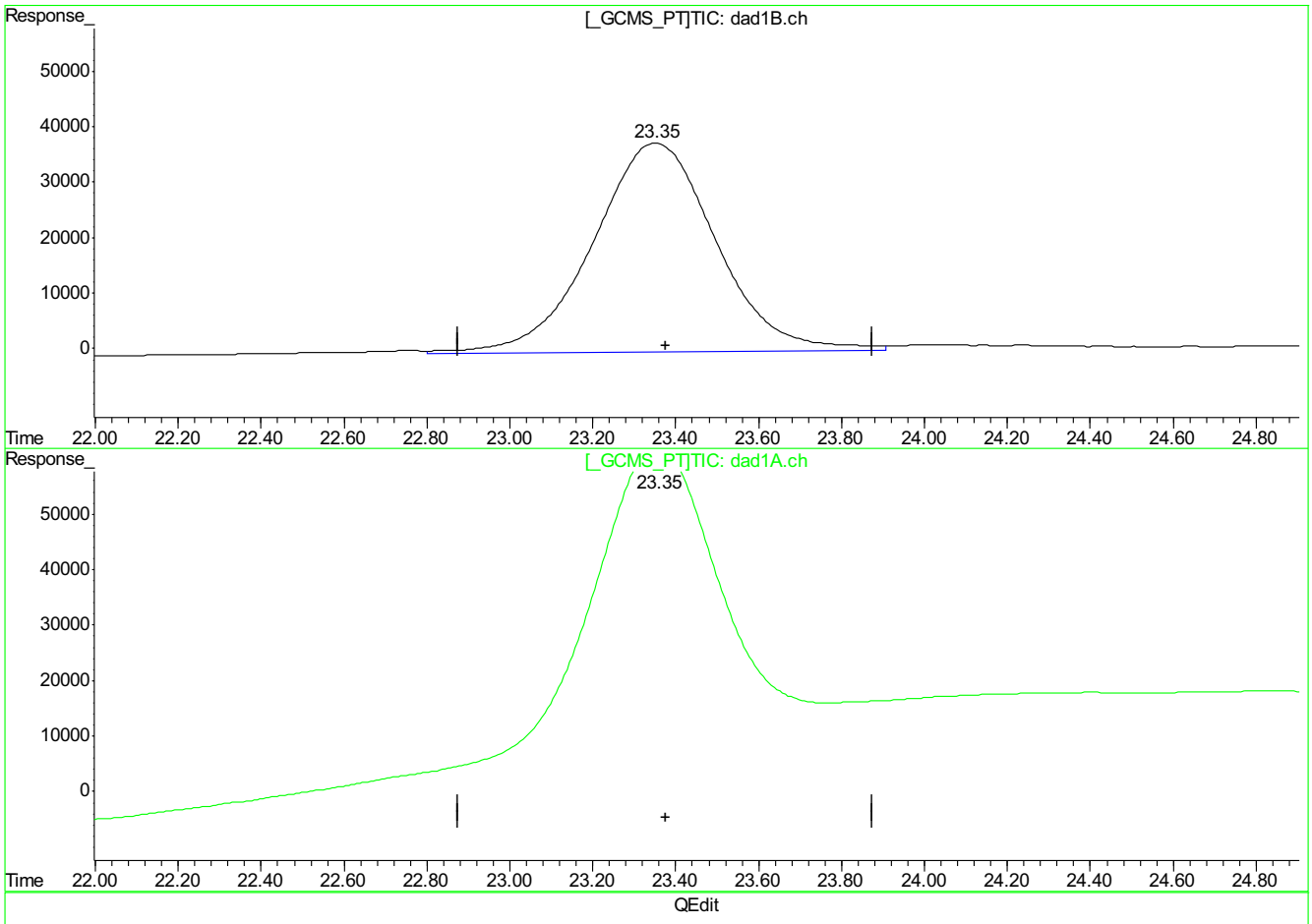
Sample Number: FA43028-1
Lab FileID: PP381842.D
Injection Time: 04/24/17 23:49
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.35	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381842.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0424_RPB\PP381842.D\dad1A.ch
Acq On : 24-Apr-2017, 23:49:51 Operator: evitam
Sample : fa43028-1 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.35min 801.237ppb

response 7783754

(20) 2-Amino-4,6-Dinitrotoluene #2

23.36min 1466.013ppb

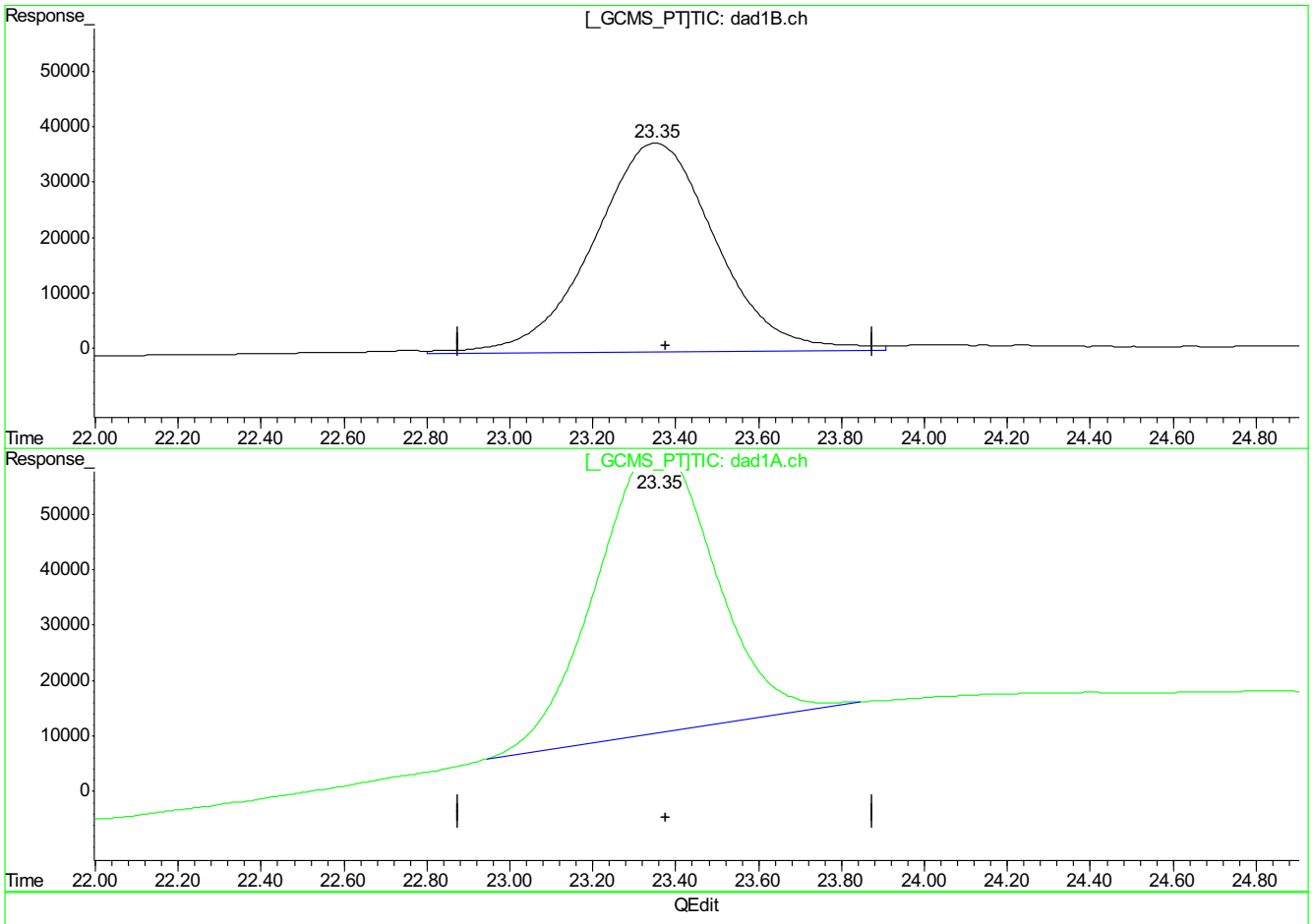
response 18540523

(+) = Expected Retention Time
PP381842.D 0424_8330RPB.M Tue Apr 25 12:45:43 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381842.D\dad1B.ch Vial: 21
Signal #2 : P:\DATA\0424_RPB\PP381842.D\dad1A.ch
Acq On : 24-Apr-2017, 23:49:51 Operator: evitam
Sample : fa43028-1 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.35min 801.237ppb

response 7783754

(20) 2-Amino-4,6-Dinitrotoluene #2

23.35min 779.093ppb m

response 10169527

(+) = Expected Retention Time
PP381842.D 0424_8330RPB.M Tue Apr 25 12:45:50 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1cf,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:46 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.26	15.24	275543	643917	49.047m	63.699
	Spiked Amount 500.000	Range 70 - 136		Recovery =		9.81%#	12.74%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.08	5.08	2011812	5627293	545.407	522.469
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.33	7.33	5690725	9814899	557.549	567.801
6)	RDX	7.75	7.75	2070025	3959379	426.259	461.957
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.06	12.06	8139356	10672866	845.943	869.871
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	21.14	21.09	751167	969566	124.186	107.071m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	23.39	23.40	2252180	2610496	223.888	194.835m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

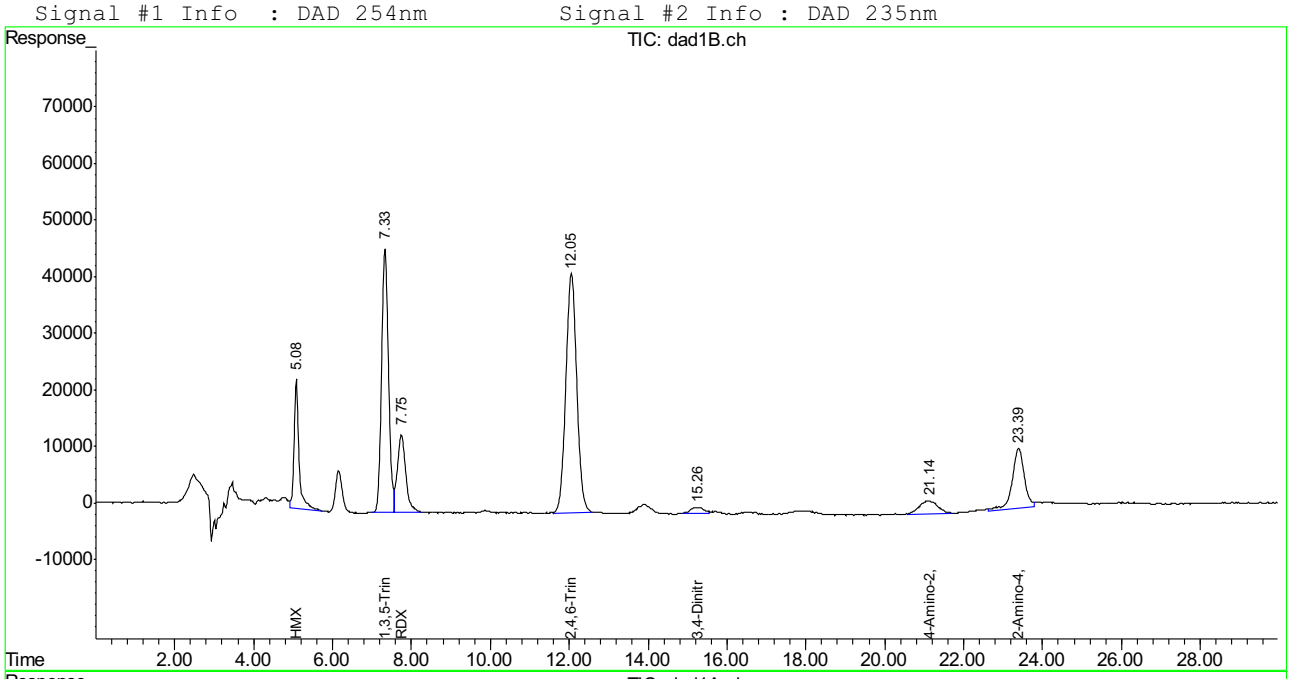
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381843.D 0424_8330RPB.M Tue Apr 25 14:37:03 2017 Page 1

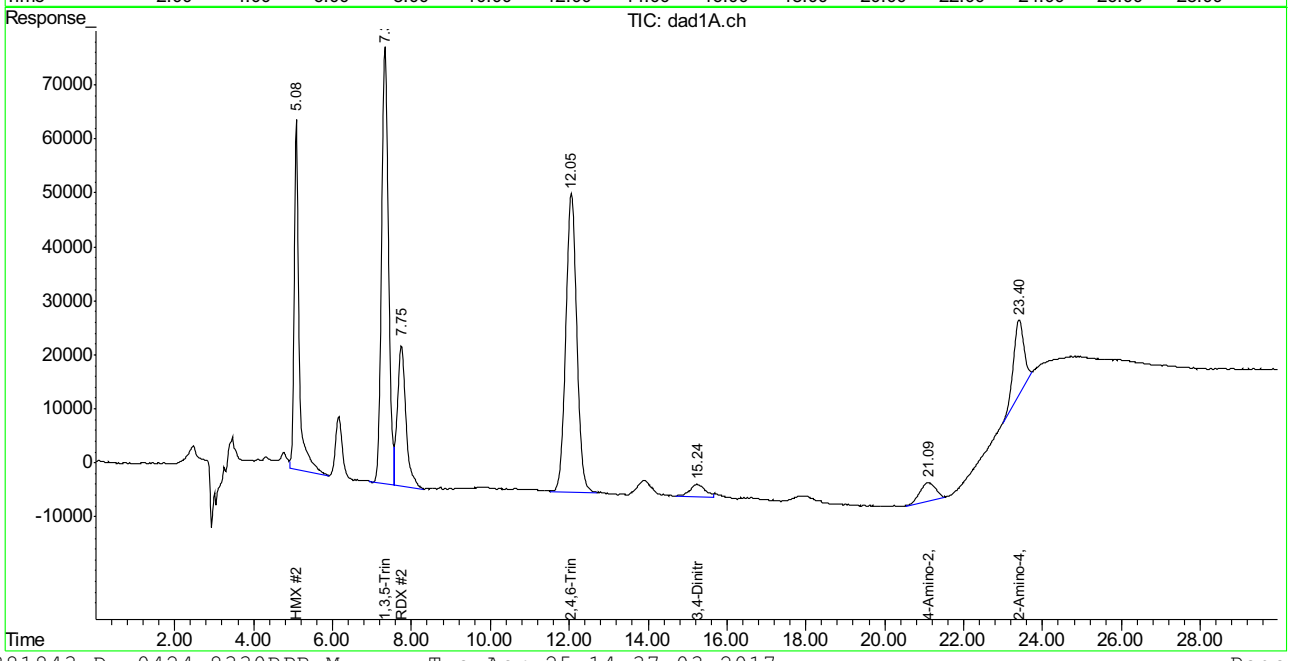
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1cf,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:48 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

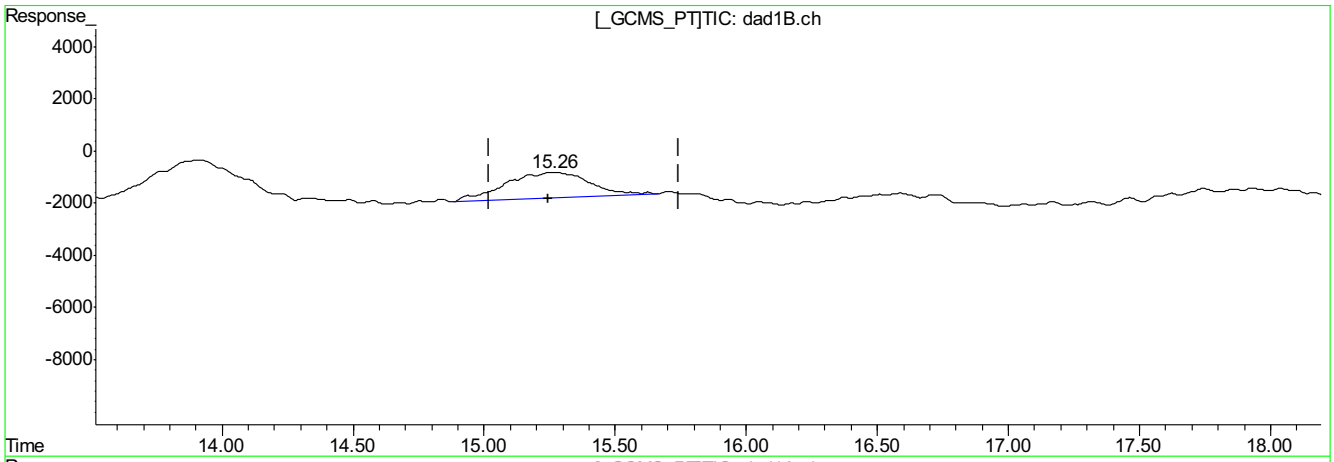
Sample Number: FA43028-1
Lab FileID: PP381843.D
Injection Time: 04/25/17 00:22
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

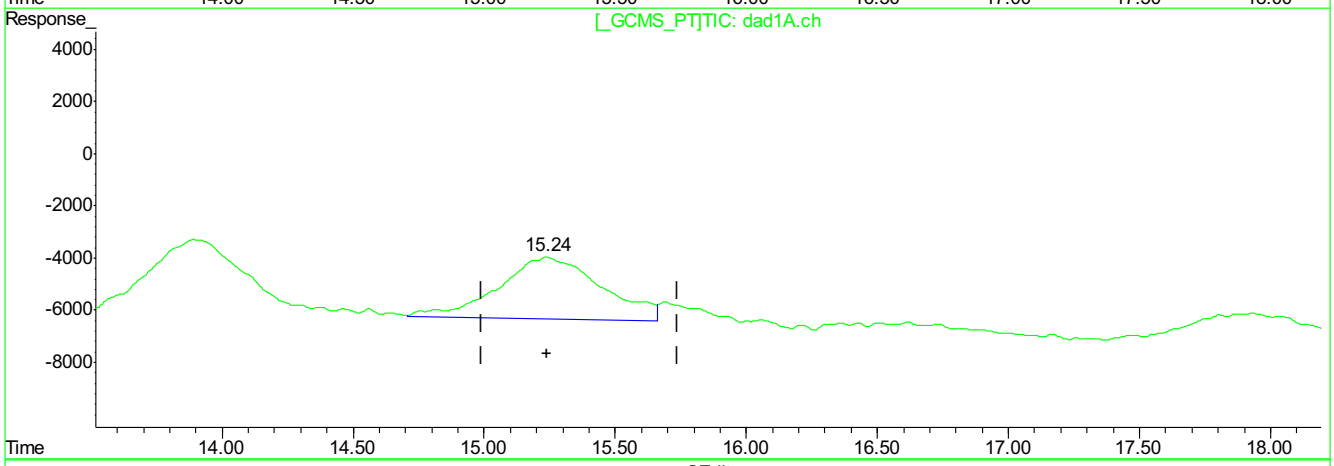
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	1	15.26	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.09	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.40	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

15.26min 39.828ppb

response 223833

(12) 3,4-Dinitrotoluene #2 (S)

15.24min 63.699ppb

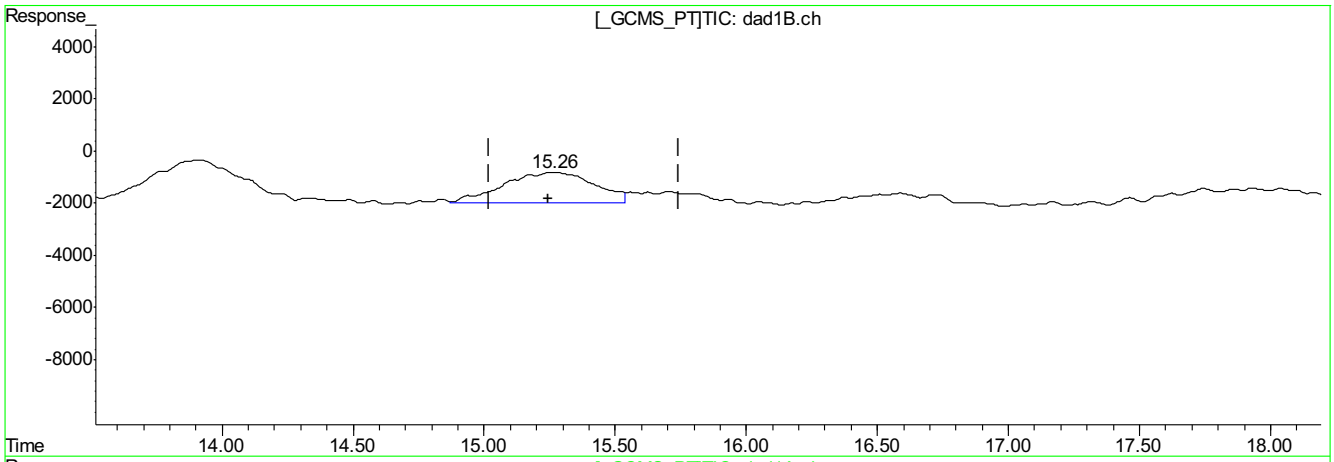
response 643917

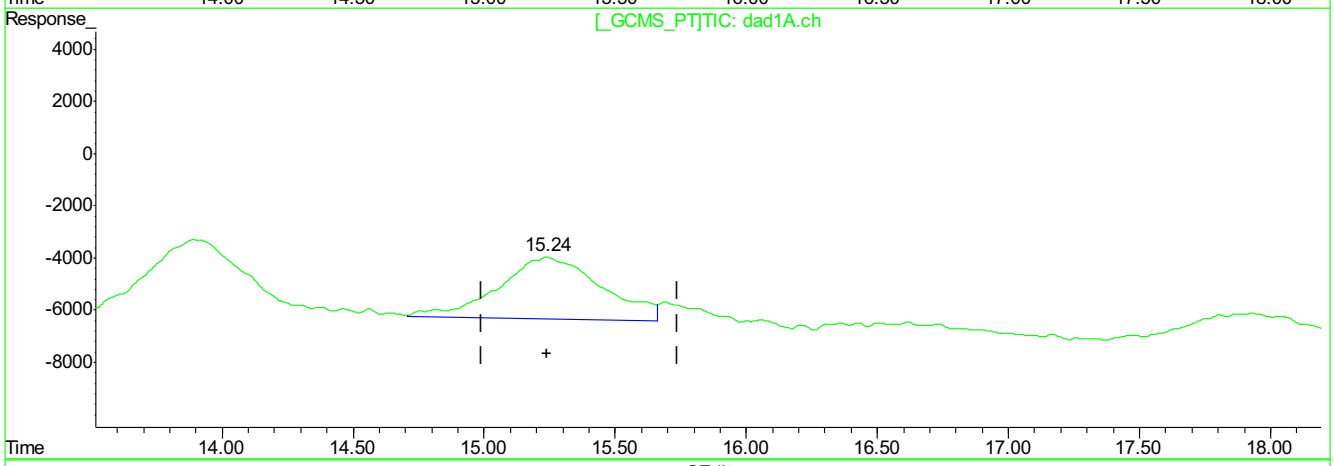
(+) = Expected Retention Time
PP381843.D 0424_8330RPB.M Tue Apr 25 12:48:20 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

15.26min 49.047ppb m

response 275543

(12) 3,4-Dinitrotoluene #2 (S)

15.24min 63.699ppb

response 643917

(+) = Expected Retention Time
PP381843.D 0424_8330RPB.M Tue Apr 25 12:48:25 2017

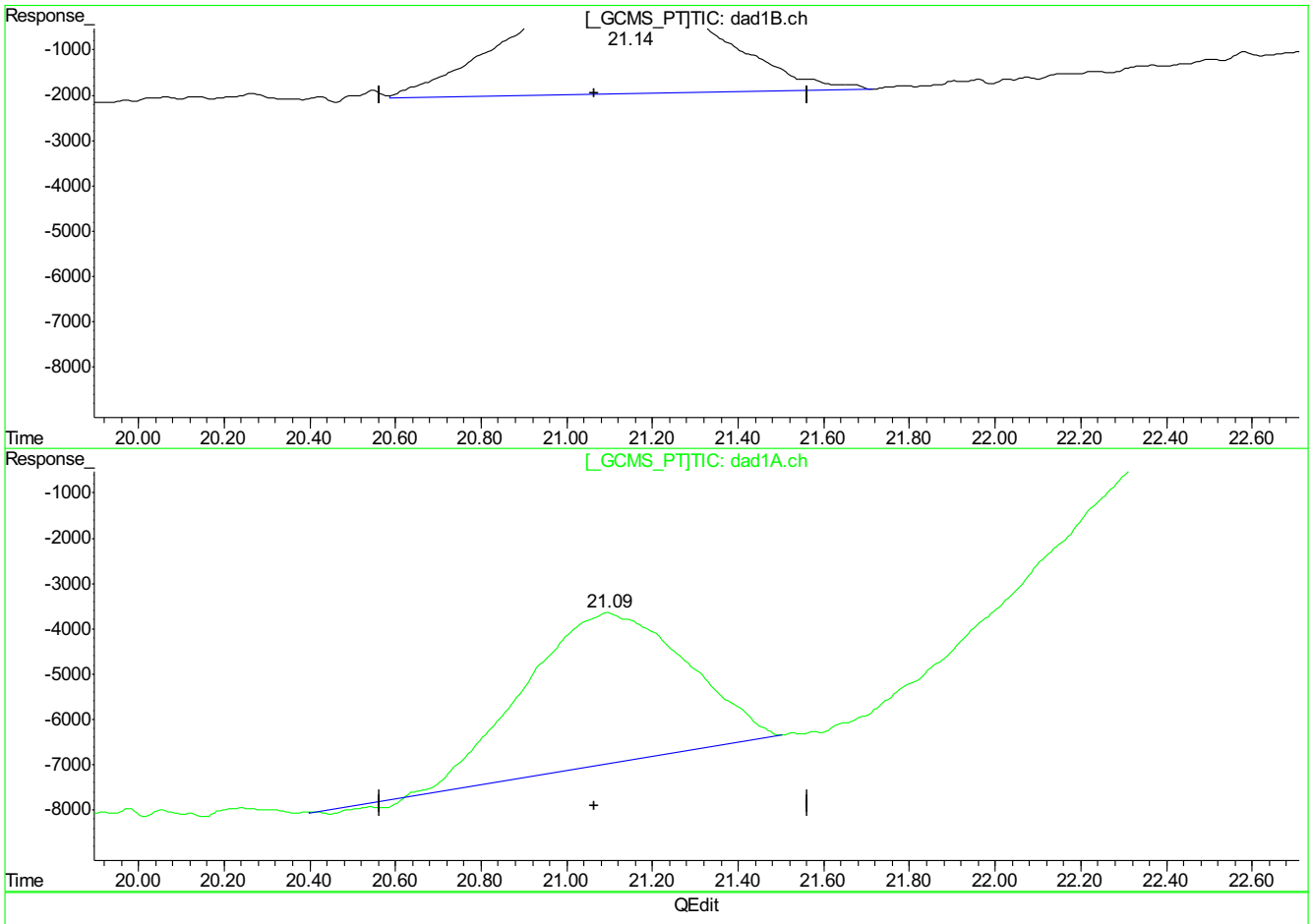
9.1.4.3

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.14min 124.186ppb

response 751167

(18) 4-Amino-2,6-Dinitrotoluene #2

21.10min 96.559ppb

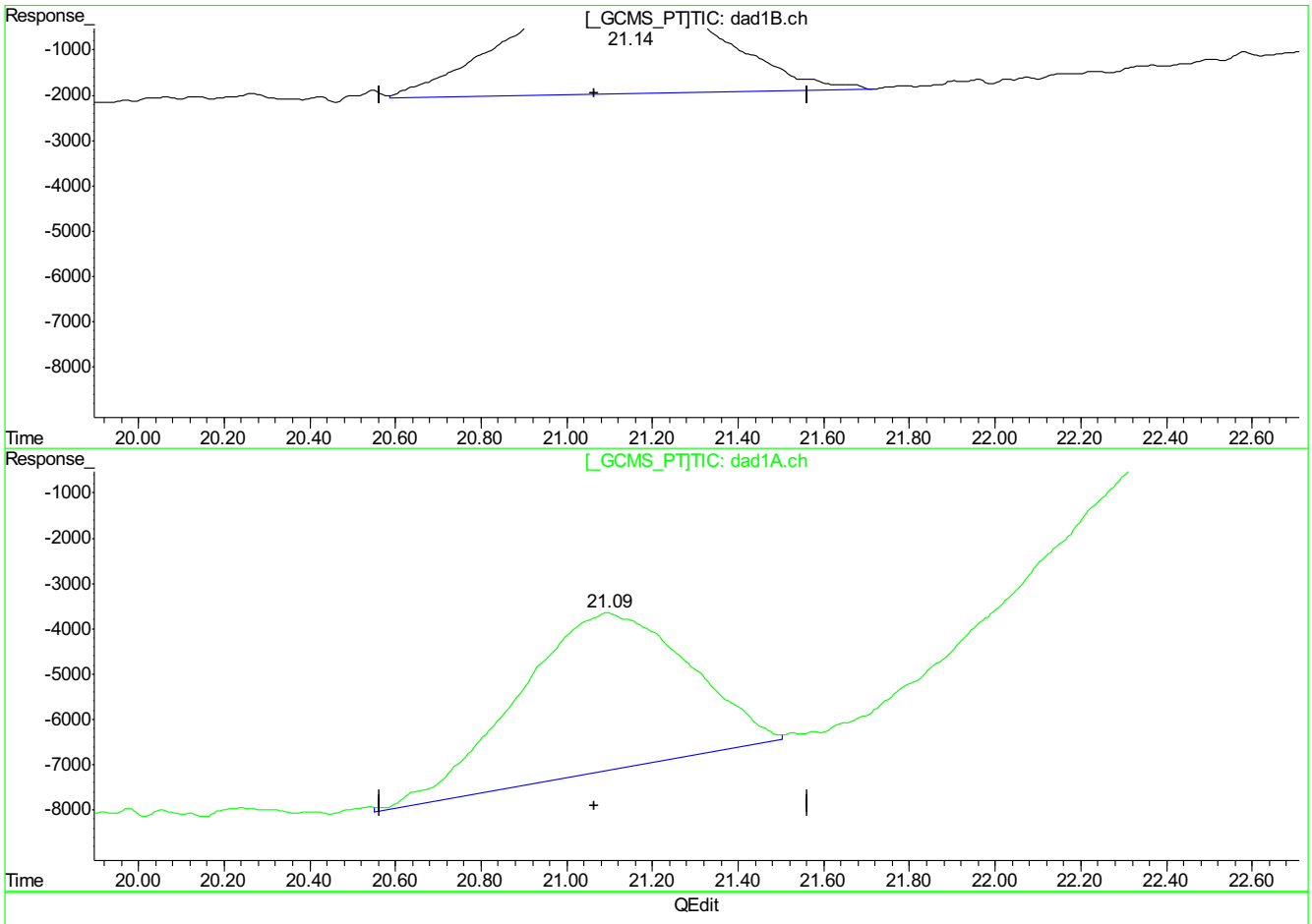
response 872674

(+) = Expected Retention Time
PP381843.D 0424_8330RPB.M Tue Apr 25 12:48:30 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.14min 124.186ppb

response 751167

(18) 4-Amino-2,6-Dinitrotoluene #2

21.09min 107.071ppb m

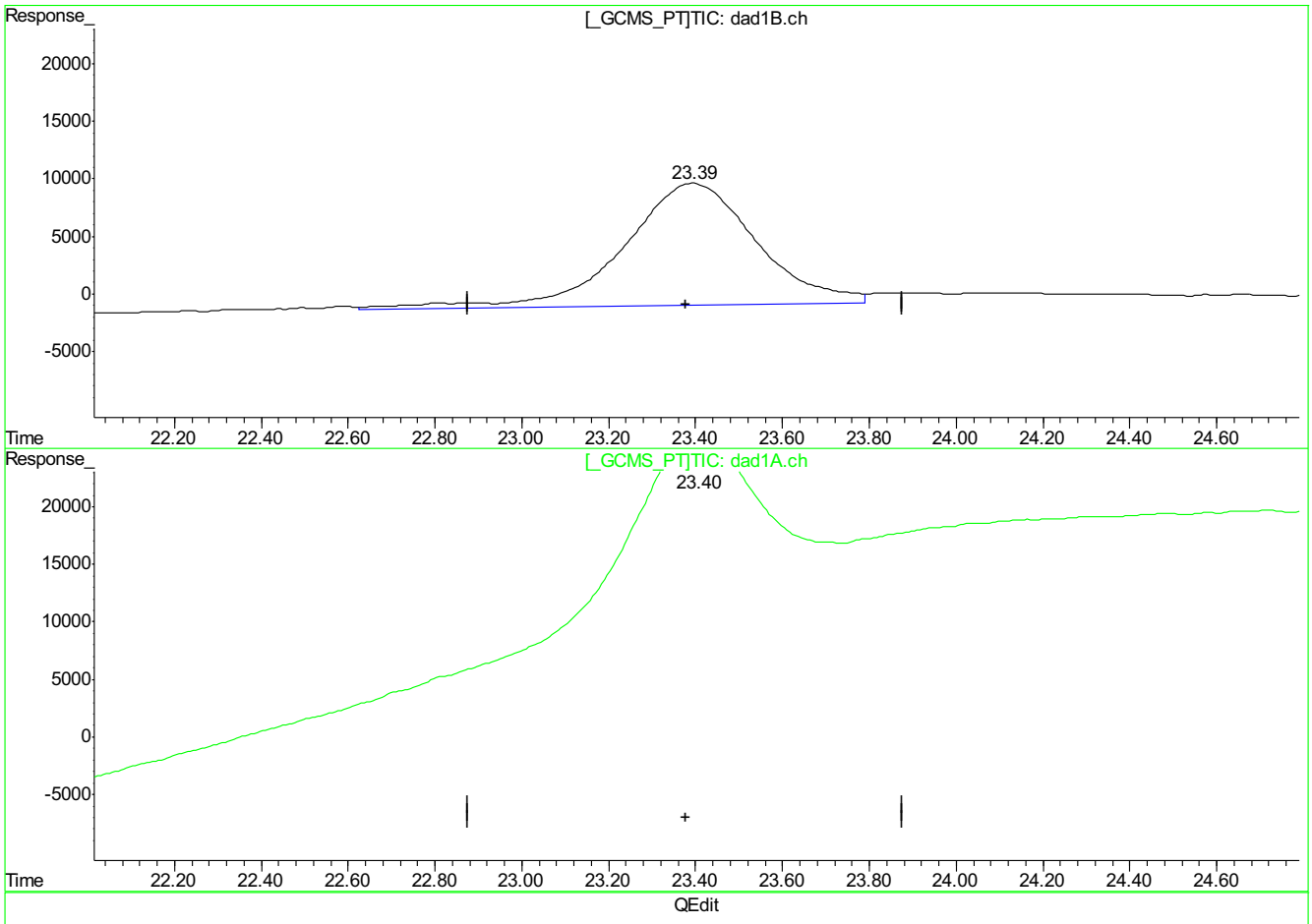
response 969566

(+) = Expected Retention Time
PP381843.D 0424_8330RPB.M Tue Apr 25 12:48:34 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.39min 223.888ppb

response 2252180

(20) 2-Amino-4,6-Dinitrotoluene #2

23.41min 414.352ppb

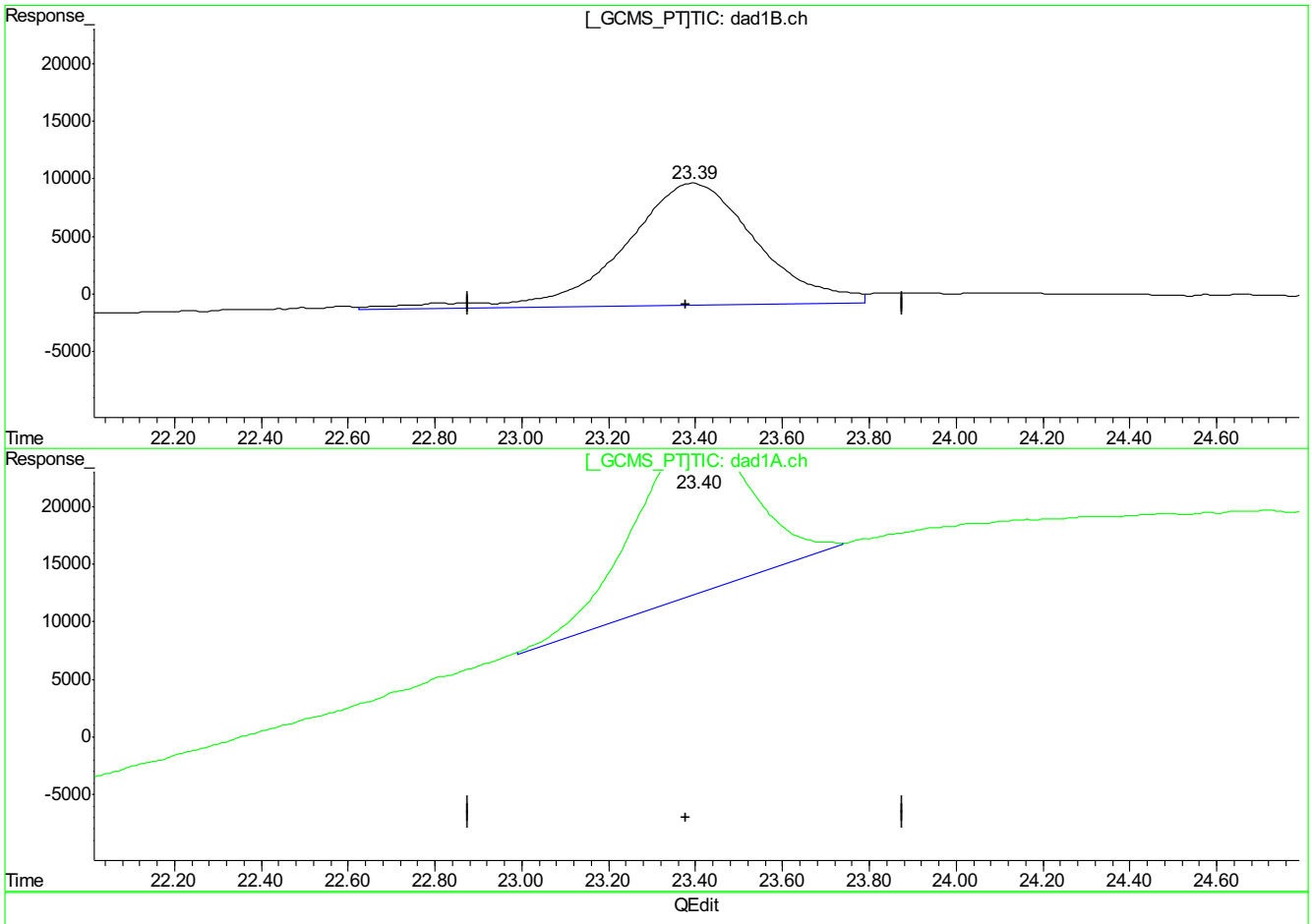
response 5497905

(+) = Expected Retention Time
PP381843.D 0424_8330RPB.M Tue Apr 25 12:48:41 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381843.D\dad1B.ch Vial: 22
Signal #2 : P:\DATA\0424_RPB\PP381843.D\dad1A.ch
Acq On : 25-Apr-2017, 00:22:18 Operator: evitam
Sample : fa43028-1,10 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.39min 223.888ppb

response 2252180

(20) 2-Amino-4,6-Dinitrotoluene #2

23.40min 194.835ppb m

response 2610496

(+) = Expected Retention Time
PP381843.D 0424_8330RPB.M Tue Apr 25 12:48:45 2017

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054303.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054303.D\dad1A.ch
Acq On : 20-Apr-2017, 19:36:05 Operator: evitam
Sample : fa43028-2 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1100524	2013409	479.307	470.177
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.86%	94.04%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

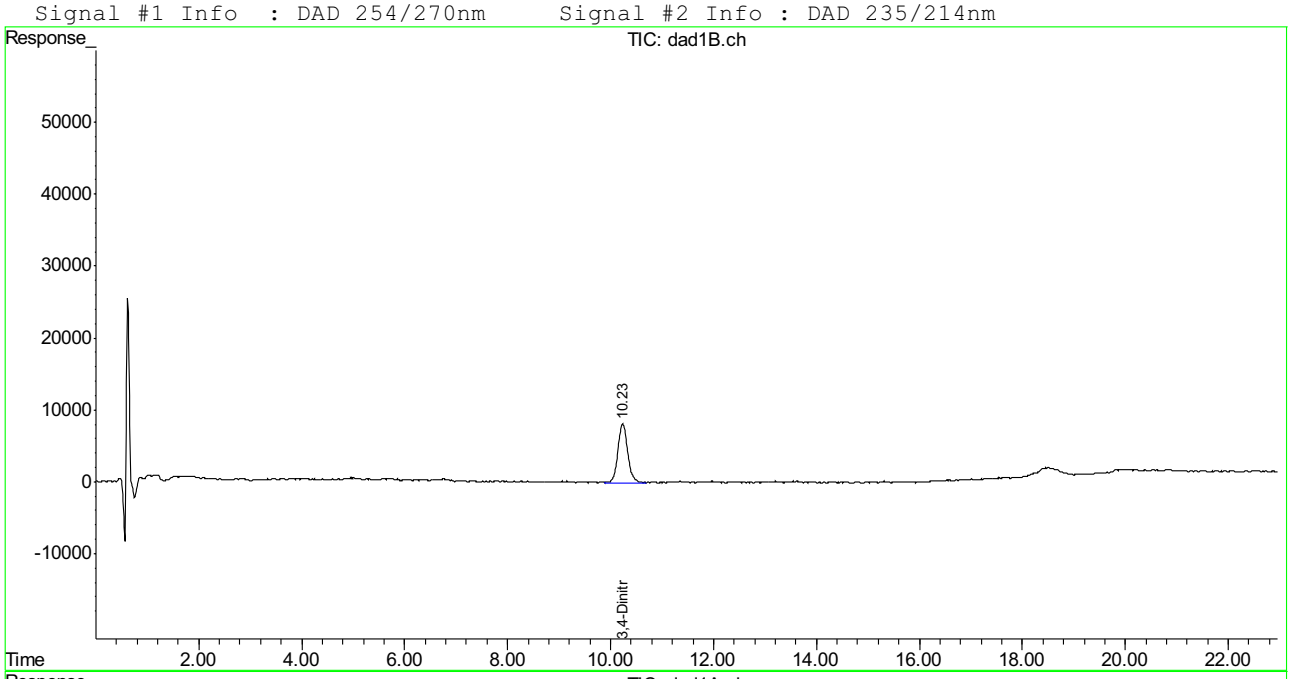
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054303.D 8330B_0419PLUS.M Fri Apr 21 10:12:37 2017 Page 1

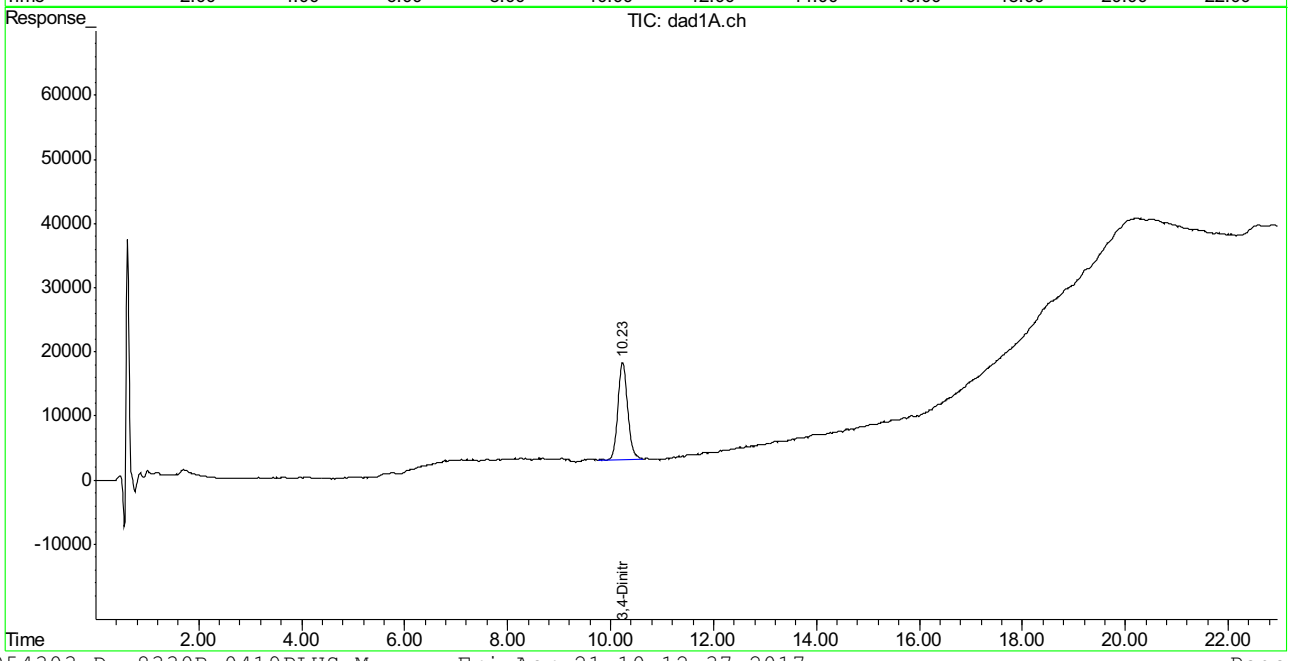
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054303.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054303.D\dad1A.ch
Acq On : 20-Apr-2017, 19:36:05 Operator: evitam
Sample : fa43028-2 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:46 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054304.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054304.D\dad1A.ch
Acq On : 20-Apr-2017, 20:06:02 Operator: evitam
Sample : fa43028-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:01:00 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1117914	2055382	486.881	479.979
	Spiked Amount 500.000	Range 70 - 136		Recovery =		97.38%	96.00%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D. d	N.D.
4)	MNX	0.00	0.00	0	0	N.D. d	N.D.
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

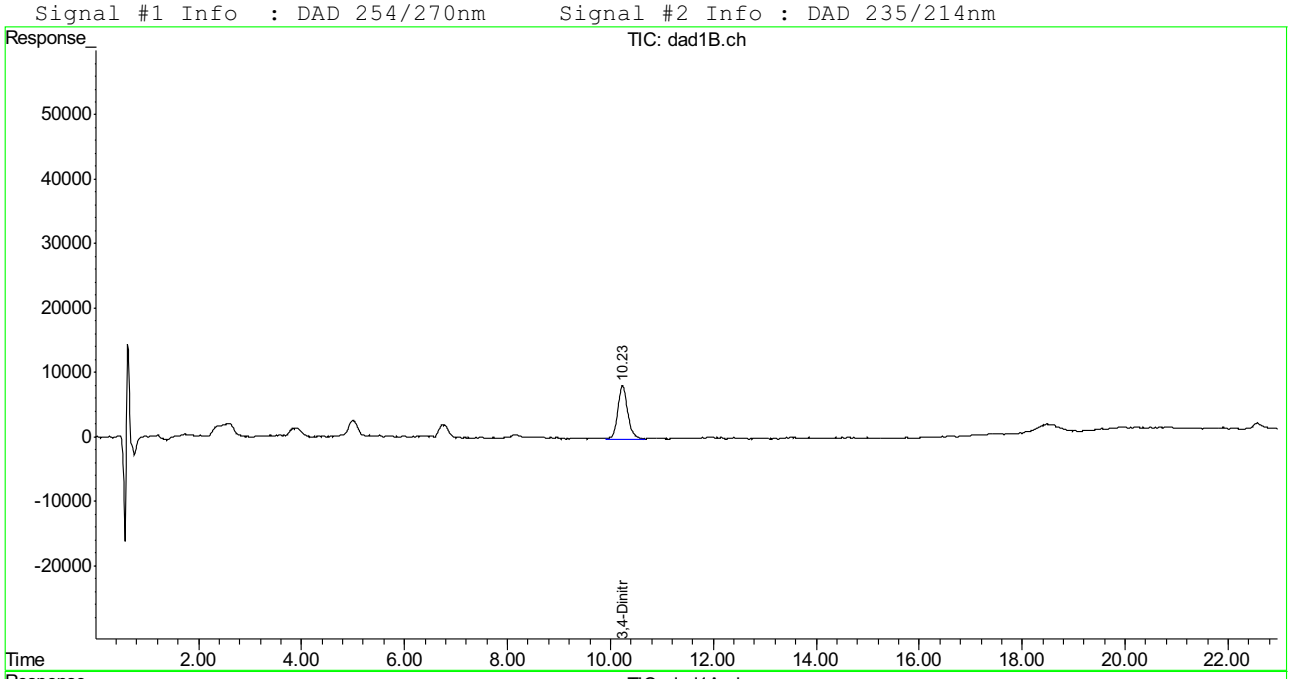
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054304.D 8330B_0419PLUS.M Fri Apr 21 10:12:38 2017 Page 1

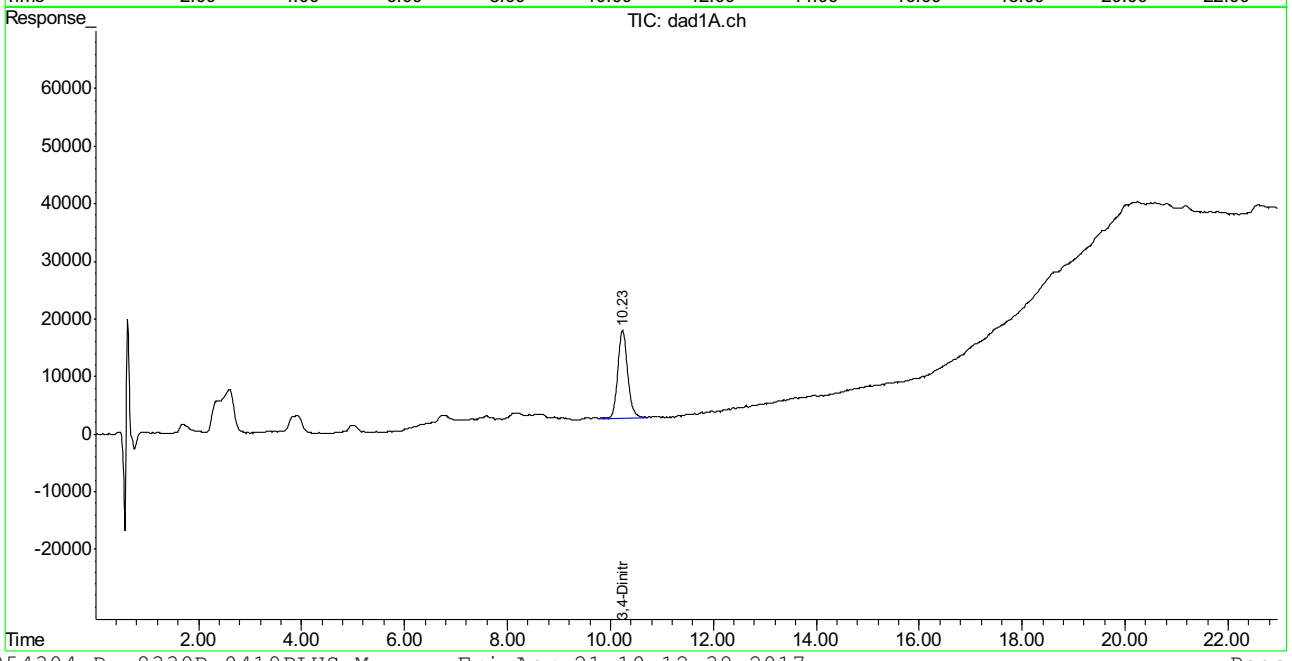
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054304.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054304.D\dad1A.ch
Acq On : 20-Apr-2017, 20:06:02 Operator: evitam
Sample : fa43028-3 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:47 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED
(compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:41 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.21	10.21	1073840	1888979	467.685	441.120m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	93.54%	88.22%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

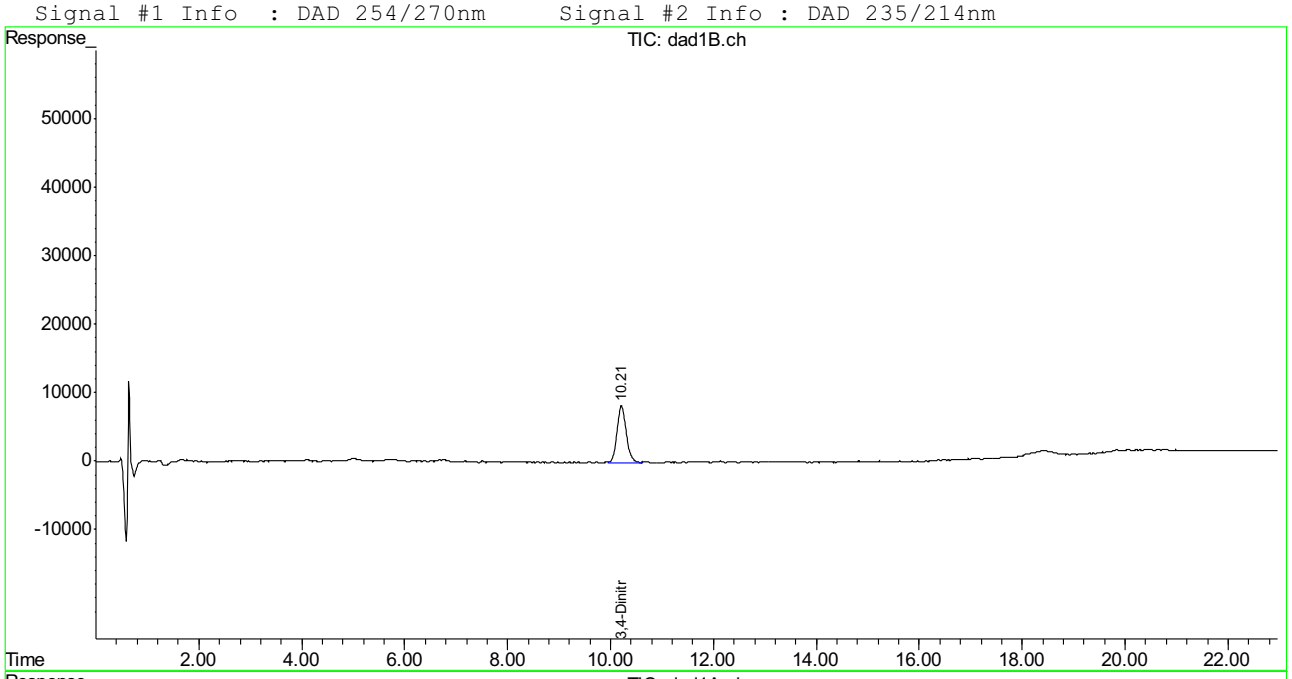
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054285.D 8330B_0419PLUS.M Fri Apr 21 10:12:20 2017 Page 1

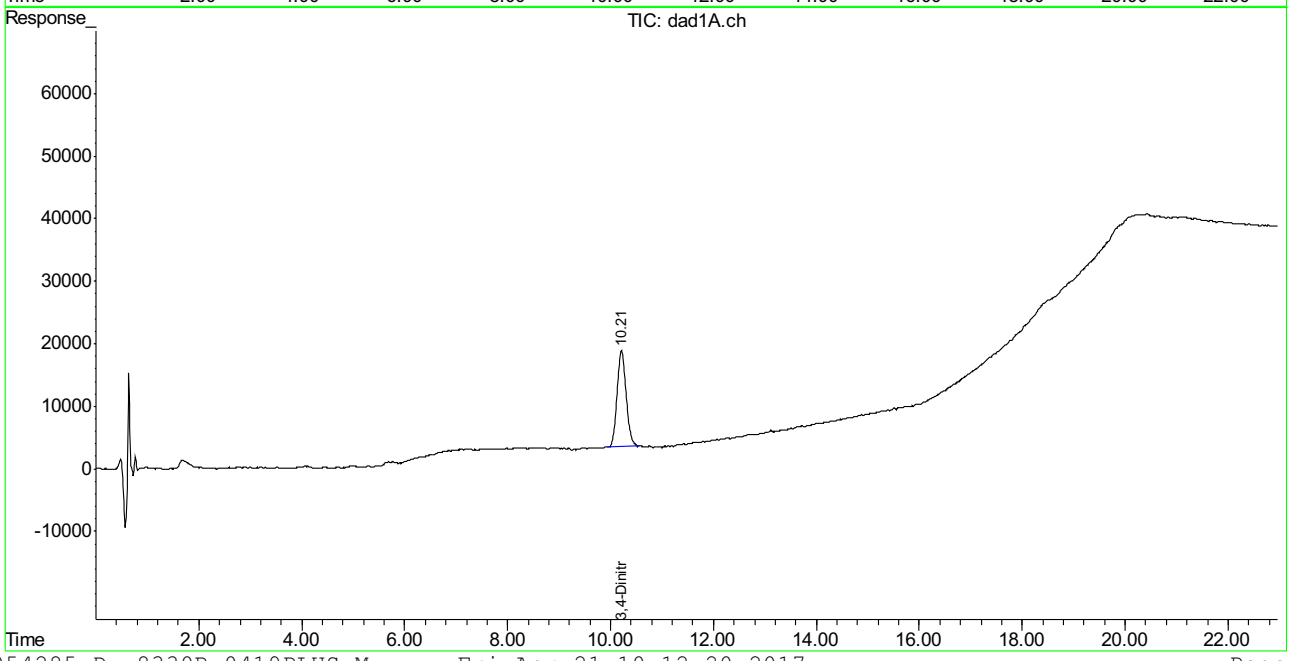
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:18 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

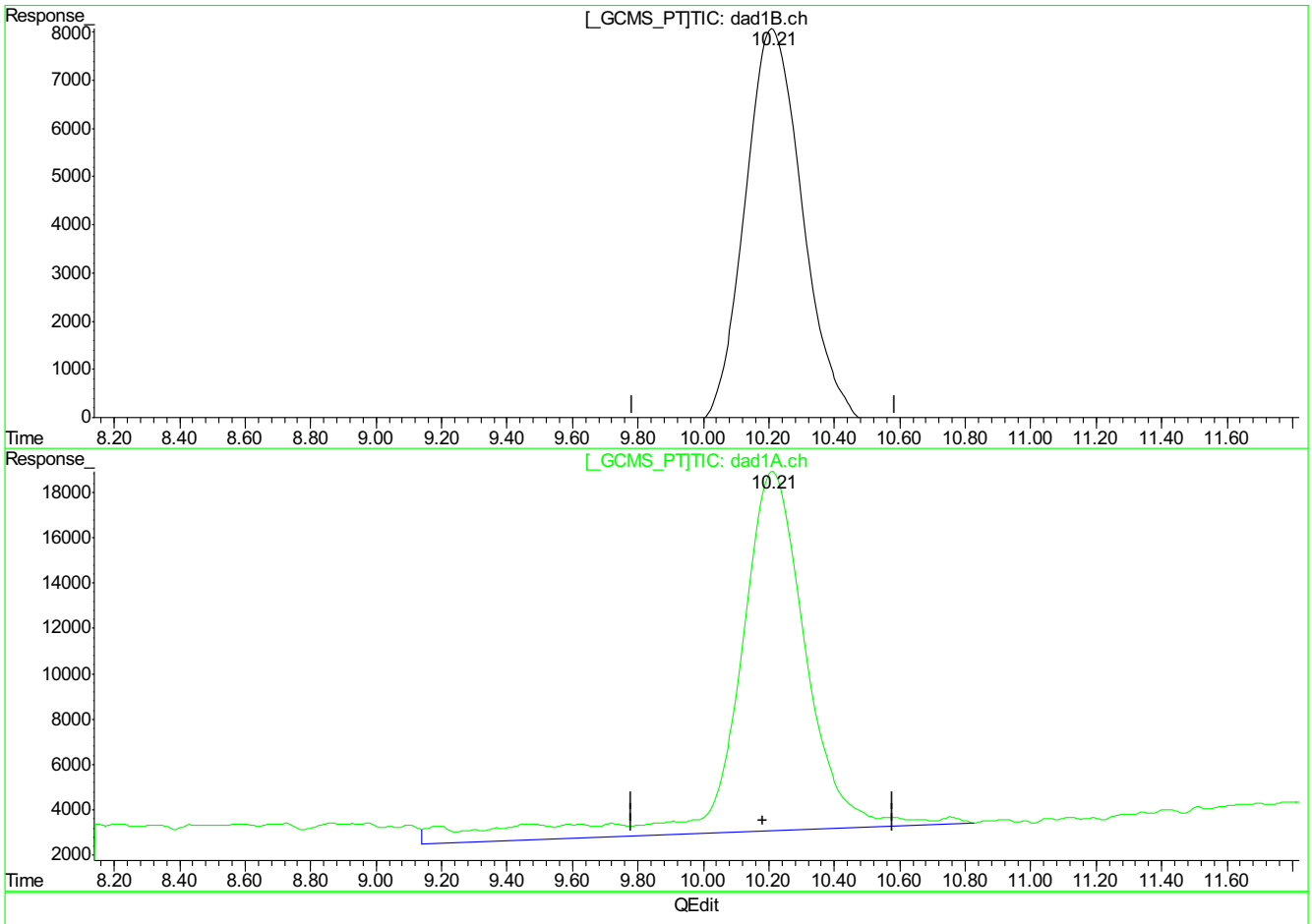
Sample Number: OP64666-MB
Lab FileID: BB054285.D
Injection Time: 04/20/17 10:36
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	10.21	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.21min 467.685ppb

response 1073840

(15) 3,4-Dinitrotoluene #2 (S)

10.21min 550.485ppb

response 2357308

(+) = Expected Retention Time
BB054285.D 8330B_0419PLUS.M Fri Apr 21 09:18:10 2017

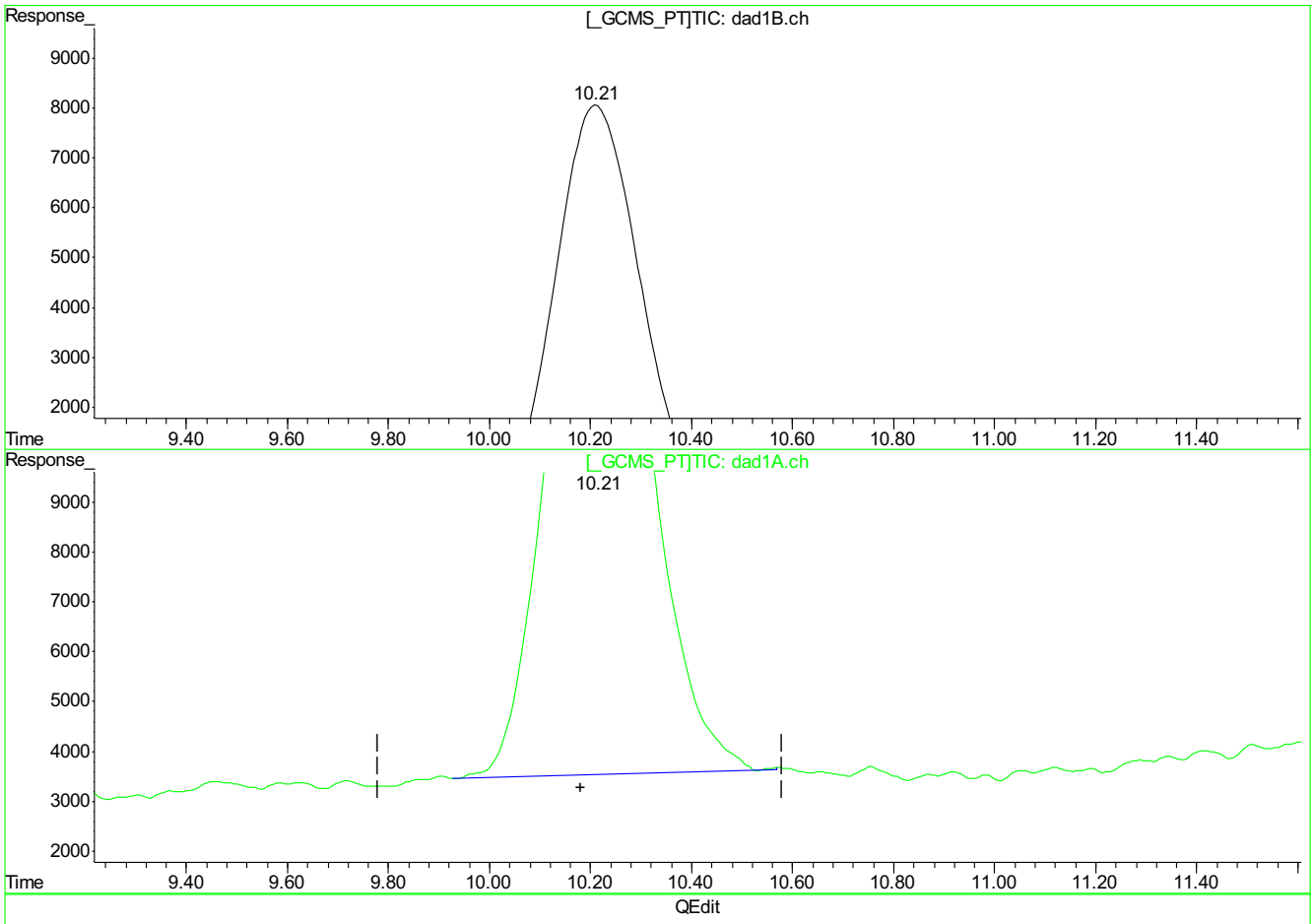
9.2.1.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054285.D\dad1A.ch
Acq On : 20-Apr-2017, 10:36:28 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.21min 467.685ppb

response 1073840

(15) 3,4-Dinitrotoluene #2 (S)

10.21min 441.120ppb m

response 1888979

(+) = Expected Retention Time
BB054285.D 8330B_0419PLUS.M Fri Apr 21 09:18:14 2017

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381830.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0424_RPB\PP381830.D\dad1A.ch
Acq On : 24-Apr-2017, 17:20:19 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:28 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.26	15.26	2508008	4909362	453.745	485.654
	Spiked Amount 500.000	Range 70 - 136		Recovery =		90.75%	97.13%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

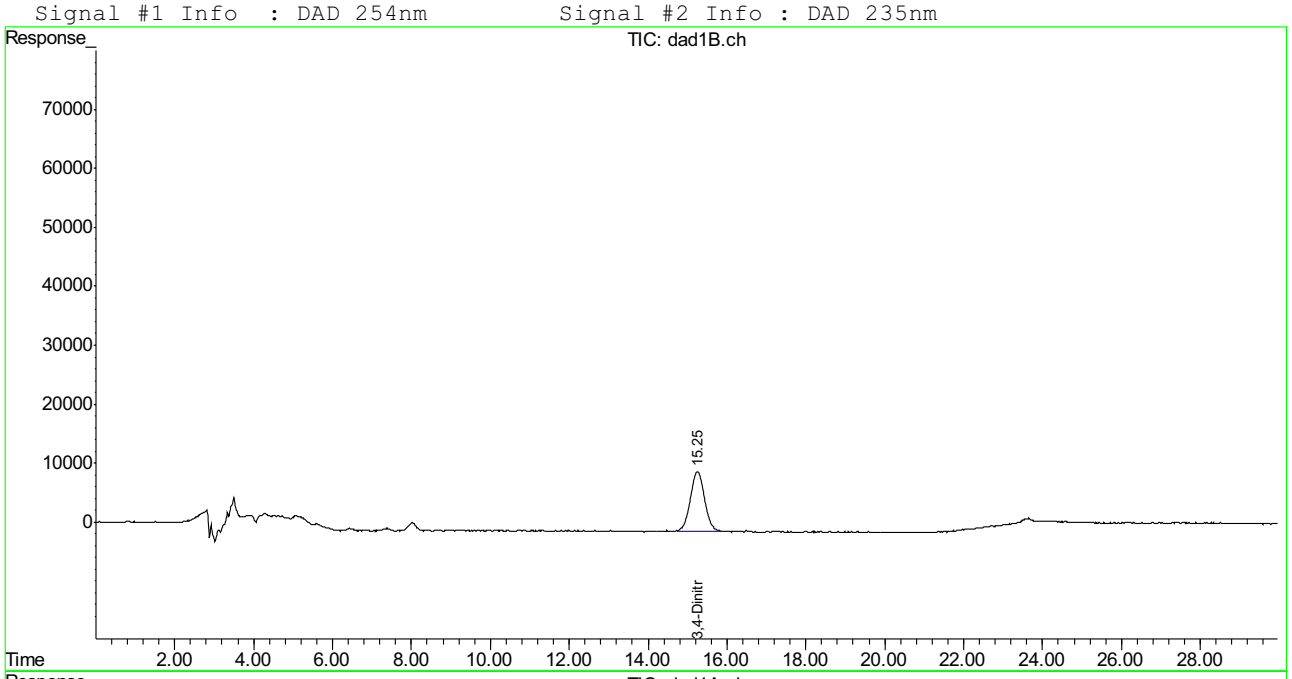
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381830.D 0424_8330RPB.M Tue Apr 25 14:36:44 2017 Page 1

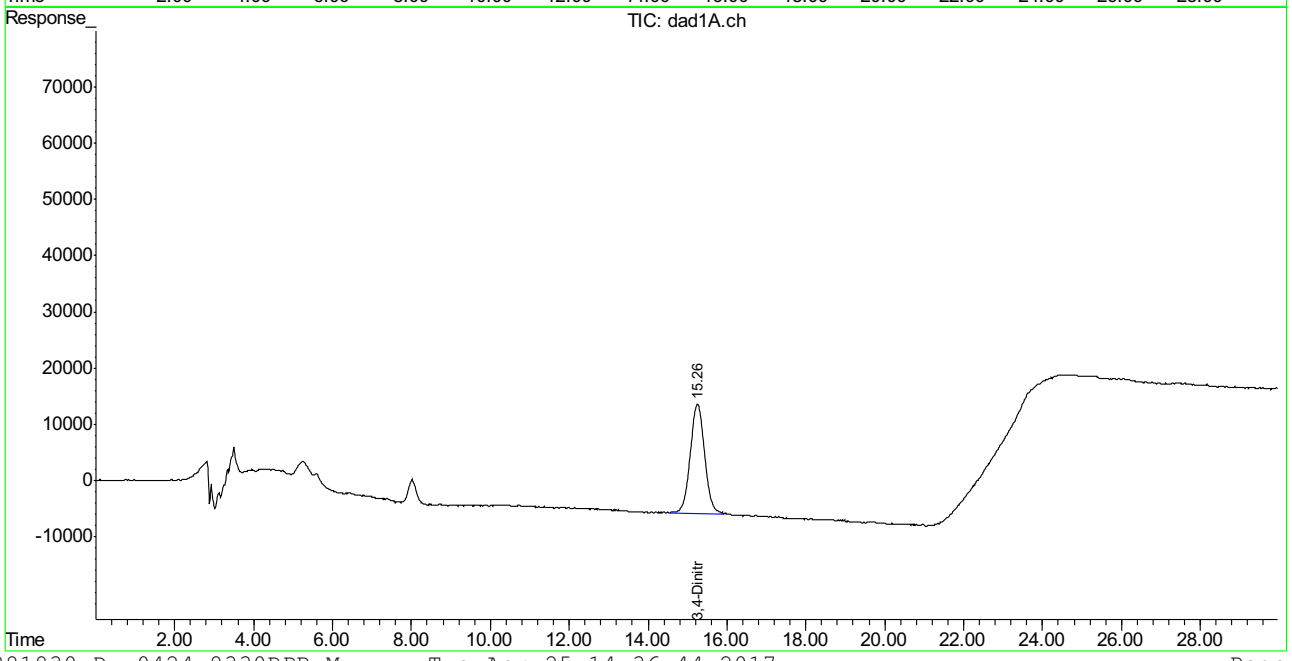
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381830.D\dad1B.ch Vial: 11
Signal #2 : P:\DATA\0424_RPB\PP381830.D\dad1A.ch
Acq On : 24-Apr-2017, 17:20:19 Operator: evitam
Sample : op64666-mb Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:10 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:40 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.21	10.21	1073277	1910585	467.440	446.165
	Spiked Amount 500.000	Range 70 - 136		Recovery =		93.49%	89.23%
	Target Compounds						
1)	TNX	1.35	1.35	729359	1155832	241.962	238.602
2)	HMX	1.46	1.46	764499	2121023	437.691	441.734
3)	DNX	1.71	1.71	1029397	1666939	330.640	352.689
4)	MNX	2.25	2.25	1009978	1544722	407.186	402.025
5)	RDX	2.83	2.83	853890	1341732	452.130	408.282
6)	1,3,5-Trinitrobe	4.43	4.43	1870827	3610928	433.080	444.199
7)	1,3-Dinitrobenze	5.67	5.67	2326207	1608645	422.919	416.690
8)	3,5-Dinitroanili	6.01	6.01	1880646	3211190	503.412	480.707
9)	Nitrobenzene	7.26	7.26	1411072	1318475	403.421	412.253m
10)	Nitroglycerin	0.00	8.49	0	2982879	N.D. d	2308.003m
11)	Tetryl	8.63	8.62	968037	1002783	364.935	250.221m
12)	2,4,6-Trinitroto	9.04	9.04	1264935	1635932	305.746	351.360
13)	2-Amino-4,6-Dini	9.45	9.45	1545871	2345511	427.180	432.939
14)	4-Amino-2,6-Dini	9.92	9.91	1093482	2190716	422.133	412.232
16)	2,4-Dinitrotolue	10.82	10.82	2173922	1358489	428.149	403.534
17)	2,6-Dinitrotolue	11.31	11.32	1291972	1517618	414.066	432.175
18)	o-Nitrotoluene	14.55	14.55	1023495	1417488	441.381	436.681
19)	p-Nitrotoluene	15.07	15.08	1559309	1350160	443.811	454.771
20)	m-Nitrotoluene	16.04	16.04	1471117	1581003	408.428	450.026m
21)	PETN	0.00	18.01	0	3327745	N.D. d	4678.906m

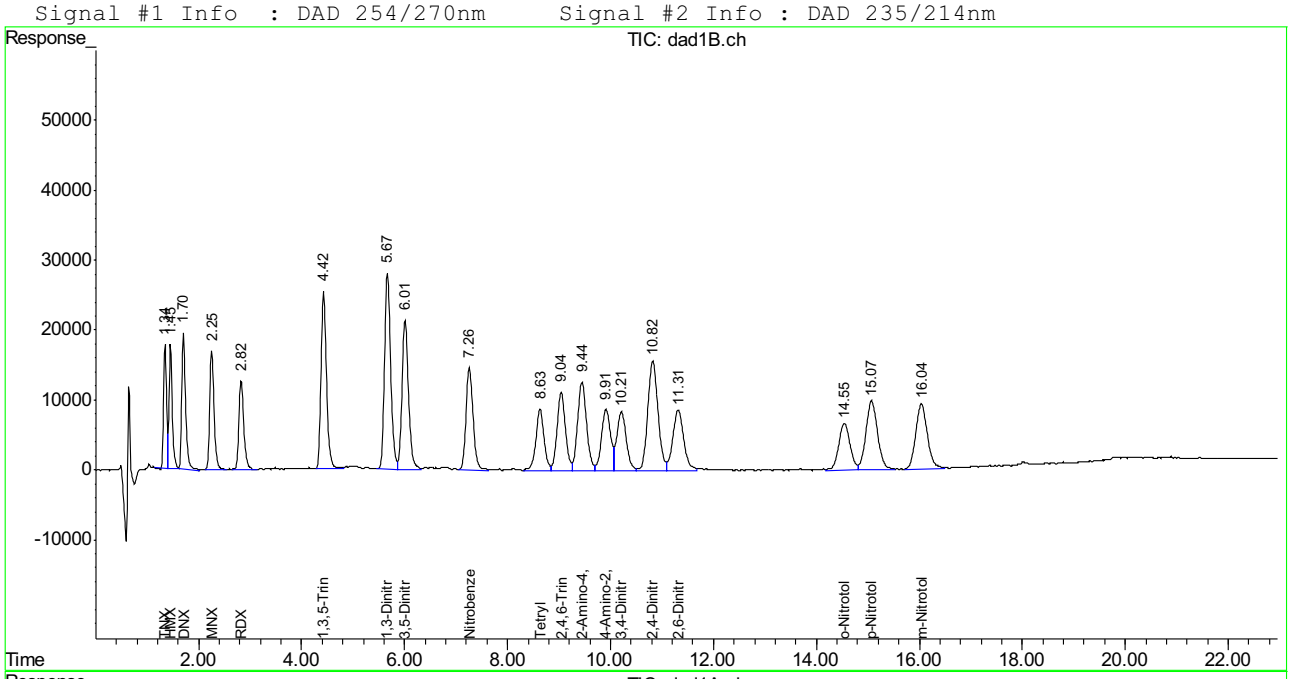
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054284.D 8330B_0419PLUS.M Fri Apr 21 10:12:19 2017 Page 1

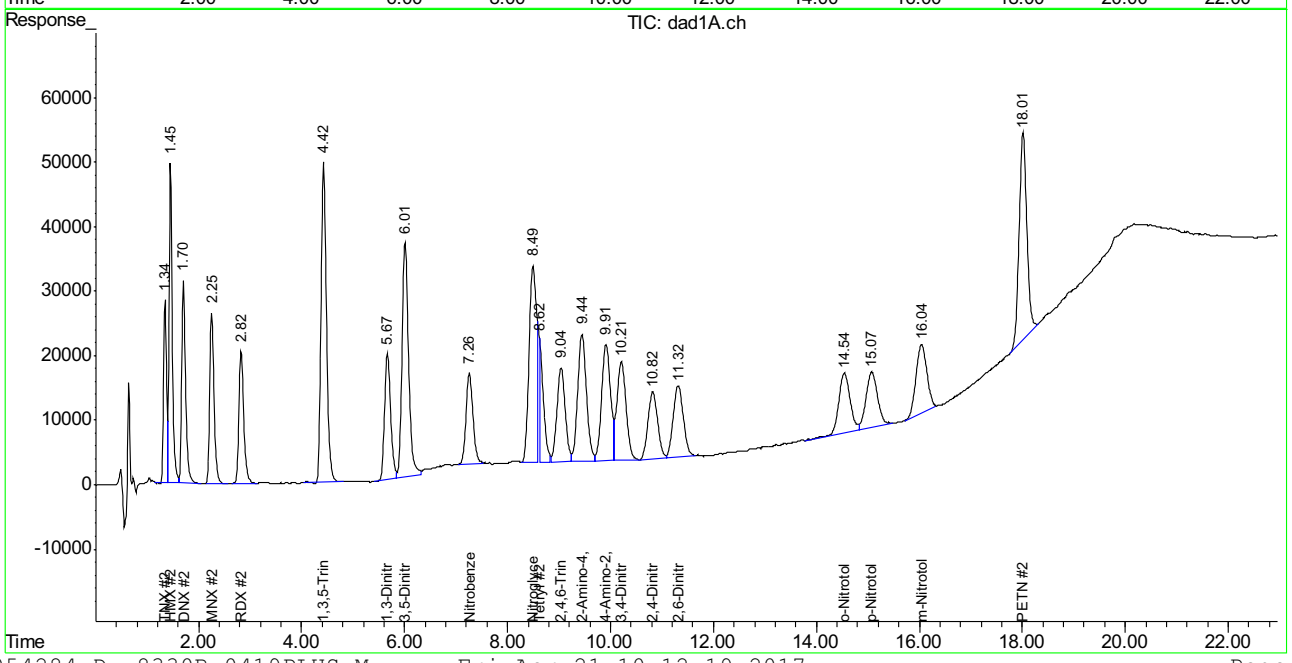
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:17 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

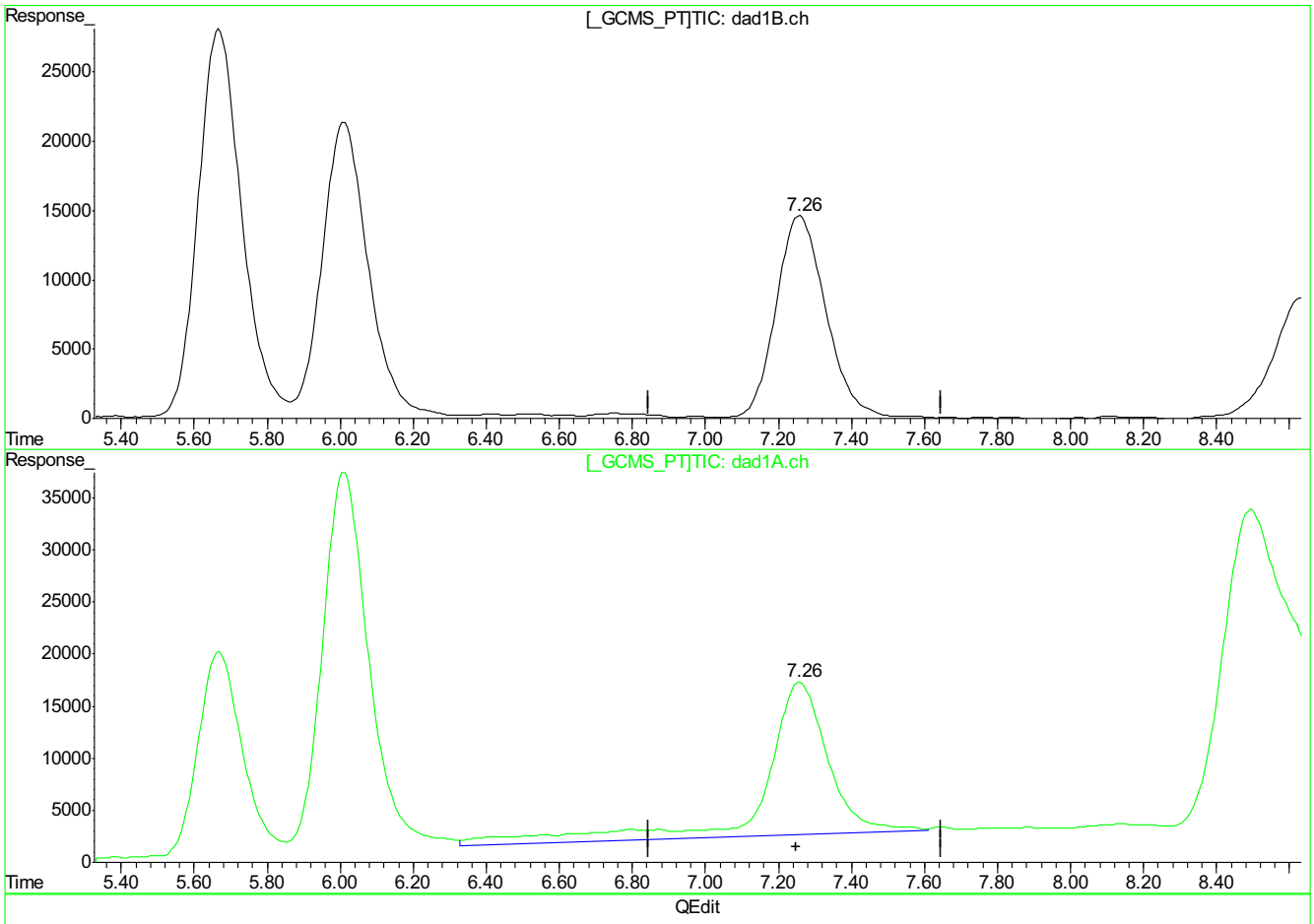
Sample Number: OP64666-BS
Lab FileID: BB054284.D
Injection Time: 04/20/17 10:06
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.26	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.49	Poorly defined baseline
Tetryl	479-45-8	2	8.62	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.04	Poorly defined baseline
PETN	78-11-5	2	18.01	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.26min 403.421ppb

response 1411072

(9) Nitrobenzene #2

7.26min 574.436ppb

response 1837174

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:16:47 2017

9.3.1.2

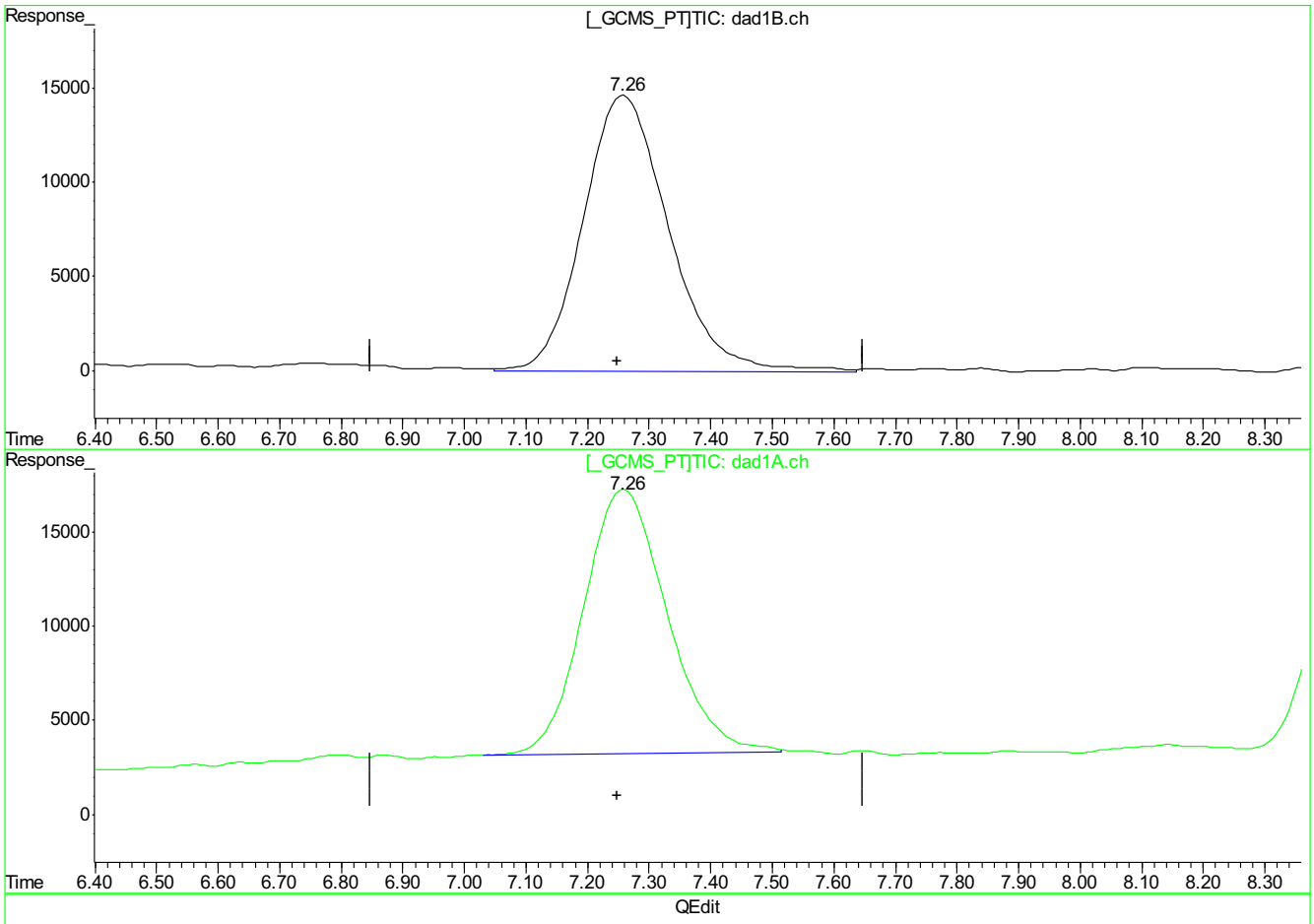
9

BB054284.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.26min 403.421ppb

response 1411072

(9) Nitrobenzene #2

7.26min 412.253ppb m

response 1318475

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:16:53 2017

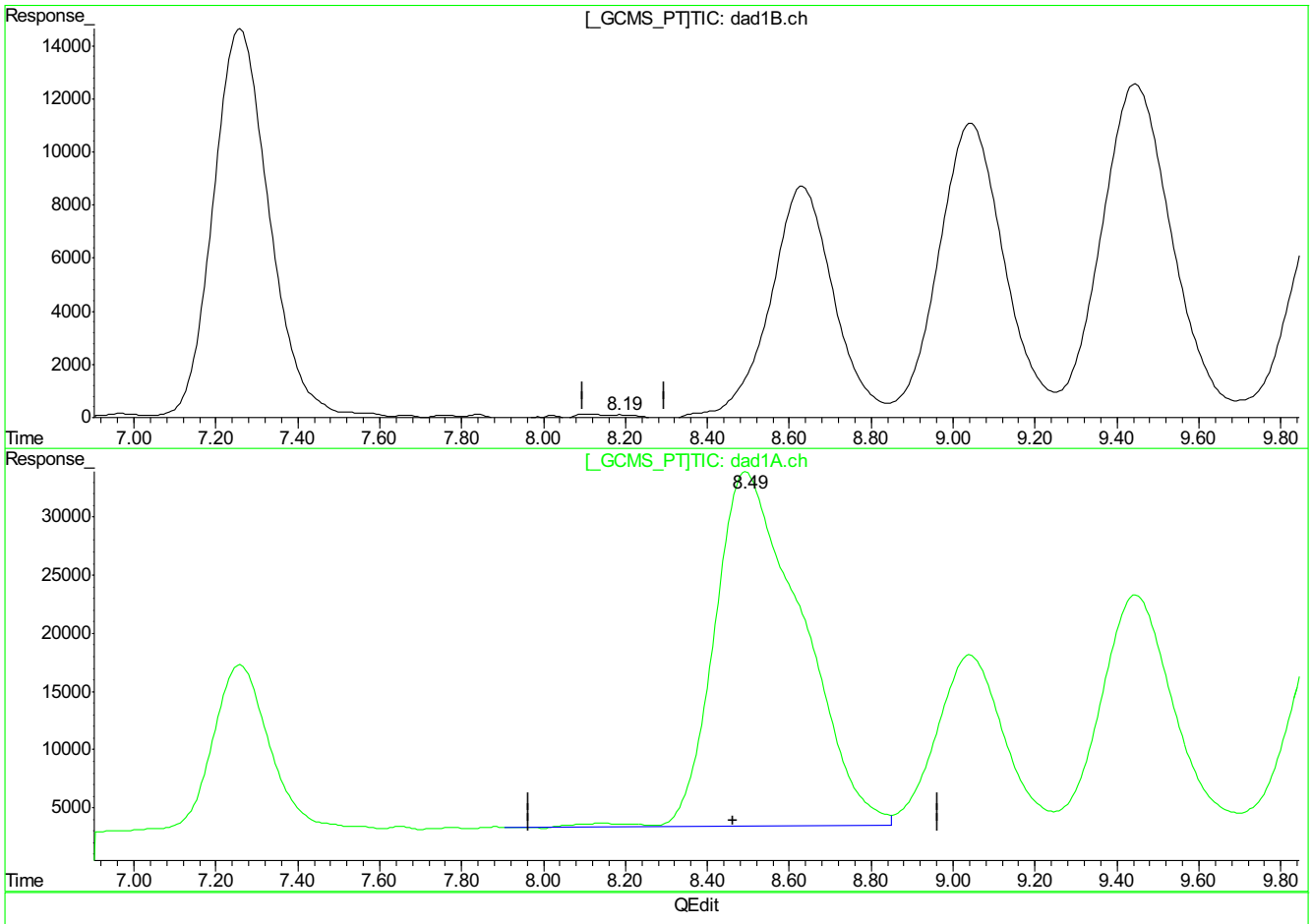
9.3.1.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.19min 0.000ppb

response 10820

(10) Nitroglycerin #2

8.50min 3477.417ppb

response 4494238

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:01 2017

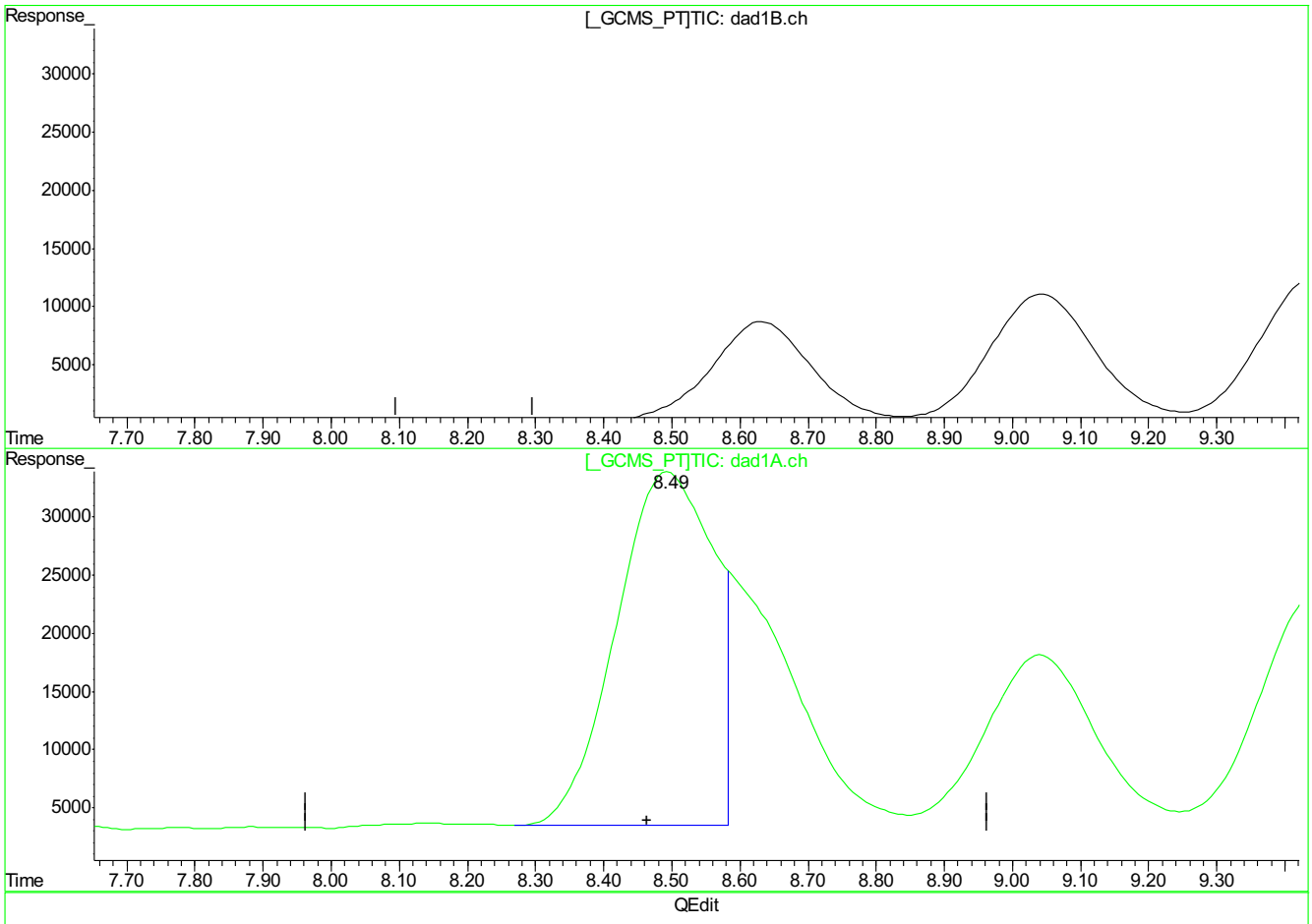
9.3.1.4 9

BB054284.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.19min 0.000ppb

response 10820

(10) Nitroglycerin #2

8.49min 2308.003ppb m

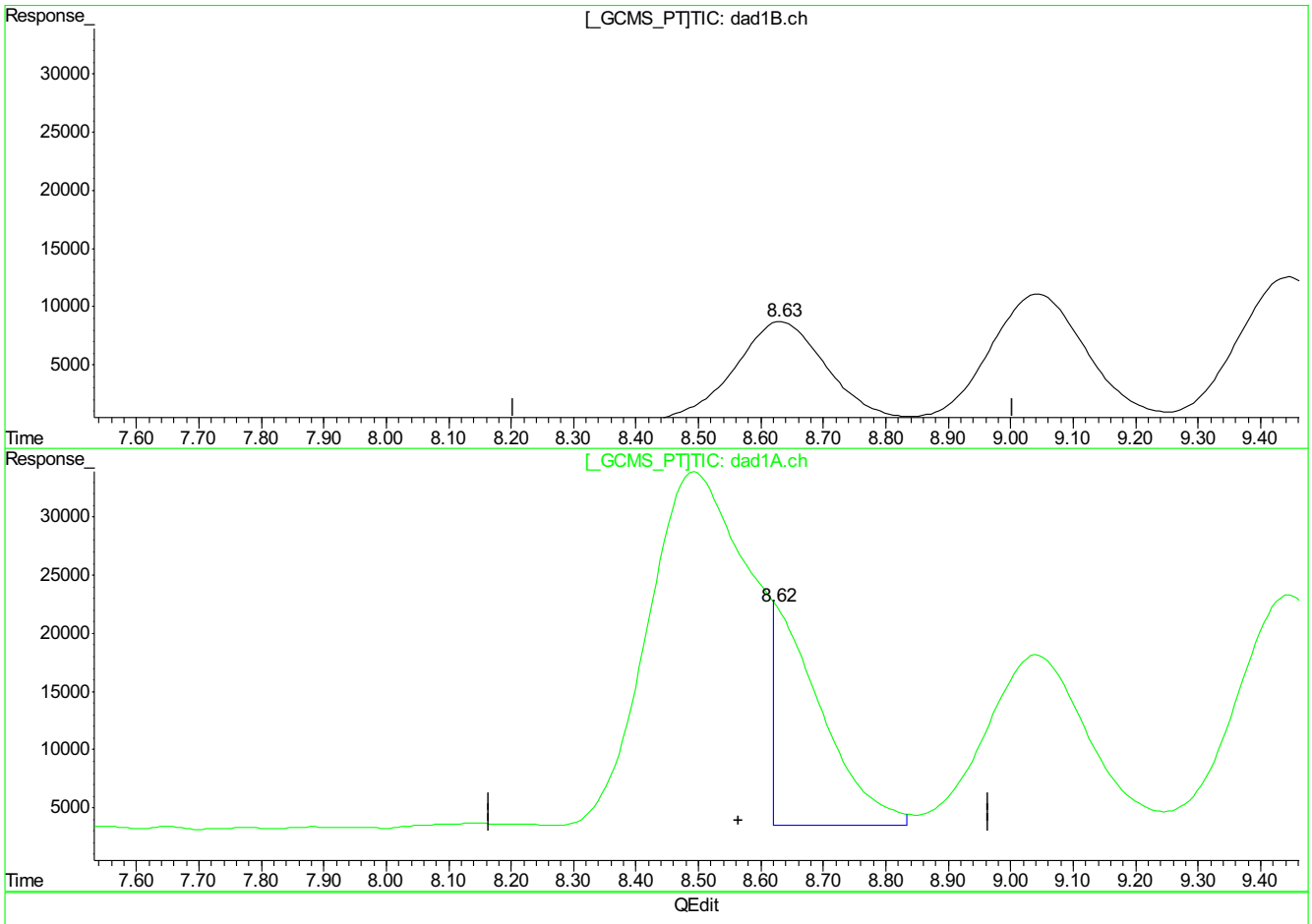
response 2982879

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 364.935ppb

response 968037

(11) Tetryl #2

8.62min 250.221ppb m

response 1002783

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:34 2017

9.3.1.6

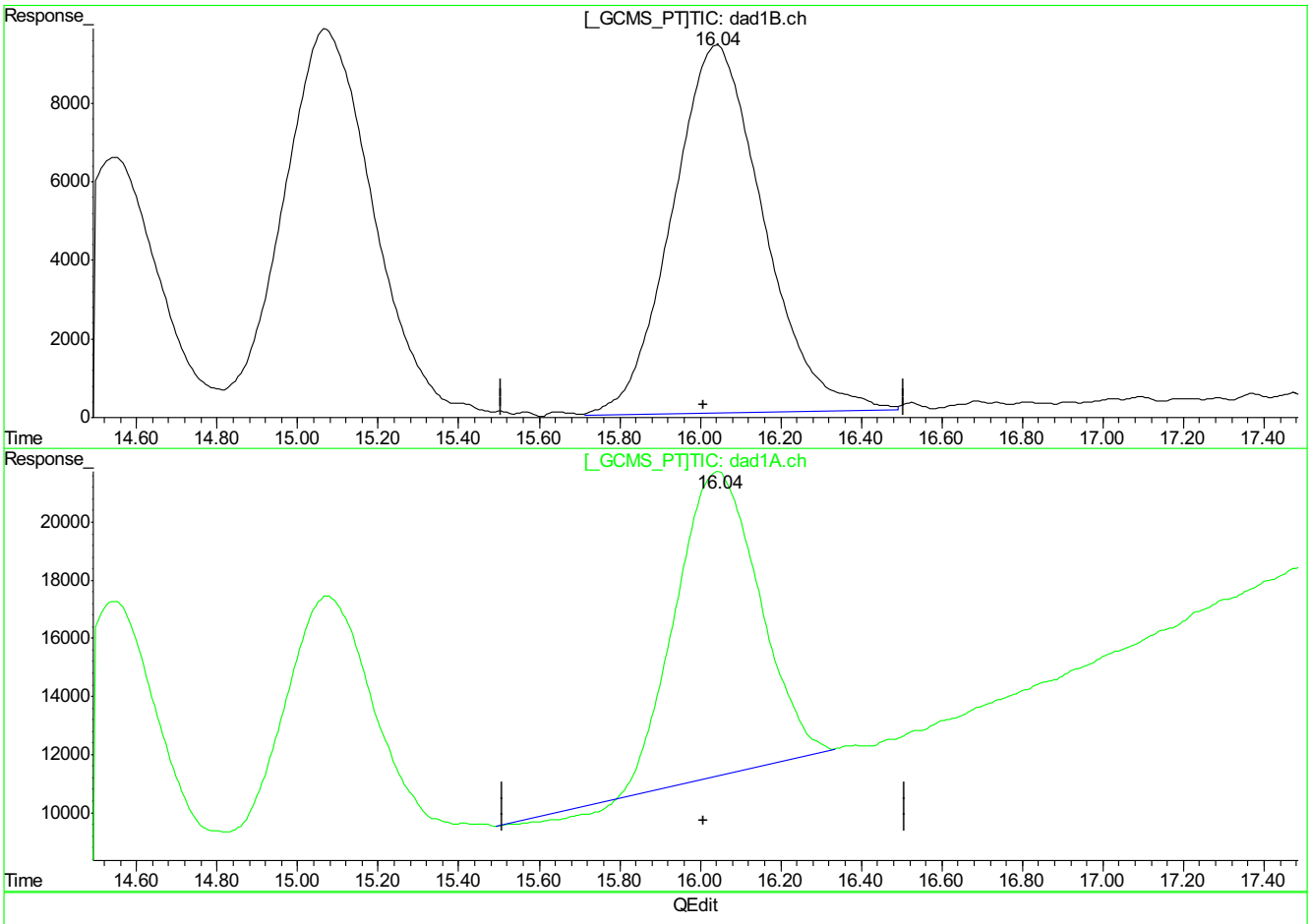
9

BB054284.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.04min 408.428ppb

response 1471117

(20) m-Nitrotoluene #2

16.04min 420.816ppb

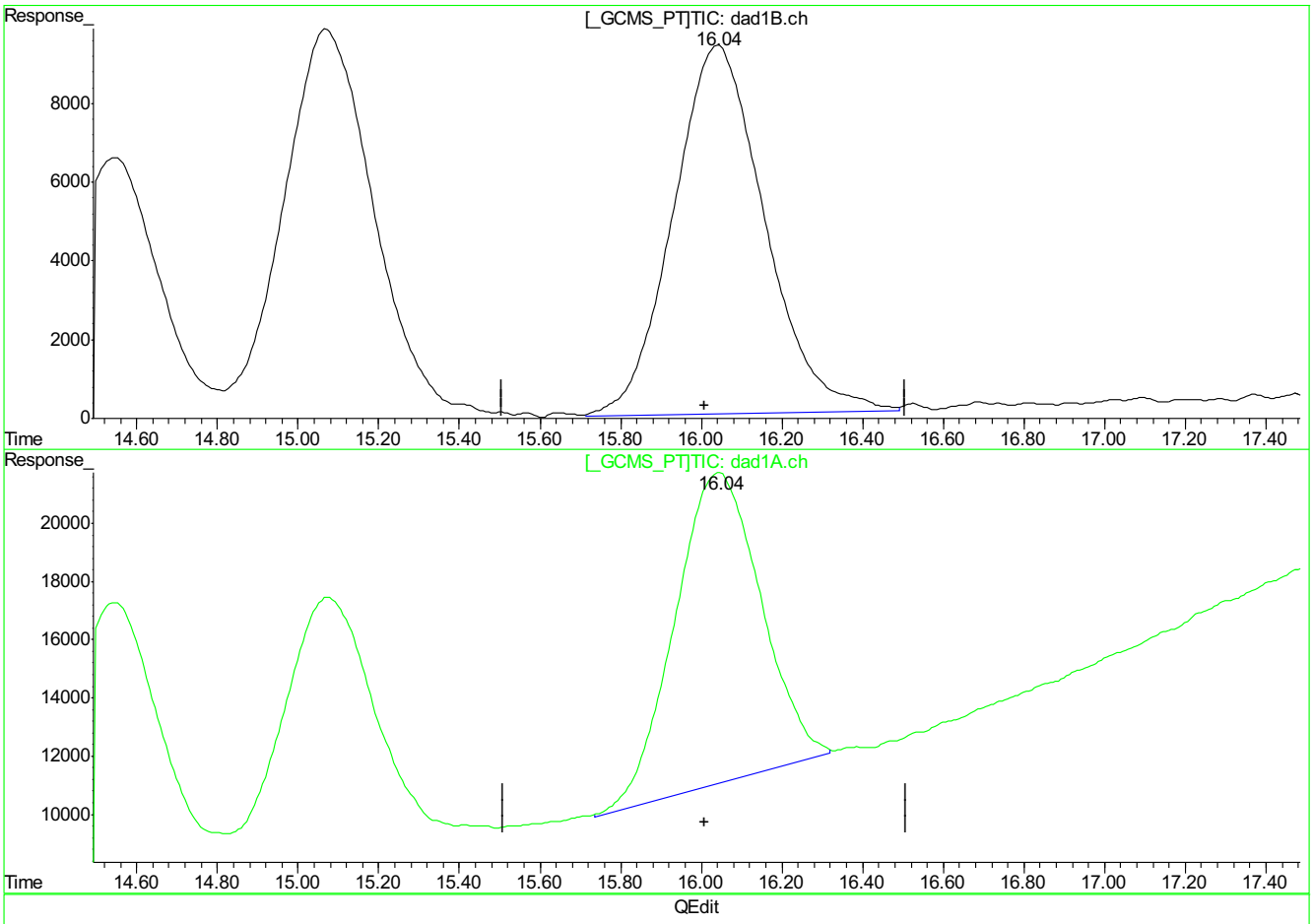
response 1478385

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:44 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.04min 408.428ppb

response 1471117

(20) m-Nitrotoluene #2

16.04min 450.026ppb m

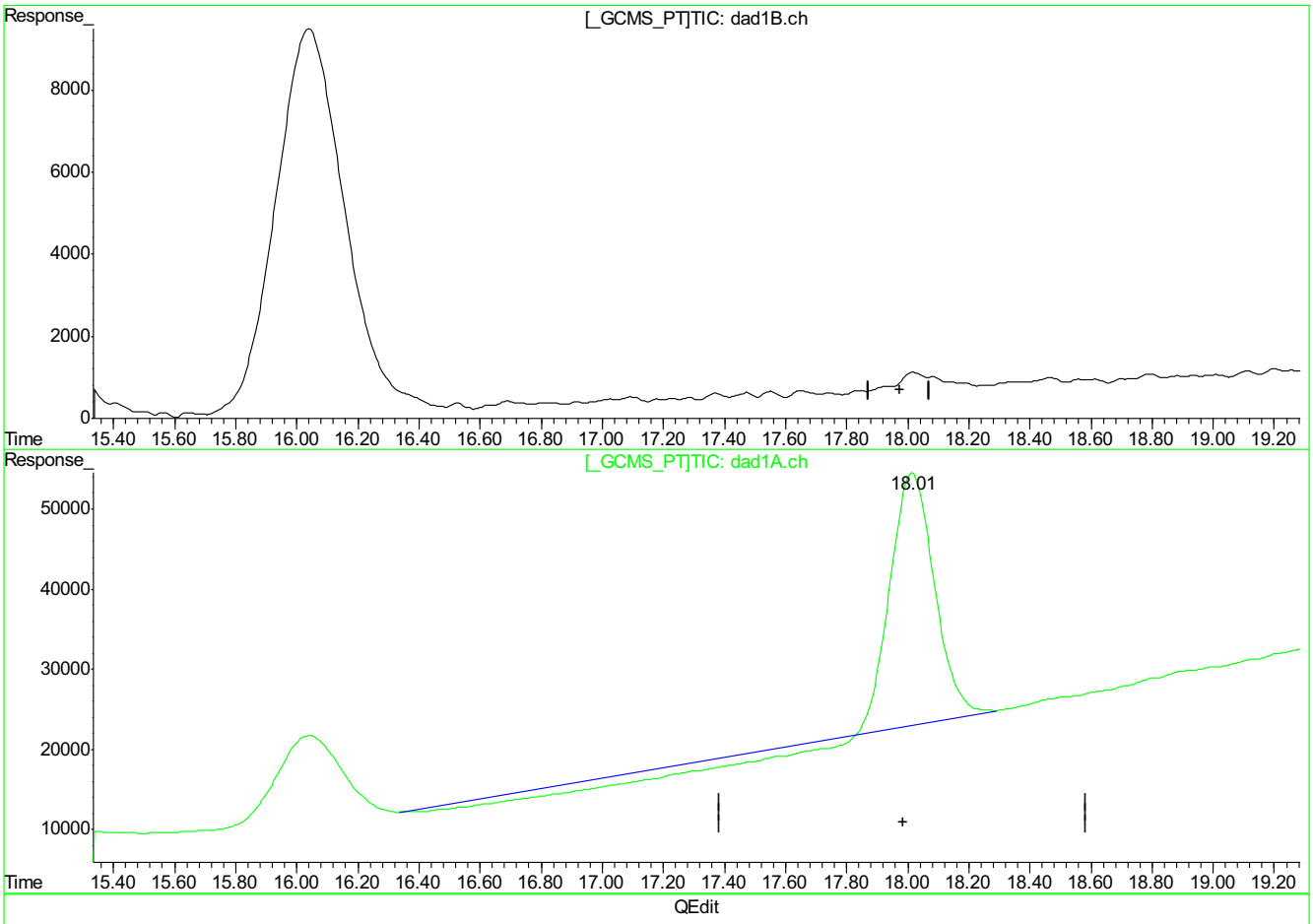
response 1581003

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:48 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.02min 3201.491ppb

response 2288292

(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:51 2017

9.3.1.9

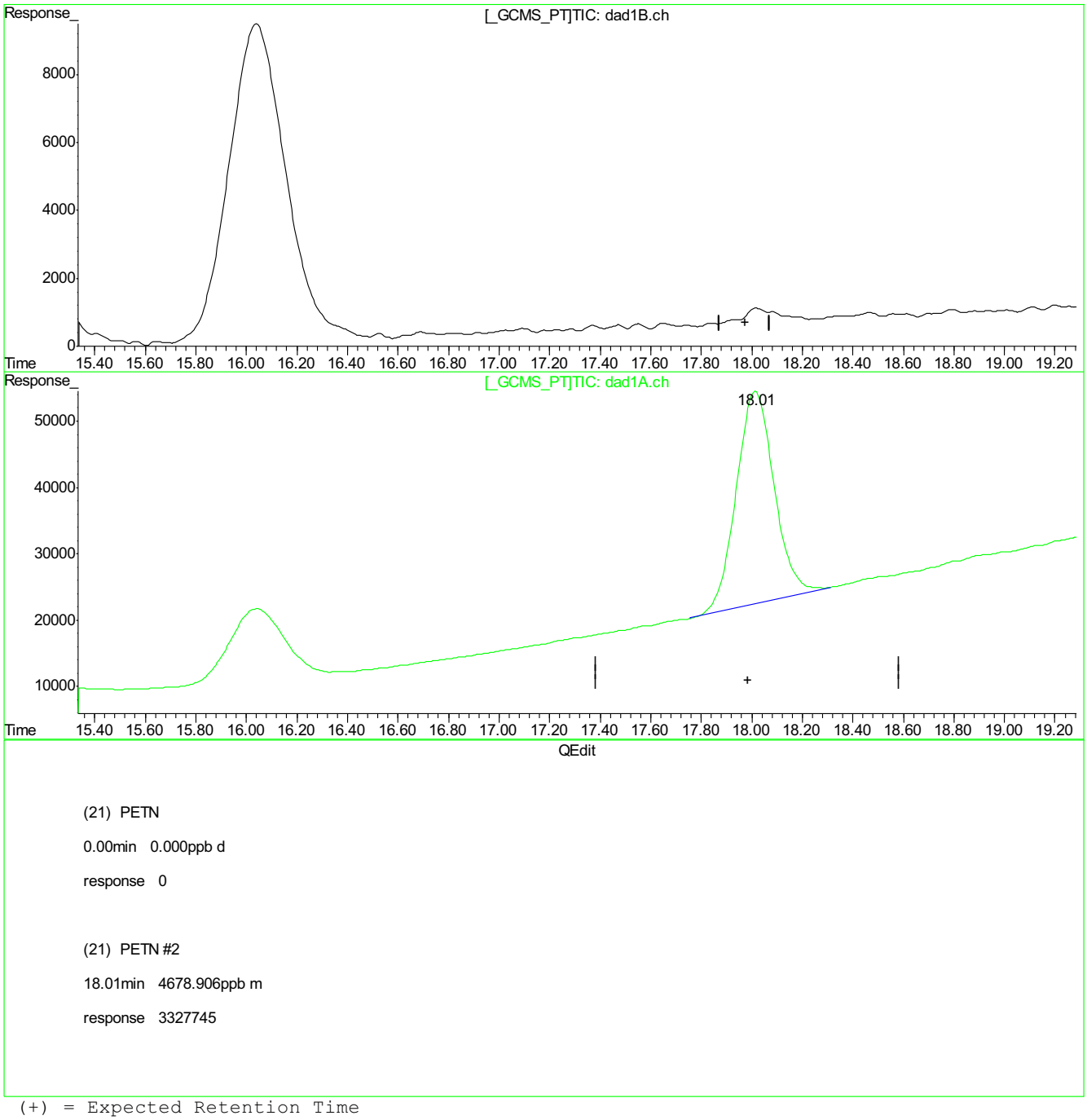
9

BB054284.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054284.D\dad1A.ch
Acq On : 20-Apr-2017, 10:06:26 Operator: evitam
Sample : op64666-bs Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054284.D 8330B_0419PLUS.M Fri Apr 21 09:17:54 2017

9.3.1.10
9

BB054284.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:46 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.24	10.24	1044646	1844863	454.971	430.818
Spiked Amount	500.000	Range	70 - 136	Recovery	=	90.99%	86.16%
	Target Compounds						
1)	TNX	1.35	1.35	1215593	1879725	403.267	388.037
2)	HMX	1.46	1.46	780460	2114411	446.830	440.357
3)	DNX	1.71	1.71	1179806	1860442	378.951	393.897
4)	MNX	2.26	2.26	1059229	1607281	427.043	418.306
5)	RDX	2.83	2.83	852169	1312296	451.215	399.324
6)	1,3,5-Trinitrobe	4.44	4.44	1815822	3553824	420.347	437.174
7)	1,3-Dinitrobenze	5.68	5.68	2252855	1567822	409.583	406.116
8)	3,5-Dinitroanili	6.02	6.02	1810394	3144728	484.688	470.758
9)	Nitrobenzene	7.28	7.27	1360727	1355525	389.028	423.837m
10)	Nitroglycerin	0.00	8.51	0	3292844	N.D. d	2547.839m
11)	Tetryl	8.65	8.64	971977	1002753	366.418	250.214m
12)	2,4,6-Trinitroto	9.07	9.07	1226675	1590903	296.498	341.710
13)	2-Amino-4,6-Dini	9.46	9.46	1513878	2280259	418.339	420.895
14)	4-Amino-2,6-Dini	9.93	9.93	1048426	2124396	404.740	399.753
16)	2,4-Dinitrotolue	10.85	10.85	2125339	1327547	418.581	394.343
17)	2,6-Dinitrotolue	11.35	11.35	1256377	1531867	402.658	436.233
18)	o-Nitrotoluene	14.58	14.59	998338	1403270	430.532	432.273
19)	p-Nitrotoluene	15.11	15.12	1515024	1311101	431.158	441.615
20)	m-Nitrotoluene	16.08	16.08	1423016	1534585	395.074	436.813m
21)	PETN	0.00	18.04	0	3174392	N.D. d	4460.003m

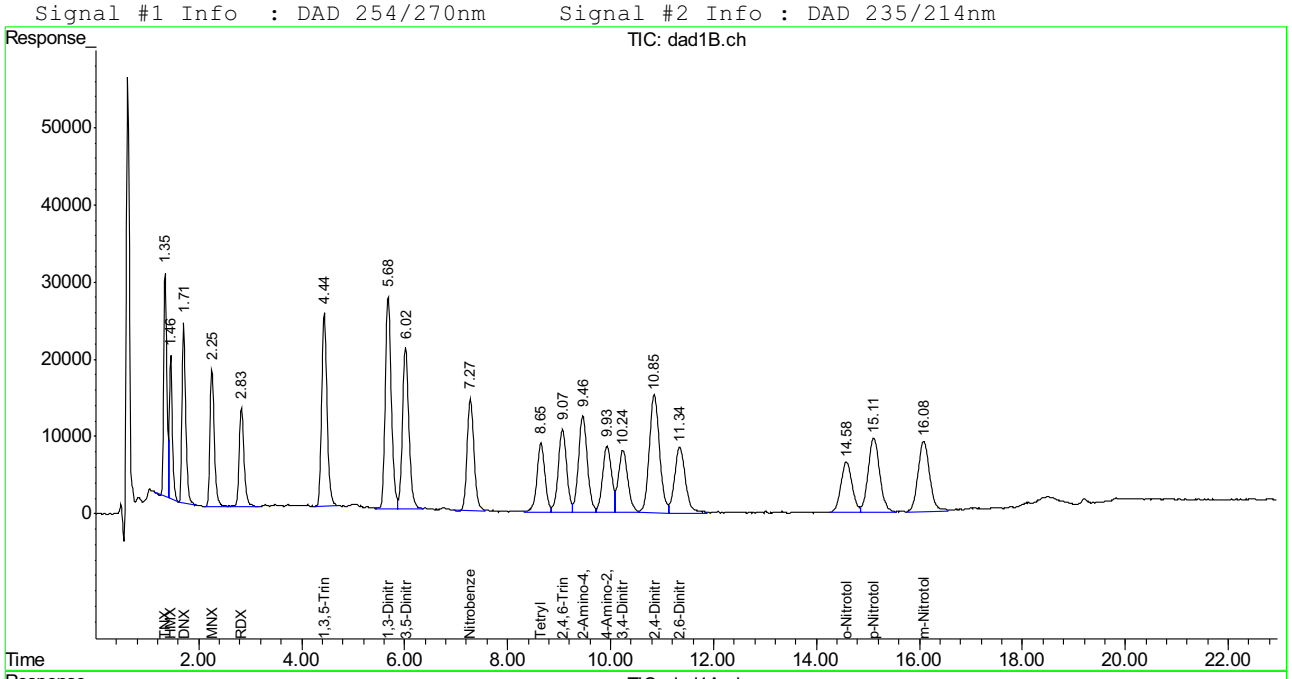
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054290.D 8330B_0419PLUS.M Fri Apr 21 10:12:25 2017 Page 1

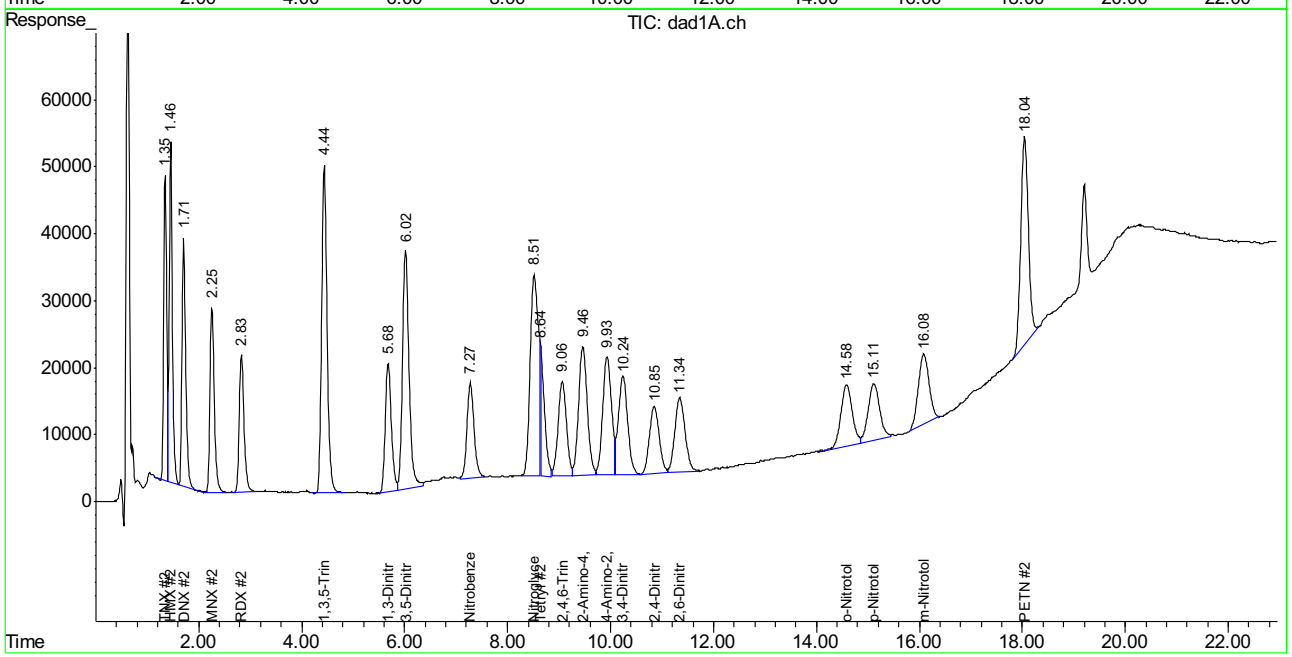
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:22 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

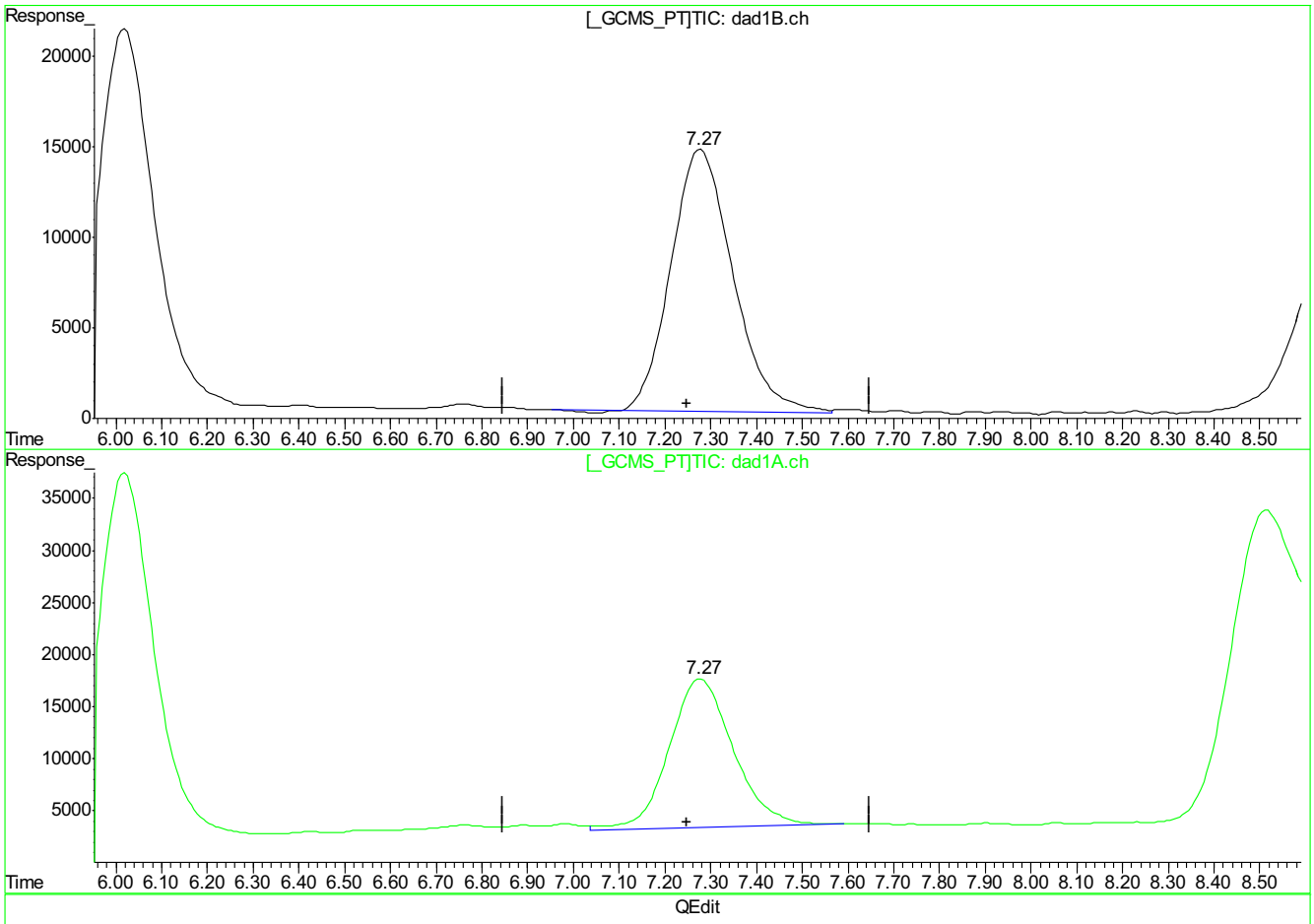
Sample Number: OP64666-MS
Lab FileID: BB054290.D
Injection Time: 04/20/17 13:06
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.27	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.51	Poorly defined baseline
Tetryl	479-45-8	2	8.64	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.08	Poorly defined baseline
PETN	78-11-5	2	18.04	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 389.028ppb

response 1360727

(9) Nitrobenzene #2

7.28min 438.771ppb

response 1403286

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:21:55 2017

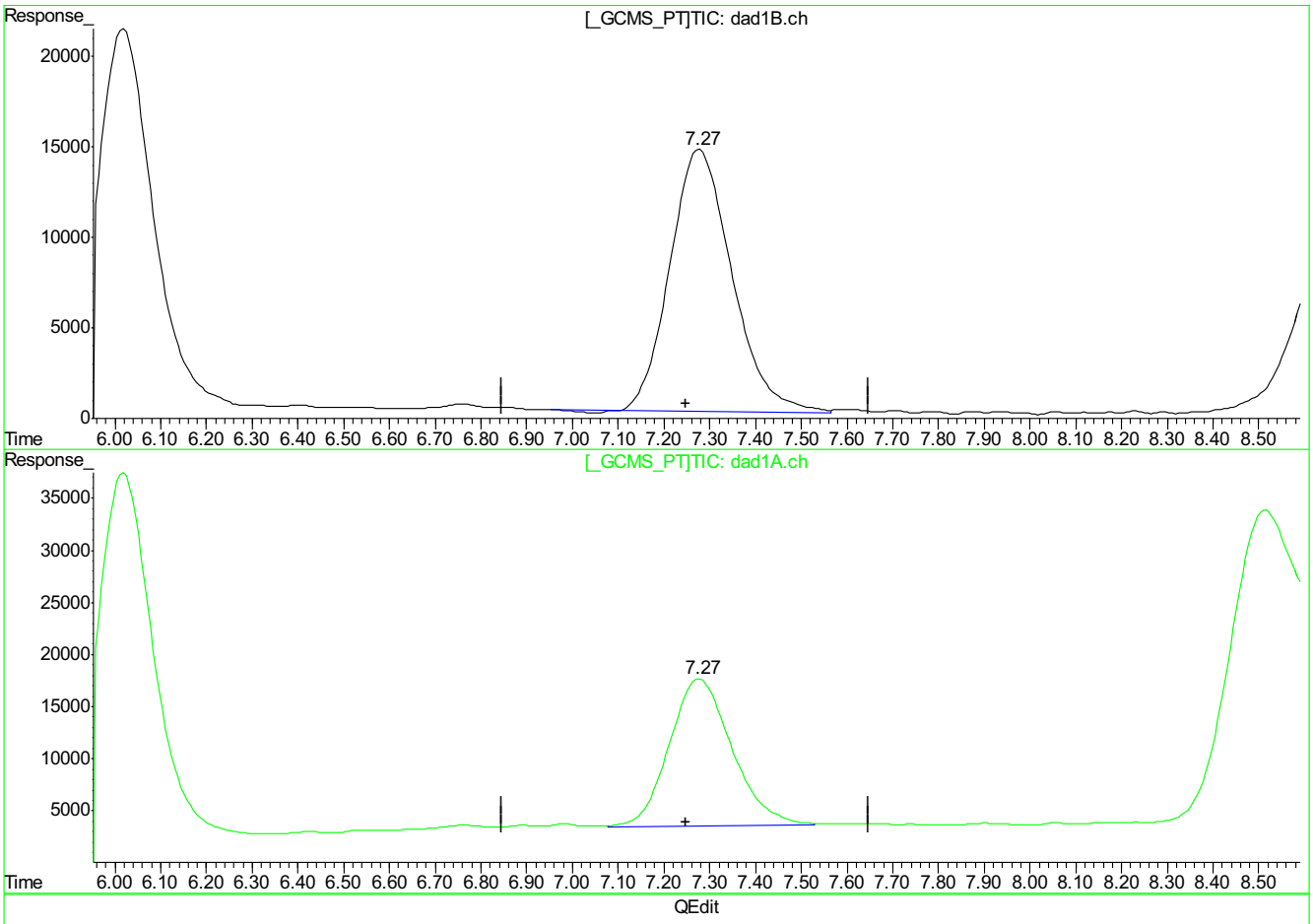
9.4.1.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 389.028ppb

response 1360727

(9) Nitrobenzene #2

7.27min 423.837ppb m

response 1355525

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:00 2017

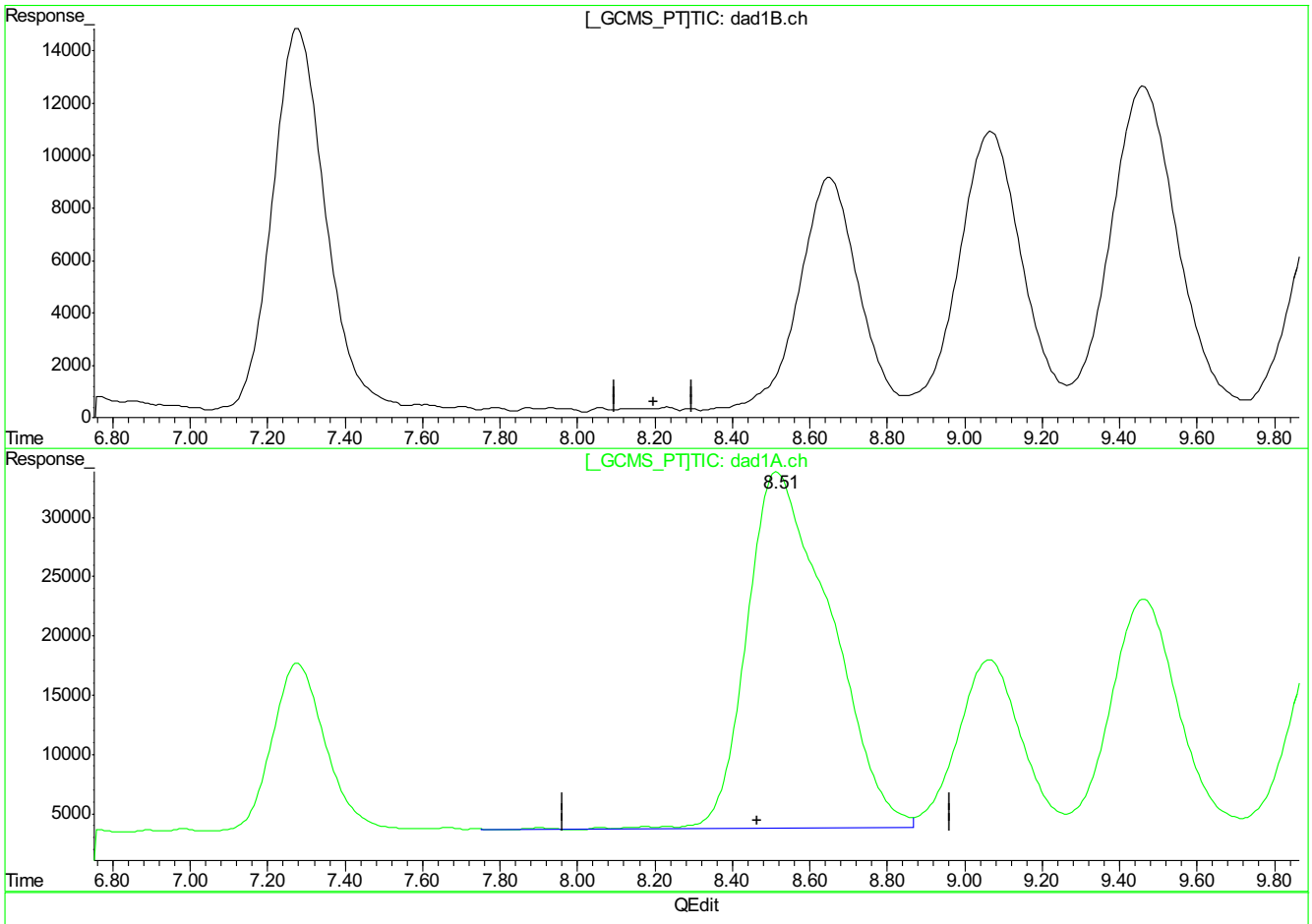
9.4.1.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.52min 3475.803ppb

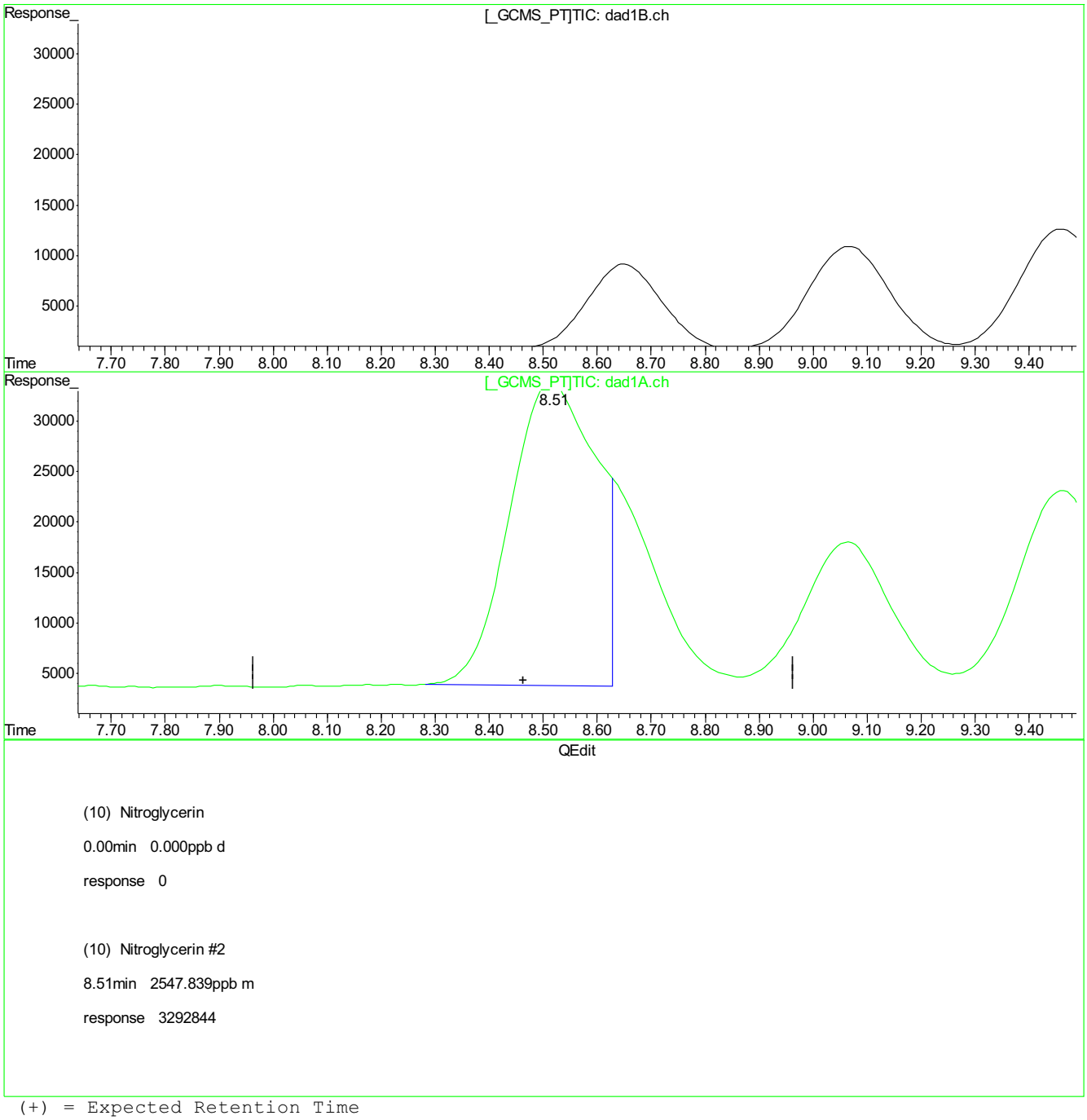
response 4492152

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:04 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

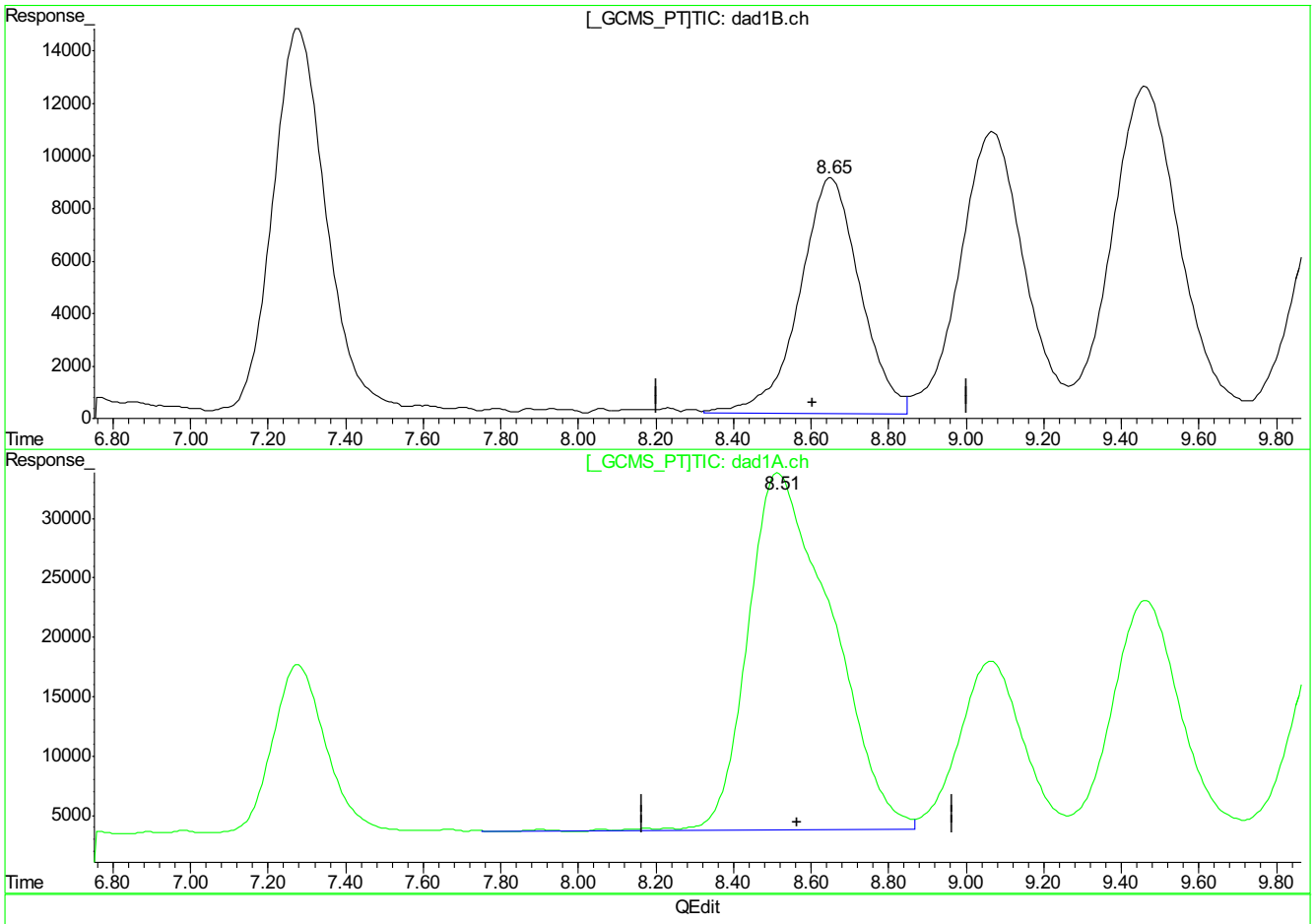


(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:19 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 366.418ppb

response 971977

(11) Tetryl #2

8.52min 1134.106ppb

response 4492152

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:23 2017

9.4.1.6

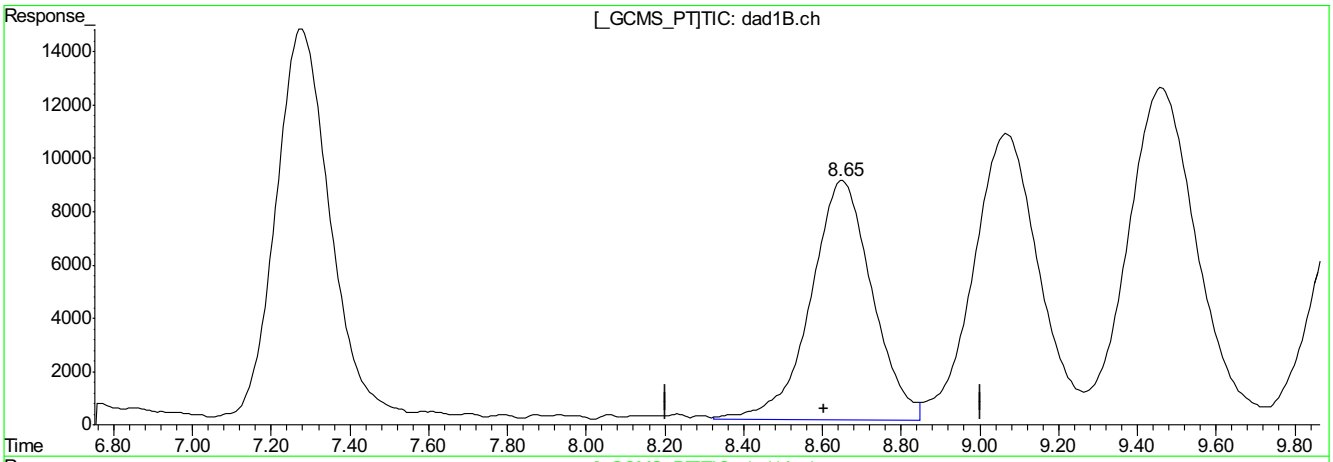
9

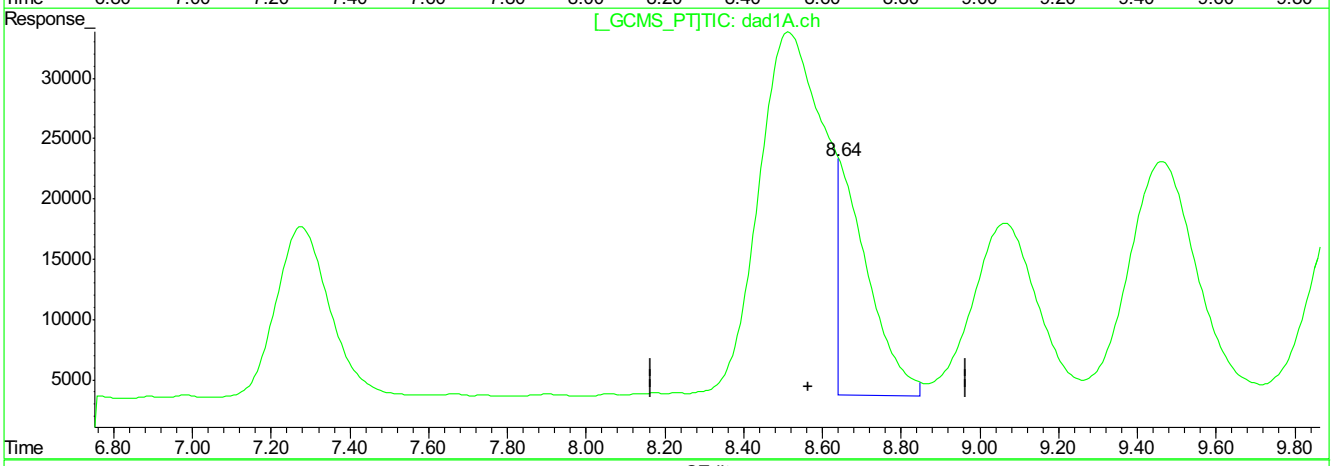
BB054290.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

8.65min 366.418ppb

response 971977

(11) Tetryl #2

8.64min 250.214ppb m

response 1002753

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:35 2017

9.4.1.7

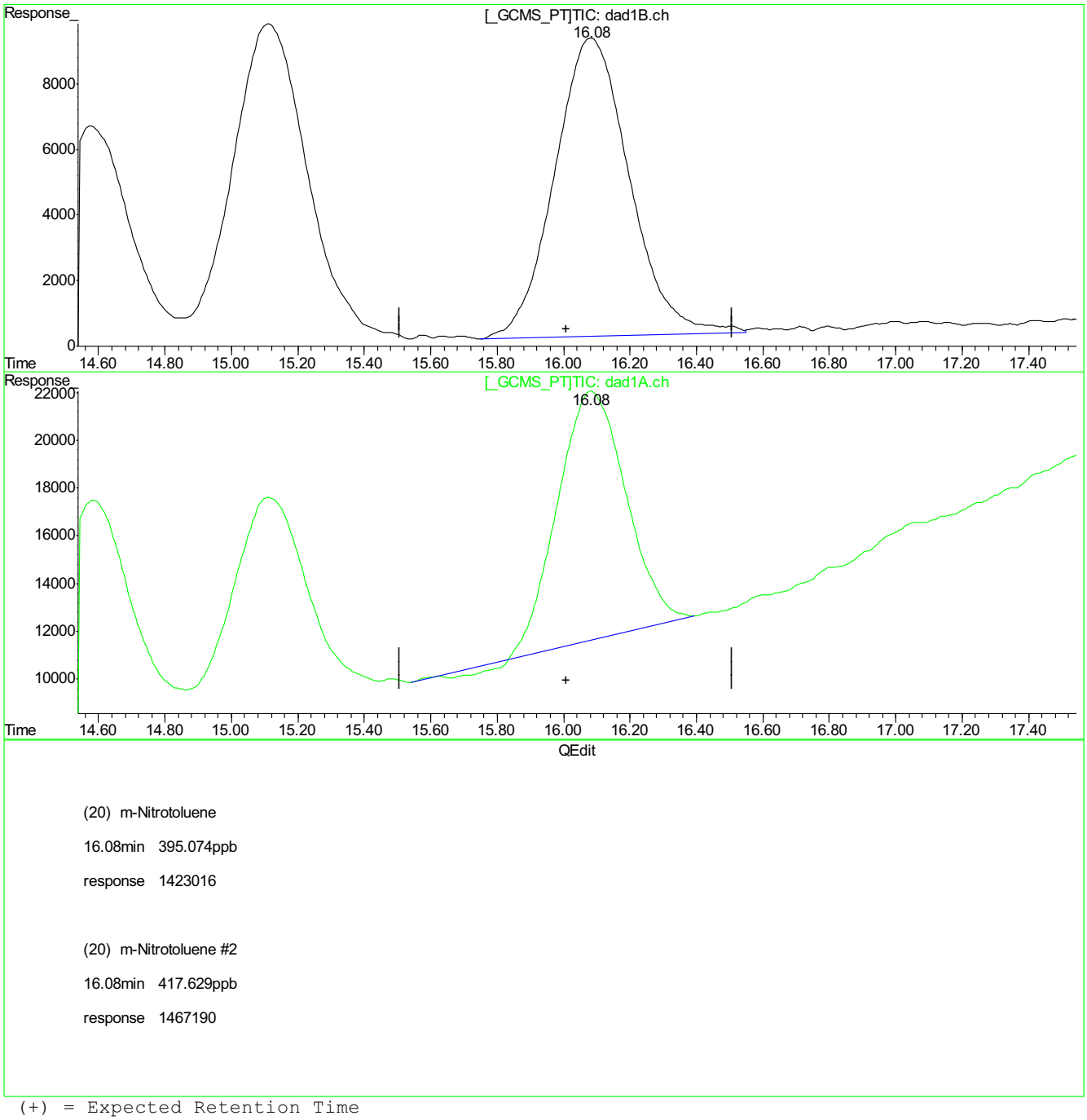
9

BB054290.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.08min 395.074ppb

response 1423016

(20) m-Nitrotoluene #2

16.08min 417.629ppb

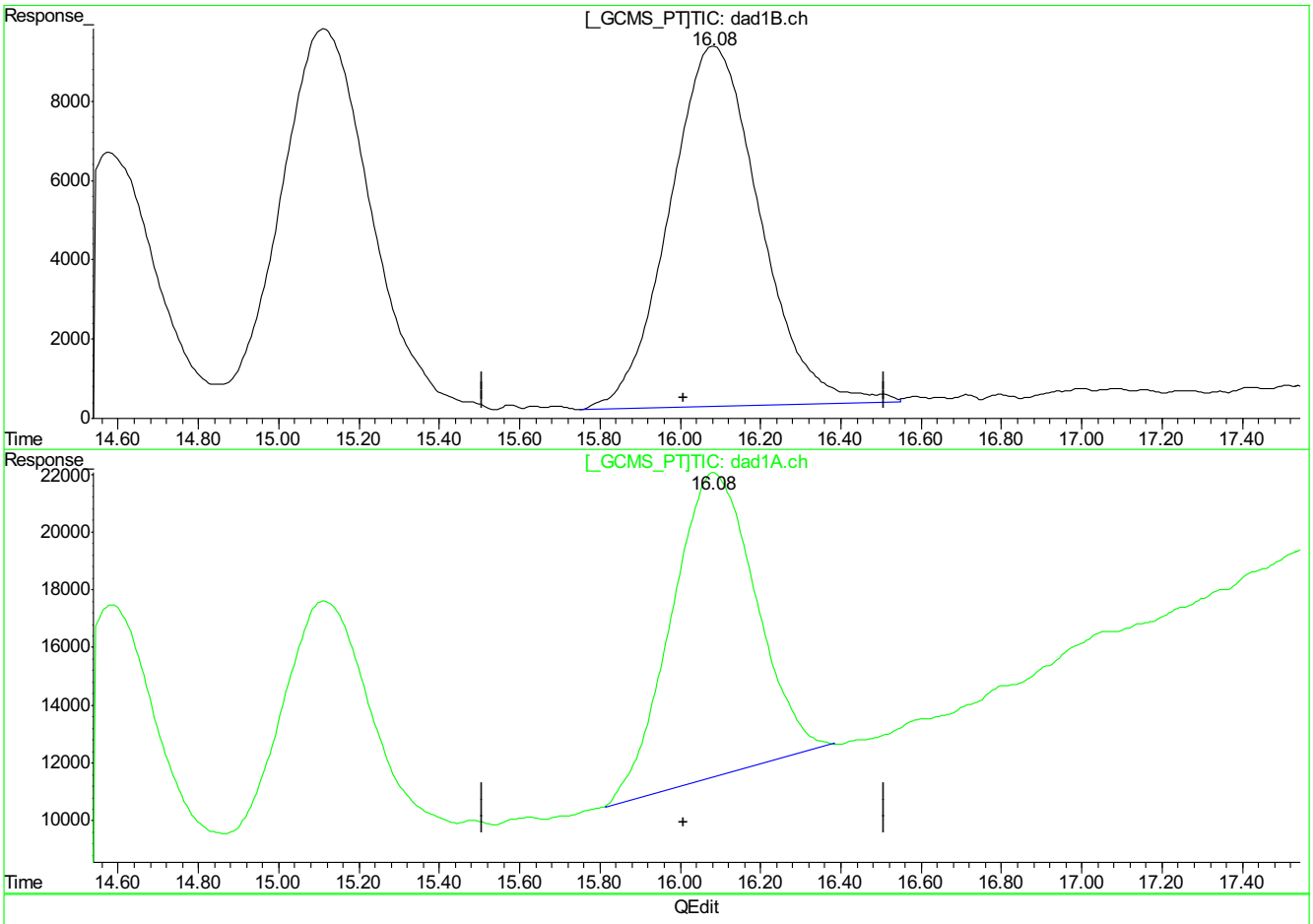
response 1467190

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:44 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.08min 395.074ppb

response 1423016

(20) m-Nitrotoluene #2

16.08min 436.813ppb m

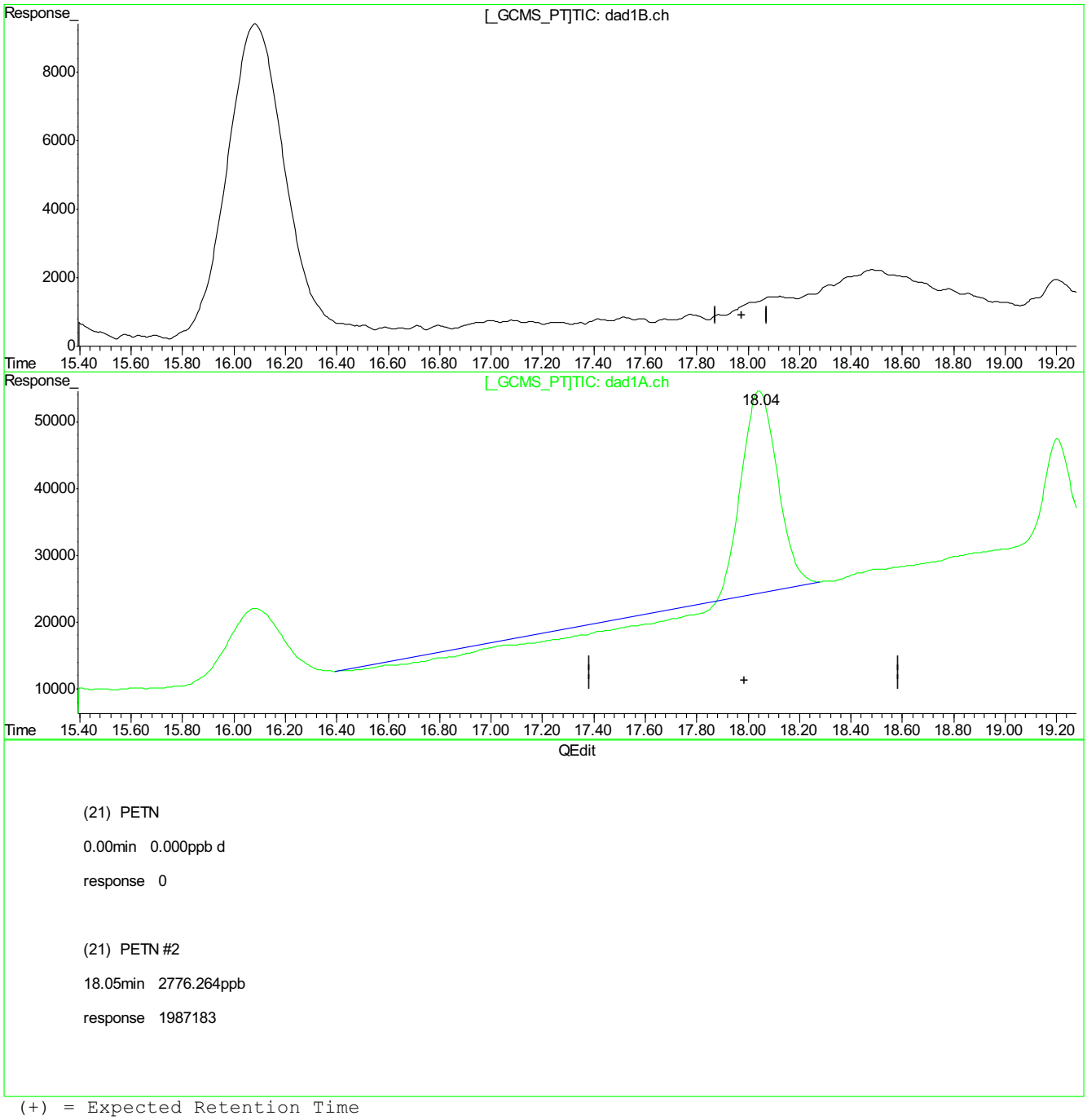
response 1534585

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:48 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.05min 2776.264ppb

response 1987183

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:50 2017

9.4.1.10

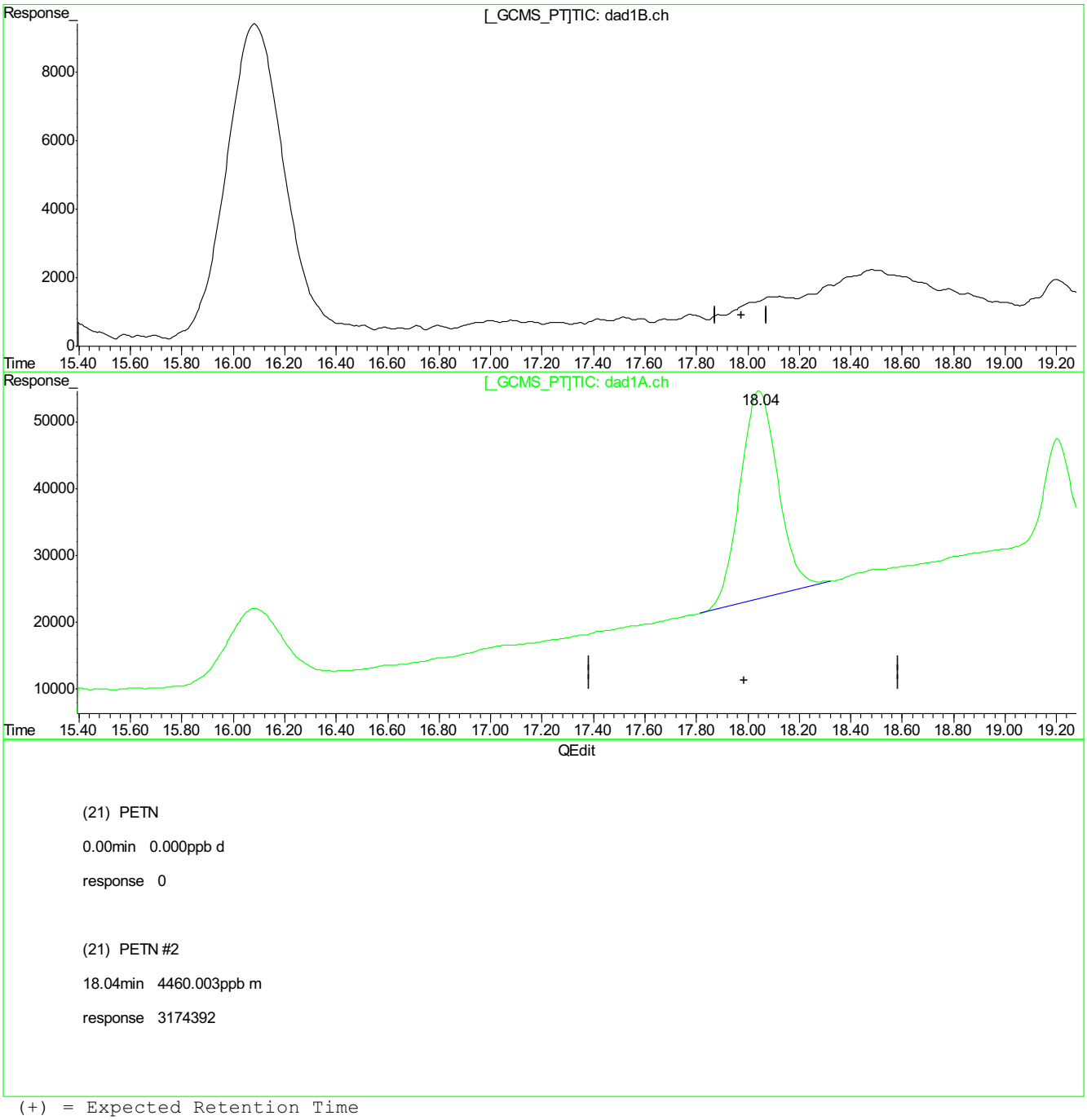
9

BB054290.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054290.D\dad1A.ch
Acq On : 20-Apr-2017, 13:06:20 Operator: evitam
Sample : op64666-ms Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.04min 4460.003ppb m

response 3174392

(+) = Expected Retention Time
BB054290.D 8330B_0419PLUS.M Fri Apr 21 09:22:53 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:18

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:47 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.25	10.25	1021147	1873502	444.736	437.506
	Spiked Amount 500.000	Range 70 - 136		Recovery =		88.95%	87.50%
	Target Compounds						
1)	TNX	1.35	1.35	1202495	1872096	398.922	386.462
2)	HMX	1.46	1.46	736173	2084445	421.474	434.116
3)	DNX	1.71	1.71	1201545	1982108	385.934	419.835
4)	MNX	2.26	2.26	1047979	1625483	422.507	423.043
5)	RDX	2.83	2.83	848488	1341802	449.258	408.303
6)	1,3,5-Trinitrobe	4.44	4.44	1819406	3578972	421.177	440.268
7)	1,3-Dinitrobenze	5.68	5.68	2284533	1551210	415.342	401.813
8)	3,5-Dinitroanili	6.02	6.02	1856415	3035409	496.955	454.393
9)	Nitrobenzene	7.28	7.27	1398439	1336027	399.810	417.741m
10)	Nitroglycerin	0.00	8.51	0	3388147	N.D. d	2621.579m
11)	Tetryl	8.65	8.63	983620	1096253	370.800	273.629m
12)	2,4,6-Trinitroto	9.07	9.06	1224188	1614892	295.897	346.851
13)	2-Amino-4,6-Dini	9.46	9.46	1498746	2298600	414.157	424.280
14)	4-Amino-2,6-Dini	9.93	9.93	1047057	2161587	404.211	406.751
16)	2,4-Dinitrotolue	10.86	10.85	2130508	1367899	419.599	406.329
17)	2,6-Dinitrotolue	11.35	11.36	1262448	1548775	404.604	441.048
18)	o-Nitrotoluene	14.59	14.59	1039607	1418248	448.330	436.917
19)	p-Nitrotoluene	15.12	15.12	1563297	1344334	444.951	452.809
20)	m-Nitrotoluene	16.09	16.08	1474093	1579225	409.254	449.519m
21)	PETN	0.00	18.04	0	3269248	N.D. d	4595.366m

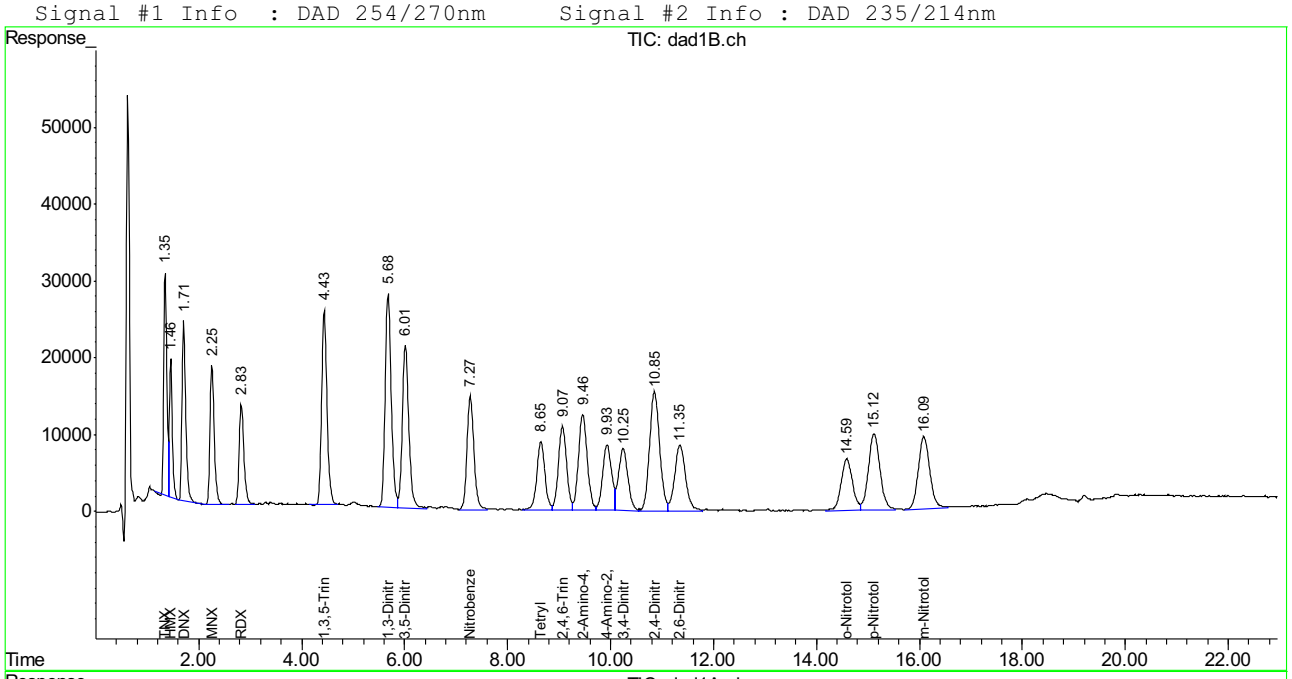
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054291.D 8330B_0419PLUS.M Fri Apr 21 10:12:26 2017 Page 1

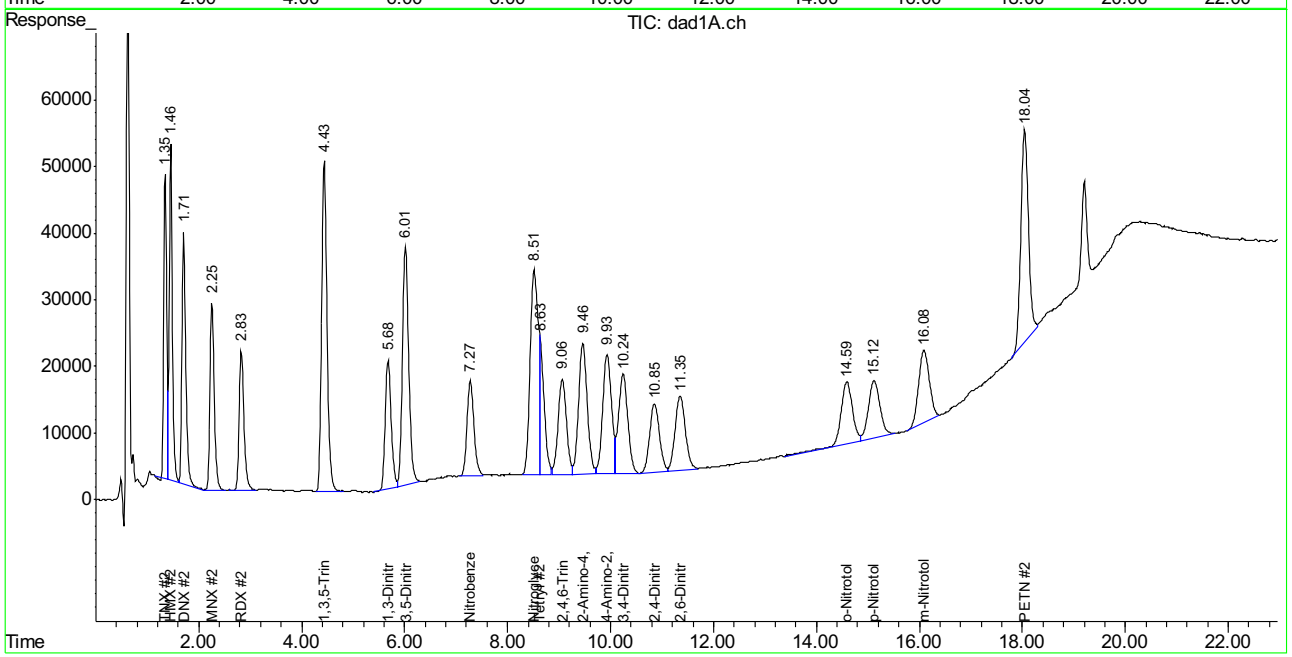
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:32 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

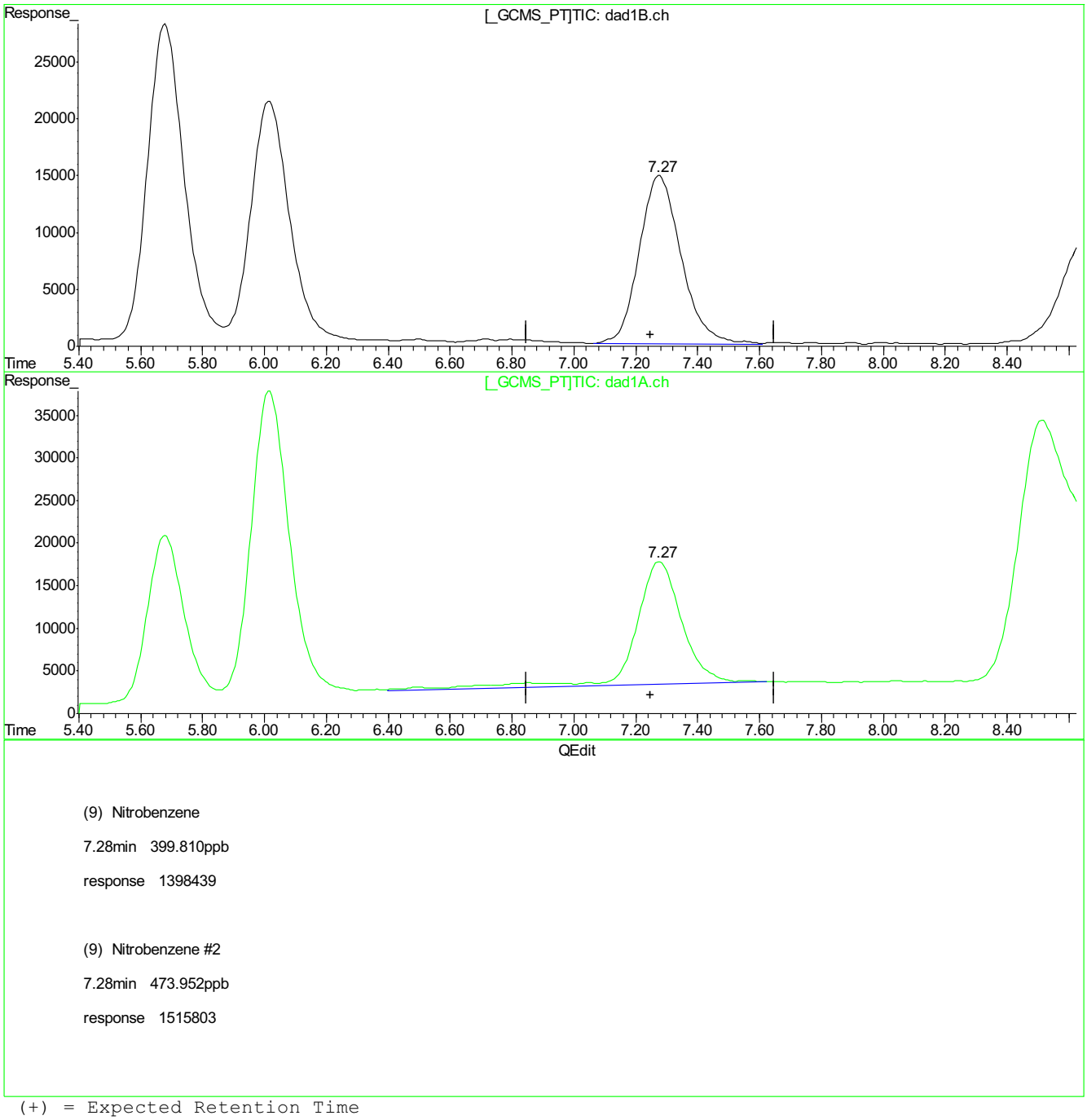
Sample Number: OP64666-MSD
Lab FileID: BB054291.D
Injection Time: 04/20/17 13:36
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/25/17 12:18 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.27	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.51	Poorly defined baseline
Tetryl	479-45-8	2	8.63	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.08	Poorly defined baseline
PETN	78-11-5	2	18.04	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 399.810ppb

response 1398439

(9) Nitrobenzene #2

7.28min 473.952ppb

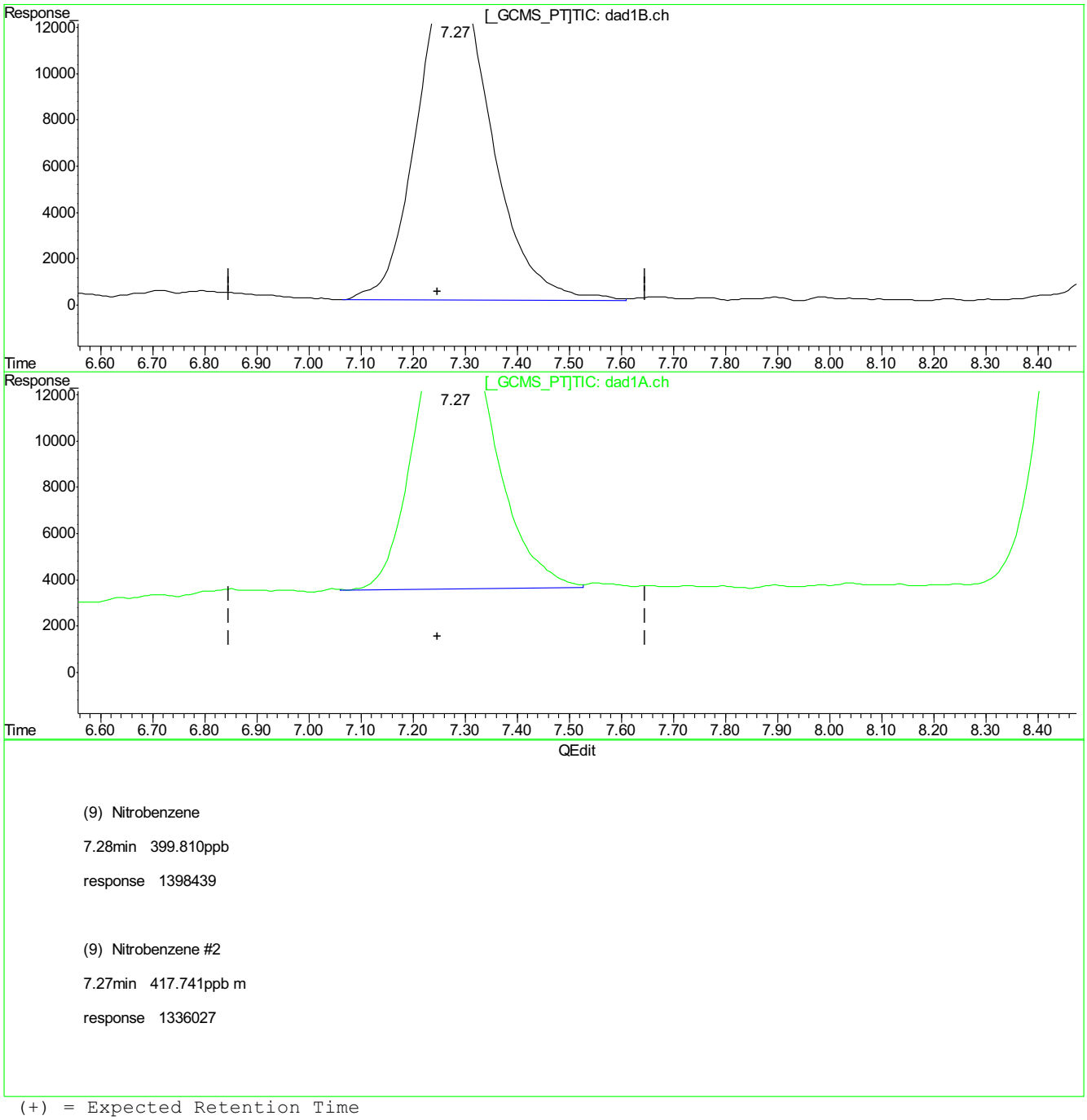
response 1515803

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:31:49 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 399.810ppb

response 1398439

(9) Nitrobenzene #2

7.27min 417.741ppb m

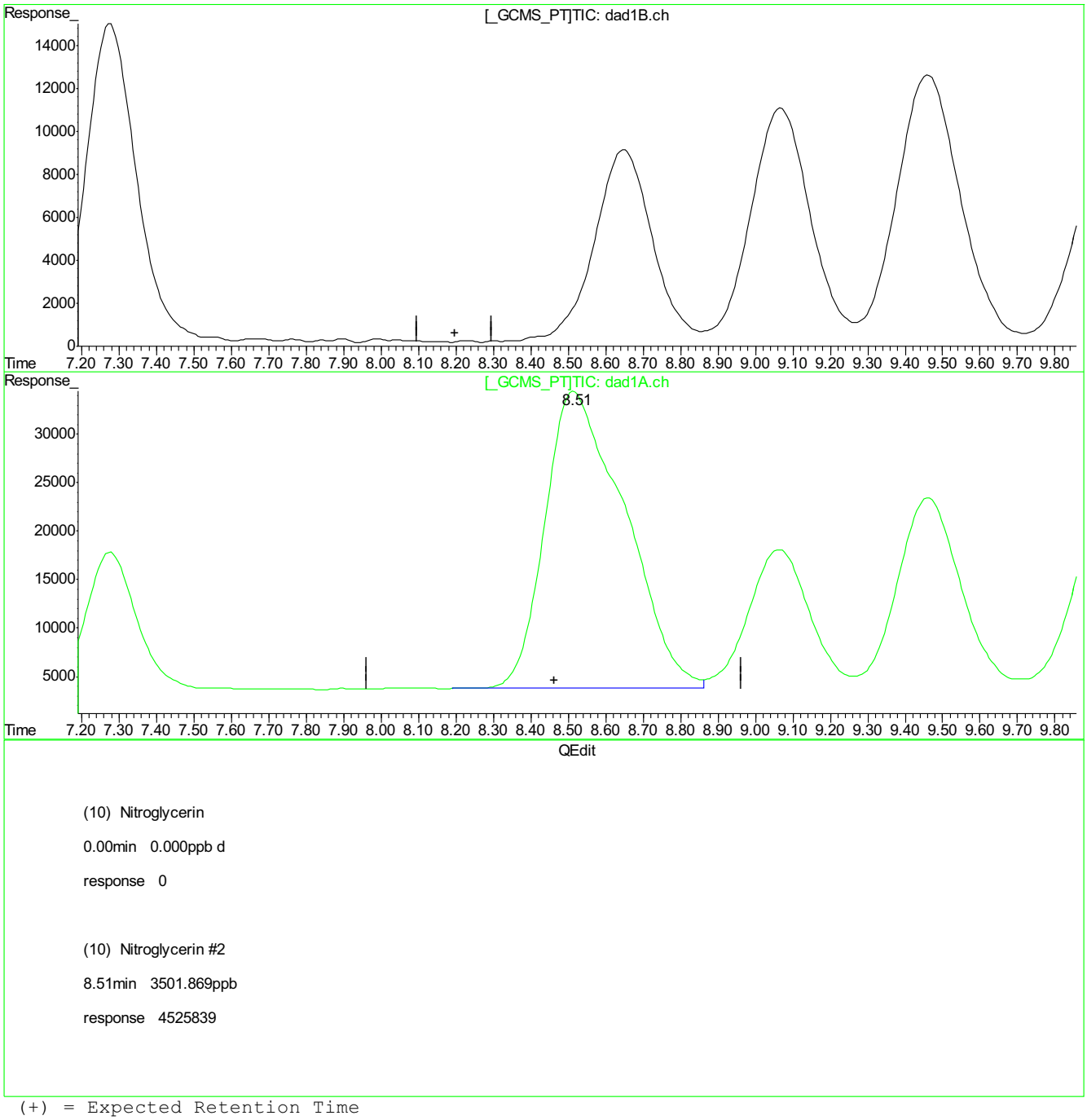
response 1336027

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:31:55 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.51min 3501.869ppb

response 4525839

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:31:58 2017

9.4.2.4

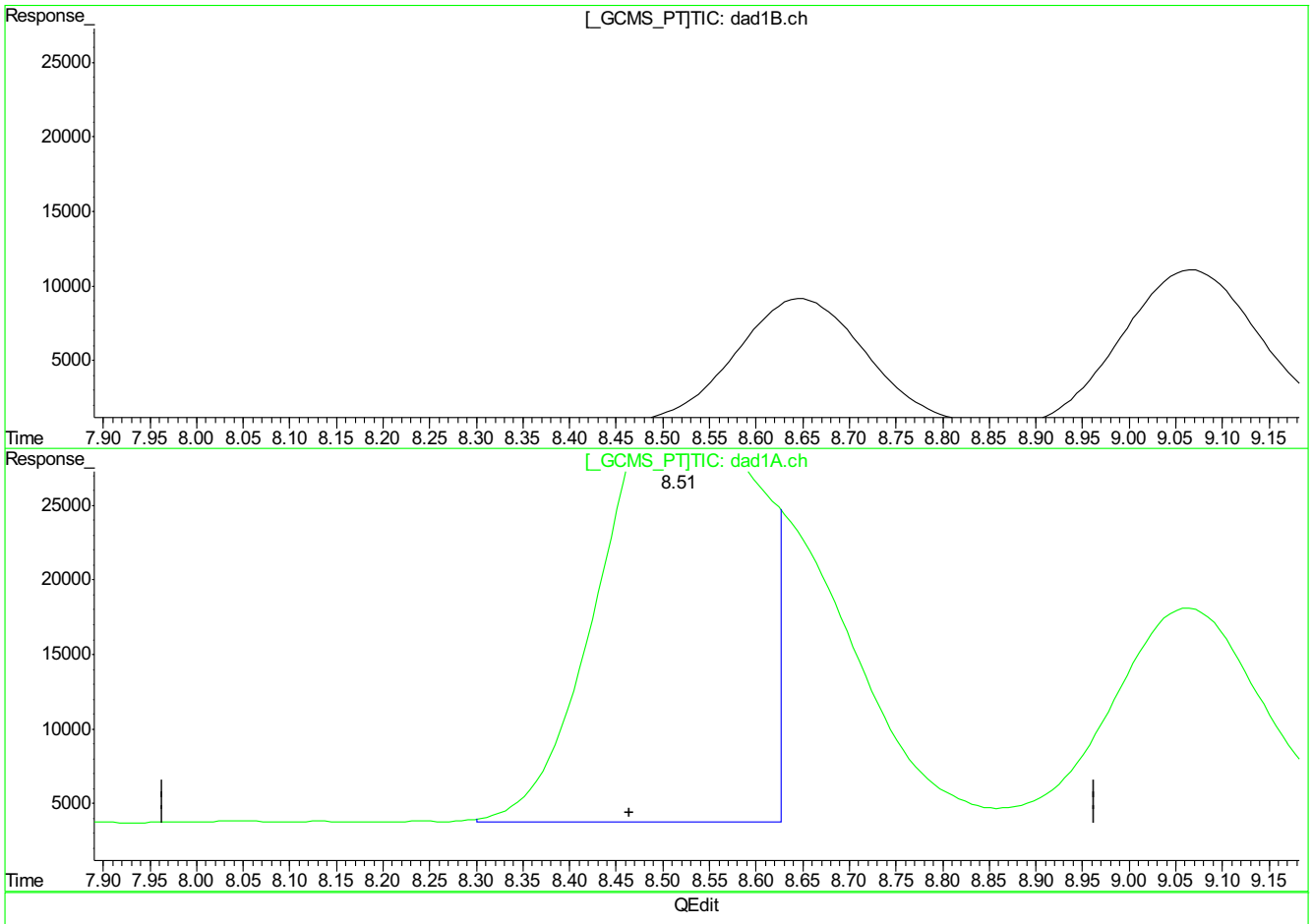
9

BB054291.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.51min 2621.579ppb m

response 3388147

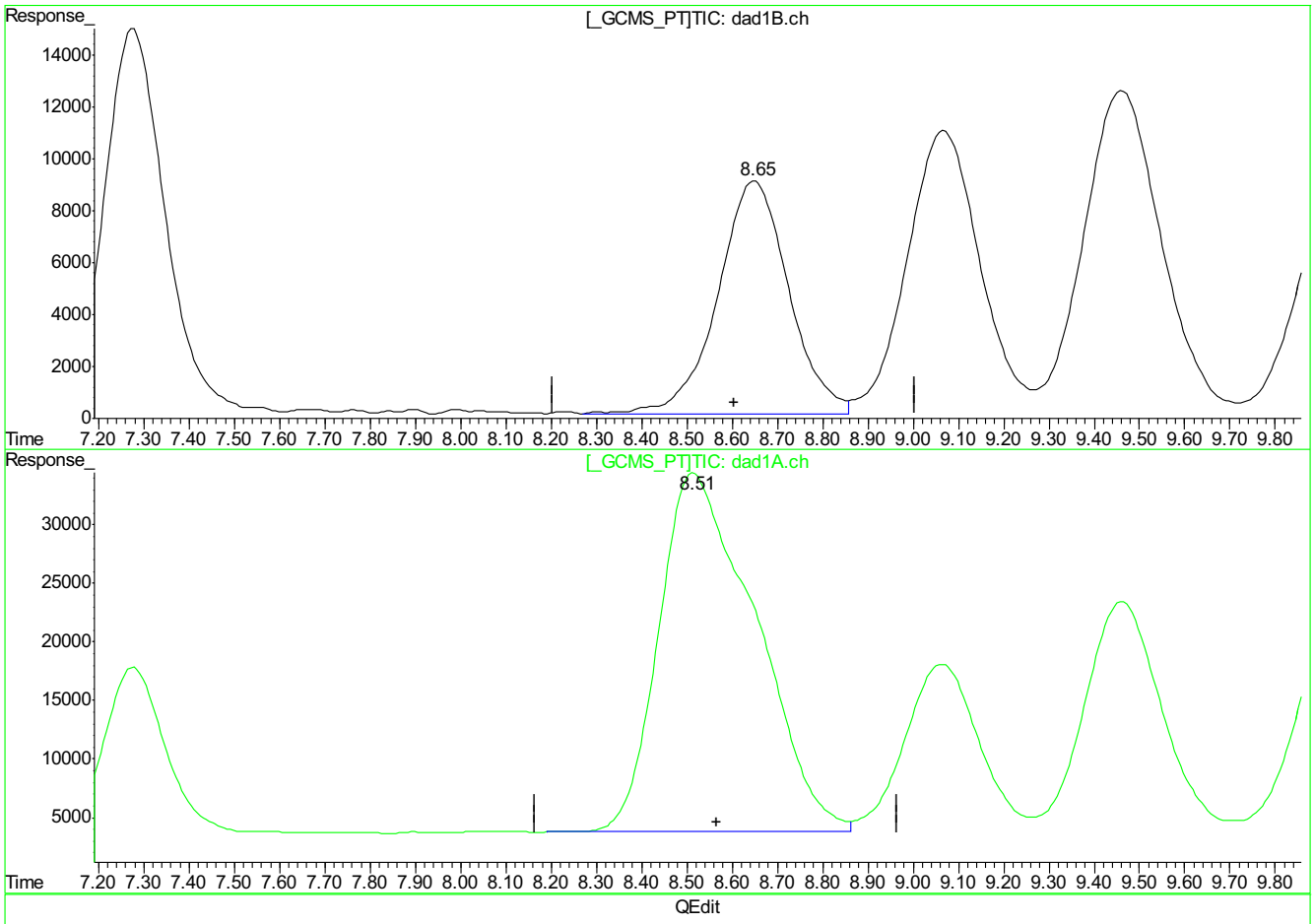
(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:14 2017

9.4.2.5
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 370.800ppb

response 983620

(11) Tetryl #2

8.51min 1142.742ppb

response 4525839

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:16 2017

9.4.2.6

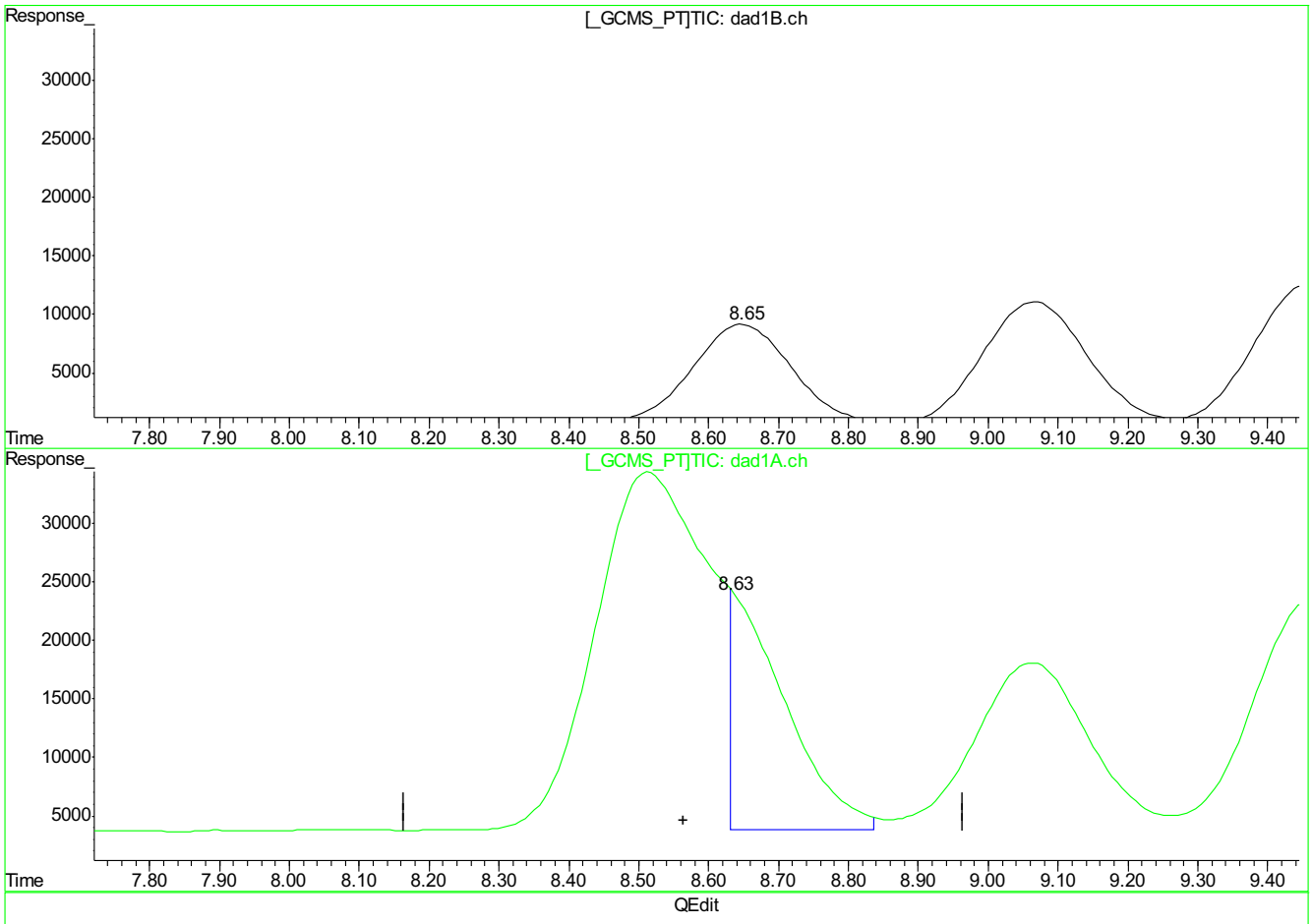
9

BB054291.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.65min 370.800ppb

response 983620

(11) Tetryl #2

8.63min 273.629ppb m

response 1096253

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:29 2017

9.4.2.7

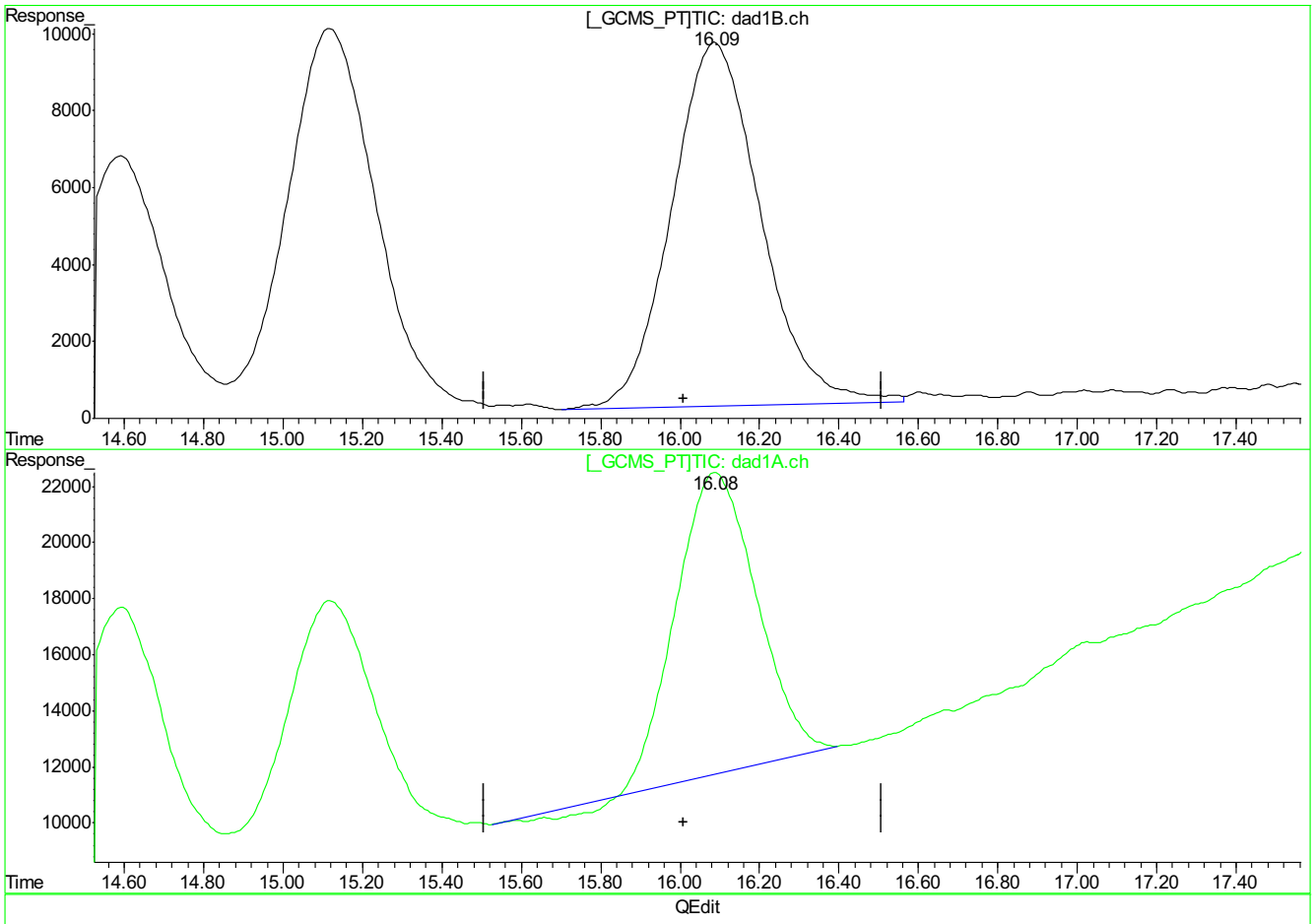
9

BB054291.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.09min 409.254ppb

response 1474093

(20) m-Nitrotoluene #2

16.09min 422.817ppb

response 1485416

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:34 2017

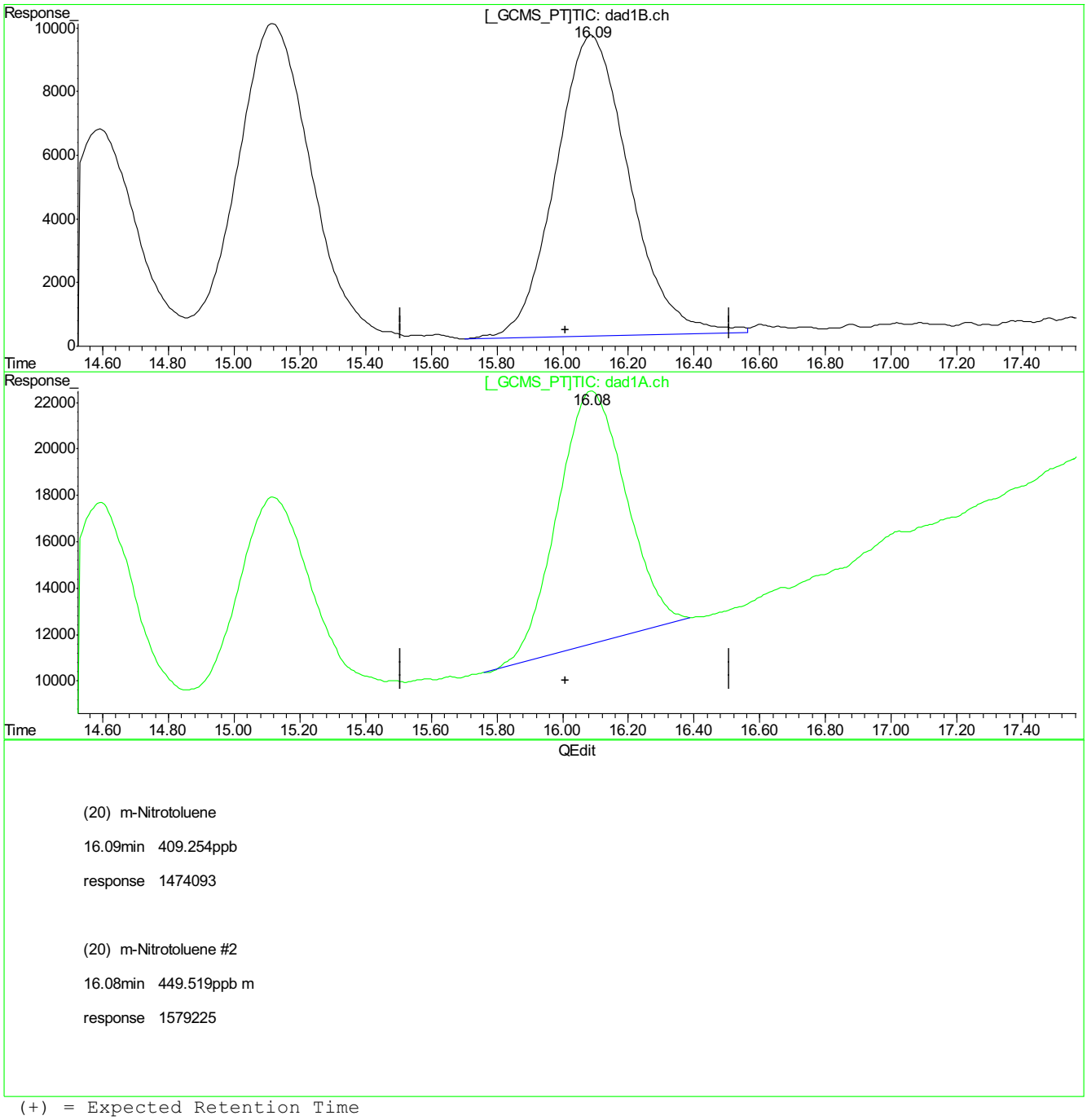
9.4.2.8

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.09min 409.254ppb

response 1474093

(20) m-Nitrotoluene #2

16.08min 449.519ppb m

response 1579225

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:38 2017

9.4.2.9

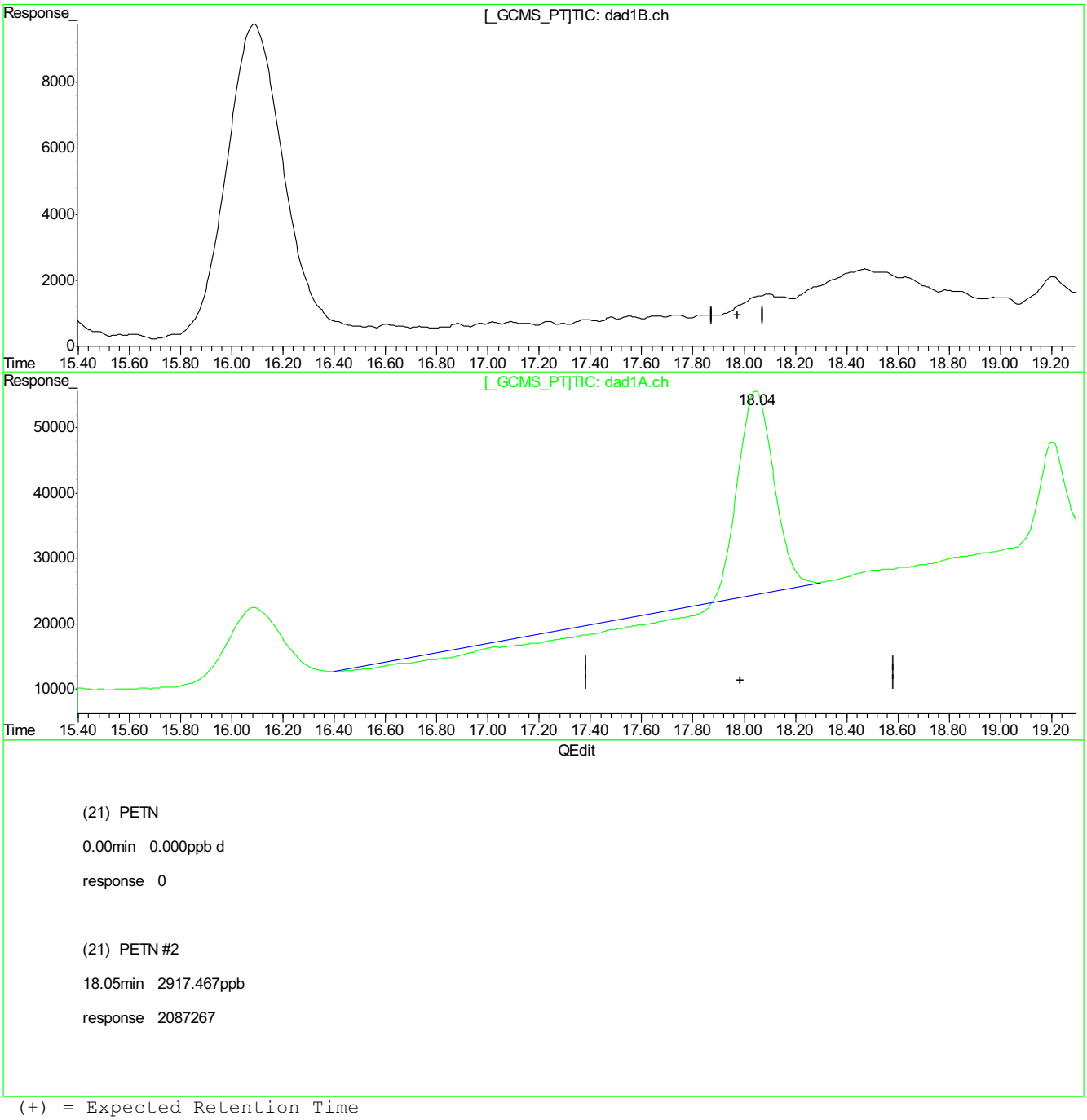
9

BB054291.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.05min 2917.467ppb

response 2087267

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:48 2017

9.4.2.10

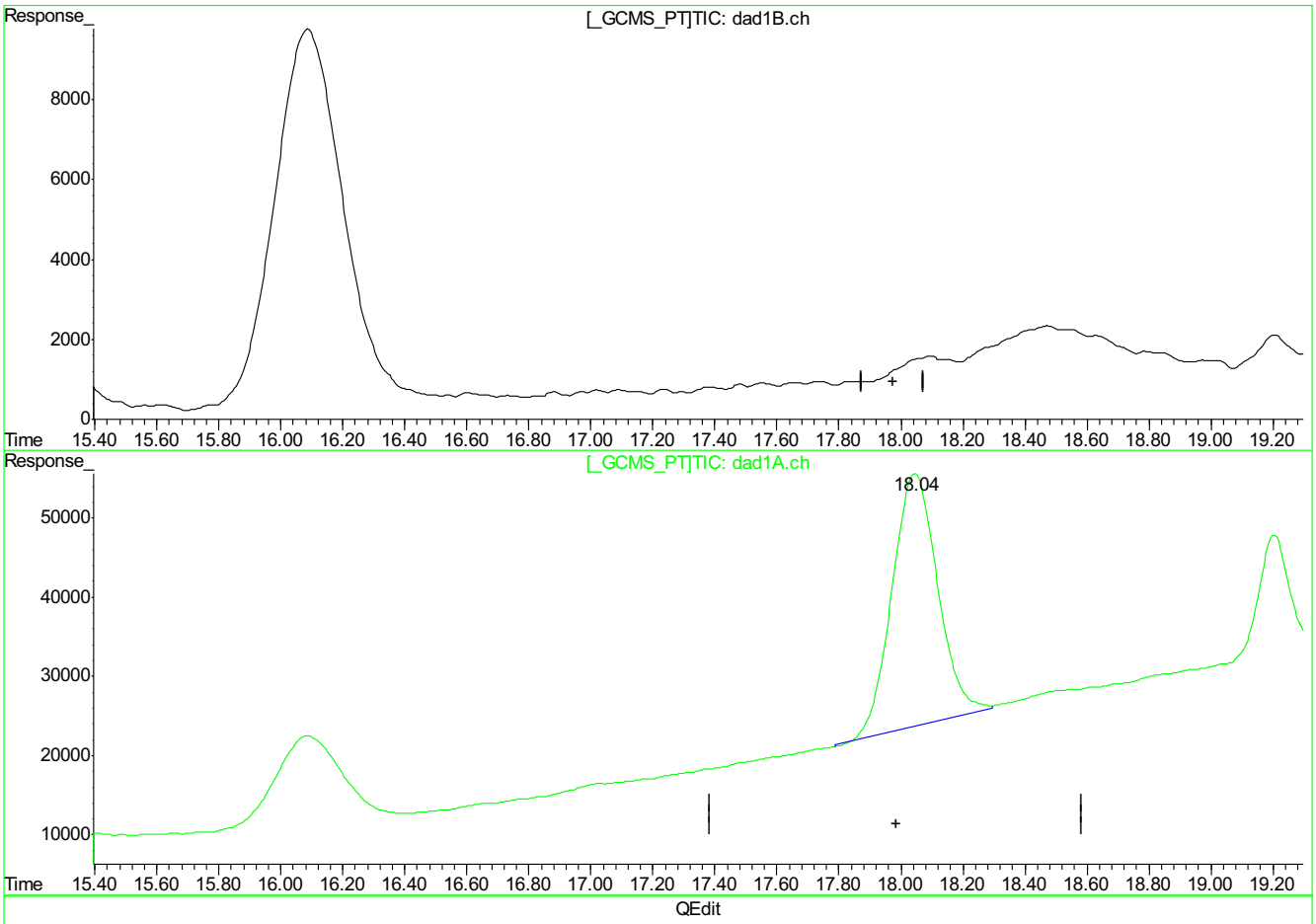
9

BB054291.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054291.D\dad1A.ch
Acq On : 20-Apr-2017, 13:36:19 Operator: evitam
Sample : op64666-msd Inst : G1315B
Misc : op64666,gbb1579,520,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.04min 4595.366ppb m

response 3269248

(+) = Expected Retention Time
BB054291.D 8330B_0419PLUS.M Fri Apr 21 09:32:53 2017

BB054291.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:00 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.31	10.31	44842	105766	17.827	25.955m#
Spiked Amount	500.000	Range	69 - 134	Recovery	=	3.57%#	5.19%#
	Target Compounds						
1)	TNX	1.36	1.36	50521	88218	15.387	17.158
2)	HMX	1.48	1.47	45570	119893	25.096	22.869
3)	DNX	1.73	1.72	75577	221170	25.963m	42.585m#
4)	MNX	2.29	2.29	57508	88681	24.825	24.357
5)	RDX	2.87	2.86	74403	84831	34.564	24.980m
6)	1,3,5-Trinitrobe	4.49	4.49	100342	177351	22.720m	20.455m
7)	1,3-Dinitrobenze	5.74	5.73	119086	87556	20.831	22.486m
8)	3,5-Dinitroanili	6.10	6.09	115837	163555	23.822	20.411m
9)	Nitrobenzene	7.32	7.30	86310	71902	26.551	23.581m
10)	Nitroglycerin	0.00	8.58	0	123290	N.D. d	100.580m
11)	Tetryl	8.76	8.67	80894	128977	25.242	24.846m
12)	2,4,6-Trinitroto	9.16	9.16	106956	138211	25.833	28.774m
13)	2-Amino-4,6-Dini	9.57	9.55	87397	126474	24.685	25.039m
14)	4-Amino-2,6-Dini	10.03	10.03	60607	132018	22.494	26.090m
16)	2,4-Dinitrotolue	10.93	10.92	116393	88776	22.077	27.178
17)	2,6-Dinitrotolue	11.43	11.48	78290	70229	25.866	18.598
18)	o-Nitrotoluene	14.65	14.69	34341	100747	15.005m	48.534 #
19)	p-Nitrotoluene	15.21	15.26	100206	48132	29.829	19.702
20)	m-Nitrotoluene	16.13	16.31	86087	59952	34.921m	16.262m#
21)	PETN	0.00	18.14	0	113877	N.D. d	84.171m

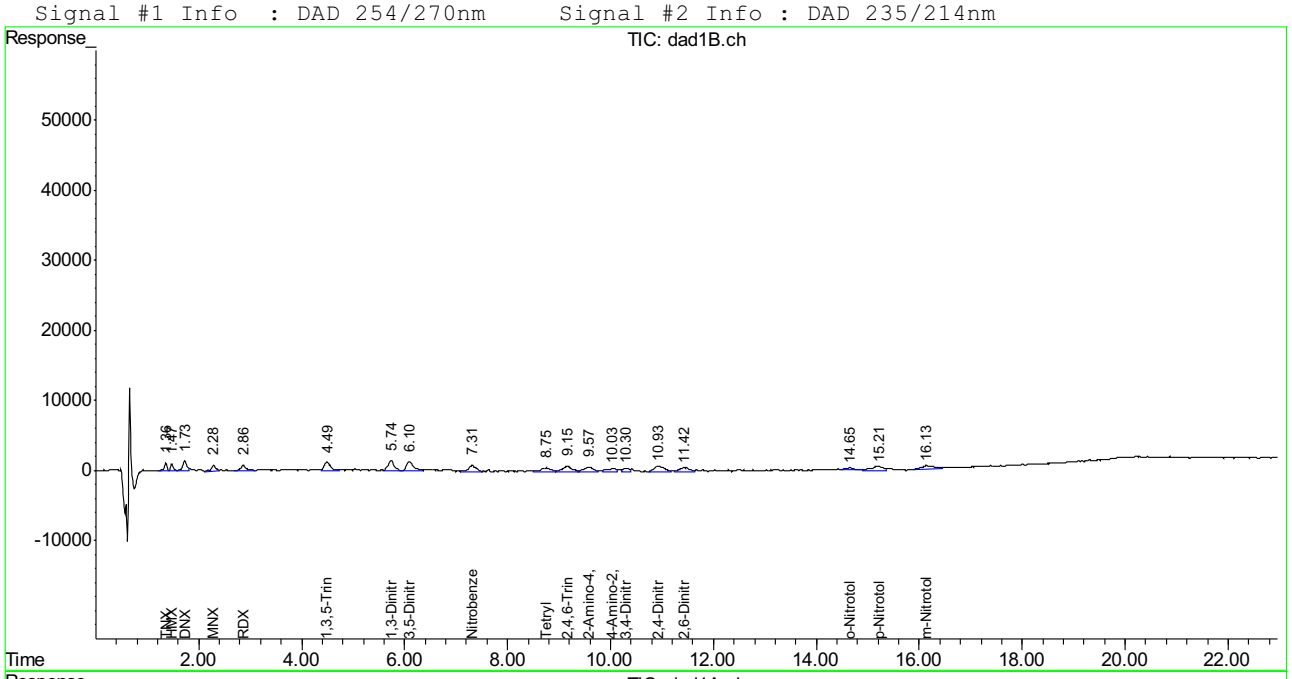
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054261.D 8330B_0419PLUS.M Thu Apr 20 11:04:49 2017 Page 1

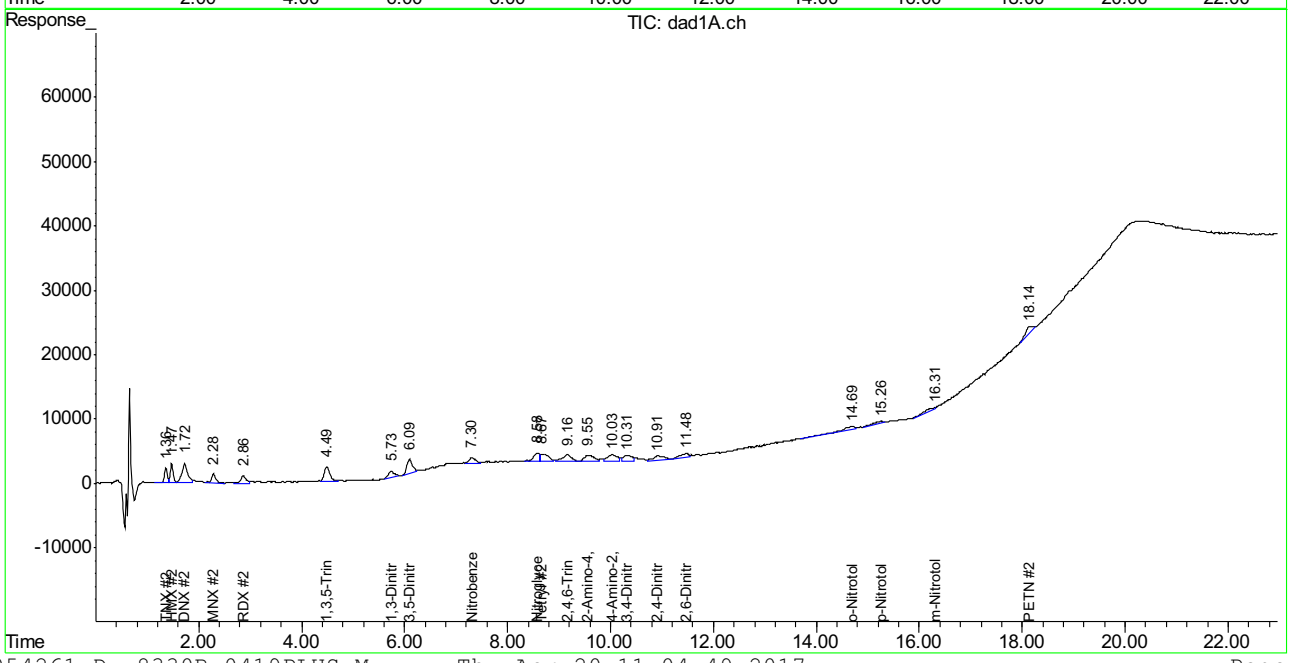
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 14:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

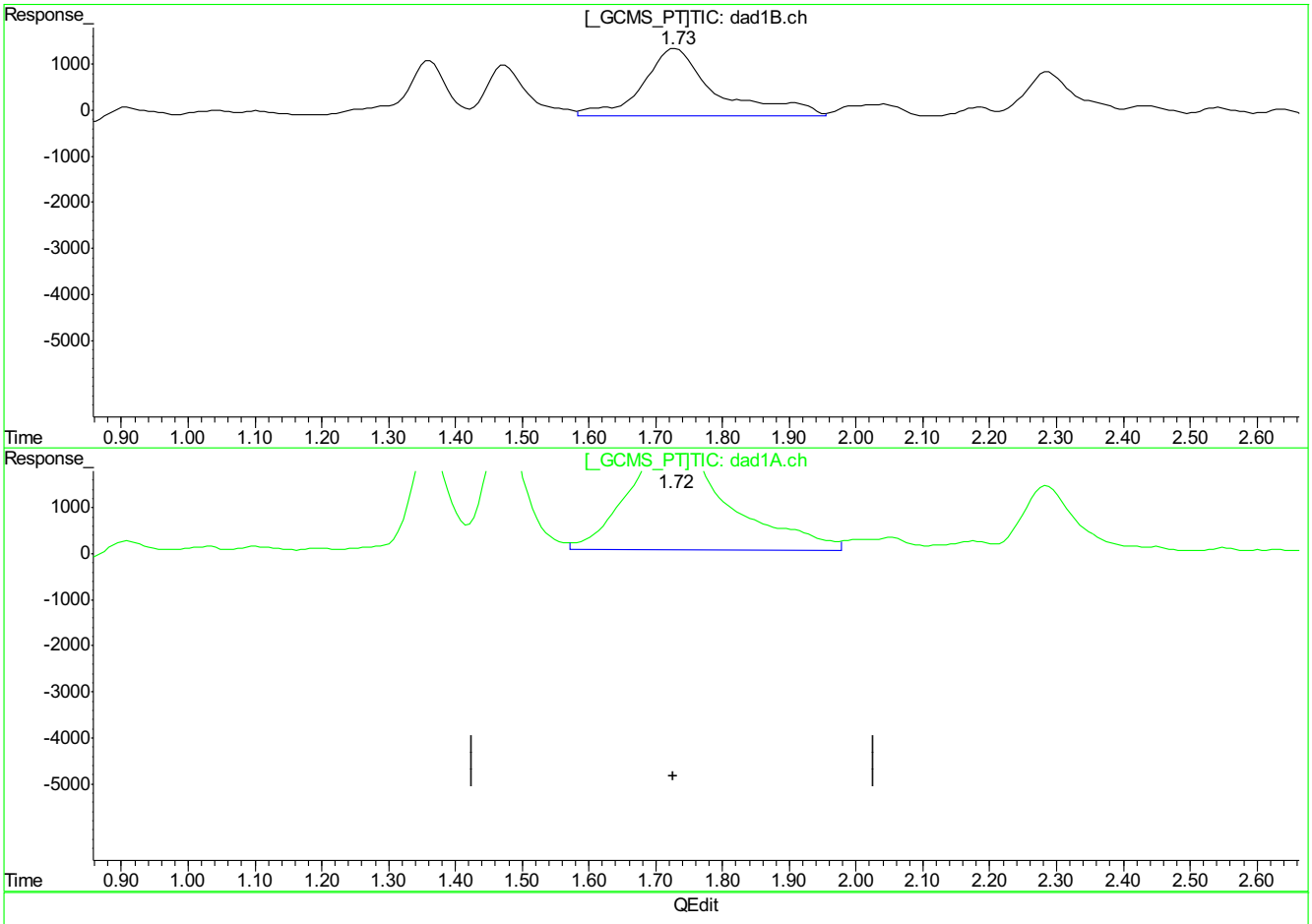
Sample Number: GBB1578-IC1578
Lab FileID: BB054261.D
Injection Time: 04/19/17 10:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	1.72	Poorly defined baseline
DNX		1	1.73	Poorly defined baseline
RDX	121-82-4	2	2.86	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.49	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	2	4.49	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	5.73	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.09	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.30	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.58	Poorly defined baseline
Tetryl	479-45-8	2	8.67	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.16	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.55	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.03	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.31	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	14.65	Poorly defined baseline
m-Nitrotoluene	99-08-1	1	16.13	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.31	Poorly defined baseline
PETN	78-11-5	2	18.14	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(3) DNX

1.73min 37.819ppb

response 110053

(3) DNX #2

1.73min 49.909ppb

response 259207

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:47:55 2017

9.5.1.2

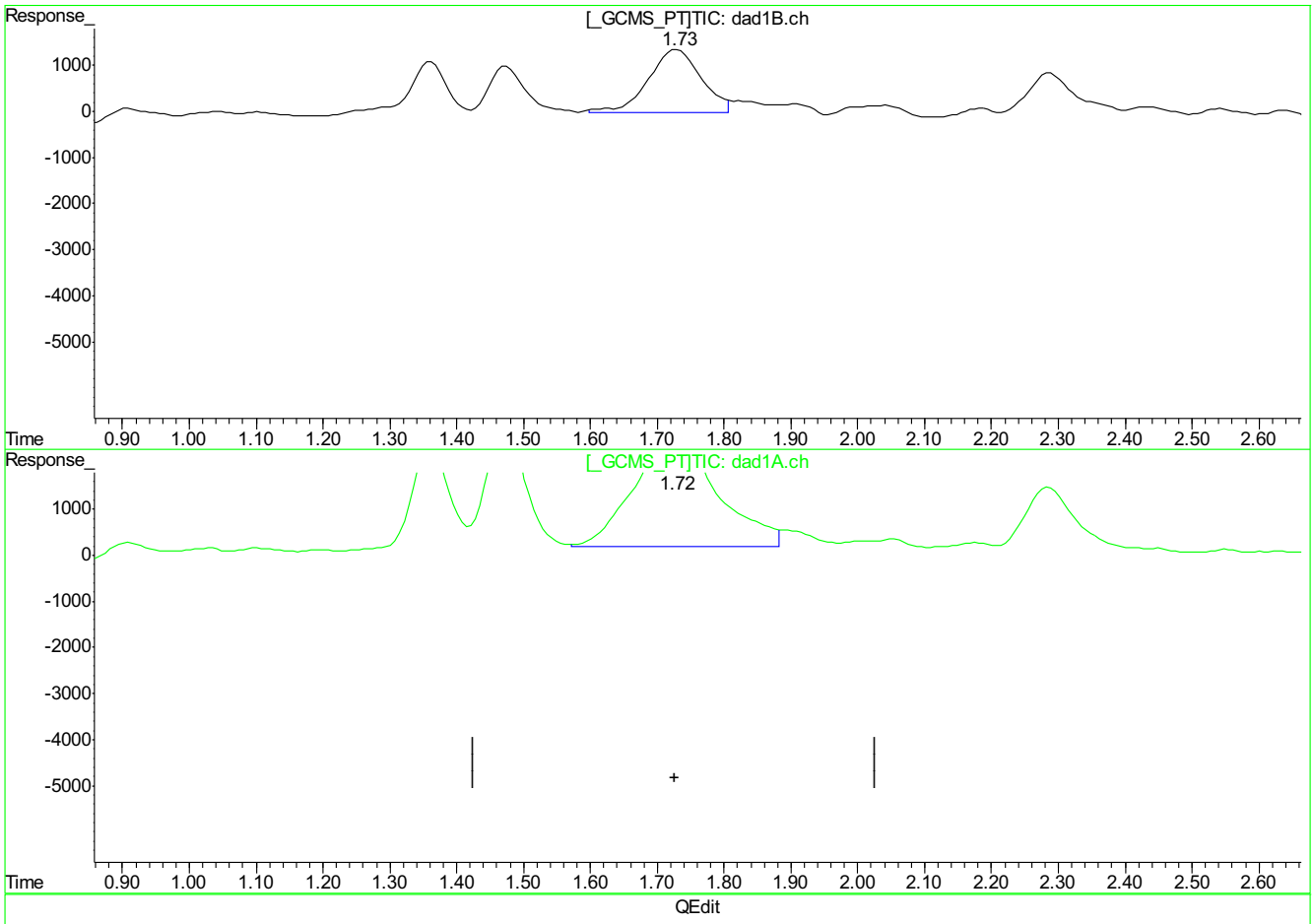
9

BB054261.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(3) DNX

1.73min 25.963ppb m

response 75577

(3) DNX #2

1.72min 42.585ppb m

response 221170

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:04 2017

9.5.1.3

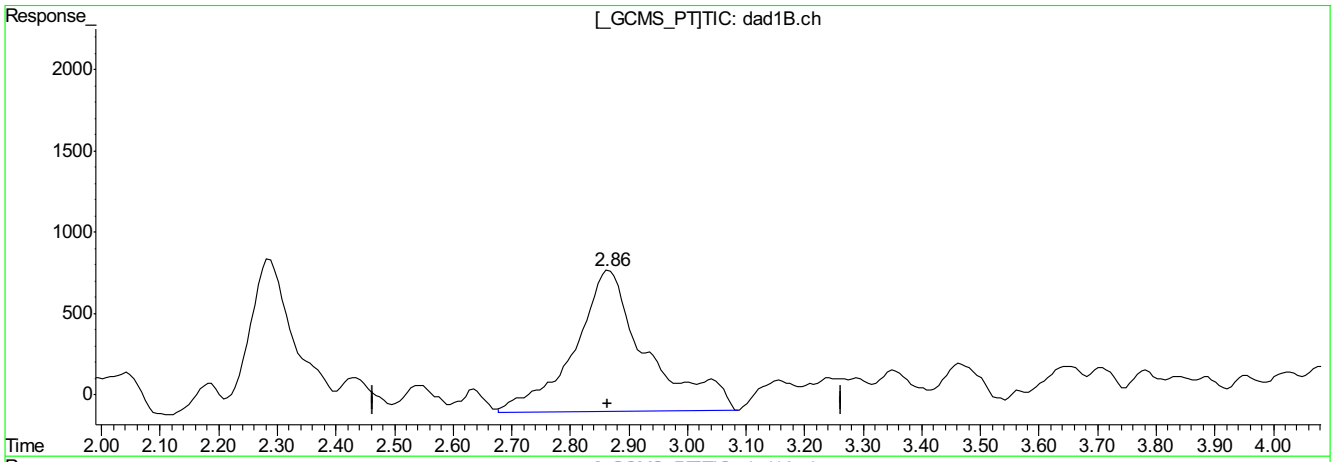
9

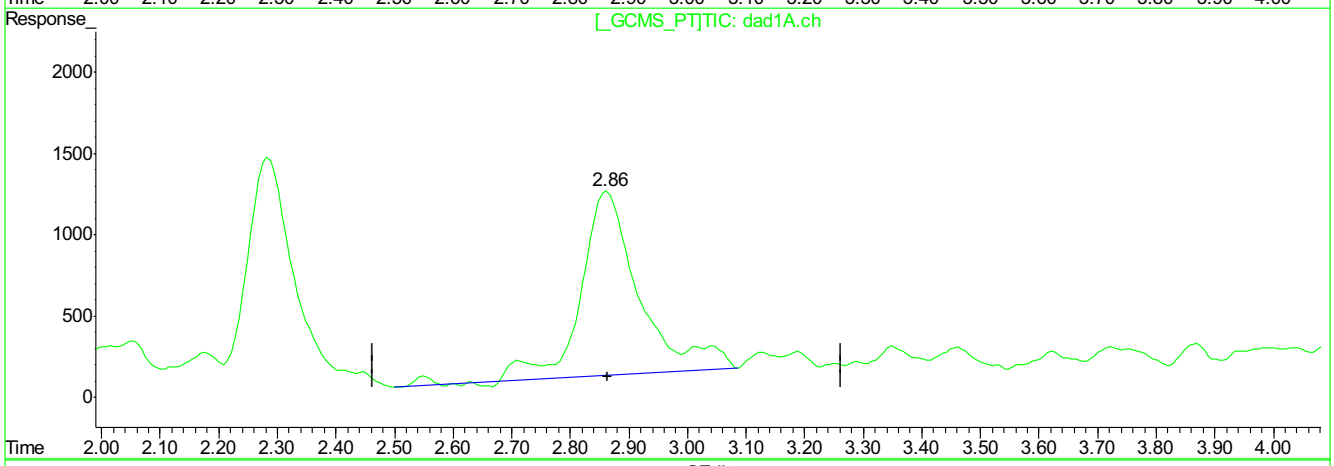
BB054261.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration





QEdit

(5) RDX

2.87min 34.564ppb

response 74403

(5) RDX #2

2.86min 23.369ppb

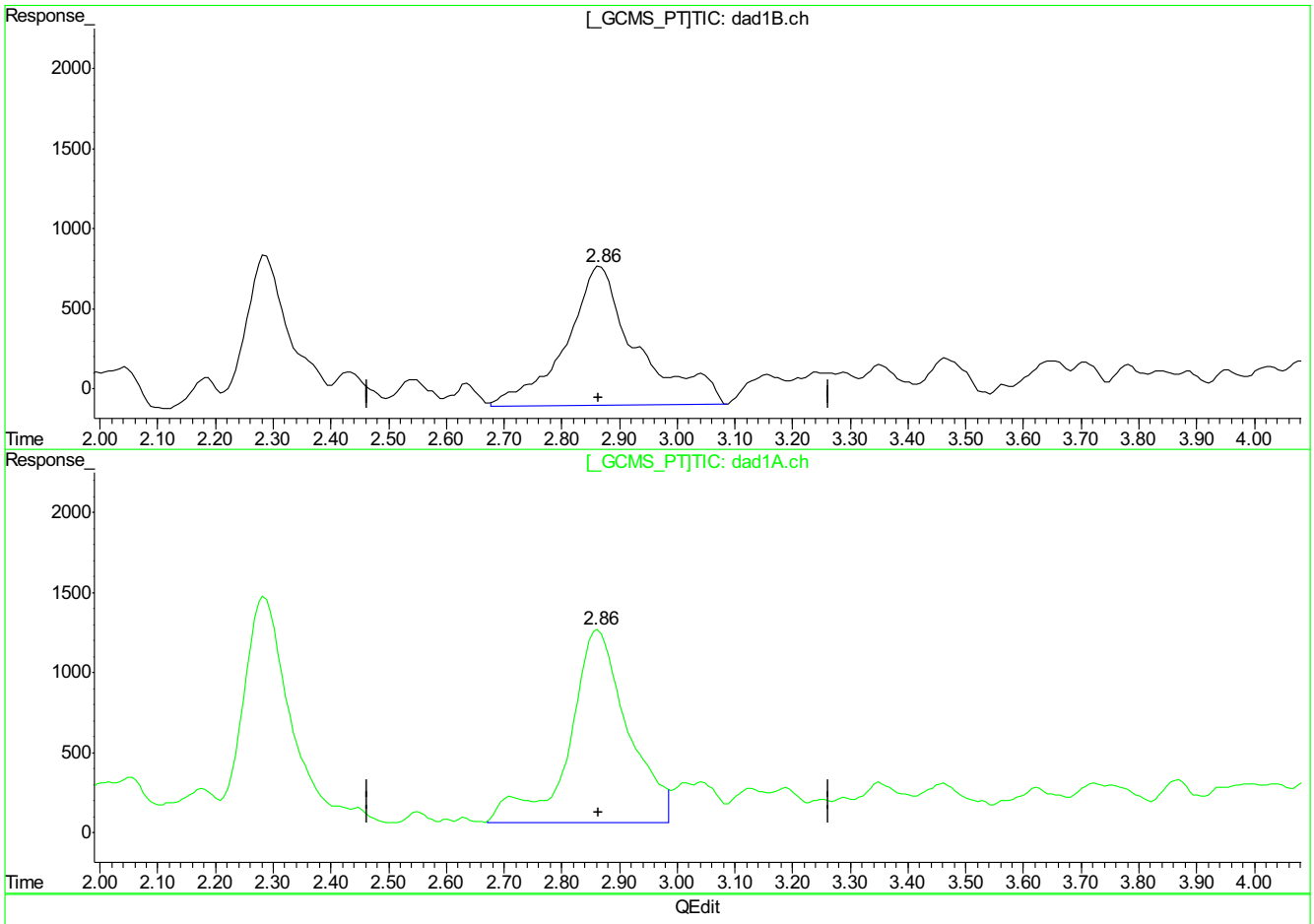
response 79360

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(5) RDX

2.87min 34.564ppb

response 74403

(5) RDX #2

2.86min 24.980ppb m

response 84831

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:25 2017

9.5.1.5

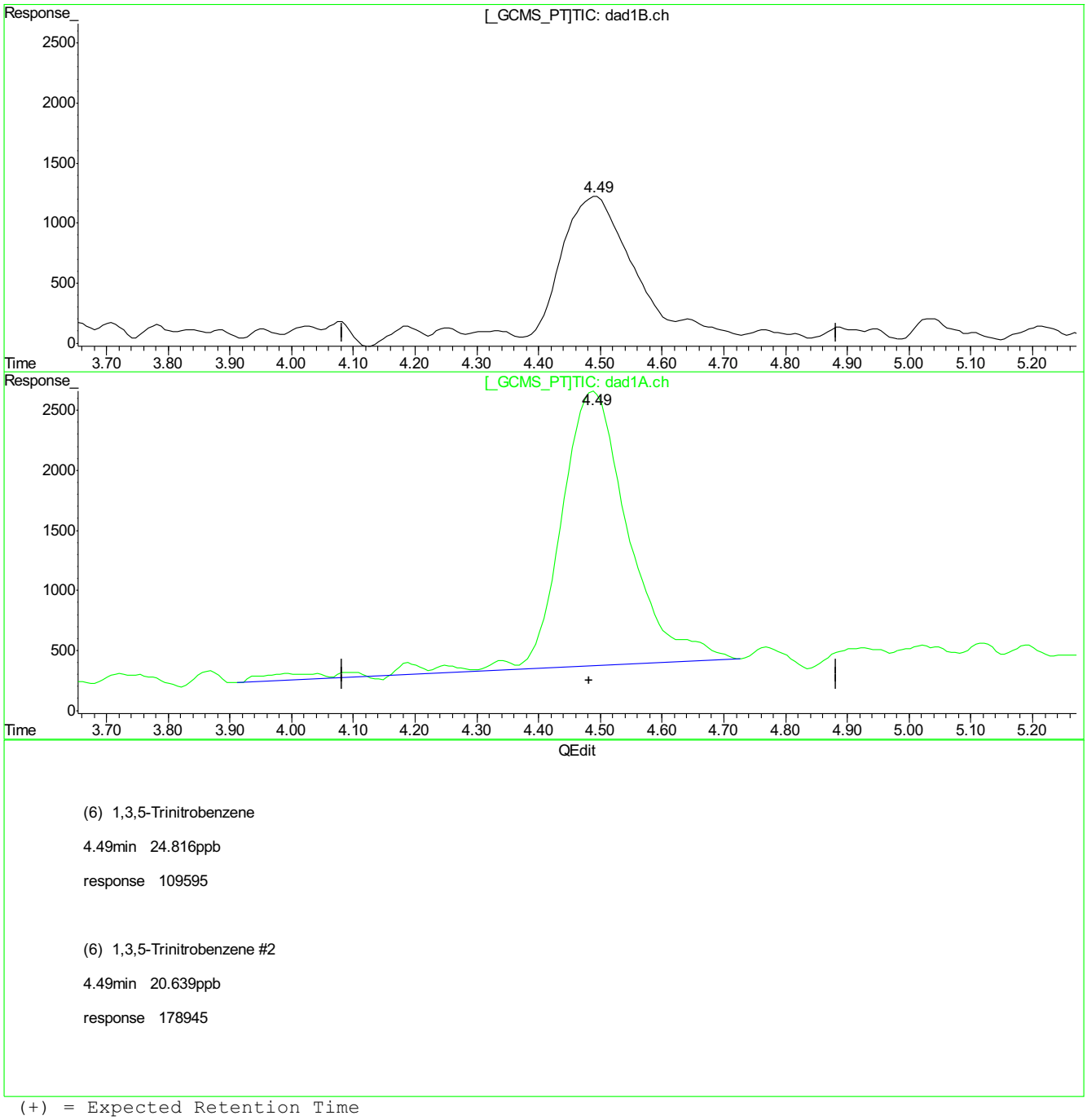
9

BB054261.D edits: RDX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.49min 24.816ppb

response 109595

(6) 1,3,5-Trinitrobenzene #2

4.49min 20.639ppb

response 178945

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:40 2017

9.5.1.6

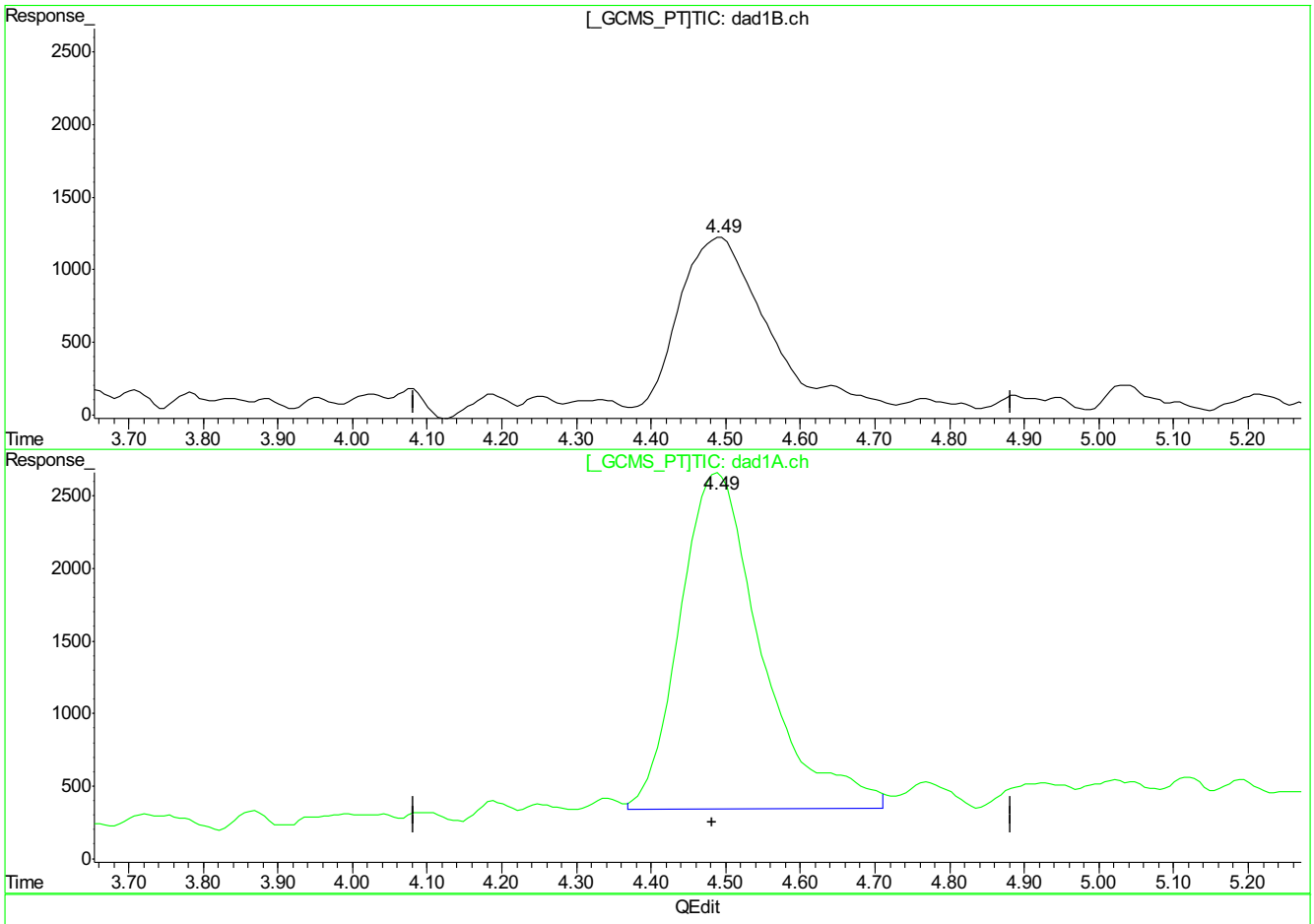
9

BB054261.D edits: 1,3,5-Trinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.49min 24.816ppb

response 109595

(6) 1,3,5-Trinitrobenzene #2

4.49min 20.455ppb m

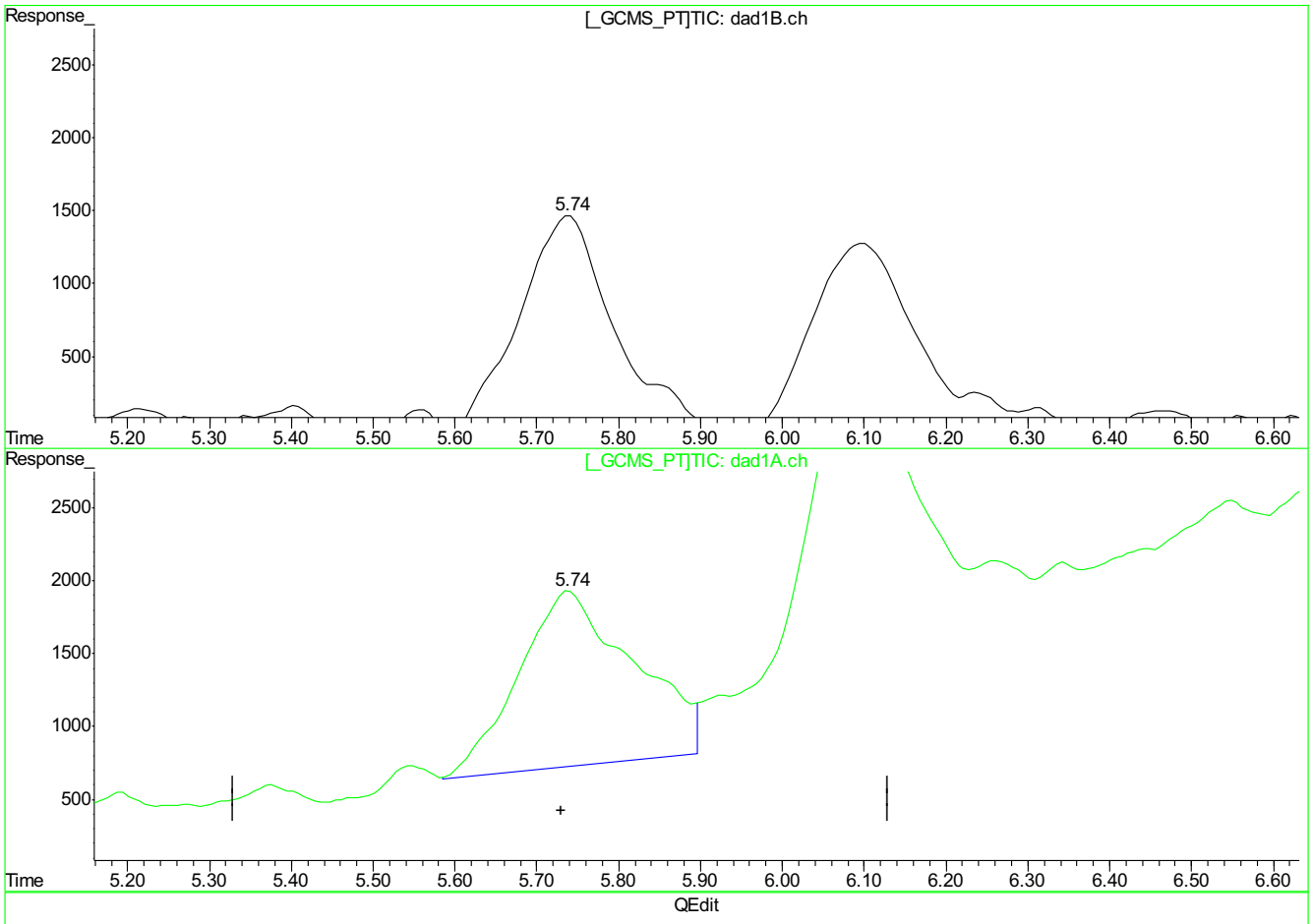
response 177351

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:48:45 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 20.831ppb

response 119086

(7) 1,3-Dinitrobenzene #2

5.74min 29.810ppb

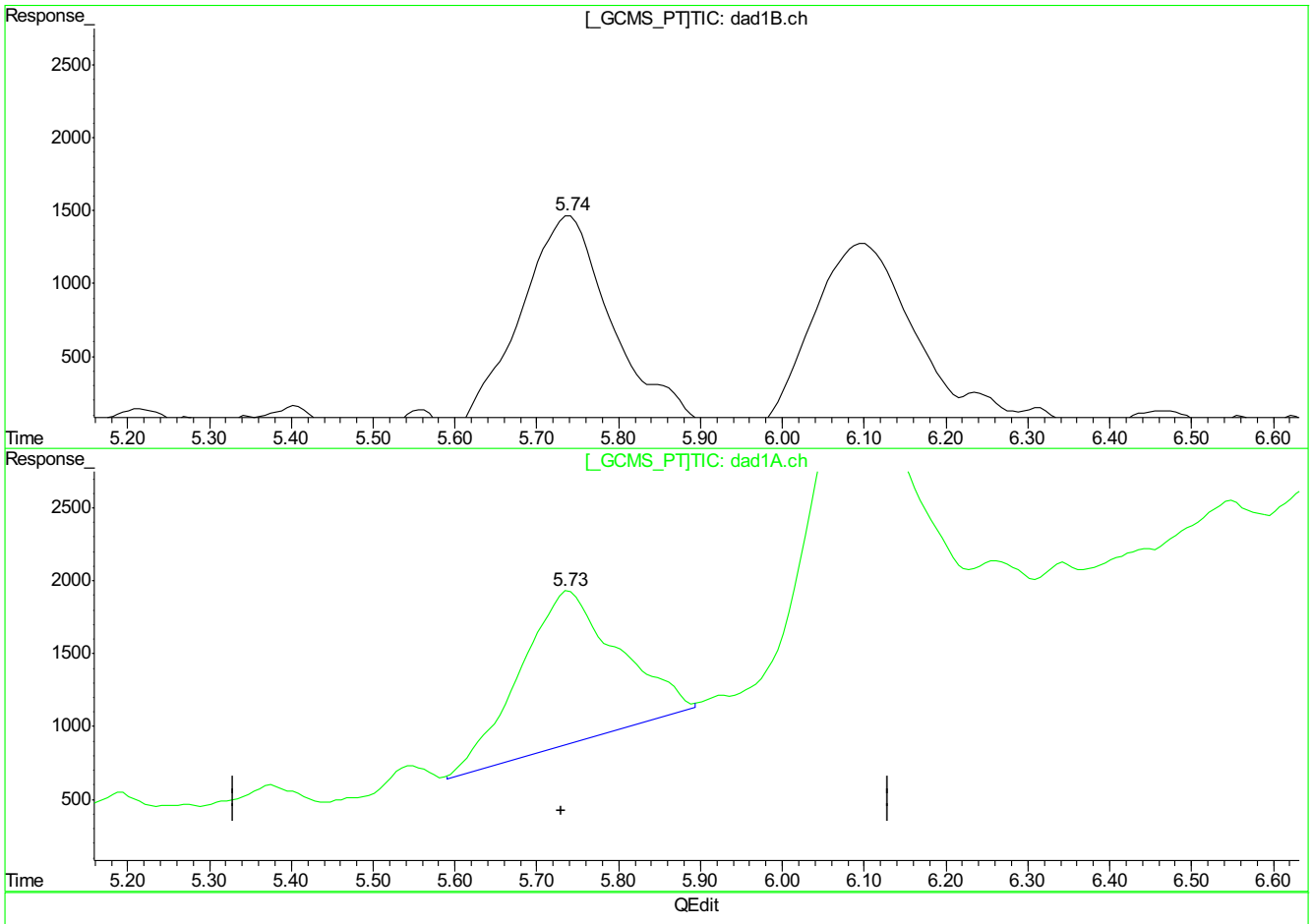
response 116078

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 20.831ppb

response 119086

(7) 1,3-Dinitrobenzene #2

5.73min 22.486ppb m

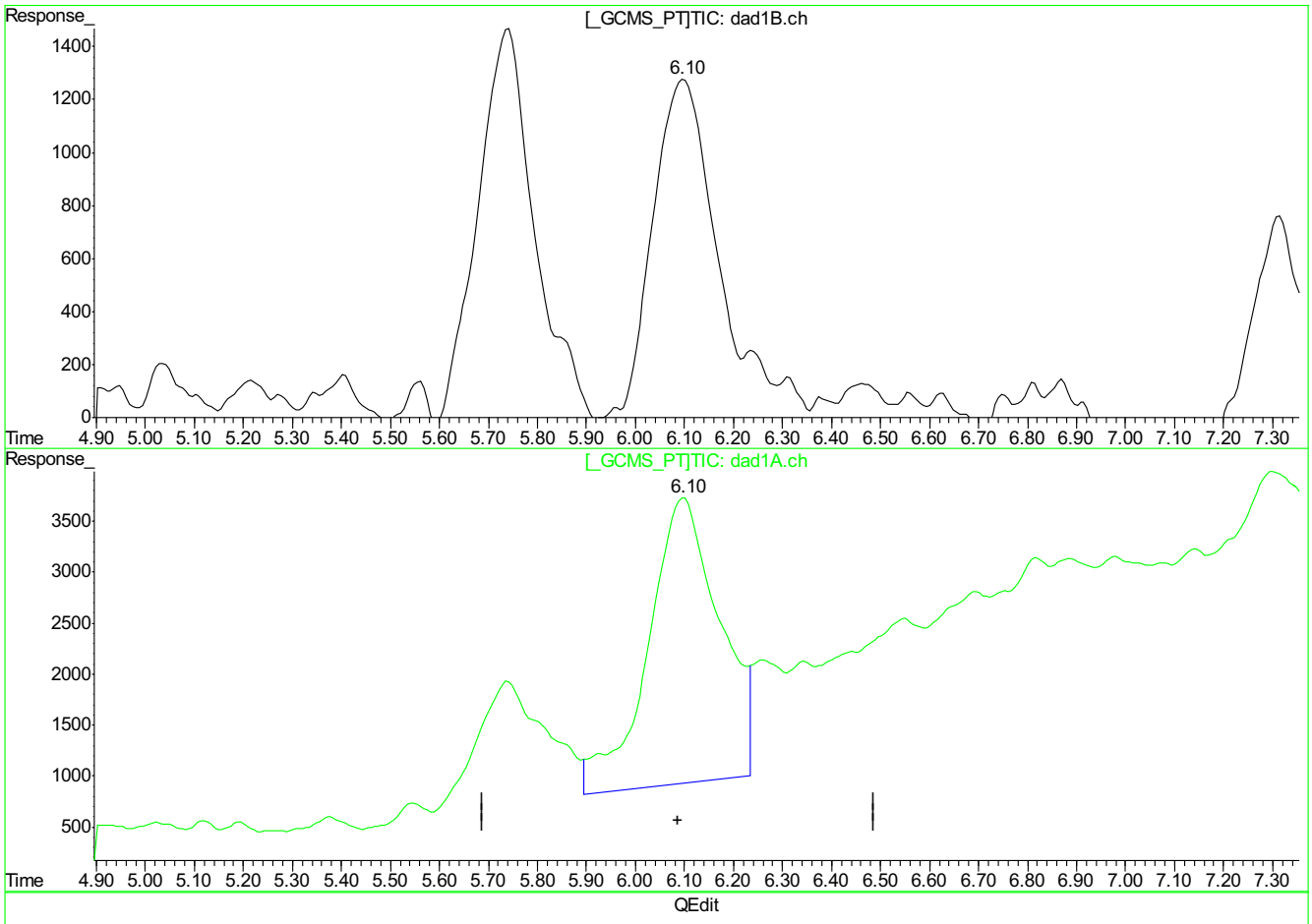
response 87556

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 23.822ppb

response 115837

(8) 3,5-Dinitroaniline #2

6.10min 35.225ppb

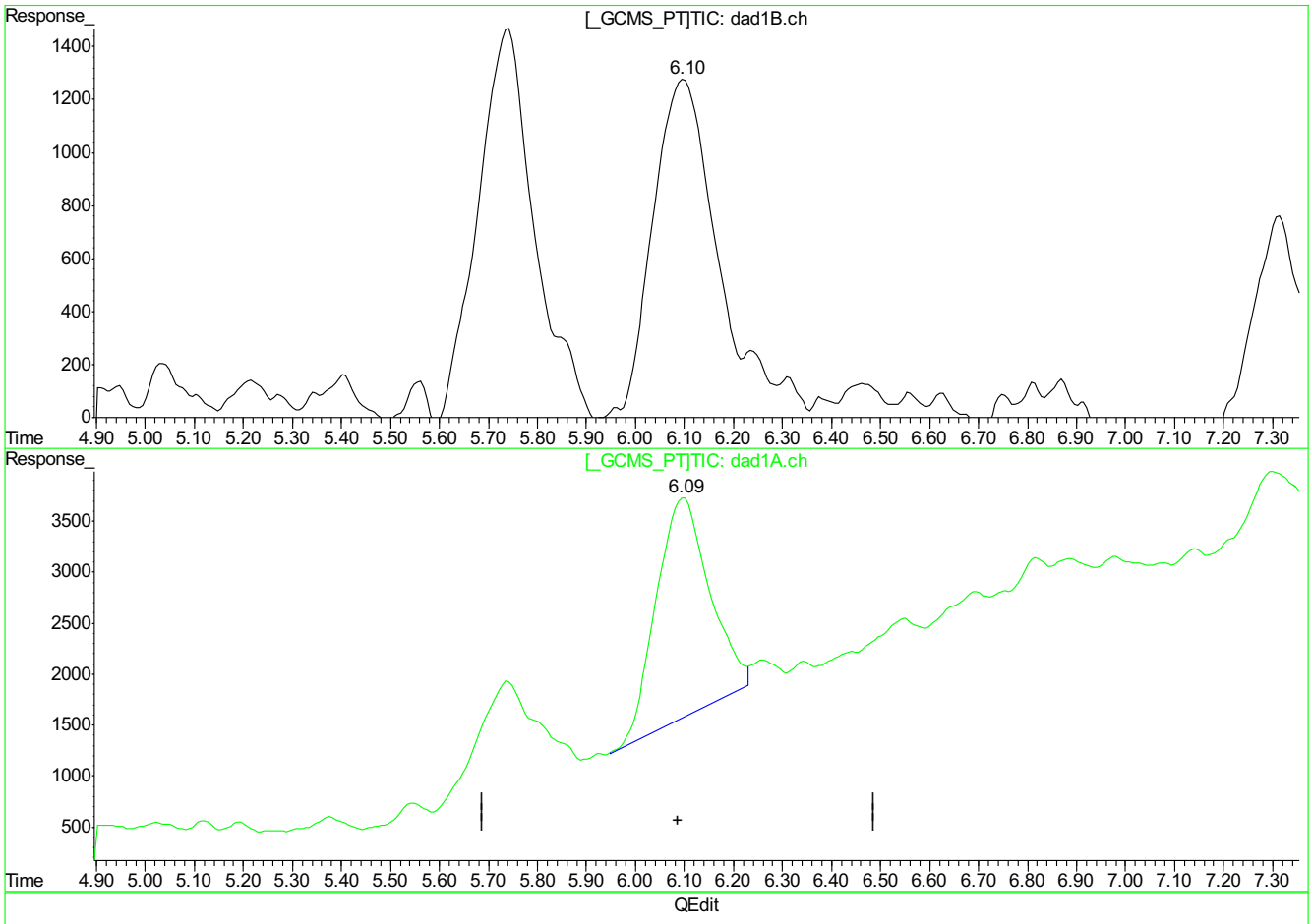
response 282264

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:18 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 23.822ppb

response 115837

(8) 3,5-Dinitroaniline #2

6.09min 20.411ppb m

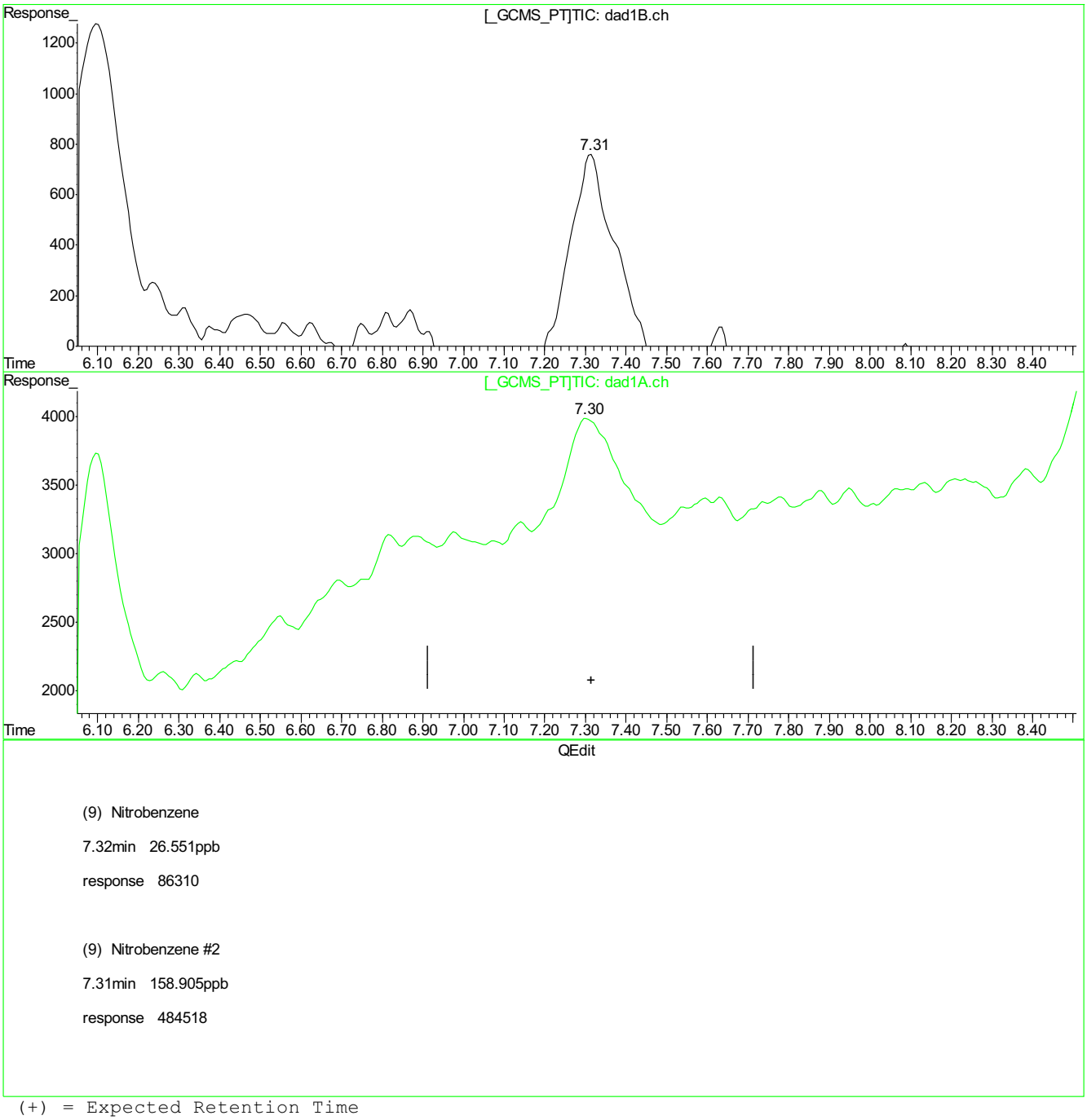
response 163555

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:25 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 26.551ppb

response 86310

(9) Nitrobenzene #2

7.31min 158.905ppb

response 484518

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:38 2017

9.5.1.12

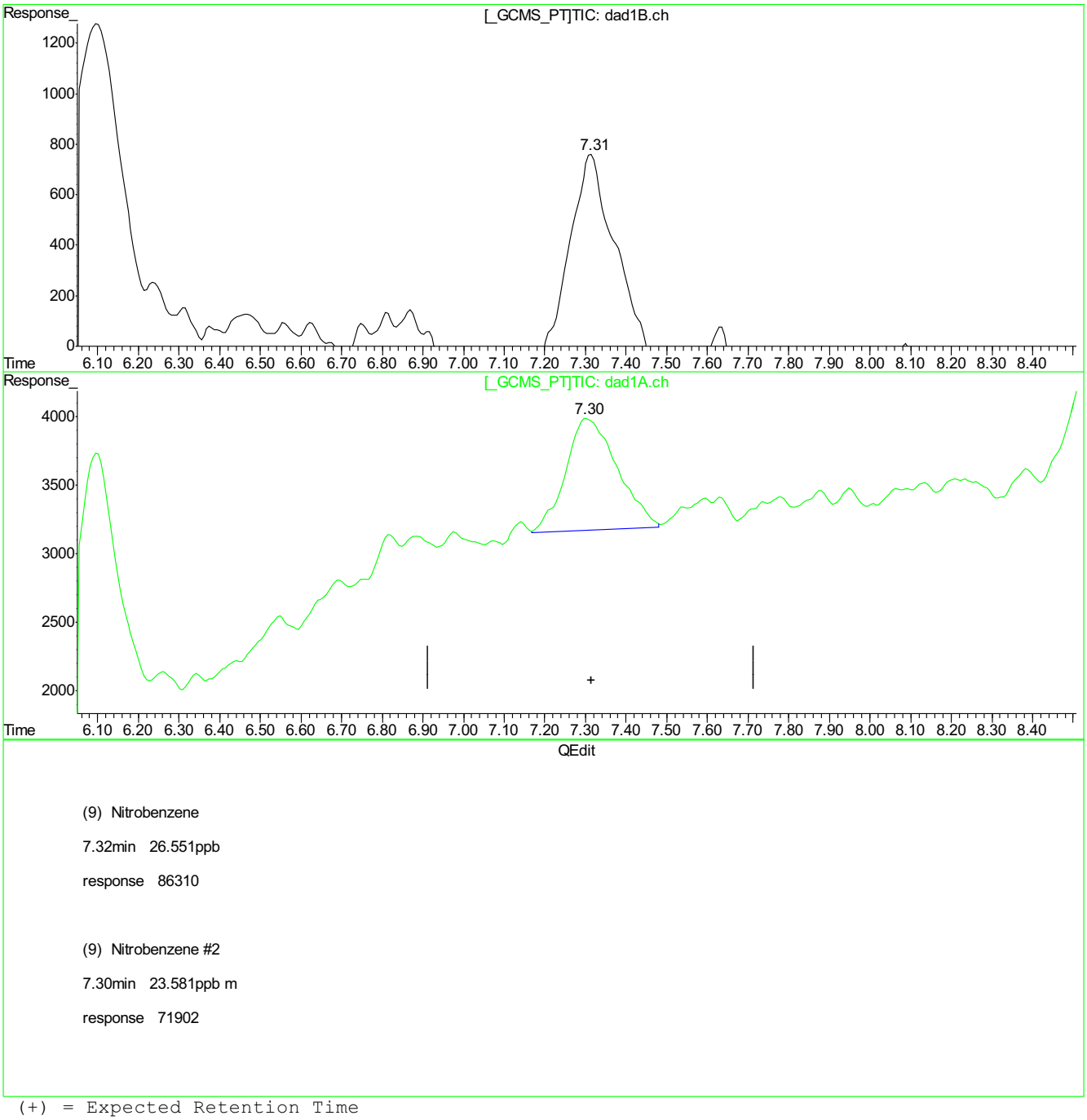
9

BB054261.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 26.551ppb

response 86310

(9) Nitrobenzene #2

7.30min 23.581ppb m

response 71902

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:43 2017

9.5.1.13

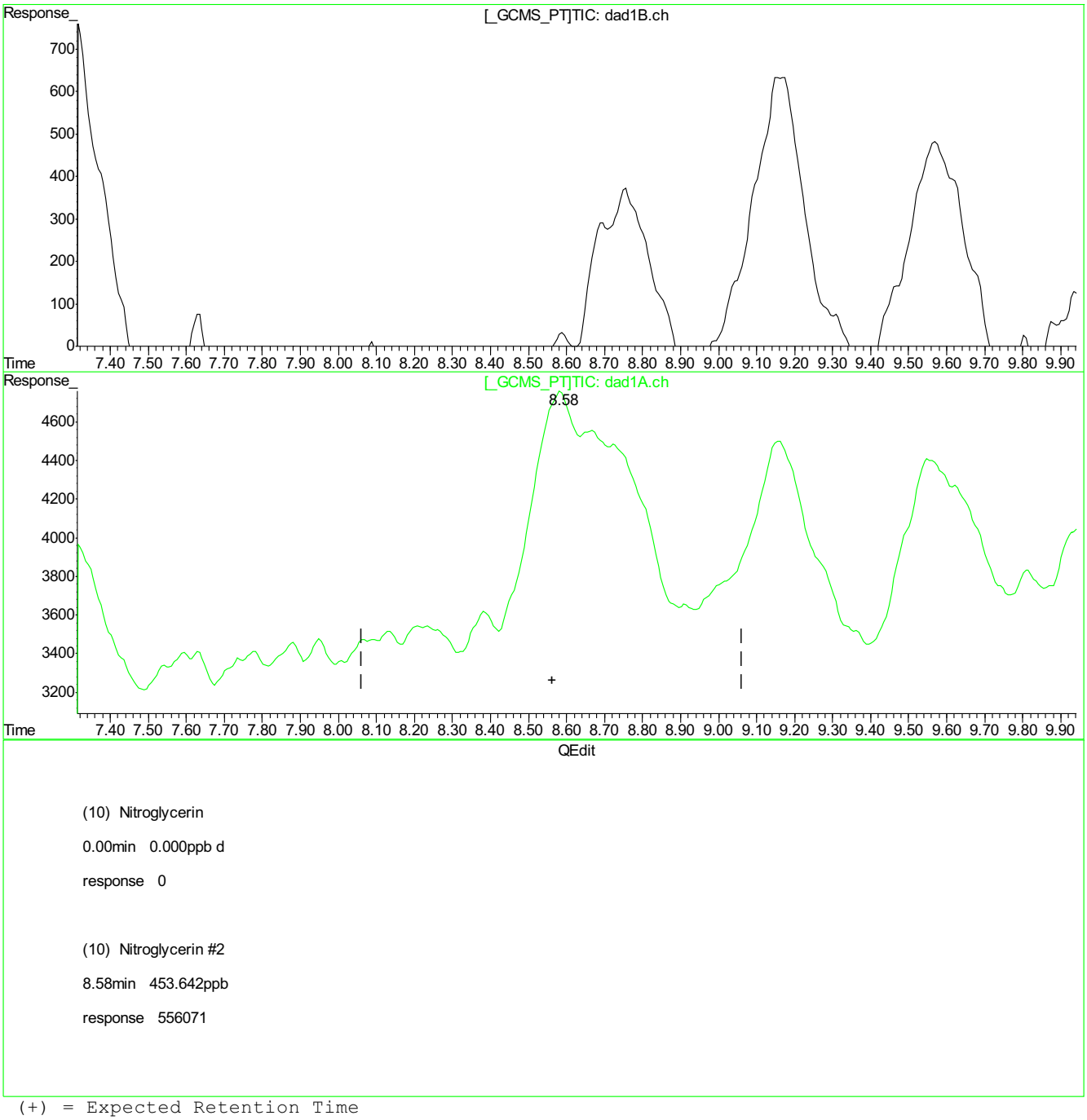
9

BB054261.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.58min 453.642ppb

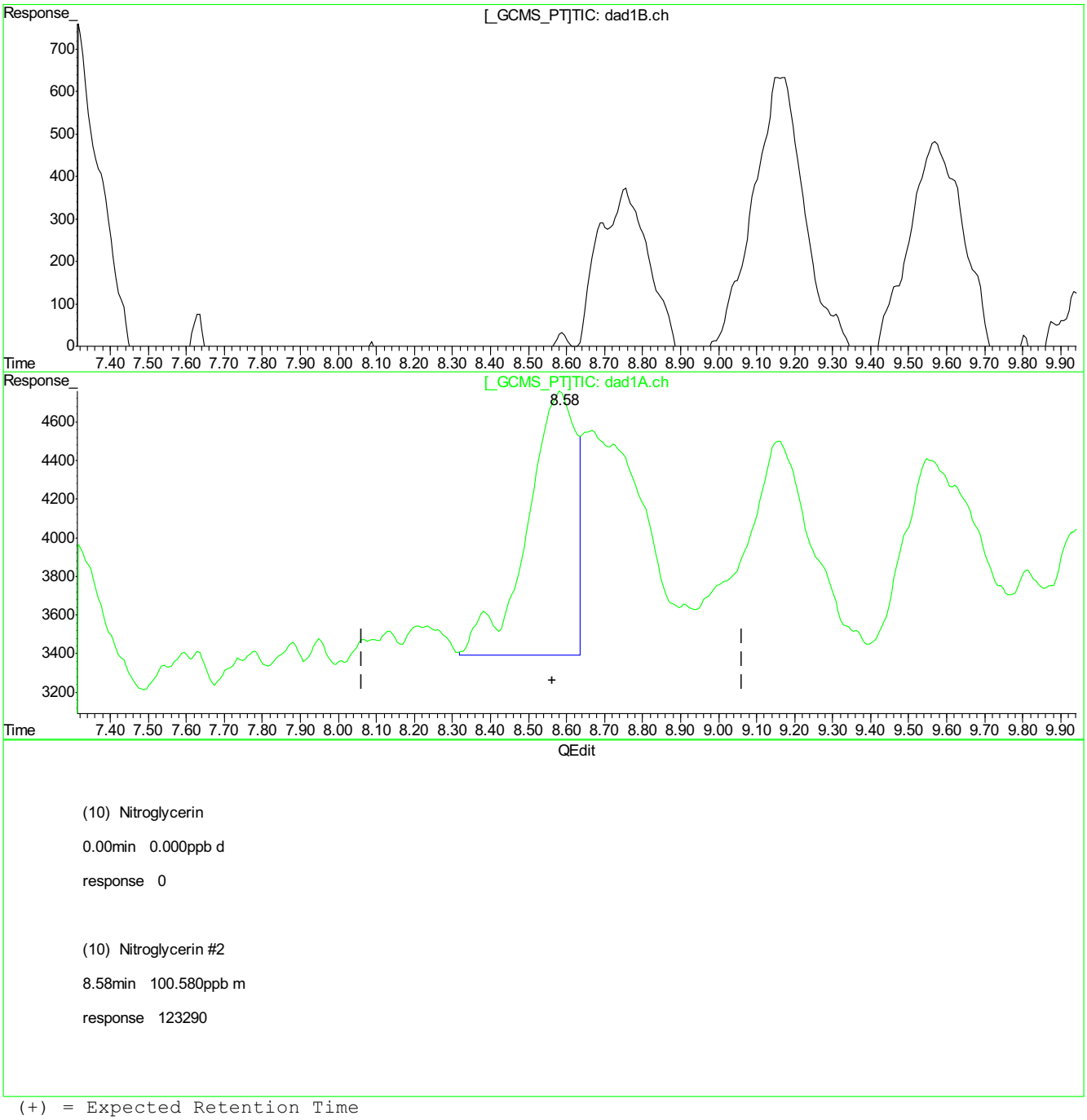
response 556071

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:49:49 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.58min 100.580ppb m

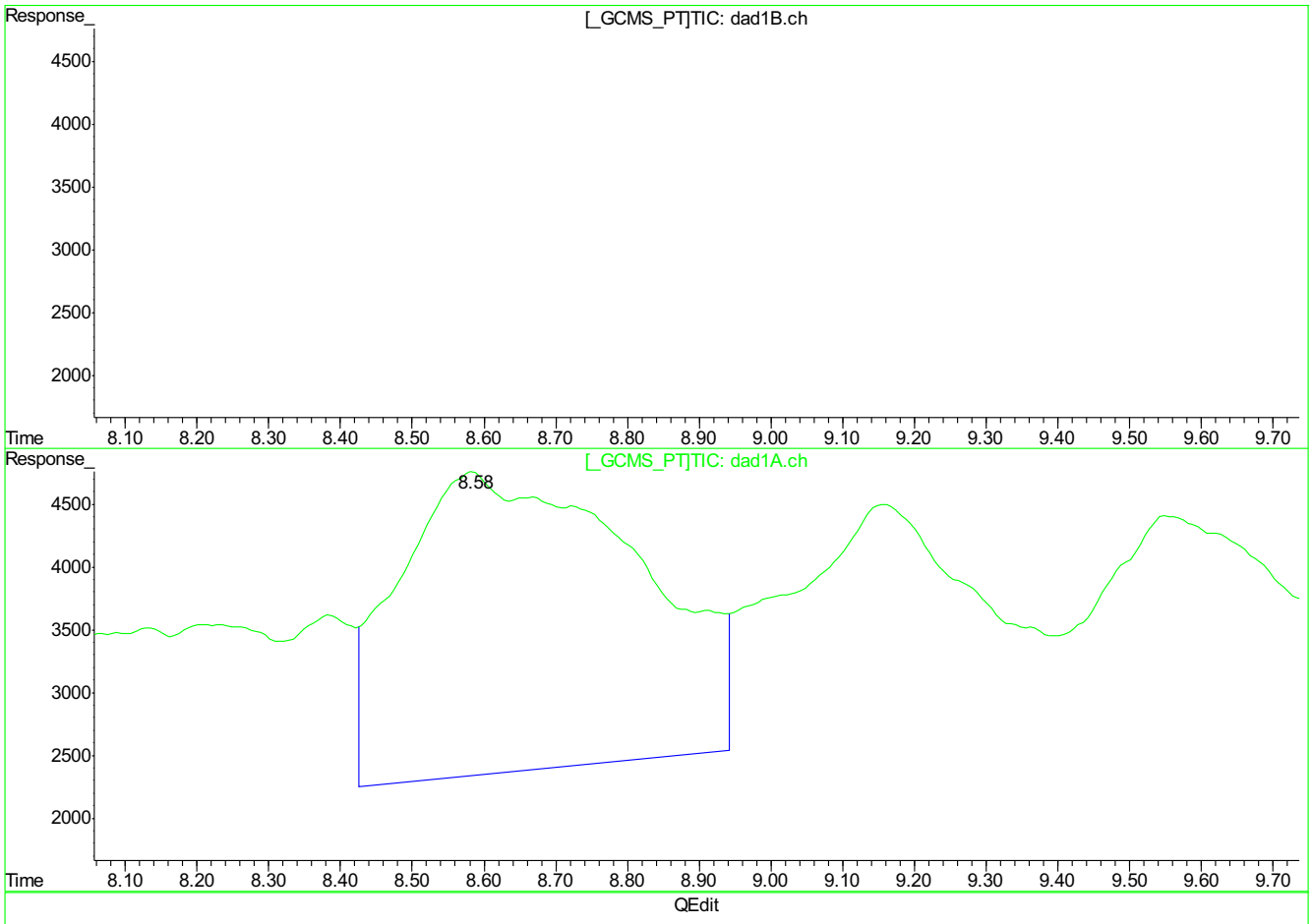
response 123290

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:50:09 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 25.242ppb

response 80894

(11) Tetryl #2

8.58min 107.122ppb

response 556071

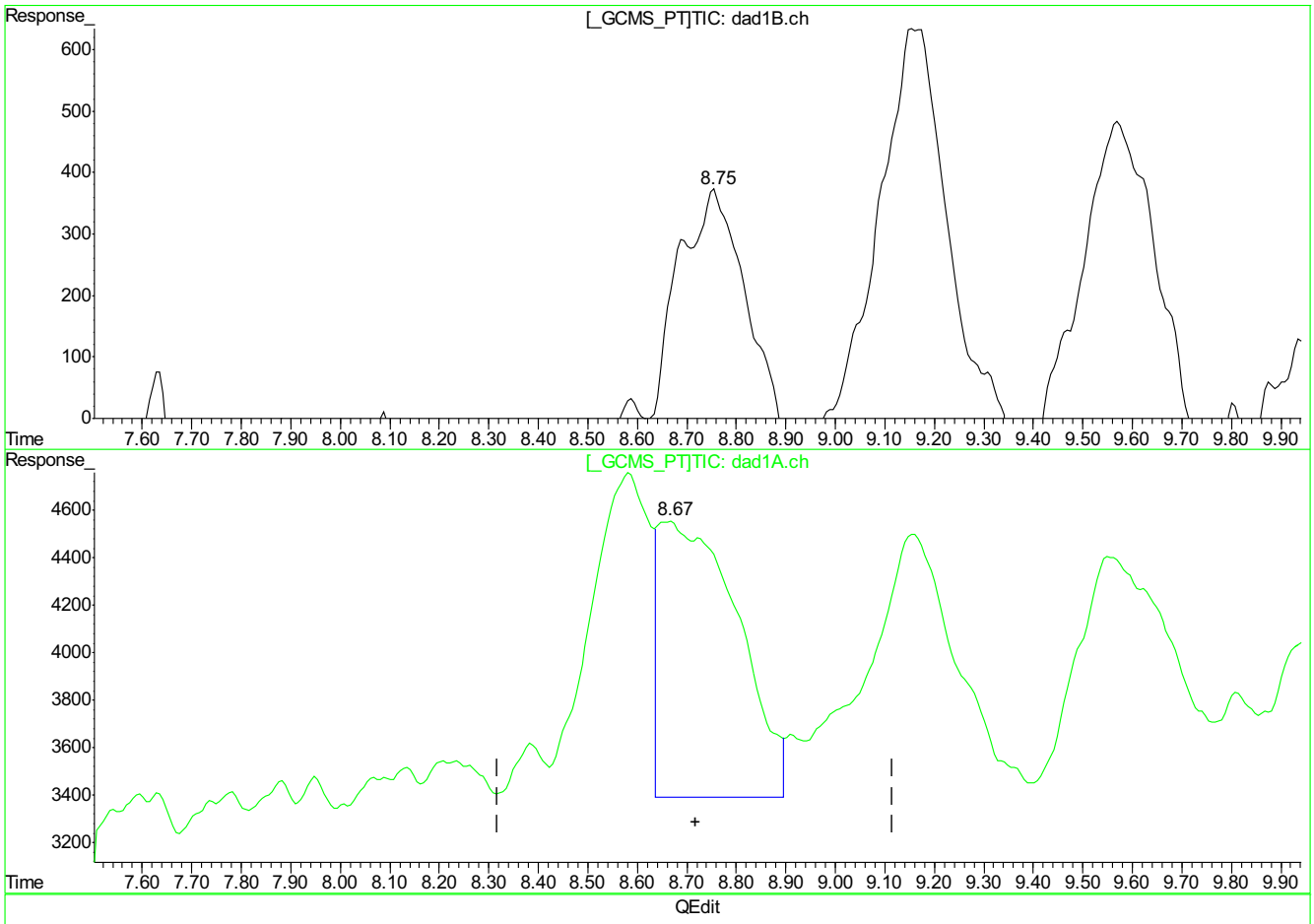
(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:50:23 2017

BB054261.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 25.242ppb

response 80894

(11) Tetryl #2

8.67min 24.846ppb m

response 128977

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:50:58 2017

9.5.1.17

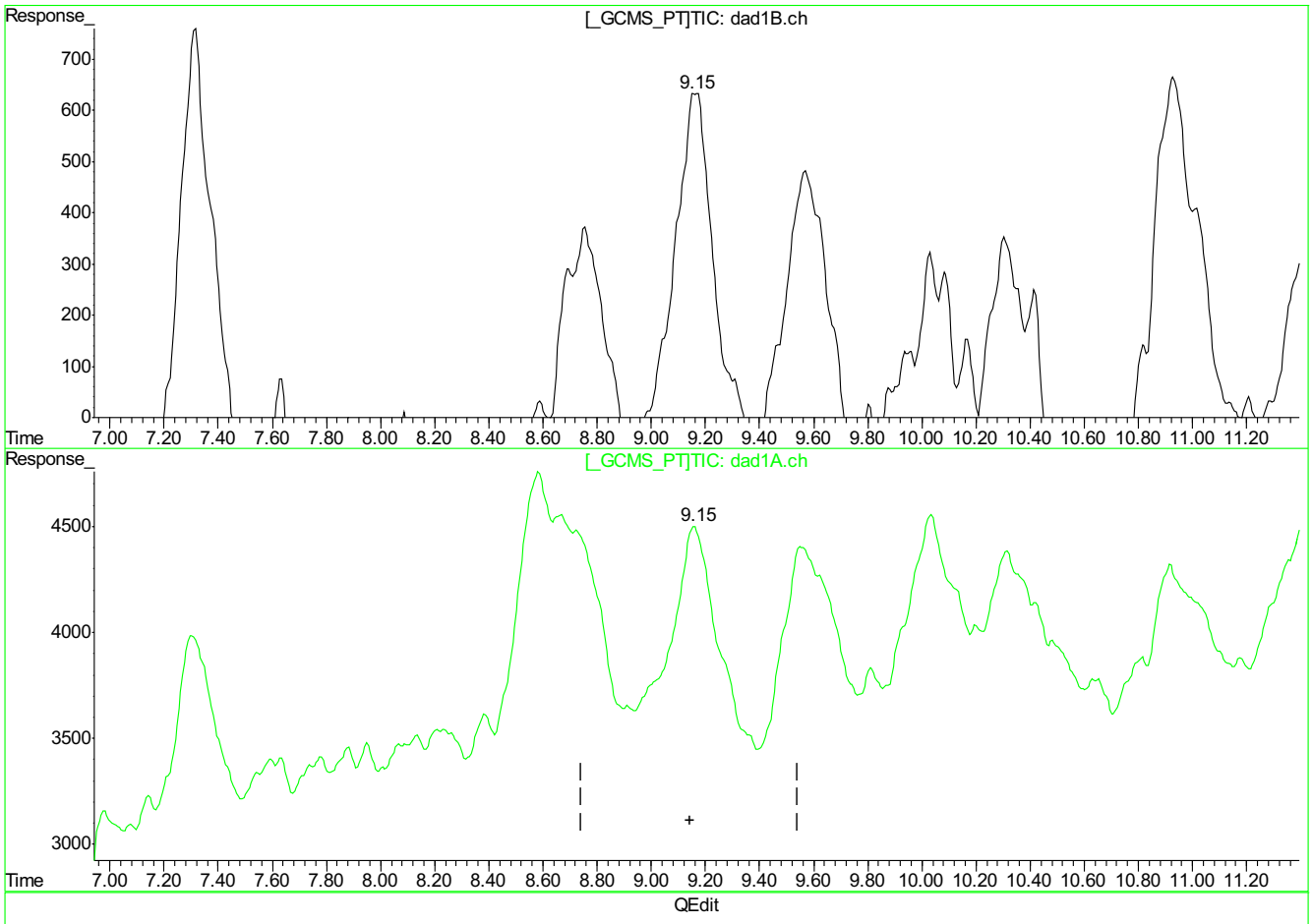
9

BB054261.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 25.833ppb

response 106956

(12) 2,4,6-Trinitrotoluene #2

9.16min 70.582ppb

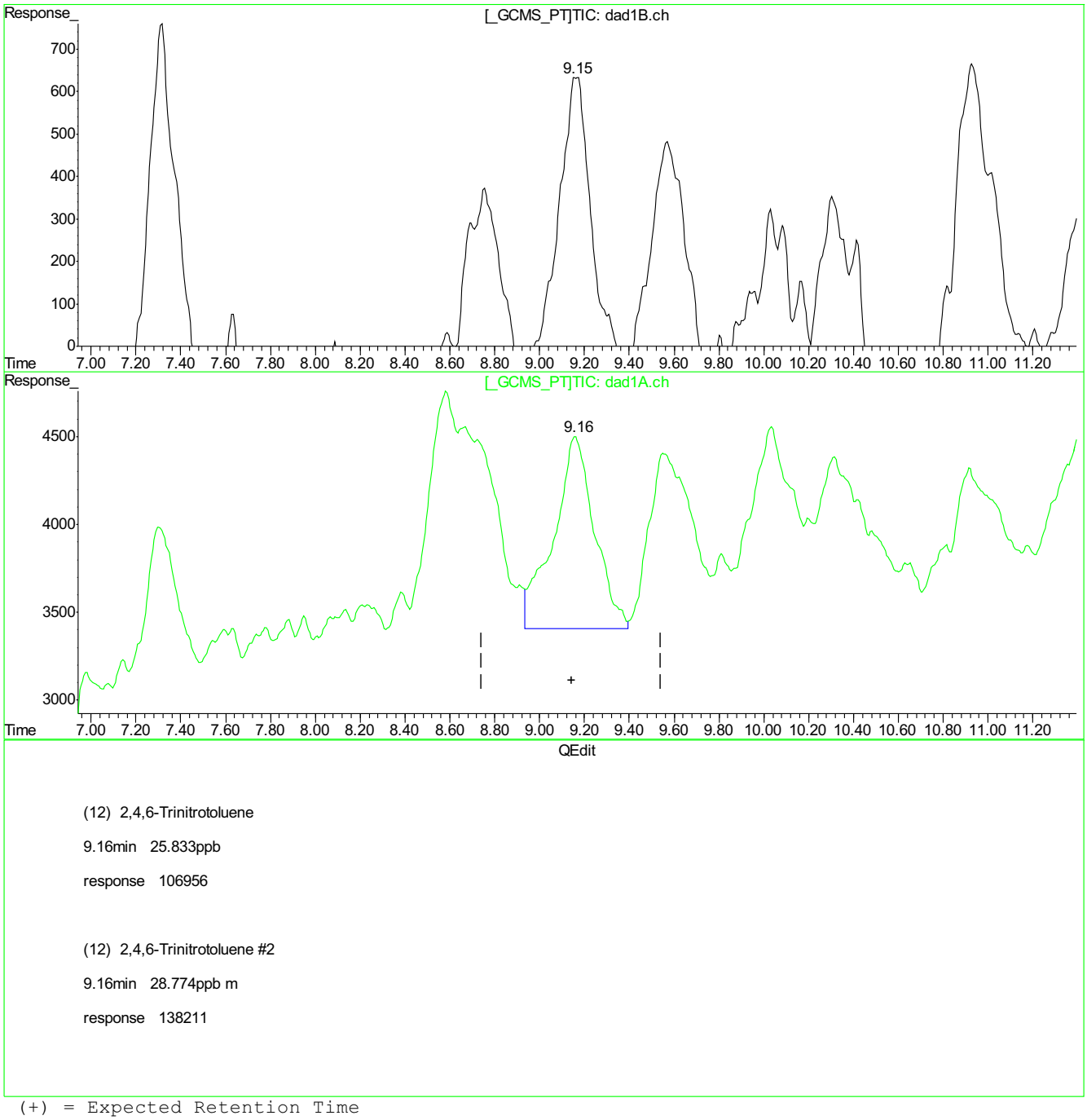
response 339029

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:51:07 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



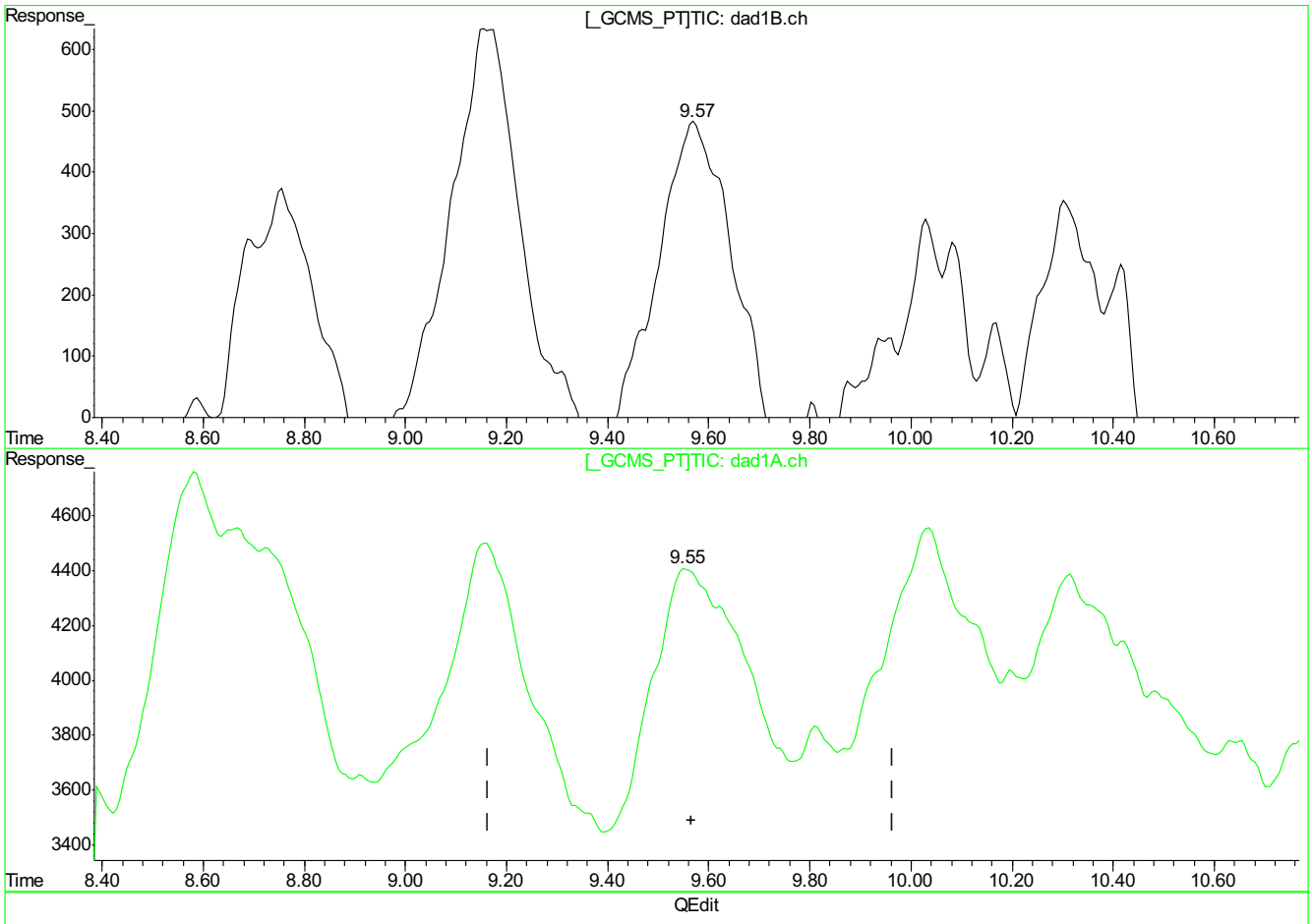
(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:51:28 2017

9.5.1.19
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 24.685ppb

response 87397

(13) 2-Amino-4,6-Dinitrotoluene #2

9.56min 48.484ppb

response 244776

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:51:33 2017

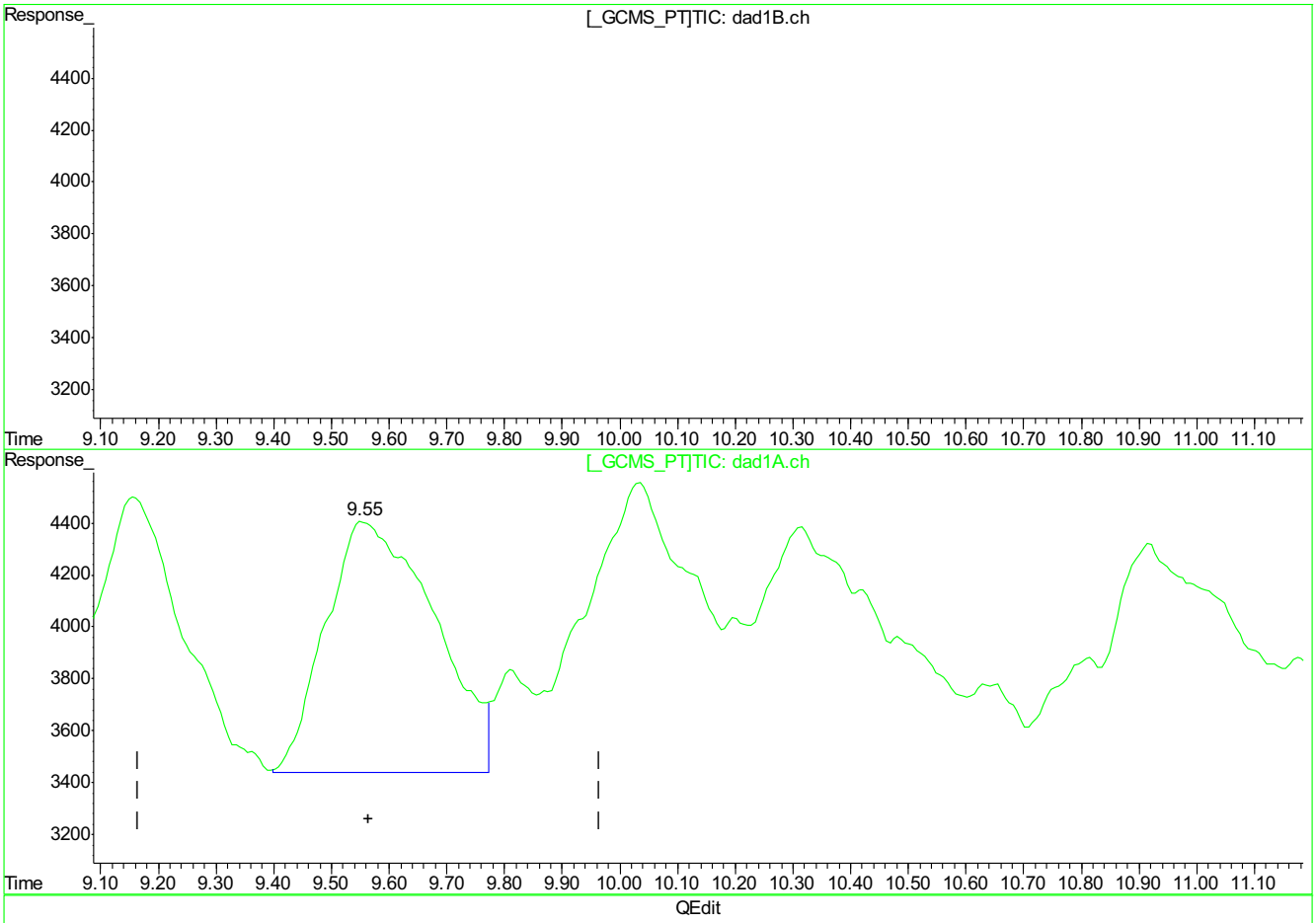
9.5.1.20

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 24.685ppb

response 87397

(13) 2-Amino-4,6-Dinitrotoluene #2

9.55min 25.039ppb m

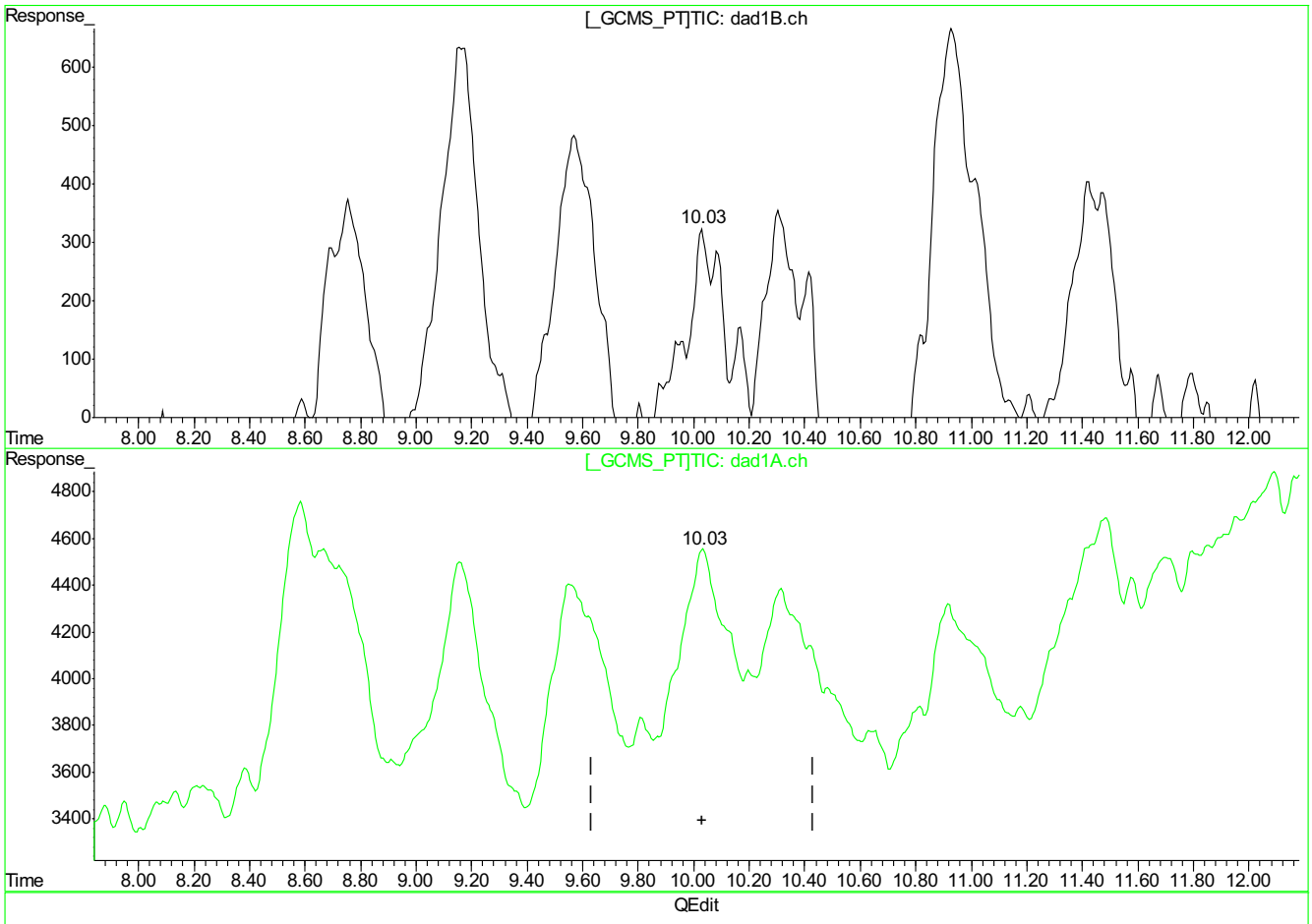
response 126474

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:04 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.03min 22.494ppb

response 60607

(14) 4-Amino-2,6-Dinitrotoluene #2

10.03min 39.233ppb

response 198528

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:11 2017

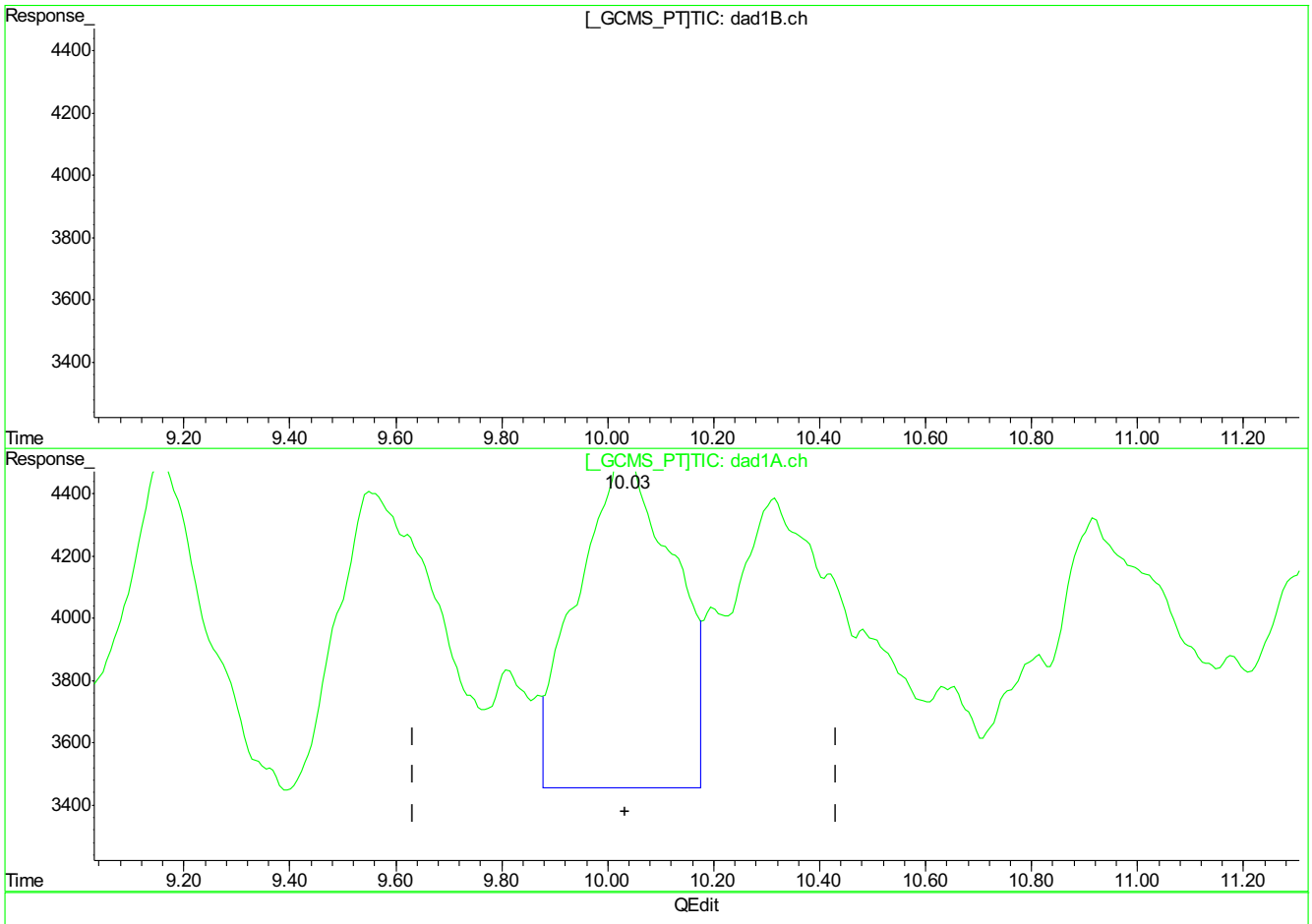
9.5.1.22

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.03min 22.494ppb

response 60607

(14) 4-Amino-2,6-Dinitrotoluene #2

10.03min 26.090ppb m

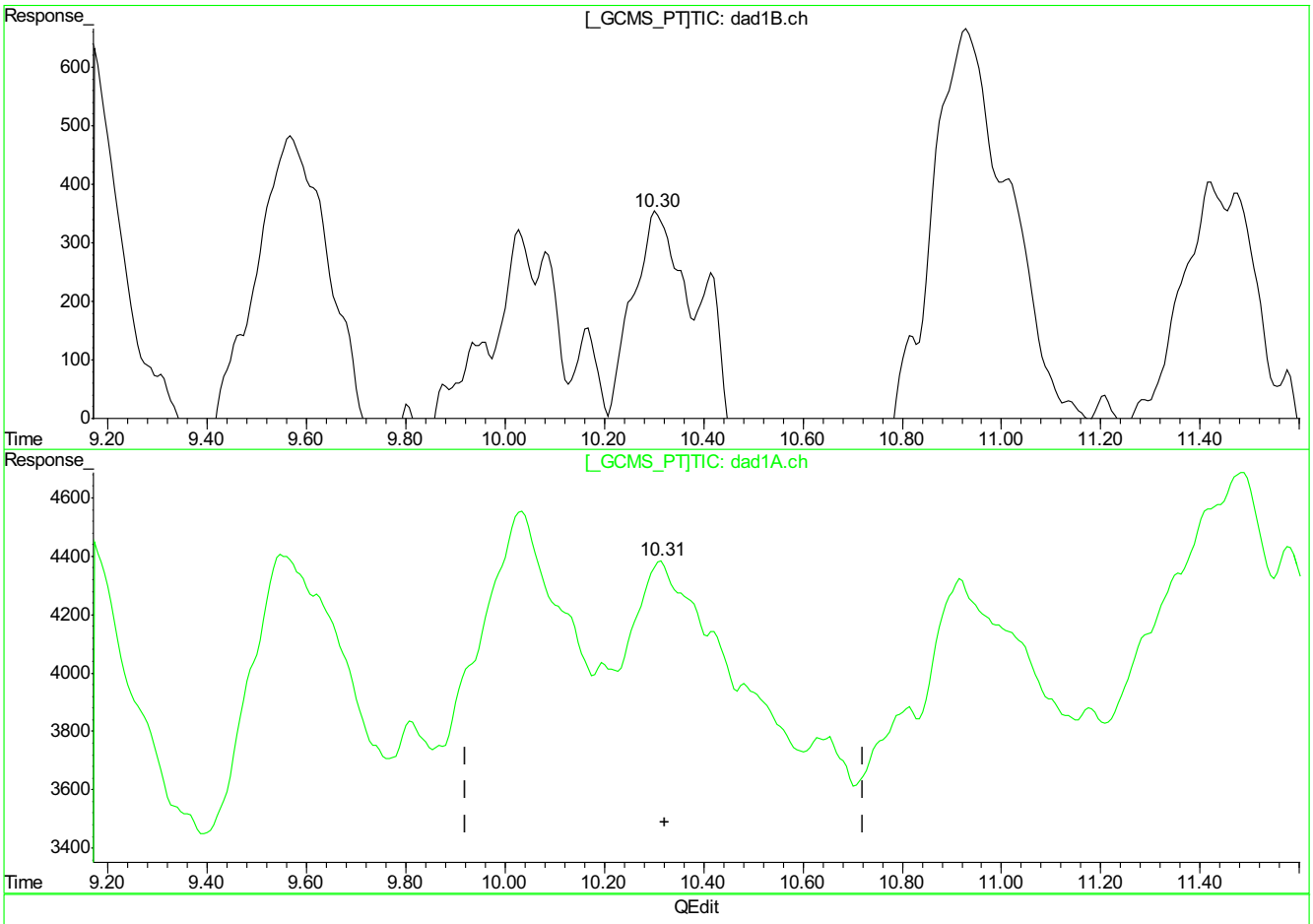
response 132018

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.31min 17.827ppb

response 44842

(15) 3,4-Dinitrotoluene #2 (S)

10.31min 43.764ppb

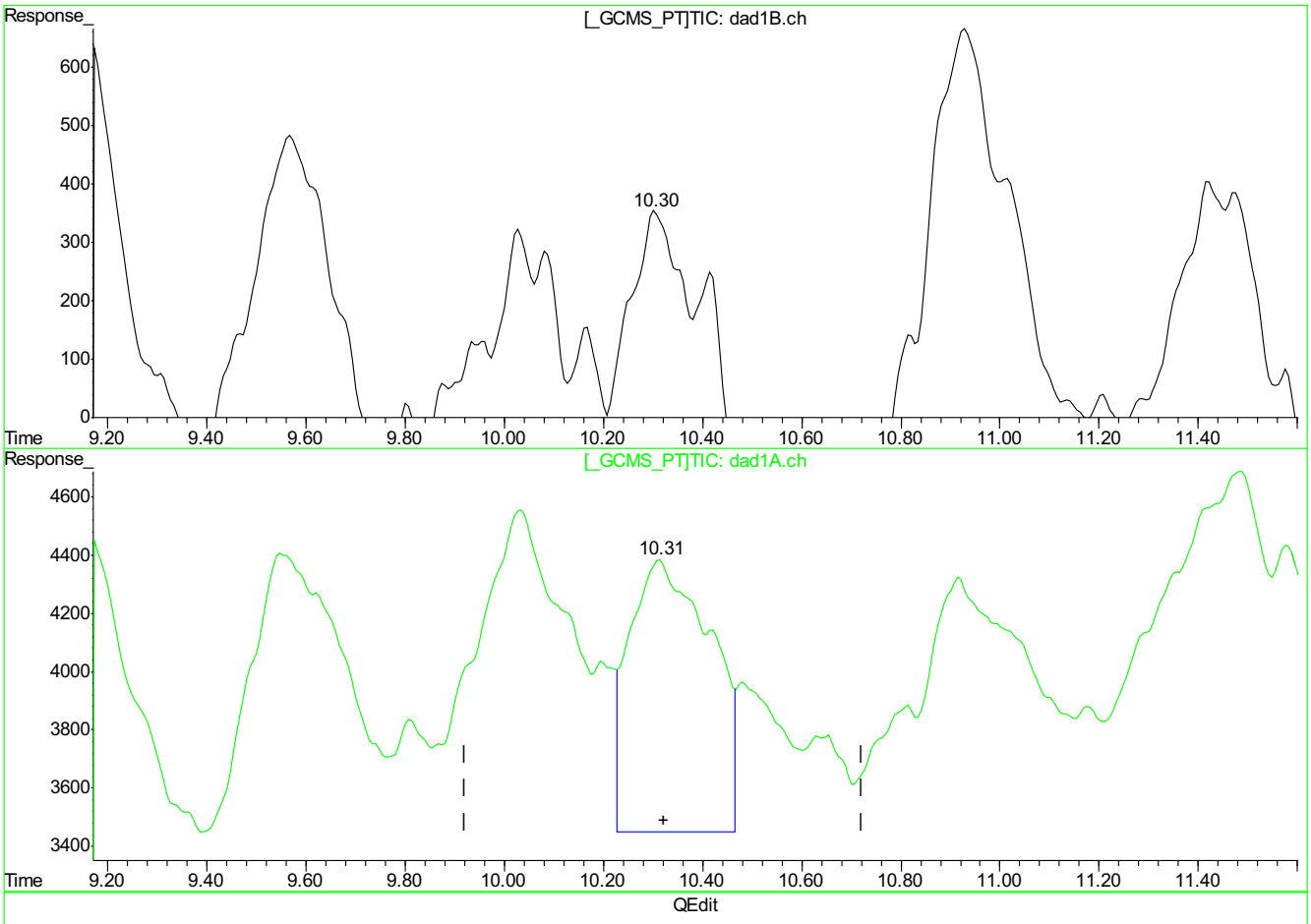
response 178335

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:52:42 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.31min 17.827ppb

response 44842

(15) 3,4-Dinitrotoluene #2 (S)

10.31min 25.955ppb m

response 105766

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:15 2017

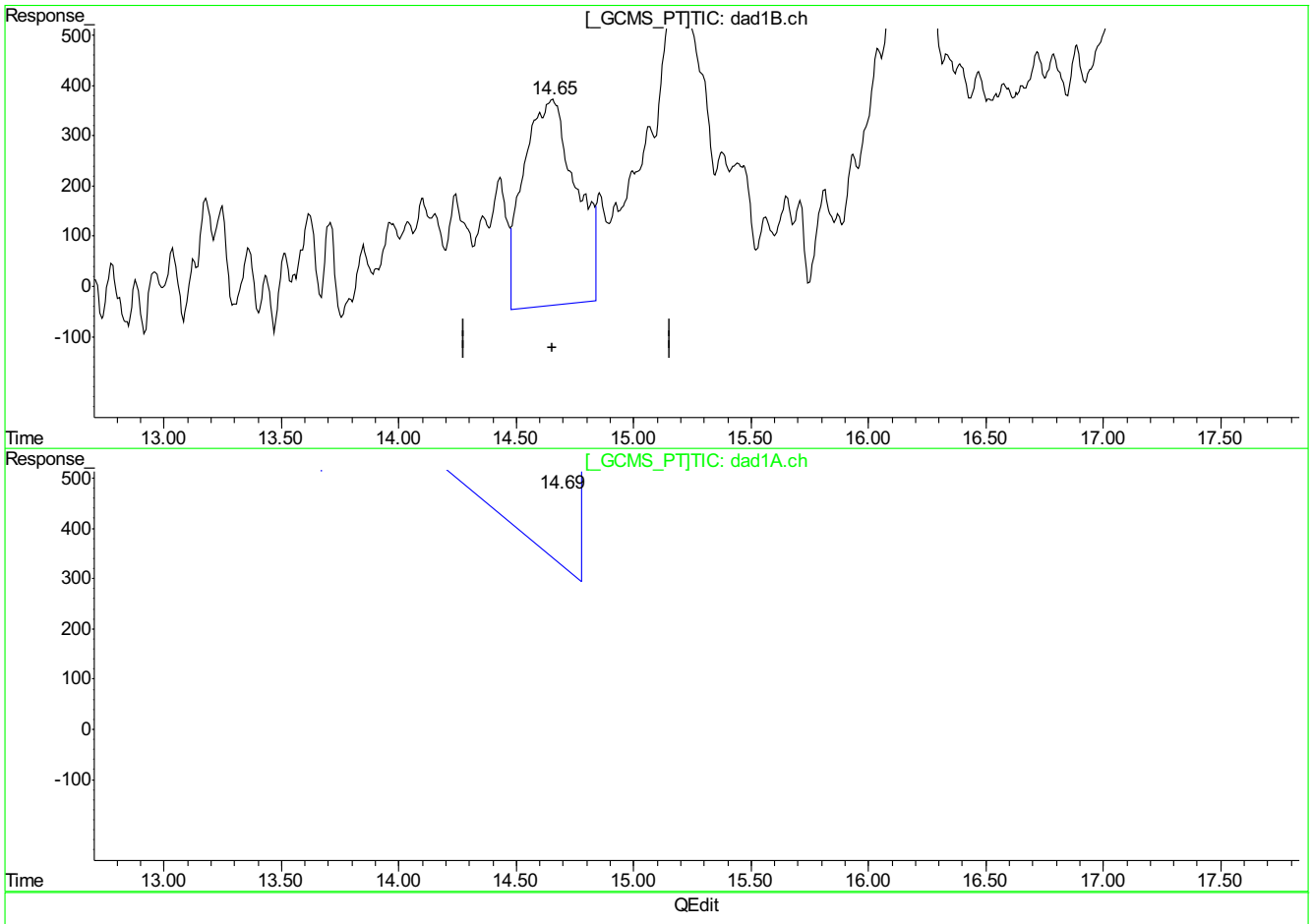
9.5.1.25

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration

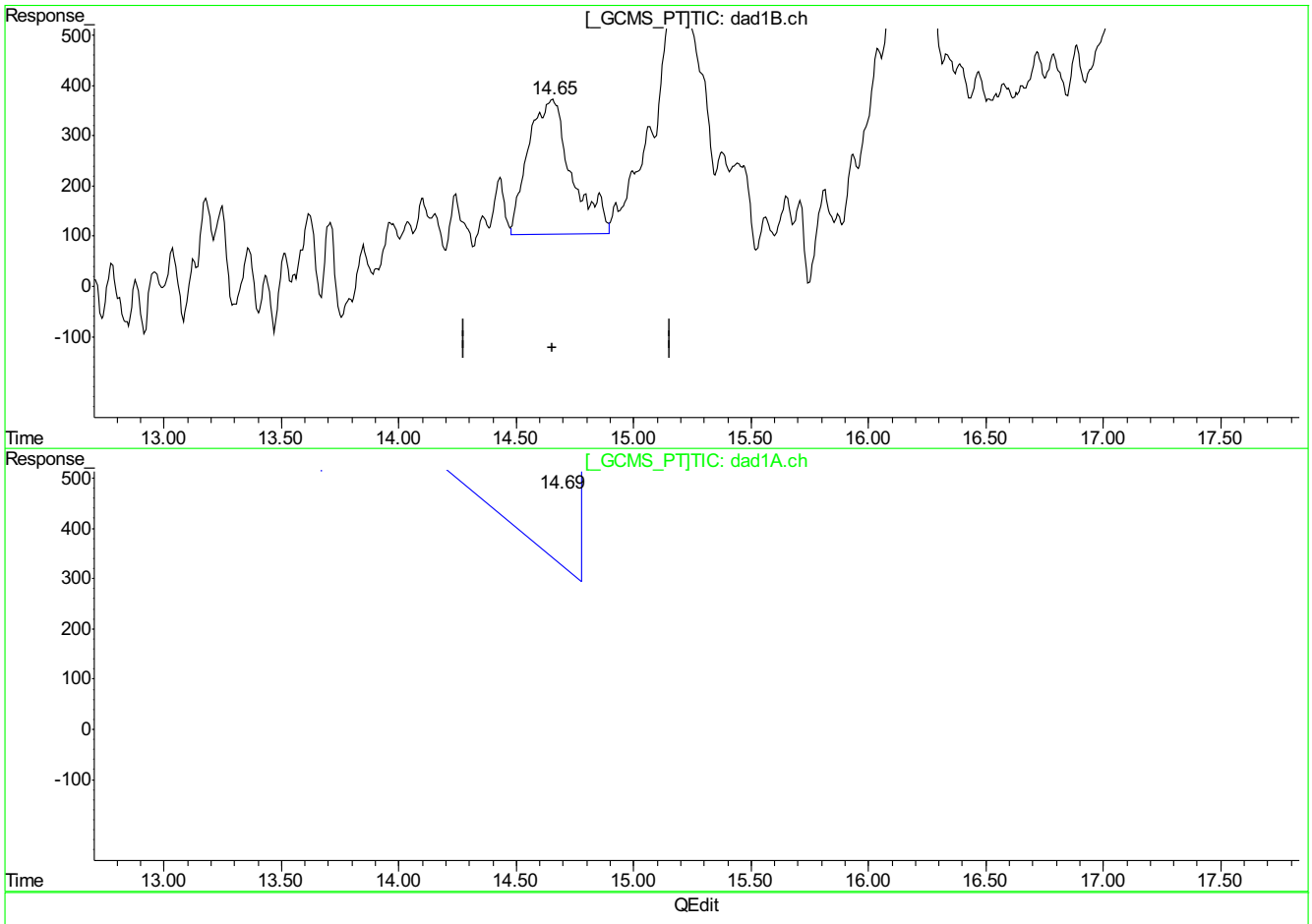


(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:34 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:42 2017

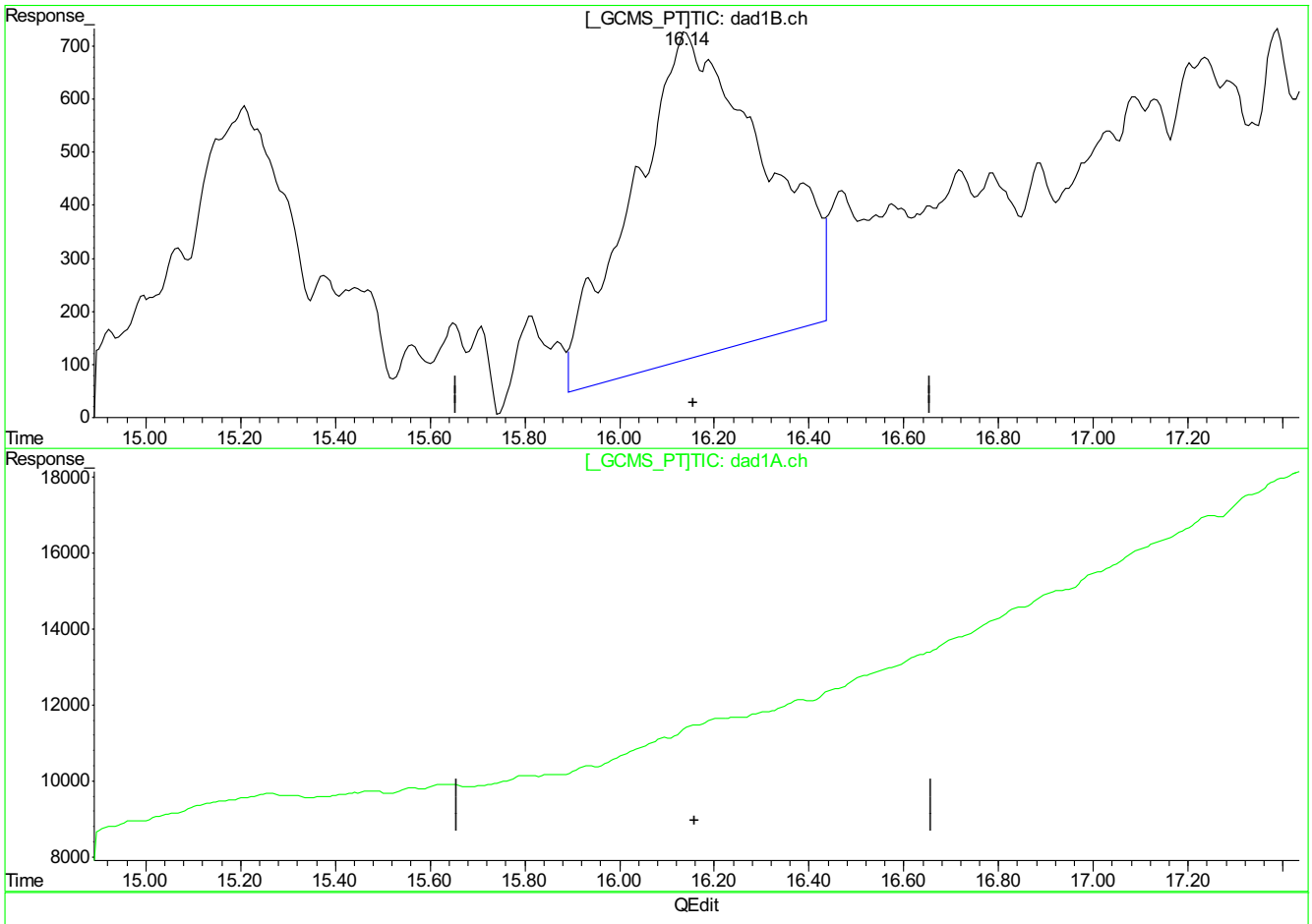
9.5.1.27

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



QEdit

(20) m-Nitrotoluene

16.14min 47.510ppb

response 117597

(20) m-Nitrotoluene #2

0.00min 0.000ppb

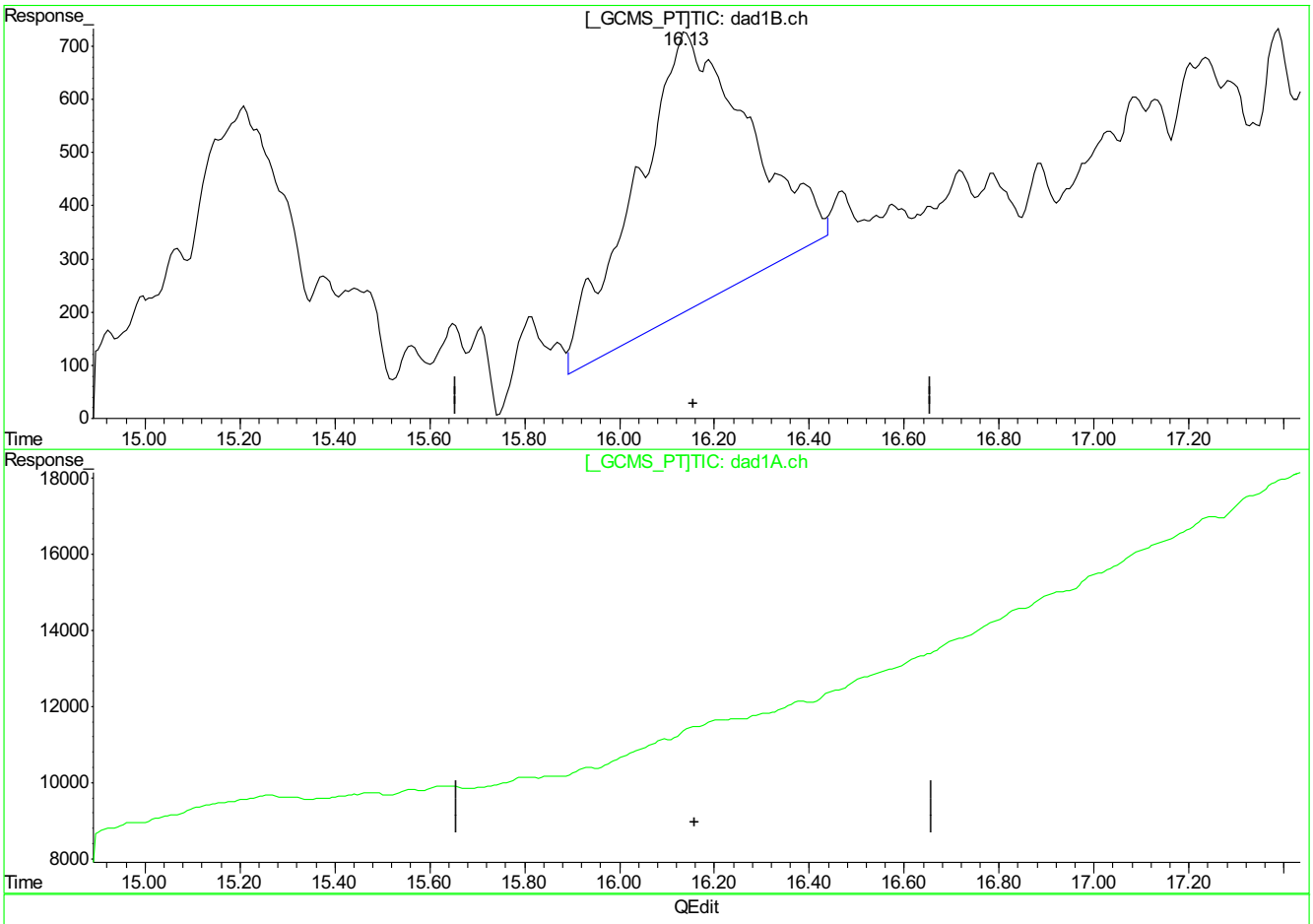
response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:49 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.13min 34.921ppb m

response 86087

(20) m-Nitrotoluene #2

0.00min 0.000ppb

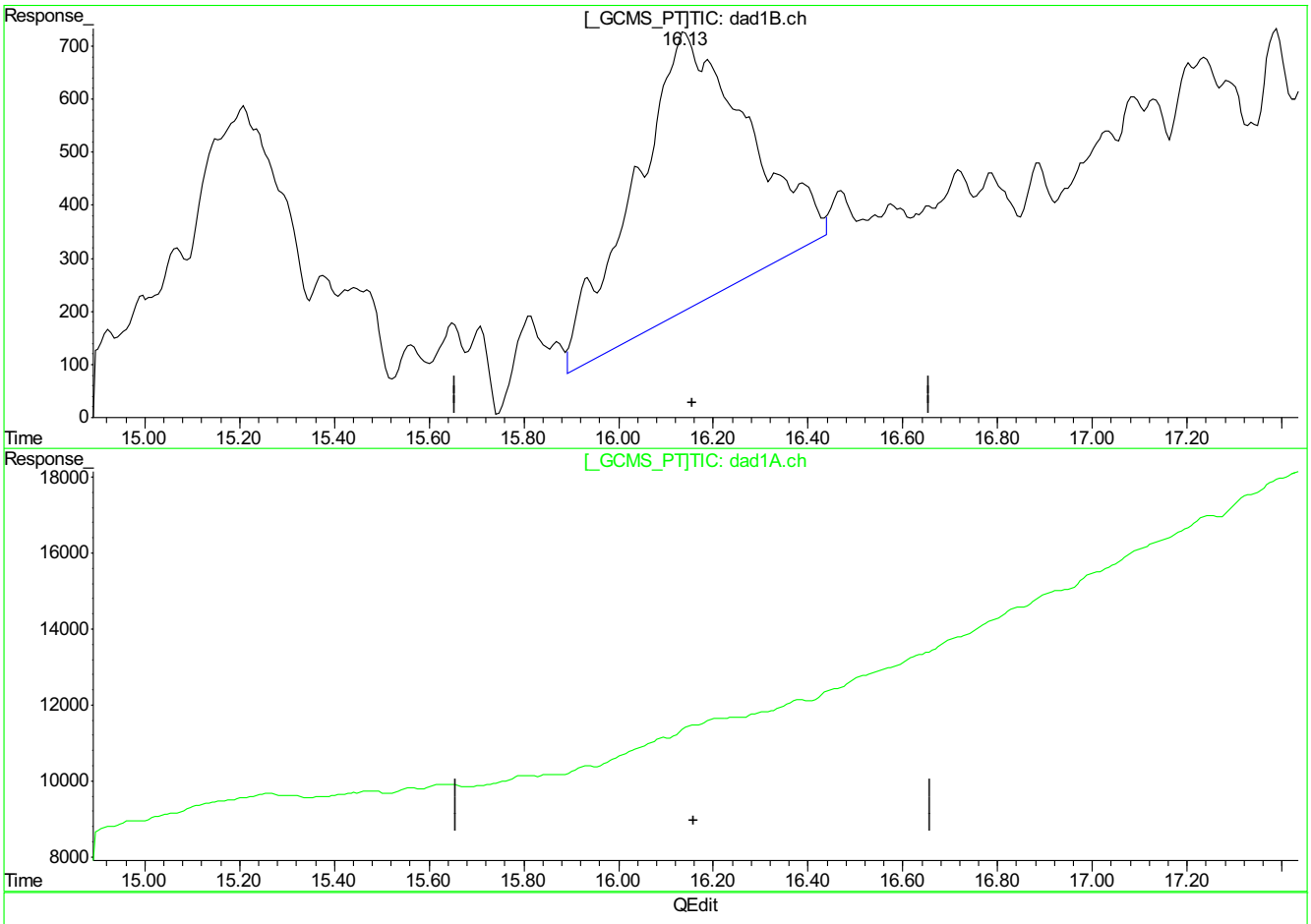
response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:53:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.13min 34.921ppb m

response 86087

(20) m-Nitrotoluene #2

0.00min 0.000ppb

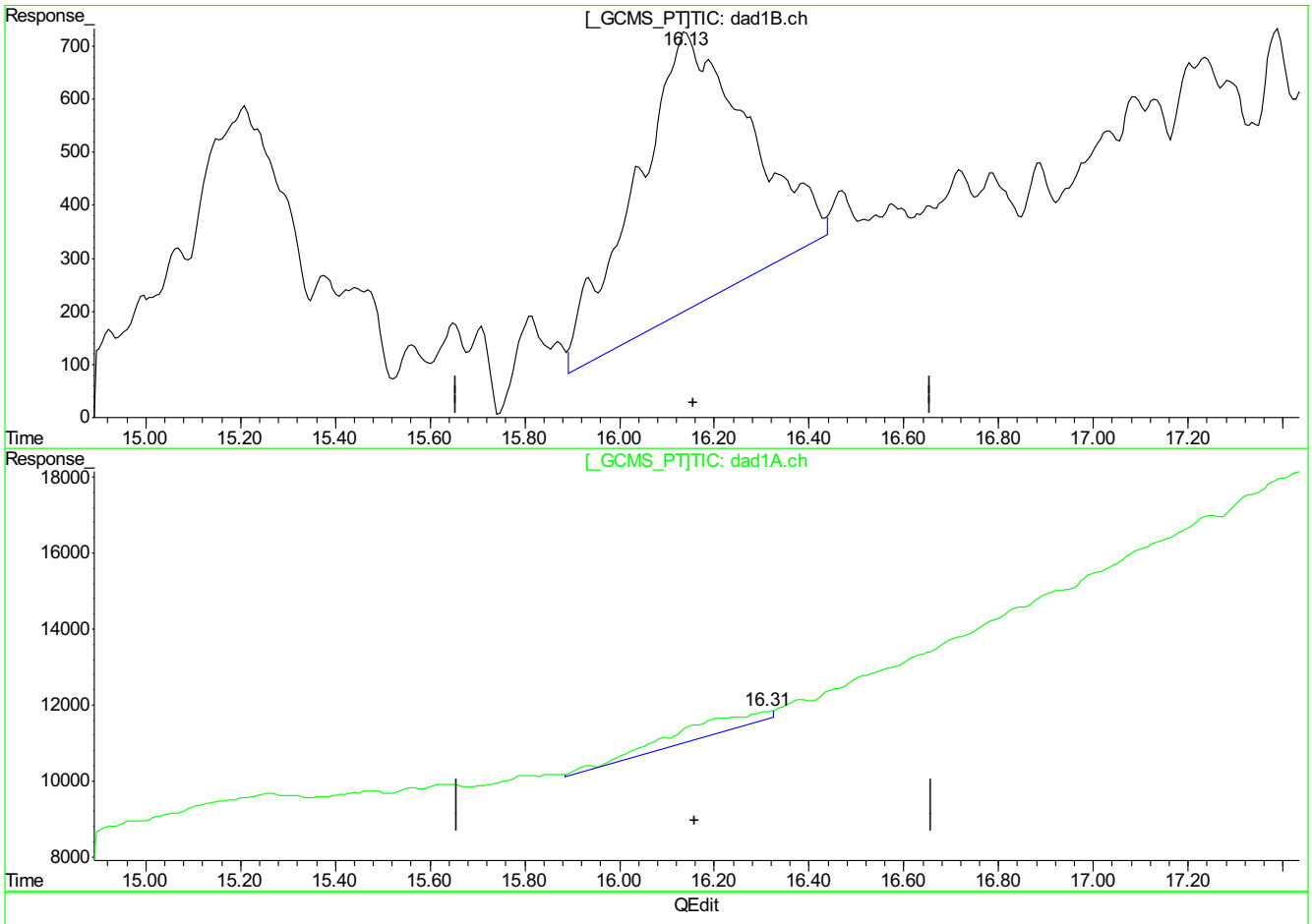
response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:21 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.13min 34.921ppb m

response 86087

(20) m-Nitrotoluene #2

16.31min 16.262ppb m

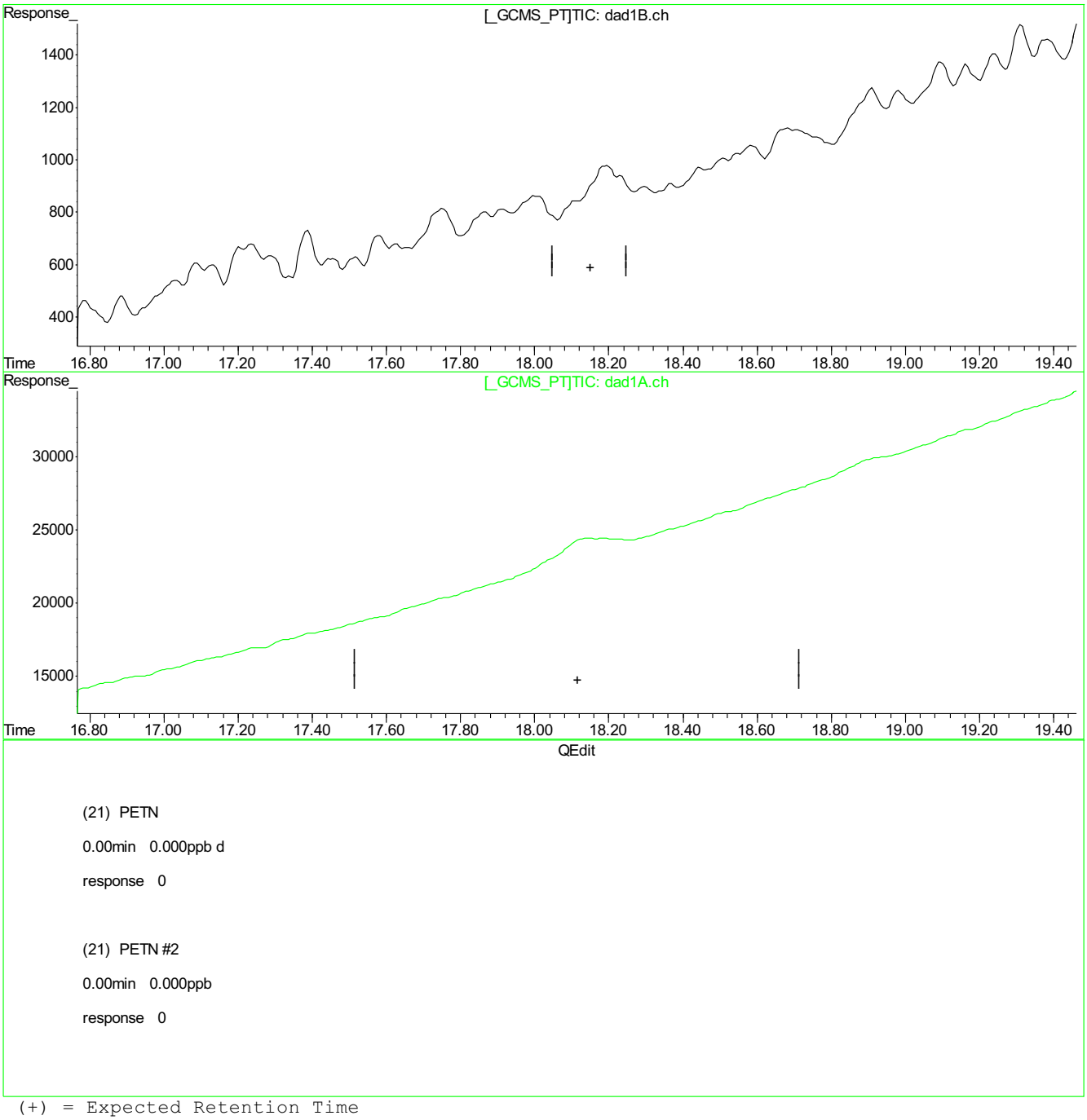
response 59952

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:28 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:32 2017

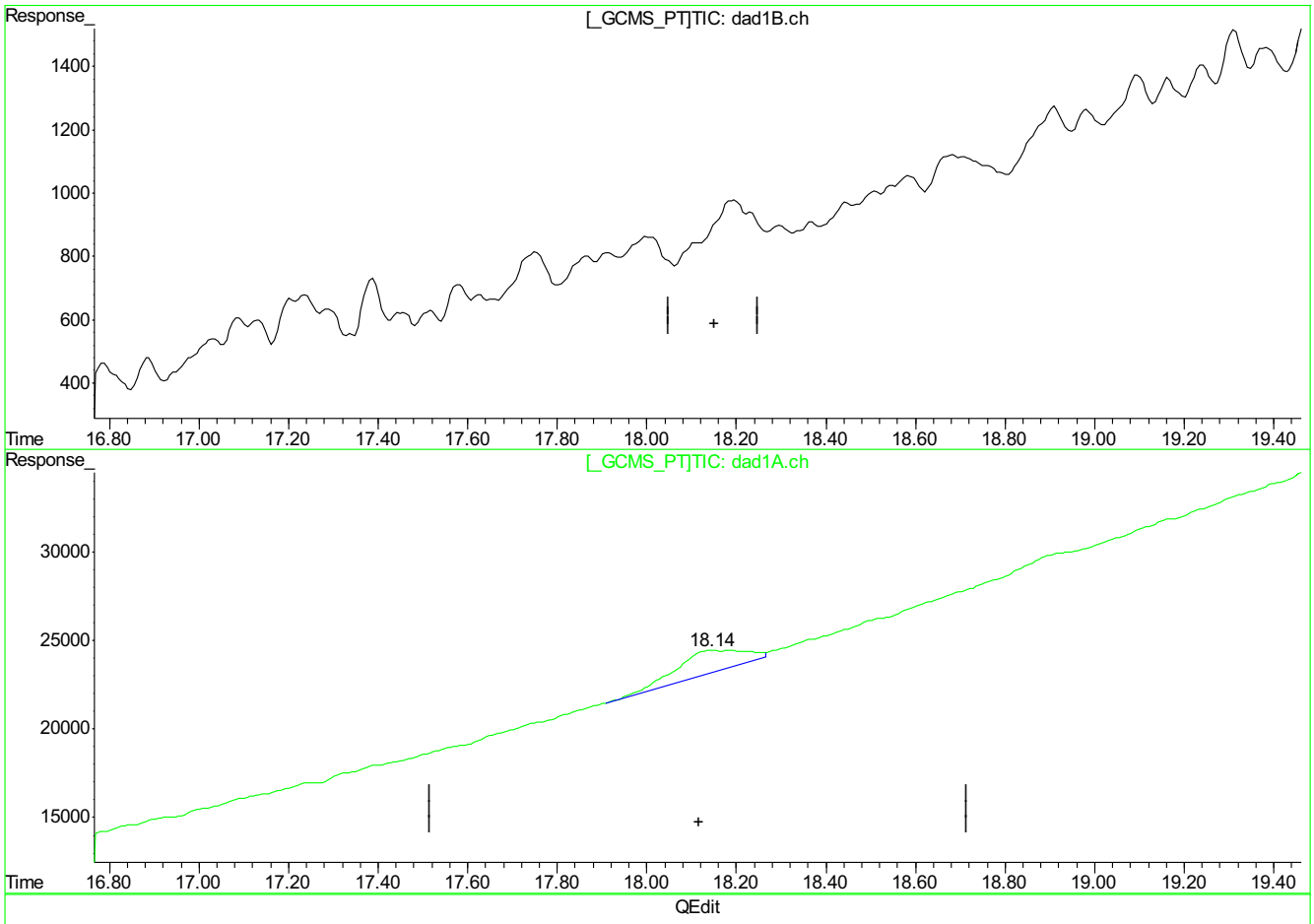
9.5.1.32

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054261.D\dad1A.ch
Acq On : 19-Apr-2017, 10:13:52 Operator: evitam
Sample : ic1578-20 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.14min 99.600ppb m

response 134751

(+) = Expected Retention Time
BB054261.D 8330B_0419PLUS.M Wed Apr 19 14:54:41 2017

9.5.1.33

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:01 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.38	10.34	130277	233981	51.980	57.420m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		10.40%#	11.48%#
	Target Compounds						
1)	TNX	1.36	1.36	138037	230626	42.040	44.855
2)	HMX	1.48	1.48	85249	223810	47.046	42.807
3)	DNX	1.73	1.73	164322	307884	56.497	59.281
4)	MNX	2.29	2.29	118001	186926	50.938	51.341
5)	RDX	2.87	2.87	102890	162404	47.797m	47.823m
6)	1,3,5-Trinitrobe	4.49	4.49	229688	401883	52.008	46.352
7)	1,3-Dinitrobenze	5.74	5.74	273022	181664	47.759	46.654m
8)	3,5-Dinitroanili	6.10	6.10	210696	312214	43.329	38.963m
9)	Nitrobenzene	7.33	7.34	179295	164503	55.155	53.951m
10)	Nitroglycerin	0.00	8.60	0	321067	N.D. d	261.926m
11)	Tetryl	8.75	8.74	147543	224795	46.040	43.304m
12)	2,4,6-Trinitroto	9.17	9.17	208462	256865	50.349	53.477m
13)	2-Amino-4,6-Dini	9.59	9.59	188621	279592	53.377	55.388m
14)	4-Amino-2,6-Dini	10.06	10.05	128016	275315	47.514	54.408m
16)	2,4-Dinitrotolue	10.96	10.96	246749	165725	46.802	50.735
17)	2,6-Dinitrotolue	11.46	11.47	173679	173562	57.382	45.963
18)	o-Nitrotoluene	14.68	14.67	120879	161420	52.818	76.834m#
19)	p-Nitrotoluene	15.20	15.22	175675	166589	52.295	68.192
20)	m-Nitrotoluene	16.18	16.19	171530	141359	68.825	38.343m#
21)	PETN	0.00	18.16	0	170717	N.D. d	126.184m

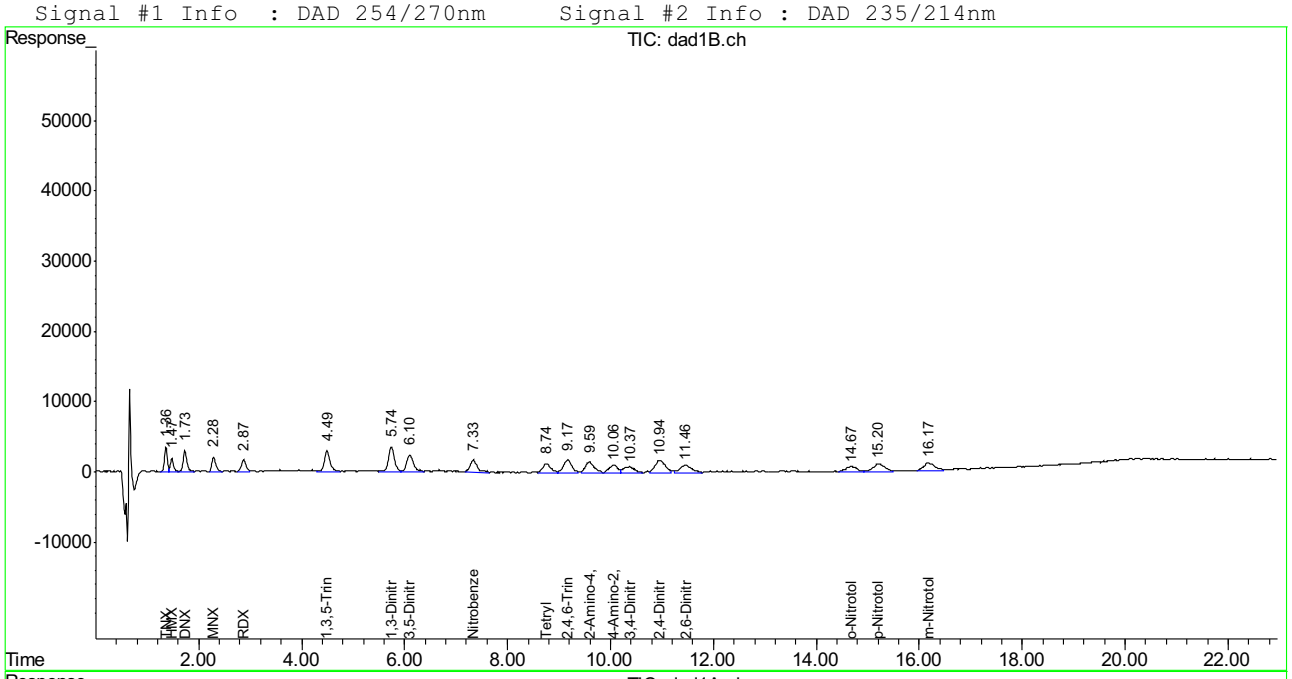
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054262.D 8330B_0419PLUS.M Thu Apr 20 11:04:50 2017 Page 1

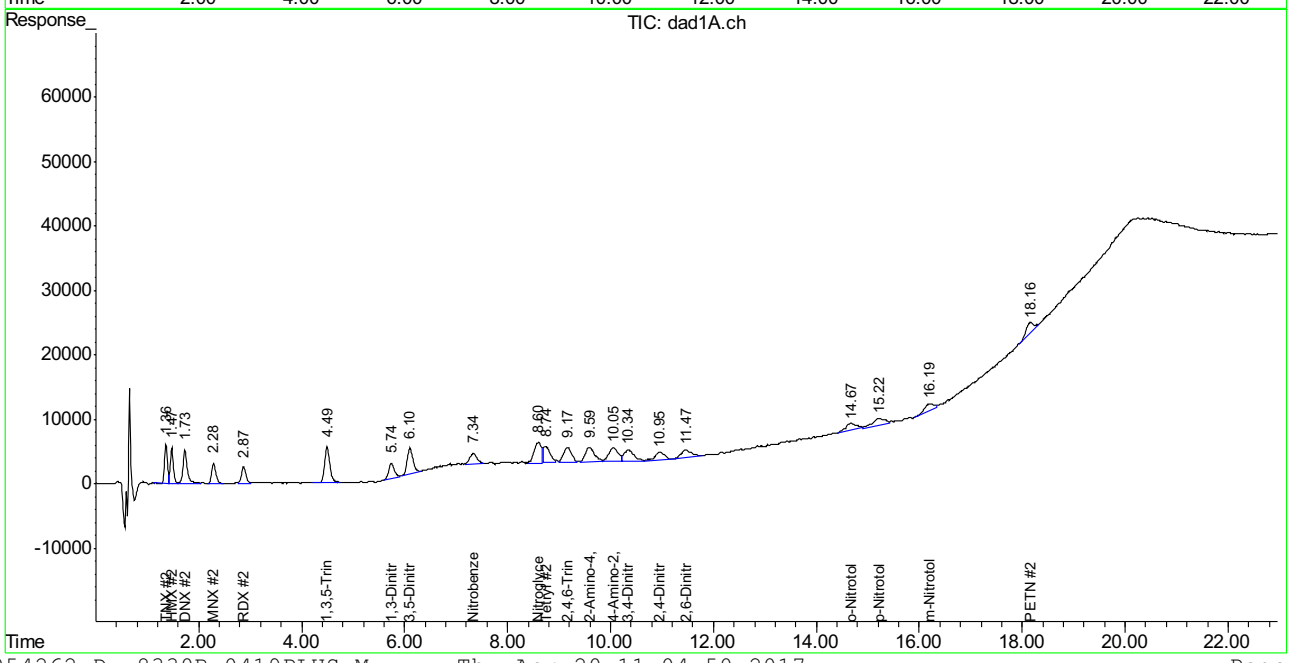
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 14:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

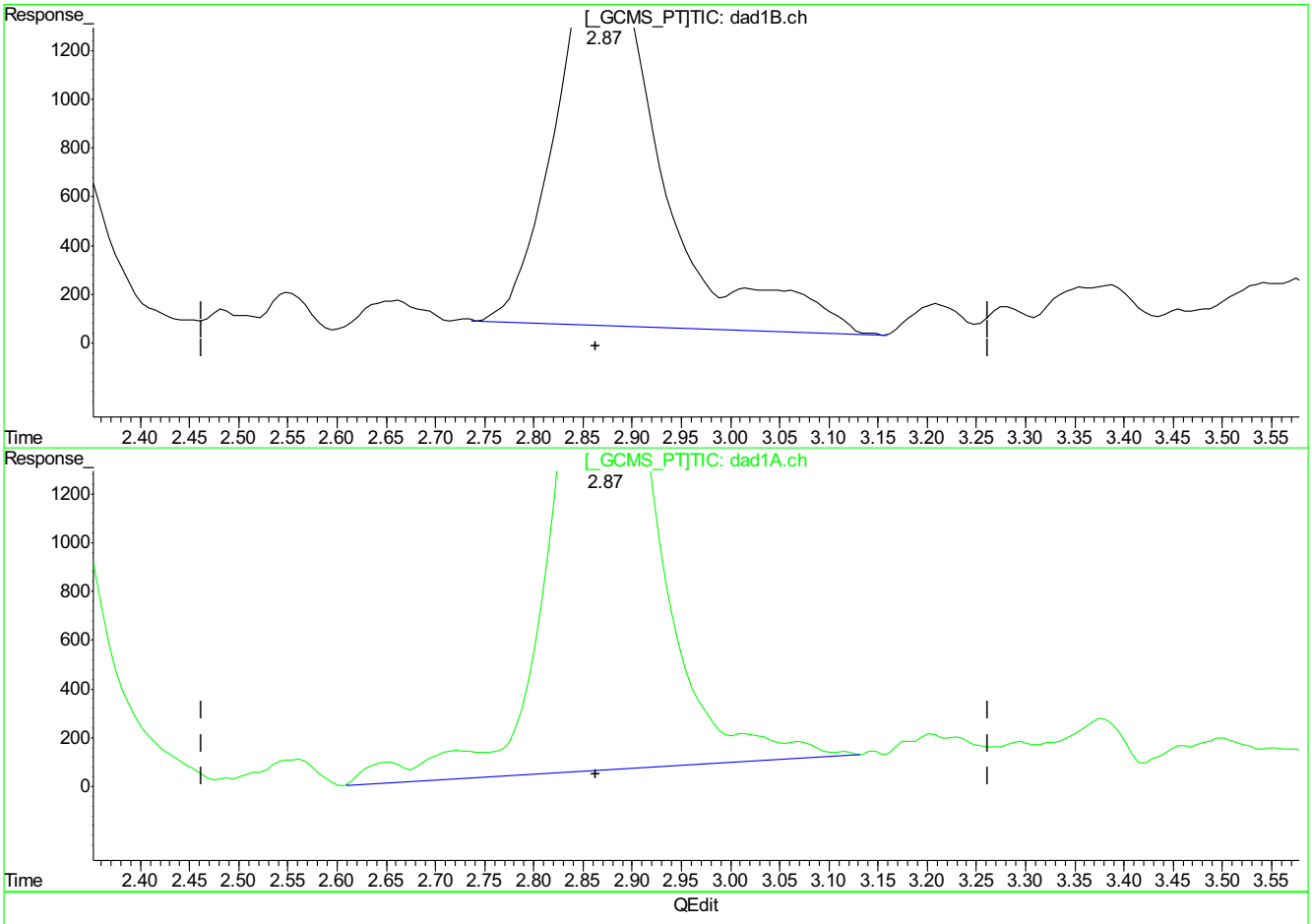
Sample Number: GBB1578-IC1578
Lab FileID: BB054262.D
Injection Time: 04/19/17 10:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	2.87	Poorly defined baseline
RDX	121-82-4	2	2.87	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	5.74	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.34	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.60	Poorly defined baseline
Tetryl	479-45-8	2	8.74	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.17	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.59	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.05	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.34	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.67	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.19	Poorly defined baseline
PETN	78-11-5	2	18.16	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(5) RDX

2.87min 54.258ppb

response 116798

(5) RDX #2

2.87min 48.869ppb

response 165956

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:09 2017

9.5.2.2

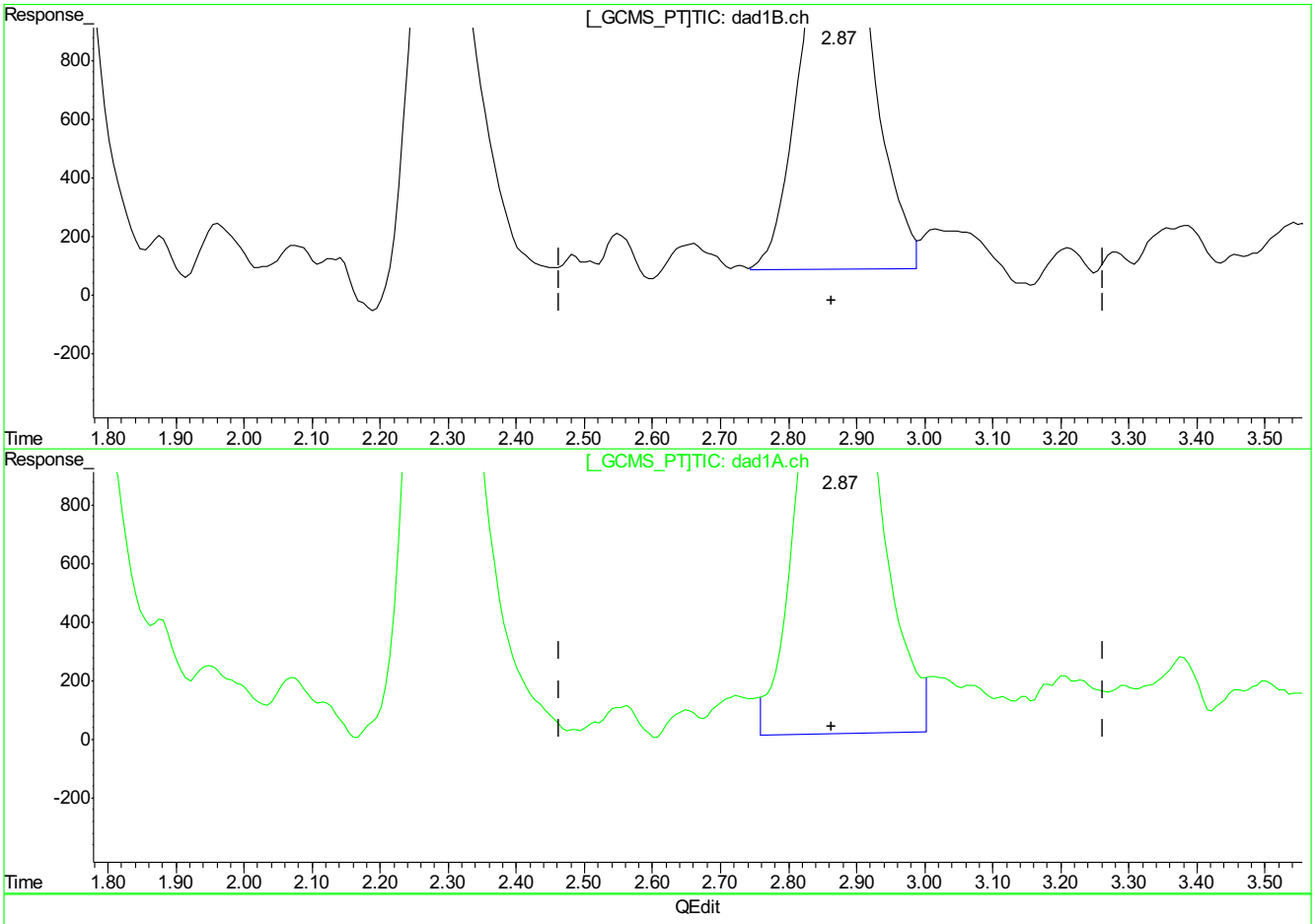
9

BB054262.D edits: RDX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(5) RDX

2.87min 47.797ppb m

response 102890

(5) RDX #2

2.87min 47.823ppb m

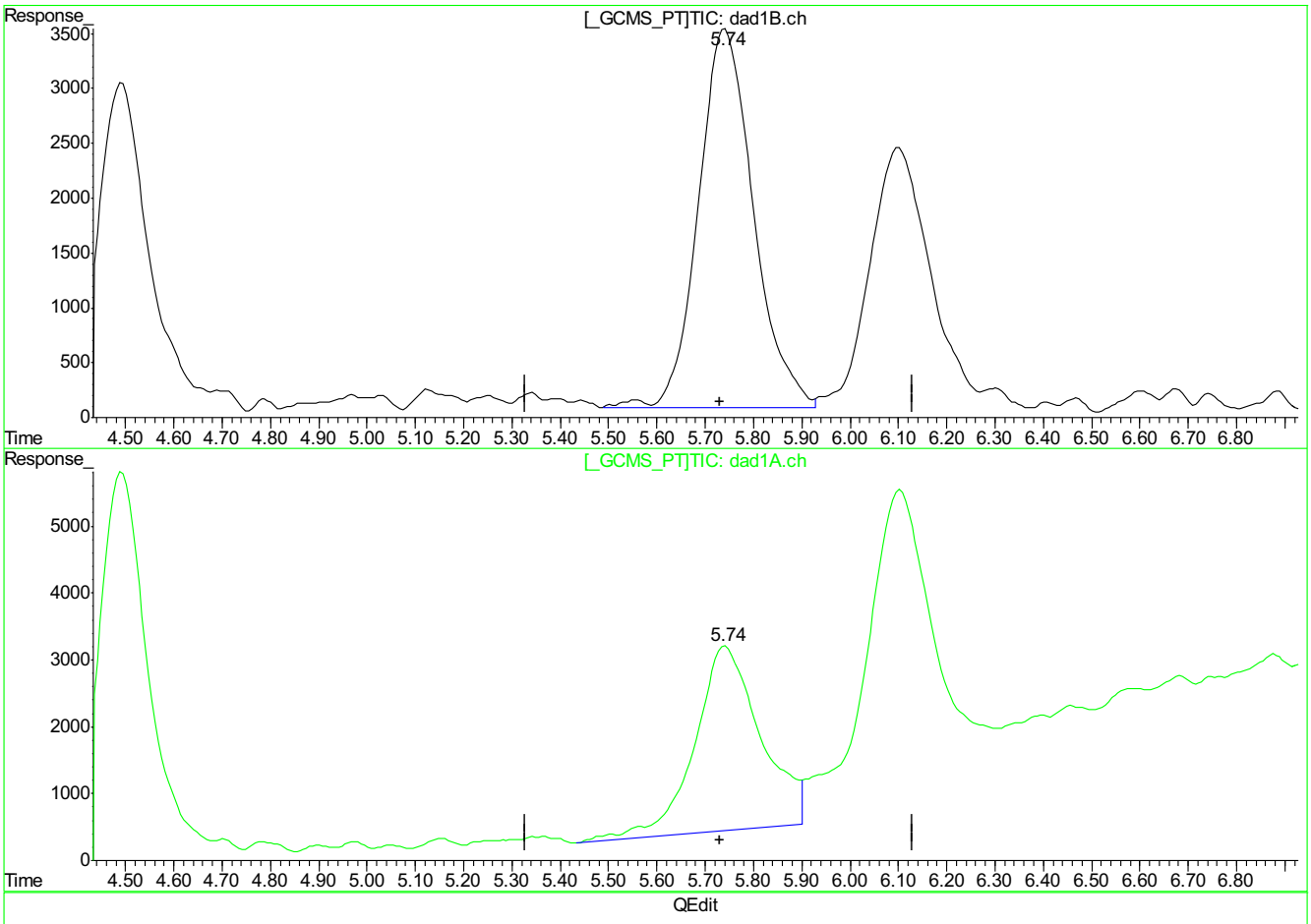
response 162404

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:37 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 47.759ppb

response 273022

(7) 1,3-Dinitrobenzene #2

5.74min 66.997ppb

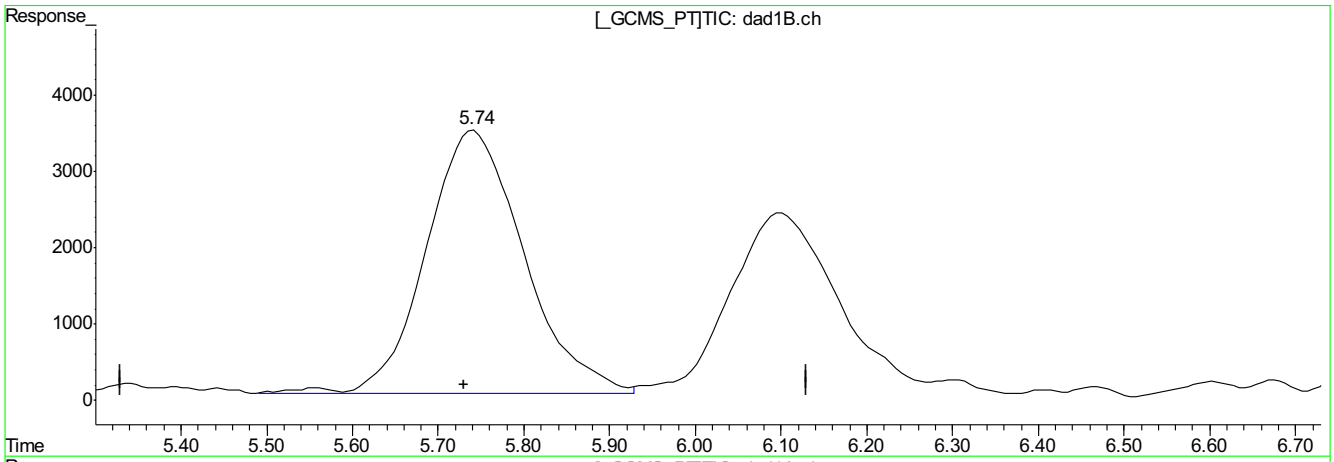
response 260875

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 47.759ppb

response 273022

(7) 1,3-Dinitrobenzene #2

5.74min 46.654ppb m

response 181664

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:50 2017

9.5.2.5

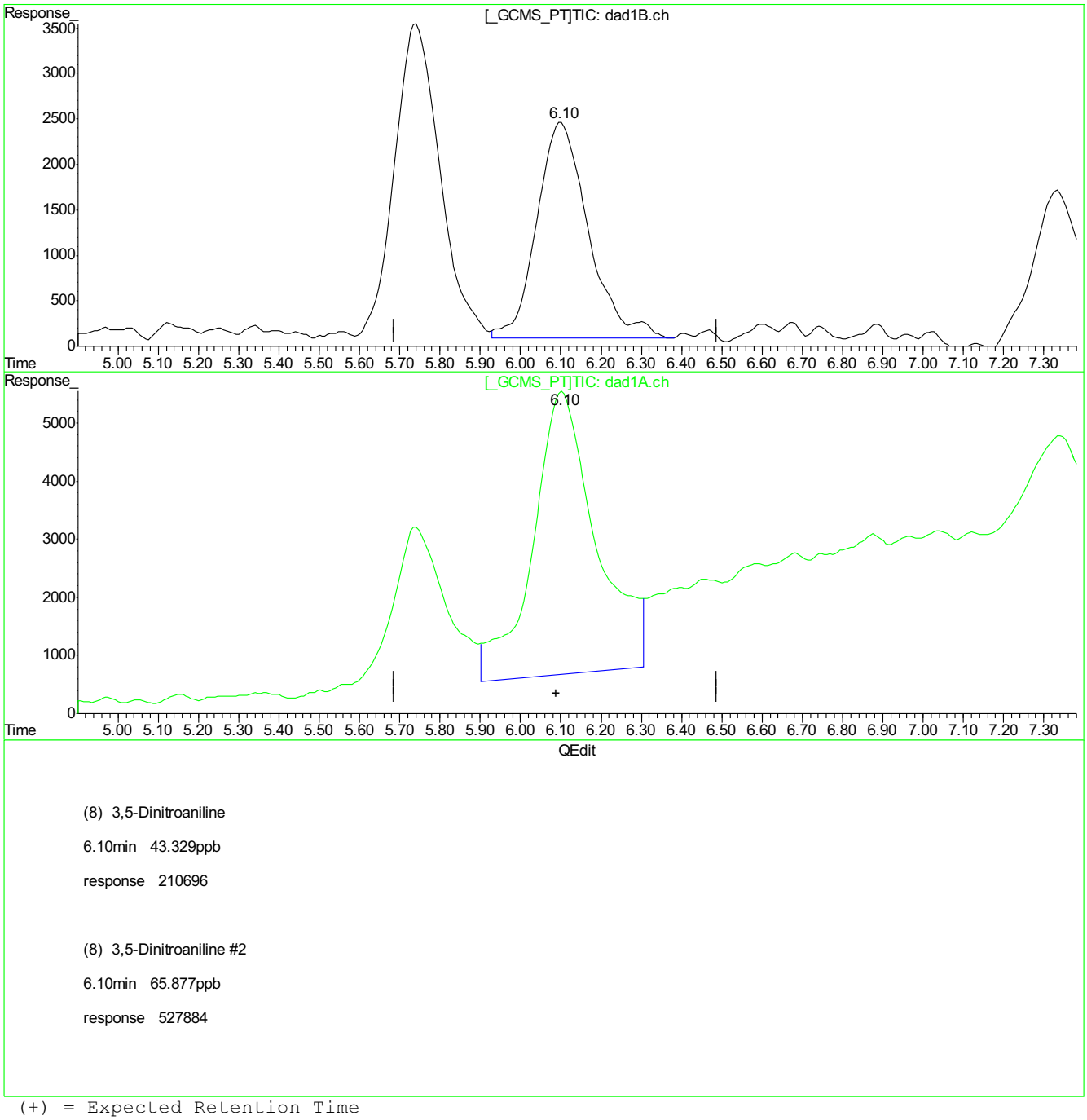
9

BB054262.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 43.329ppb

response 210696

(8) 3,5-Dinitroaniline #2

6.10min 65.877ppb

response 527884

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:55:52 2017

9.5.2.6

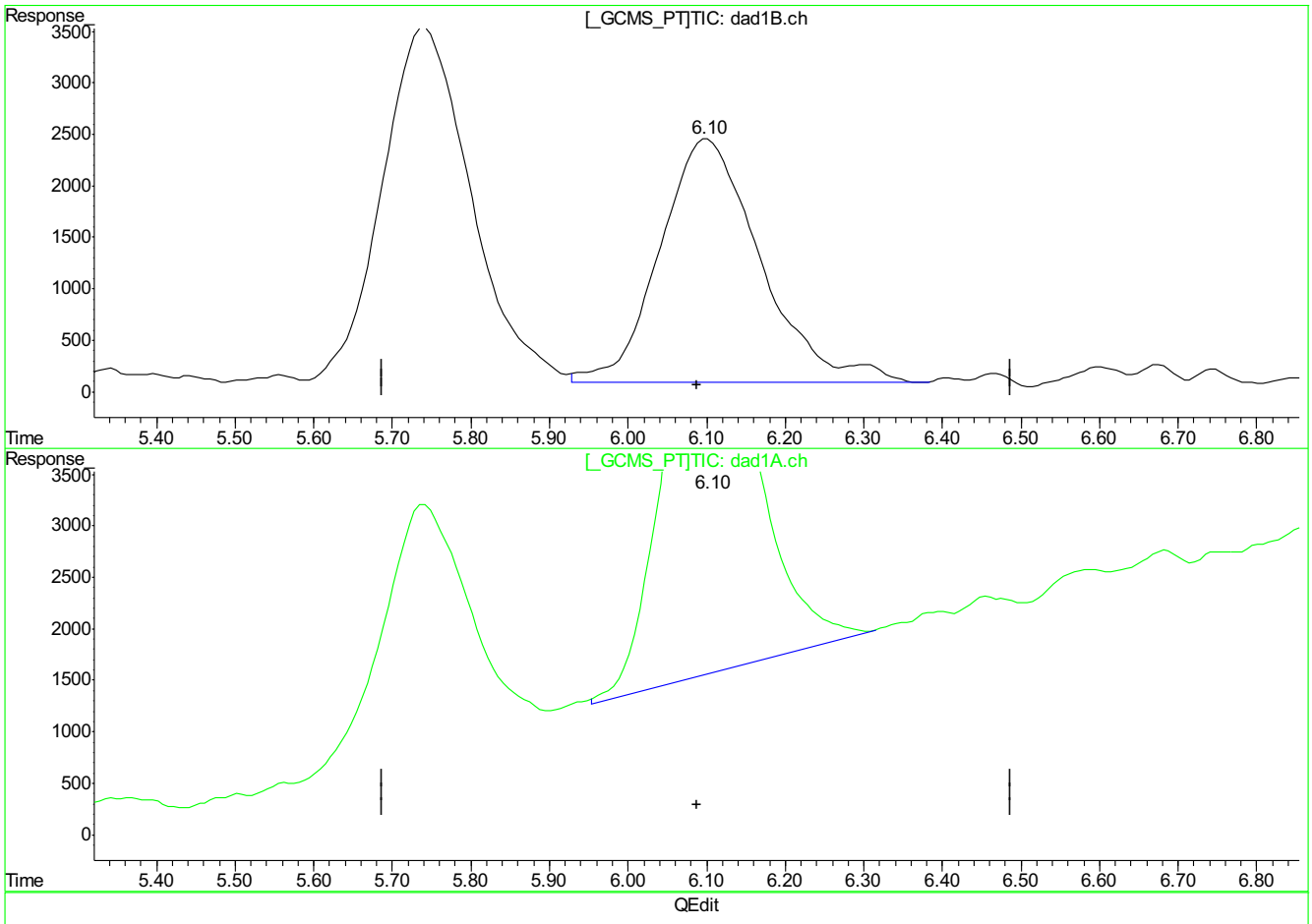
9

BB054262.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 43.329ppb

response 210696

(8) 3,5-Dinitroaniline #2

6.10min 38.963ppb m

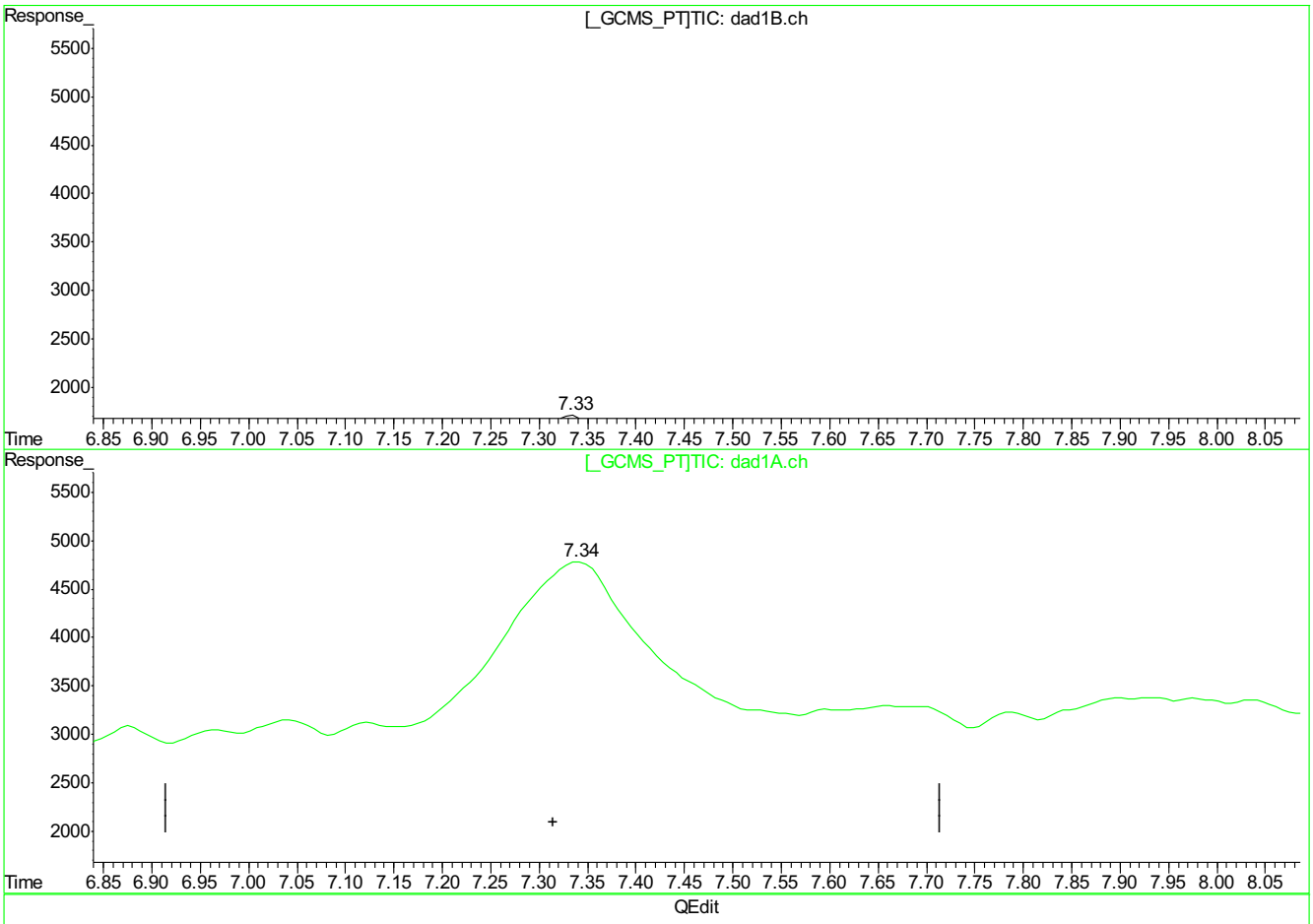
response 312214

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:05 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 55.155ppb

response 179295

(9) Nitrobenzene #2

7.34min 213.302ppb

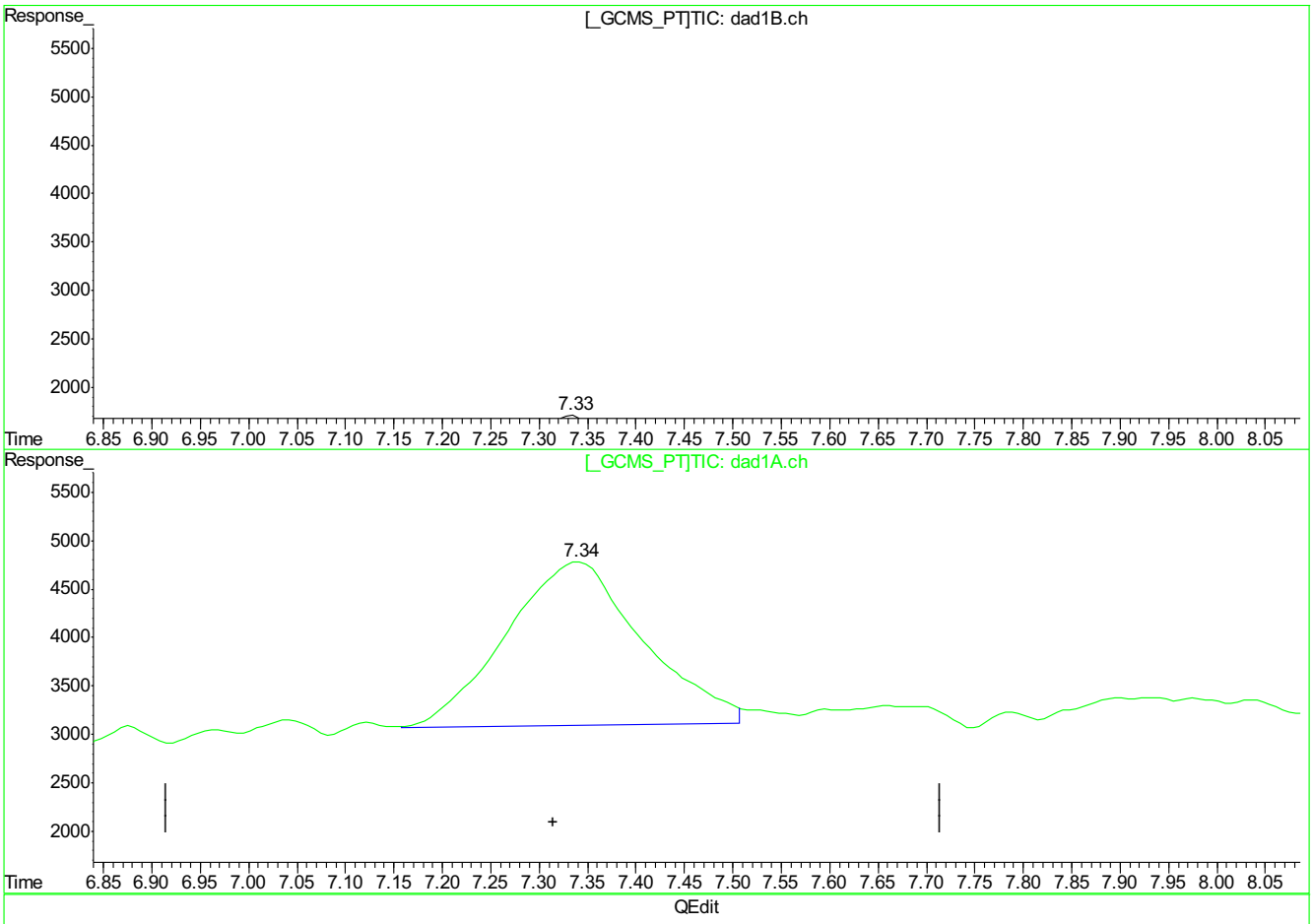
response 650383

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:11 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 55.155ppb

response 179295

(9) Nitrobenzene #2

7.34min 53.951ppb m

response 164503

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:14 2017

9.5.2.9

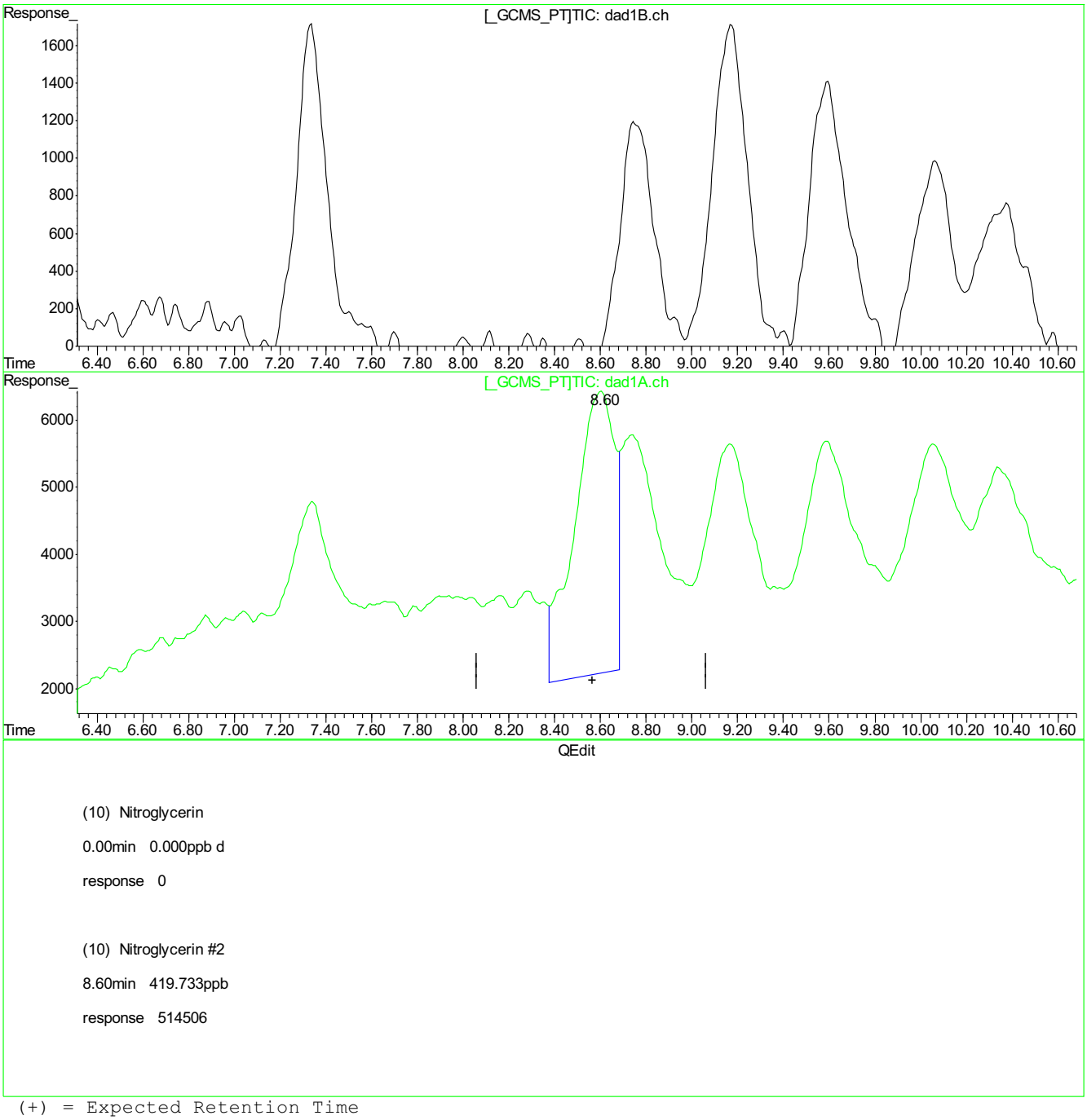
9

BB054262.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



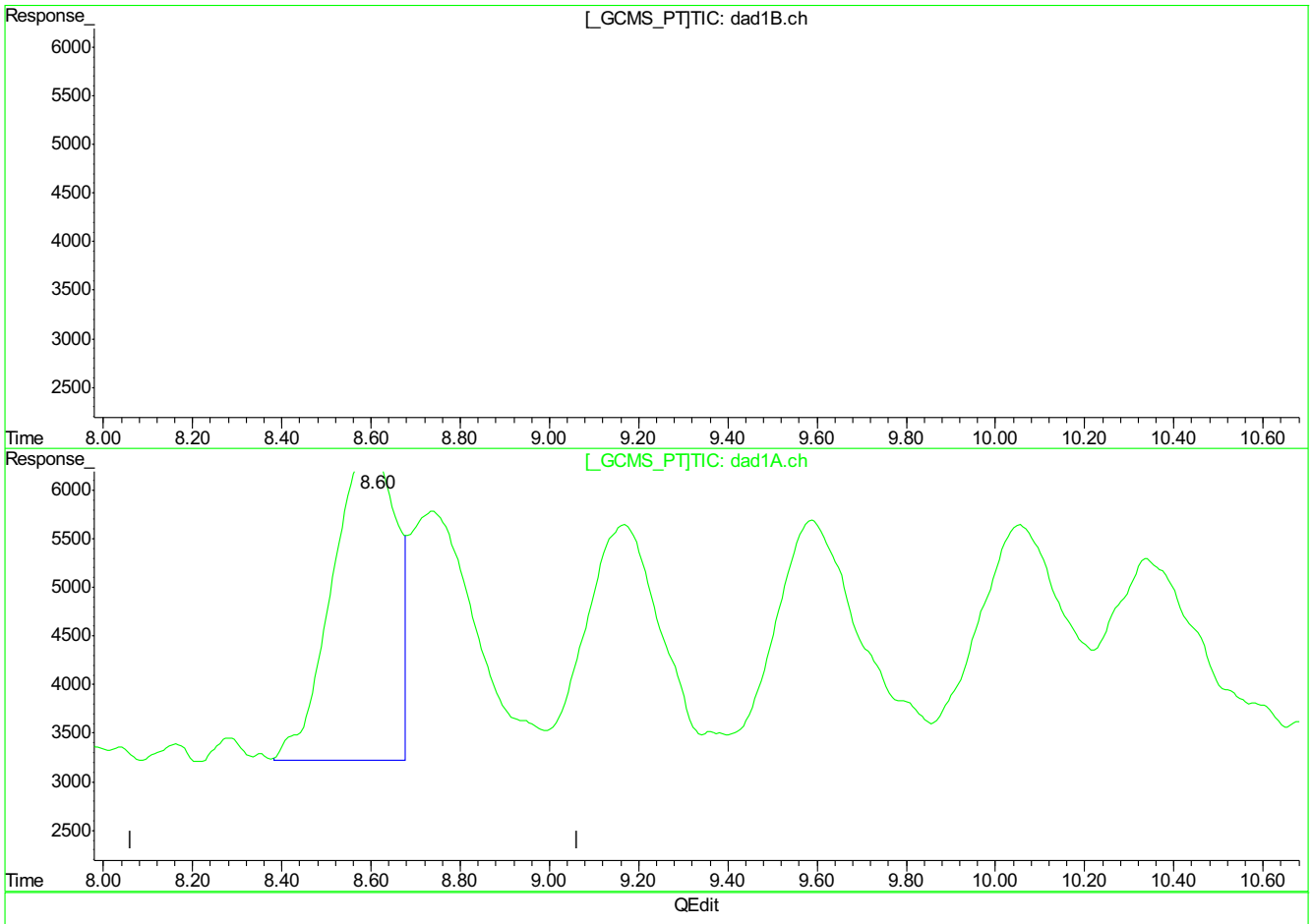
(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:22 2017

BB054262.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.60min 261.926ppb m

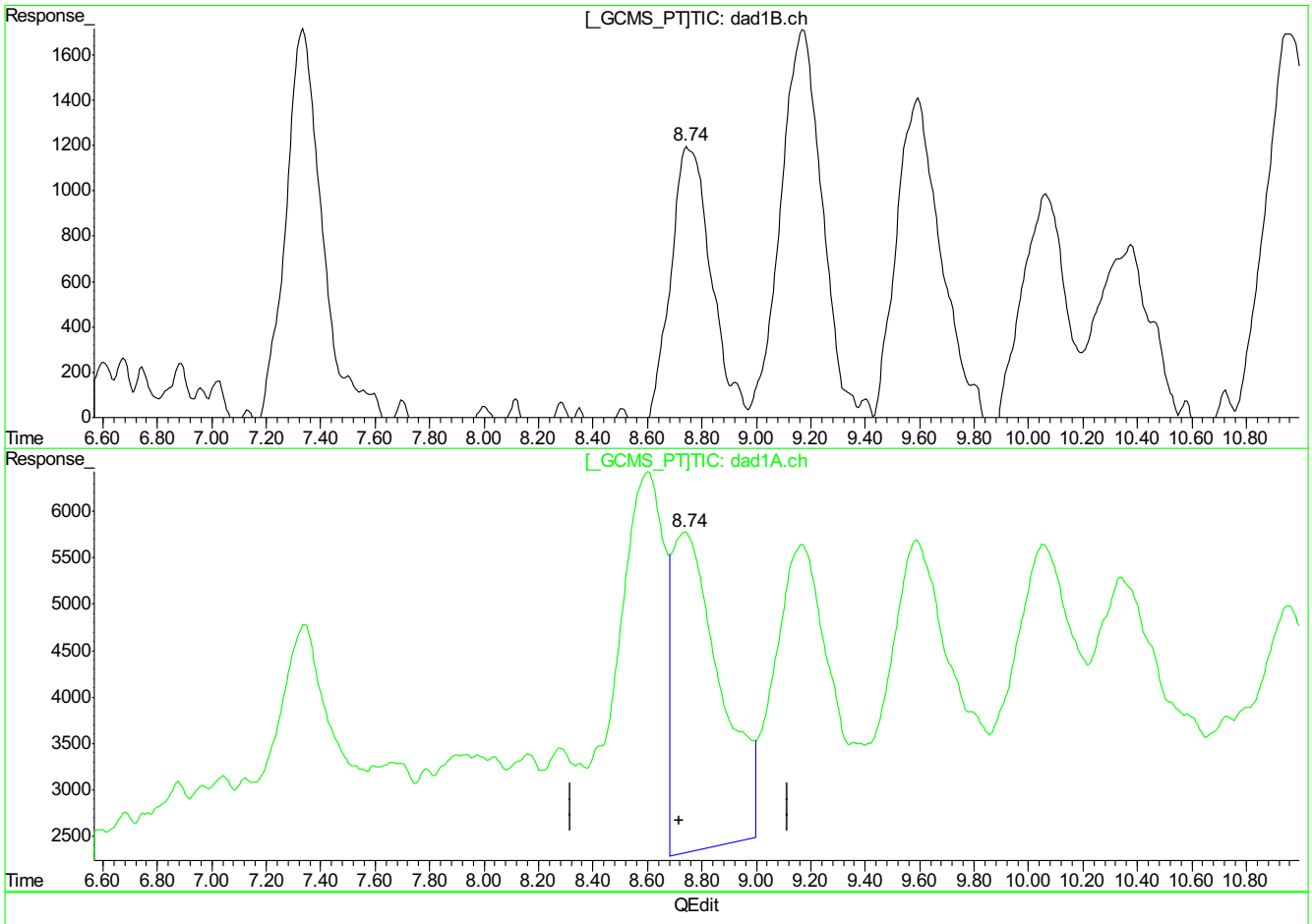
response 321067

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:56:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 46.040ppb

response 147543

(11) Tetryl #2

8.74min 80.939ppb

response 420158

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:00 2017

9.5.2.12

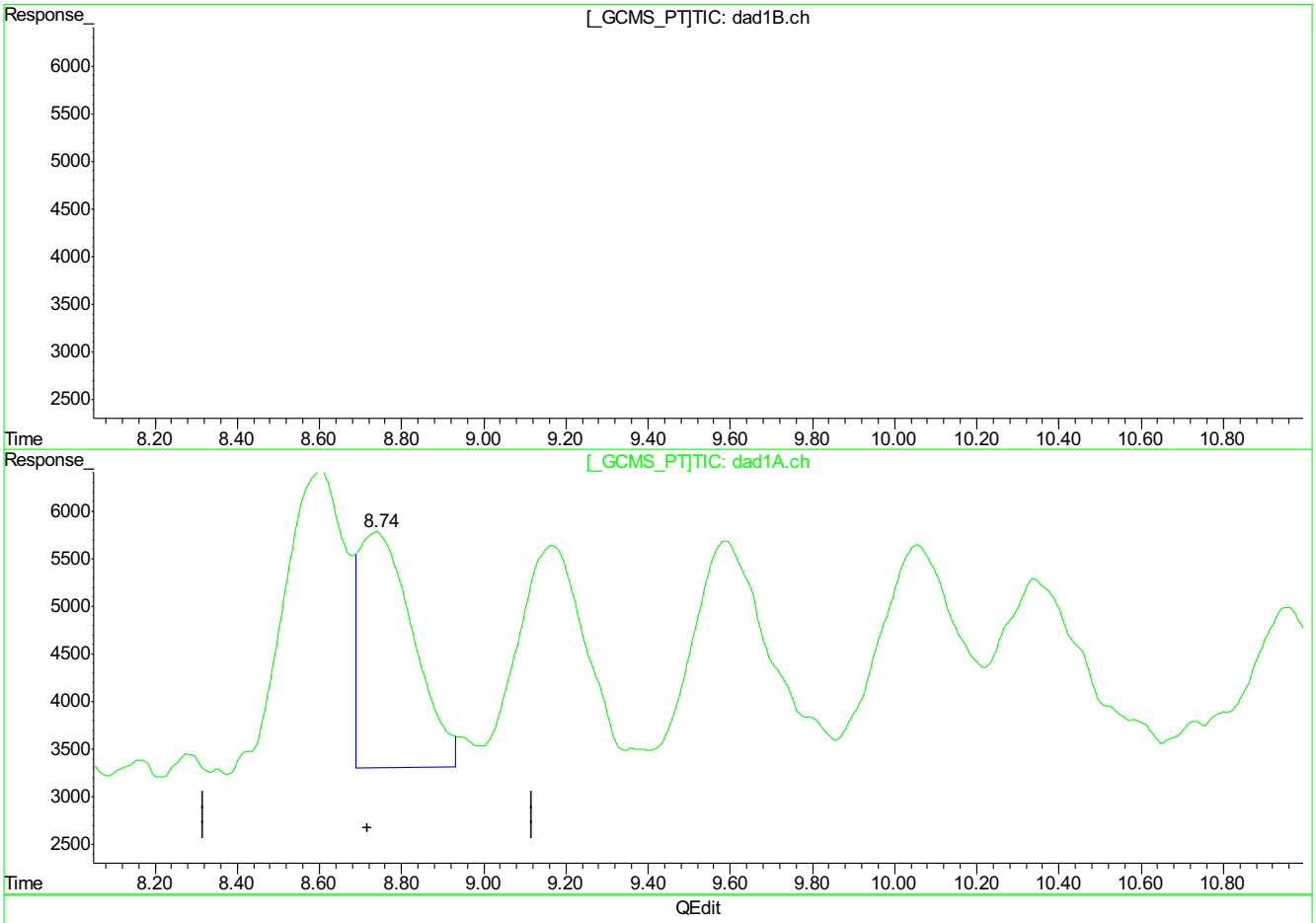
9

BB054262.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 46.040ppb

response 147543

(11) Tetryl #2

8.74min 43.304ppb m

response 224795

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:18 2017

9.5.2.13

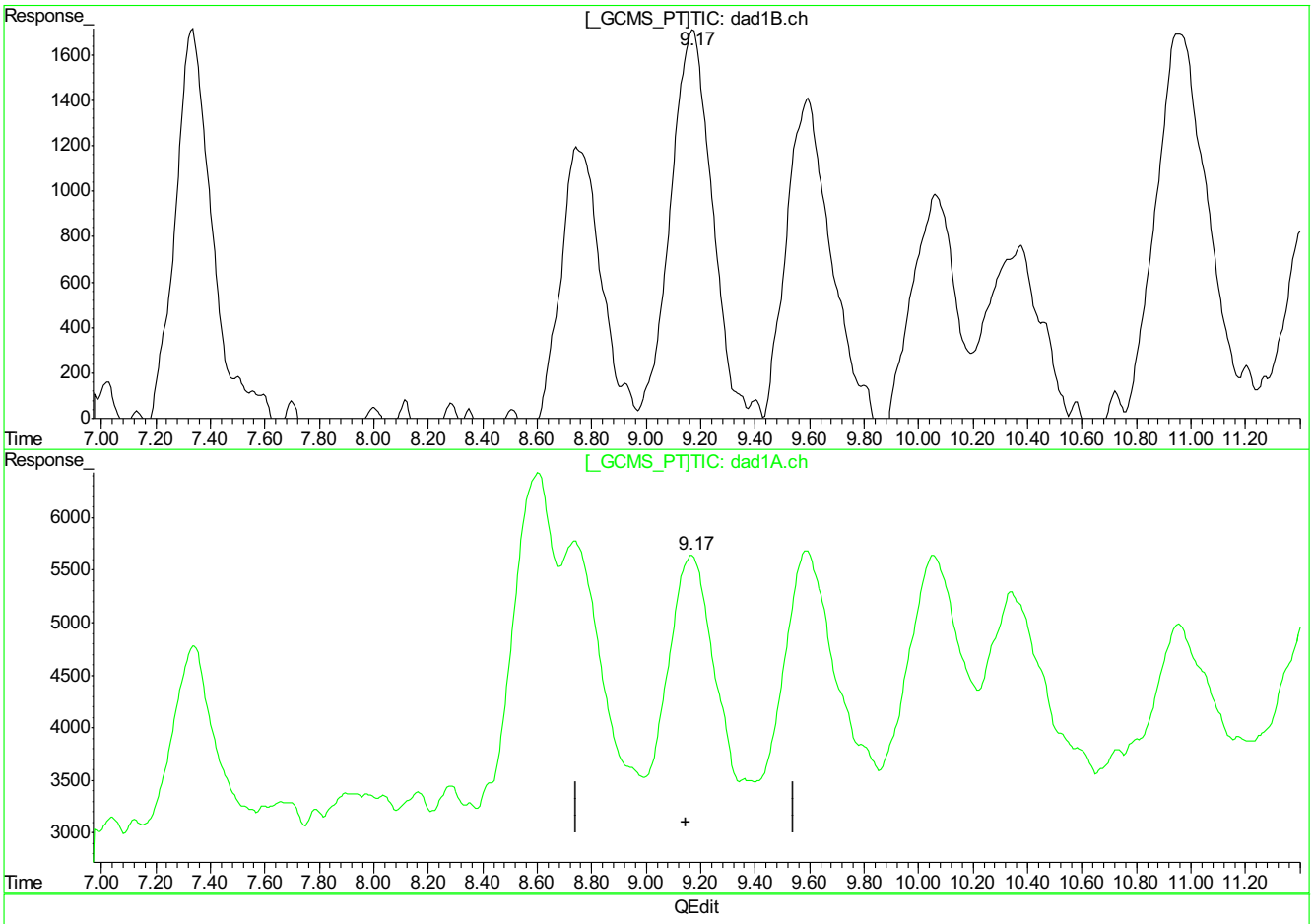
9

BB054262.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.17min 50.349ppb

response 208462

(12) 2,4,6-Trinitrotoluene #2

9.17min 91.635ppb

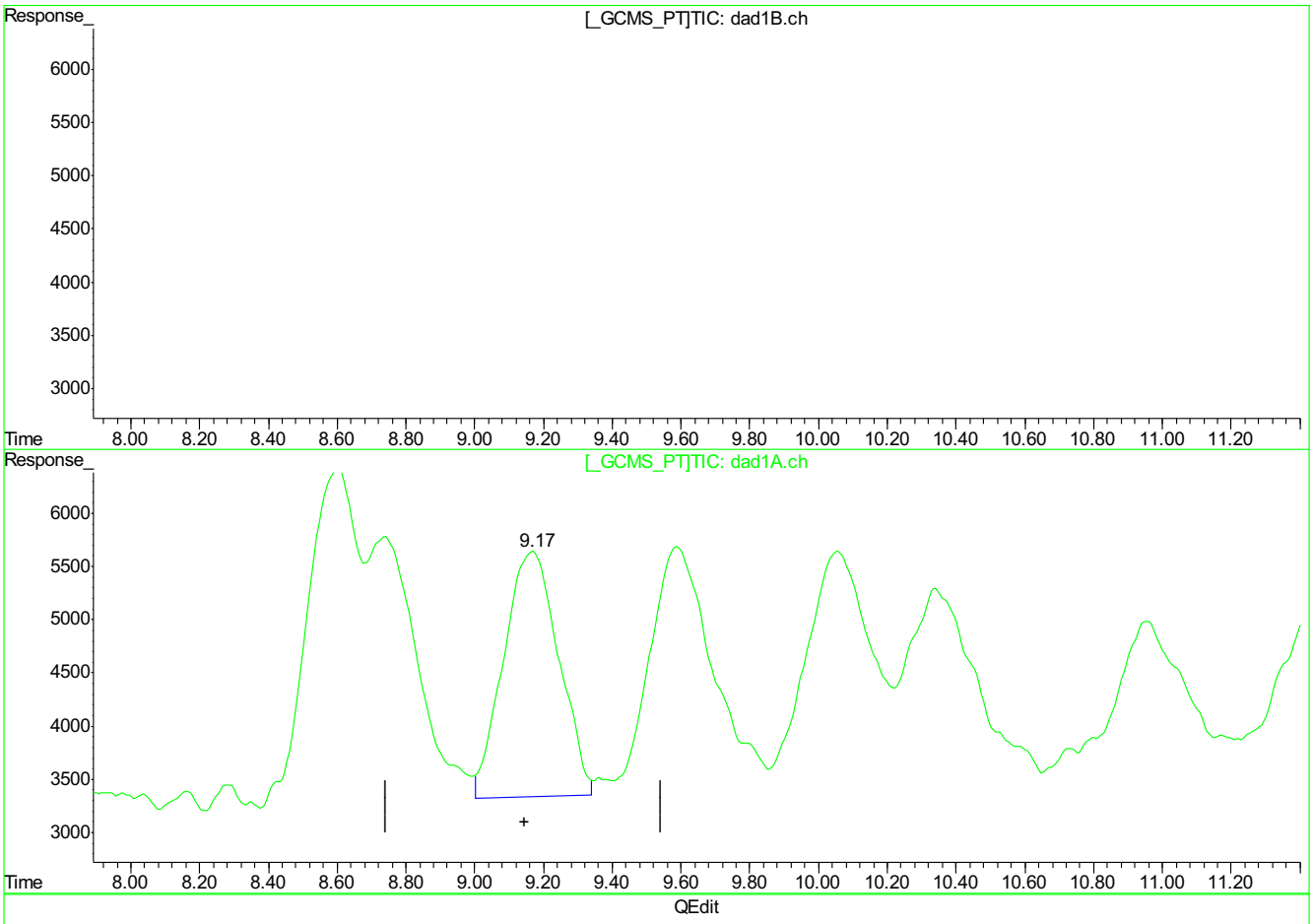
response 440151

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:22 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.17min 50.349ppb

response 208462

(12) 2,4,6-Trinitrotoluene #2

9.17min 53.477ppb m

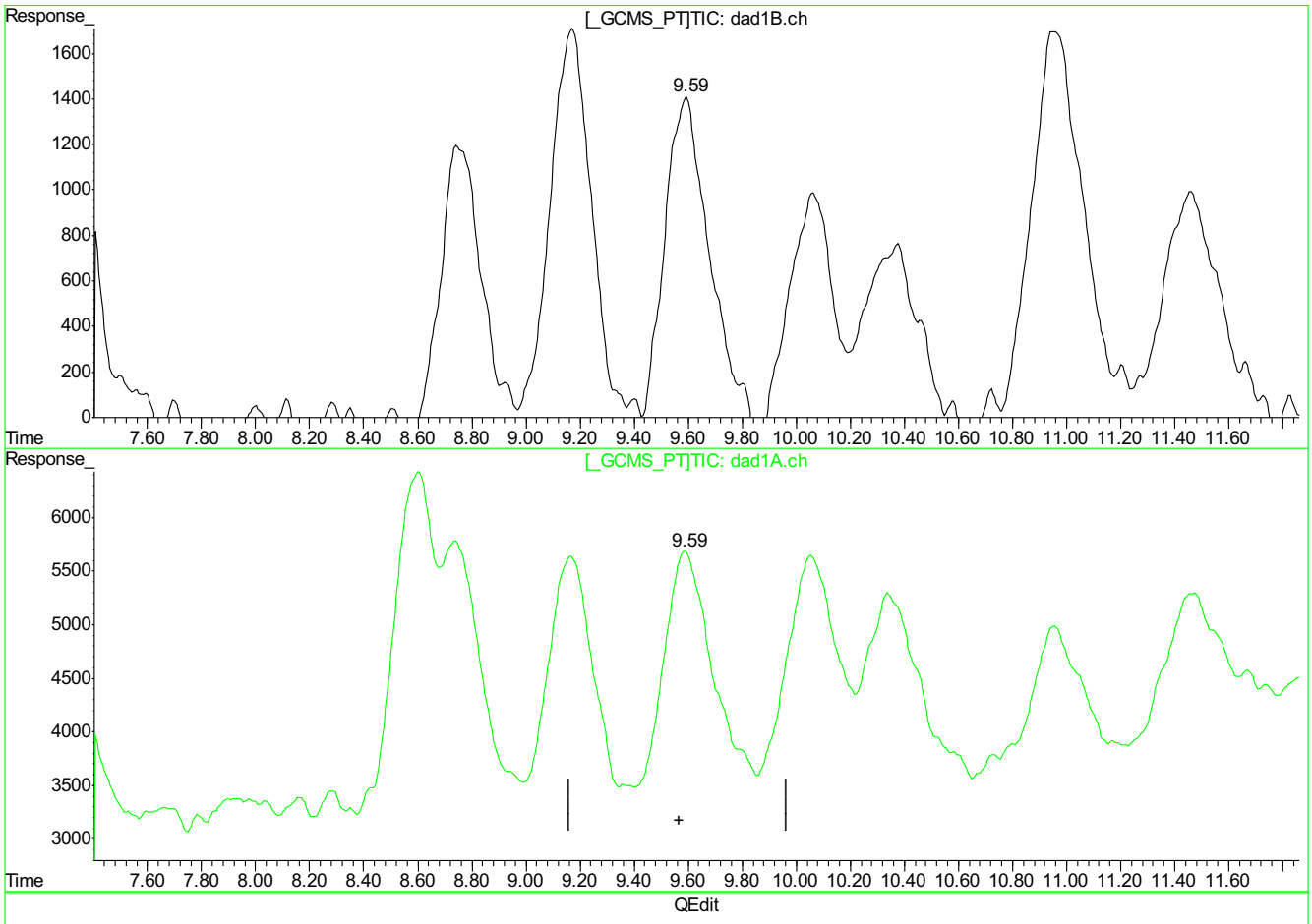
response 256865

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:38 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.59min 53.377ppb

response 188621

(13) 2-Amino-4,6-Dinitrotoluene #2

9.59min 85.587ppb

response 431749

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:41 2017

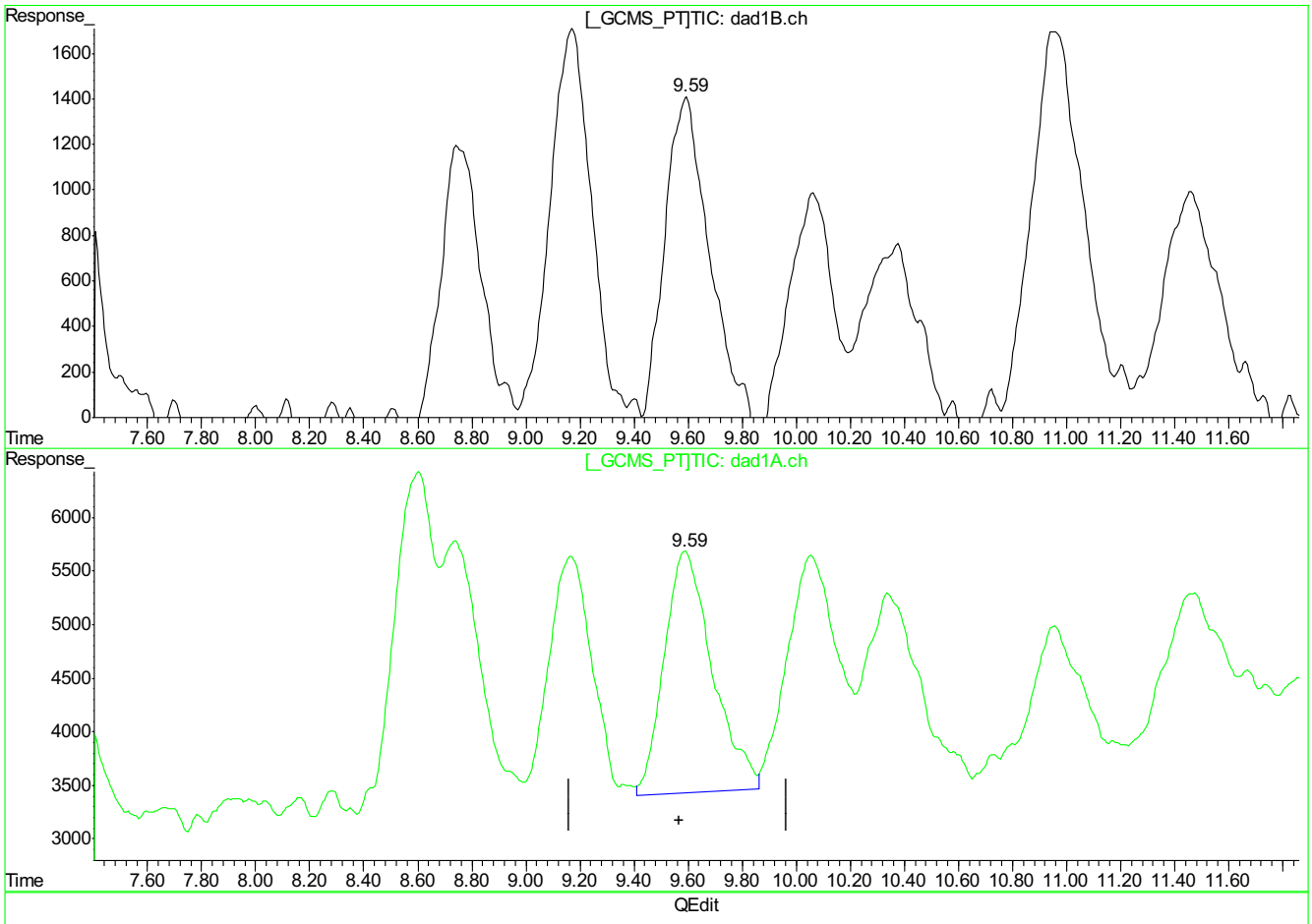
9.5.2.16

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.59min 53.377ppb

response 188621

(13) 2-Amino-4,6-Dinitrotoluene #2

9.59min 55.388ppb m

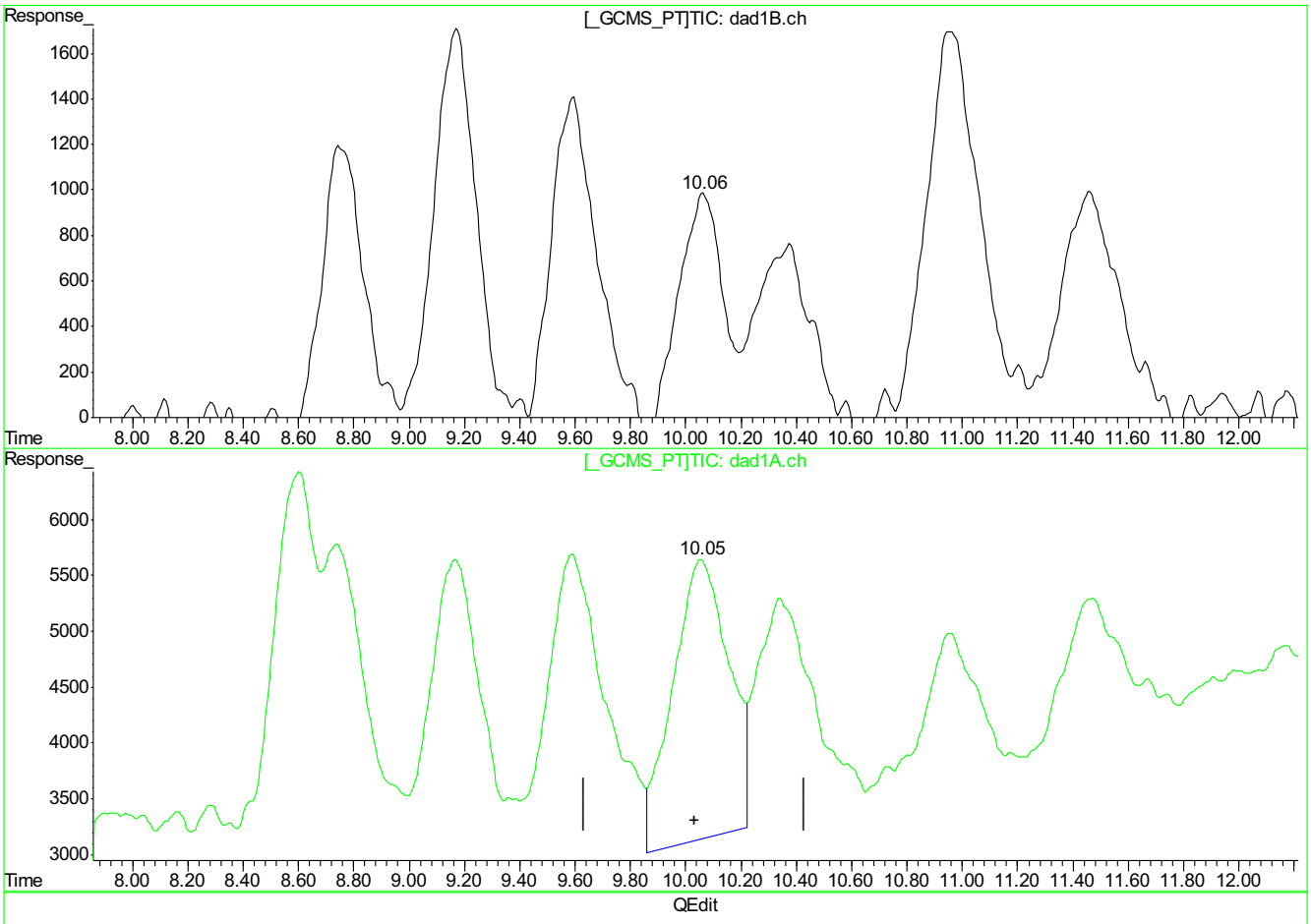
response 279592

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:50 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.06min 47.514ppb

response 128016

(14) 4-Amino-2,6-Dinitrotoluene #2

10.06min 69.454ppb

response 351452

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:57:54 2017

9.5.2.18

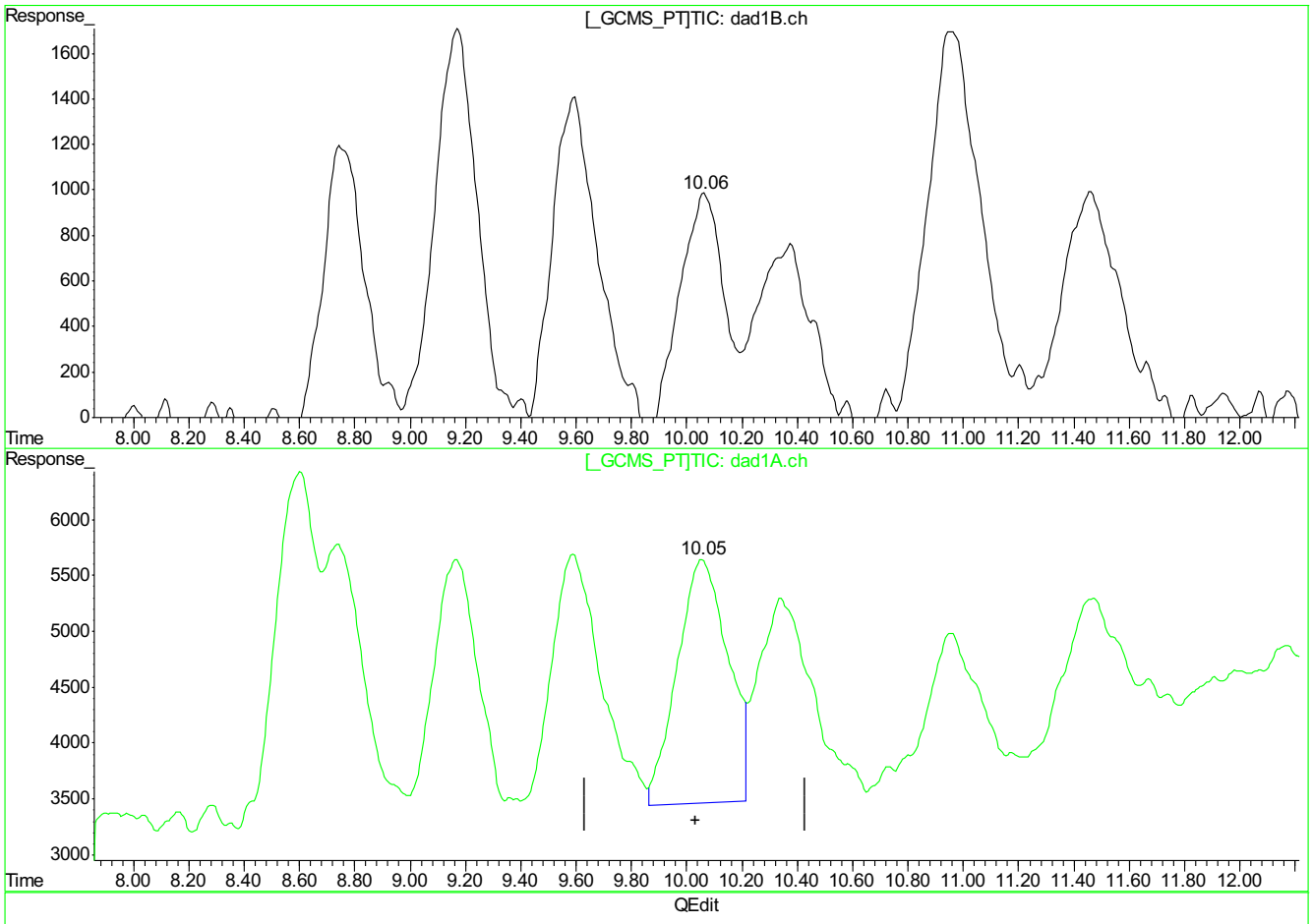
9

BB054262.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.06min 47.514ppb

response 128016

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 54.408ppb m

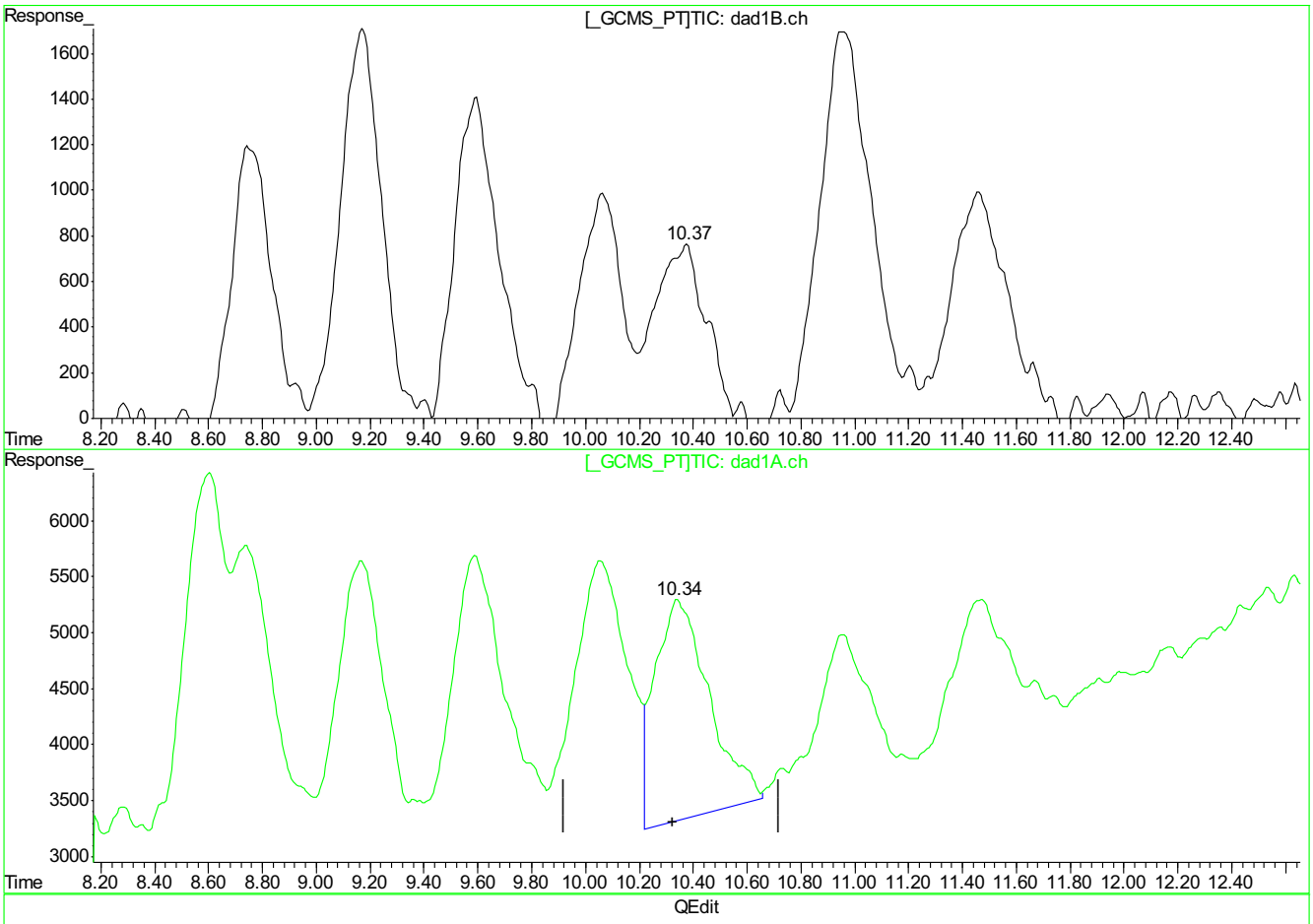
response 275315

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:07 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.38min 51.980ppb

response 130277

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 67.896ppb

response 276669

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:10 2017

9.5.2.20

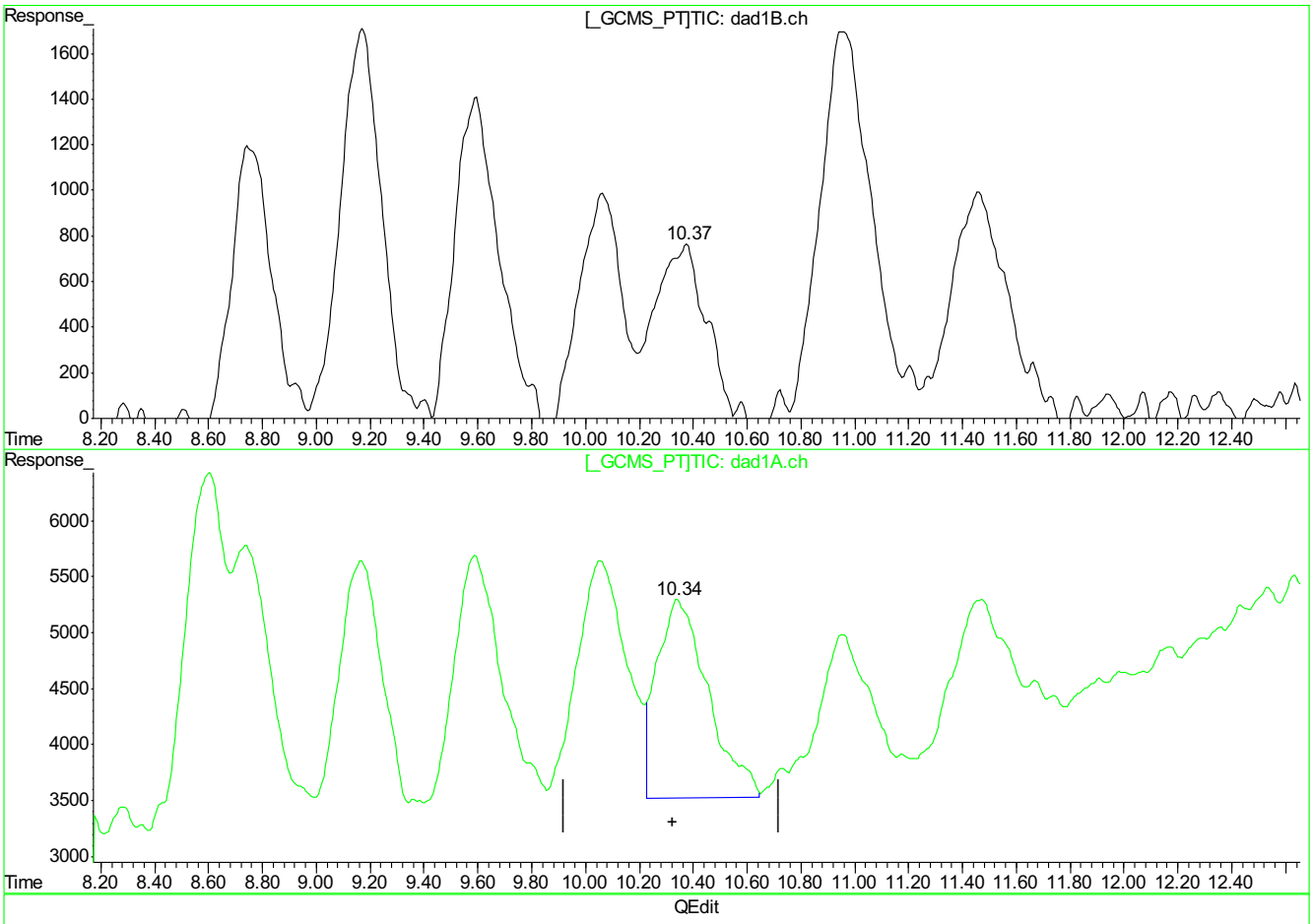
9

BB054262.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.38min 51.980ppb

response 130277

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 57.420ppb m

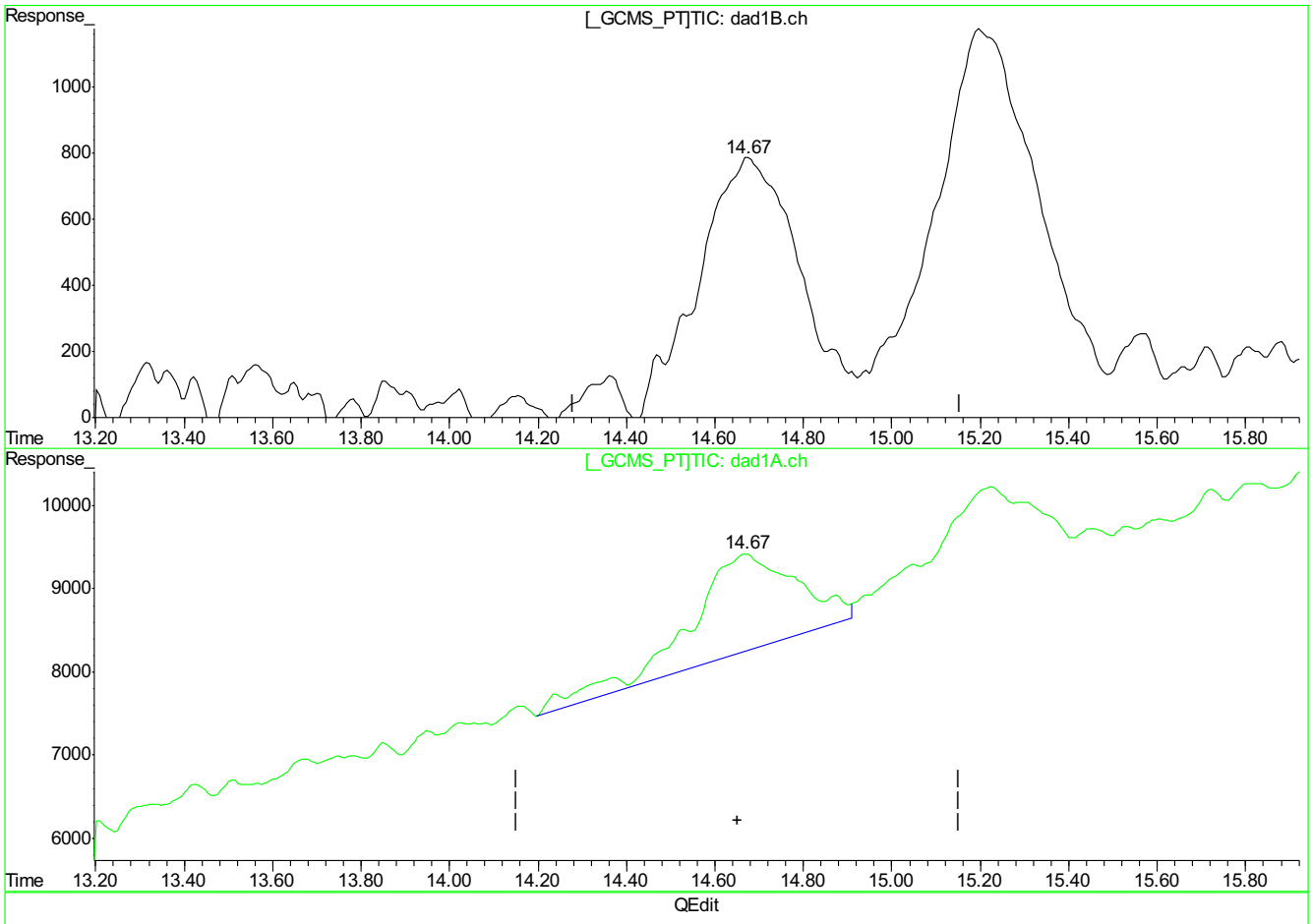
response 233981

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:27 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.68min 52.818ppb

response 120879

(18) o-Nitrotoluene #2

14.67min 92.709ppb

response 196076

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:39 2017

9.5.2.22

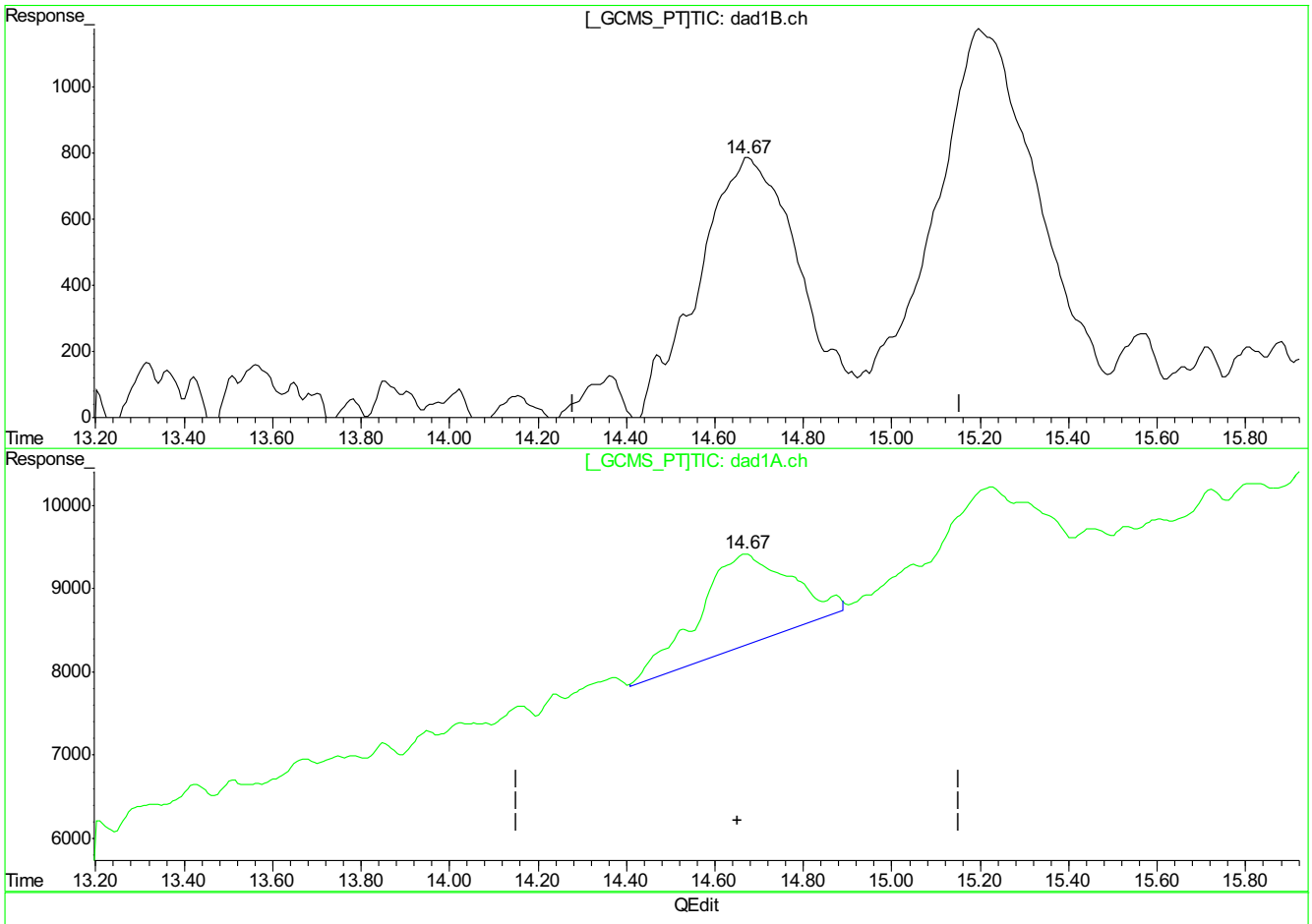
9

BB054262.D edits: o-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.68min 52.818ppb

response 120879

(18) o-Nitrotoluene #2

14.67min 76.834ppb m

response 161420

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:43 2017

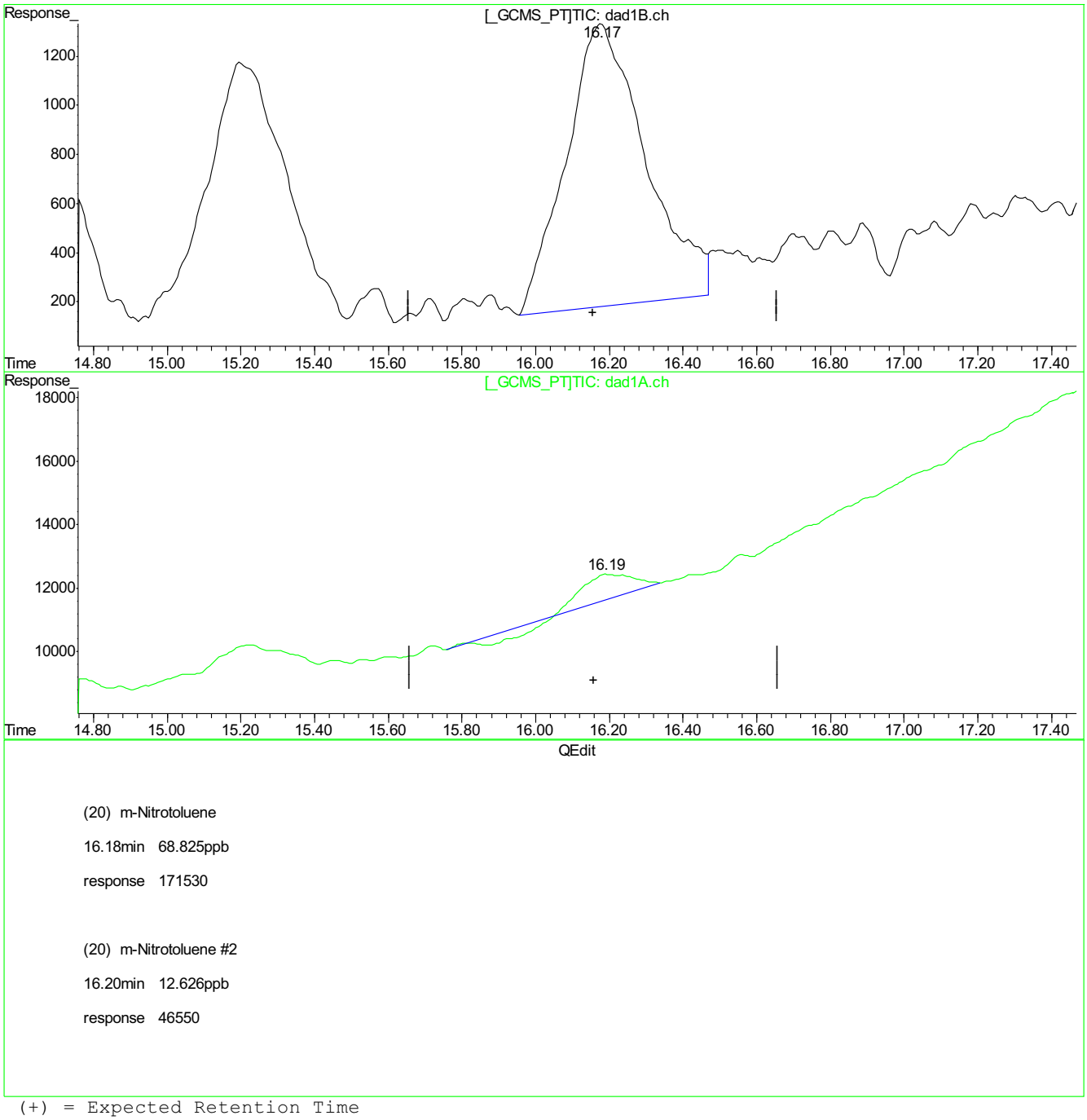
9.5.2.23

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.18min 68.825ppb

response 171530

(20) m-Nitrotoluene #2

16.20min 12.626ppb

response 46550

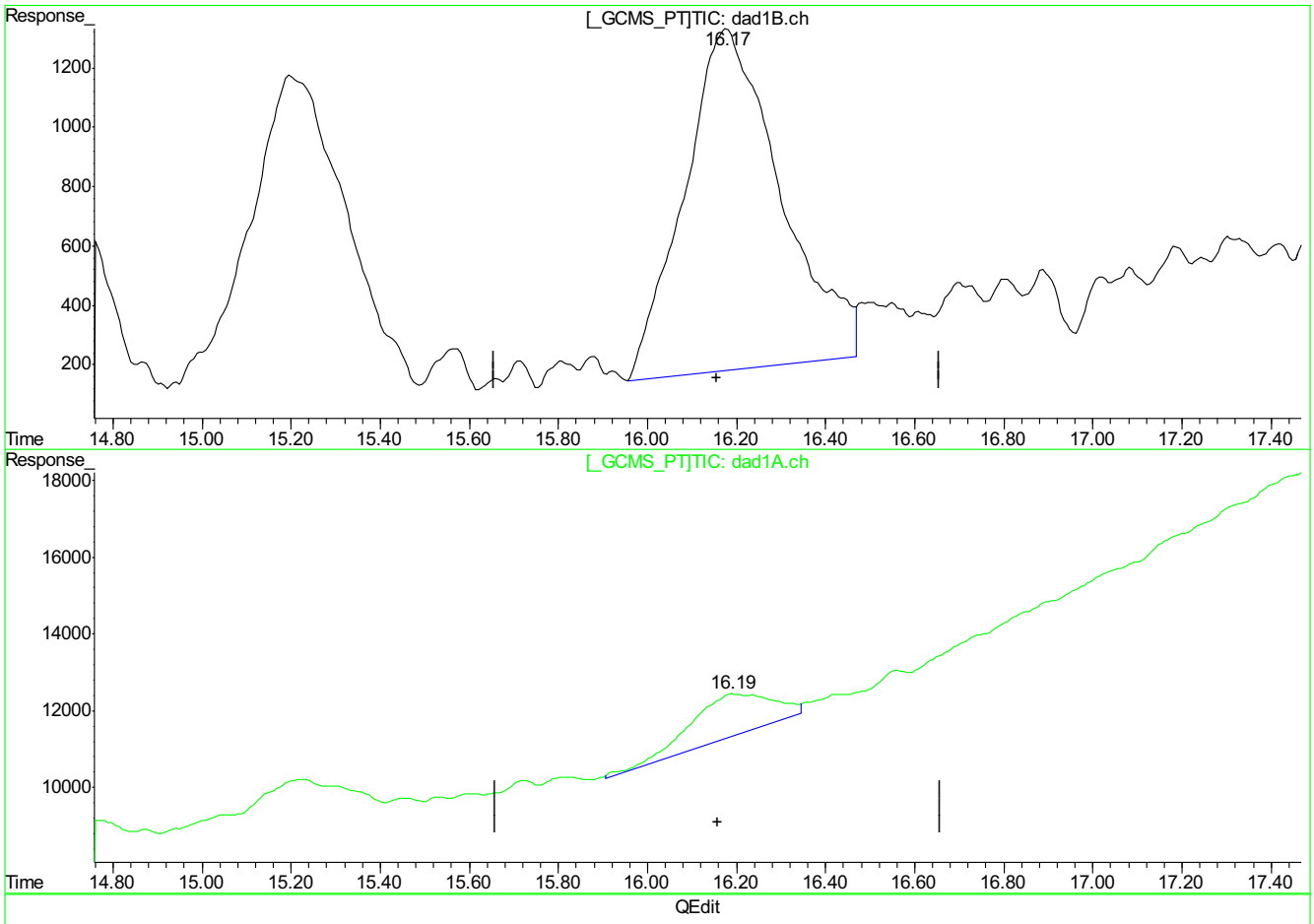
(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:48 2017

BB054262.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.18min 68.825ppb

response 171530

(20) m-Nitrotoluene #2

16.19min 38.343ppb m

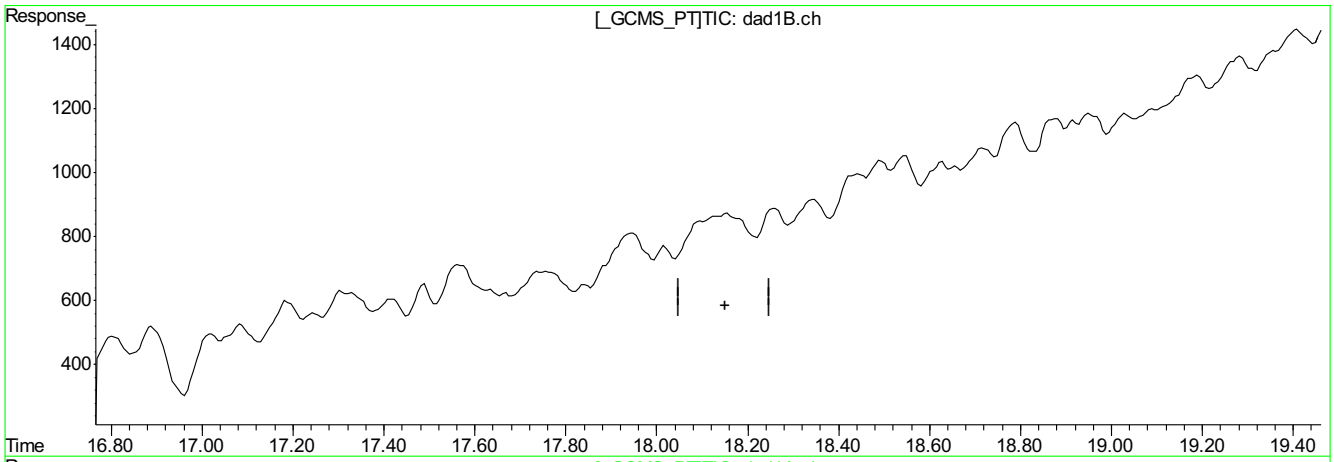
response 141359

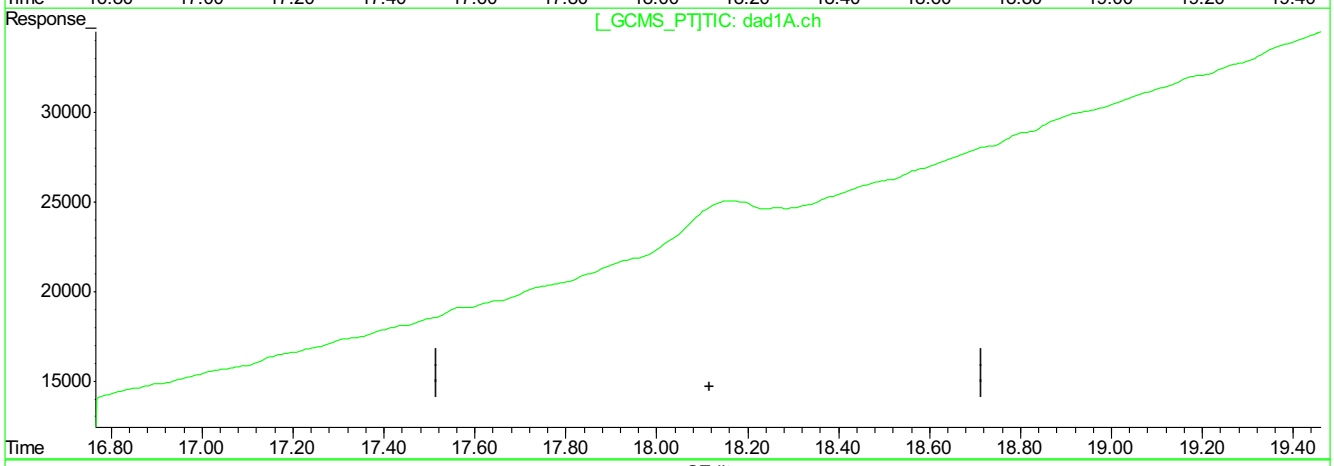
(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

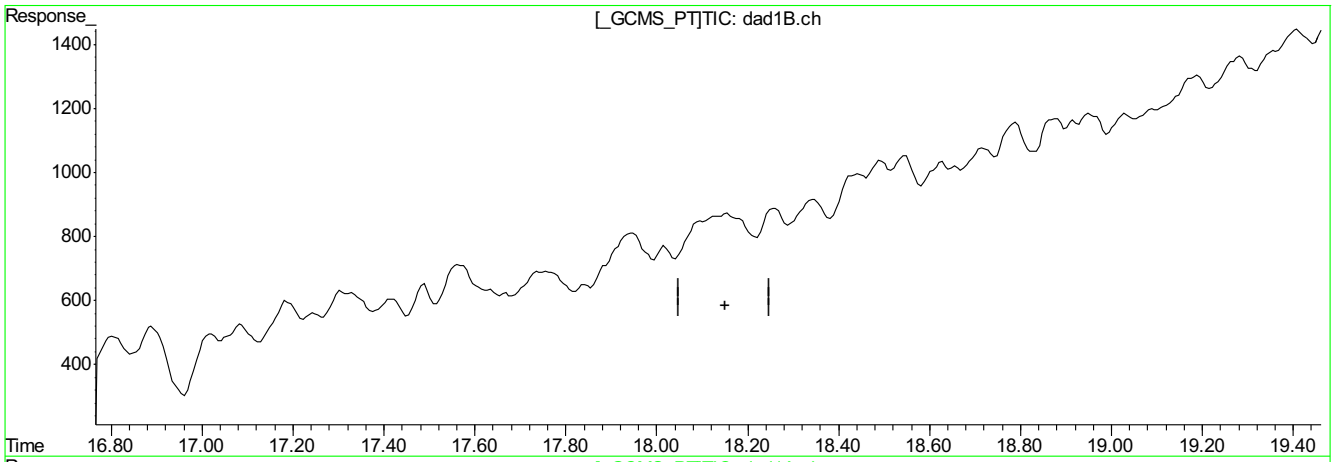
response 0

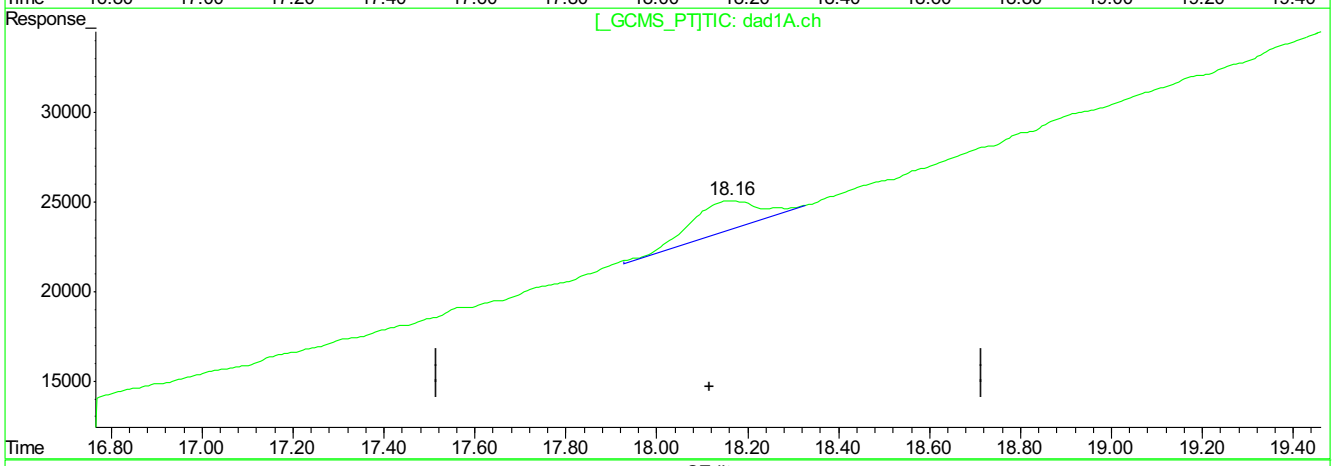
(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:58:58 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054262.D\dad1A.ch
Acq On : 19-Apr-2017, 10:43:49 Operator: evitam
Sample : ic1578-50 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:54:54 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.16min 126.184ppb m

response 170717

(+) = Expected Retention Time
BB054262.D 8330B_0419PLUS.M Wed Apr 19 14:59:03 2017

9.5.2.27

6

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:02 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.35	10.34	243051	421281	97.450	103.384m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		19.49%#	20.68%#
	Target Compounds						
1)	TNX	1.36	1.36	313078	516565	95.351	100.468
2)	HMX	1.48	1.48	156594	485797	86.753	93.566
3)	DNX	1.73	1.73	309883	681179	106.692	131.157
4)	MNX	2.29	2.29	255945	398983	110.486	109.585
5)	RDX	2.87	2.87	231380	340103	107.487	100.149
6)	1,3,5-Trinitrobe	4.49	4.49	447776	852048	101.390	98.272
7)	1,3-Dinitrobenze	5.74	5.74	584870	425081	102.309	109.167m
8)	3,5-Dinitroanili	6.10	6.10	423681	666332	87.129	83.155m
9)	Nitrobenzene	7.33	7.33	362263	313694	111.439	102.880m
10)	Nitroglycerin	0.00	8.59	0	702045	N.D. d	572.726m
11)	Tetryl	8.76	8.73	288957	452757	90.166	87.219m
12)	2,4,6-Trinitroto	9.16	9.15	420824	508546	101.640	105.874m
13)	2-Amino-4,6-Dini	9.58	9.58	372160	538610	105.688	106.819m
14)	4-Amino-2,6-Dini	10.04	10.04	277691	509299	103.066	100.648m
16)	2,4-Dinitrotolue	10.96	10.97	543842	313689	103.154	96.032
17)	2,6-Dinitrotolue	11.46	11.45	331149	366261	109.409	96.994
18)	o-Nitrotoluene	14.67	14.68	283805	342635	124.008	157.709
19)	p-Nitrotoluene	15.21	15.21	411025	299597	122.354	122.637
20)	m-Nitrotoluene	16.17	16.18	379131	355148	148.344	96.332m
21)	PETN	0.00	18.14	0	367205	N.D. d	271.416m

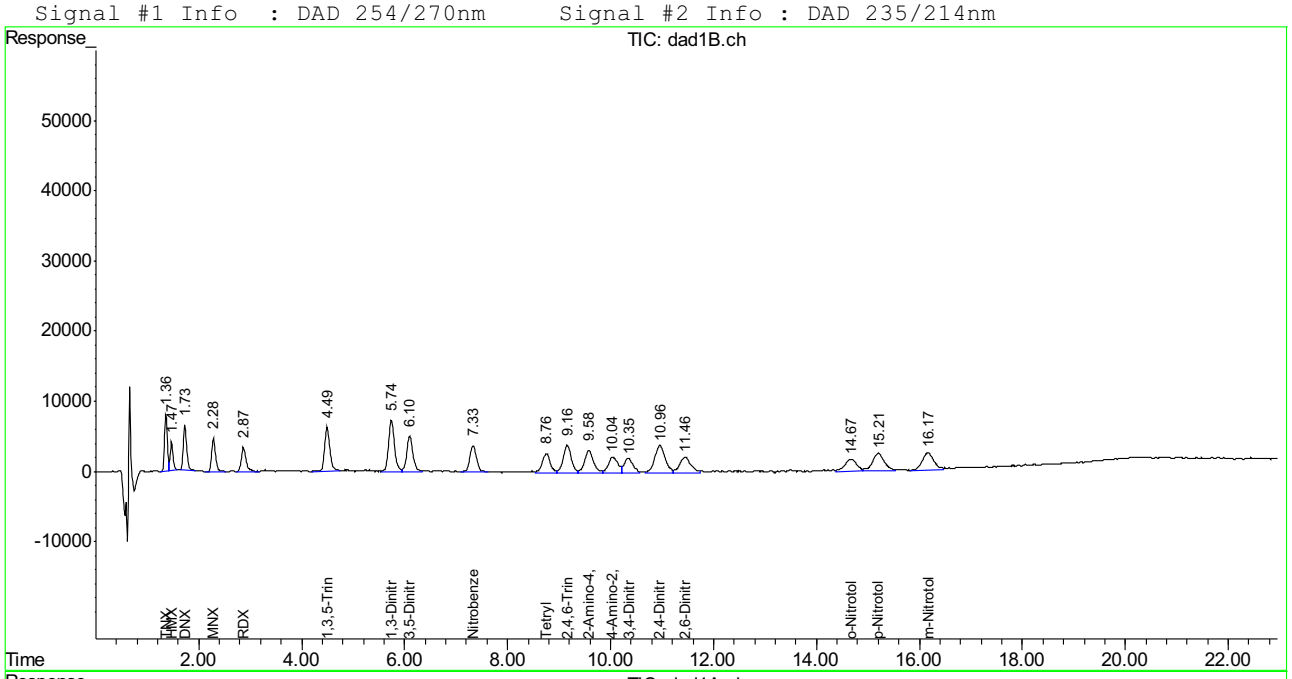
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054263.D 8330B_0419PLUS.M Thu Apr 20 11:04:51 2017 Page 1

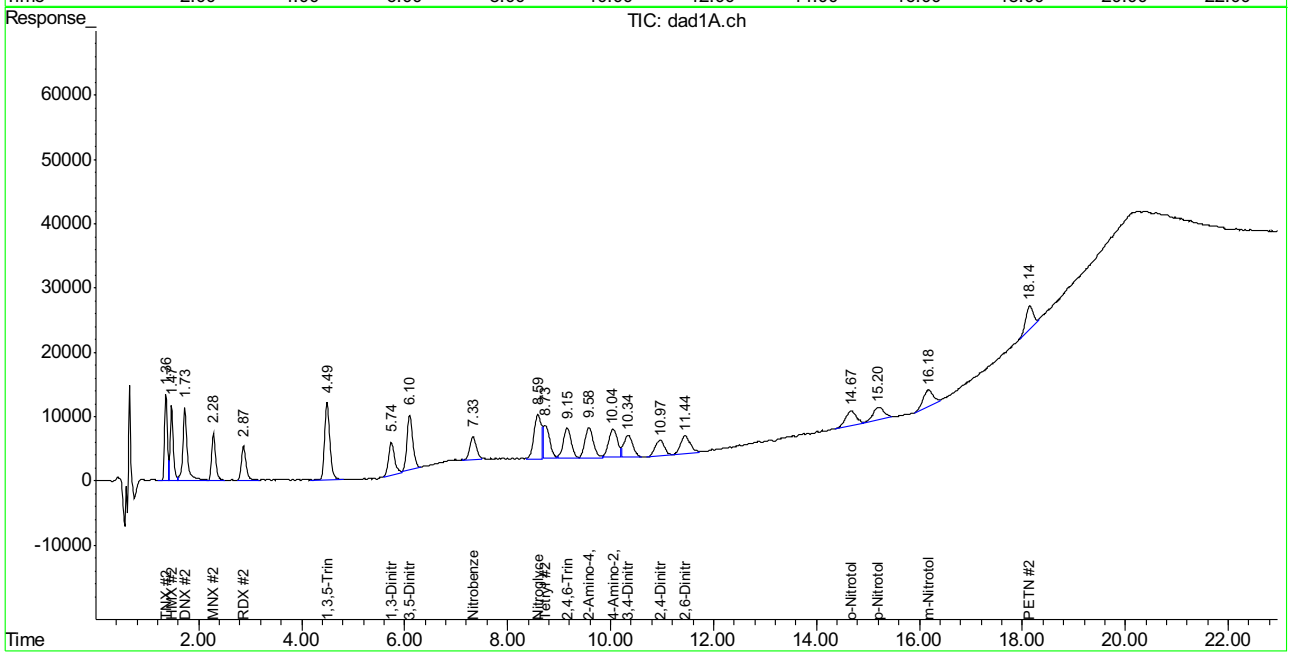
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:03 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

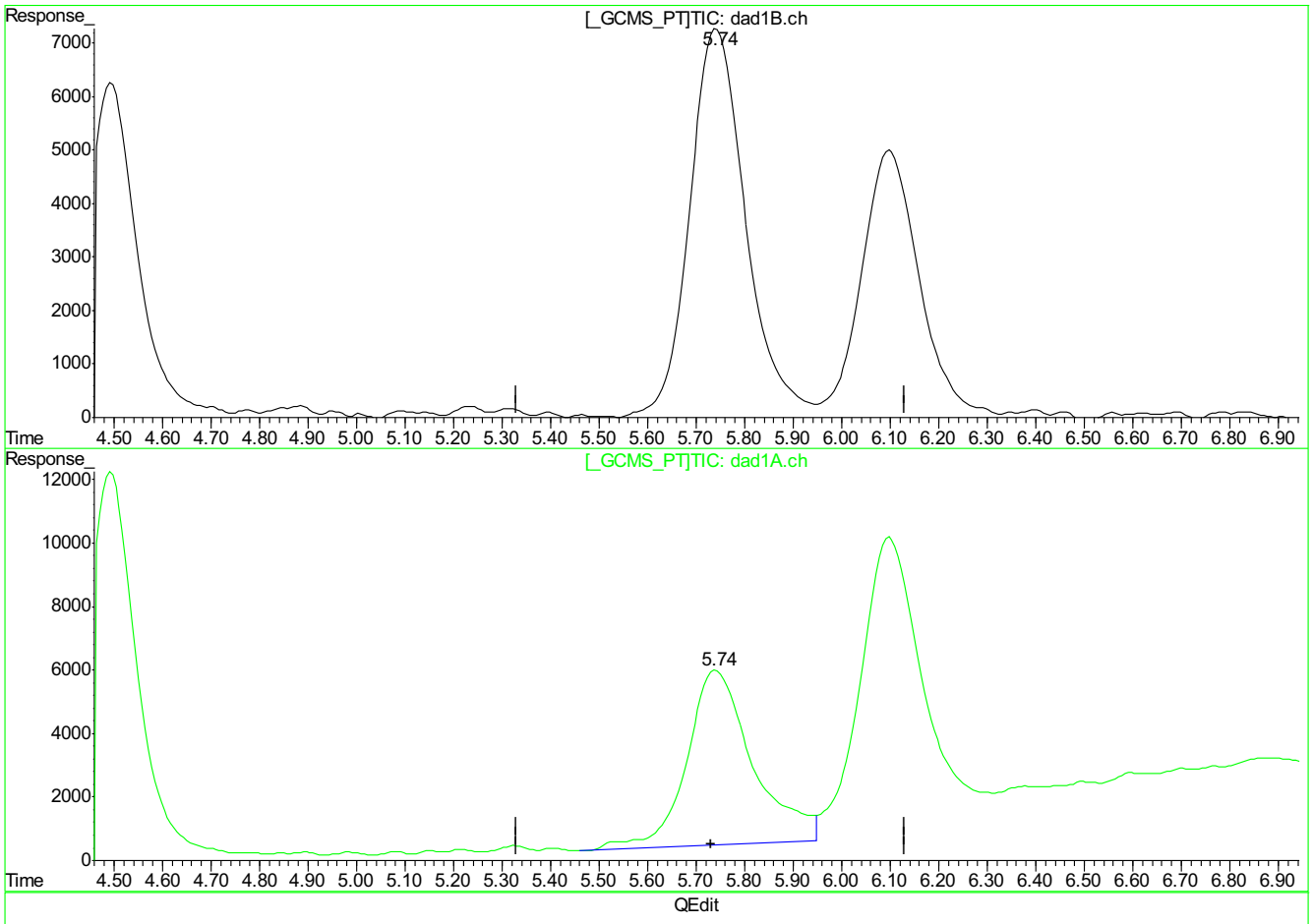
Sample Number: GBB1578-IC1578
Lab FileID: BB054263.D
Injection Time: 04/19/17 11:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.74	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.33	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.59	Poorly defined baseline
Tetryl	479-45-8	2	8.73	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.15	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.58	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.04	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.34	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.18	Poorly defined baseline
PETN	78-11-5	2	18.14	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 102.309ppb

response 584870

(7) 1,3-Dinitrobenzene #2

5.74min 133.938ppb

response 521537

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 14:59:40 2017

9.5.3.2

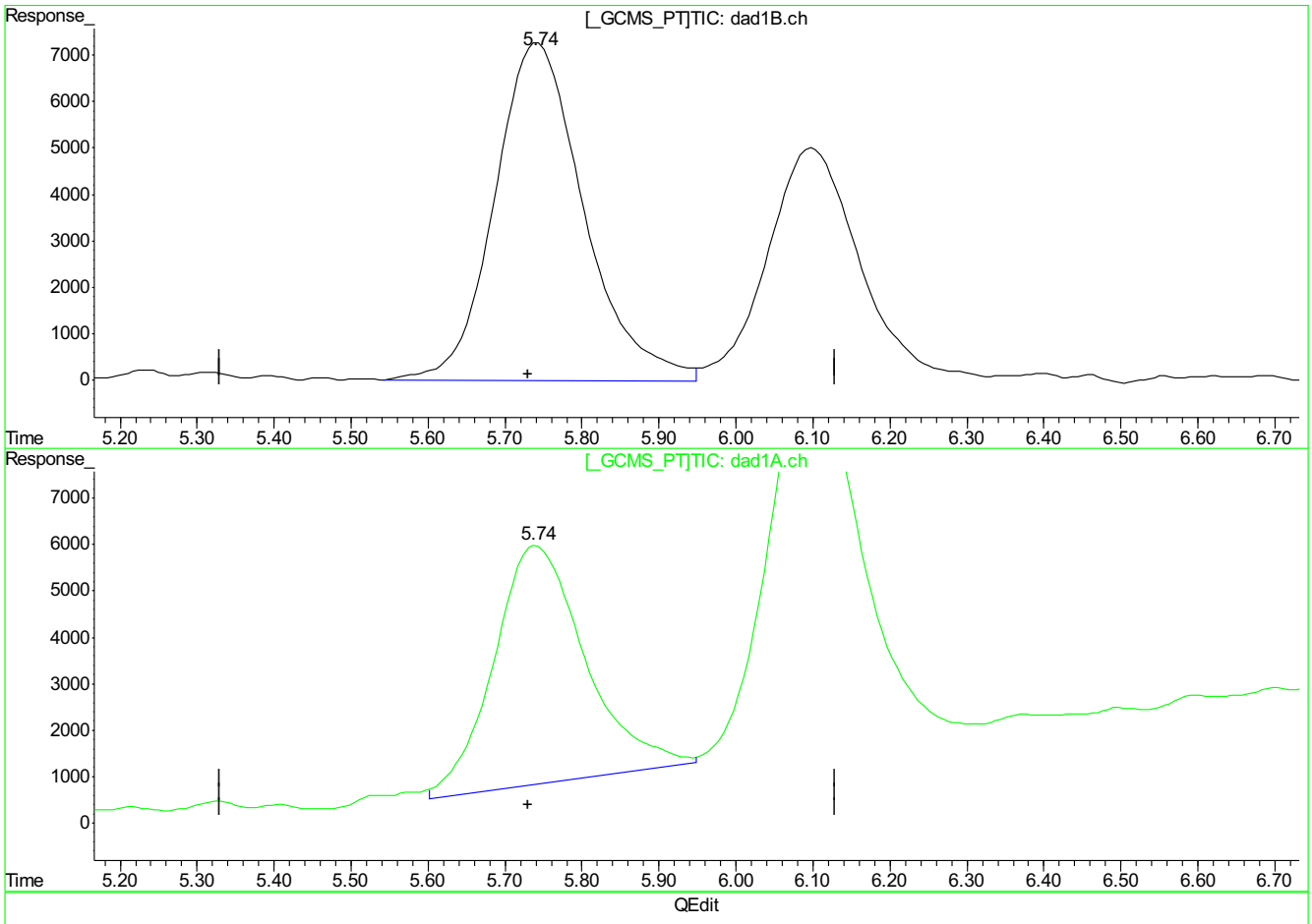
9

BB054263.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 102.309ppb

response 584870

(7) 1,3-Dinitrobenzene #2

5.74min 109.167ppb m

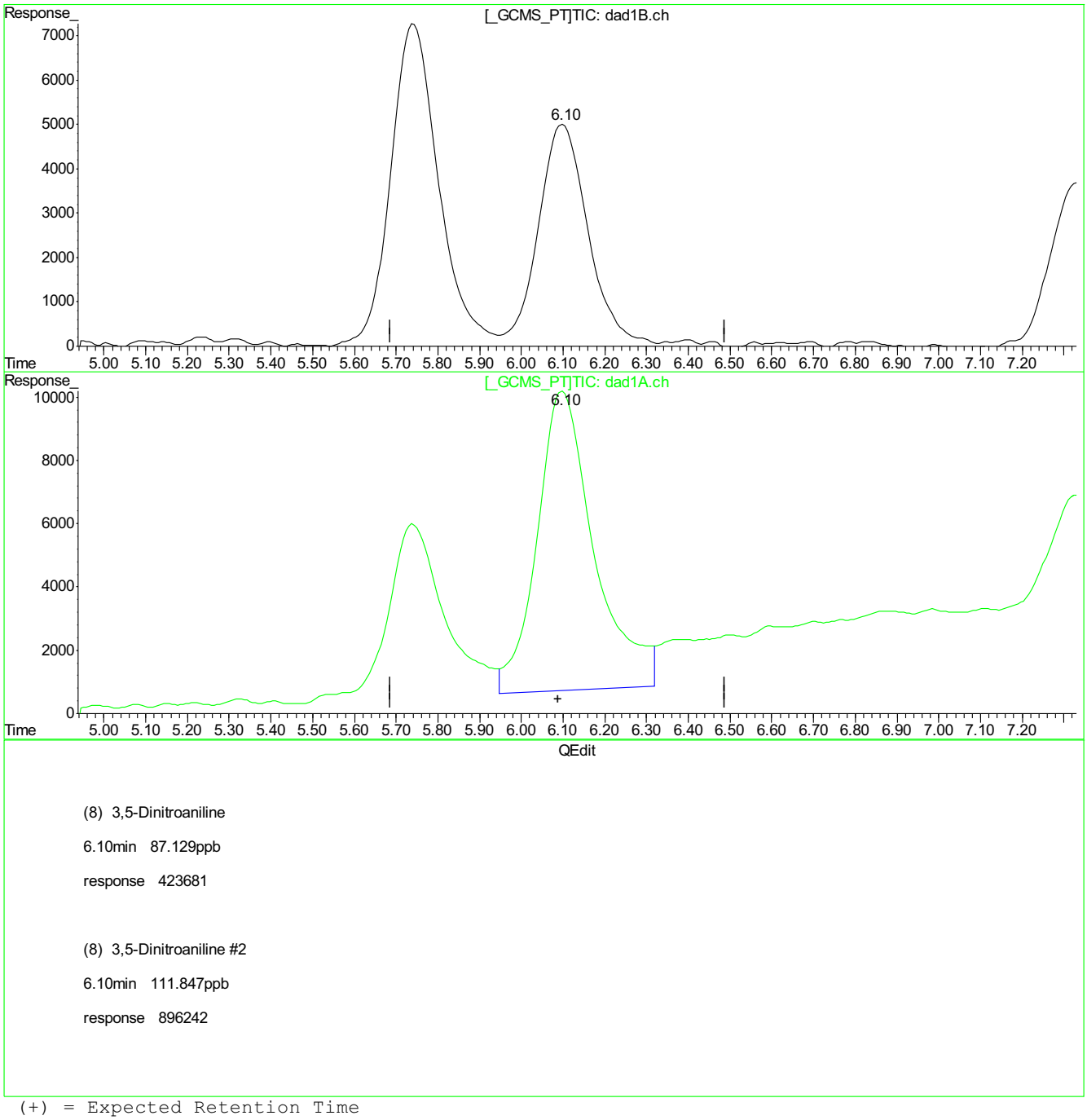
response 425081

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 14:59:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 87.129ppb

response 423681

(8) 3,5-Dinitroaniline #2

6.10min 111.847ppb

response 896242

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 14:59:56 2017

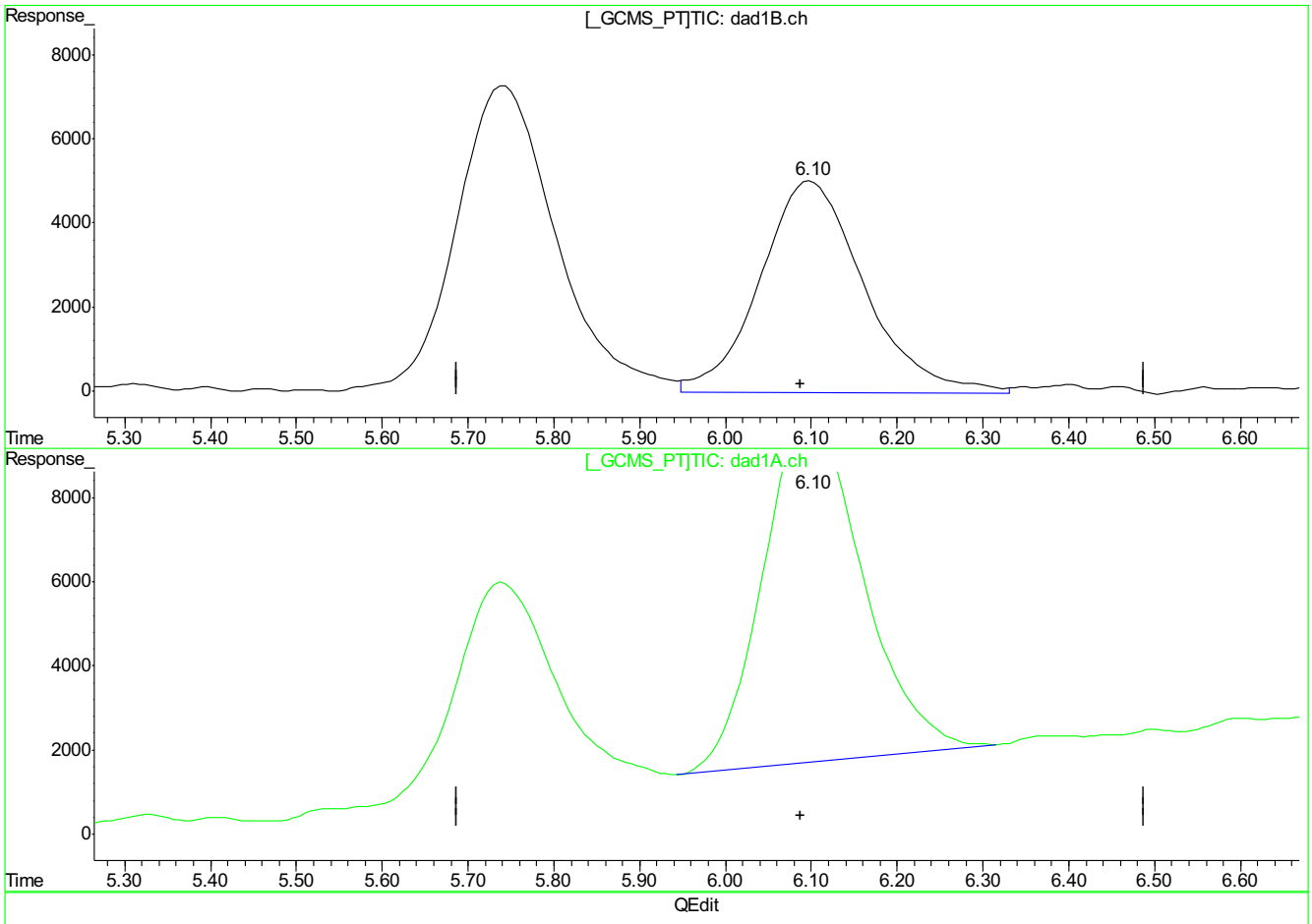
9.5.3.4

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 87.129ppb

response 423681

(8) 3,5-Dinitroaniline #2

6.10min 83.155ppb m

response 666332

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:04 2017

9.5.3.5

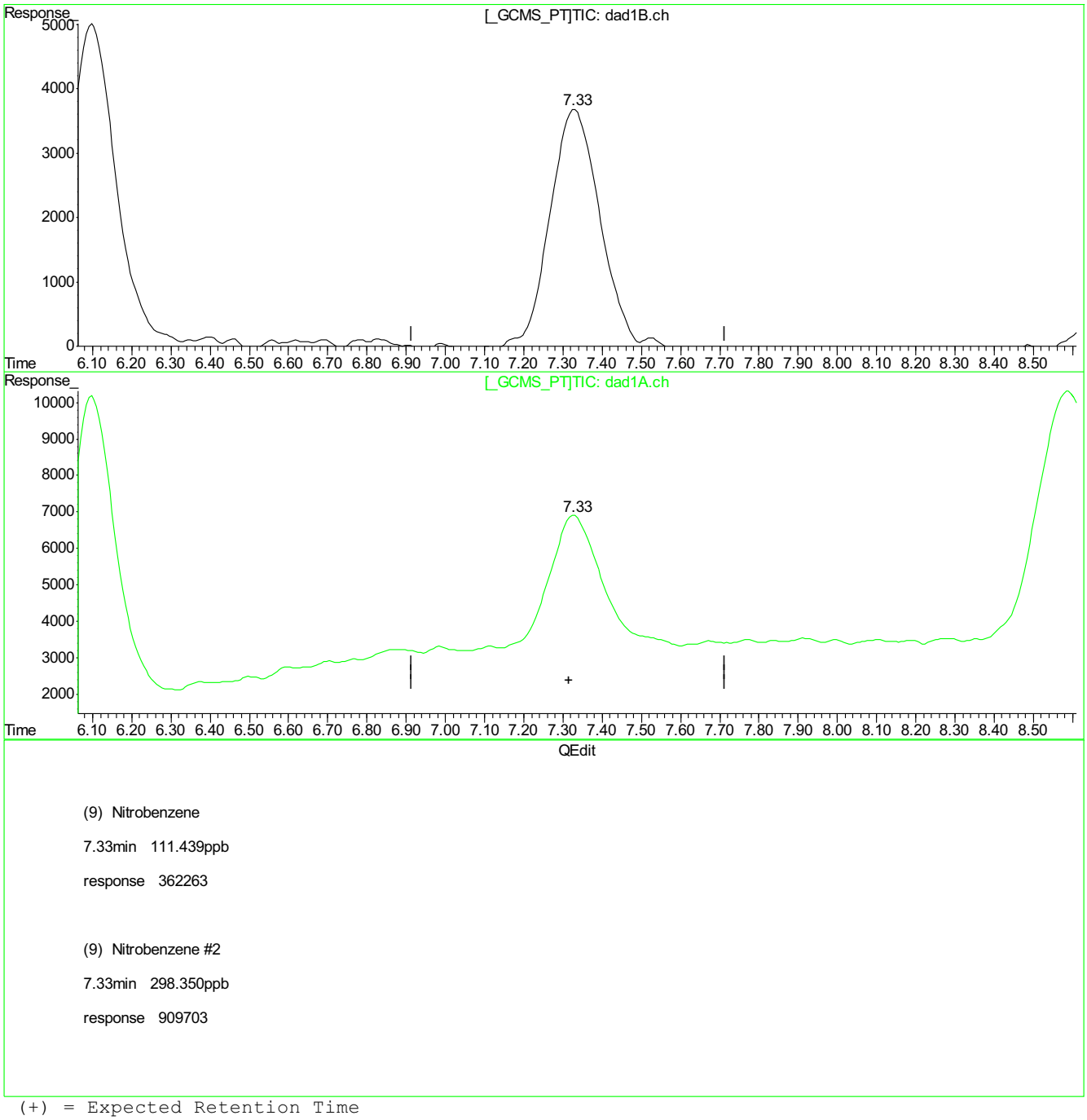
9

BB054263.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 111.439ppb

response 362263

(9) Nitrobenzene #2

7.33min 298.350ppb

response 909703

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:07 2017

9.5.3.6

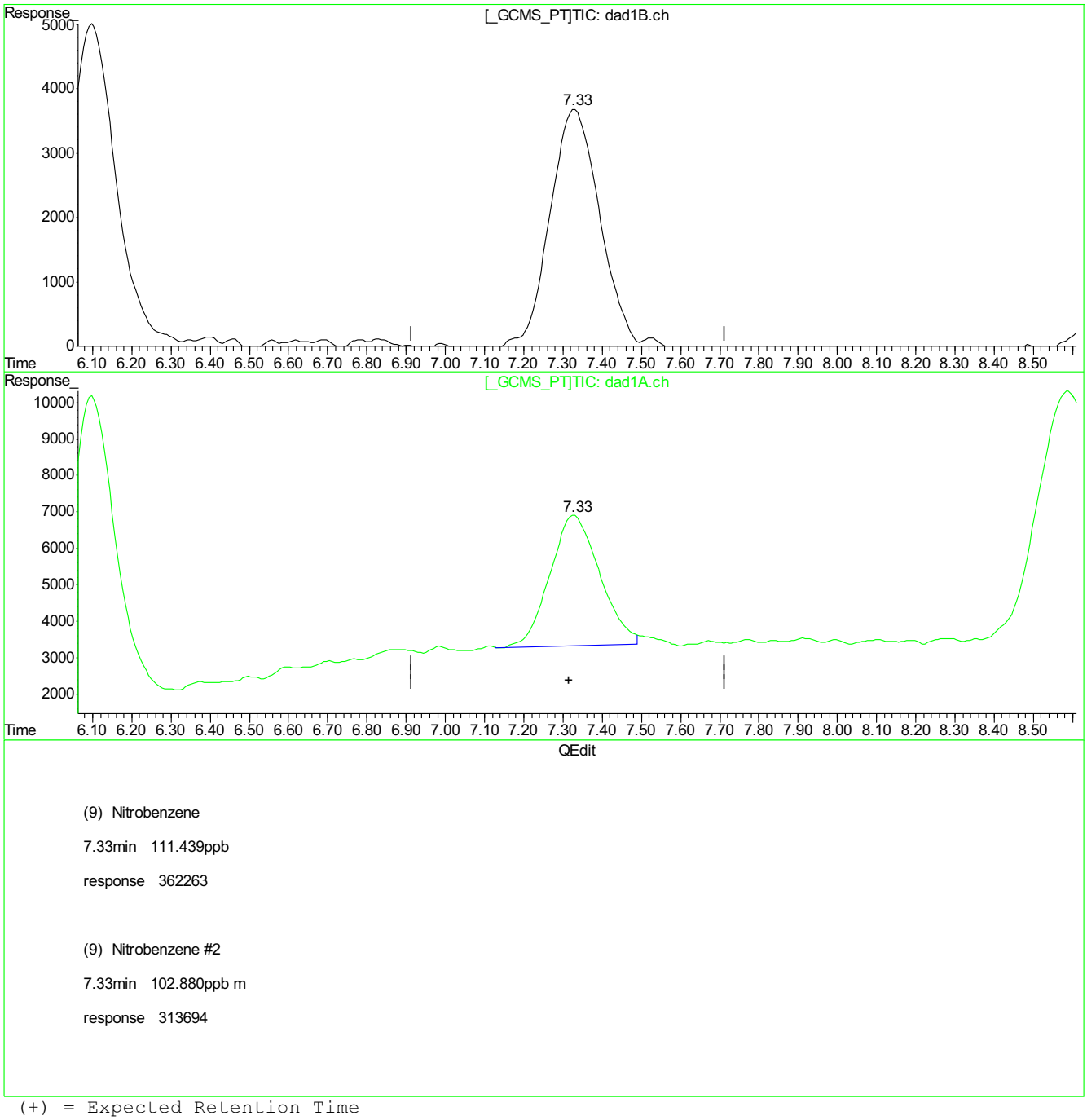
9

BB054263.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 111.439ppb

response 362263

(9) Nitrobenzene #2

7.33min 102.880ppb m

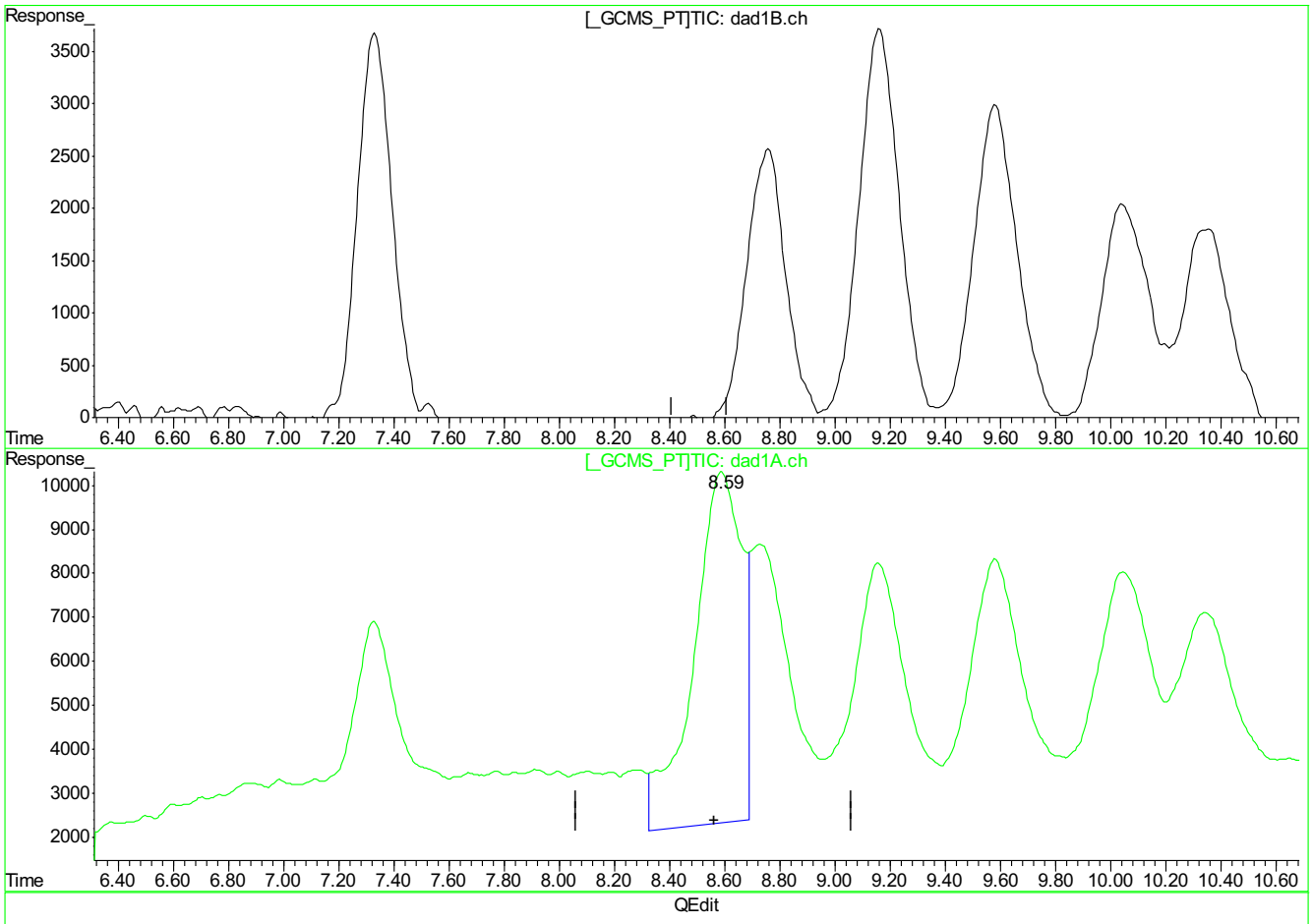
response 313694

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.59min 784.986ppb

response 962231

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:18 2017

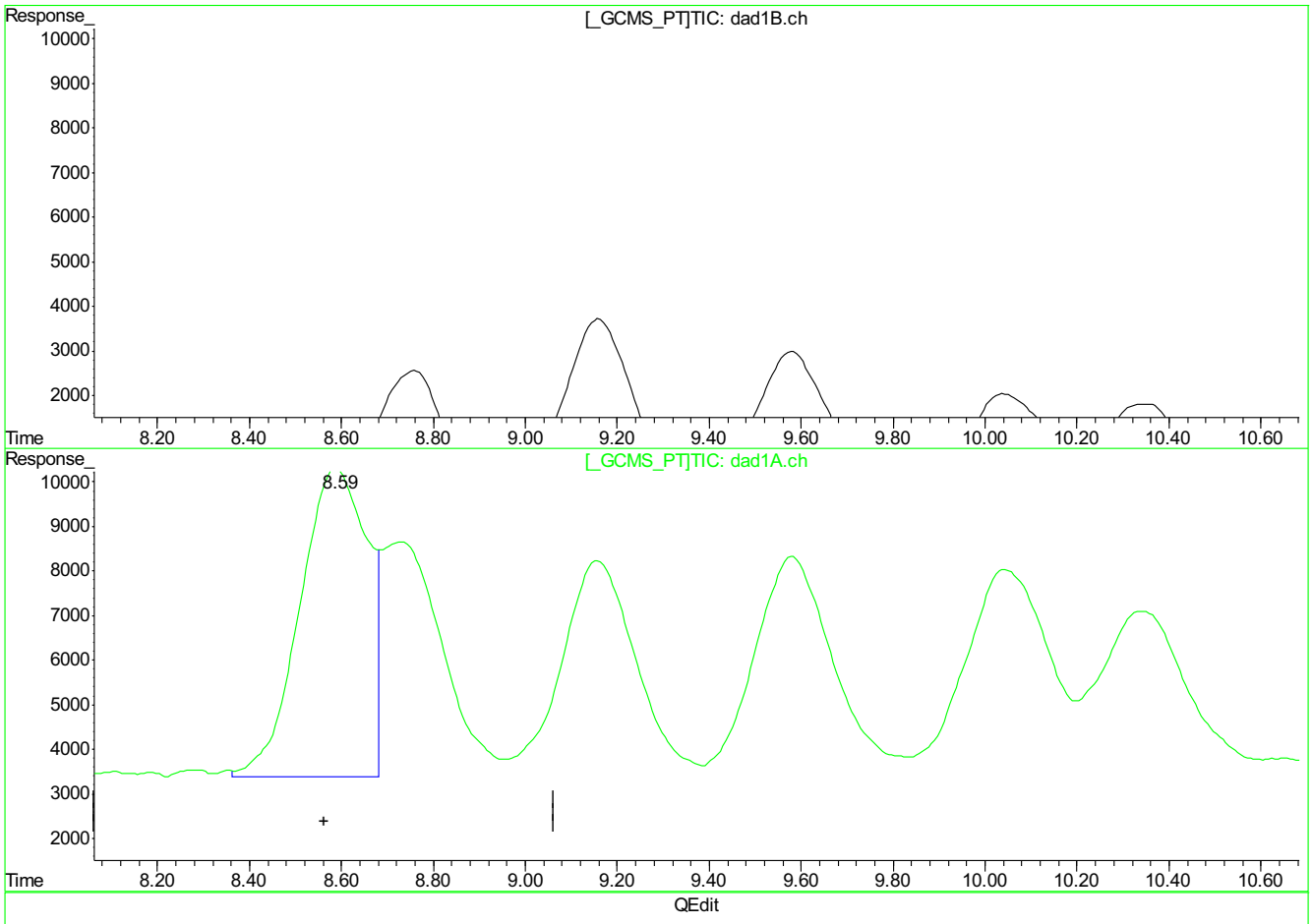
9.5.3.8

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.59min 572.726ppb m

response 702045

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:43 2017

9.5.3.9

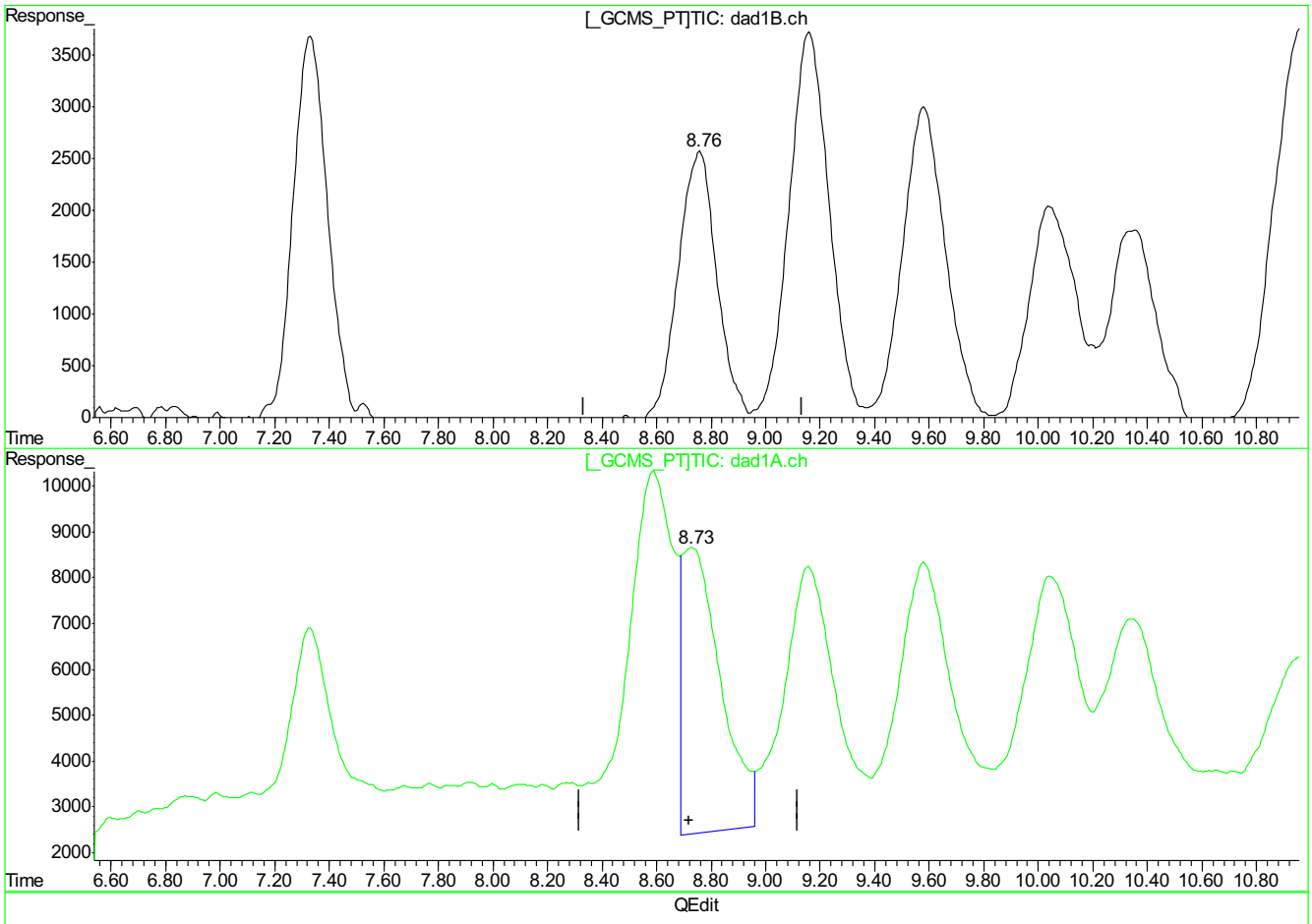
9

BB054263.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 90.166ppb

response 288957

(11) Tetryl #2

8.73min 119.174ppb

response 618638

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:00:47 2017

9.5.3.10

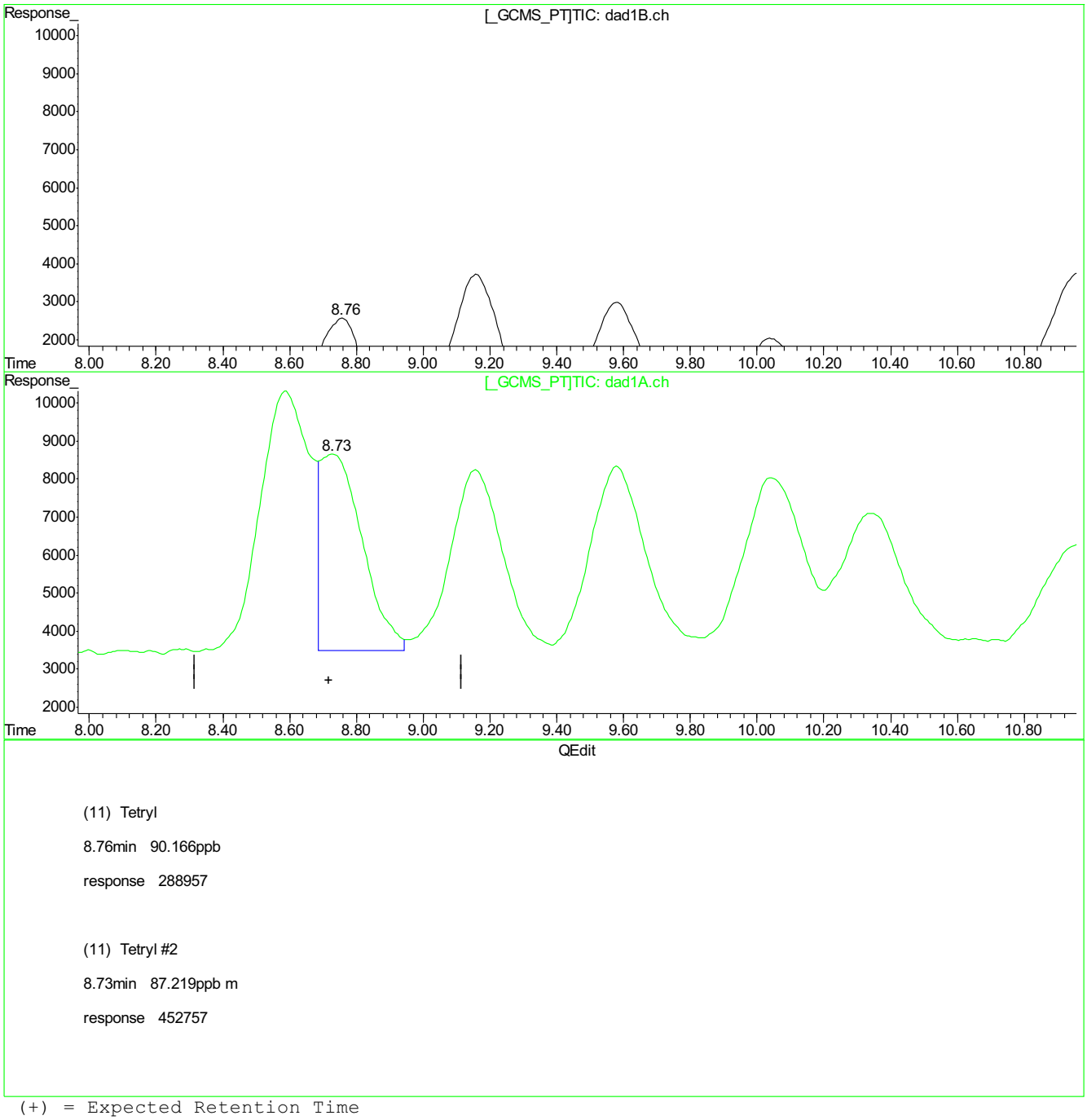
9

BB054263.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.76min 90.166ppb

response 288957

(11) Tetryl #2

8.73min 87.219ppb m

response 452757

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:09 2017

9.5.3.11

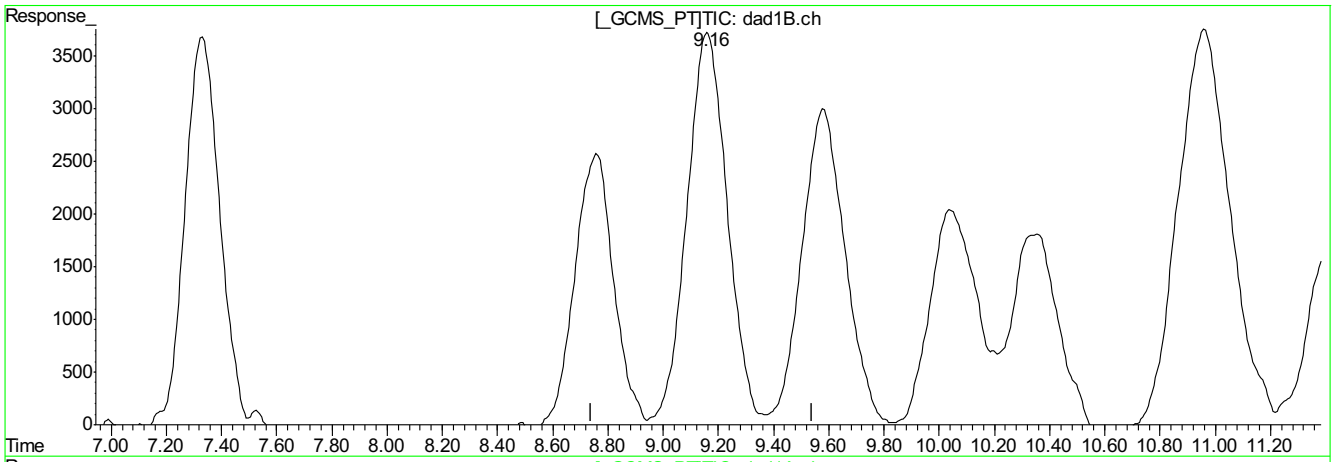
9

BB054263.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 101.640ppb

response 420824

(12) 2,4,6-Trinitrotoluene #2

9.16min 150.200ppb

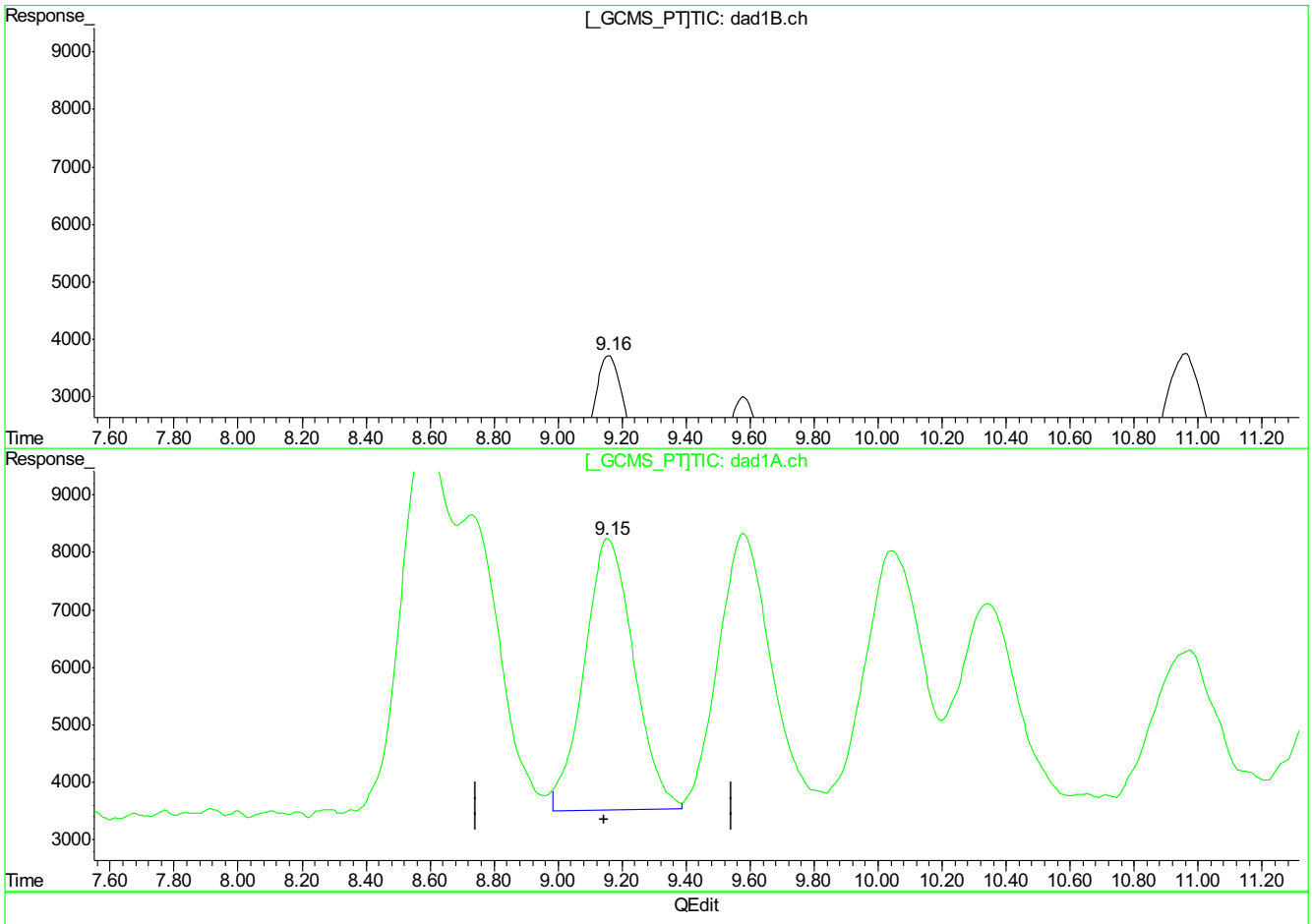
response 721457

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 101.640ppb

response 420824

(12) 2,4,6-Trinitrotoluene #2

9.15min 105.874ppb m

response 508546

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:43 2017

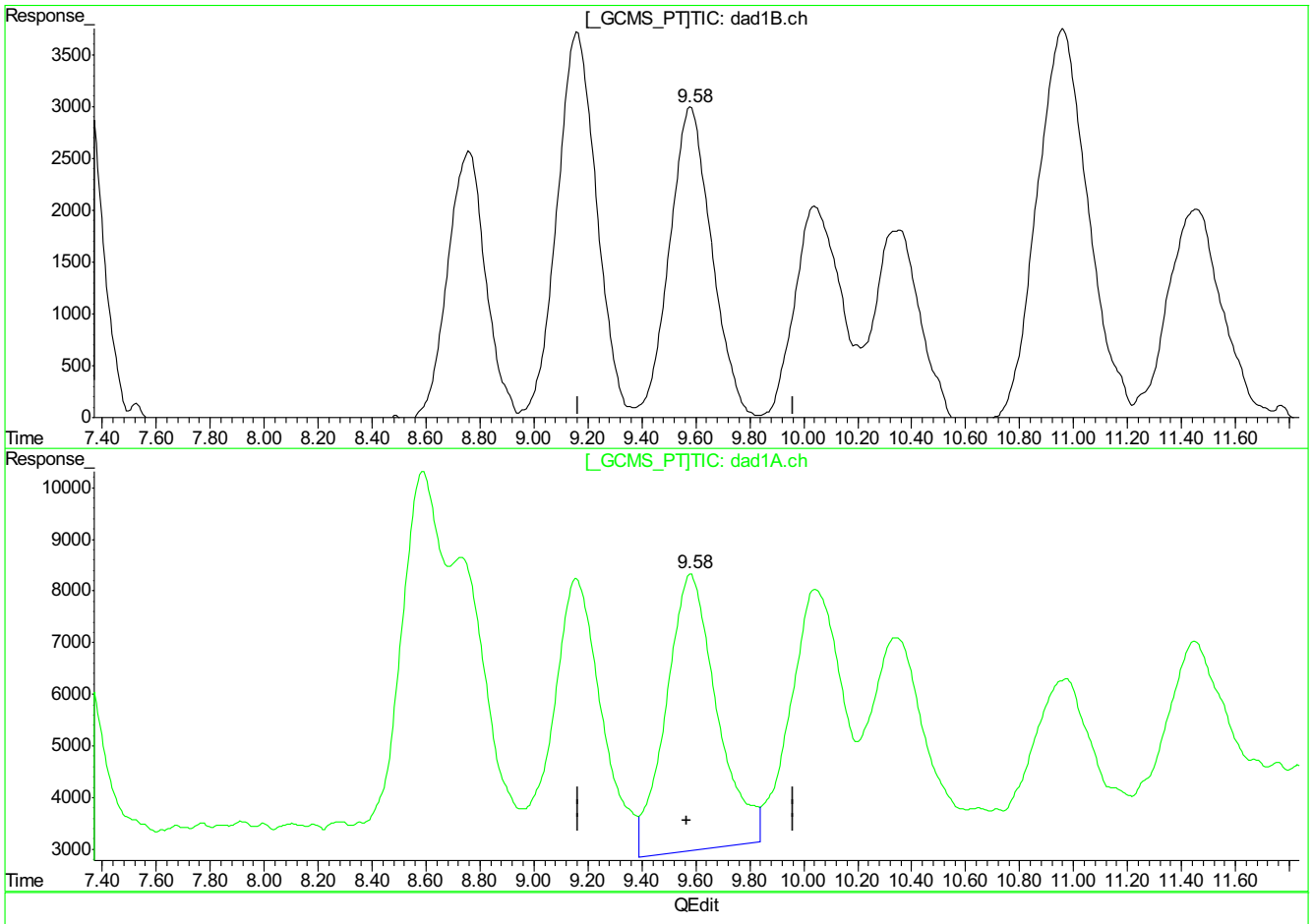
9.5.3.13

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 105.688ppb

response 372160

(13) 2-Amino-4,6-Dinitrotoluene #2

9.58min 138.726ppb

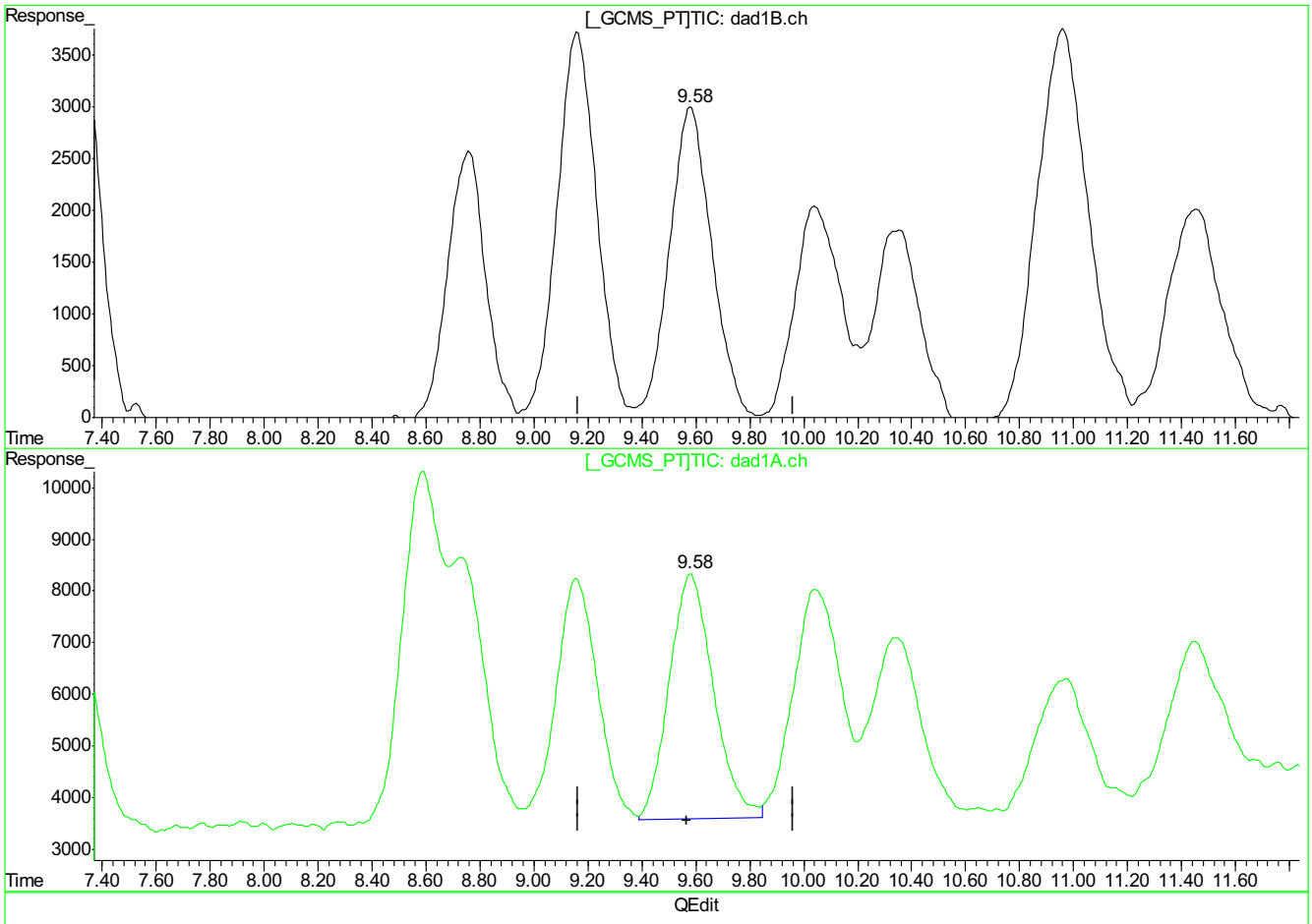
response 699010

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:46 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 105.688ppb

response 372160

(13) 2-Amino-4,6-Dinitrotoluene #2

9.58min 106.819ppb m

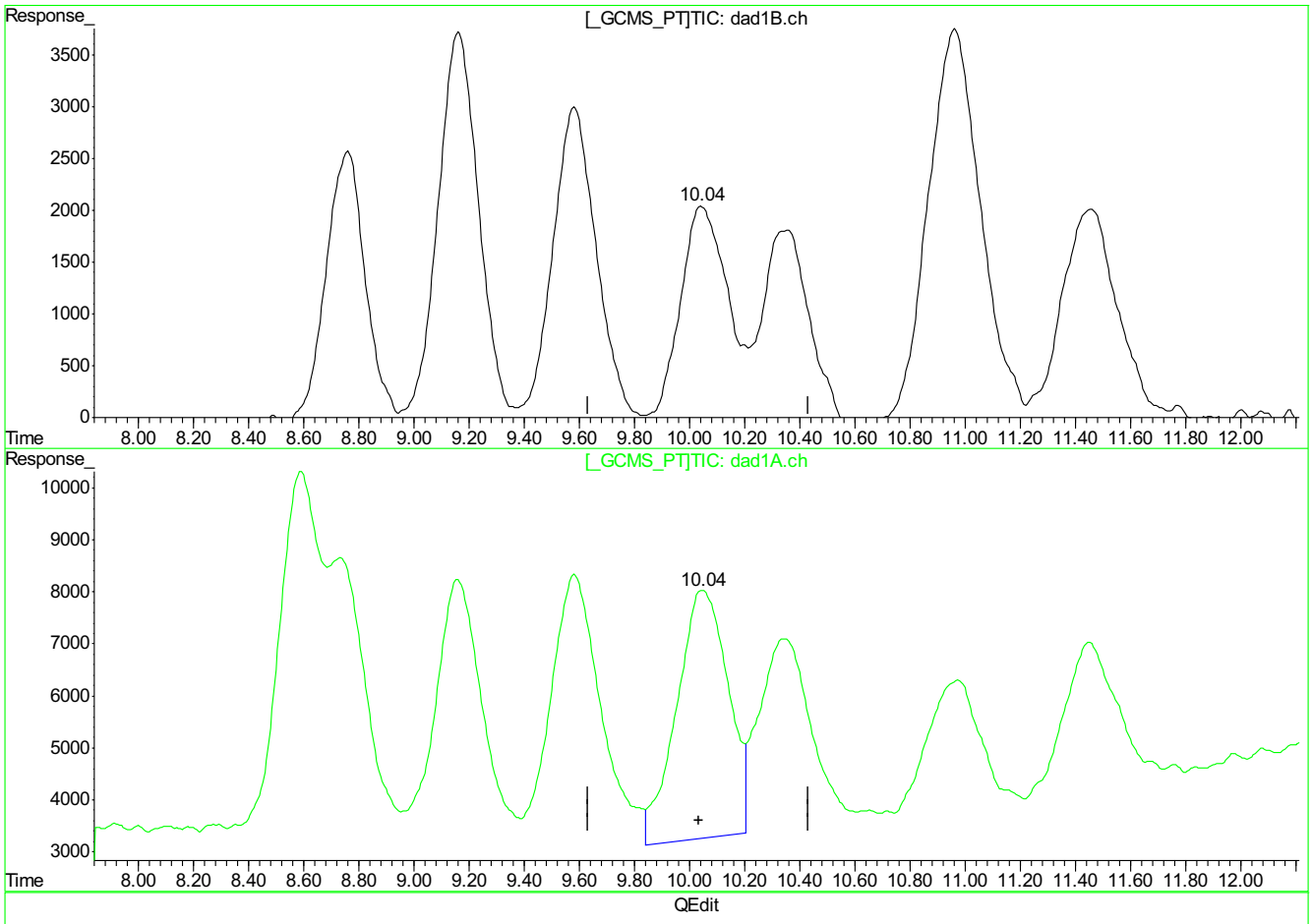
response 538610

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 103.066ppb

response 277691

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 121.248ppb

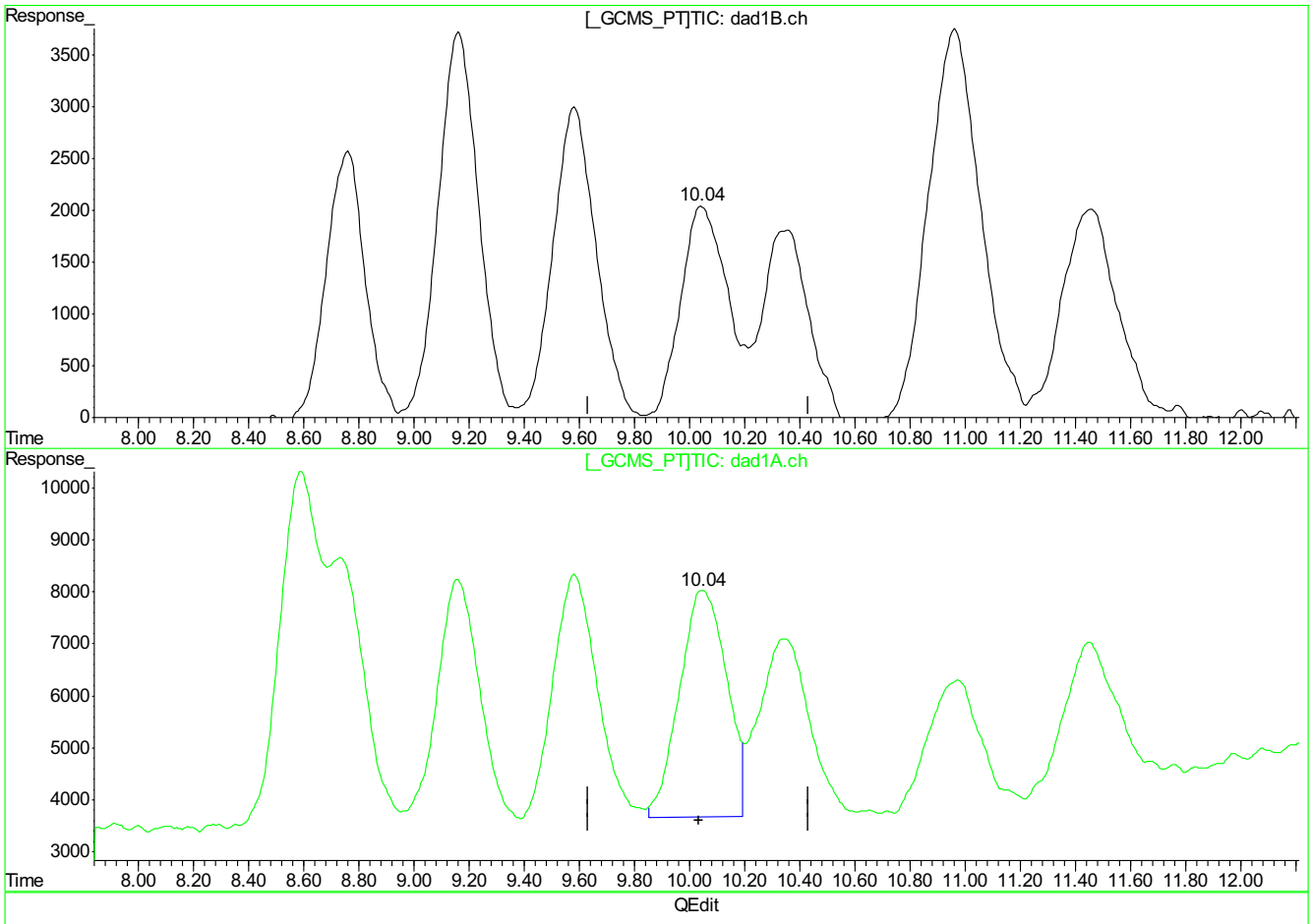
response 613539

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:01:56 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 103.066ppb

response 277691

(14) 4-Amino-2,6-Dinitrotoluene #2

10.04min 100.648ppb m

response 509299

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:02:05 2017

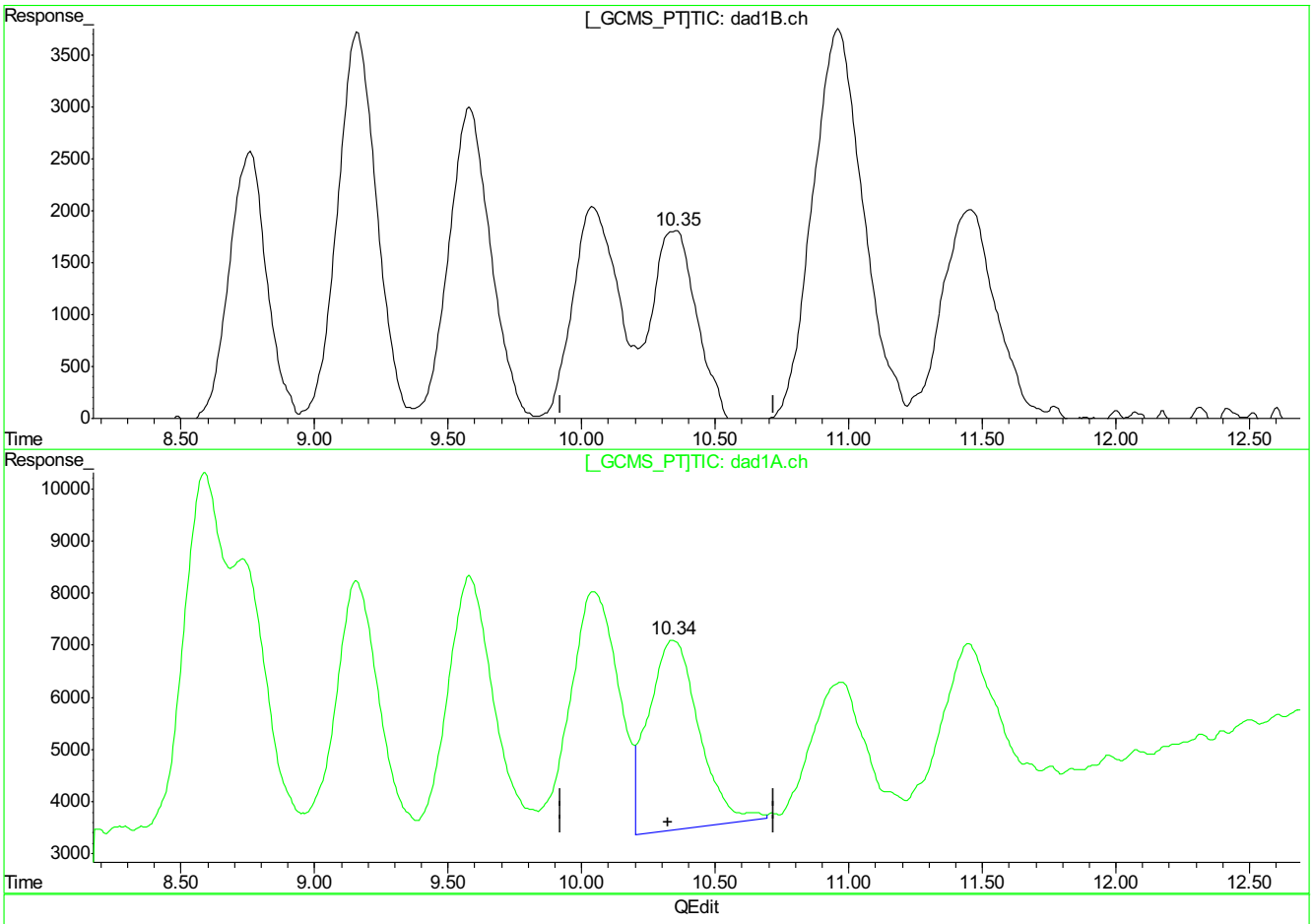
9.5.3.17

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 97.450ppb

response 243051

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 117.668ppb

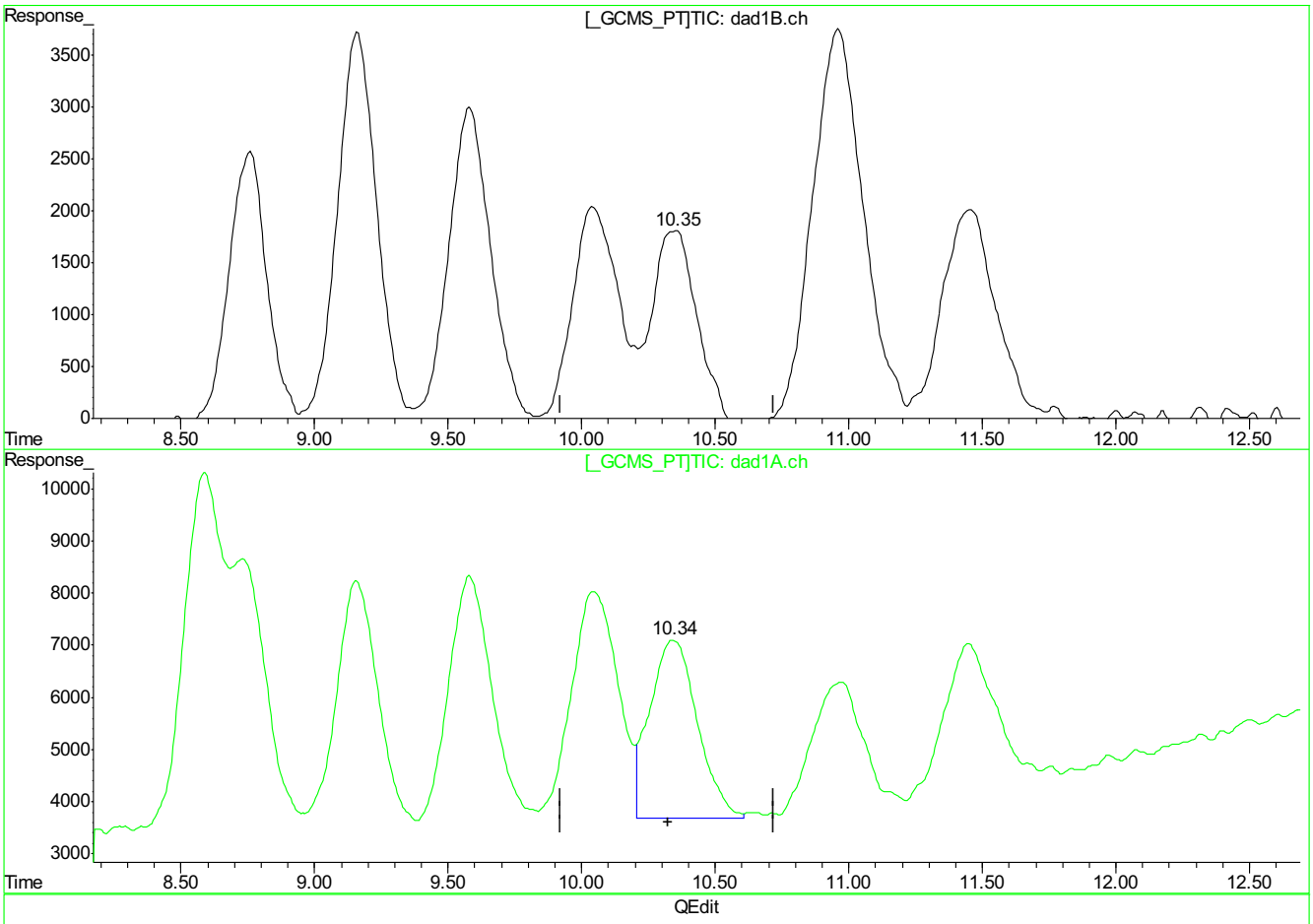
response 479486

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:02:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 97.450ppb

response 243051

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 103.384ppb m

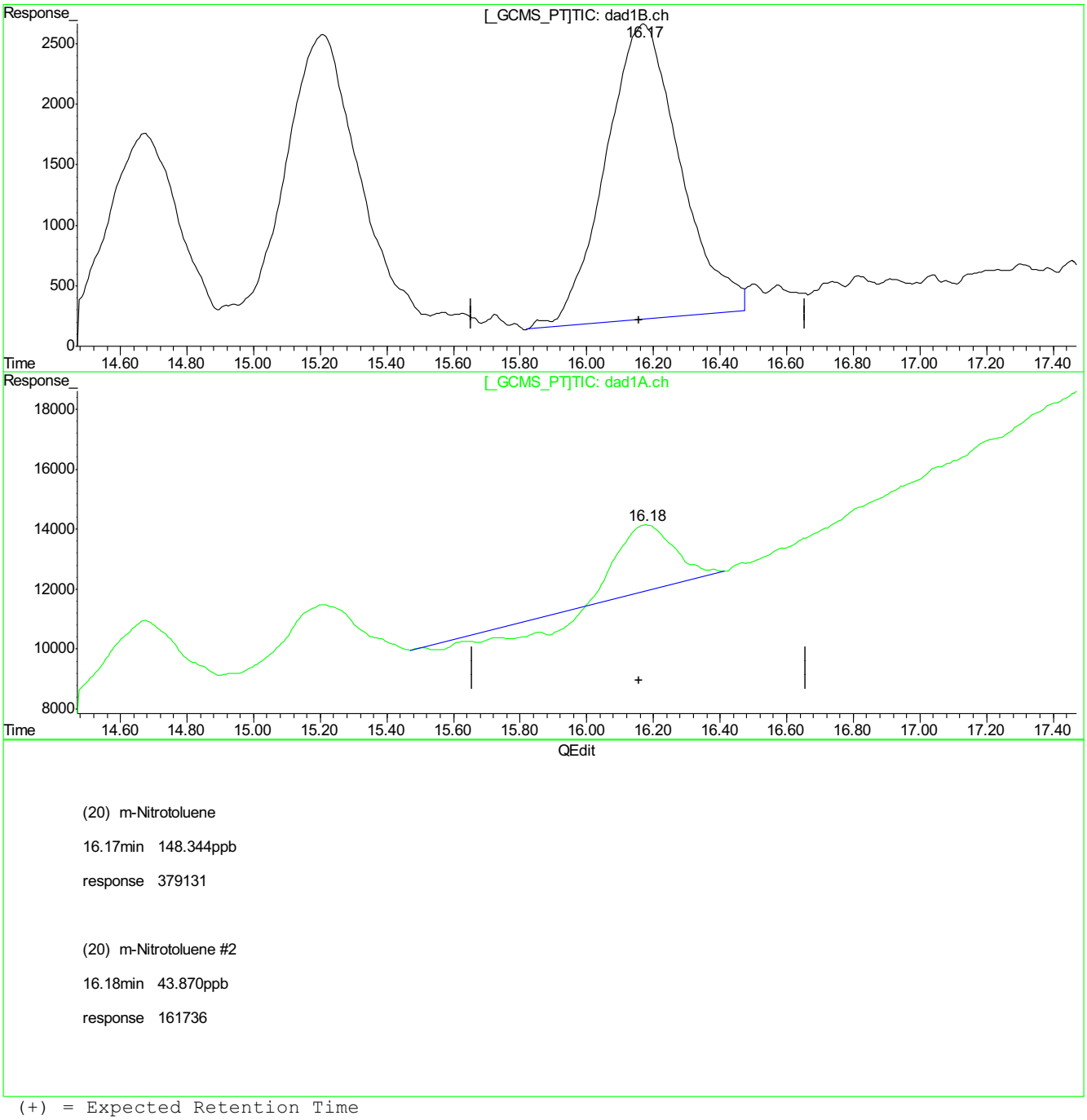
response 421281

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:02:32 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 148.344ppb

response 379131

(20) m-Nitrotoluene #2

16.18min 43.870ppb

response 161736

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:01 2017

9.5.3.20

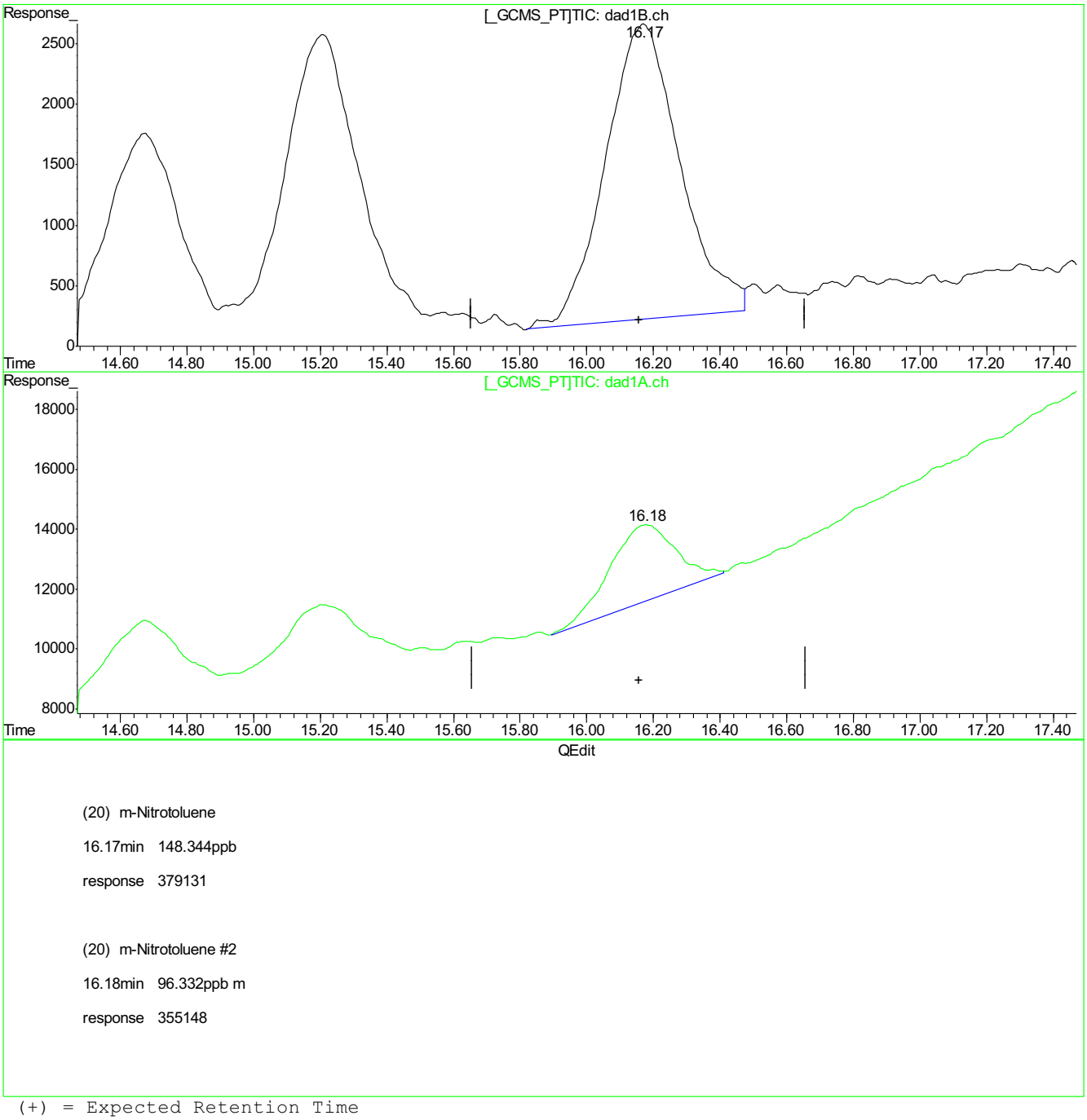
9

BB054263.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 148.344ppb

response 379131

(20) m-Nitrotoluene #2

16.18min 96.332ppb m

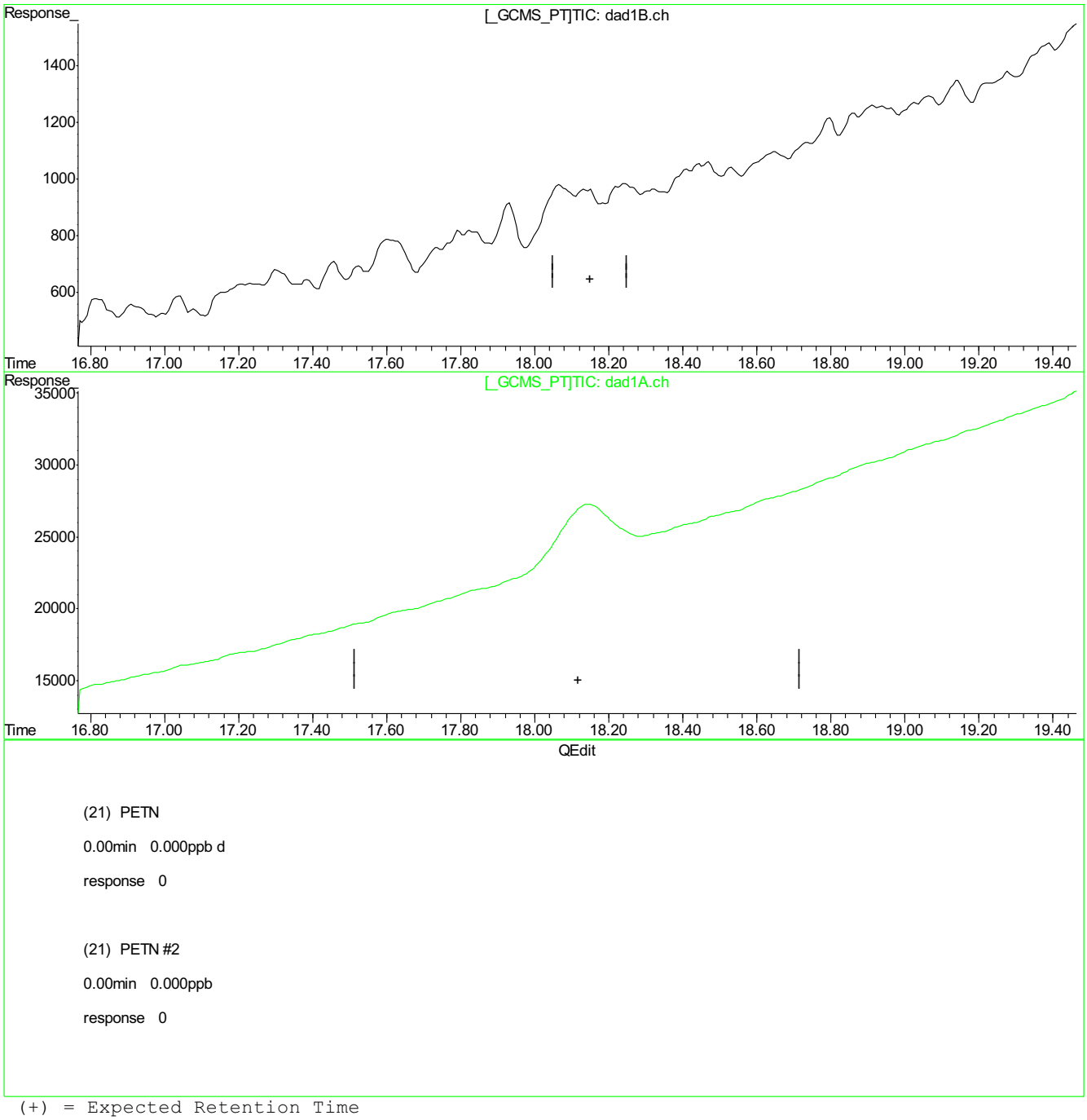
response 355148

(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:05 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:08 2017

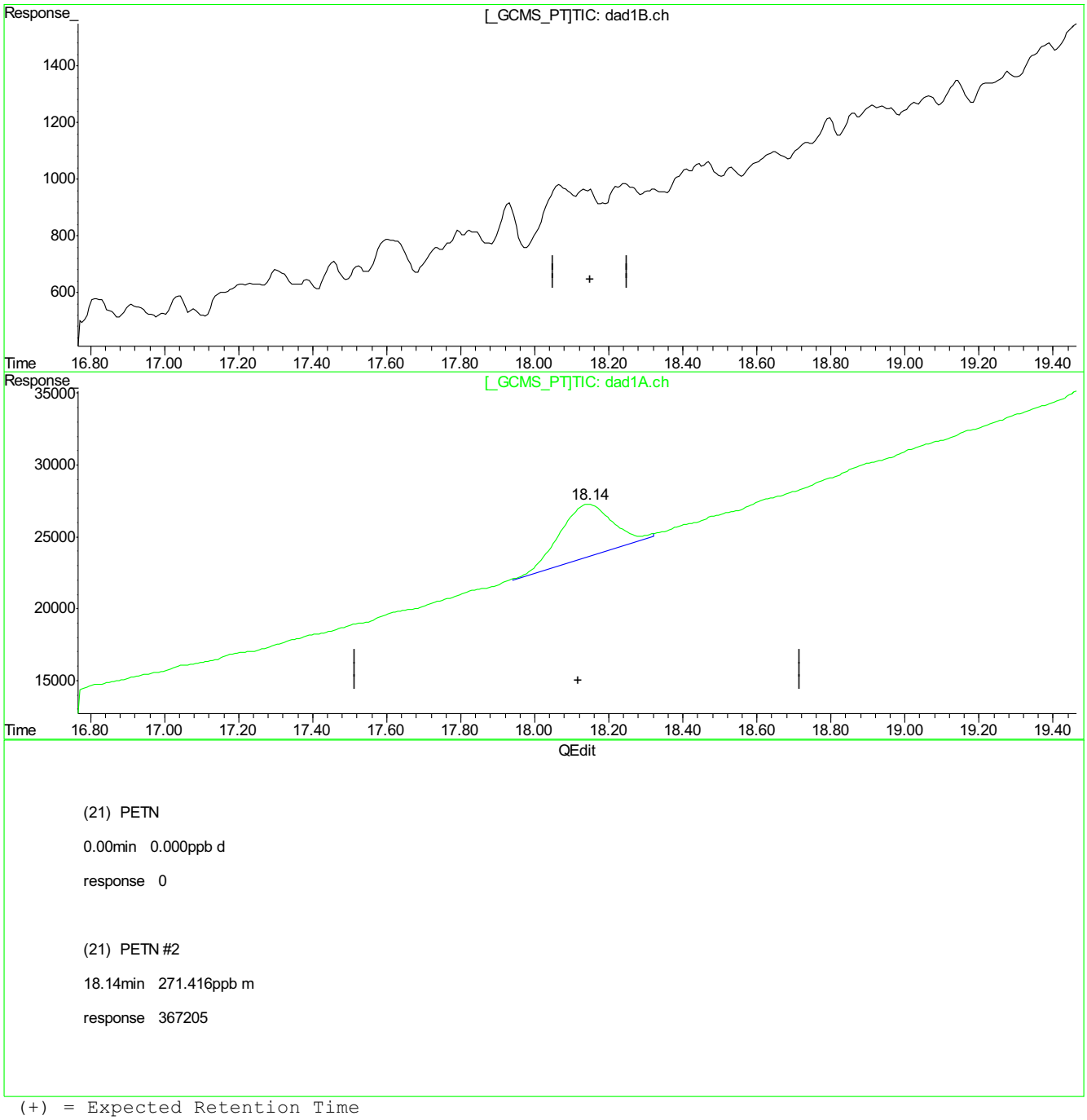
9.5.3.22
9

BB054263.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054263.D\dad1A.ch
Acq On : 19-Apr-2017, 11:13:45 Operator: evitam
Sample : ic1578-100 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 14:59:31 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054263.D 8330B_0419PLUS.M Wed Apr 19 15:03:12 2017

9.5.3.23

9

BB054263.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08:03 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.35	10.35	460960	842323	186.605	206.710m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		37.32%#	41.34%#
	Target Compounds						
1)	TNX	1.36	1.36	630291	1002590	191.961	194.997
2)	HMX	1.47	1.47	345985	945397	193.685	184.399
3)	DNX	1.73	1.73	608975	1012125	210.275	194.879
4)	MNX	2.29	2.29	506062	758333	218.456	208.284
5)	RDX	2.87	2.87	411616	629058	191.215	185.238
6)	1,3,5-Trinitrobe	4.49	4.49	828292	1619046	187.550	186.735
7)	1,3-Dinitrobenze	5.74	5.74	1092813	755386	191.162	193.994m
8)	3,5-Dinitroanili	6.10	6.10	781964	1322254	160.809	165.011m
9)	Nitrobenzene	7.33	7.33	669641	649300	205.994	212.947m
10)	Nitroglycerin	0.00	8.58	0	1319500	N.D. d	1076.445m
11)	Tetryl	8.75	8.73	555265	792319	173.265	152.632m
12)	2,4,6-Trinitroto	9.16	9.16	784280	994514	189.424	207.047m
13)	2-Amino-4,6-Dini	9.58	9.57	695400	1067880	198.731	212.269m
14)	4-Amino-2,6-Dini	10.05	10.05	510802	1018097	189.586	201.197m
16)	2,4-Dinitrotolue	10.96	10.96	999816	624189	189.642	191.088
17)	2,6-Dinitrotolue	11.46	11.46	592858	698215	195.876	184.903
18)	o-Nitrotoluene	14.67	14.67	492546	660115	215.216	288.452
19)	p-Nitrotoluene	15.21	15.22	740777	587792	220.514	240.606
20)	m-Nitrotoluene	16.17	16.17	719529	735016	271.131	199.370m
21)	PETN	0.00	18.14	0	868792	N.D. d	642.160m

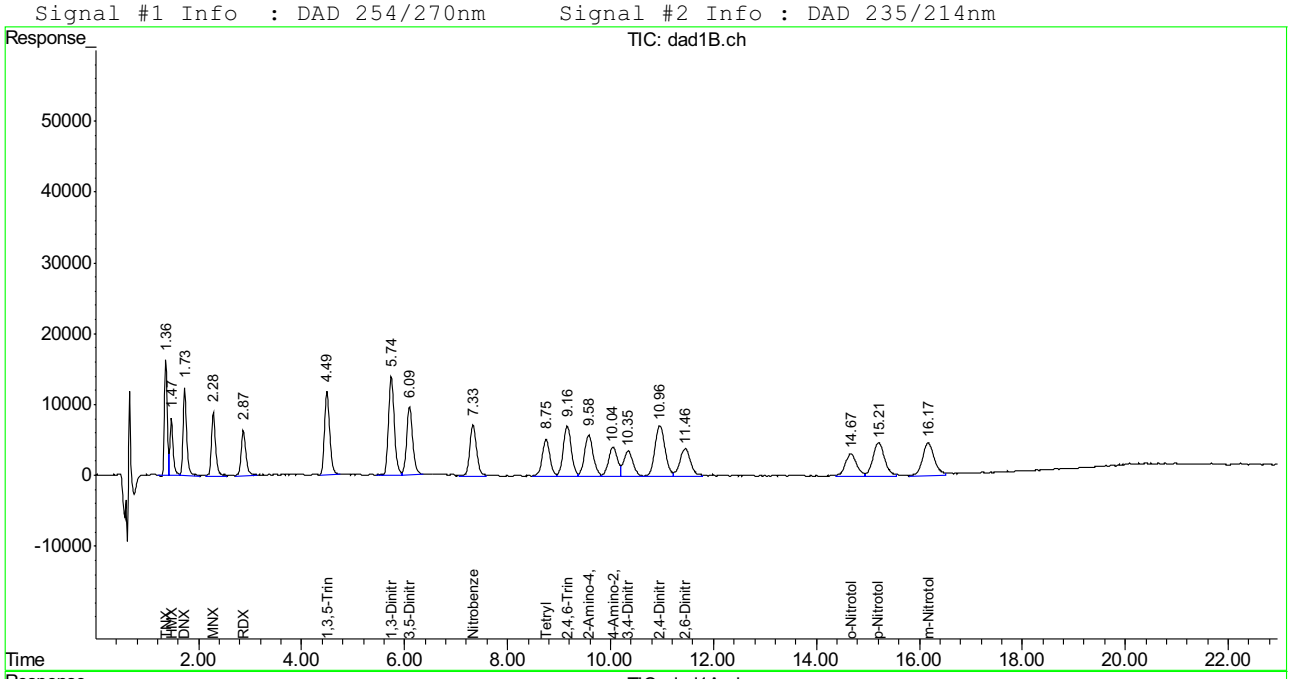
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054264.D 8330B_0419PLUS.M Thu Apr 20 11:04:52 2017 Page 1

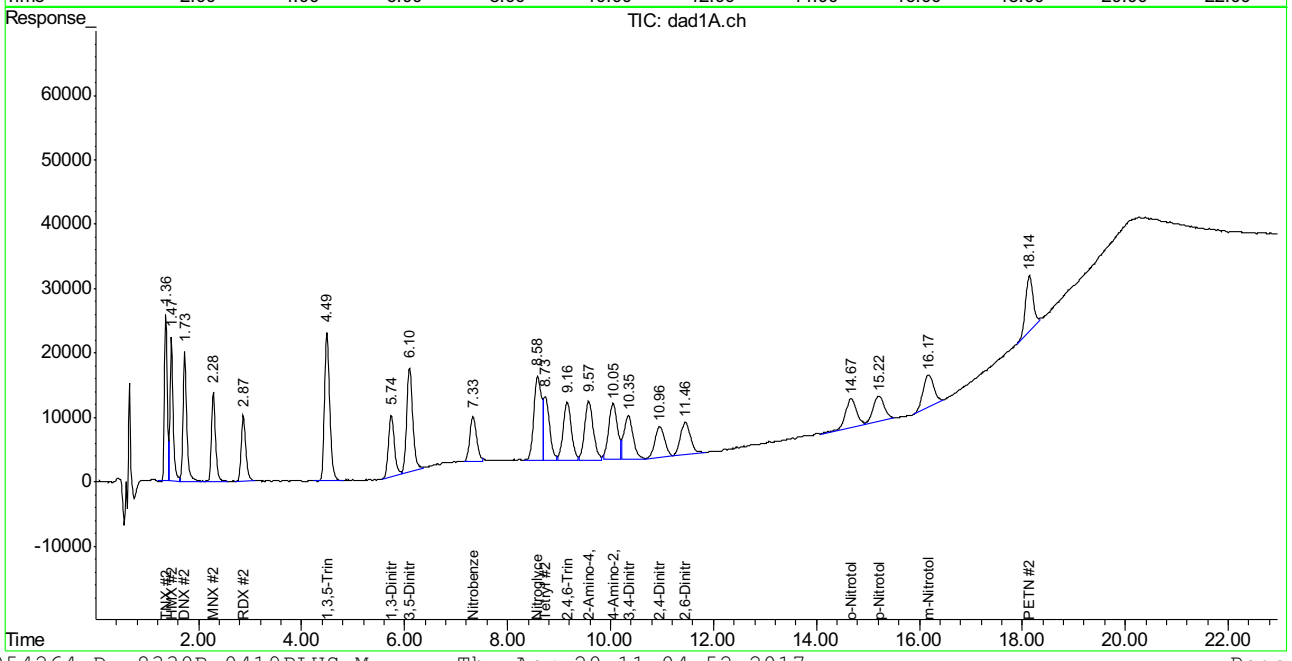
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 12:07:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

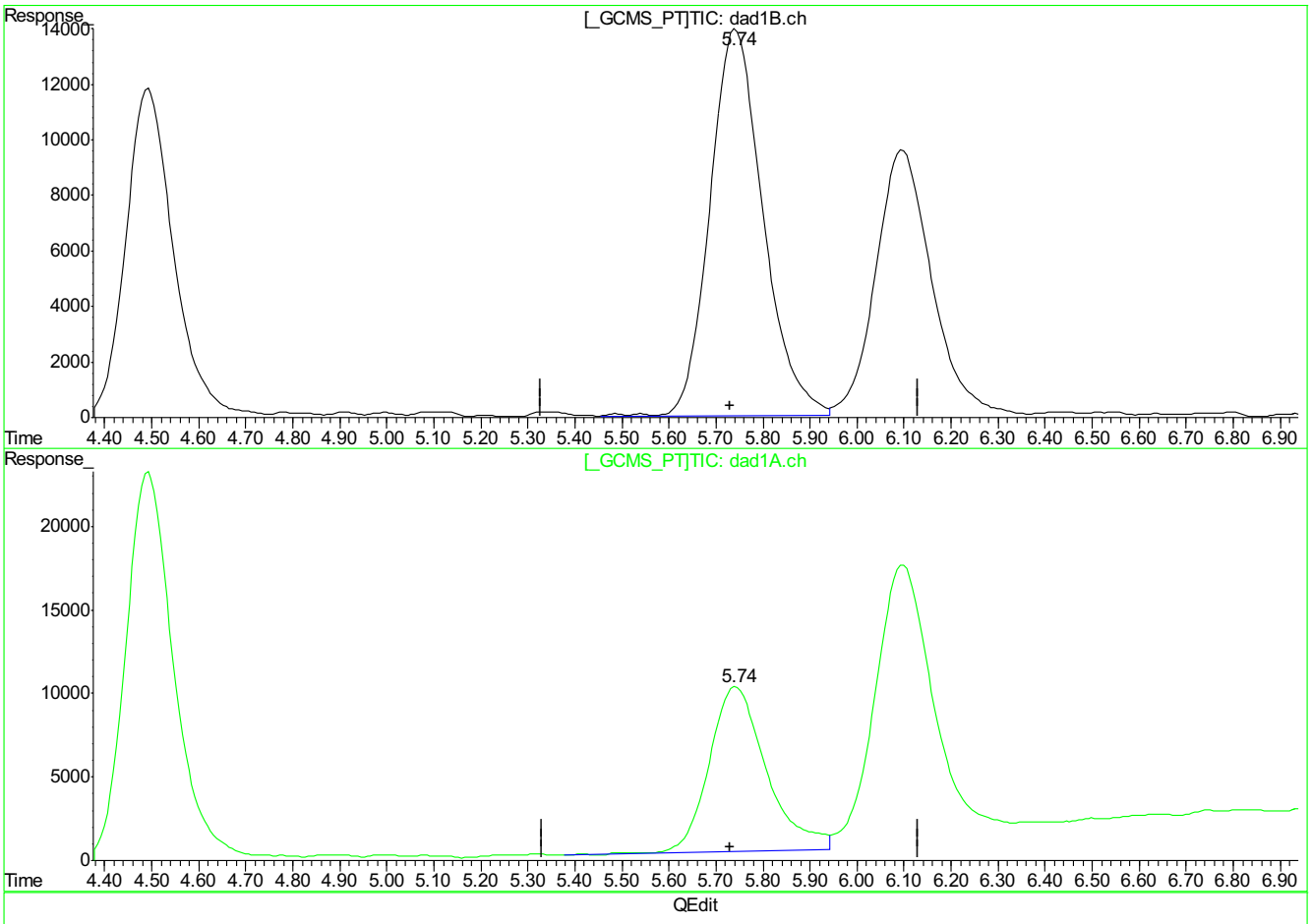
Sample Number: GBB1578-IC1578
Lab FileID: BB054264.D
Injection Time: 04/19/17 11:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.74	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.33	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.58	Poorly defined baseline
Tetryl	479-45-8	2	8.73	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.16	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.57	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.05	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.35	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.17	Poorly defined baseline
PETN	78-11-5	2	18.14	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 191.162ppb

response 1092813

(7) 1,3-Dinitrobenzene #2

5.74min 215.042ppb

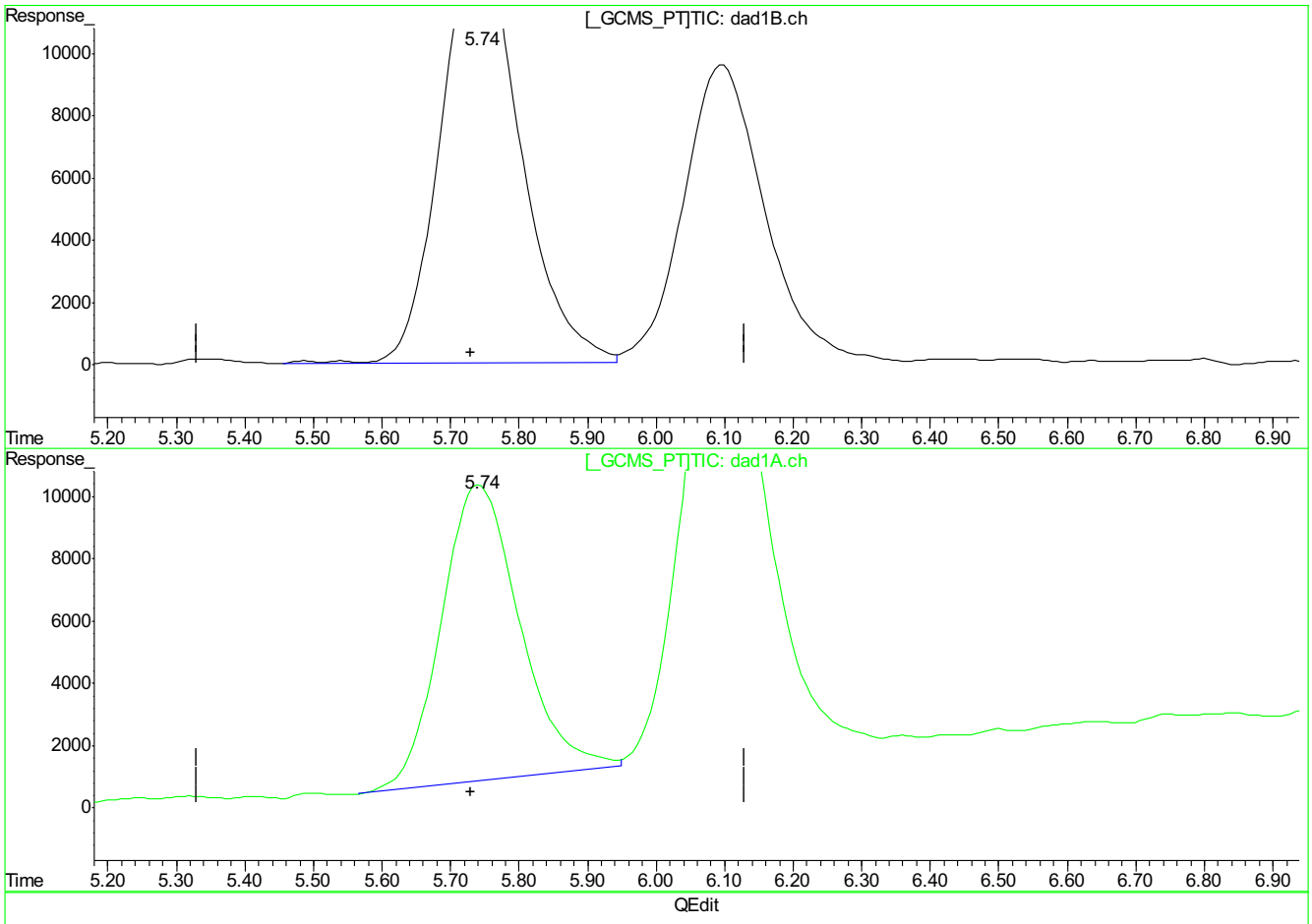
response 837345

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:30 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 191.162ppb

response 1092813

(7) 1,3-Dinitrobenzene #2

5.74min 193.994ppb m

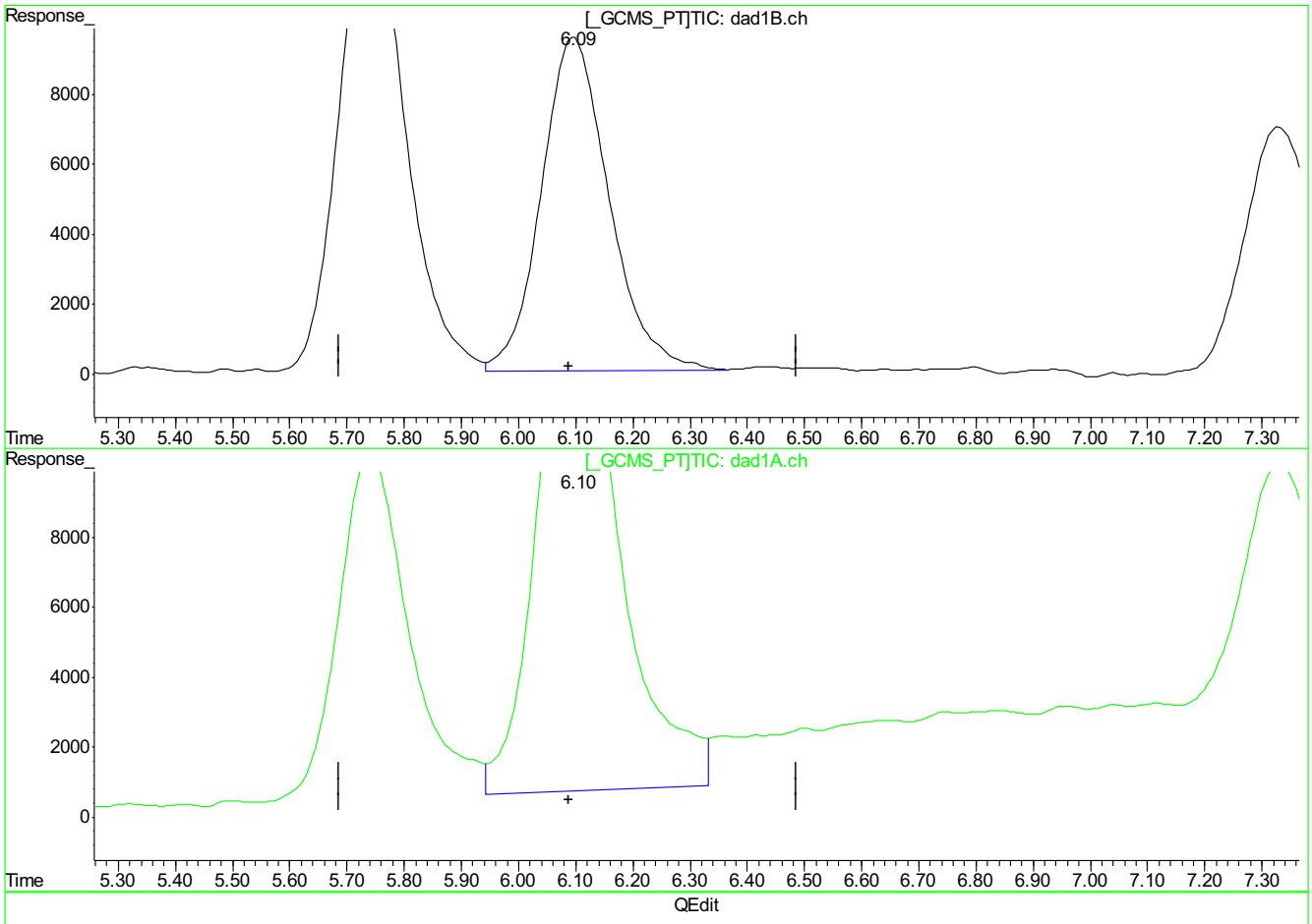
response 755386

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:35 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 160.809ppb

response 781964

(8) 3,5-Dinitroaniline #2

6.10min 190.841ppb

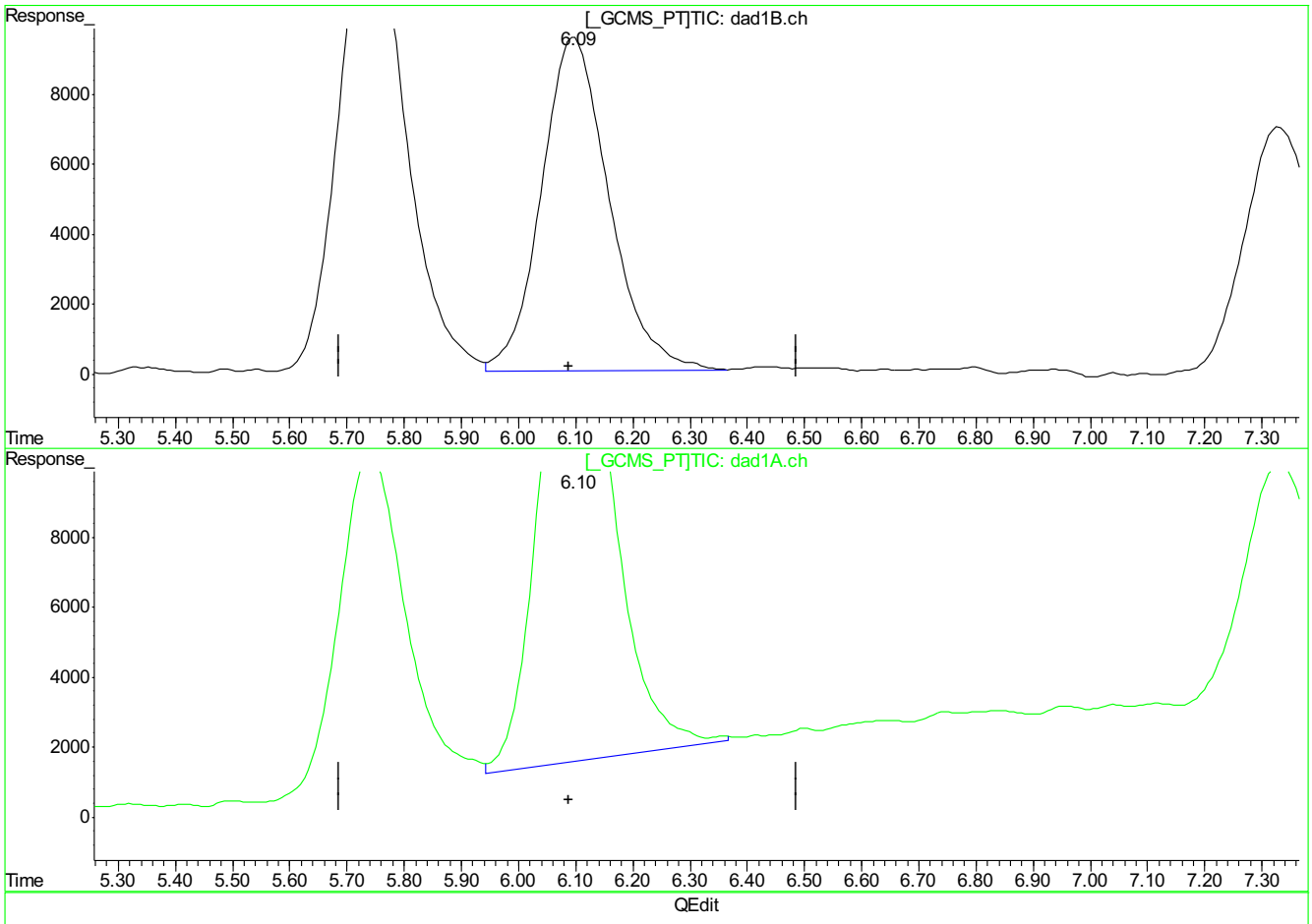
response 1529234

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.10min 160.809ppb

response 781964

(8) 3,5-Dinitroaniline #2

6.10min 165.011ppb m

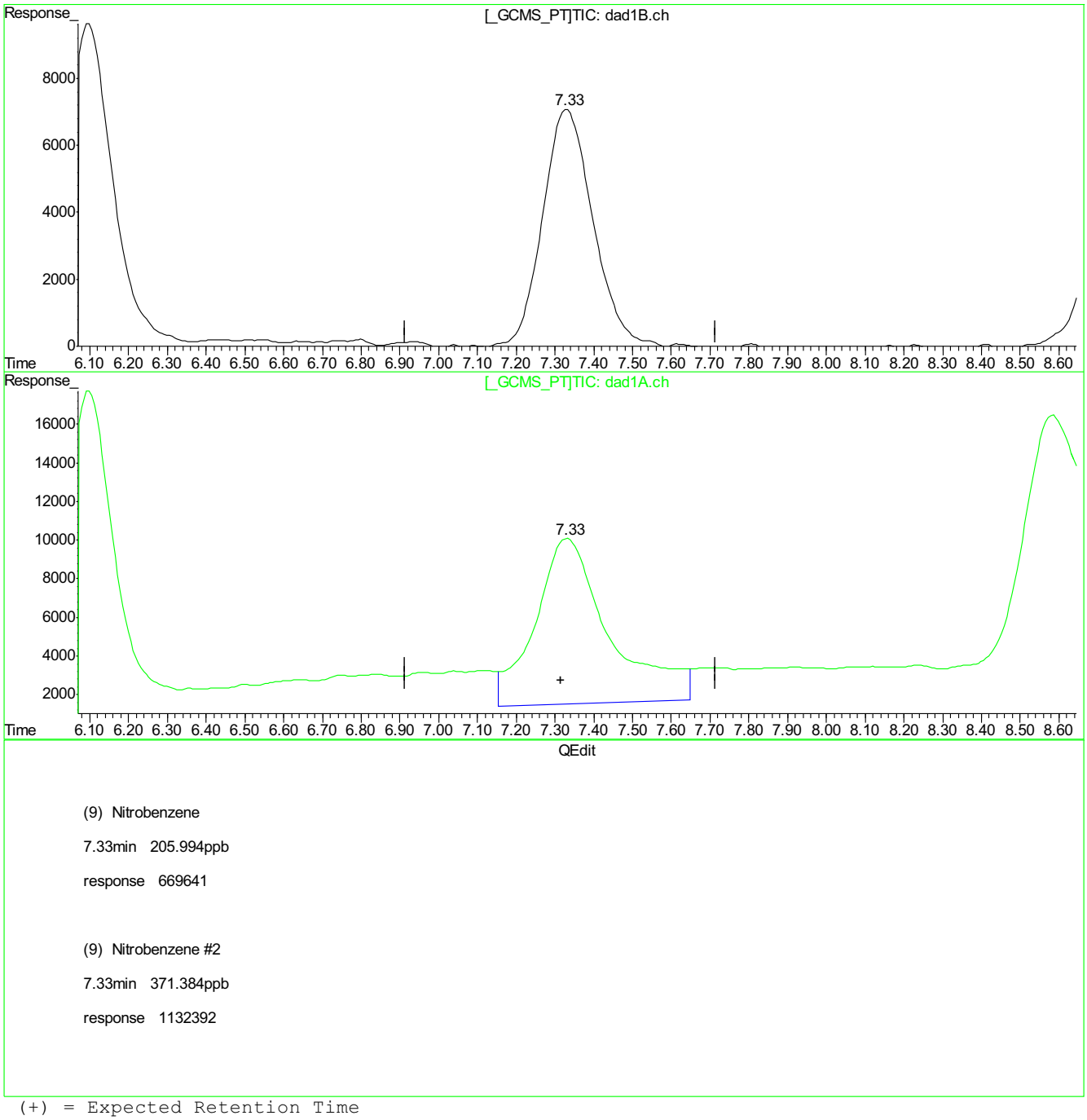
response 1322254

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:43 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 205.994ppb

response 669641

(9) Nitrobenzene #2

7.33min 371.384ppb

response 1132392

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:45 2017

9.5.4.6

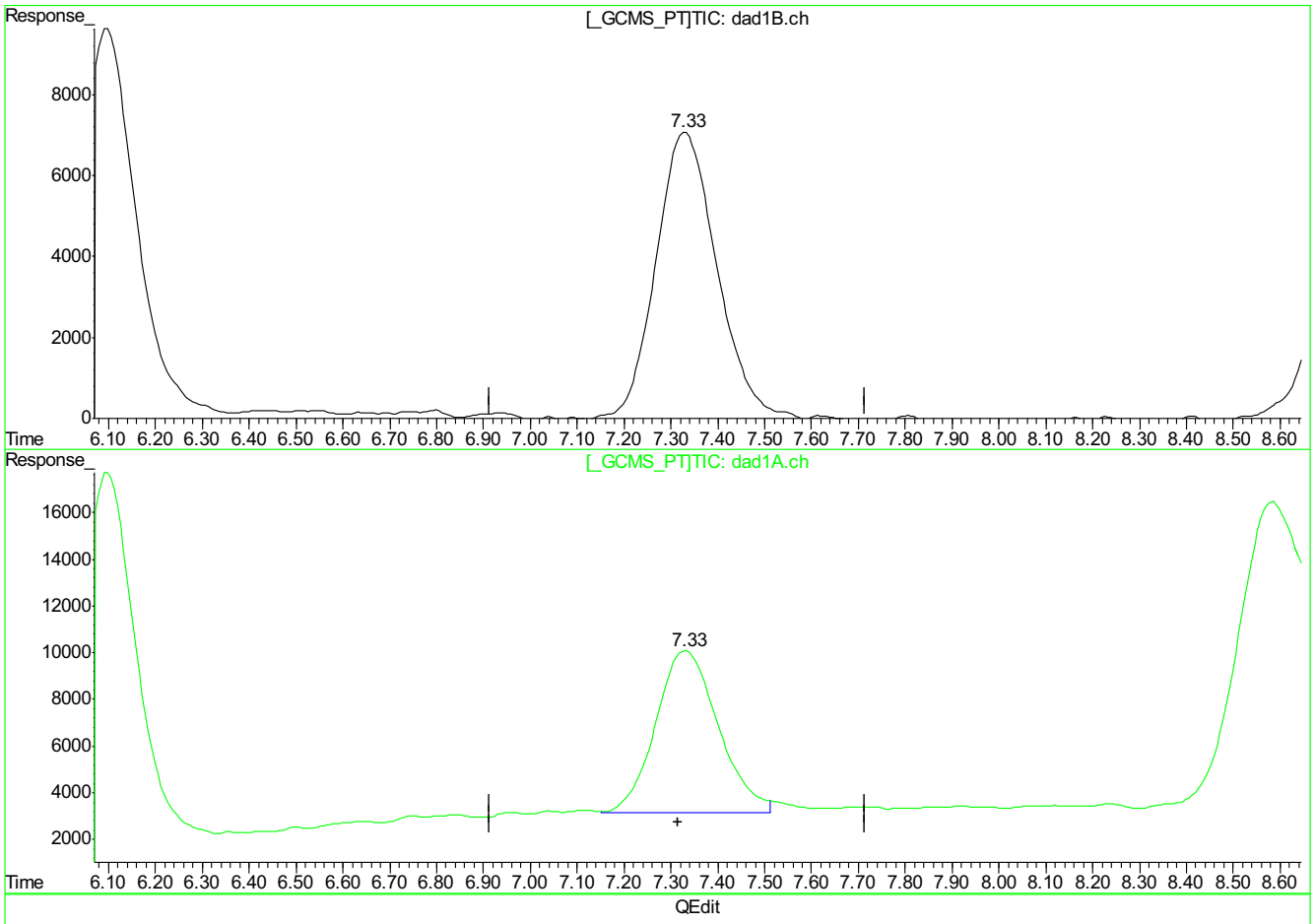
9

BB054264.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 205.994ppb

response 669641

(9) Nitrobenzene #2

7.33min 212.947ppb m

response 649300

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:48 2017

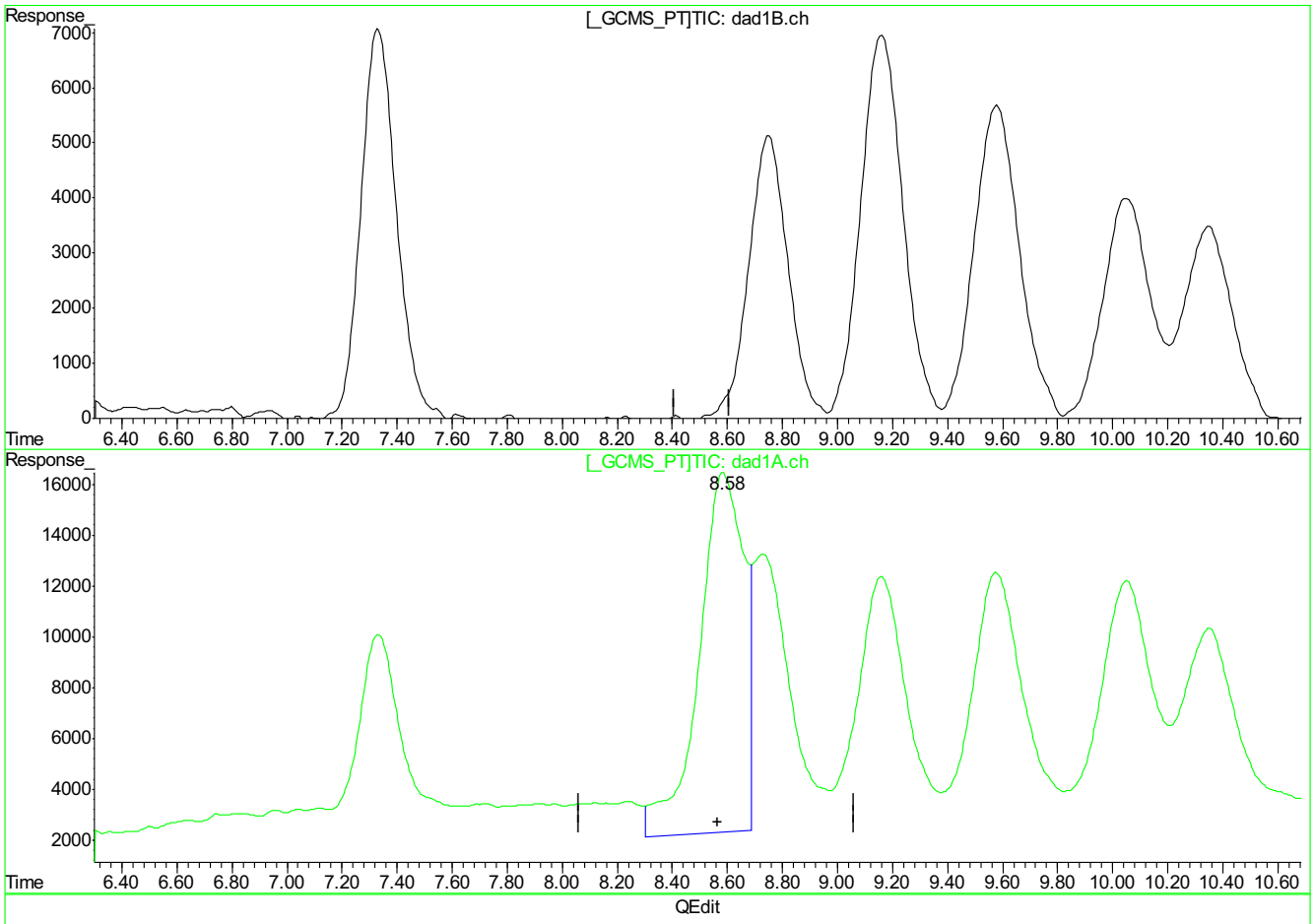
9.5.4.7

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.59min 1305.092ppb

response 1599774

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:03:53 2017

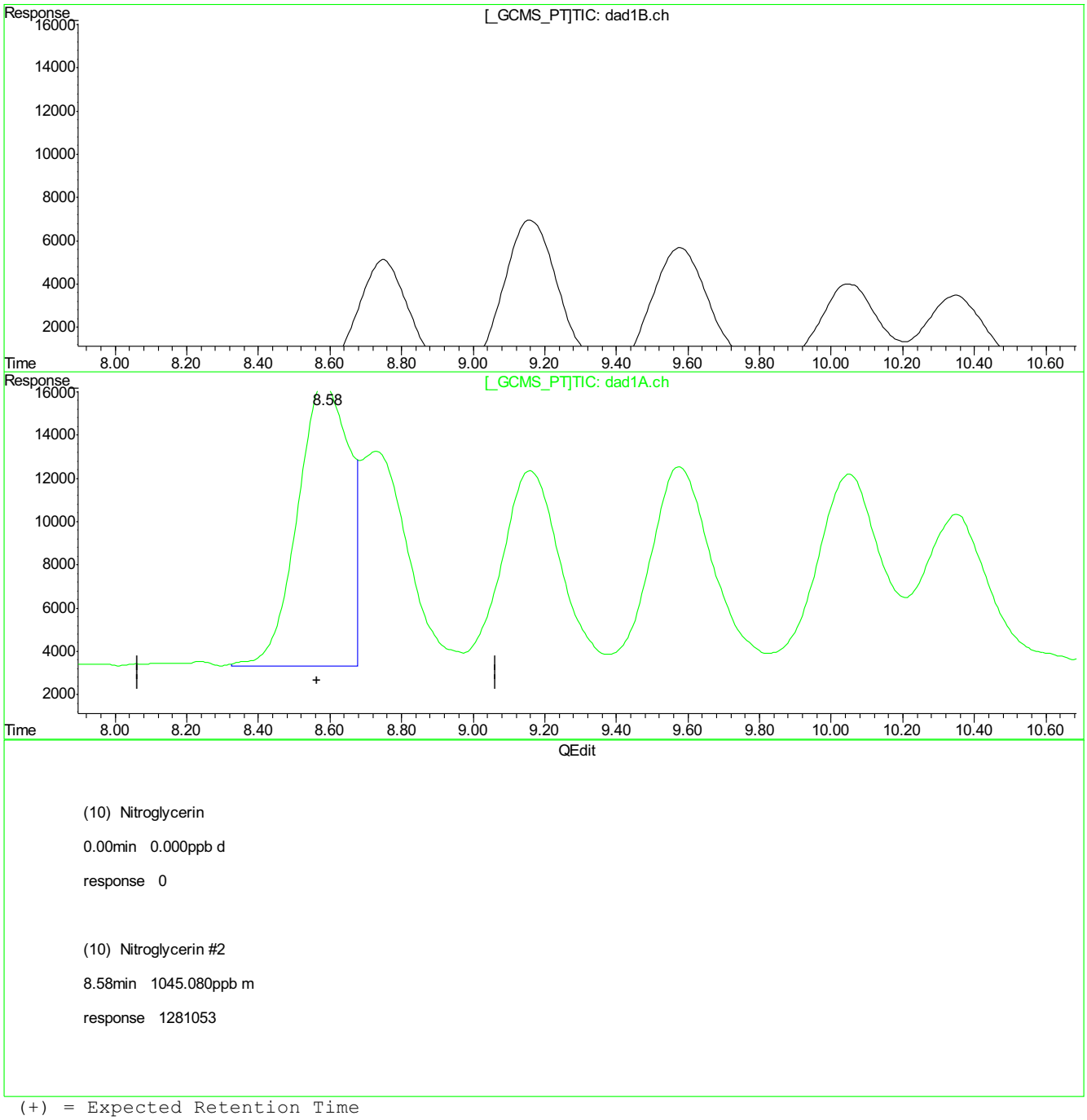
9.5.4.8

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



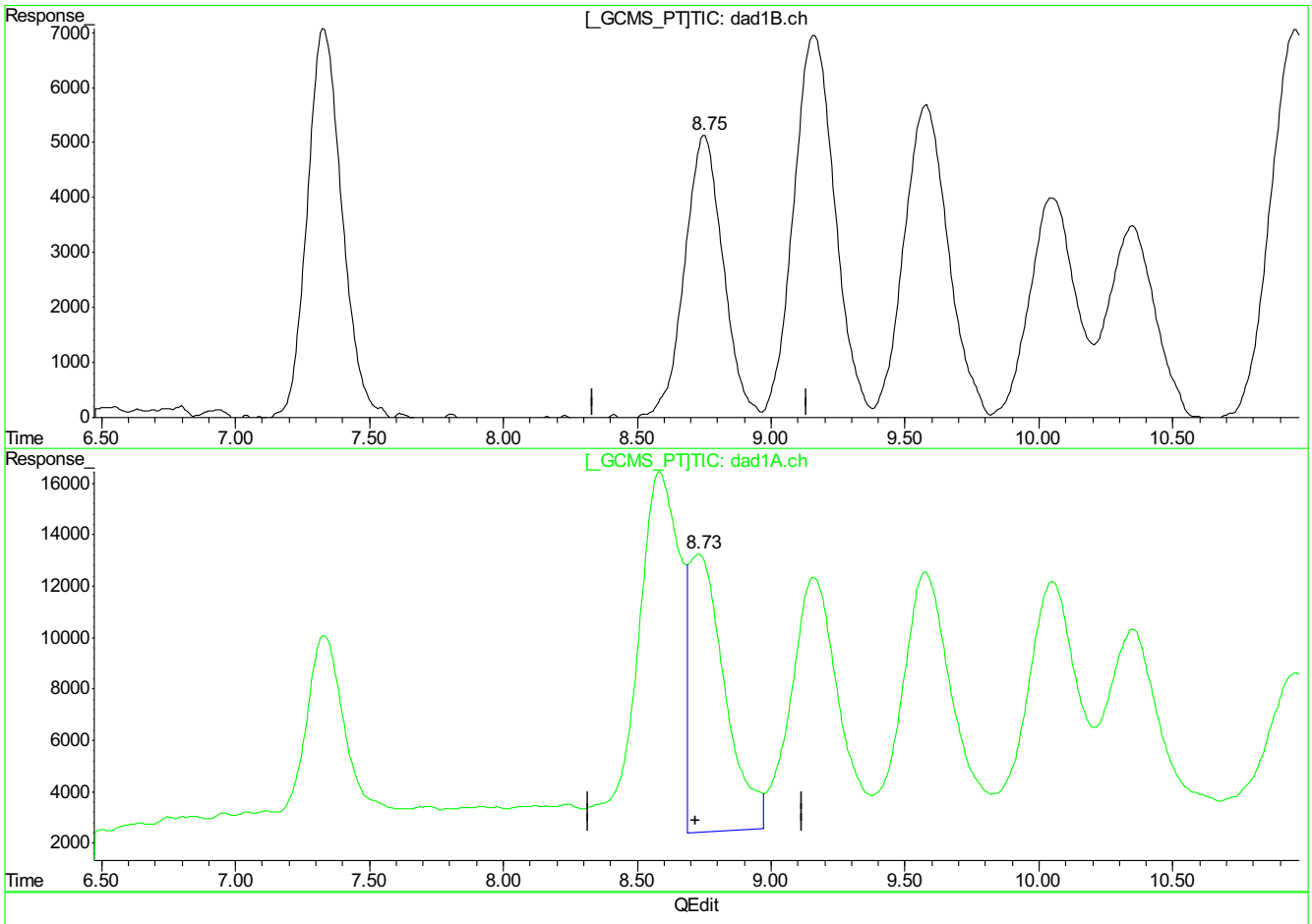
(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:04:20 2017

9.5.4.9
6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 173.265ppb

response 555265

(11) Tetryl #2

8.73min 195.766ppb

response 1016226

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:04:23 2017

9.5.4.10

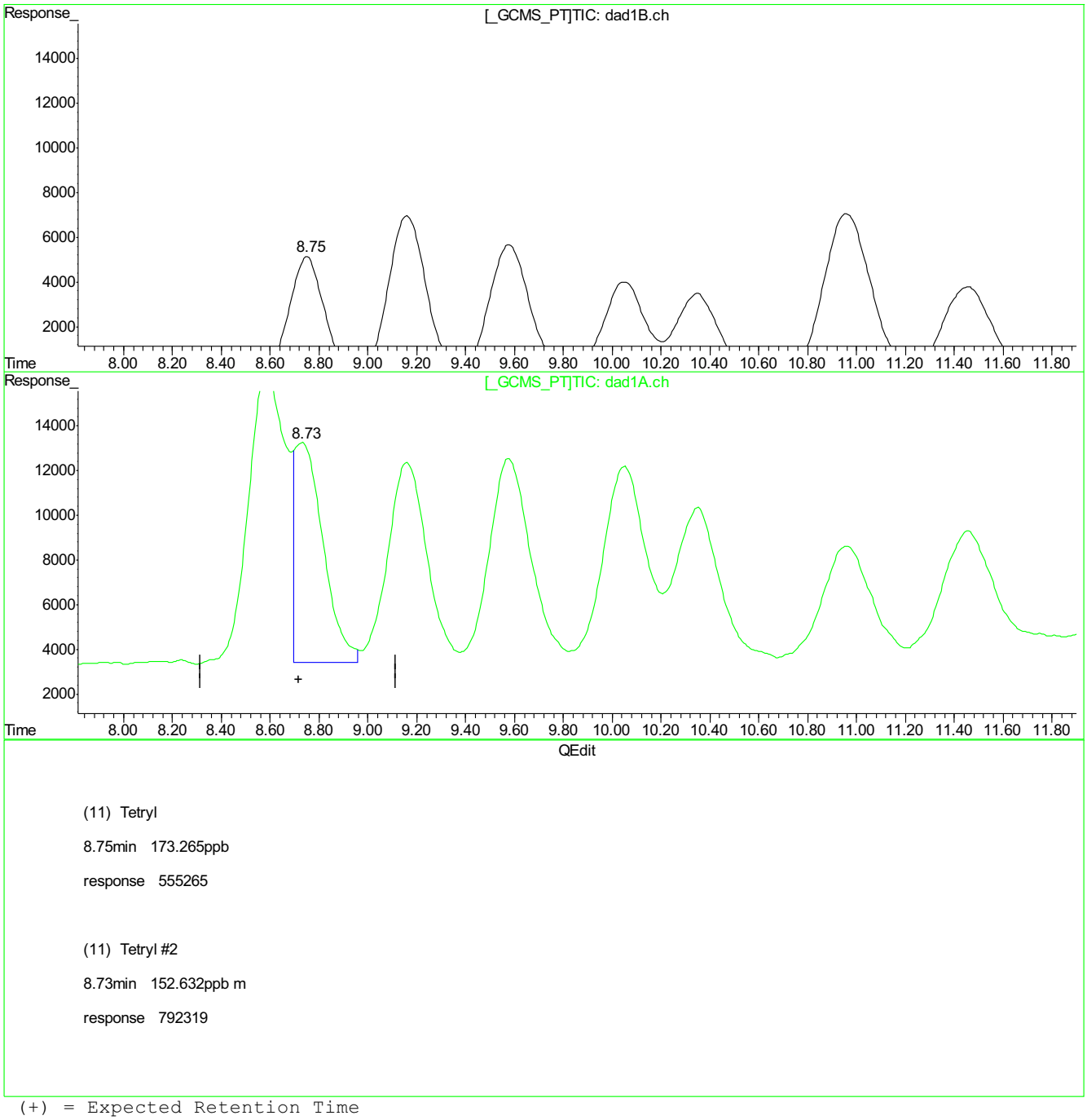
9

BB054264.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.75min 173.265ppb

response 555265

(11) Tetryl #2

8.73min 152.632ppb m

response 792319

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:26 2017

9.5.4.11

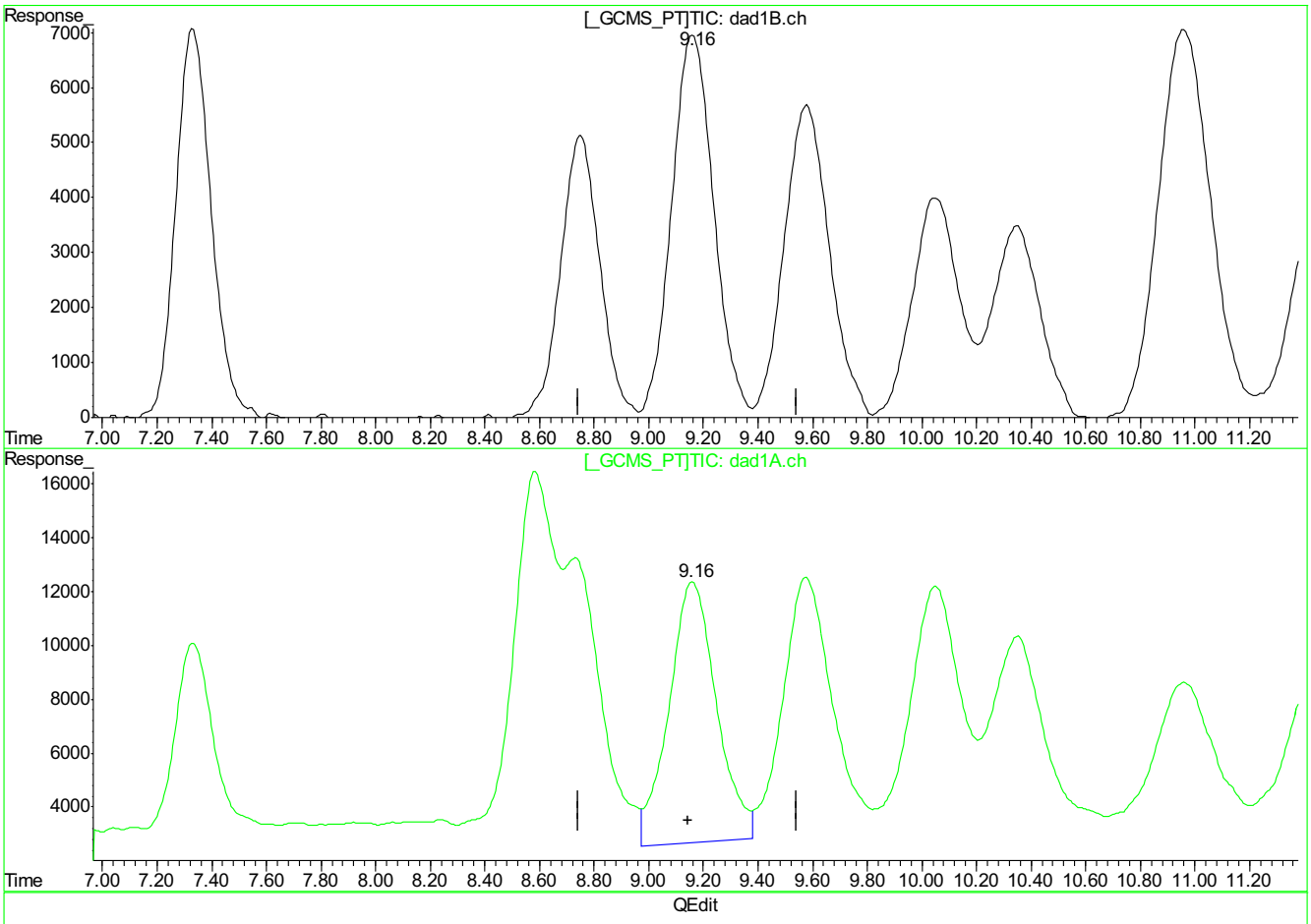
9

BB054264.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 189.424ppb

response 784280

(12) 2,4,6-Trinitrotoluene #2

9.16min 243.679ppb

response 1170466

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:31 2017

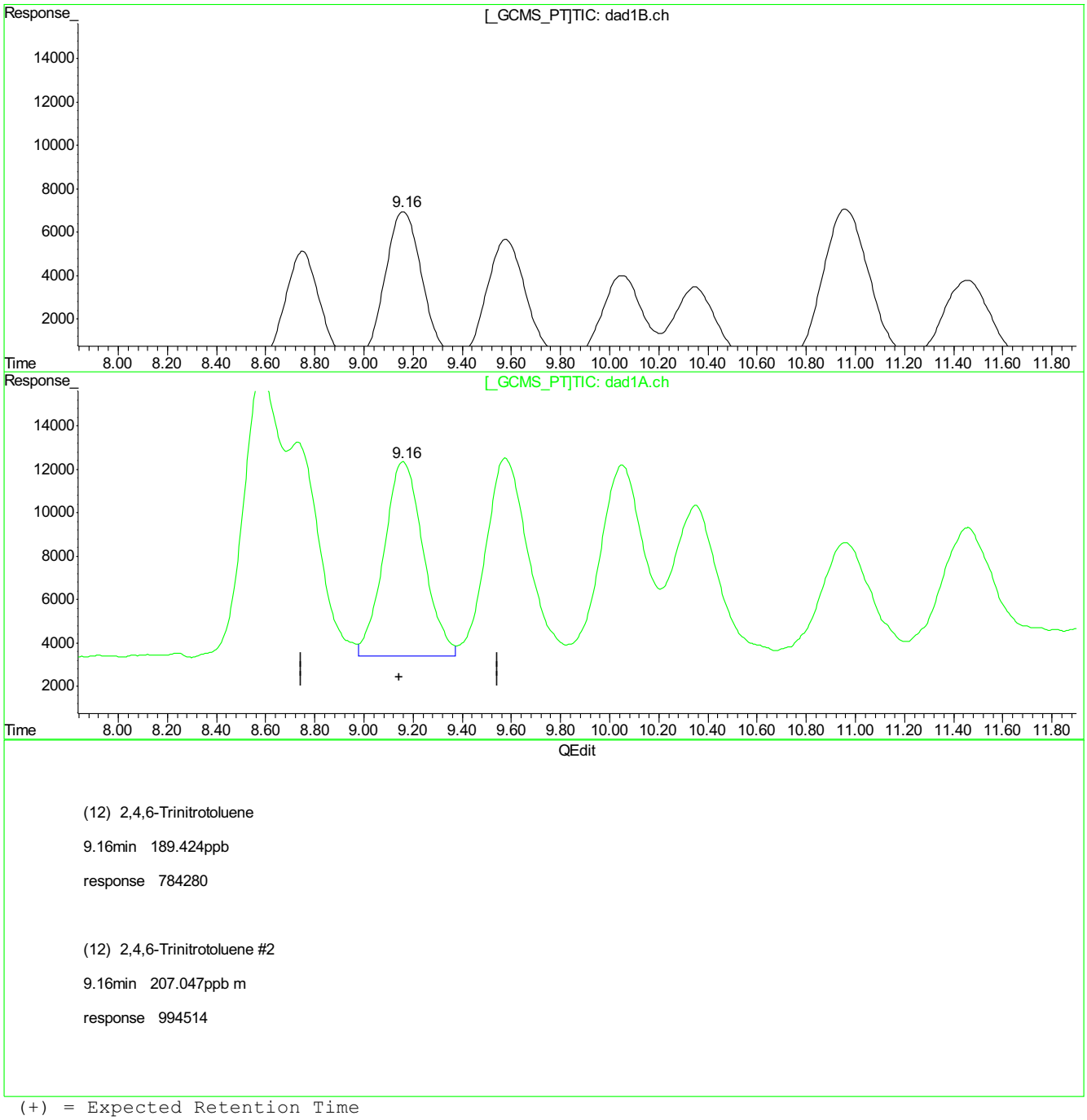
9.5.4.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 189.424ppb

response 784280

(12) 2,4,6-Trinitrotoluene #2

9.16min 207.047ppb m

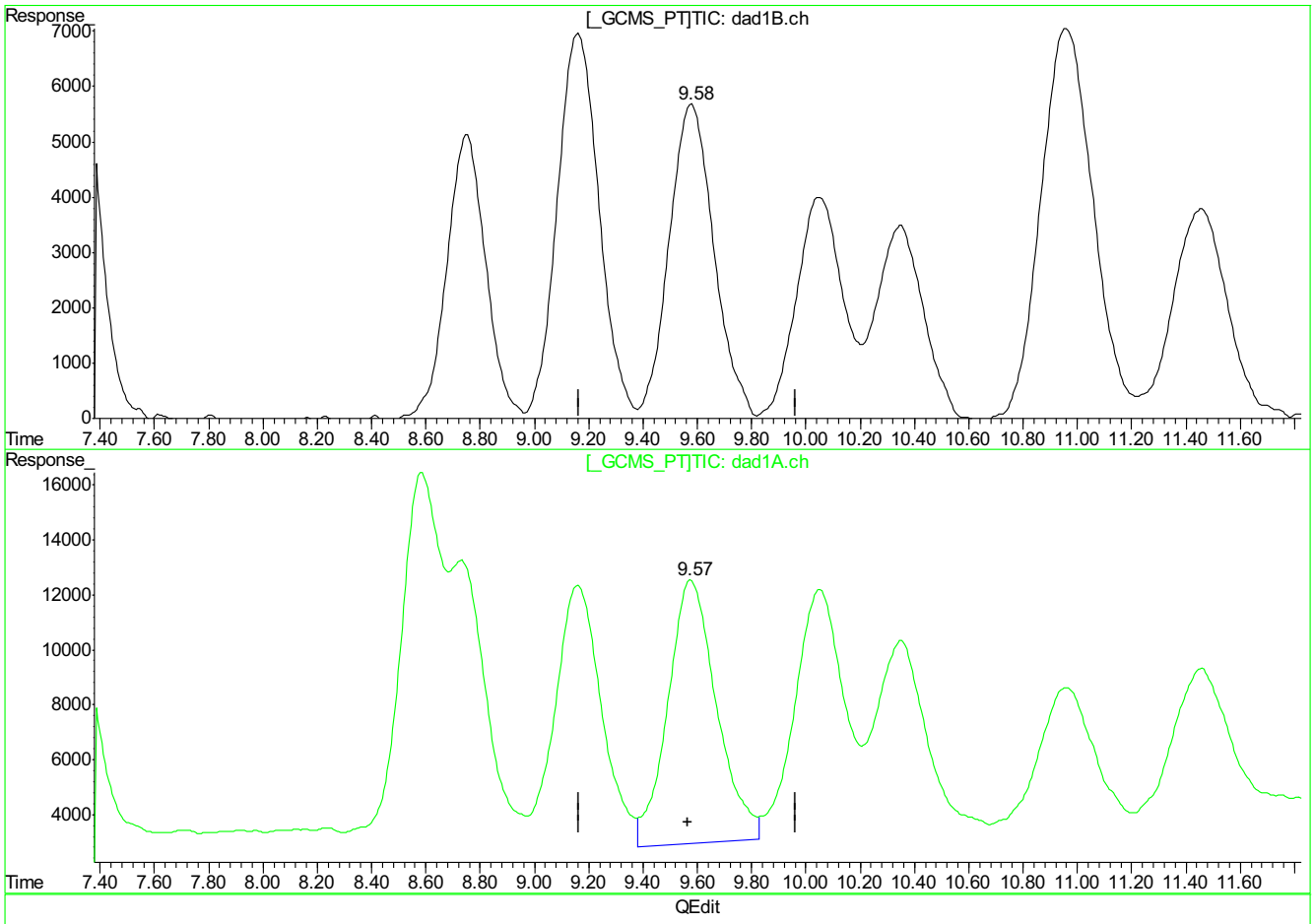
response 994514

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:42 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 198.731ppb

response 695400

(13) 2-Amino-4,6-Dinitrotoluene #2

9.58min 238.829ppb

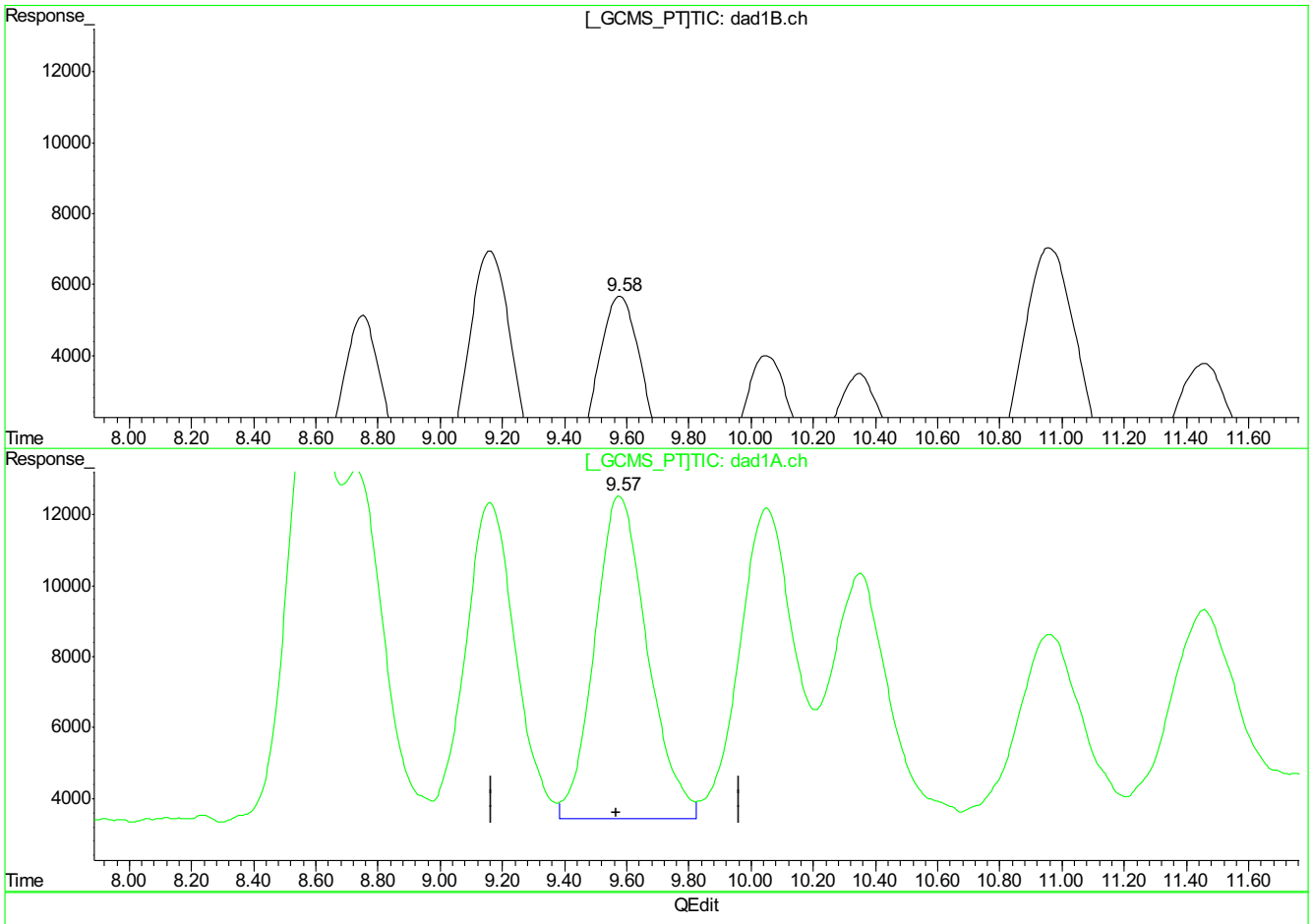
response 1200805

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:45 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.58min 198.731ppb

response 695400

(13) 2-Amino-4,6-Dinitrotoluene #2

9.57min 212.269ppb m

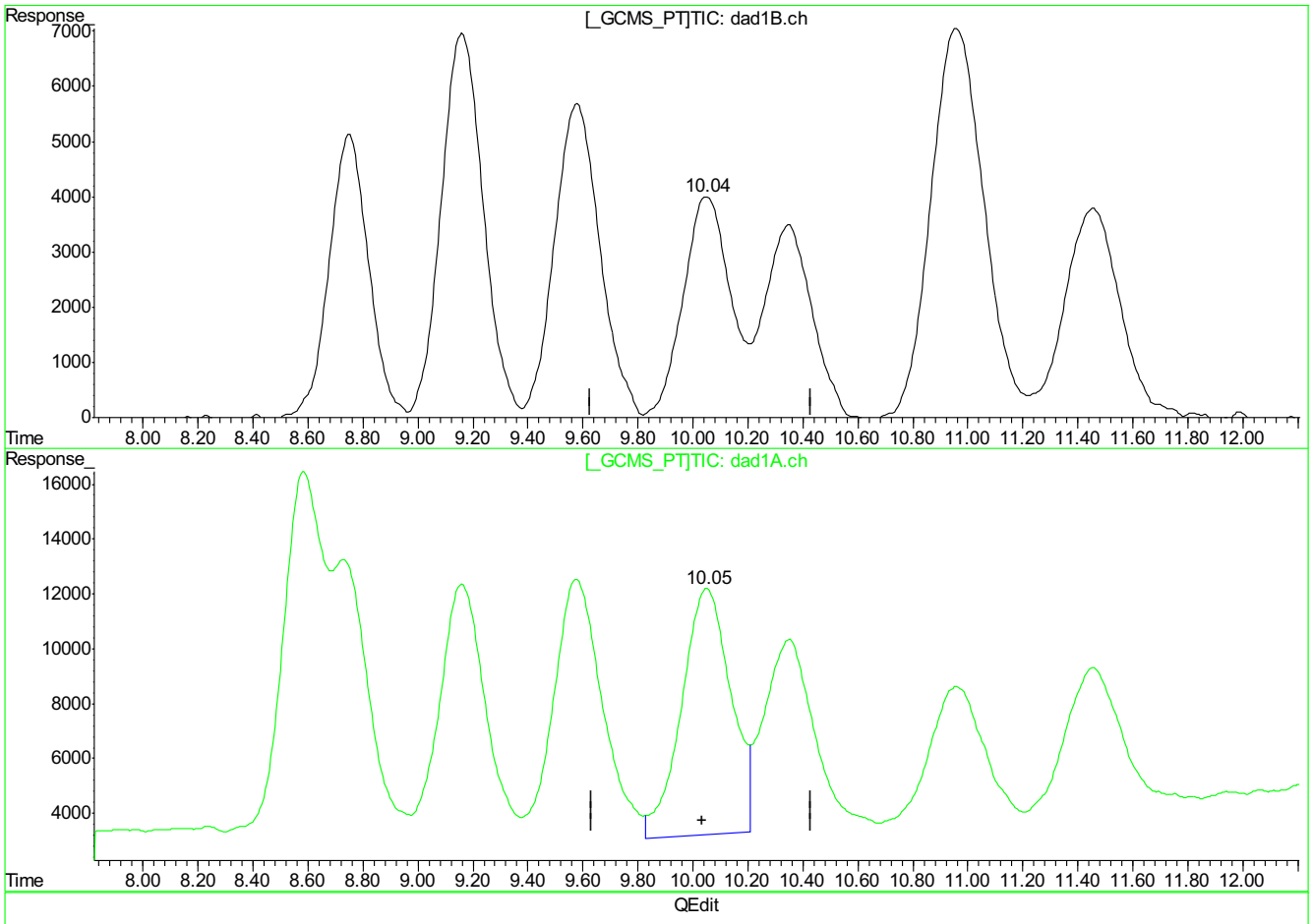
response 1067880

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:54 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.05min 189.586ppb

response 510802

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 219.551ppb

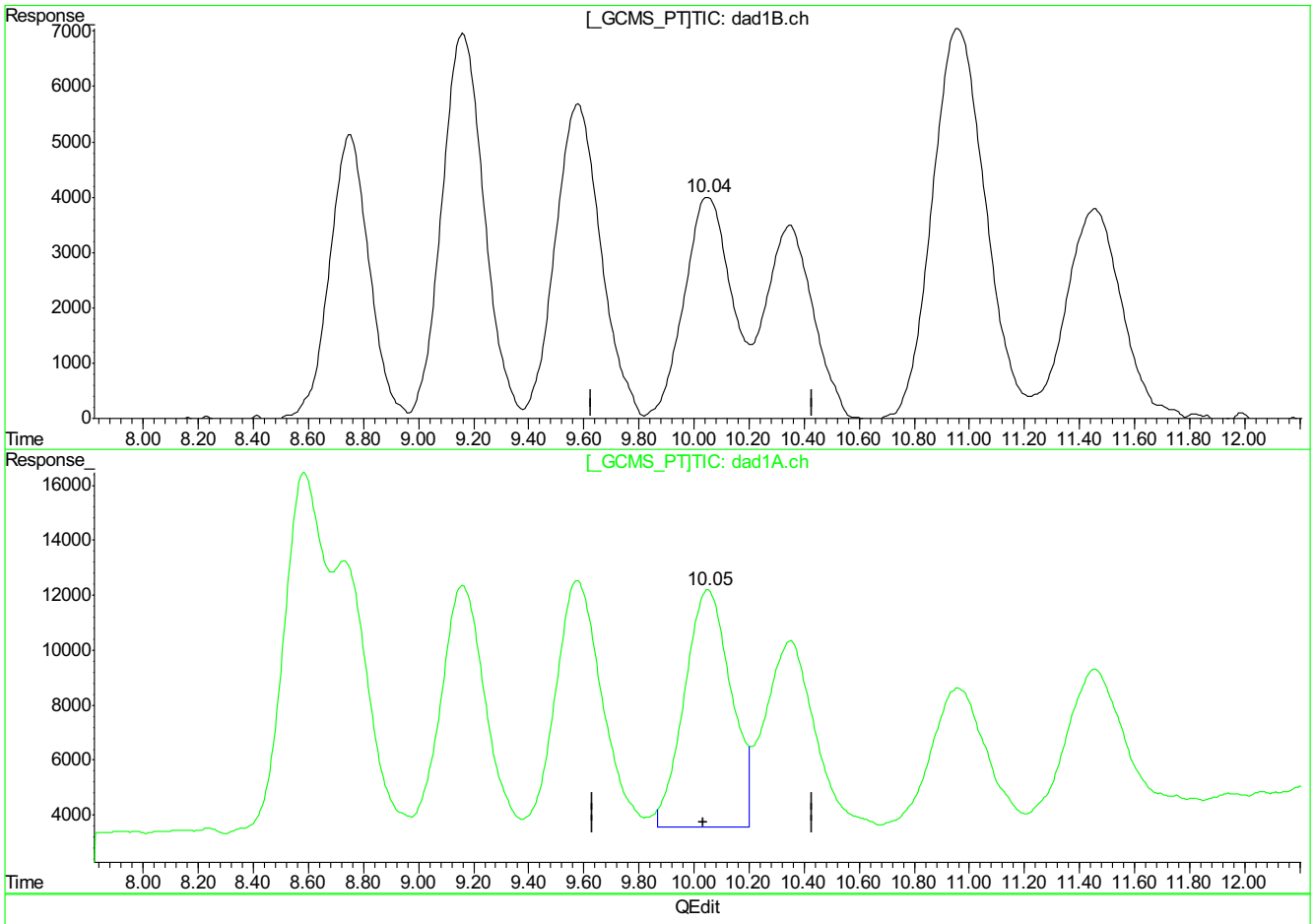
response 1110973

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:05:57 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.05min 189.586ppb

response 510802

(14) 4-Amino-2,6-Dinitrotoluene #2

10.05min 201.197ppb m

response 1018097

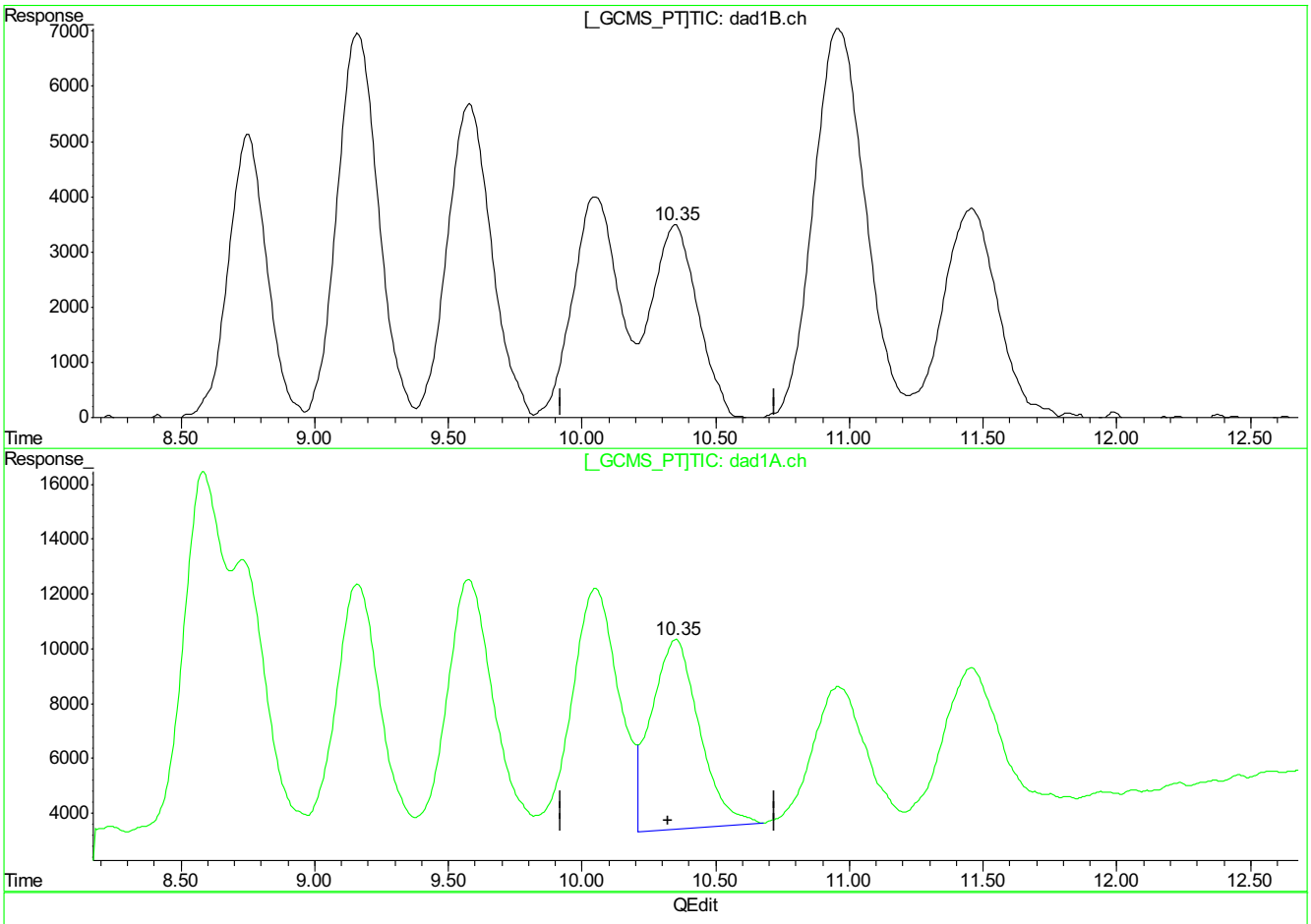
(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:09 2017

9.5.4.17
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 186.605ppb

response 460960

(15) 3,4-Dinitrotoluene #2 (S)

10.35min 213.542ppb

response 870164

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:12 2017

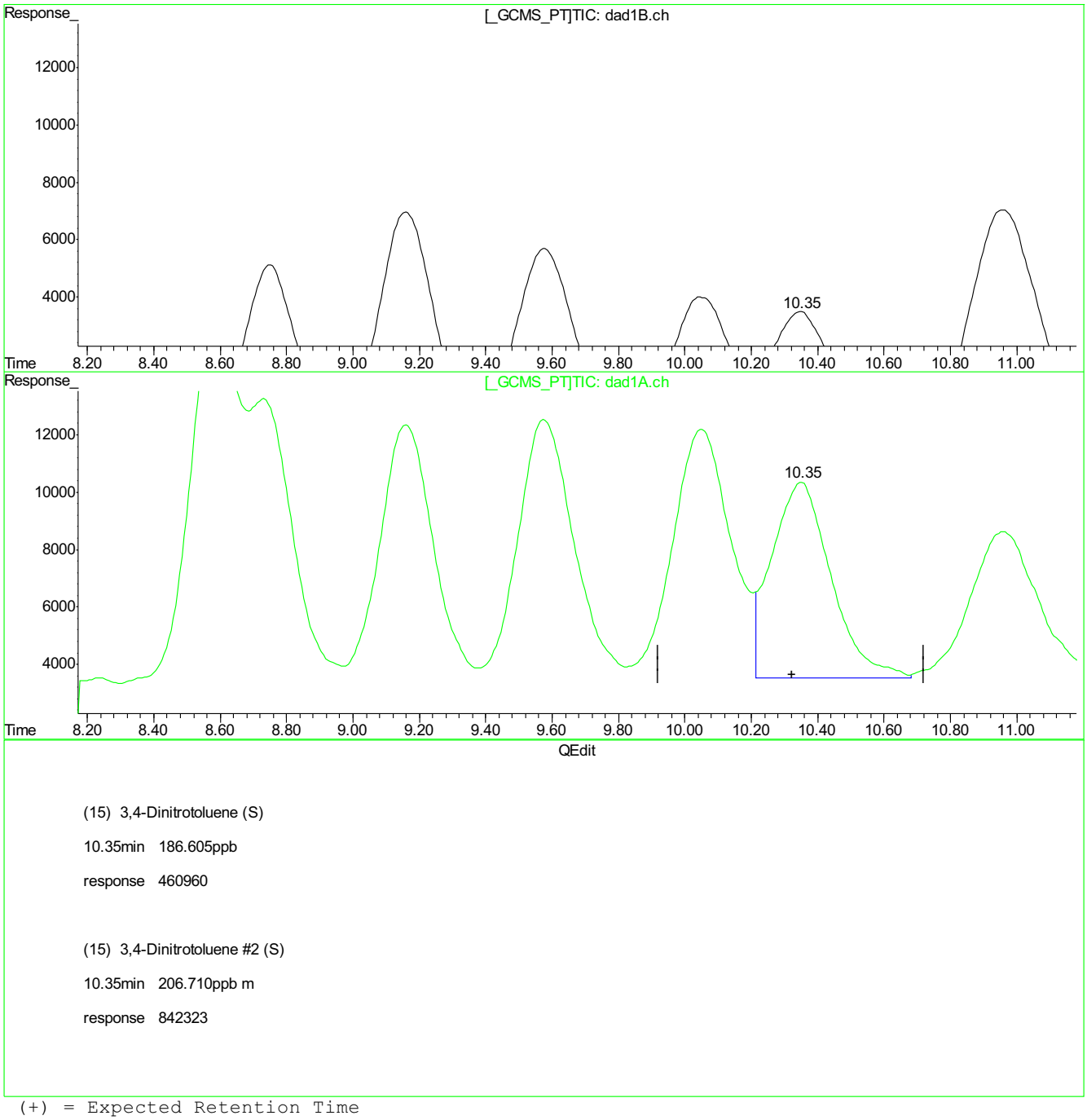
9.5.4.18

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.35min 186.605ppb

response 460960

(15) 3,4-Dinitrotoluene #2 (S)

10.35min 206.710ppb m

response 842323

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:29 2017

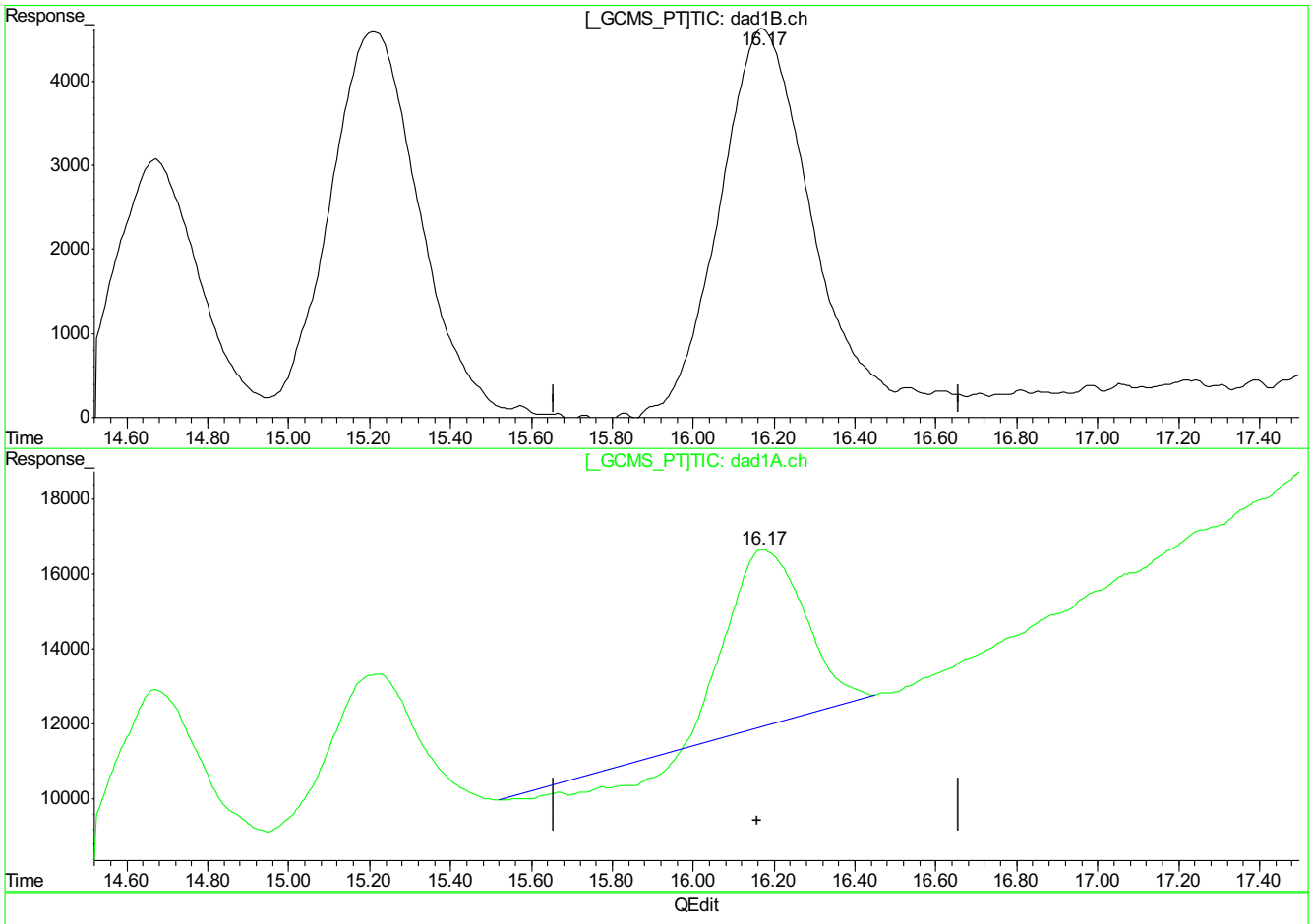
9.5.4.19

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 271.131ppb

response 719529

(20) m-Nitrotoluene #2

16.17min 144.998ppb

response 534563

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:35 2017

9.5.4.20

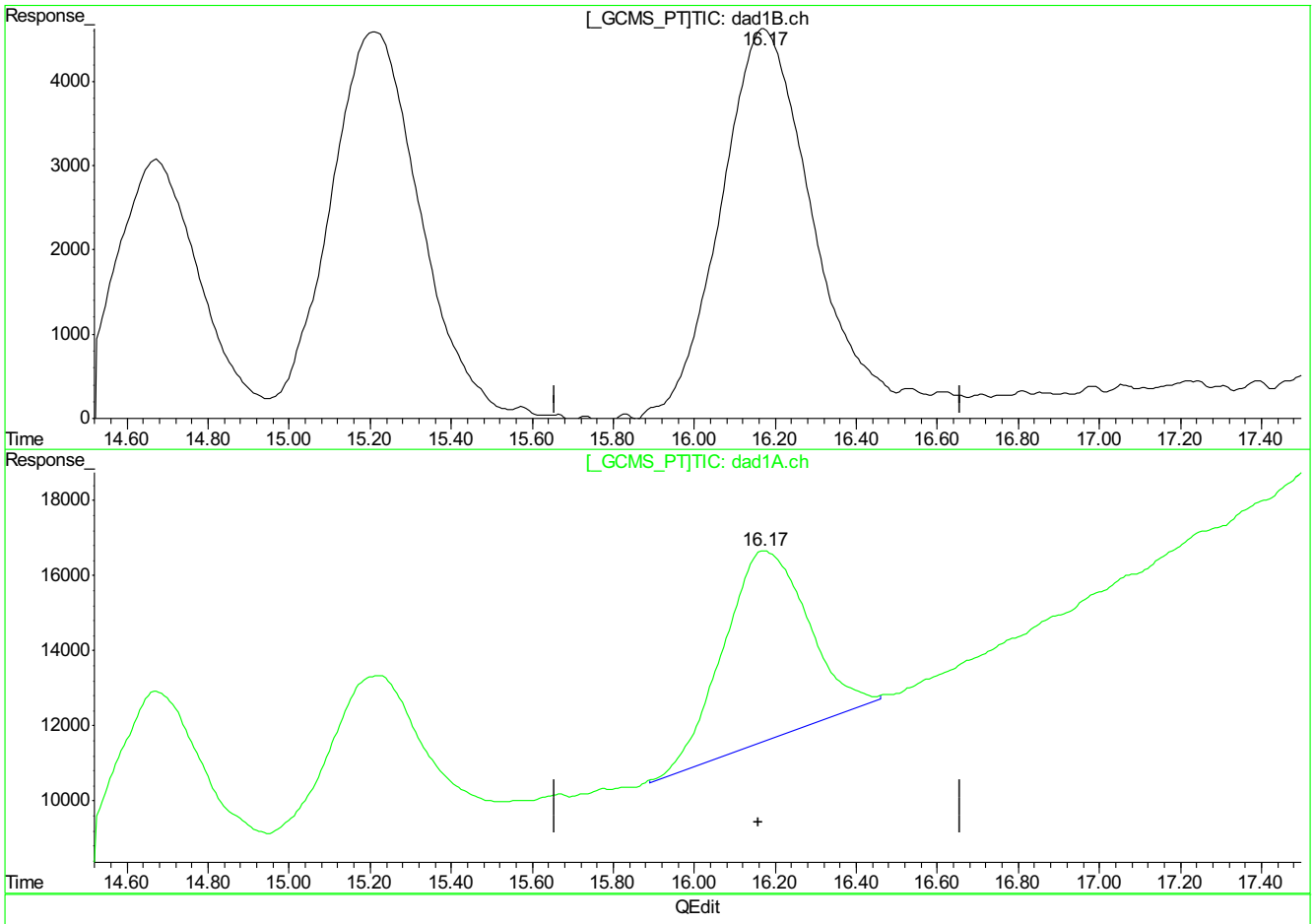
6

BB054264.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 271.131ppb

response 719529

(20) m-Nitrotoluene #2

16.17min 199.370ppb m

response 735016

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:38 2017

9.5.4.21

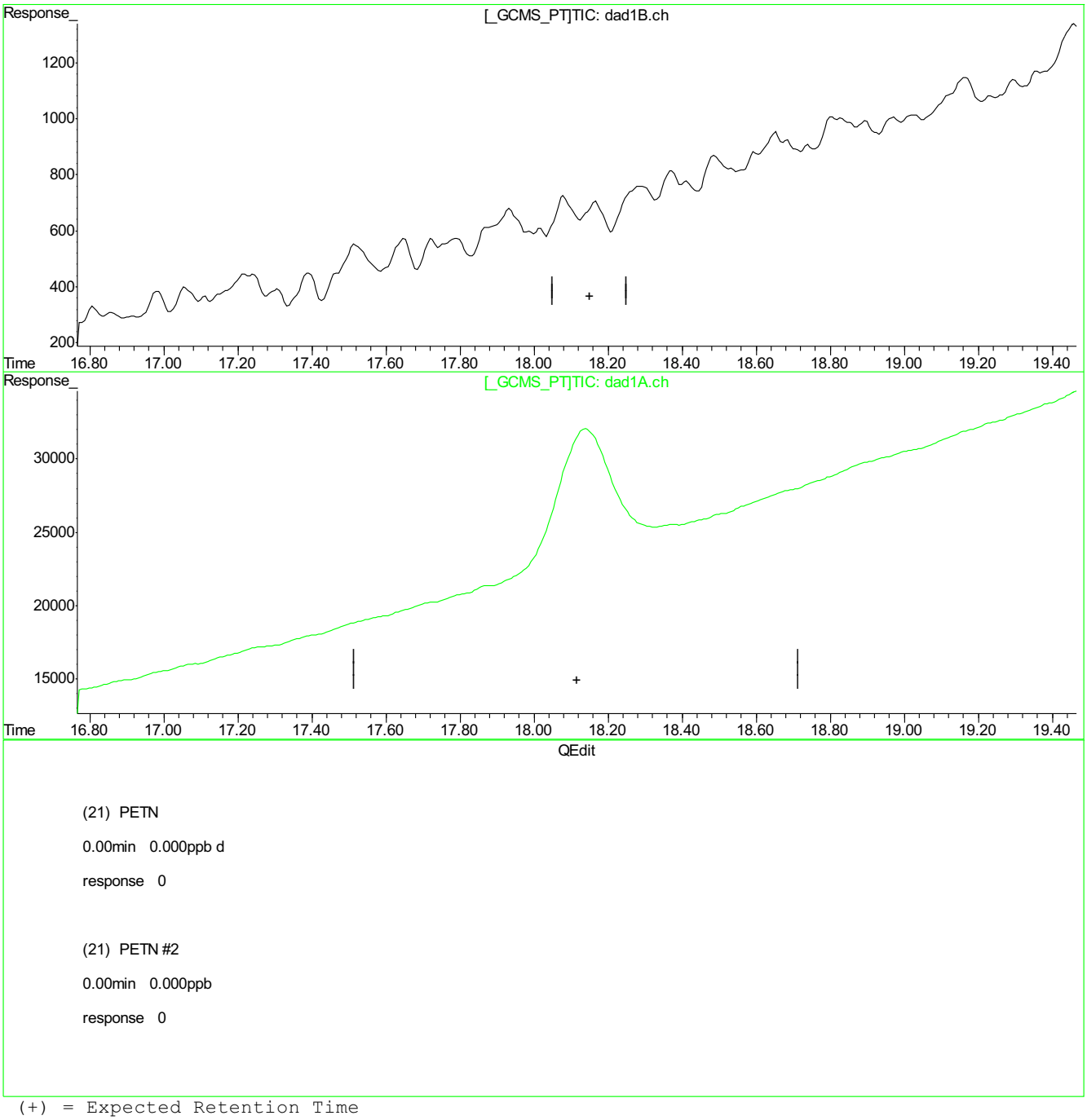
9

BB054264.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:43 2017

9.5.4.22

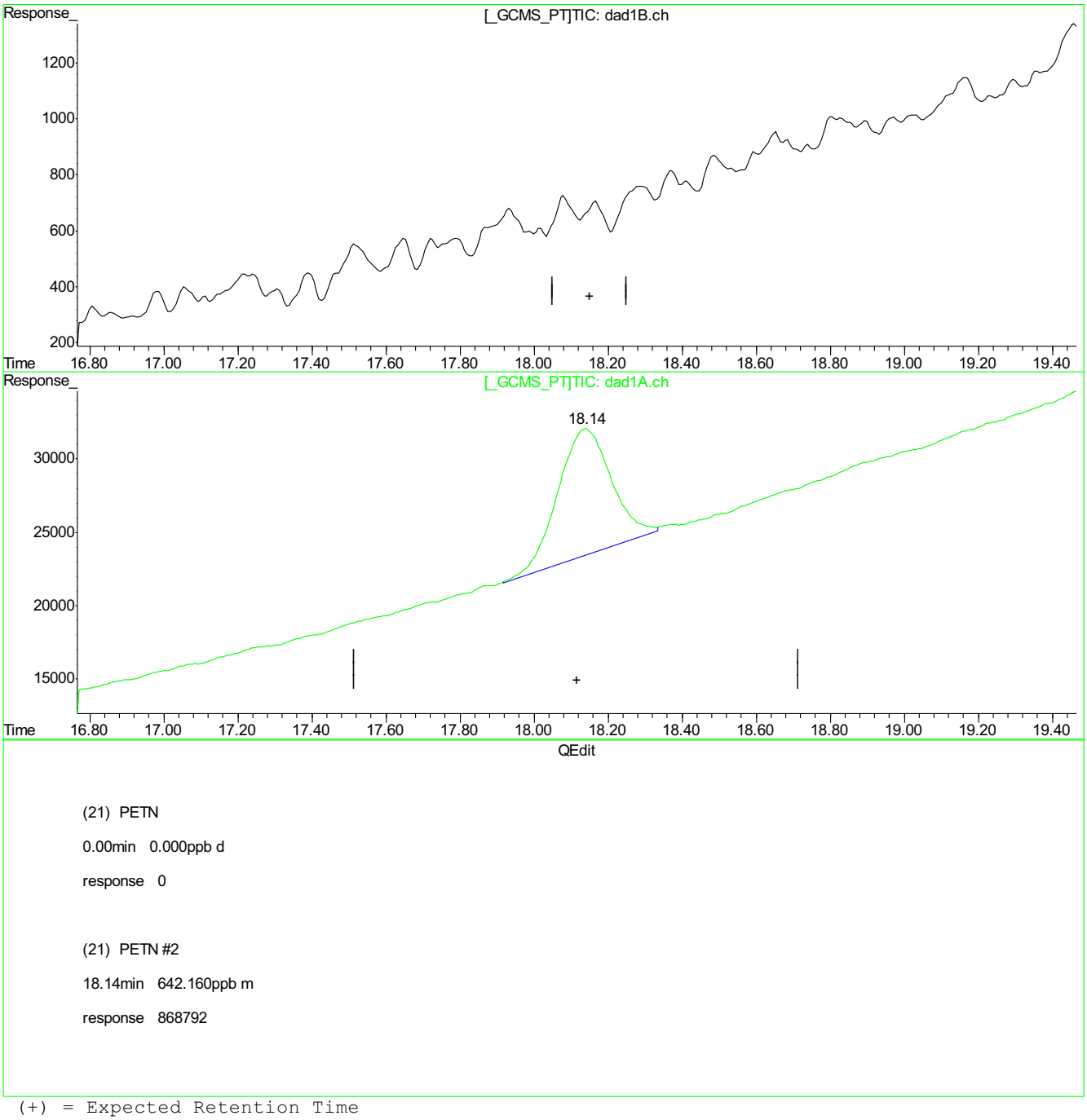
9

BB054264.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054264.D\dad1A.ch
Acq On : 19-Apr-2017, 11:43:41 Operator: evitam
Sample : ic1578-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 12:08 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:03:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.14min 642.160ppb m

response 868792

(+) = Expected Retention Time
BB054264.D 8330B_0419PLUS.M Wed Apr 19 15:06:46 2017

9.5.4.23

9

BB054264.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06:59 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.34	10.33	1084794	1962687	466.769	447.398m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	93.35%	89.48%
	Target Compounds						
1)	TNX	1.36	1.36	1571248	2439110	520.365	499.481
2)	HMX	1.47	1.47	828435	2259238	493.290	482.844
3)	DNX	1.73	1.73	1446870	2436001	500.036	382.393
4)	MNX	2.29	2.29	1174455	1824388	471.508	473.448
5)	RDX	2.87	2.87	951257	1494637	409.508	447.930
6)	1,3,5-Trinitrobe	4.49	4.49	1995333	3867925	456.980	472.685
7)	1,3-Dinitrobenze	5.74	5.74	2621704	1867357	469.638	477.103
8)	3,5-Dinitroanili	6.09	6.09	1879485	3143386	419.134	445.054m
9)	Nitrobenzene	7.33	7.32	1598148	1523444	470.402	493.884m
10)	Nitroglycerin	0.00	8.58	0	3085786	N.D. d	2420.890m
11)	Tetryl	8.74	8.72	1319490	1965214	427.580	405.167m
12)	2,4,6-Trinitroto	9.16	9.15	1876477	2339483	446.656	449.516m
13)	2-Amino-4,6-Dini	9.57	9.56	1656585	2529655	488.345	501.439m
14)	4-Amino-2,6-Dini	10.04	10.04	1189910	2479981	455.085	467.335m
16)	2,4-Dinitrotolue	10.95	10.95	2372673	1561916	460.591	460.044
17)	2,6-Dinitrotolue	11.44	11.44	1378456	1725973	429.294	486.424
18)	o-Nitrotoluene	14.66	14.66	1131069	1602496	504.419	612.724
19)	p-Nitrotoluene	15.20	15.20	1733102	1523606	463.173	551.675
20)	m-Nitrotoluene	16.17	16.17	1678737	1898358	575.324	572.919m
21)	PETN	0.00	18.13	0	1745455	N.D. d	1732.597m

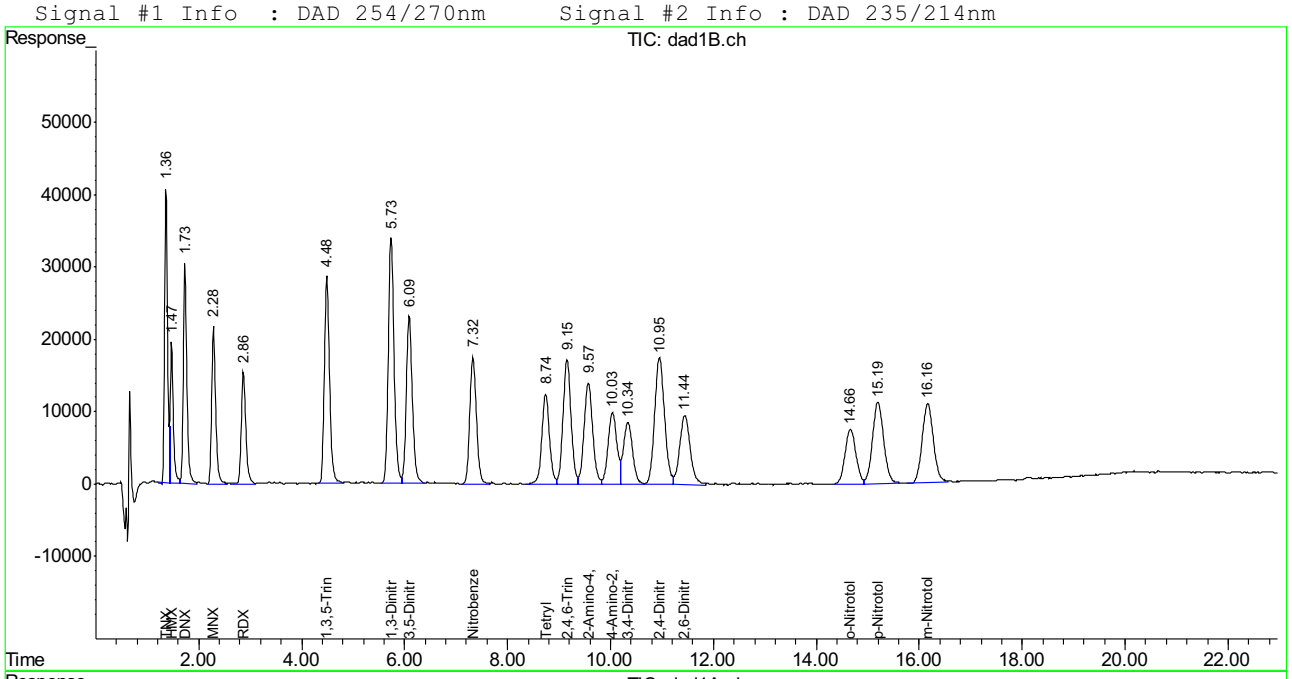
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054265.D 8330B_0419PLUS.M Thu Apr 20 11:04:53 2017 Page 1

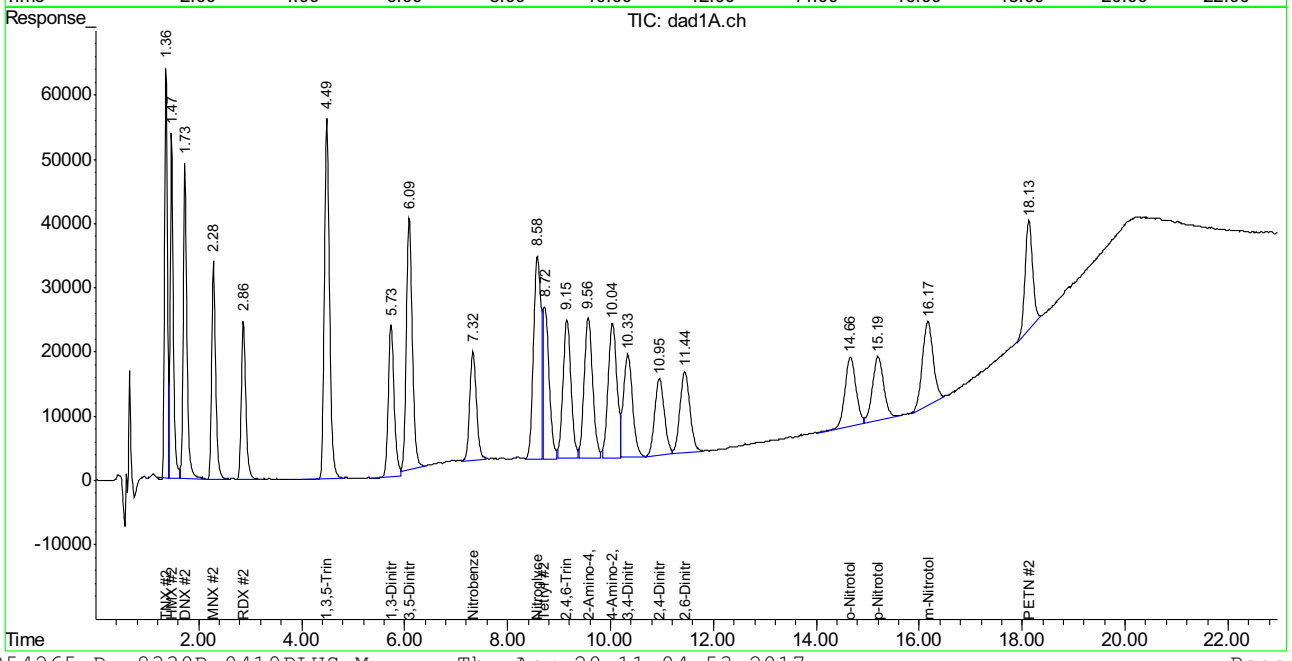
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:09 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

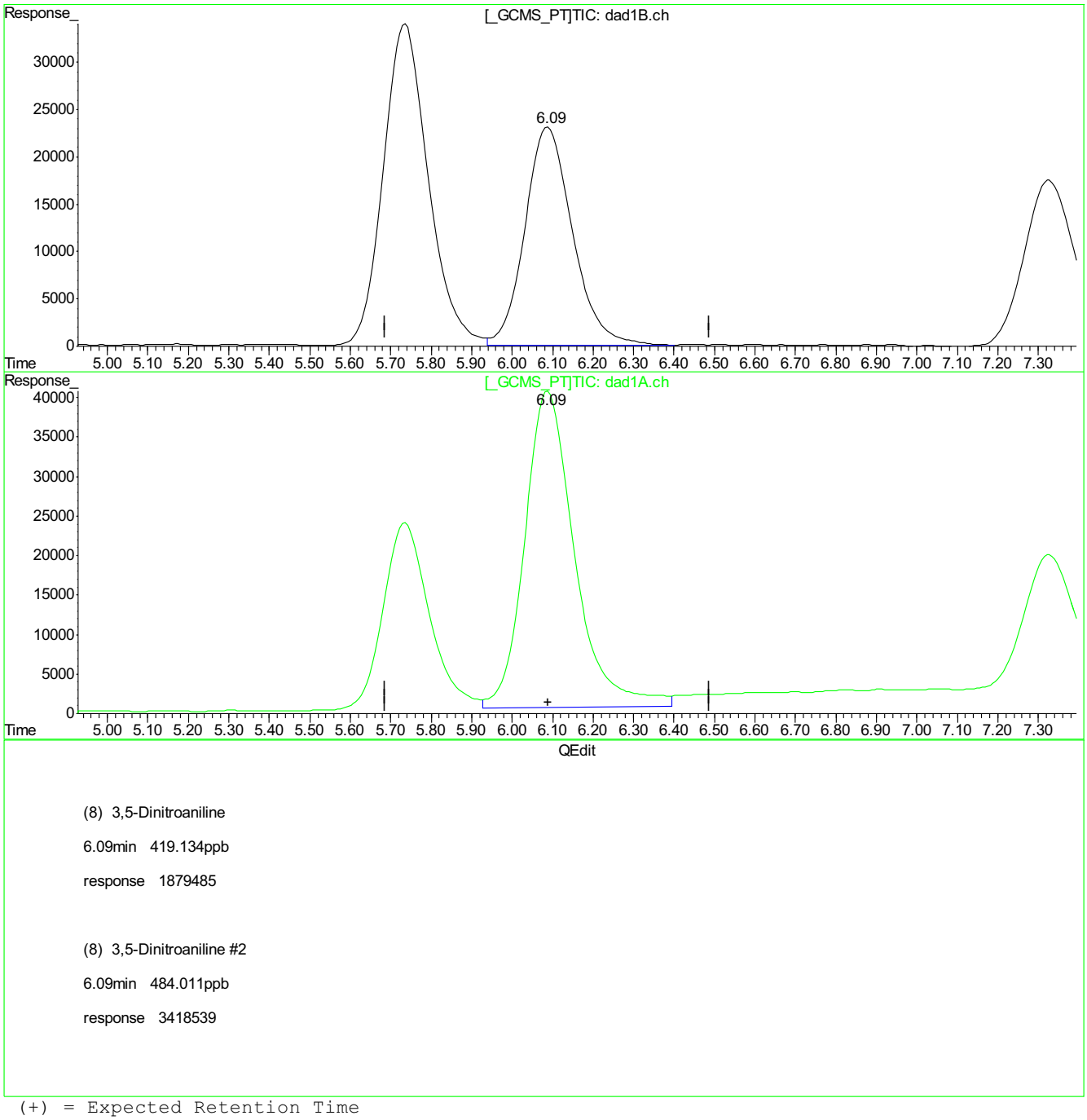
Sample Number: GBB1578-ICC1578
Lab FileID: BB054265.D
Injection Time: 04/19/17 12:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.09	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.32	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.58	Poorly defined baseline
Tetryl	479-45-8	2	8.72	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.15	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.56	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.04	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.33	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.17	Poorly defined baseline
PETN	78-11-5	2	18.13	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.09min 419.134ppb

response 1879485

(8) 3,5-Dinitroaniline #2

6.09min 484.011ppb

response 3418539

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:08 2017

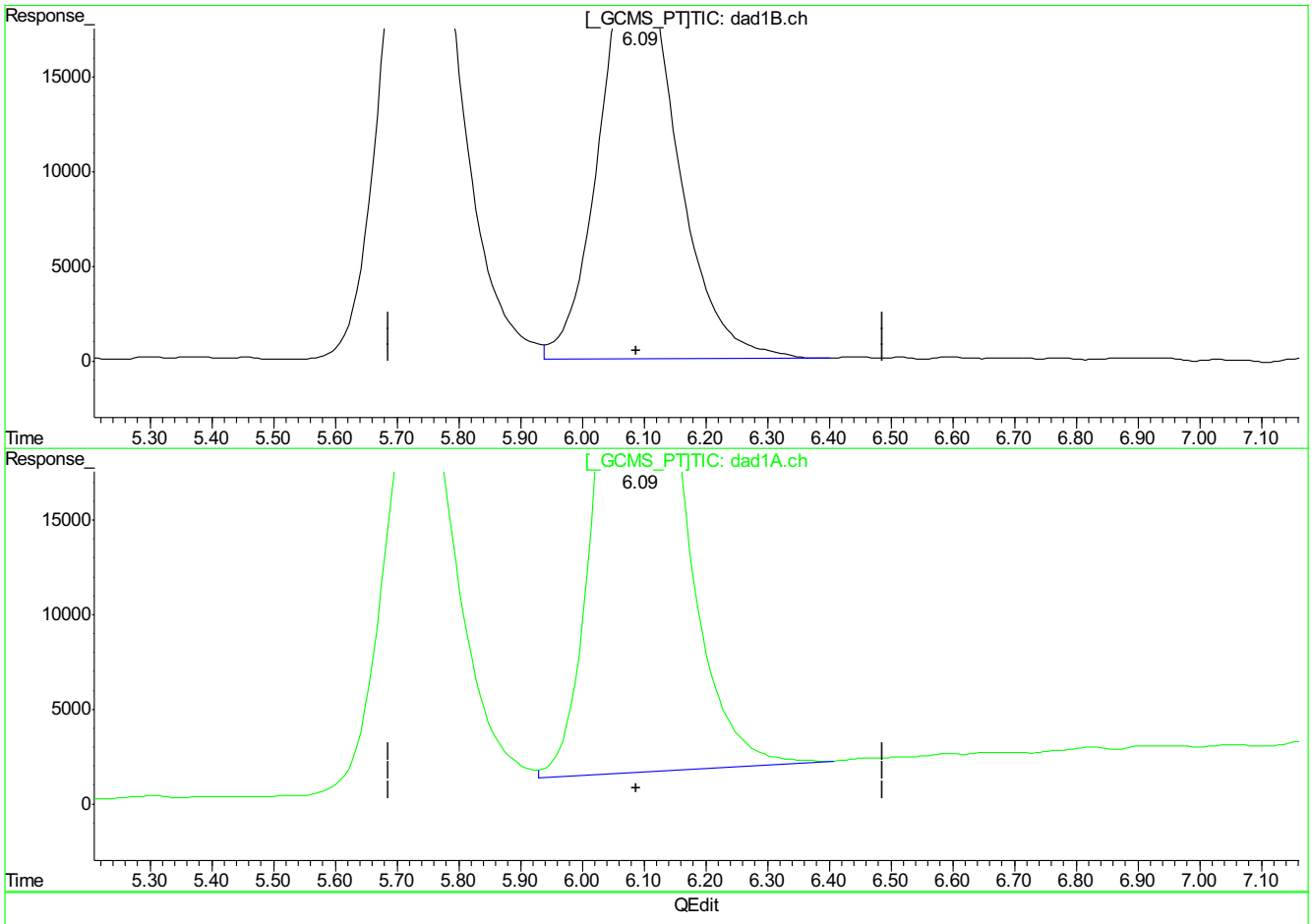
9.5.5.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.09min 419.134ppb

response 1879485

(8) 3,5-Dinitroaniline #2

6.09min 445.054ppb m

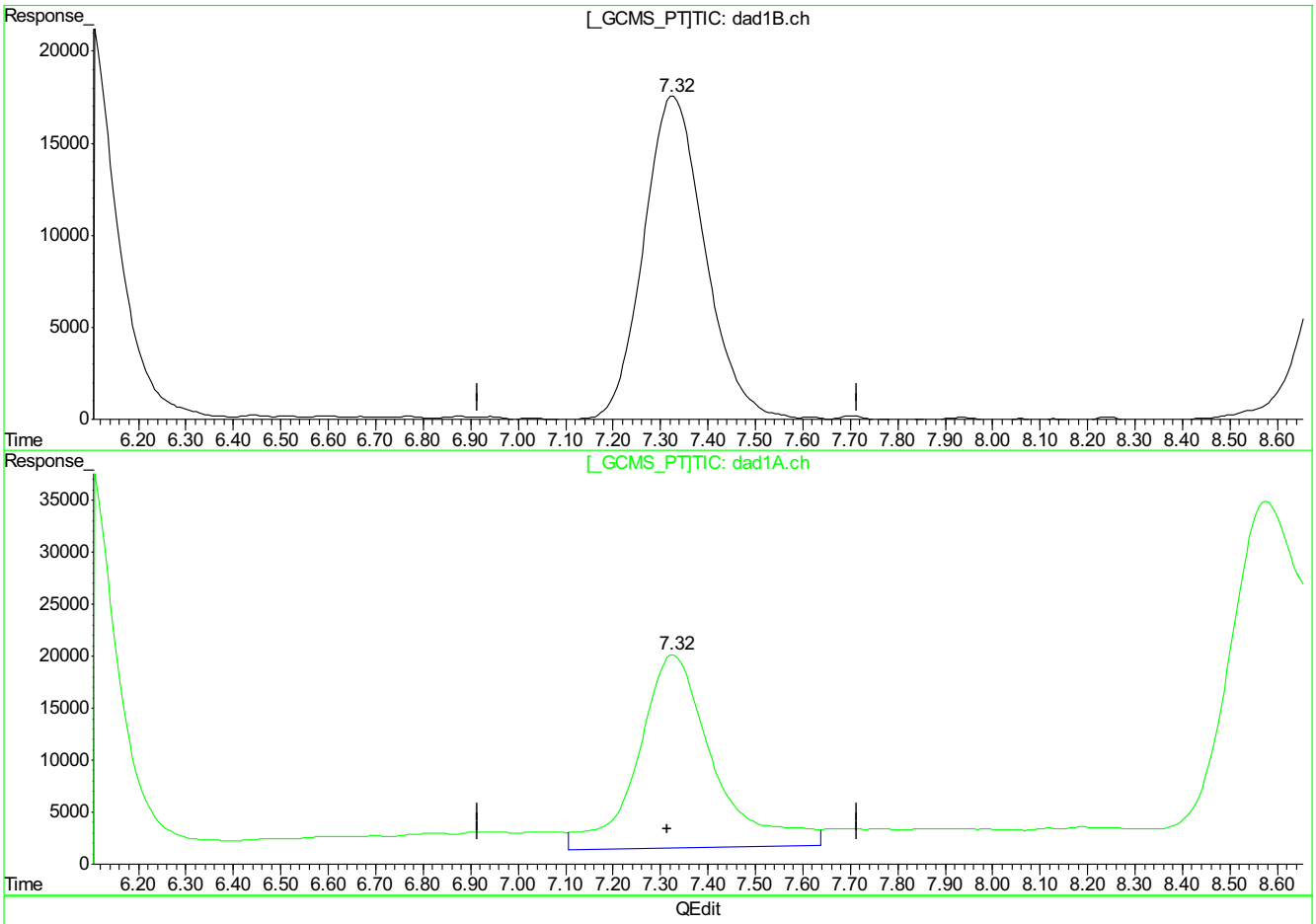
response 3143386

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 470.402ppb

response 1598148

(9) Nitrobenzene #2

7.33min 661.061ppb

response 2039119

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:15 2017

9.5.5.4

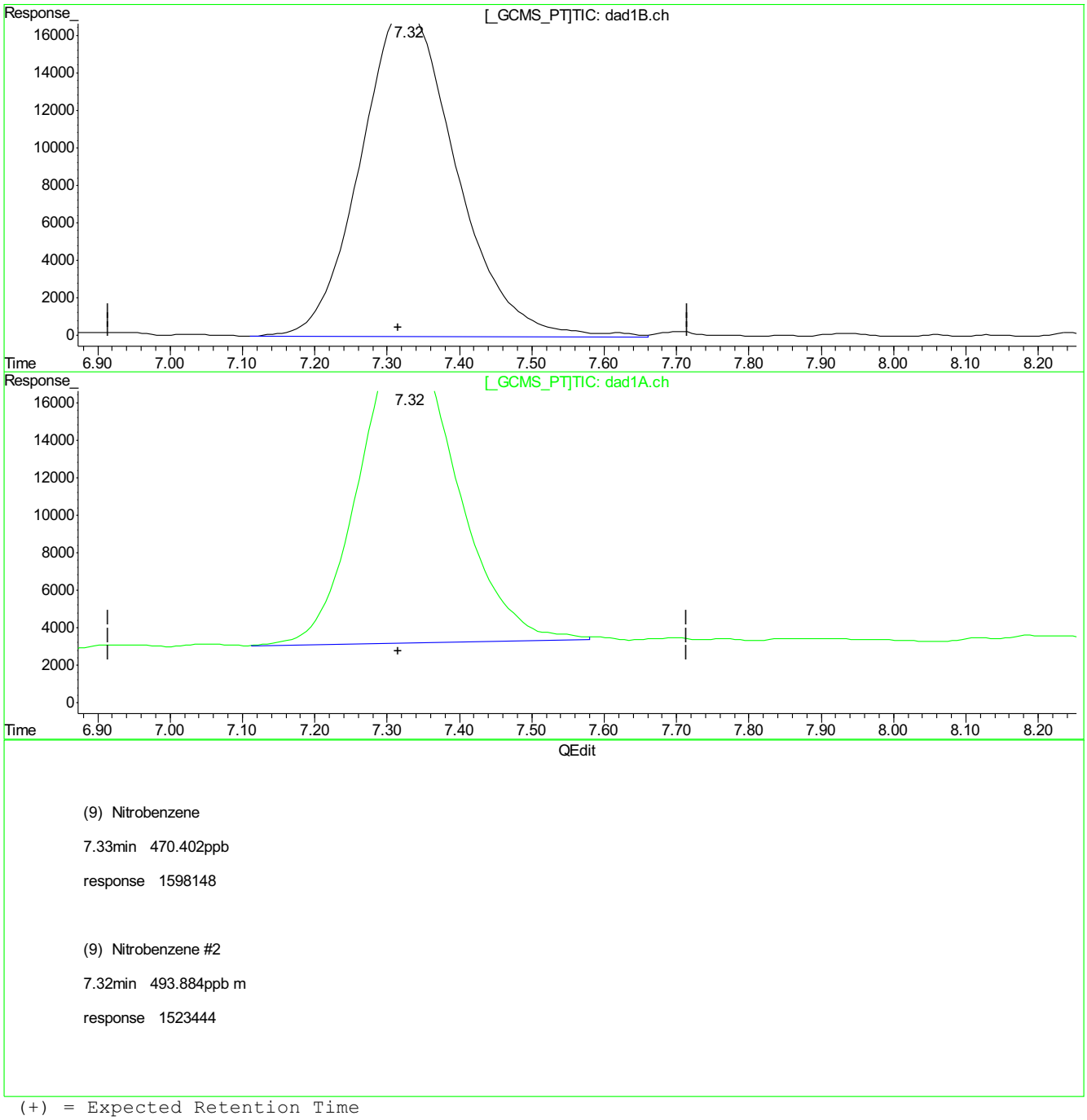
9

BB054265.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.33min 470.402ppb

response 1598148

(9) Nitrobenzene #2

7.32min 493.884ppb m

response 1523444

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:19 2017

9.5.5.5

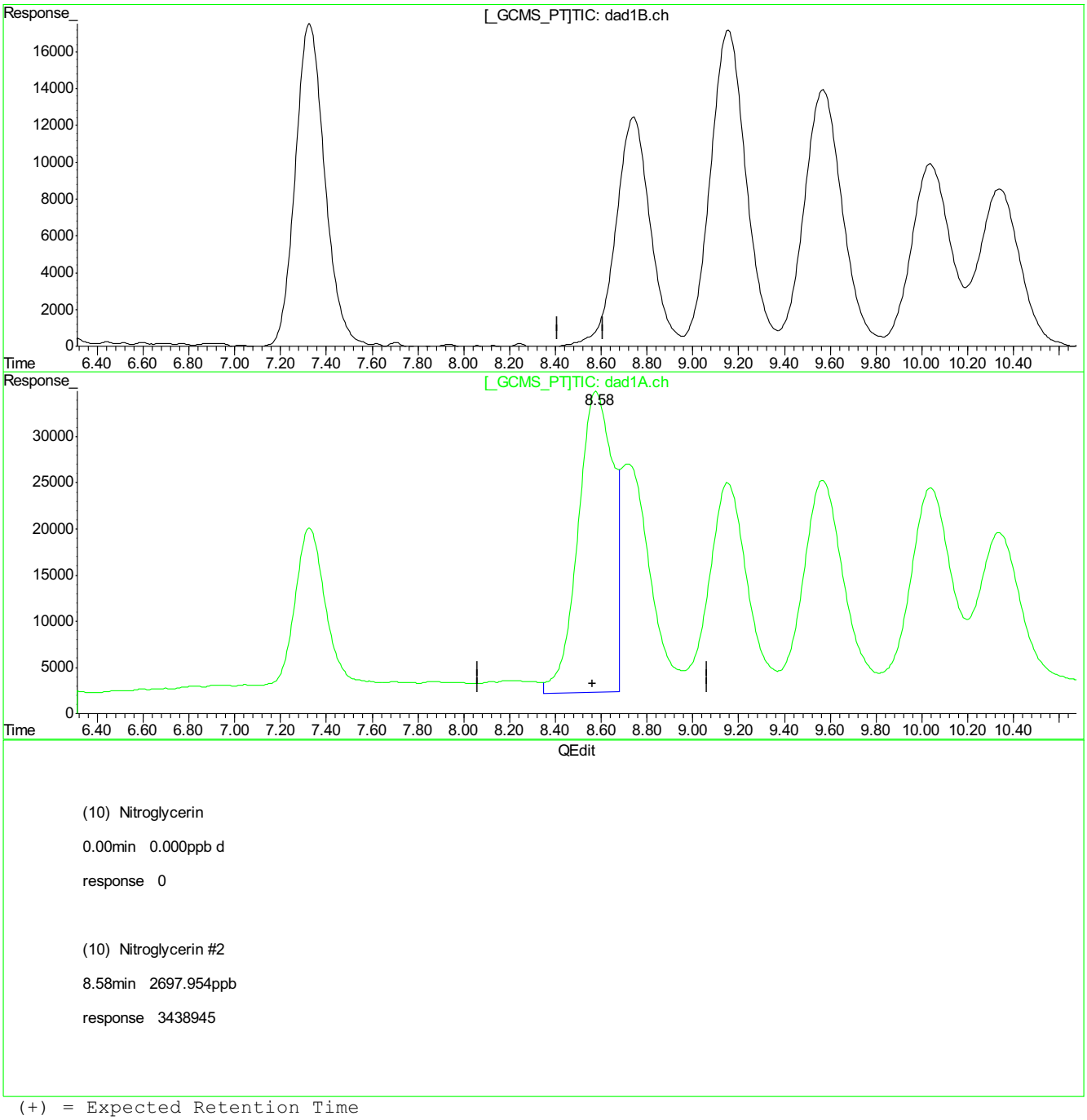
6

BB054265.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:24 2017

9.5.5.6

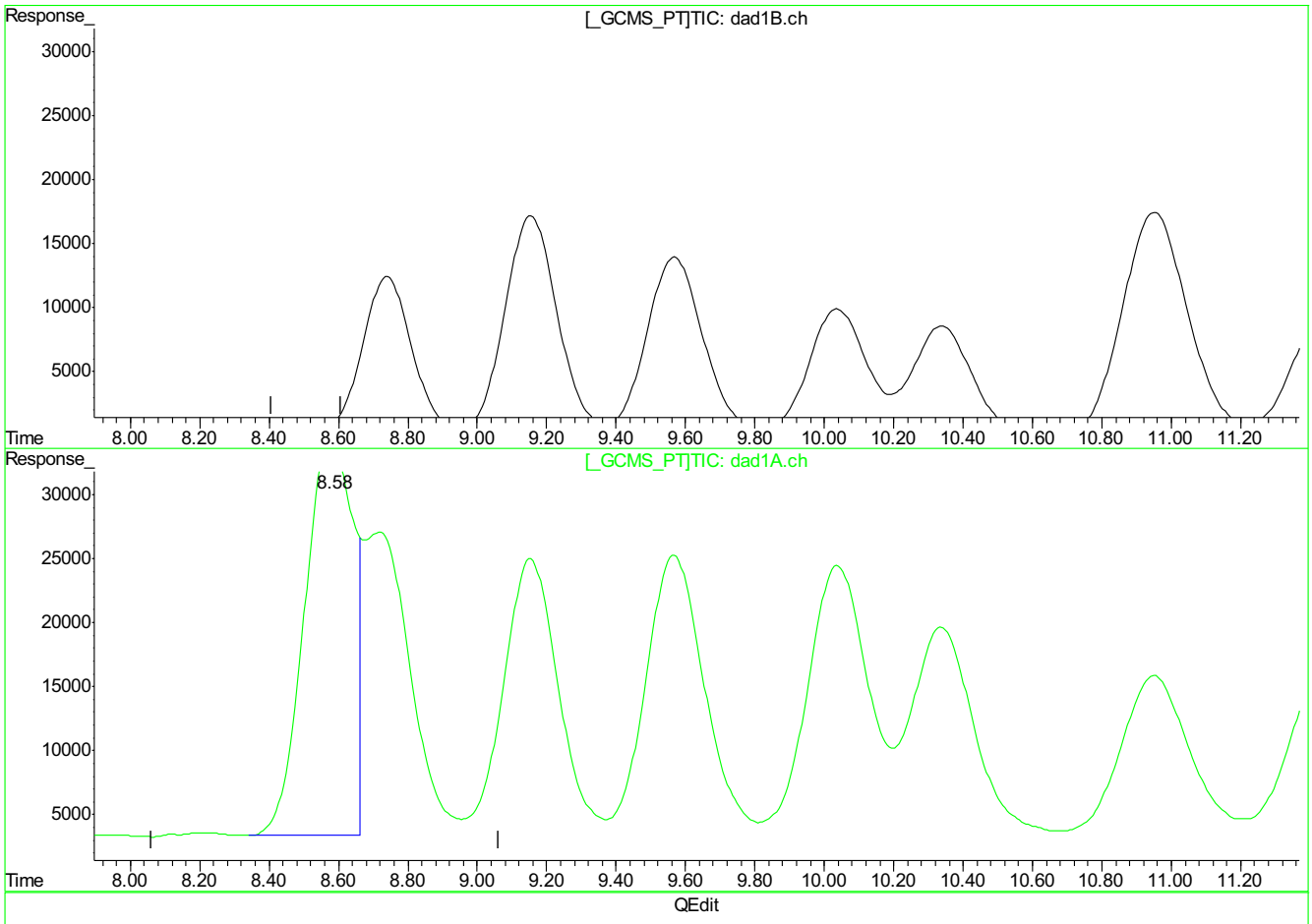
6

BB054265.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.58min 2420.890ppb m

response 3085786

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:41 2017

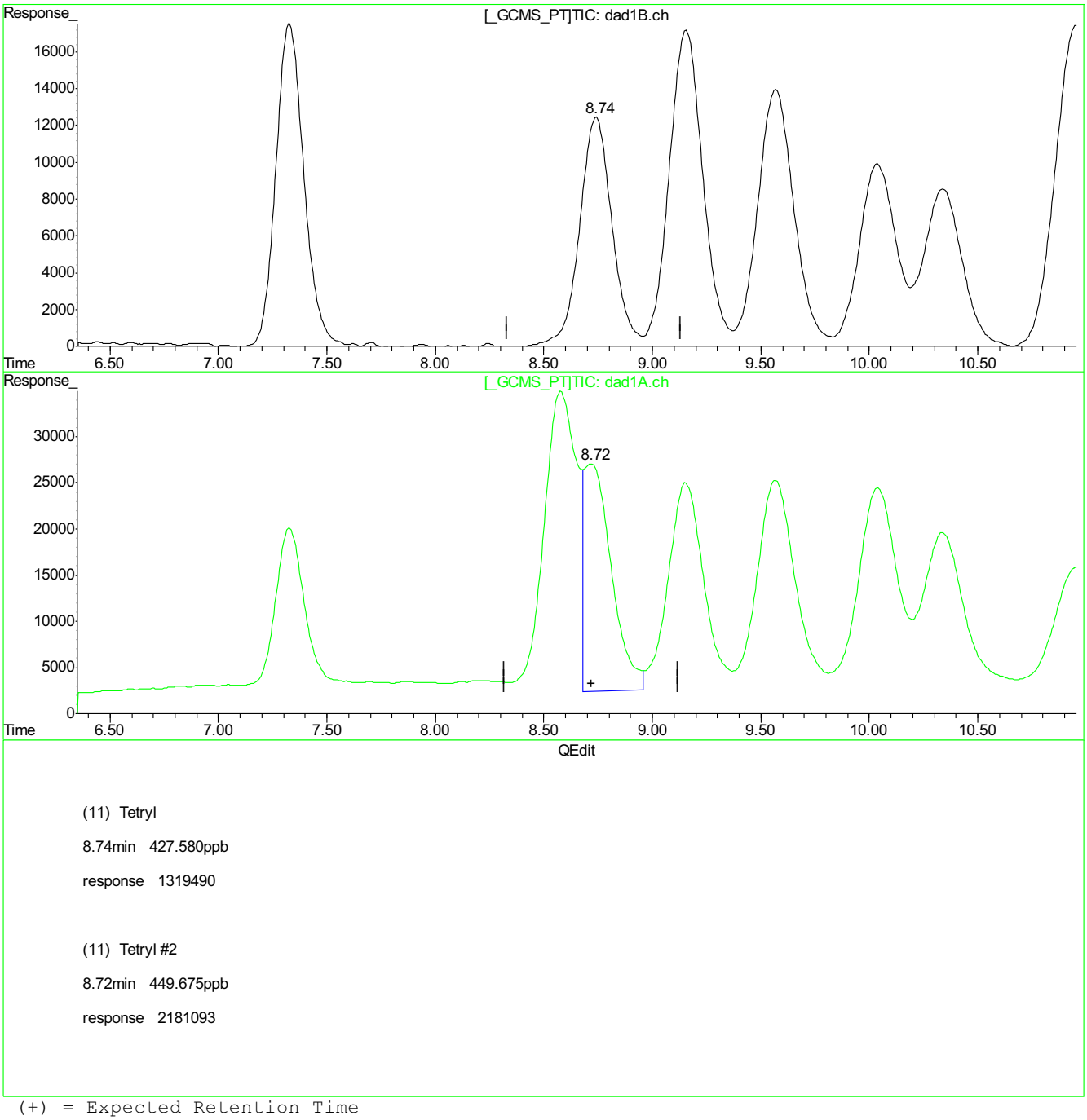
9.5.5.7

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.74min 427.580ppb

response 1319490

(11) Tetryl #2

8.72min 449.675ppb

response 2181093

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:07:45 2017

9.5.5.8

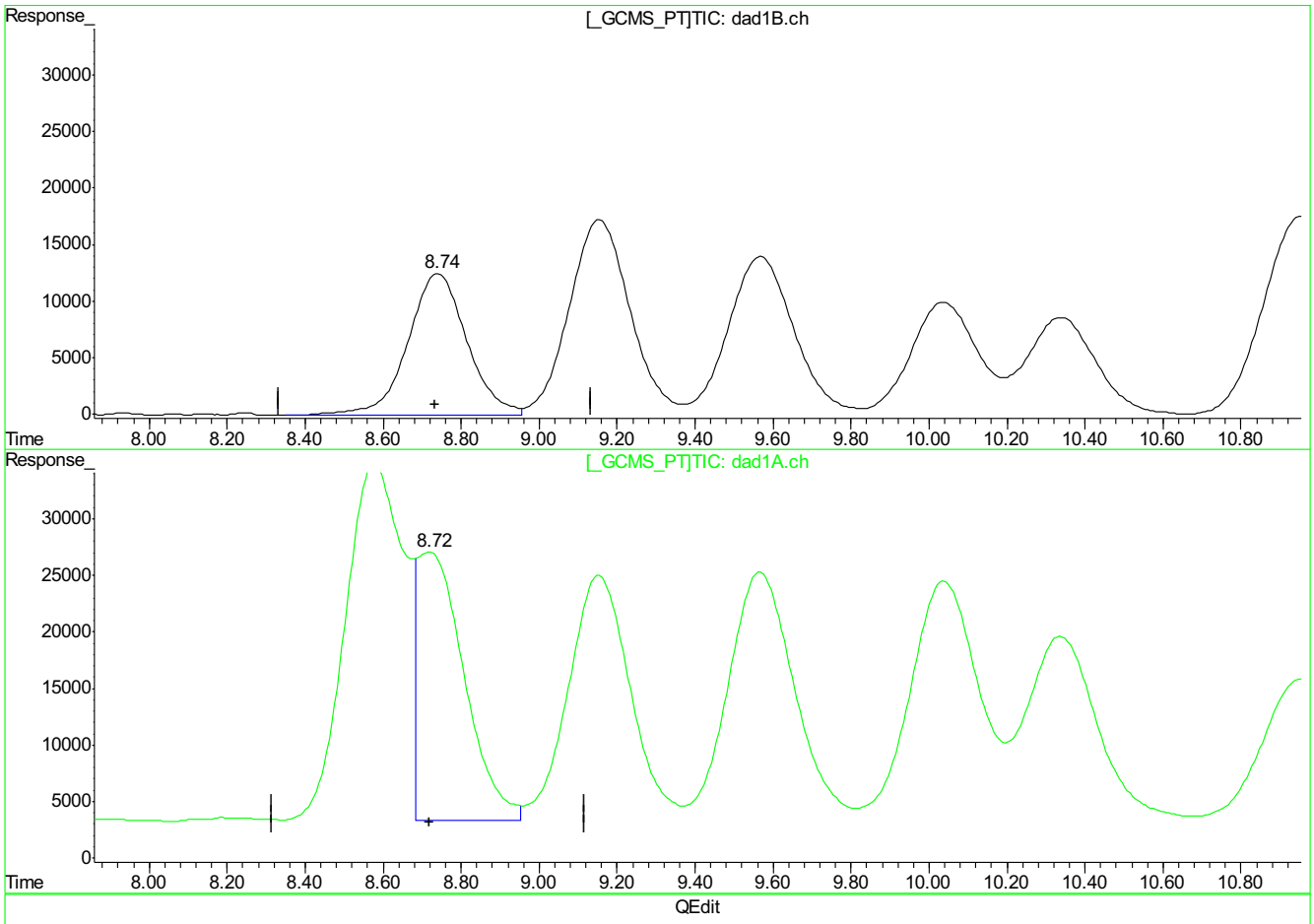
6

BB054265.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.74min 427.580ppb

response 1319490

(11) Tetryl #2

8.72min 405.167ppb m

response 1965214

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:24 2017

9.5.5.9

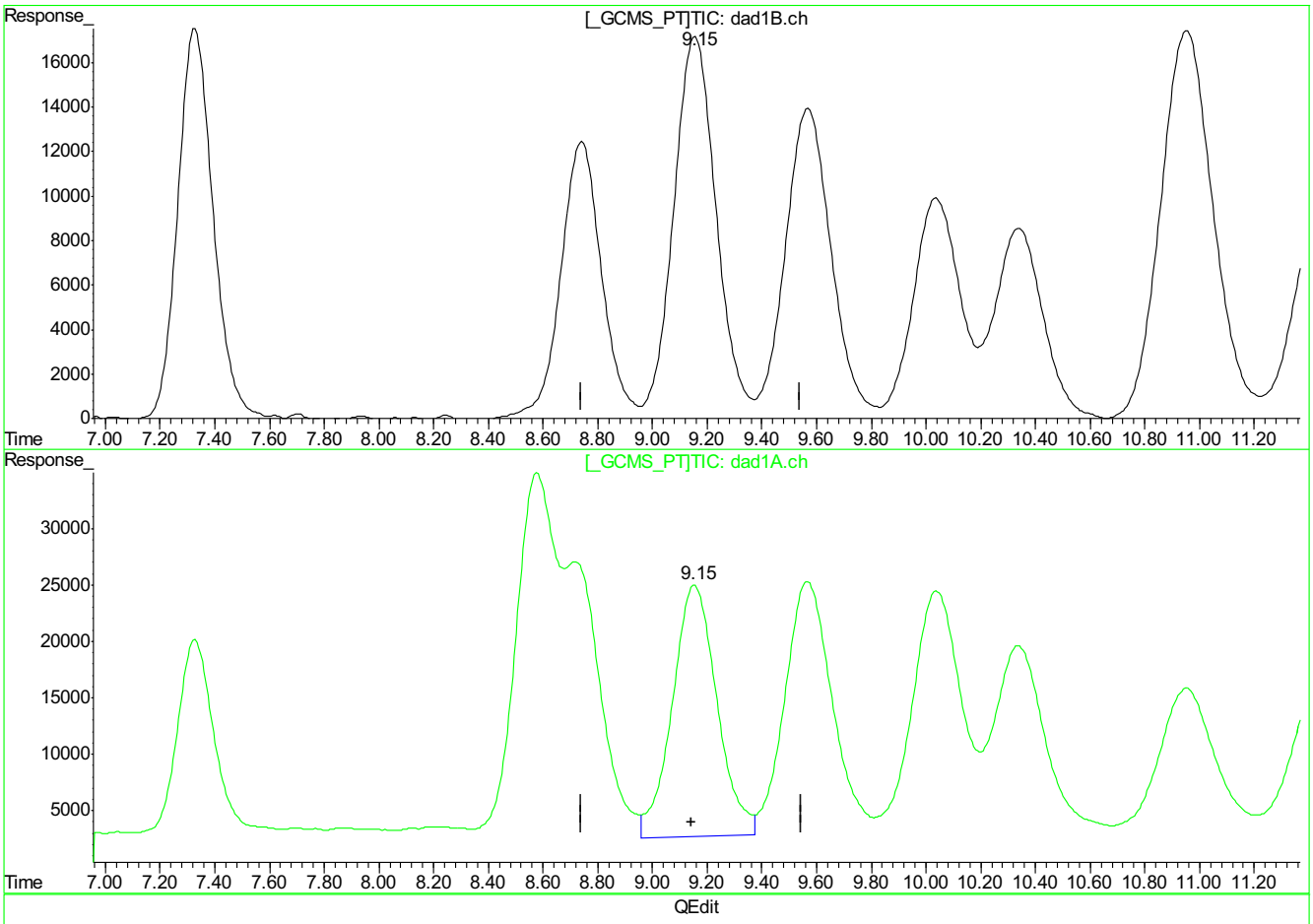
6

BB054265.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 446.656ppb

response 1876477

(12) 2,4,6-Trinitrotoluene #2

9.15min 485.272ppb

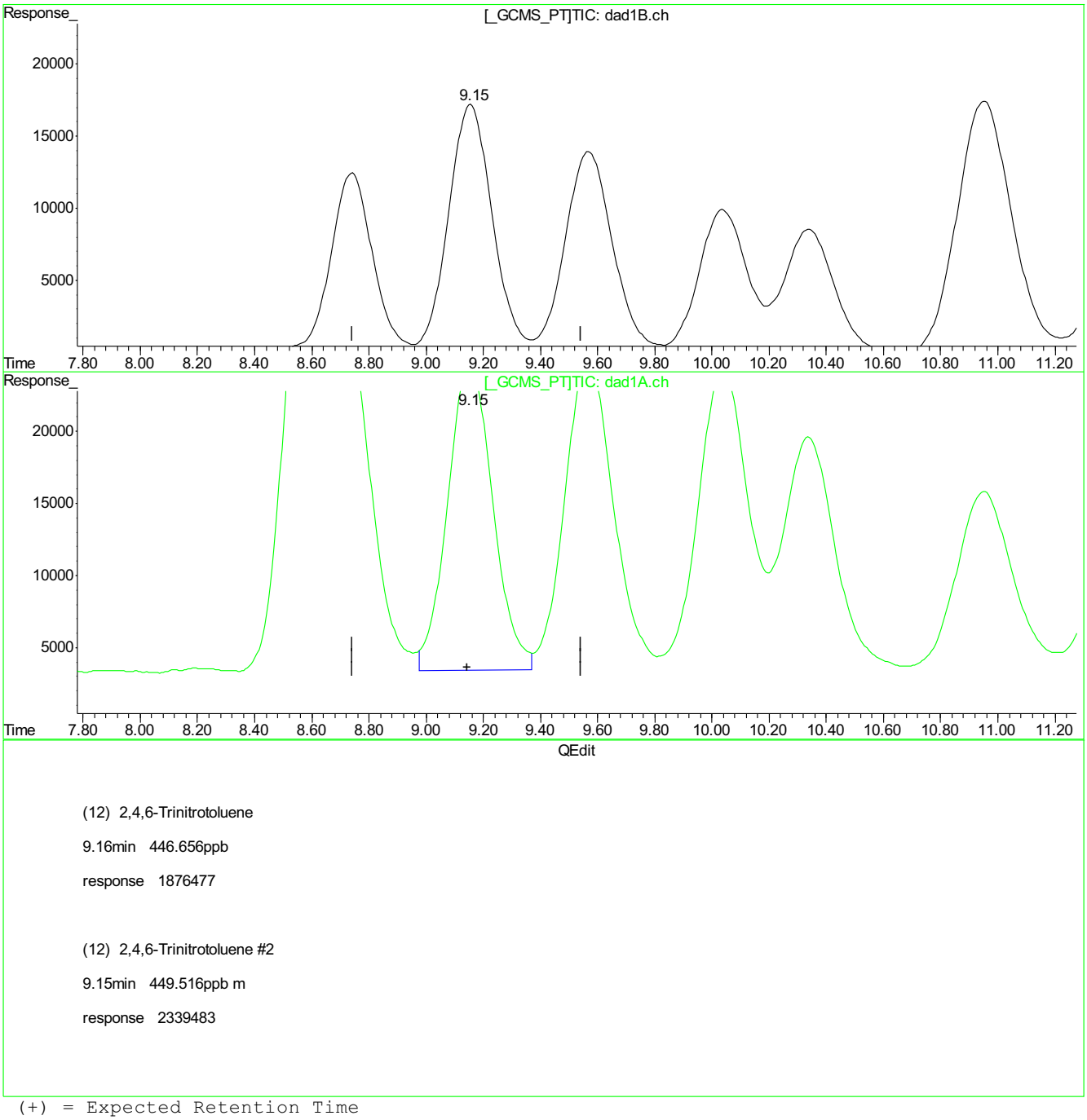
response 2525578

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:29 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.16min 446.656ppb

response 1876477

(12) 2,4,6-Trinitrotoluene #2

9.15min 449.516ppb m

response 2339483

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:38 2017

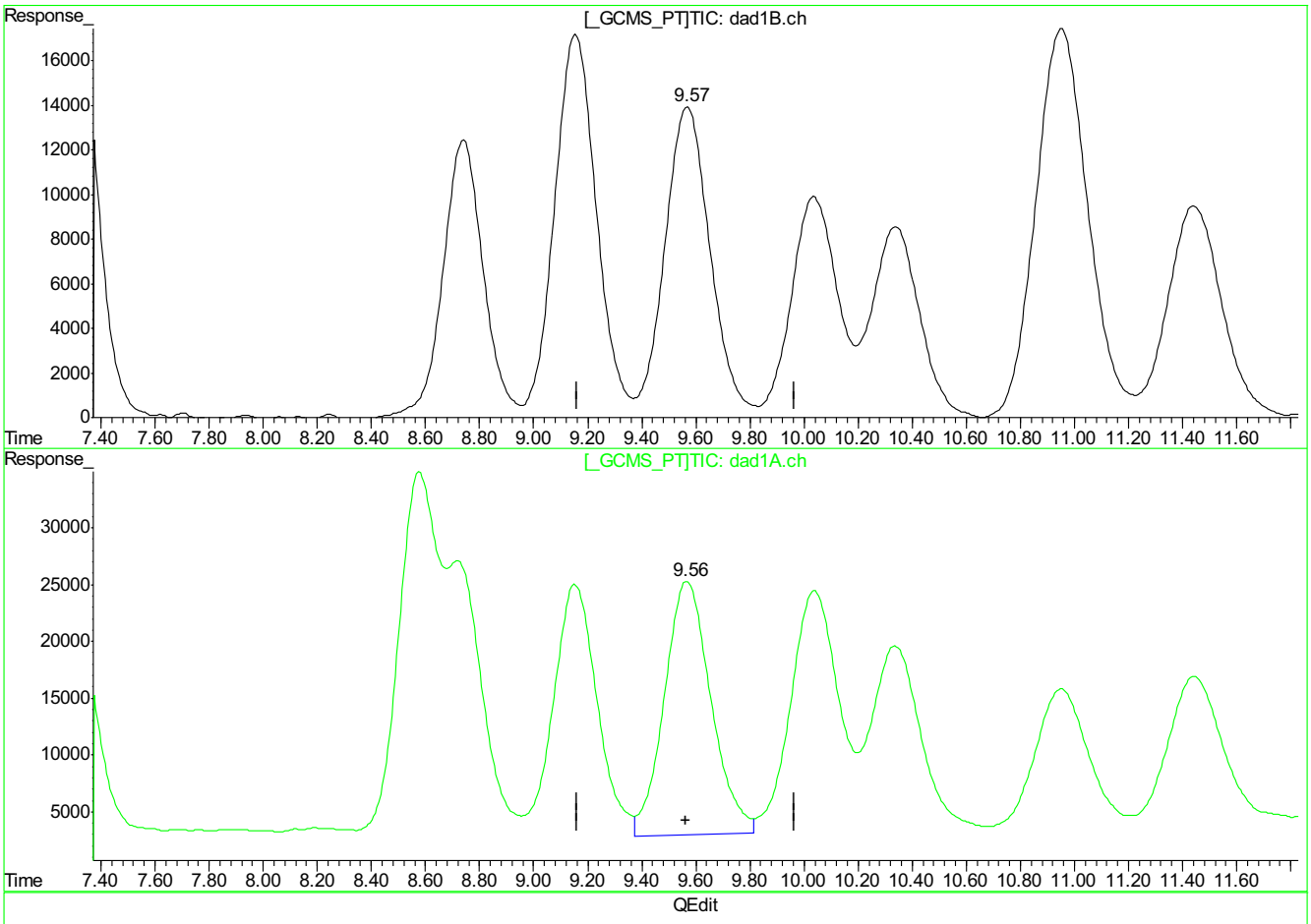
9.5.5.11

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 488.345ppb

response 1656585

(13) 2-Amino-4,6-Dinitrotoluene #2

9.57min 529.269ppb

response 2666972

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:41 2017

9.5.5.12

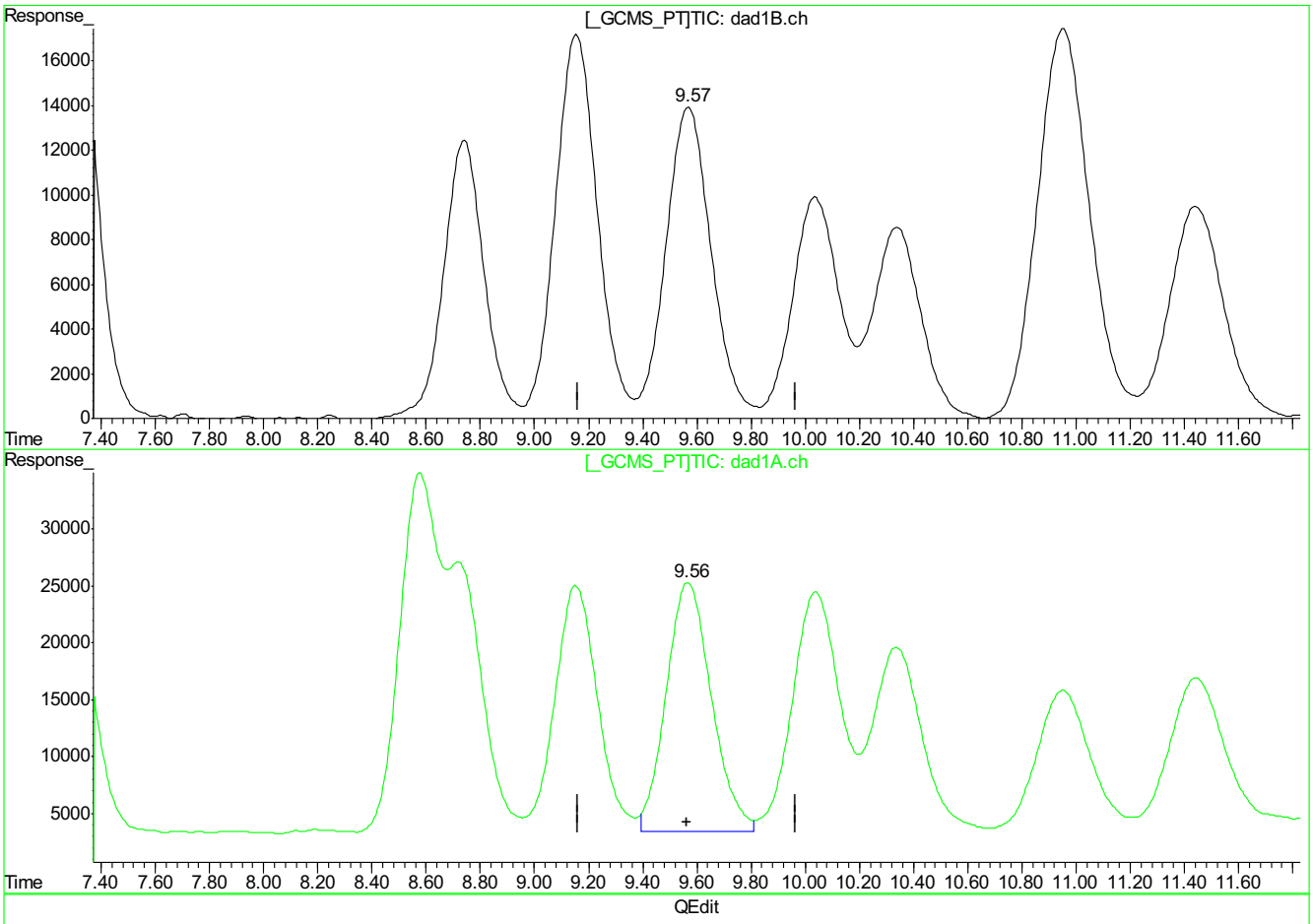
9

BB054265.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.57min 488.345ppb

response 1656585

(13) 2-Amino-4,6-Dinitrotoluene #2

9.56min 501.439ppb m

response 2529655

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:48 2017

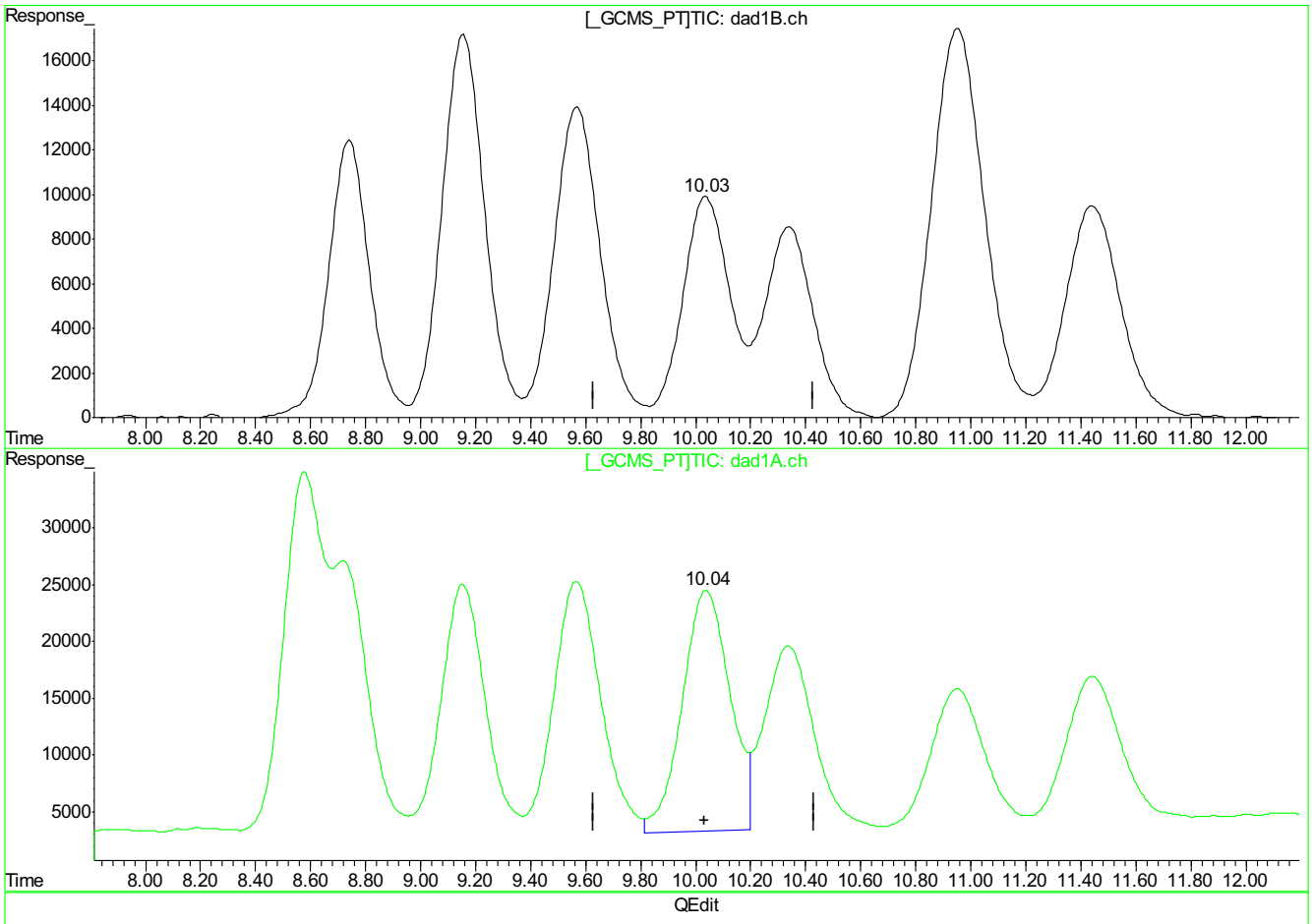
9.5.5.13

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 455.085ppb

response 1189910

(14) 4-Amino-2,6-Dinitrotoluene #2

10.04min 483.609ppb

response 2566343

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:08:51 2017

9.5.5.14

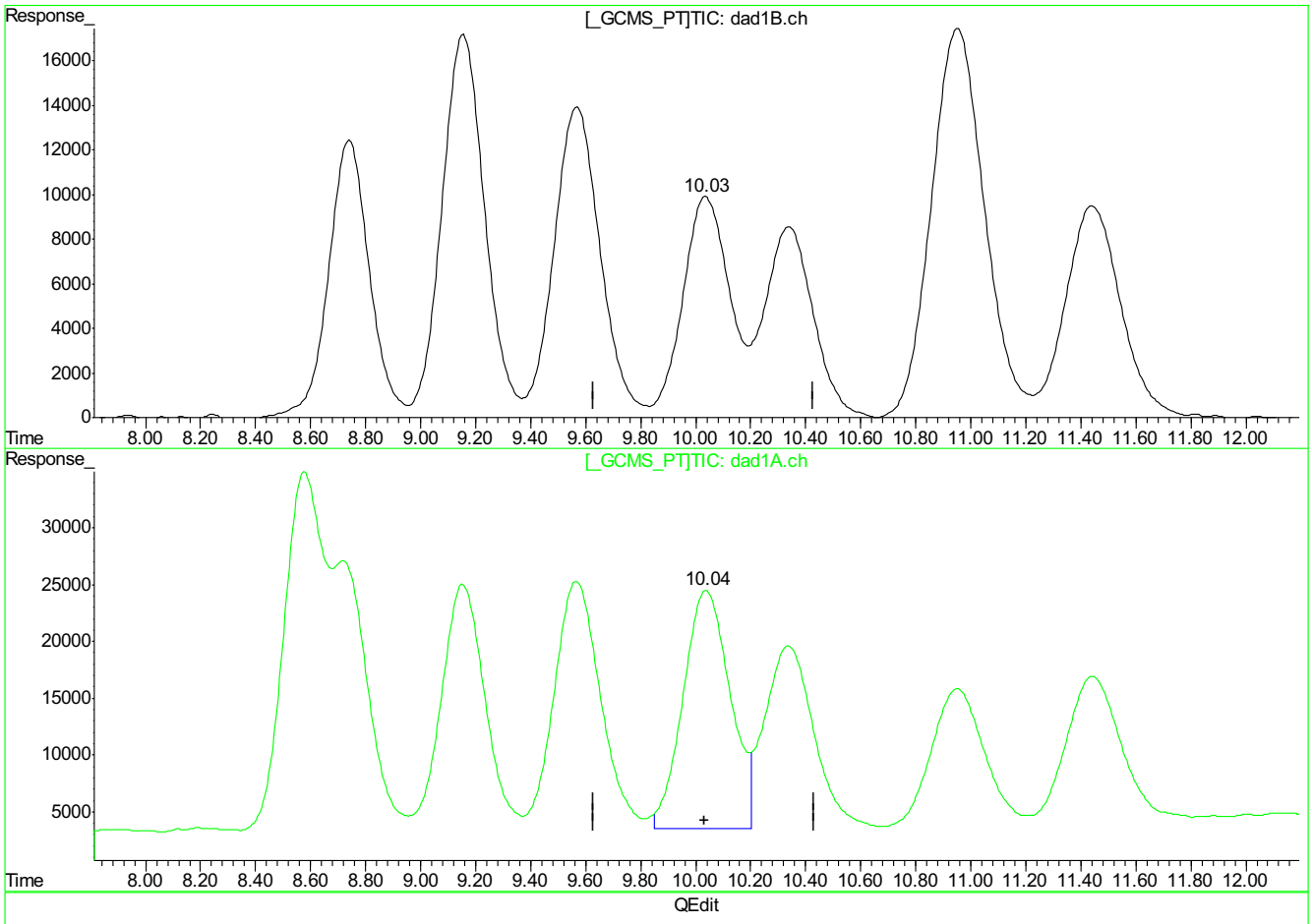
9

BB054265.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 455.085ppb

response 1189910

(14) 4-Amino-2,6-Dinitrotoluene #2

10.04min 465.704ppb m

response 2471328

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:00 2017

9.5.5.15

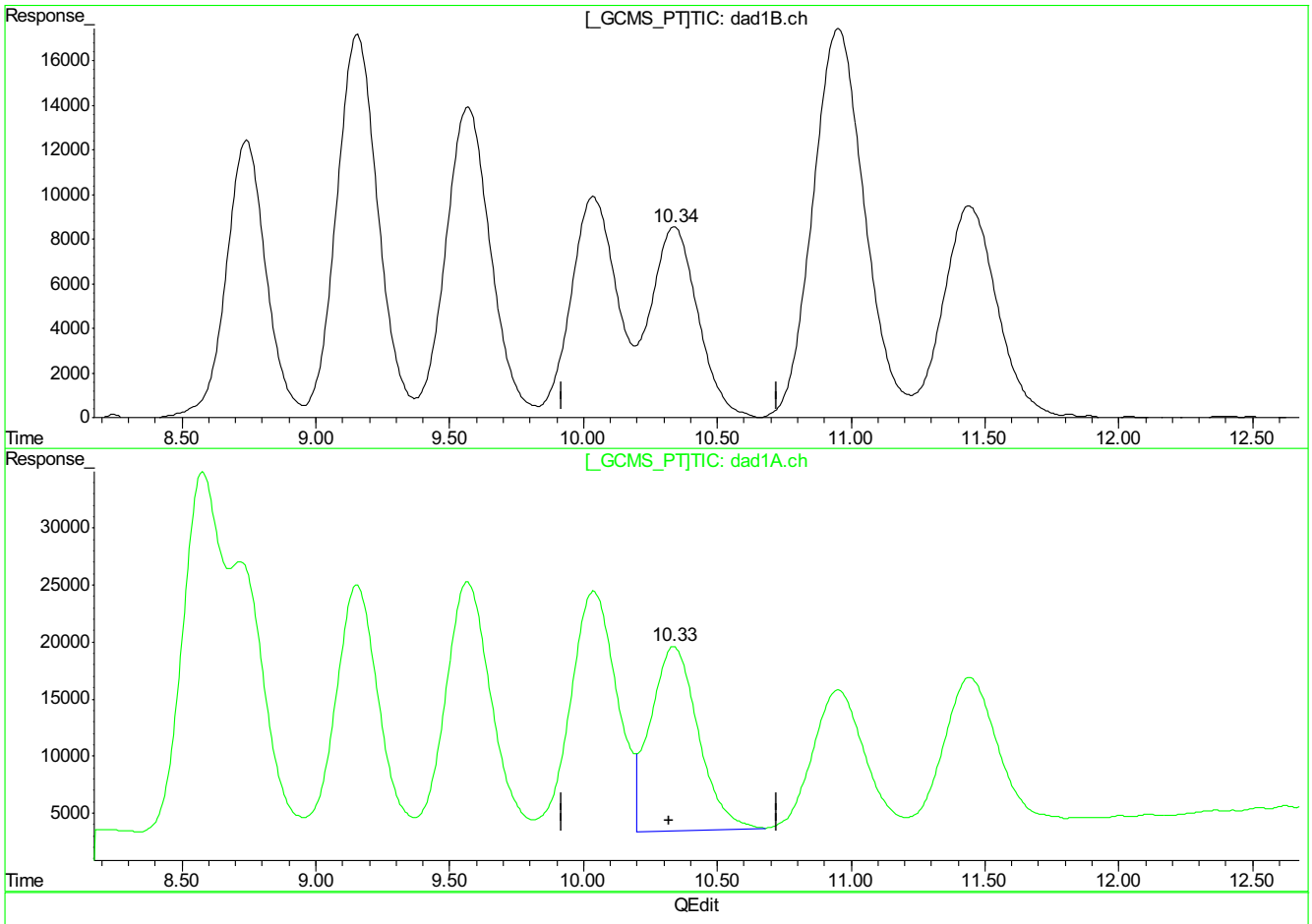
9

BB054265.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.34min 466.769ppb

response 1084794

(15) 3,4-Dinitrotoluene #2 (S)

10.34min 457.841ppb

response 2008496

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:23 2017

9.5.5.16

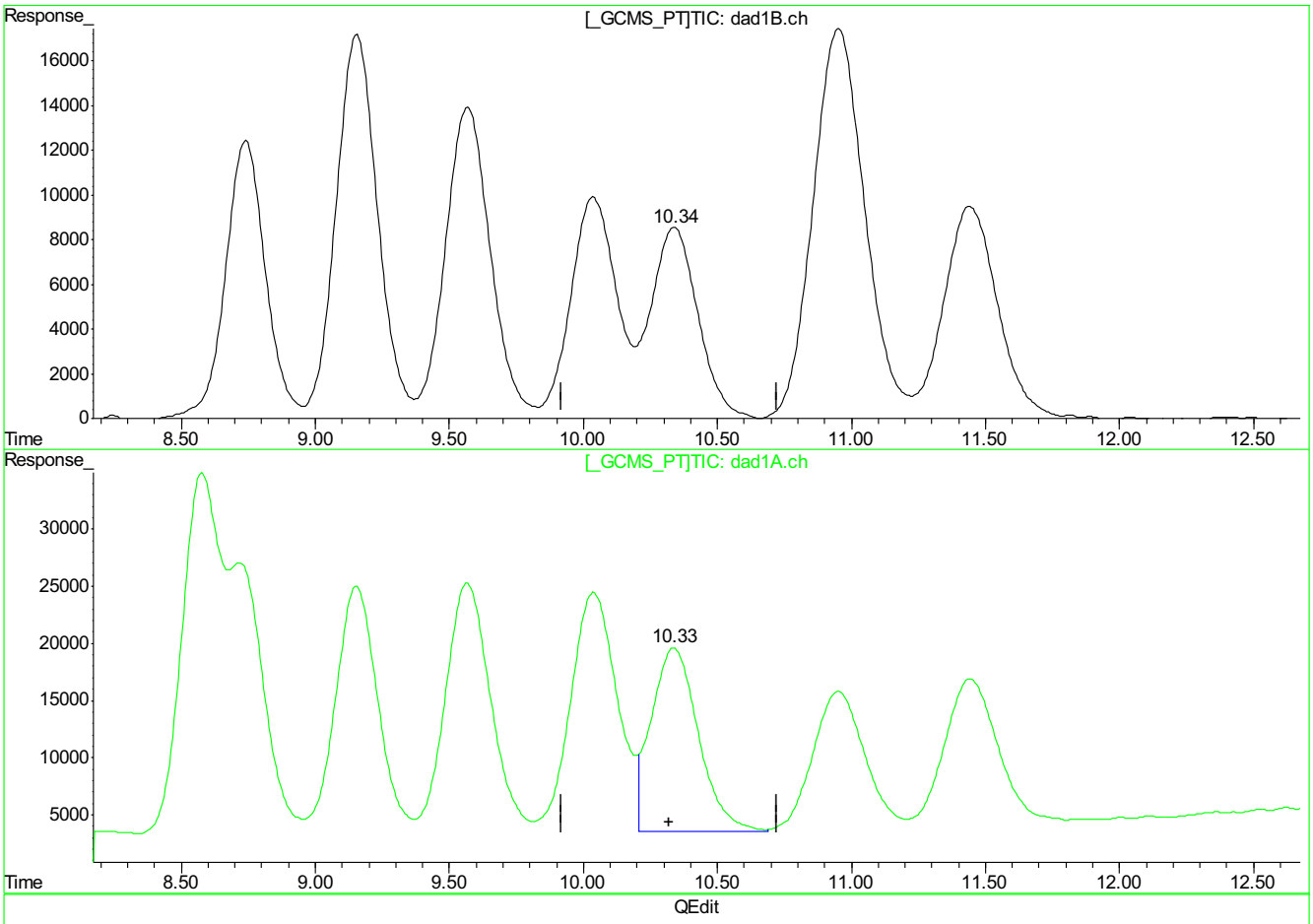
9

BB054265.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.34min 466.769ppb

response 1084794

(15) 3,4-Dinitrotoluene #2 (S)

10.33min 447.398ppb m

response 1962687

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:41 2017

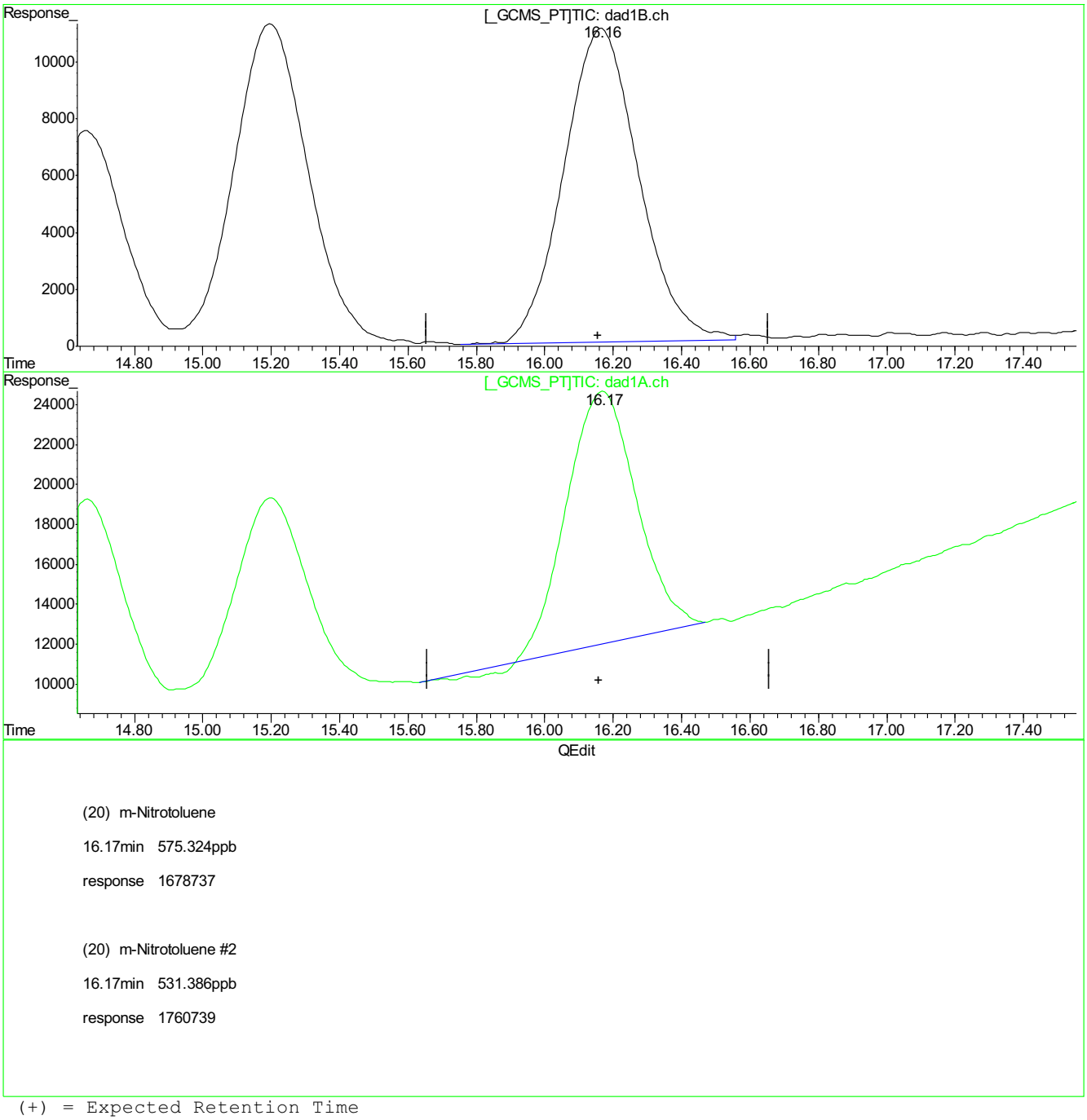
9.5.5.17
9

BB054265.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 575.324ppb

response 1678737

(20) m-Nitrotoluene #2

16.17min 531.386ppb

response 1760739

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:45 2017

9.5.5.18

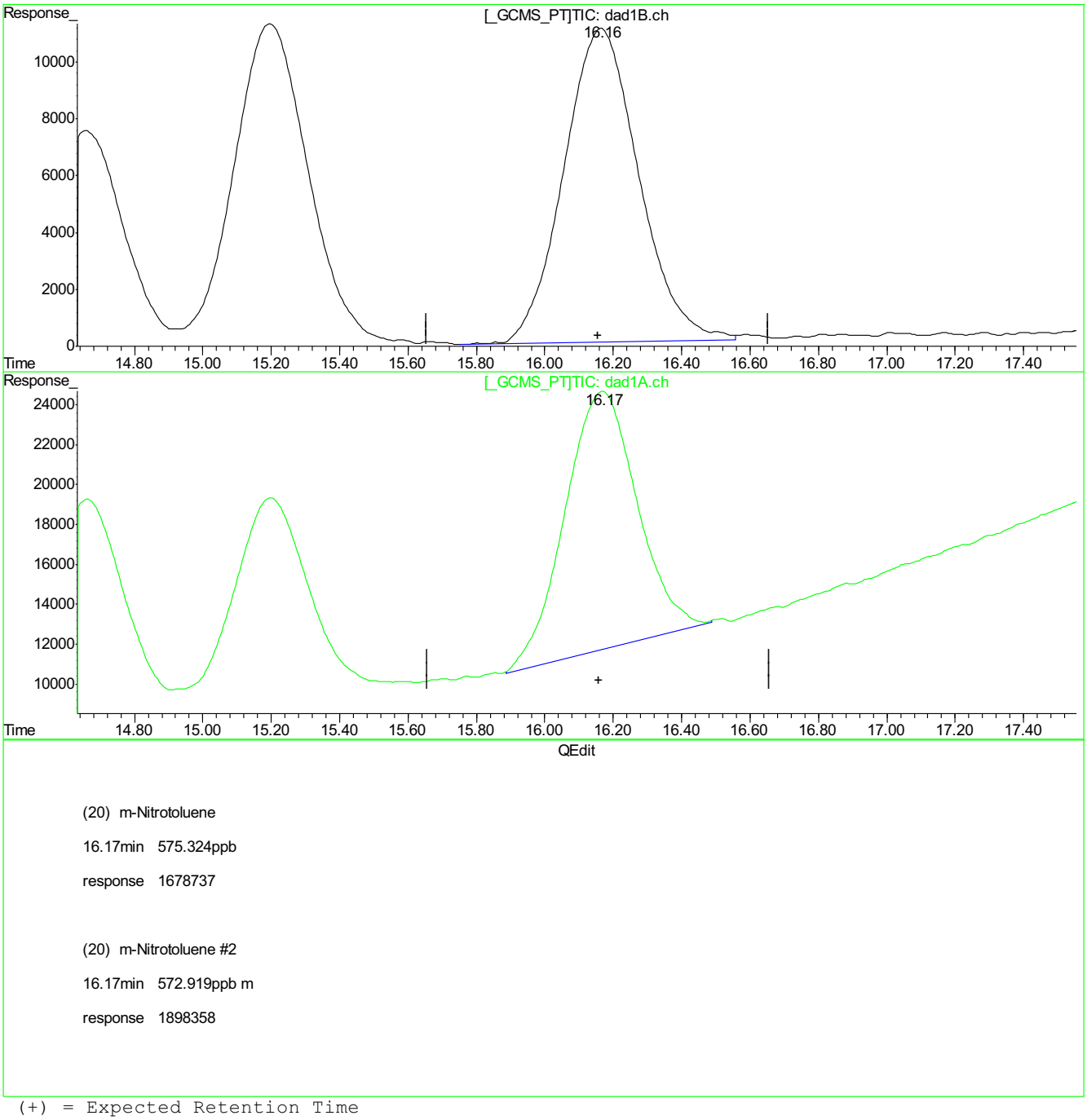
9

BB054265.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.17min 575.324ppb

response 1678737

(20) m-Nitrotoluene #2

16.17min 572.919ppb m

response 1898358

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:50 2017

9.5.5.19

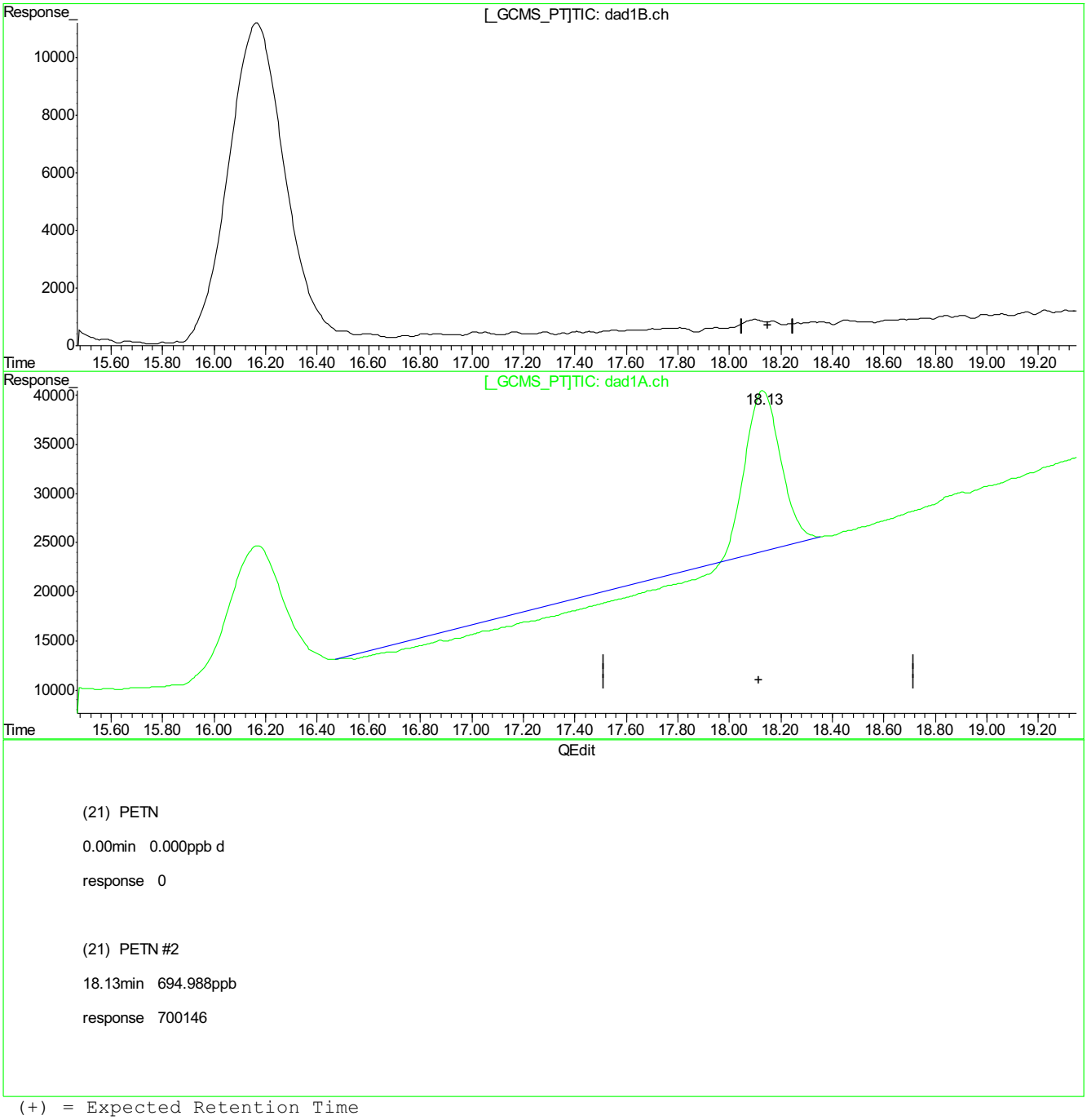
9

BB054265.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.13min 694.988ppb

response 700146

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:54 2017

9.5.5.20

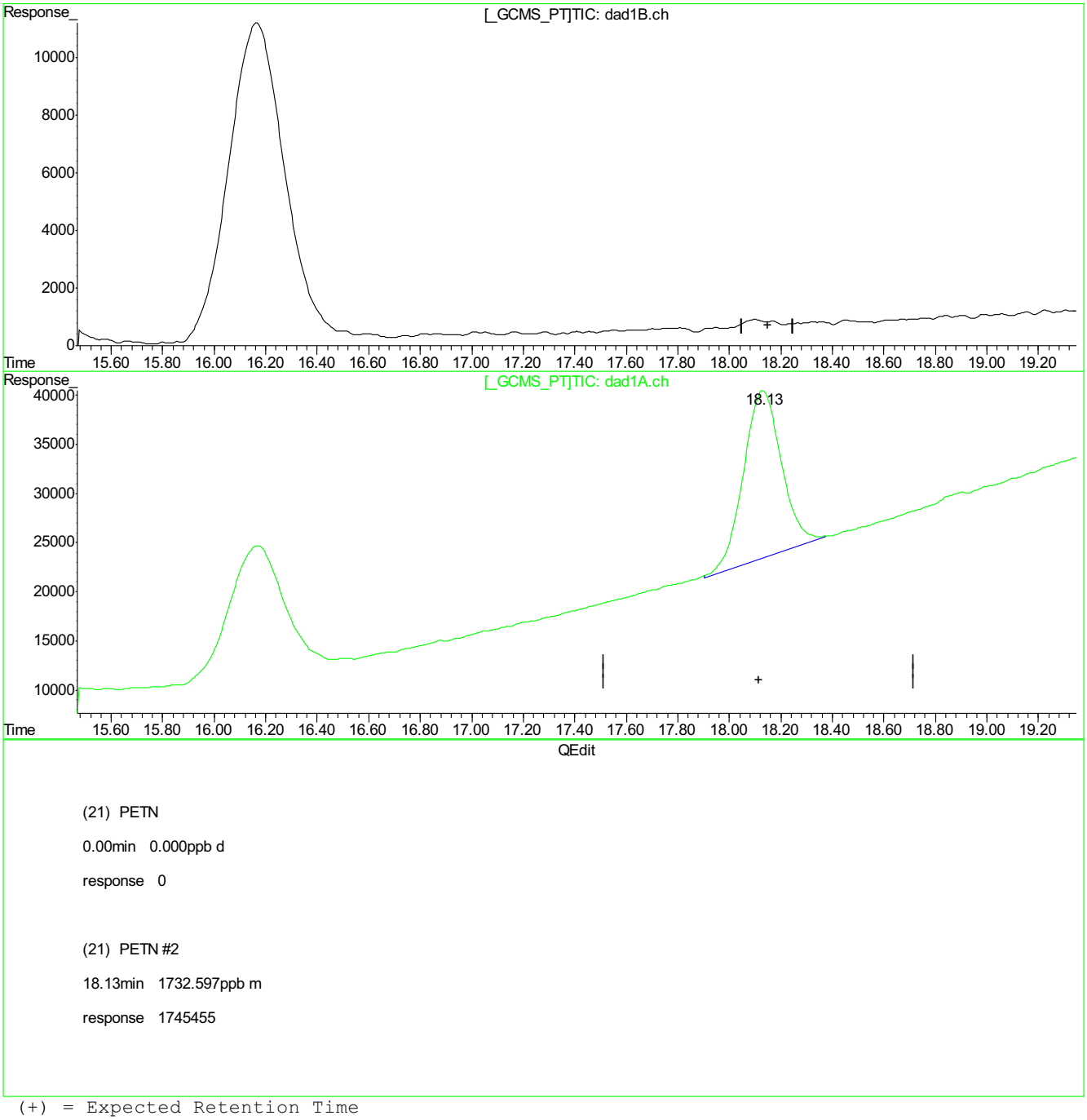
6

BB054265.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054265.D\dad1A.ch
Acq On : 19-Apr-2017, 12:13:38 Operator: evitam
Sample : icc1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:06 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:06:51 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.13min 1732.597ppb m

response 1745455

(+) = Expected Retention Time
BB054265.D 8330B_0419PLUS.M Wed Apr 19 15:09:57 2017

9.5.5.21

9

BB054265.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10:07 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.32	10.32	2157333	3879430	958.368	885.899
Spiked Amount	500.000	Range	69 - 134	Recovery	=	191.67%#	177.18%#
	Target Compounds						
1)	TNX	1.36	1.36	3160346	4872964	1054.423	1003.937
2)	HMX	1.47	1.47	1637132	4497971	991.934	986.170
3)	DNX	1.73	1.73	2823981	4542971	996.985	707.919
4)	MNX	2.28	2.28	2328033	3621119	931.860	937.676
5)	RDX	2.86	2.86	1851610	2979709	799.387	894.659
6)	1,3,5-Trinitrobe	4.48	4.48	3968585	7764317	909.603	950.279
7)	1,3-Dinitrobenze	5.73	5.73	5217339	3609555	939.586	922.050m
8)	3,5-Dinitroanili	6.08	6.08	3716621	6344631	849.728	921.309m
9)	Nitrobenzene	7.32	7.32	3225153	3033559	914.377	943.988m
10)	Nitroglycerin	0.00	8.56	0	6460477	N.D.	5047.824 #
11)	Tetryl	8.73	8.71	2650090	3981548	873.266	847.401
12)	2,4,6-Trinitroto	9.14	9.14	3755869	4633209	896.042	887.083
13)	2-Amino-4,6-Dini	9.55	9.55	3316493	5040139	1001.627	1020.836
14)	4-Amino-2,6-Dini	10.02	10.02	2389958	4943669	915.130	926.010
16)	2,4-Dinitrotolue	10.94	10.94	4757268	3125651	927.109	923.676
17)	2,6-Dinitrotolue	11.43	11.43	2698501	3431513	843.215	972.973
18)	o-Nitrotoluene	14.65	14.65	2277030	3225682	985.013	1113.692
19)	p-Nitrotoluene	15.19	15.19	3487629	3029667	902.750	1039.939
20)	m-Nitrotoluene	16.16	16.16	3370197	3853074	1035.687	1115.941
21)	PETN	0.00	18.12	0	3530992	N.D. d	3892.828m

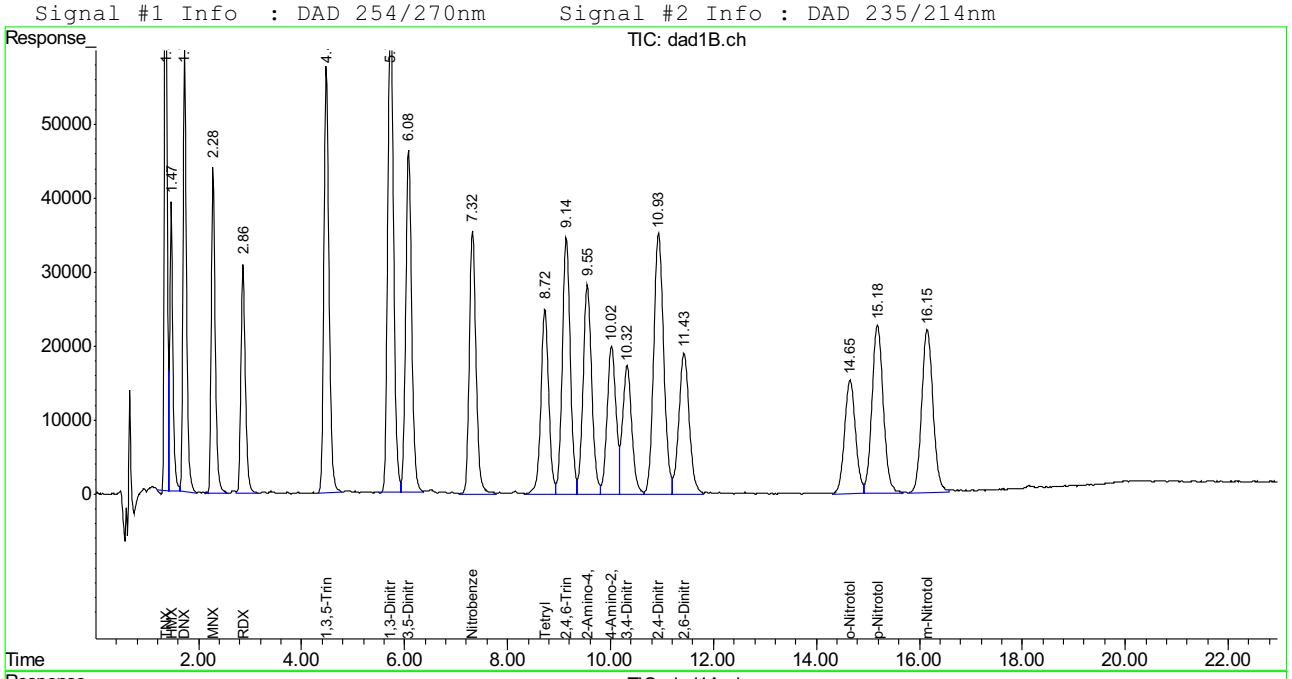
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054266.D 8330B_0419PLUS.M Thu Apr 20 11:04:54 2017 Page 1

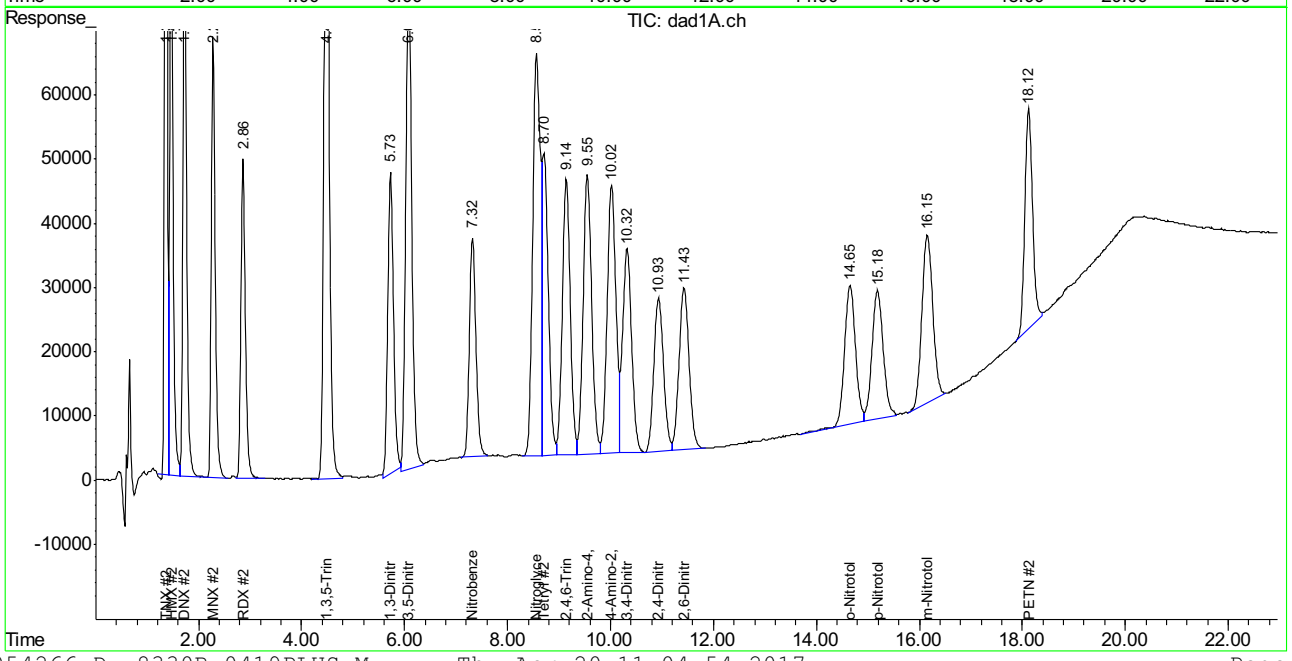
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

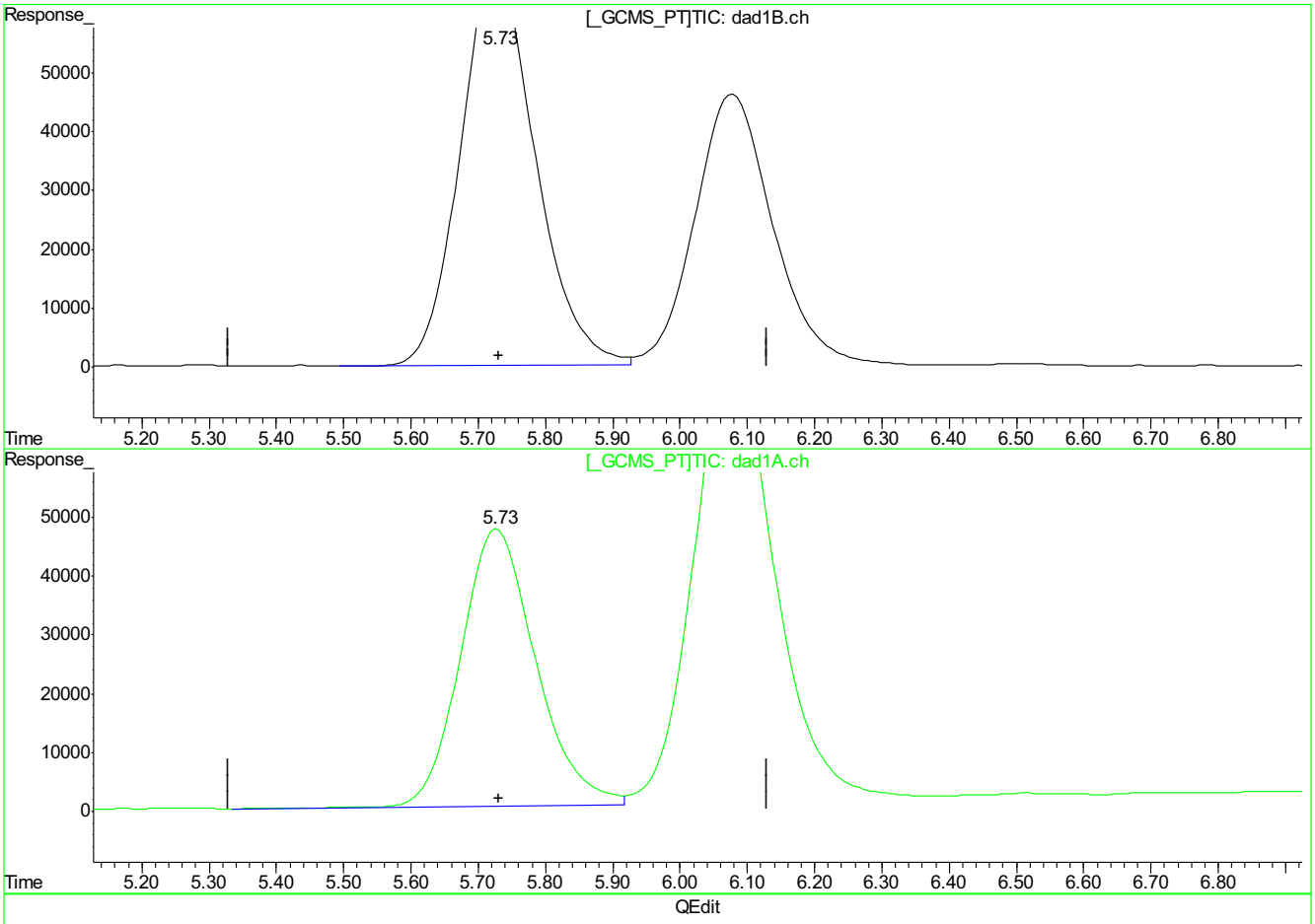
Sample Number: GBB1578-IC1578
Lab FileID: BB054266.D
Injection Time: 04/19/17 12:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.73	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.08	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.32	Poorly defined baseline
PETN	78-11-5	2	18.12	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.73min 939.586ppb

response 5217339

(7) 1,3-Dinitrobenzene #2

5.73min 933.163ppb

response 3653056

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:15 2017

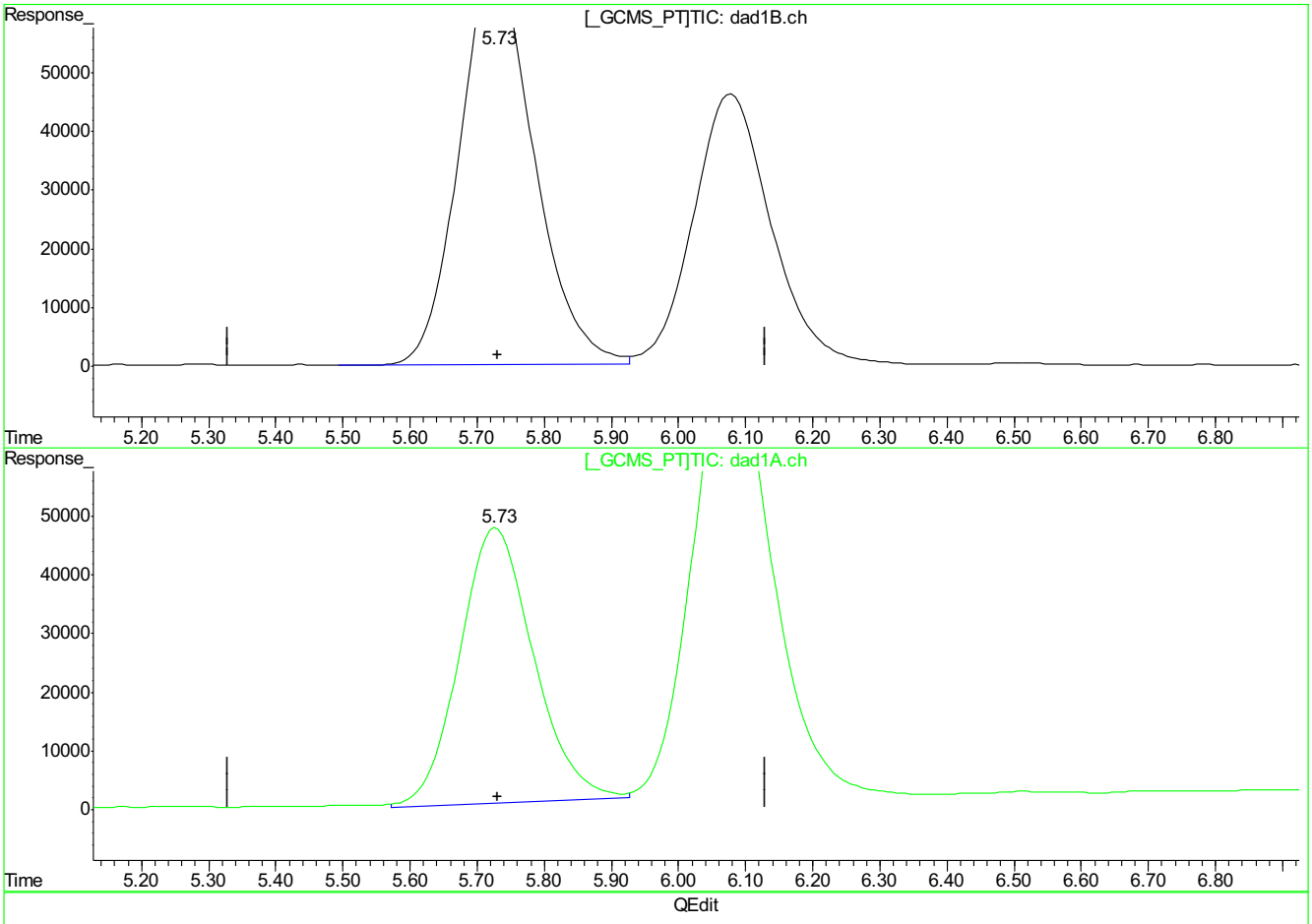
9.5.9.2

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.73min 939.586ppb

response 5217339

(7) 1,3-Dinitrobenzene #2

5.73min 922.050ppb m

response 3609555

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:20 2017

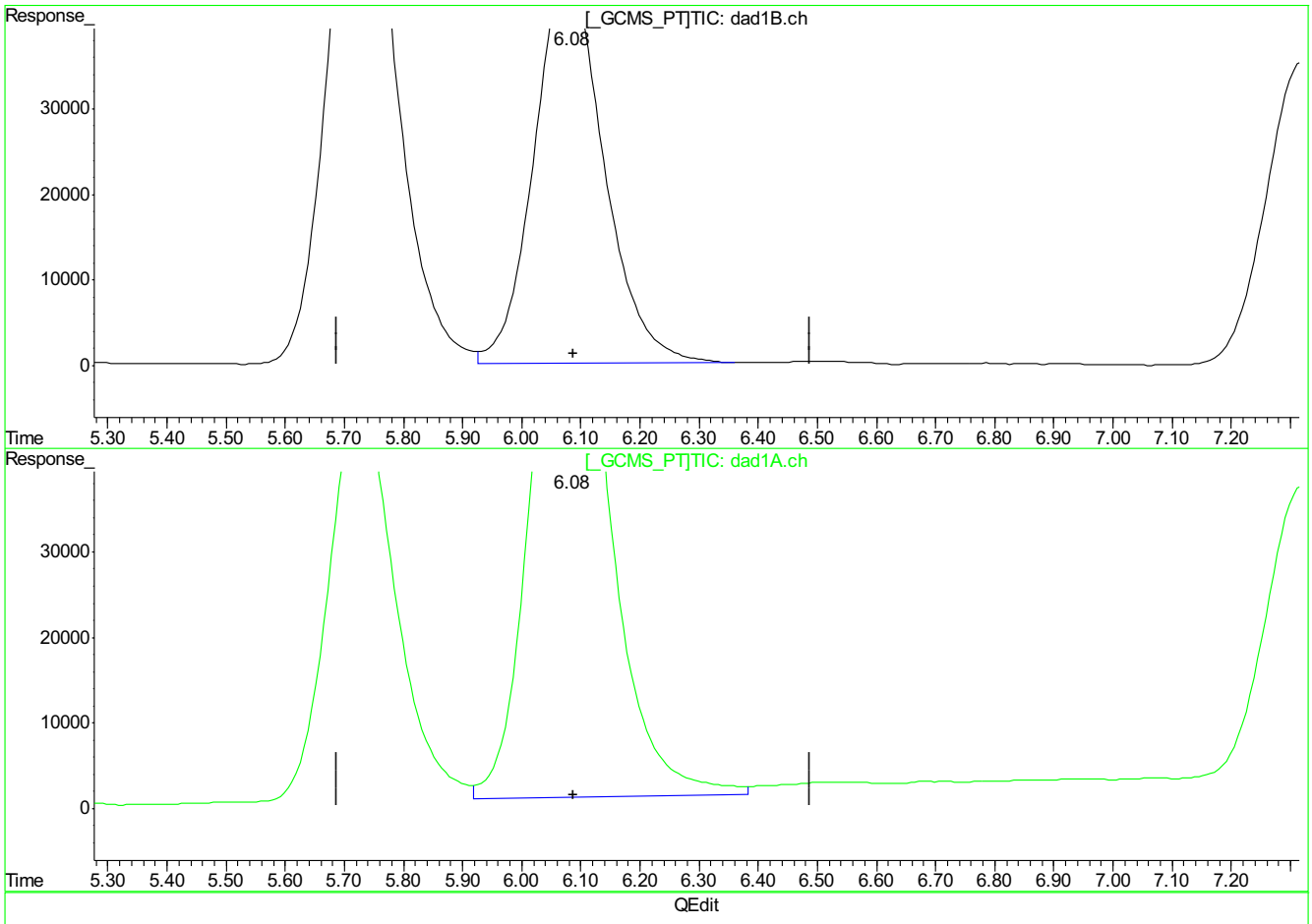
9.5.6.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.08min 849.728ppb

response 3716621

(8) 3,5-Dinitroaniline #2

6.08min 942.220ppb

response 6488634

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:23 2017

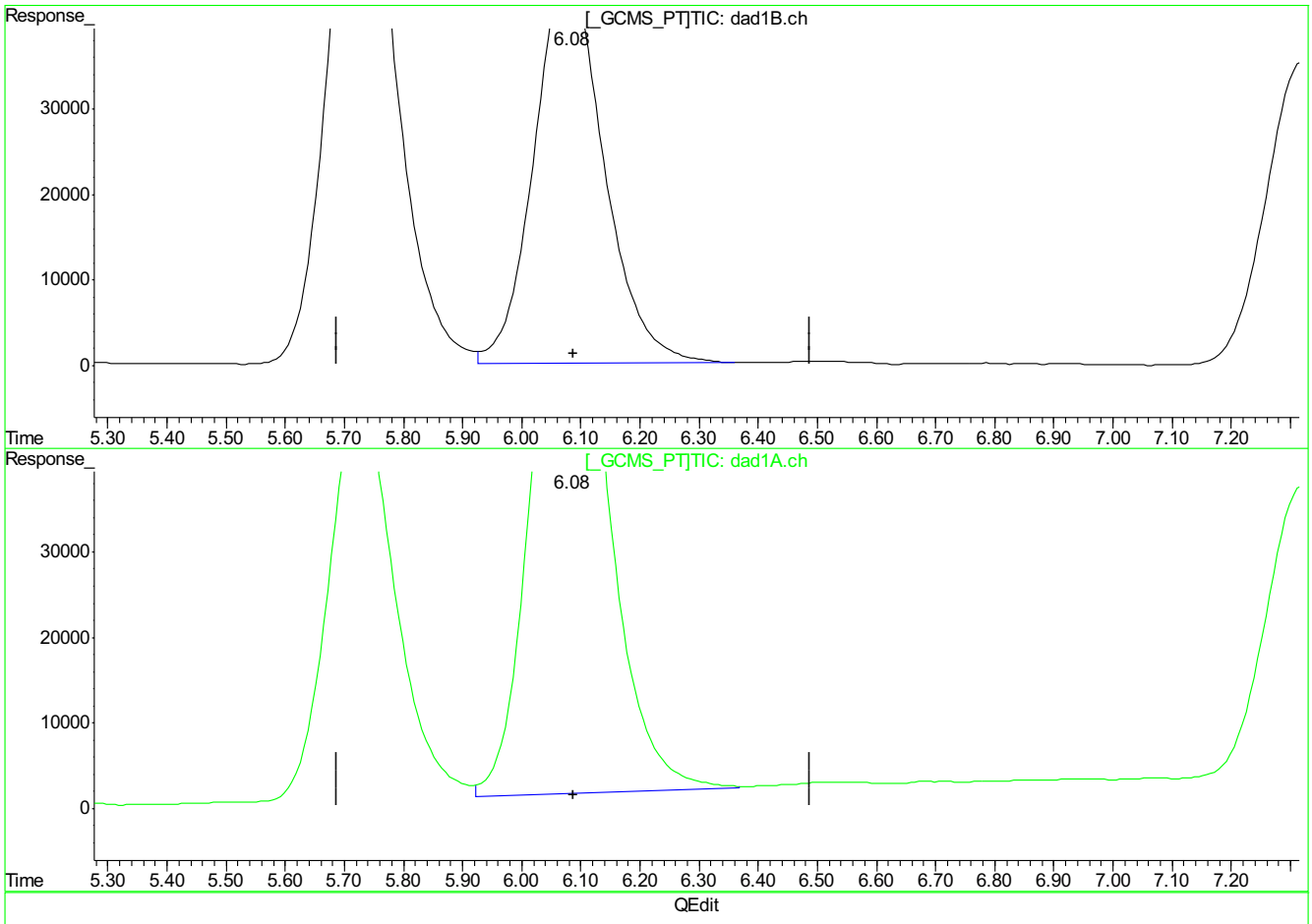
9.5.9.4

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.08min 849.728ppb

response 3716621

(8) 3,5-Dinitroaniline #2

6.08min 921.309ppb m

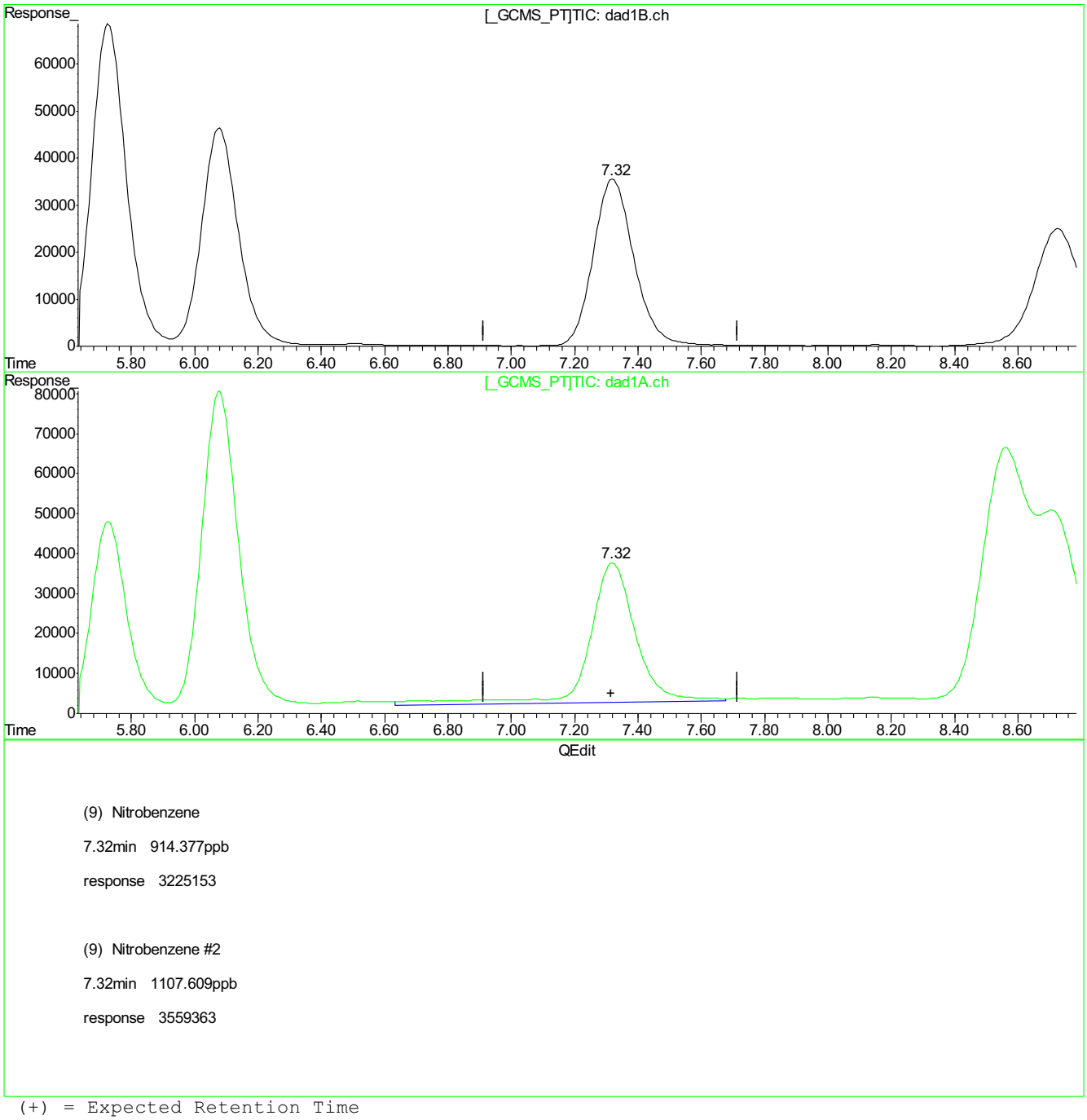
response 6344631

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:28 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 914.377ppb

response 3225153

(9) Nitrobenzene #2

7.32min 1107.609ppb

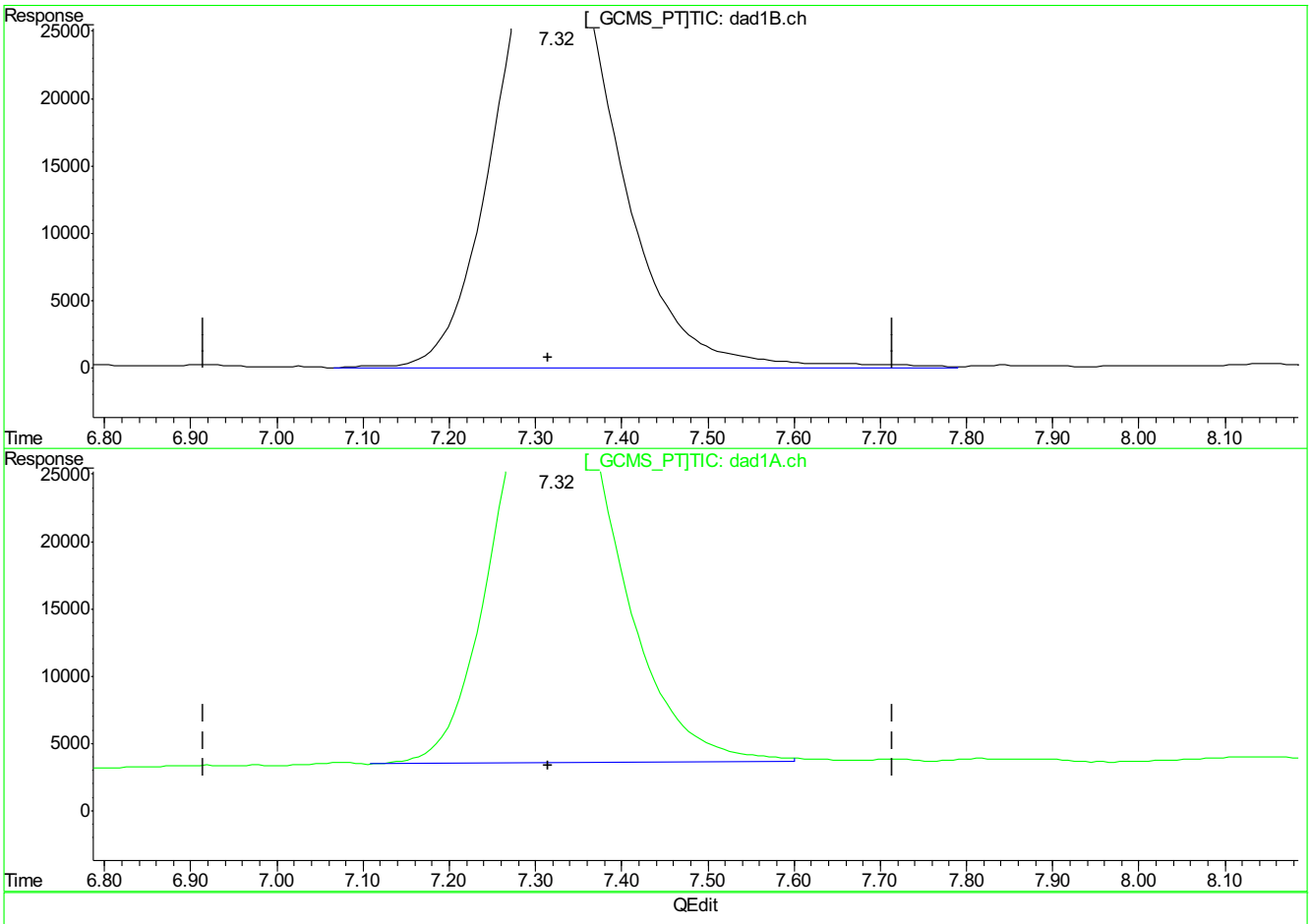
response 3559363

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:31 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.32min 914.377ppb

response 3225153

(9) Nitrobenzene #2

7.32min 943.988ppb m

response 3033559

(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:34 2017

9.5.6.7

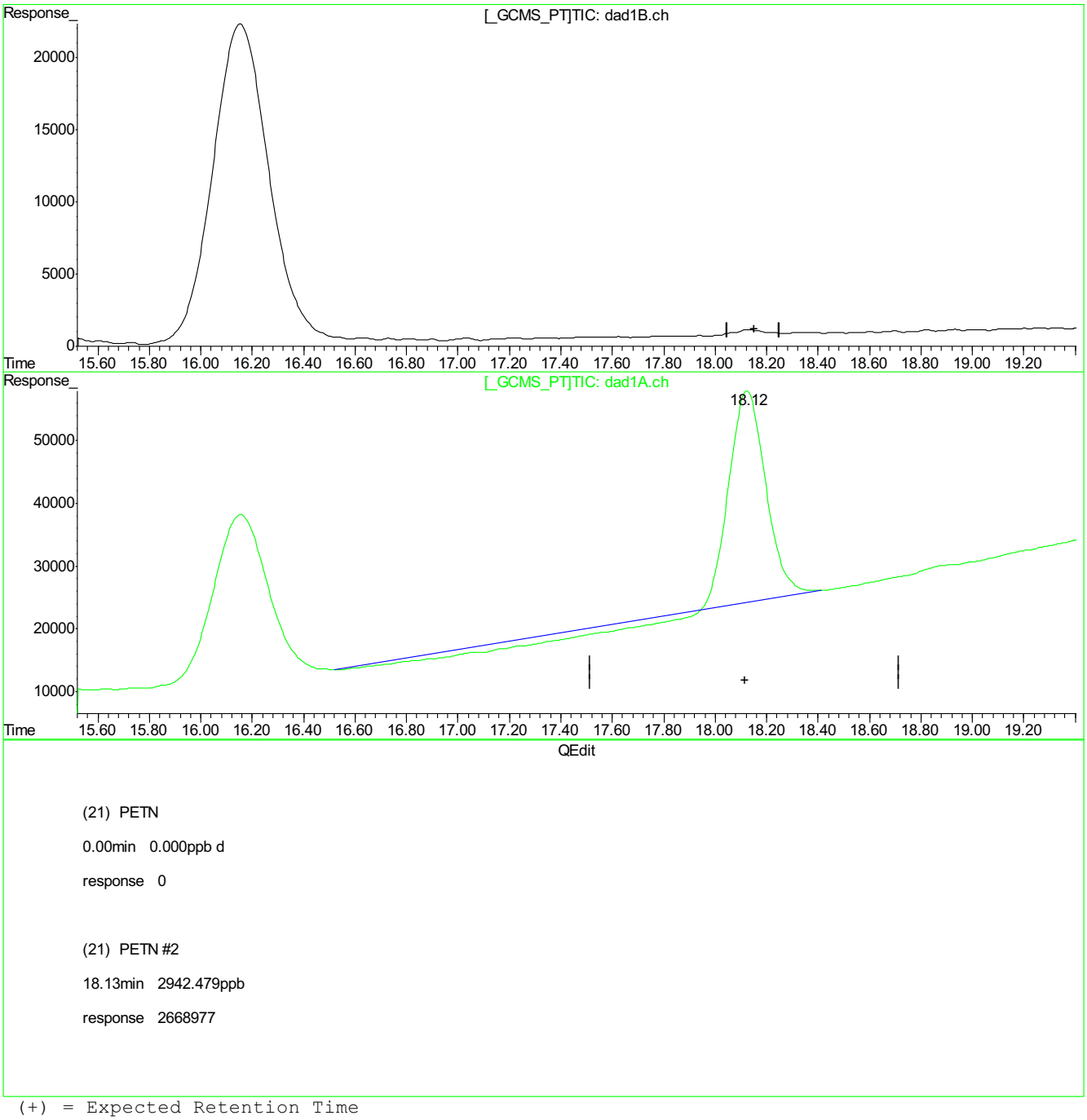
9

BB054266.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



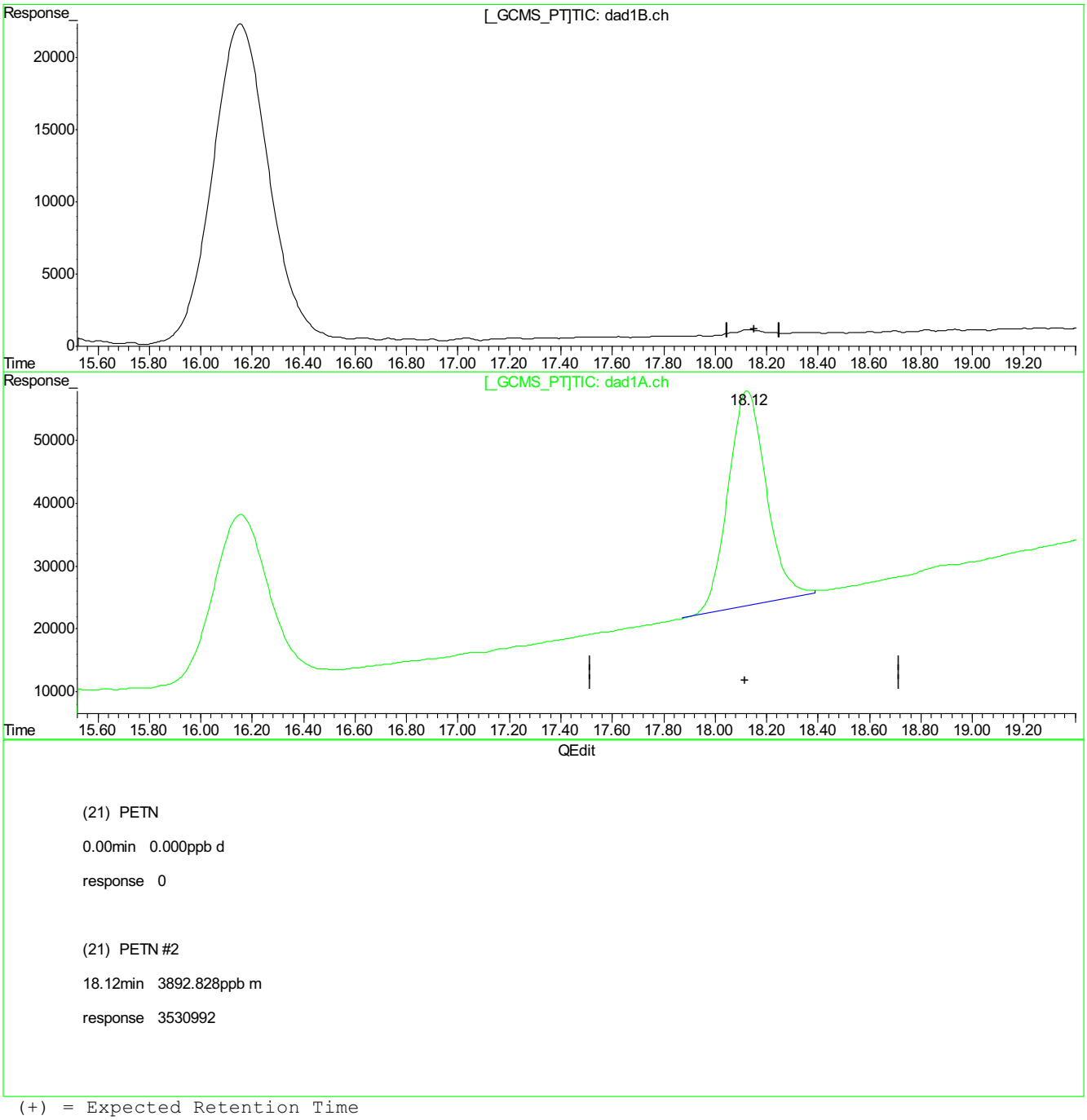
(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:42 2017

BB054266.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054266.D\dad1A.ch
Acq On : 19-Apr-2017, 12:43:36 Operator: evitam
Sample : ic1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054266.D 8330B_0419PLUS.M Wed Apr 19 15:10:45 2017

9.5.6.9

6

BB054266.D edits: PETN

BB054267.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10:57 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.30	10.29	4325266	7840609	2126.089	1795.757m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		425.22%#	359.15%#
	Target Compounds						
1)	TNX	1.36	1.36	6457308	9912235	2167.868	2054.123
2)	HMX	1.47	1.47	3306574	9077699	2095.561	2095.174
3)	DNX	1.73	1.73	5733405	9224532	2232.340	1437.456
4)	MNX	2.28	2.28	4721166	7345081	1888.203	1897.630
5)	RDX	2.85	2.85	3730274	5998197	1609.730	1799.015
6)	1,3,5-Trinitrobe	4.47	4.47	8098745	15764941	1855.429	1929.571
7)	1,3-Dinitrobenze	5.72	5.71	10628527	7281295	1921.498	1868.351m
8)	3,5-Dinitroanili	6.07	6.06	7579594	12865817	1774.526	1914.174m
9)	Nitrobenzene	7.31	7.31	6381290	6076976	1798.079	1884.425m
10)	Nitroglycerin	0.00	8.53	0	13136087	N.D.	10147.390m#
11)	Tetryl	8.70	8.68	5348765	8134840	1787.833	1784.878m
12)	2,4,6-Trinitroto	9.12	9.12	7609941	9448198	1815.094	1804.351m
13)	2-Amino-4,6-Dini	9.52	9.52	6721912	10454051	2107.216	2168.704m
14)	4-Amino-2,6-Dini	9.99	9.99	4882495	10306263	1866.951	1920.760m
16)	2,4-Dinitrotolue	10.91	10.91	9695296	6609470	1895.169	1957.333
17)	2,6-Dinitrotolue	11.40	11.40	5444384	7122447	1708.556	2033.064
18)	o-Nitrotoluene	14.63	14.63	4514616	6340648	1938.351	1985.565
19)	p-Nitrotoluene	15.16	15.16	6932134	6063959	1785.731	2049.768
20)	m-Nitrotoluene	16.13	16.13	6723461	7781743	2072.615	2255.457
21)	PETN	0.00	18.10	0	6991561	N.D. d	8686.571m

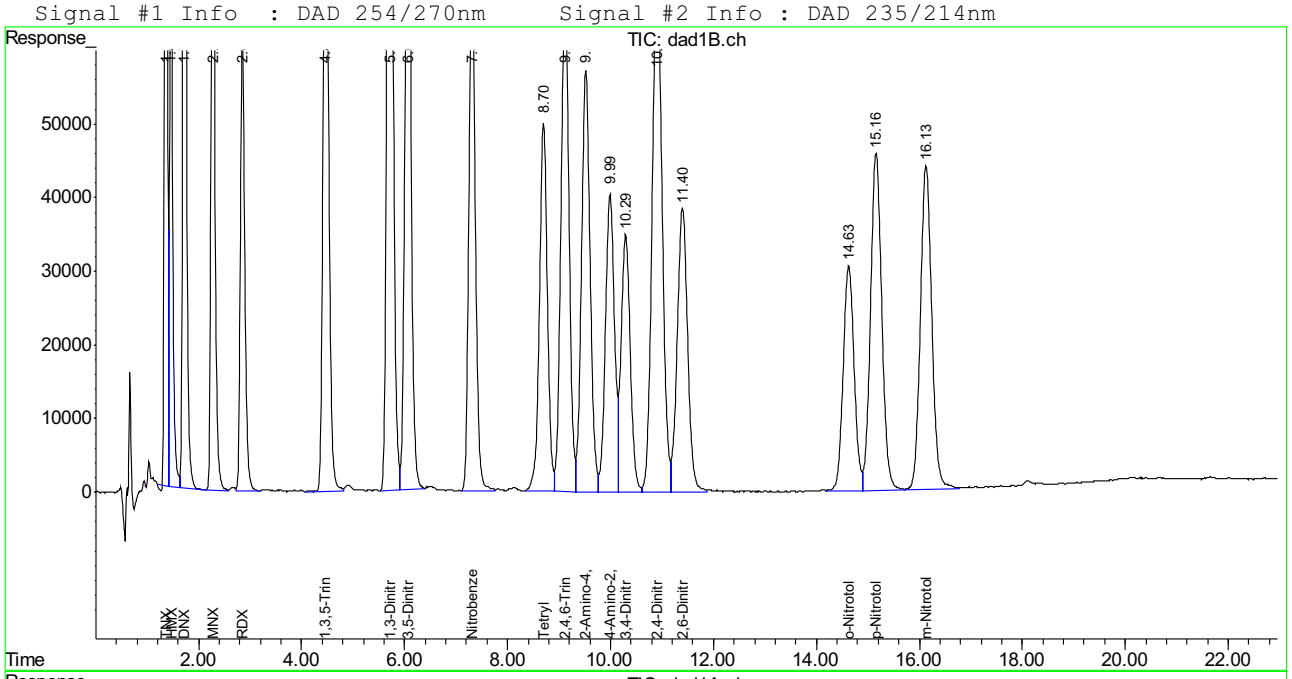
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054267.D 8330B_0419PLUS.M Thu Apr 20 11:48:56 2017 Page 1

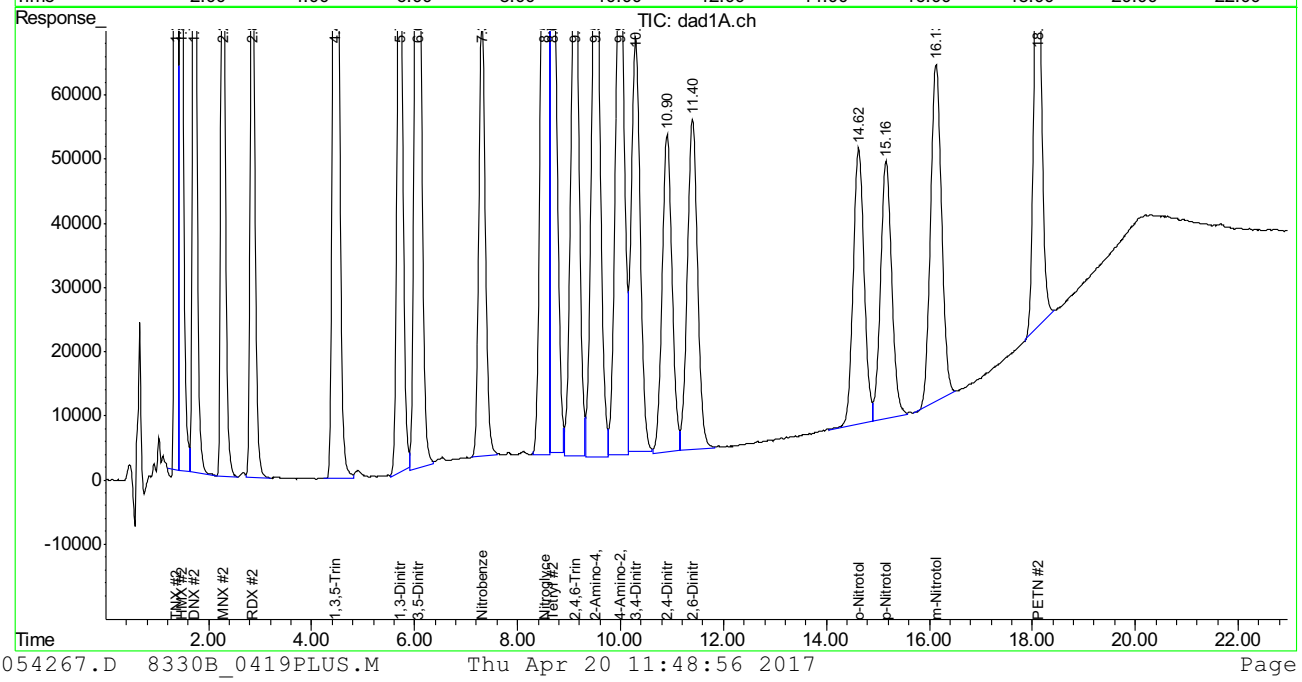
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 11:48 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

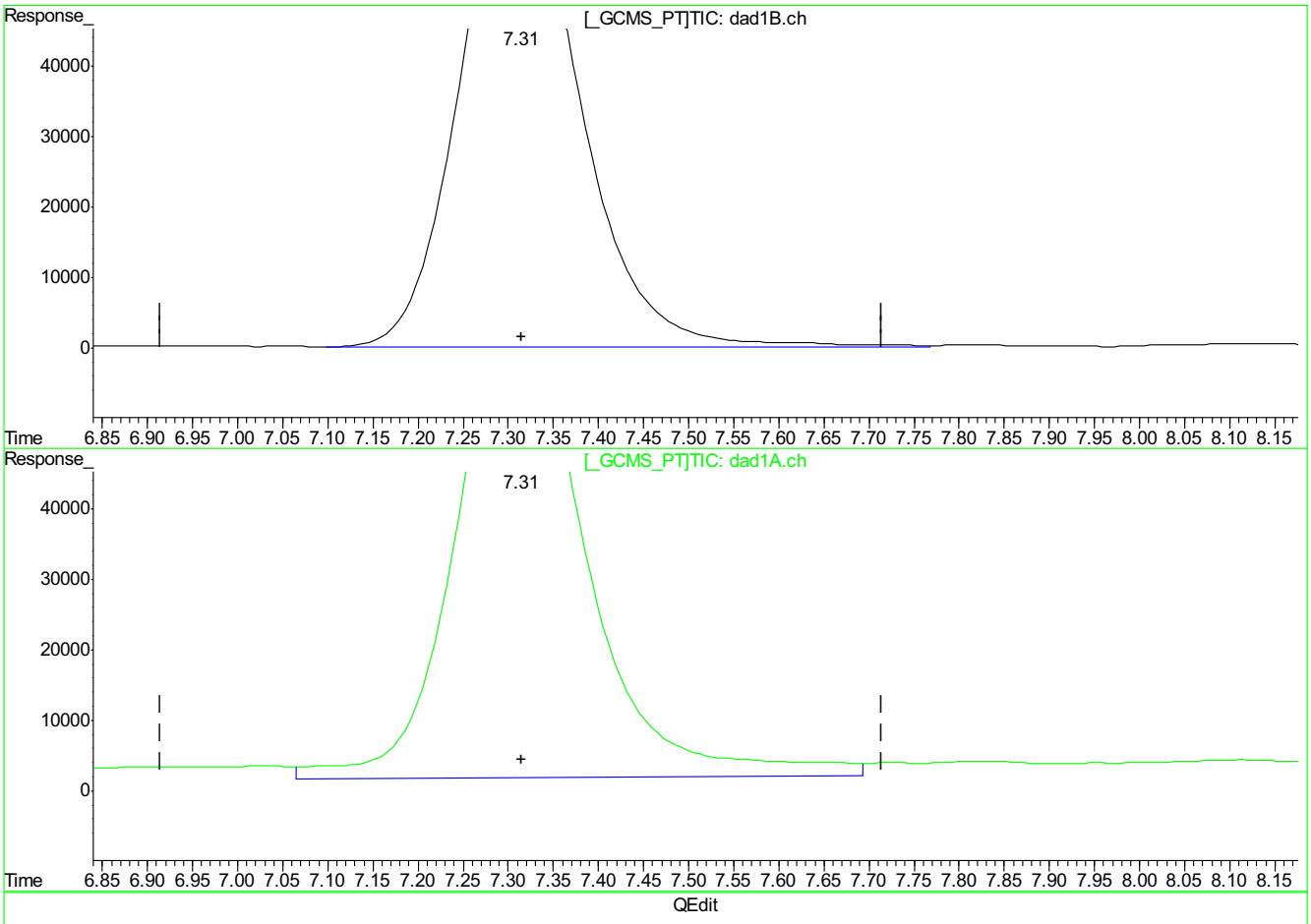
Sample Number: GBB1578-IC1578
Lab FileID: BB054267.D
Injection Time: 04/19/17 13:13
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.71	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.06	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.31	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.53	Poorly defined baseline
Tetryl	479-45-8	2	8.68	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.12	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.52	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	9.99	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.29	Poorly defined baseline
PETN	78-11-5	2	18.10	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 1798.079ppb

response 6381290

(9) Nitrobenzene #2

7.31min 2095.143ppb

response 6756508

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:07 2017

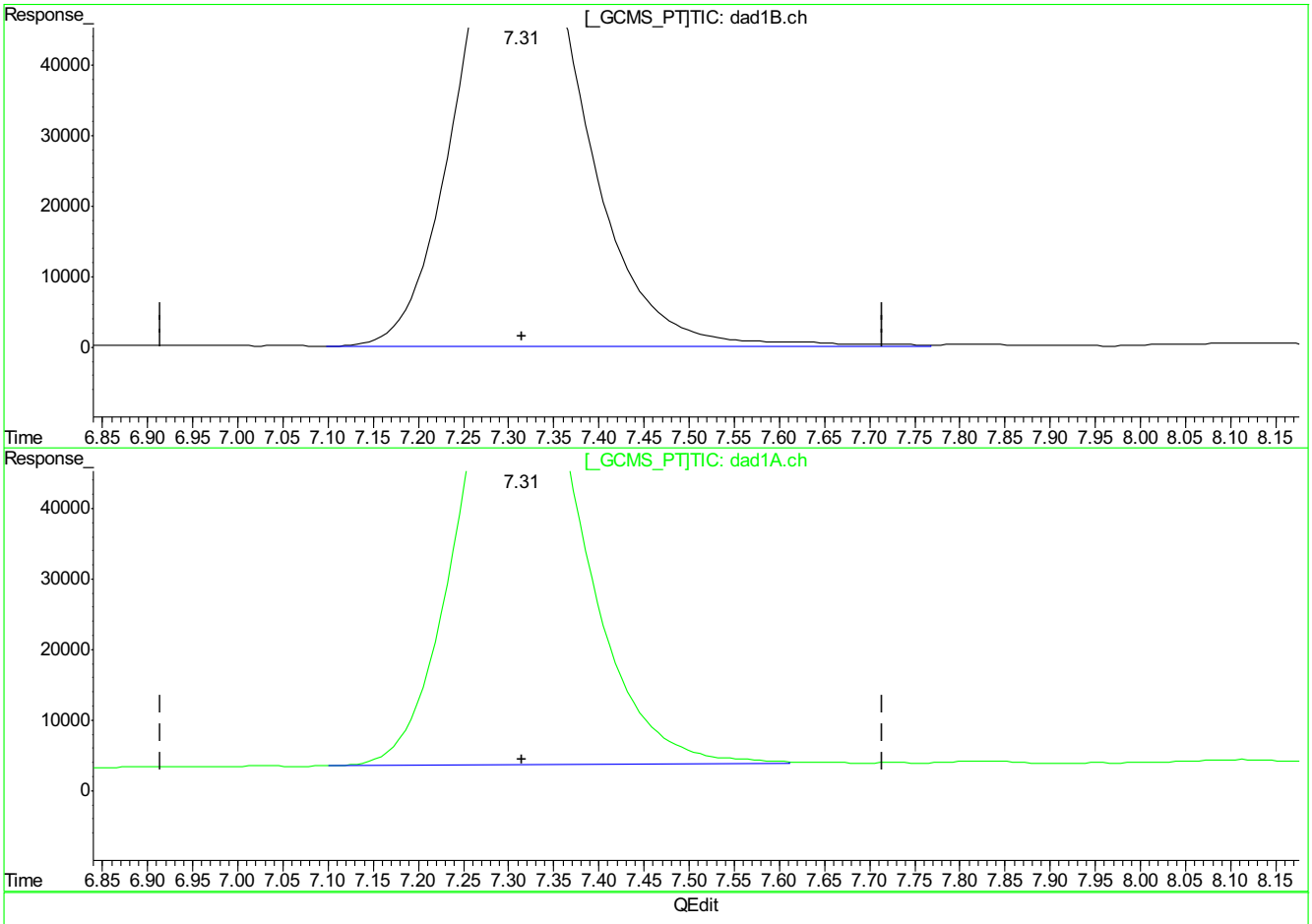
9.5.7.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 1798.079ppb

response 6381290

(9) Nitrobenzene #2

7.31min 1884.425ppb m

response 6076976

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:10 2017

9.5.7.3

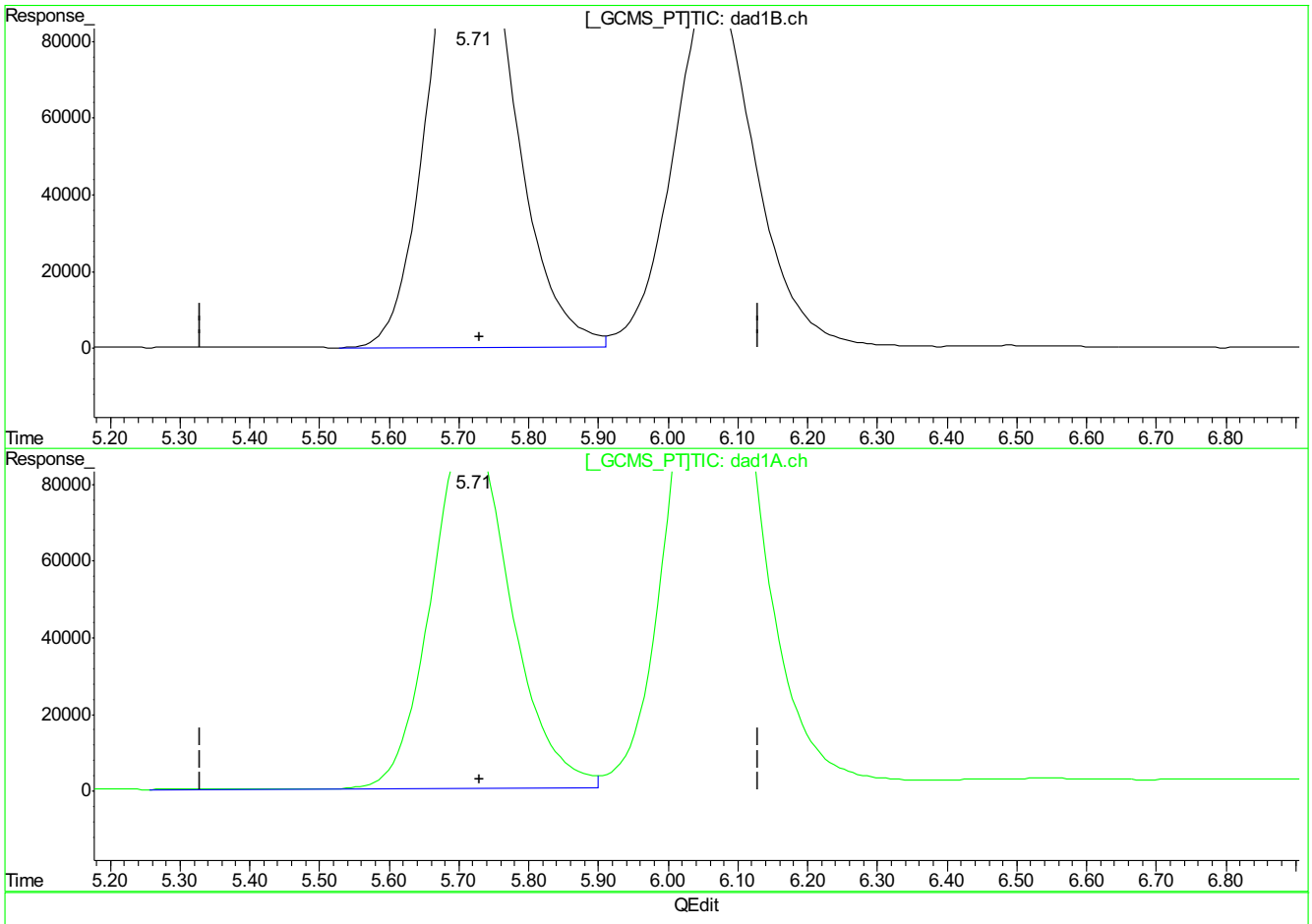
9

BB054267.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 1921.498ppb

response 10628527

(7) 1,3-Dinitrobenzene #2

5.72min 1895.742ppb

response 7388044

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:16 2017

9.5.7.4

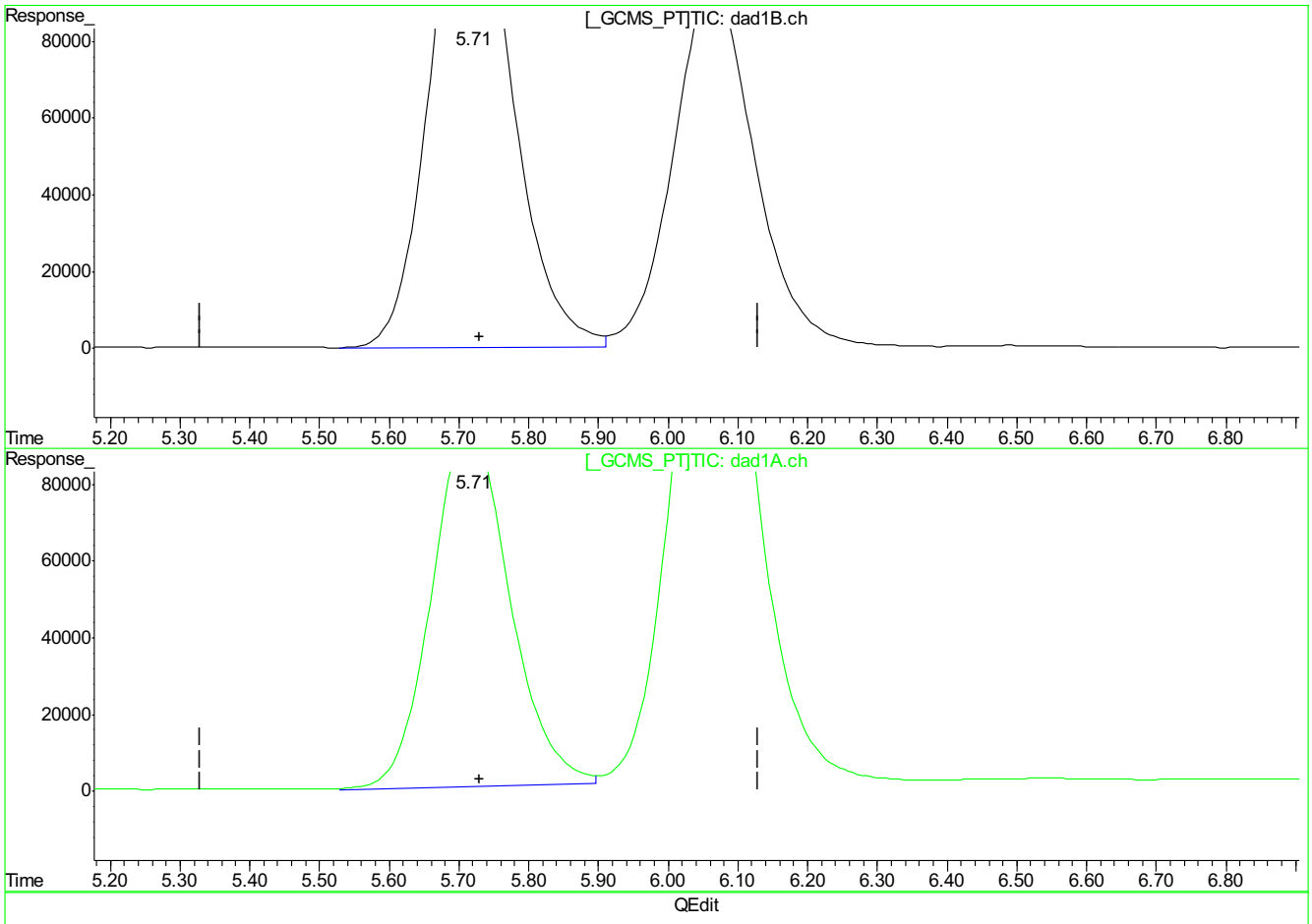
9

BB054267.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 1921.498ppb

response 10628527

(7) 1,3-Dinitrobenzene #2

5.71min 1868.351ppb m

response 7281295

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:21 2017

9.5.7.5

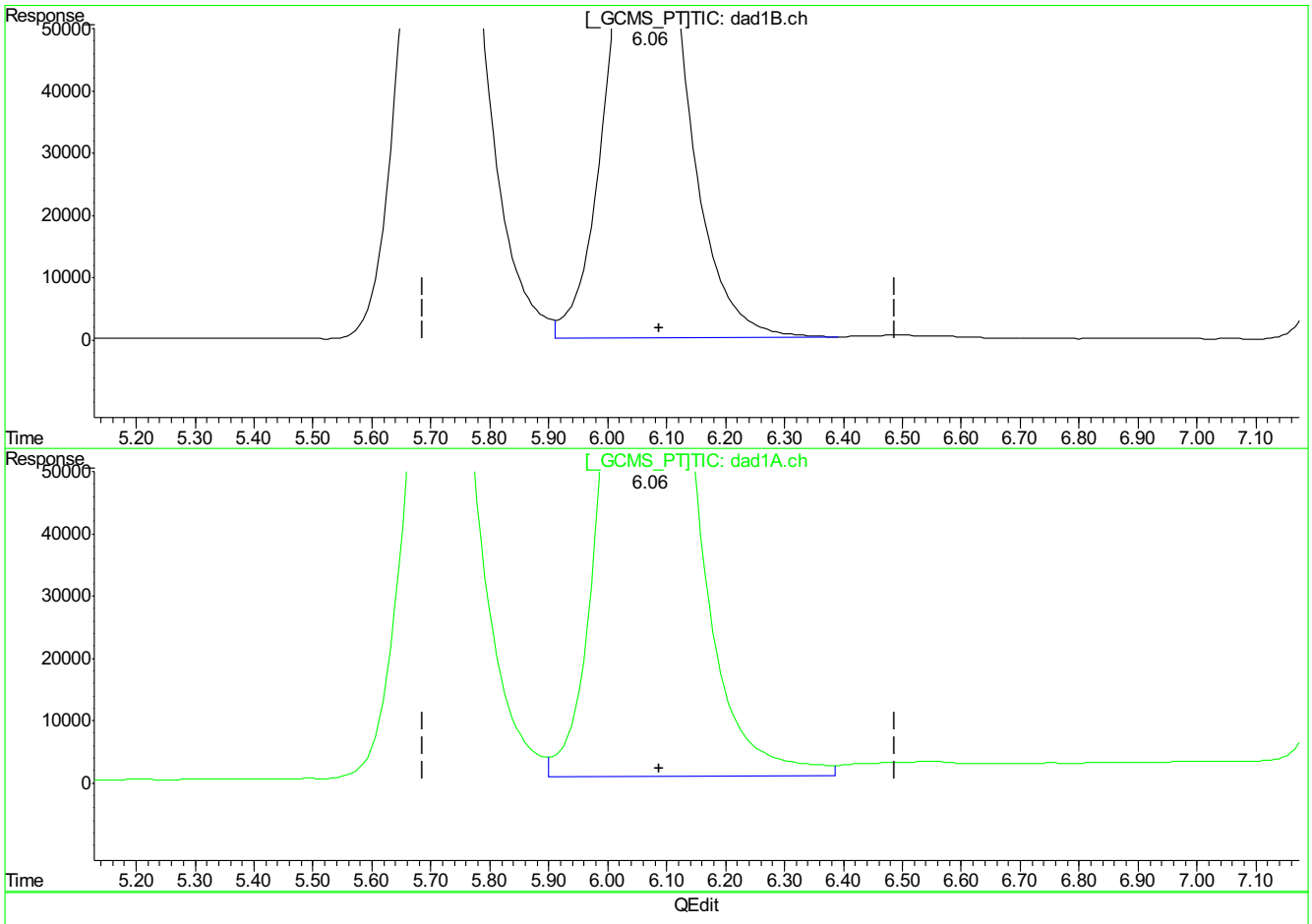
9

BB054267.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 1774.526ppb

response 7579594

(8) 3,5-Dinitroaniline #2

6.07min 1957.508ppb

response 13157082

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:24 2017

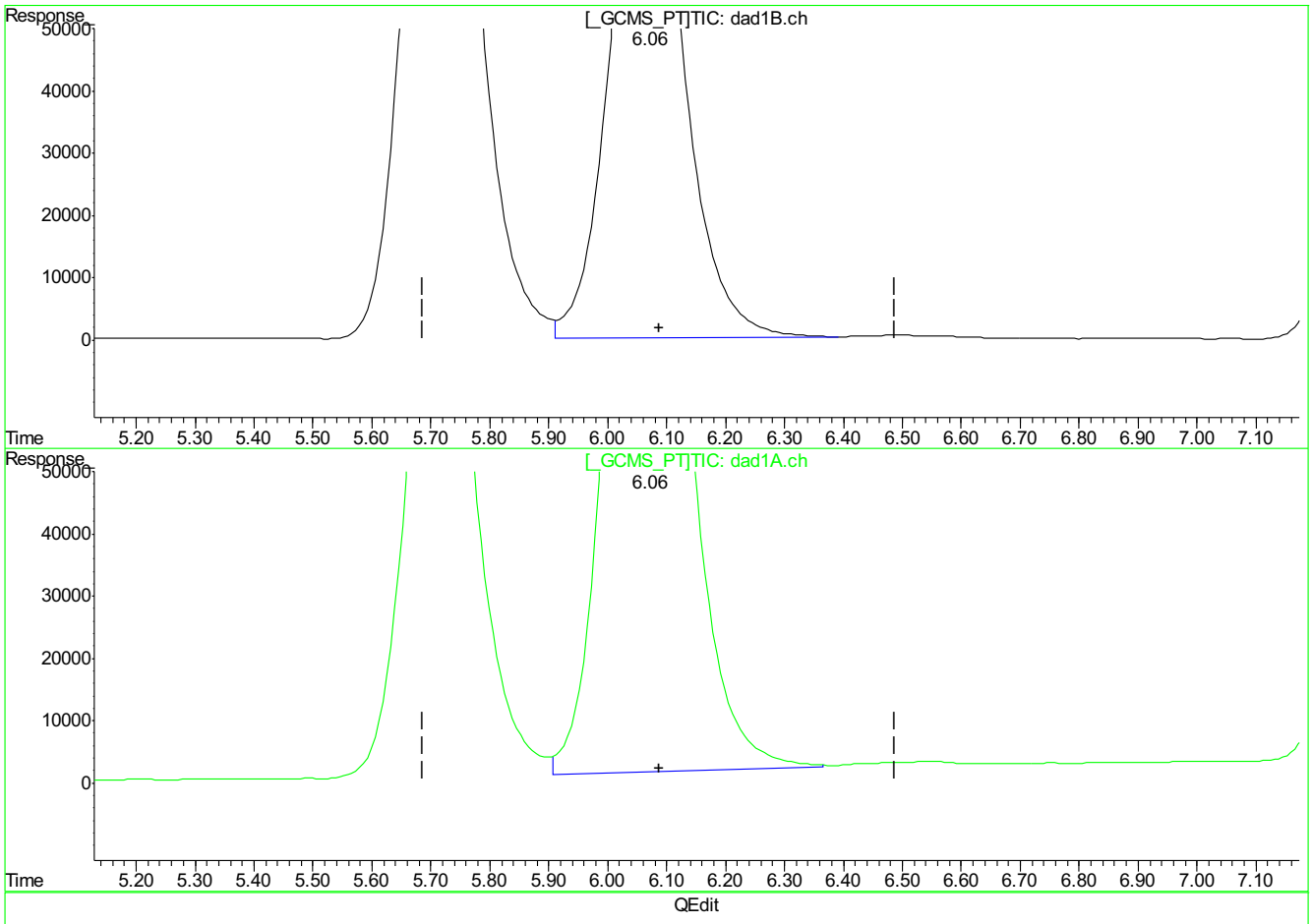
9.5.7.6

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 1774.526ppb

response 7579594

(8) 3,5-Dinitroaniline #2

6.06min 1914.174ppb m

response 12865817

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:30 2017

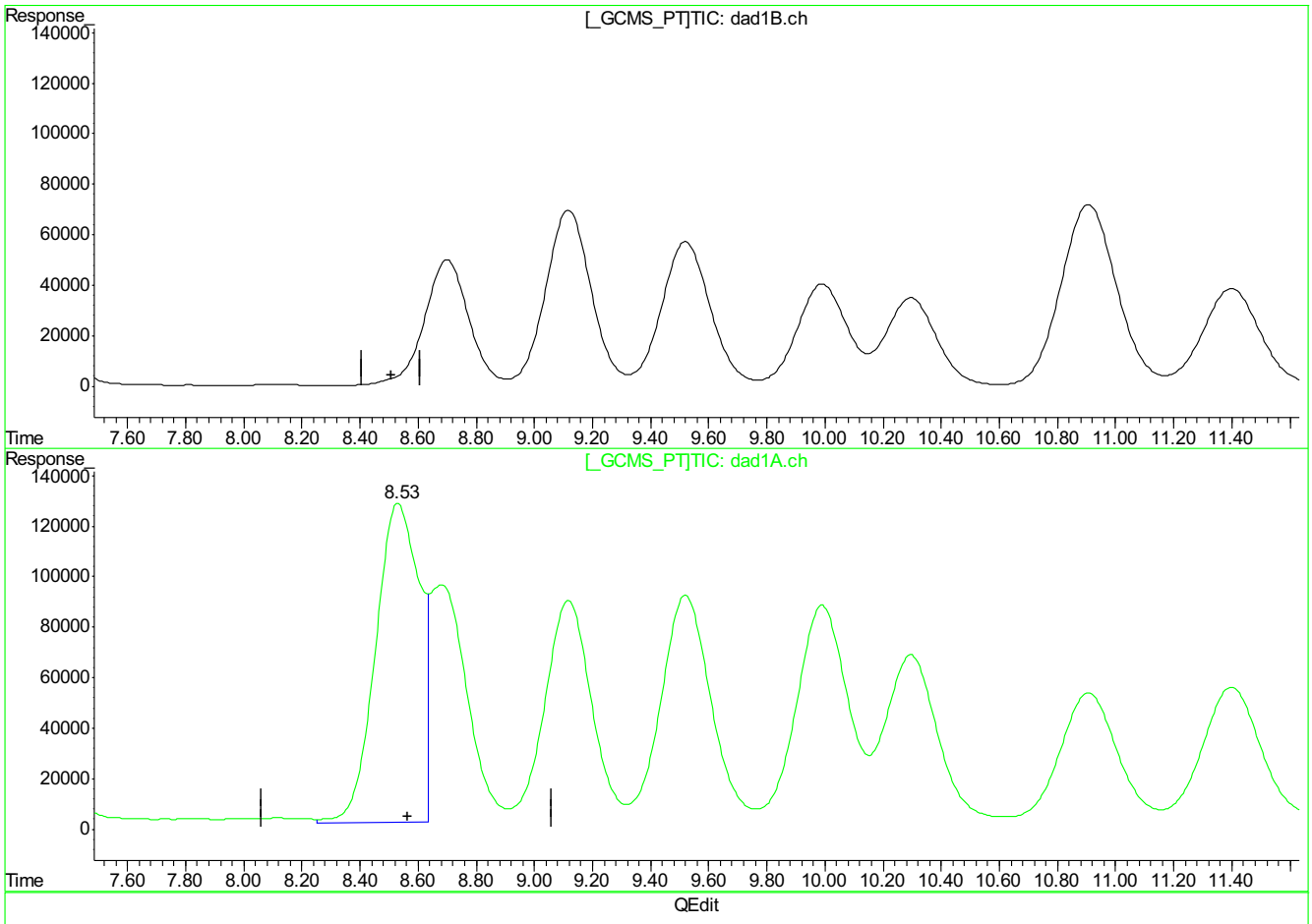
9.5.7.7

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

8.53min 10267.785ppb

response 13291941

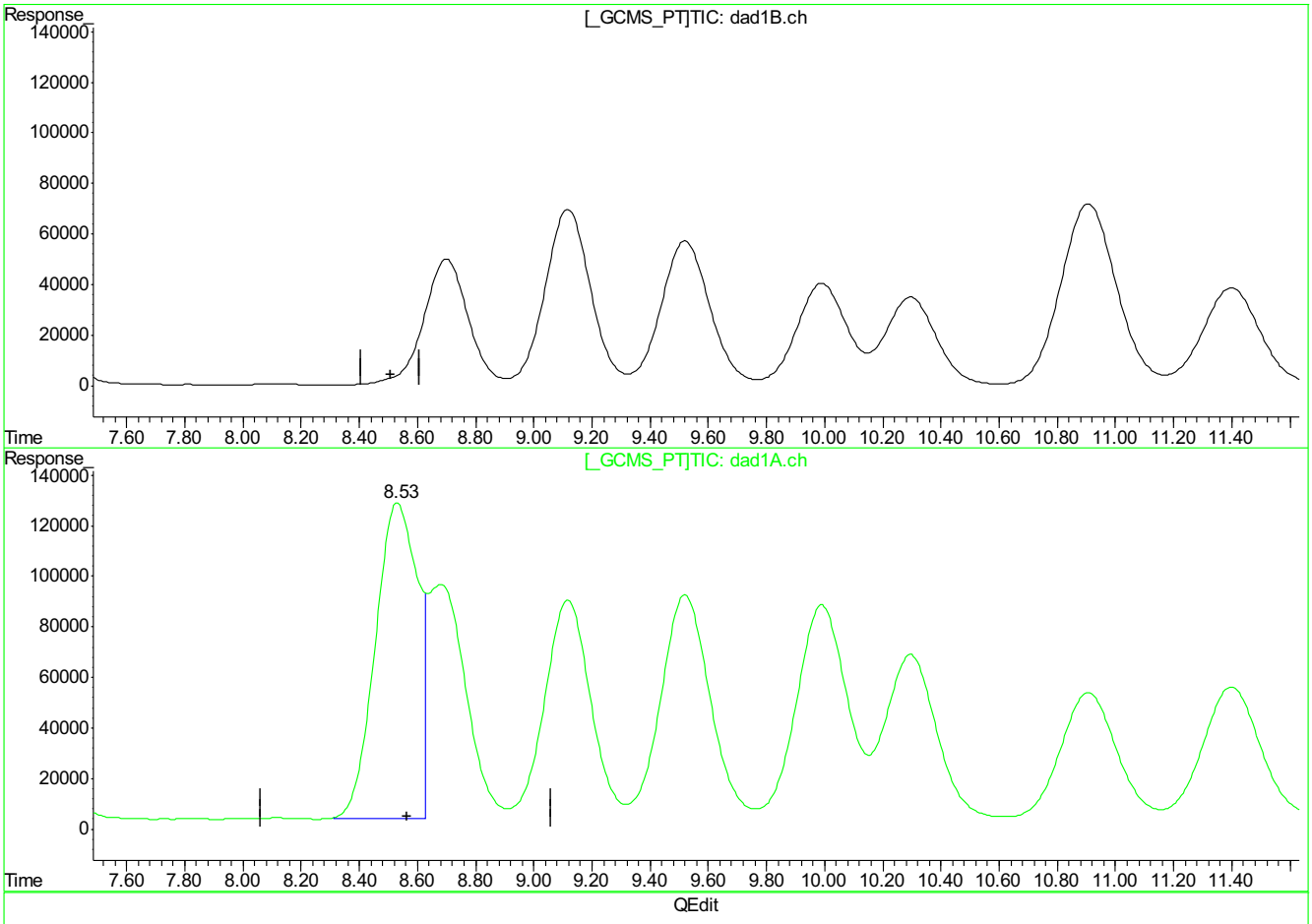
(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:40 2017

9.57.8
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

8.53min 9885.271ppb m

response 12796766

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:53 2017

9.5.7.9

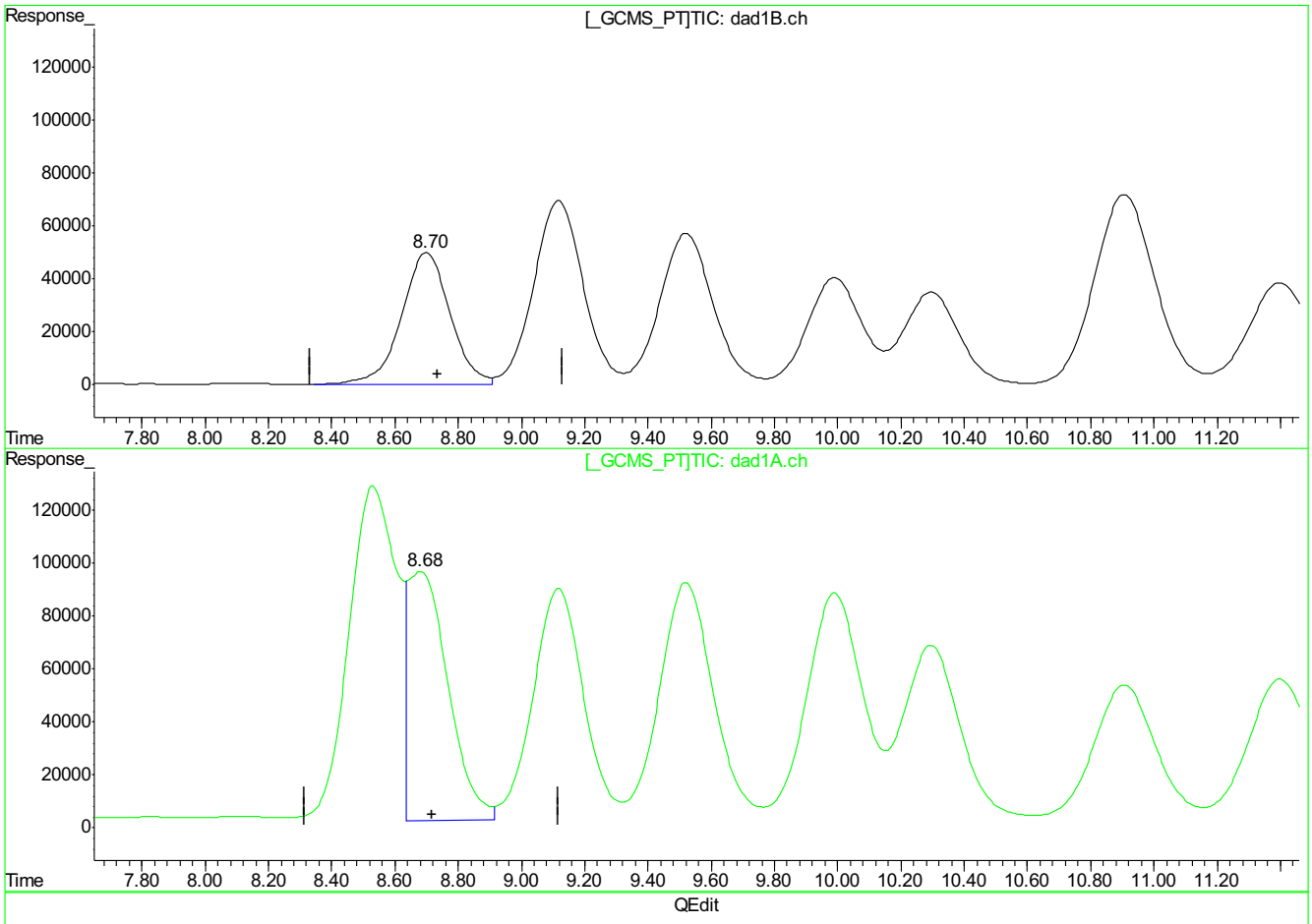
6

BB054267.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.70min 1787.833ppb

response 5348765

(11) Tetryl #2

8.68min 1838.622ppb

response 8379784

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:11:58 2017

9.5.7.10

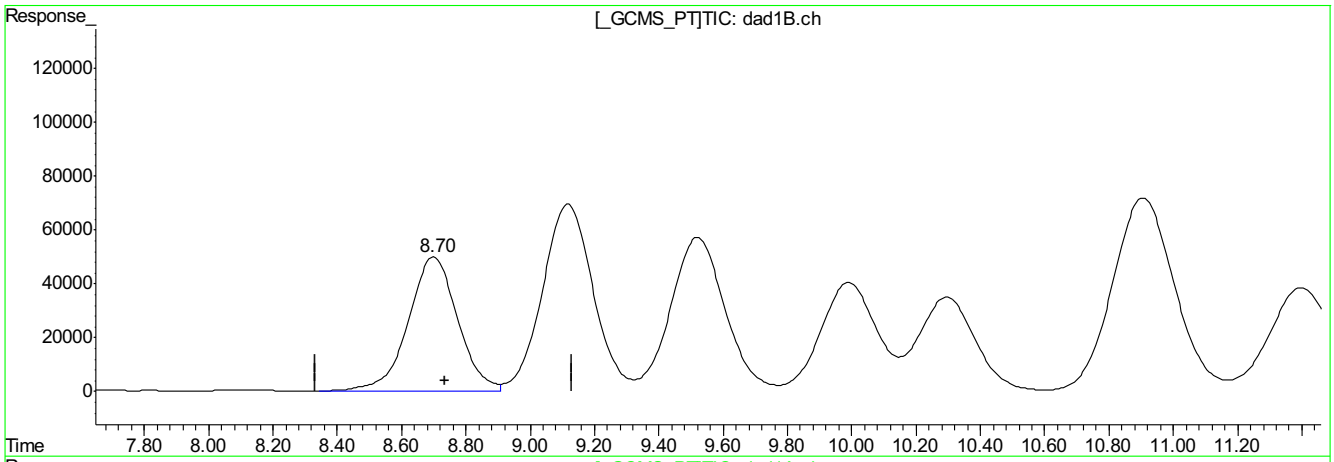
9

BB054267.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.70min 1787.833ppb

response 5348765

(11) Tetryl #2

8.68min 1717.809ppb m

response 7829164

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:29 2017

9.5.7.11

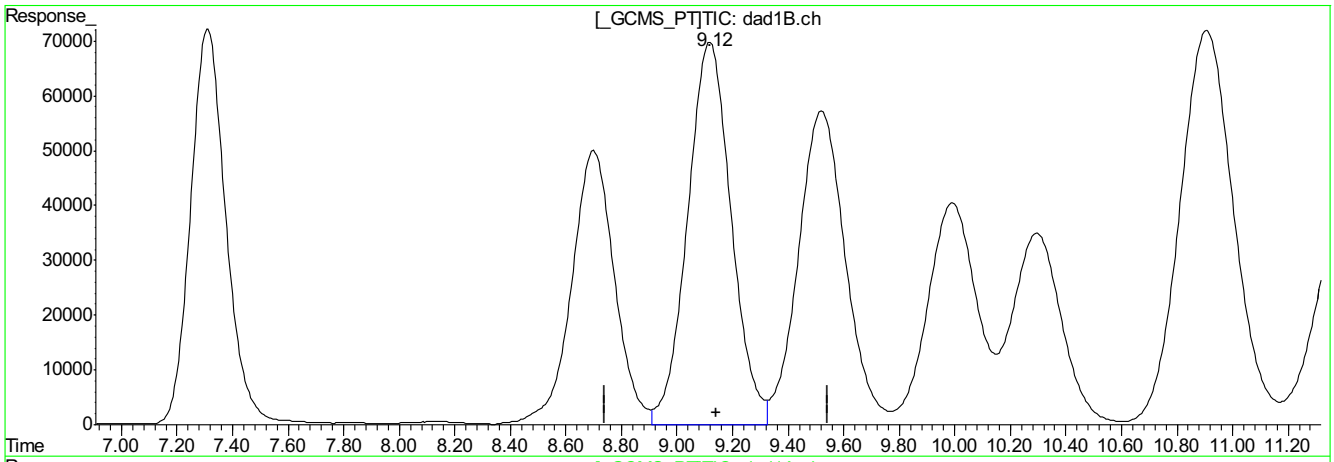
9

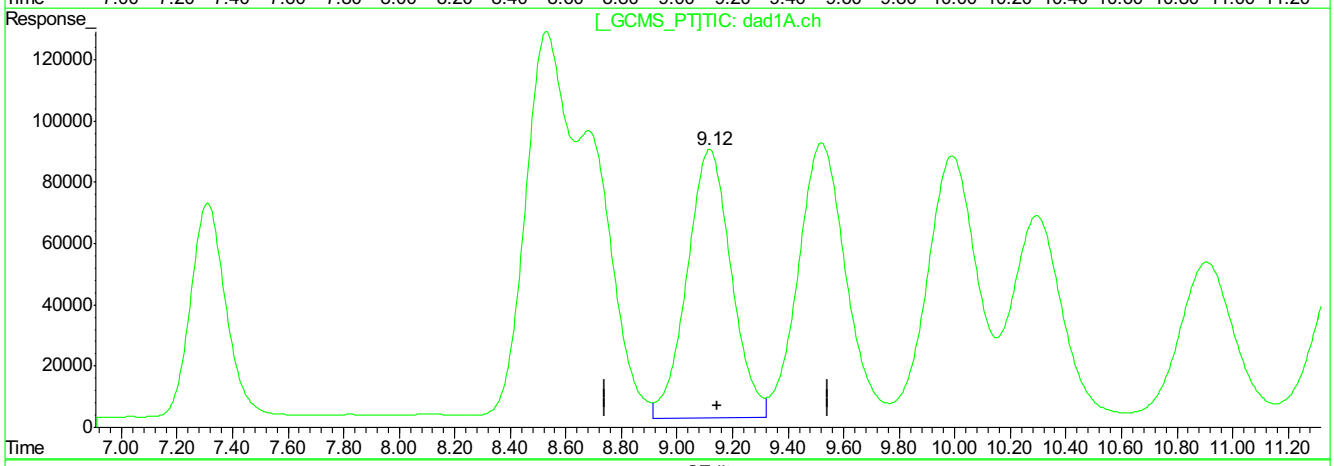
BB054267.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.12min 1815.094ppb

response 7609941

(12) 2,4,6-Trinitrotoluene #2

9.12min 1845.924ppb

response 9665889

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:32 2017

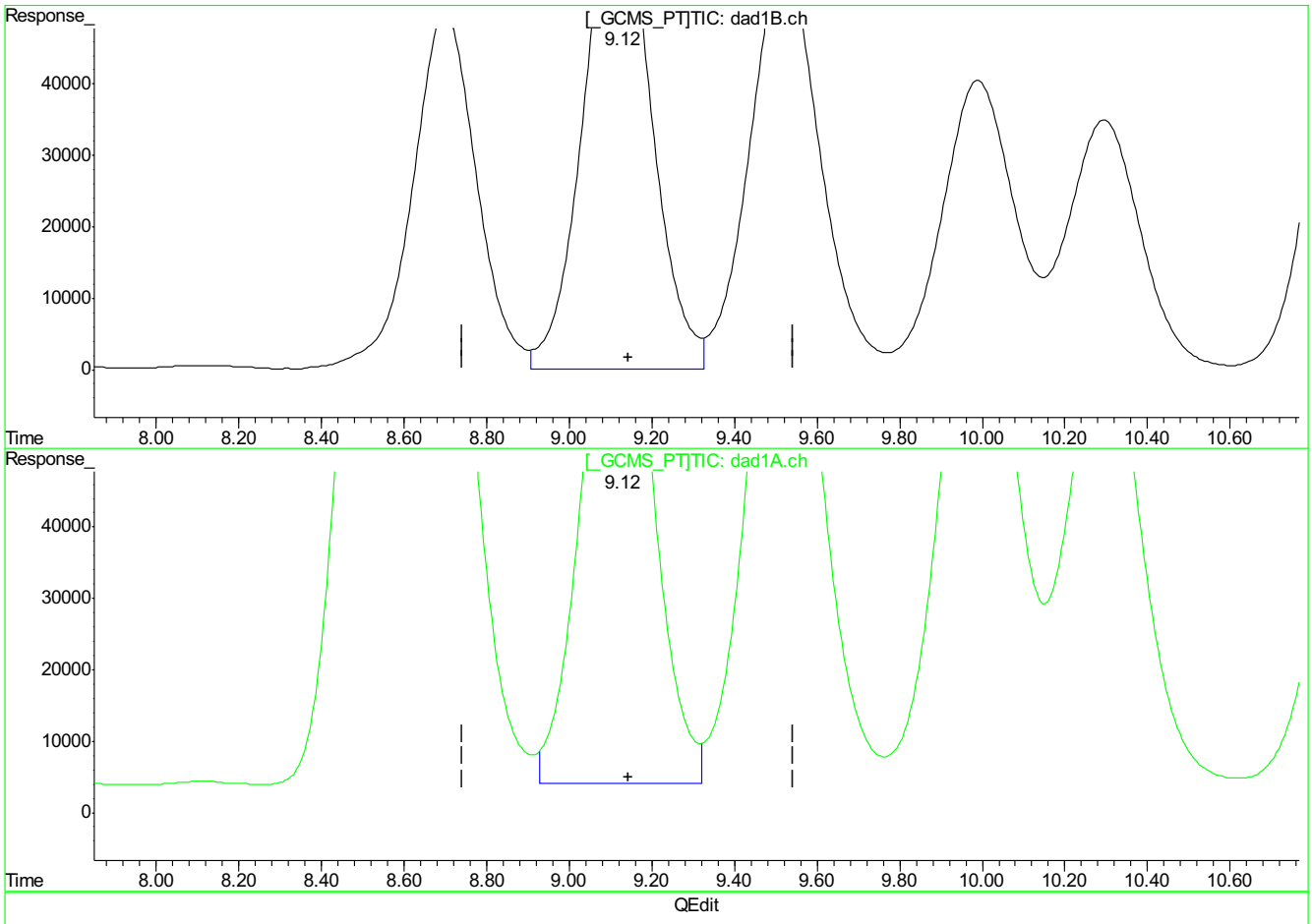
9.5.7.12
9

BB054267.D edits: 2,4,6-Trinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.12min 1815.094ppb

response 7609941

(12) 2,4,6-Trinitrotoluene #2

9.12min 1799.273ppb m

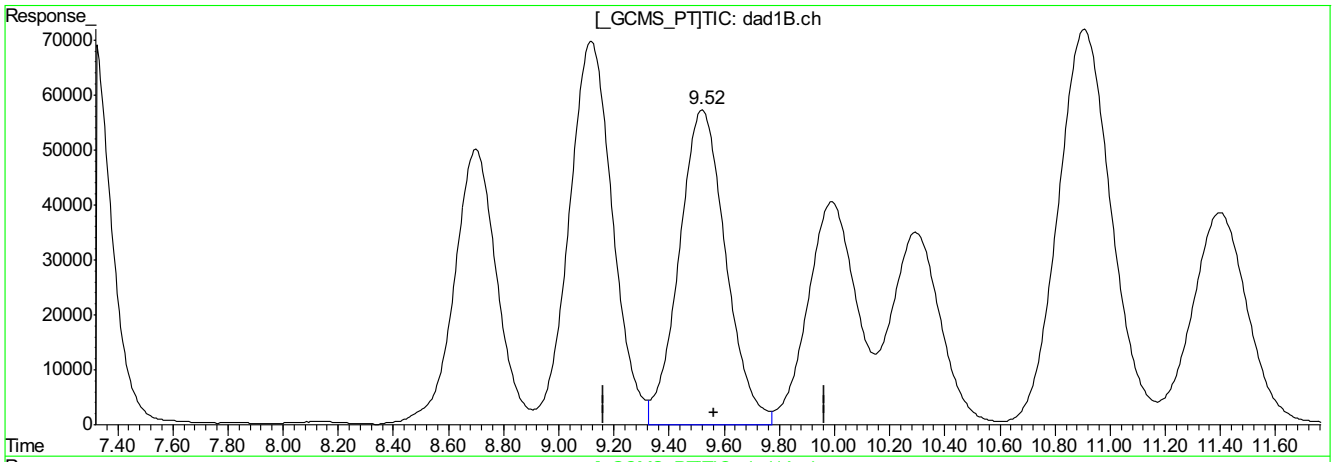
response 9421604

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.52min 2107.216ppb

response 6721912

(13) 2-Amino-4,6-Dinitrotoluene #2

9.52min 2184.464ppb

response 10523745

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:44 2017

9.5.7.14

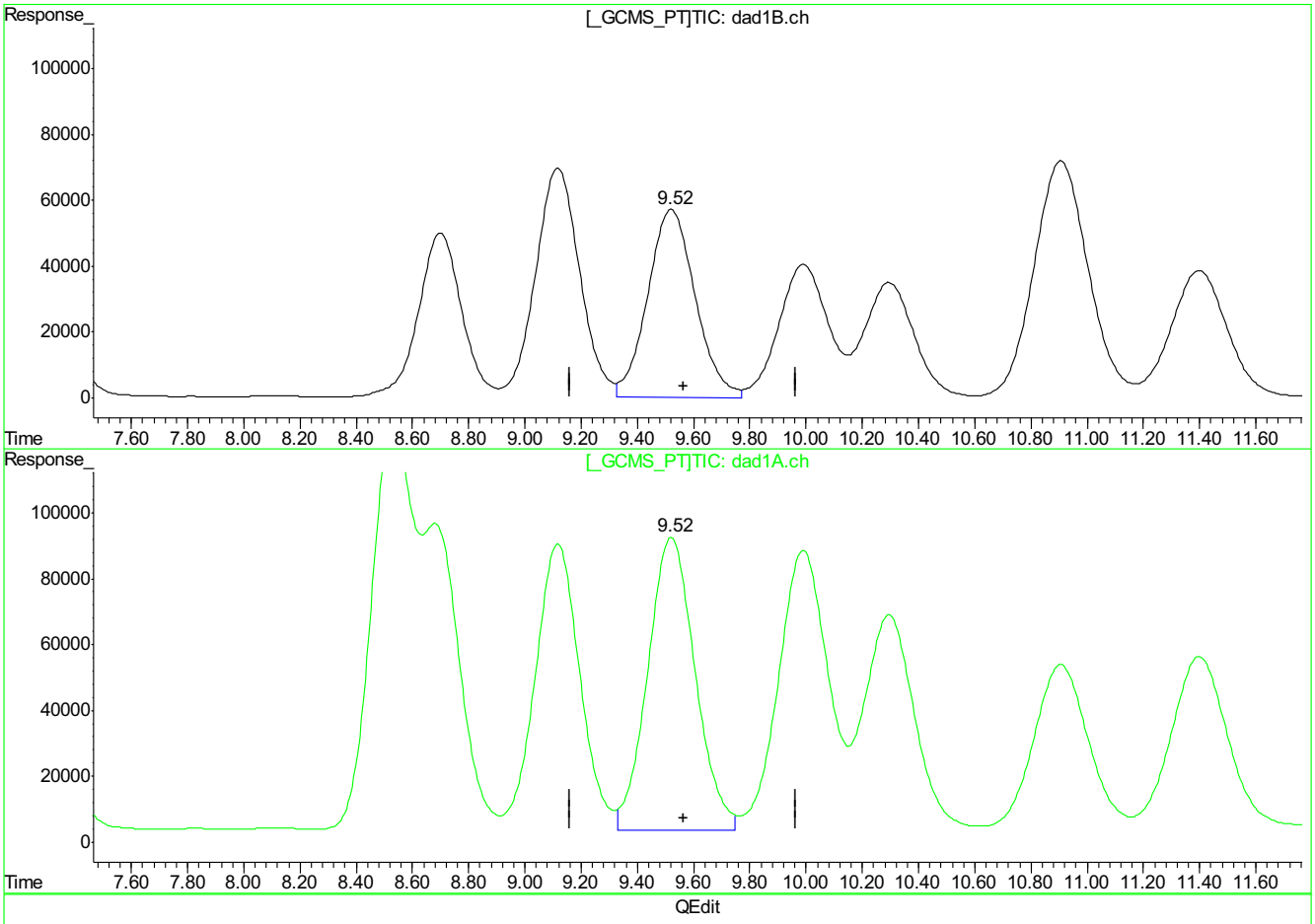
9

BB054267.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.52min 2107.216ppb

response 6721912

(13) 2-Amino-4,6-Dinitrotoluene #2

9.52min 2148.842ppb m

response 10366091

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:51 2017

9.5.7.15

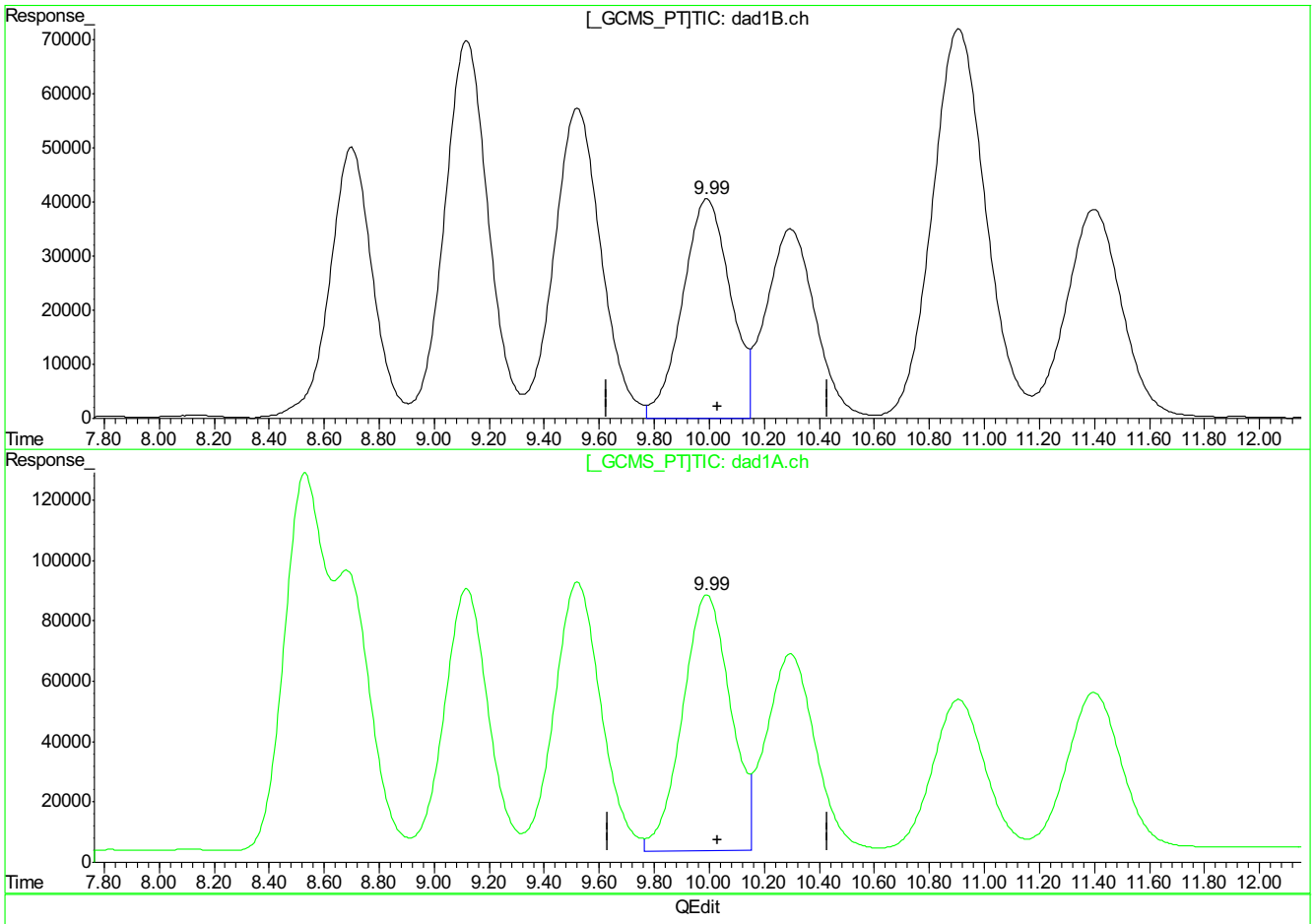
9

BB054267.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:13:34                    Operator: evitam
Sample    : ic1578-2000                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration
```



(14) 4-Amino-2,6-Dinitrotoluene

9.99min 1866.951ppb

response 4882495

(14) 4-Amino-2,6-Dinitrotoluene #2

9.99min 1917.513ppb

response 10288838

(+) = Expected Retention Time

BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:12:55 2017

9.5.7.16

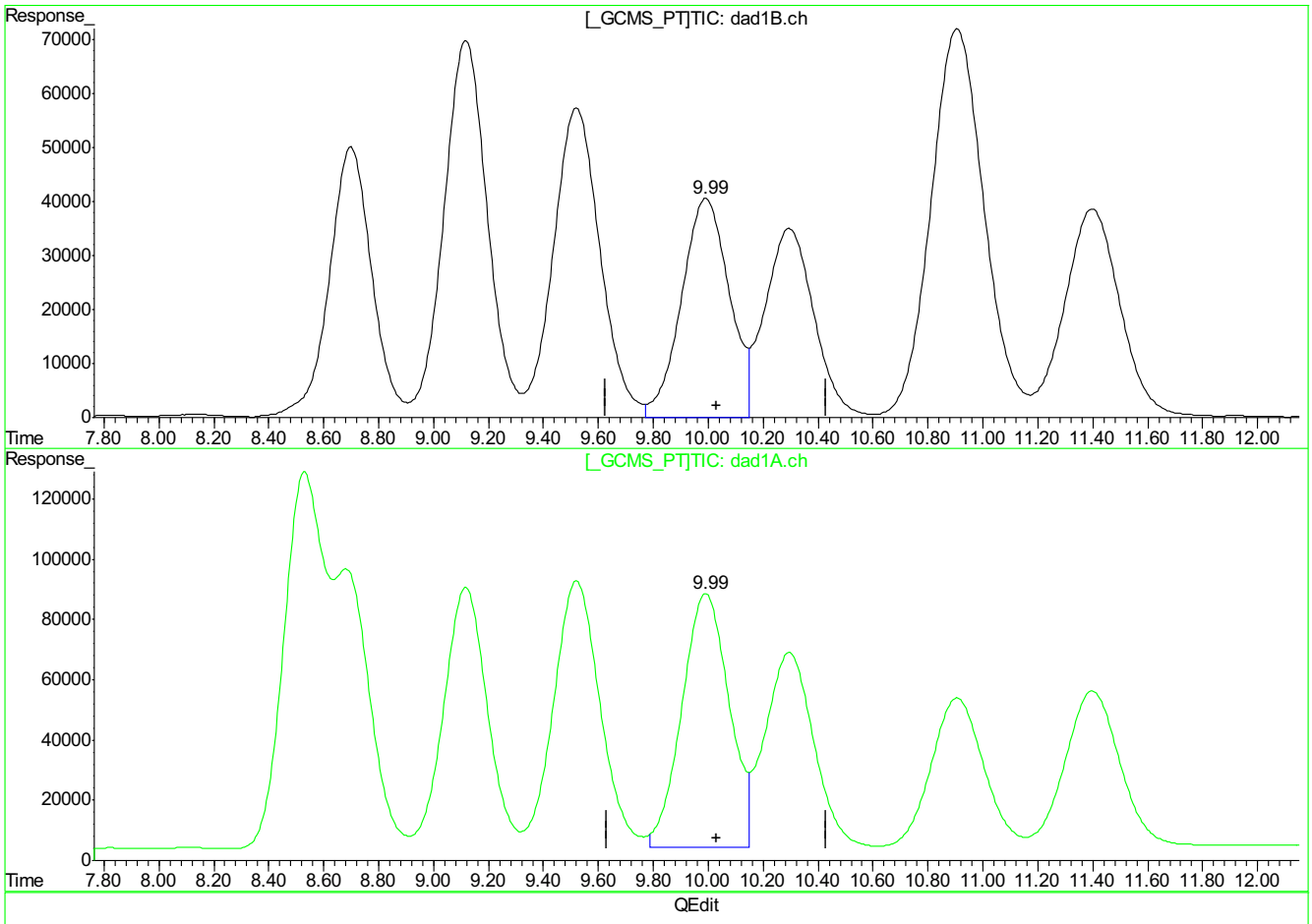
9

BB054267.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

9.99min 1866.951ppb

response 4882495

(14) 4-Amino-2,6-Dinitrotoluene #2

9.99min 1865.767ppb m

response 10011189

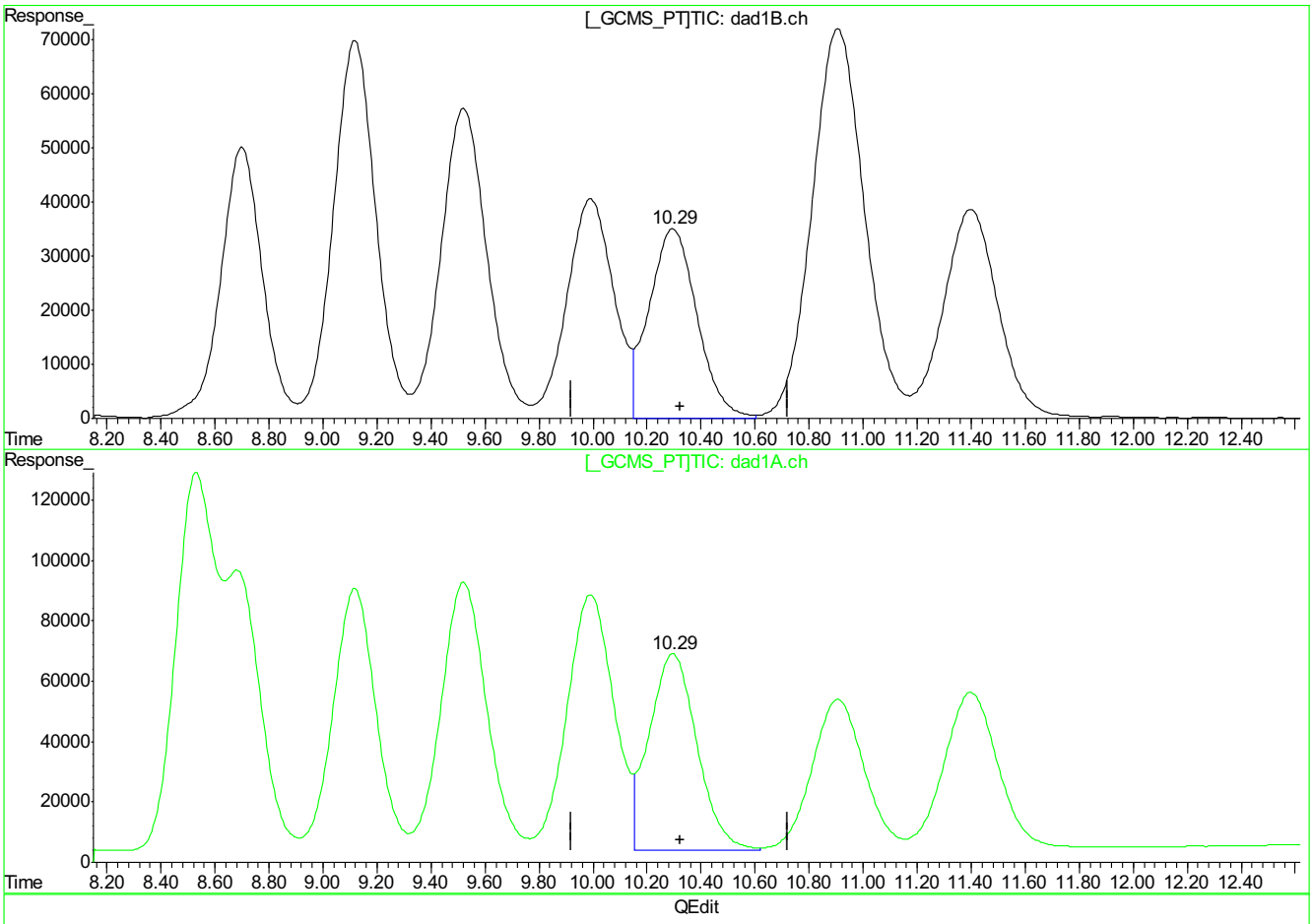
(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:22 2017

9.5.17
6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.30min 2126.089ppb

response 4325266

(15) 3,4-Dinitrotoluene #2 (S)

10.30min 1838.499ppb

response 8027228

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:25 2017

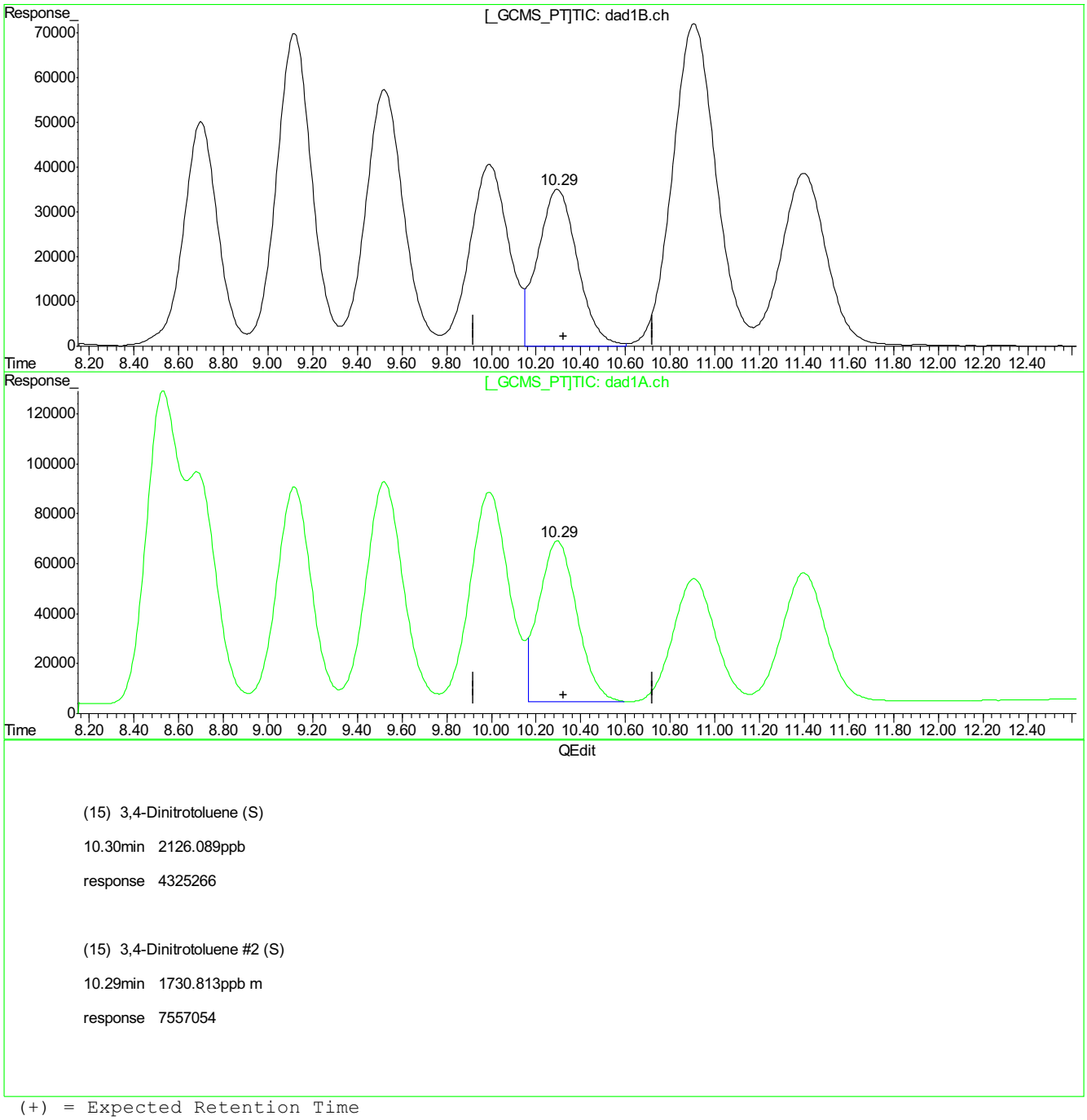
9.5.7.18

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.30min 2126.089ppb

response 4325266

(15) 3,4-Dinitrotoluene #2 (S)

10.29min 1730.813ppb m

response 7557054

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:47 2017

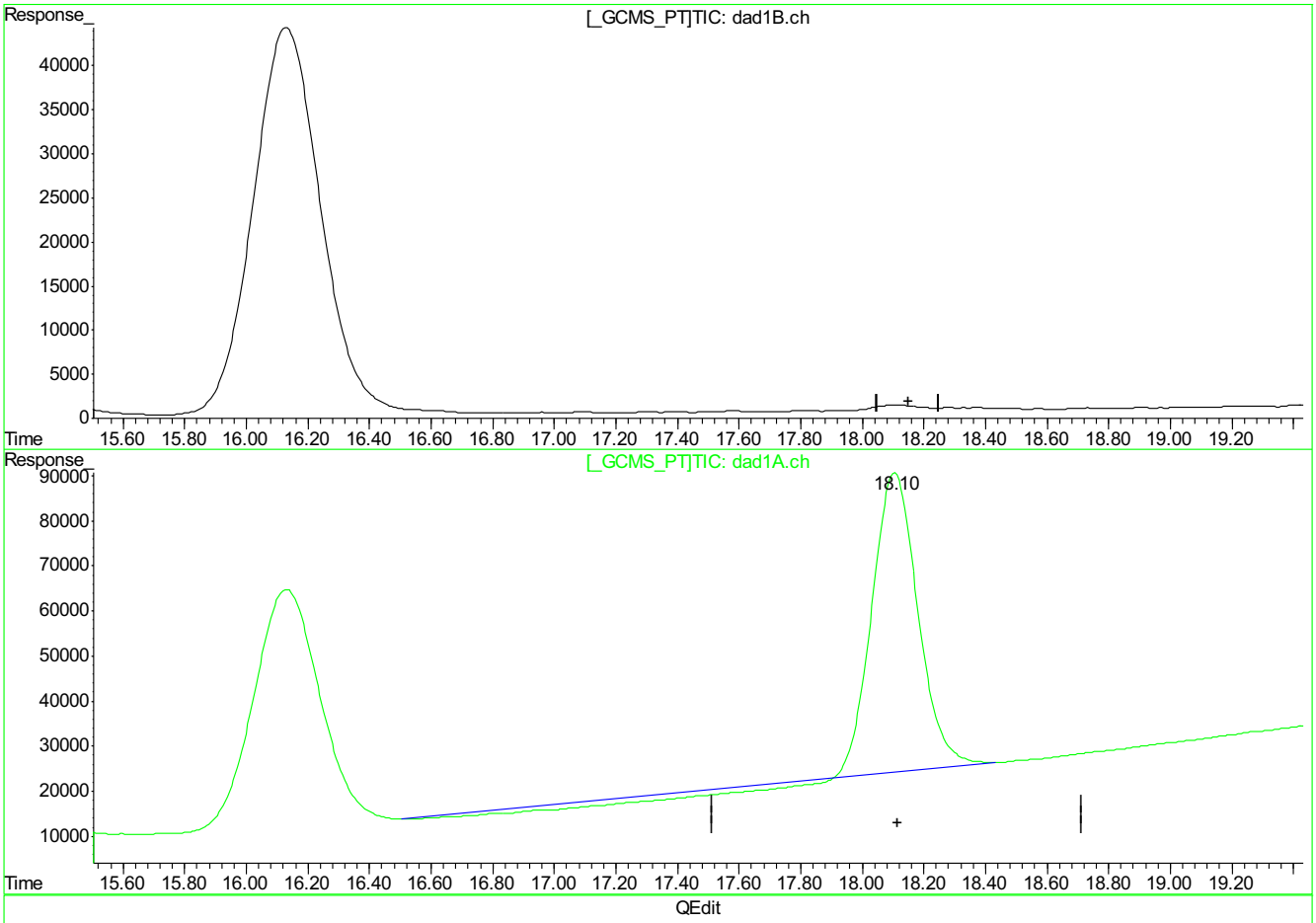
9.5.7.19

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.11min 7505.284ppb

response 6040779

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:52 2017

9.5.7.20

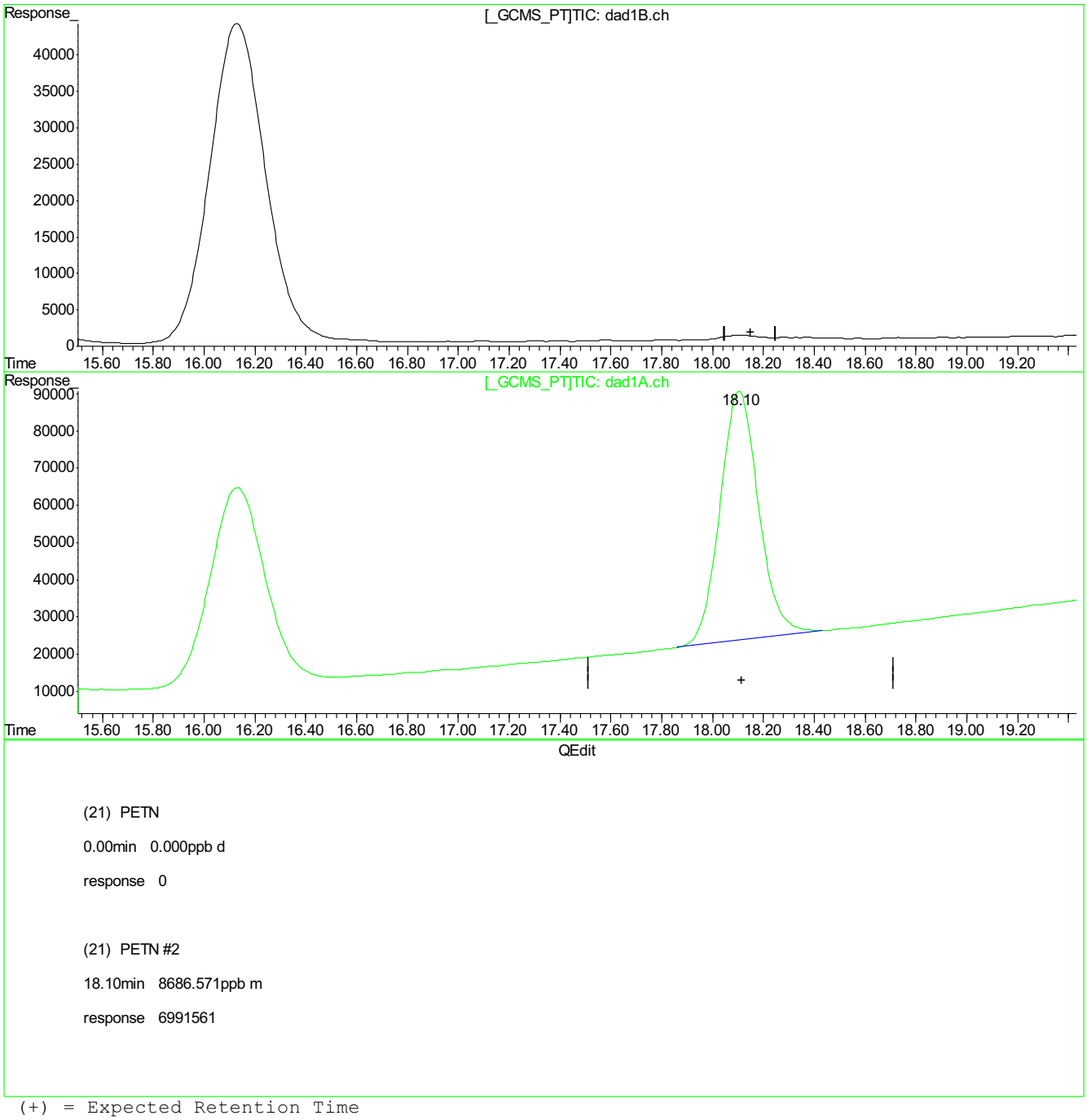
9

BB054267.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054267.D\dad1A.ch
Acq On : 19-Apr-2017, 13:13:34 Operator: evitam
Sample : ic1578-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:10 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:10:52 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.10min 8686.571ppb m

response 6991561

(+) = Expected Retention Time
BB054267.D 8330B_0419PLUS.M Wed Apr 19 15:13:55 2017

9.5.7.21

9

BB054267.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/17 15:17

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:23:21 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
Spiked Amount	500.000	Range	69 - 134	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.35	1.35	1573327	2468613	521.944	509.603
2)	HMX	1.47	1.47	855649	2401389	489.877	500.124
3)	DNX	1.72	1.72	1387437	2294746	445.642	486.589
4)	MNX	2.27	2.27	1191573	1848206	480.399	481.008
5)	RDX	2.85	2.85	931275	1477807	493.289	449.689
6)	1,3,5-Trinitrobe	4.47	4.47	1954736	3724630	452.504	458.186
7)	1,3-Dinitrobenze	5.72	5.72	2395545	1621707	435.525	420.074m
8)	3,5-Dinitroanili	6.07	6.07	1969943	3317690	527.203	496.650m
9)	Nitrobenzene	7.31	7.31	1565716	1515247	447.634	473.778m
10)	Nitroglycerin	0.00	8.56	0	3517988	N.D. d	2722.043m
11)	Tetryl	8.72	8.68	1296223	1668445	488.373	417.239m
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	9.53	9.53	1644535	2463417	454.444	454.703m
14)	4-Amino-2,6-Dini	10.01	10.00	1202460	2430705	464.204	457.392m
16)	2,4-Dinitrotolue	10.92	10.92	2291396	1498689	451.285	445.180
17)	2,6-Dinitrotolue	11.42	11.42	1343935	1701511	430.720	484.543
18)	o-Nitrotoluene	14.64	14.64	1134148	1631211	489.100	503.018
19)	p-Nitrotoluene	15.17	15.17	1707771	1495468	486.251	503.715
20)	m-Nitrotoluene	16.14	16.14	1634372	1766479	453.753	502.820
21)	PETN	0.00	18.11	0	3872883	N.D. d	5459.730m

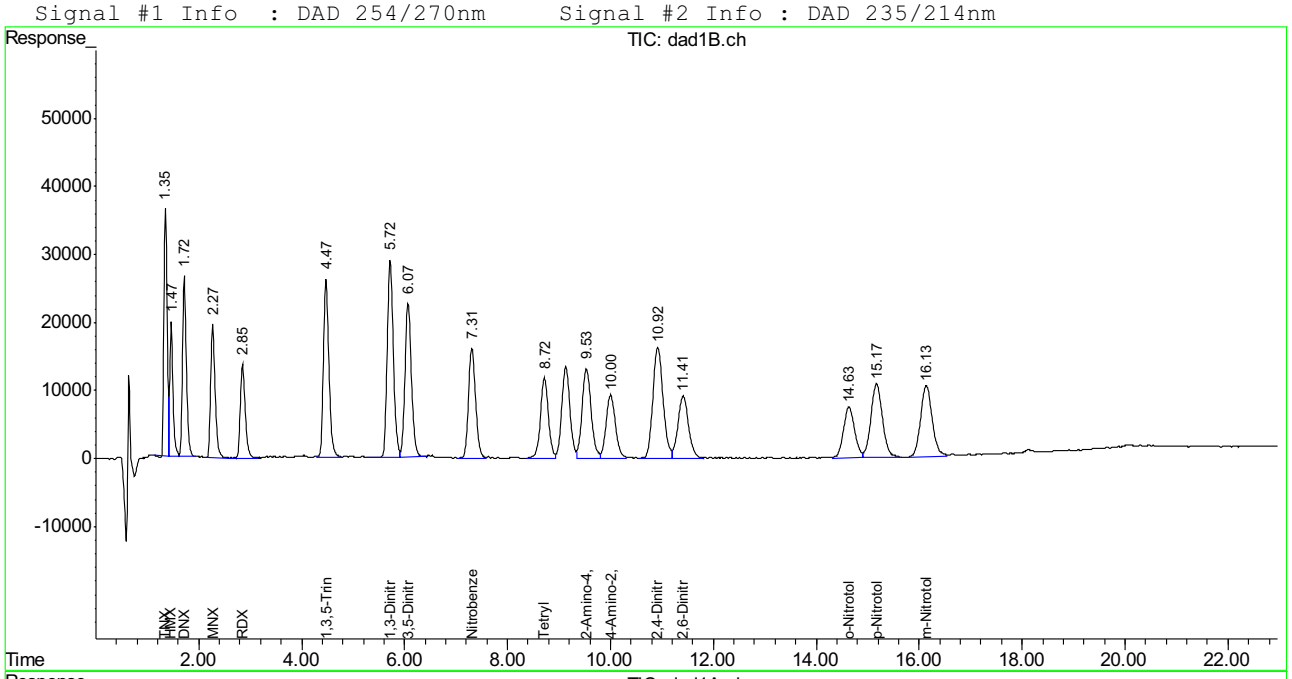
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054268.D 8330B_0419PLUS.M Thu Apr 20 11:04:56 2017 Page 1

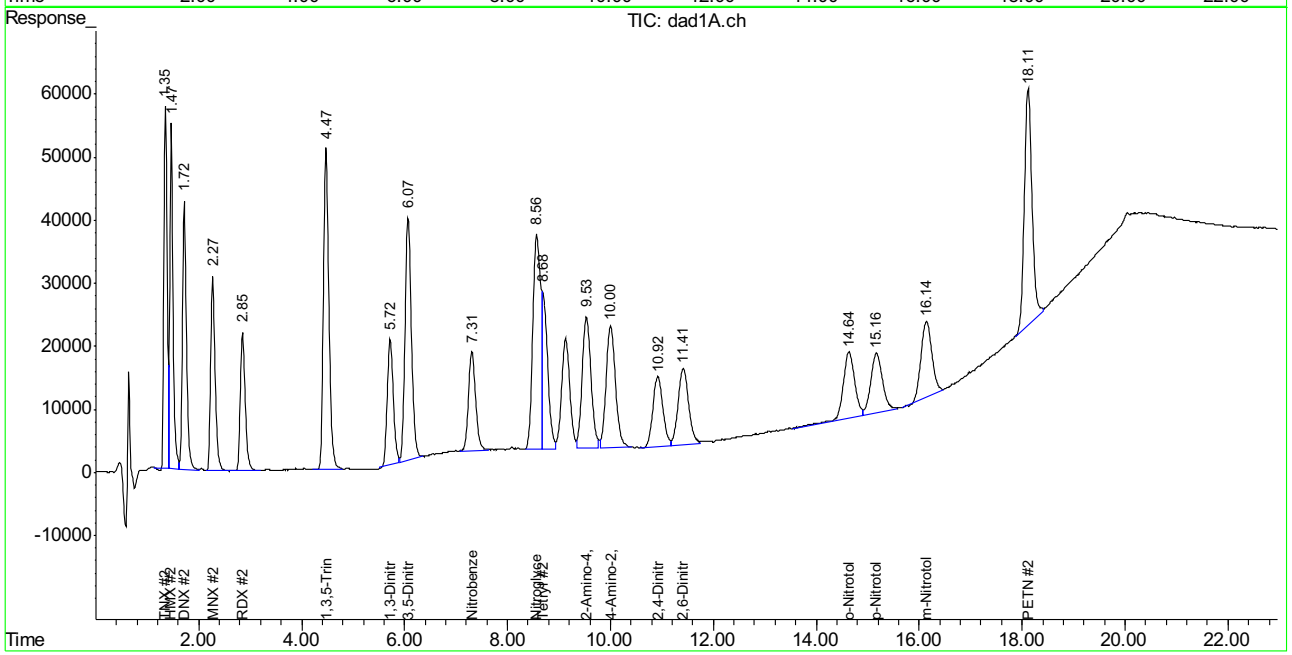
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 10:40 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

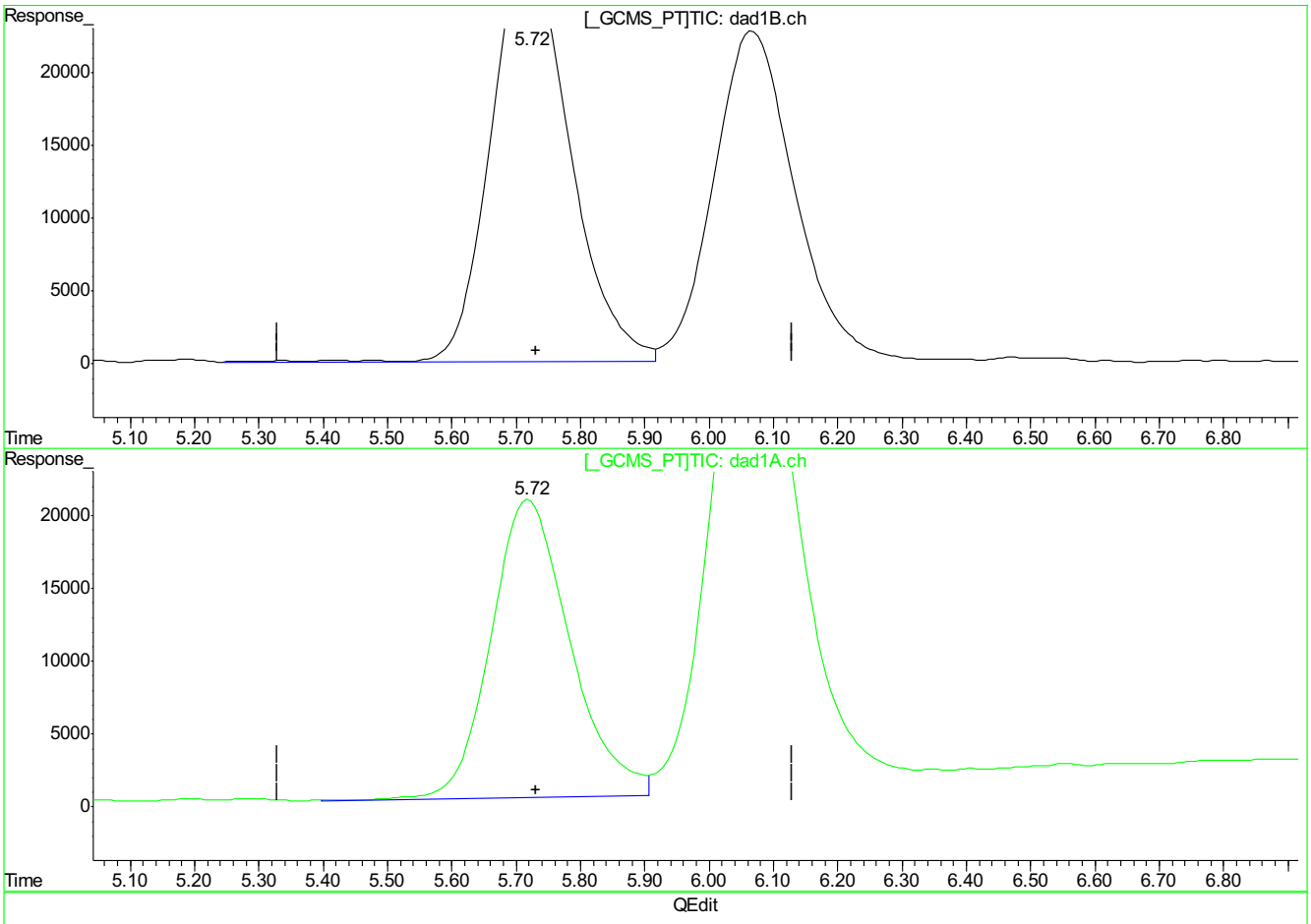
Sample Number: GBB1578-ICV1578
Lab FileID: BB054268.D
Injection Time: 04/19/17 13:43
Method: SW846 8330A
Analyst approved: 04/20/17 11:26 Evita Martinez
Supervisor approved: 04/20/17 15:17 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.72	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.07	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.31	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.56	Poorly defined baseline
Tetryl	479-45-8	2	8.68	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.53	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.00	Poorly defined baseline
PETN	78-11-5	2	18.11	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 435.525ppb

response 2395545

(7) 1,3-Dinitrobenzene #2

5.72min 452.970ppb

response 1748703

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:15:51 2017

9.5.8.2

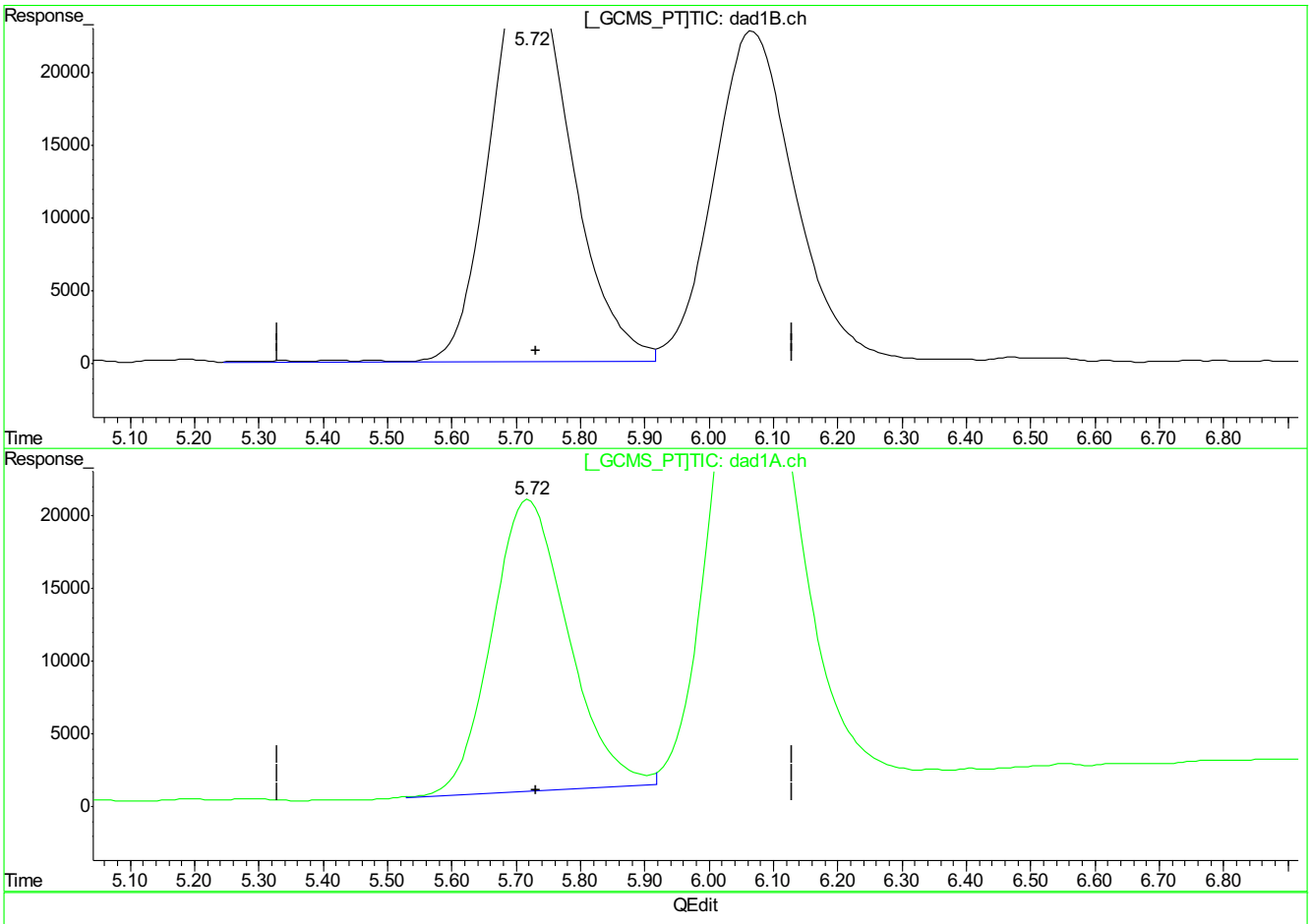
6

BB054268.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.72min 435.525ppb

response 2395545

(7) 1,3-Dinitrobenzene #2

5.72min 430.306ppb m

response 1661208

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:15:57 2017

9.5.8.3

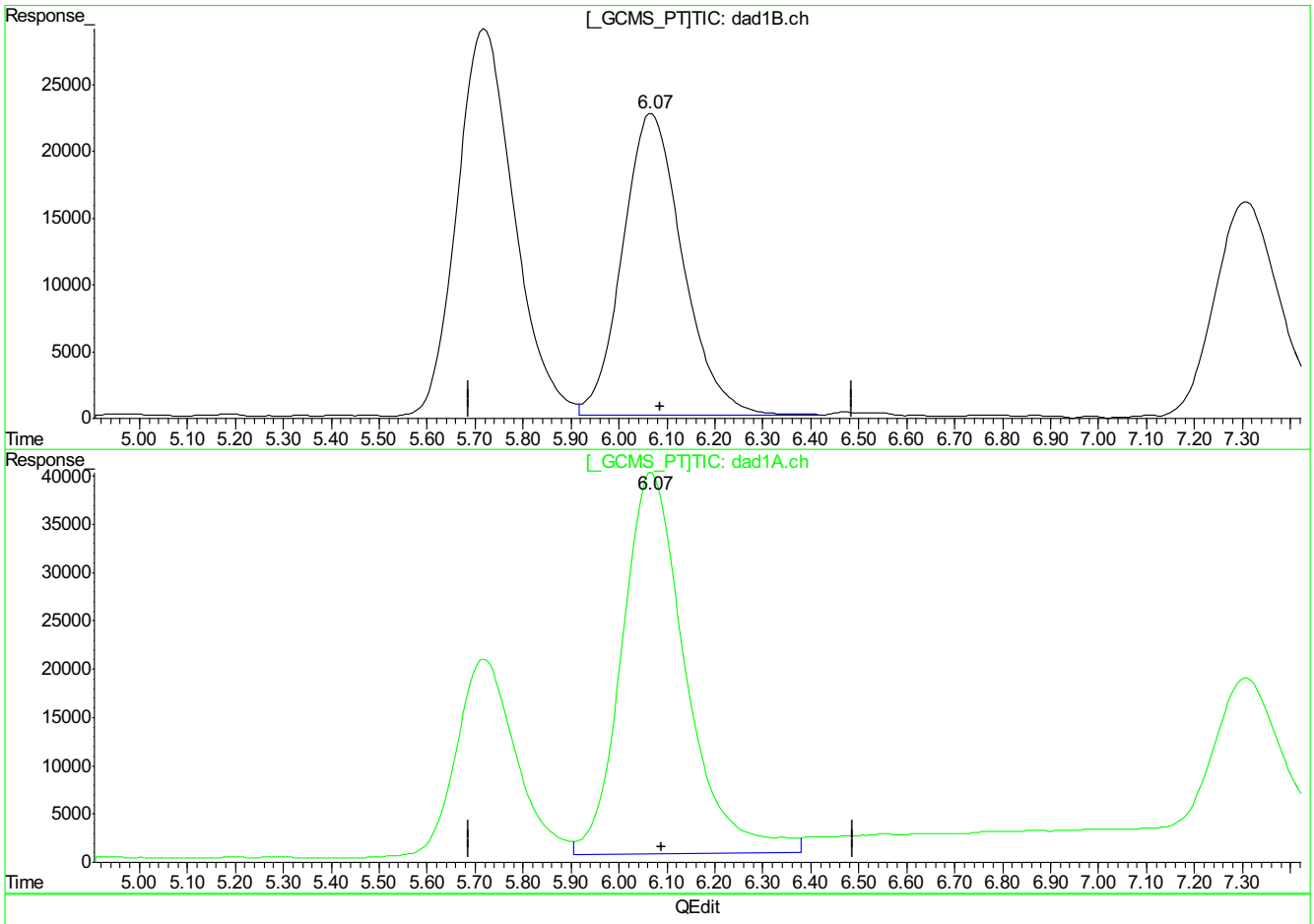
9

BB054268.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 527.203ppb

response 1969943

(8) 3,5-Dinitroaniline #2

6.07min 543.704ppb

response 3632016

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:00 2017

9.5.8.4

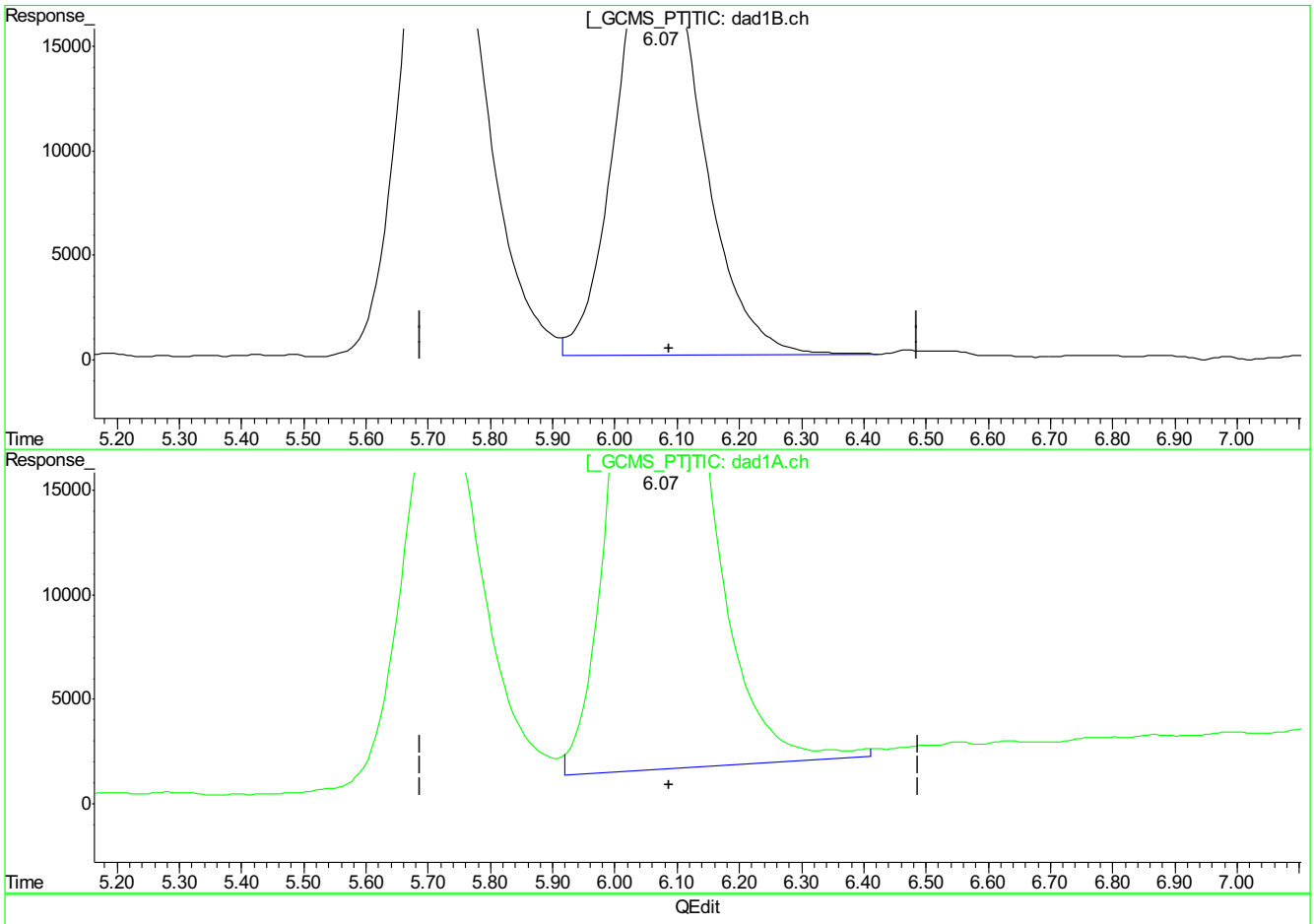
6

BB054268.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.07min 527.203ppb

response 1969943

(8) 3,5-Dinitroaniline #2

6.07min 506.562ppb m

response 3383903

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:07 2017

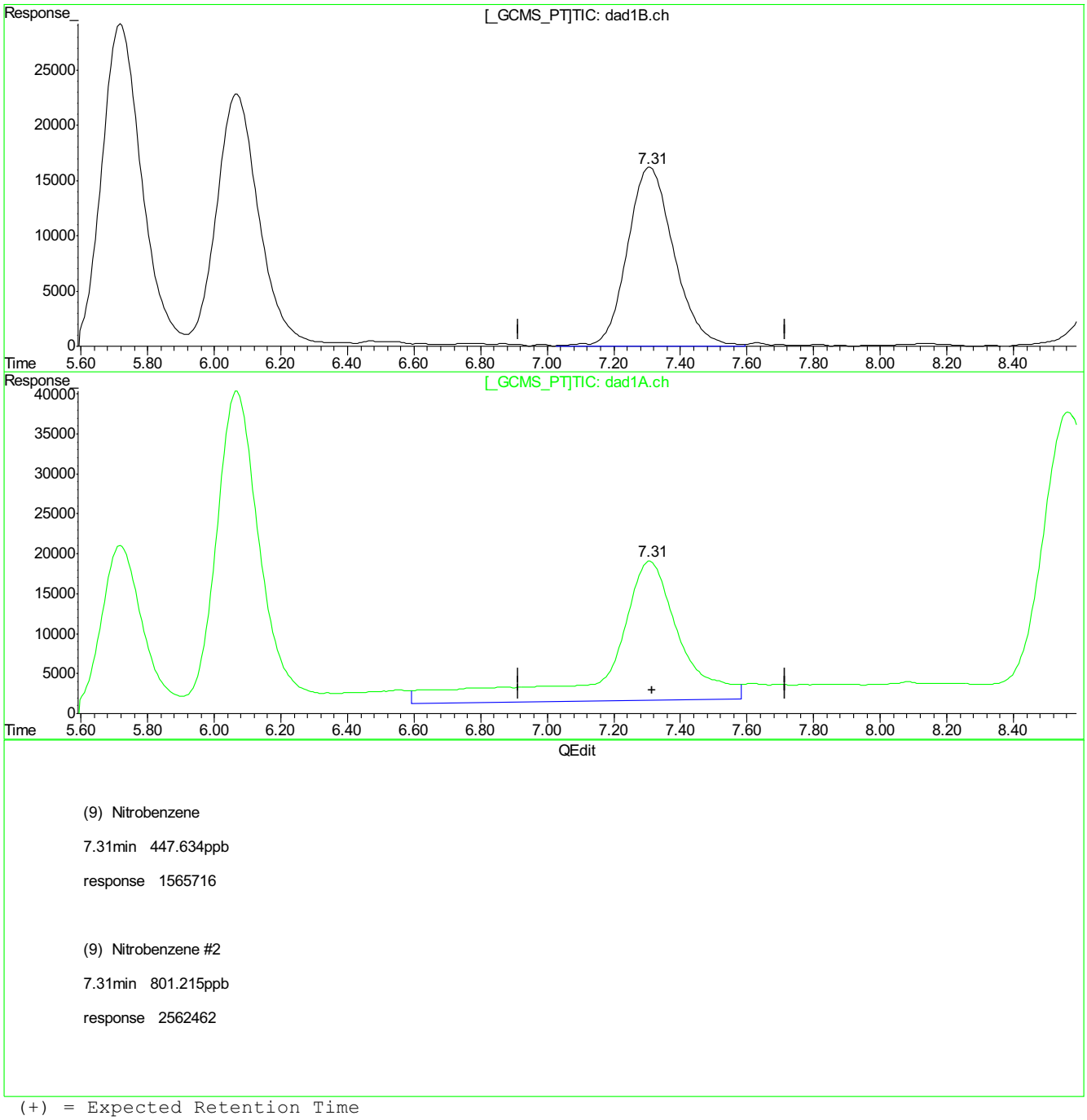
9.5.8.5

6

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 447.634ppb

response 1565716

(9) Nitrobenzene #2

7.31min 801.215ppb

response 2562462

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:10 2017

9.5.8.6

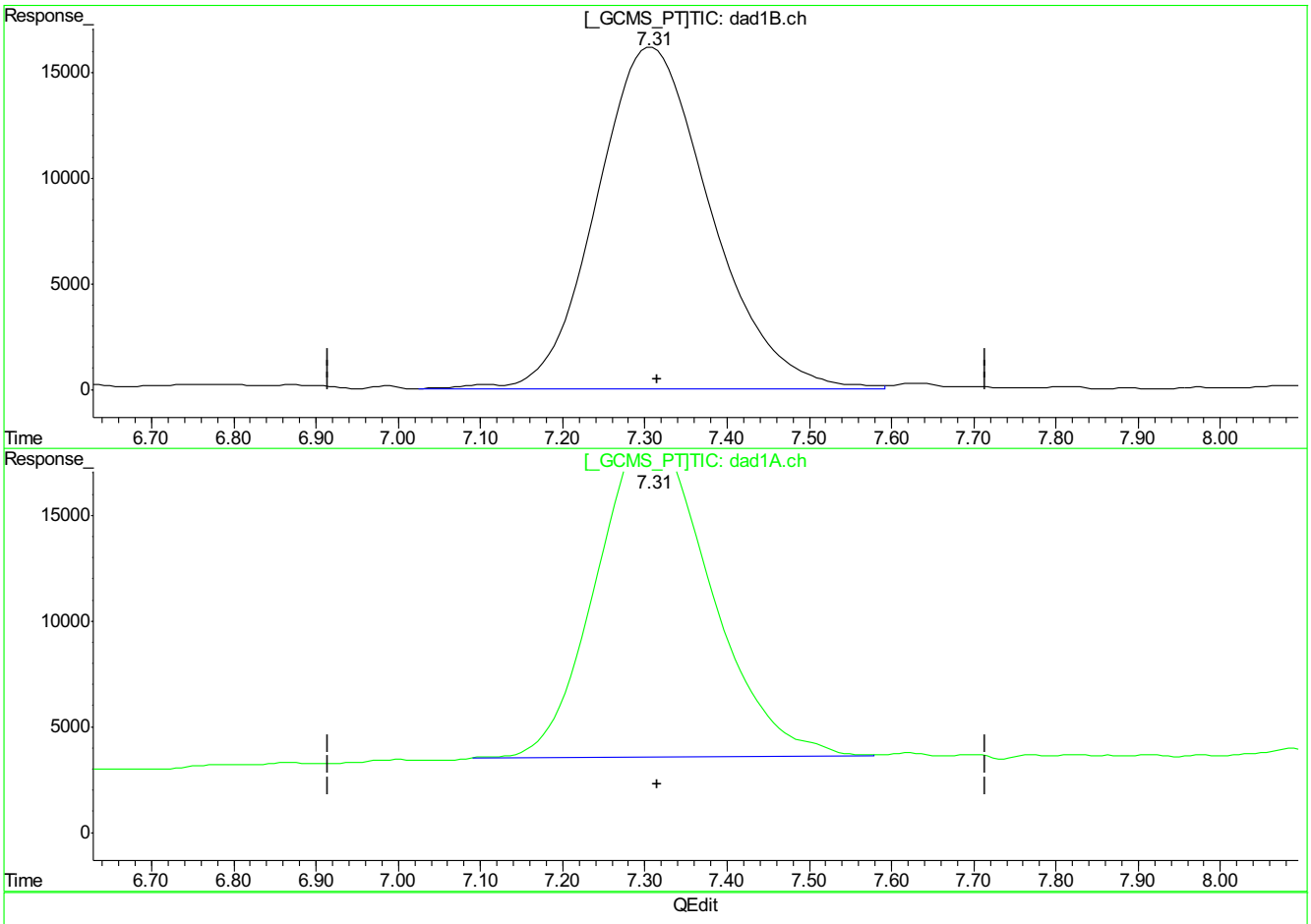
6

BB054268.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.31min 447.634ppb

response 1565716

(9) Nitrobenzene #2

7.31min 460.470ppb m

response 1472685

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:13 2017

9.5.8.7

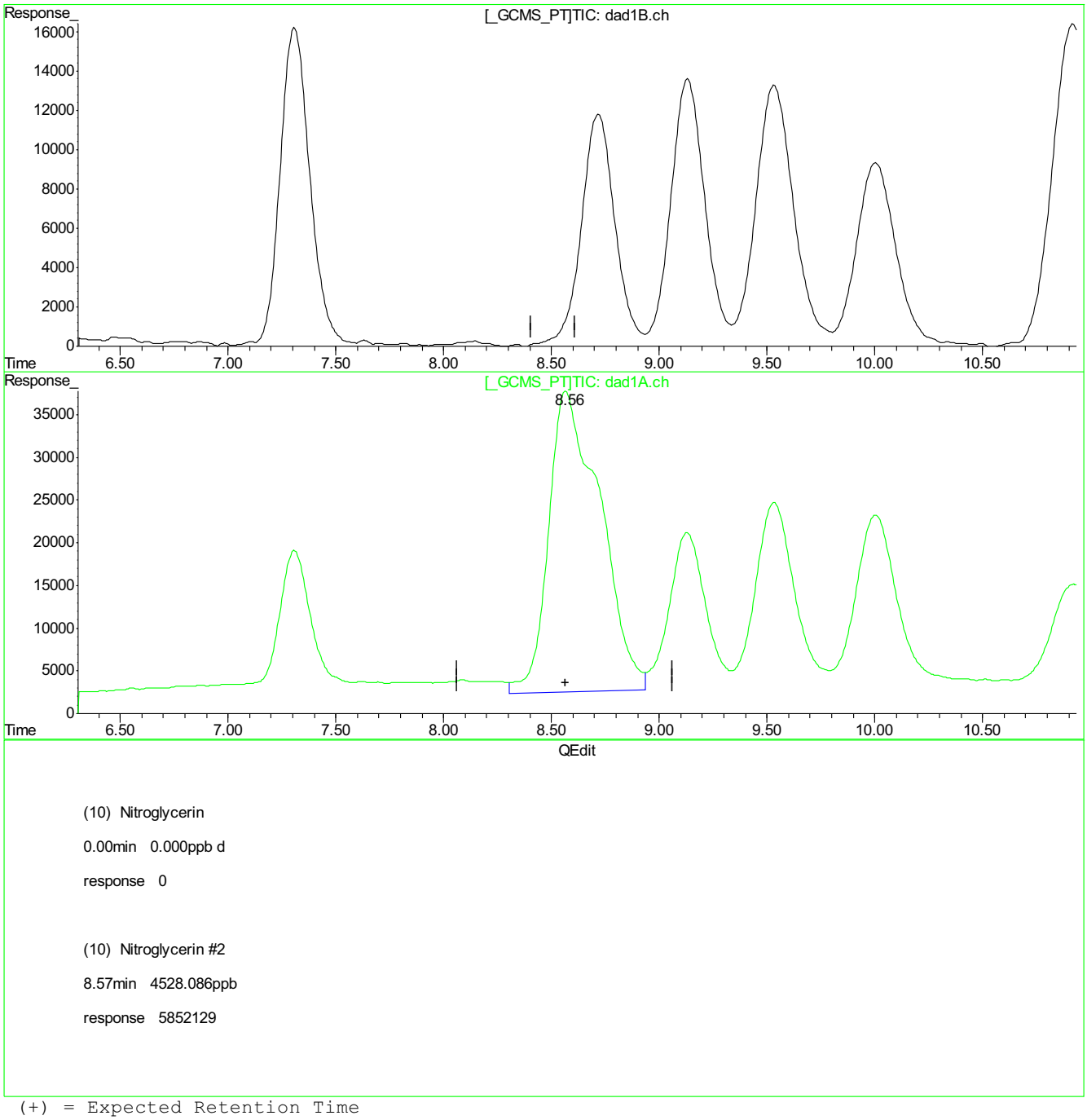
6

BB054268.D edits: Nitrobenzene

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:43:32                    Operator: evitam
Sample    : icv1578-500                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

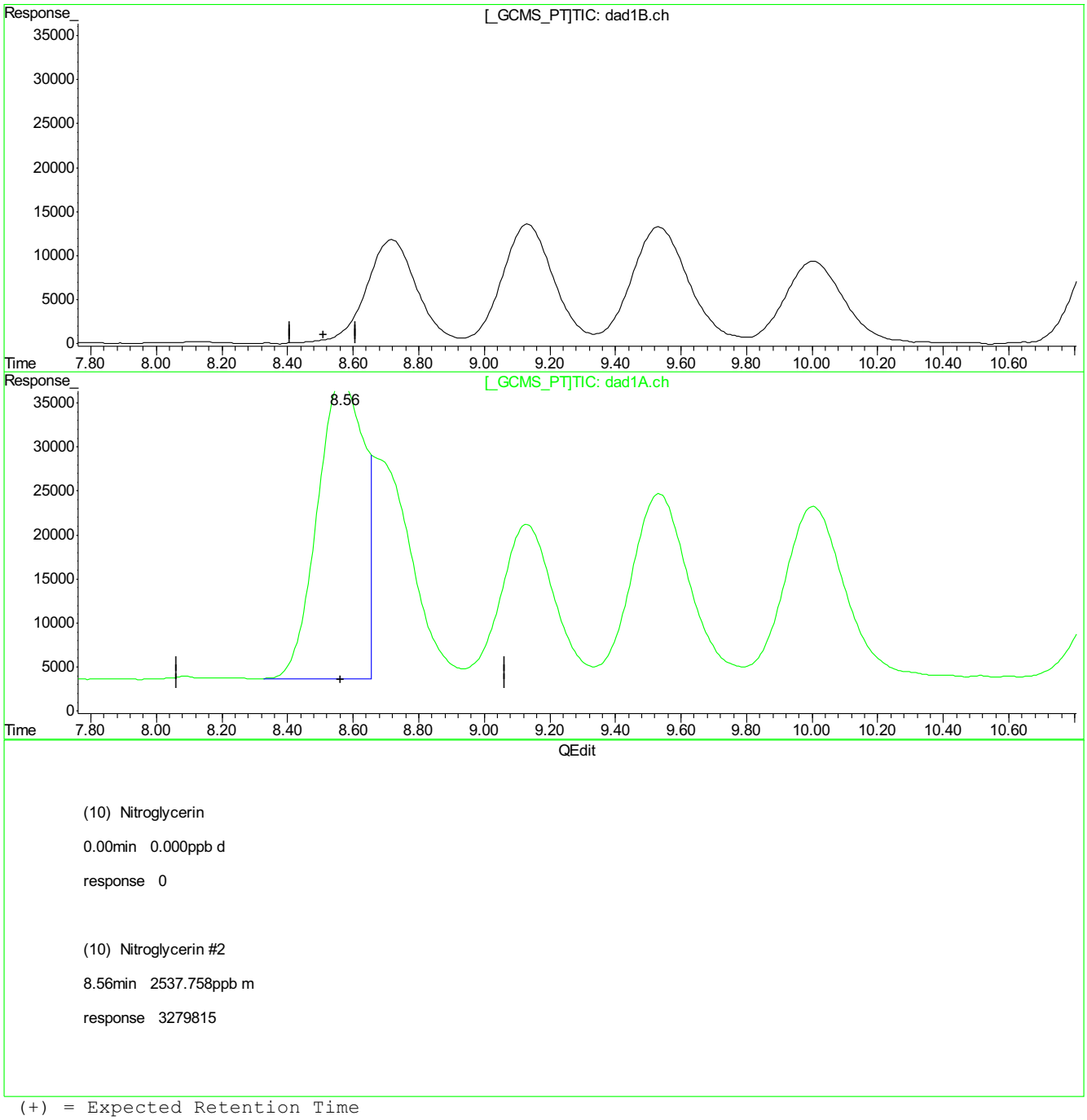
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:20 2017

BB054268.D edits: Nitroglycerin

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:43:32                    Operator: evitam
Sample    : icv1578-500                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:16:30 2017

9.5.8.9

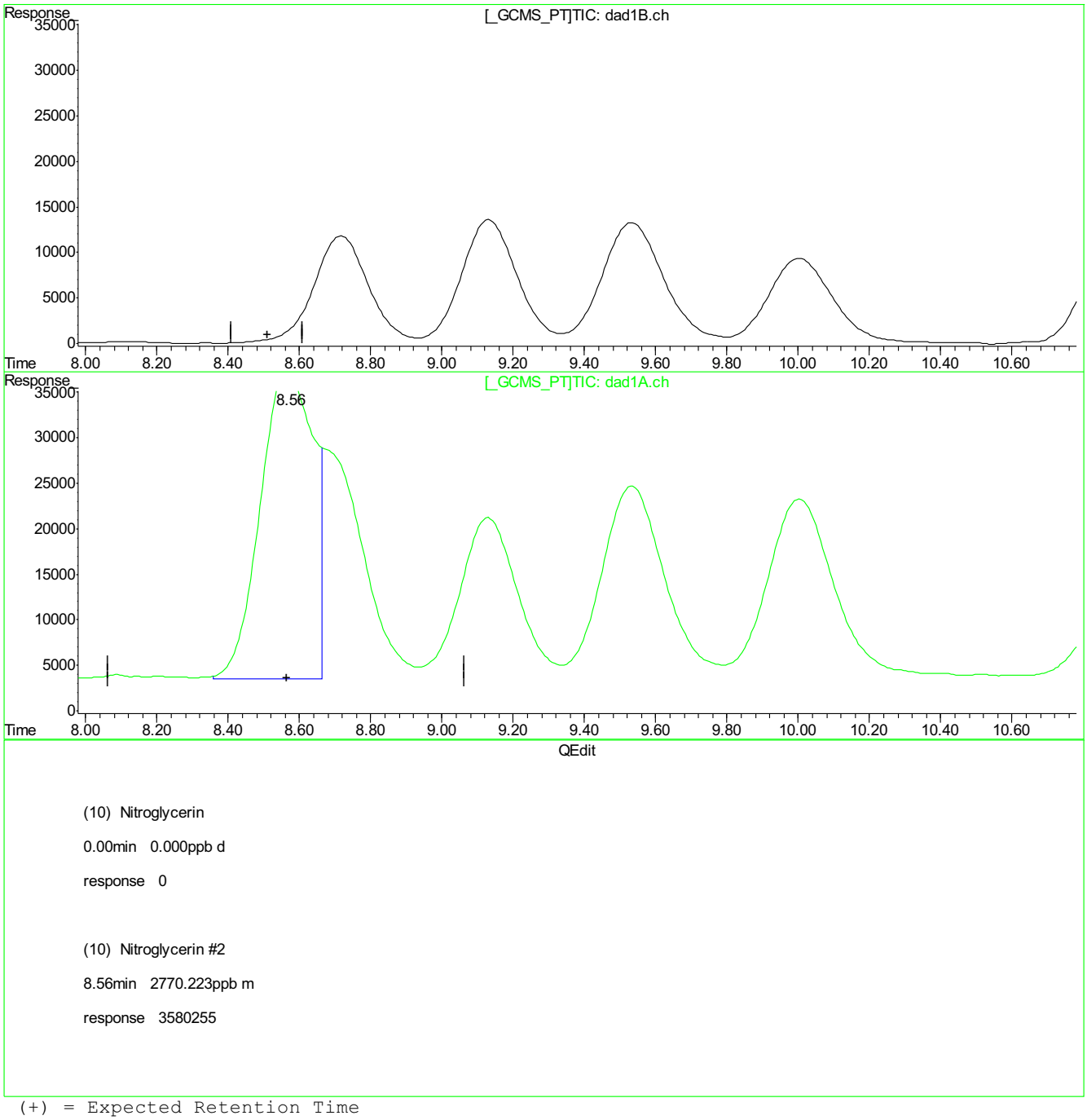
6

BB054268.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:12 2017

9.5.8.10

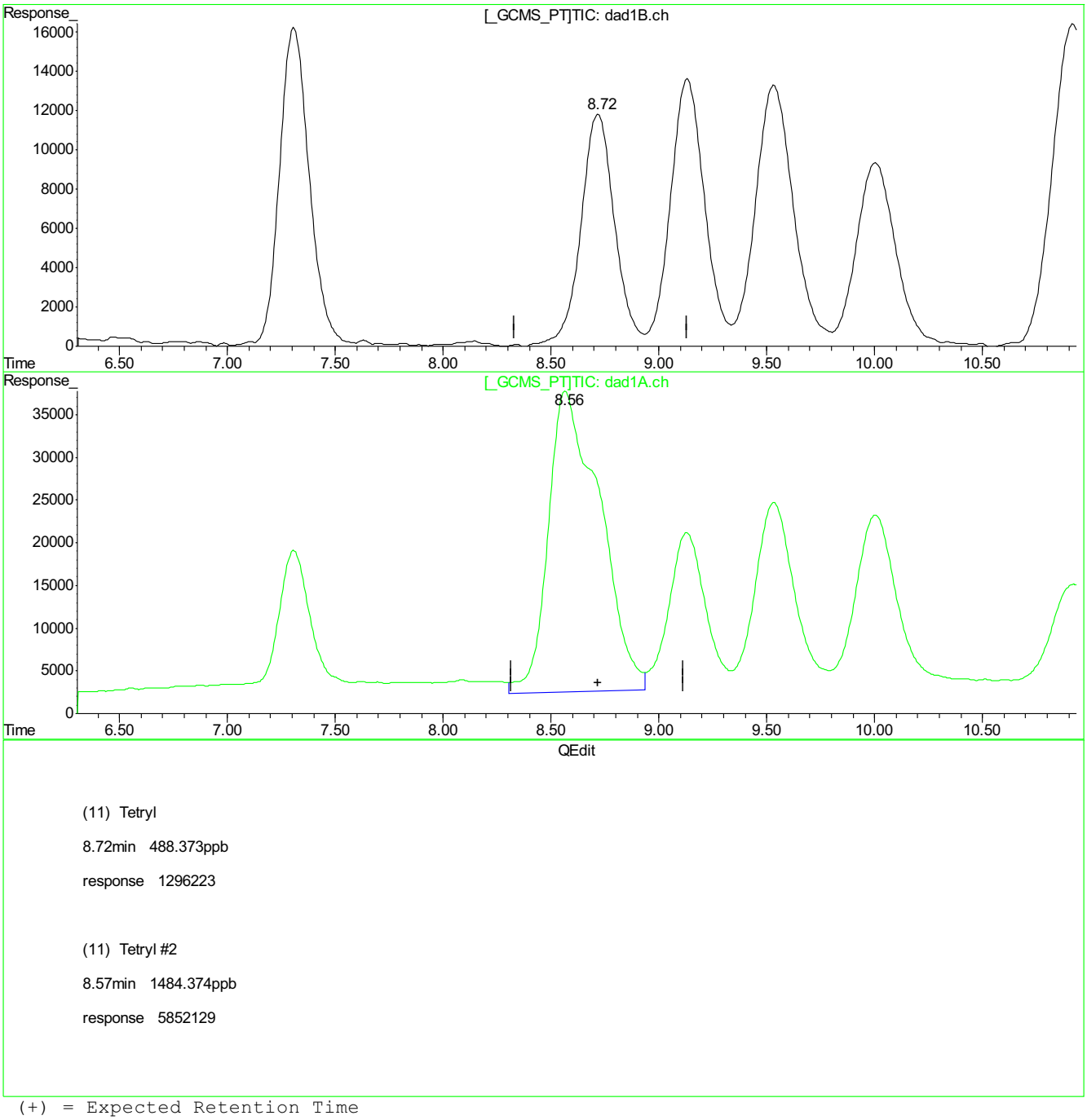
9

BB054268.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.72min 488.373ppb

response 1296223

(11) Tetryl #2

8.57min 1484.374ppb

response 5852129

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:16 2017

9.5.8.11

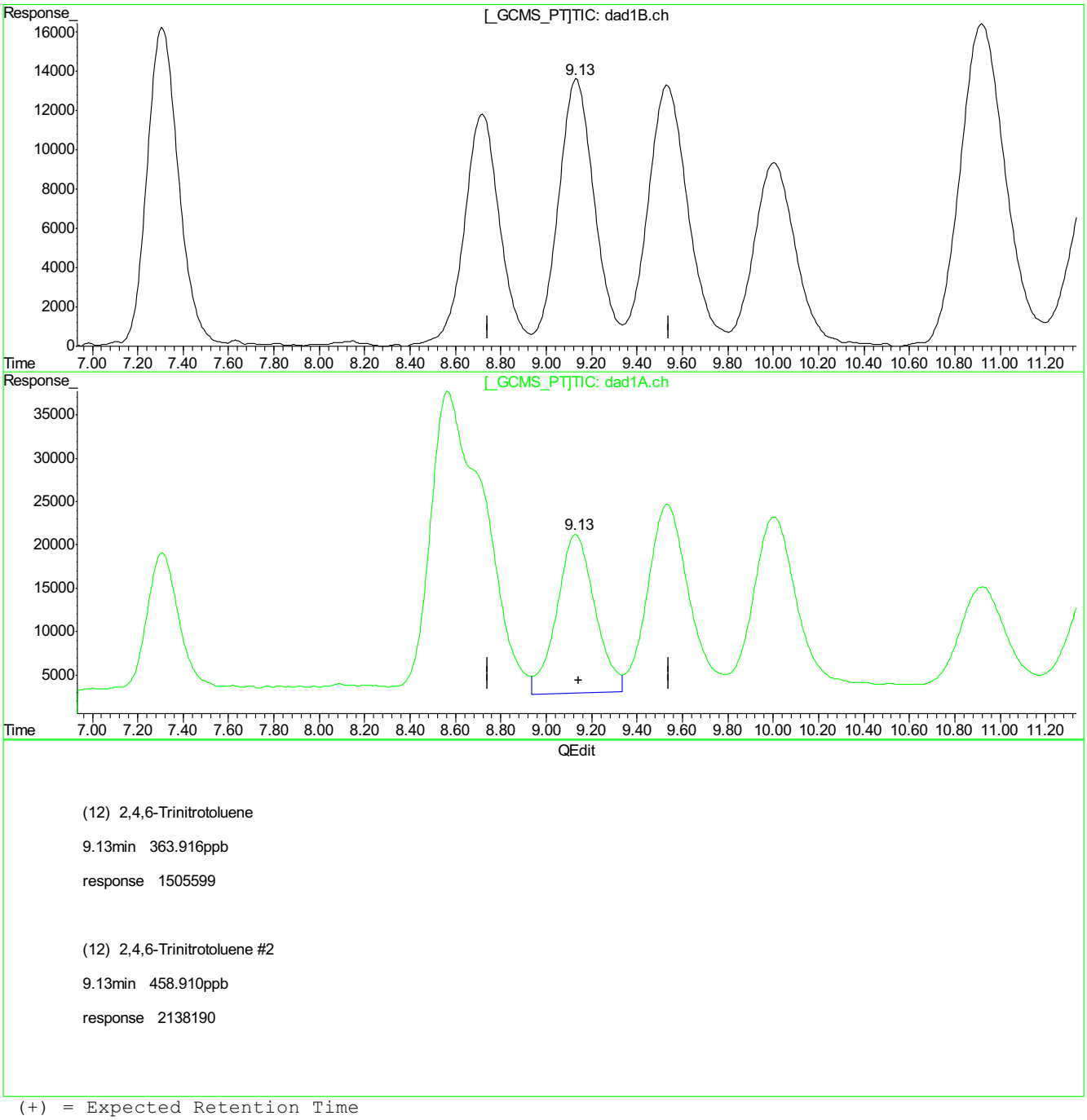
9

BB054268.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.13min 363.916ppb

response 1505599

(12) 2,4,6-Trinitrotoluene #2

9.13min 458.910ppb

response 2138190

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:35 2017

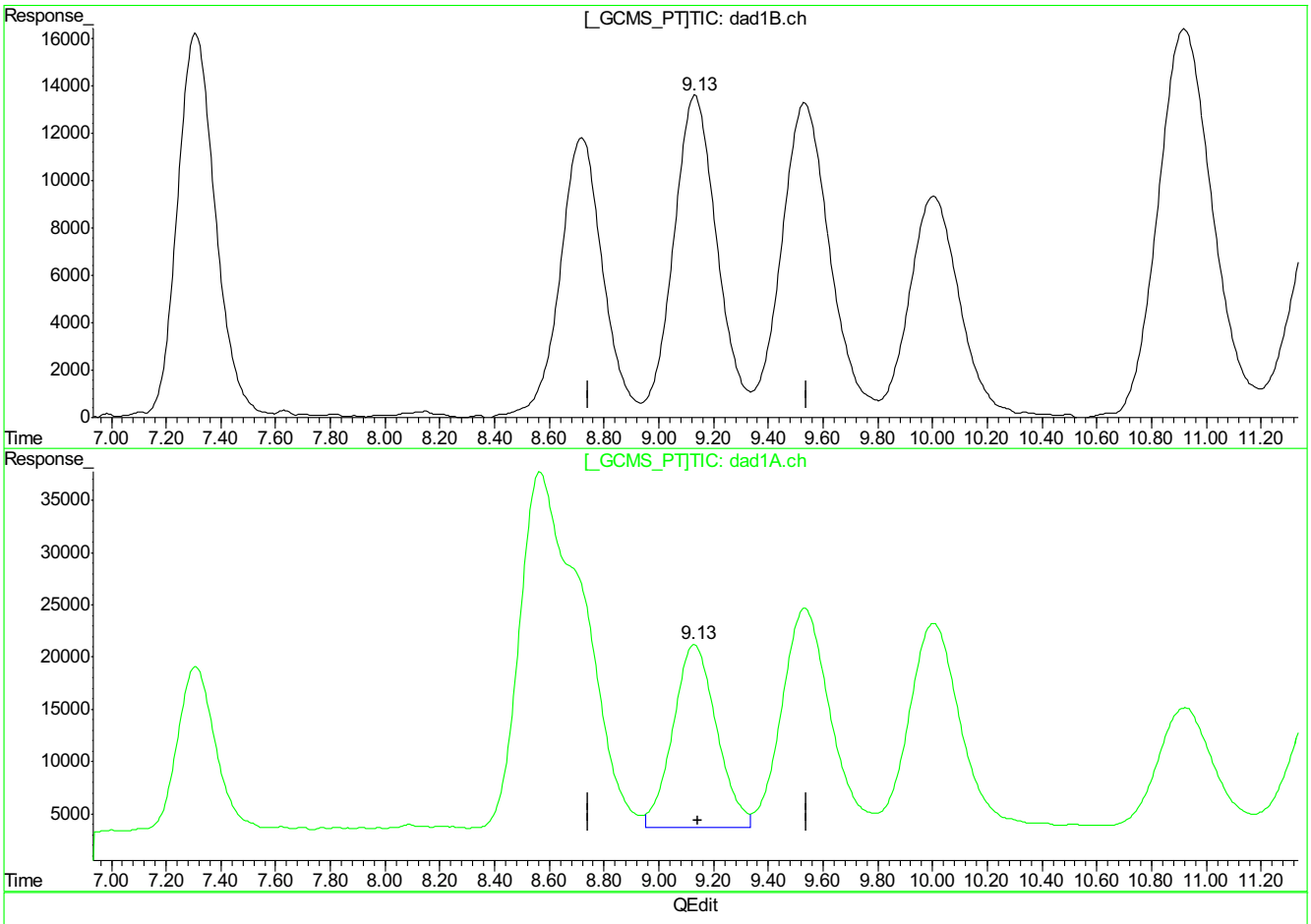
9.5.8.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.13min 363.916ppb

response 1505599

(12) 2,4,6-Trinitrotoluene #2

9.13min 413.123ppb m

response 1924280

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:48 2017

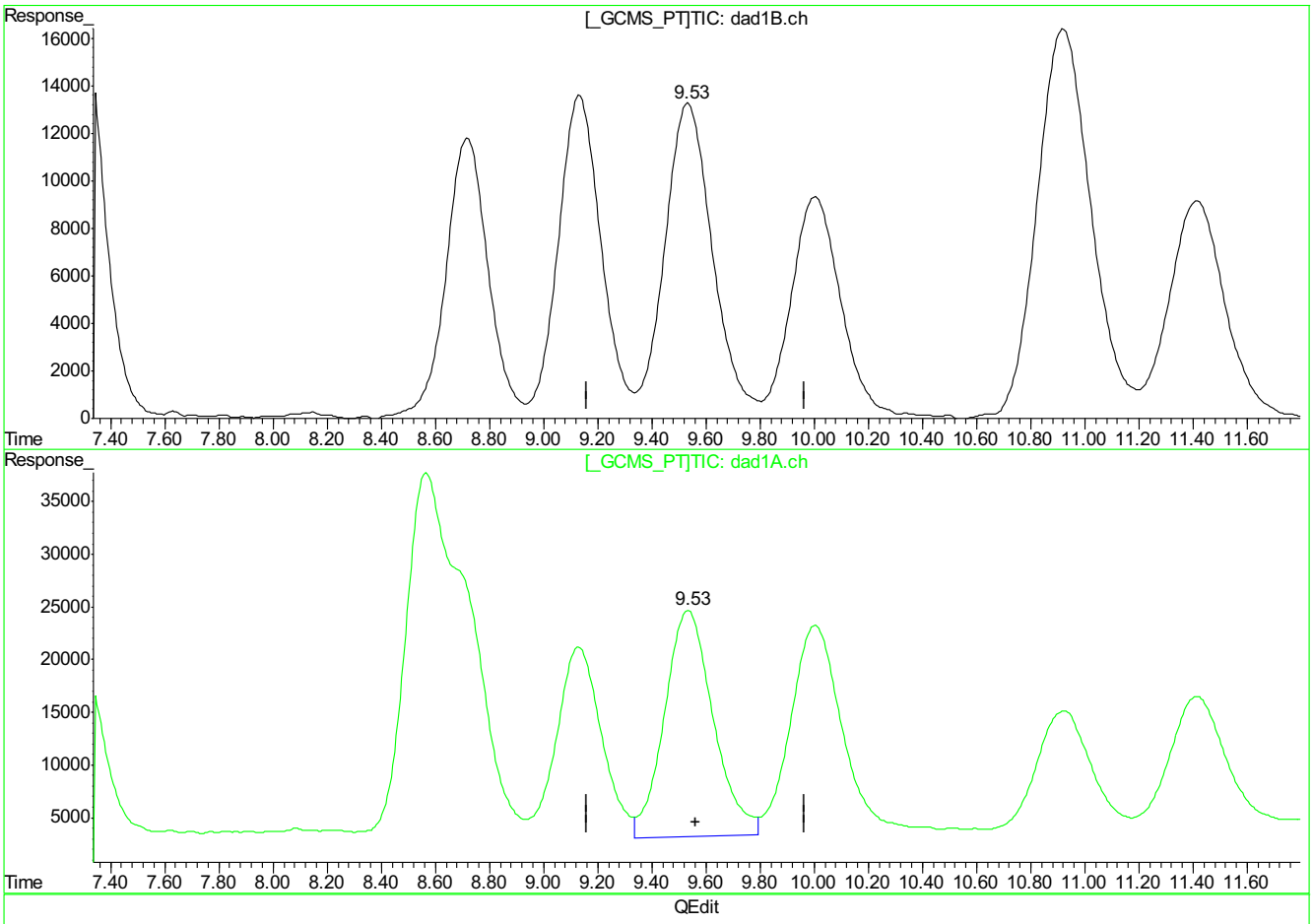
9.5.8.13

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.53min 454.444ppb

response 1644535

(13) 2-Amino-4,6-Dinitrotoluene #2

9.53min 497.423ppb

response 2694864

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:17:53 2017

9.5.8.14

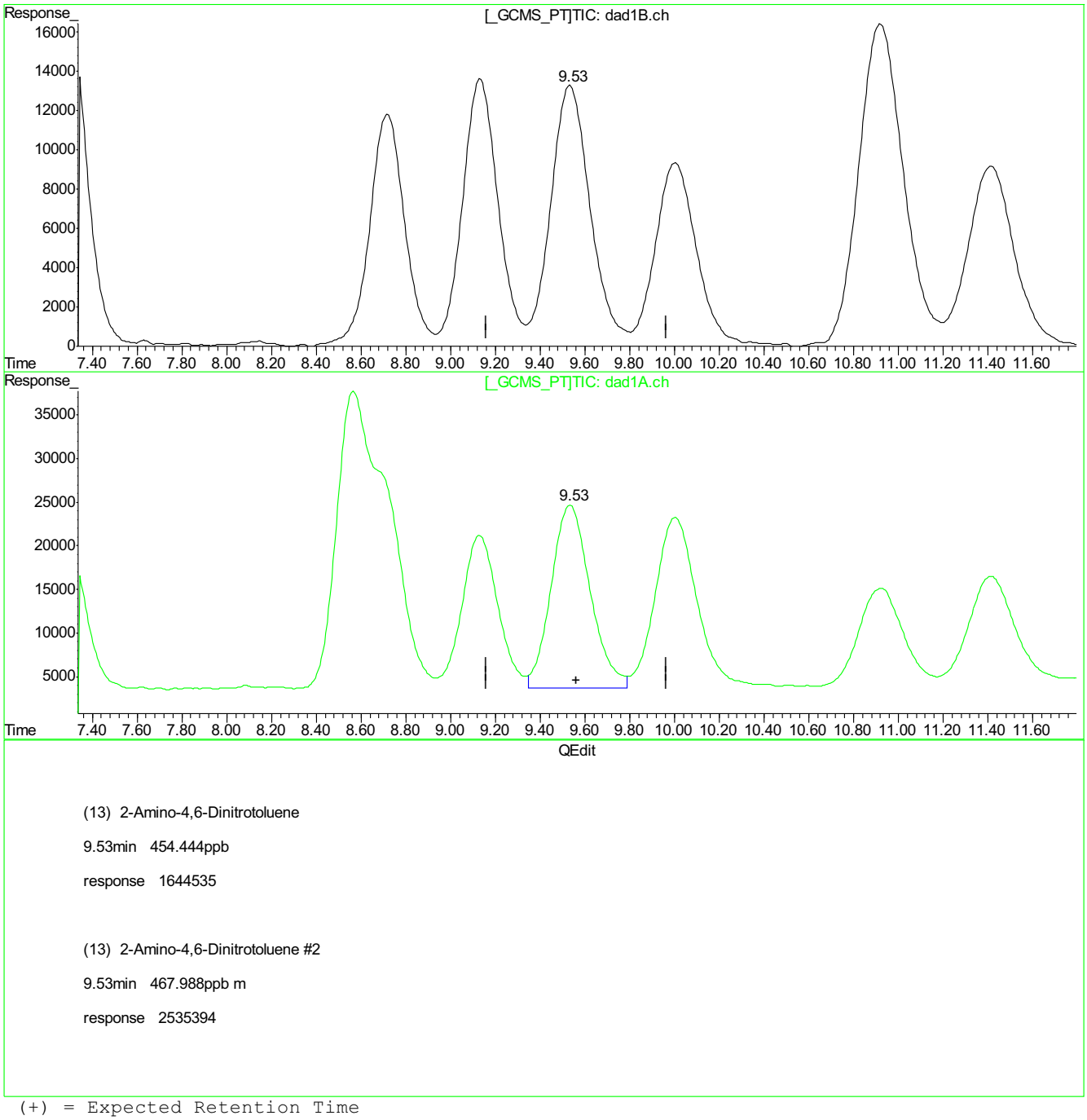
9

BB054268.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On    : 19-Apr-2017, 13:43:32                    Operator: evitam
Sample    : icv1578-500                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration
```



(13) 2-Amino-4,6-Dinitrotoluene

9.53min 454.444ppb

response 1644535

(13) 2-Amino-4,6-Dinitrotoluene #2

9.53min 467.988ppb m

response 2535394

(+) = Expected Retention Time

BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:00 2017

9.5.8.15

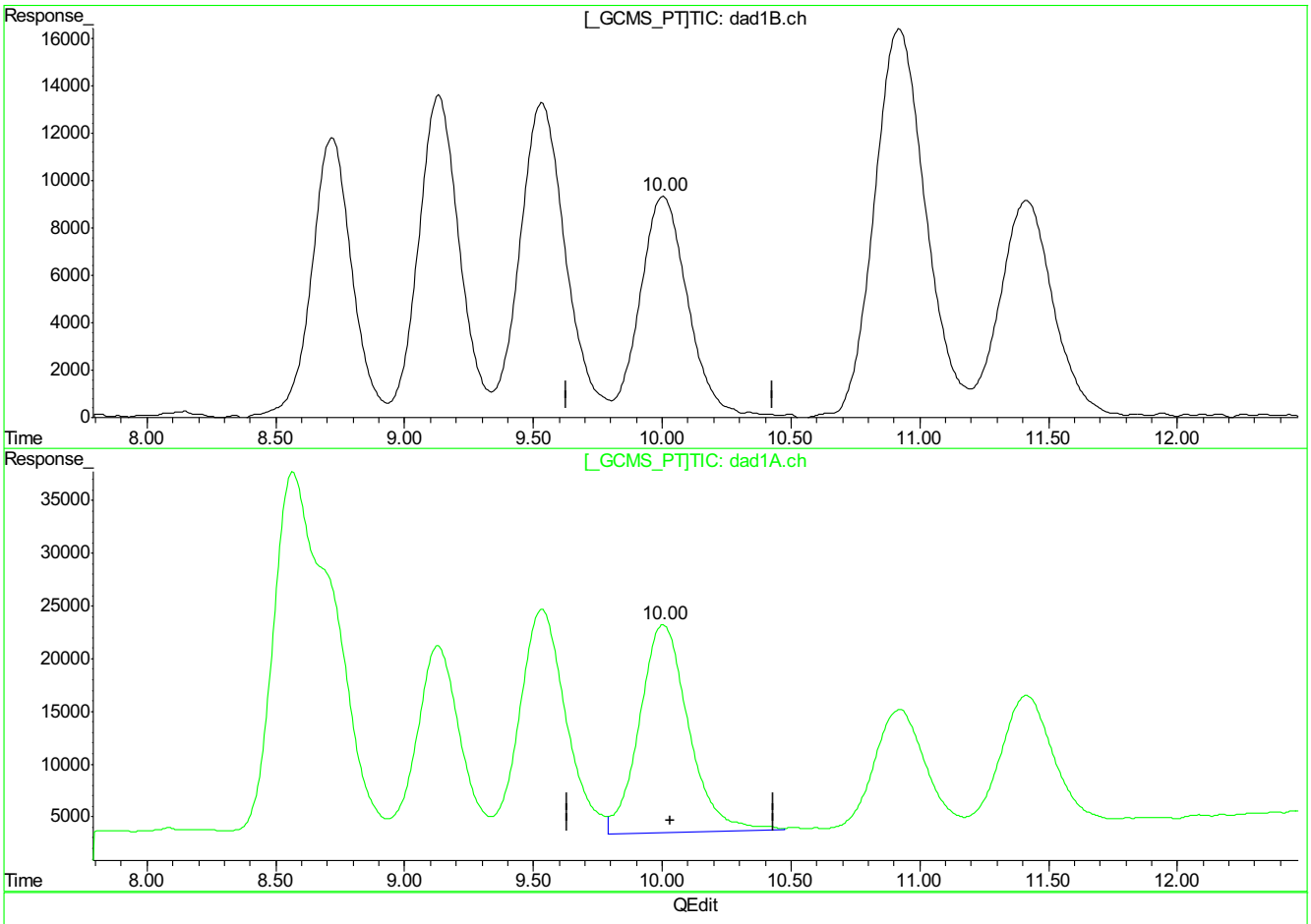
9

BB054268.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.01min 464.204ppb

response 1202460

(14) 4-Amino-2,6-Dinitrotoluene #2

10.00min 491.629ppb

response 2612650

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:03 2017

9.5.8.16

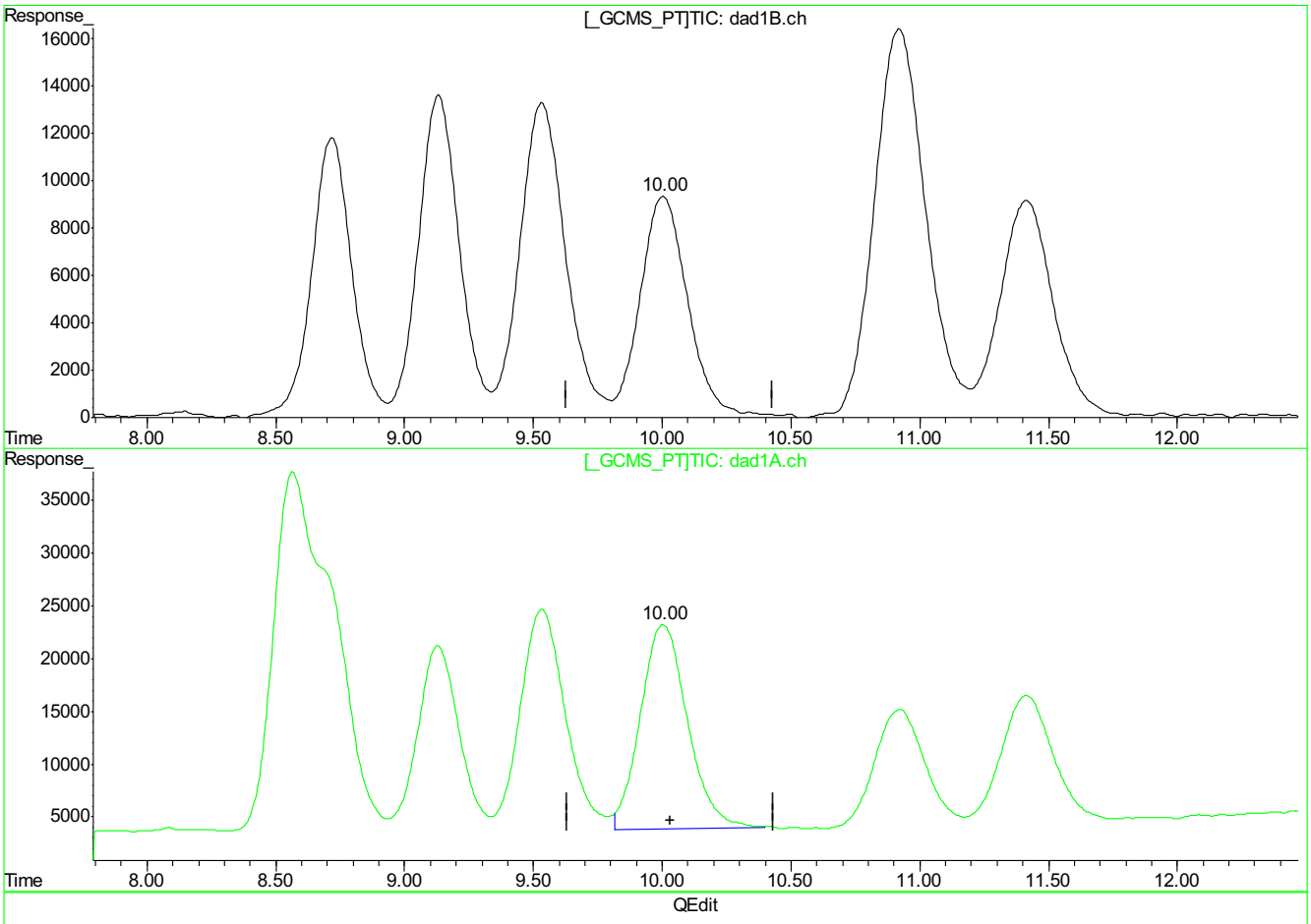
9

BB054268.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.01min 464.204ppb

response 1202460

(14) 4-Amino-2,6-Dinitrotoluene #2

10.00min 460.009ppb m

response 2444612

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:10 2017

9.5.8.17

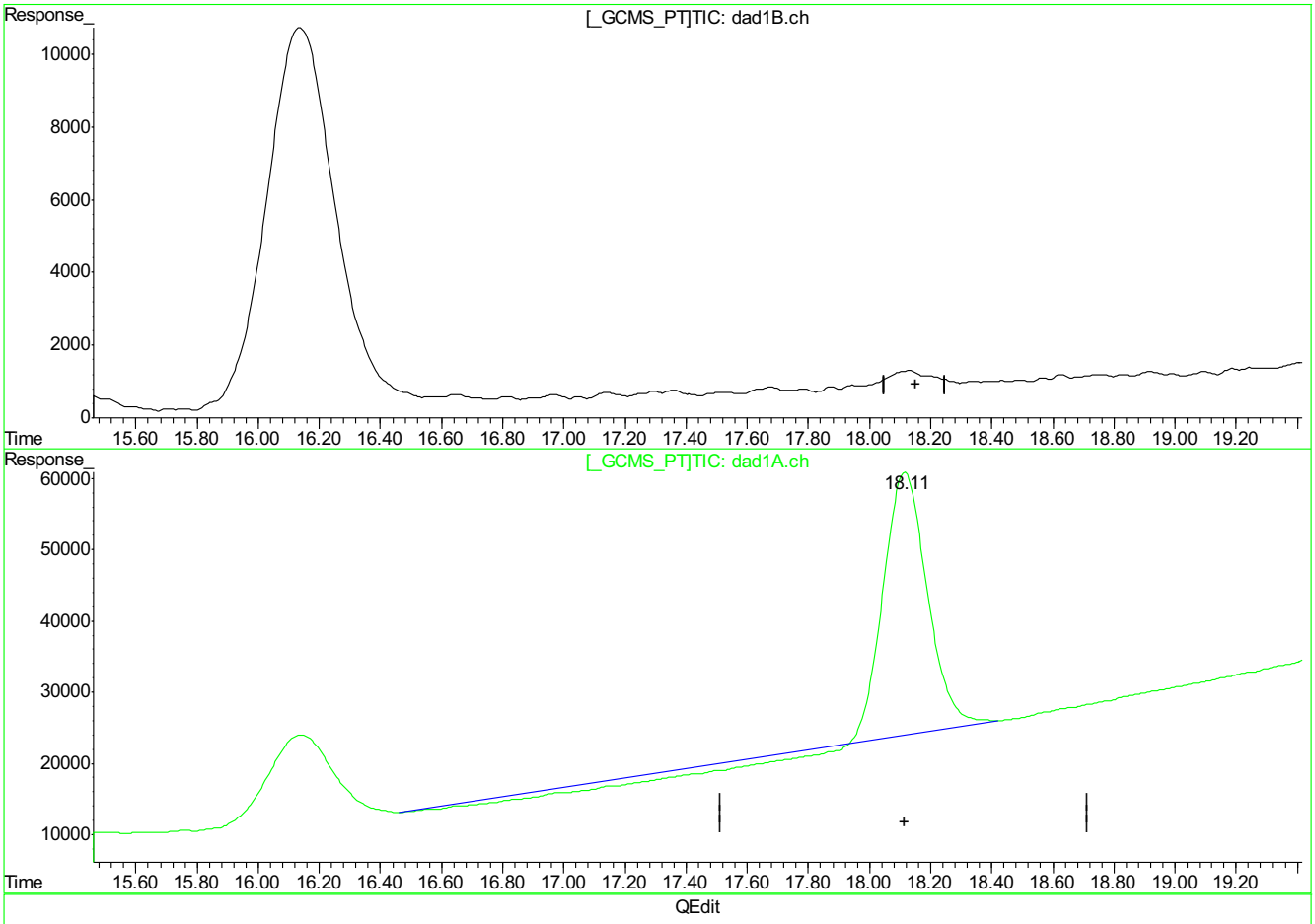
9

BB054268.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.12min 4298.381ppb

response 3061021

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:23 2017

9.5.8.18

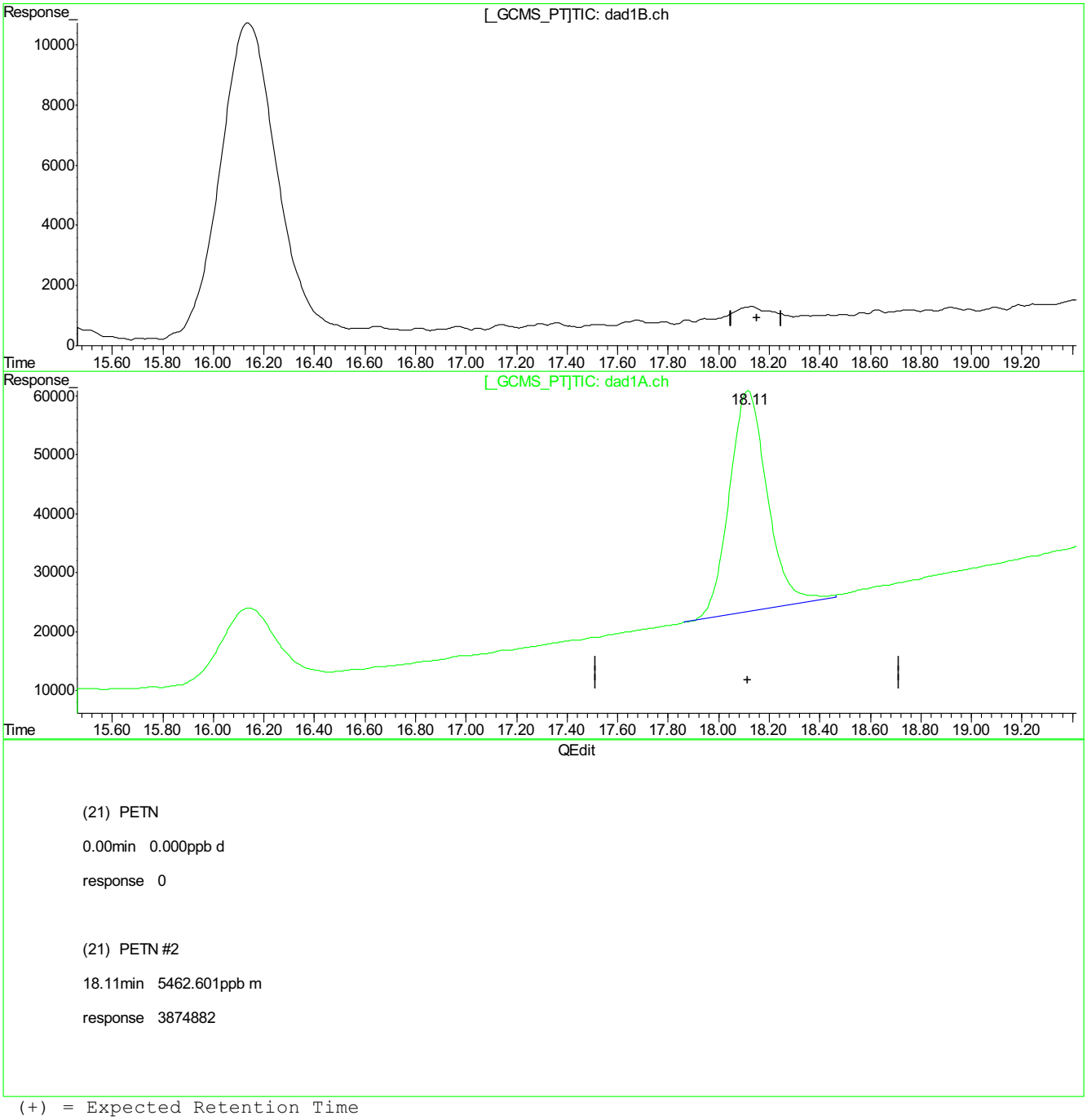
9

BB054268.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 15:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:15:33 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.11min 5462.601ppb m

response 3874882

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Wed Apr 19 15:18:26 2017

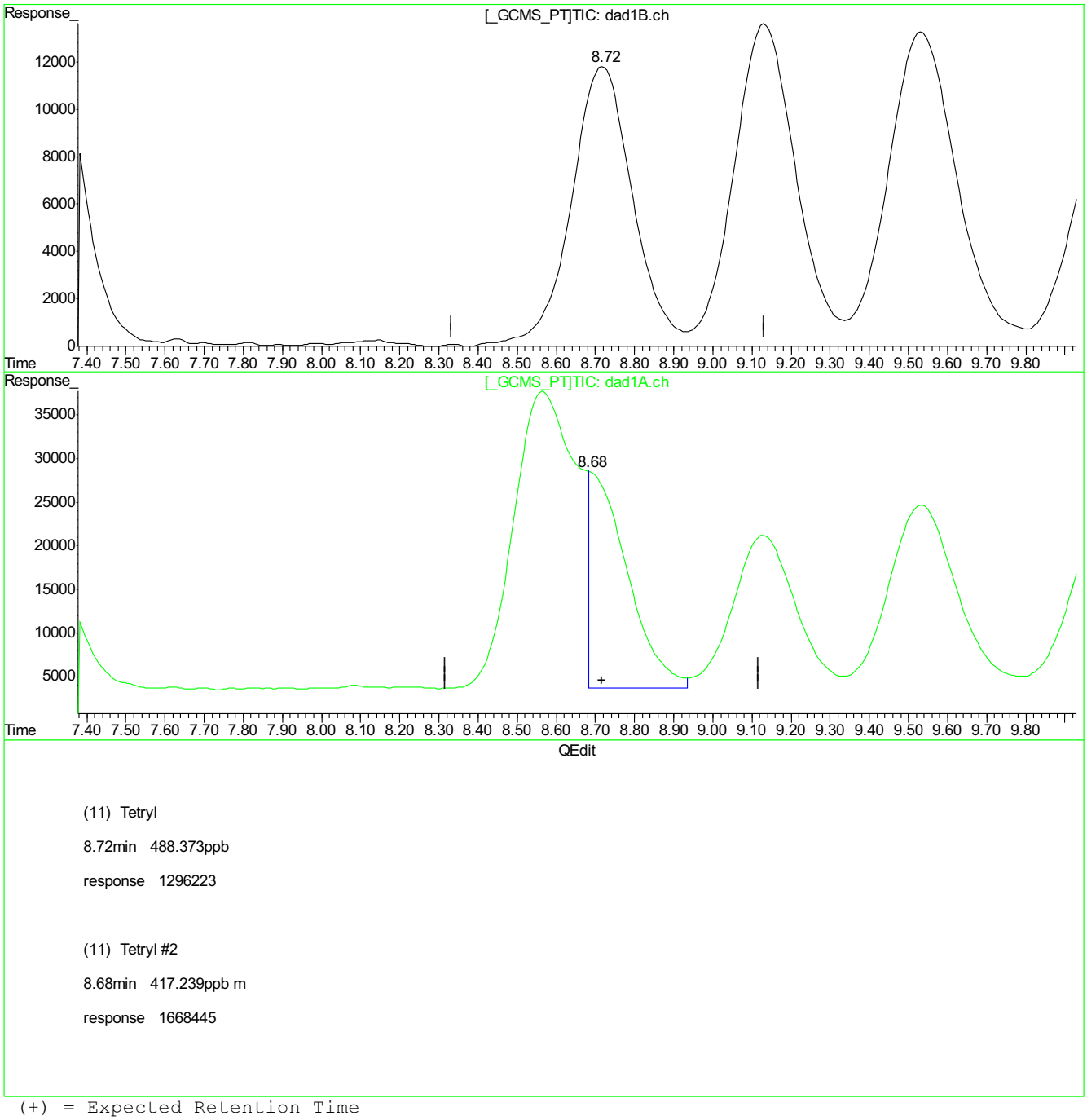
9.5.8.19

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054268.D\dad1A.ch
Acq On : 19-Apr-2017, 13:43:32 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 10:40 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Apr 20 10:34:31 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.72min 488.373ppb

response 1296223

(11) Tetryl #2

8.68min 417.239ppb m

response 1668445

(+) = Expected Retention Time
BB054268.D 8330B_0419PLUS.M Thu Apr 20 11:42:39 2017

9.5.8.20

9

BB054268.D edits: Tetryl

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1A.ch
Acq On : 19-Apr-2017, 15:57:04 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 19 16:48:00 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.15	9.15	1933074	2387703	513.672	512.284
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

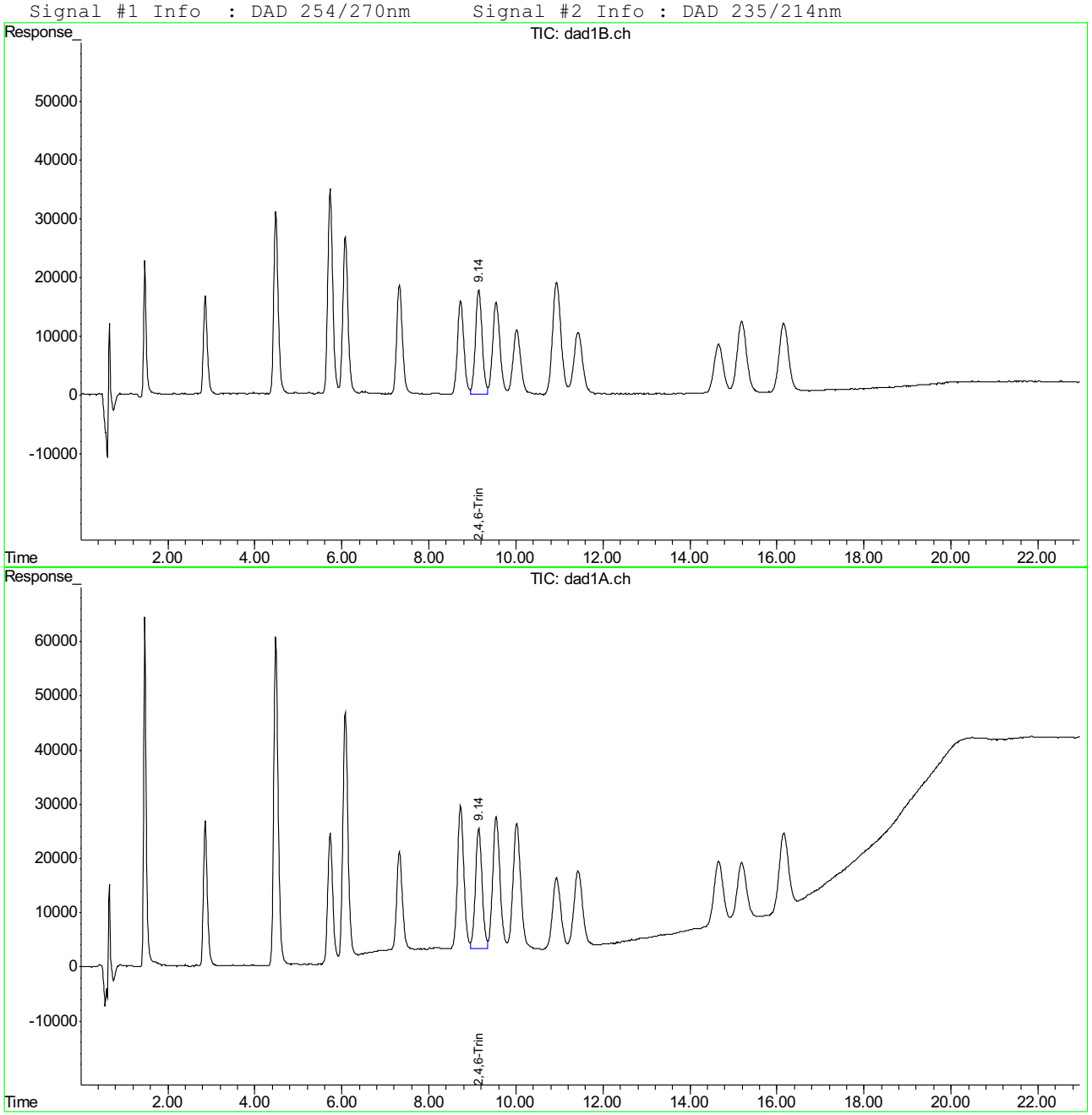
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054270.D 8330B_0419PLUS.M Thu Apr 20 11:04:58 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0419BPL\BB054270.D\dad1A.ch
Acq On : 19-Apr-2017, 15:57:04 Operator: evitam
Sample : icv1578-500 Inst : G1315B
Misc : op64647,gbb1578,2.00,,,20,1,SOIL Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 20 10:35 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 19 15:23:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/24/17 14:55

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:39 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.19	10.18	2190014	3970847	953.809	927.284
	Spiked Amount 500.000	Range 70 - 136		Recovery =		190.76%#	185.46%#
	Target Compounds						
1)	TNX	1.35	1.35	3113252	4777211	1032.807	986.174
2)	HMX	1.45	1.45	1614016	4451967	924.058	927.187
3)	DNX	1.71	1.71	2817590	4592154	905.004	981.732
4)	MNX	2.26	2.26	2298594	3588062	926.709	933.818
5)	RDX	2.83	2.83	1841937	2945003	979.977	896.148
6)	1,3,5-Trinitrobe	4.42	4.42	3962587	7725220	917.304	950.320
7)	1,3-Dinitrobenze	5.66	5.66	5281090	3634257	960.135	941.388
8)	3,5-Dinitroanili	6.00	6.00	3806056	6450789	1014.161	965.667
9)	Nitrobenzene	7.25	7.25	3143849	2994992	898.817	936.456m
10)	Nitroglycerin	0.00	8.46	0	6388135	N.D. d	4942.820m
11)	Tetryl	8.61	8.57	2632917	3436027	989.666	864.368m
12)	2,4,6-Trinitroto	9.02	9.02	3777622	4673163	913.084	999.453
13)	2-Amino-4,6-Dini	9.42	9.42	3328996	5082254	919.921	938.093
14)	4-Amino-2,6-Dini	9.89	9.89	2392036	4947212	923.434	930.929
16)	2,4-Dinitrotolue	10.79	10.79	4808610	3187366	947.045	946.794
17)	2,6-Dinitrotolue	11.28	11.28	2716724	3436529	870.687	978.627
18)	o-Nitrotoluene	14.52	14.52	2200974	3158607	949.168	980.996
19)	p-Nitrotoluene	15.04	15.05	3394296	2970856	970.658	1000.665
20)	m-Nitrotoluene	16.01	16.01	3258460	3713439	904.651	1057.014
21)	PETN	0.00	17.99	0	7665557	N.D. d	11012.693m

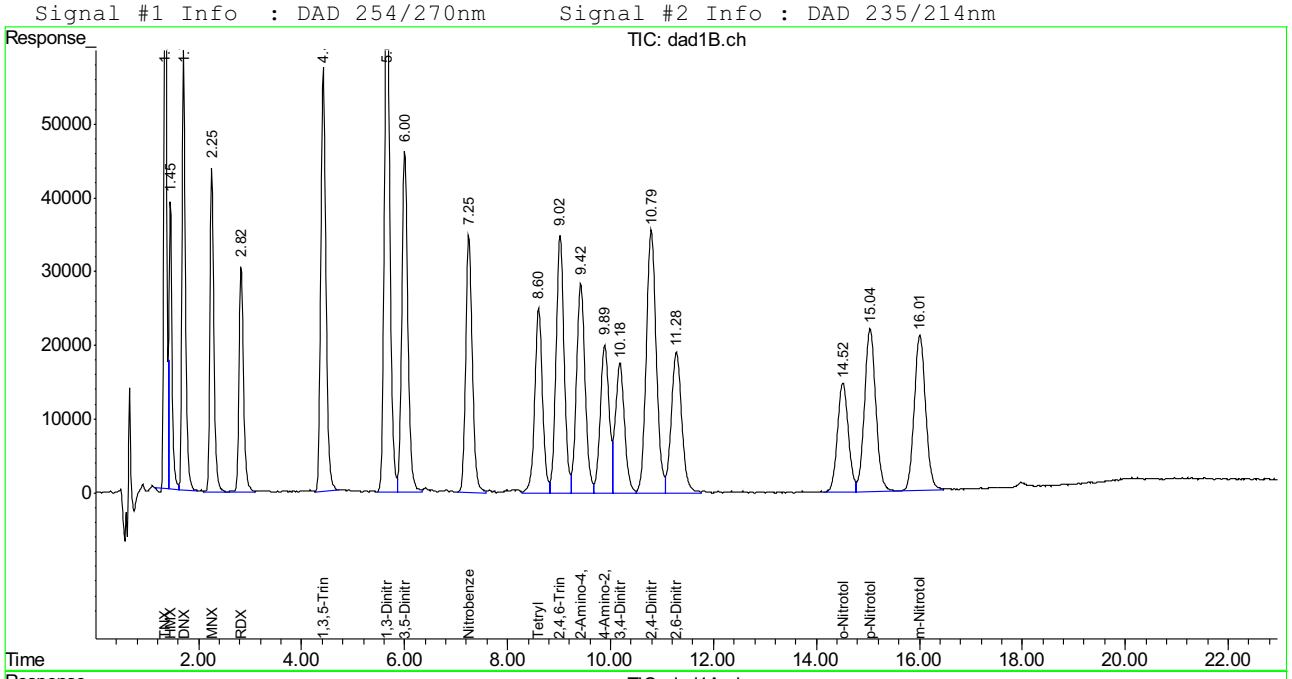
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054283.D 8330B_0419PLUS.M Fri Apr 21 10:12:18 2017 Page 1

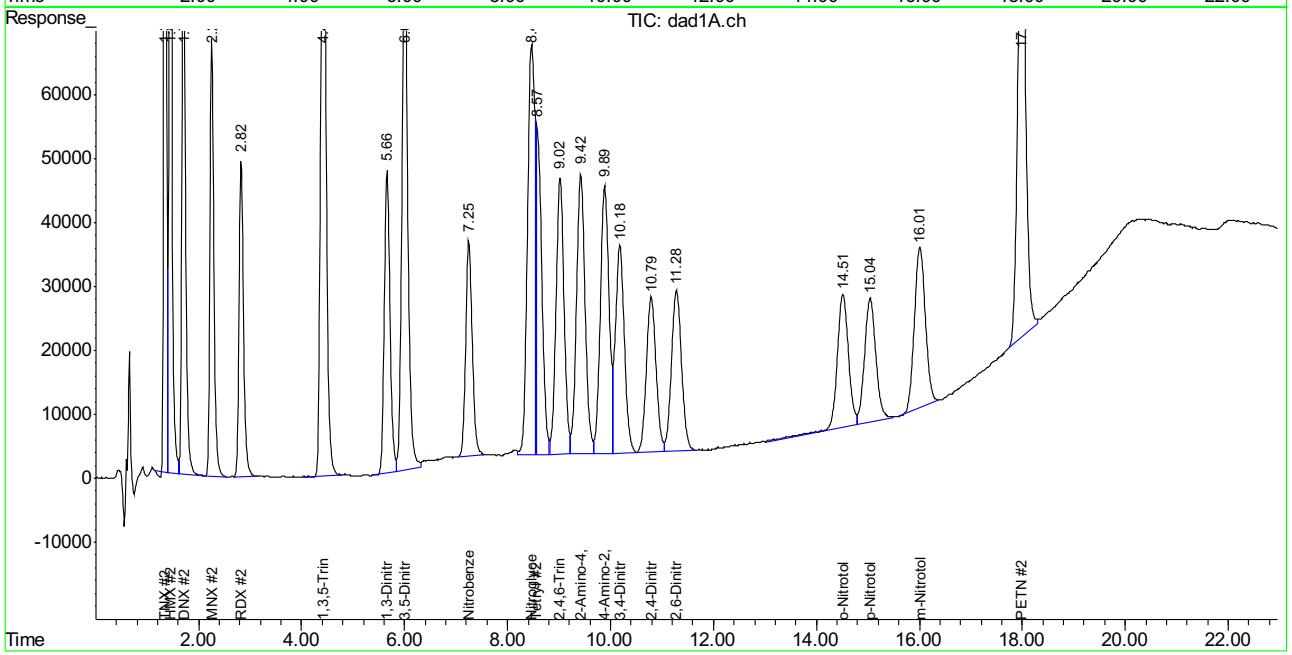
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:07 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

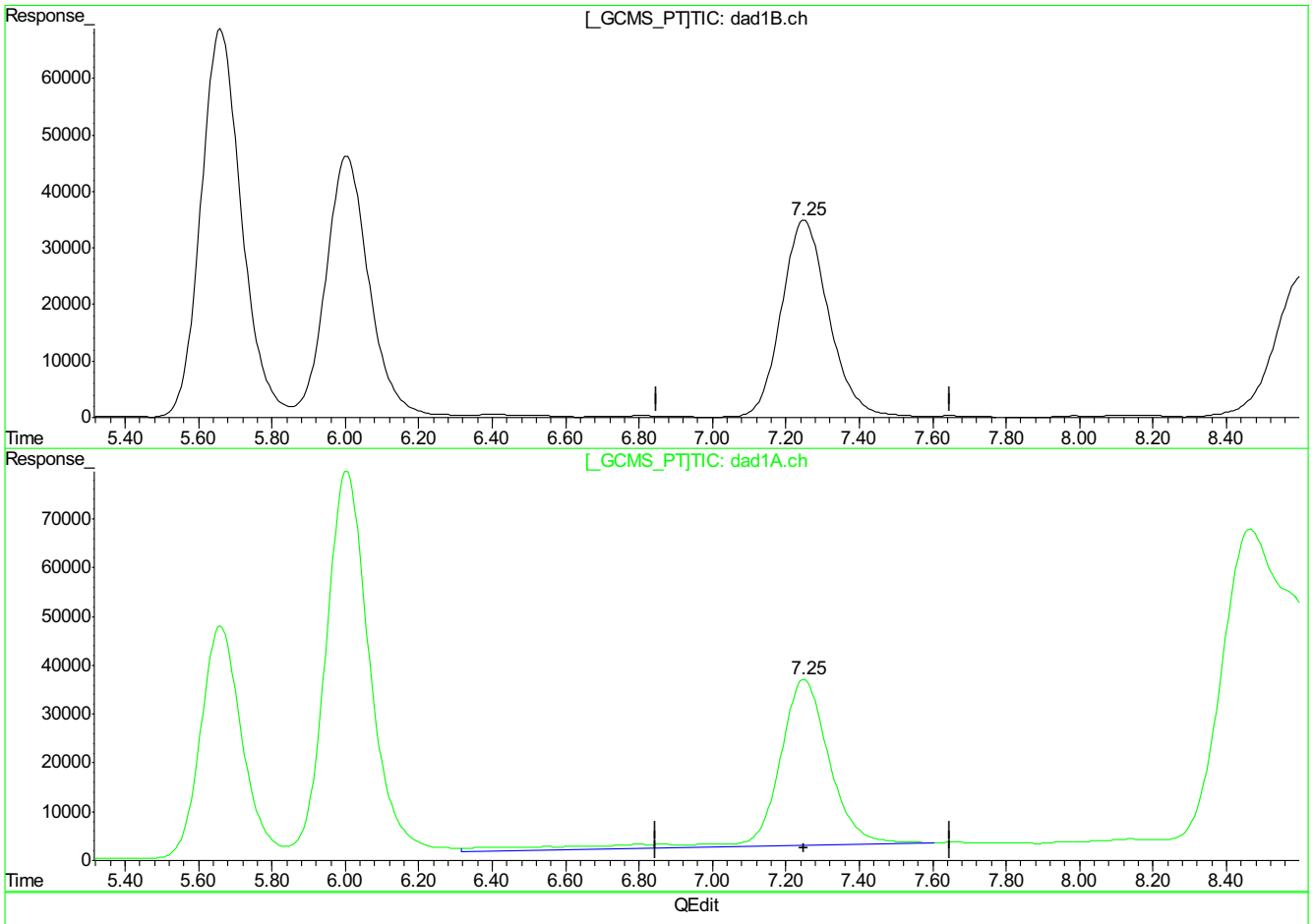
Sample Number: GBB1579-CC1578
Lab FileID: BB054283.D
Injection Time: 04/20/17 09:36
Method: SW846 8330A
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/24/17 14:55 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.25	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.46	Poorly defined baseline
Tetryl	479-45-8	2	8.57	Poorly defined baseline
PETN	78-11-5	2	17.99	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.25min 898.817ppb

response 3143849

(9) Nitrobenzene #2

7.25min 1056.394ppb

response 3378580

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:04 2017

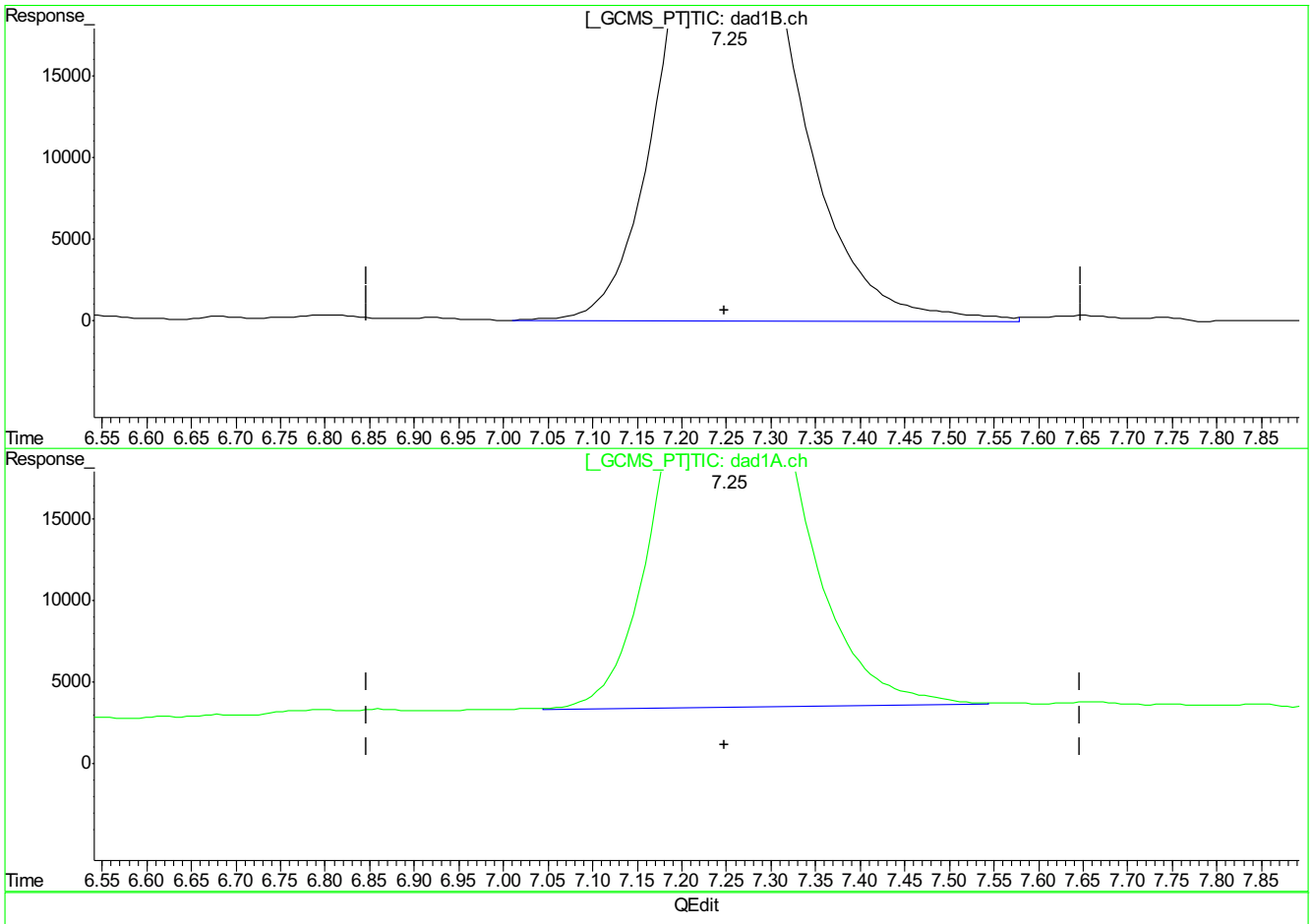
9.5.10.2

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.25min 898.817ppb

response 3143849

(9) Nitrobenzene #2

7.25min 936.456ppb m

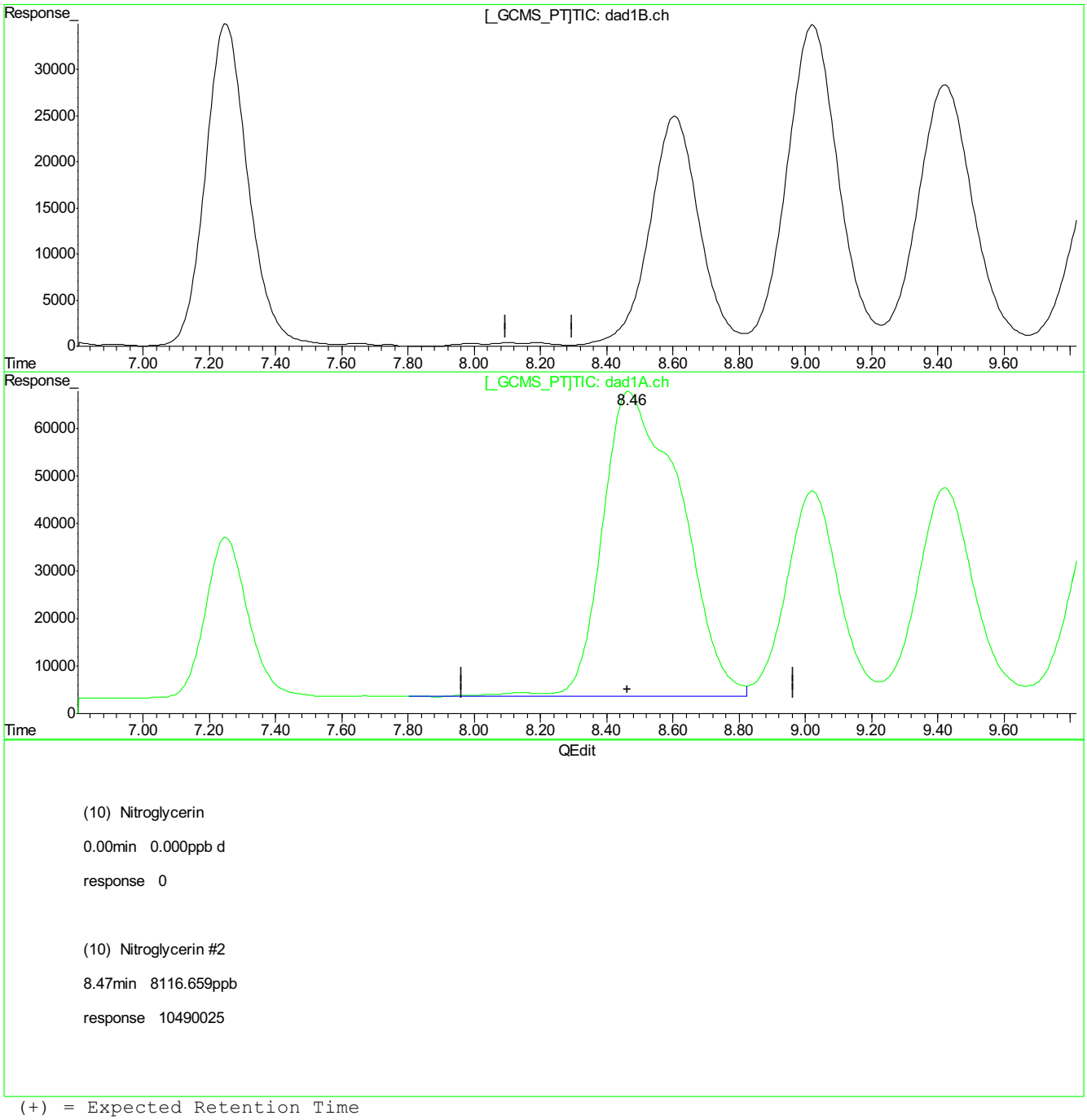
response 2994992

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:08 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



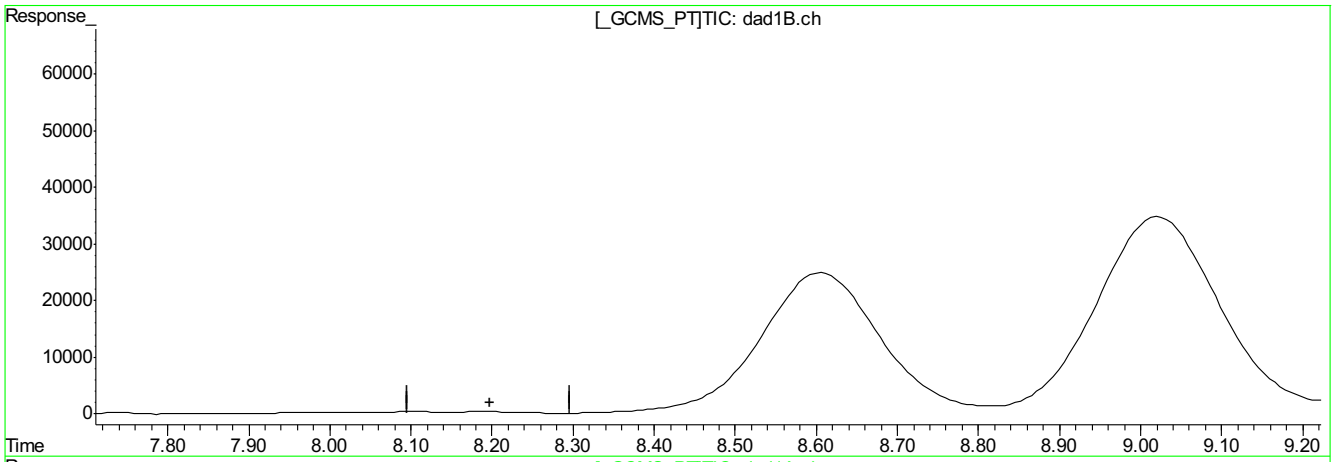
(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:11 2017

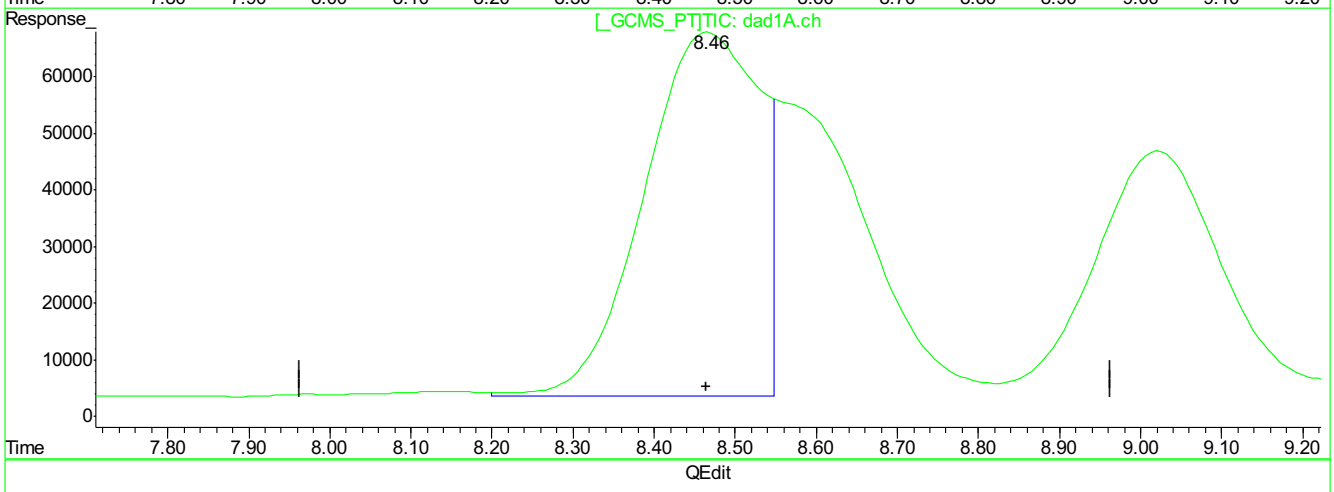
BB054283.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.46min 4942.820ppb m

response 6388135

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:24 2017

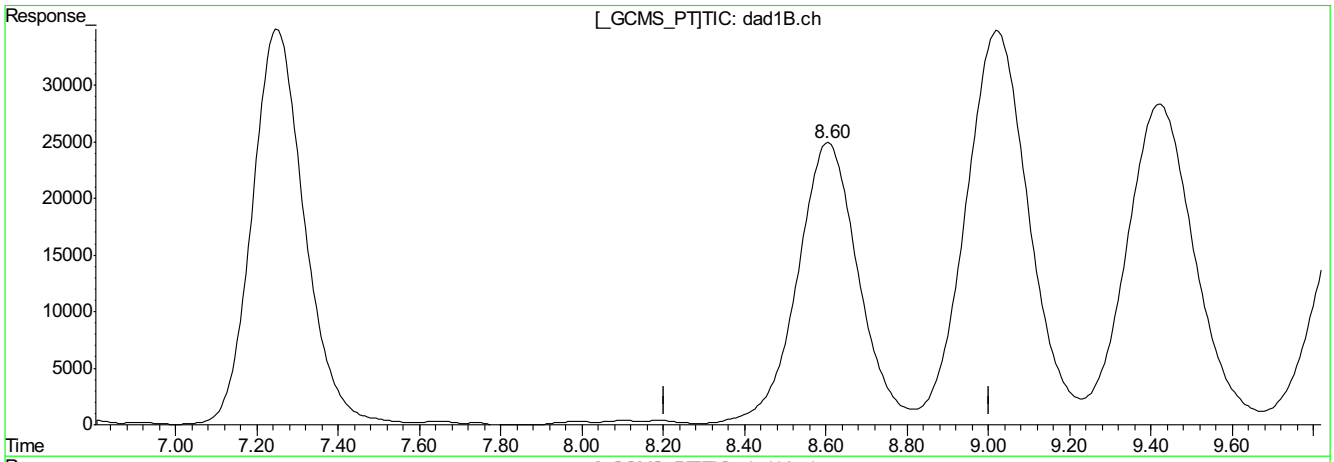
9.5.10.5

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.61min 989.666ppb

response 2632917

(11) Tetryl #2

8.47min 2704.927ppb

response 10490025

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:27 2017

9.5.10.6

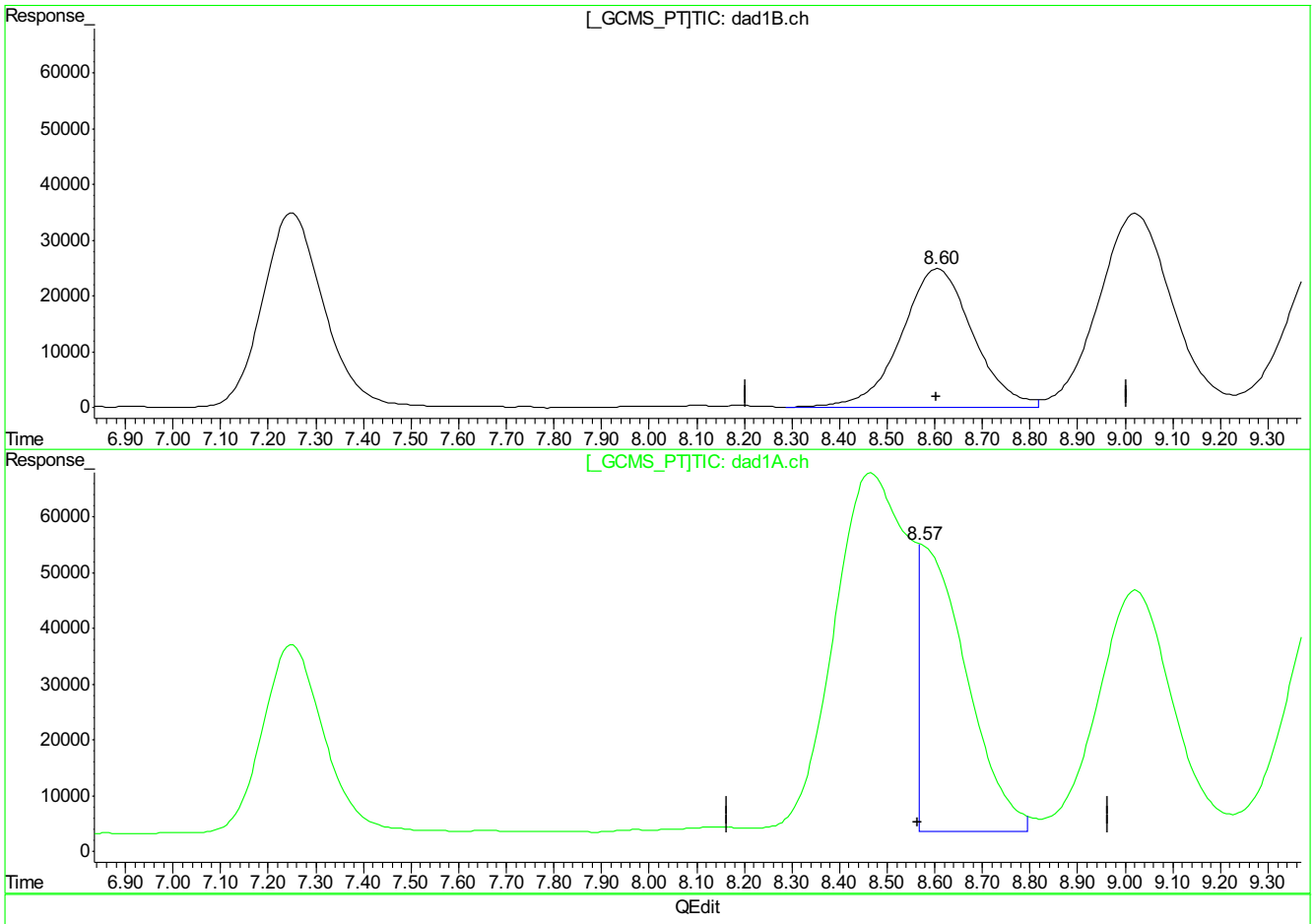
9

BB054283.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.61min 989.666ppb

response 2632917

(11) Tetryl #2

8.57min 864.368ppb m

response 3436027

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:06:58 2017

9.5.10.7

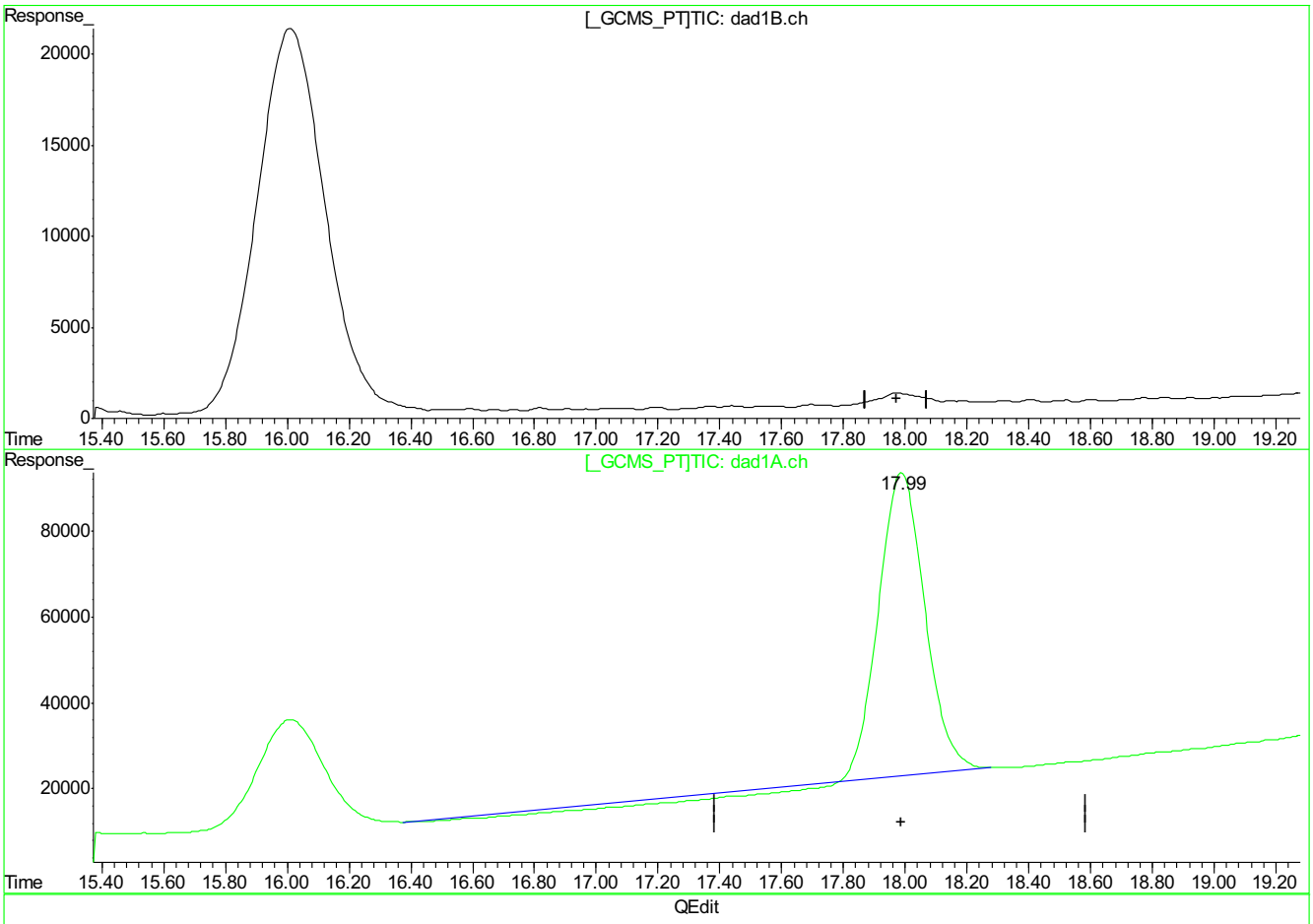
9

BB054283.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

17.99min 9449.251ppb

response 6612652

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:07:07 2017

9.5.10.8

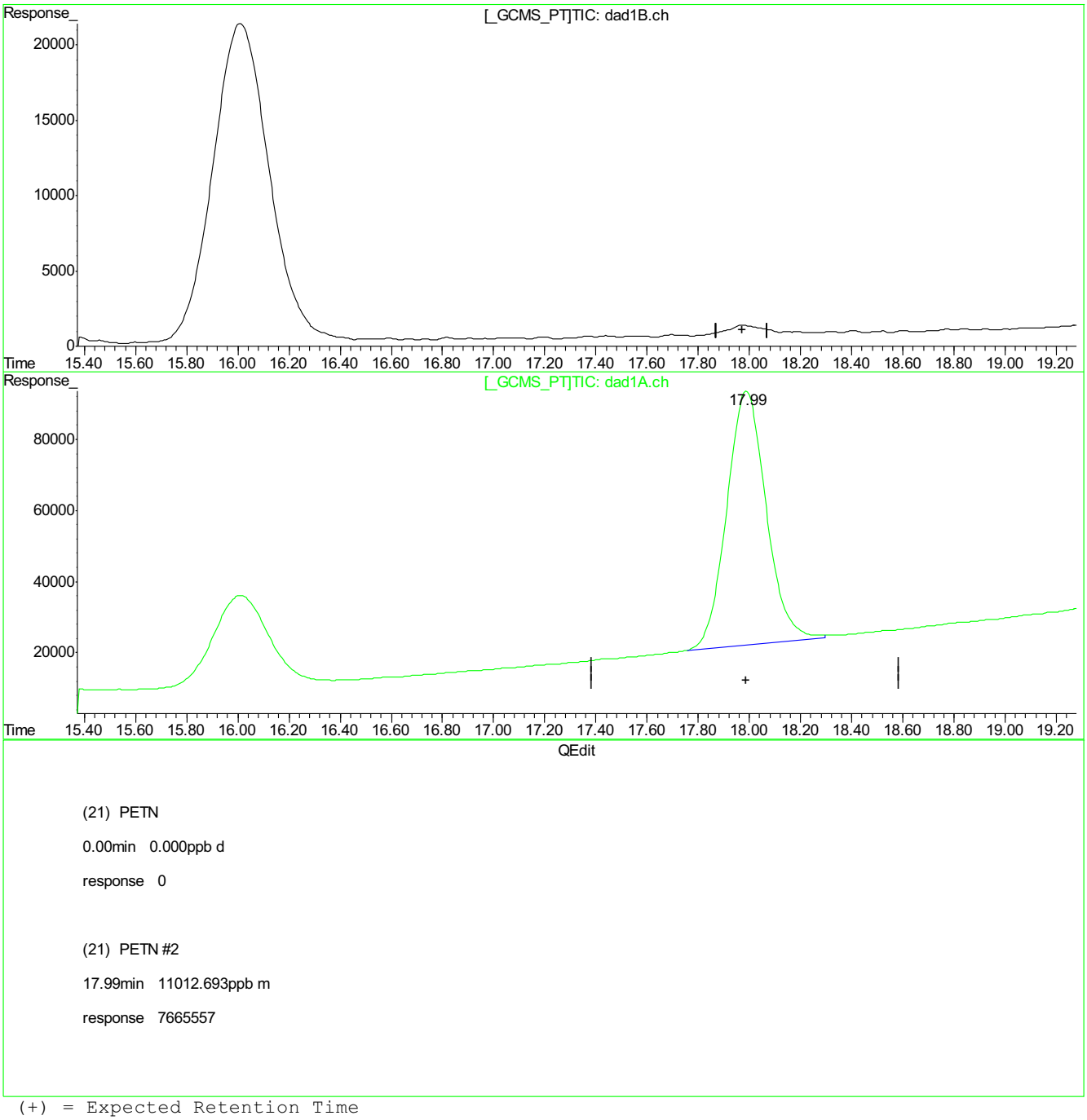
6

BB054283.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054283.D\dad1A.ch
Acq On : 20-Apr-2017, 09:36:24 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

17.99min 11012.693ppb m

response 7665557

(+) = Expected Retention Time
BB054283.D 8330B_0419PLUS.M Fri Apr 21 09:07:13 2017

9.5.10.9

6

BB054283.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/24/17 14:55

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:00:51 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.23	10.23	2171698	3916979	945.831	914.704
	Spiked Amount 500.000	Range 70 - 136		Recovery =		189.17%#	182.94%#
	Target Compounds						
1)	TNX	1.35	1.35	3139900	4817300	1041.647	994.450
2)	HMX	1.46	1.46	1620438	4456672	927.735	928.167
3)	DNX	1.71	1.71	2830881	4592262	909.274	981.755
4)	MNX	2.26	2.26	2300664	3593594	927.544	935.258
5)	RDX	2.83	2.83	1840588	2970561	979.252	903.925
6)	1,3,5-Trinitrobe	4.43	4.43	4001029	7876702	926.203	968.954
7)	1,3-Dinitrobenze	5.68	5.68	5279394	3636223	959.827	941.897
8)	3,5-Dinitroanili	6.01	6.01	3827762	6525310	1019.893	976.823
9)	Nitrobenzene	7.28	7.27	3155979	3019973	902.285	944.267m
10)	Nitroglycerin	0.00	8.49	0	6331344	N.D. d	4898.878m
11)	Tetryl	8.63	8.59	2631300	3534773	989.061	889.505m
12)	2,4,6-Trinitroto	9.06	9.05	3780553	4667854	913.792	998.325
13)	2-Amino-4,6-Dini	9.45	9.44	3344002	5080893	924.068	937.842
14)	4-Amino-2,6-Dini	9.92	9.92	2420357	4969866	934.367	935.192
16)	2,4-Dinitrotolue	10.84	10.84	4804127	3178472	946.162	944.153
17)	2,6-Dinitrotolue	11.34	11.33	2708940	3444984	868.193	981.035
18)	o-Nitrotoluene	14.59	14.59	2203799	3084371	950.386	957.605
19)	p-Nitrotoluene	15.12	15.12	3400614	2936332	972.480	989.037
20)	m-Nitrotoluene	16.09	16.09	3276406	3696152	909.633	1052.093
21)	PETN	0.00	18.03	0	7463335	N.D. d	10711.063m

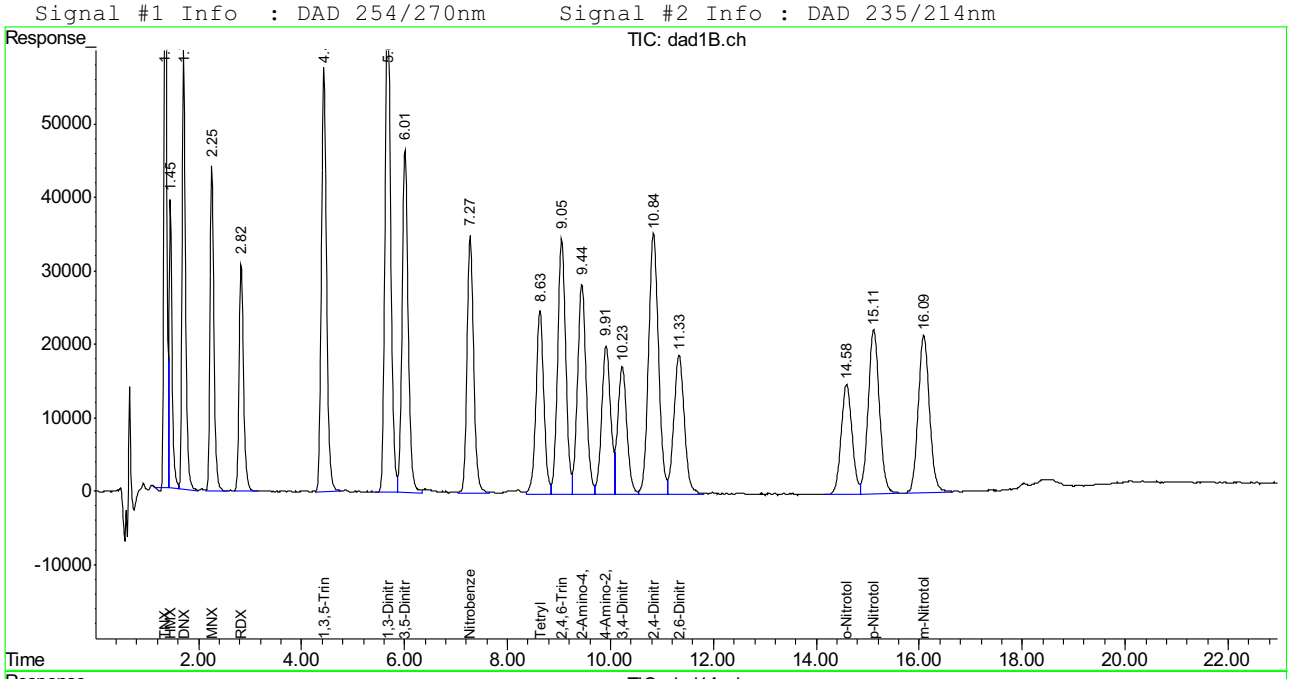
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054295.D 8330B_0419PLUS.M Fri Apr 21 10:12:30 2017 Page 1

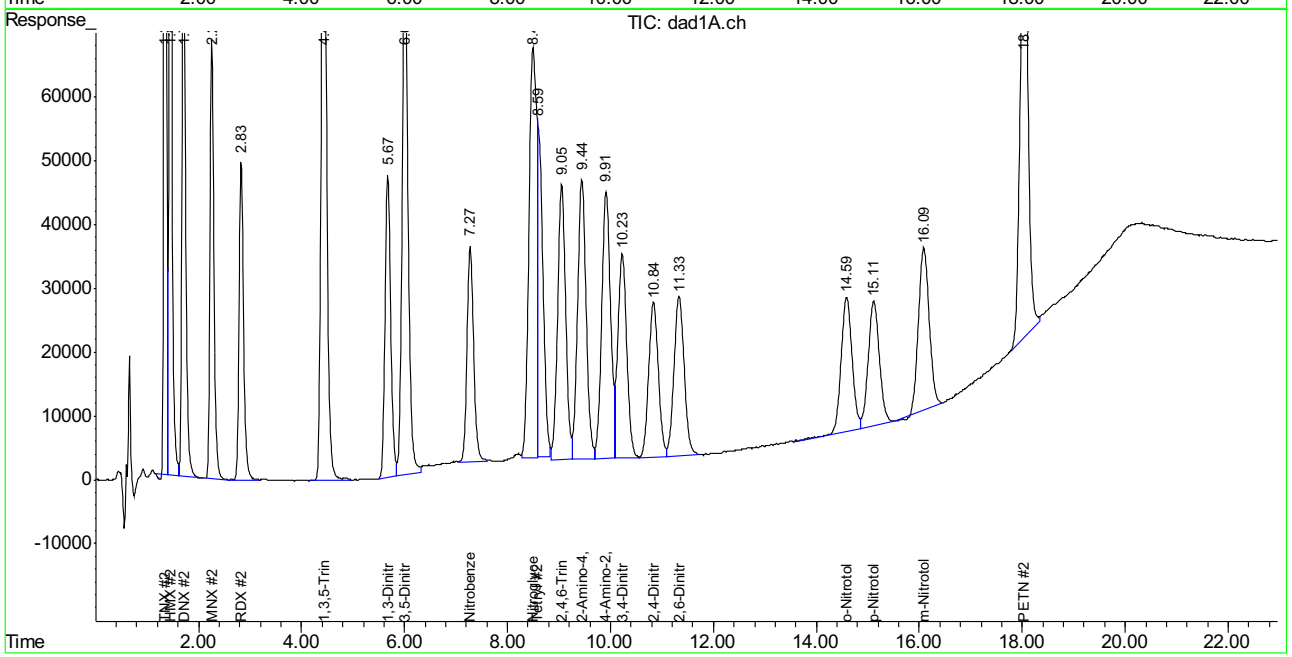
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:09 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

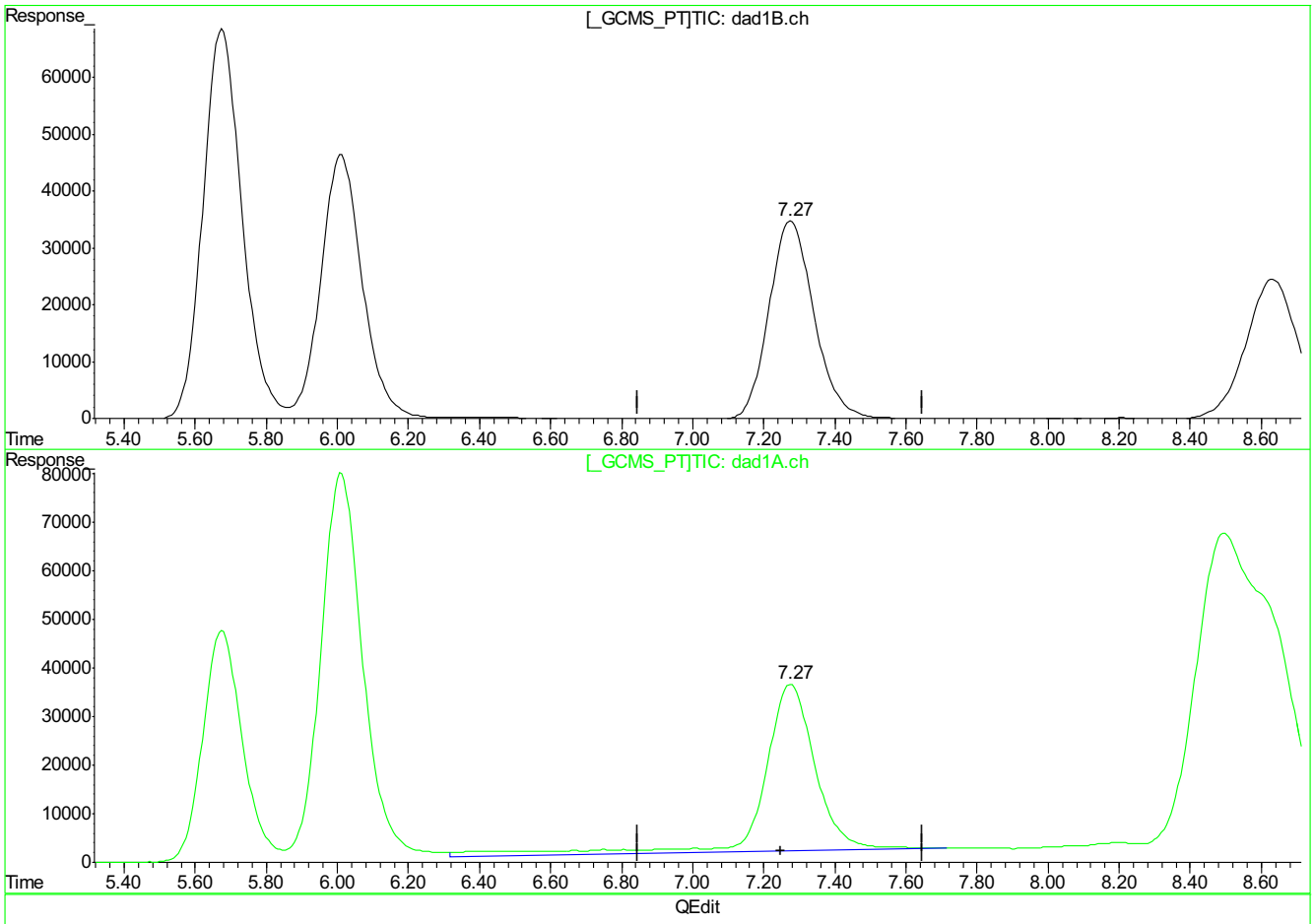
Sample Number: GBB1579-CC1578
Lab FileID: BB054295.D
Injection Time: 04/20/17 15:36
Method: SW846 8330A
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/24/17 14:55 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.27	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.49	Poorly defined baseline
Tetryl	479-45-8	2	8.59	Poorly defined baseline
PETN	78-11-5	2	18.03	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 902.285ppb

response 3155979

(9) Nitrobenzene #2

7.28min 1116.878ppb

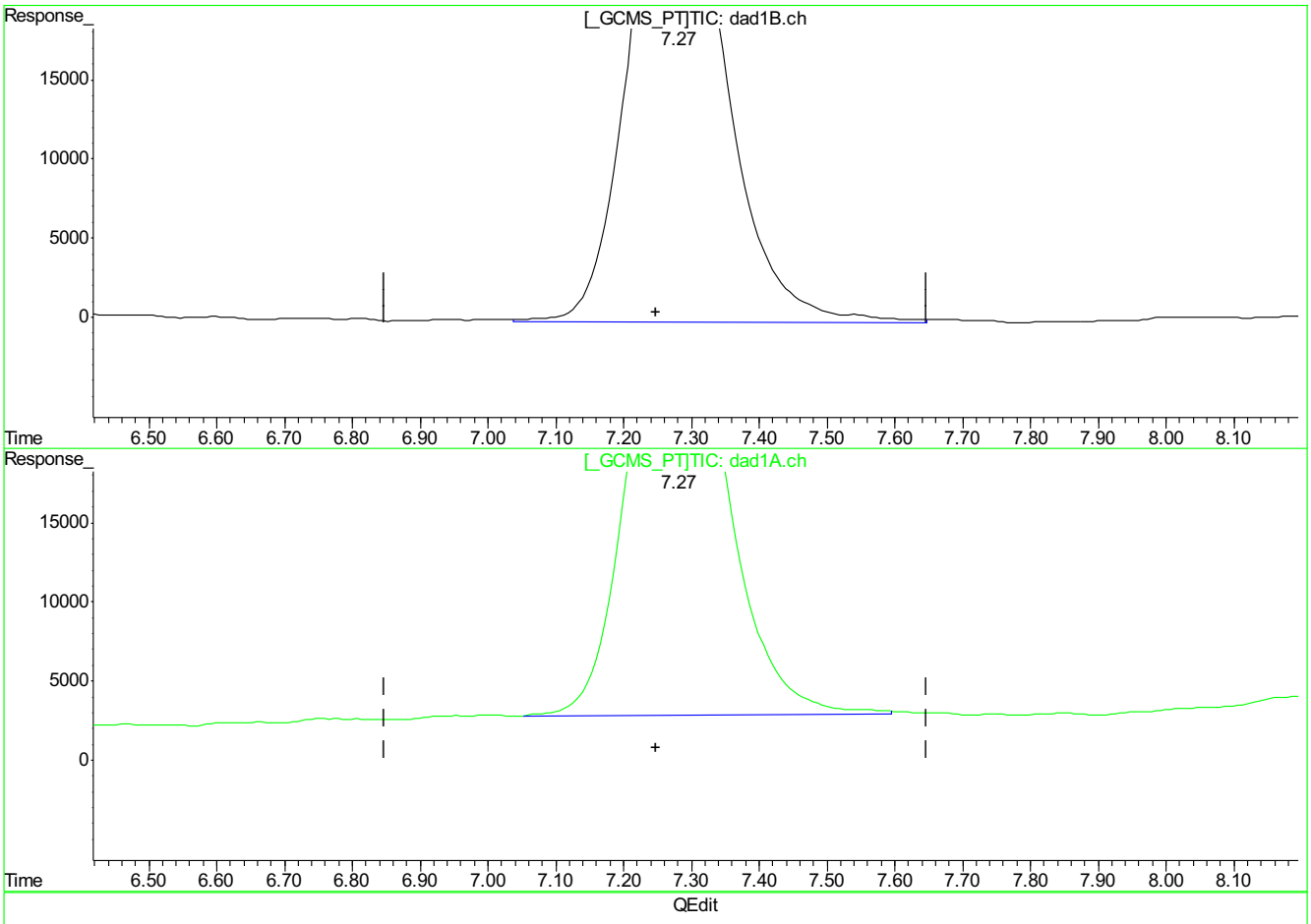
response 3572022

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:07:34 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 902.285ppb

response 3155979

(9) Nitrobenzene #2

7.27min 944.267ppb m

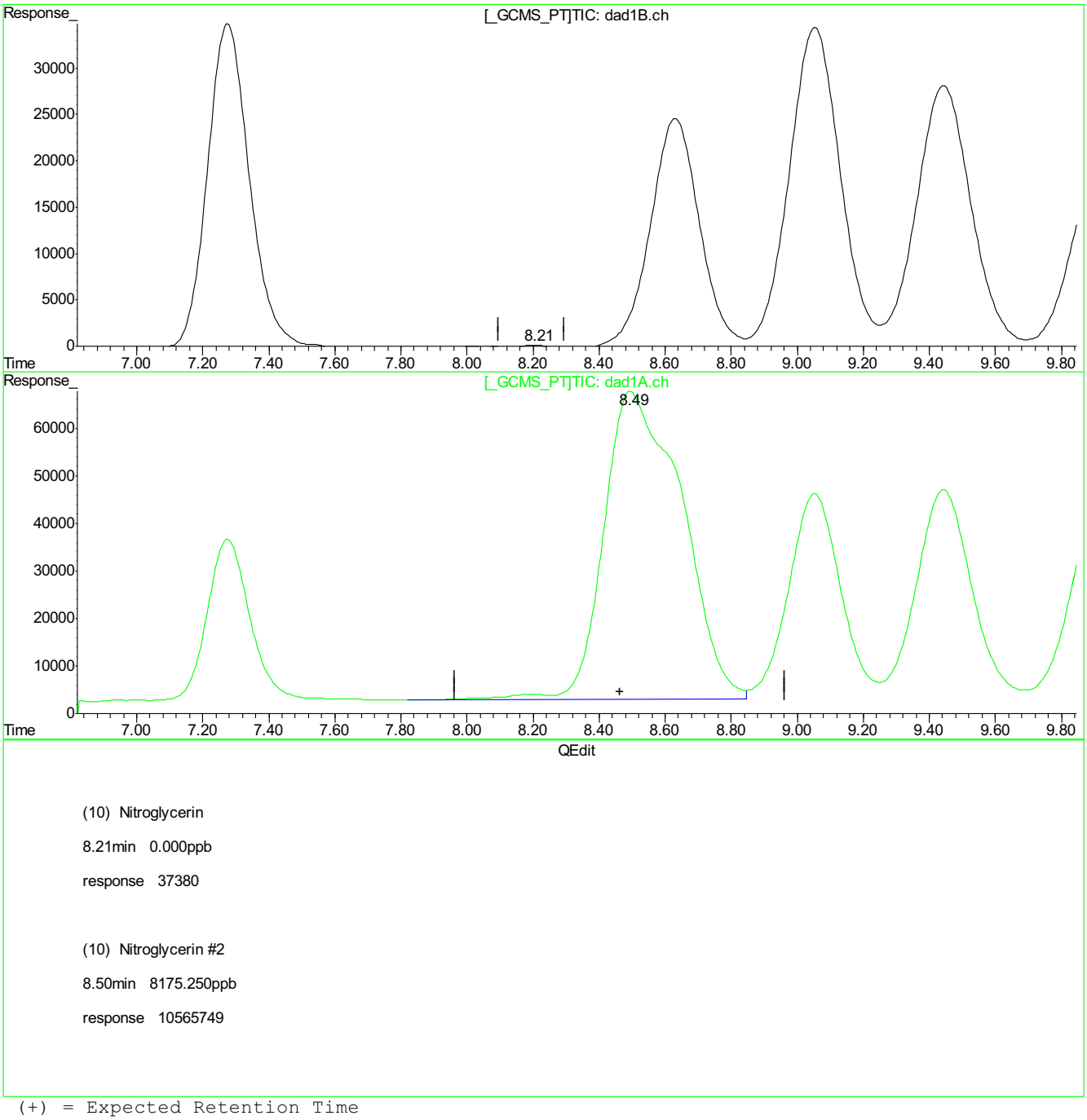
response 3019973

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:07:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:07:41 2017

9.5.11.4

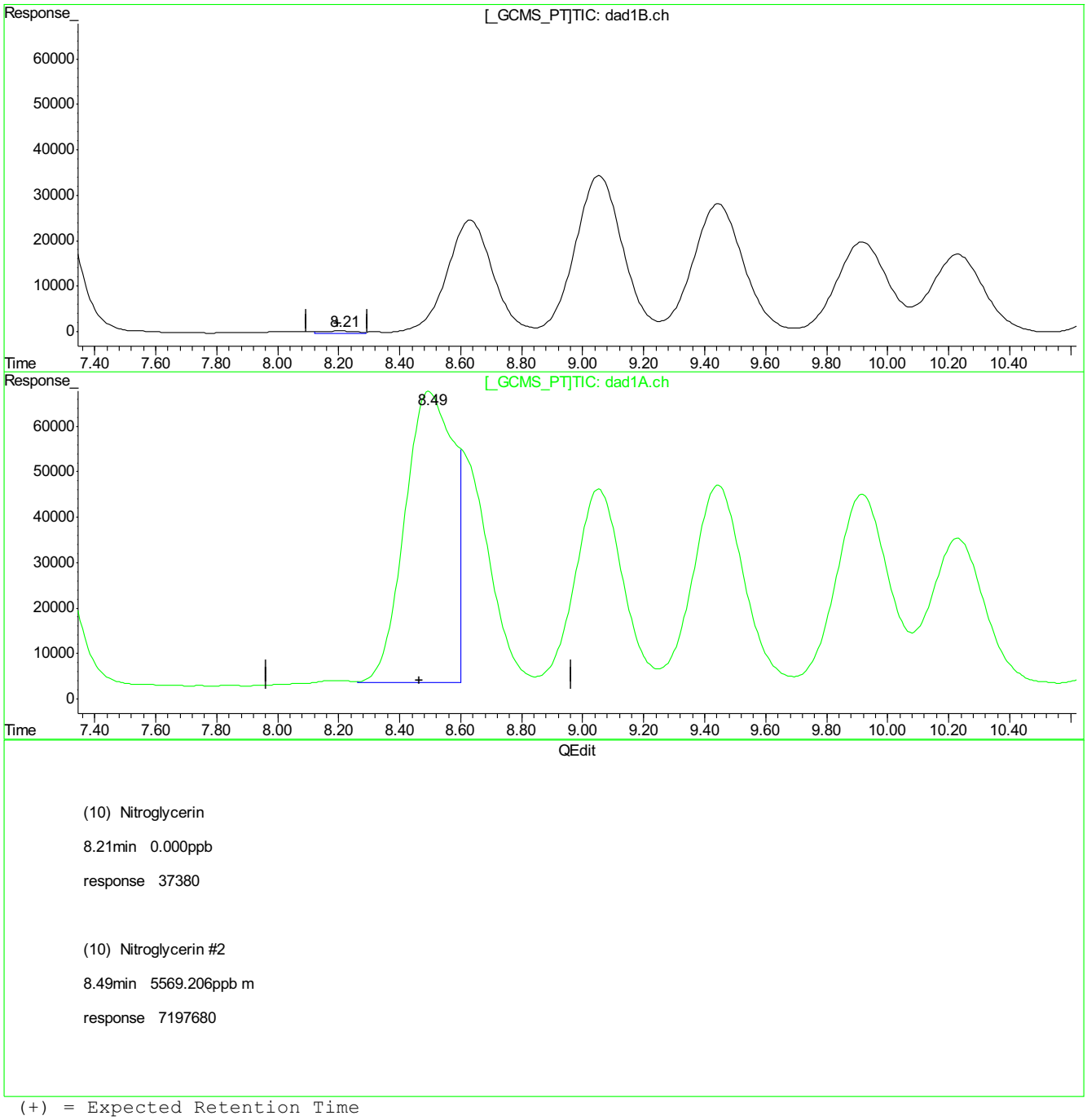
9

BB054295.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.21min 0.000ppb

response 37380

(10) Nitroglycerin #2

8.49min 5569.206ppb m

response 7197680

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:08:31 2017

9.5.11.5

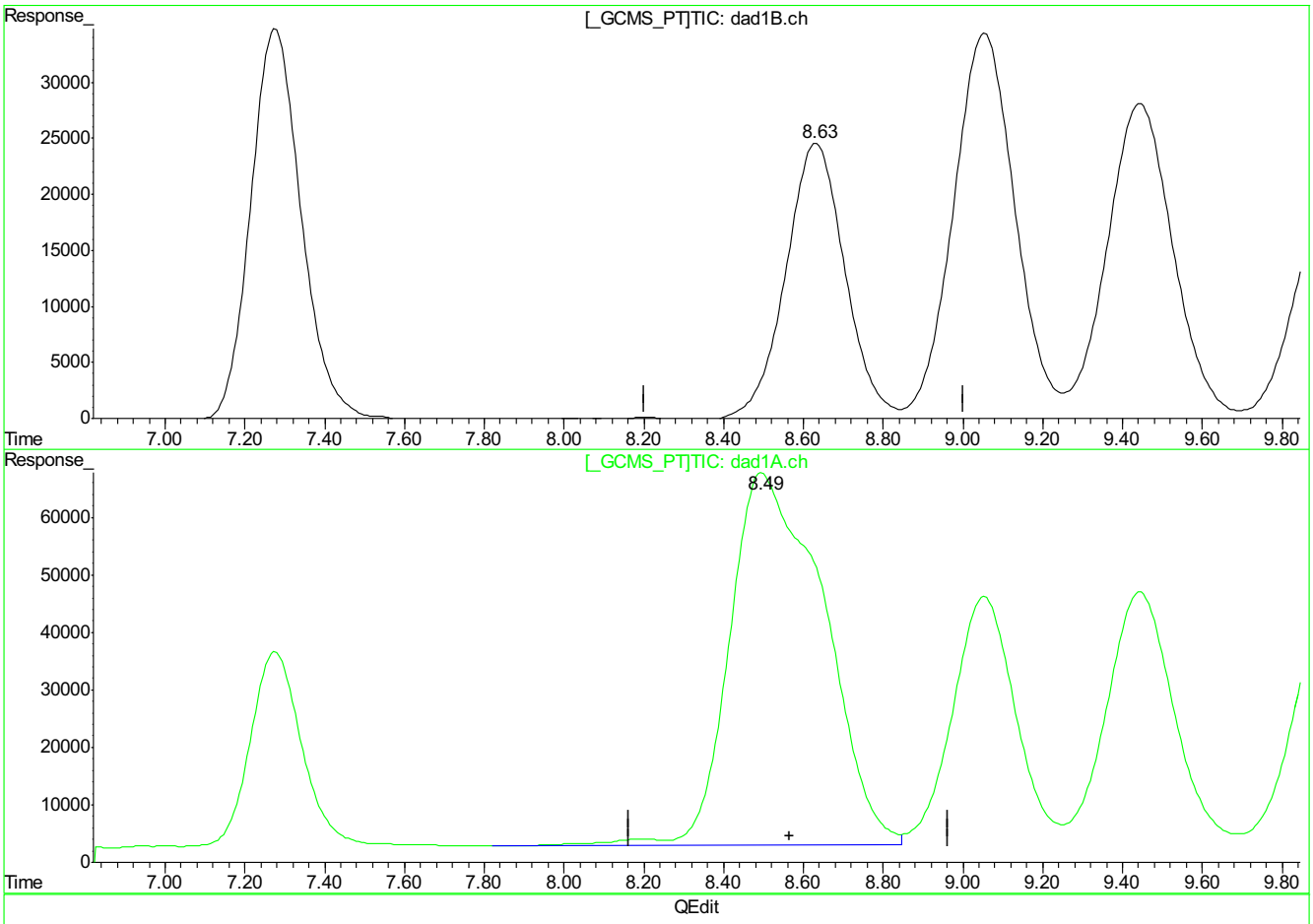
9

BB054295.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 989.061ppb

response 2631300

(11) Tetryl #2

8.50min 2725.204ppb

response 10565749

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:08:36 2017

9.5.11.6

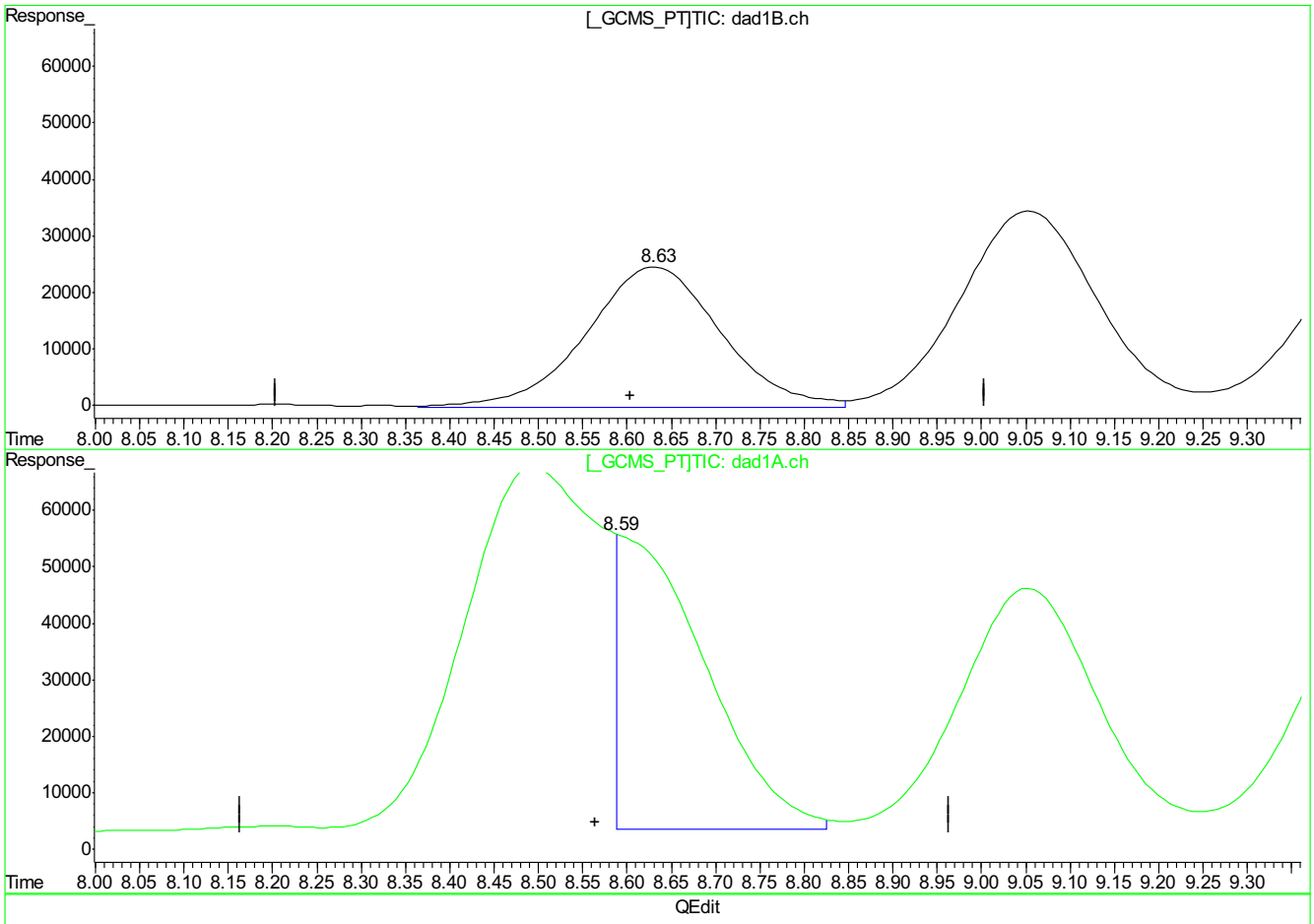
9

BB054295.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 989.061ppb

response 2631300

(11) Tetryl #2

8.59min 889.505ppb m

response 3534773

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:09:41 2017

9.5.11.7

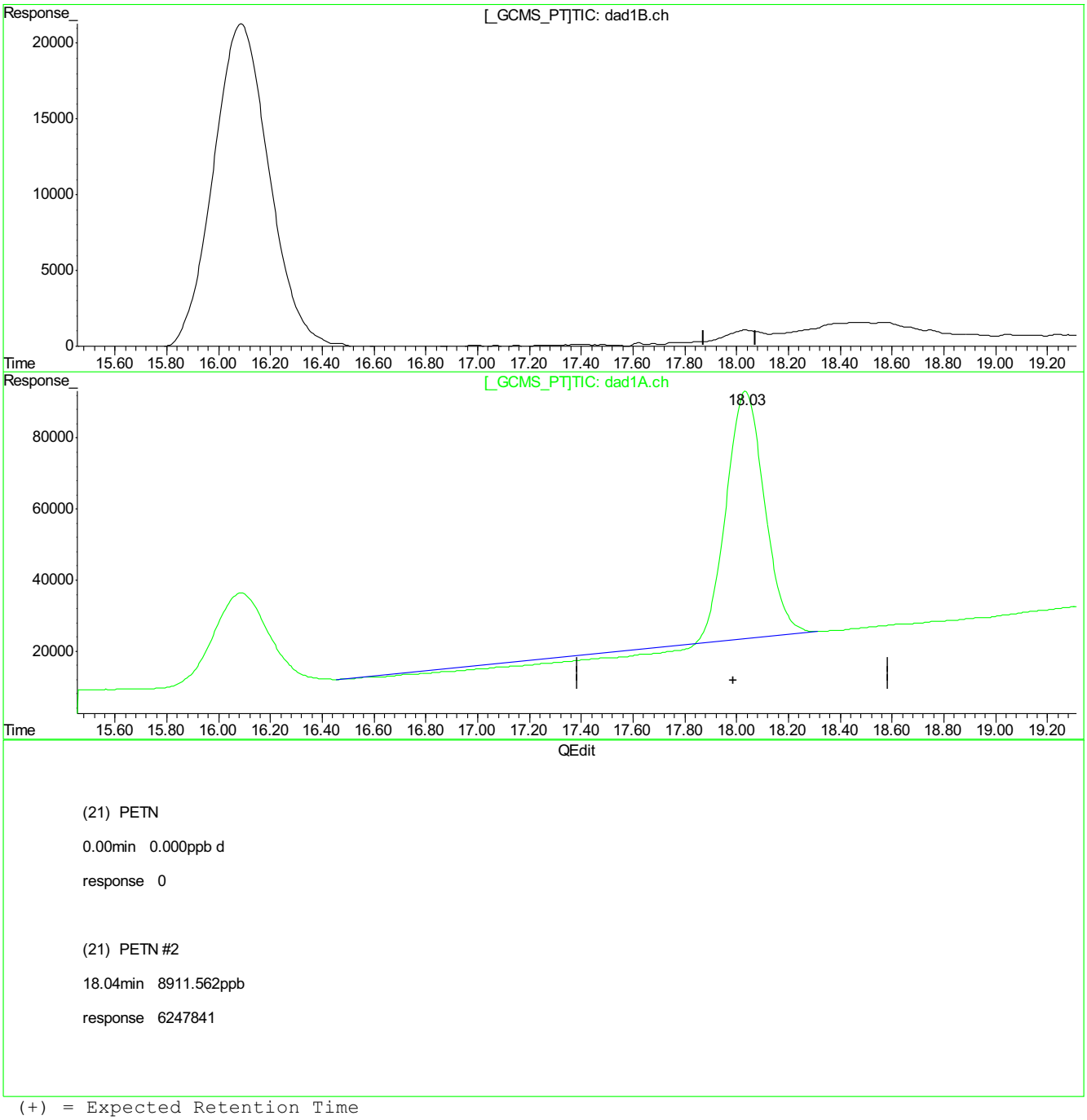
9

BB054295.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.04min 8911.562ppb

response 6247841

(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:09:47 2017

9.5.11.8

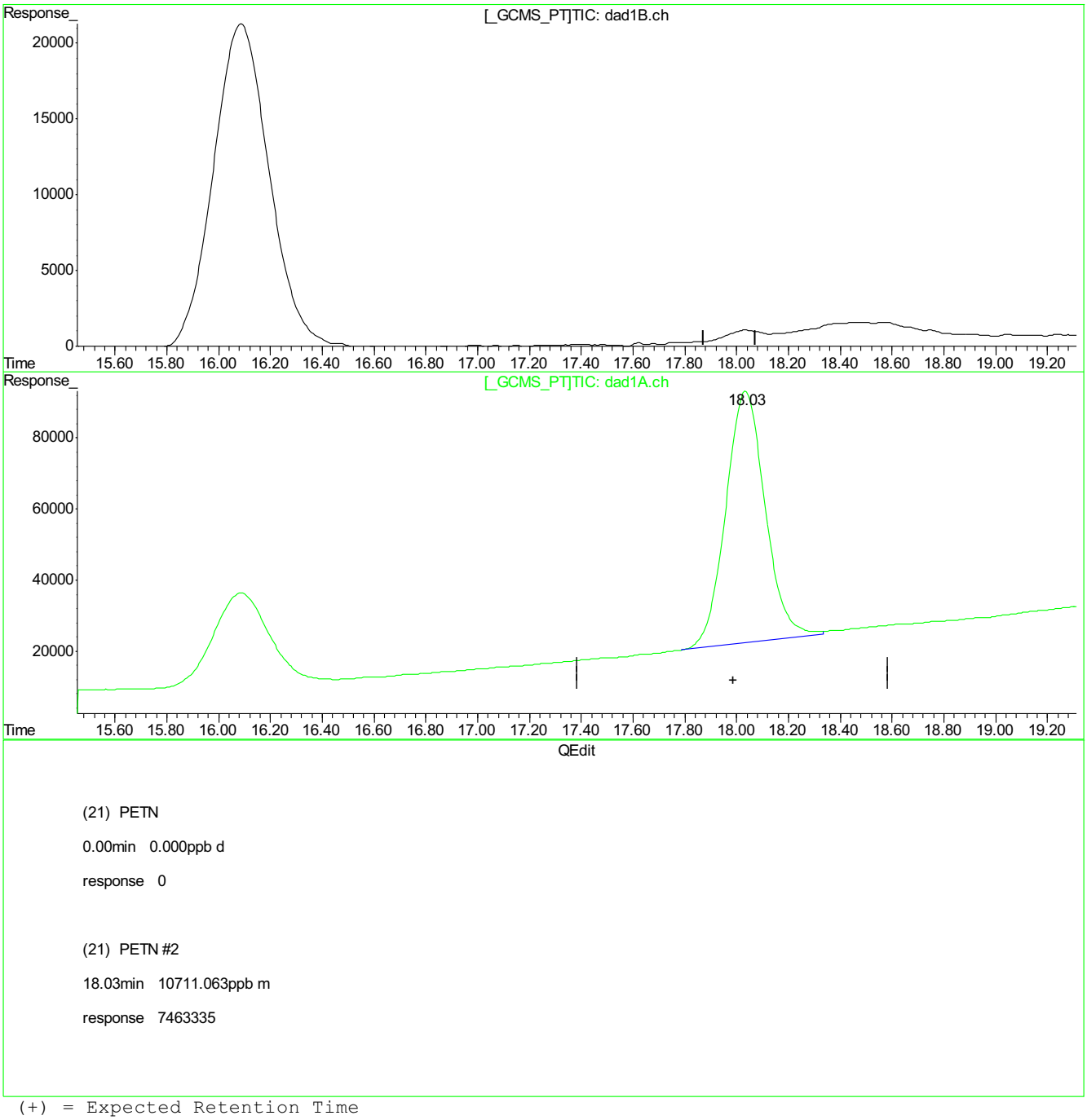
9

BB054295.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054295.D\dad1A.ch
Acq On : 20-Apr-2017, 15:36:17 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:00 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054295.D 8330B_0419PLUS.M Fri Apr 21 09:09:51 2017

9.5.11.9

9

BB054295.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/24/17 14:55

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:01:01 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.23	10.23	2174079	3893449	946.869	909.210
	Spiked Amount 500.000	Range 70 - 136		Recovery =		189.37%#	181.84%#
	Target Compounds						
1)	TNX	1.35	1.35	3126838	4794222	1037.314	989.685
2)	HMX	1.45	1.46	1614832	4462375	924.525	929.355
3)	DNX	1.71	1.71	2801781	4489589	899.927	959.451
4)	MNX	2.26	2.26	2315699	3573513	933.605	930.031
5)	RDX	2.83	2.83	1872413	2951357	996.339	898.081
6)	1,3,5-Trinitrobe	4.43	4.43	4007208	7794613	927.634	958.856
7)	1,3-Dinitrobenze	5.67	5.67	5268942	3591601	957.927	930.339
8)	3,5-Dinitroanili	6.01	6.01	3820940	6484665	1018.091	970.738
9)	Nitrobenzene	7.28	7.28	3169047	3018141	906.021	943.694m
10)	Nitroglycerin	8.15	8.49	60371	6404765	NoCal	4955.688m#
11)	Tetryl	8.63	8.59	2636867	3455177	991.143	869.242m
12)	2,4,6-Trinitroto	9.05	9.05	3795970	4663909	917.519	997.486
13)	2-Amino-4,6-Dini	9.45	9.45	3348005	5066896	925.174	935.258
14)	4-Amino-2,6-Dini	9.92	9.92	2416155	4946629	932.745	930.819
16)	2,4-Dinitrotolue	10.84	10.84	4789353	3159355	943.253	938.474
17)	2,6-Dinitrotolue	11.34	11.34	2701408	3438651	865.779	979.232
18)	o-Nitrotoluene	14.60	14.60	2192743	3096882	945.618	961.546
19)	p-Nitrotoluene	15.13	15.13	3409984	2998975	975.184	1010.137
20)	m-Nitrotoluene	16.10	16.10	3273290	3718221	908.768	1058.375
21)	PETN	0.00	18.03	0	7250945	N.D. d	10394.966m

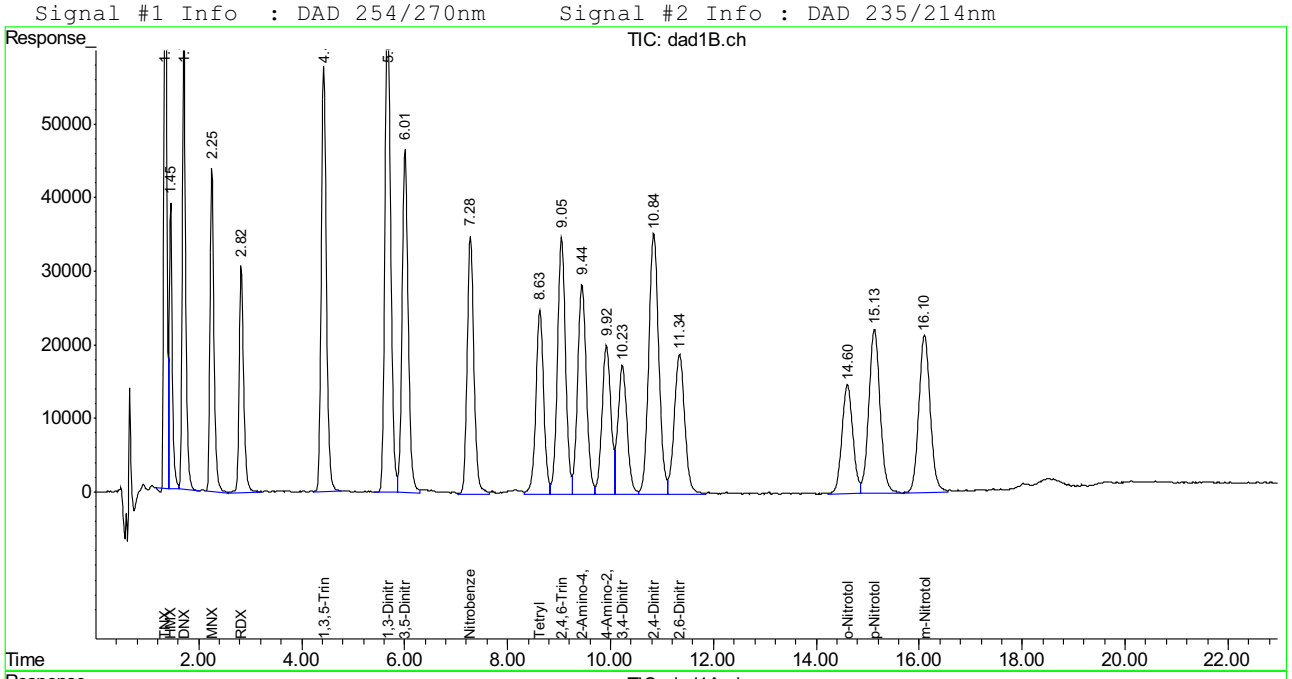
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054305.D 8330B_0419PLUS.M Fri Apr 21 10:12:39 2017 Page 1

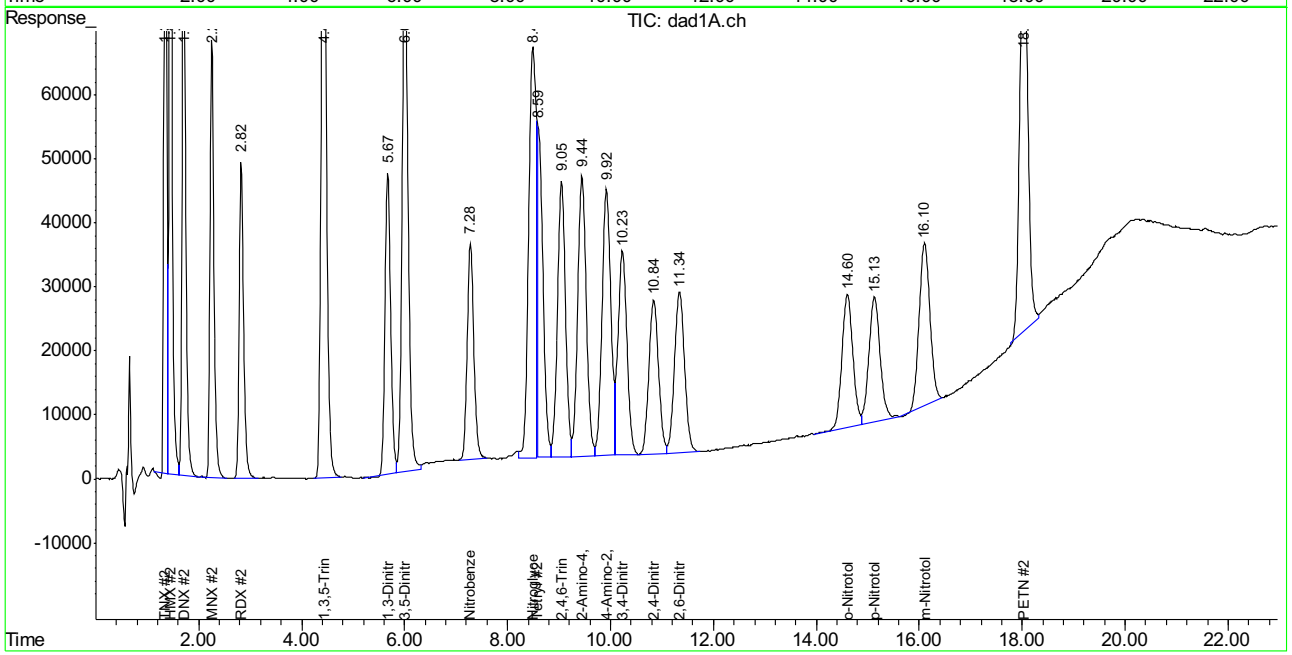
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:11 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

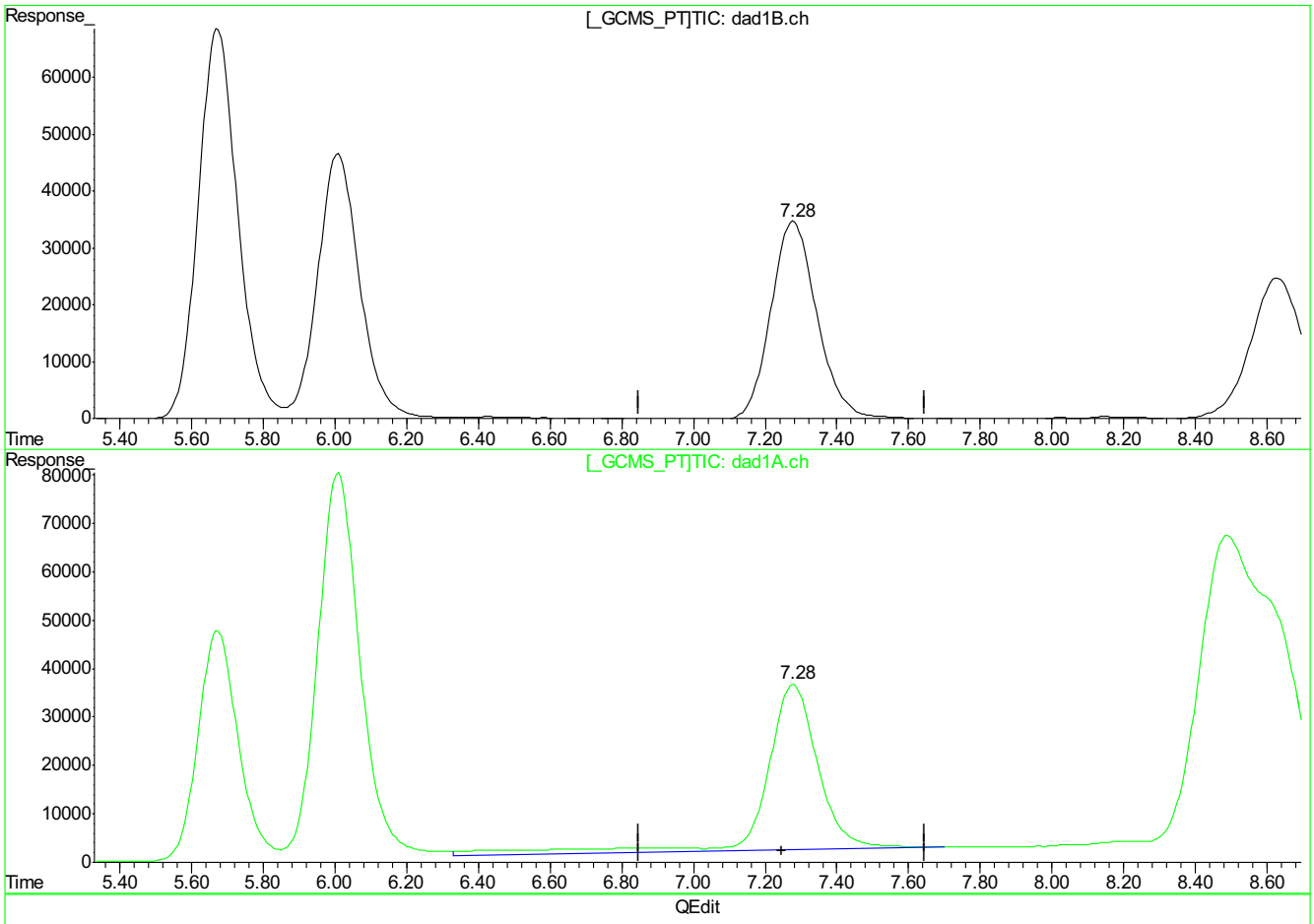
Sample Number: GBB1579-CC1578
Lab FileID: BB054305.D
Injection Time: 04/20/17 20:36
Method: SW846 8330B
Analyst approved: 04/21/17 10:40 Evita Martinez
Supervisor approved: 04/24/17 14:55 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.28	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.49	Poorly defined baseline
Tetryl	479-45-8	2	8.59	Poorly defined baseline
PETN	78-11-5	2	18.03	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 906.021ppb

response 3169047

(9) Nitrobenzene #2

7.28min 1088.268ppb

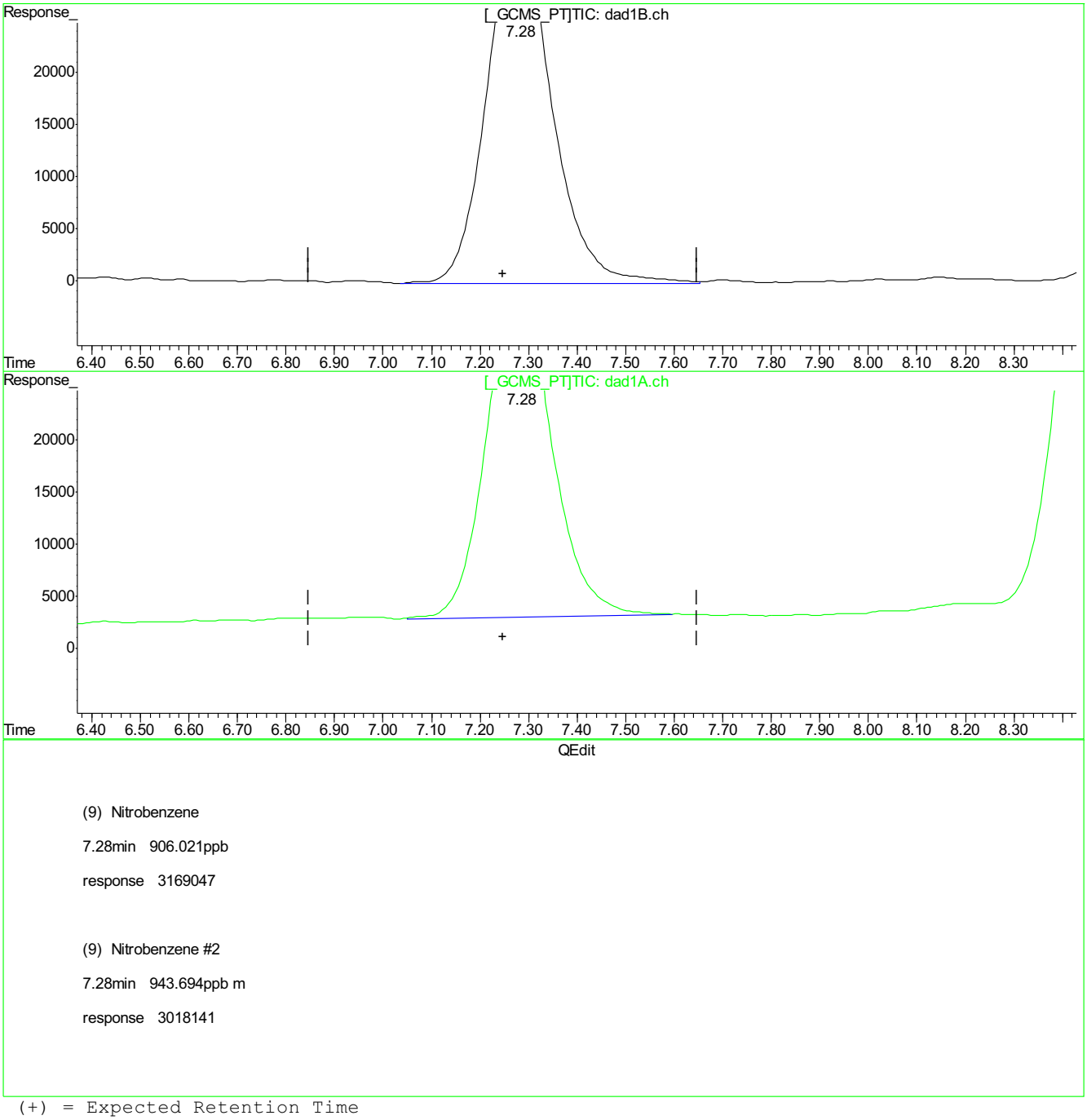
response 3480520

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.28min 906.021ppb

response 3169047

(9) Nitrobenzene #2

7.28min 943.694ppb m

response 3018141

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:16 2017

9.5.12.3

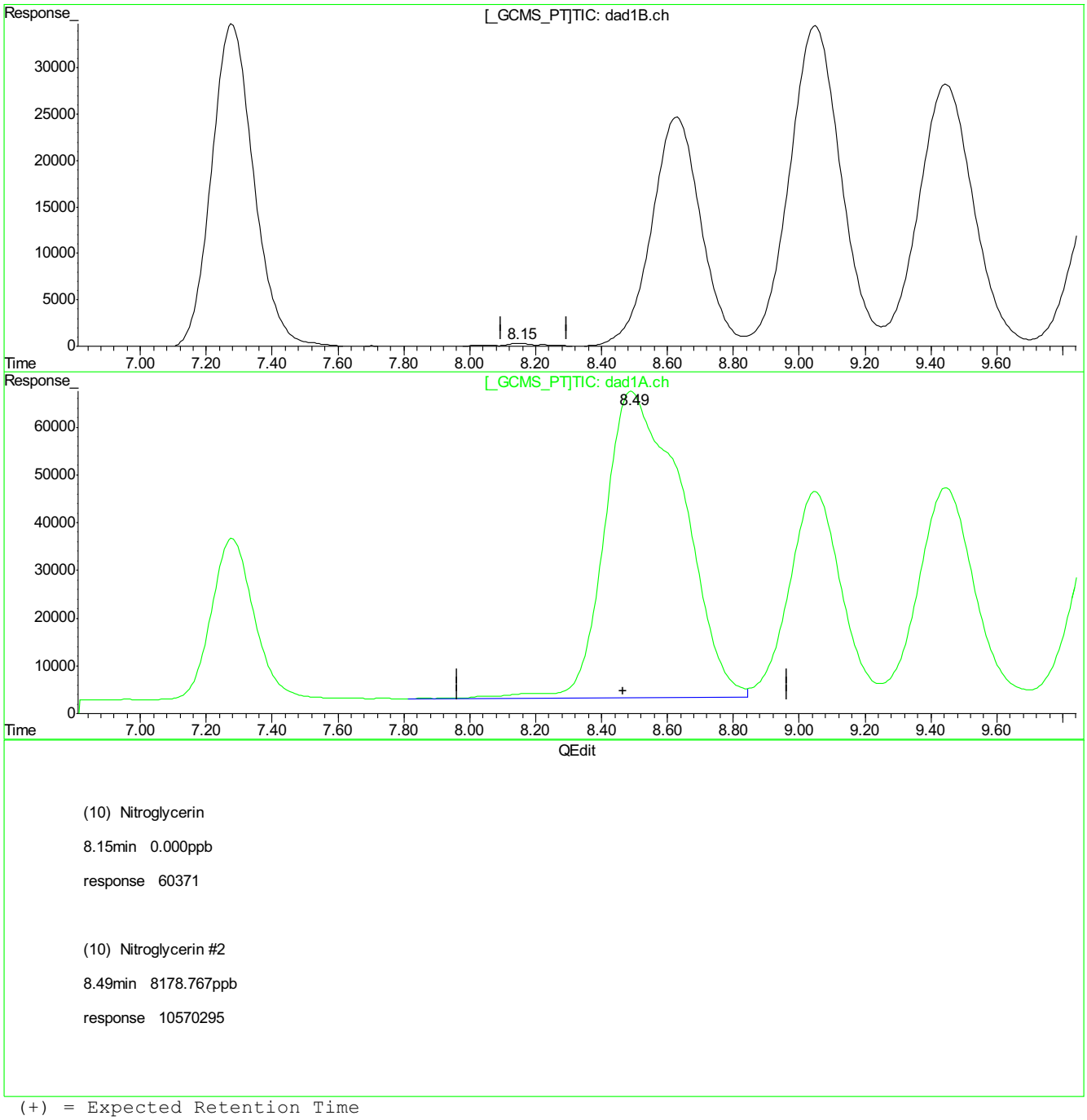
9

BB054305.D edits: Nitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.15min 0.000ppb

response 60371

(10) Nitroglycerin #2

8.49min 8178.767ppb

response 10570295

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:19 2017

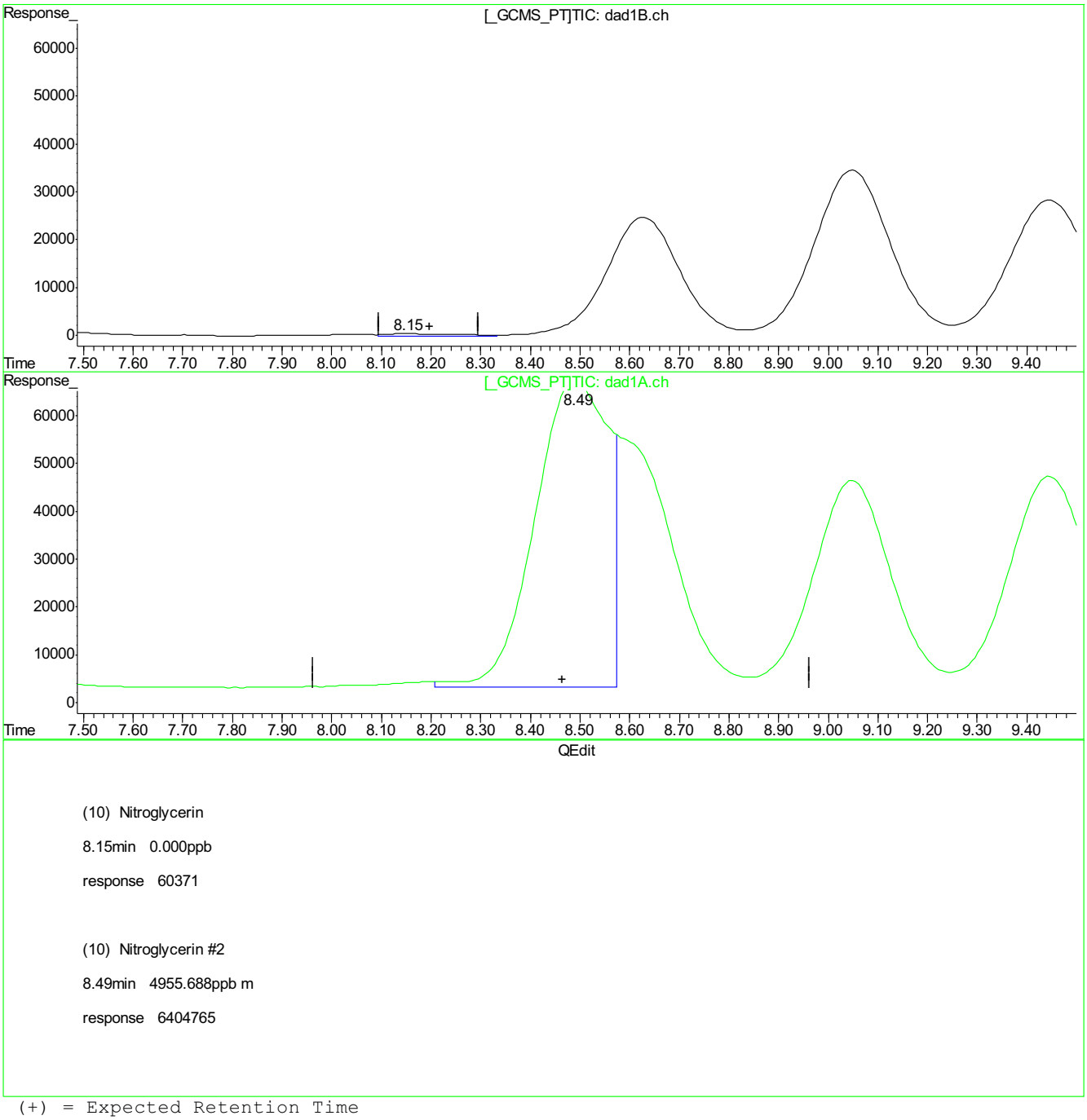
9.5.12.4

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.15min 0.000ppb

response 60371

(10) Nitroglycerin #2

8.49min 4955.688ppb m

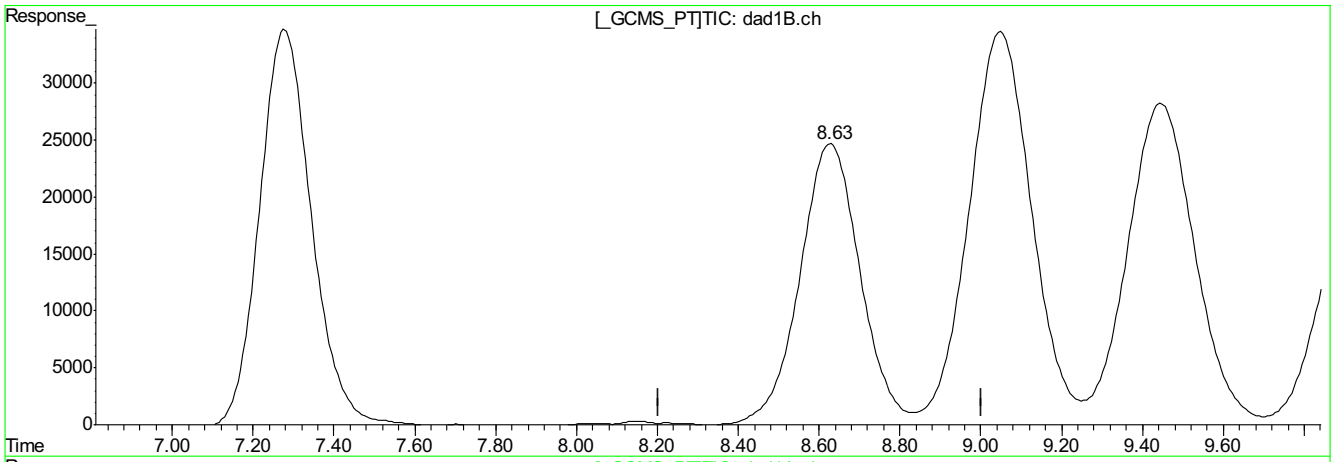
response 6404765

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:53 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 991.143ppb

response 2636867

(11) Tetryl #2

8.49min 2726.422ppb

response 10570295

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:10:55 2017

9.5.12.6

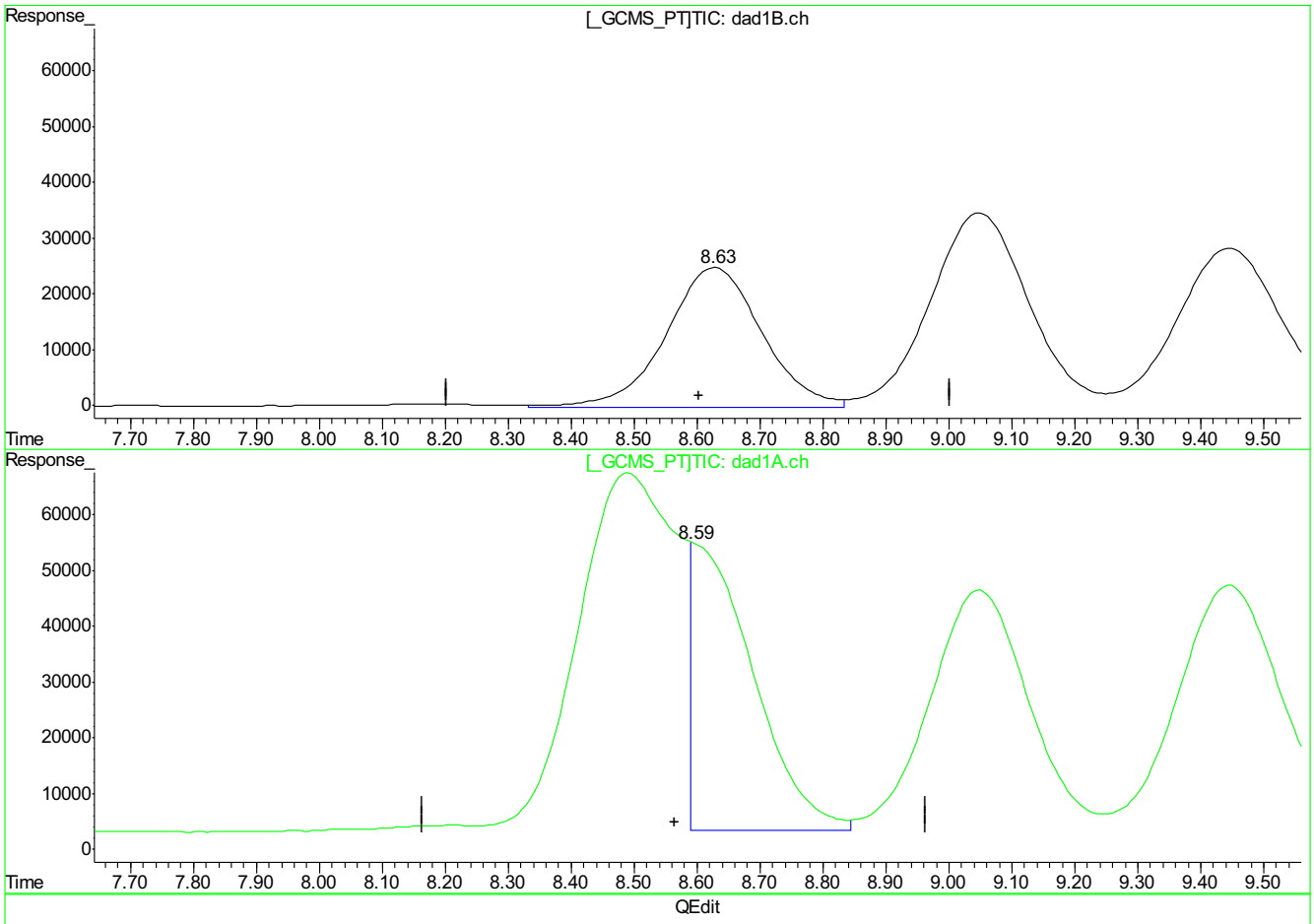
9

BB054305.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.63min 991.143ppb

response 2636867

(11) Tetryl #2

8.59min 869.242ppb m

response 3455177

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:11:04 2017

9.5.12.7

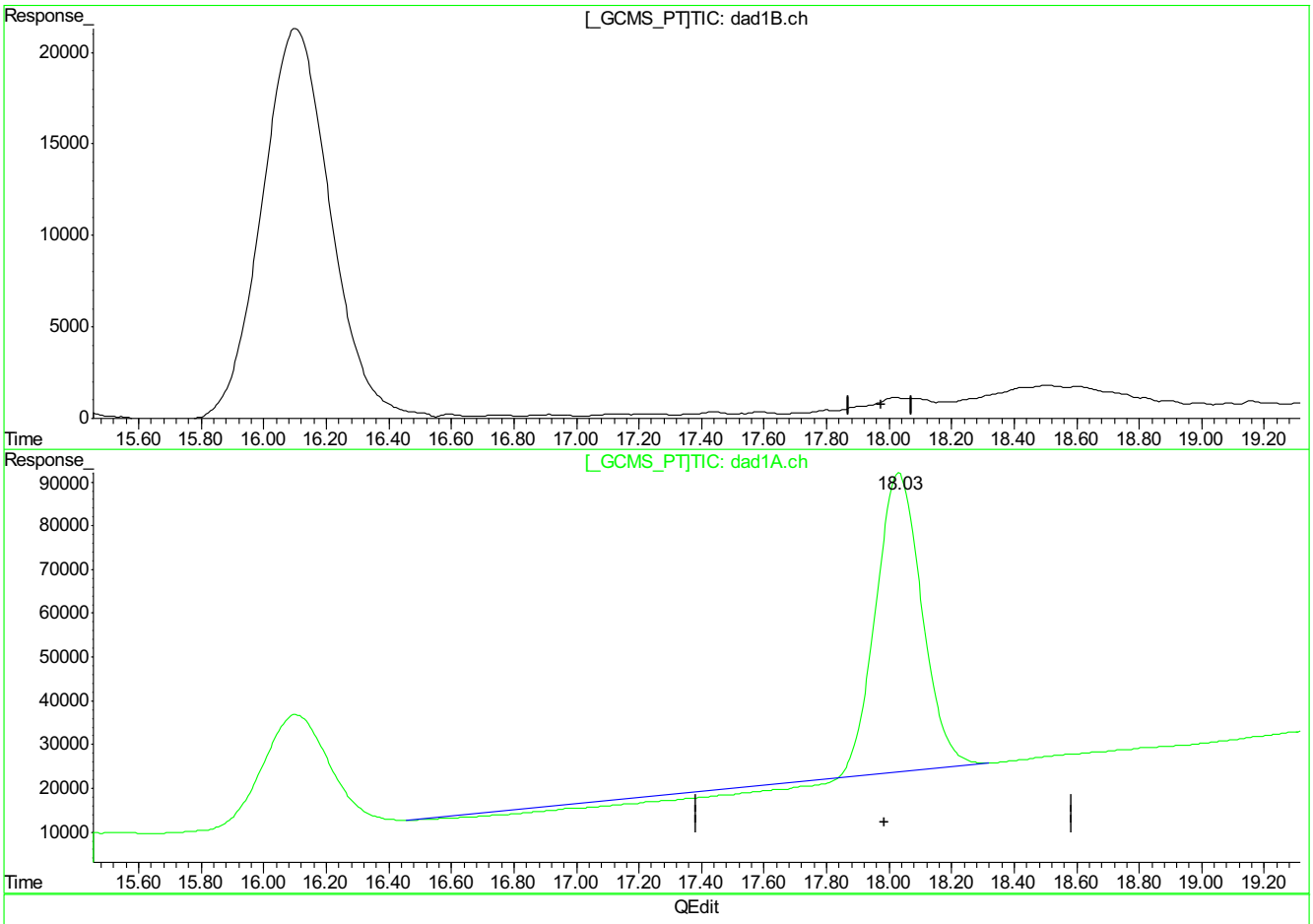
9

BB054305.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.03min 8777.765ppb

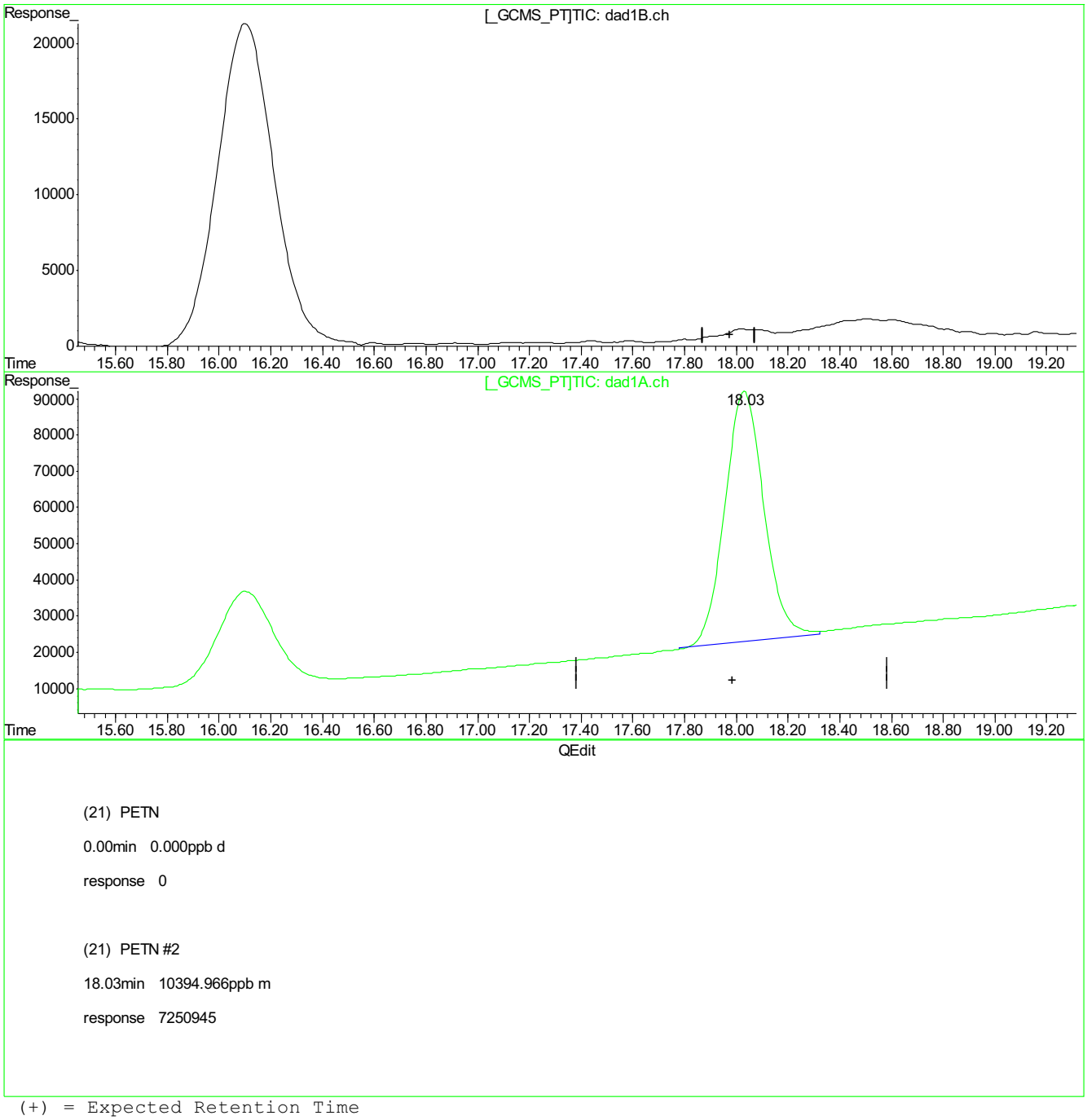
response 6156847

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:11:10 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054305.D\dad1A.ch
Acq On : 20-Apr-2017, 20:36:01 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.03min 10394.966ppb m

response 7250945

(+) = Expected Retention Time
BB054305.D 8330B_0419PLUS.M Fri Apr 21 09:11:14 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:24

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 09:01:25 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.11	10.11	2196785	4096772	956.757	956.690
	Spiked Amount 500.000	Range 70 - 136		Recovery =		191.35%#	191.34%#
	Target Compounds						
1)	TNX	1.34	1.34	3087976	4716938	1024.422	973.732
2)	HMX	1.44	1.44	1622619	4456854	928.983	928.205
3)	DNX	1.70	1.70	2799624	4478797	899.234	957.107
4)	MNX	2.23	2.23	2295308	3561713	925.385	926.960
5)	RDX	2.80	2.80	1840596	2939170	979.257	894.373
6)	1,3,5-Trinitrobe	4.37	4.37	3984055	7779677	922.274	957.018
7)	1,3-Dinitrobenze	5.62	5.62	5319344	3672428	967.090	951.276
8)	3,5-Dinitroanili	5.95	5.94	3819077	6308422	1017.599	944.355m
9)	Nitrobenzene	7.22	7.22	3215988	3156279	919.442	986.886m
10)	Nitroglycerin	0.00	8.40	0	6274756	N.D. d	4855.093m
11)	Tetryl	8.52	8.49	2636777	3420351	991.110	860.379m
12)	2,4,6-Trinitroto	8.94	8.94	3783108	4671569	914.410	999.114m
13)	2-Amino-4,6-Dini	9.33	9.33	3334772	5155422	921.517	951.598m
14)	4-Amino-2,6-Dini	9.80	9.80	2407486	5070001	929.399	954.034
16)	2,4-Dinitrotolue	10.71	10.71	4823937	3322600	950.064	986.965
17)	2,6-Dinitrotolue	11.21	11.21	2707982	3544437	867.885	1009.357
18)	o-Nitrotoluene	14.48	14.49	2240737	3077439	966.316	955.421
19)	p-Nitrotoluene	15.00	15.00	3468406	2980109	992.041	1003.782
20)	m-Nitrotoluene	15.98	15.98	3334528	3795206	925.770	1080.289
21)	PETN	0.00	17.91	0	3397202	N.D. d	4778.160m

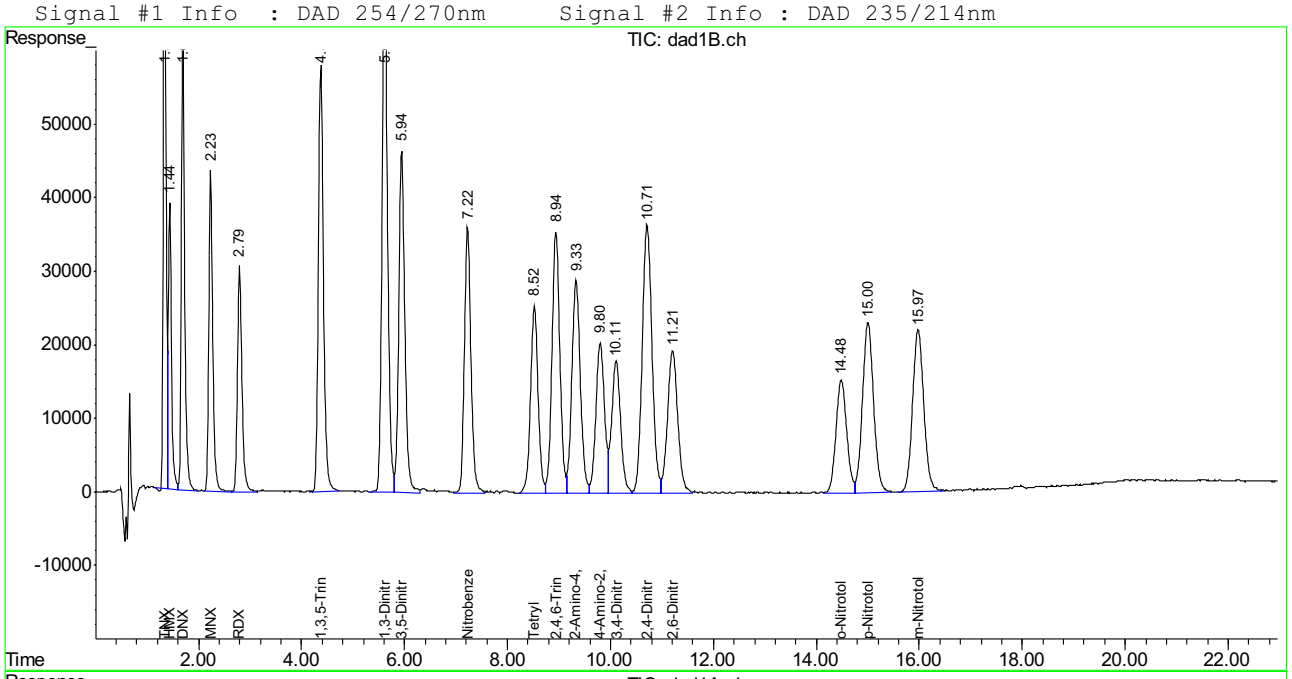
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054329.D 8330B_0419PLUS.M Fri Apr 21 11:21:27 2017 Page 1

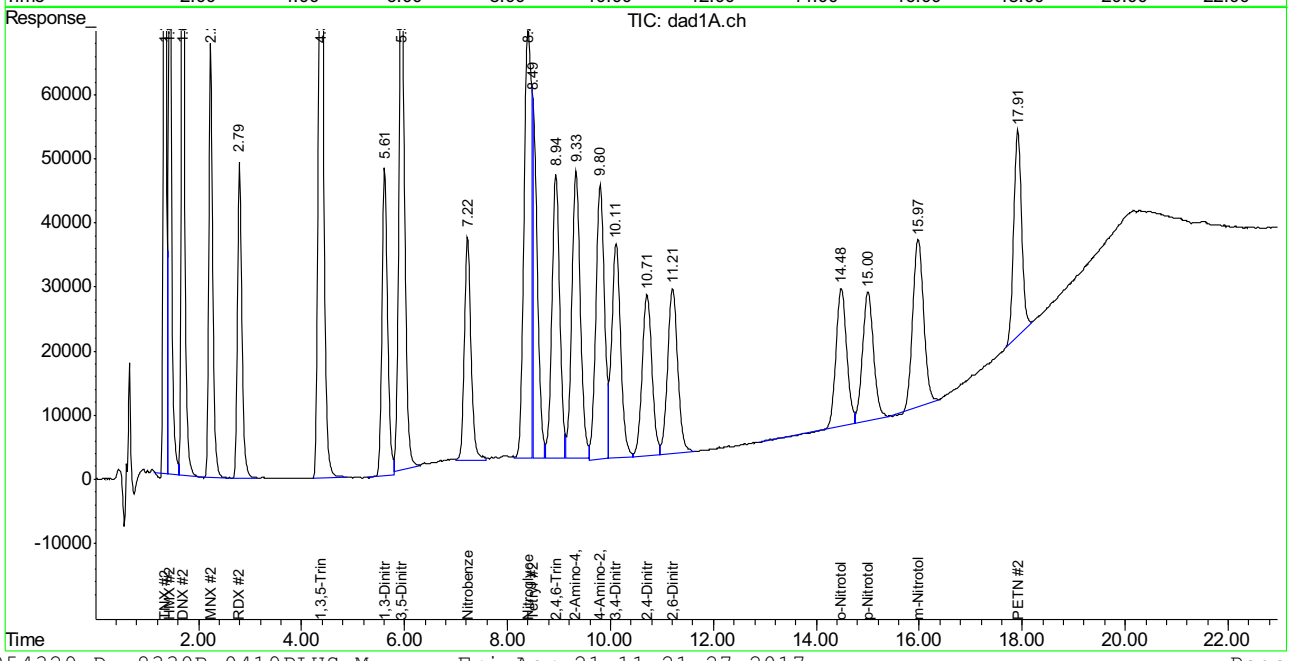
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 11:21 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

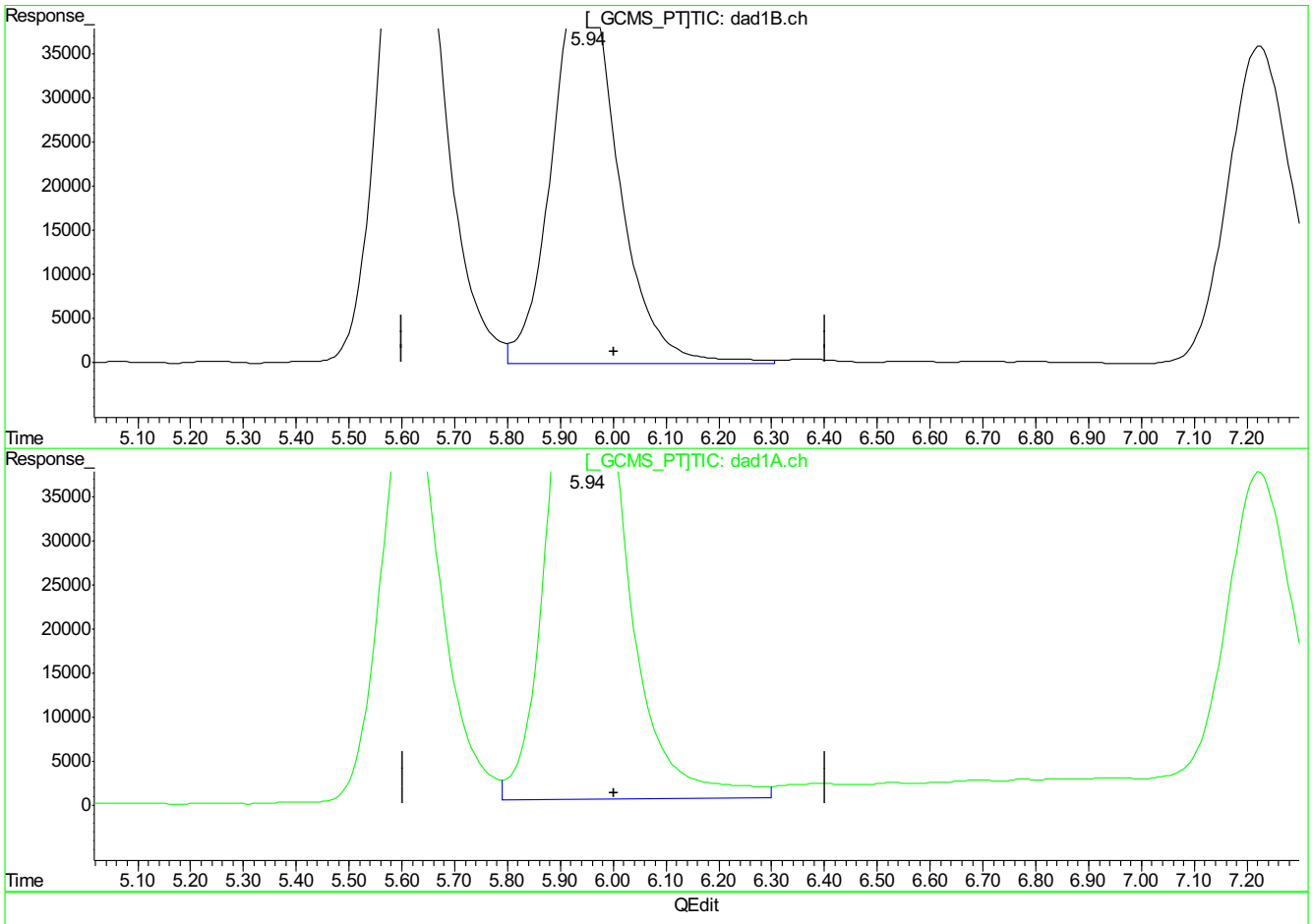
Sample Number: GBB1579-CC1578
Lab FileID: BB054329.D
Injection Time: 04/21/17 08:35
Method: SW846 8330A
Analyst approved: 04/21/17 11:22 Evita Martinez
Supervisor approved: 04/25/17 12:24 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	5.94	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.22	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.40	Poorly defined baseline
Tetryl	479-45-8	2	8.49	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	8.94	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.33	Poorly defined baseline
PETN	78-11-5	2	17.91	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

5.95min 1017.599ppb

response 3819077

(8) 3,5-Dinitroaniline #2

5.95min 985.103ppb

response 6580620

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:14:07 2017

9.5.13.2

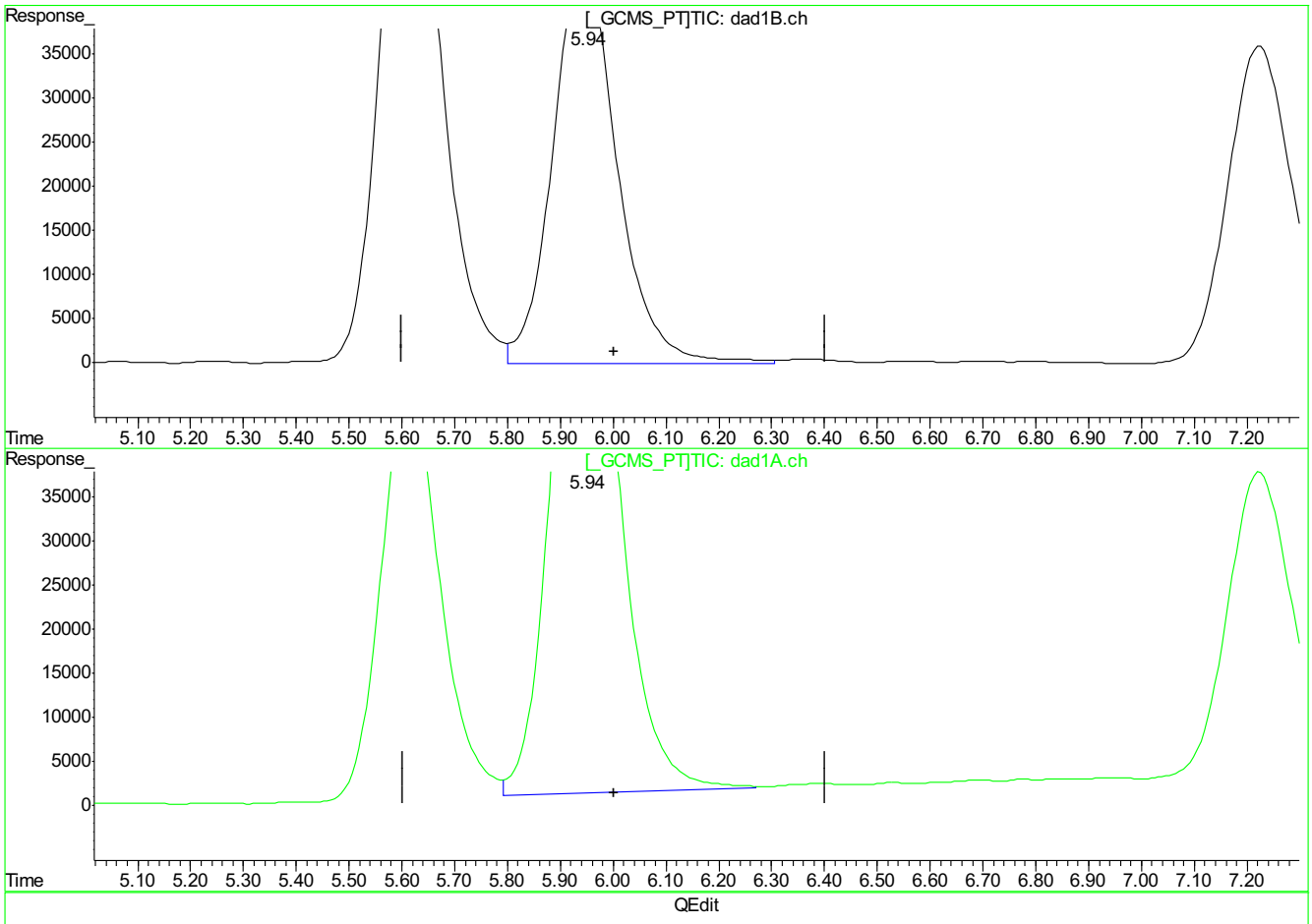
9

BB054329.D edits: 3,5-Dinitroaniline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

5.95min 1017.599ppb

response 3819077

(8) 3,5-Dinitroaniline #2

5.94min 944.355ppb m

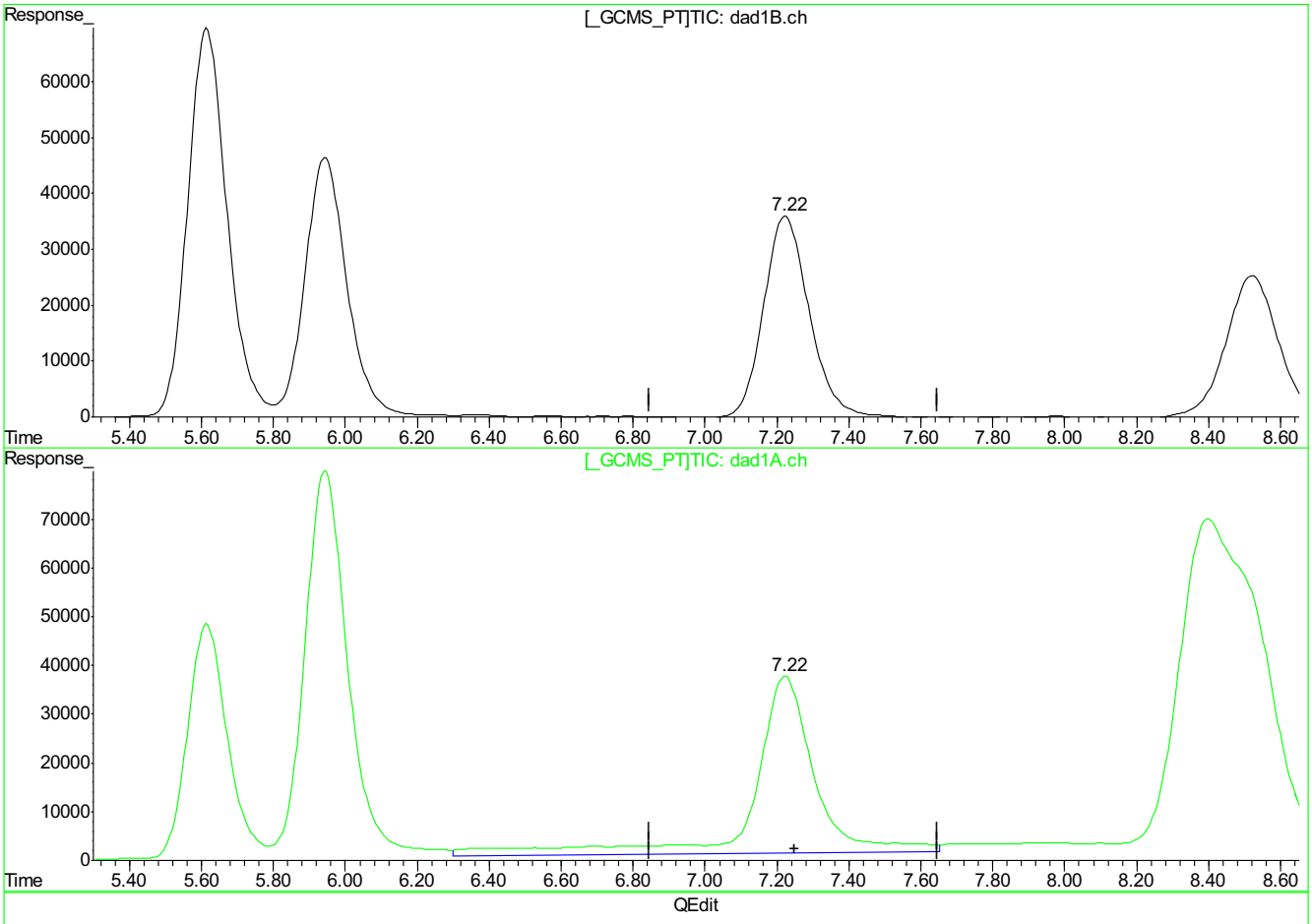
response 6308422

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:14:12 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.22min 919.442ppb

response 3215988

(9) Nitrobenzene #2

7.22min 1372.749ppb

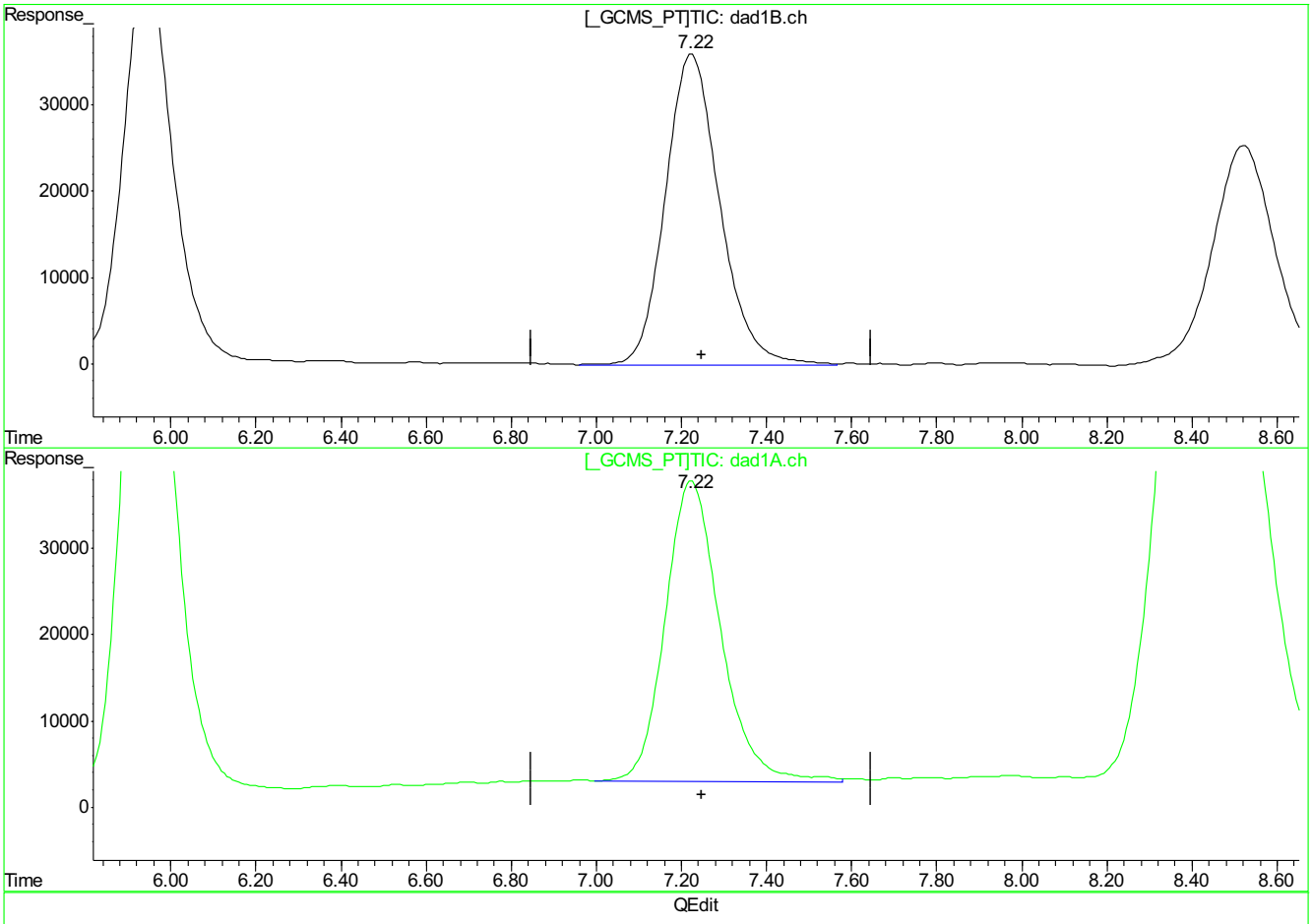
response 4390355

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:14:14 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.22min 919.442ppb

response 3215988

(9) Nitrobenzene #2

7.22min 986.886ppb m

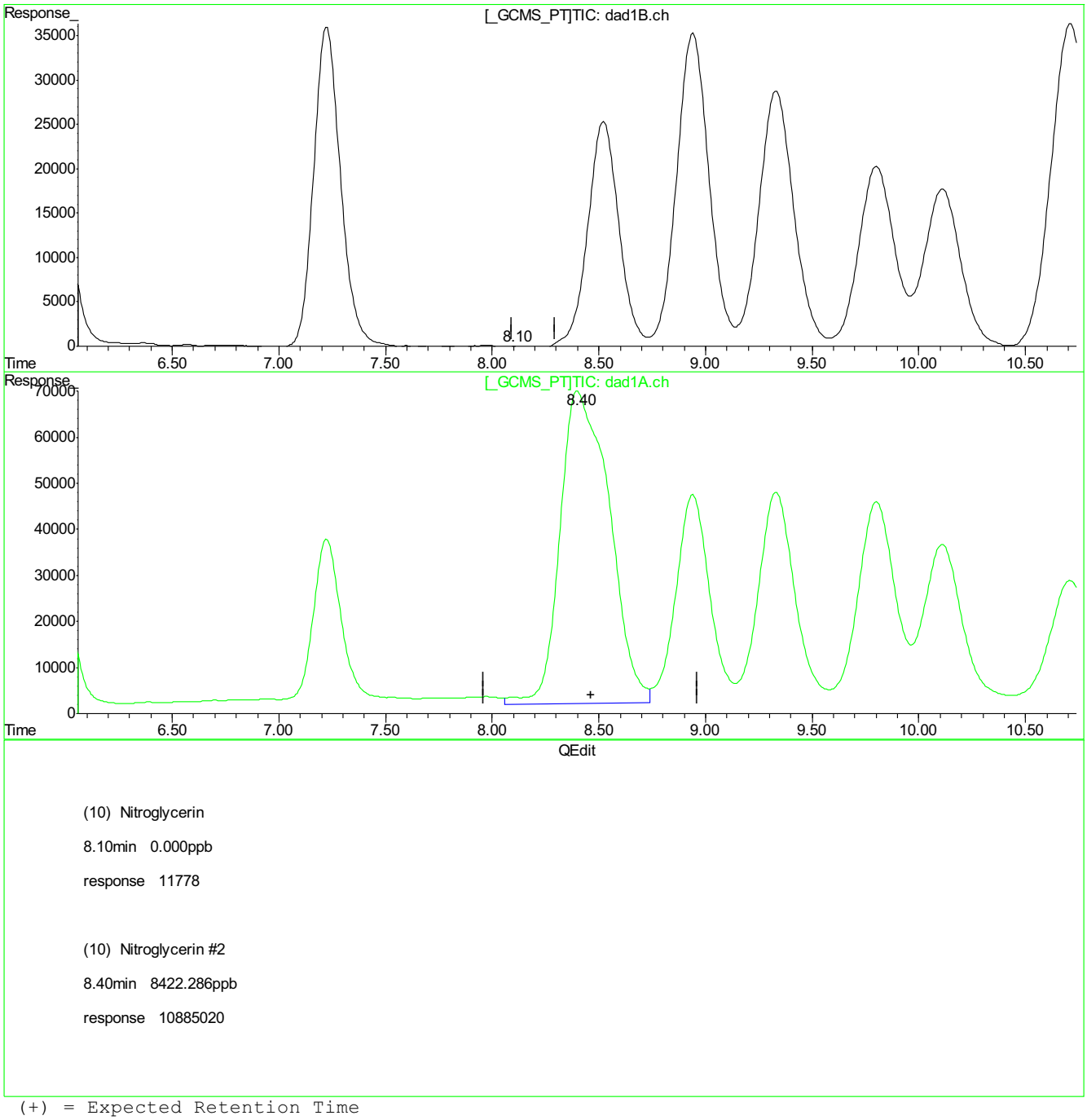
response 3156279

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:14:18 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

8.10min 0.000ppb

response 11778

(10) Nitroglycerin #2

8.40min 8422.286ppb

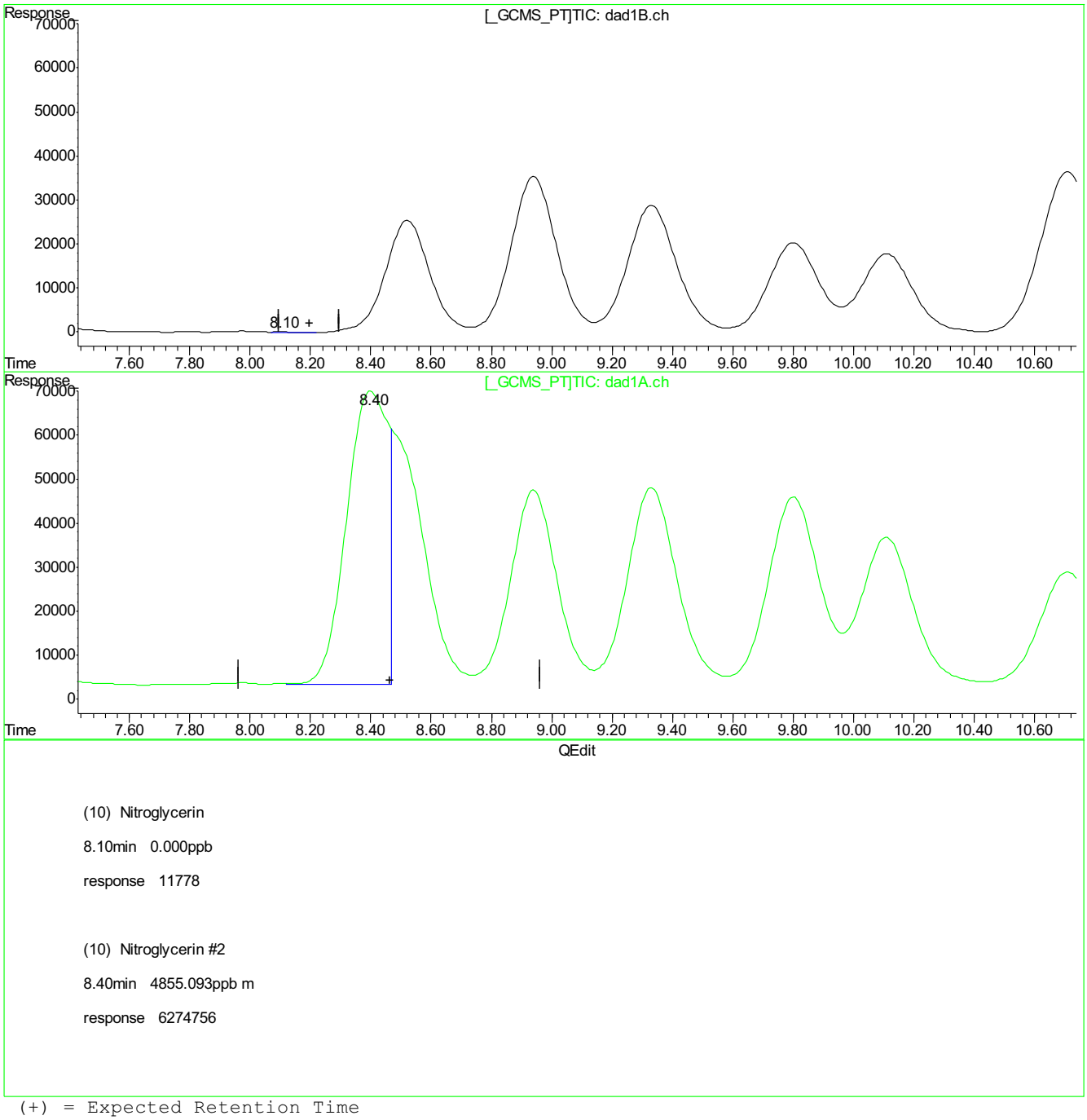
response 10885020

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:14:22 2017

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On    : 21-Apr-2017, 08:35:27                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 21  9:01 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
```



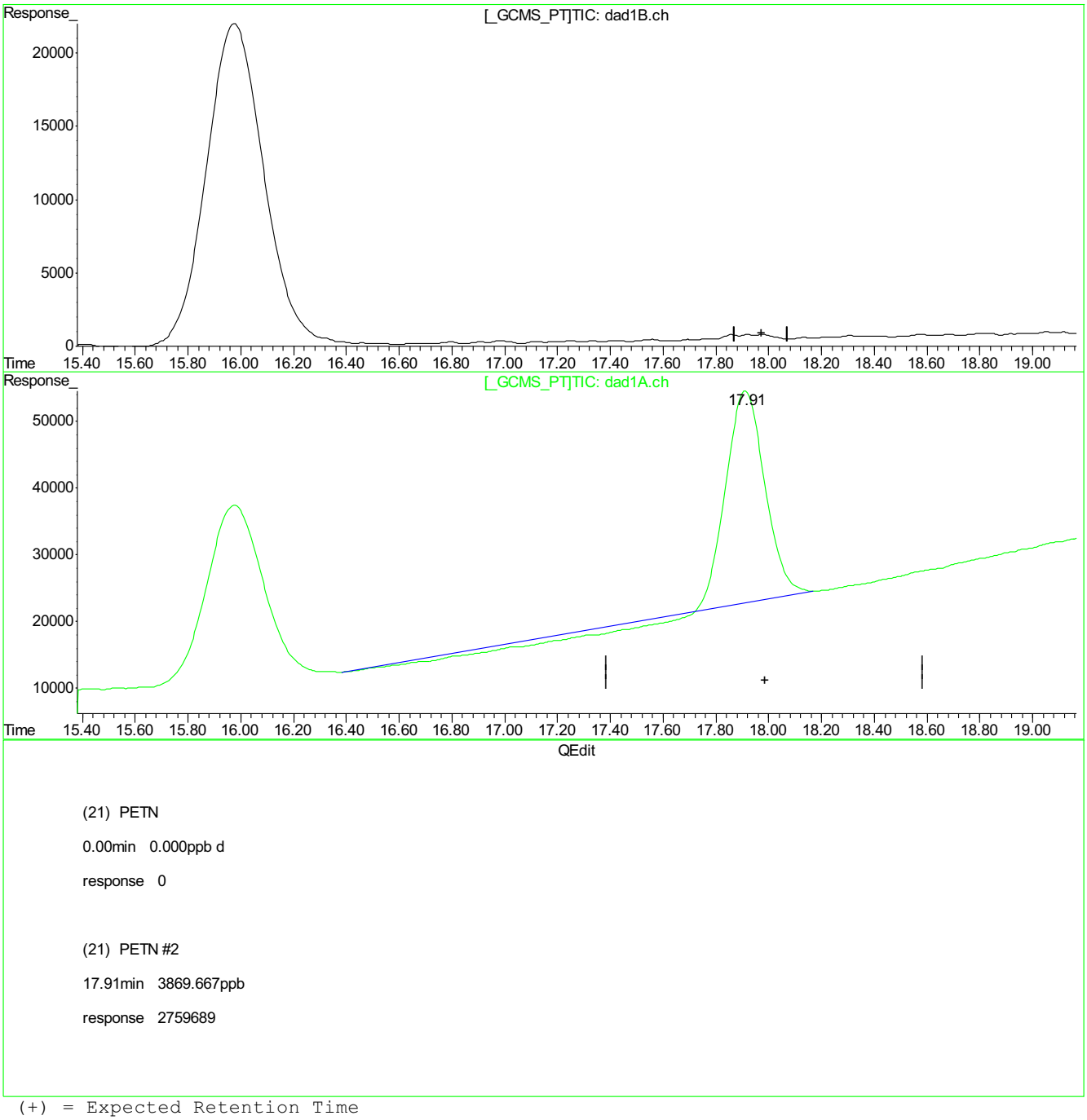
(+) = Expected Retention Time

BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:14:39 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



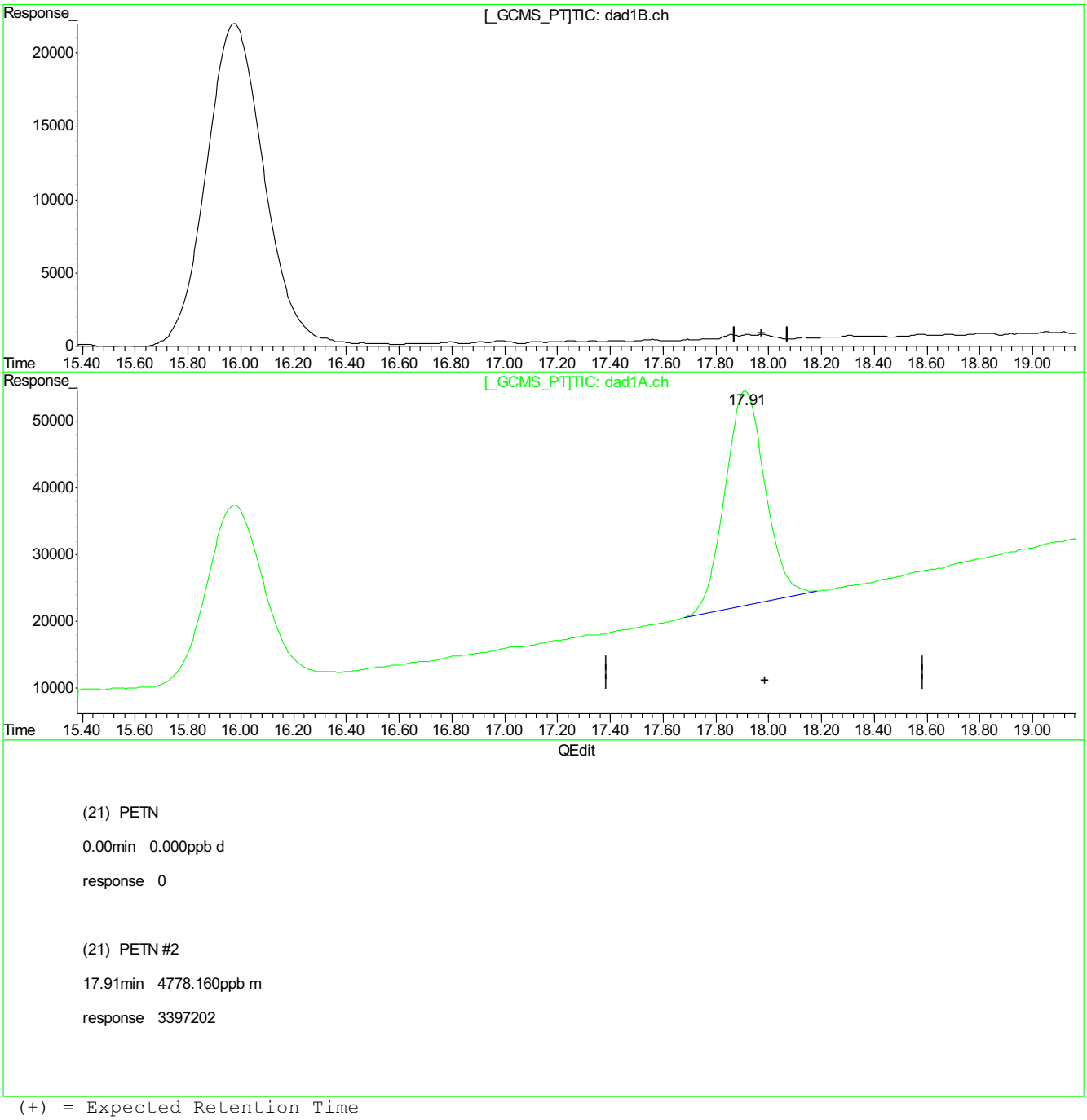
(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:15:24 2017

BB054329.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:01 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

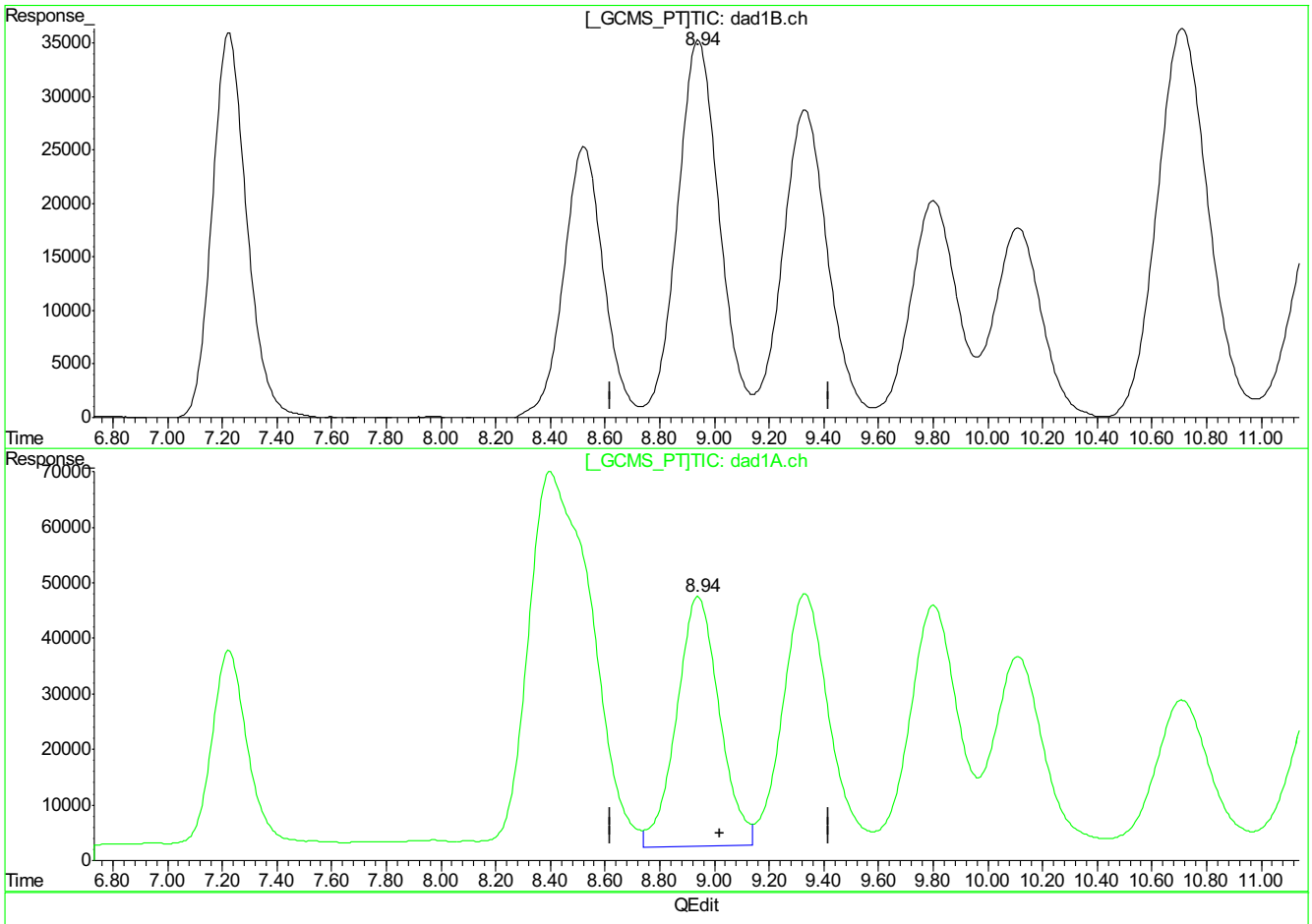


(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 09:15:34 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

8.94min 914.410ppb

response 3783108

(12) 2,4,6-Trinitrotoluene #2

8.94min 1047.172ppb

response 4897807

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 11:20:41 2017

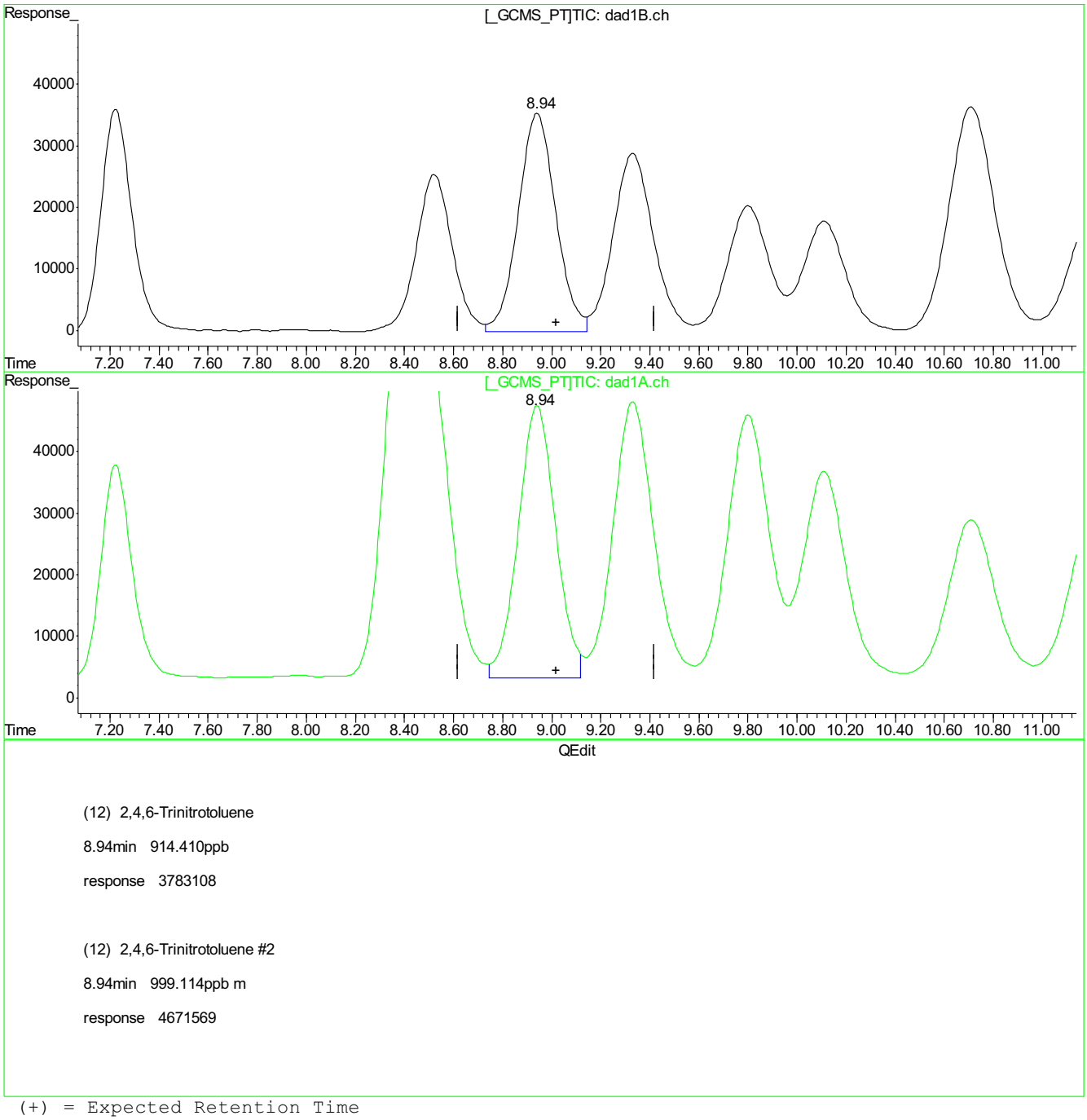
9.5.13.10

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

8.94min 914.410ppb

response 3783108

(12) 2,4,6-Trinitrotoluene #2

8.94min 999.114ppb m

response 4671569

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 11:20:49 2017

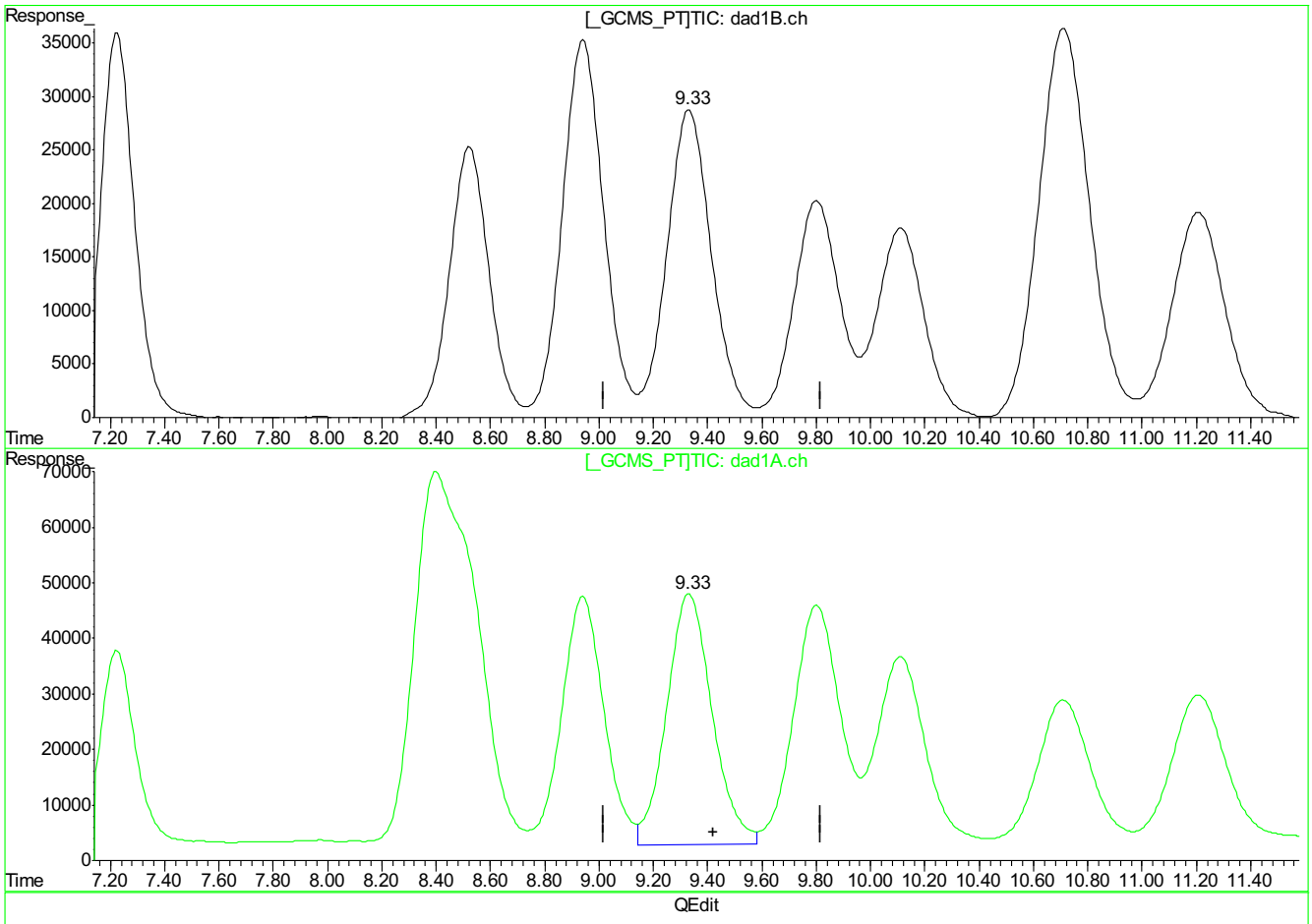
9.5.13.11

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.33min 921.517ppb

response 3334772

(13) 2-Amino-4,6-Dinitrotoluene #2

9.33min 972.967ppb

response 5271189

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 11:20:52 2017

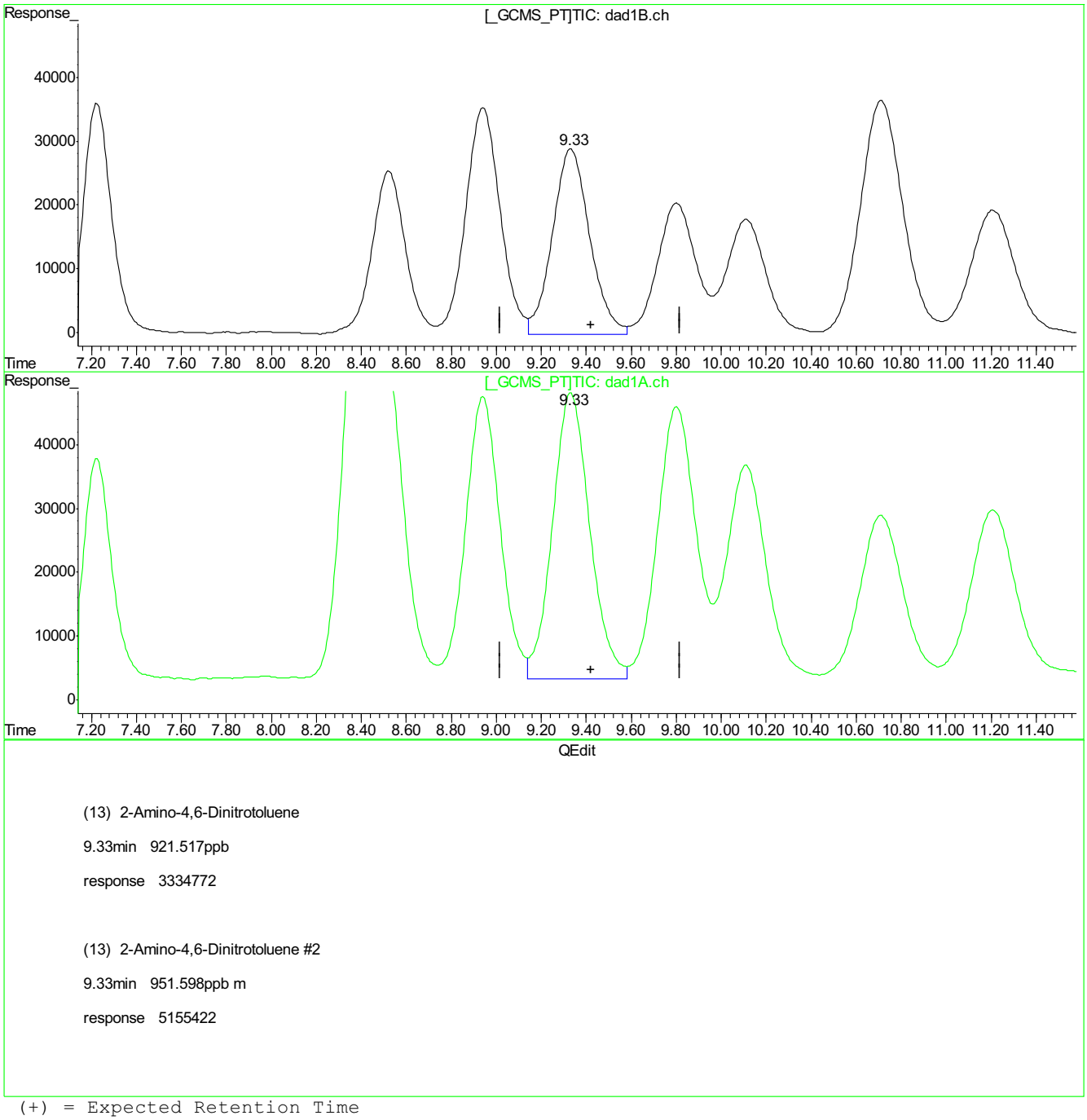
9.5.13.12

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054329.D\dad1A.ch
Acq On : 21-Apr-2017, 08:35:27 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64675,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 21 9:15 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

9.33min 921.517ppb

response 3334772

(13) 2-Amino-4,6-Dinitrotoluene #2

9.33min 951.598ppb m

response 5155422

(+) = Expected Retention Time
BB054329.D 8330B_0419PLUS.M Fri Apr 21 11:21:06 2017

9.5.13.13

9

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/25/17 12:24

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37:20 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.10	10.10	2167487	3901456	943.998	911.079
	Spiked Amount 500.000	Range 70 - 136		Recovery =		188.80%#	182.22%#
	Target Compounds						
1)	TNX	1.34	1.34	3114657	4760178	1033.273	982.658
2)	HMX	1.44	1.44	1621338	4465796	928.250	930.067
3)	DNX	1.69	1.69	2813726	4508811	903.763	963.625
4)	MNX	2.23	2.23	2300306	3584056	927.399	932.775
5)	RDX	2.79	2.79	1808664	2958580	962.118	900.279
6)	1,3,5-Trinitrobe	4.37	4.37	3998044	7769529	925.512	955.770
7)	1,3-Dinitrobenze	5.61	5.61	5287598	3592569	961.319	930.589
8)	3,5-Dinitroanili	5.93	5.93	3818854	6330269	1017.540	947.626
9)	Nitrobenzene	7.22	7.22	3210662	3075104	917.919	961.504m
10)	Nitroglycerin	0.00	8.39	0	5877915	N.D. d	4548.037m
11)	Tetryl	8.51	8.45	2671665	4245940	1004.162	1071.047m
12)	2,4,6-Trinitroto	8.93	8.93	3786734	4661618	915.286	997.000
13)	2-Amino-4,6-Dini	9.31	9.31	3348504	5051705	925.312	932.454
14)	4-Amino-2,6-Dini	9.78	9.78	2418564	4928564	933.675	927.420
16)	2,4-Dinitrotolue	10.70	10.70	4833302	3189933	951.908	947.557
17)	2,6-Dinitrotolue	11.20	11.20	2722213	3448207	872.446	981.953
18)	o-Nitrotoluene	14.49	14.49	2261751	3180802	975.378	987.993
19)	p-Nitrotoluene	15.01	15.01	3516518	3070212	1005.928	1034.132
20)	m-Nitrotoluene	15.98	15.98	3355064	3838163	931.471	1092.516
21)	PETN	0.00	17.91	0	3533061	N.D. d	4972.498m

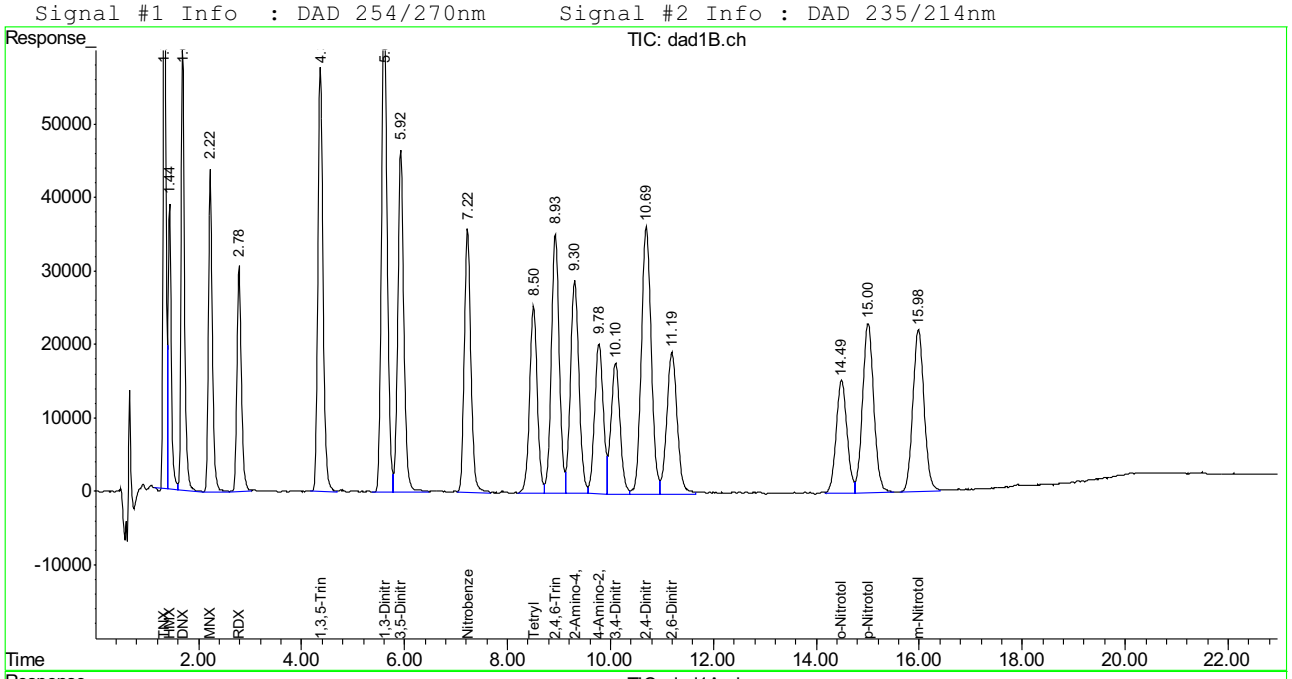
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB054340.D 8330B_0419PLUS.M Mon Apr 24 14:12:31 2017 Page 1

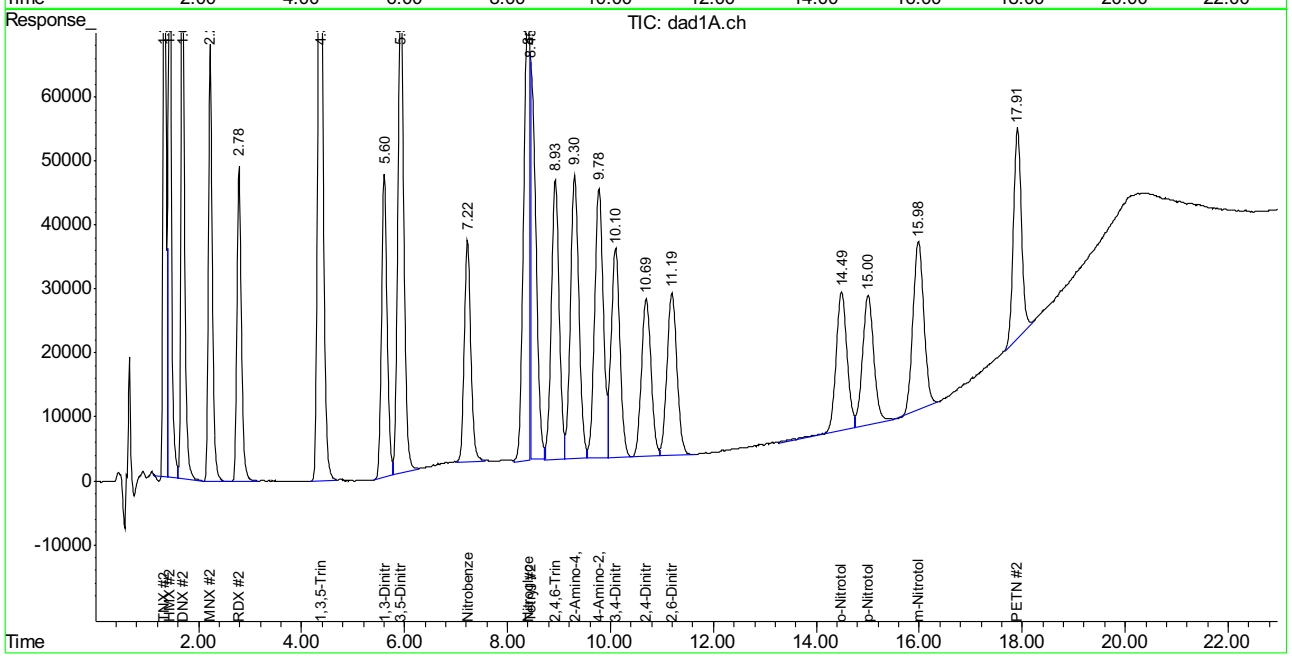
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:38 2017 Quant Results File: 8330B_0419PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

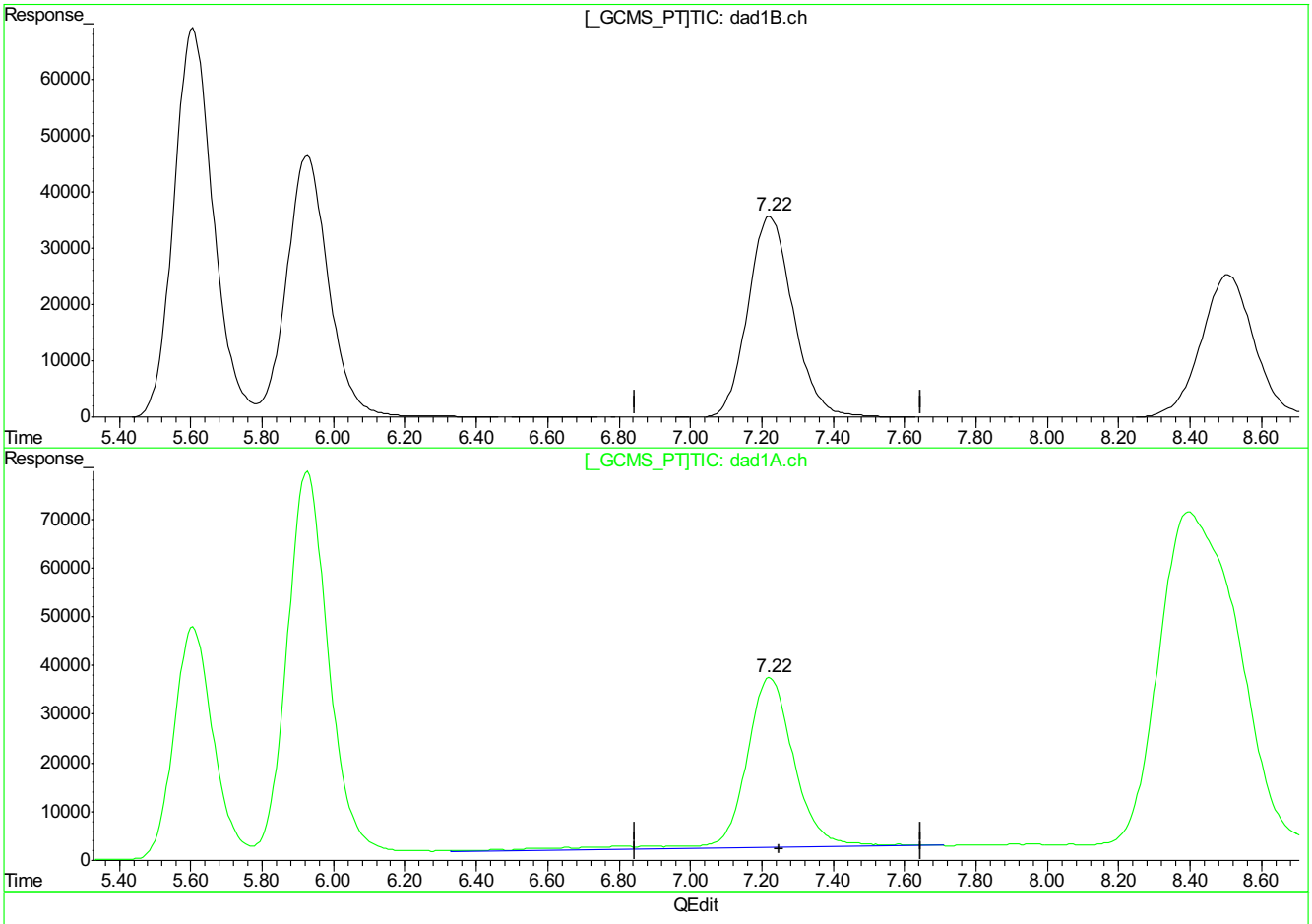
Sample Number: GBB1579-CC1578
Lab FileID: BB054340.D
Injection Time: 04/21/17 14:30
Method: SW846 8330B
Analyst approved: 04/24/17 14:39 Evita Martinez
Supervisor approved: 04/25/17 12:24 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	2	7.22	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.39	Poorly defined baseline
Tetryl	479-45-8	2	8.45	Poorly defined baseline
PETN	78-11-5	2	17.91	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.22min 917.919ppb

response 3210662

(9) Nitrobenzene #2

7.22min 1037.482ppb

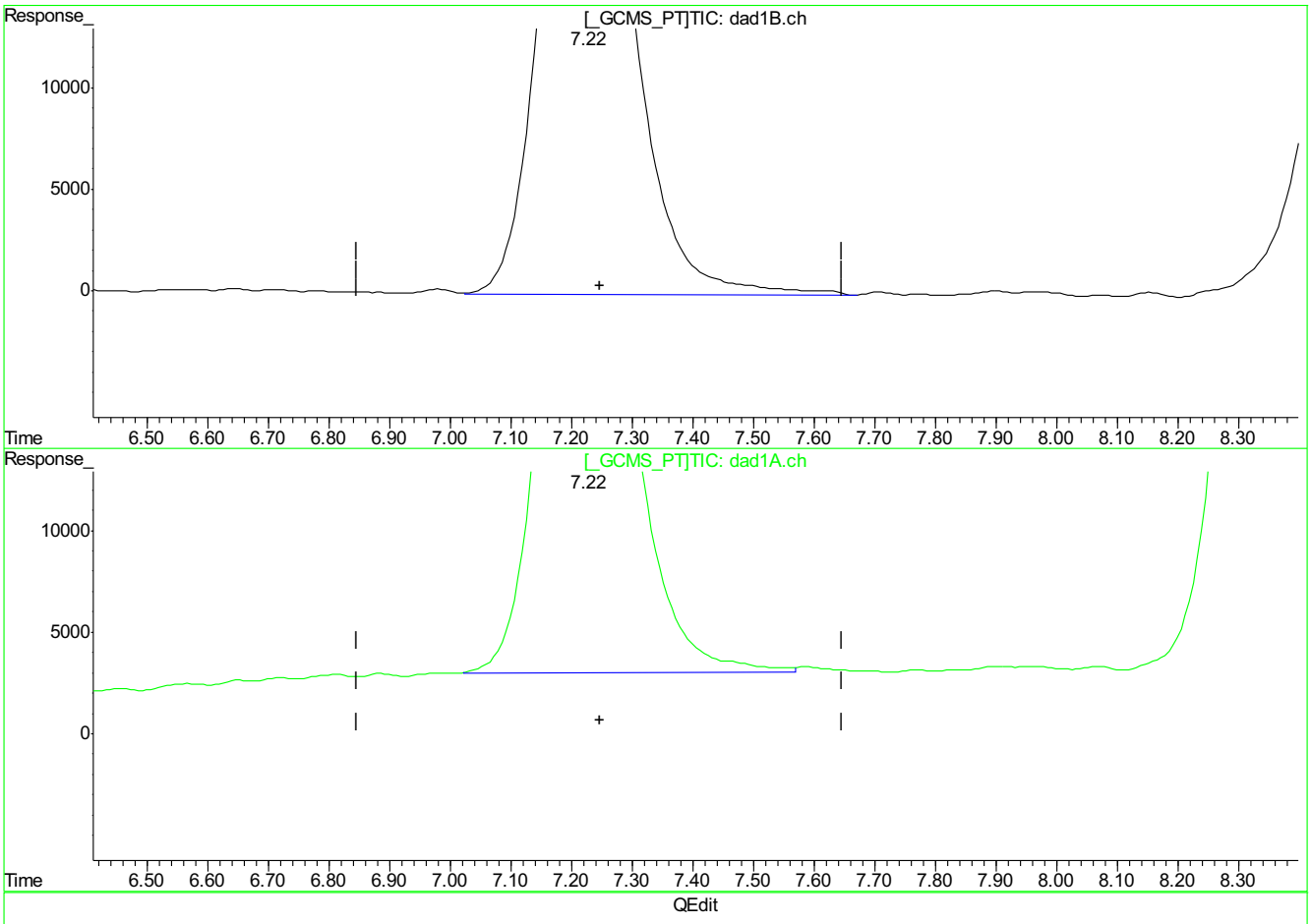
response 3318097

(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:37:35 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.22min 917.919ppb

response 3210662

(9) Nitrobenzene #2

7.22min 961.504ppb m

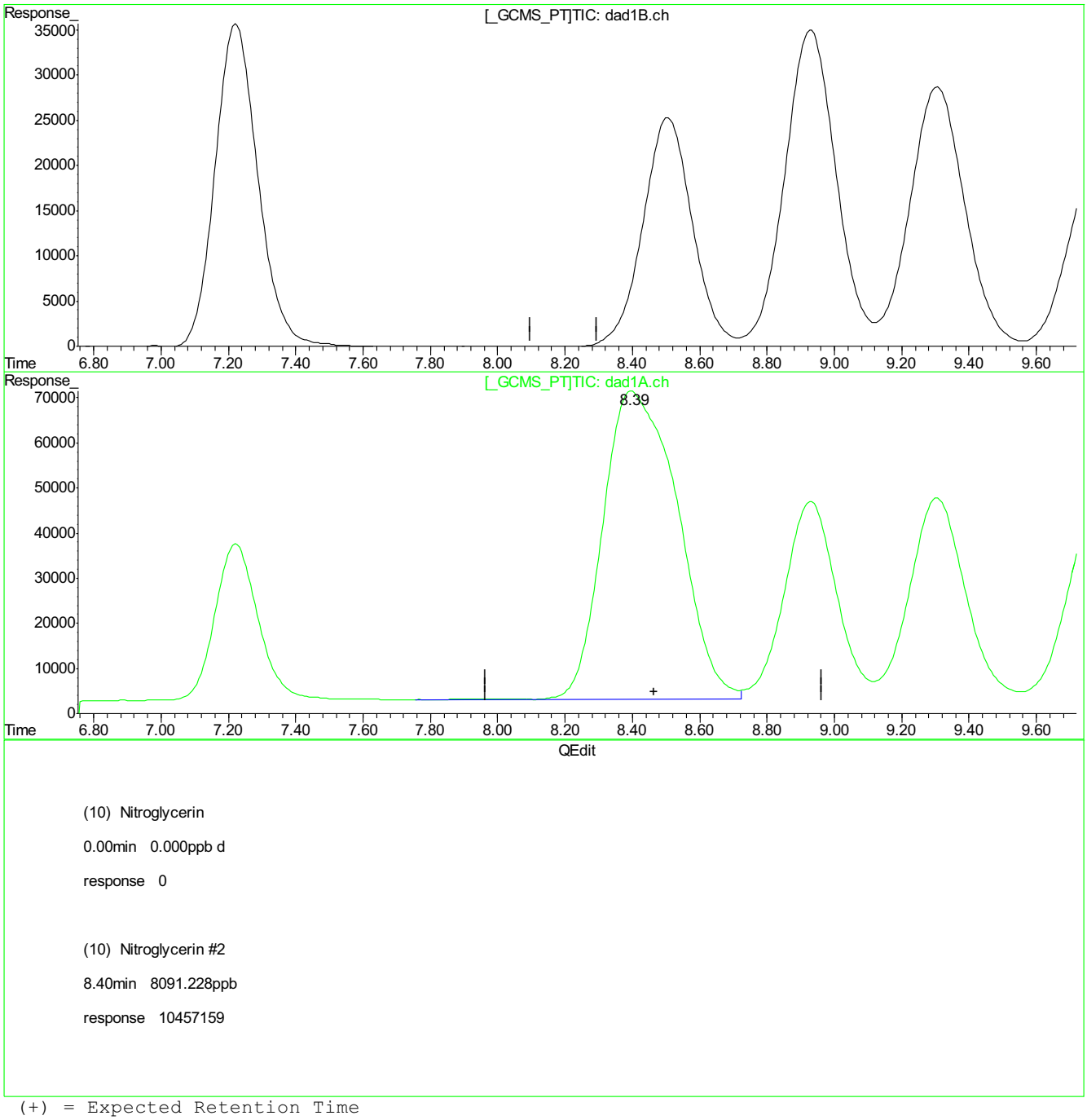
response 3075104

(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:37:41 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



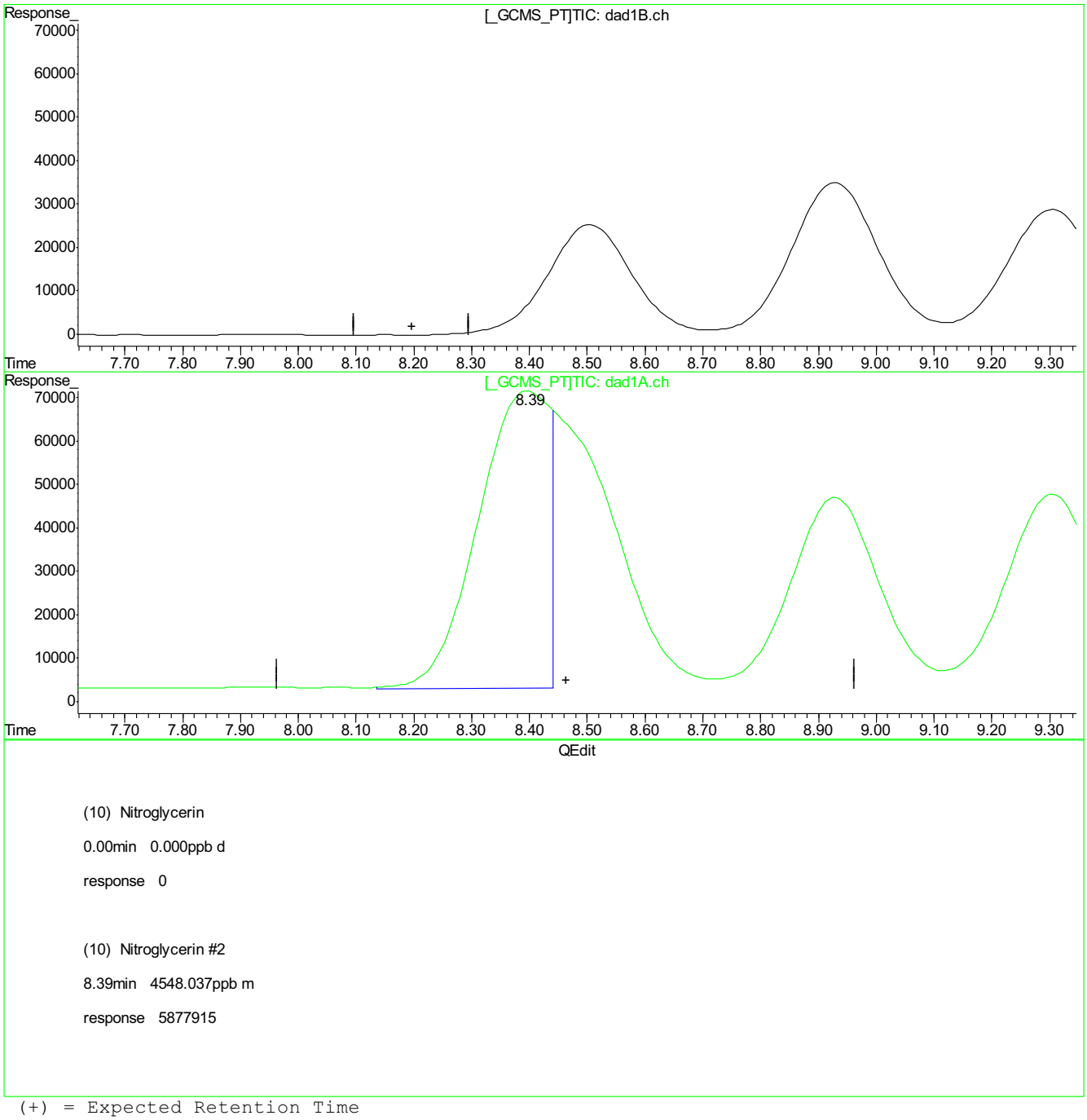
(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:37:47 2017

BB054340.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration

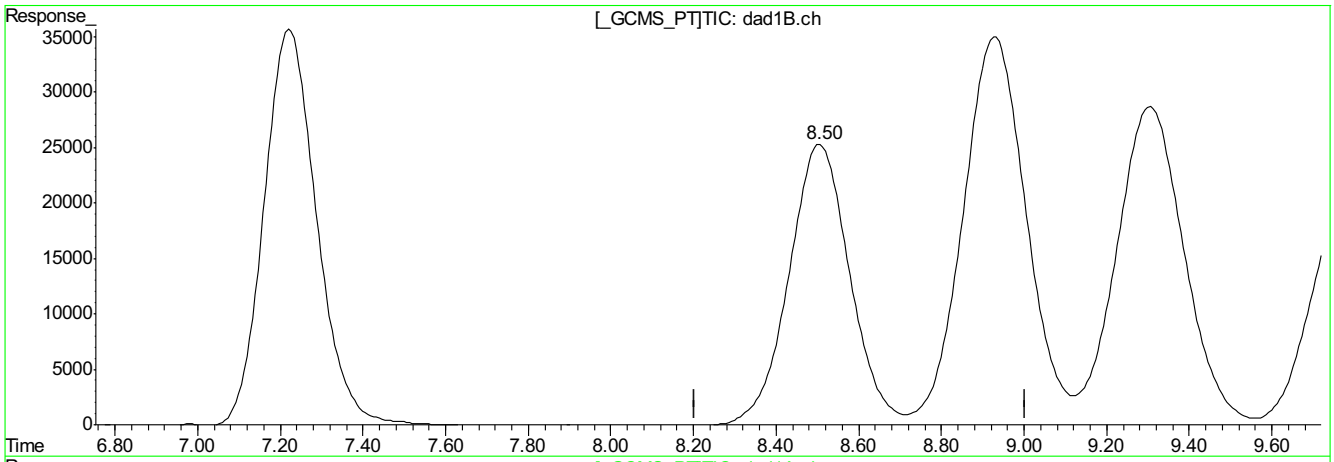


(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:38:13 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.51min 1004.162ppb

response 2671665

(11) Tetryl #2

8.40min 2696.129ppb

response 10457159

(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:38:15 2017

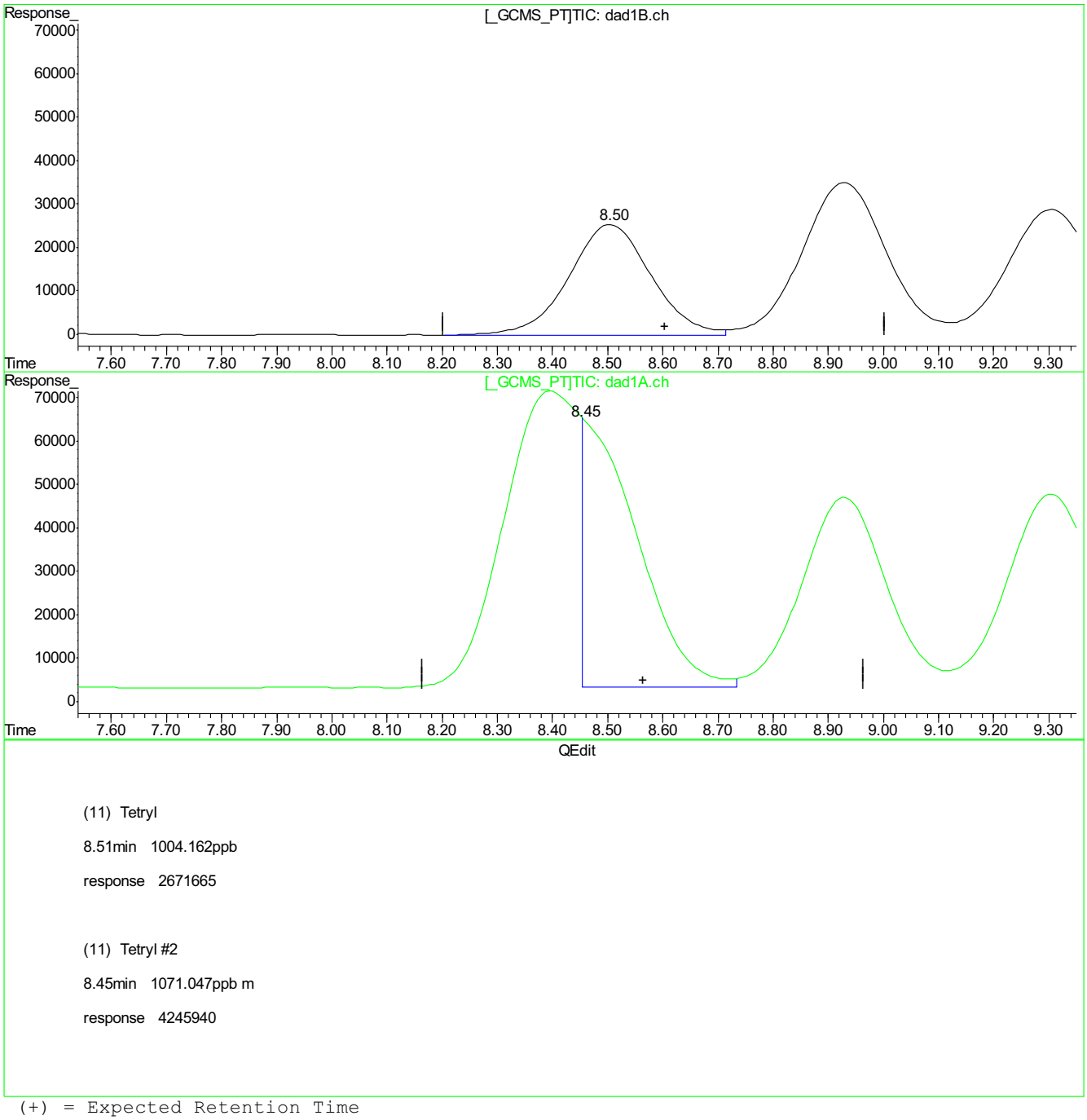
9.5.14.6

9

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On    : 21-Apr-2017, 14:30:08                    Operator: evitam
Sample    : cc1578-1000                              Inst    : G1315B
Misc      : op64666,gbb1579,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017  Quant Results File: 8330B_0419PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

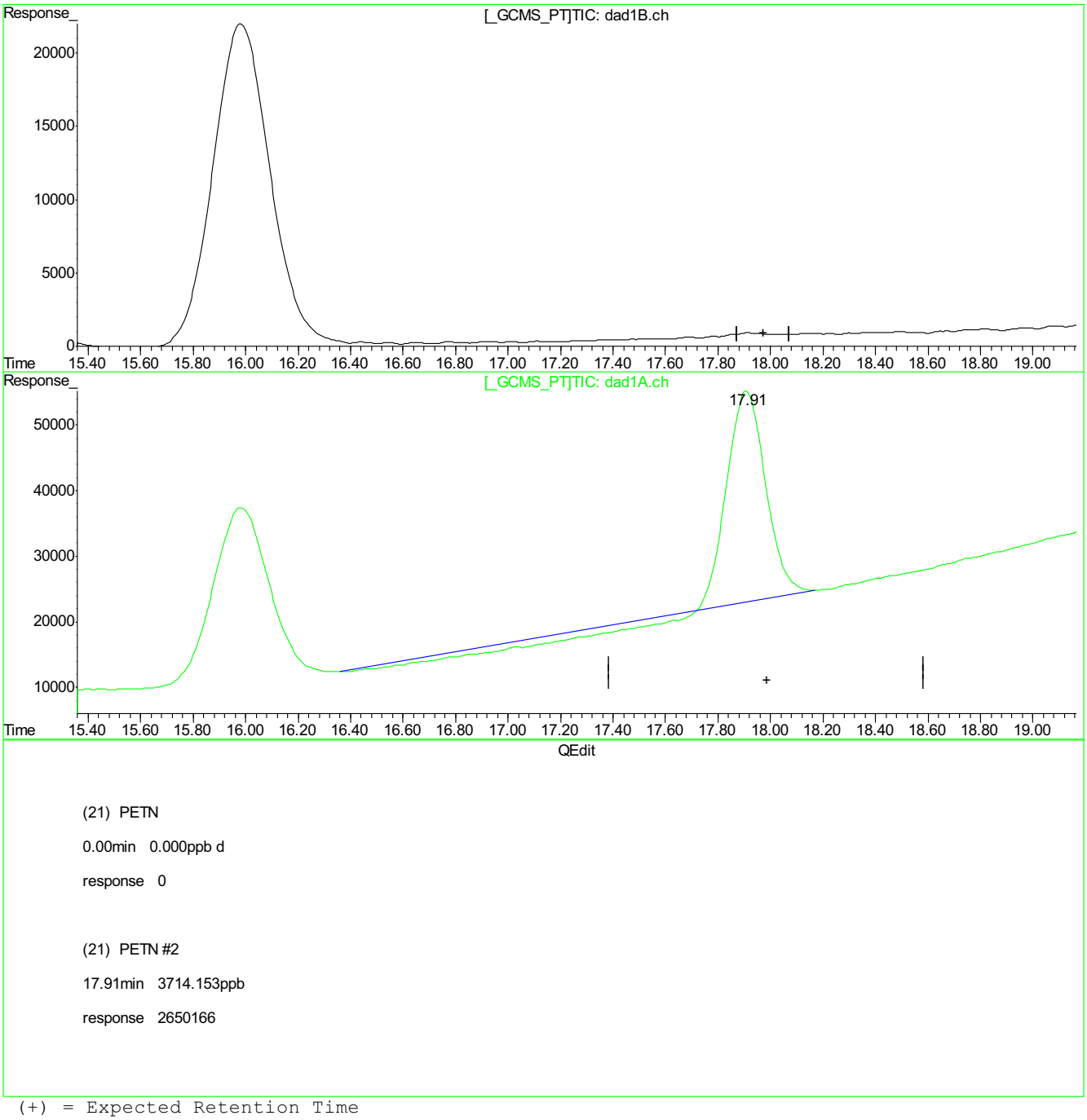
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:38:23 2017

BB054340.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

17.91min 3714.153ppb

response 2650166

(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:38:31 2017

9.5.14.8

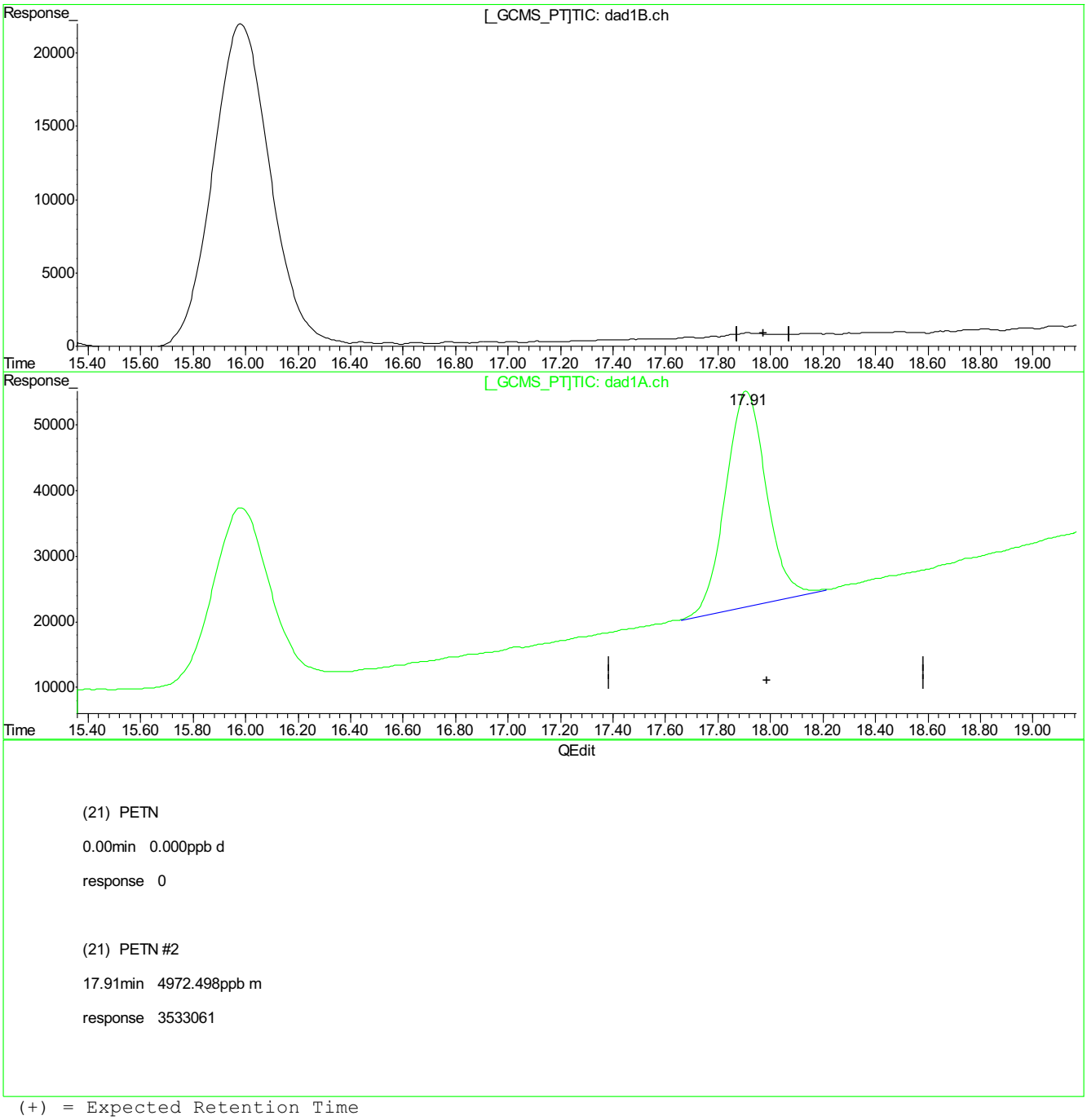
9

BB054340.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0420BPL\BB054340.D\dad1A.ch
Acq On : 21-Apr-2017, 14:30:08 Operator: evitam
Sample : cc1578-1000 Inst : G1315B
Misc : op64666,gbb1579,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 24 13:37 2017 Quant Results File: 8330B_0419PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0419PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 21 09:00:21 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB054340.D 8330B_0419PLUS.M Mon Apr 24 13:38:34 2017

9.5.14.9

9

BB054340.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03:15 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.72	15.68	80199	158430	17.396m	17.077m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.48%#	3.42%#
	Target Compounds						
1)	TNX	4.81	4.81	172095	262542	20.302m	20.926m
2)	HMX	5.20	5.21	121714	343017	37.334m	33.092m
3)	DNX	5.36	5.36	173814	553991	21.402m	41.134m#
4)	MNX	6.50	6.52	112624	281174	20.678	32.992 #
5)	1,3,5-Trinitrobe	7.54	7.54	239896	413404	24.231	24.888
6)	RDX	7.99	7.97	104308	171567	23.508	20.728
7)	1,3-Dinitrobenze	10.16	10.15	301455	238950	22.581	24.353
8)	Nitrobenzene	11.30	11.31	166615	159808	19.625	19.621
9)	2,4,6-Trinitroto	12.37	12.38	225730	279164	23.883	22.892
10)	Nitroglycerin	0.00	13.45	0	316014	N.D. d	106.019m
11)	Tetryl	14.29	14.27	179590	254906	25.634m	22.504m
13)	2,6-Dinitrotolue	16.19	16.15	185256	251554	26.282m	25.496m
14)	2,4-Dinitrotolue	17.05	17.05	292098	226875	23.799m	24.168m
15)	o-Nitrotoluene	19.47	19.47	122334	156895	27.880m	19.825m
16)	3,5-Dinitroanili	18.62	18.69	180648	248912	16.501m	13.801m
17)	p-Nitrotoluene	21.14	21.12	114749	29722	22.516m	5.144 #
18)	4-Amino-2,6-Dini	21.80	21.98	55506	104053	8.315m	9.989m
19)	m-Nitrotoluene	22.84	22.84	66230	128950	10.045	10.075m
20)	2-Amino-4,6-Dini	23.78	23.84	299668	322677	32.542	25.321m
21)	PETN	0.00	25.06	0	271165	N.D. d	81.900m

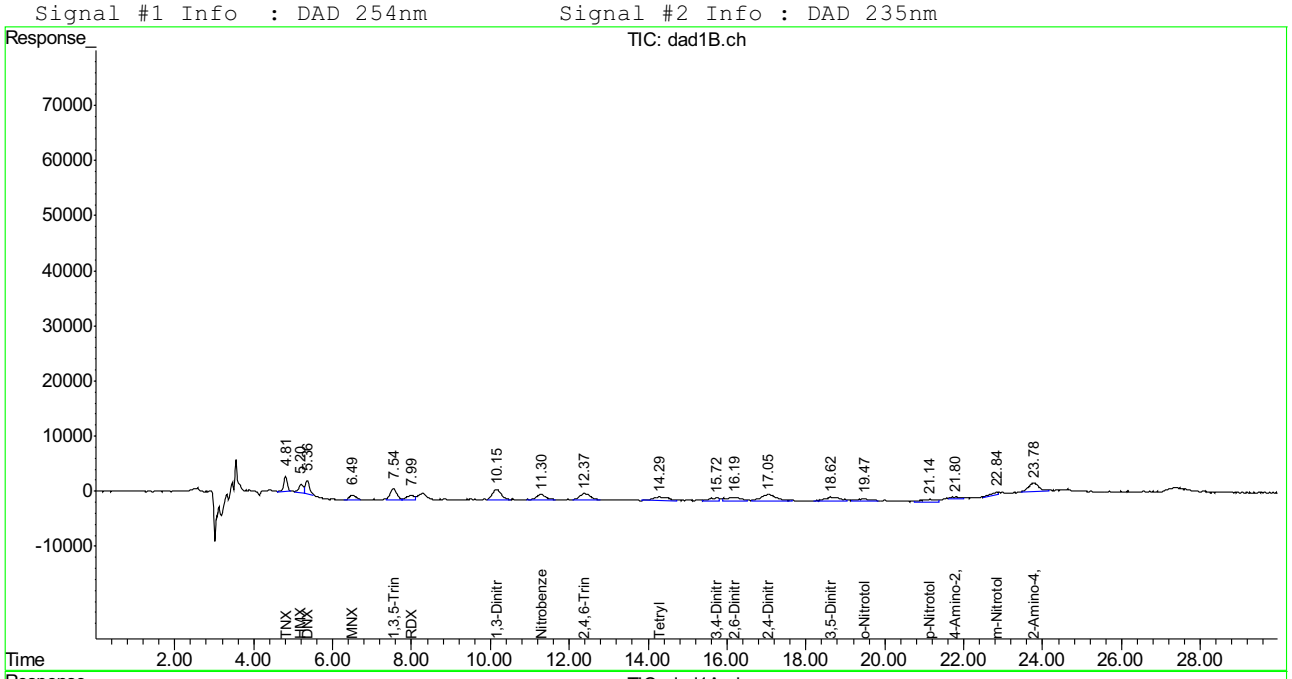
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381821.D 0424_8330RPB.M Tue Apr 25 10:59:38 2017 Page 1

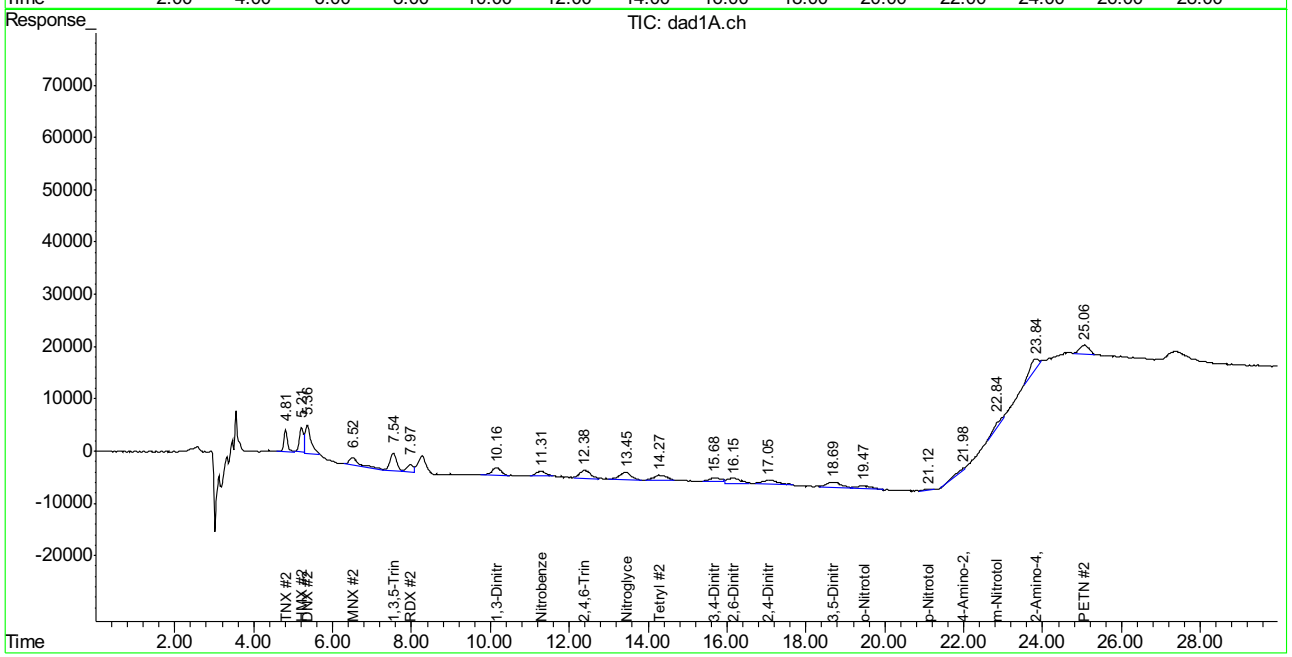
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GPP2096-IC2096
Lab FileID: PP381821.D
Injection Time: 04/24/17 12:22

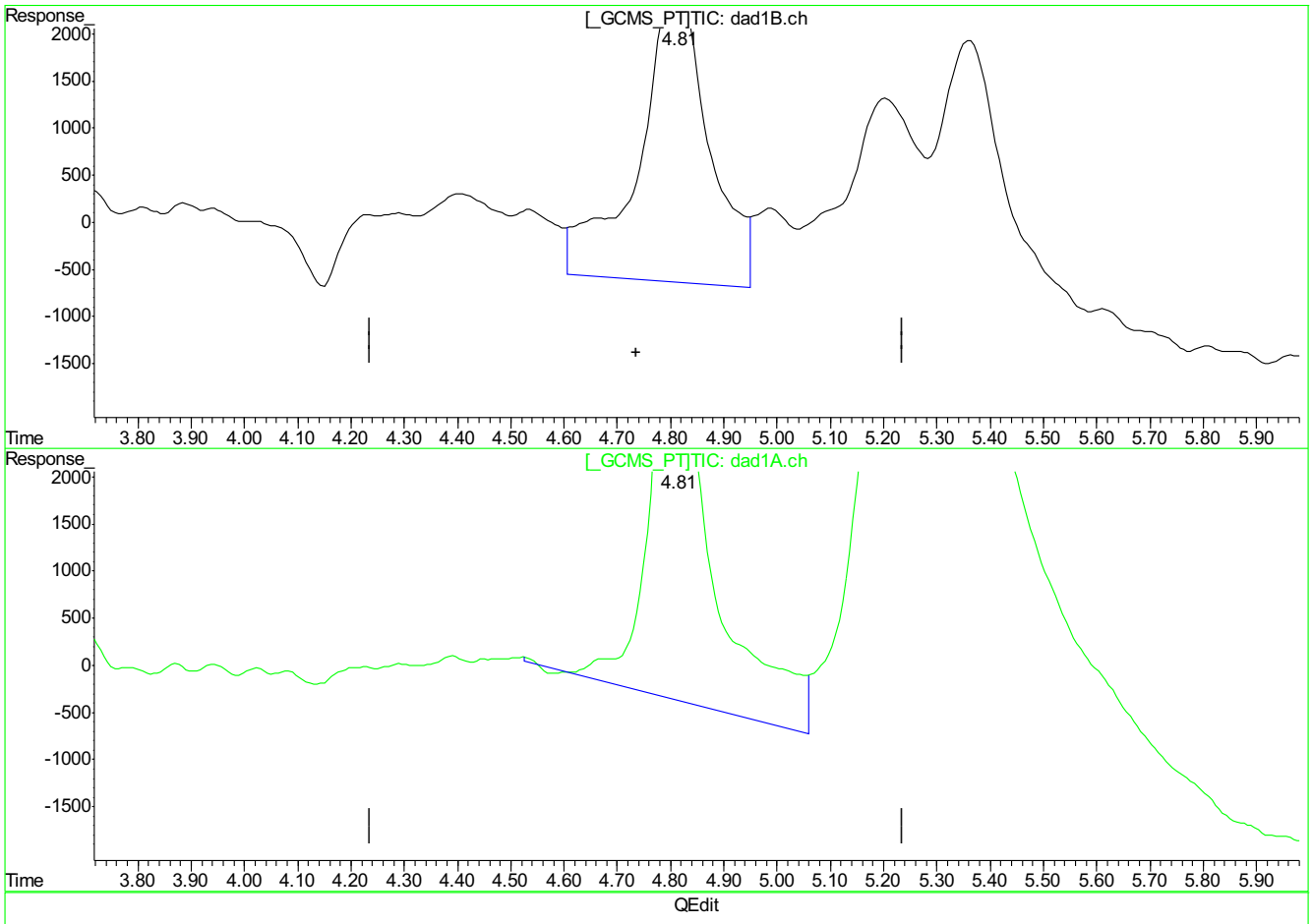
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.81	Poorly defined baseline
TNX		2	4.81	Poorly defined baseline
HMX	2691-41-0	1	5.20	Poorly defined baseline
HMX	2691-41-0	2	5.21	Poorly defined baseline
DNX		1	5.36	Poorly defined baseline
DNX		2	5.36	Poorly defined baseline
Nitroglycerine	55-63-0	2	13.45	Poorly defined baseline
Tetryl	479-45-8	2	14.27	Poorly defined baseline
Tetryl	479-45-8	1	14.29	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	15.68	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	15.72	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	16.15	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	1	16.19	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	1	17.05	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	17.05	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	18.62	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	18.69	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	19.47	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	19.47	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	21.14	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.80	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.98	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.84	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.84	Poorly defined baseline
PETN	78-11-5	2	25.06	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(1) TNX

4.81min 34.359ppb

response 291252

(1) TNX #2

4.81min 27.084ppb

response 339790

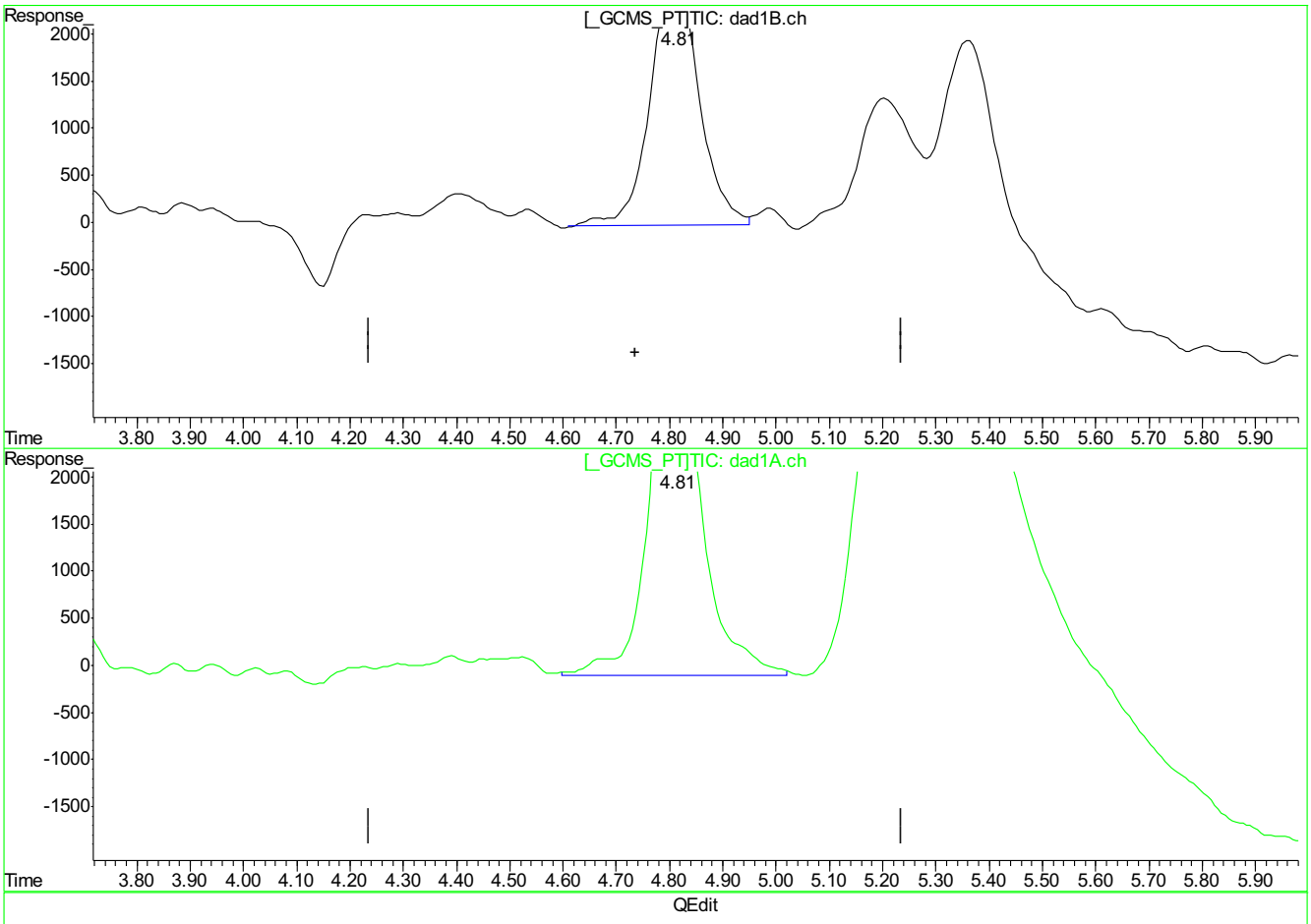
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:15 2017

PP381821.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(1) TNX

4.81min 20.106ppb m

response 170430

(1) TNX #2

4.81min 20.734ppb m

response 260122

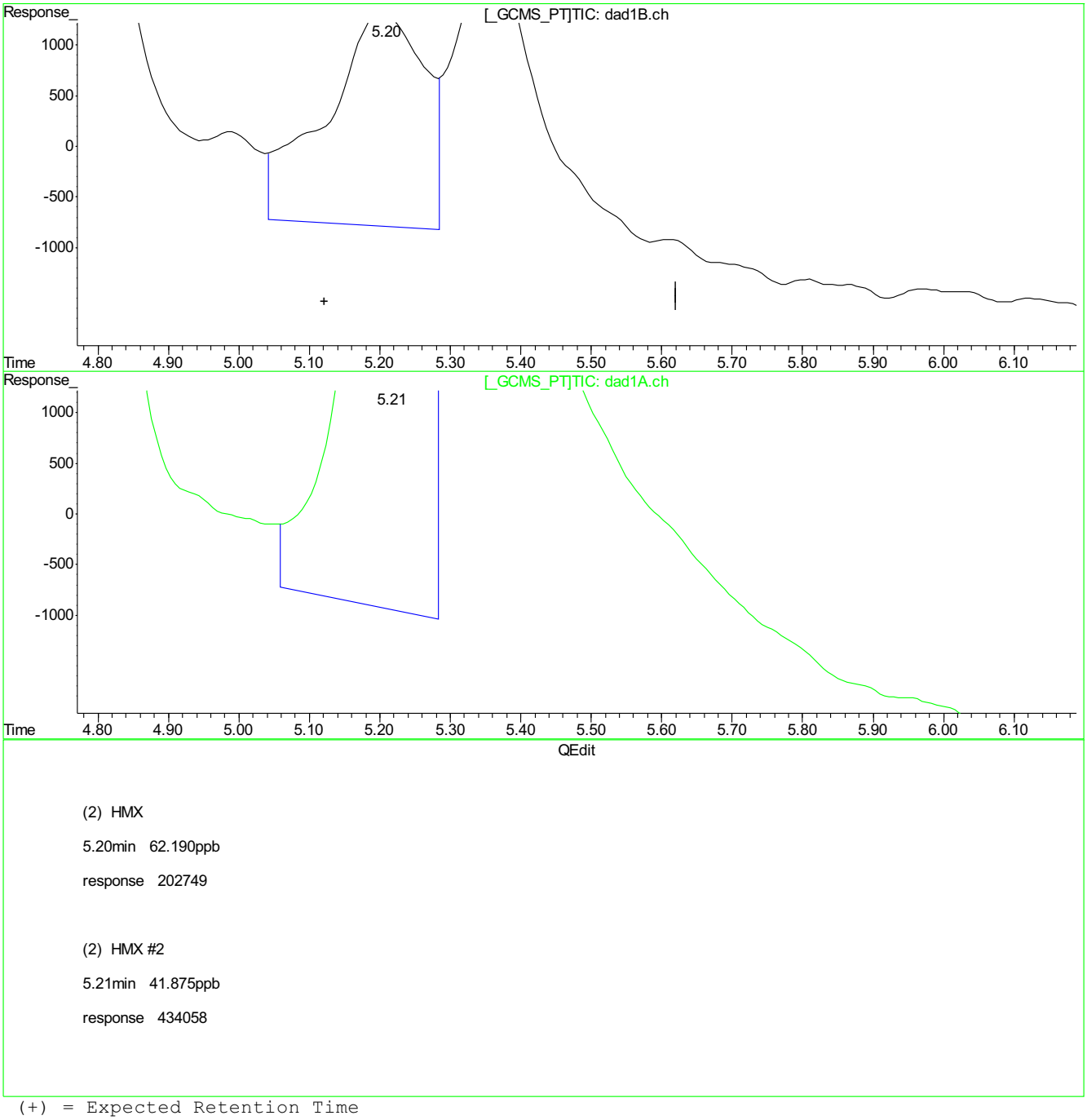
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:22 2017

PP381821.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:26 2017

9.5.15.4

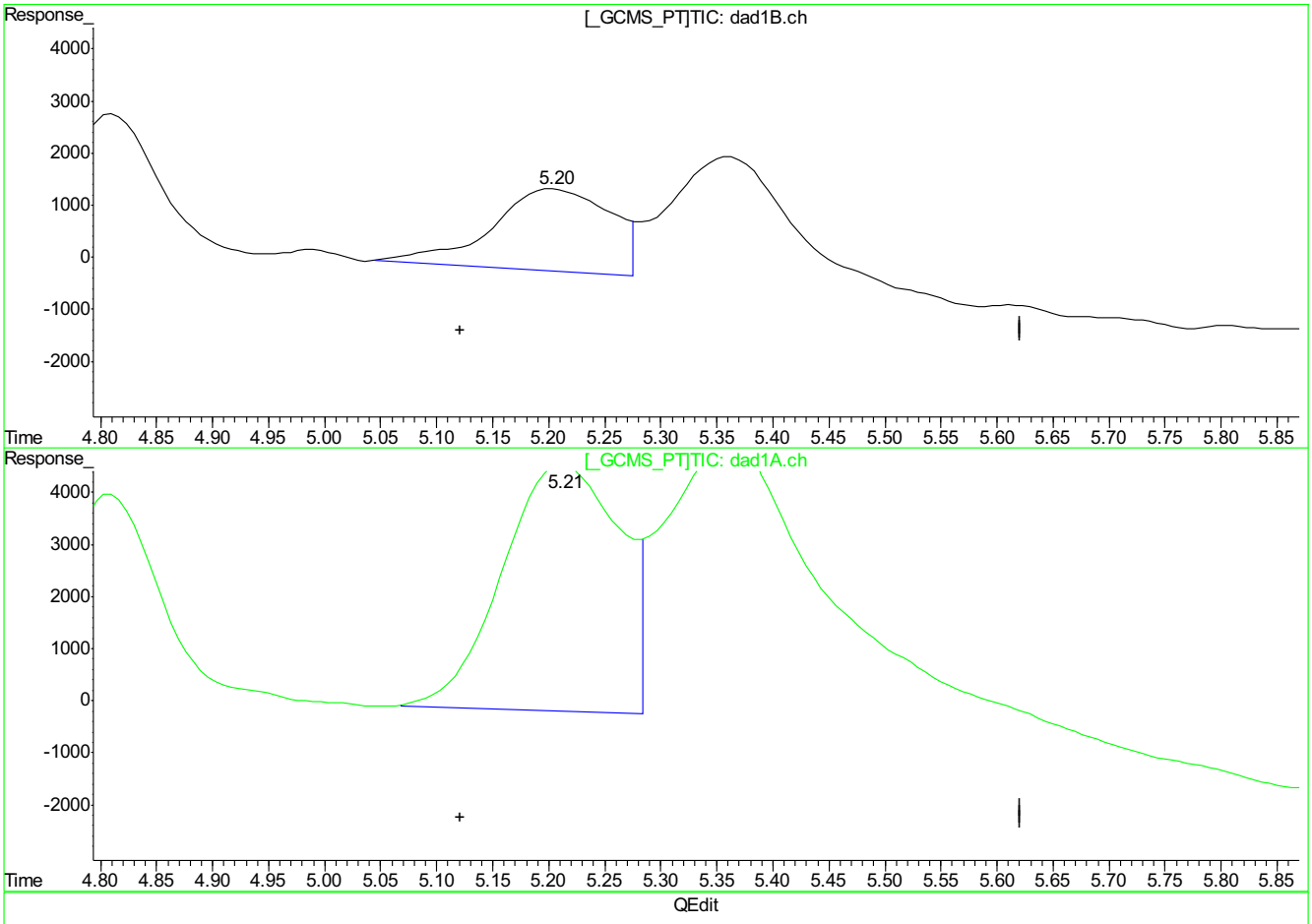
9

PP381821.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(2) HMX

5.20min 34.587ppb m

response 112757

(2) HMX #2

5.21min 34.186ppb m

response 354356

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:37:51 2017

9.5.15.5

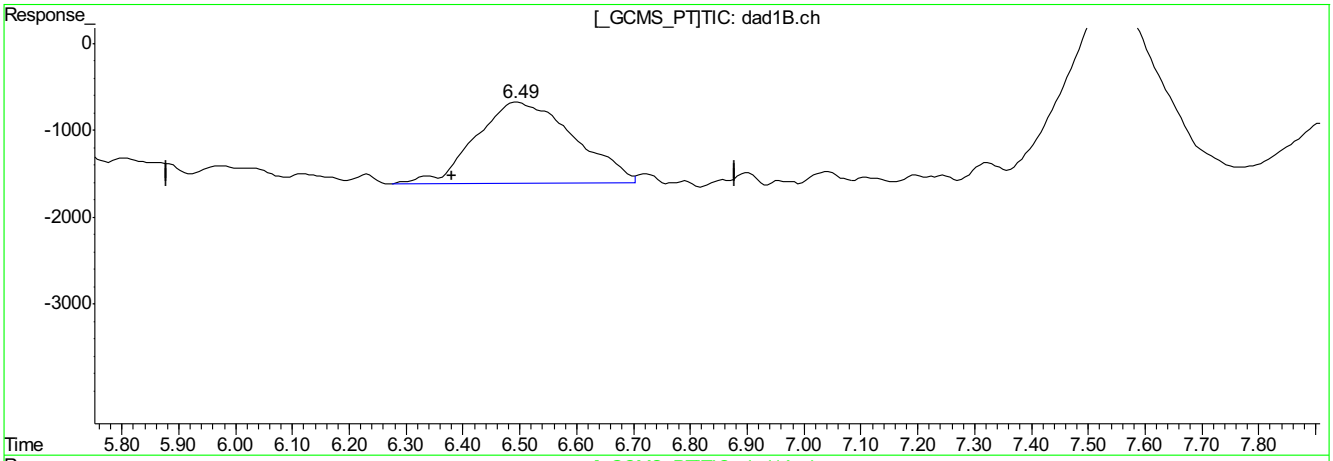
9

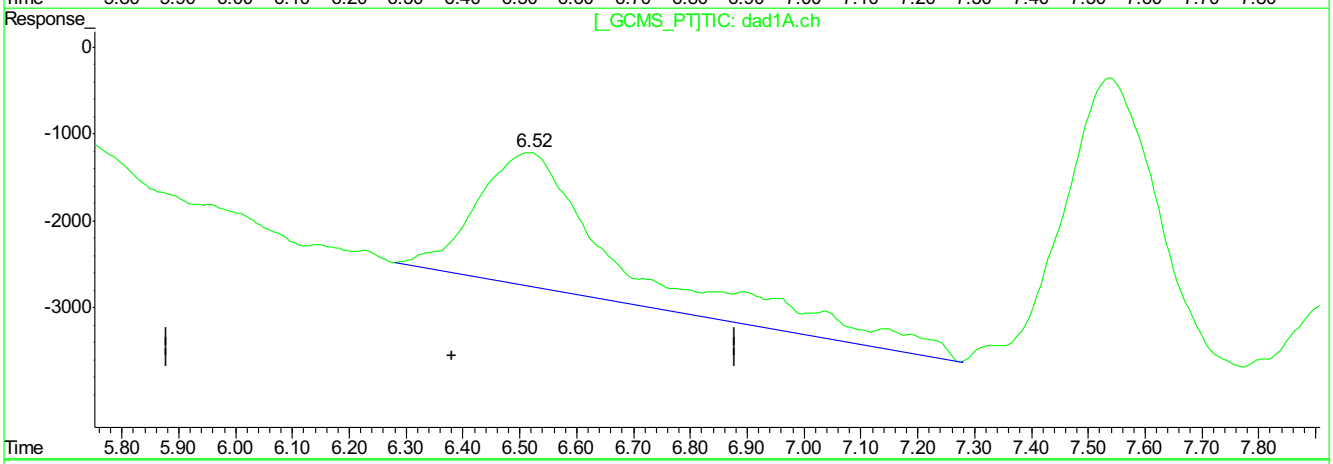
PP381821.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration





QEdit

(4) MNX

6.50min 20.678ppb

response 112624

(4) MNX #2

6.52min 32.992ppb

response 281174

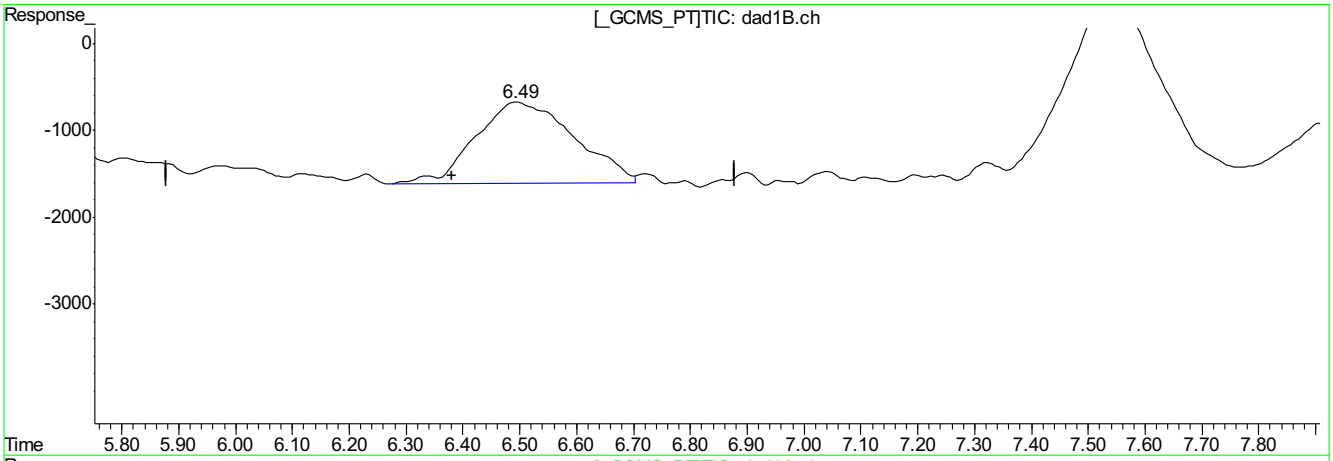
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:19 2017

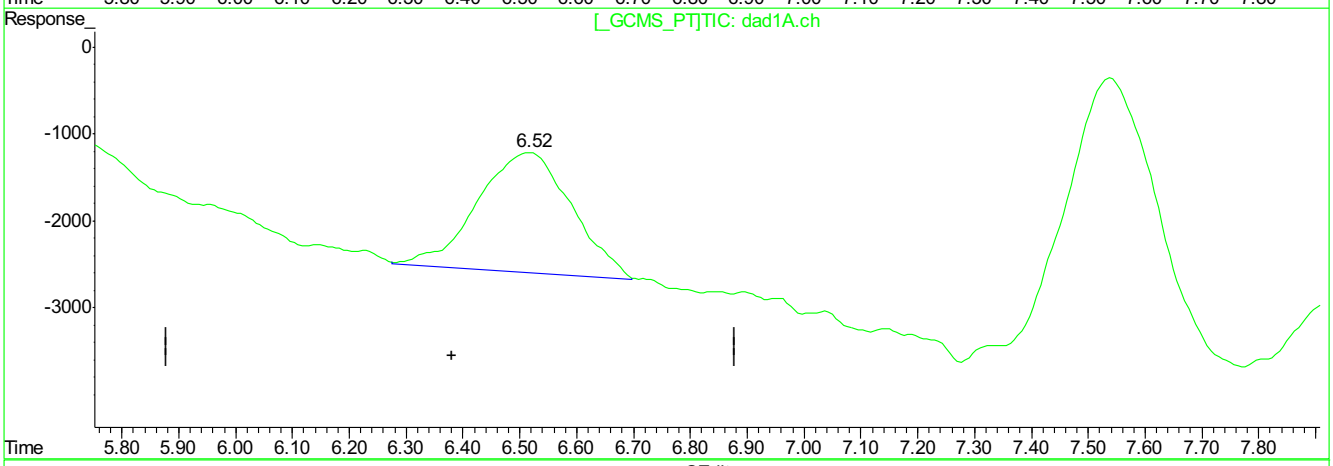
PP381821.D edits: MNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration





QEdit

(4) MNX

6.50min 20.678ppb

response 112624

(4) MNX #2

6.52min 18.707ppb m

response 159430

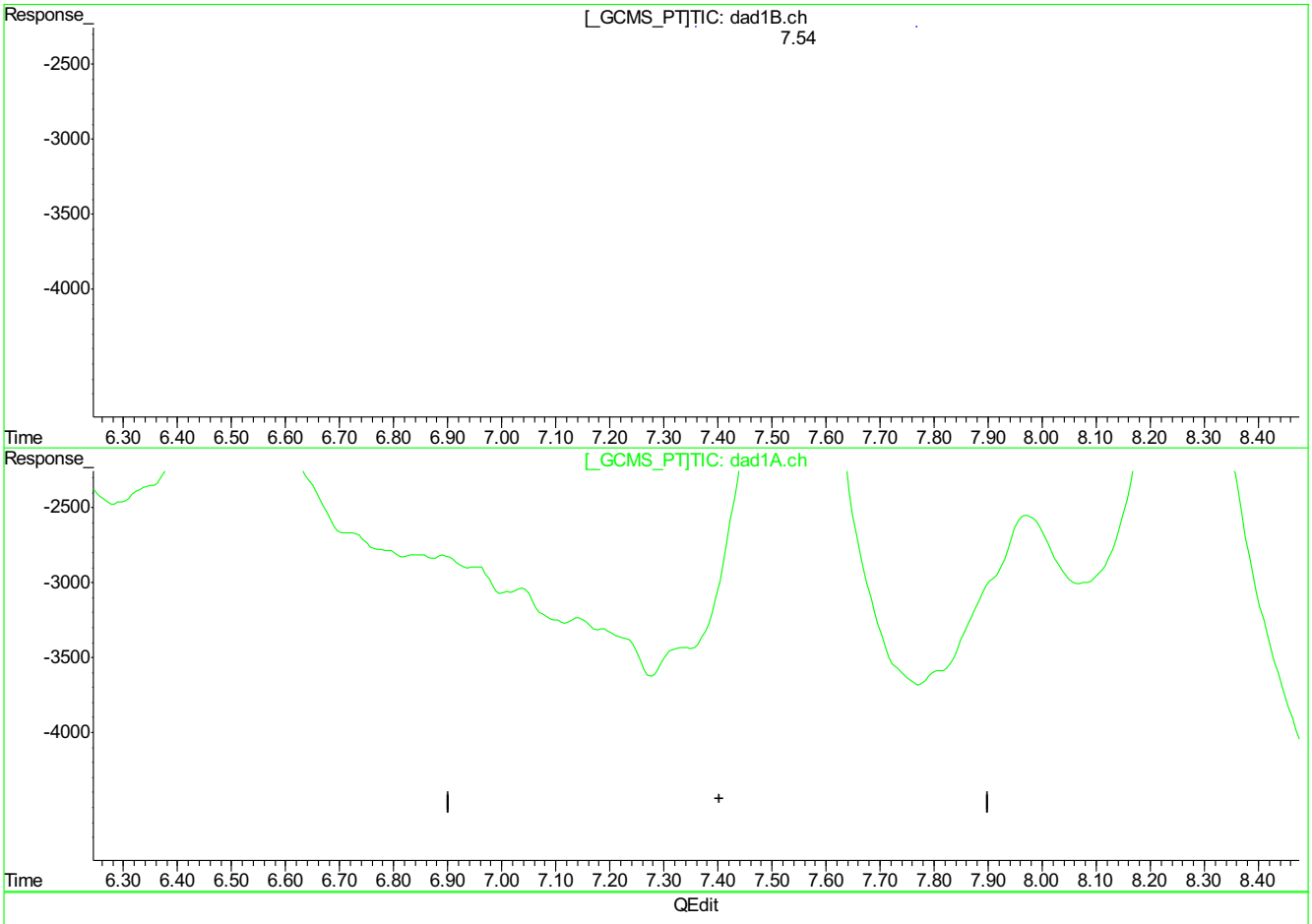
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:24 2017

PP381821.D edits: MNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.54min 24.231ppb

response 239896

(5) 1,3,5-Trinitrobenzene #2

7.54min 24.888ppb

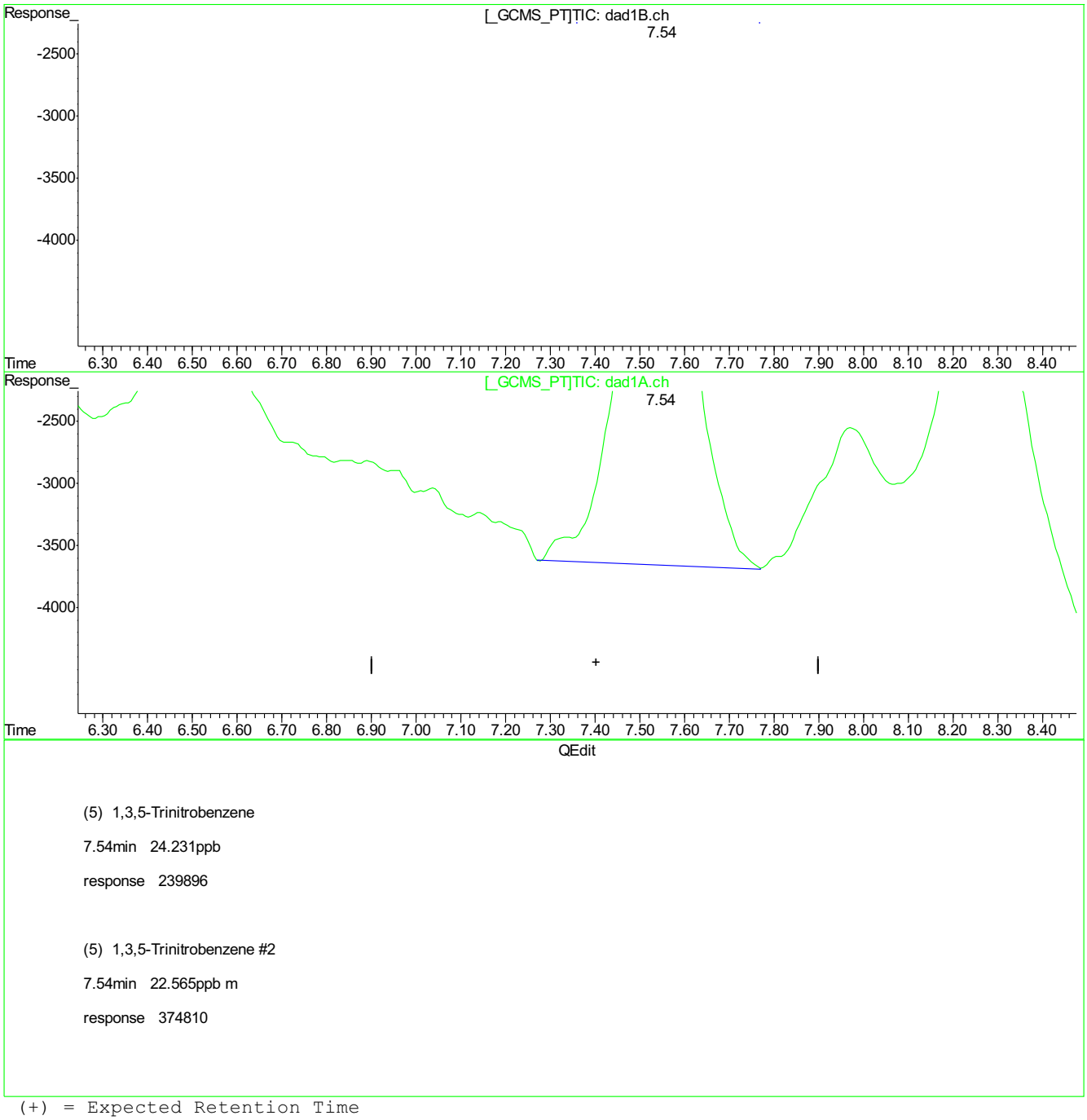
response 413404

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:35 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES


Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



(5) 1,3,5-Trinitrobenzene

7.54min 24.231ppb

response 239896

(5) 1,3,5-Trinitrobenzene #2

7.54min 22.565ppb m

response 374810

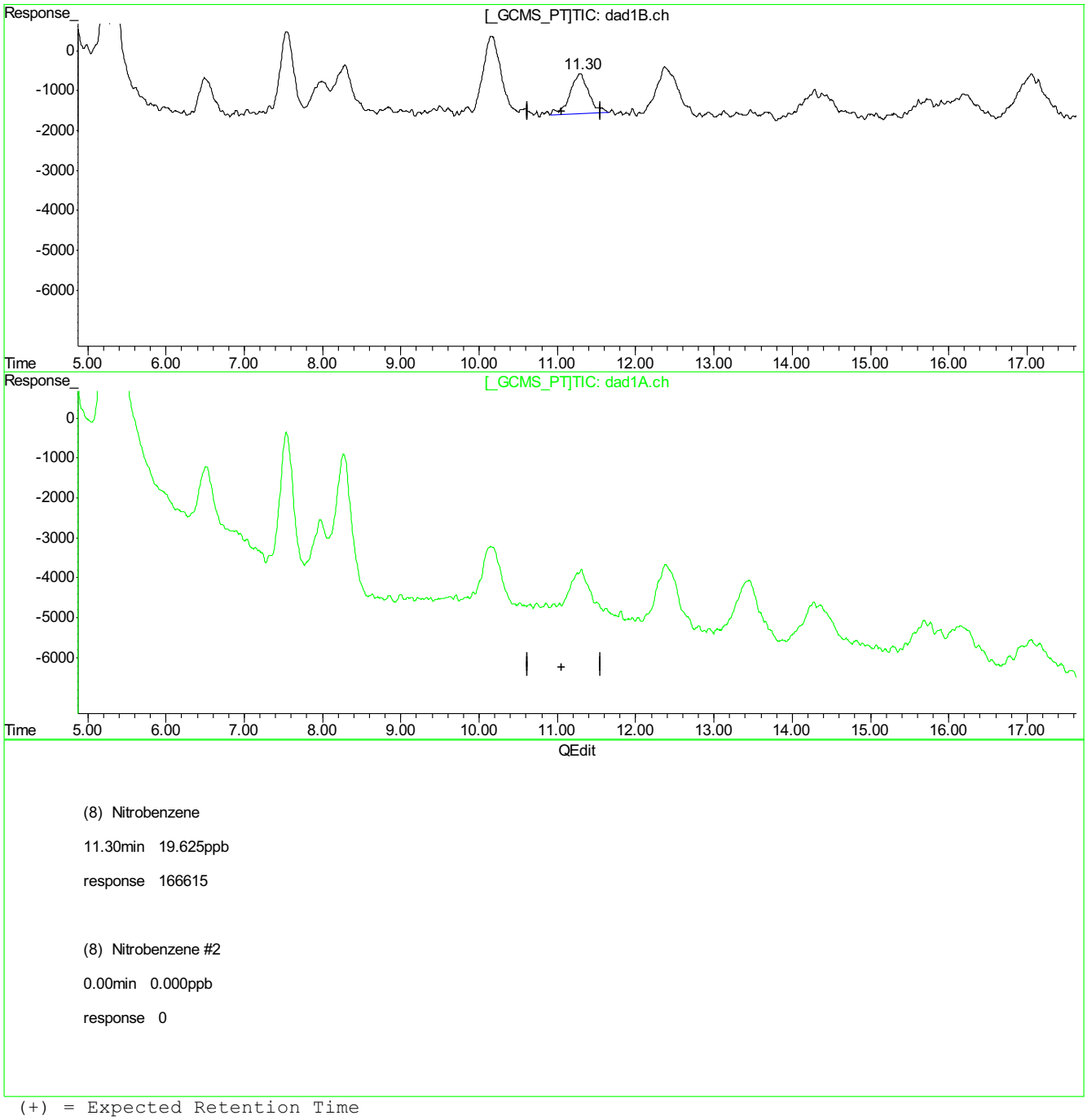
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:38:39 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



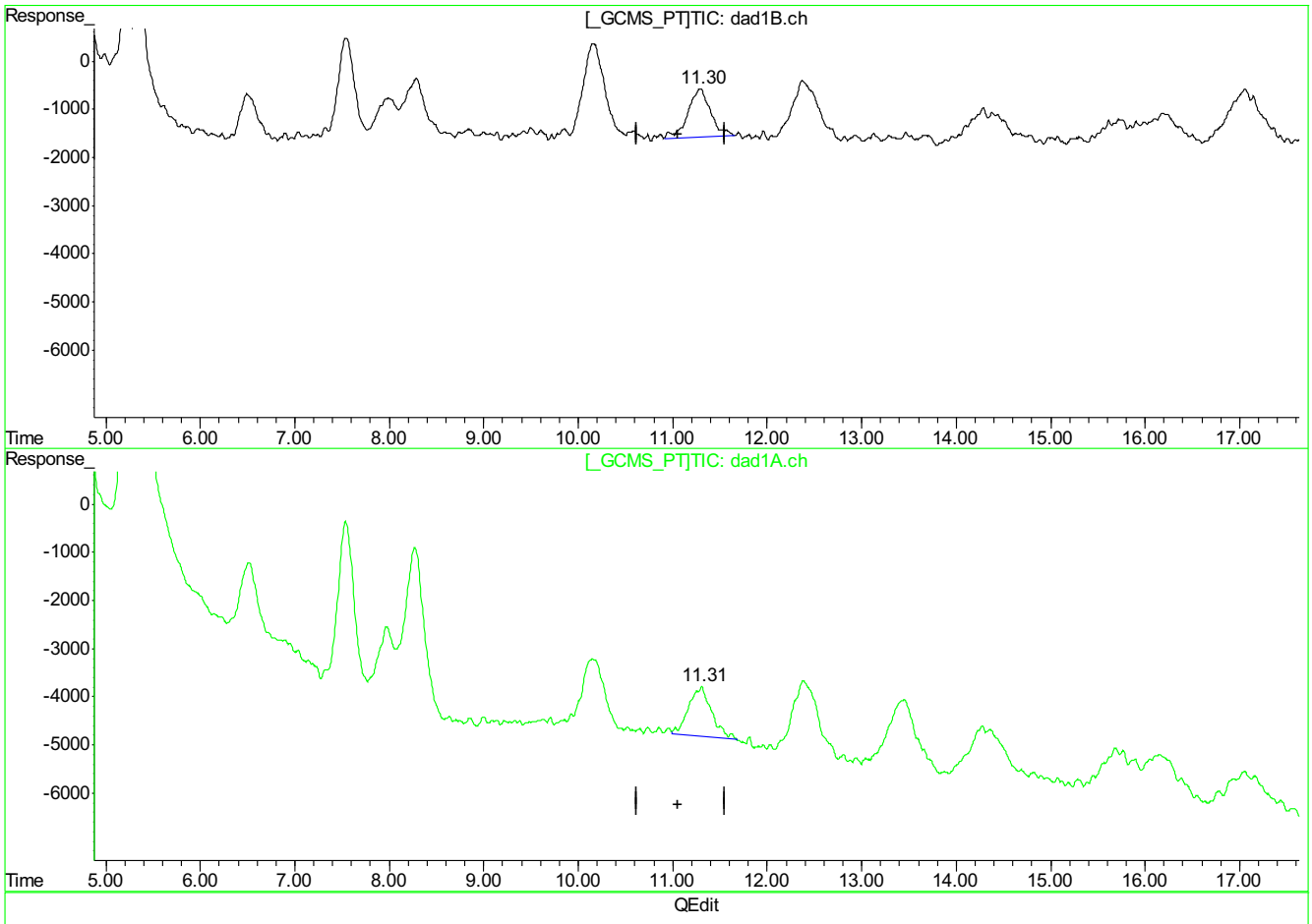
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:39:27 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                  Operator: evitam
Sample    : ic2096-20                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water      Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:37 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
```



(8) Nitrobenzene

11.30min 19.625ppb

response 166615

(8) Nitrobenzene #2

11.31min 21.194ppb m

response 172615

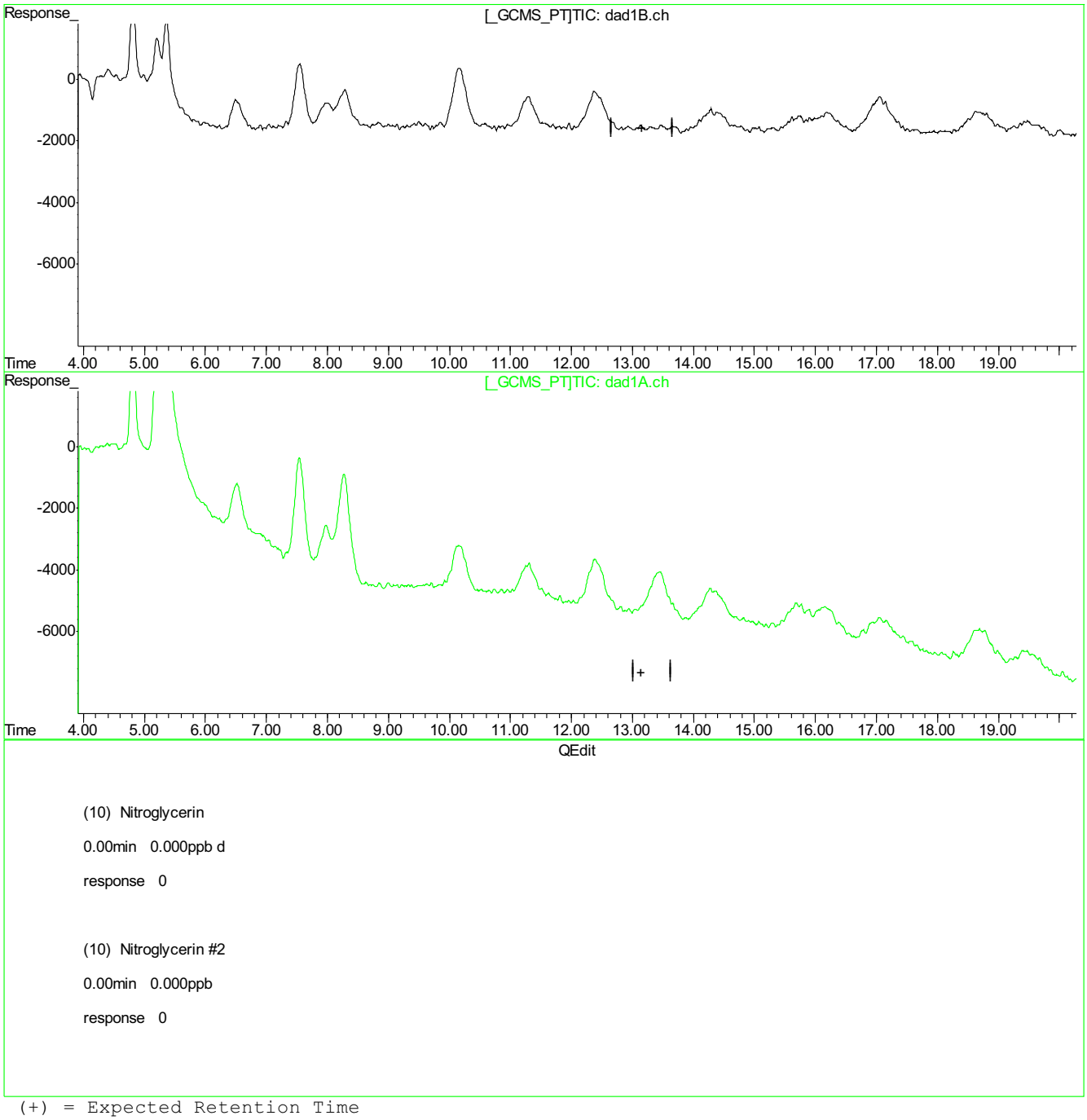
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 09:39:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

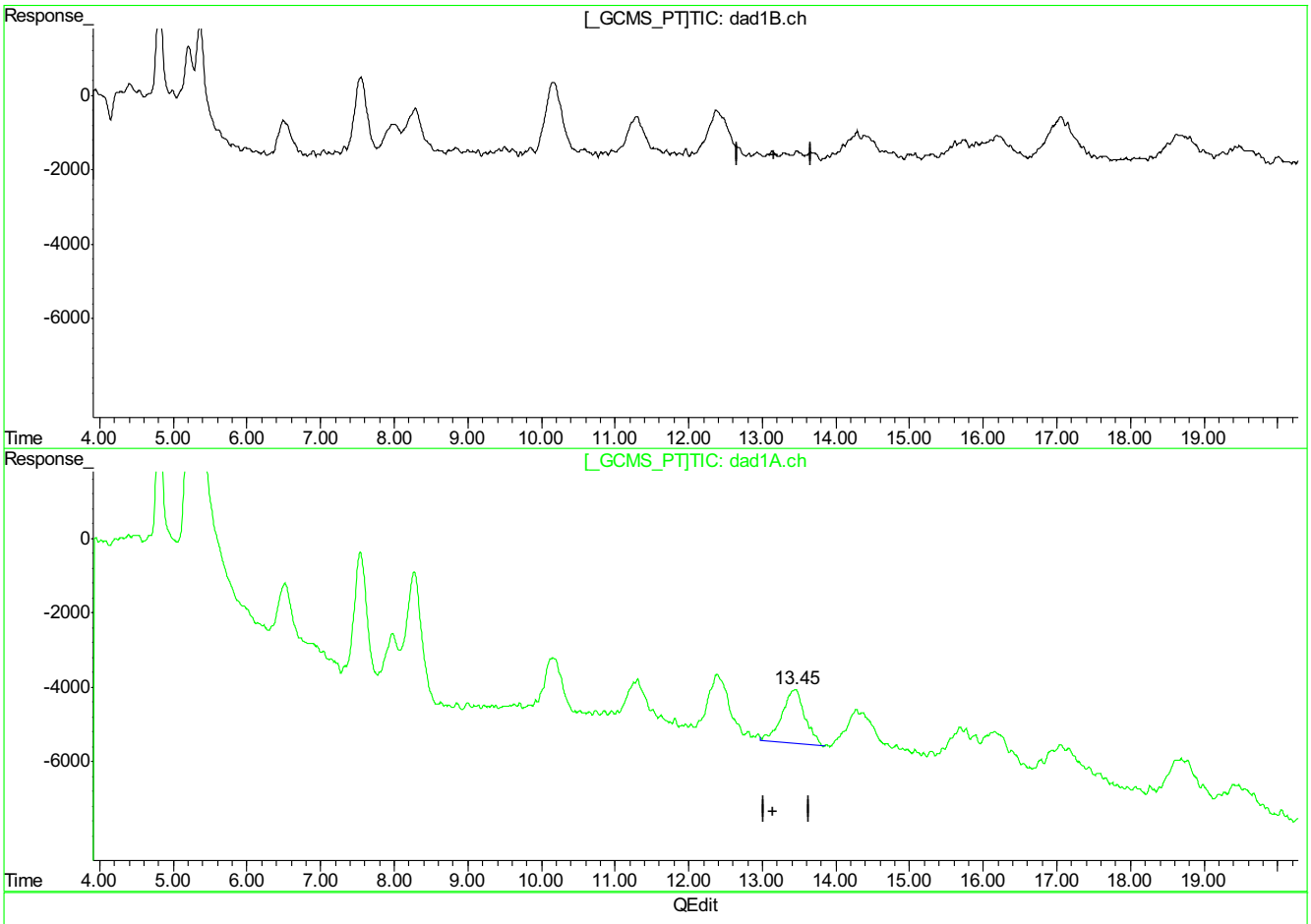
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:17 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.45min 104.962ppb m

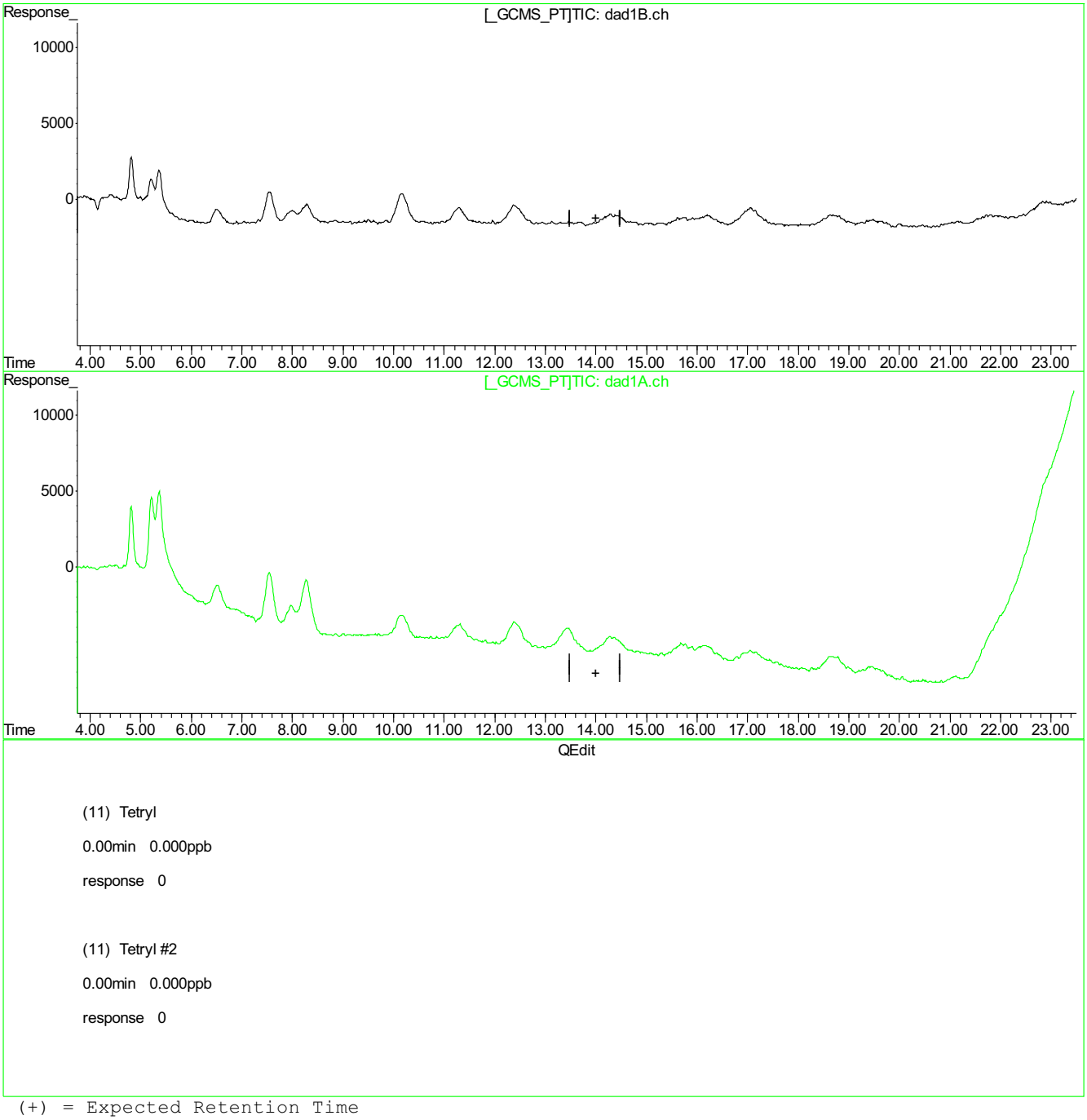
response 312865

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:23 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(11) Tetryl

0.00min 0.000ppb

response 0

(11) Tetryl #2

0.00min 0.000ppb

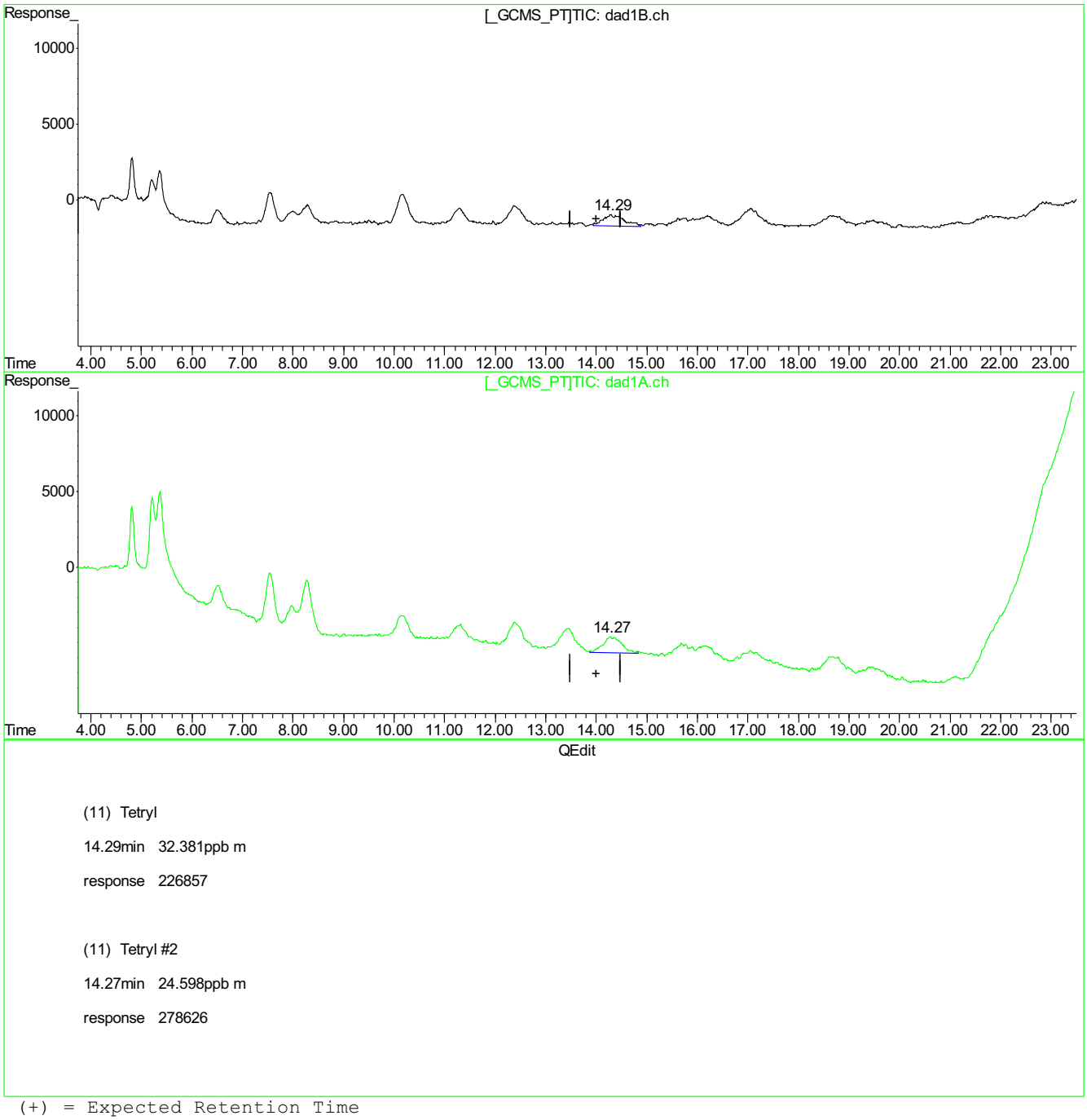
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:43 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.29min 32.381ppb m

response 226857

(11) Tetryl #2

14.27min 24.598ppb m

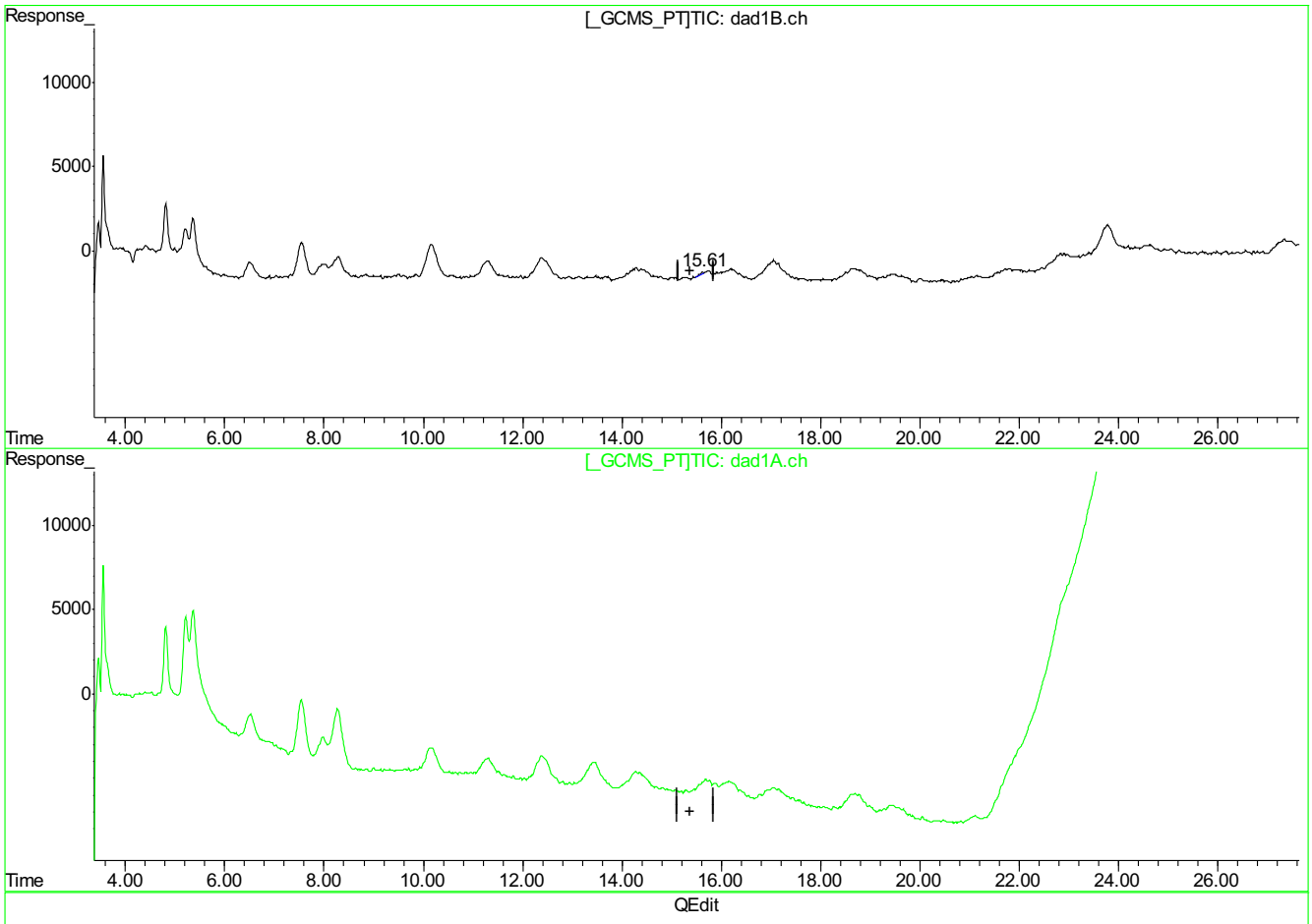
response 278626

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:40:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



QEdit

(12) 3,4-Dinitrotoluene (S)

15.62min 1.226ppb

response 5653

(12) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

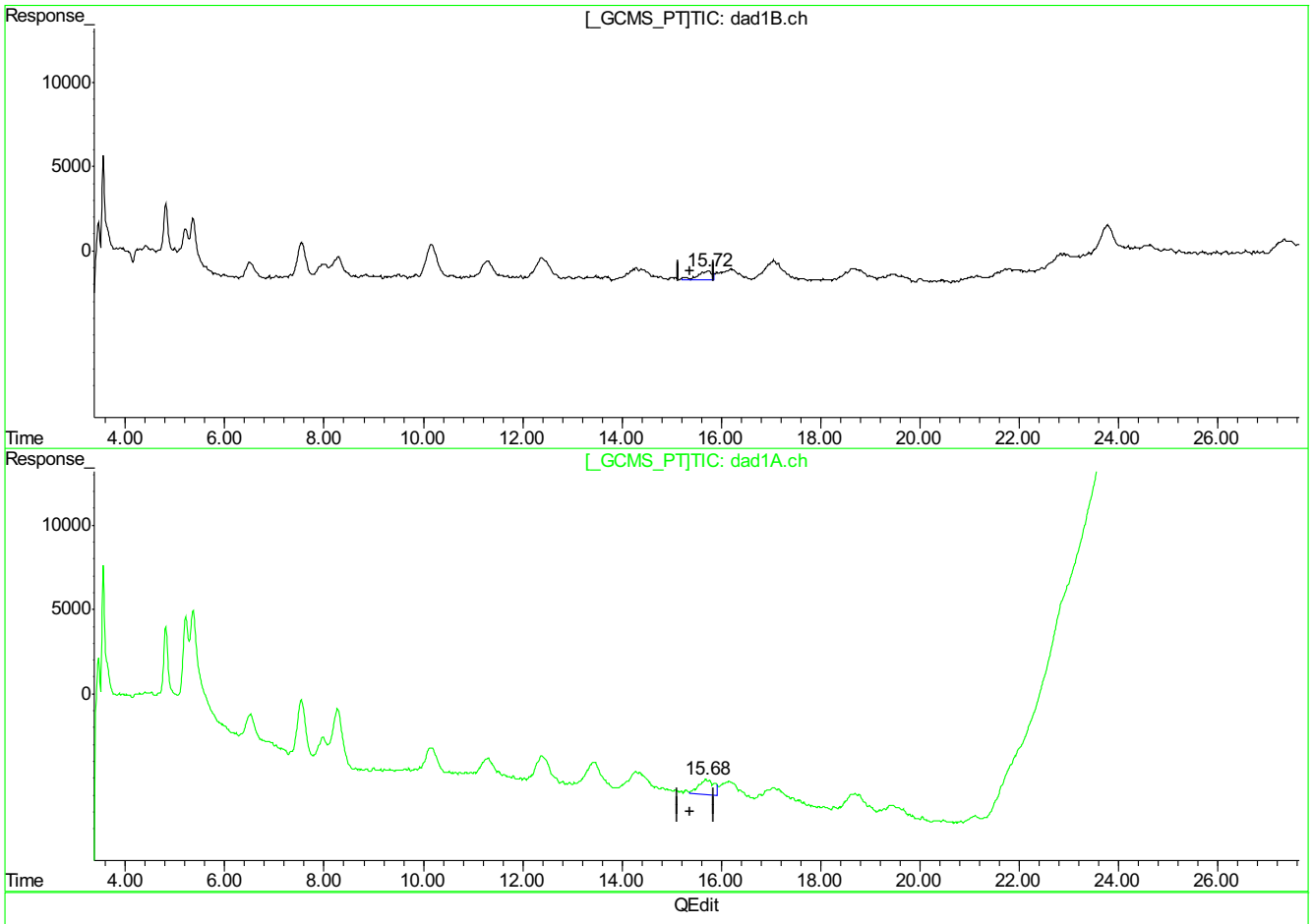
response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:14 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

15.72min 20.333ppb m

response 93741

(12) 3,4-Dinitrotoluene #2 (S)

15.68min 21.066ppb m

response 195429

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:25 2017

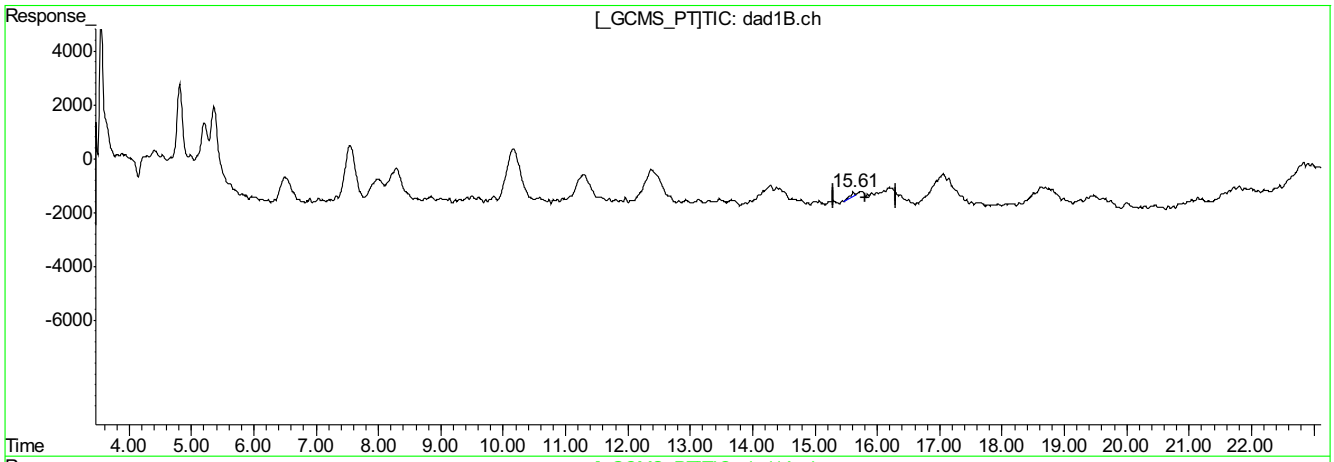
9.5.15.17

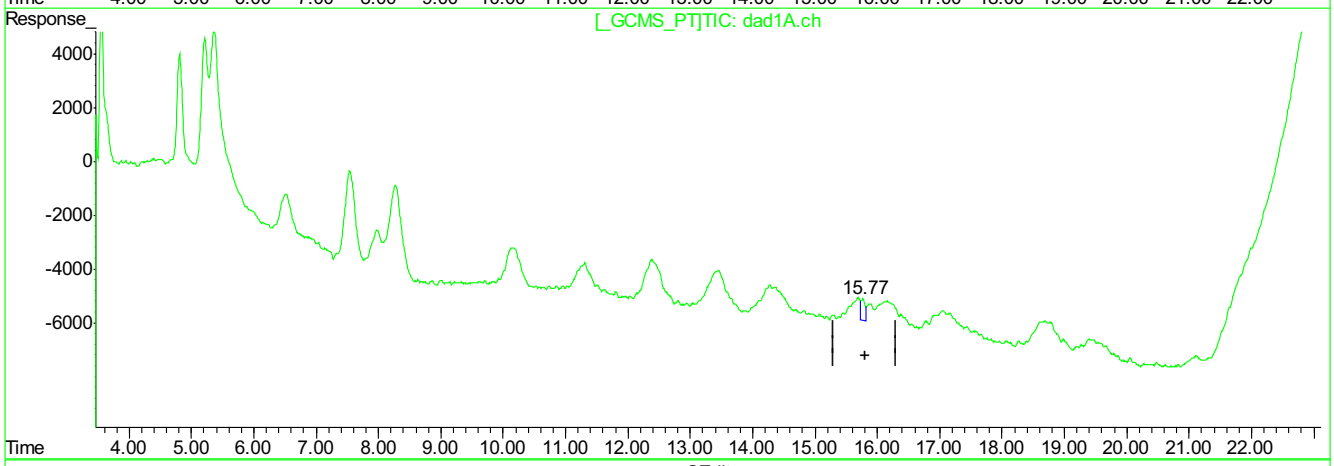
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

15.62min 0.802ppb

response 5653

(13) 2,6-Dinitrotoluene #2

15.77min 3.786ppb

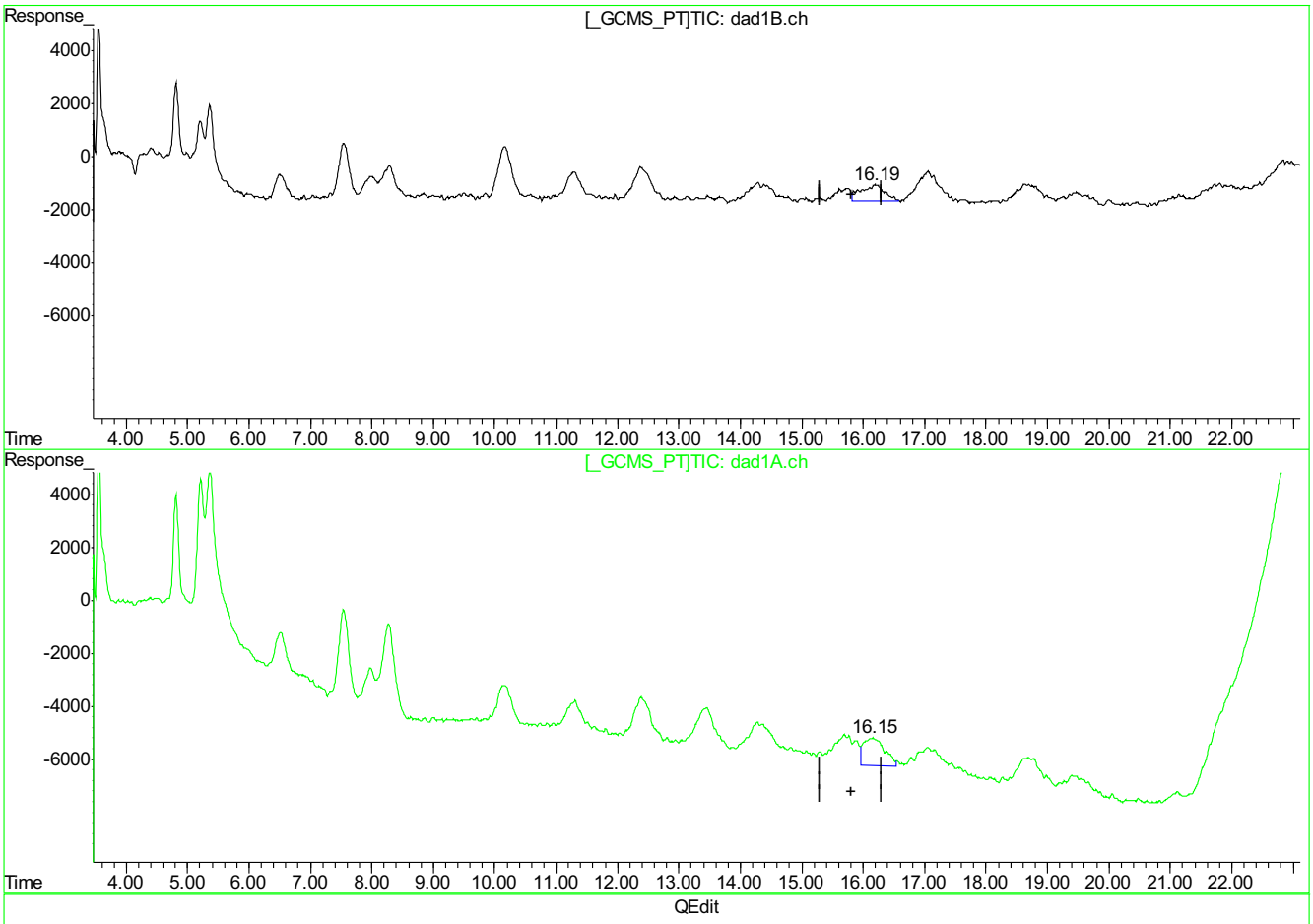
response 37352

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:41 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:37 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

16.19min 23.835ppb m

response 168010

(13) 2,6-Dinitrotoluene #2

16.15min 25.708ppb m

response 253647

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 09:41:55 2017

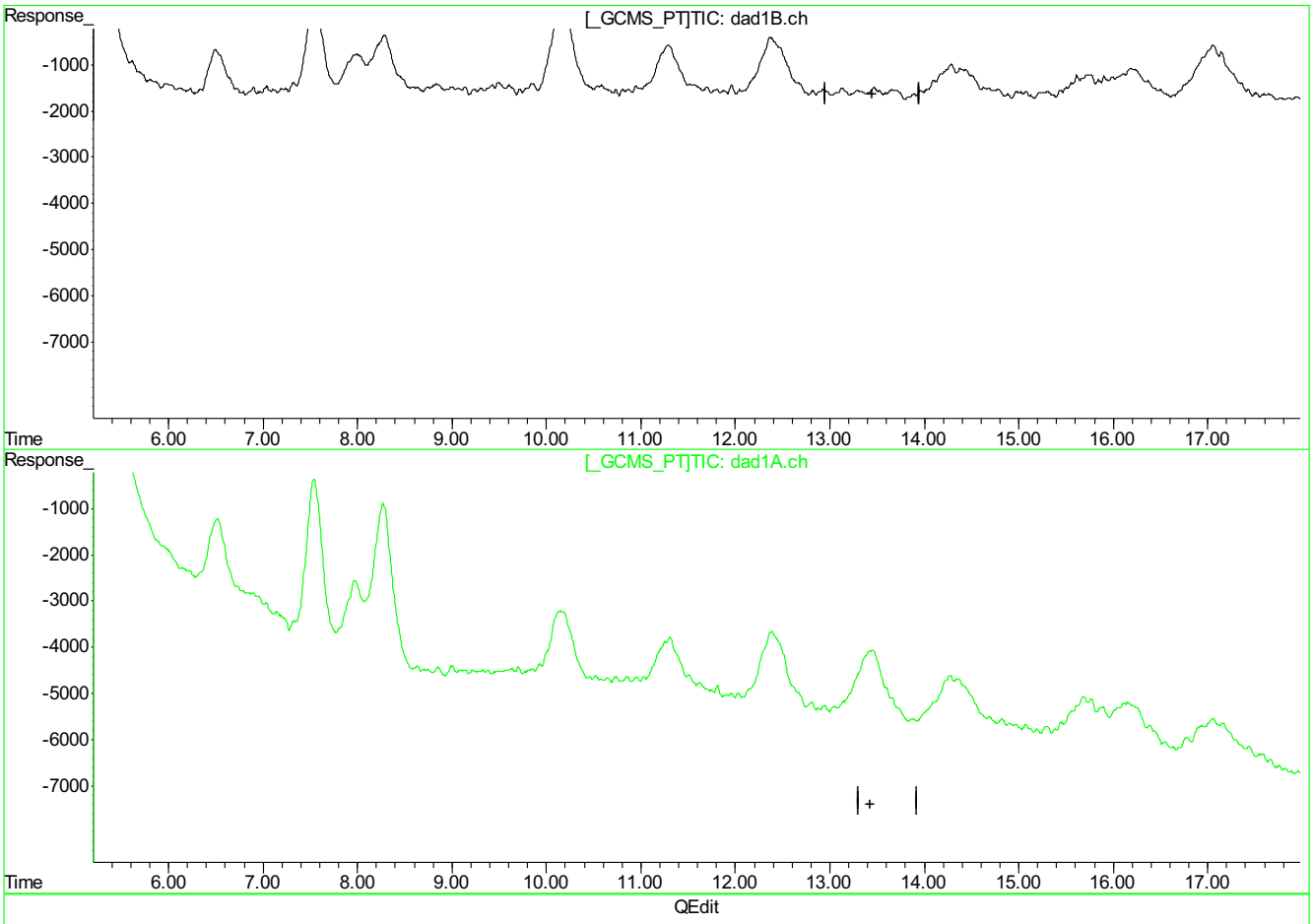
9.5.15.19

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:04:49 2017

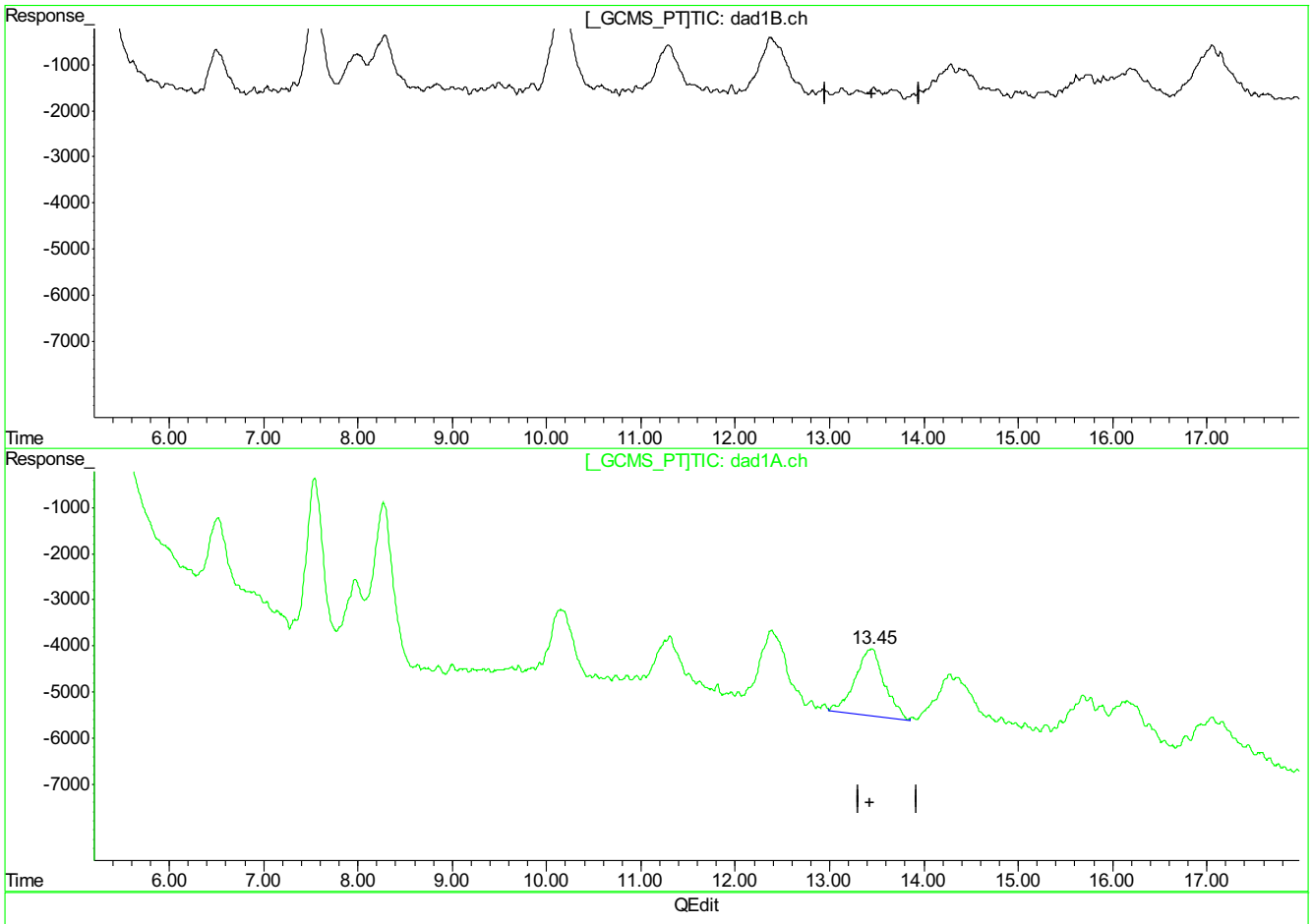
9.5.15.20

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.45min 106.019ppb m

response 316014

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:04:52 2017

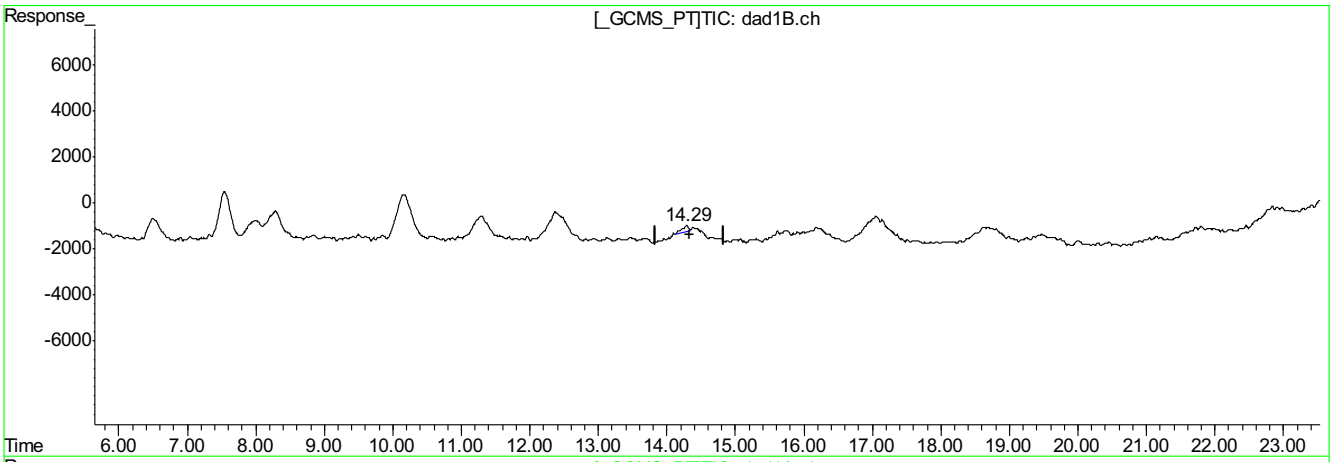
9.5.15.21

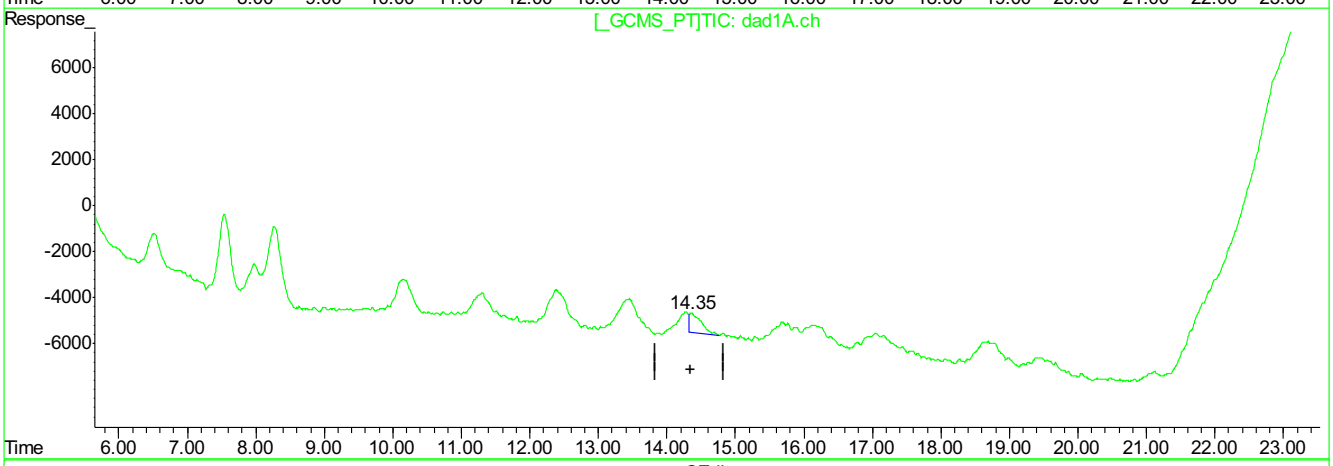
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

14.29min 2.424ppb

response 16985

(11) Tetryl #2

14.36min 9.499ppb

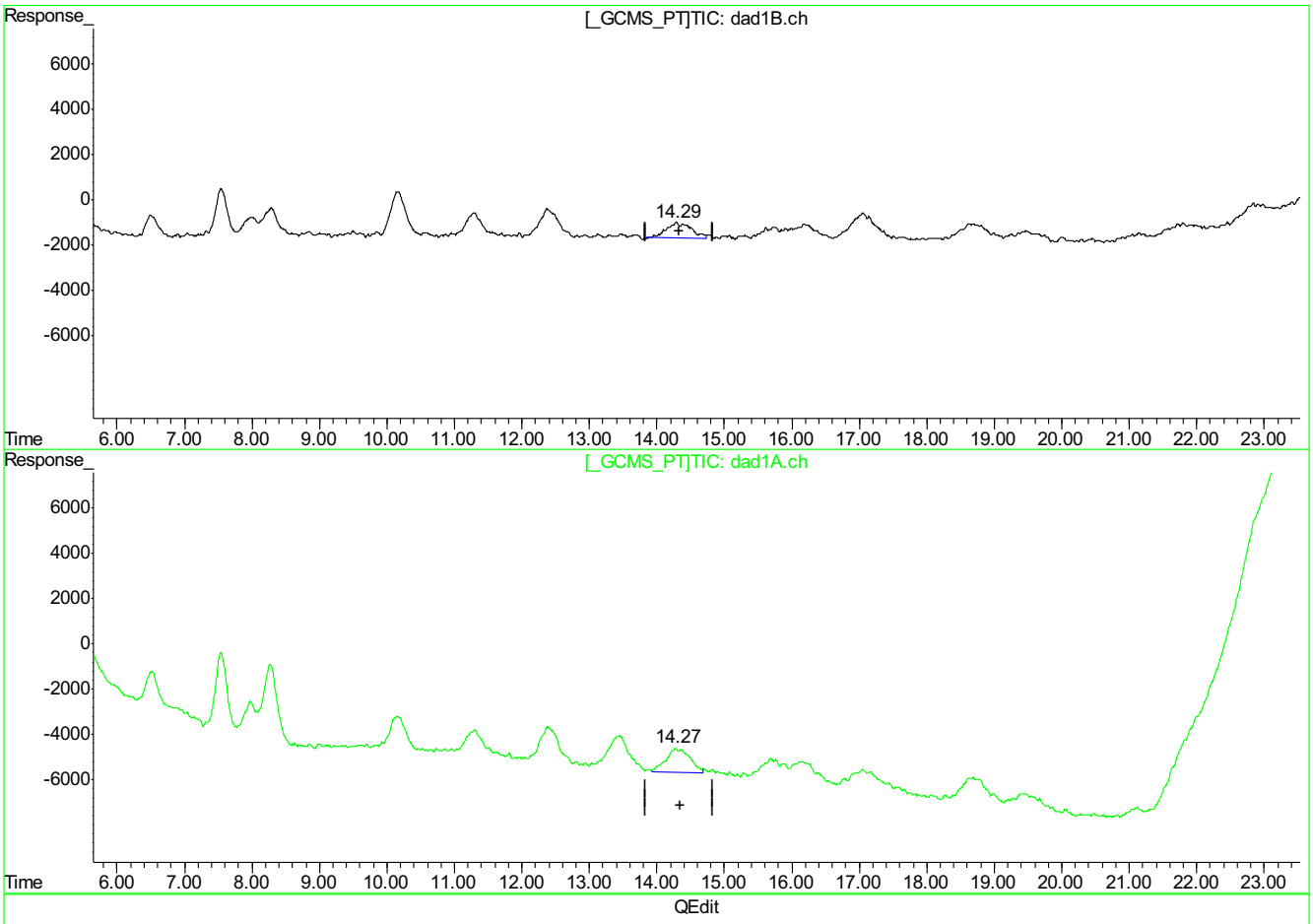
response 107600

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:07 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.29min 25.634ppb m

response 179590

(11) Tetryl #2

14.27min 22.504ppb m

response 254906

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:18 2017

9.5.15.23

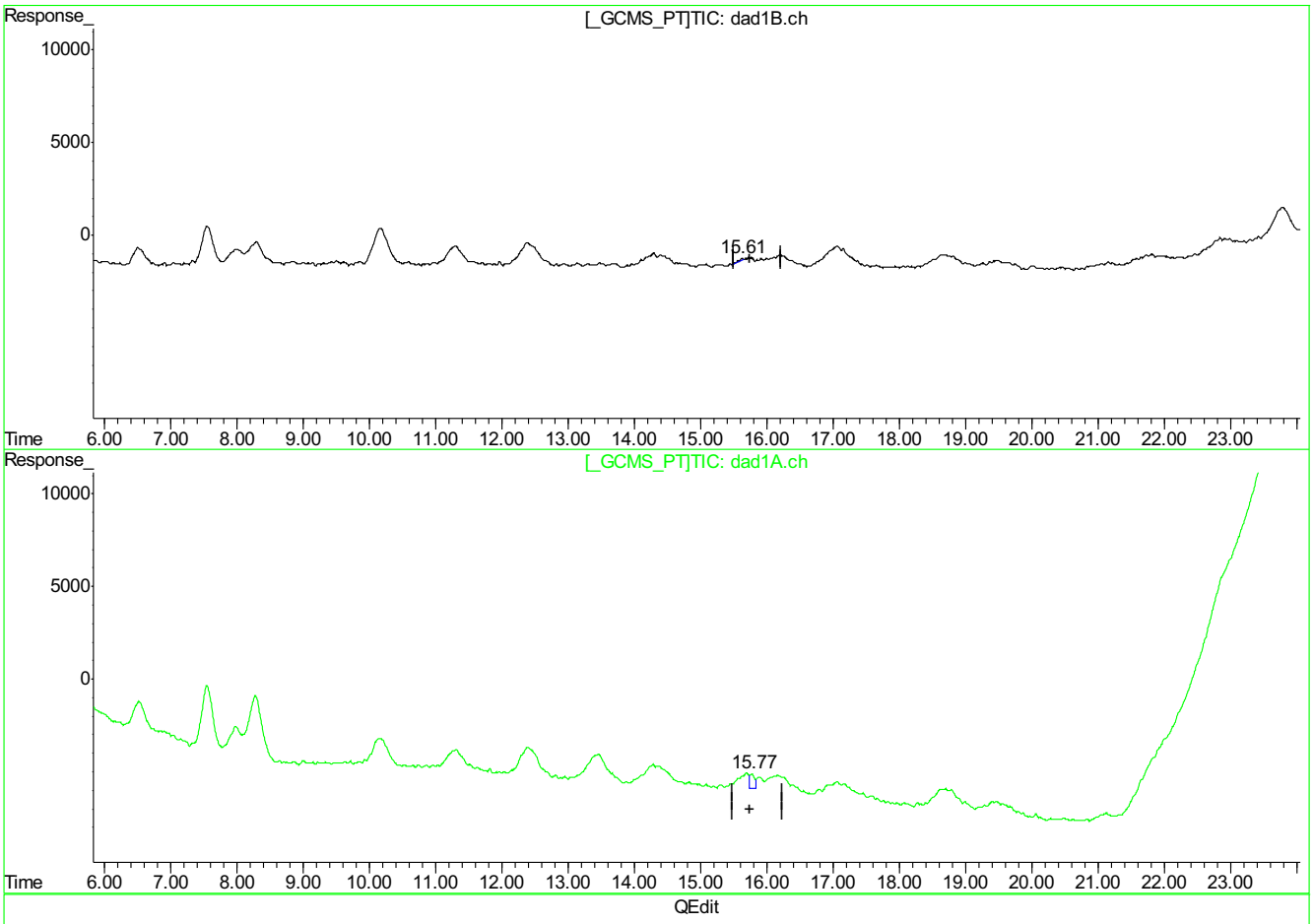
9

PP381821.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



QEdit

(12) 3,4-Dinitrotoluene (S)

15.62min 1.226ppb

response 5653

(12) 3,4-Dinitrotoluene #2 (S)

15.77min 4.026ppb

response 37352

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:36 2017

9.5.15.24

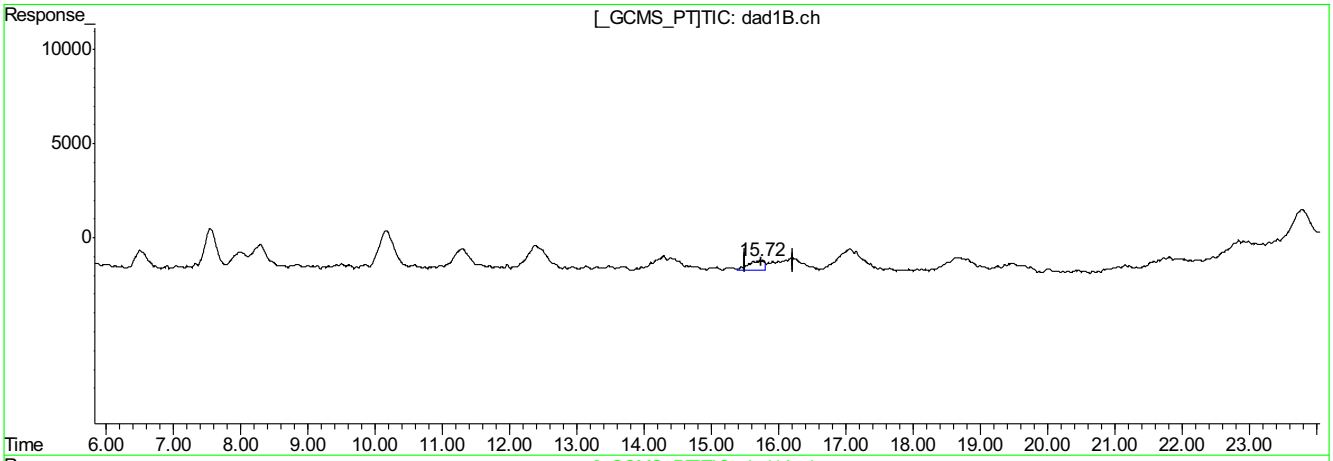
9

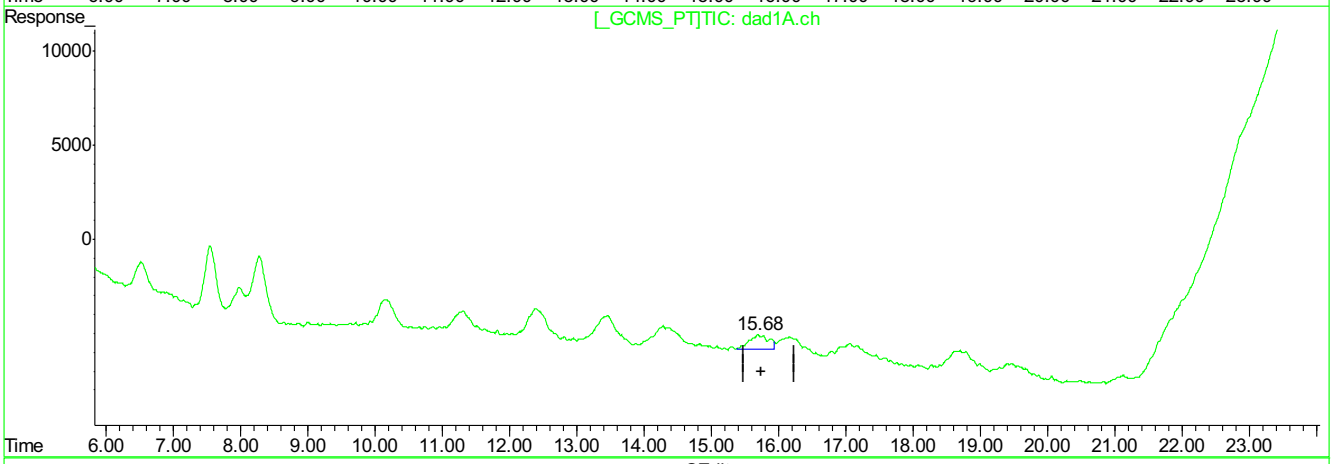
PP381821.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

15.72min 17.396ppb m

response 80199

(12) 3,4-Dinitrotoluene #2 (S)

15.68min 17.077ppb m

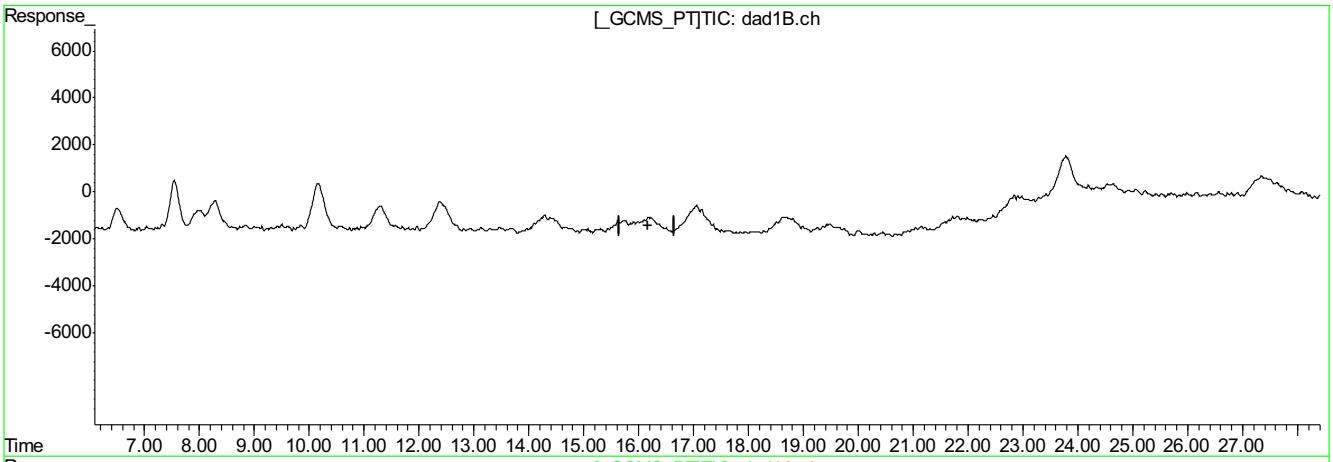
response 158430

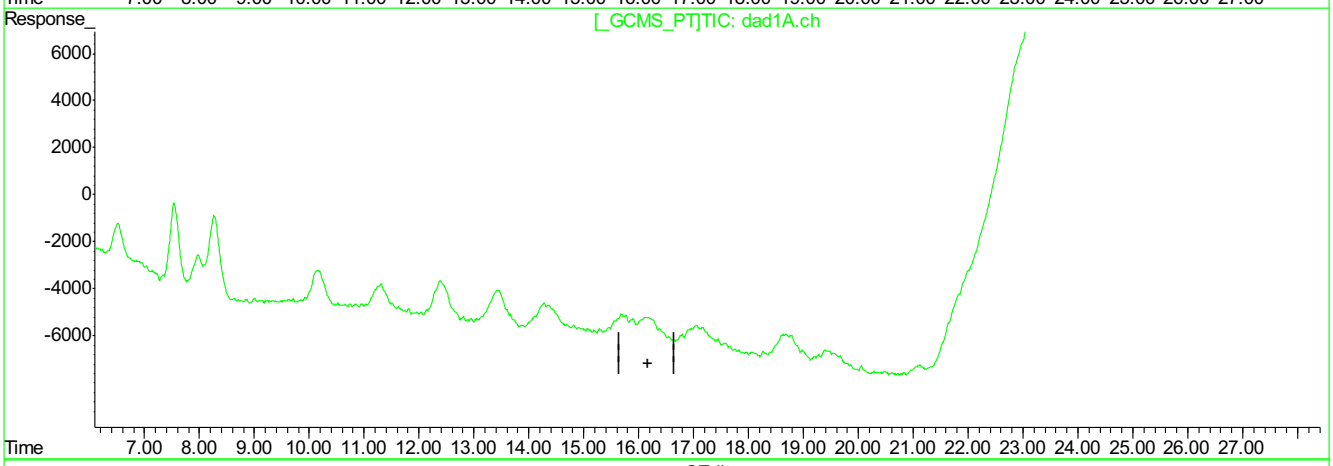
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(13) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:05:58 2017

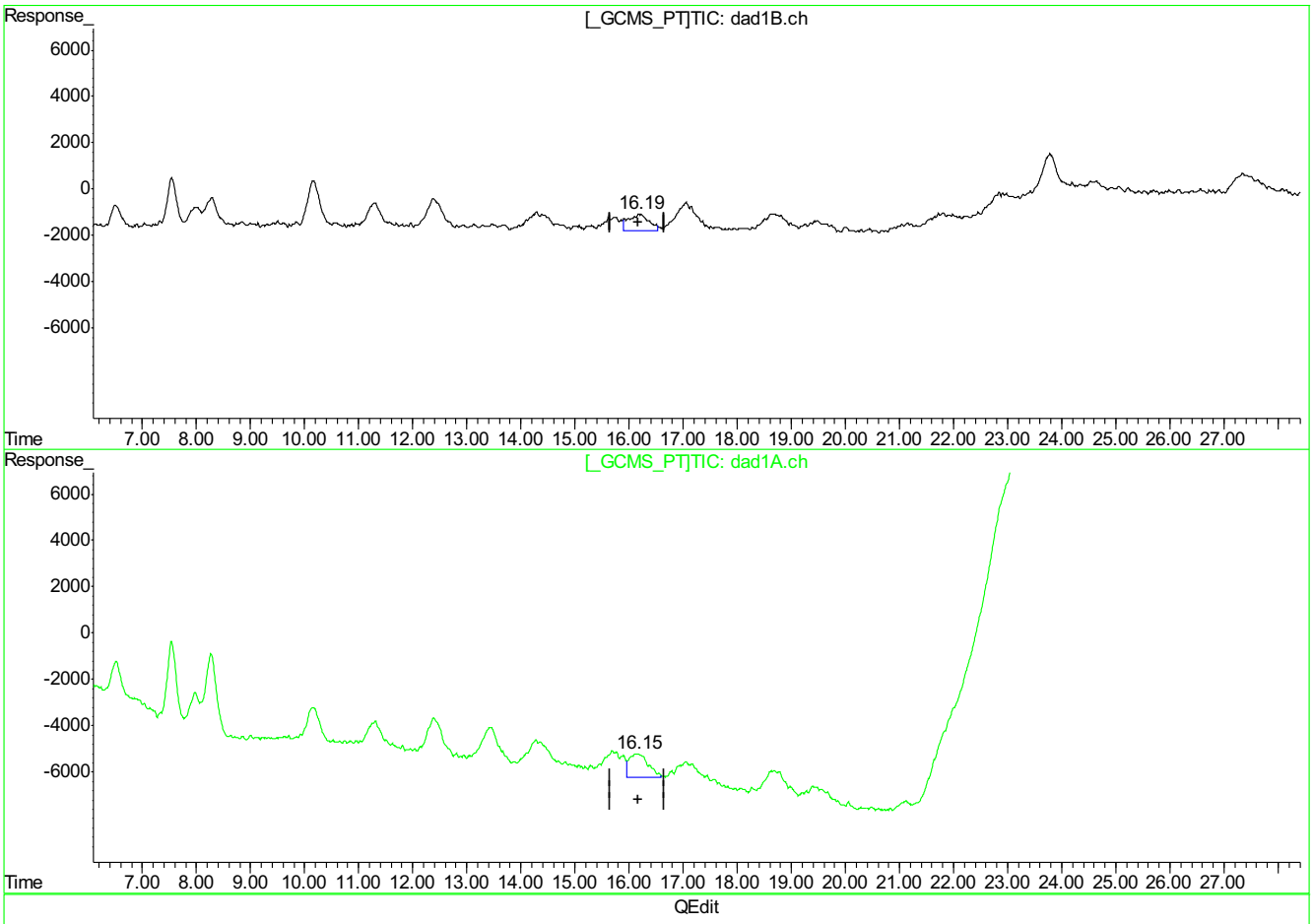
9.5.15.26

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

16.19min 26.282ppb m

response 185256

(13) 2,6-Dinitrotoluene #2

16.15min 25.496ppb m

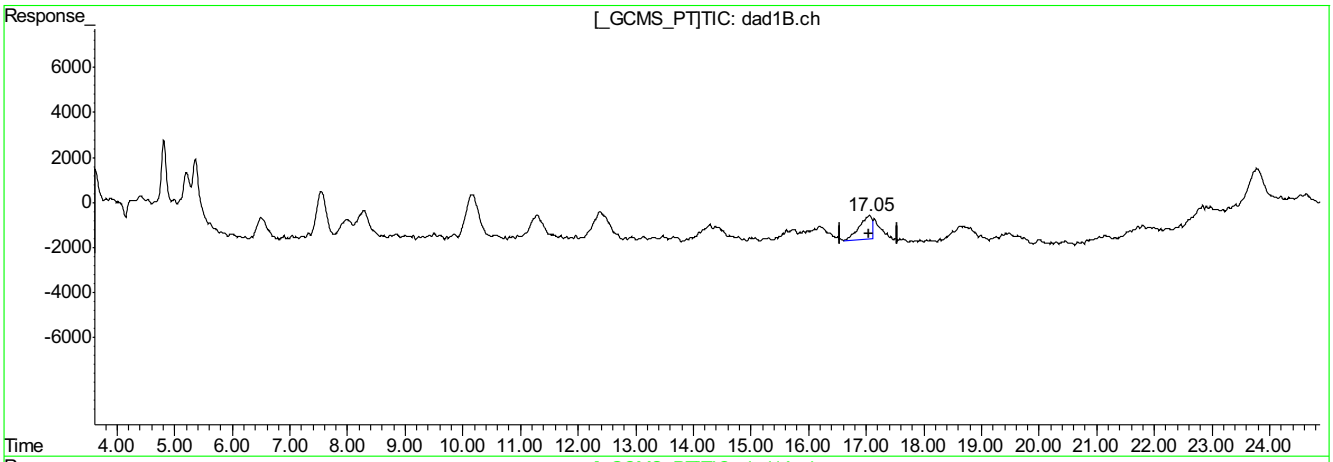
response 251554

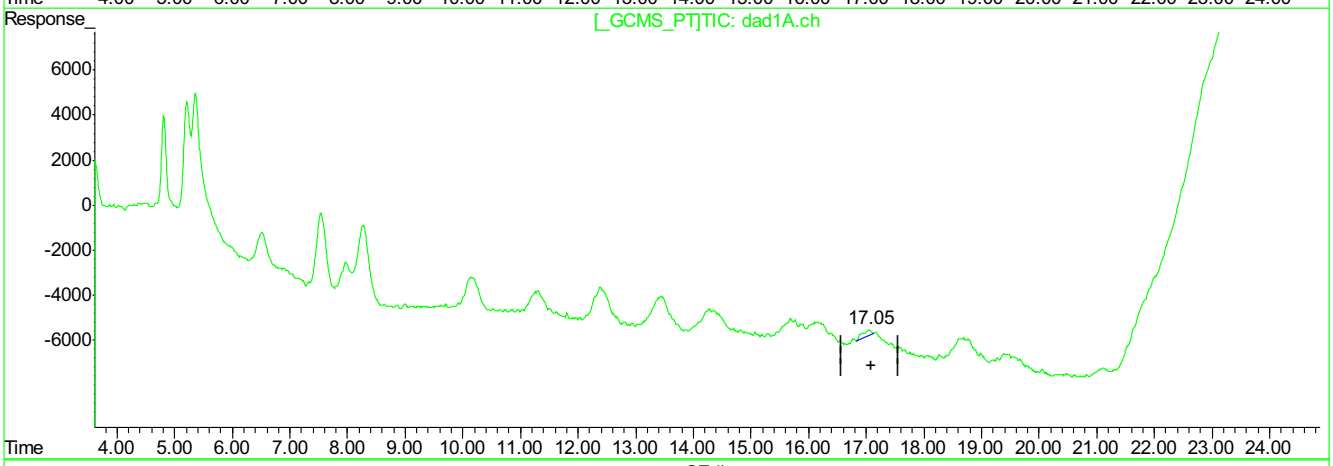
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:08 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

17.06min 13.206ppb

response 162085

(14) 2,4-Dinitrotoluene #2

17.05min 2.980ppb

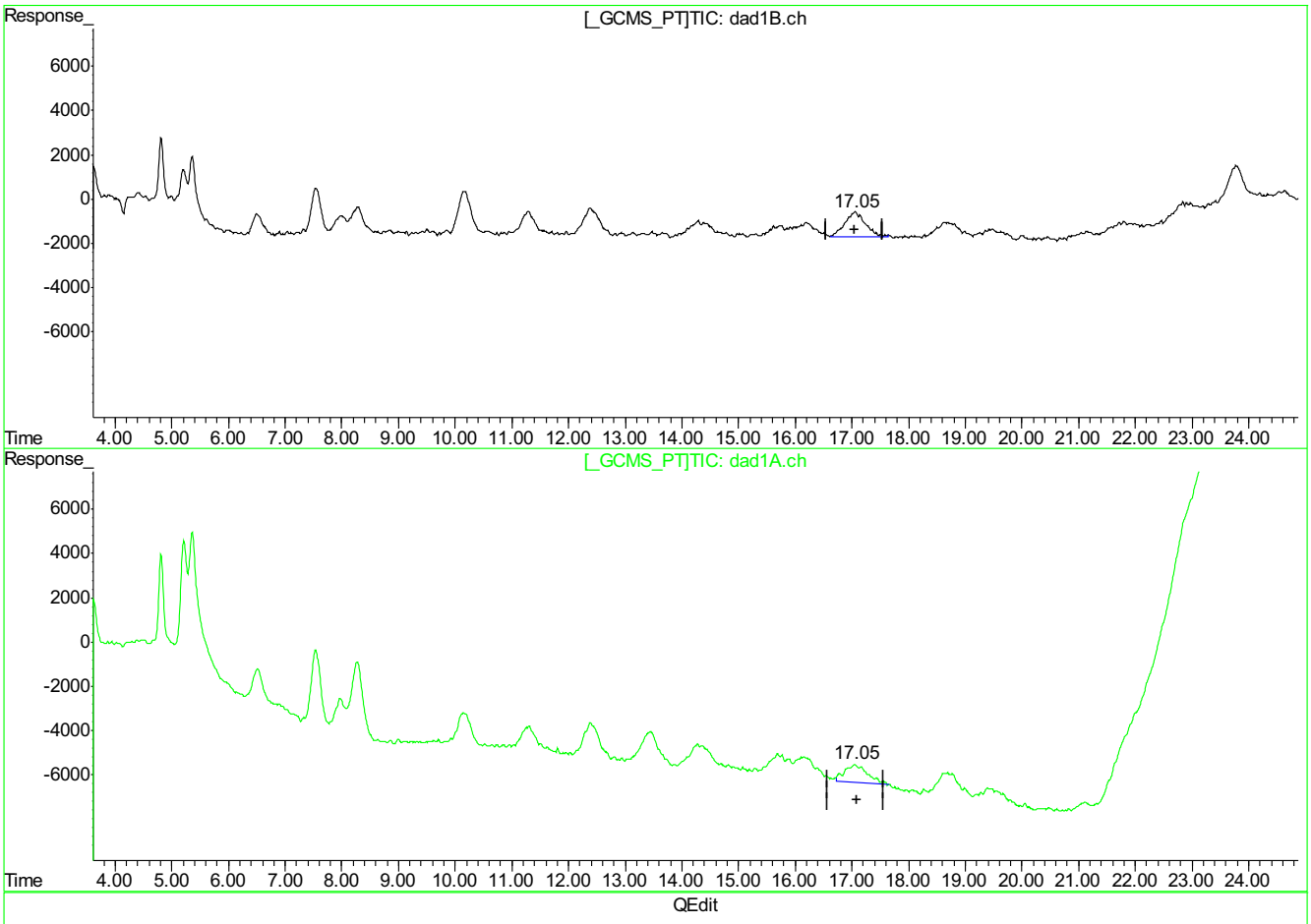
response 27970

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:26 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

17.05min 23.799ppb m

response 292098

(14) 2,4-Dinitrotoluene #2

17.05min 24.168ppb m

response 226875

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:35 2017

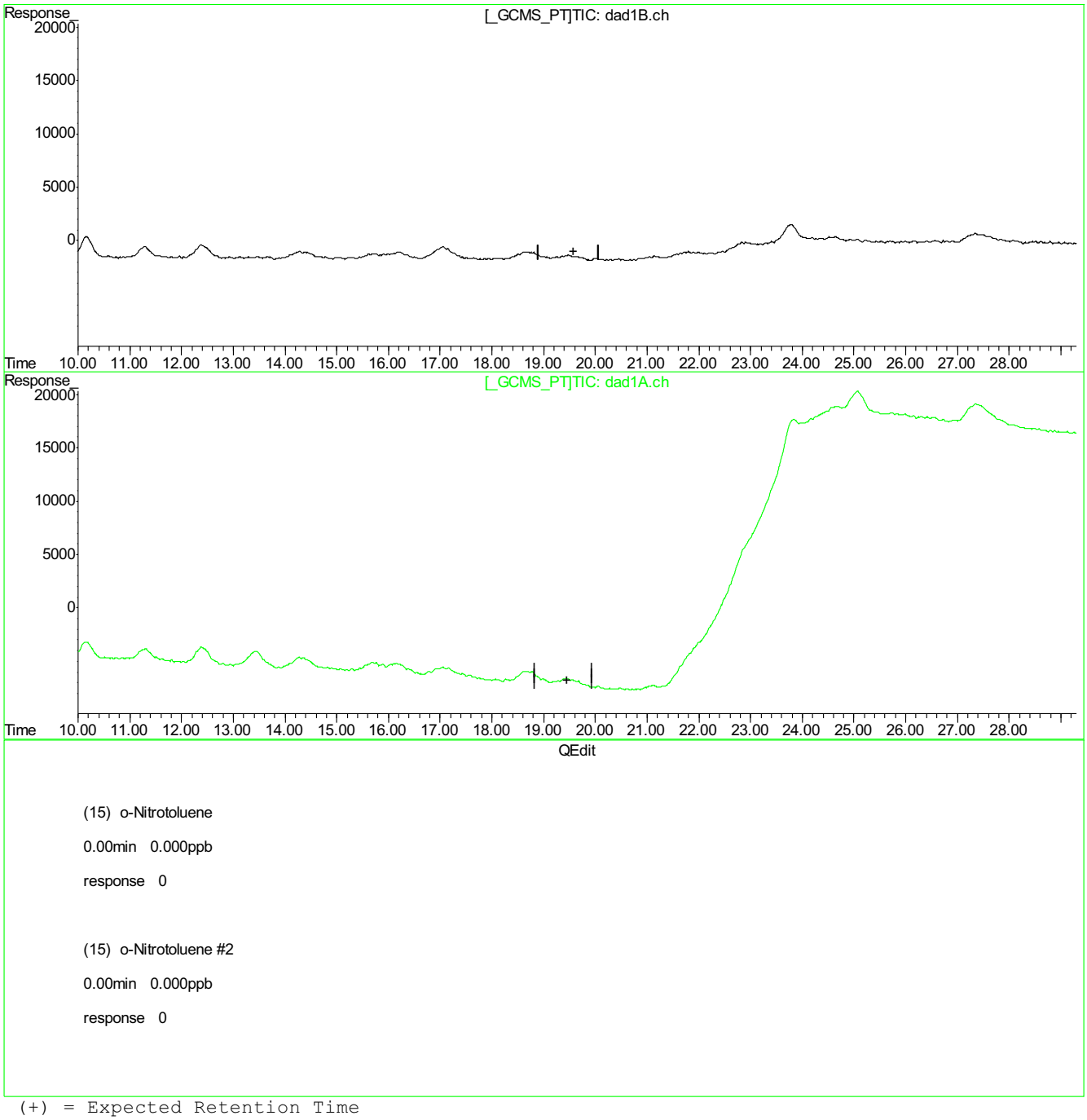
9.5.15.29

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(15) o-Nitrotoluene

0.00min 0.000ppb

response 0

(15) o-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:50 2017

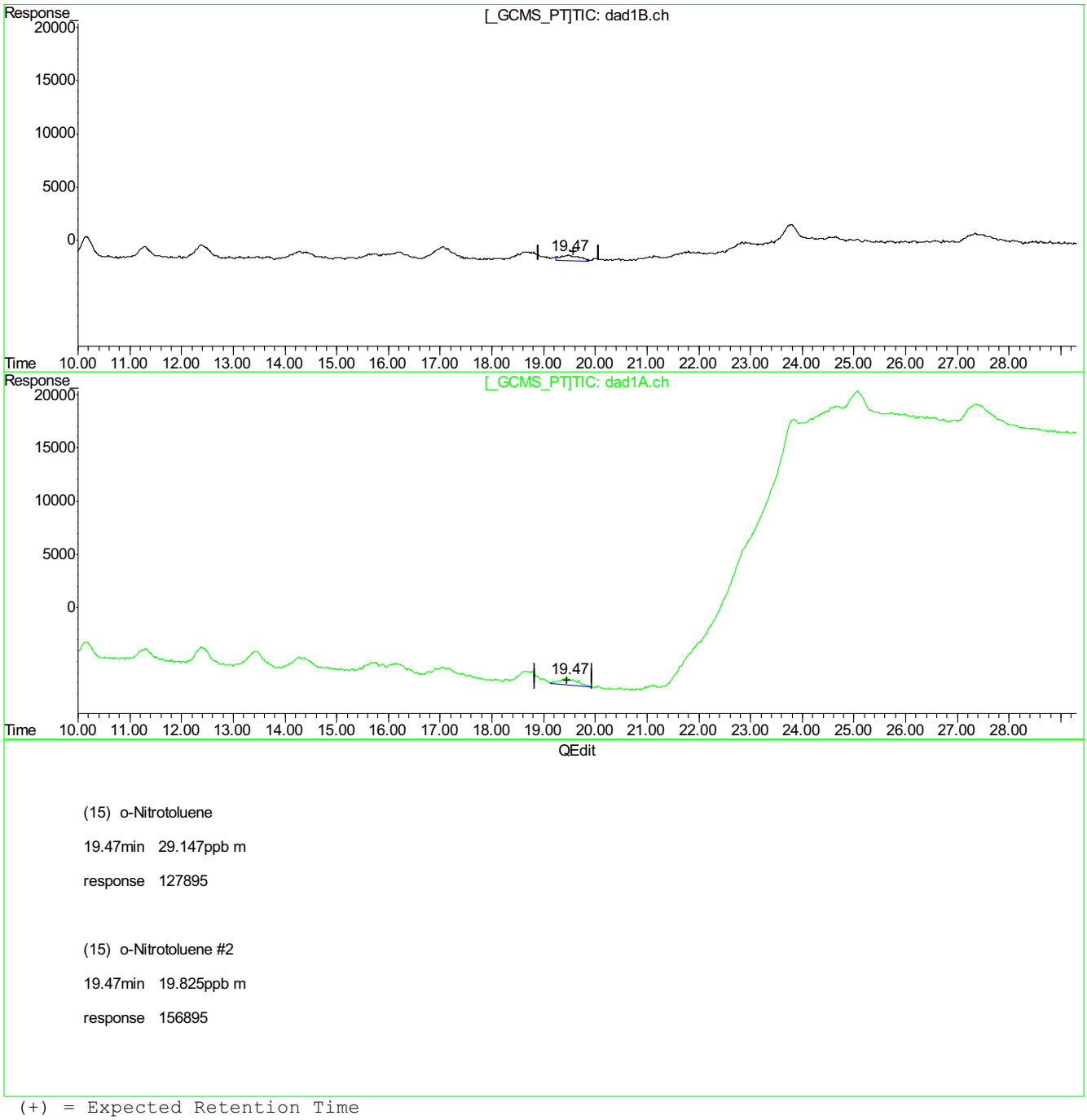
9.5.15.30

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(15) o-Nitrotoluene

19.47min 29.147ppb m

response 127895

(15) o-Nitrotoluene #2

19.47min 19.825ppb m

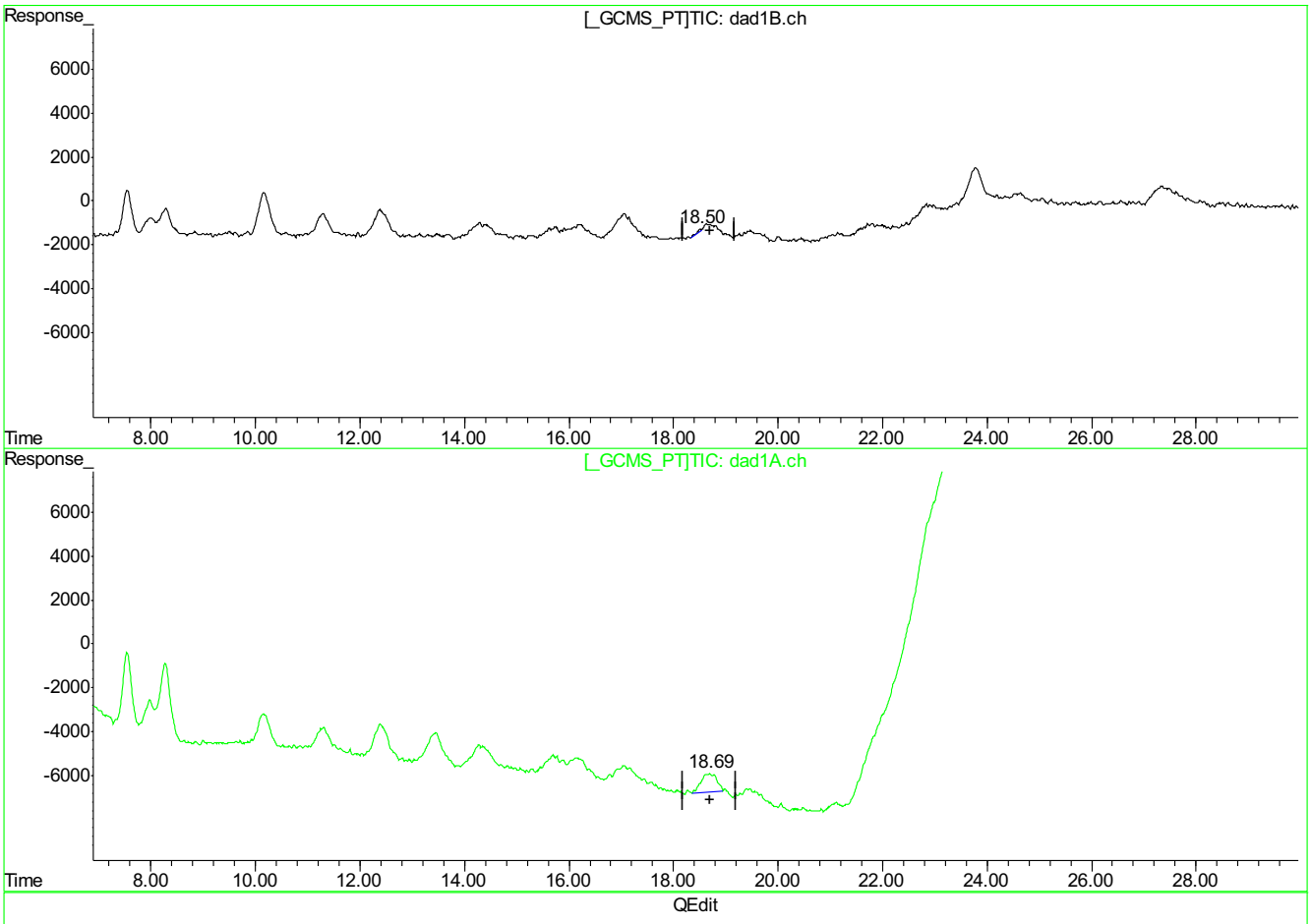
response 156895

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:06:58 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(16) 3,5-Dinitroaniline

18.51min 0.512ppb

response 5609

(16) 3,5-Dinitroaniline #2

18.69min 9.654ppb

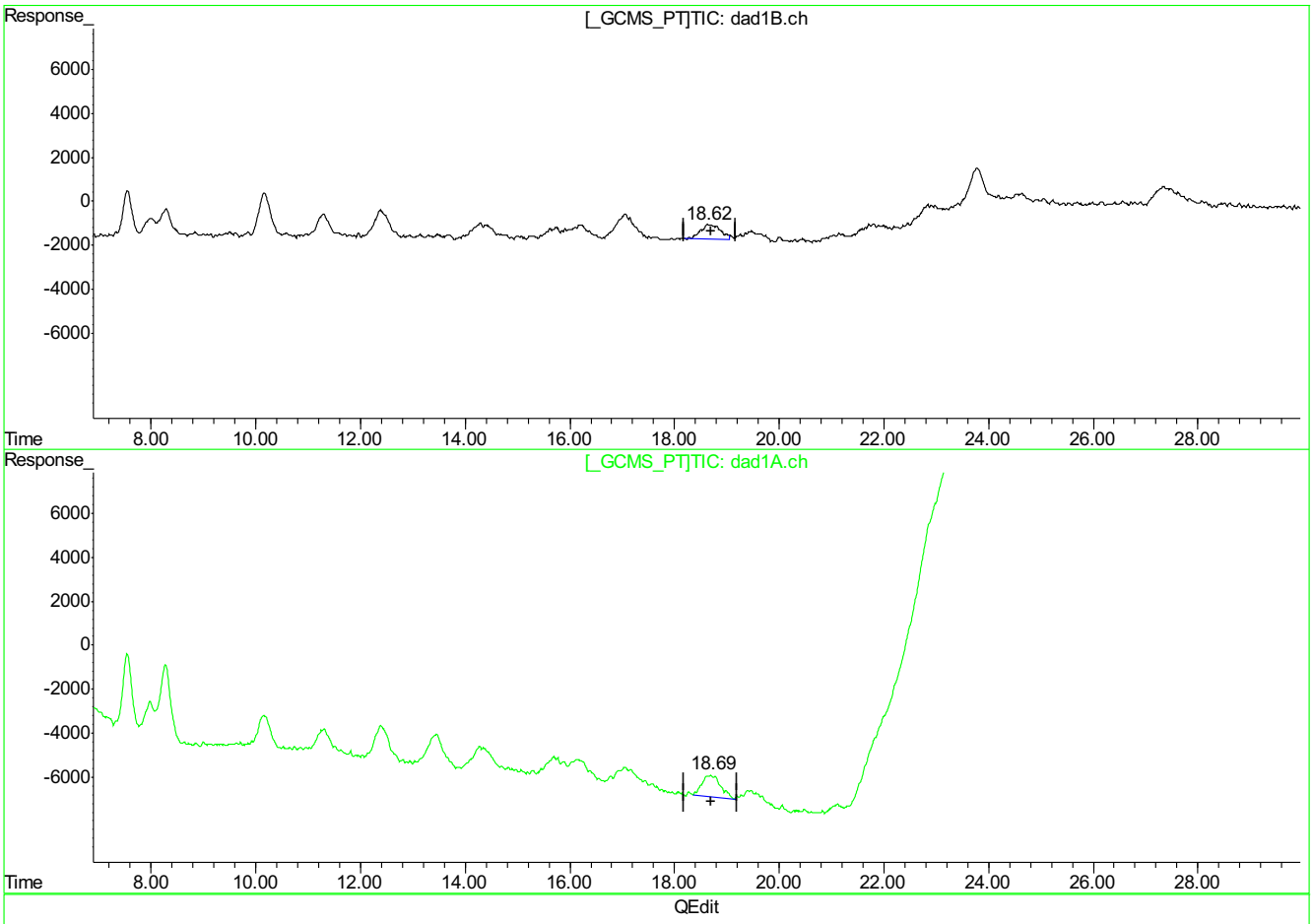
response 174114

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:07:33 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(16) 3,5-Dinitroaniline

18.62min 16.501ppb m

response 180648

(16) 3,5-Dinitroaniline #2

18.69min 13.801ppb m

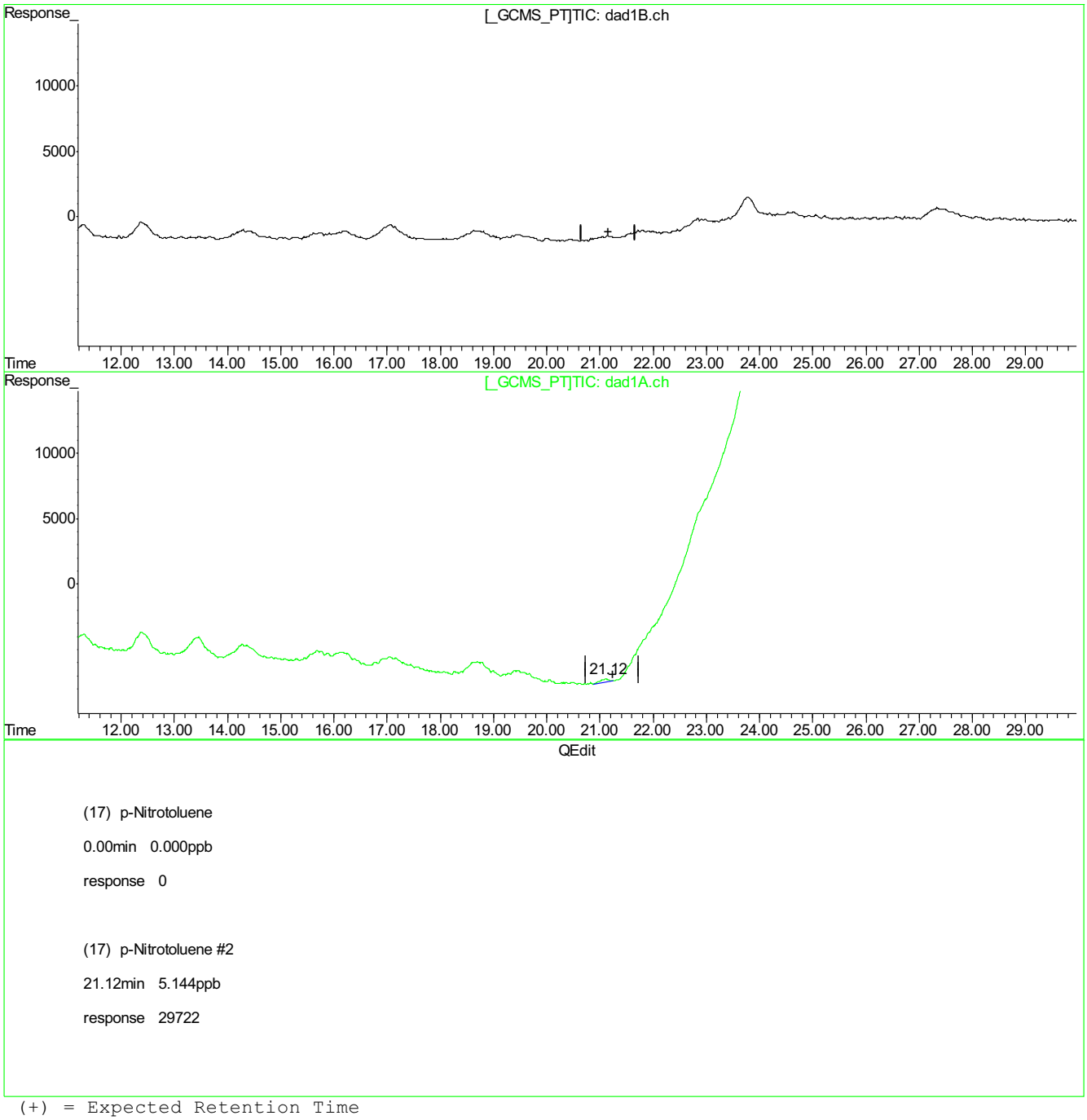
response 248912

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:07:41 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch         Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On    : 24-Apr-2017, 12:22:16                    Operator: evitam
Sample    : ic2096-20                                Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017  Quant Results File: 0424_8330RPB.RES


Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
```



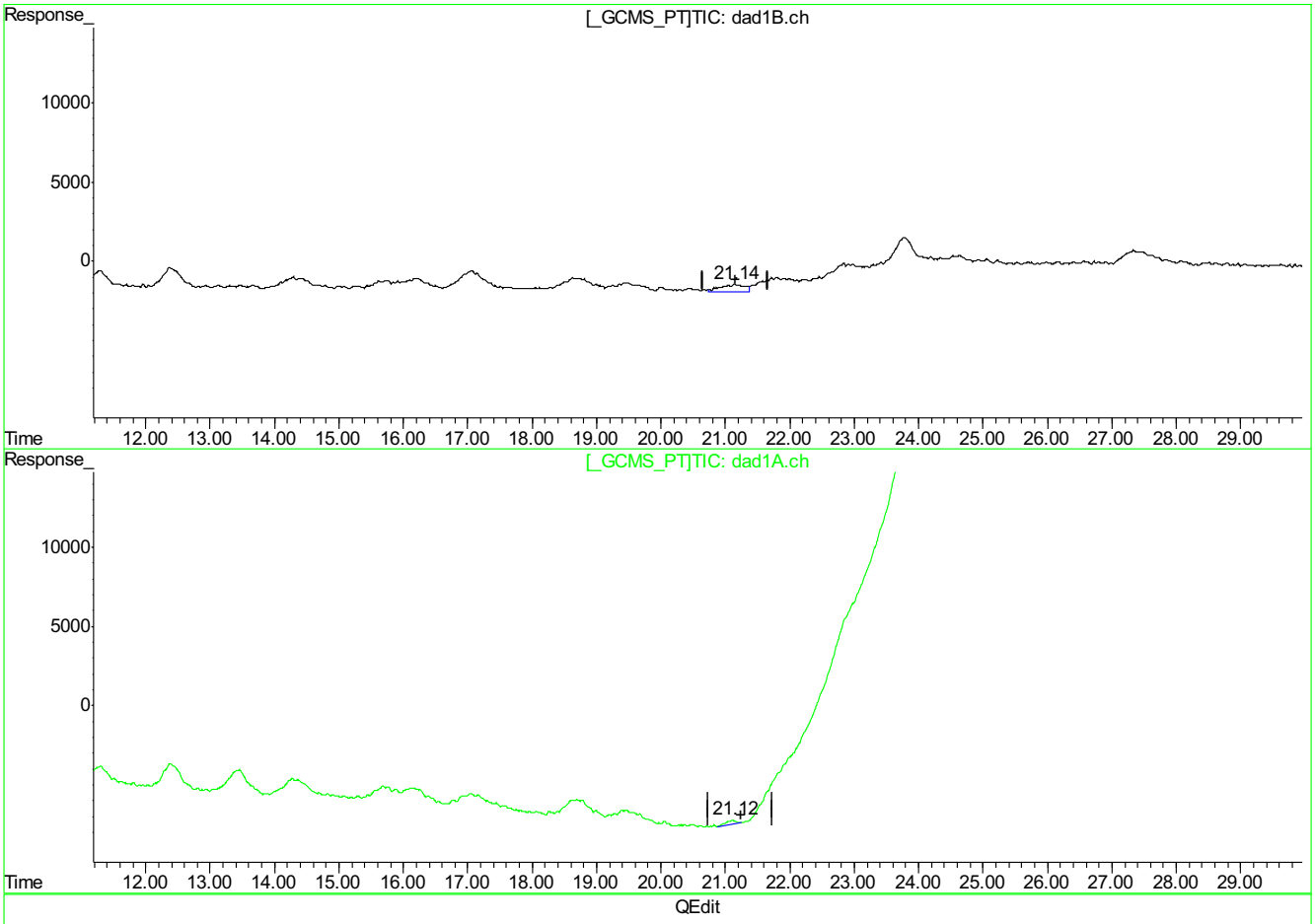
(+) = Expected Retention Time

PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:01 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.14min 22.516ppb m

response 114749

(17) p-Nitrotoluene #2

21.12min 5.144ppb

response 29722

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:10 2017

9.5.15.35

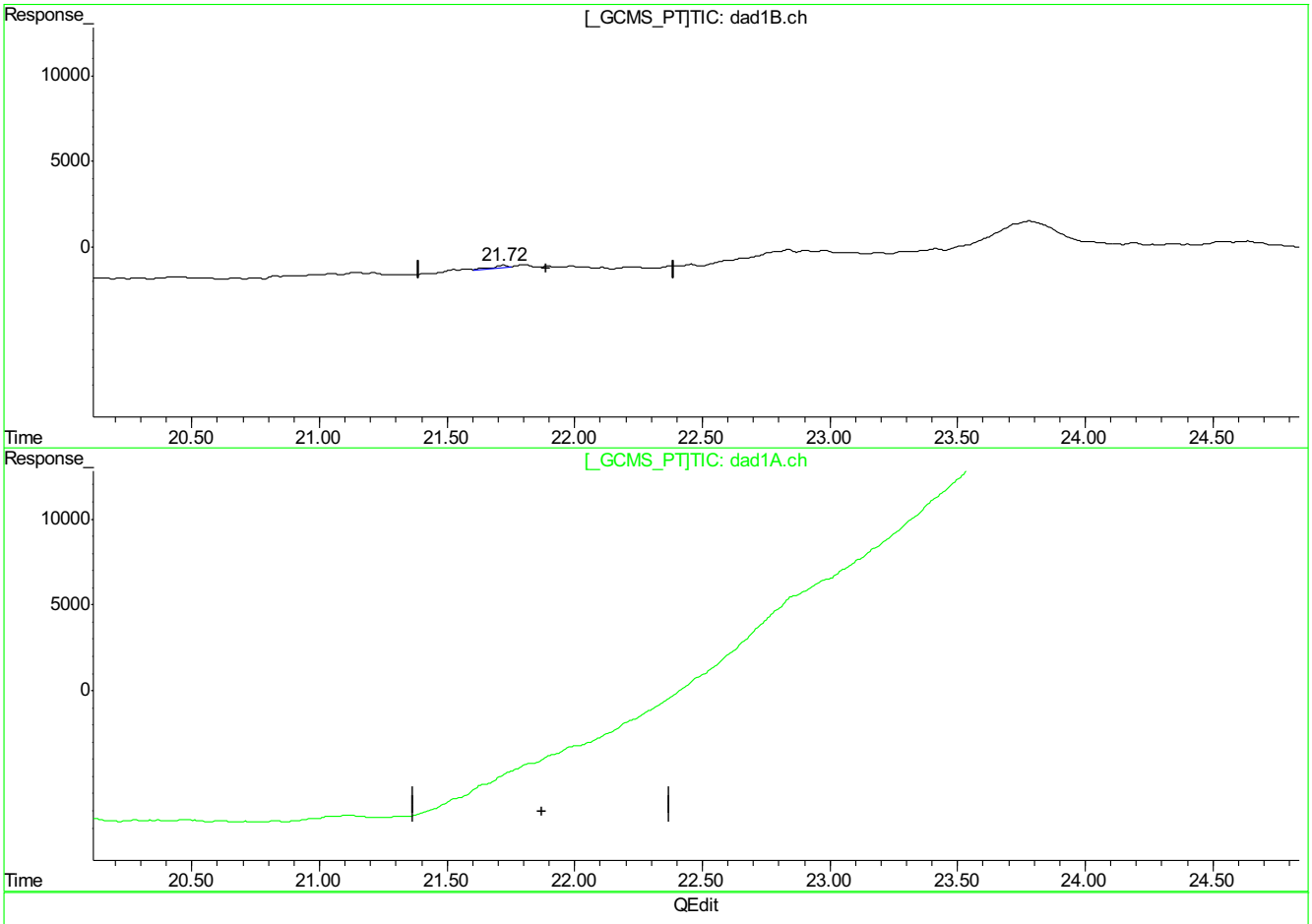
9

PP381821.D edits: p-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.72min 0.772ppb

response 5156

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:28 2017

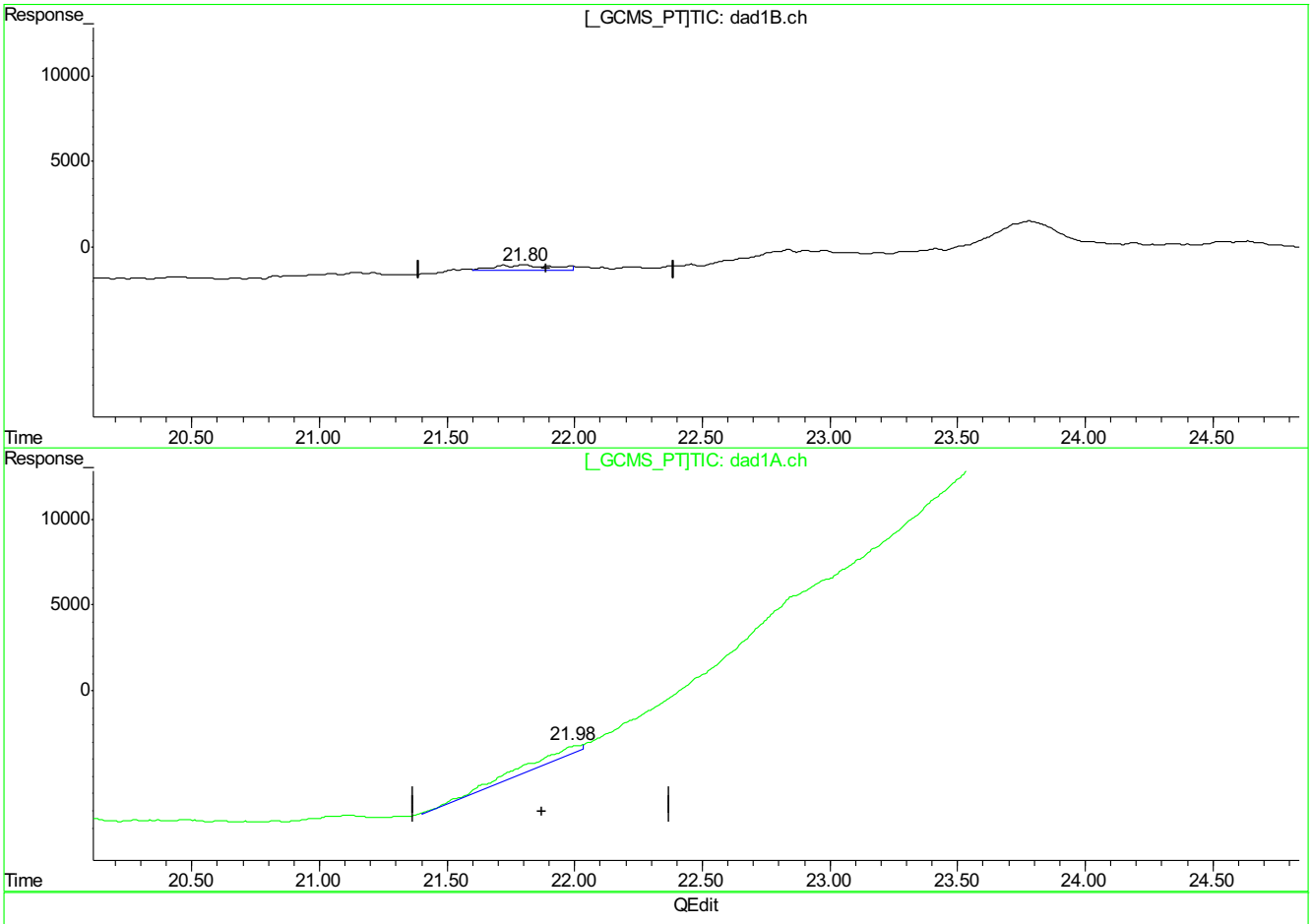
9.5.15.36

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.80min 8.315ppb m

response 55506

(18) 4-Amino-2,6-Dinitrotoluene #2

21.98min 9.989ppb m

response 104053

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:37 2017

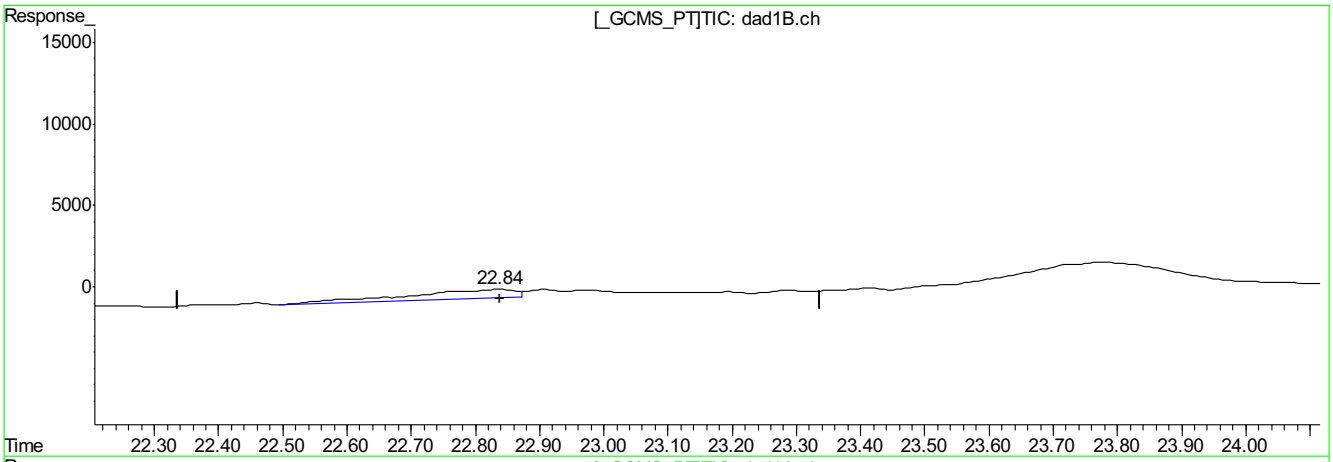
9.5.15.37 9

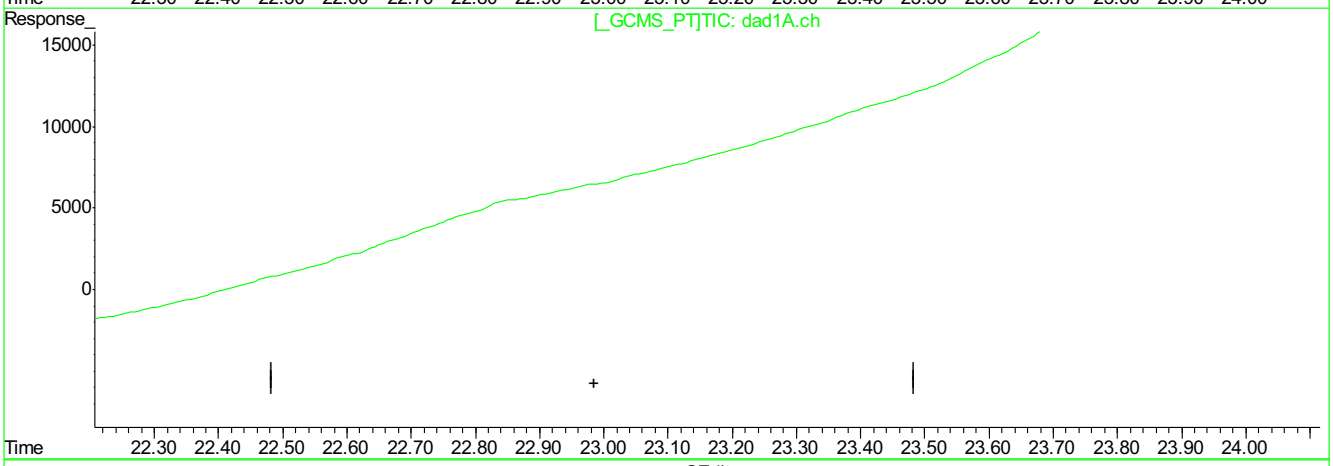
SGS ACCUTEST FA43028

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

22.84min 10.045ppb

response 66230

(19) m-Nitrotoluene #2

0.00min 0.000ppb

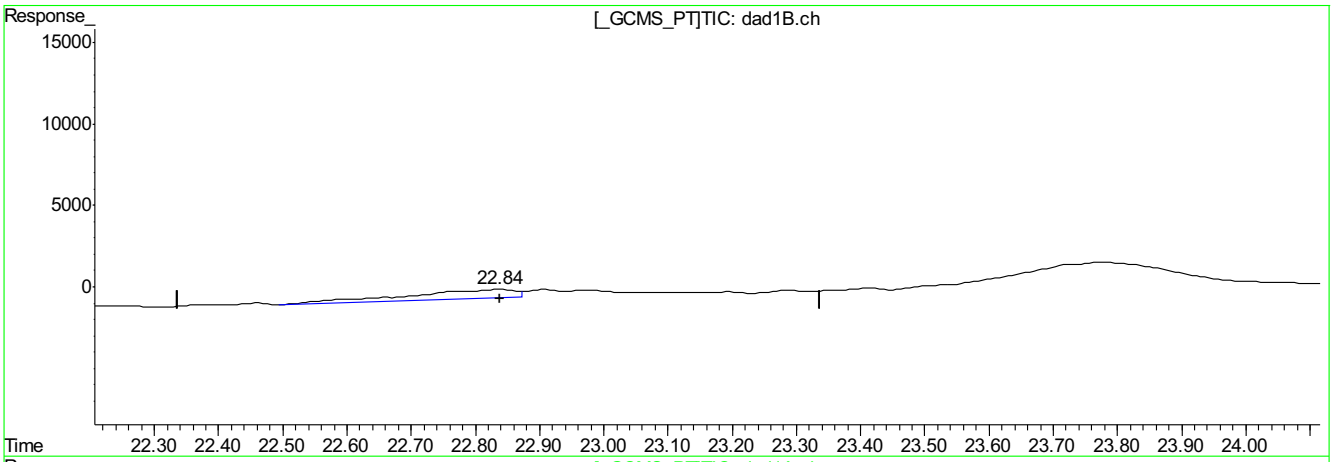
response 0

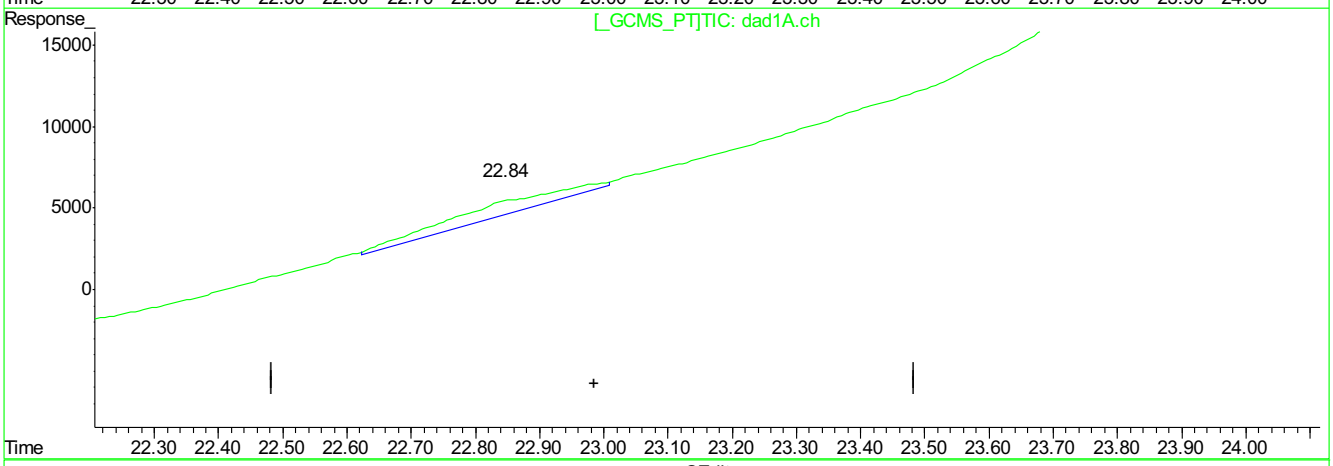
(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

22.84min 10.045ppb

response 66230

(19) m-Nitrotoluene #2

22.84min 10.075ppb m

response 128950

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:47 2017

9.5.15.39

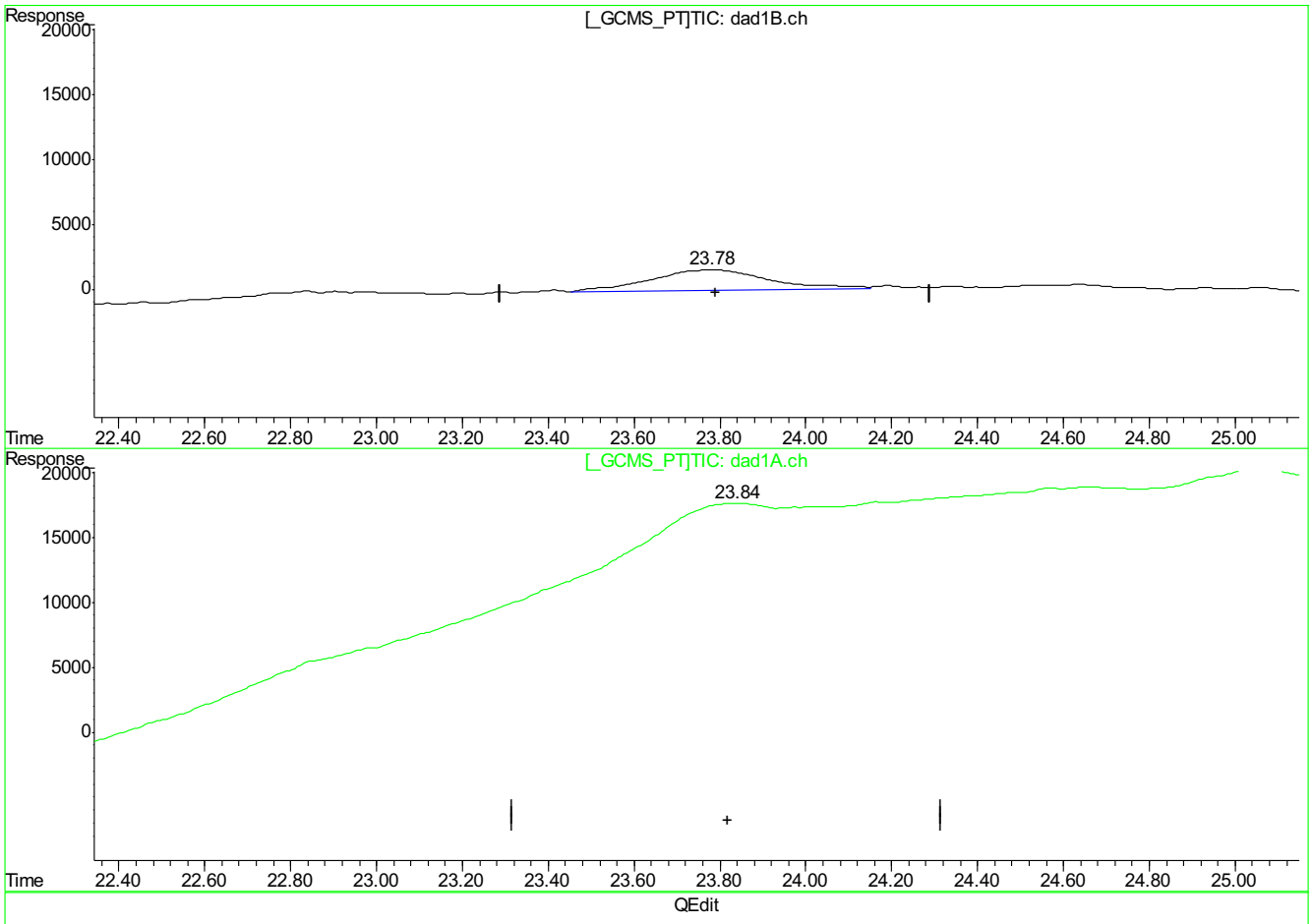
9

PP381821.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.78min 32.542ppb

response 299668

(20) 2-Amino-4,6-Dinitrotoluene #2

23.84min 759.317ppb

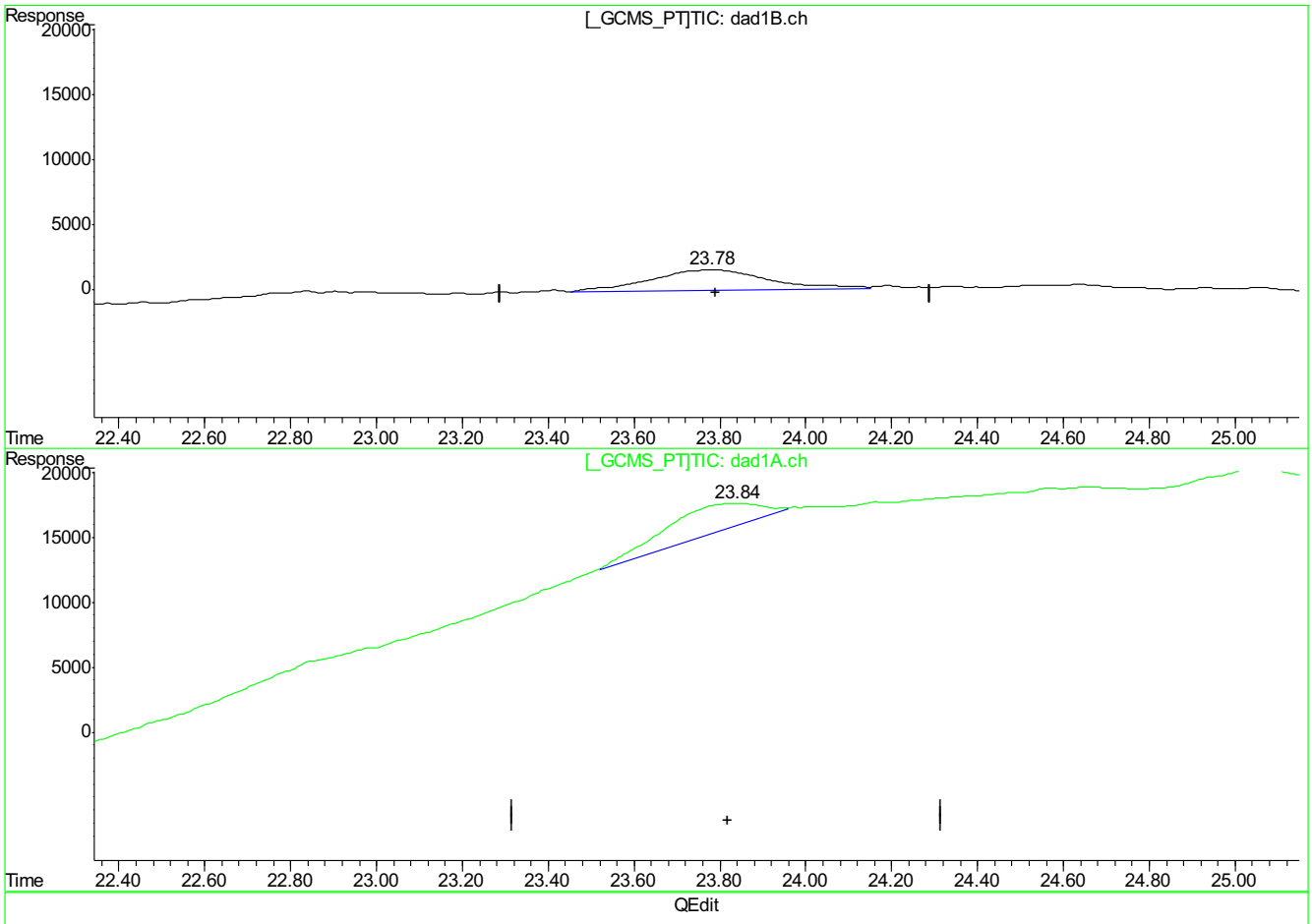
response 9676361

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:52 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.78min 32.542ppb

response 299668

(20) 2-Amino-4,6-Dinitrotoluene #2

23.84min 25.321ppb m

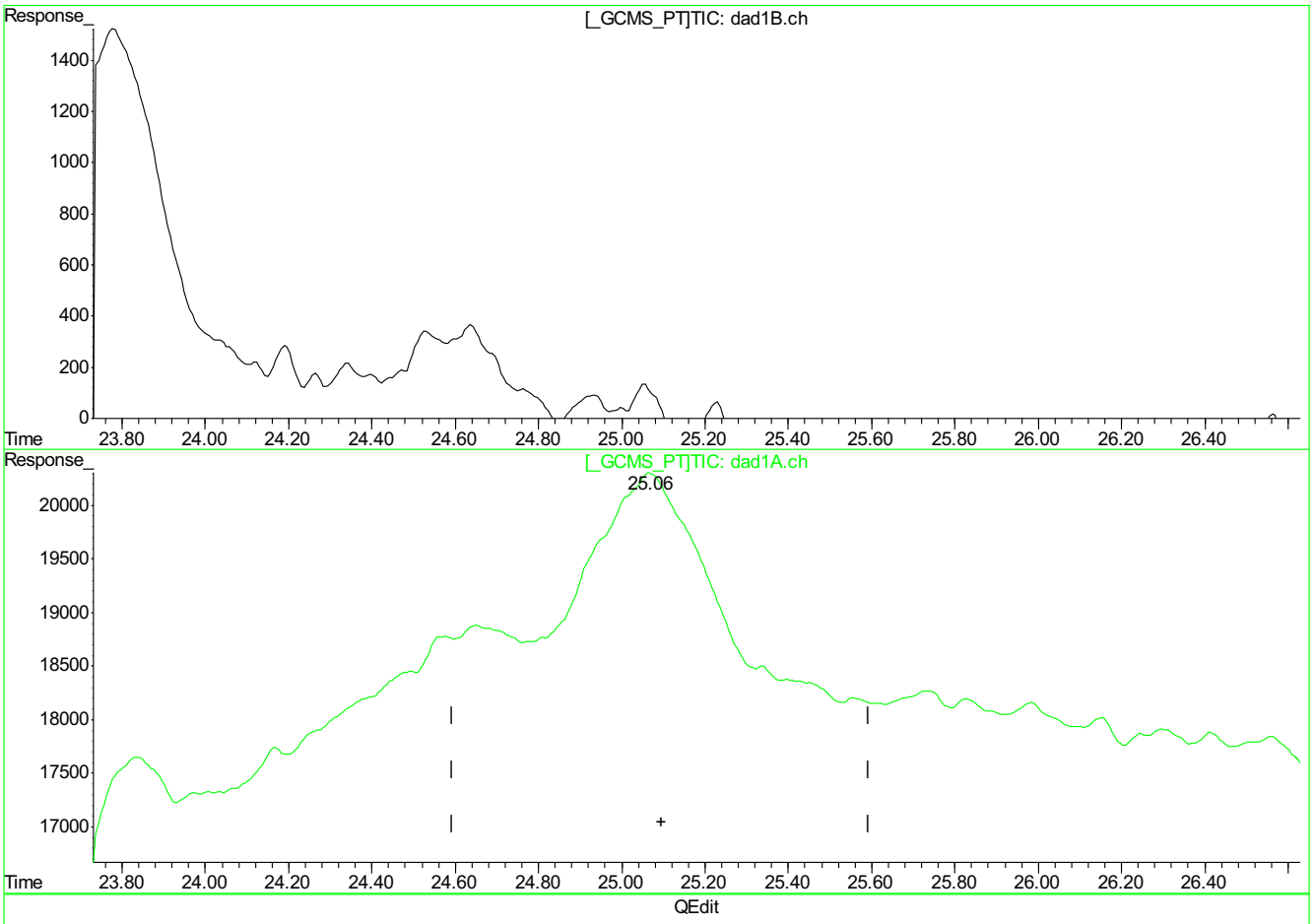
response 322677

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:55 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.07min 2041.375ppb

response 6758824

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:08:59 2017

9.5.15.42

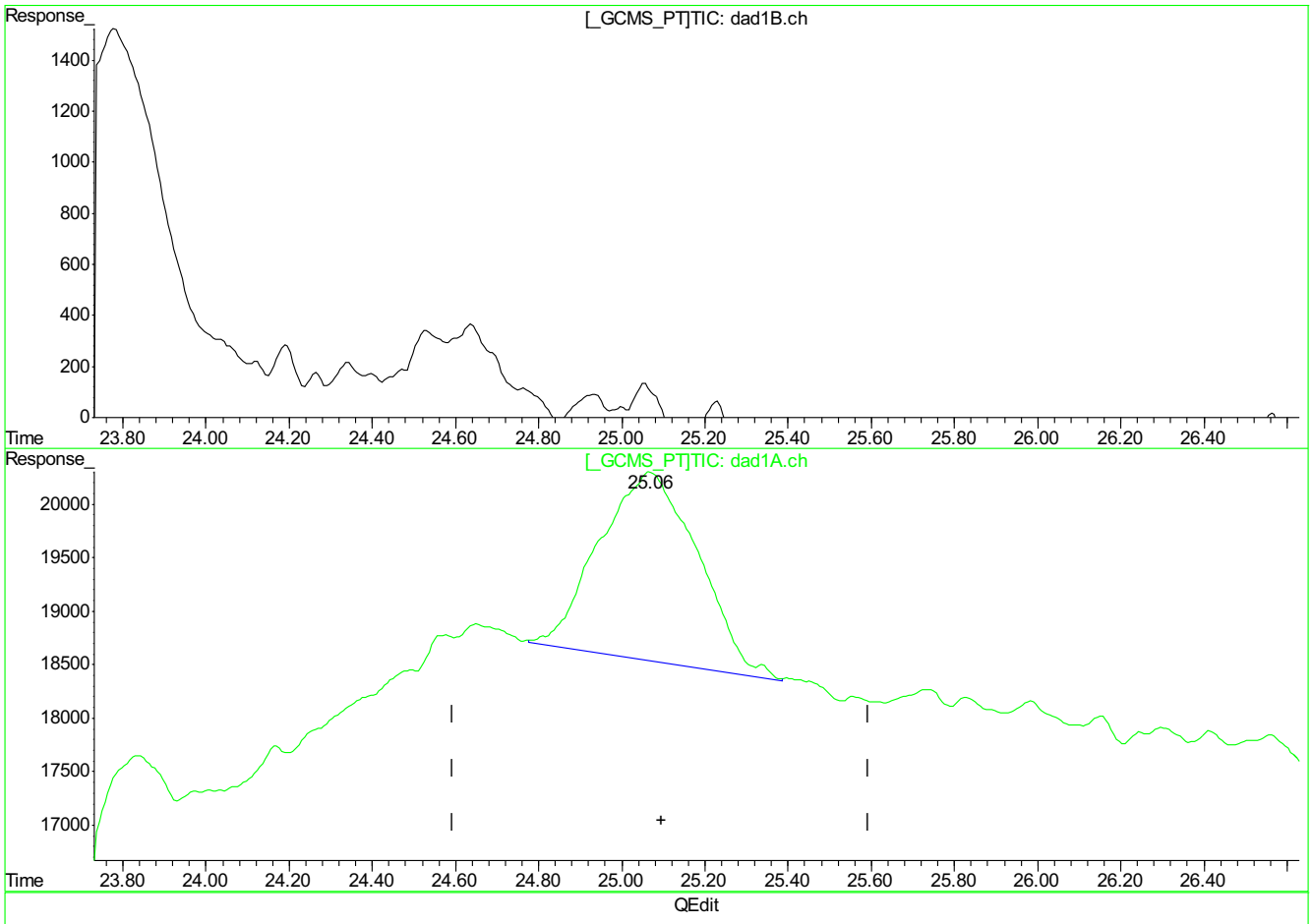
9

PP381821.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381821.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0424_RPB\PP381821.D\dad1A.ch
Acq On : 24-Apr-2017, 12:22:16 Operator: evitam
Sample : ic2096-20 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:03 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.06min 88.107ppb m

response 291715

(+) = Expected Retention Time
PP381821.D 0424_8330RPB.M Tue Apr 25 10:09:07 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 09:57:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.73	15.74	180993	499526	39.258	53.845
	Spiked Amount 500.000	Range 70 - 136		Recovery =		7.85%#	10.77%#
	Target Compounds						
1)	TNX	4.79	4.79	356875	544204	42.101m	43.377m
2)	HMX	5.19	5.19	175493	560602	53.830m	54.083m
3)	DNX	5.34	5.34	338390	776413	41.667m	57.668m
4)	MNX	6.49	6.49	240690	422775	44.192	49.607
5)	1,3,5-Trinitrobe	7.53	7.52	476454	768011	48.125	46.236
6)	RDX	7.94	7.96	242576	362373	54.670	43.781
7)	1,3-Dinitrobenze	10.16	10.14	570039	456145	42.701	46.488
8)	Nitrobenzene	11.27	11.26	320583	343405	37.761	42.163
9)	2,4,6-Trinitroto	12.40	12.38	436493	597955	46.182	49.034
10)	Nitroglycerin	0.00	13.43	0	686583	N.D. d	230.340m
11)	Tetryl	14.34	14.34	275603	372266	39.339	32.865
13)	2,6-Dinitrotolue	16.16	16.17	303660	385744	43.079	39.096
14)	2,4-Dinitrotolue	17.05	17.08	552671	401704	45.030	42.793
15)	o-Nitrotoluene	19.58	19.46	246660	316601	56.213m	40.054
16)	3,5-Dinitroanili	18.70	18.70	473262	709710	43.230	39.351
17)	p-Nitrotoluene	21.16	21.24	135096	189710	26.522m	32.865m
18)	4-Amino-2,6-Dini	21.89	22.09	229518	329278	34.415	31.612m
19)	m-Nitrotoluene	22.85	22.98	279868	384329	42.507	30.077m
20)	2-Amino-4,6-Dini	23.79	23.82	587238	736816	63.769	57.819m
21)	PETN	0.00	25.10	0	392173	N.D. d	118.449m

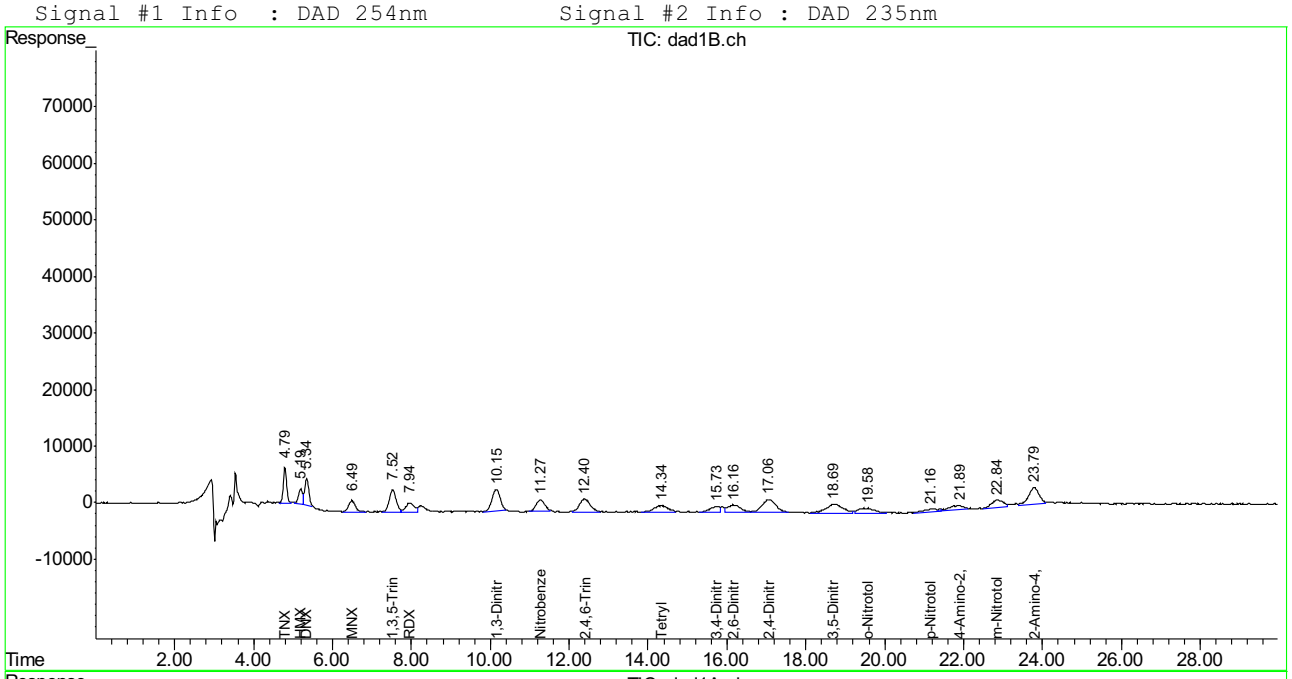
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381822.D 0424_8330RPB.M Tue Apr 25 10:59:39 2017 Page 1

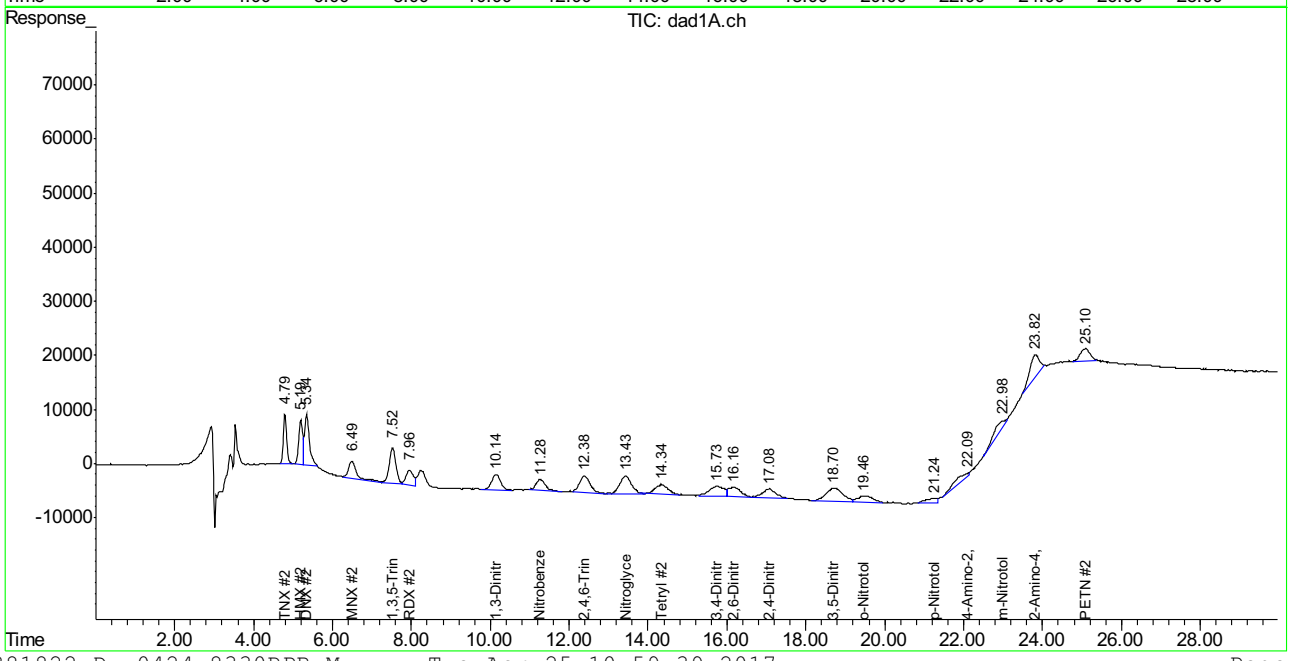
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

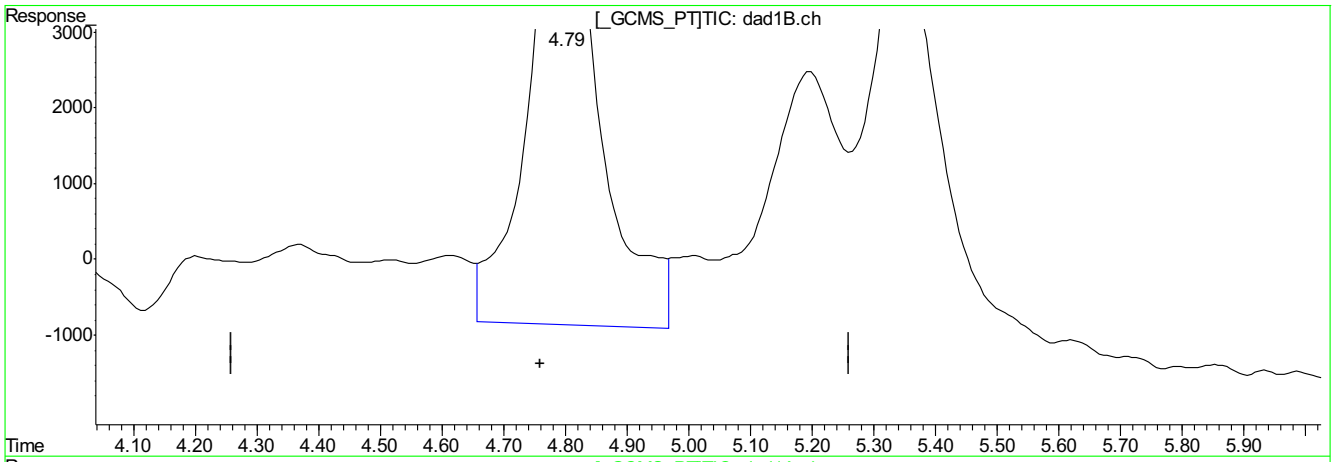
Sample Number: GPP2096-IC2096
Lab FileID: PP381822.D
Injection Time: 04/24/17 13:00
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

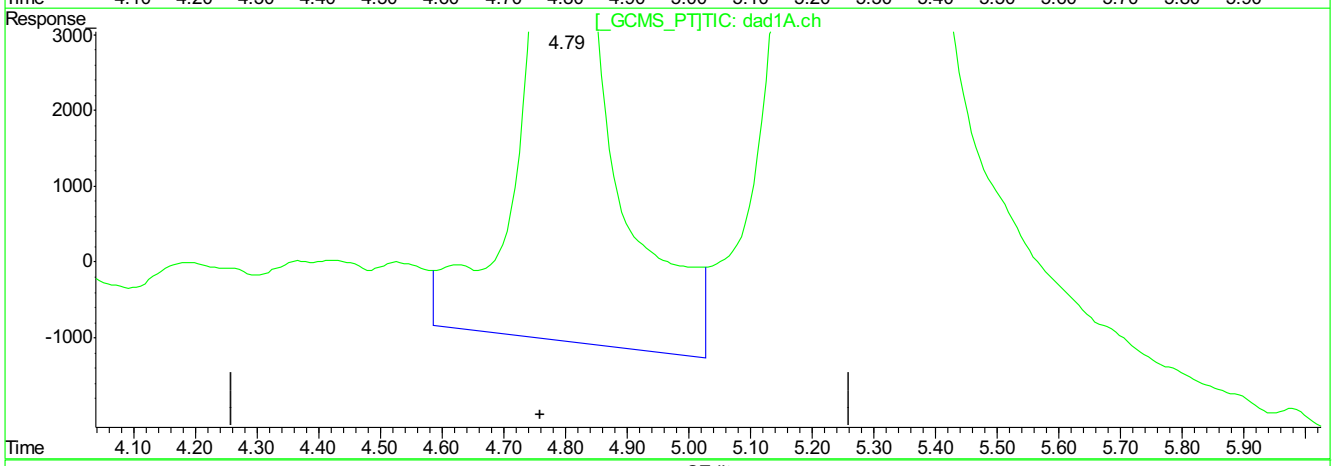
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.79	Poorly defined baseline
TNX		2	4.79	Poorly defined baseline
HMX	2691-41-0	1	5.19	Poorly defined baseline
HMX	2691-41-0	2	5.19	Poorly defined baseline
DNX		1	5.34	Poorly defined baseline
DNX		2	5.34	Poorly defined baseline
Nitroglycerine	55-63-0	2	13.43	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	19.58	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	21.16	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	21.24	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	22.09	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.98	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.82	Poorly defined baseline
PETN	78-11-5	2	25.10	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.80min 60.475ppb

response 512621

(1) TNX #2

4.80min 63.631ppb

response 798306

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:47:33 2017

9.5.16.2

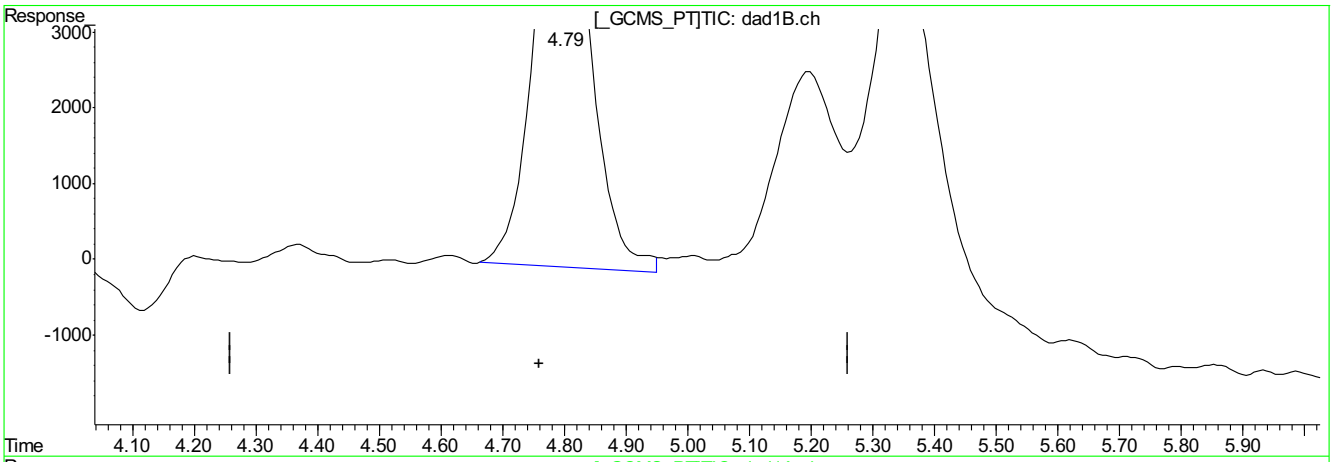
9

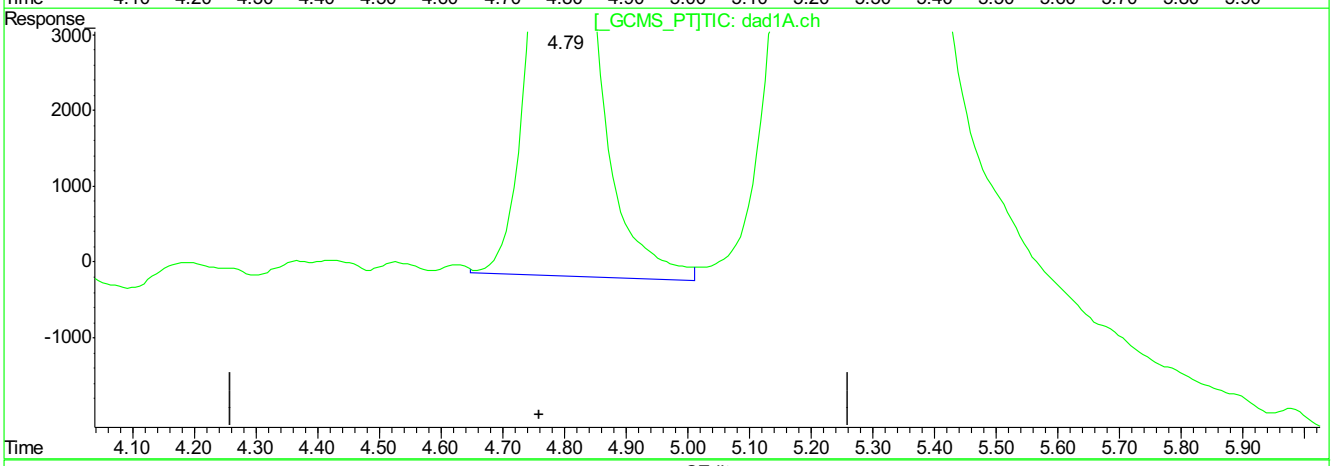
PP381822.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.79min 43.367ppb m

response 367609

(1) TNX #2

4.79min 45.070ppb m

response 565450

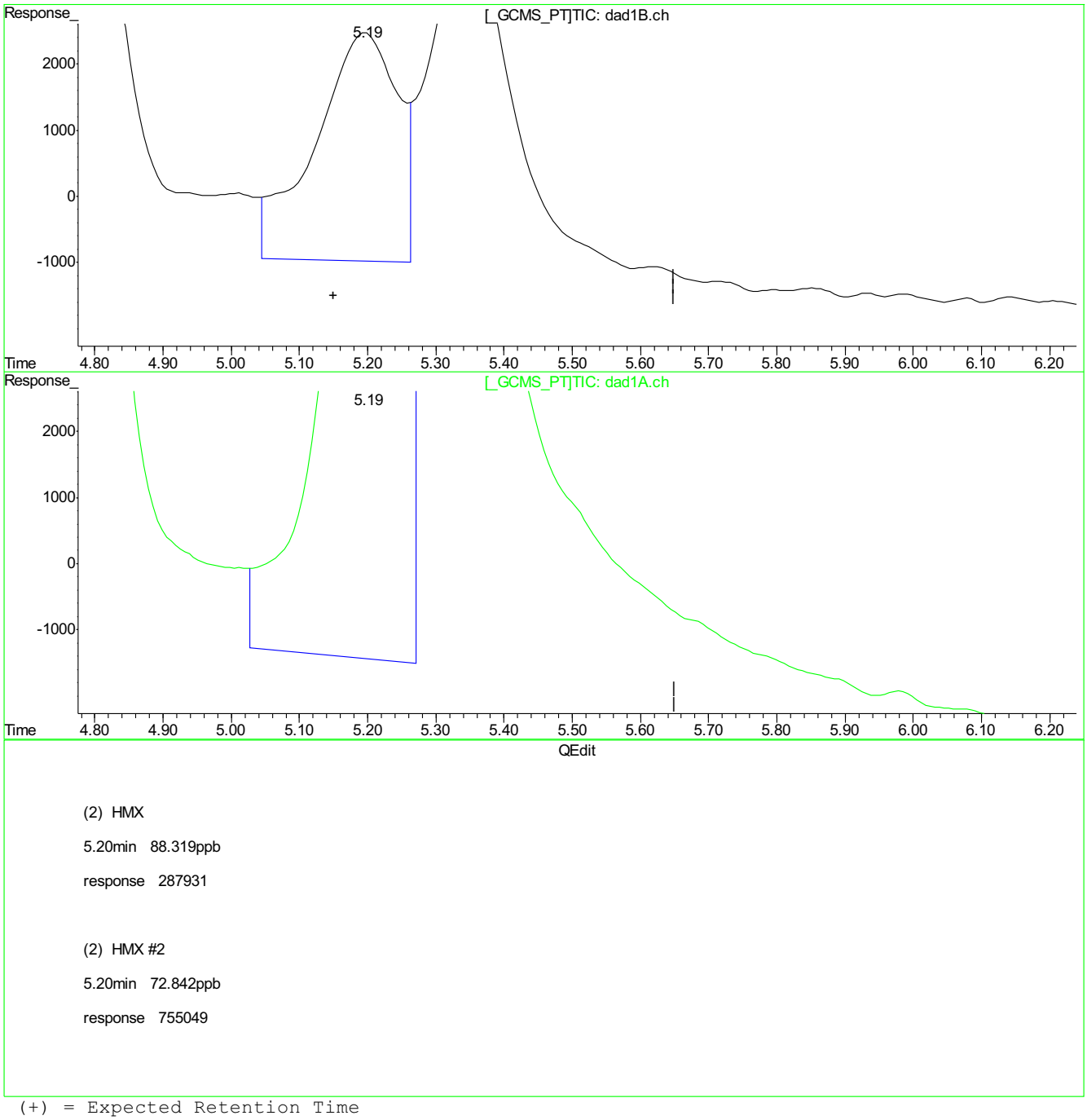
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:47:38 2017

PP381822.D edits: TNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(2) HMX

5.20min 88.319ppb

response 287931

(2) HMX #2

5.20min 72.842ppb

response 755049

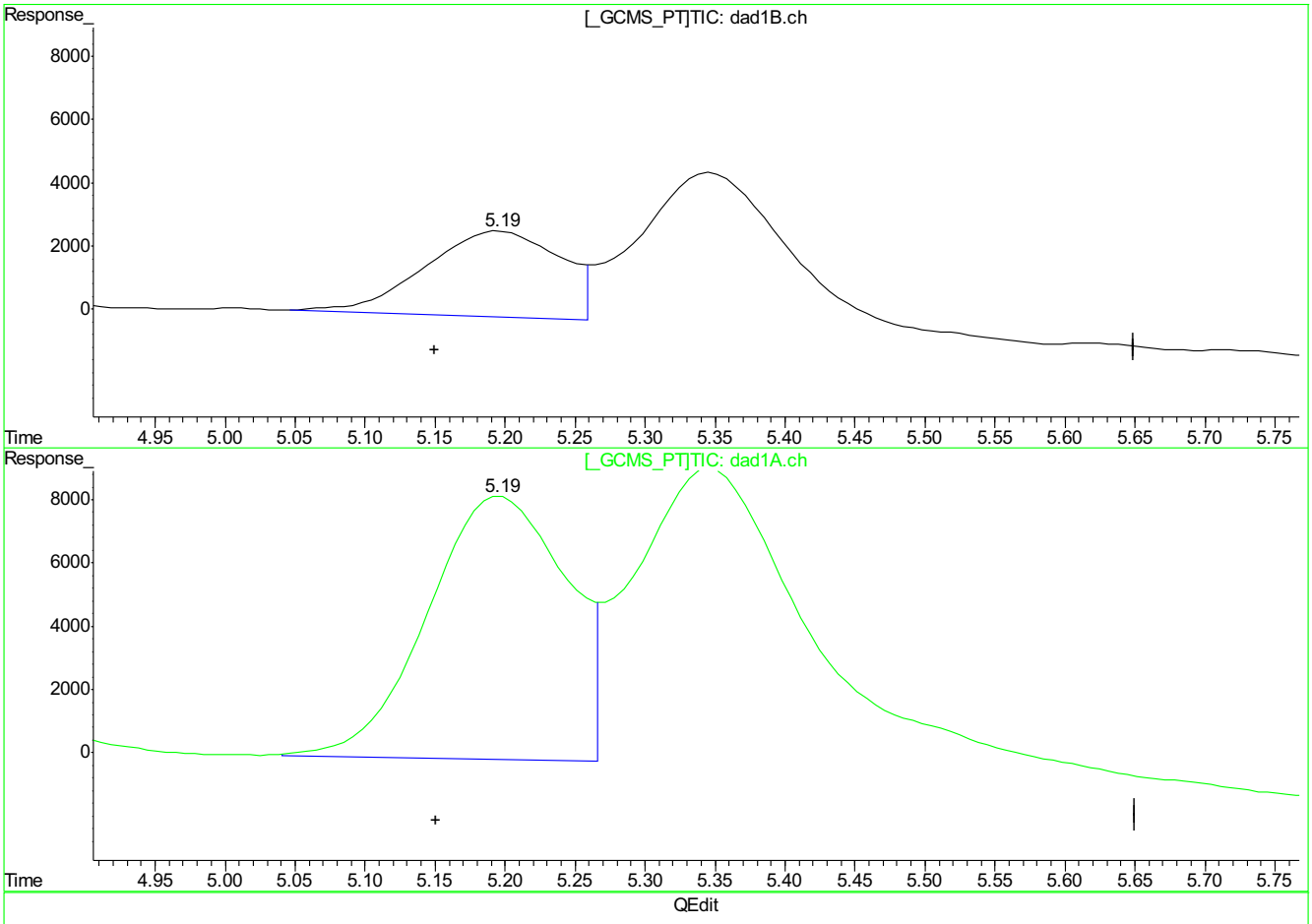
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:47:41 2017

PP381822.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(2) HMX

5.19min 57.483ppb m

response 187402

(2) HMX #2

5.19min 56.457ppb m

response 585215

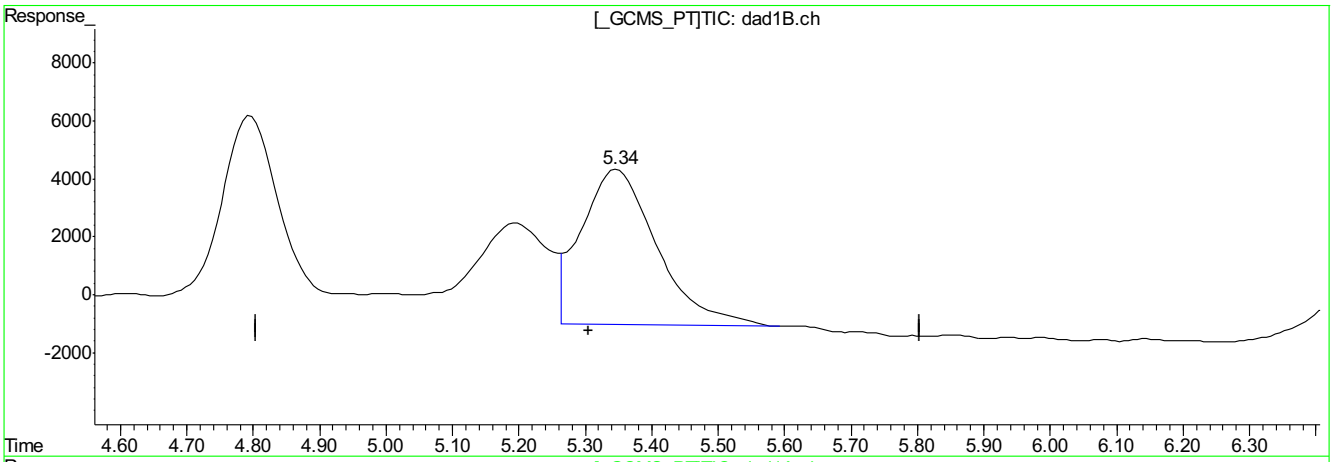
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:48:07 2017

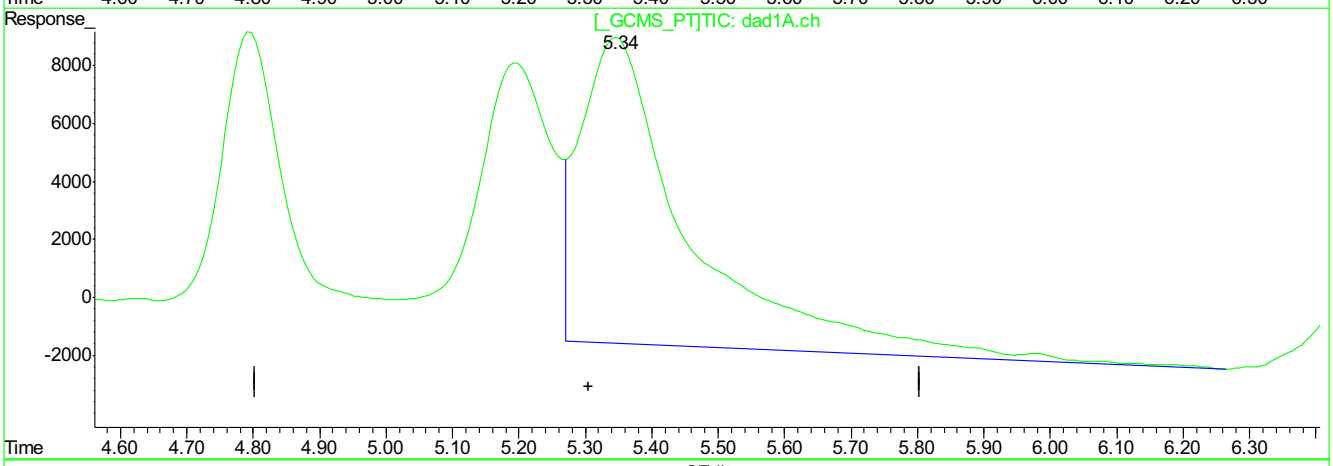
PP381822.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.35min 52.823ppb

response 428993

(3) DNX #2

5.35min 90.804ppb

response 1221726

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:48:12 2017

9.5.16.6

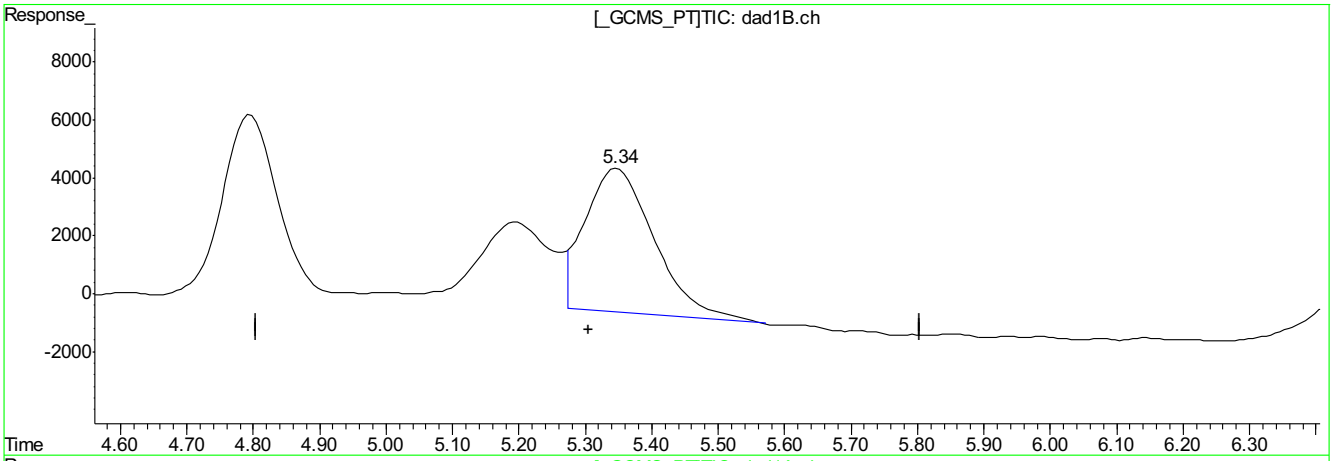
9

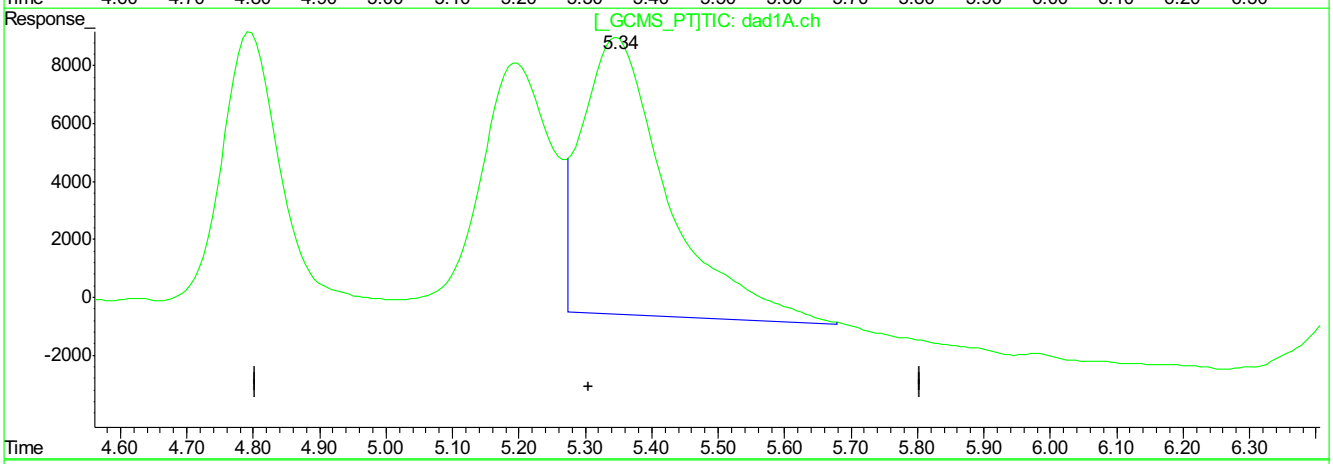
PP381822.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.34min 44.087ppb m

response 358049

(3) DNX #2

5.34min 62.961ppb m

response 847589

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:48:27 2017

9.5.16.7

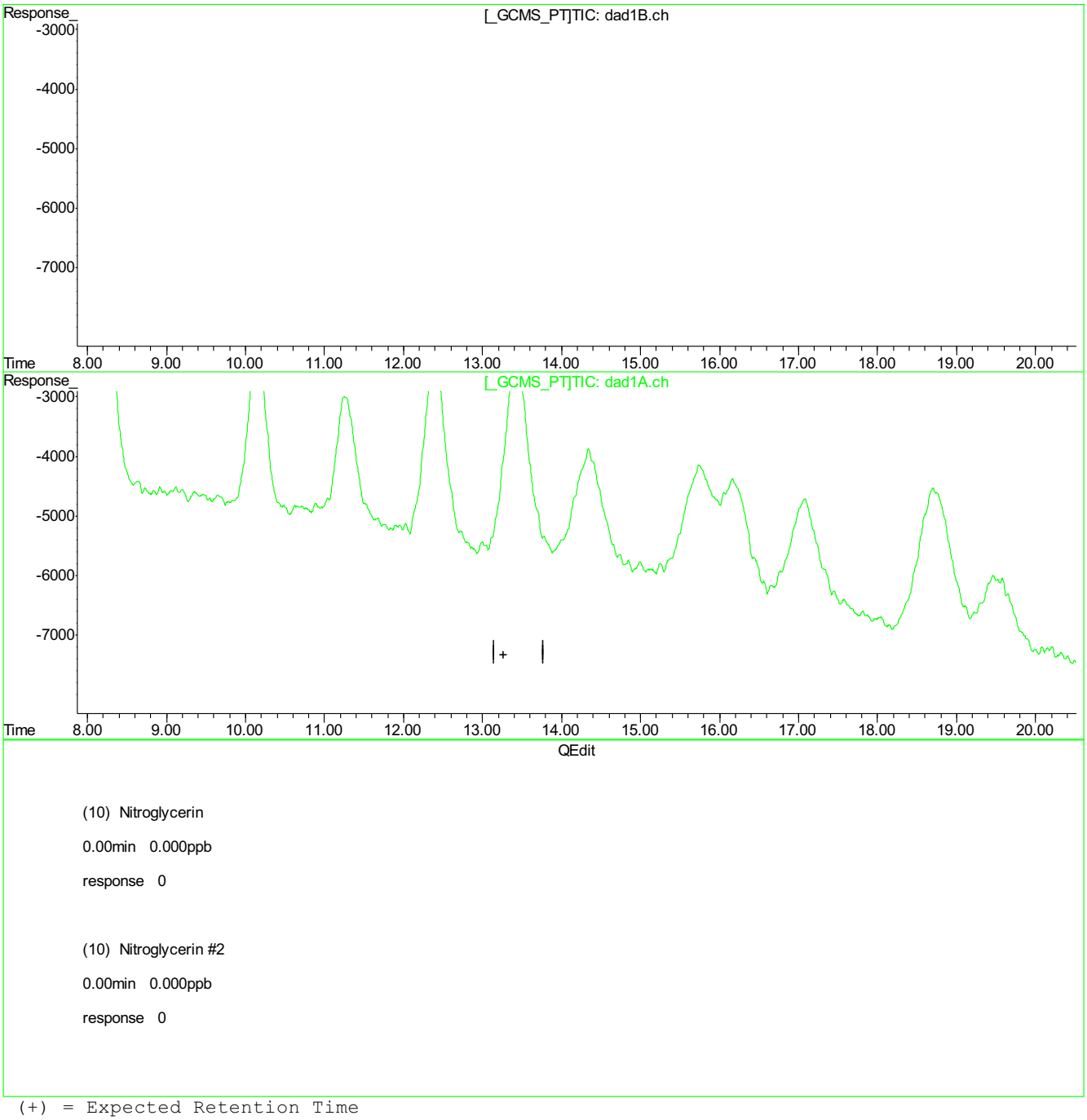
9

PP381822.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:32 2017

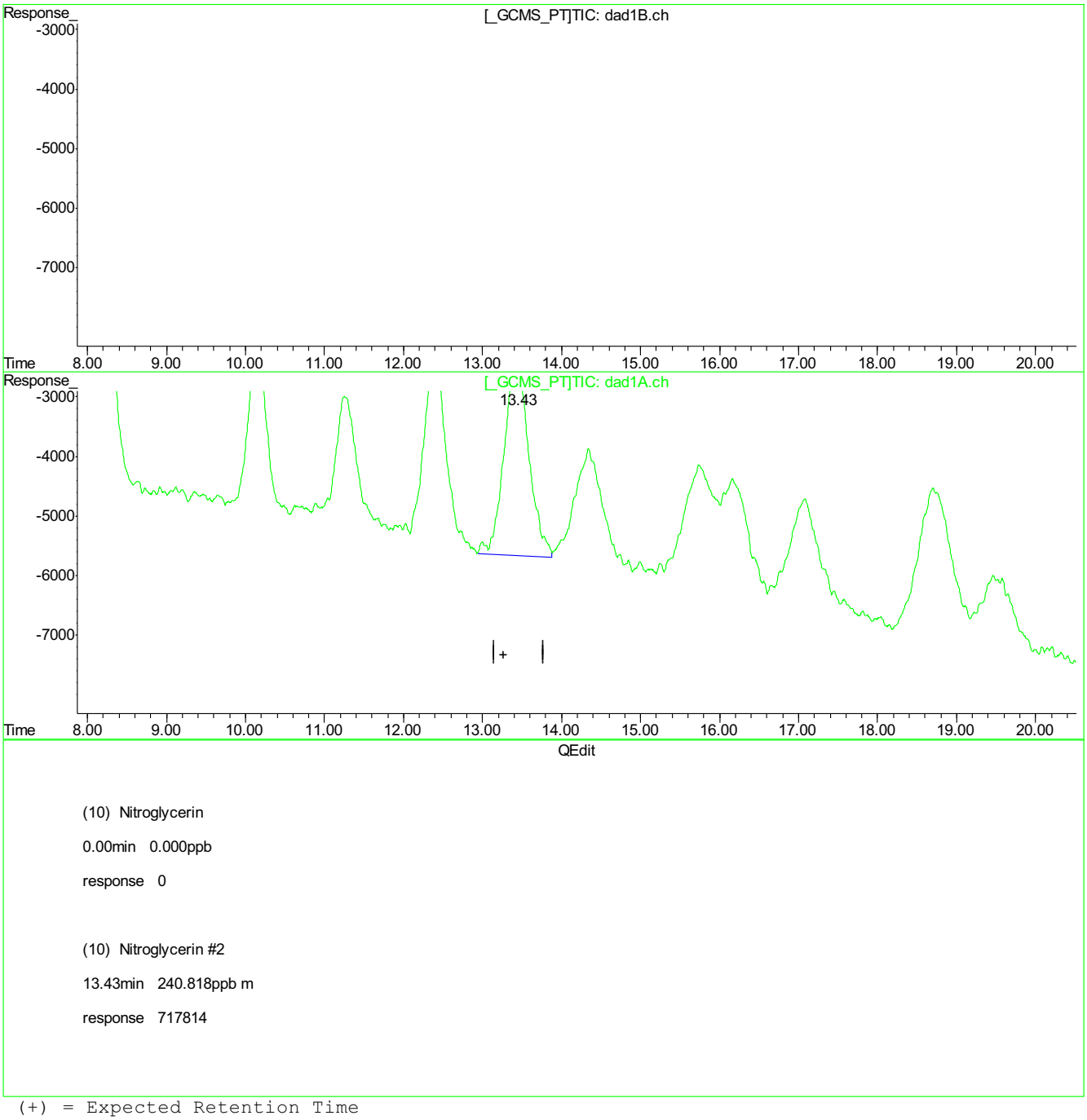
9.5.16.8

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration

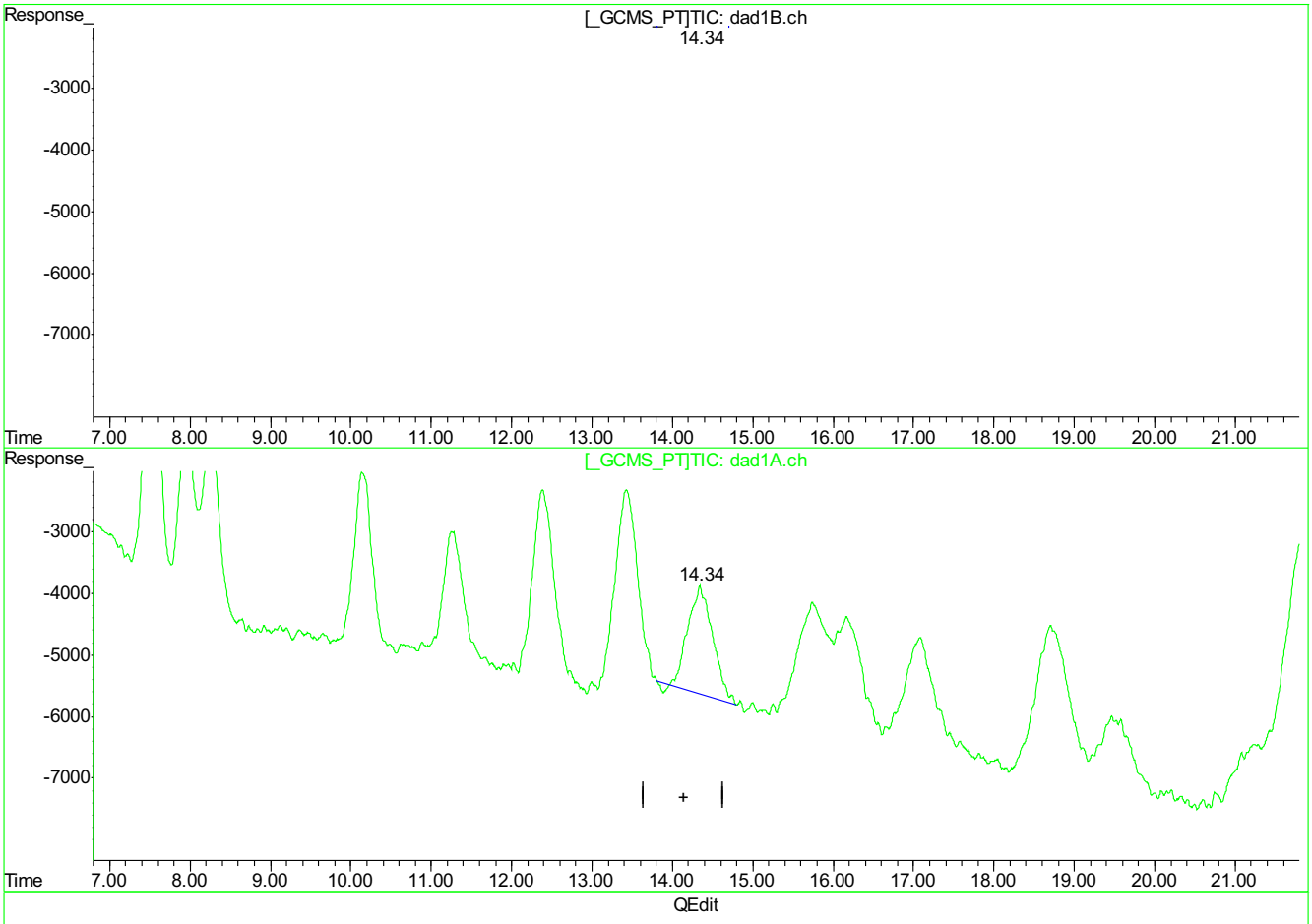


(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:37 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.34min 39.339ppb

response 275603

(11) Tetryl #2

14.34min 32.865ppb

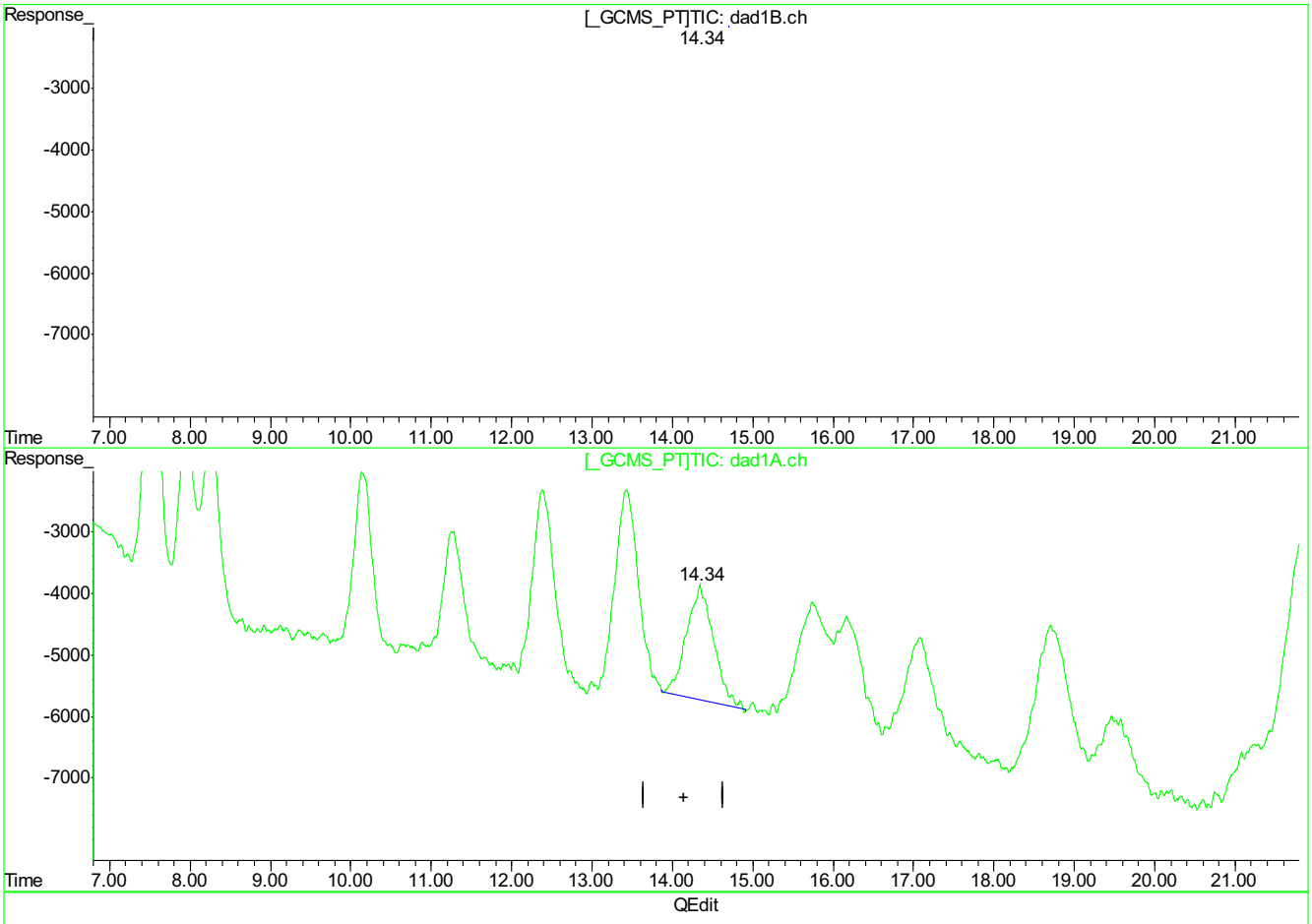
response 372266

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



QEdit

(11) Tetryl

14.34min 39.339ppb

response 275603

(11) Tetryl #2

14.34min 38.178ppb m

response 432449

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:49:55 2017

9.5.16.11

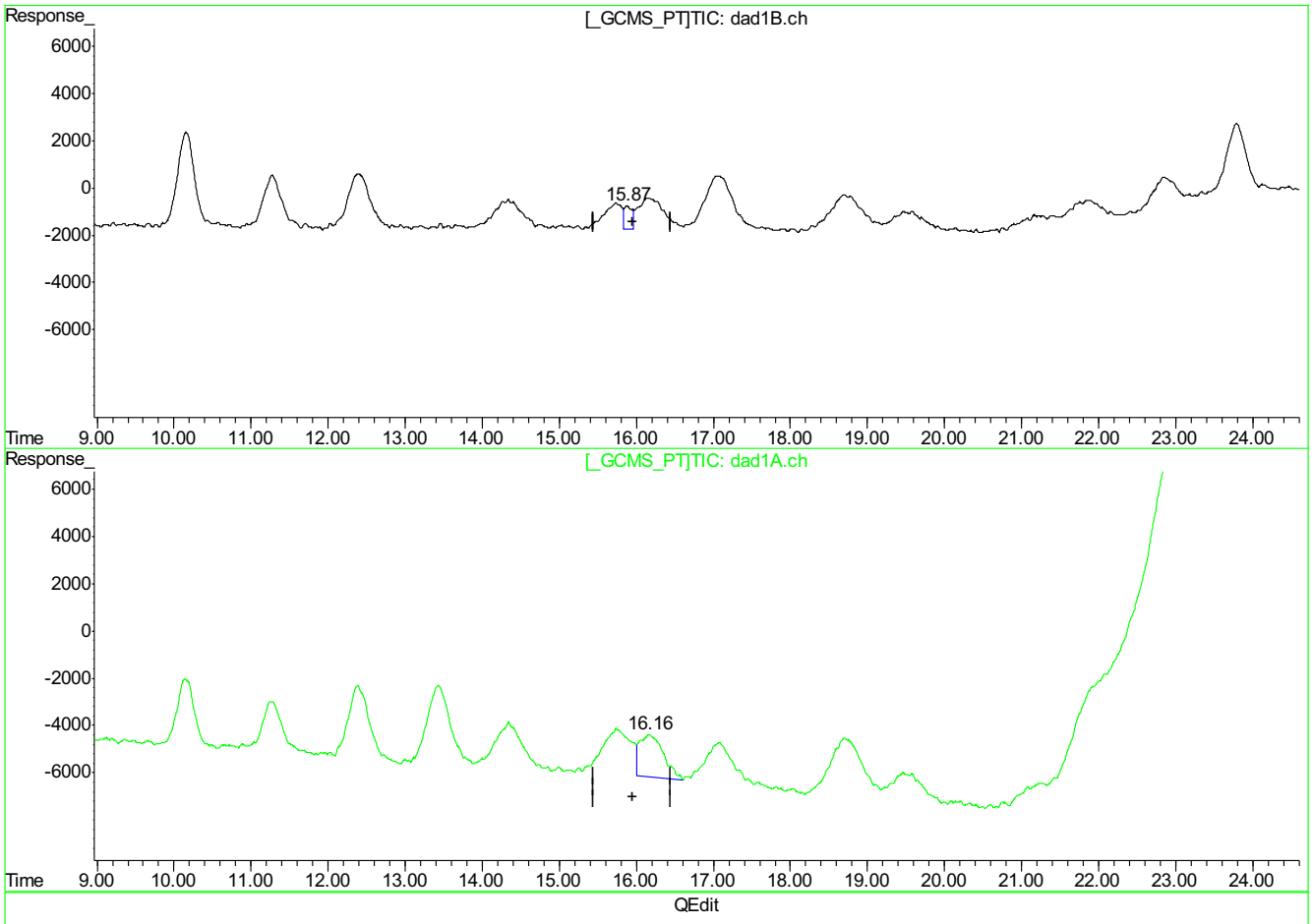
9

PP381822.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

15.88min 9.329ppb

response 65758

(13) 2,6-Dinitrotoluene #2

16.17min 39.096ppb

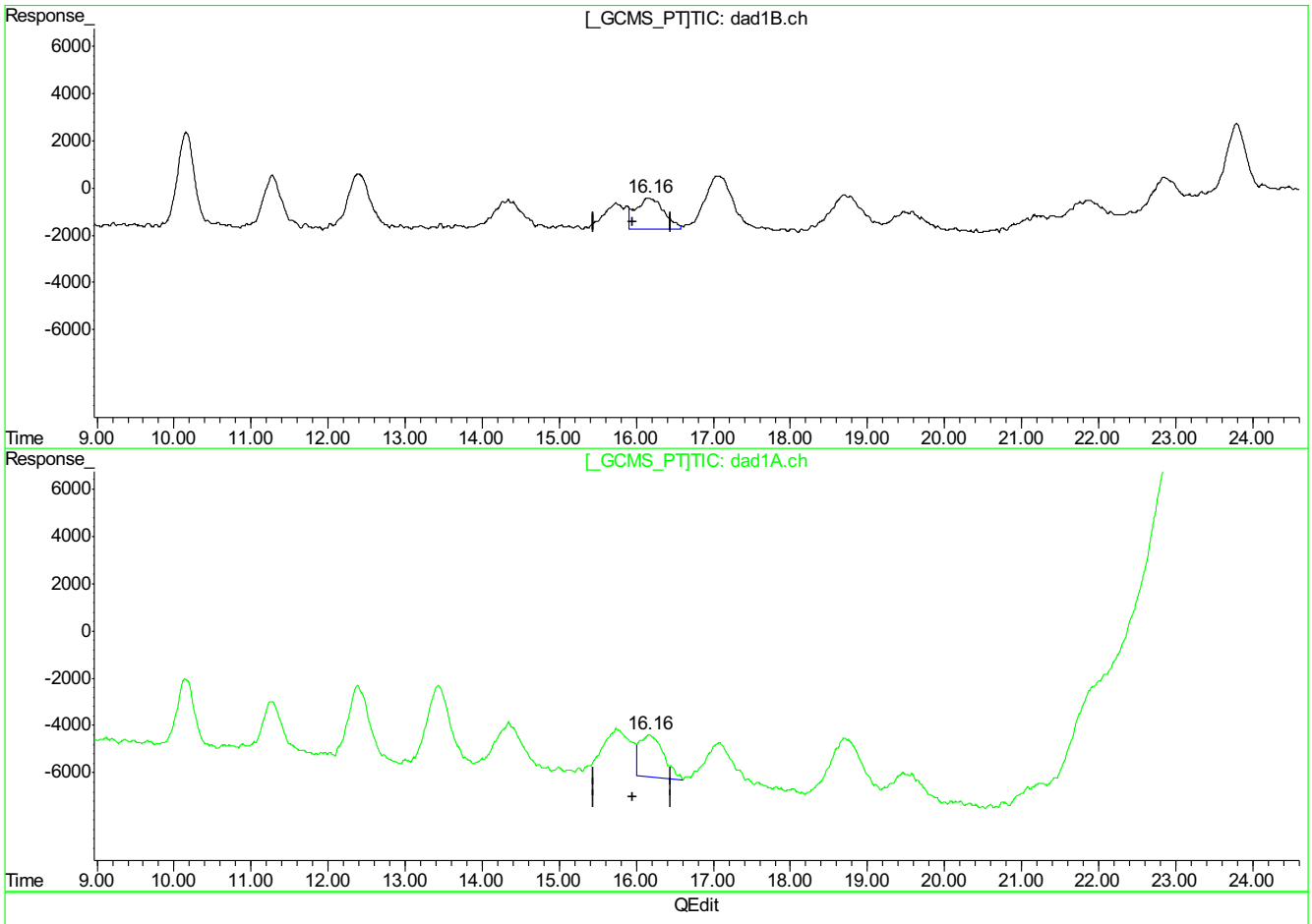
response 385744

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:50:29 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:46 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

16.16min 47.544ppb m

response 335128

(13) 2,6-Dinitrotoluene #2

16.17min 39.096ppb

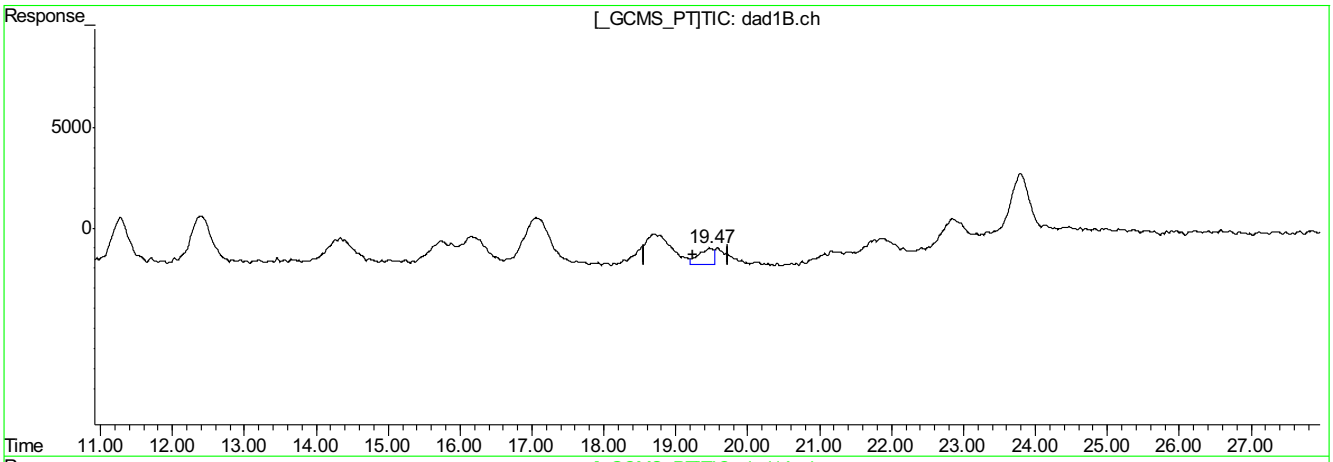
response 385744

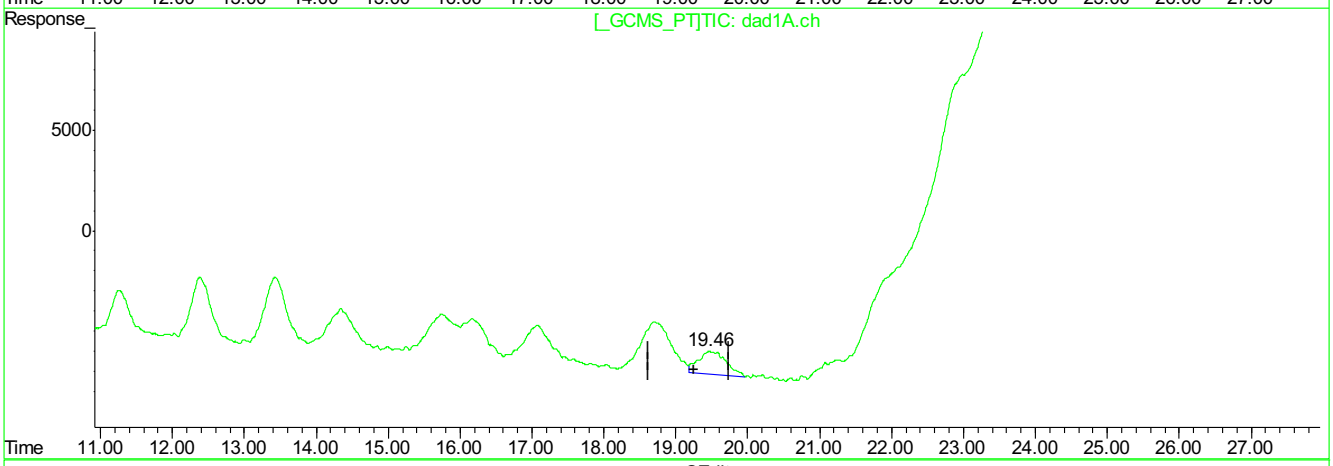
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:50:39 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.47min 27.523ppb

response 120769

(15) o-Nitrotoluene #2

19.46min 40.054ppb

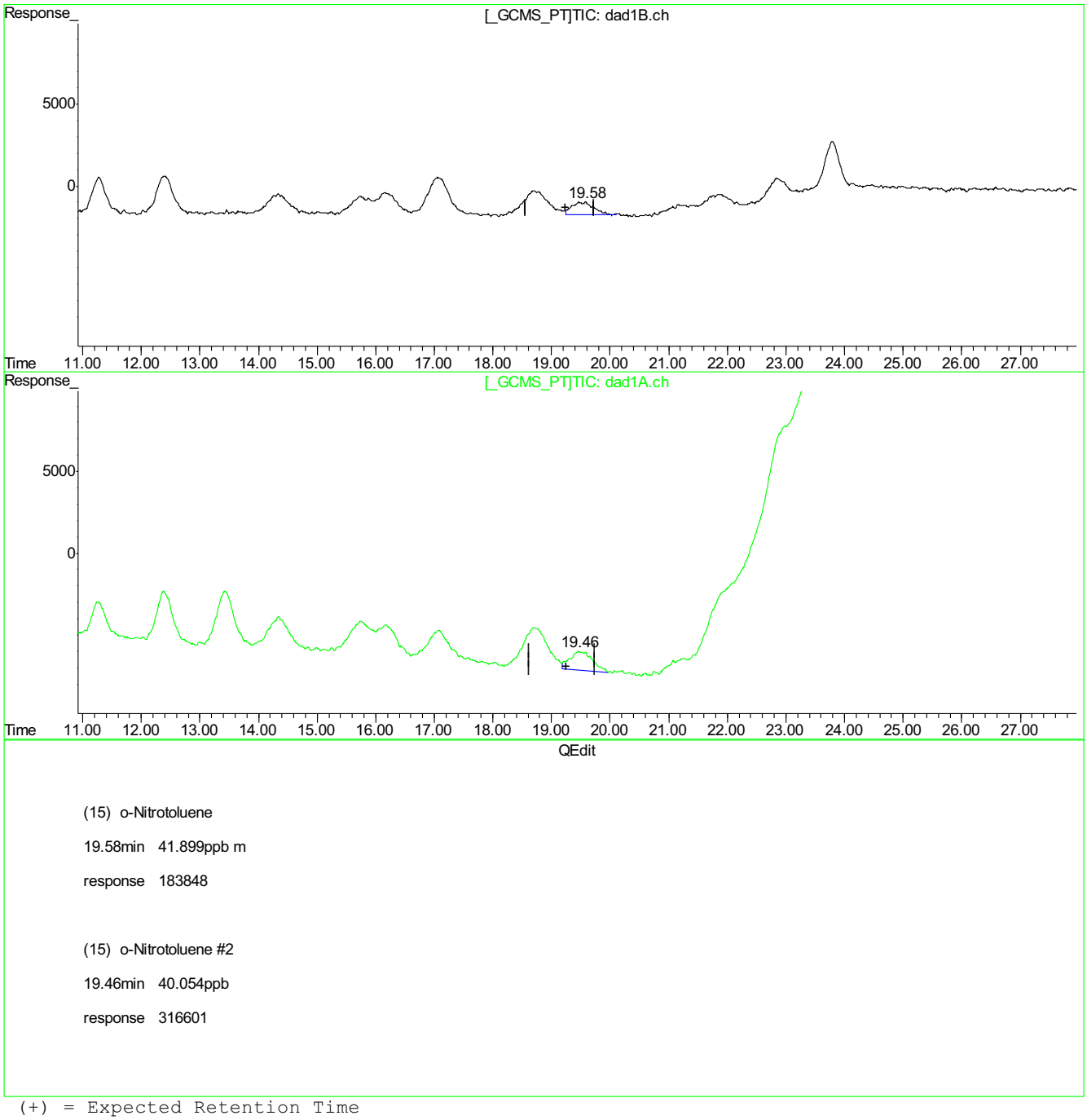
response 316601

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:51:45 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(15) o-Nitrotoluene

19.58min 41.899ppb m

response 183848

(15) o-Nitrotoluene #2

19.46min 40.054ppb

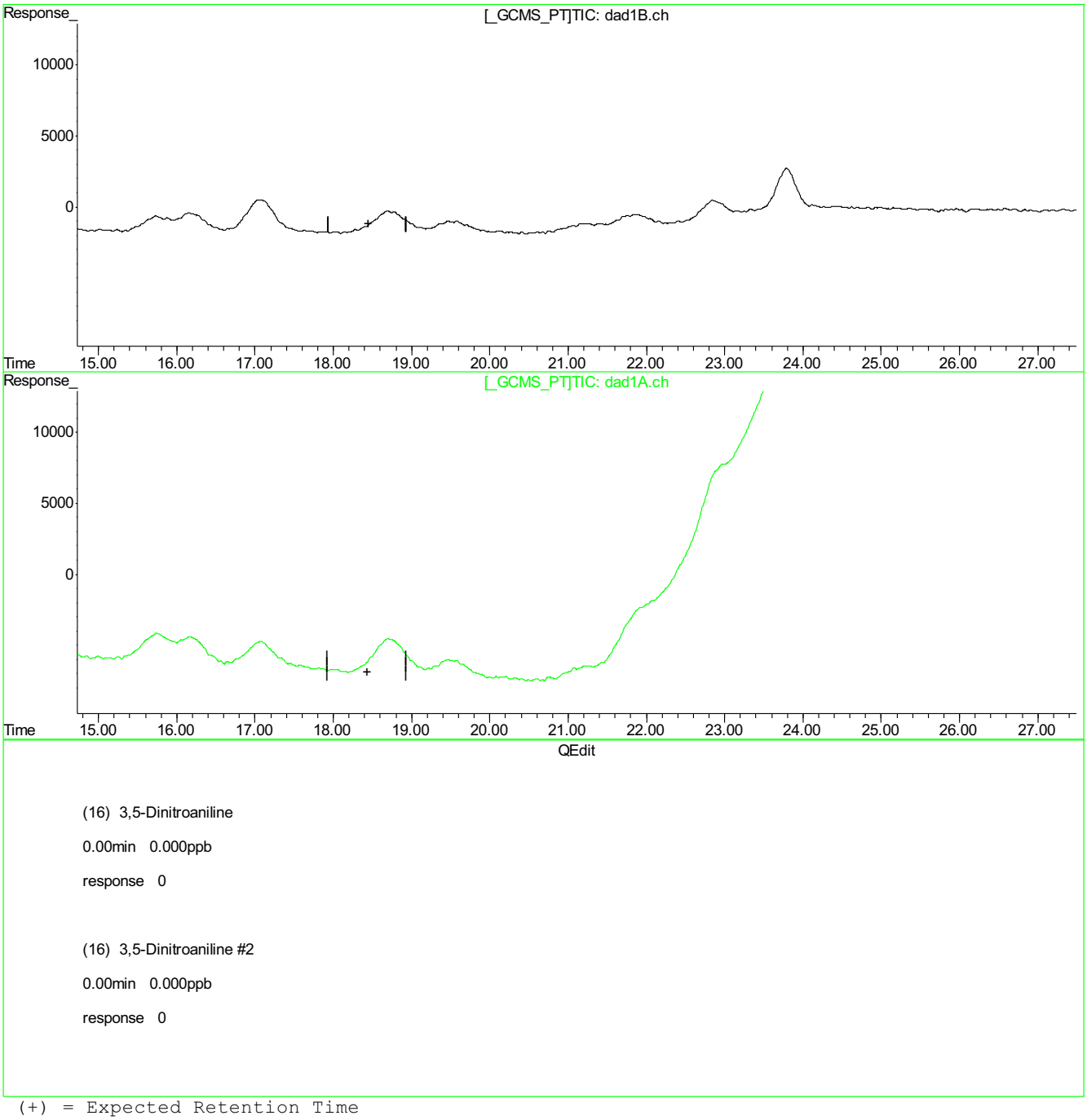
response 316601

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:51:49 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(16) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(16) 3,5-Dinitroaniline #2

0.00min 0.000ppb

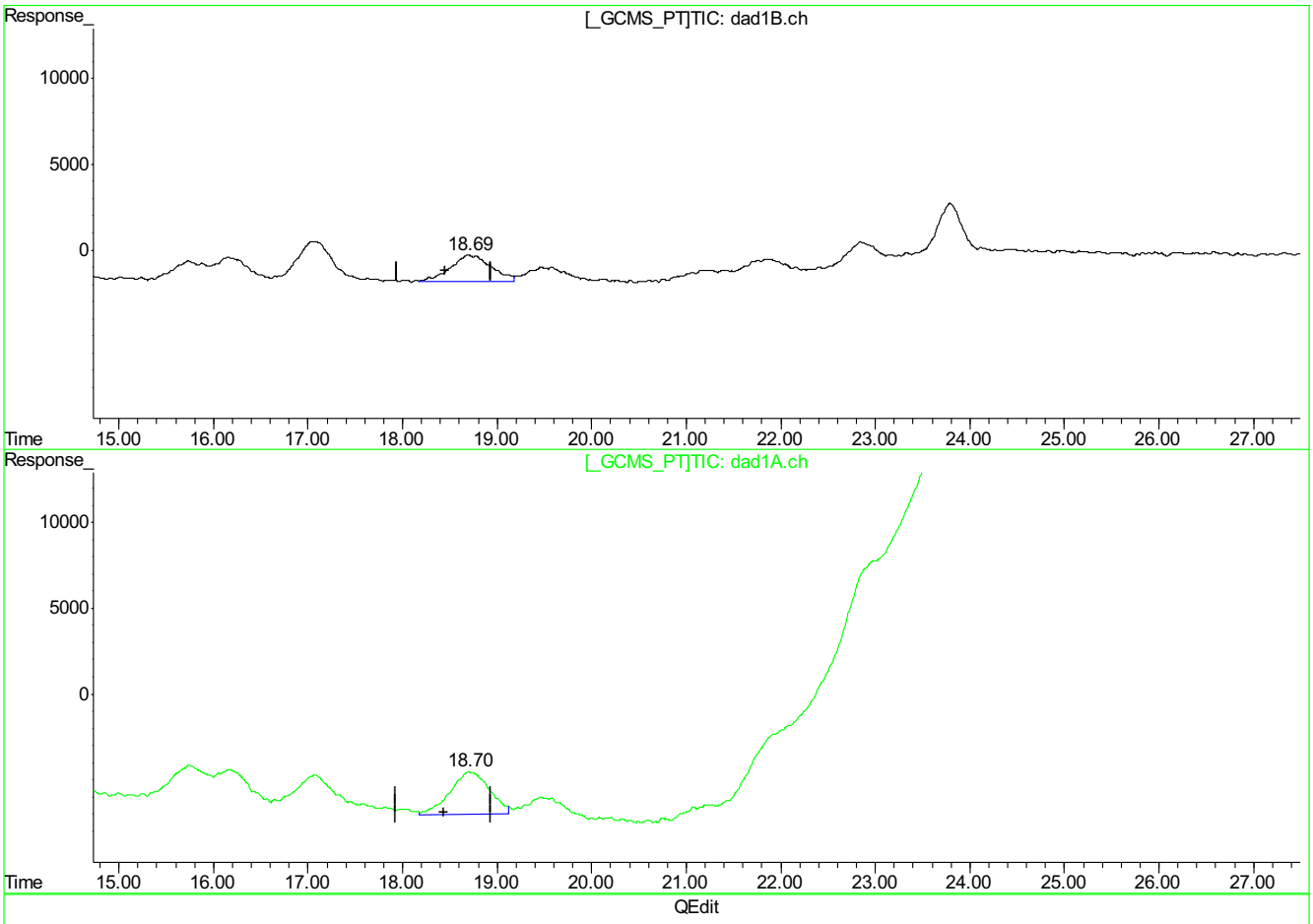
response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:05 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(16) 3,5-Dinitroaniline

18.69min 40.835ppb m

response 447044

(16) 3,5-Dinitroaniline #2

18.70min 39.946ppb m

response 720443

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:11 2017

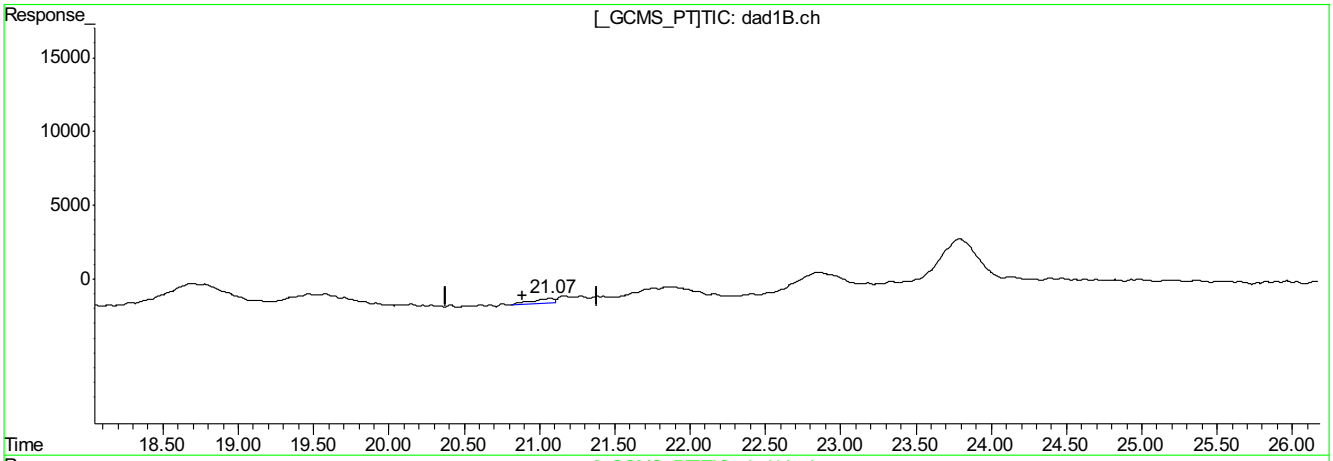
9.5.16.17

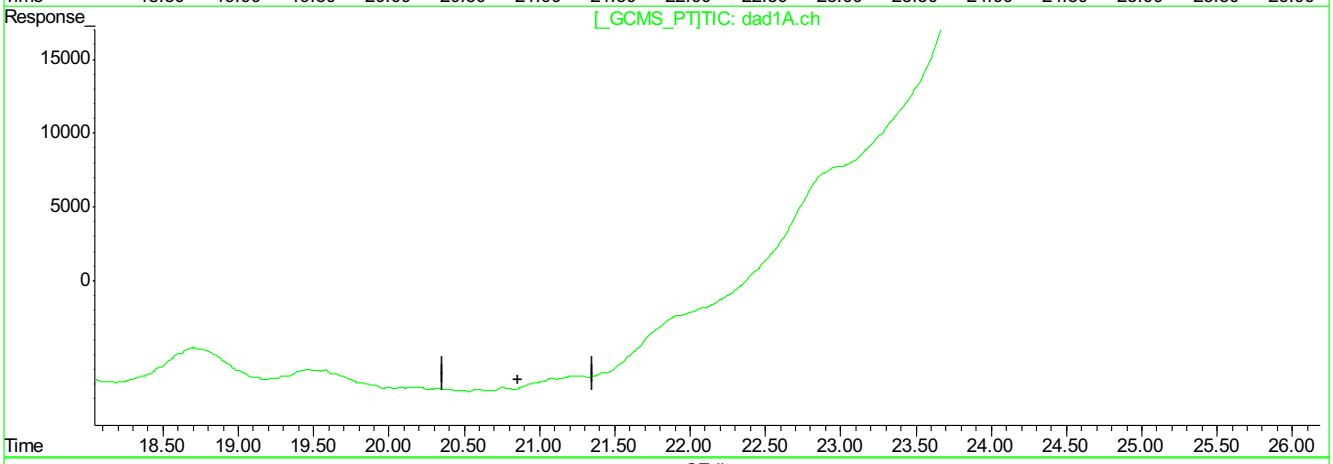
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

21.07min 7.265ppb

response 37099

(17) p-Nitrotoluene #2

0.00min 0.000ppb

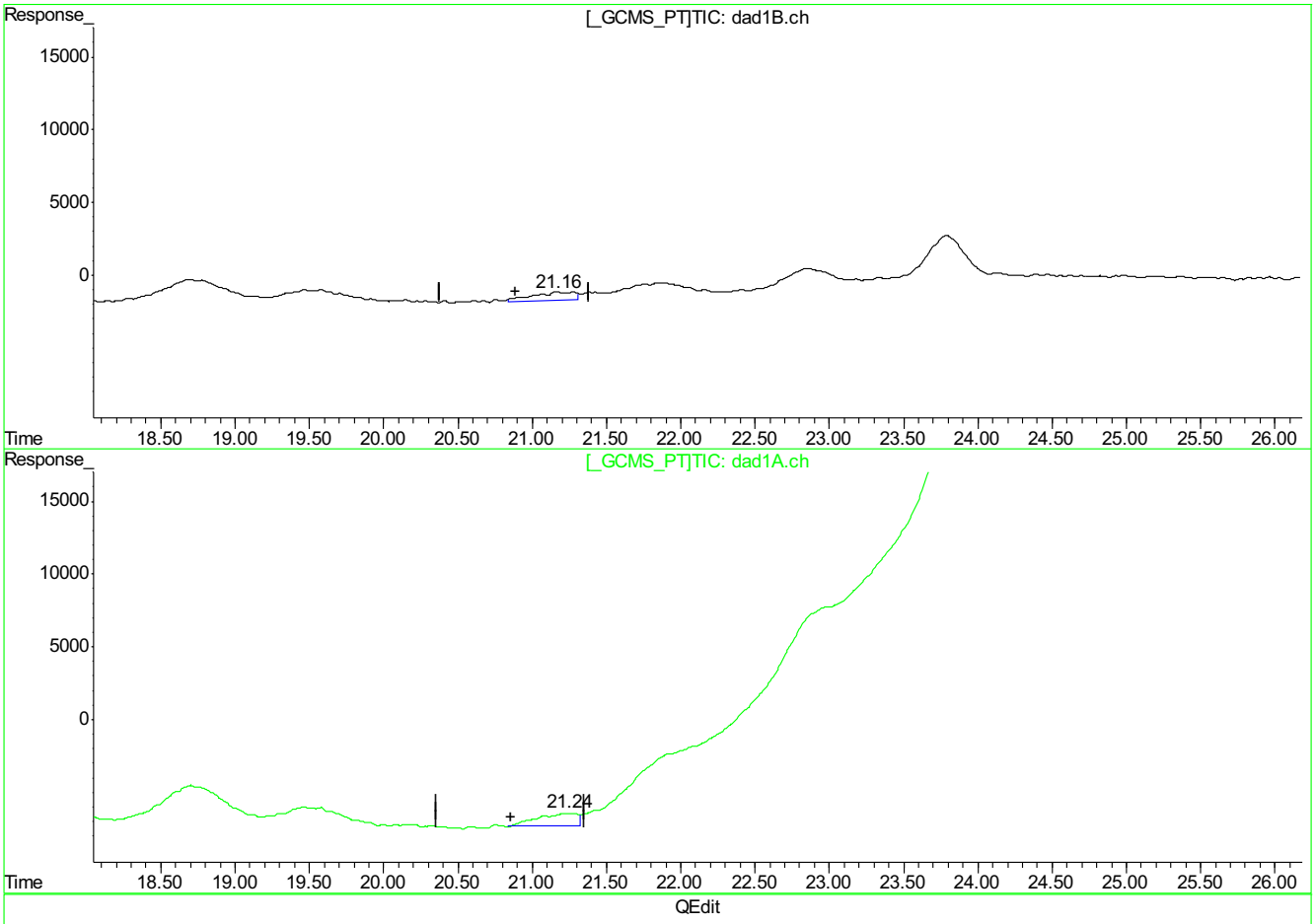
response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:21 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.16min 21.762ppb m

response 110921

(17) p-Nitrotoluene #2

21.24min 28.065ppb m

response 162028

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:29 2017

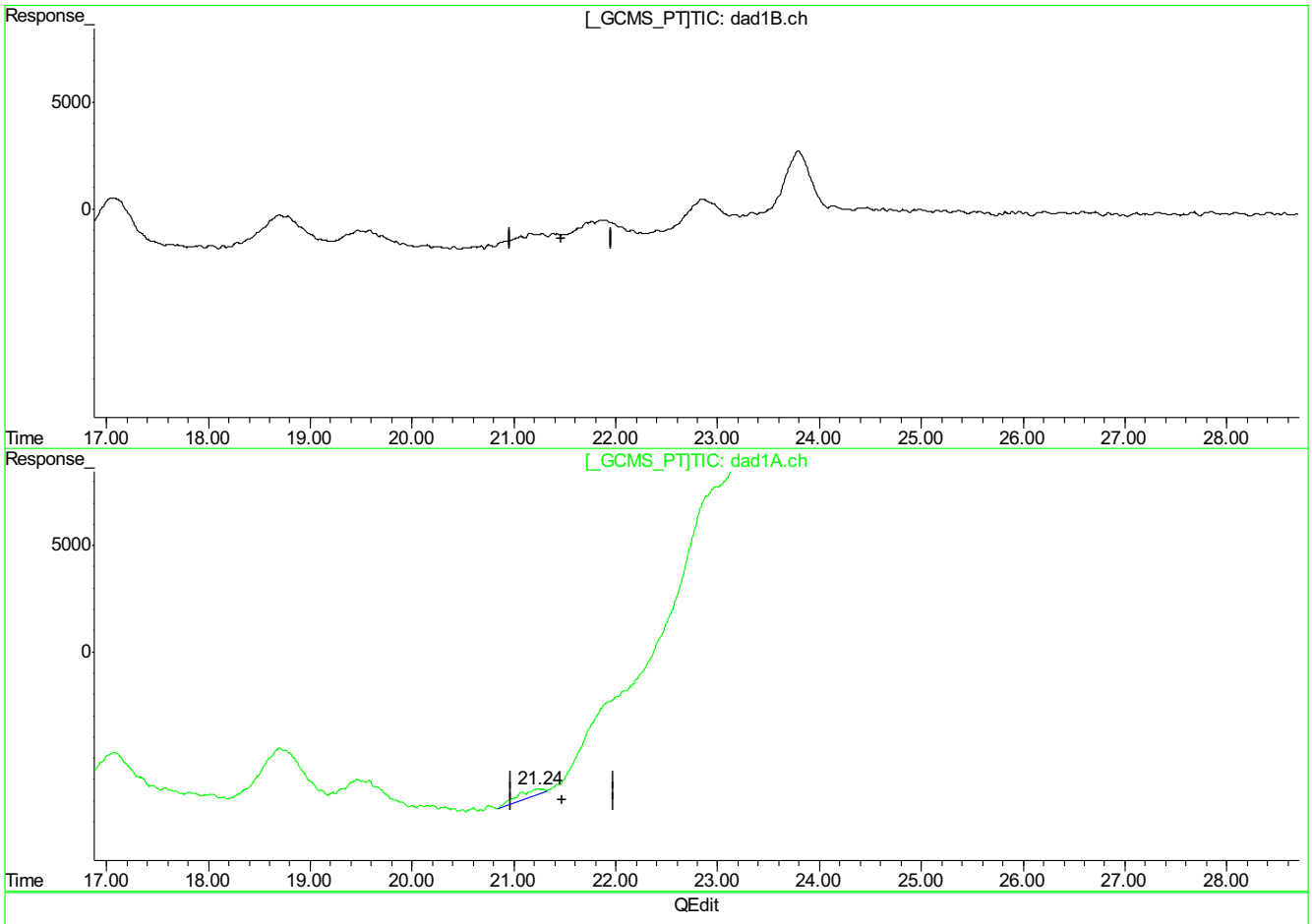
9.5.16.19

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

21.24min 5.499ppb

response 57280

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:52:45 2017

9.5.16.20

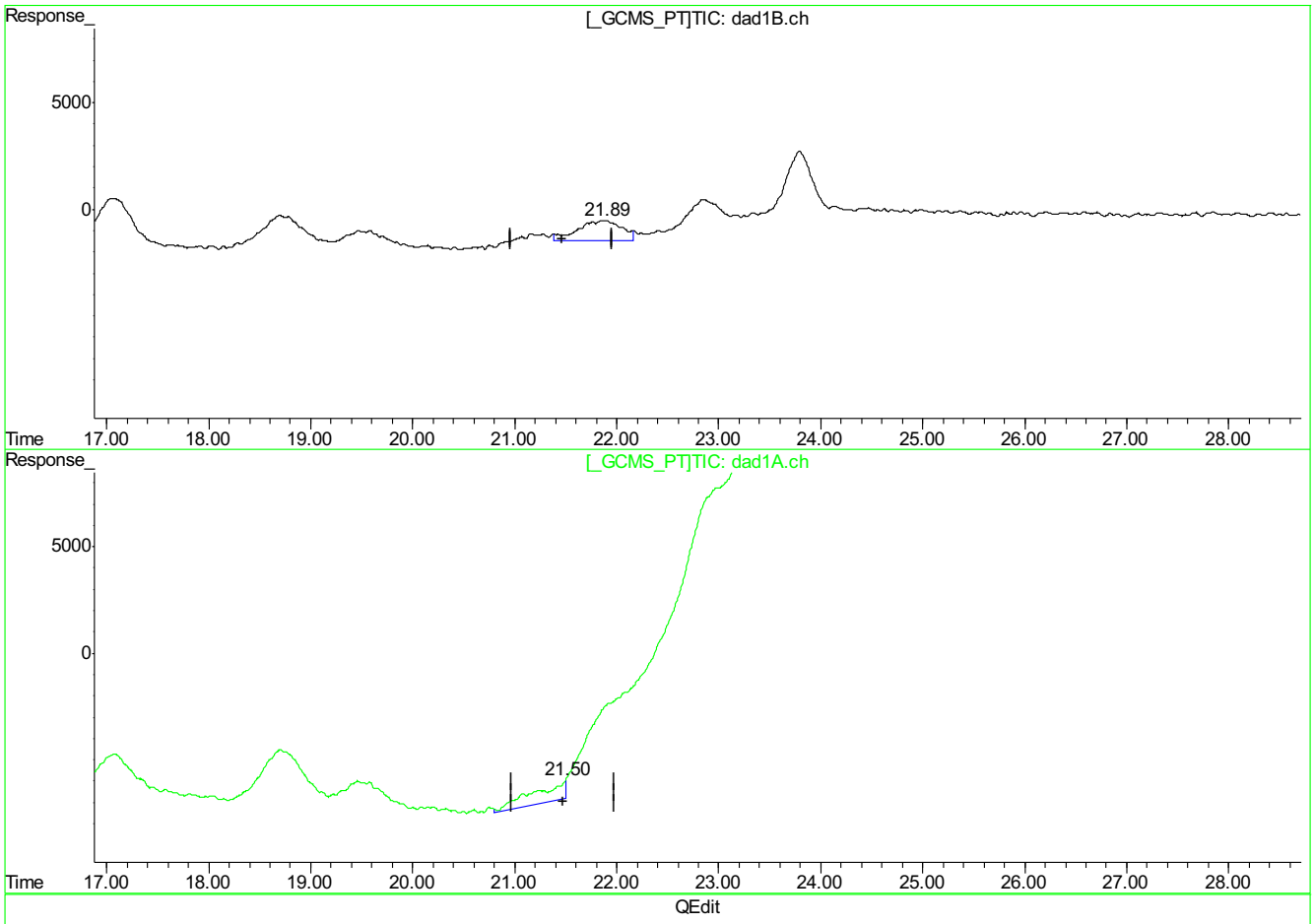
9

PP381822.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:50 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.89min 42.265ppb m

response 281797

(18) 4-Amino-2,6-Dinitrotoluene #2

21.50min 19.787ppb m

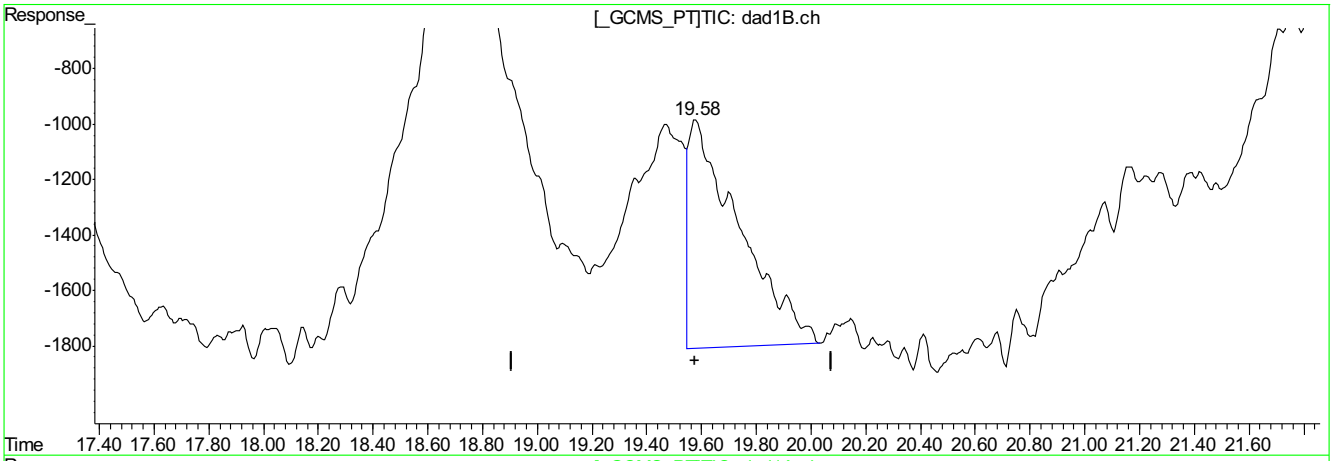
response 206104

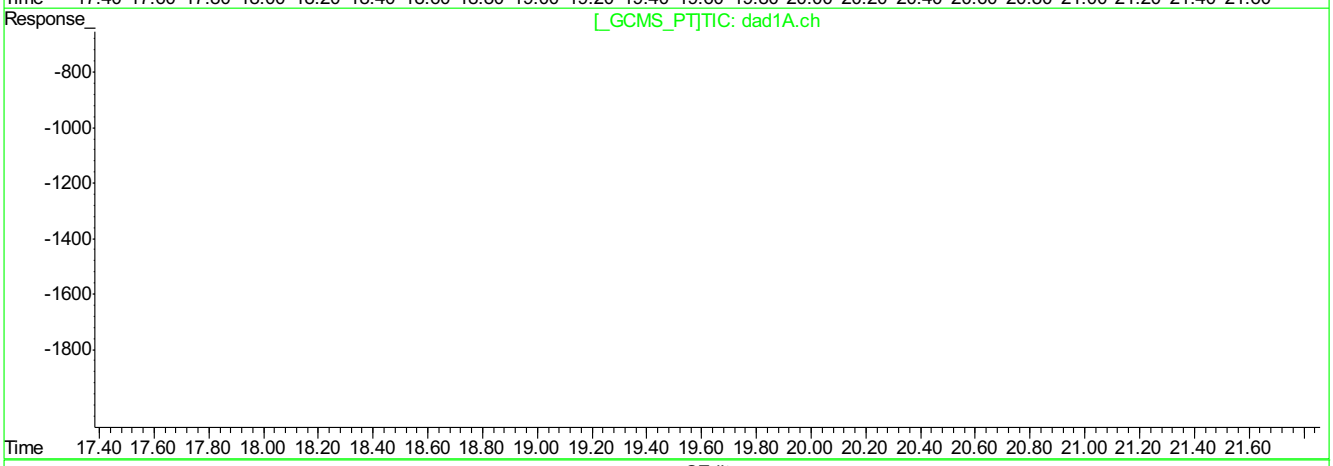
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 09:53:14 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.58min 24.393ppb

response 107036

(15) o-Nitrotoluene #2

19.46min 40.054ppb

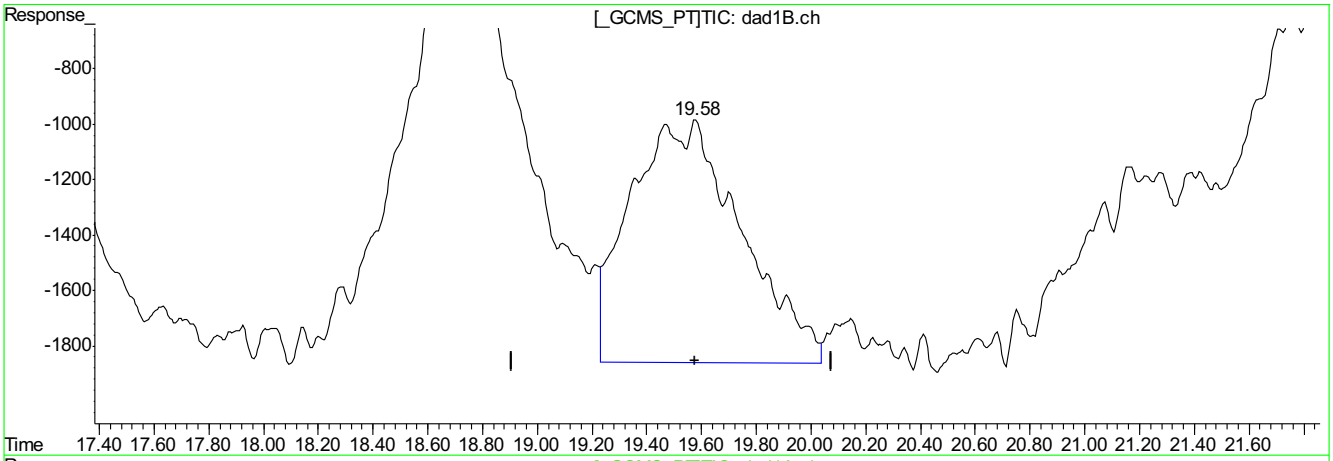
response 316601

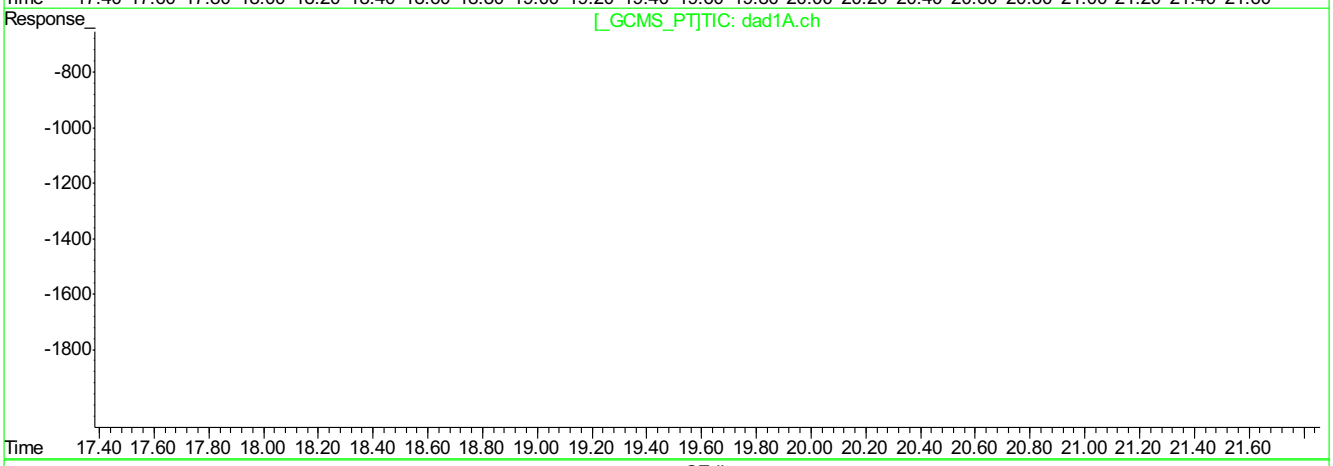
(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:00:54 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(15) o-Nitrotoluene

19.58min 56.213ppb m

response 246660

(15) o-Nitrotoluene #2

19.46min 40.054ppb

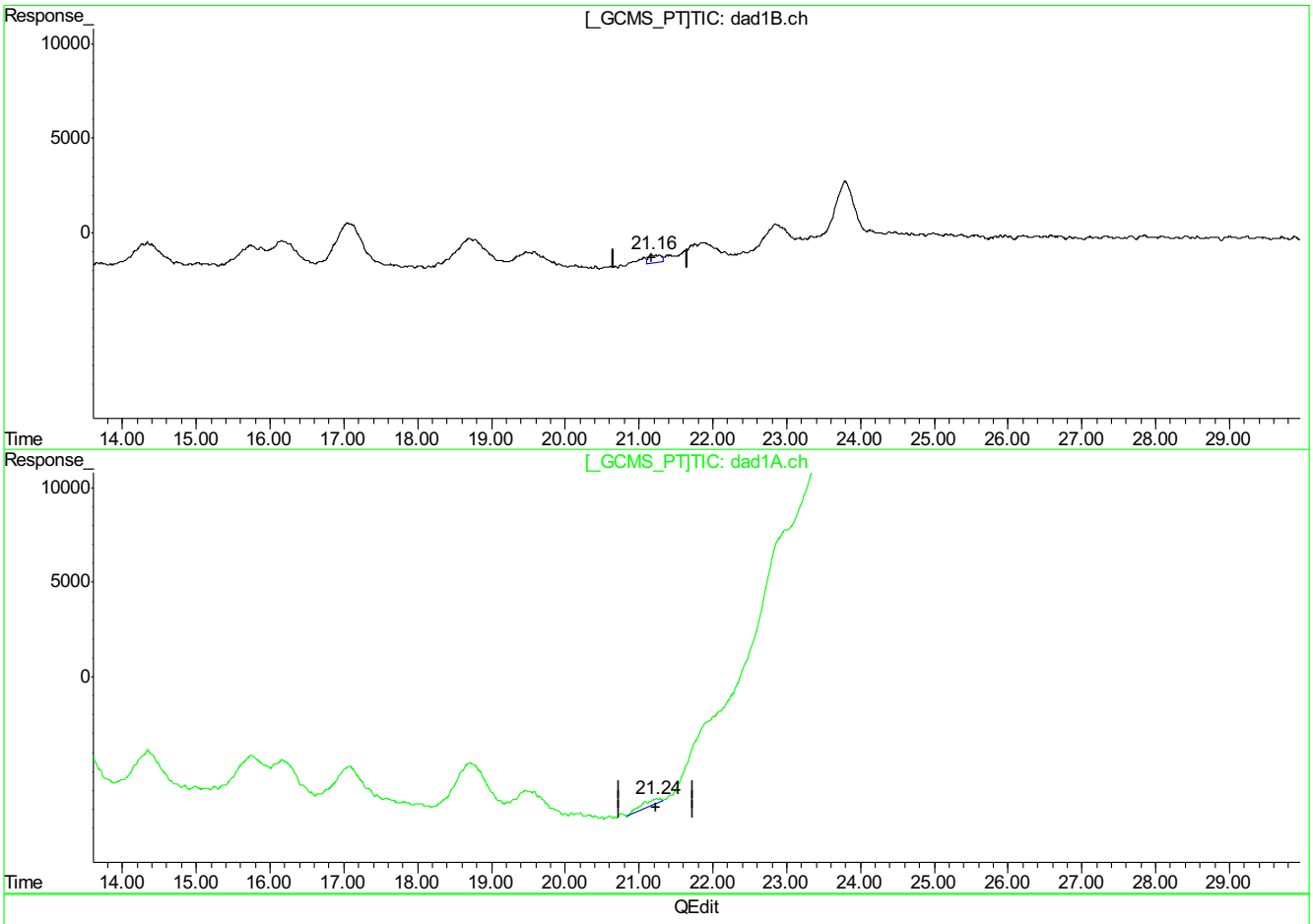
response 316601

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:01:02 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.16min 9.796ppb

response 50008

(17) p-Nitrotoluene #2

21.24min 9.915ppb

response 57280

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:01:27 2017

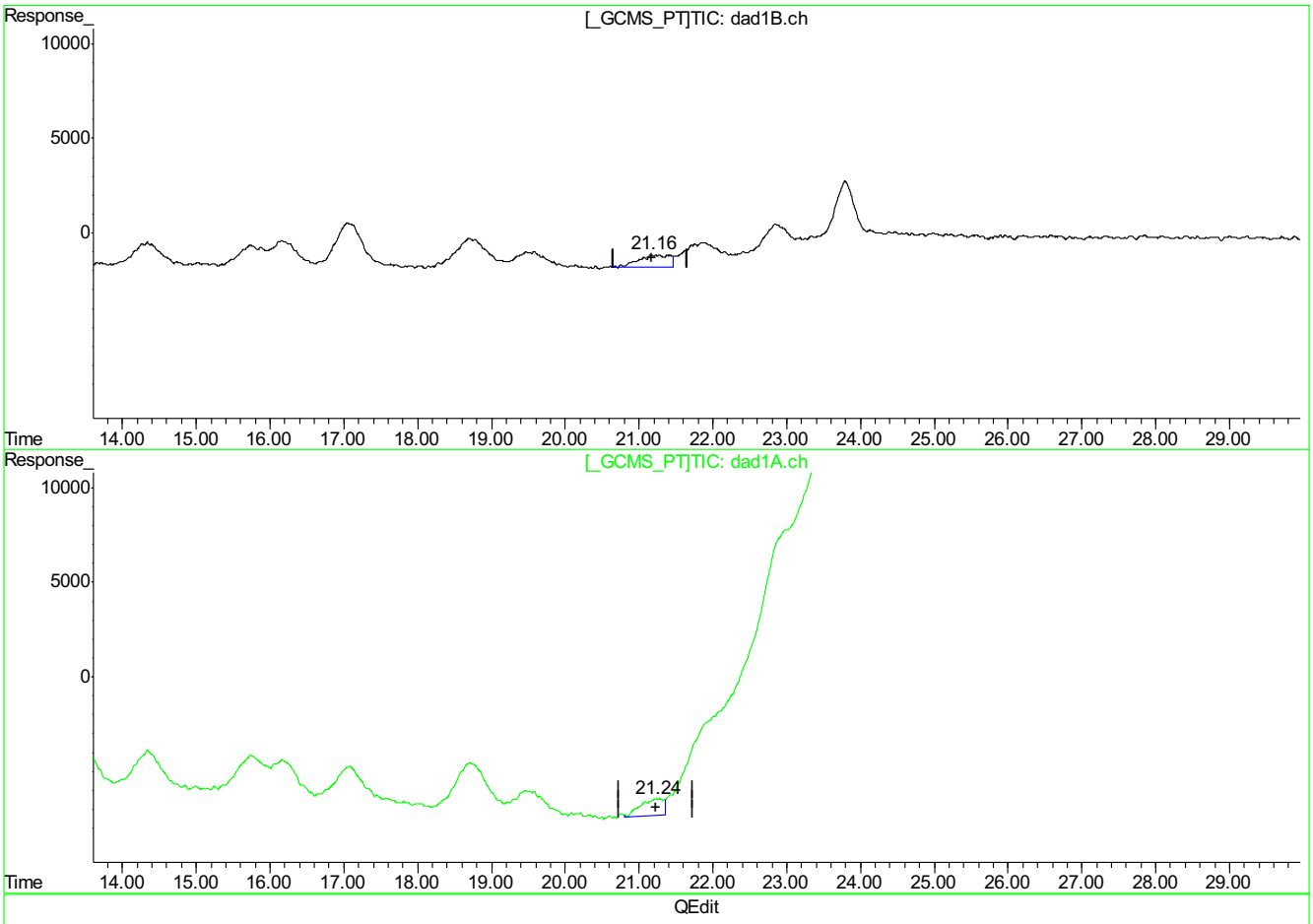
9.5.16.24

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.16min 36.646ppb m

response 186422

(17) p-Nitrotoluene #2

21.24min 33.025ppb m

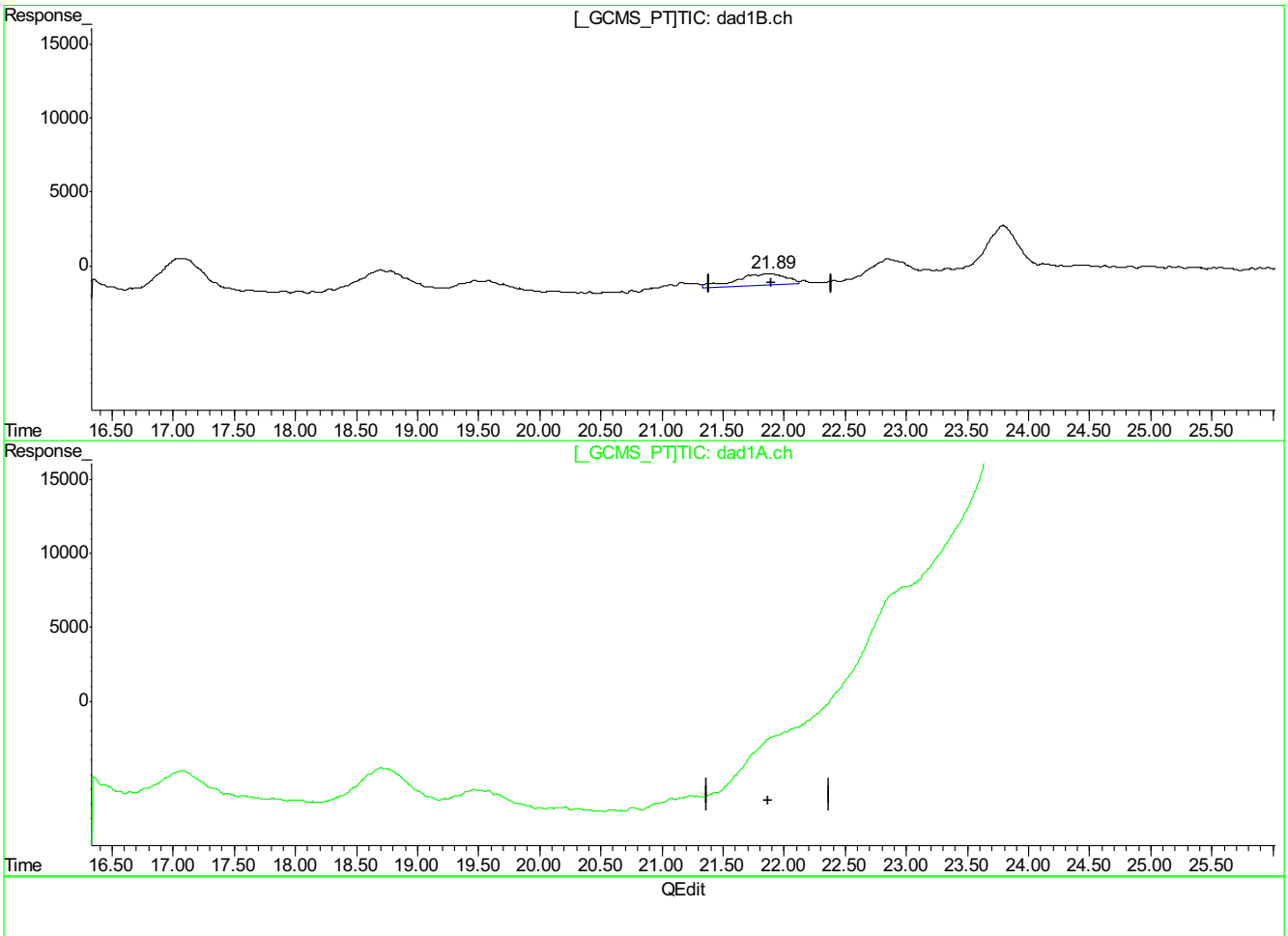
response 190631

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:01:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.89min 34.415ppb

response 229518

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:19 2017

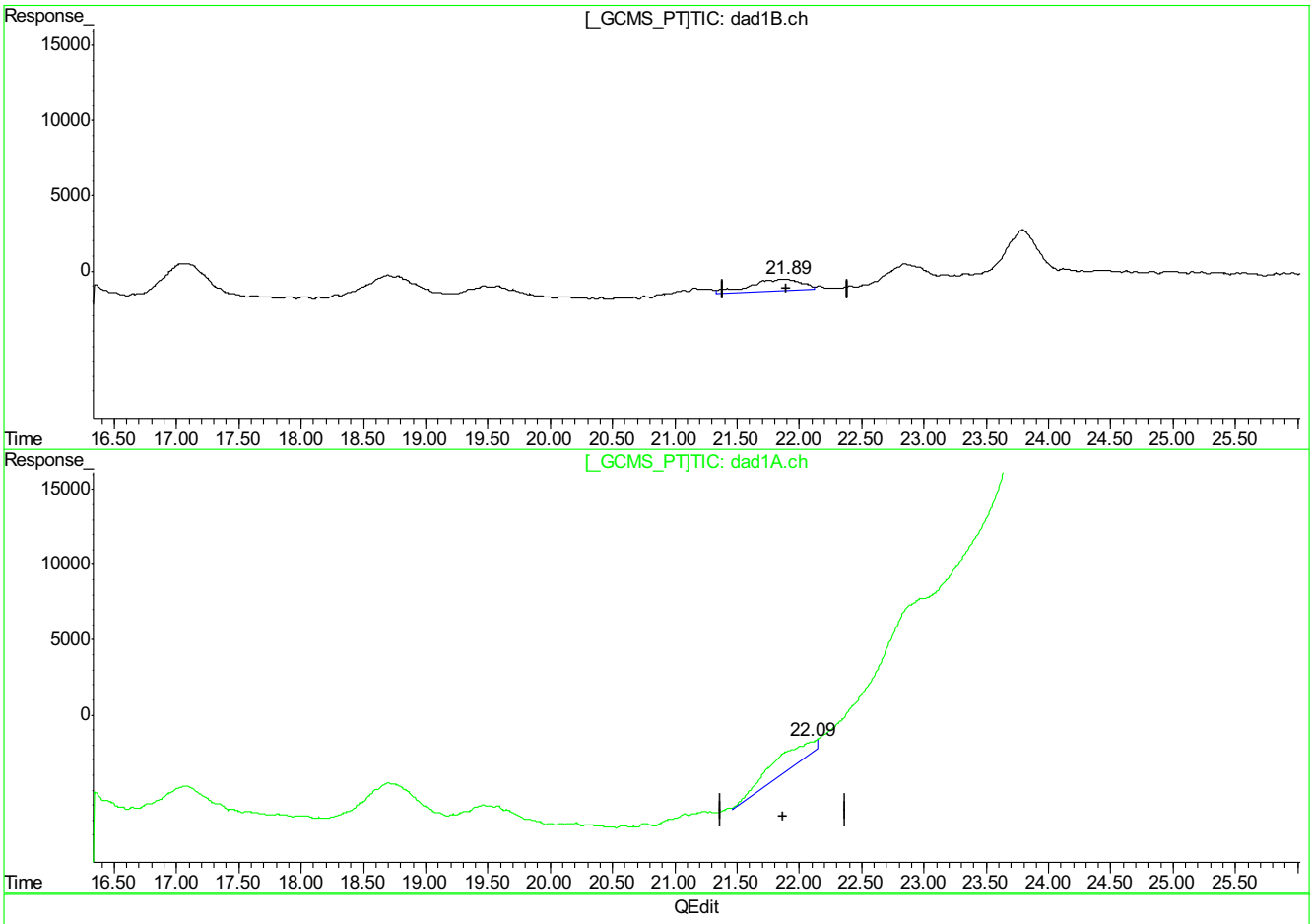
9.5.16.26

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.89min 34.415ppb

response 229518

(18) 4-Amino-2,6-Dinitrotoluene #2

22.09min 31.612ppb m

response 329278

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:27 2017

9.5.16.27

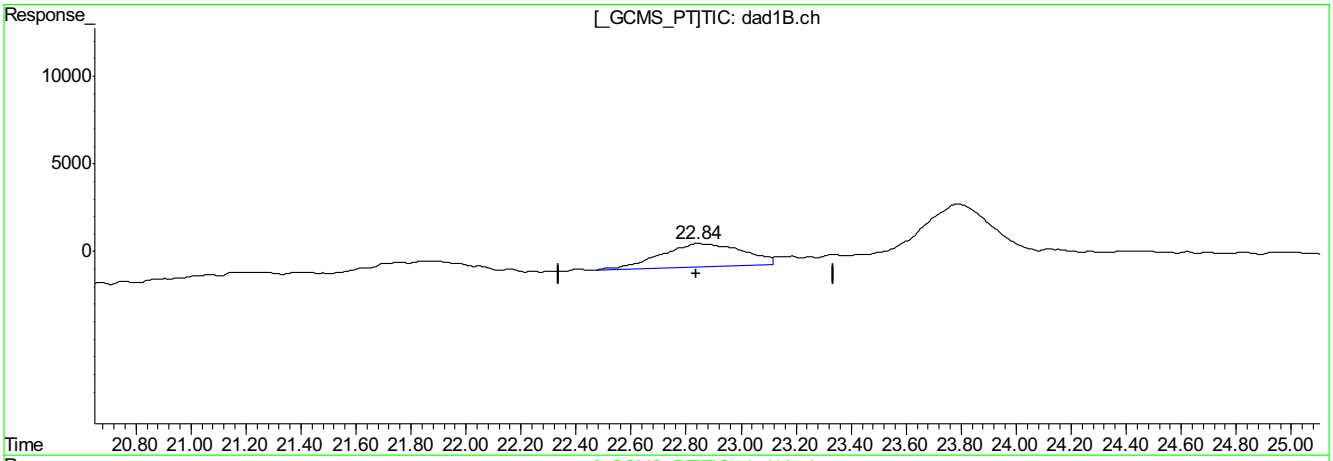
9

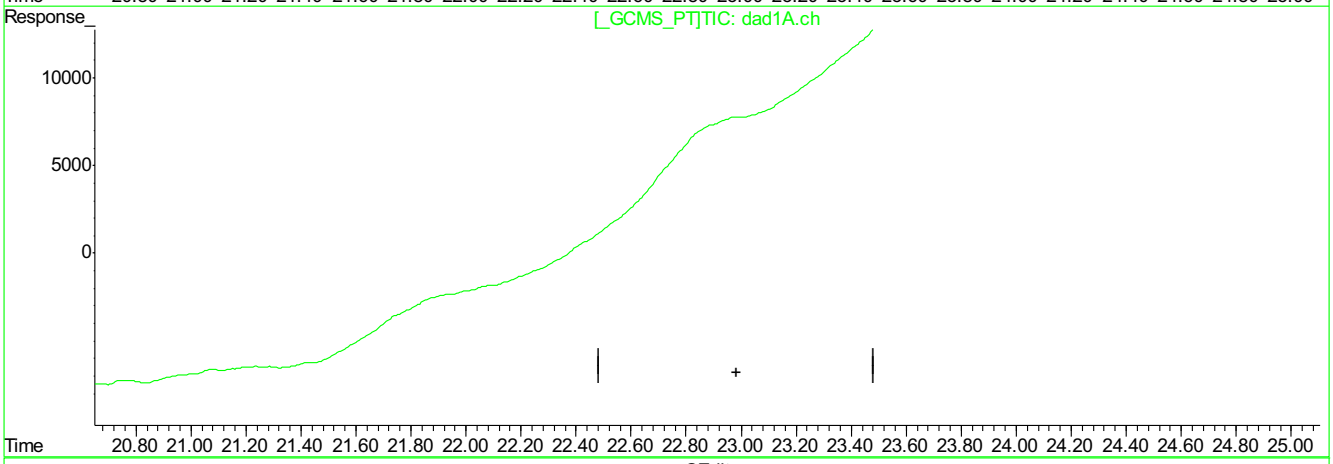
PP381822.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

22.85min 42.507ppb

response 279868

(19) m-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:36 2017

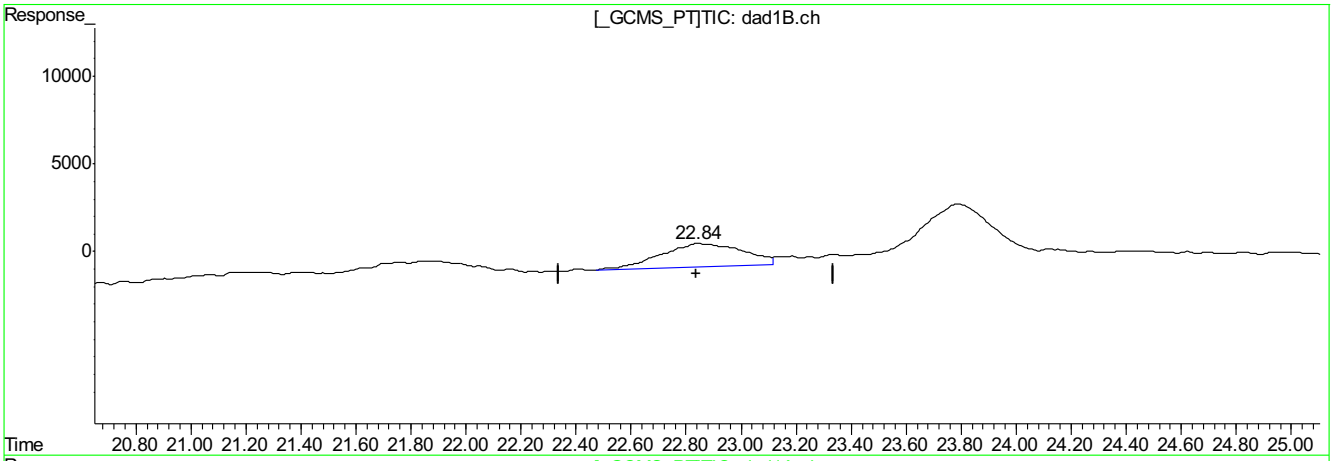
9.5.16.28

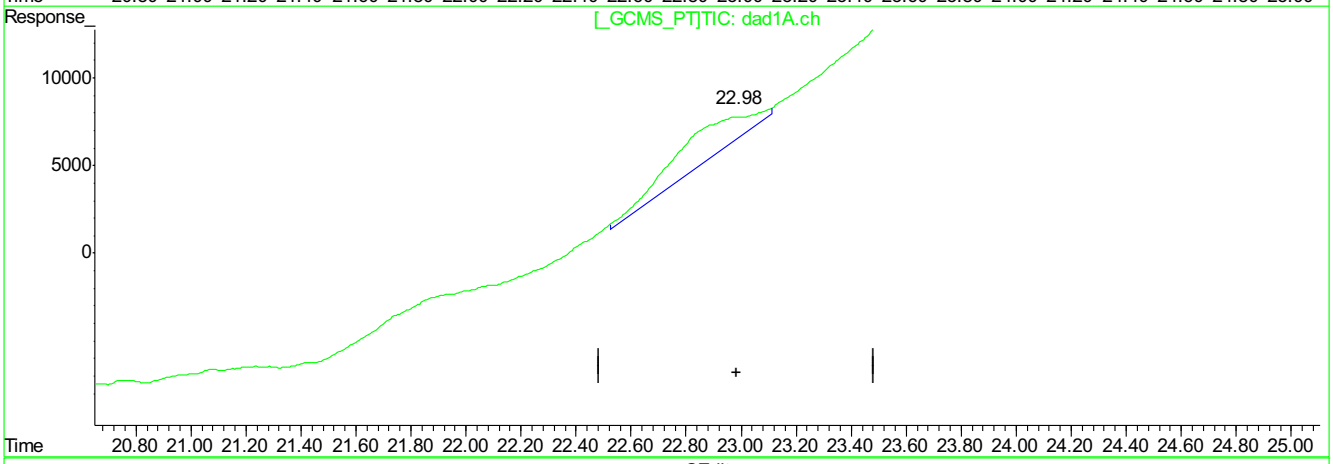
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

22.85min 42.507ppb

response 279868

(19) m-Nitrotoluene #2

22.98min 30.077ppb m

response 384329

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:41 2017

9.5.16.29

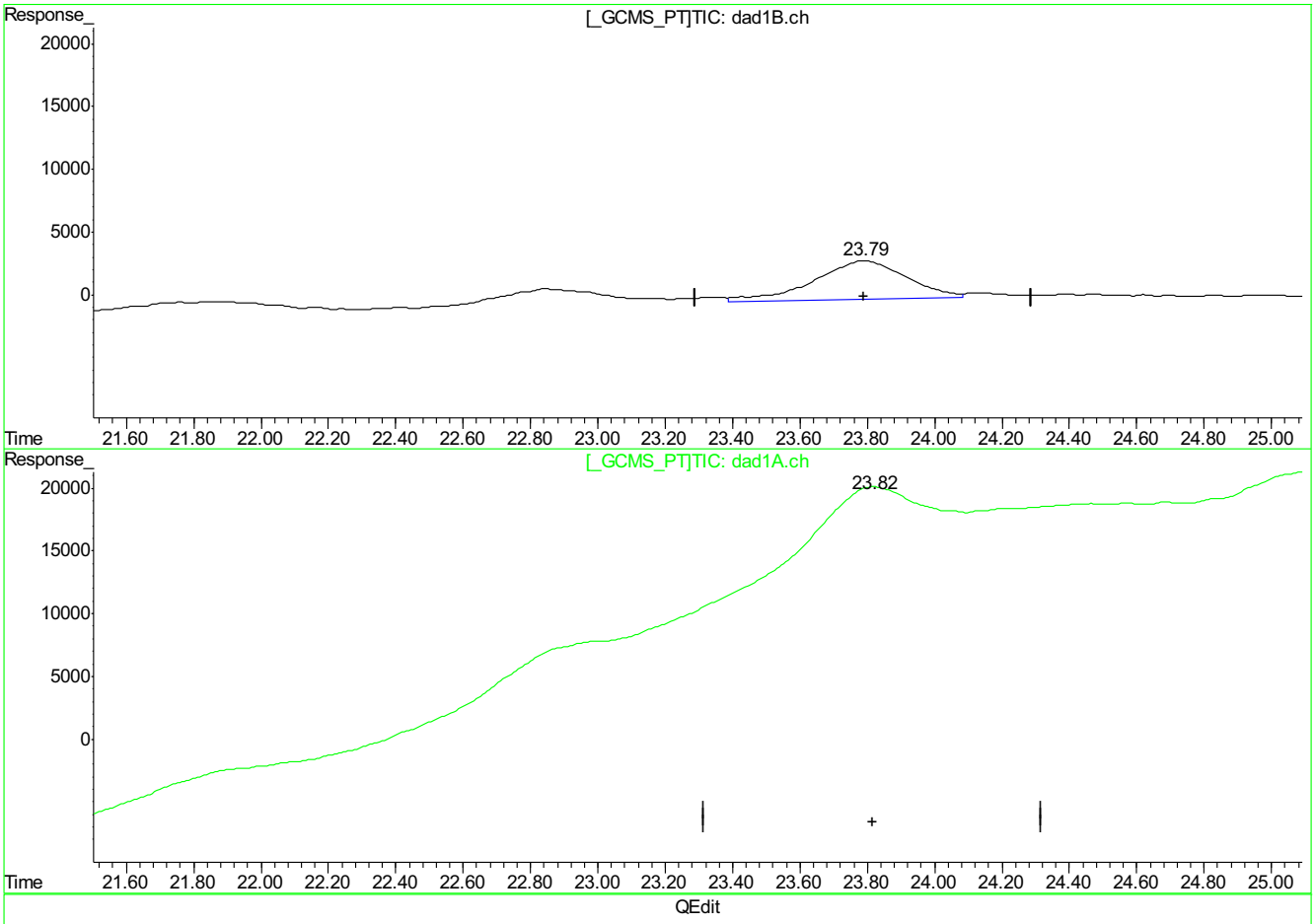
9

PP381822.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.79min 63.769ppb

response 587238

(20) 2-Amino-4,6-Dinitrotoluene #2

23.82min 562.204ppb

response 7164457

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:50 2017

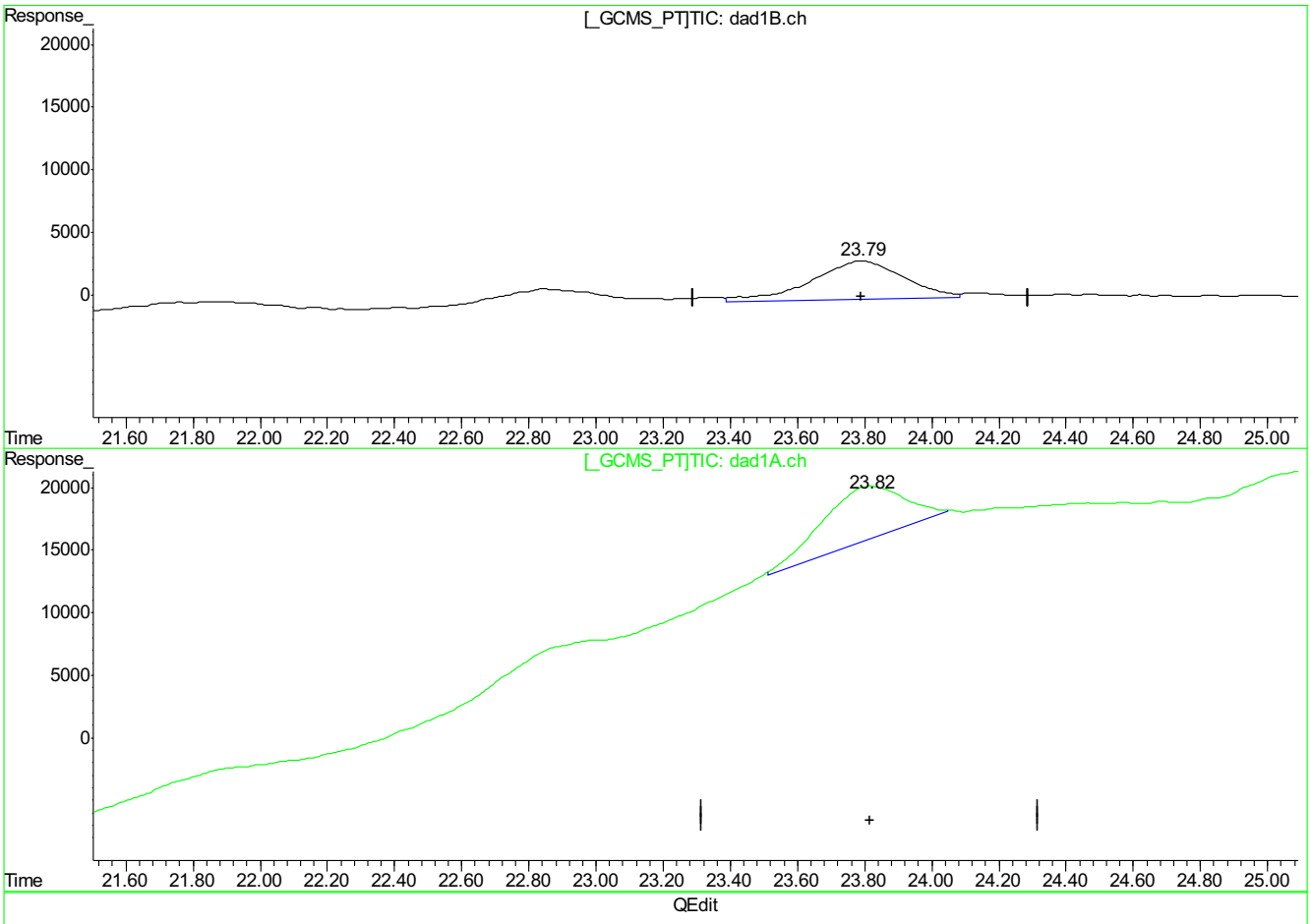
9.5.16.30

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.79min 63.769ppb

response 587238

(20) 2-Amino-4,6-Dinitrotoluene #2

23.82min 57.819ppb m

response 736816

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:55 2017

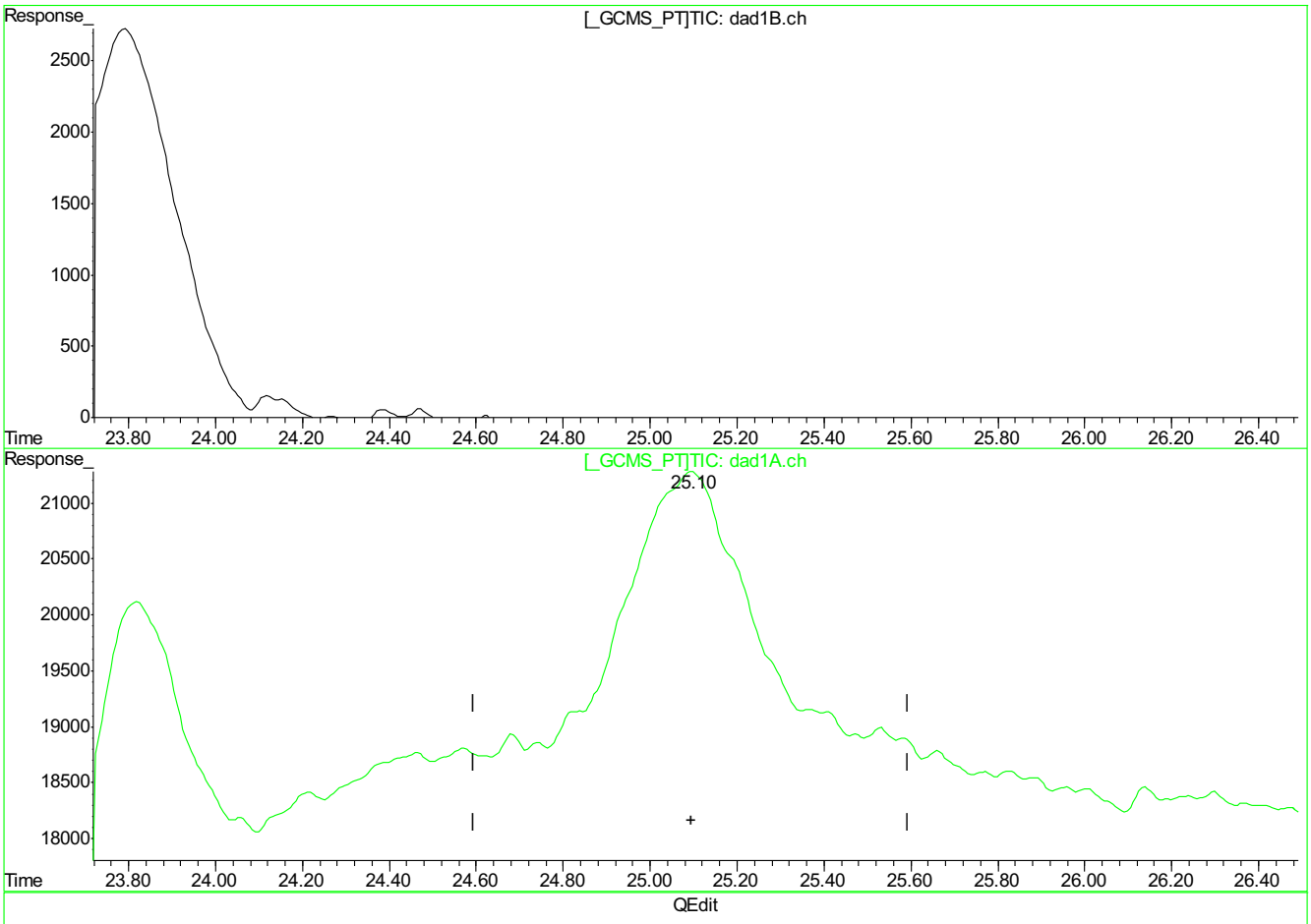
9.5.16.31

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.10min 822.315ppb

response 2722617

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:02:58 2017

9.5.16.32

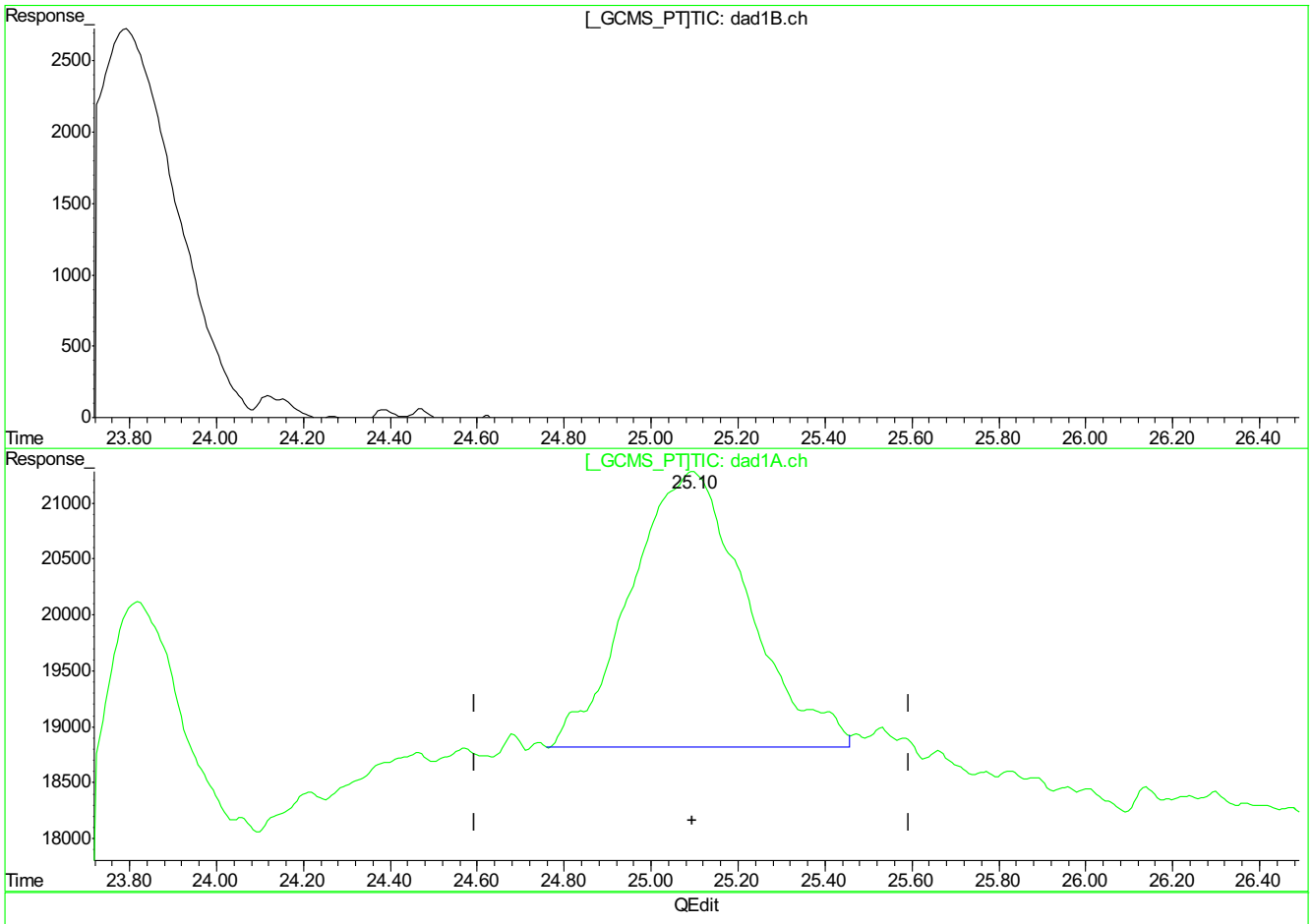
9

PP381822.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381822.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0424_RPB\PP381822.D\dad1A.ch
Acq On : 24-Apr-2017, 13:00:34 Operator: evitam
Sample : ic2096-50 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:57 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:57:37 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

25.10min 138.515ppb m

response 458612

(+) = Expected Retention Time
PP381822.D 0424_8330RPB.M Tue Apr 25 10:03:01 2017

9.5.16.33

9

PP381822.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 09:44:05 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.65	15.63	553965	1153732	120.157	124.363
	Spiked Amount 500.000	Range 70 - 136		Recovery =		24.03%#	24.87%#
	Target Compounds						
1)	TNX	4.78	4.78	1069546	1503530	126.176	119.842
2)	HMX	5.17	5.17	500531	1286935	153.531	124.154
3)	DNX	5.32	5.32	955398	1926006	117.641	143.298
4)	MNX	6.46	6.46	583677	915114	107.165	107.377
5)	1,3,5-Trinitrobe	7.49	7.49	1051088	1747034	106.166	105.177
6)	RDX	7.92	7.92	481989	850350	108.628	102.737
7)	1,3-Dinitrobenze	10.10	10.10	1378793	1019599	103.283	103.913
8)	Nitrobenzene	11.21	11.22	830471	833749	97.821	102.367
9)	2,4,6-Trinitroto	12.33	12.33	1005191	1279730	106.352	104.941
10)	Nitroglycerin	0.00	13.35	0	1633633	N.D. d	548.063m
11)	Tetryl	14.23	14.24	692380	1075760	98.829	94.972m
13)	2,6-Dinitrotolue	16.09	16.06	708538	1003855	100.518	101.744
14)	2,4-Dinitrotolue	16.93	16.93	1296355	1050678	105.624	111.926
15)	o-Nitrotoluene	19.40	19.36	505142	740009	115.121	93.919
16)	3,5-Dinitroanili	18.55	18.55	977294	1615930	89.271	89.597
17)	p-Nitrotoluene	21.01	21.04	365368	161193	72.155m	27.920 #
18)	4-Amino-2,6-Dini	21.58	21.67	351499	328406	52.738	31.528 #
19)	m-Nitrotoluene	22.73	22.75	655738	1080977	99.840	84.972m
20)	2-Amino-4,6-Dini	23.67	23.69	970740	1475343	105.415m	115.772m
21)	PETN	0.00	24.99	0	1054182	N.D. d	318.396m

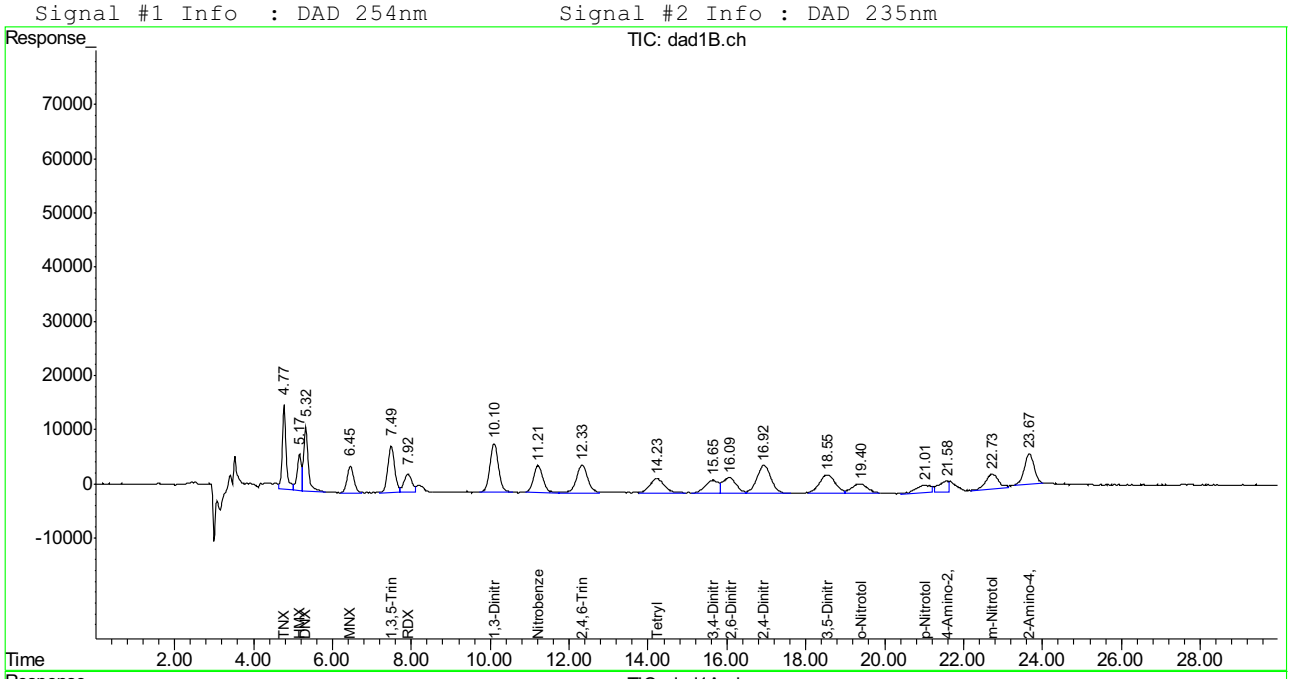
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381823.D 0424_8330RPB.M Tue Apr 25 10:59:40 2017 Page 1

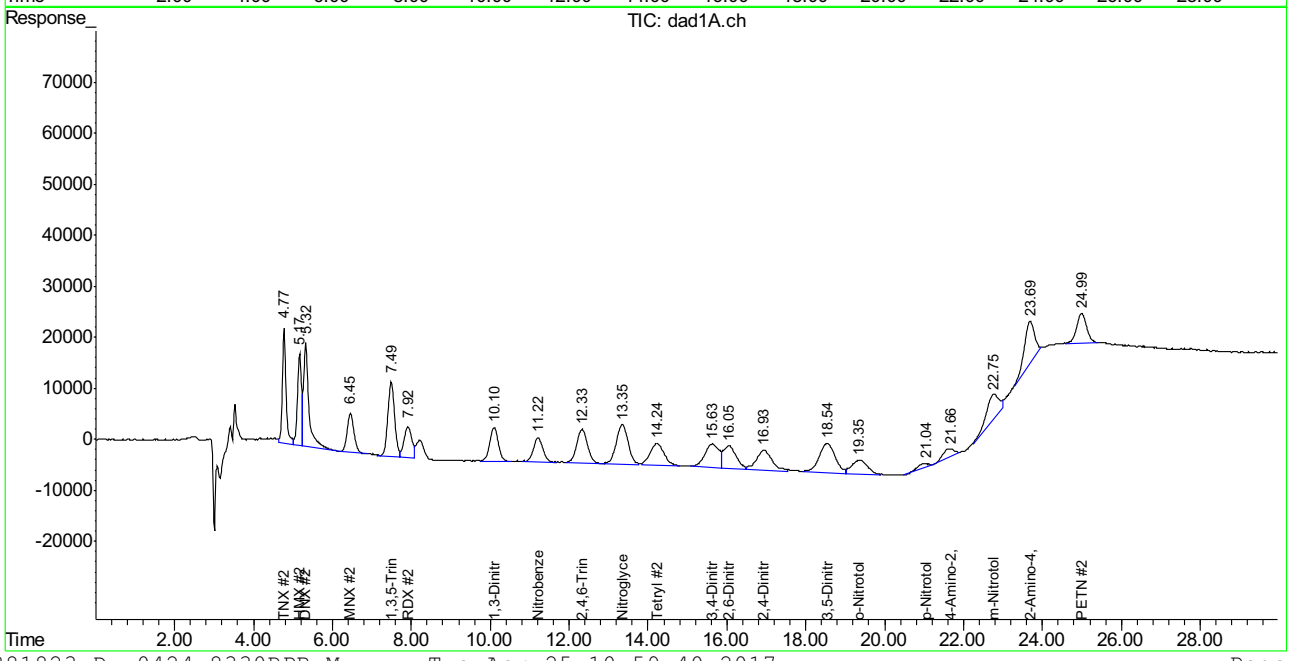
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:42 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

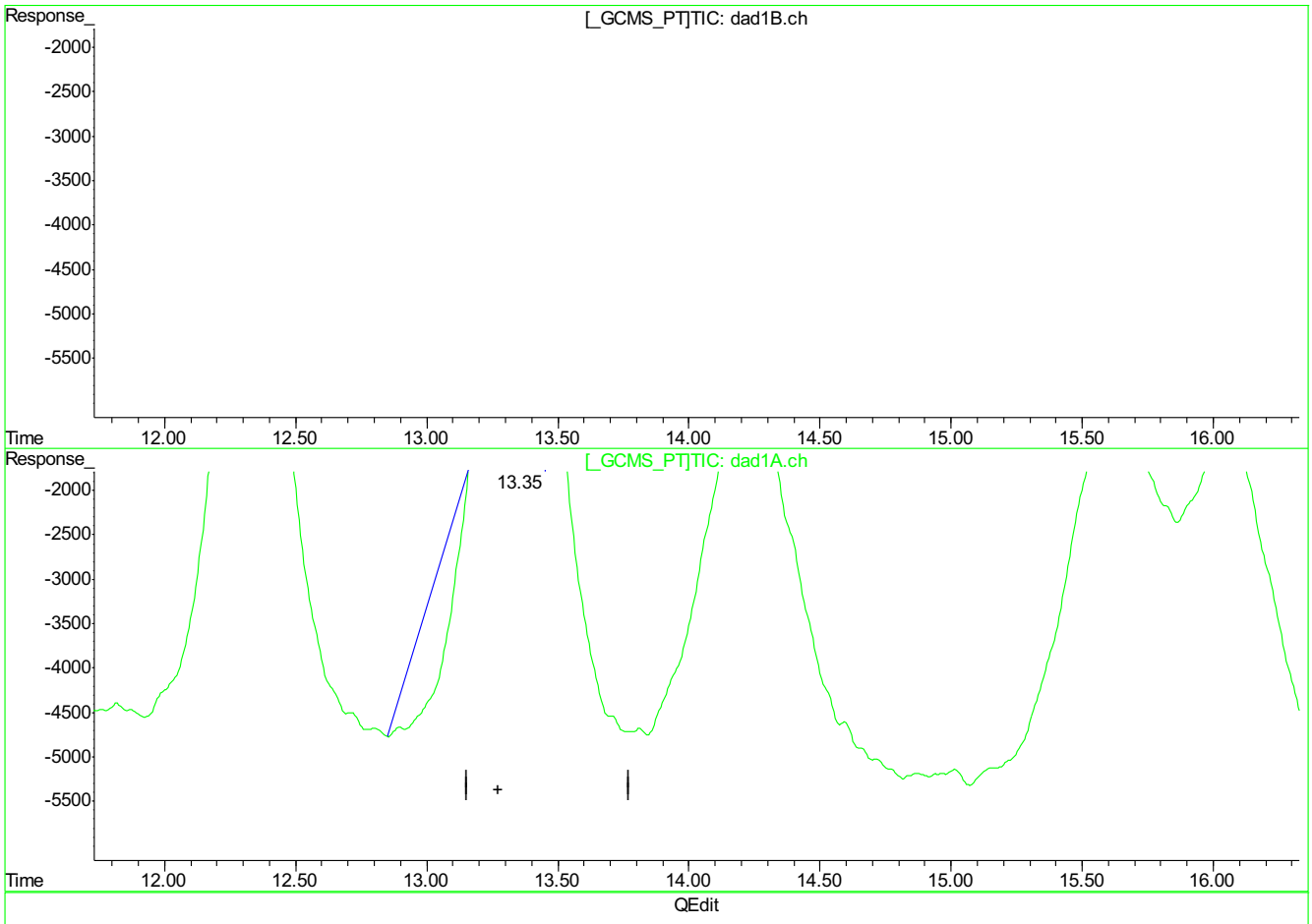
Sample Number: GPP2096-IC2096
Lab FileID: PP381823.D
Injection Time: 04/24/17 13:33
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.35	Poorly defined baseline
Tetryl	479-45-8	2	14.24	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	21.01	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.75	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.67	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.69	Poorly defined baseline
PETN	78-11-5	2	24.99	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.35min 61.561ppb

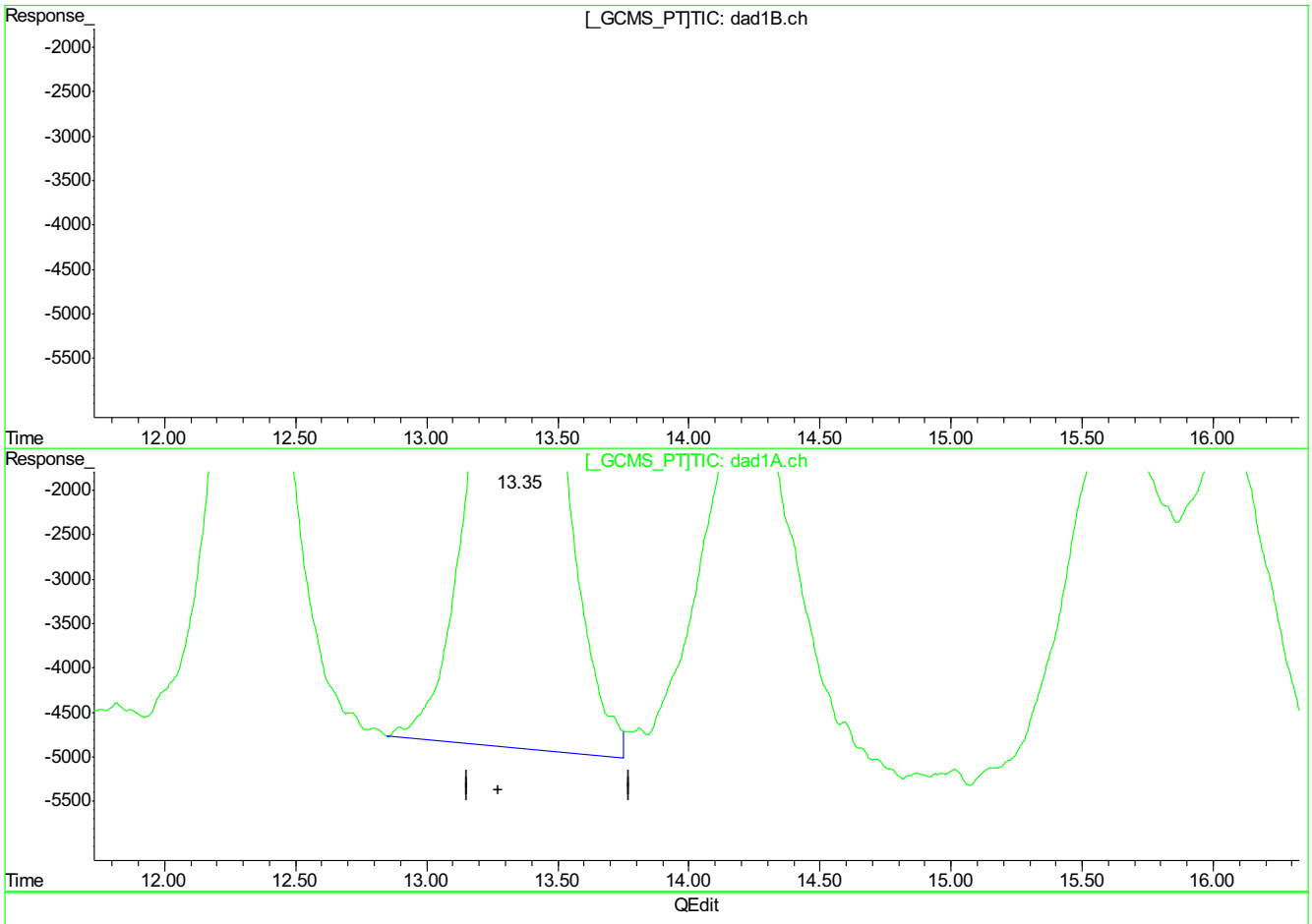
response 183496

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:34 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.35min 548.063ppb m

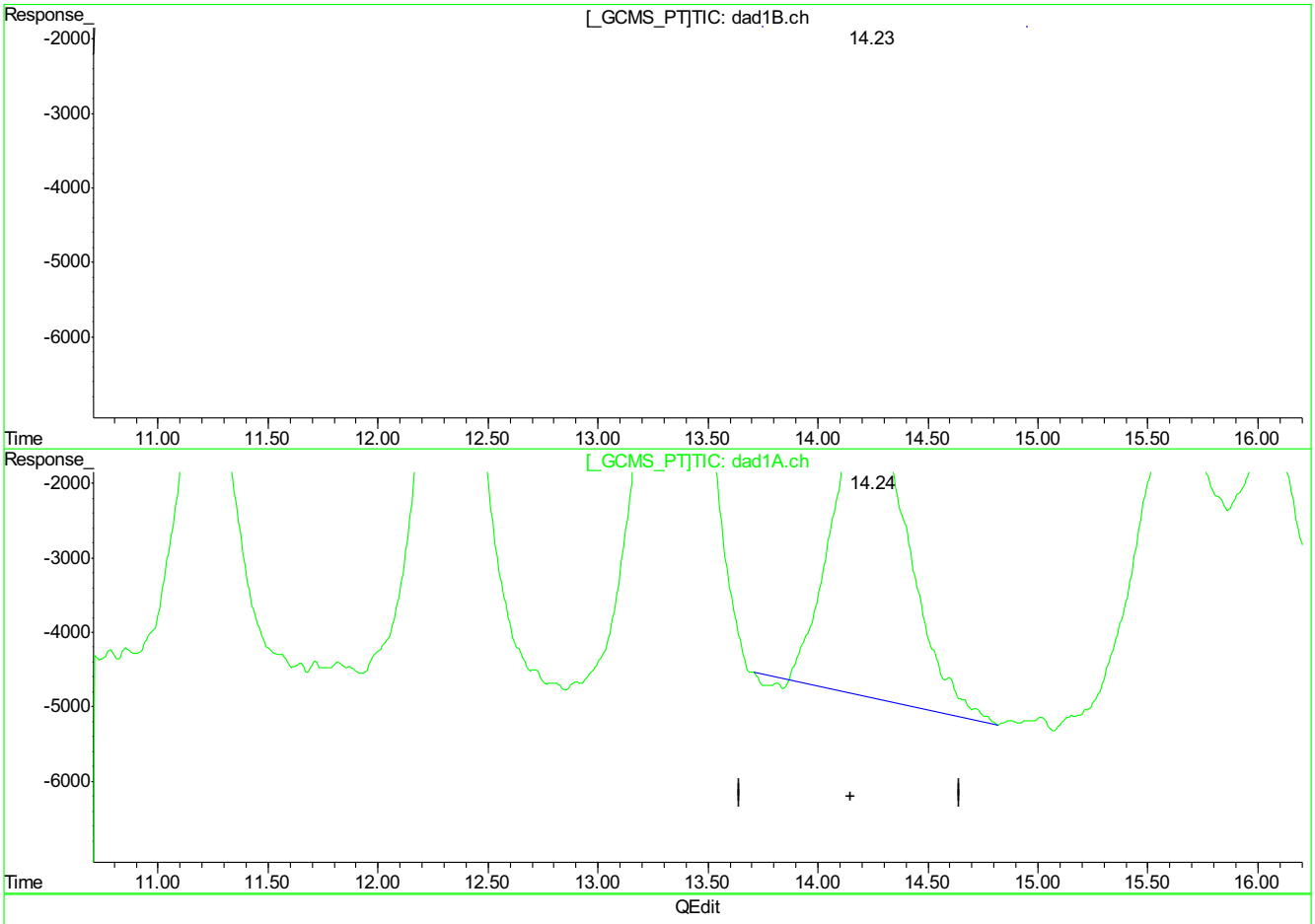
response 1633633

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:41 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.23min 98.829ppb

response 692380

(11) Tetryl #2

14.24min 83.308ppb

response 943644

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:48 2017

9.5.17.4

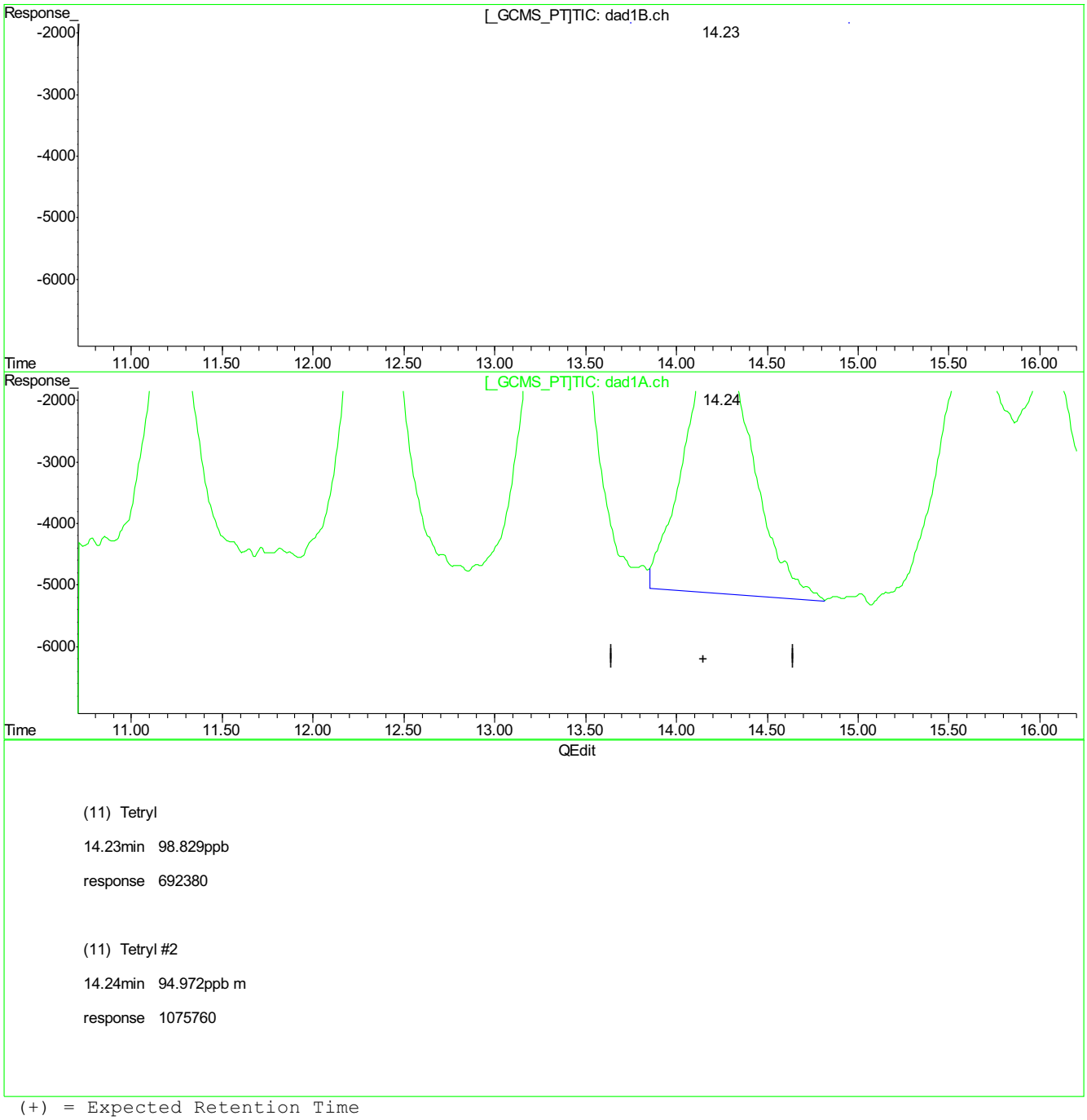
9

PP381823.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.23min 98.829ppb

response 692380

(11) Tetryl #2

14.24min 94.972ppb m

response 1075760

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:44:54 2017

9.5.17.5

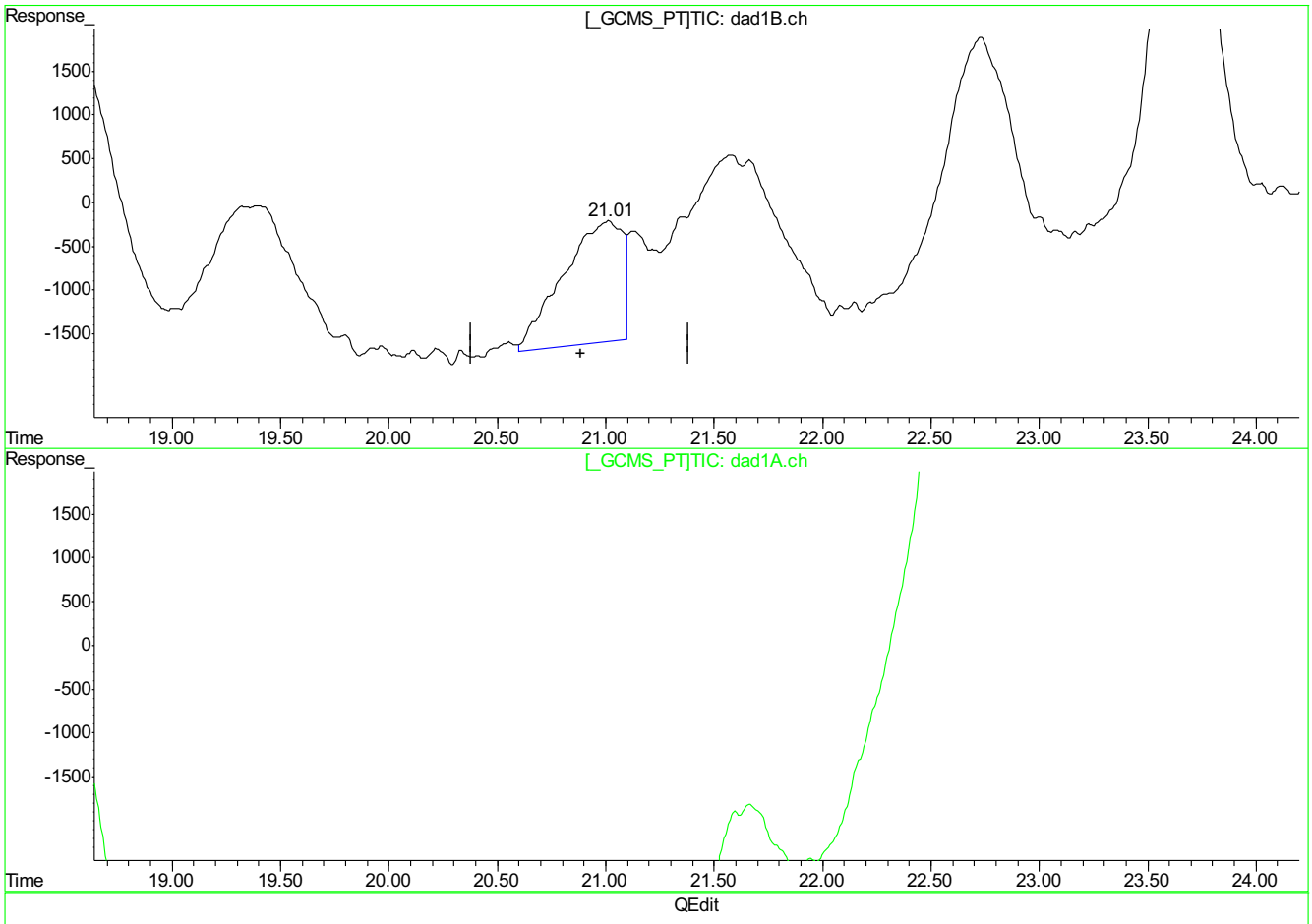
9

PP381823.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.01min 52.048ppb

response 264245

(17) p-Nitrotoluene #2

21.04min 27.920ppb

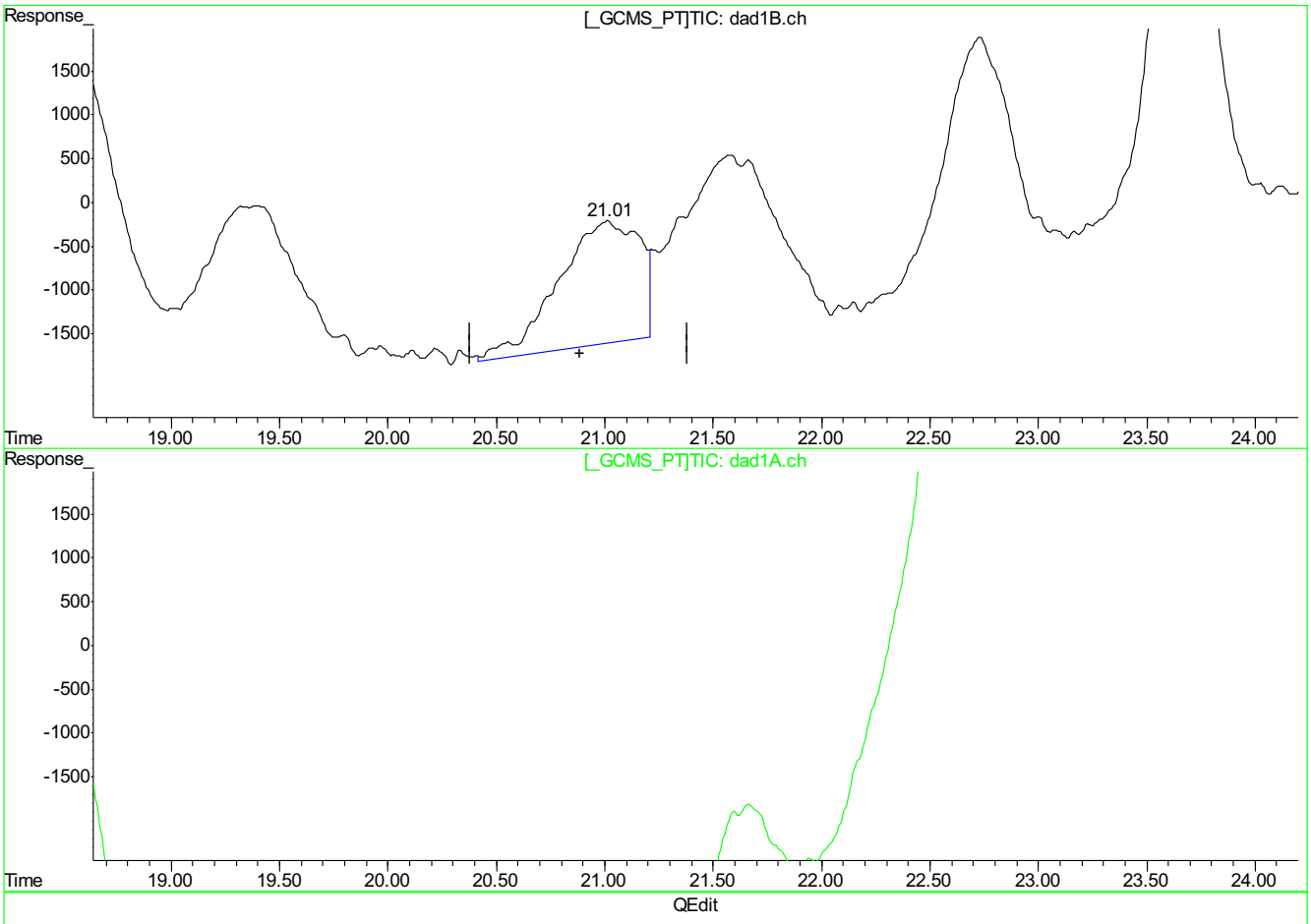
response 161193

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:45:39 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

21.01min 72.155ppb m

response 365368

(17) p-Nitrotoluene #2

21.04min 27.920ppb

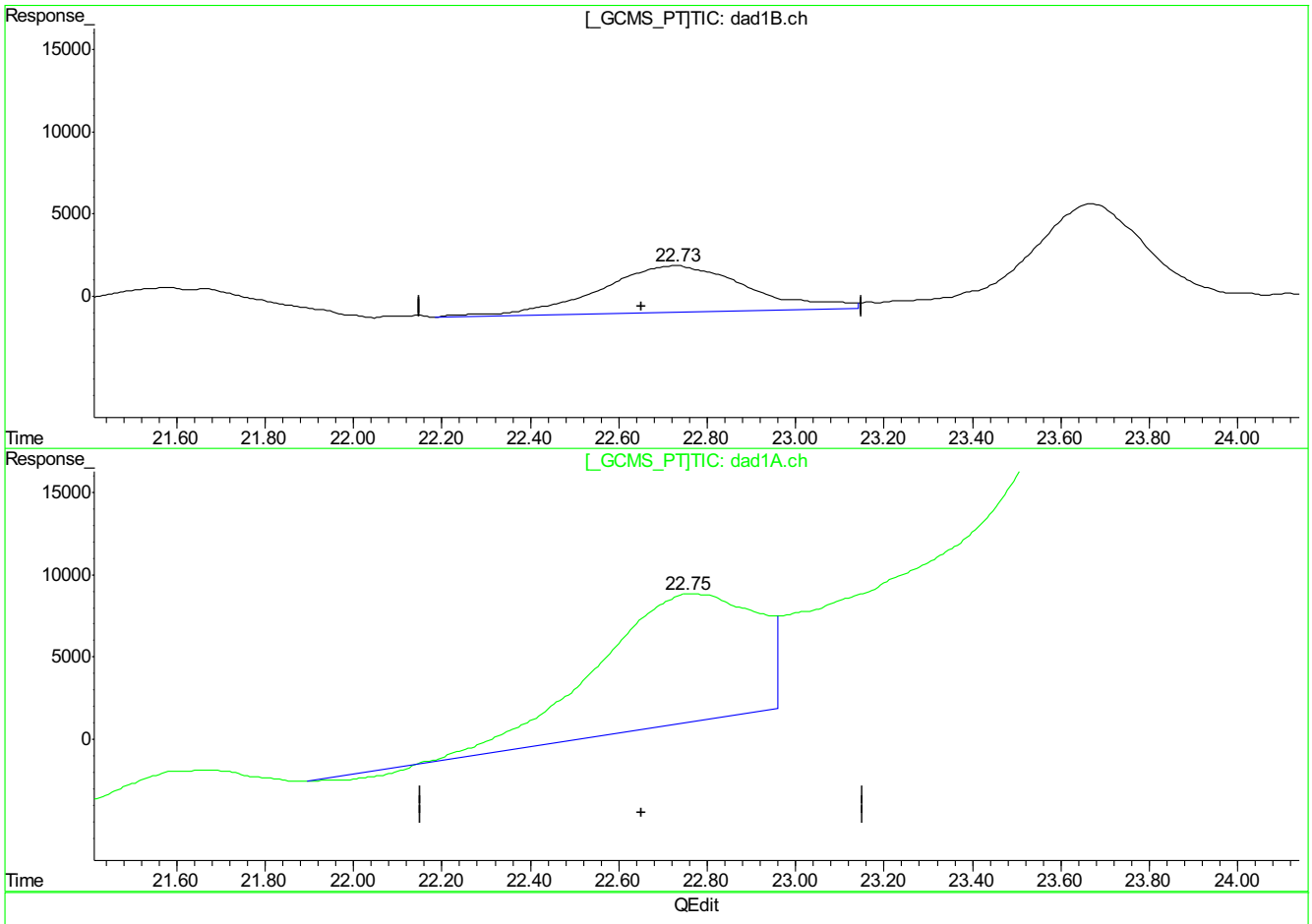
response 161193

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:45:47 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.73min 99.840ppb

response 655738

(19) m-Nitrotoluene #2

22.77min 152.611ppb

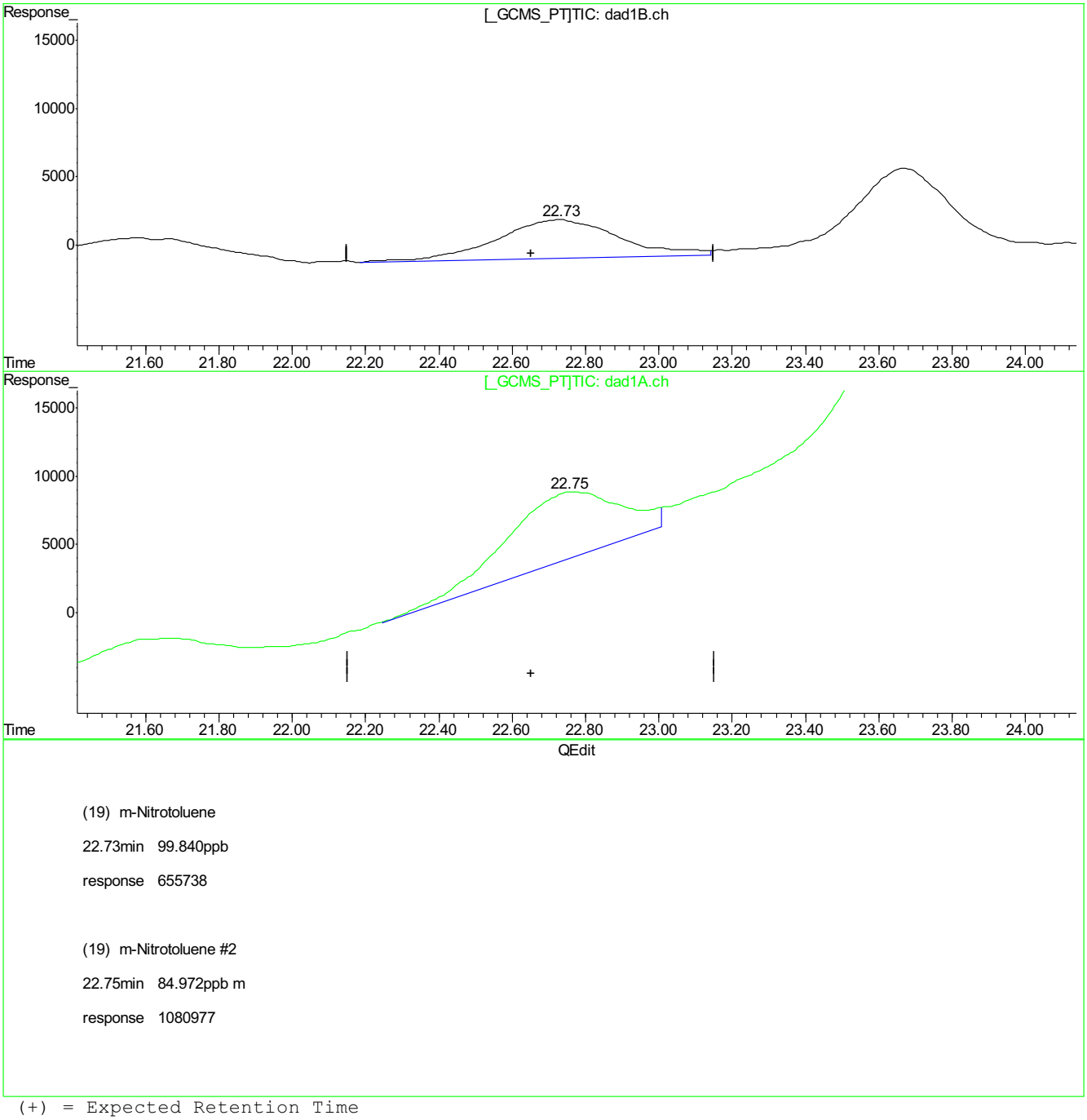
response 1930806

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:00 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.73min 99.840ppb

response 655738

(19) m-Nitrotoluene #2

22.75min 84.972ppb m

response 1080977

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:08 2017

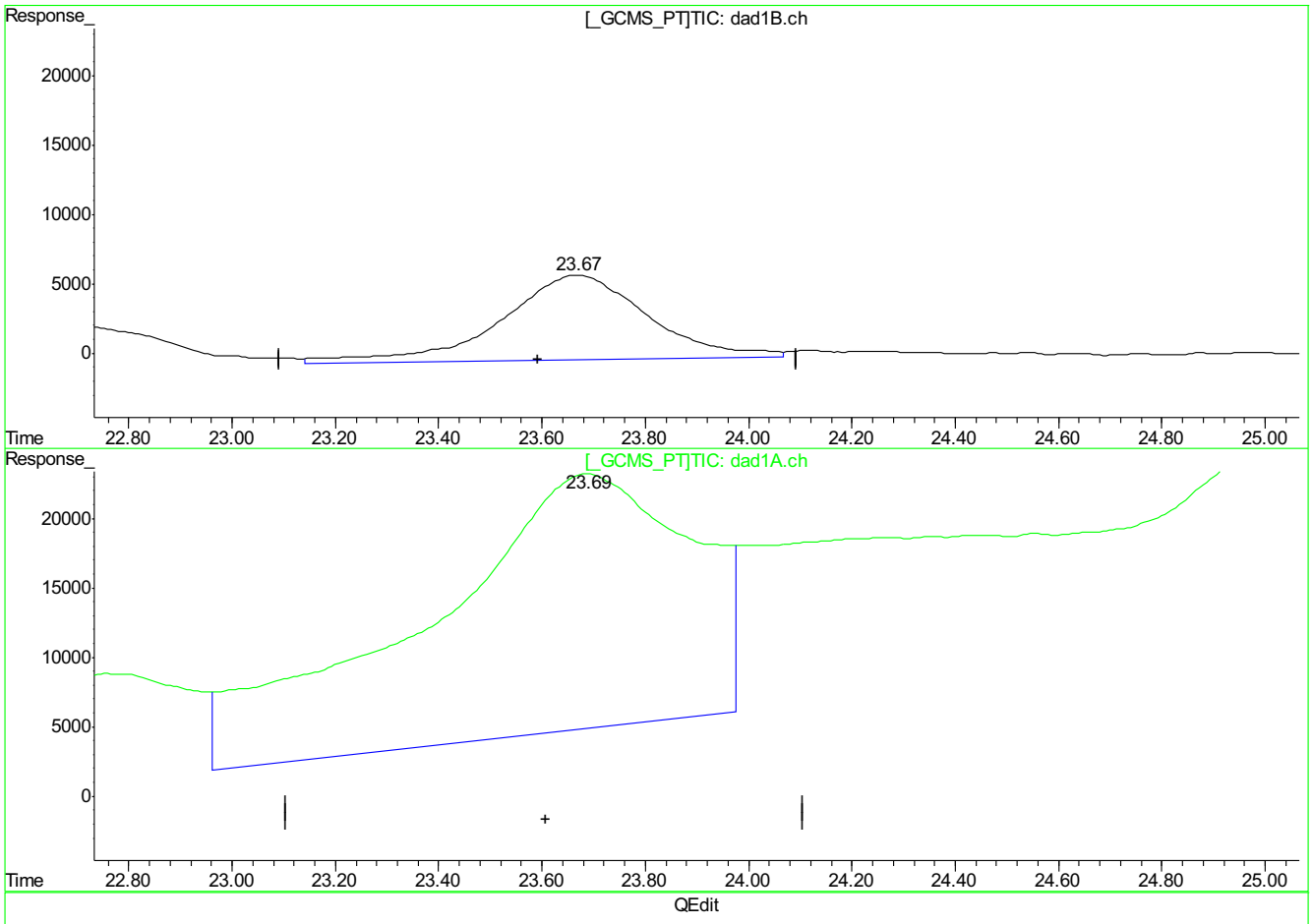
9.5.17.9

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.67min 129.254ppb

response 1190270

(20) 2-Amino-4,6-Dinitrotoluene #2

23.69min 522.530ppb

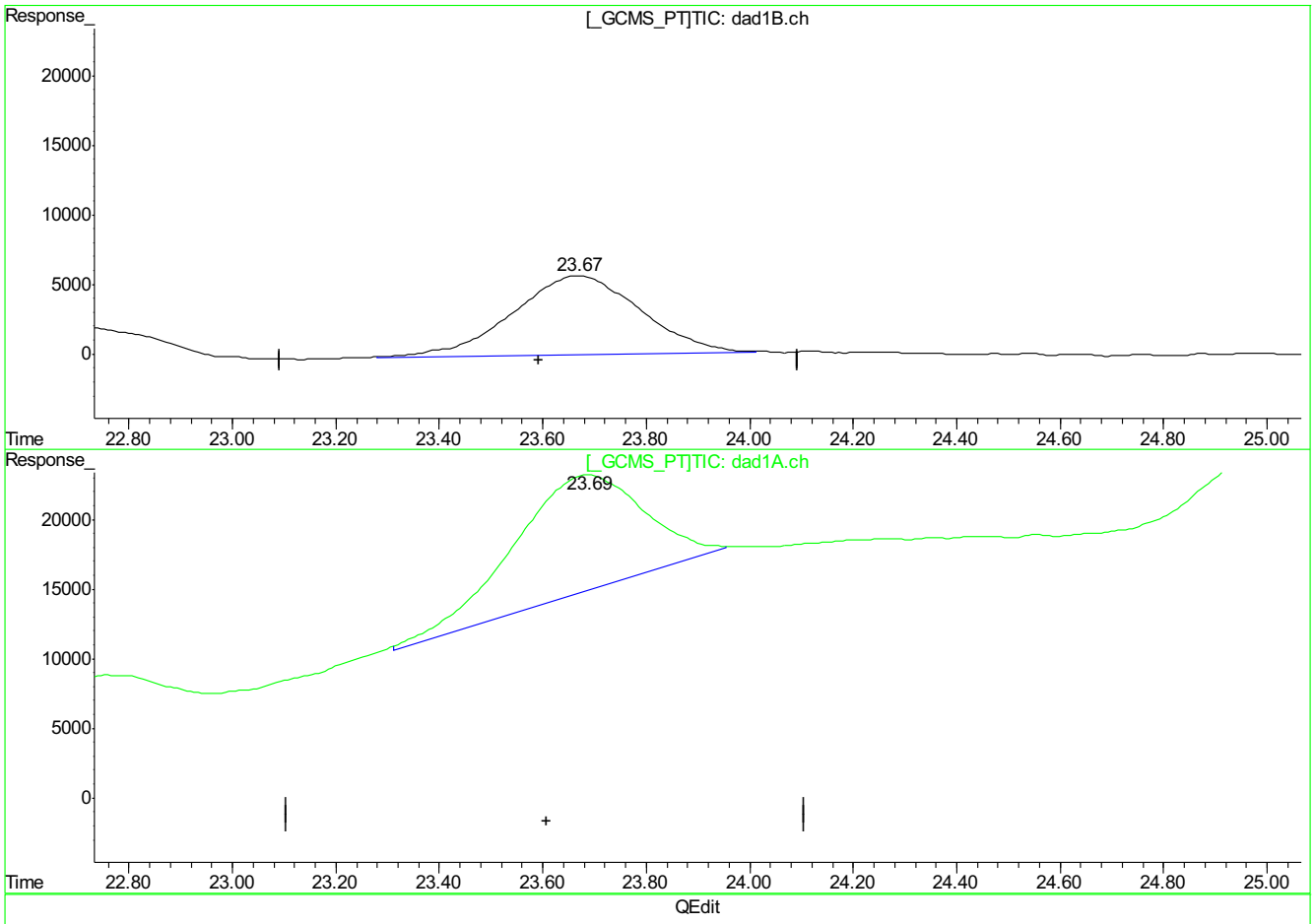
response 6658861

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:18 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.67min 105.415ppb m

response 970740

(20) 2-Amino-4,6-Dinitrotoluene #2

23.69min 115.772ppb m

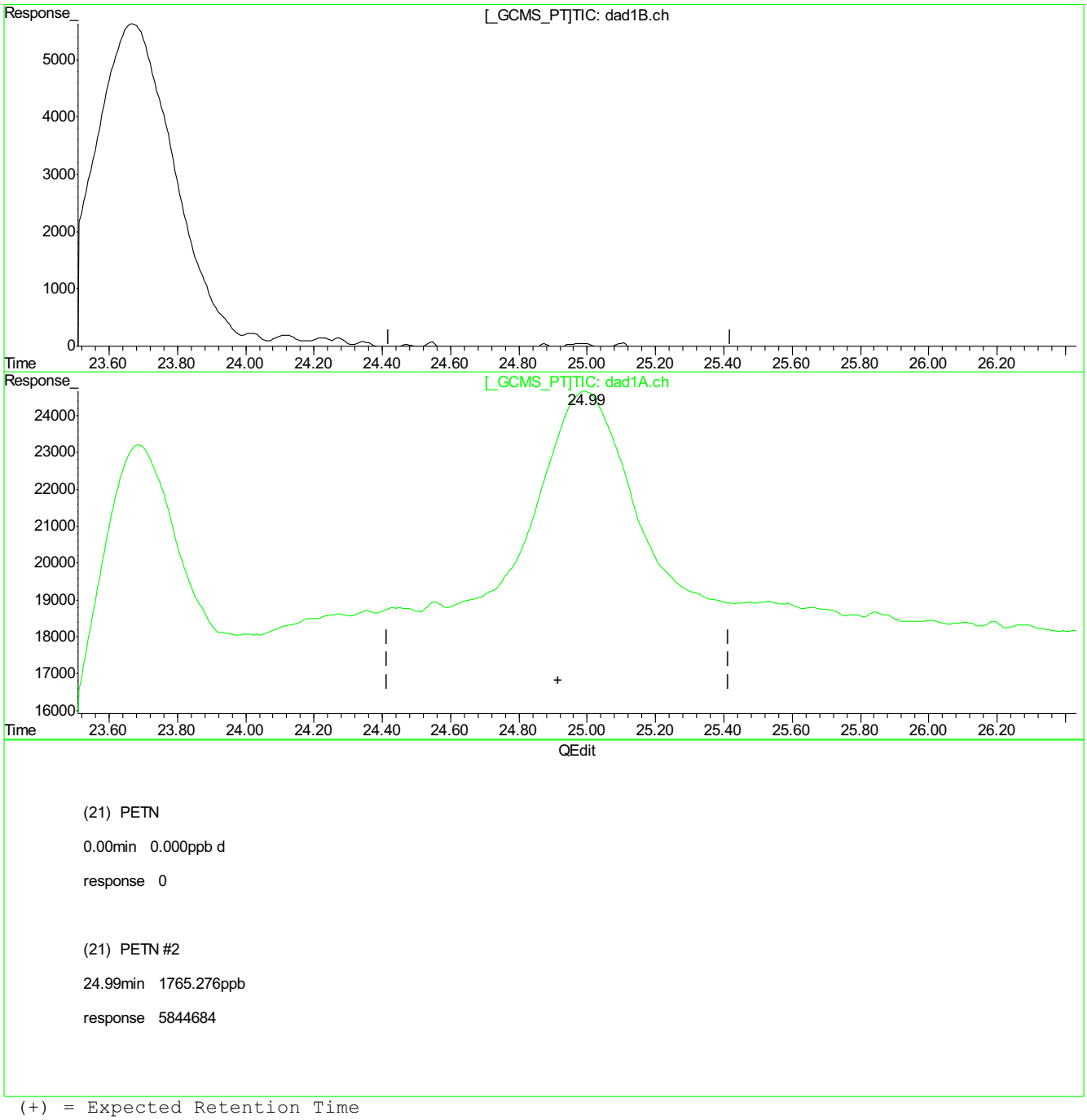
response 1475343

(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:34 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:38 2017

9.5.17.12

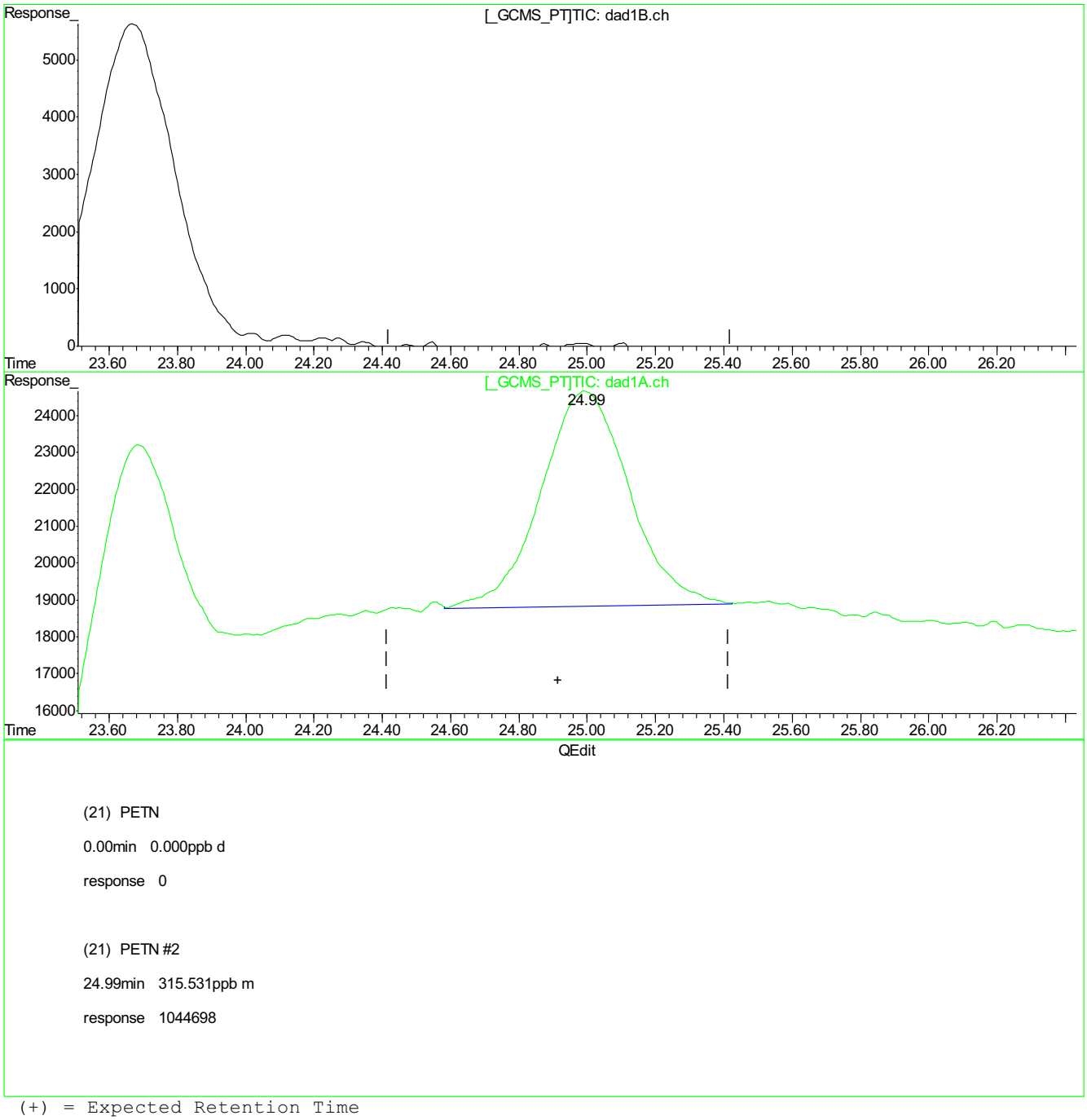
9

PP381823.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381823.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0424_RPB\PP381823.D\dad1A.ch
Acq On : 24-Apr-2017, 13:33:00 Operator: evitam
Sample : ic2096-100 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:44 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:43:51 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381823.D 0424_8330RPB.M Tue Apr 25 09:46:42 2017

9.5.17.13

9

PP381823.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14:05 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.52	15.53	1070885	2075372	186.254	172.276
	Spiked Amount 500.000	Range 70 - 136		Recovery =		37.25%#	34.46%#
	Target Compounds						
1)	TNX	4.76	4.76	1667573	2577322	157.005m	163.344
2)	HMX	5.15	5.15	773722	2157555	164.924	155.144
3)	DNX	5.31	5.31	1593650	2884295	161.924	191.697
4)	MNX	6.42	6.43	1084346	1716786	157.901	146.927
5)	1,3,5-Trinitrobe	7.46	7.46	1926877	3275675	155.593	155.254
6)	RDX	7.88	7.88	939538	1708811	159.308	159.679
7)	1,3-Dinitrobenze	10.05	10.05	2605750	1879291	158.808	152.097
8)	Nitrobenzene	11.16	11.16	1595116	1488318	161.080	154.822
9)	2,4,6-Trinitroto	12.27	12.27	1850958	2293736	157.554	153.101
10)	Nitroglycerin	0.00	13.27	0	2988556	N.D. d	790.299m
11)	Tetryl	14.13	14.15	1153687	1810764	135.517	137.982m
13)	2,6-Dinitrotolue	15.96	15.96	1255517	1826864	142.066	150.055
14)	2,4-Dinitrotolue	16.84	16.84	2379224	1745827	155.180	153.324
15)	o-Nitrotoluene	19.25	19.24	994291	1450474	161.714	163.768
16)	3,5-Dinitroanili	18.45	18.44	1817932	3053736	149.475	155.655
17)	p-Nitrotoluene	20.89	20.86	662199	739909	121.631	115.418m
18)	4-Amino-2,6-Dini	21.47	21.48	1191156	1313761	163.338	123.862
19)	m-Nitrotoluene	22.65	22.65	1068490	1823985	150.420	131.109m
20)	2-Amino-4,6-Dini	23.60	23.61	1988586	2508647	157.315	147.859m
21)	PETN	0.00	24.92	0	1417125	N.D. d	403.655m

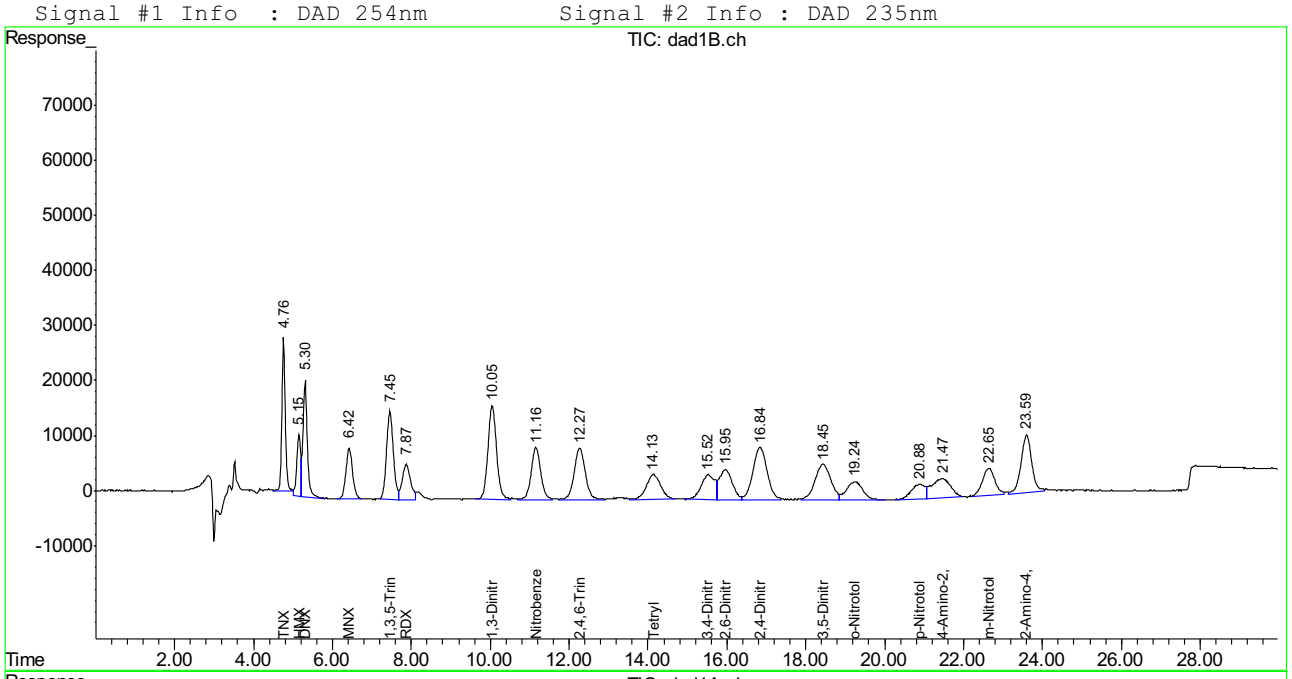
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381824.D 0424_8330RPB.M Tue Apr 25 10:59:41 2017 Page 1

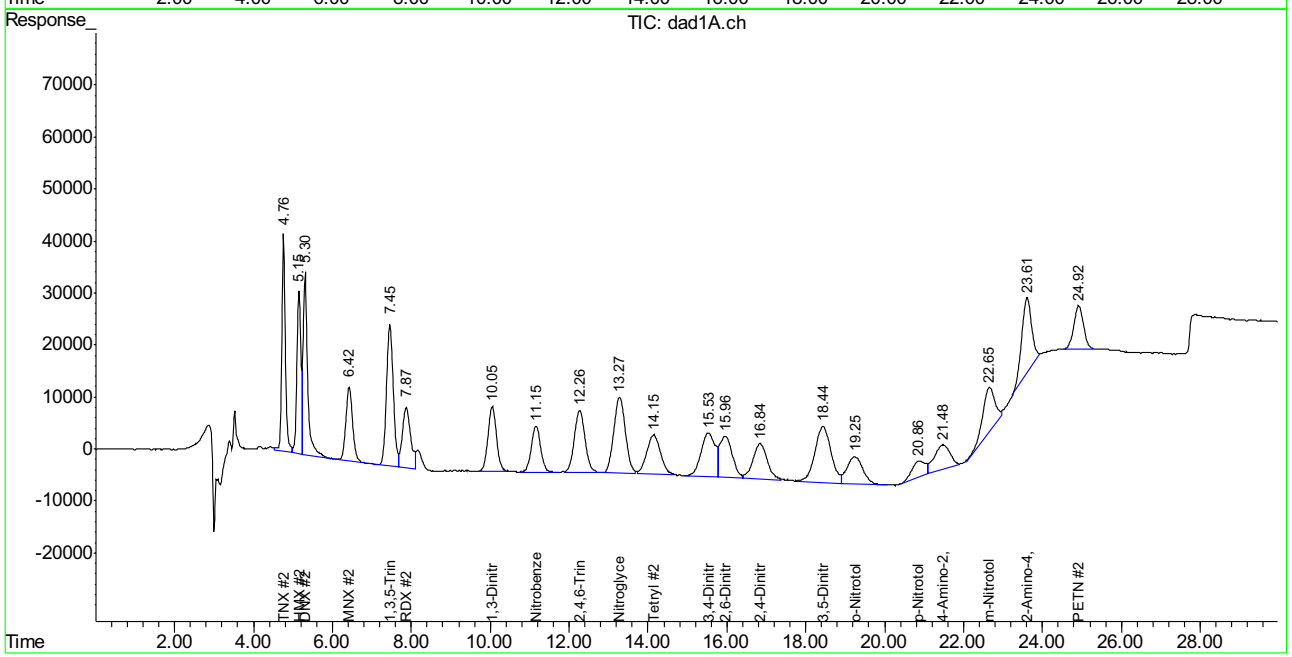
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:45 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

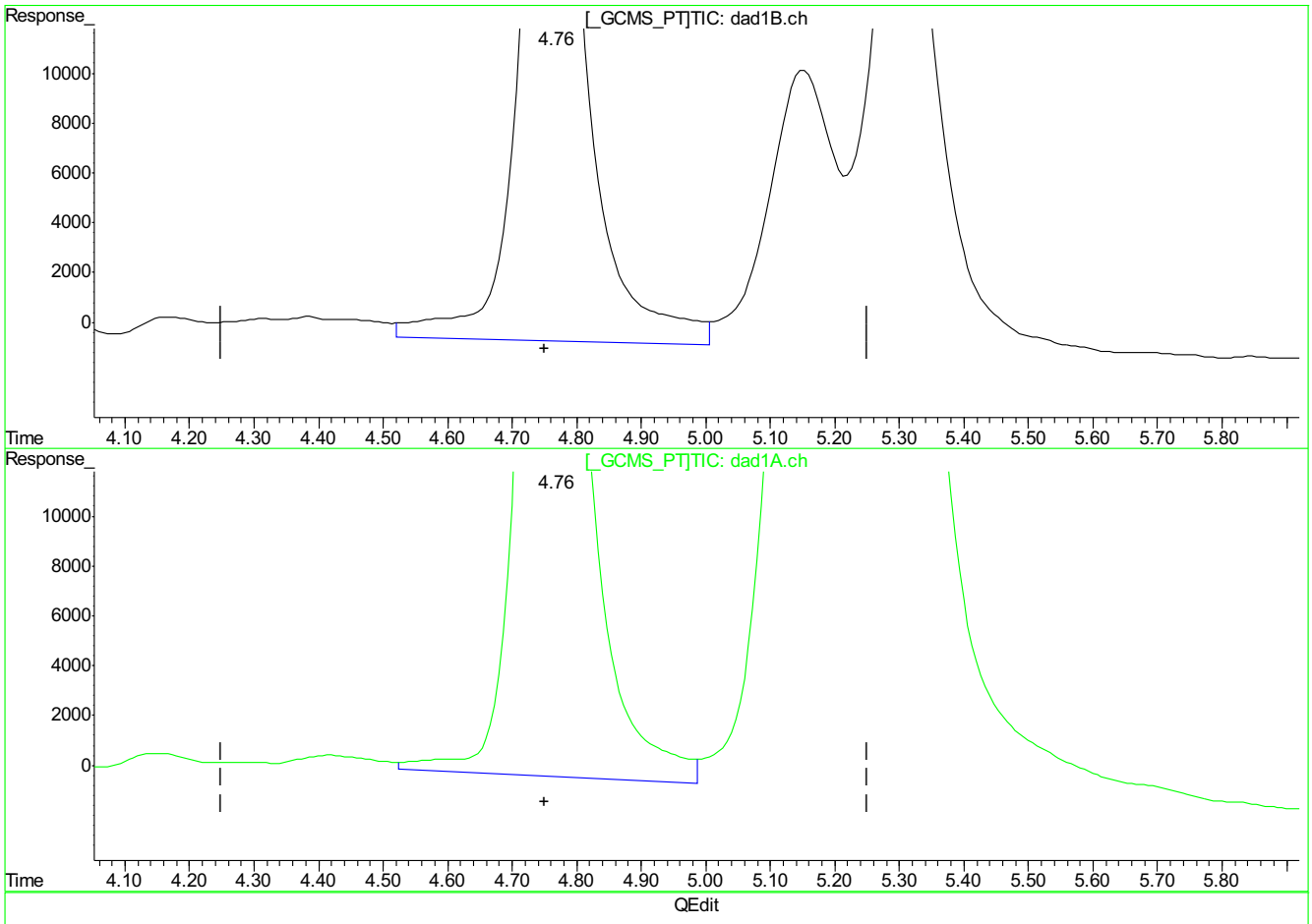
Sample Number: GPP2096-IC2096
Lab FileID: PP381824.D
Injection Time: 04/24/17 14:05
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.76	Poorly defined baseline
Nitroglycerine	55-63-0	2	13.27	Poorly defined baseline
Tetryl	479-45-8	2	14.15	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.86	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.65	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.61	Poorly defined baseline
PETN	78-11-5	2	24.92	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(1) TNX

4.76min 175.013ppb

response 1858841

(1) TNX #2

4.76min 163.344ppb

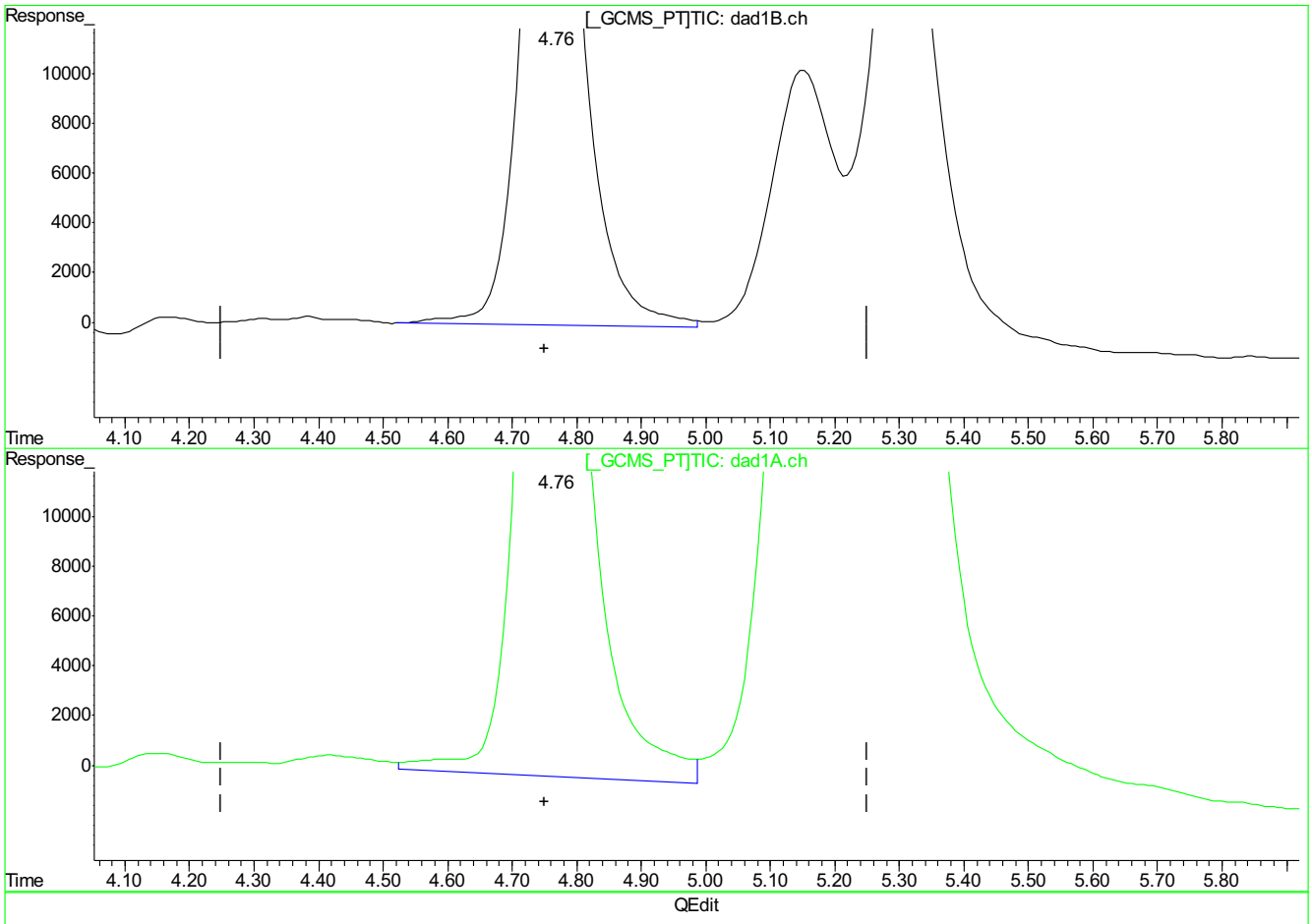
response 2577322

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:11 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(1) TNX

4.76min 157.005ppb m

response 1667573

(1) TNX #2

4.76min 163.344ppb

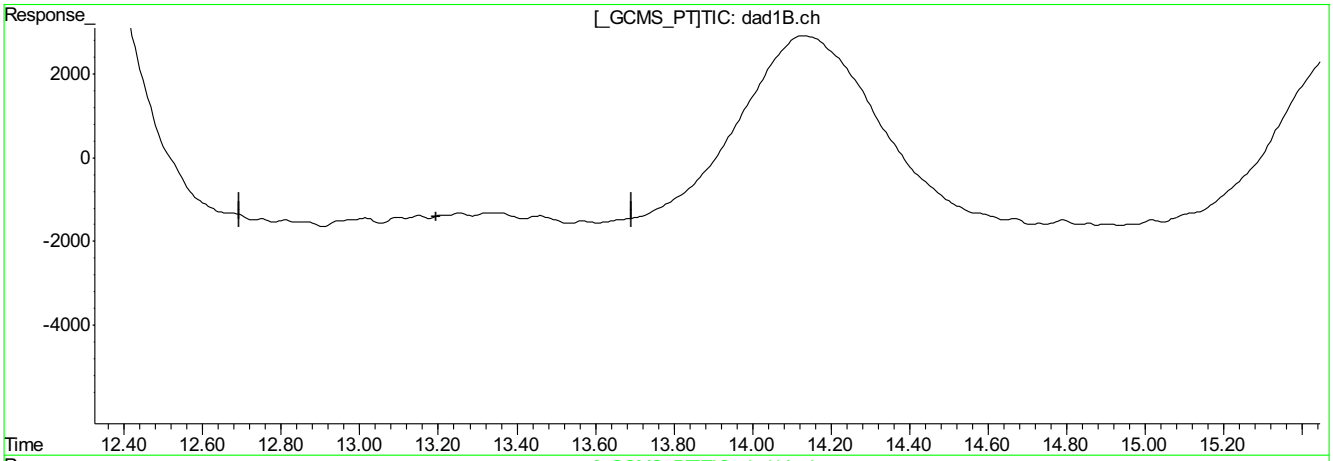
response 2577322

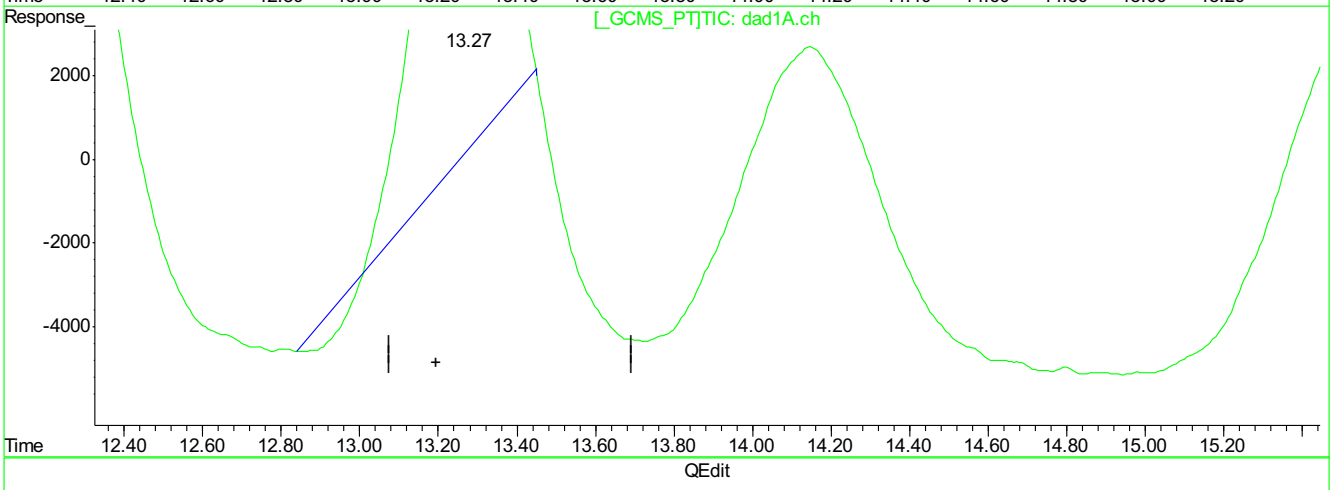
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:14 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.28min 373.726ppb

response 1413265

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:27 2017

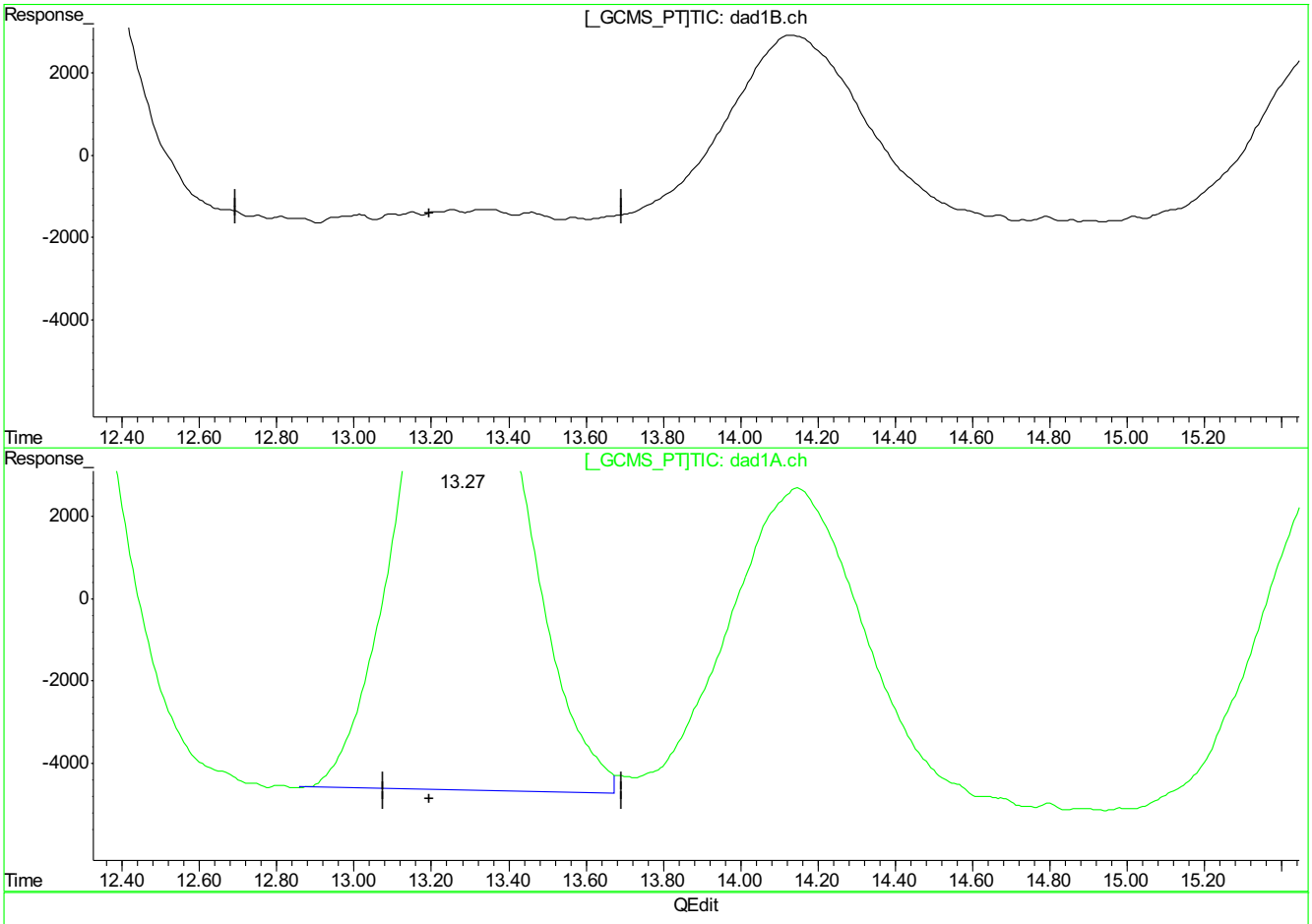
9.5.18.4

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.27min 790.299ppb m

response 2988556

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:32 2017

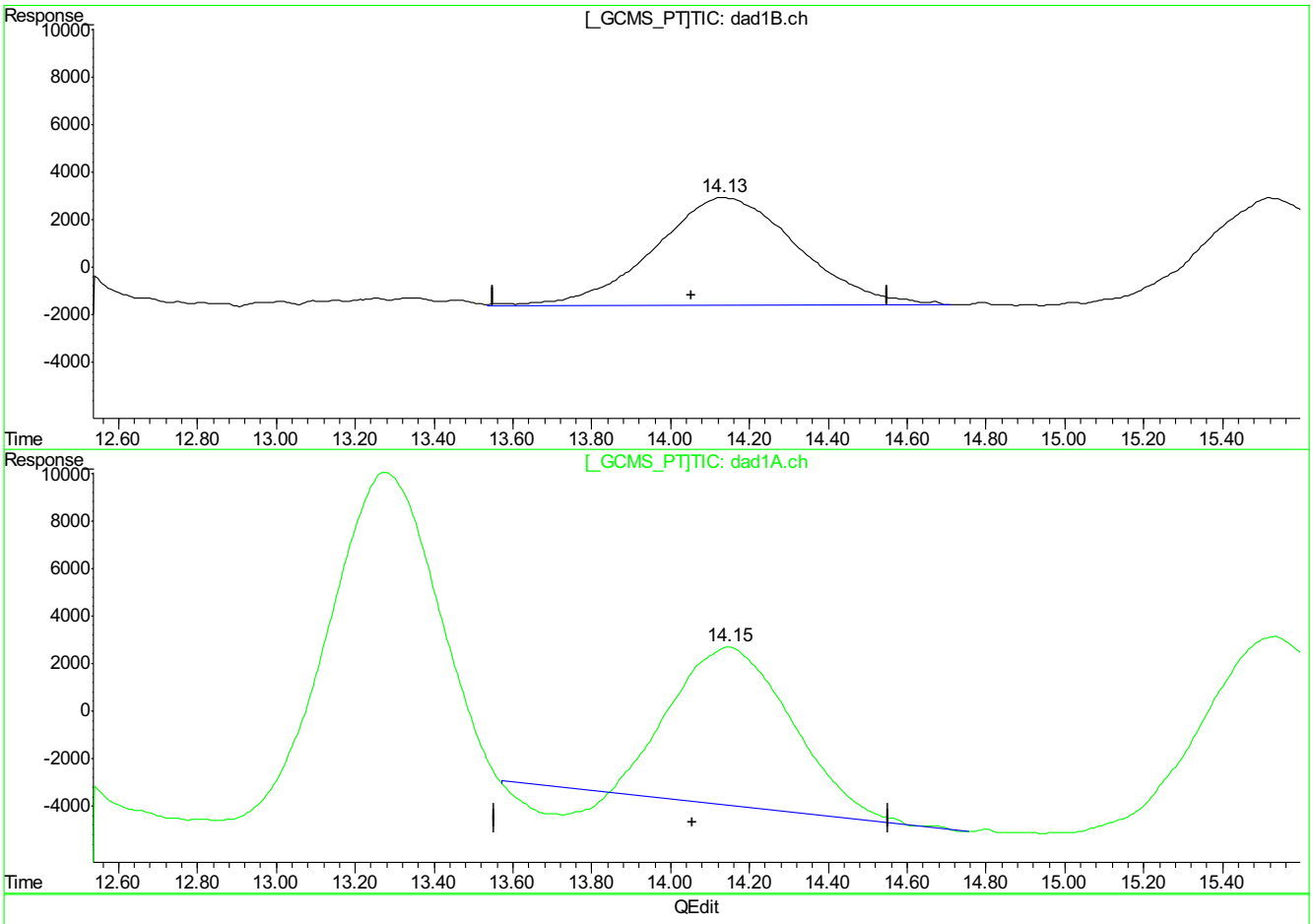
9.5.18.5

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.13min 135.517ppb

response 1153687

(11) Tetryl #2

14.15min 100.548ppb

response 1319510

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:36 2017

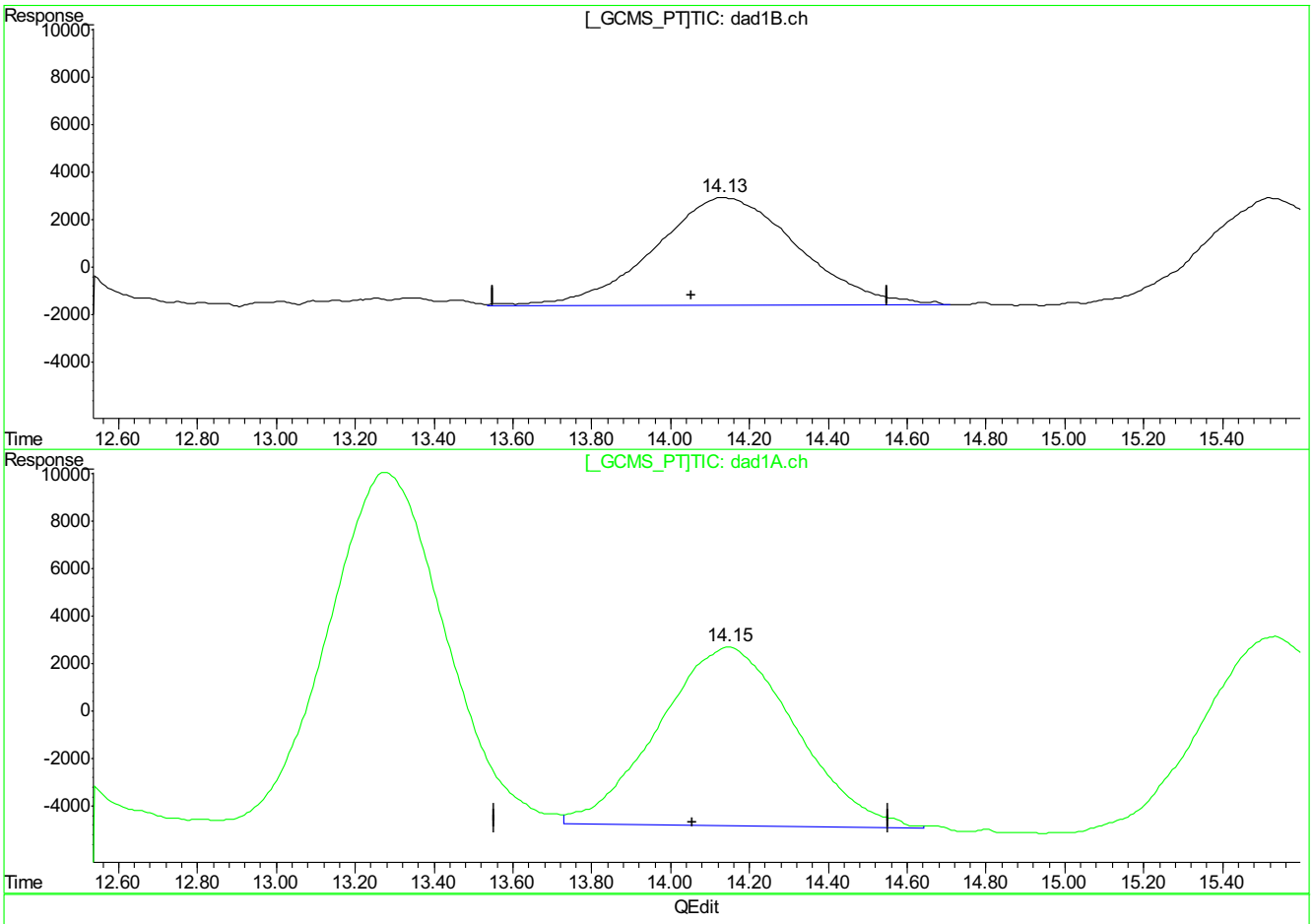
9.5.18.6

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.13min 135.517ppb

response 1153687

(11) Tetryl #2

14.15min 137.982ppb m

response 1810764

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:14:42 2017

9.5.18.7

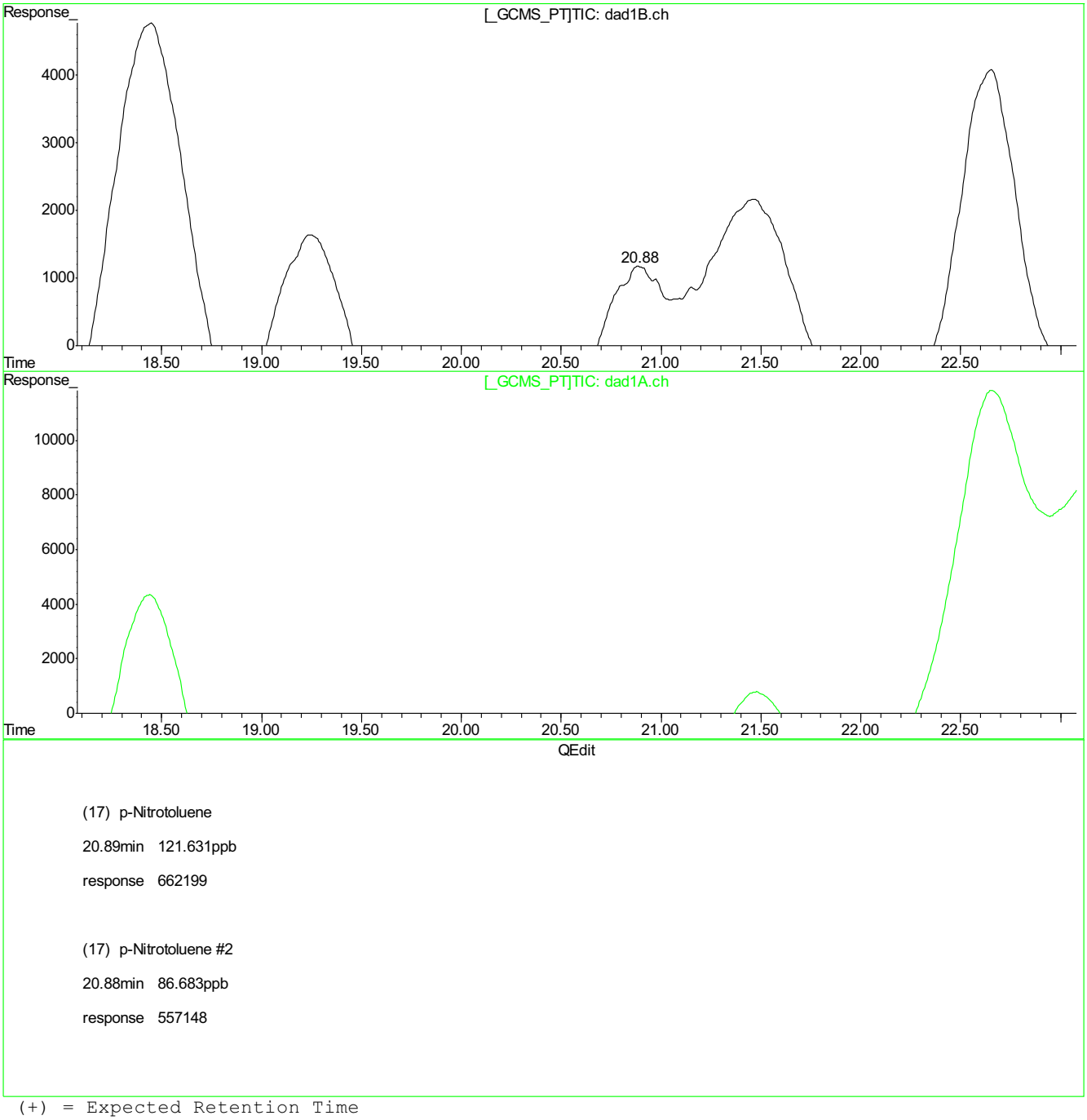
9

PP381824.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

20.89min 121.631ppb

response 662199

(17) p-Nitrotoluene #2

20.88min 86.683ppb

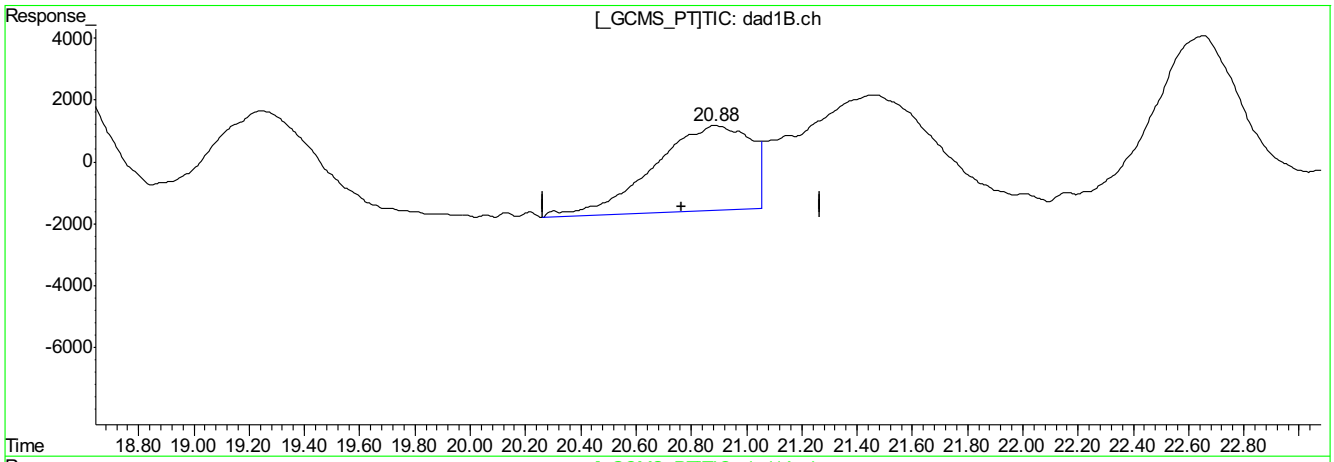
response 557148

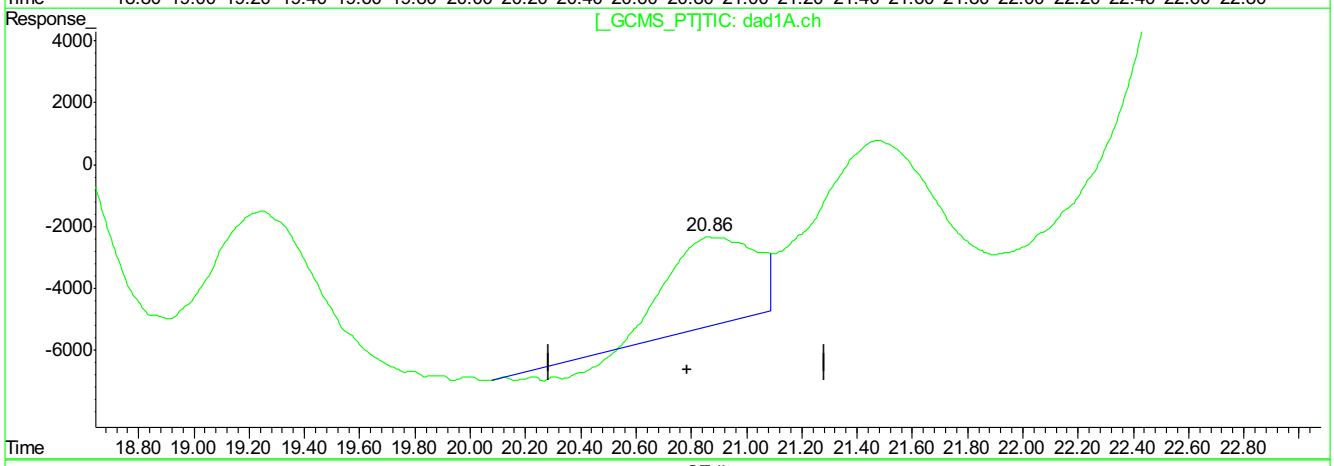
(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:15:10 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch         Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On    : 24-Apr-2017, 14:05:26                    Operator: evitam
Sample    : ic2096-200                               Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration
```





QEdit

(17) p-Nitrotoluene

20.89min 121.631ppb

response 662199

(17) p-Nitrotoluene #2

20.88min 86.683ppb

response 557148

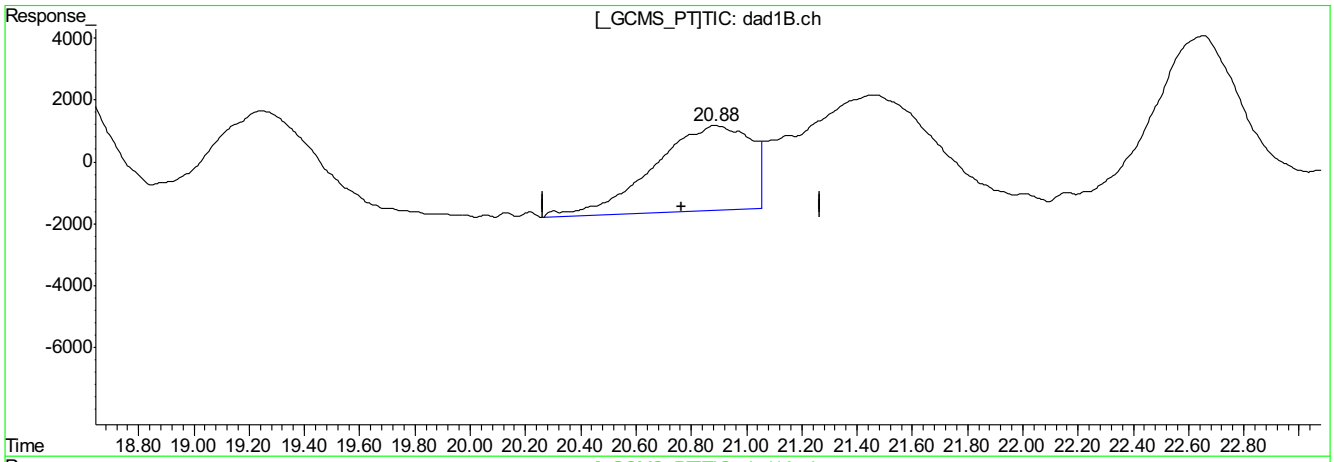
(+) = Expected Retention Time

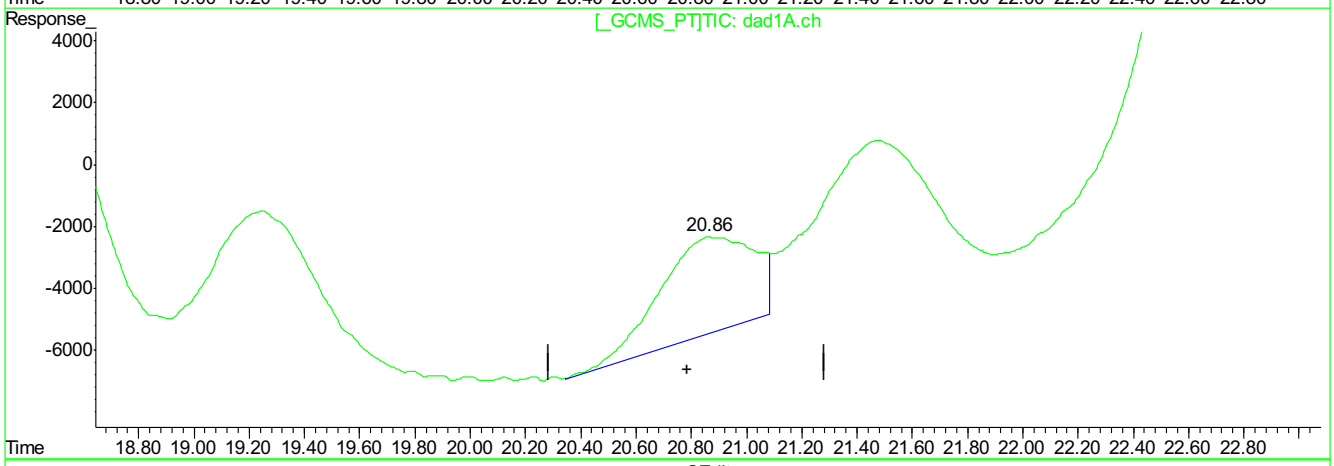
PP381824.D 0424_8330RPB.M Tue Apr 25 10:15:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

20.89min 121.631ppb

response 662199

(17) p-Nitrotoluene #2

20.86min 115.418ppb m

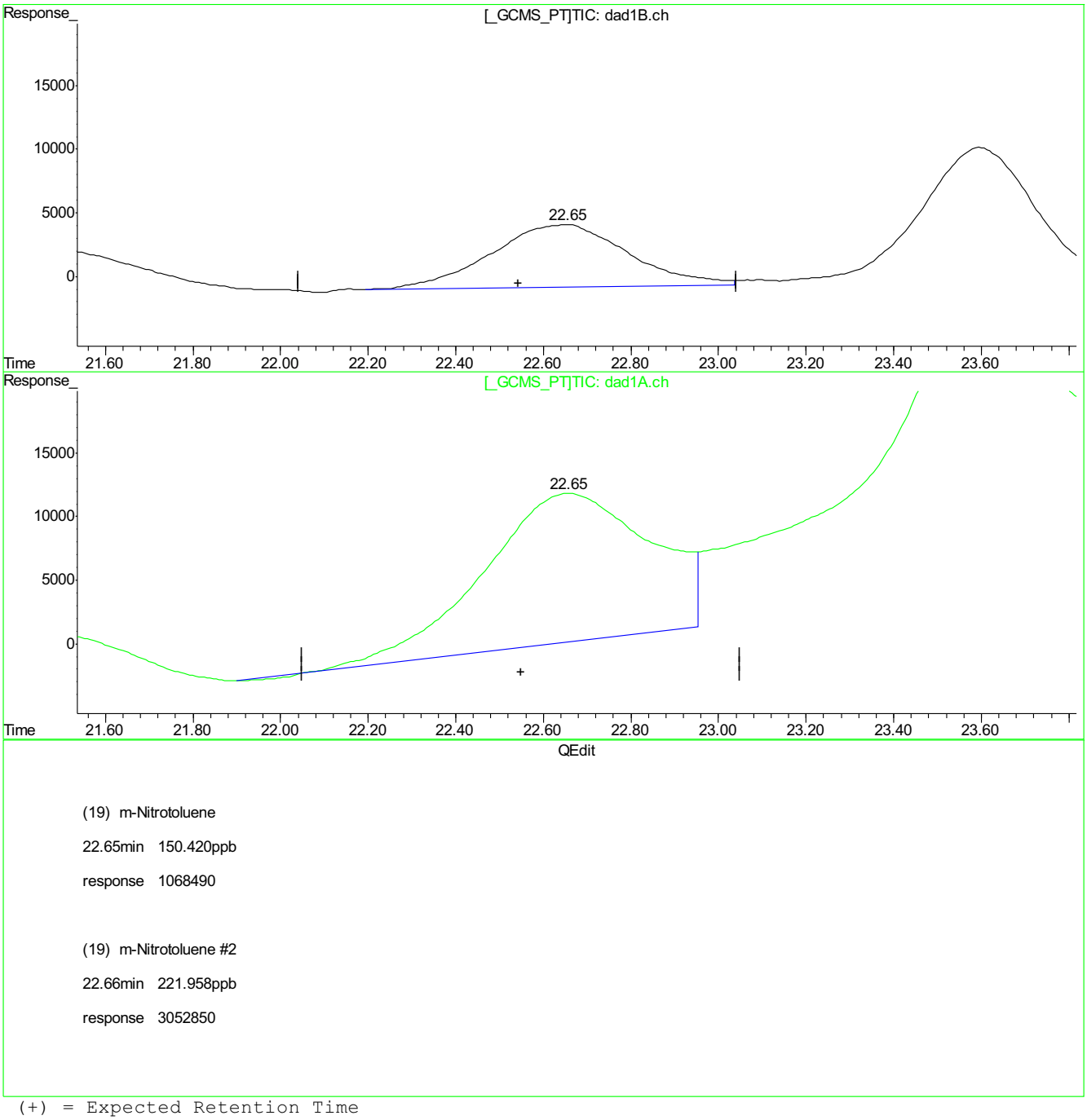
response 739909

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:15:43 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.65min 150.420ppb

response 1068490

(19) m-Nitrotoluene #2

22.66min 221.958ppb

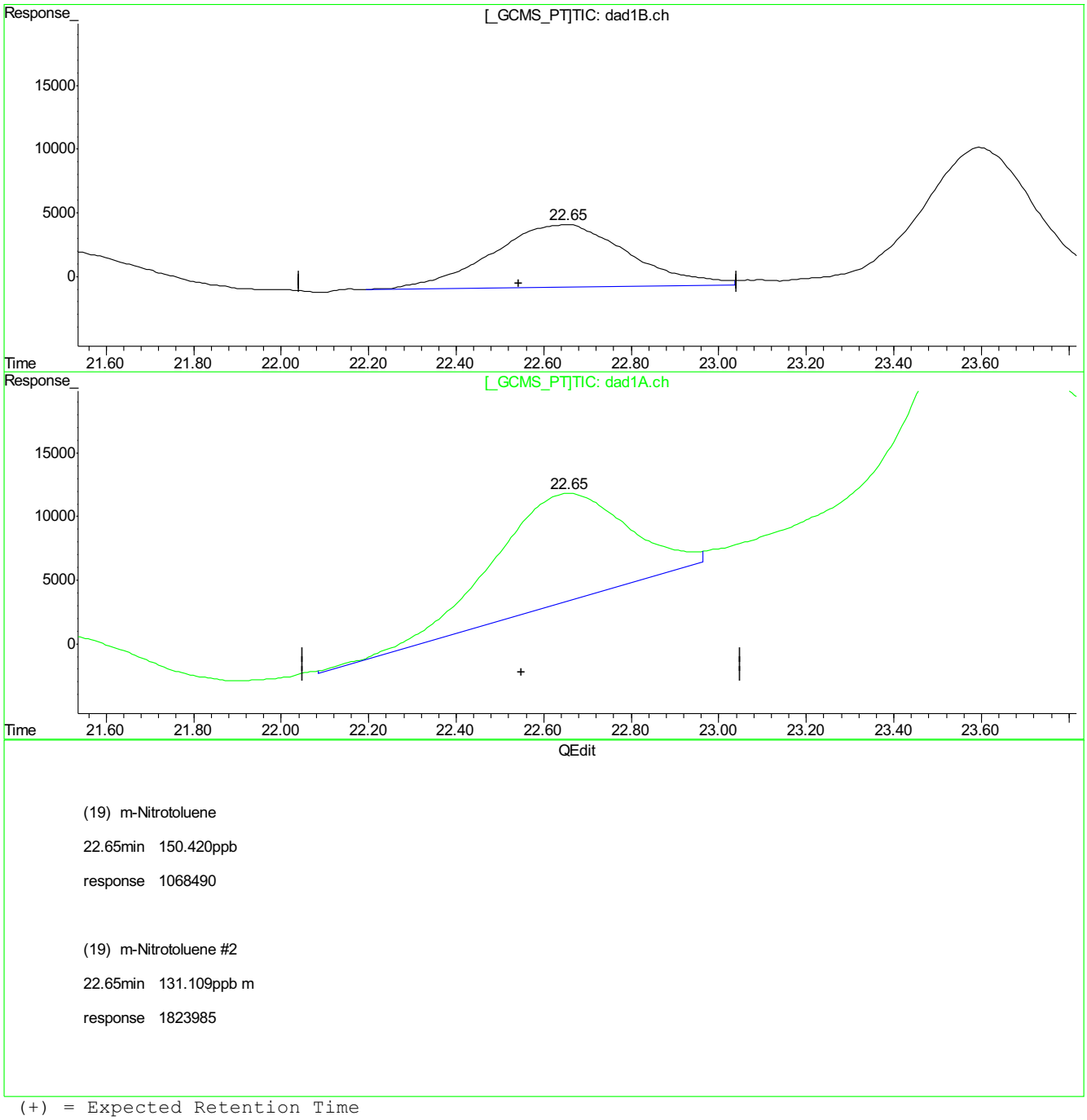
response 3052850

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:16 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.65min 150.420ppb

response 1068490

(19) m-Nitrotoluene #2

22.65min 131.109ppb m

response 1823985

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:20 2017

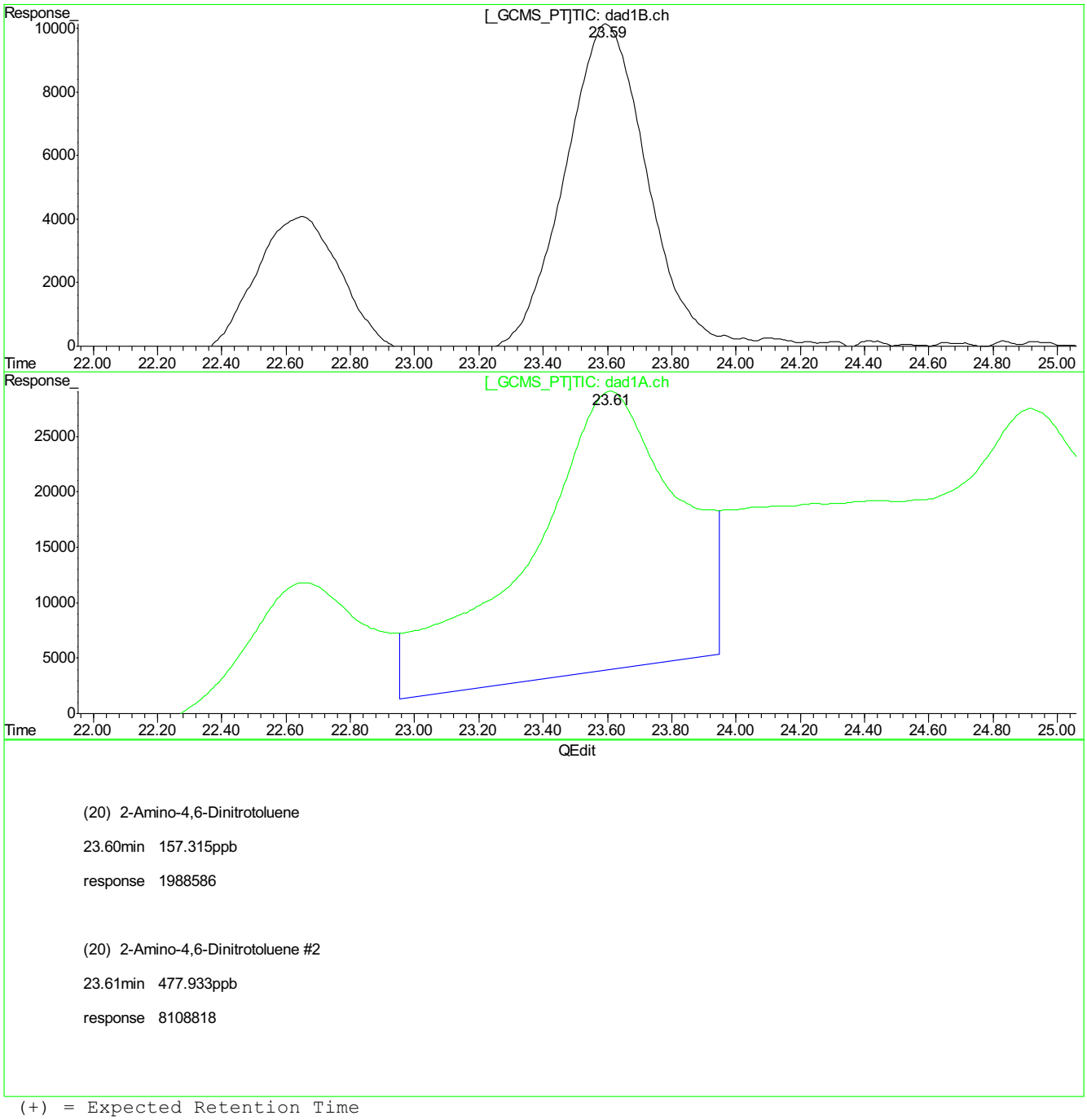
9.5.18.12

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.60min 157.315ppb

response 1988586

(20) 2-Amino-4,6-Dinitrotoluene #2

23.61min 477.933ppb

response 8108818

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:25 2017

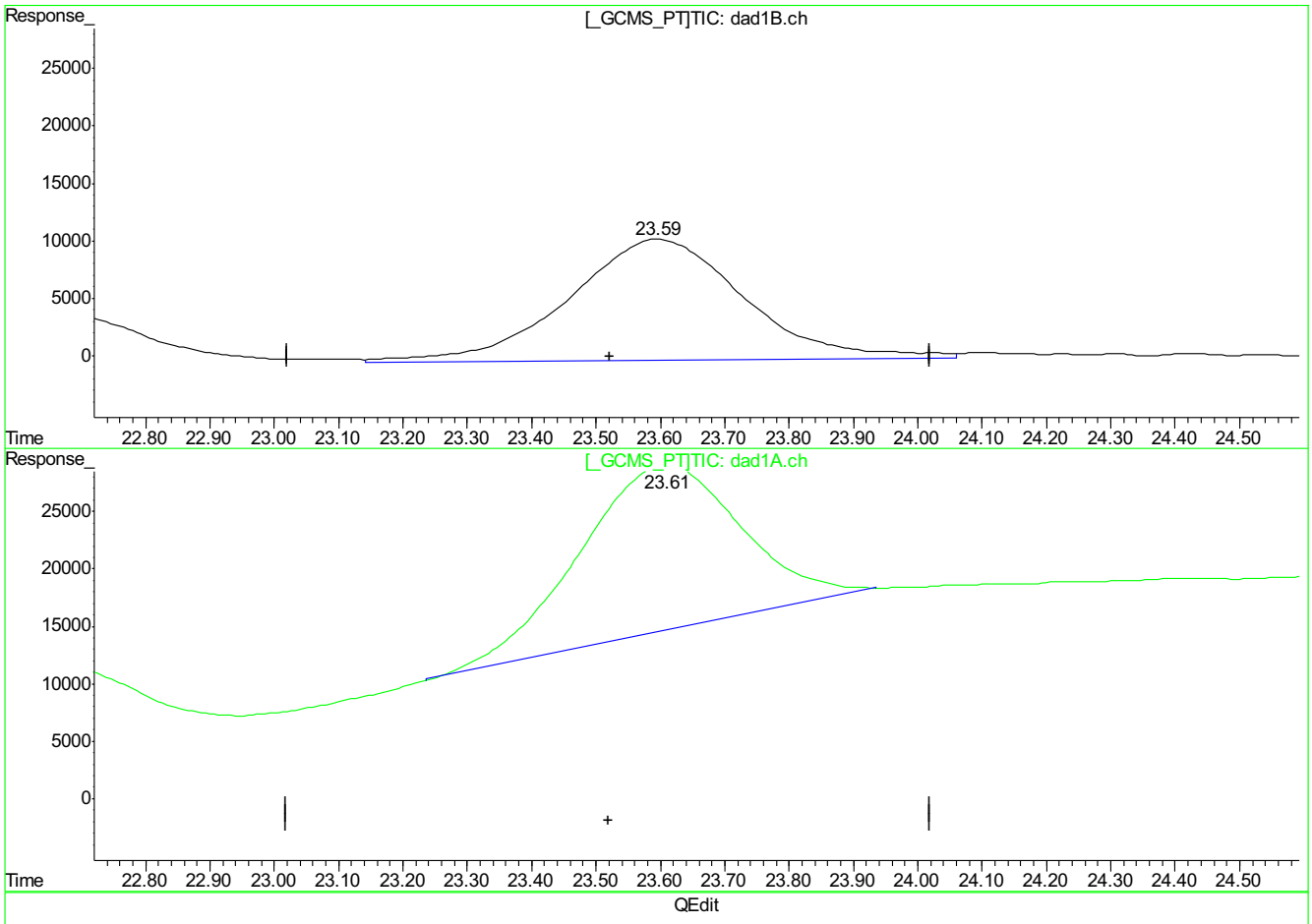
9.5.18.13

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.60min 157.315ppb

response 1988586

(20) 2-Amino-4,6-Dinitrotoluene #2

23.61min 147.859ppb m

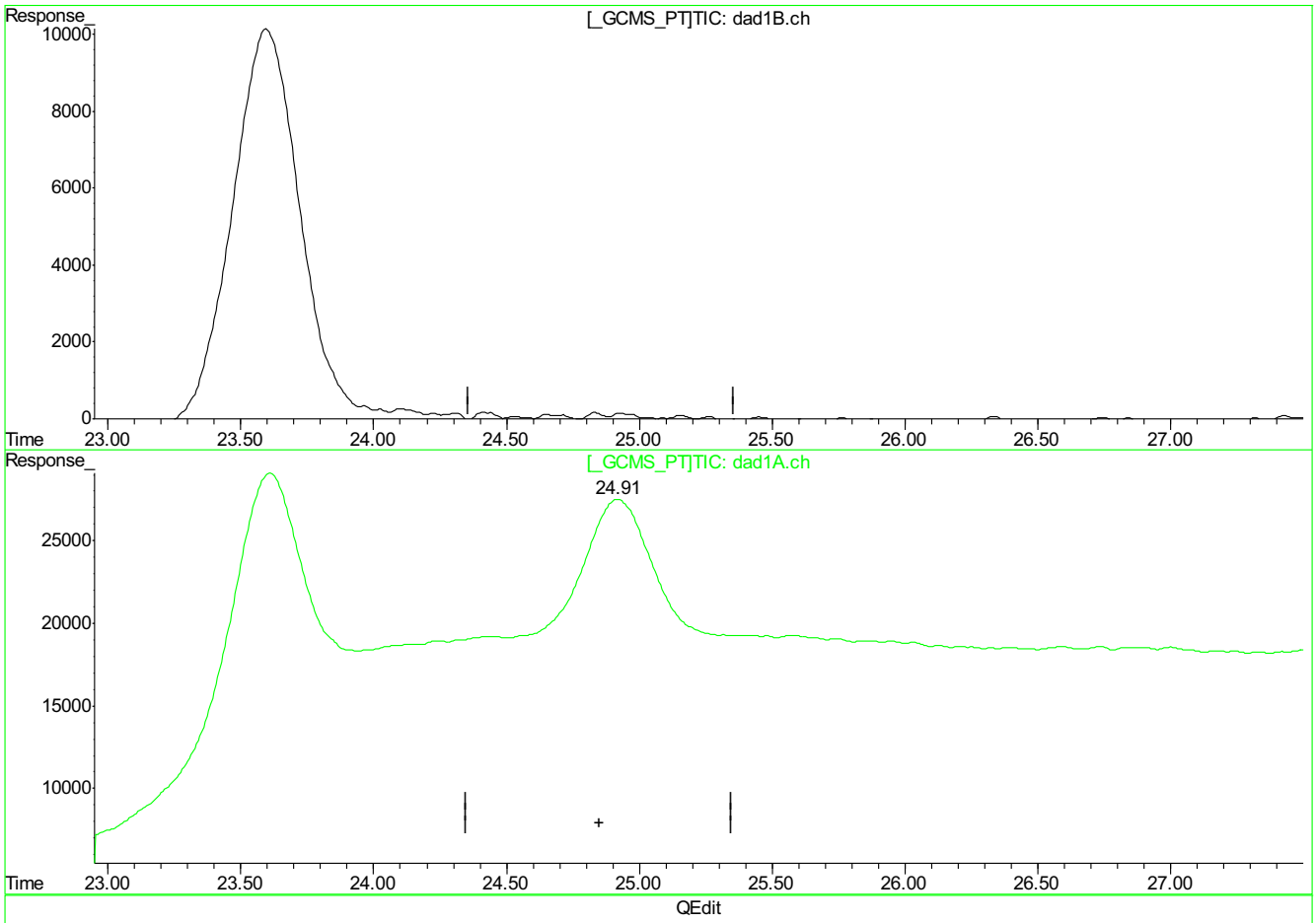
response 2508647

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.92min 4074.906ppb

response 14305895

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:39 2017

9.5.18.15

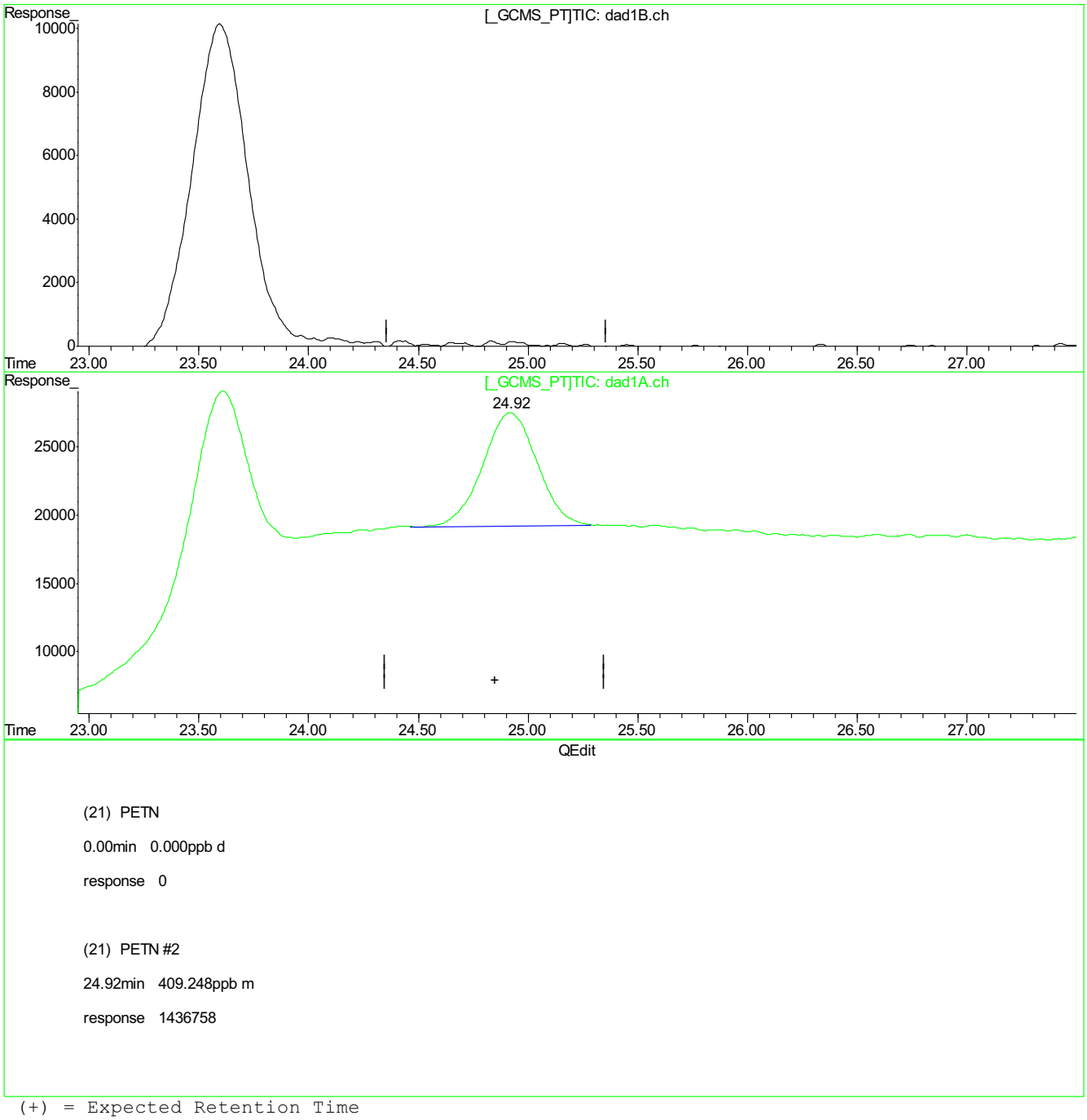
9

PP381824.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381824.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0424_RPB\PP381824.D\dad1A.ch
Acq On : 24-Apr-2017, 14:05:26 Operator: evitam
Sample : ic2096-200 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:14 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:13:44 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.92min 409.248ppb m

response 1436758

(+) = Expected Retention Time
PP381824.D 0424_8330RPB.M Tue Apr 25 10:16:44 2017

9.5.18.16

9

PP381824.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11:51 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.43	15.43	2796935	5361271	632.521	558.257
	Spiked Amount 500.000	Range 70 - 136		Recovery =		126.50%	111.65%
	Target Compounds						
1)	TNX	4.75	4.75	4556477	6743234	533.058	530.279
2)	HMX	5.14	5.14	1811487	5355932	467.749	465.964
3)	DNX	5.29	5.29	3947600	6730613	485.663	502.230
4)	MNX	6.40	6.40	2985255	4784349	541.298	504.848
5)	1,3,5-Trinitrobe	7.43	7.43	5040955	8691222	494.930	503.207
6)	RDX	7.84	7.84	2477367	4829588	514.968	572.049
7)	1,3-Dinitrobenze	10.00	10.00	6861064	5138233	511.629	510.162
8)	Nitrobenzene	11.10	11.10	4118118	3942556	504.005	495.377
9)	2,4,6-Trinitroto	12.20	12.20	4752875	6048202	489.622	488.973
10)	Nitroglycerin	0.00	13.19	0	8193596	N.D. d	2689.910m
11)	Tetryl	14.05	14.06	3203603	5252520	443.980	476.707m
13)	2,6-Dinitrotolue	15.87	15.87	3403132	4899458	459.494	483.694
14)	2,4-Dinitrotolue	16.74	16.75	6315935	4593492	503.283	484.089
15)	o-Nitrotoluene	19.13	19.14	2543777	3900359	508.622	506.276
16)	3,5-Dinitroanili	18.33	18.33	4856249	7934083	470.124	476.518
17)	p-Nitrotoluene	20.77	20.79	2040009	2856135	422.621	508.141
18)	4-Amino-2,6-Dini	21.30	21.31	3150413	5275863	481.586	608.947
19)	m-Nitrotoluene	22.54	22.55	2796695	4711480	430.252	378.161m
20)	2-Amino-4,6-Dini	23.52	23.52	4955265	6647012	475.906	475.324m
21)	PETN	0.00	24.85	0	7612051	N.D. d	2572.422m

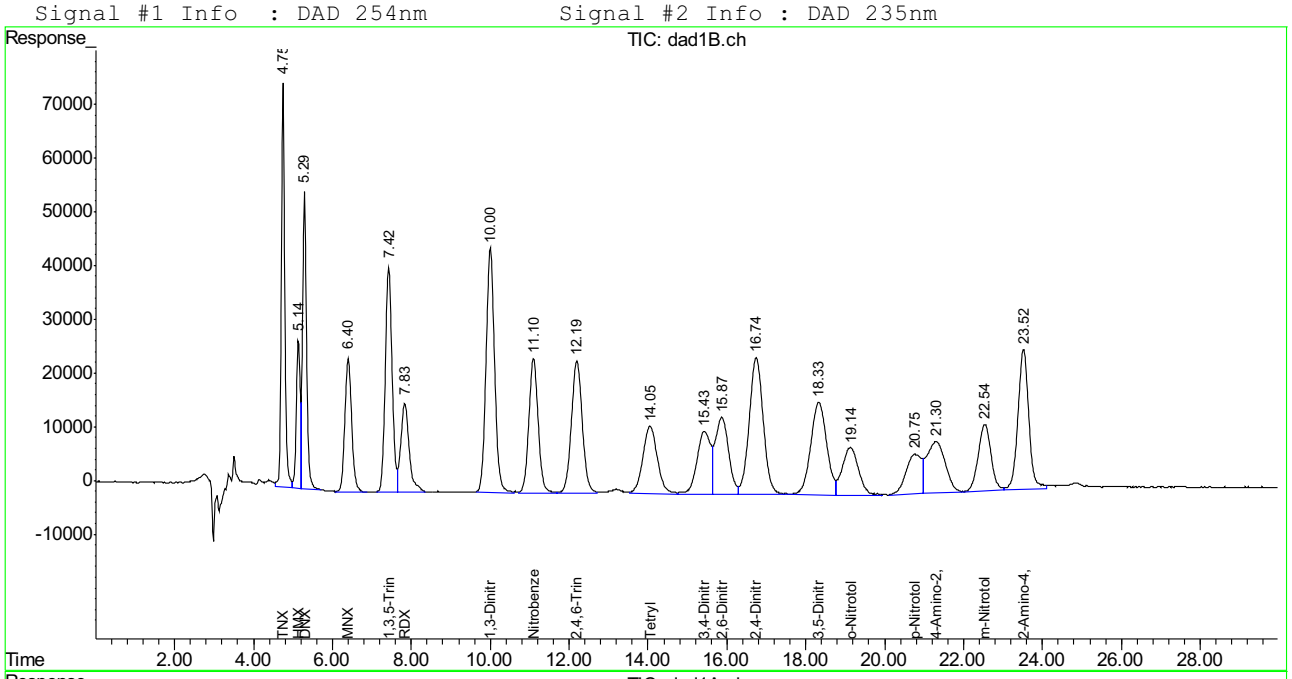
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381825.D 0424_8330RPB.M Tue Apr 25 10:59:42 2017 Page 1

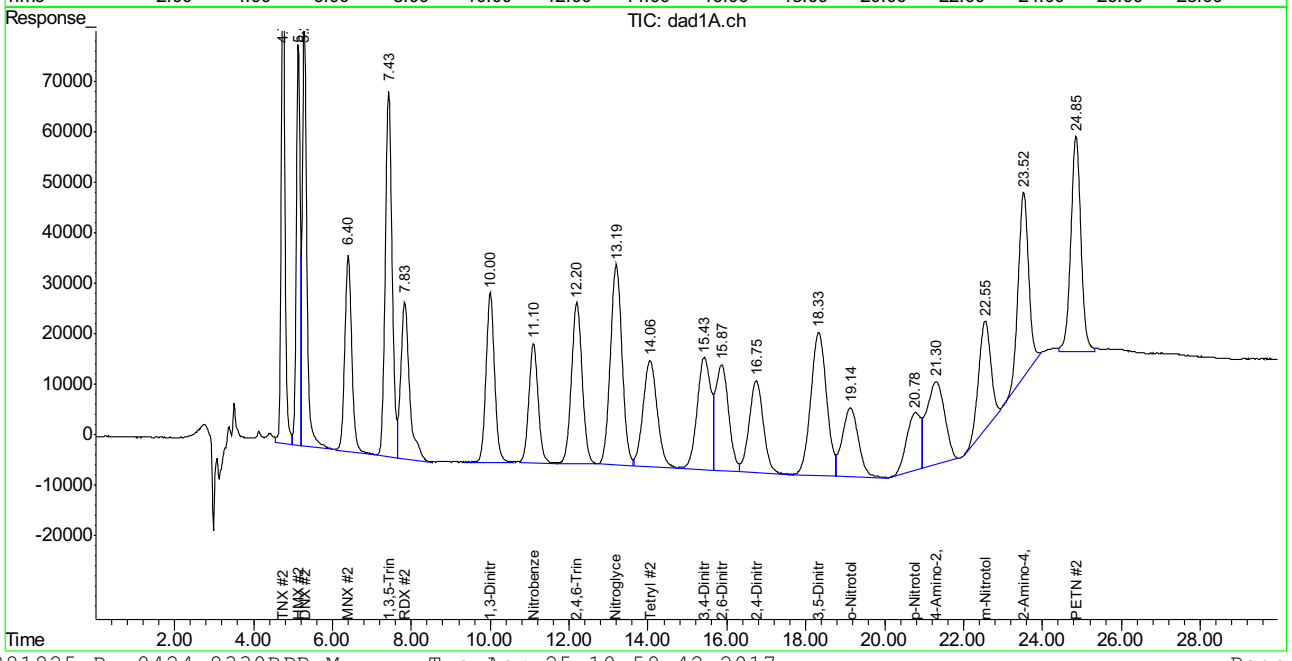
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:39 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

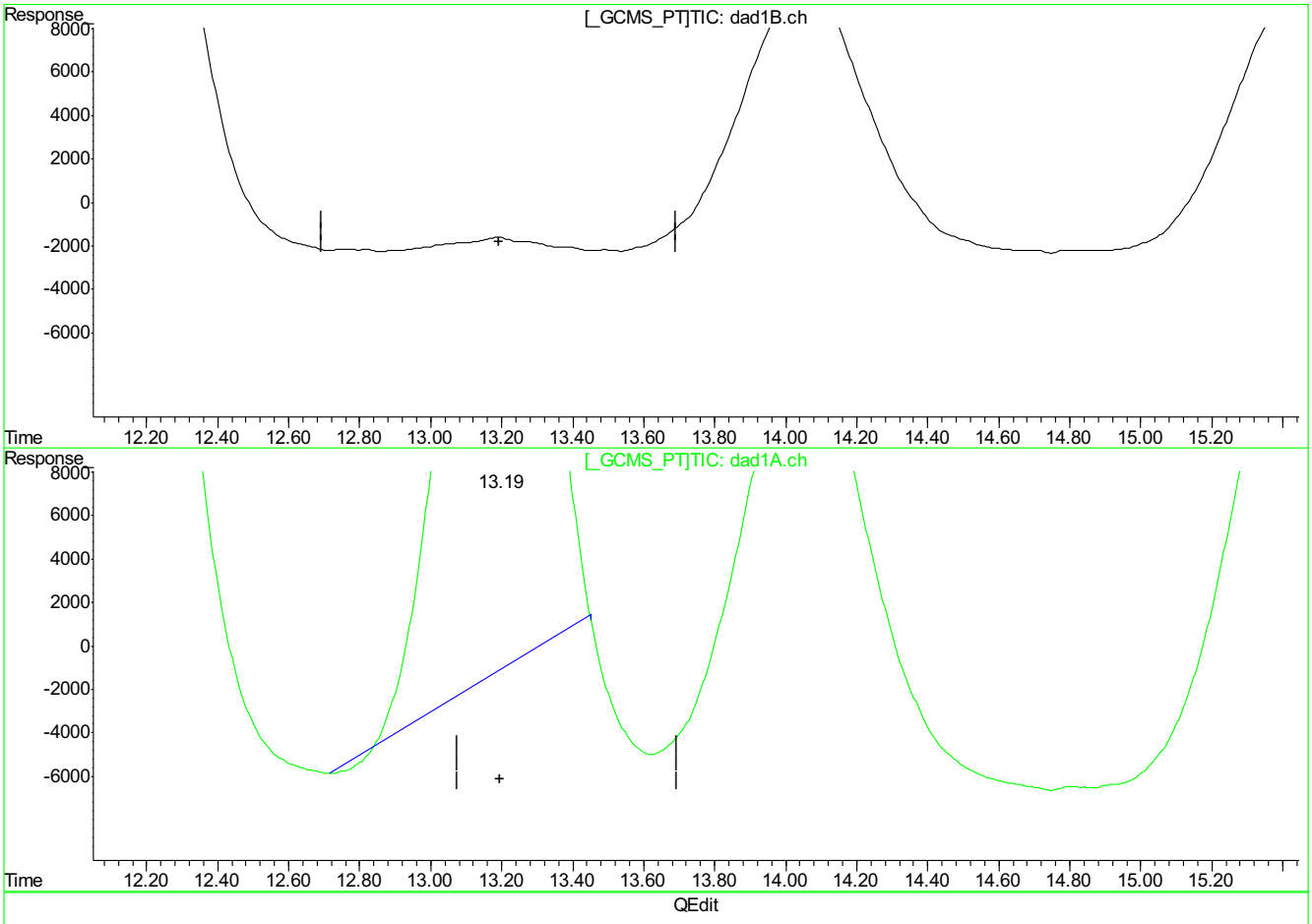
Sample Number: GPP2096-ICC2096 **Method:** SW846 8330A
Lab FileID: PP381825.D **Analyst approved:** 04/25/17 13:42 Evita Martinez
Injection Time: 04/24/17 14:37 **Supervisor approved:** 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.19	Poorly defined baseline
Tetryl	479-45-8	2	14.06	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.55	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.52	Poorly defined baseline
PETN	78-11-5	2	24.85	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.20min 2037.156ppb

response 6205276

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:19 2017

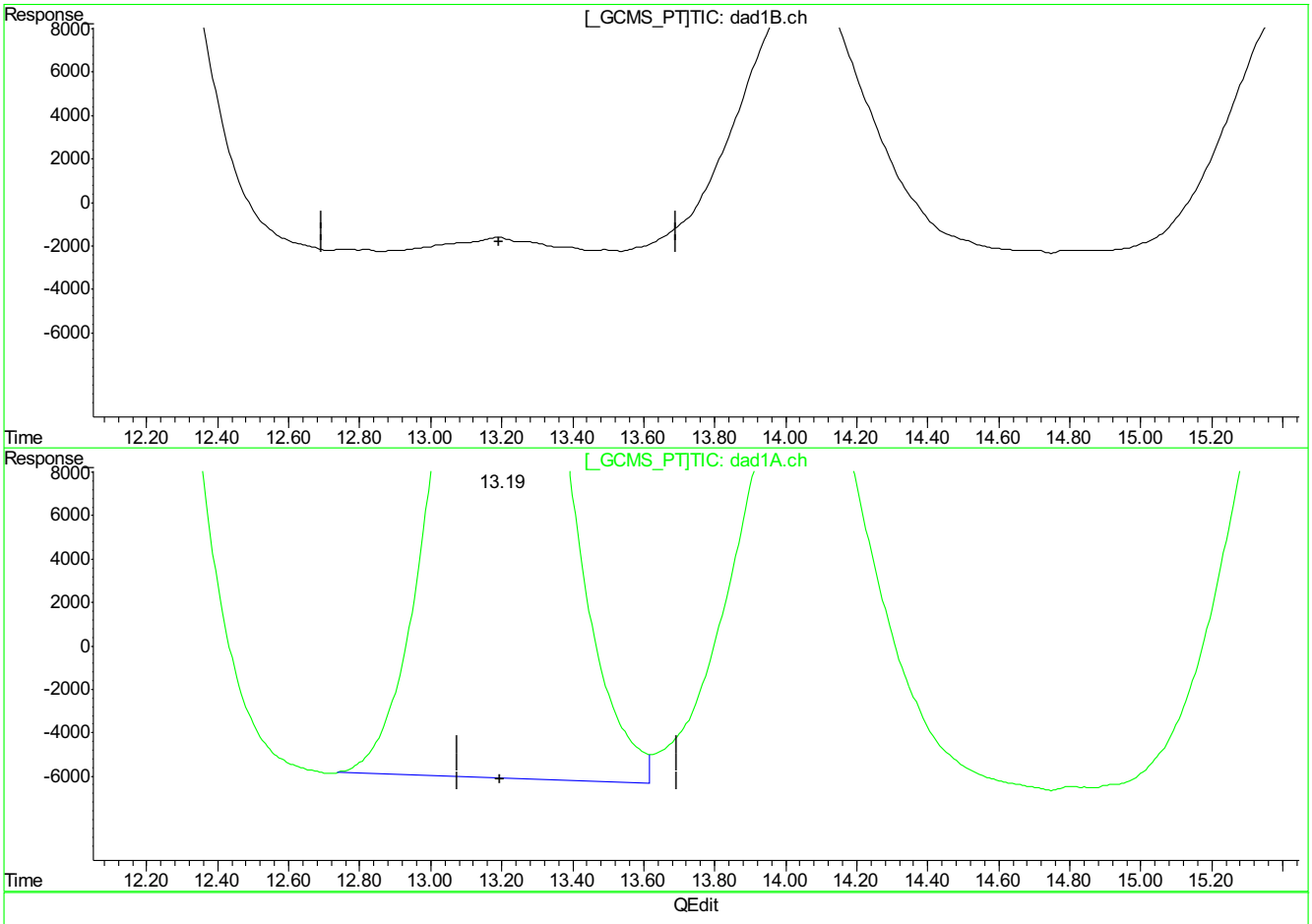
9.5.19.2

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.19min 2689.910ppb m

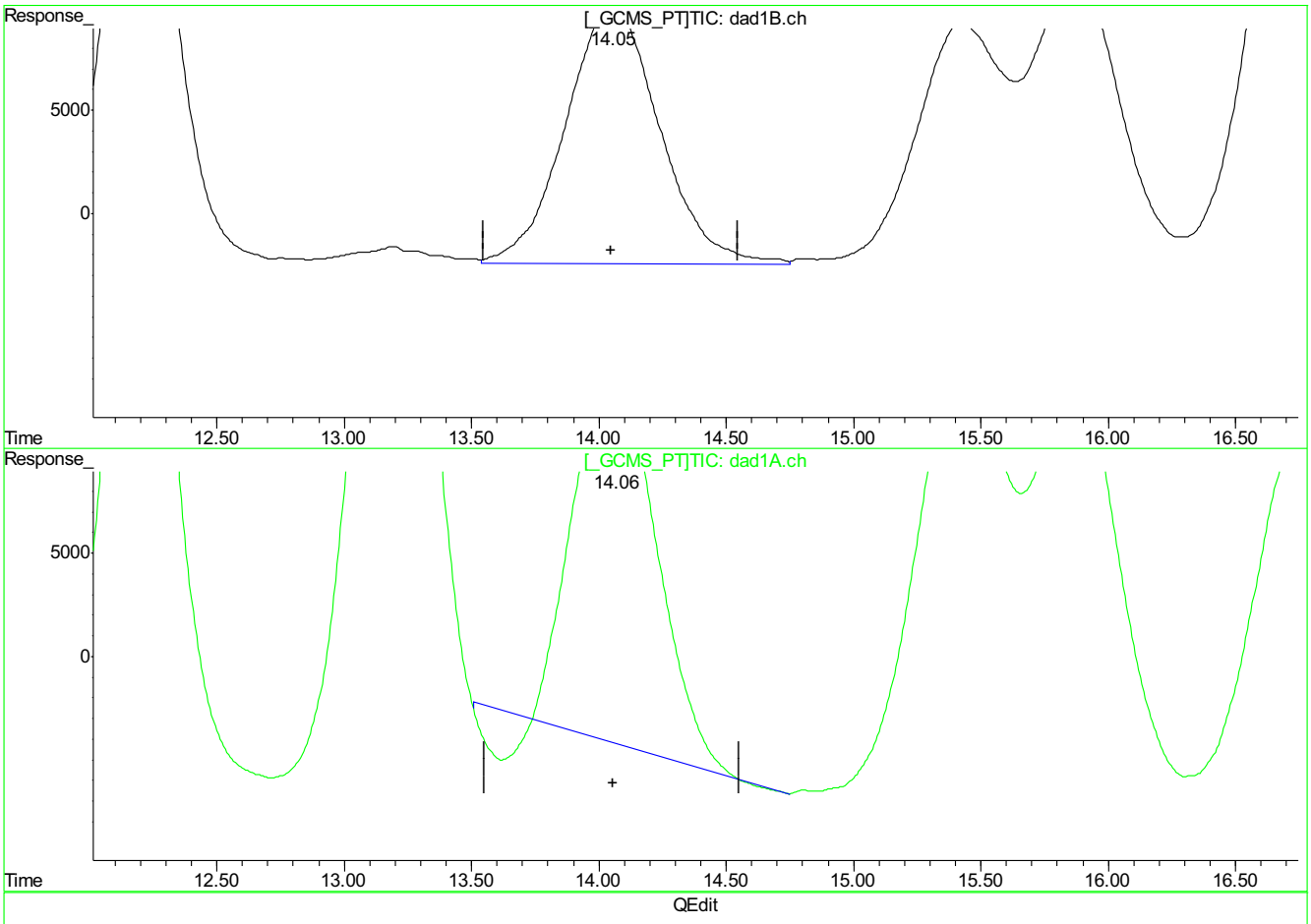
response 8193596

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:26 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.05min 443.980ppb

response 3203603

(11) Tetryl #2

14.06min 362.737ppb

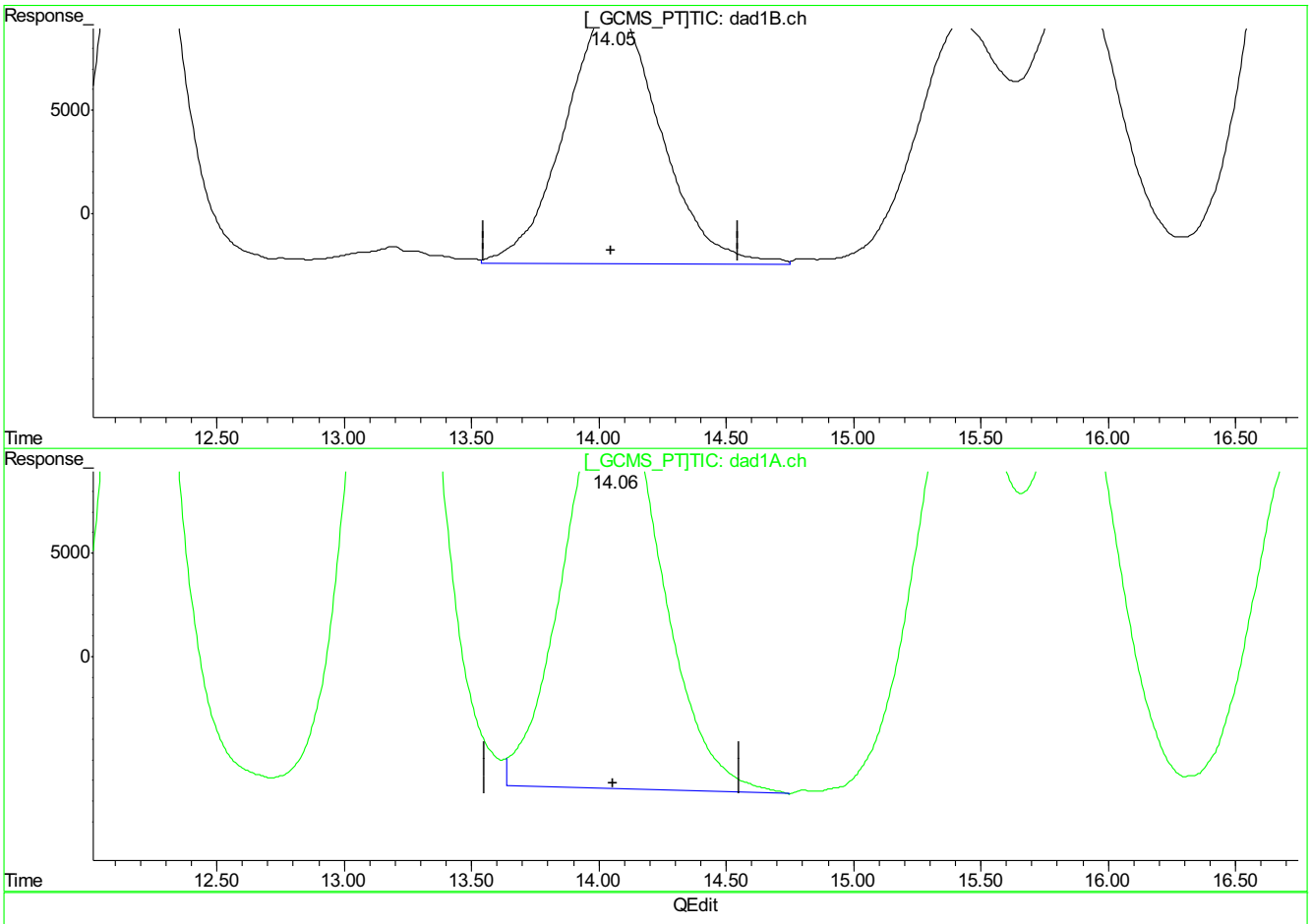
response 3996757

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.05min 443.980ppb

response 3203603

(11) Tetryl #2

14.06min 476.707ppb m

response 5252520

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:38 2017

9.5.19.5

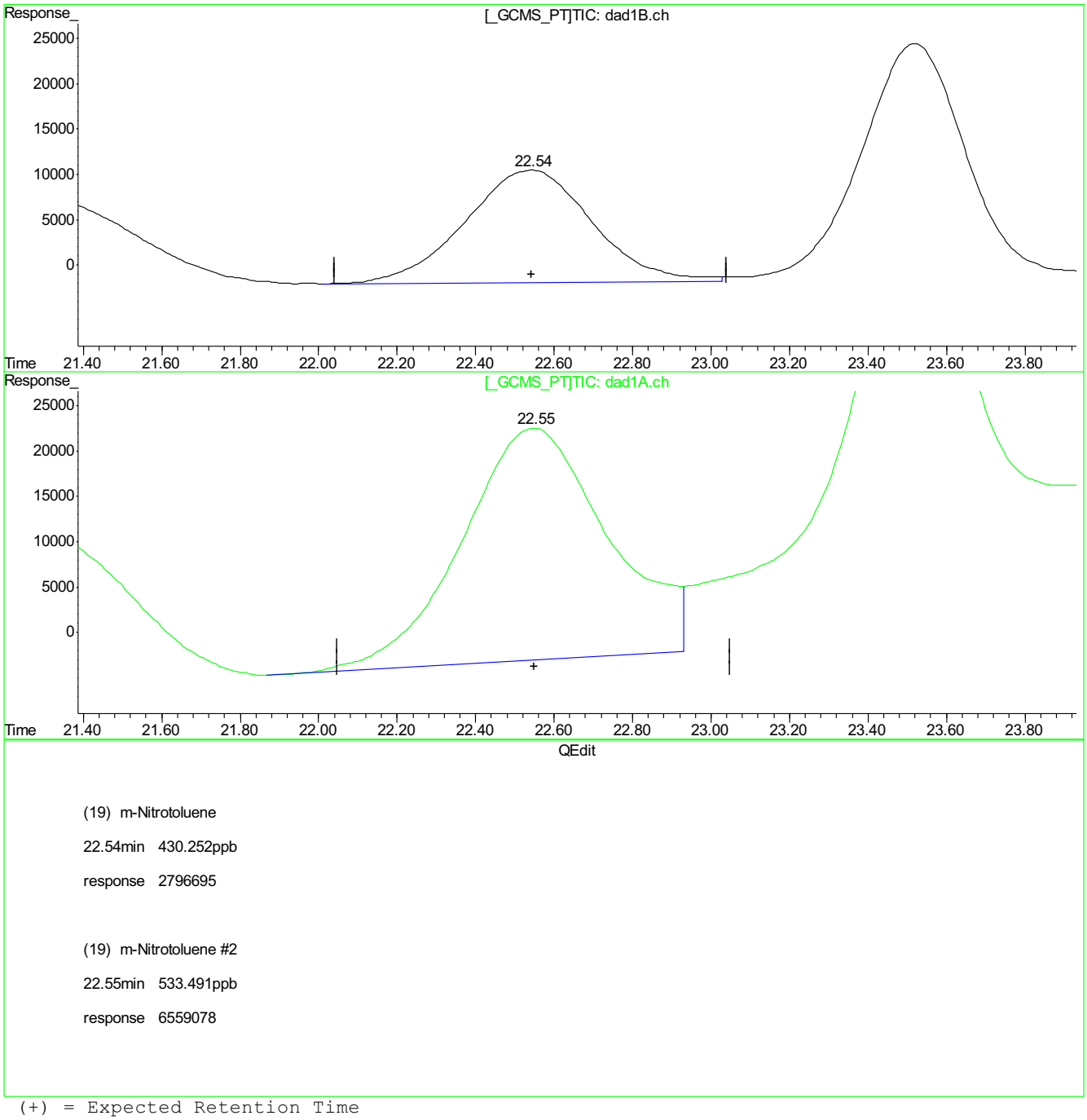
9

PP381825.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.54min 430.252ppb

response 2796695

(19) m-Nitrotoluene #2

22.55min 533.491ppb

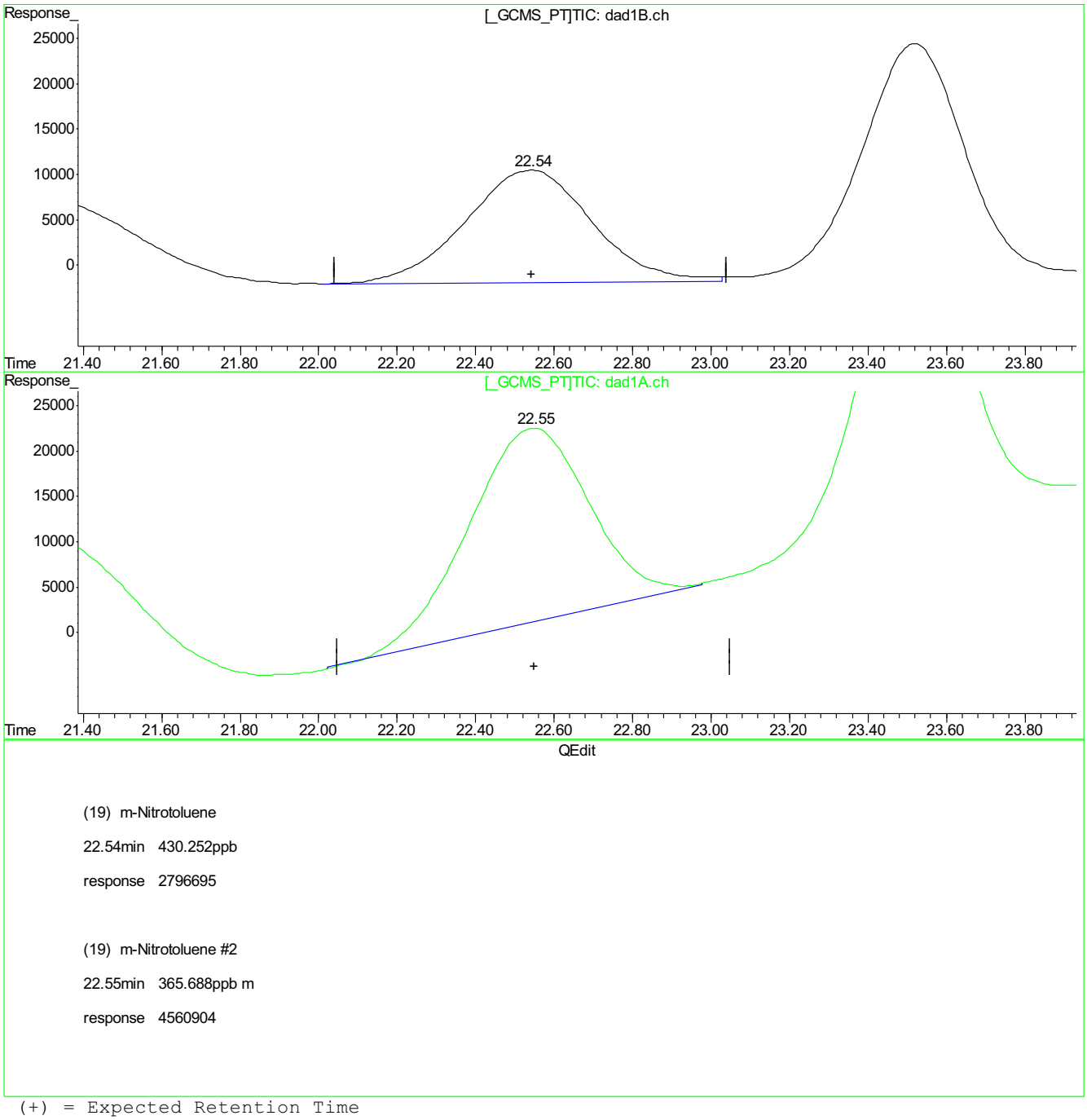
response 6559078

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:55 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:12:58 2017

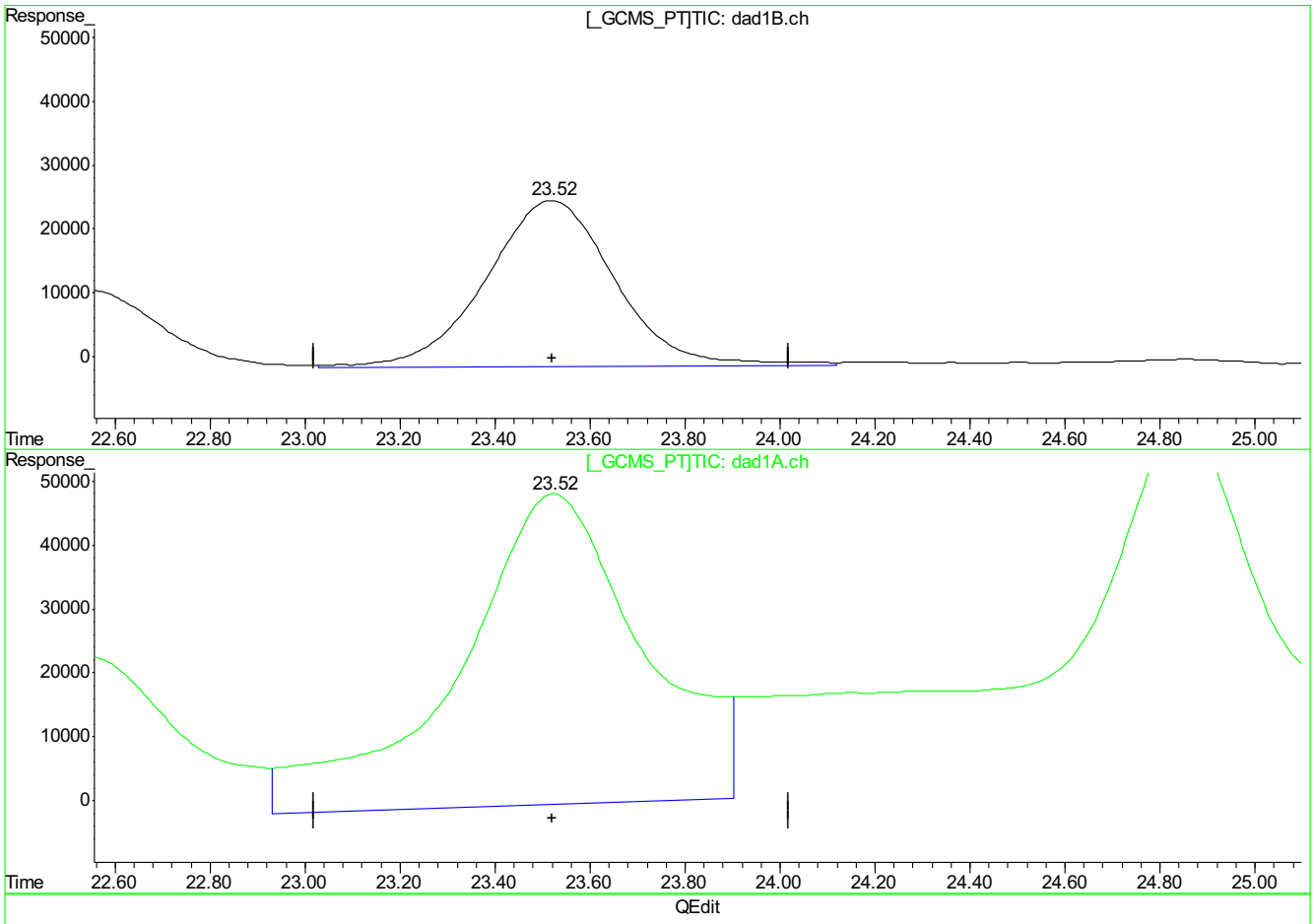
9.5.19.7
6

PP381825.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.52min 475.906ppb

response 4955265

(20) 2-Amino-4,6-Dinitrotoluene #2

23.53min 939.286ppb

response 13135145

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:09 2017

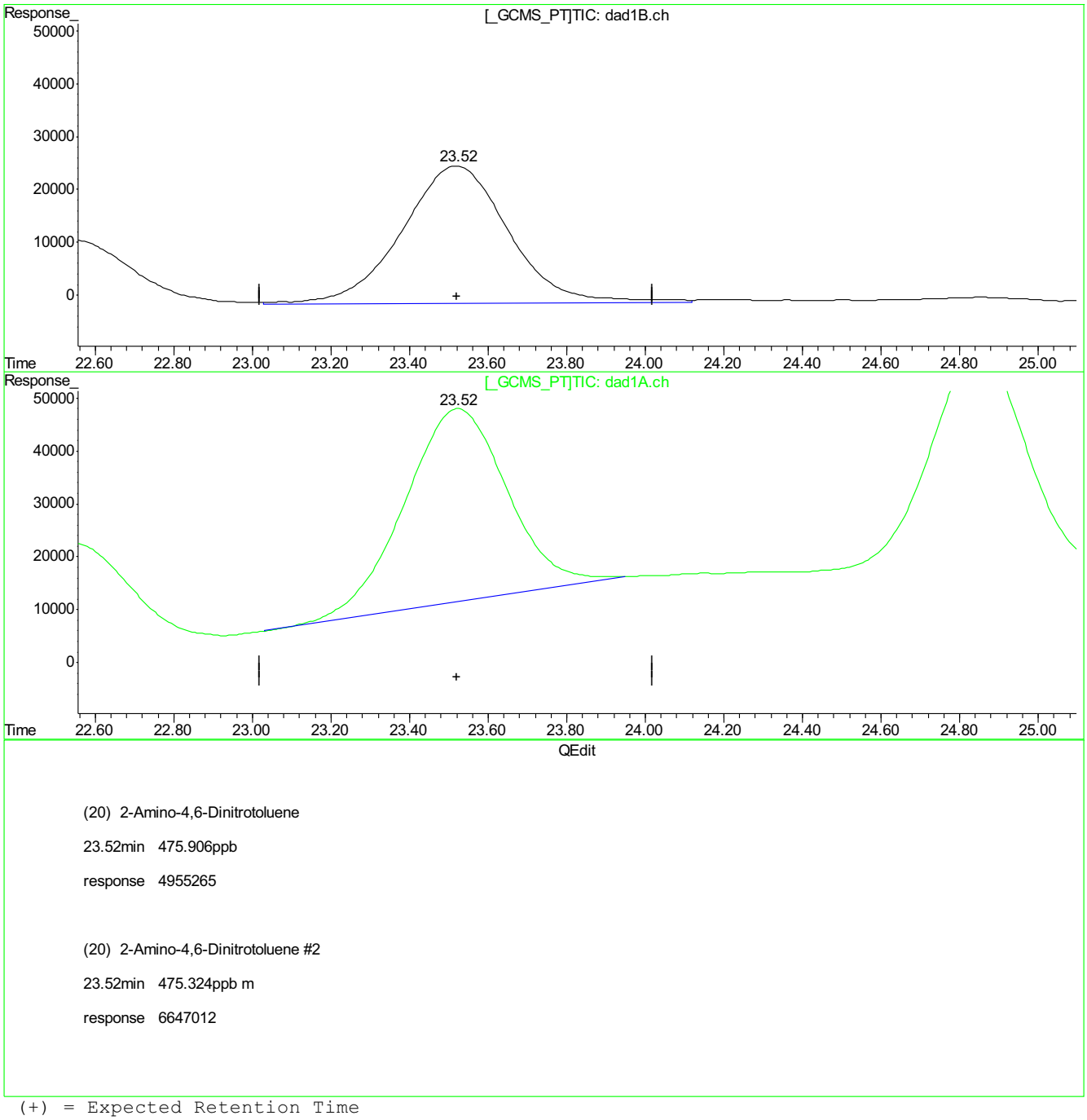
9.5.19.8

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.52min 475.906ppb

response 4955265

(20) 2-Amino-4,6-Dinitrotoluene #2

23.52min 475.324ppb m

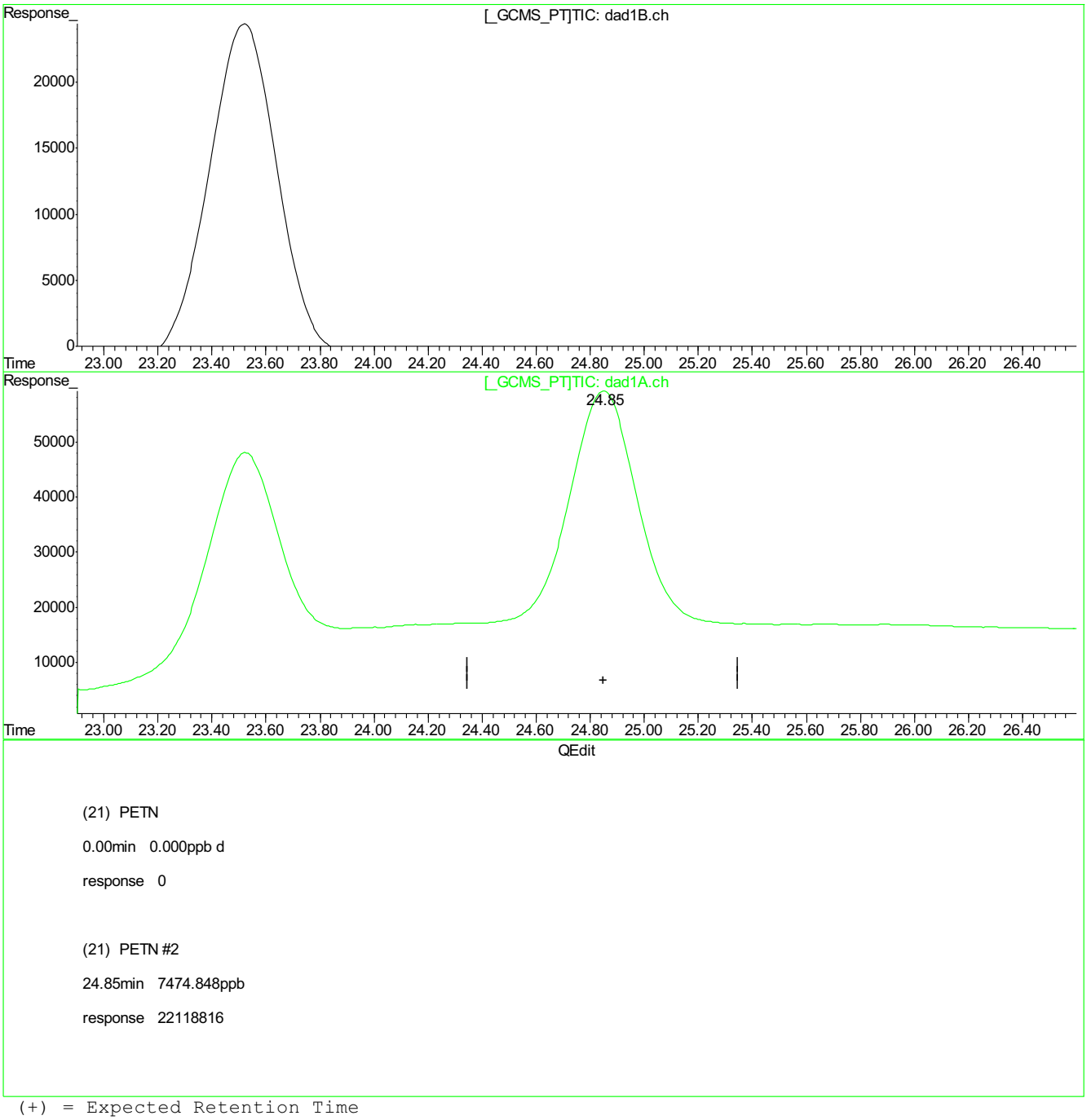
response 6647012

(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:12 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:17 2017

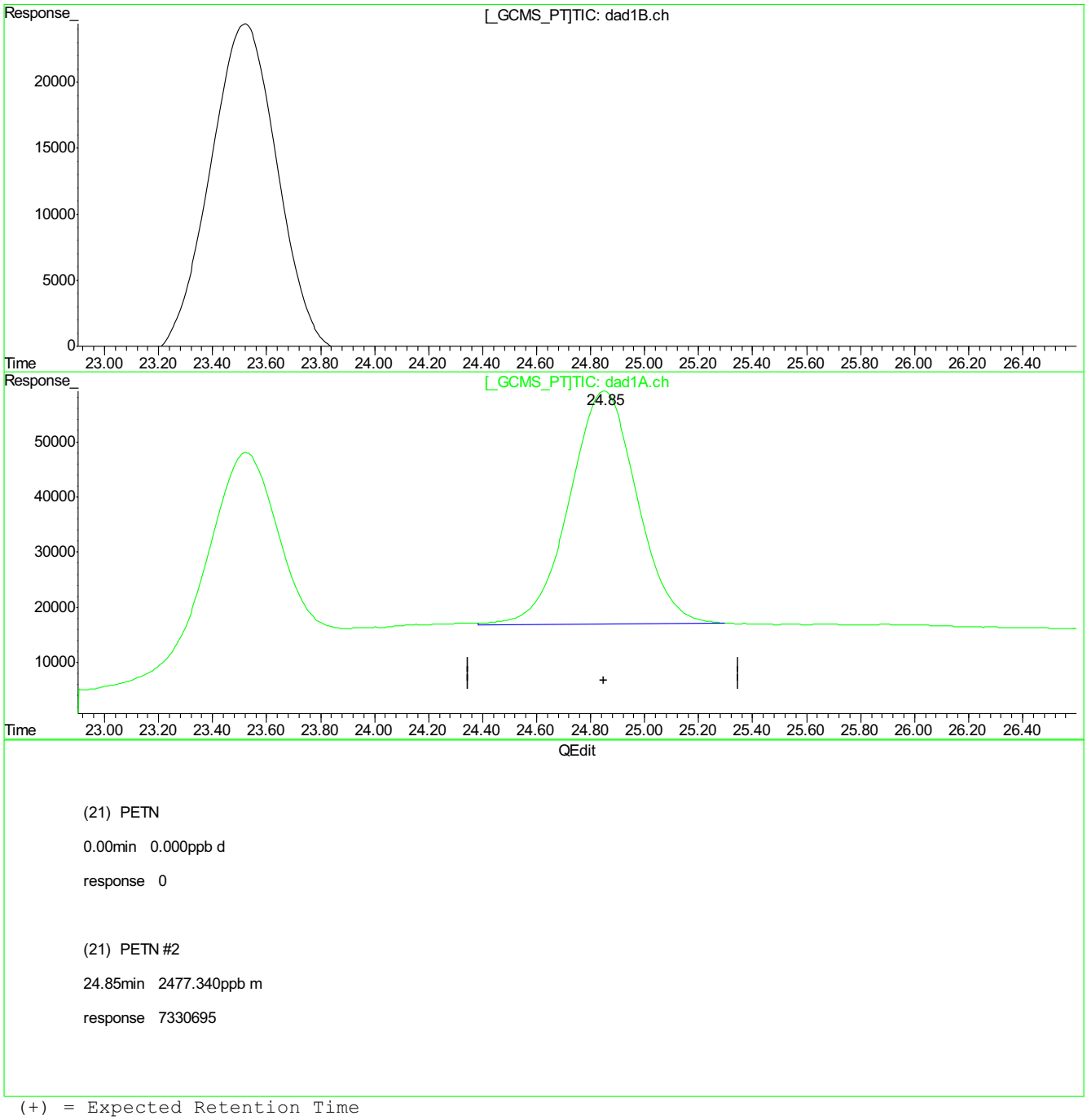
9.5.19.10
9

PP381825.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381825.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0424_RPB\PP381825.D\dad1A.ch
Acq On : 24-Apr-2017, 14:37:52 Operator: evitam
Sample : icc2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:11 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:11:10 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
PP381825.D 0424_8330RPB.M Tue Apr 25 10:13:20 2017

9.5.19.11

9

PP381825.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 09:36:13 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.37	15.37	5202174	10171556	1128.373	1096.411
	Spiked Amount 500.000	Range 70 - 136		Recovery =		225.67%#	219.28%#
	Target Compounds						
1)	TNX	4.74	4.74	8548293	12651327	1008.456	1008.400
2)	HMX	5.12	5.12	3353803	9976591	1028.732	962.471
3)	DNX	5.28	5.28	7389401	12085056	909.876	913.159
4)	MNX	6.38	6.38	5706813	9060076	1047.794	1063.086
5)	1,3,5-Trinitrobe	7.40	7.40	9584064	16601286	968.047	999.446
6)	RDX	7.81	7.81	4562833	8652707	1028.344	1045.394
7)	1,3-Dinitrobenze	9.97	9.97	12990061	9661539	973.065	984.664
8)	Nitrobenzene	11.06	11.06	3501535	3400747	412.444	417.541
9)	2,4,6-Trinitroto	12.15	12.15	8964828	11473909	948.504	940.892
10)	Nitroglycerin	0.00	13.14	0	15519463	N.D. d	5206.582m
11)	Tetryl	14.00	13.99	6059285	9826916	864.892	867.555m
13)	2,6-Dinitrotolue	15.81	15.81	6410364	9119268	909.422	924.264
14)	2,4-Dinitrotolue	16.68	16.68	11932281	8601863	972.214	916.338
15)	o-Nitrotoluene	19.05	19.05	1668431	2564515	380.234	330.097
16)	3,5-Dinitroanili	18.25	18.25	9262949	15351876	846.123	851.206
17)	p-Nitrotoluene	20.82	20.79	1910652	3005484	393.853m	530.364m
18)	4-Amino-2,6-Dini	21.20	21.20	5885714	11952281	909.668m	1147.462m
19)	m-Nitrotoluene	22.47	22.48	2350850	3510977	362.014	280.429m
20)	2-Amino-4,6-Dini	23.46	23.46	9664423	12589518	1049.480	987.916m
21)	PETN	0.00	24.80	0	9376493	N.D. d	2831.992m

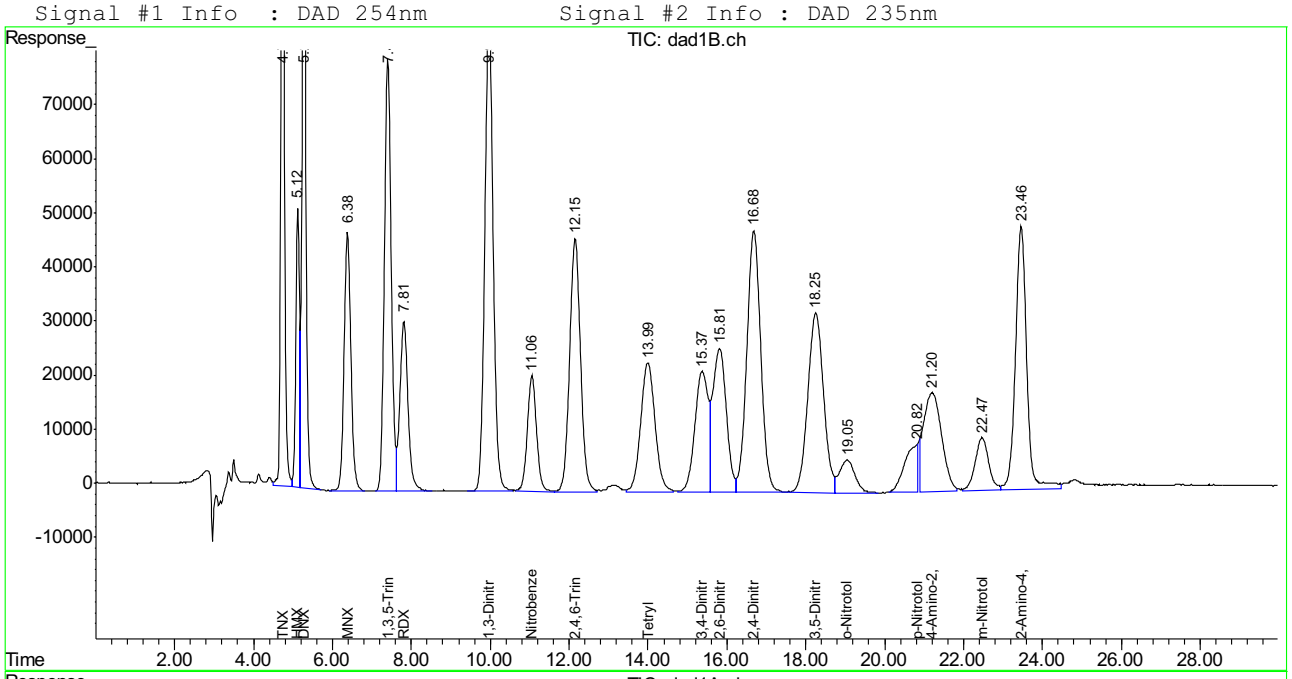
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381826.D 0424_8330RPB.M Tue Apr 25 15:48:56 2017 Page 1

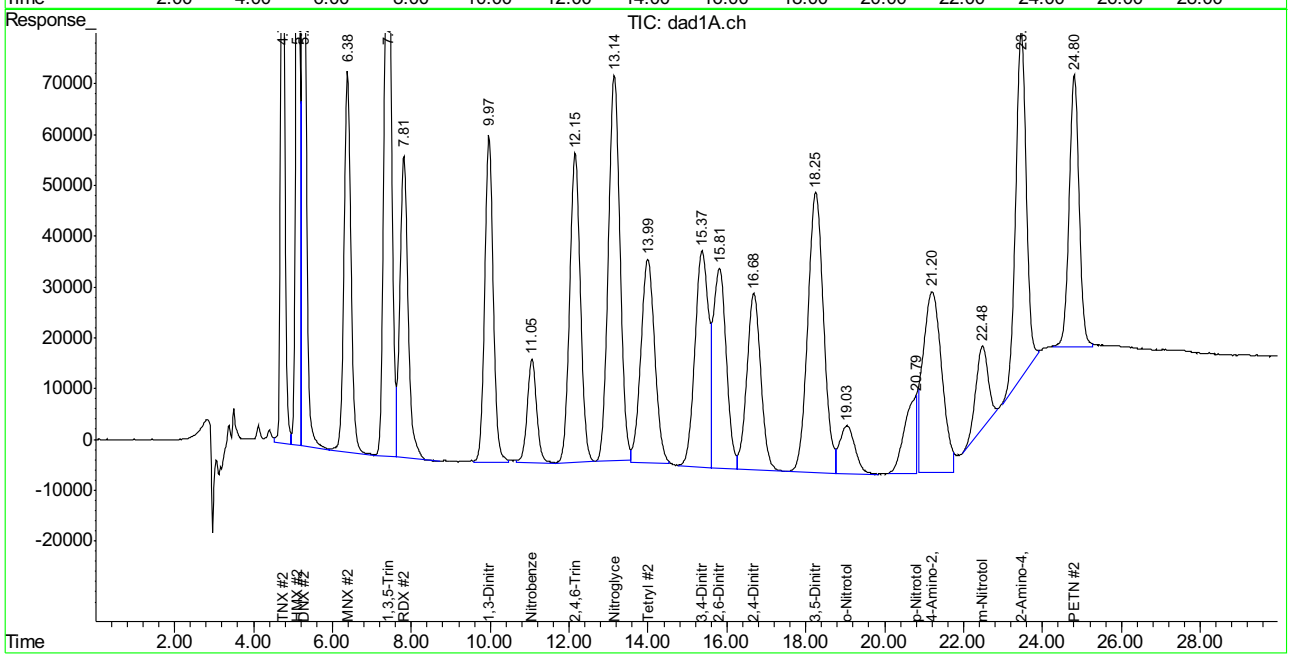
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 15:48 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 09:36:09 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

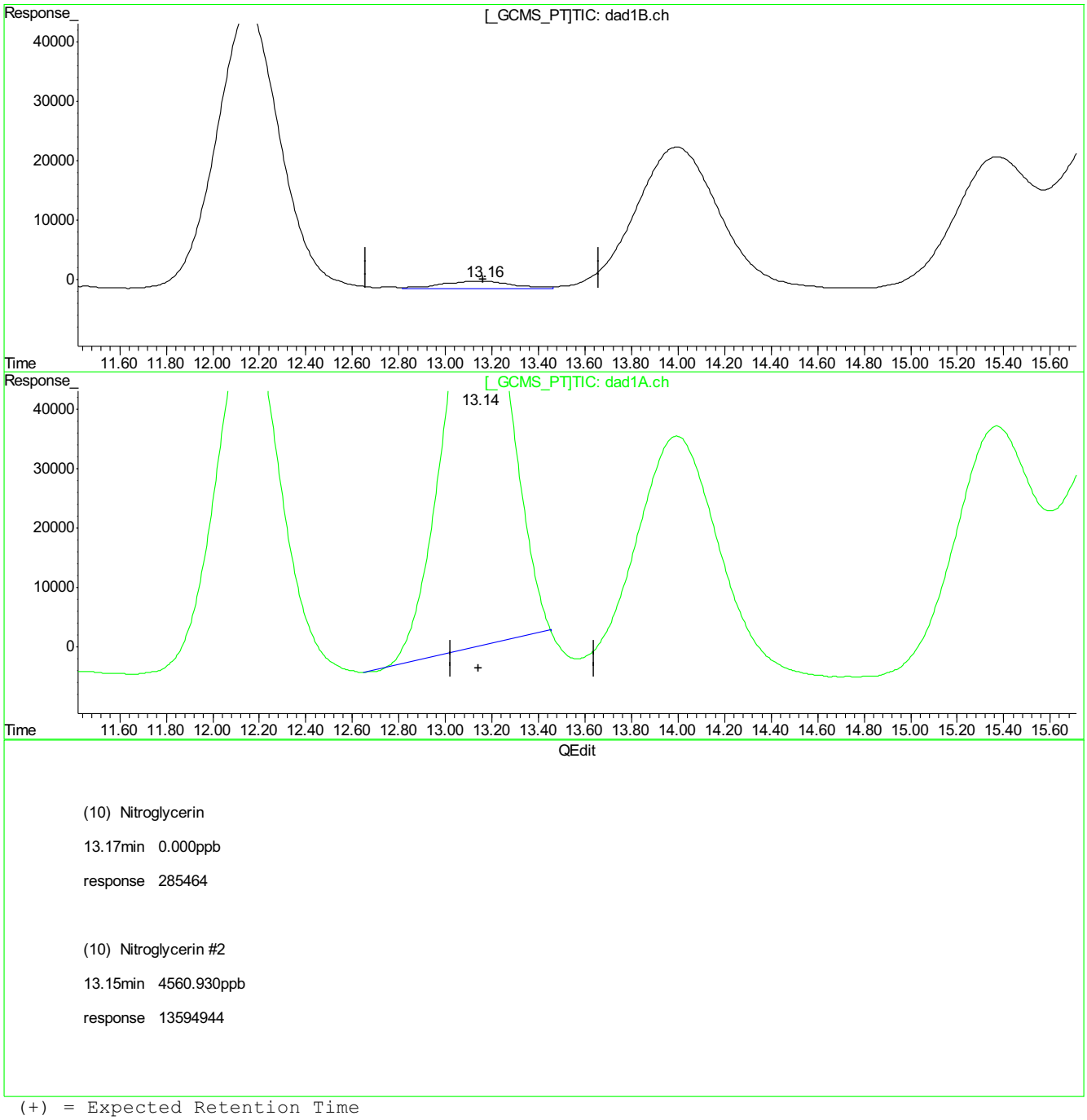
Sample Number: GPP2096-IC2096
Lab FileID: PP381826.D
Injection Time: 04/24/17 15:10
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.14	Poorly defined baseline
Tetryl	479-45-8	2	13.99	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.79	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	20.82	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.20	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.20	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.46	Poorly defined baseline
PETN	78-11-5	2	24.80	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

13.17min 0.000ppb

response 285464

(10) Nitroglycerin #2

13.15min 4560.930ppb

response 13594944

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:31 2017

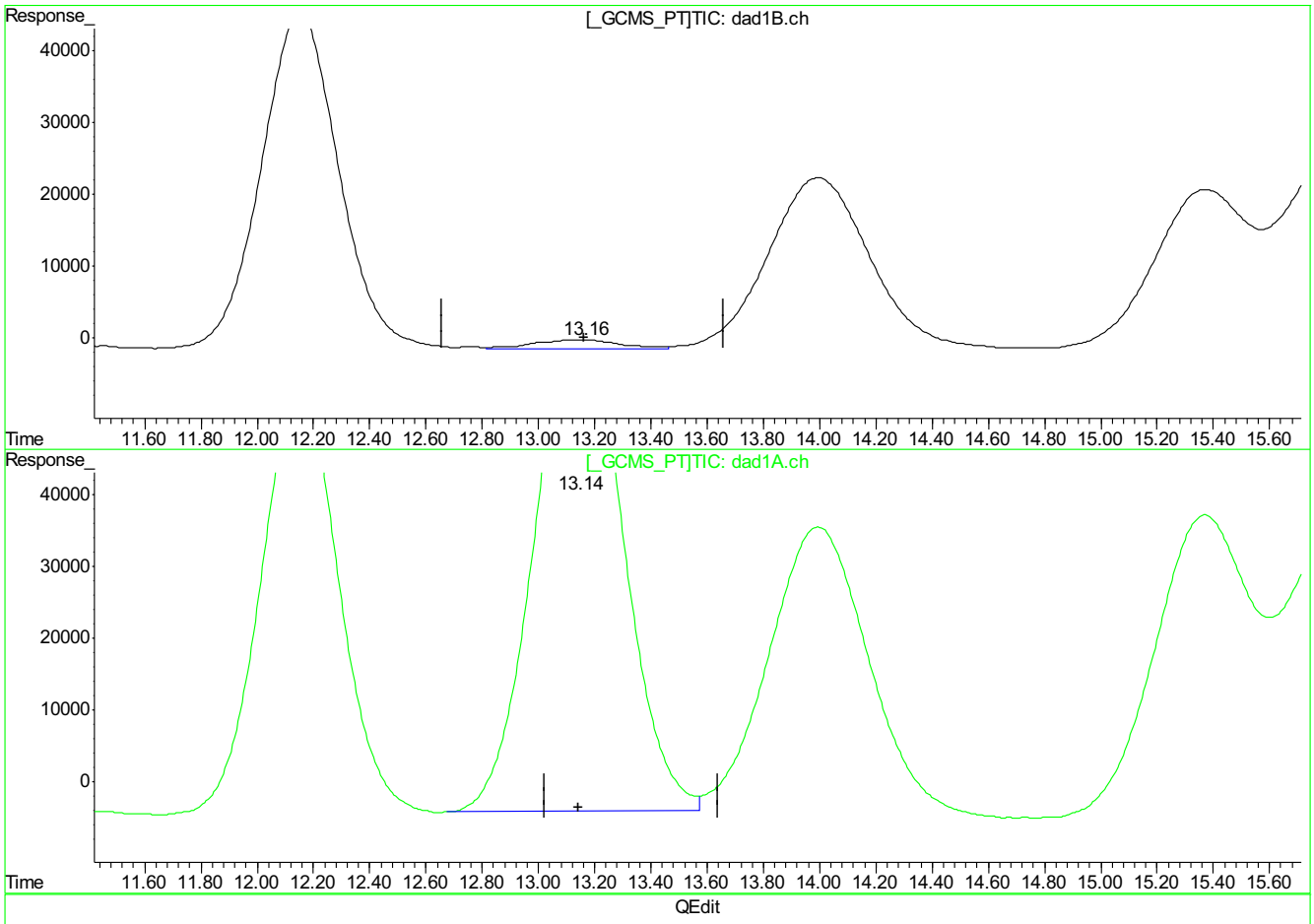
9.5.20.2

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

13.17min 0.000ppb

response 285464

(10) Nitroglycerin #2

13.14min 5206.582ppb m

response 15519463

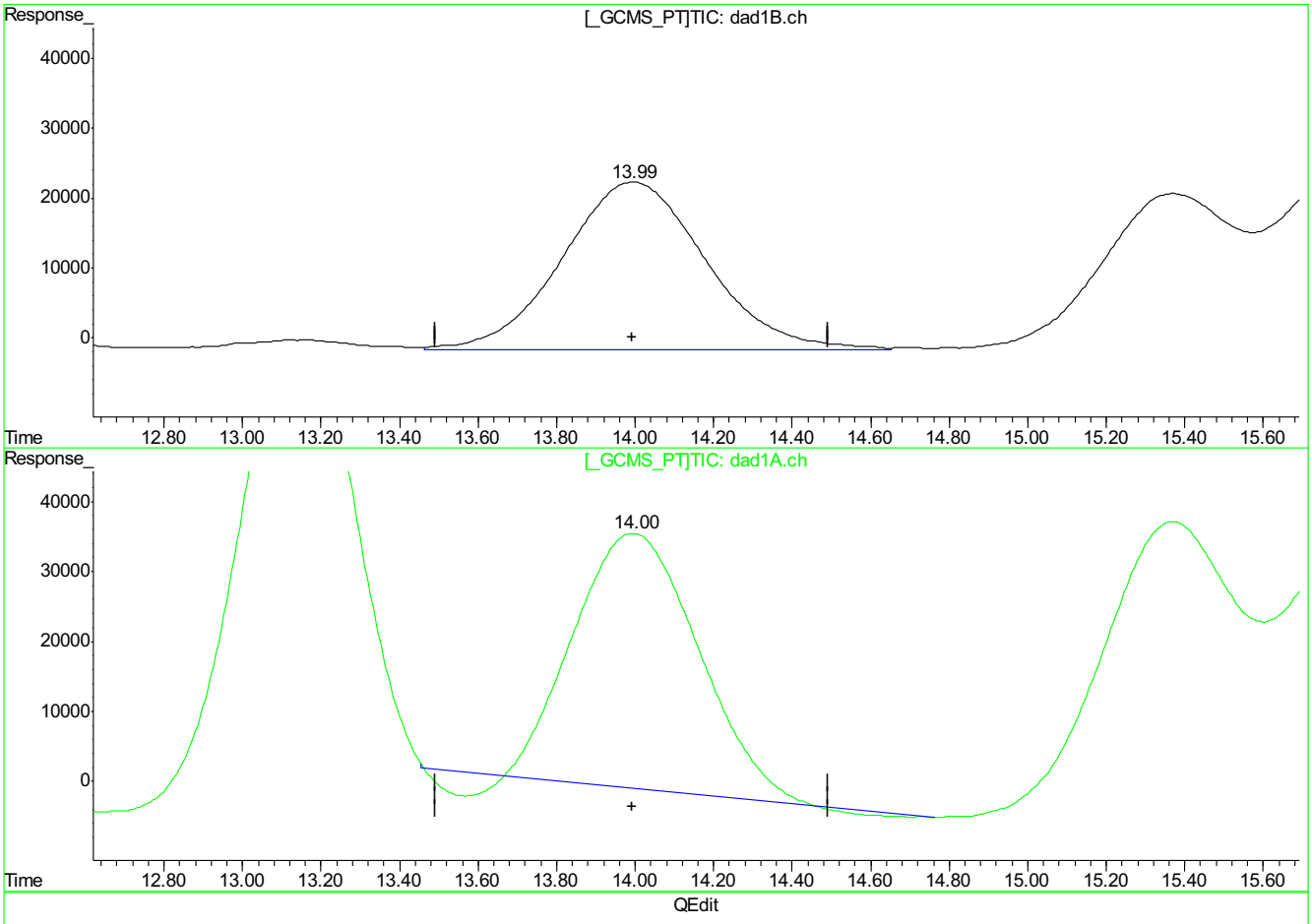
(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:37 2017

PP381826.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.00min 864.892ppb

response 6059285

(11) Tetryl #2

14.00min 686.529ppb

response 7776417

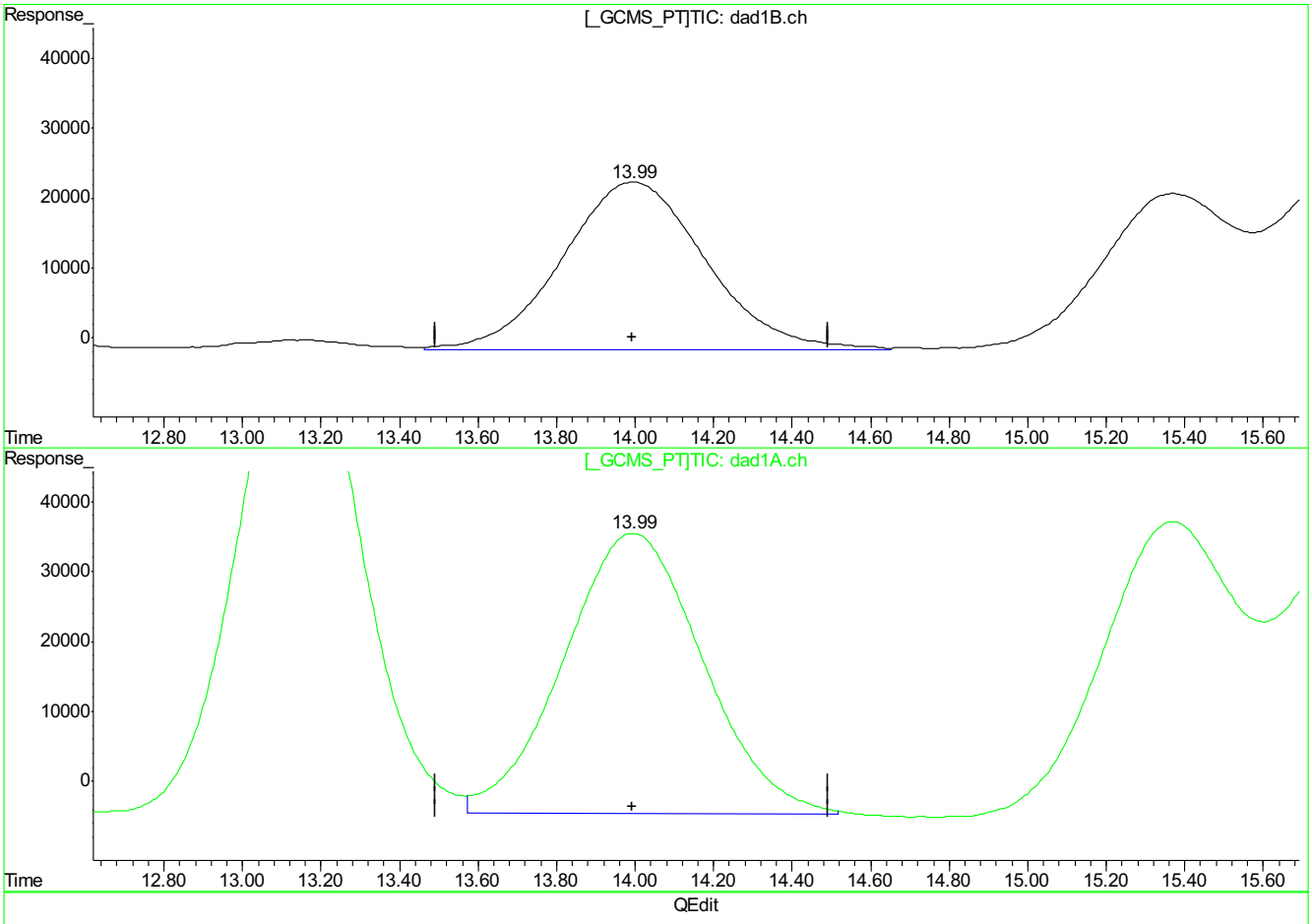
(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:41 2017

PP381826.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.00min 864.892ppb

response 6059285

(11) Tetryl #2

13.99min 867.555ppb m

response 9826916

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:17:48 2017

9.5.20.5

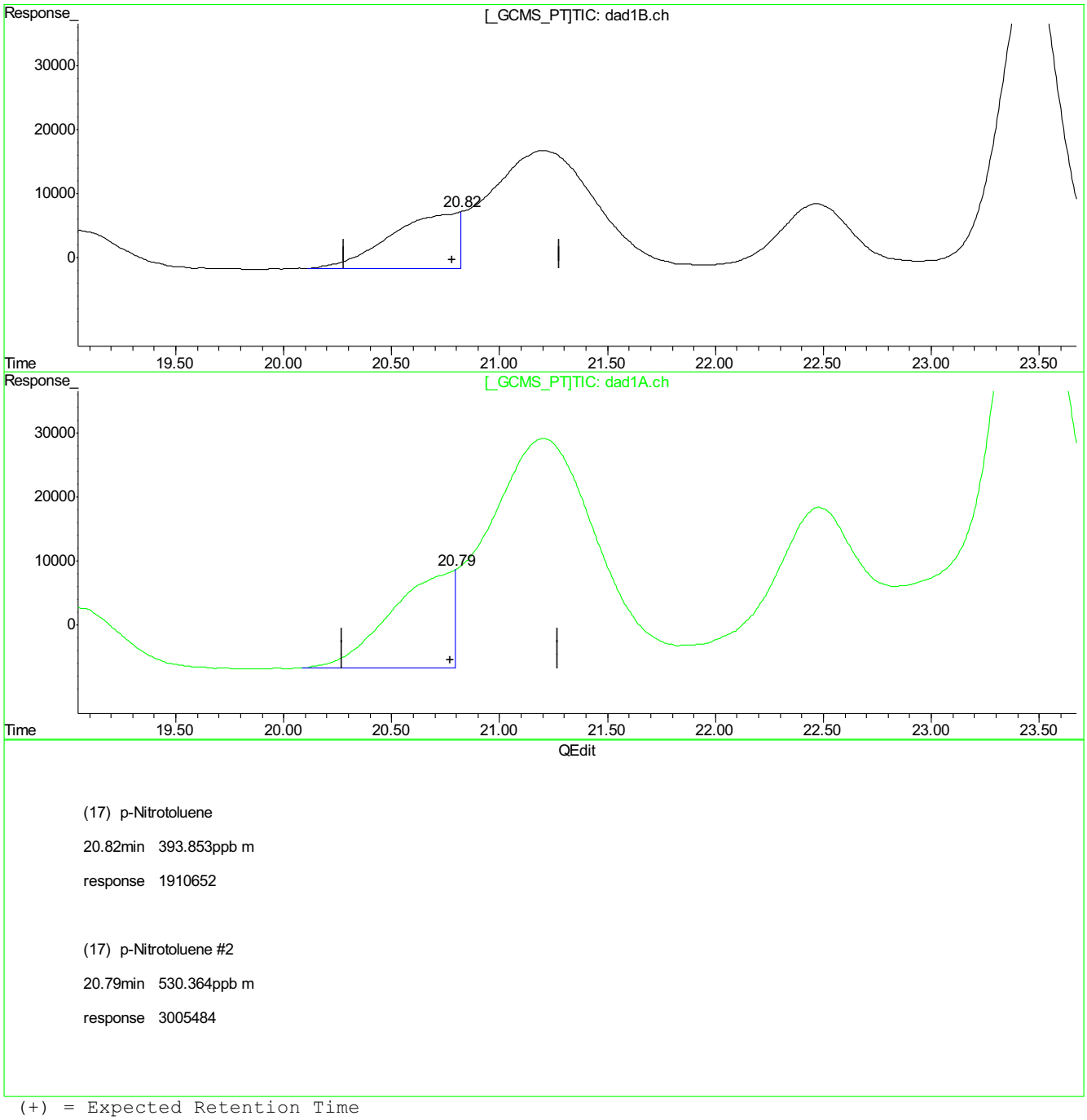
9

PP381826.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

20.82min 393.853ppb m

response 1910652

(17) p-Nitrotoluene #2

20.79min 530.364ppb m

response 3005484

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:18:28 2017

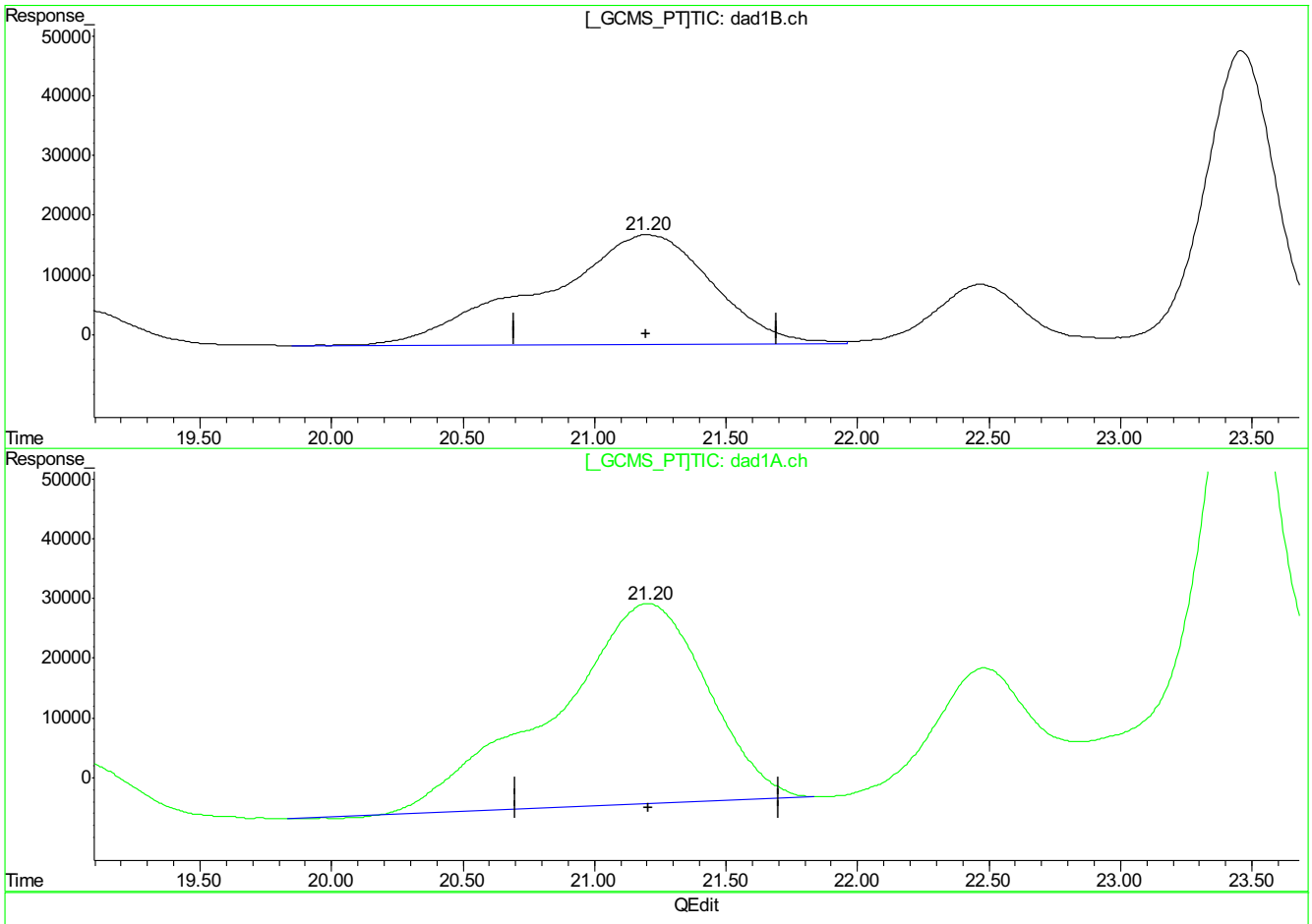
9.5.20.6

6

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch         Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On    : 24-Apr-2017, 15:10:19                    Operator: evitam
Sample    : ic2096-1000                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25  9:36 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration
```



(18) 4-Amino-2,6-Dinitrotoluene

21.20min 1283.214ppb

response 8193656

(18) 4-Amino-2,6-Dinitrotoluene #2

21.20min 1316.711ppb

response 13715222

(+) = Expected Retention Time

PP381826.D 0424_8330RPB.M Tue Apr 25 10:18:38 2017

9.5.20.7

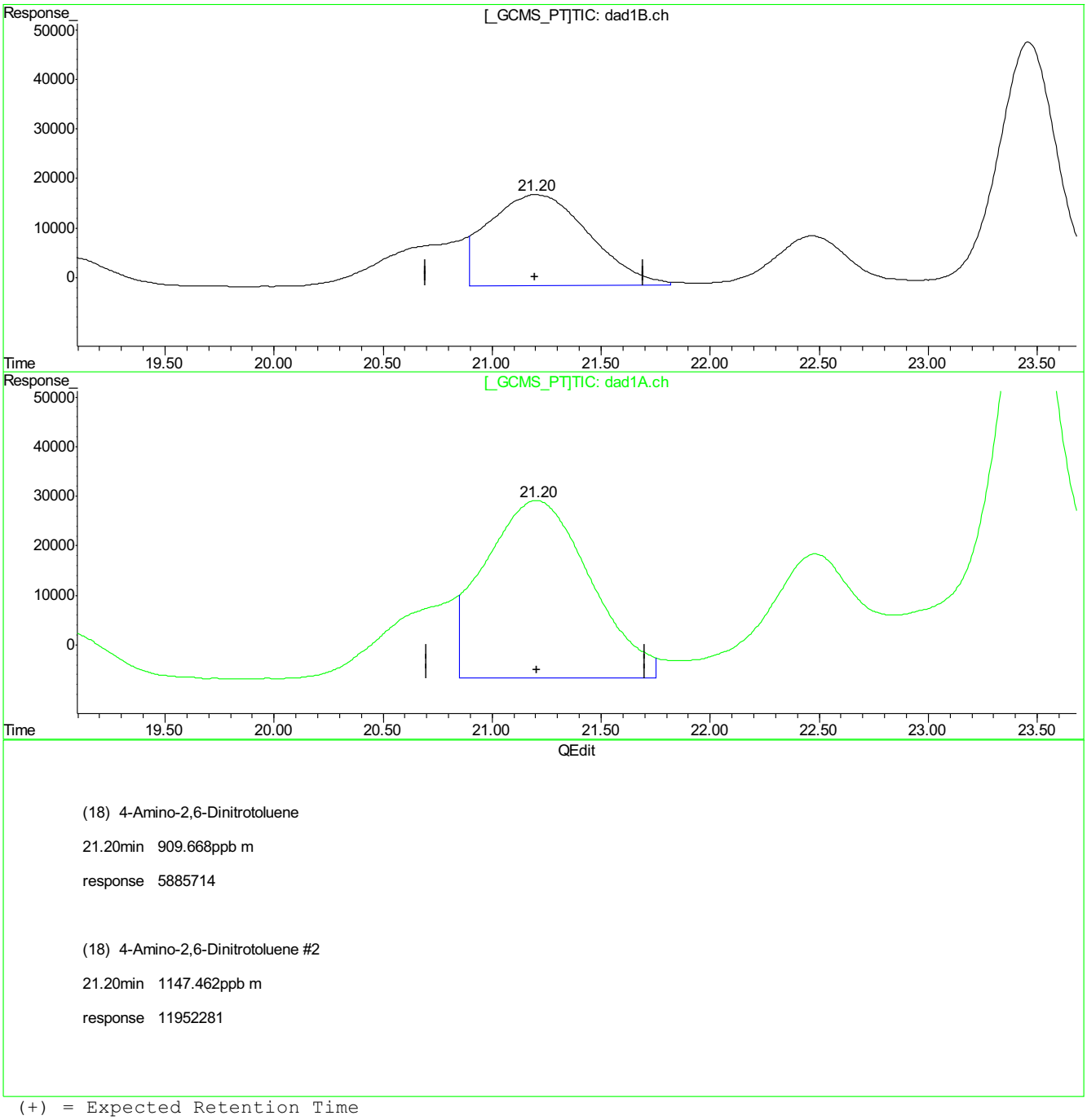
6

PP381826.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.20min 909.668ppb m

response 5885714

(18) 4-Amino-2,6-Dinitrotoluene #2

21.20min 1147.462ppb m

response 11952281

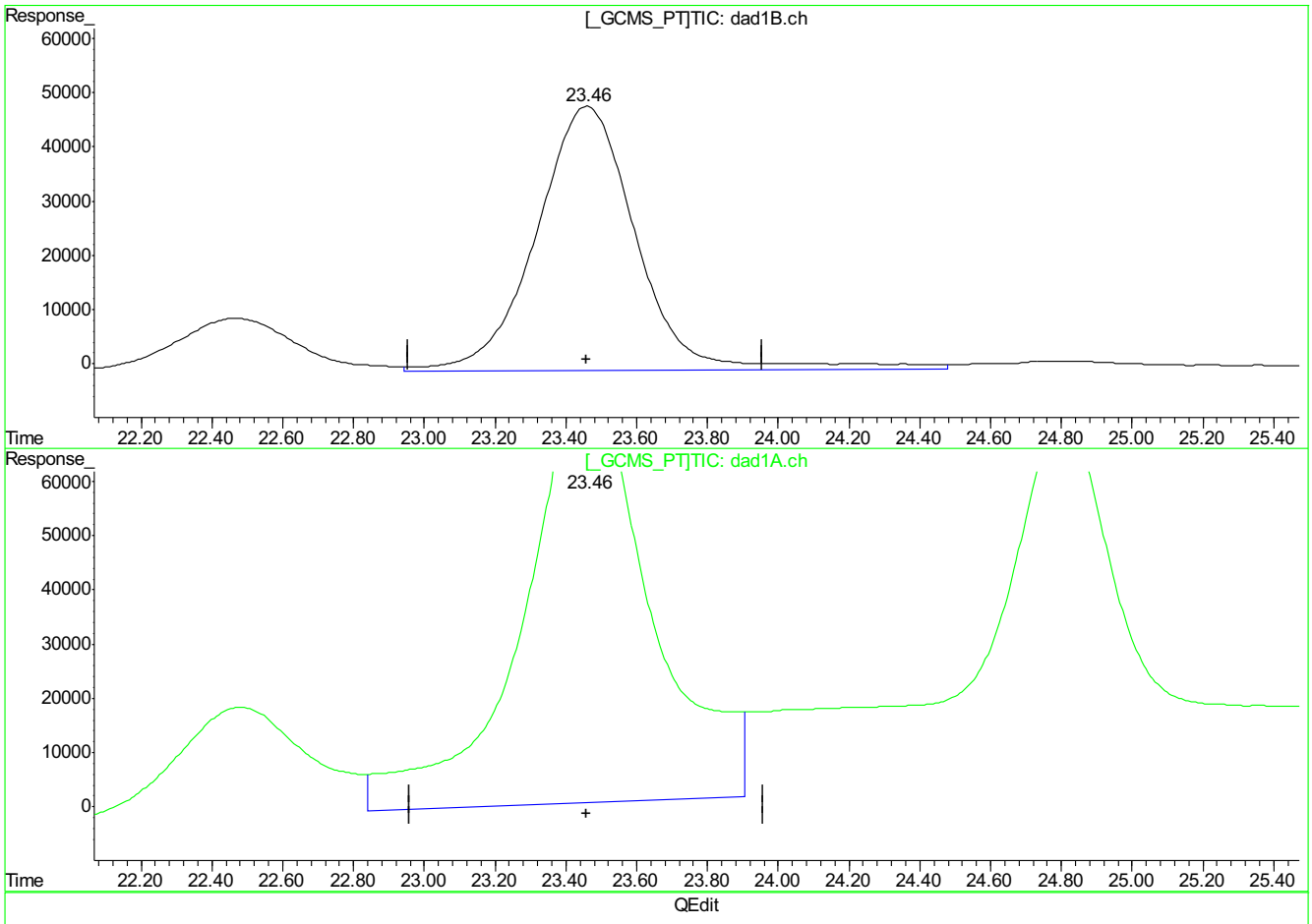
(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:04 2017

9.5.20.8
6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.46min 1049.480ppb

response 9664423

(20) 2-Amino-4,6-Dinitrotoluene #2

23.46min 1529.951ppb

response 19496939

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:14 2017

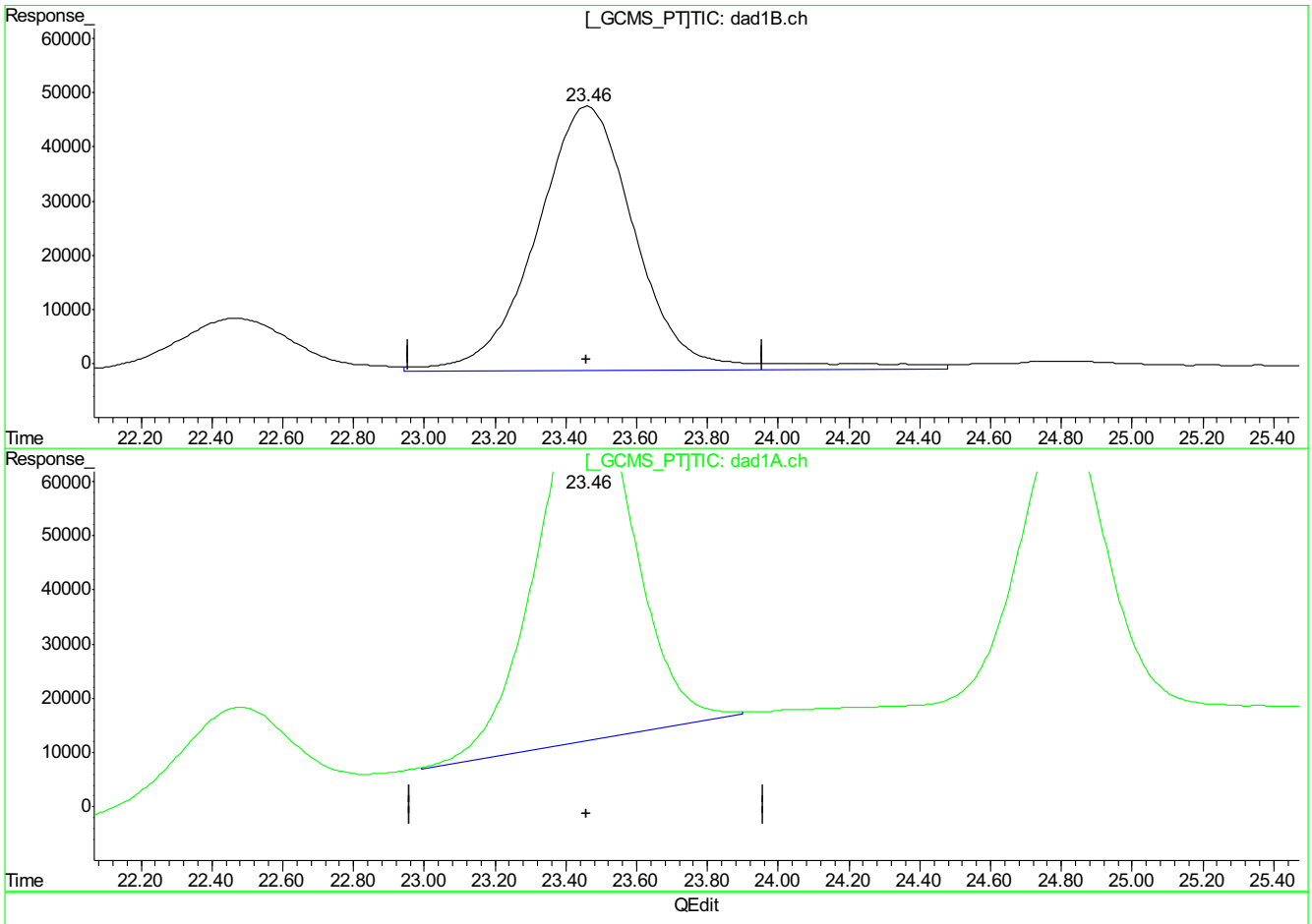
9.5.20.9

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.46min 1049.480ppb

response 9664423

(20) 2-Amino-4,6-Dinitrotoluene #2

23.46min 987.916ppb m

response 12589518

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:18 2017

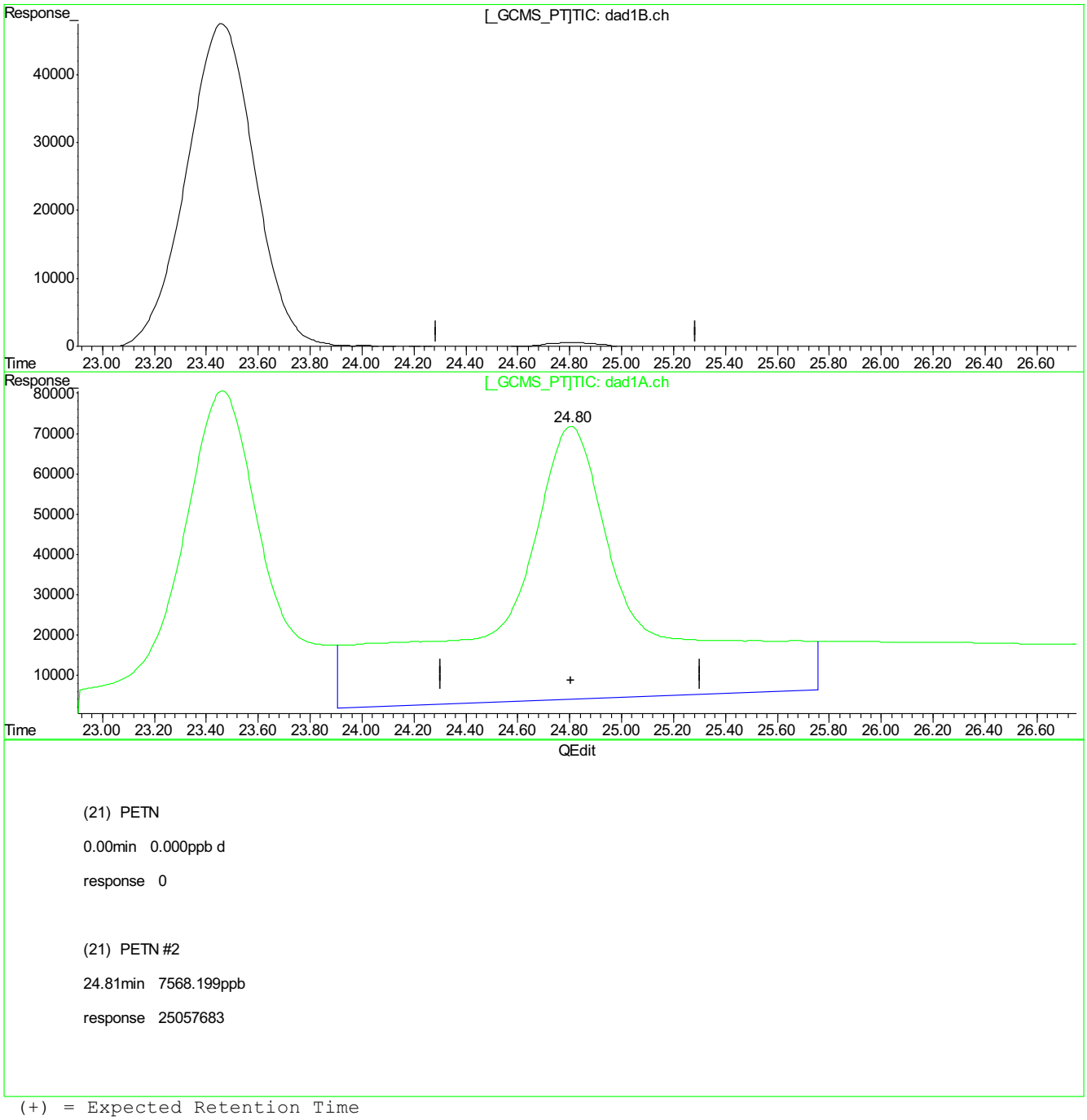
9.5.20.10

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.81min 7568.199ppb

response 25057683

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:24 2017

9.5.20.11

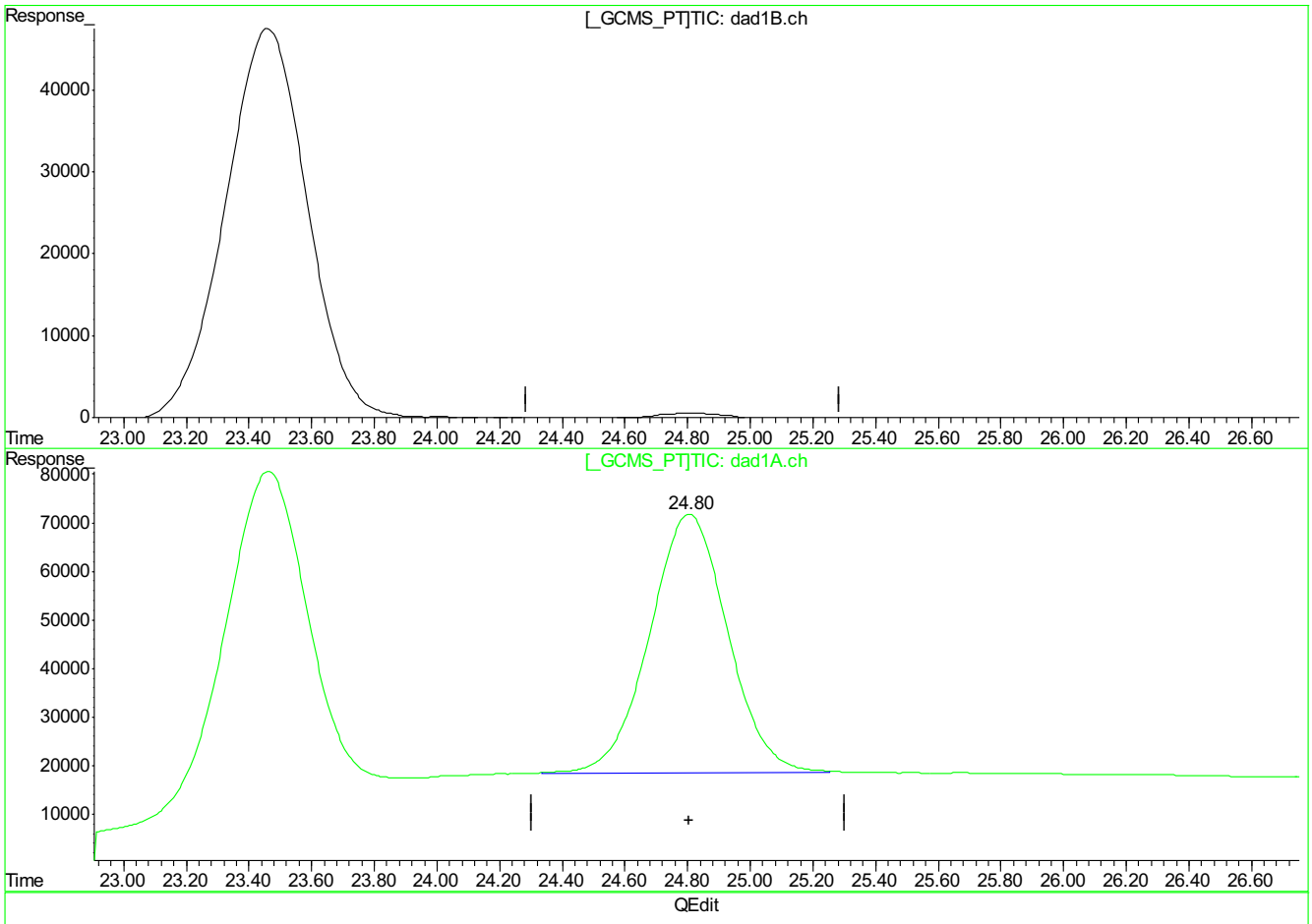
9

PP381826.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381826.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0424_RPB\PP381826.D\dad1A.ch
Acq On : 24-Apr-2017, 15:10:19 Operator: evitam
Sample : ic2096-1000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 9:36 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:17:00 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.80min 2797.248ppb m

response 9261458

(+) = Expected Retention Time
PP381826.D 0424_8330RPB.M Tue Apr 25 10:19:29 2017

9.5.20.12

9

PP381826.D edits: PETN

PP381827.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19:53 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.42	15.42	10360964	20207754	2168.135	2031.820
	Spiked Amount 500.000	Range 70 - 136		Recovery =		433.63%#	406.36%#
	Target Compounds						
1)	TNX	4.73	4.73	16806824	24896904	1933.436	1923.934
2)	HMX	5.12	5.12	6593084	19709100	1643.941	1685.257
3)	DNX	5.28	5.28	14537218	23353428	1804.583	1814.775
4)	MNX	6.39	6.39	11340995	18035492	2036.516	1867.776
5)	1,3,5-Trinitrobe	7.41	7.41	18978103	32906566	1869.935	1909.296
6)	RDX	7.82	7.82	9196668	17785450	1904.266	2070.881
7)	1,3-Dinitrobenze	9.97	9.97	25844204	19114929	1937.698	1901.471
8)	Nitrobenzene	11.07	11.07	13318915	12693702	1819.593	1781.181
9)	2,4,6-Trinitroto	12.18	12.18	17802038	22674434	1854.352	1855.128
10)	Nitroglycerin	0.00	13.18	0	31244827	N.D. d	10180.586m
11)	Tetryl	14.03	14.03	12126374	20212583	1804.790	1971.693m
13)	2,6-Dinitrotolue	15.85	15.85	12854397	18415341	1814.537	1874.772
14)	2,4-Dinitrotolue	16.72	16.72	23738773	16996309	1900.248	1827.647
15)	o-Nitrotoluene	19.10	19.10	7454581	11602868	1616.217	1817.065
16)	3,5-Dinitroanili	18.28	18.28	18419146	30478152	1944.310	1986.643
17)	p-Nitrotoluene	20.76	20.78	5953950	9405975	1727.427	1853.124m
18)	4-Amino-2,6-Dini	21.24	21.25	12866733	24436639	2065.387	3137.751m#
19)	m-Nitrotoluene	22.51	22.51	8335049	14062833	1627.475	1553.315m
20)	2-Amino-4,6-Dini	23.48	23.48	17997572	24661322	1679.029	1777.929m
21)	PETN	0.00	24.82	0	14642719	N.D. d	6218.909m

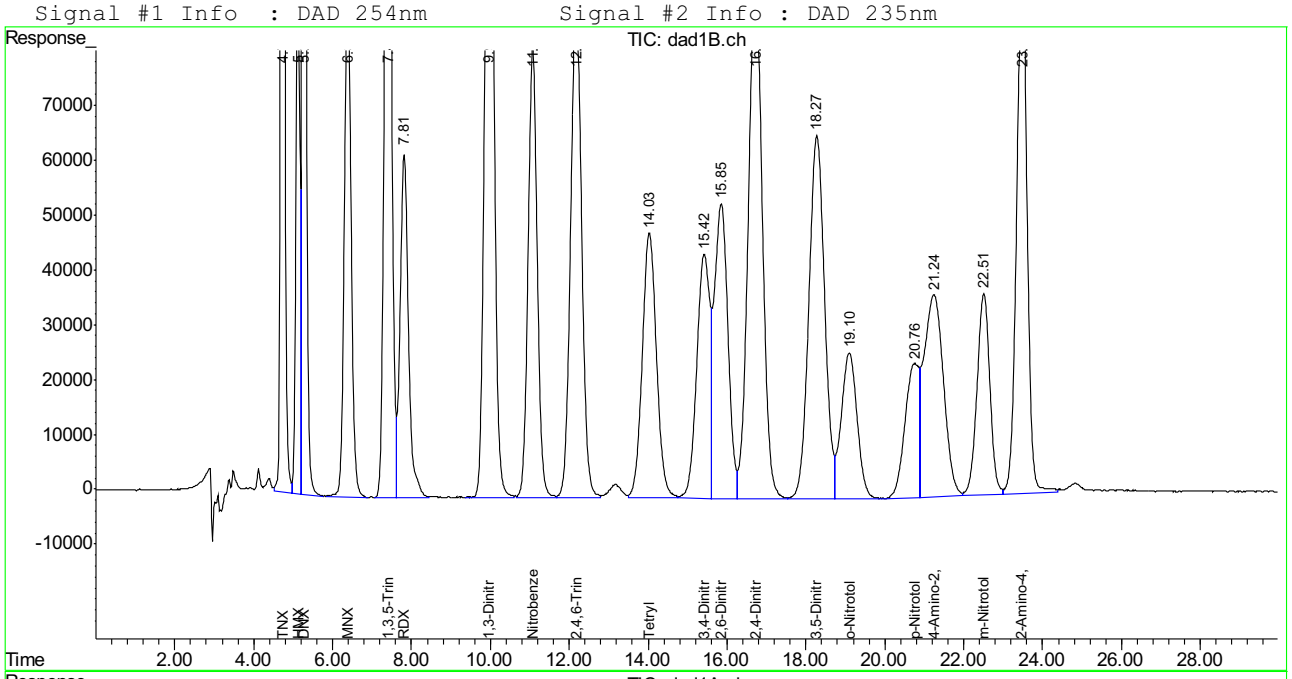
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381827.D 0424_8330RPB.M Tue Apr 25 15:49:19 2017 Page 1

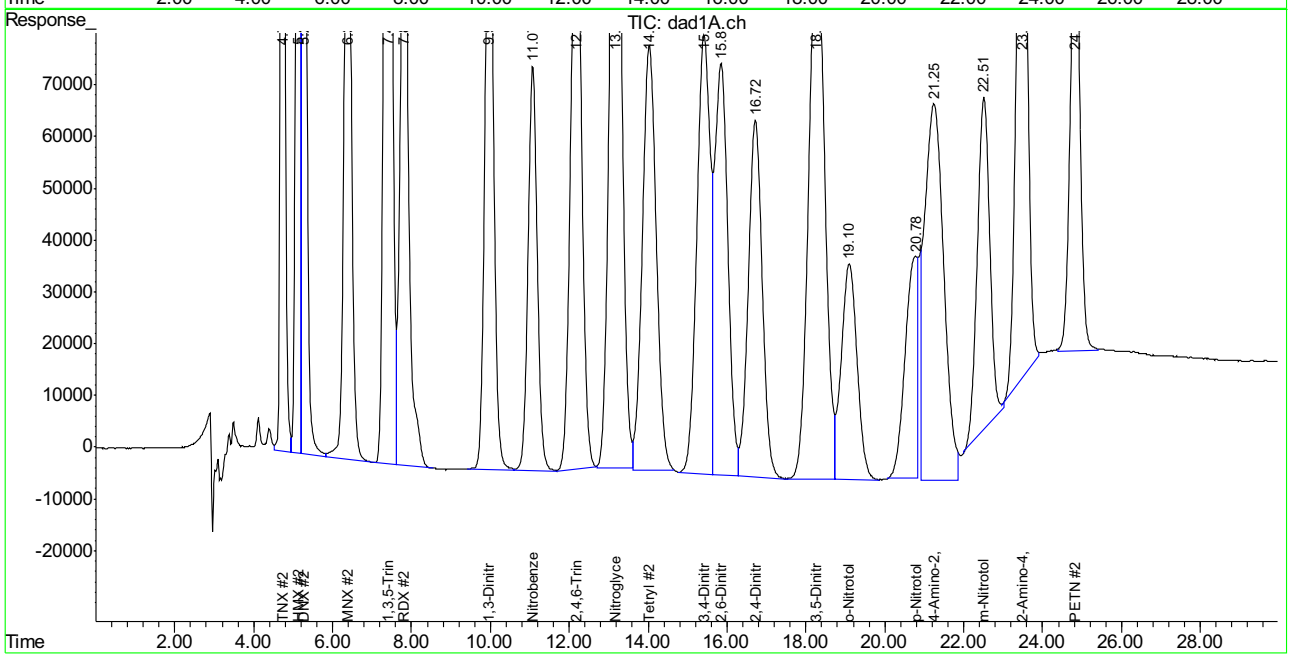
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 15:49 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

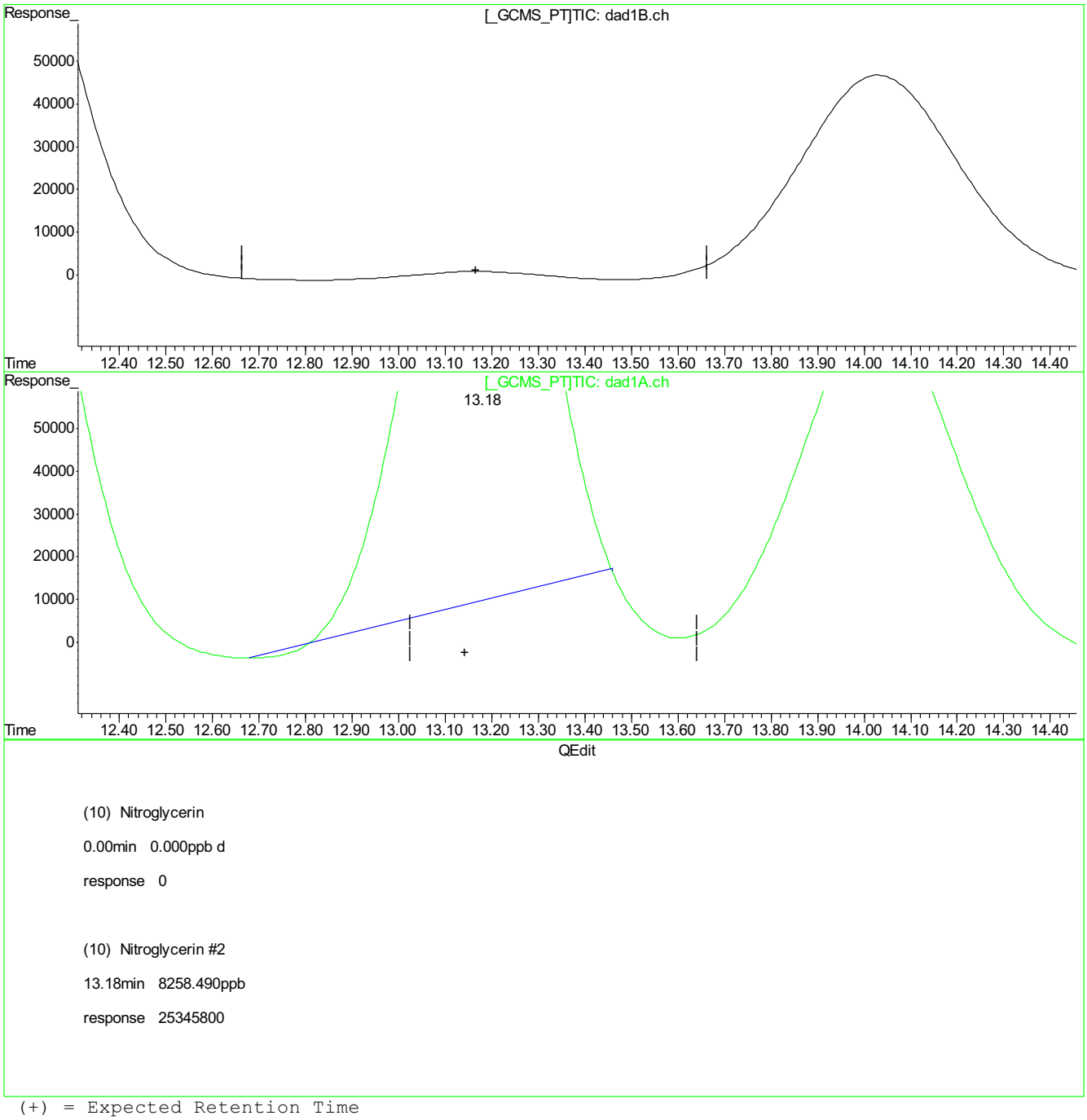
Sample Number: GPP2096-IC2096
Lab FileID: PP381827.D
Injection Time: 04/24/17 15:42
Method: SW846 8330A
Analyst approved: 04/25/17 13:42 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.18	Poorly defined baseline
Tetryl	479-45-8	2	14.03	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.78	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.25	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.48	Poorly defined baseline
PETN	78-11-5	2	24.82	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.18min 8258.490ppb

response 25345800

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:20:32 2017

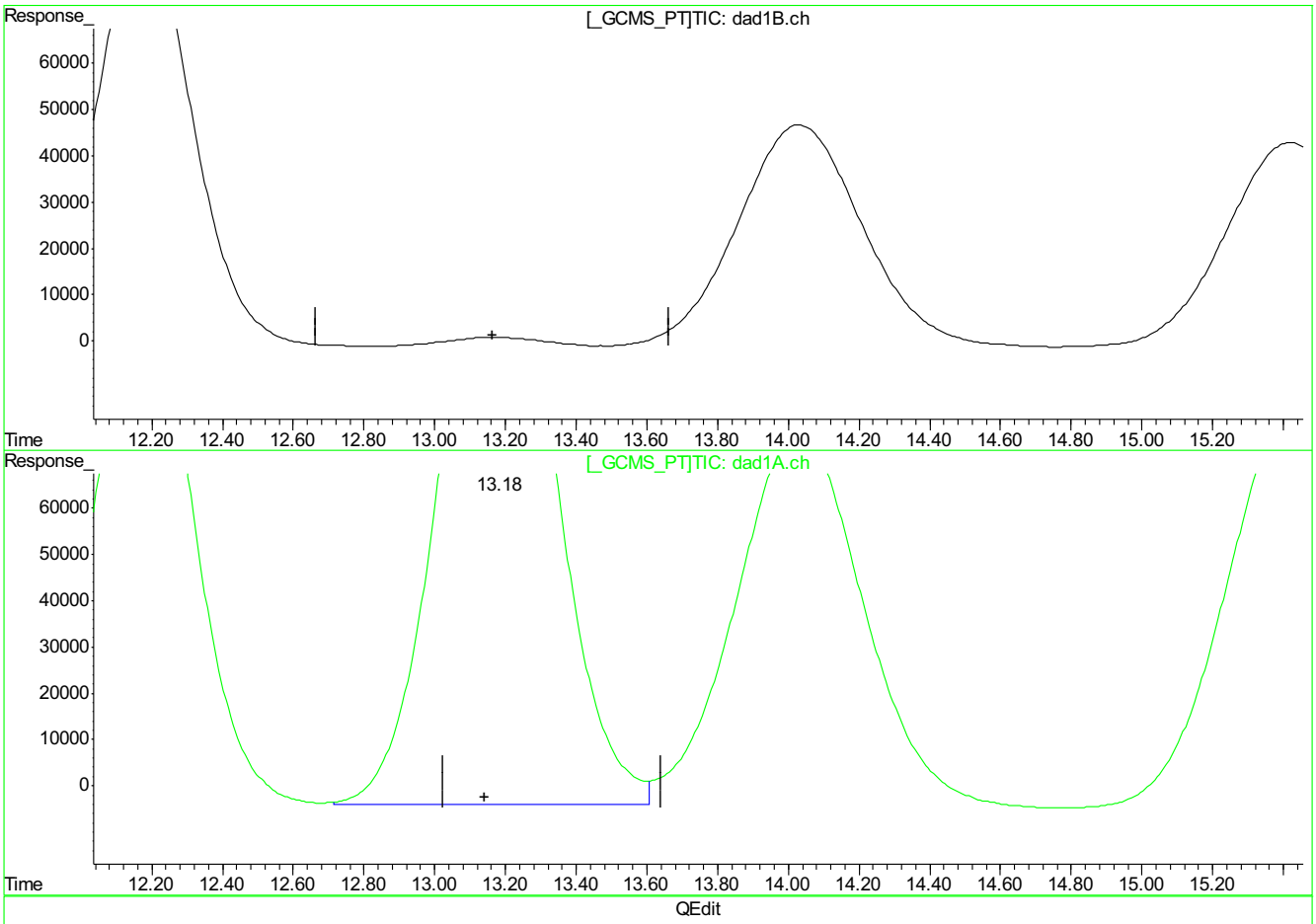
9.5.21.2

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.18min 10180.586ppb m

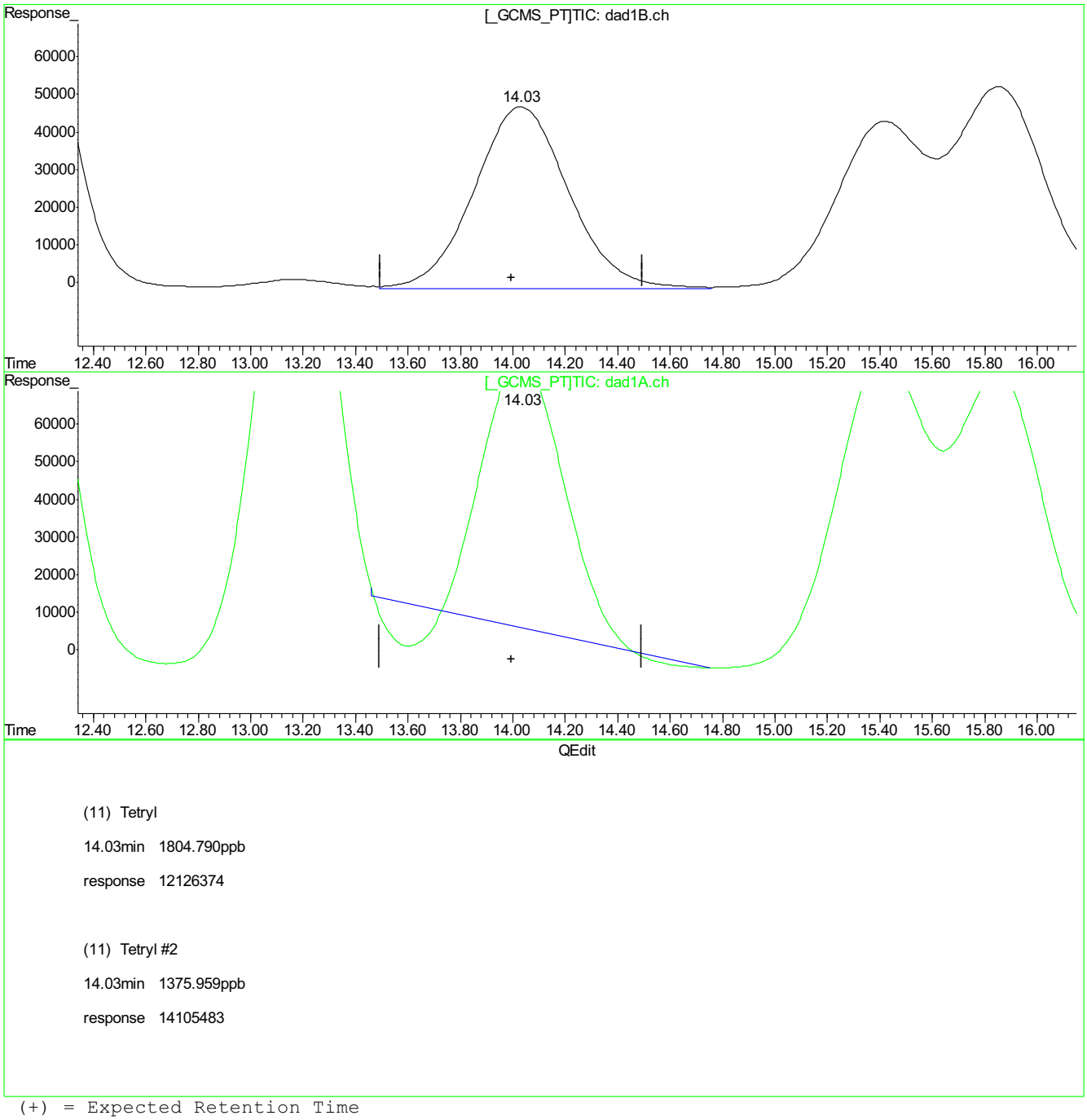
response 31244827

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:20:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(11) Tetryl

14.03min 1804.790ppb

response 12126374

(11) Tetryl #2

14.03min 1375.959ppb

response 14105483

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:20:49 2017

9.5.21.4

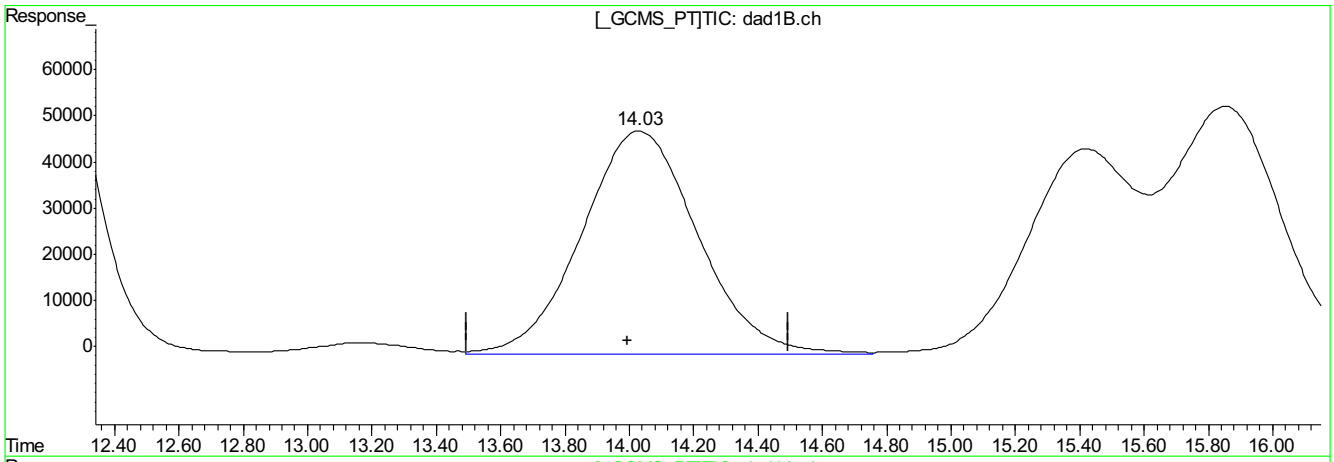
9

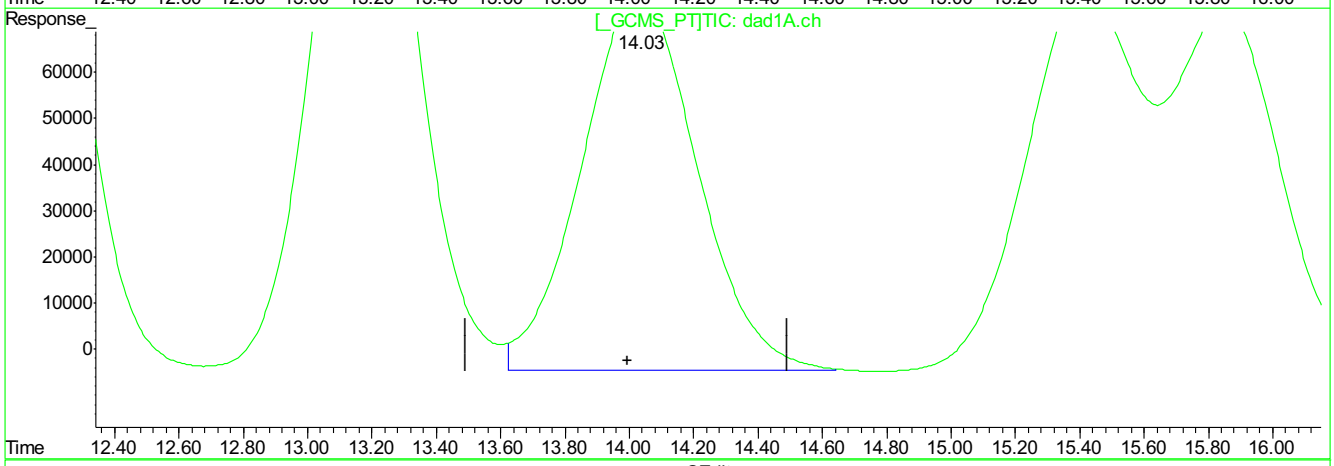
PP381827.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

14.03min 1804.790ppb

response 12126374

(11) Tetryl #2

14.03min 1971.693ppb m

response 20212583

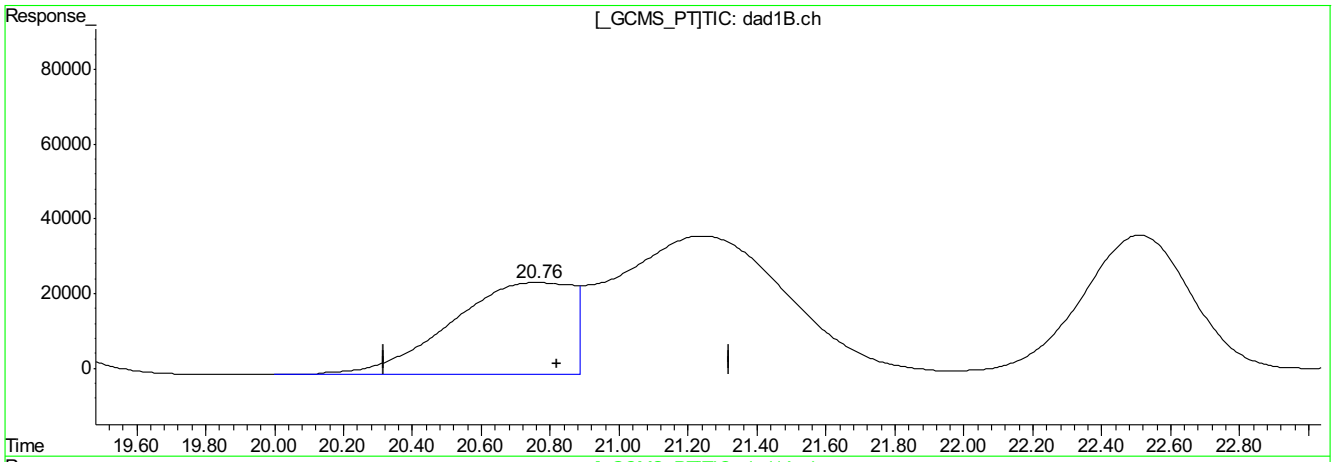
(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:21:04 2017

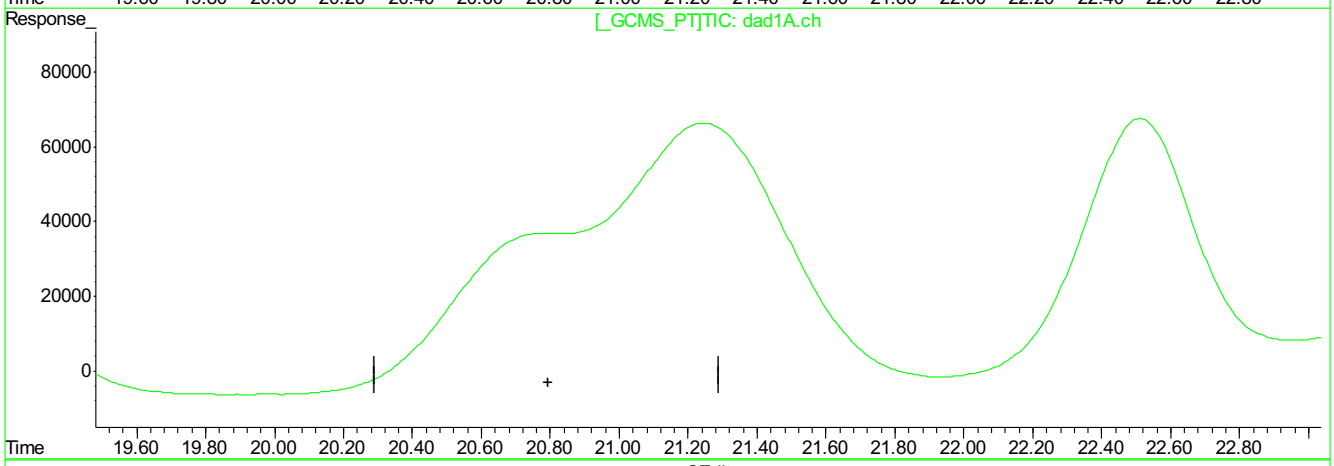
9.5.21.5 9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

20.76min 1727.427ppb

response 5953950

(17) p-Nitrotoluene #2

0.00min 0.000ppb

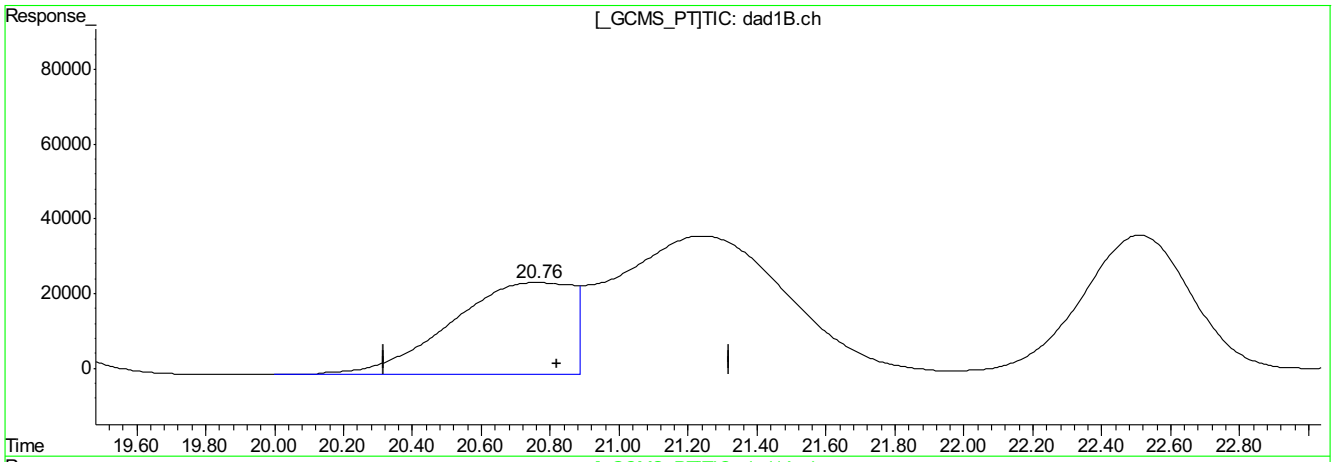
response 0

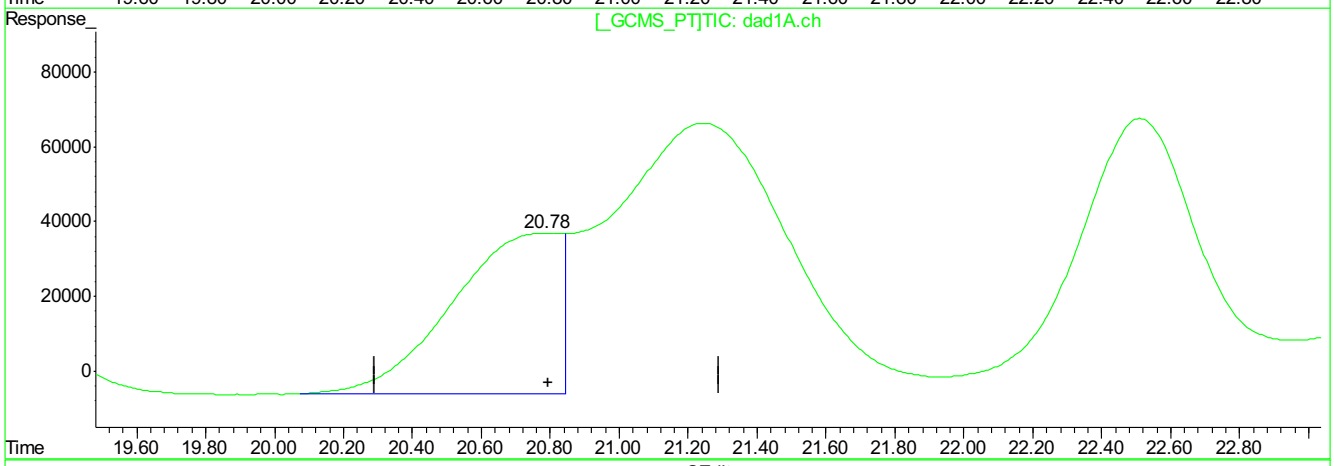
(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:21:45 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

20.76min 1727.427ppb

response 5953950

(17) p-Nitrotoluene #2

20.78min 1853.124ppb m

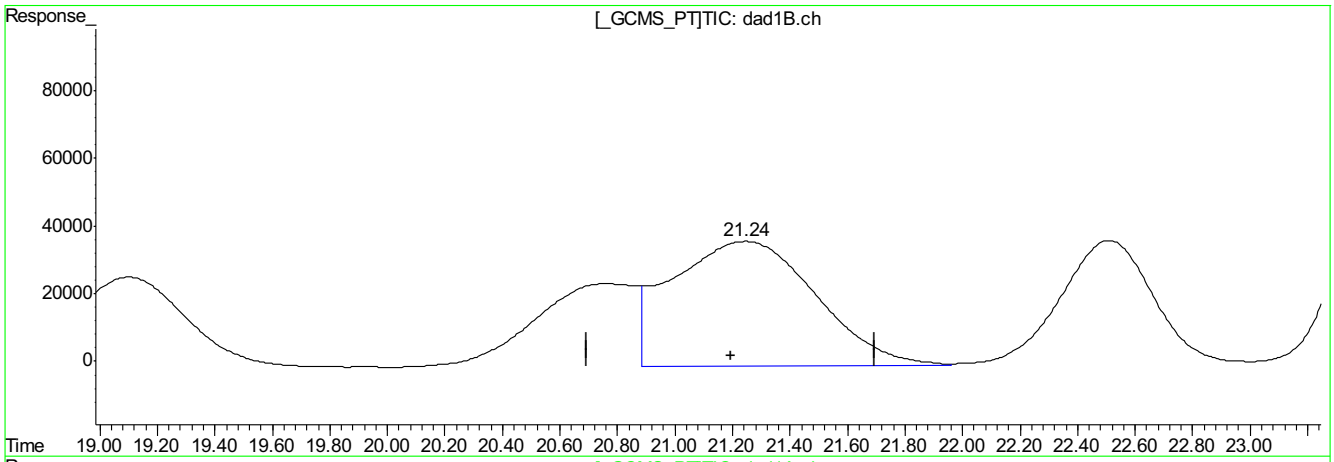
response 9405975

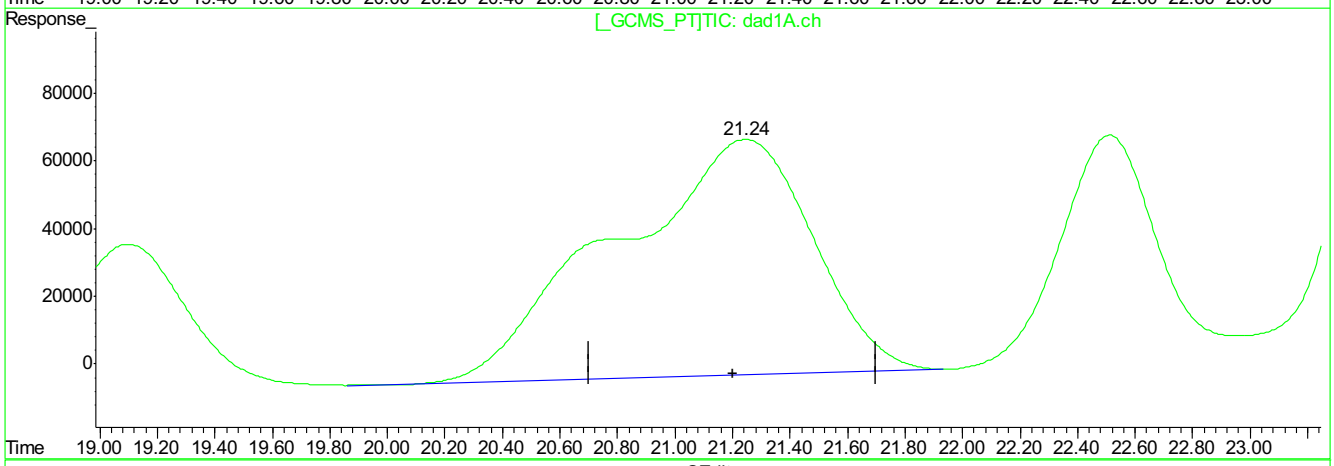
(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:04 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

21.24min 2065.387ppb

response 12866733

(18) 4-Amino-2,6-Dinitrotoluene #2

21.25min 4260.133ppb

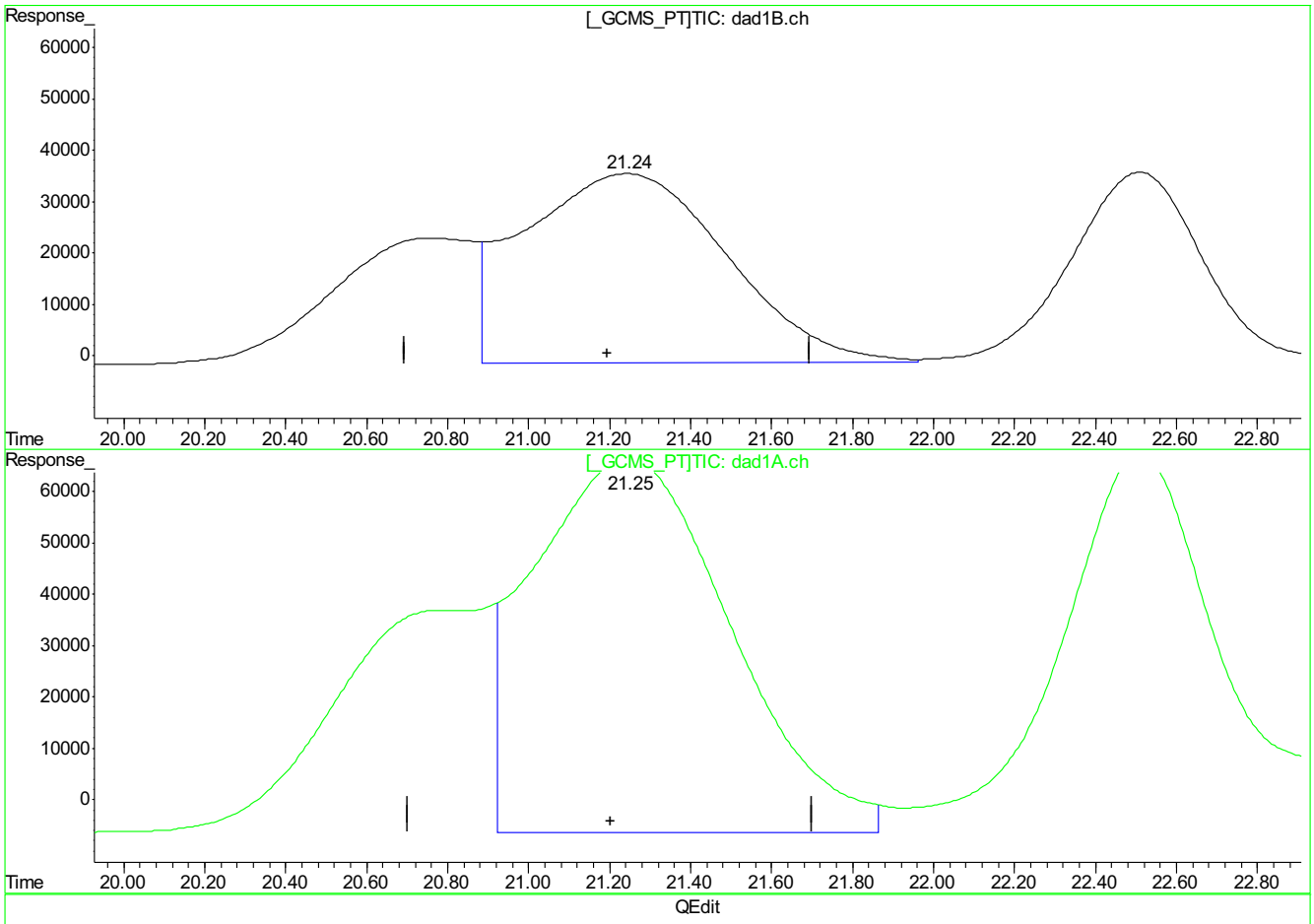
response 33177697

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:12 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

21.24min 2065.387ppb

response 12866733

(18) 4-Amino-2,6-Dinitrotoluene #2

21.25min 3137.751ppb m

response 24436639

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:27 2017

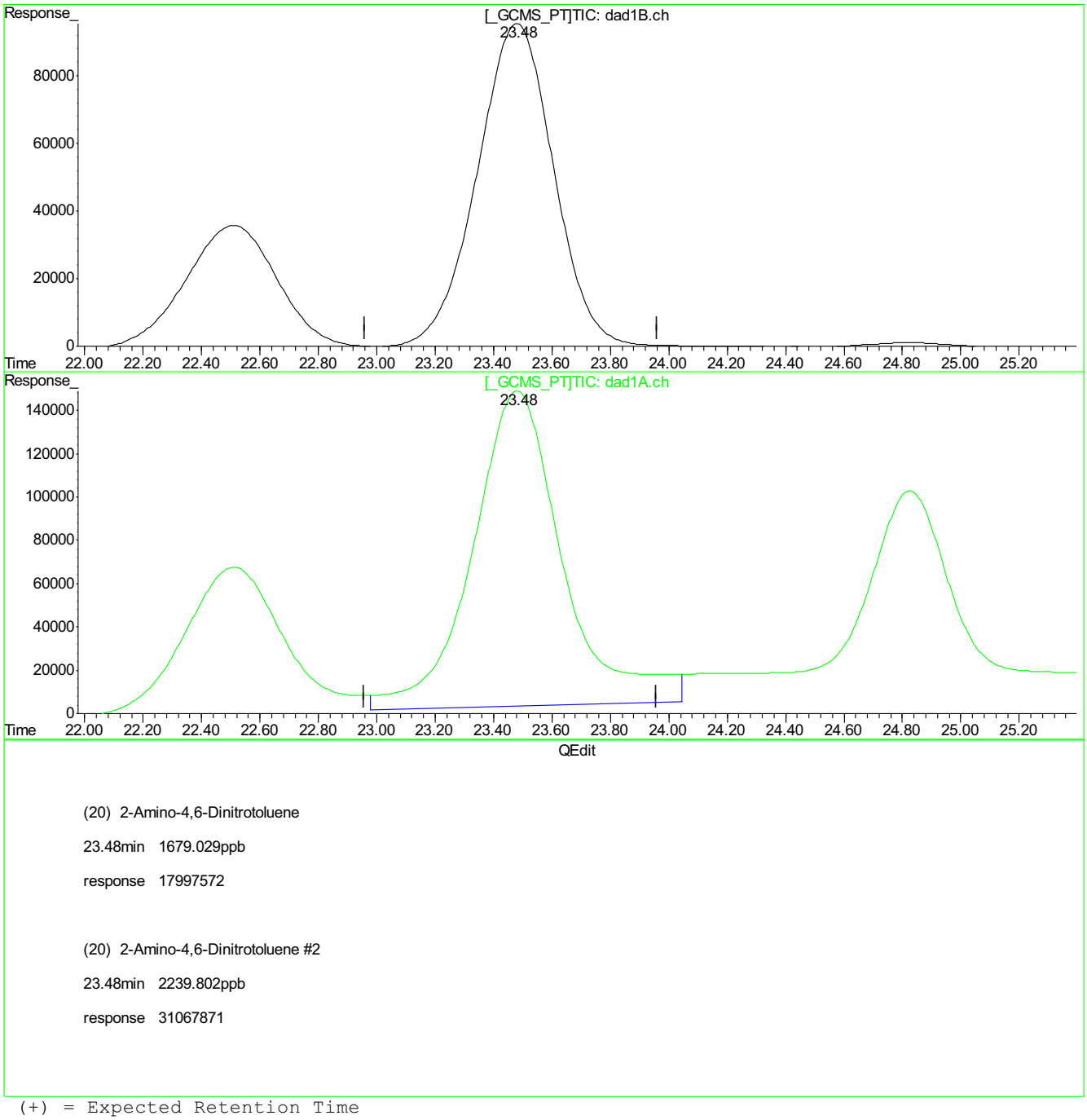
9.5.21.9

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.48min 1679.029ppb

response 17997572

(20) 2-Amino-4,6-Dinitrotoluene #2

23.48min 2239.802ppb

response 31067871

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:37 2017

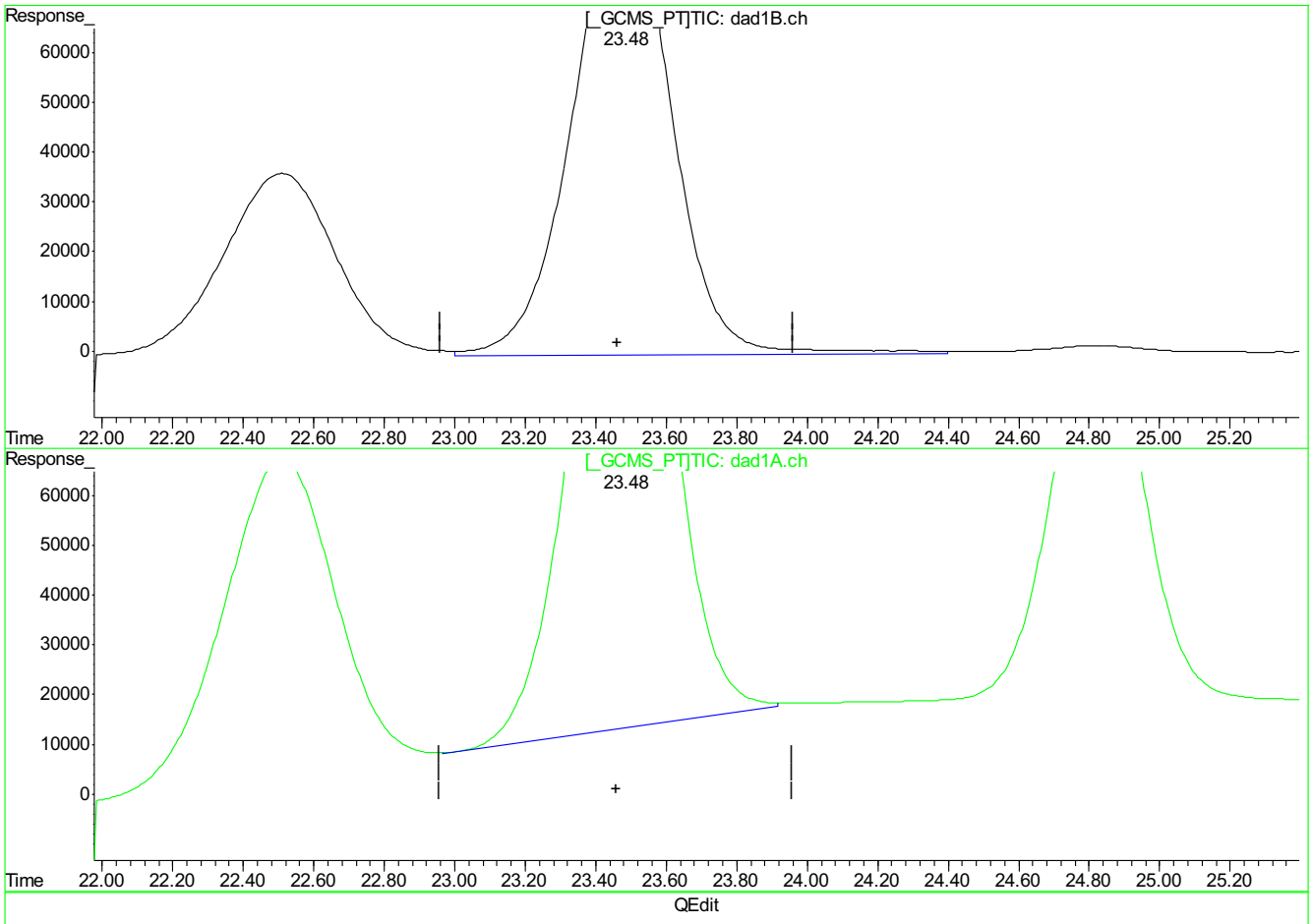
9.5.21.10

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.48min 1679.029ppb

response 17997572

(20) 2-Amino-4,6-Dinitrotoluene #2

23.48min 1777.929ppb m

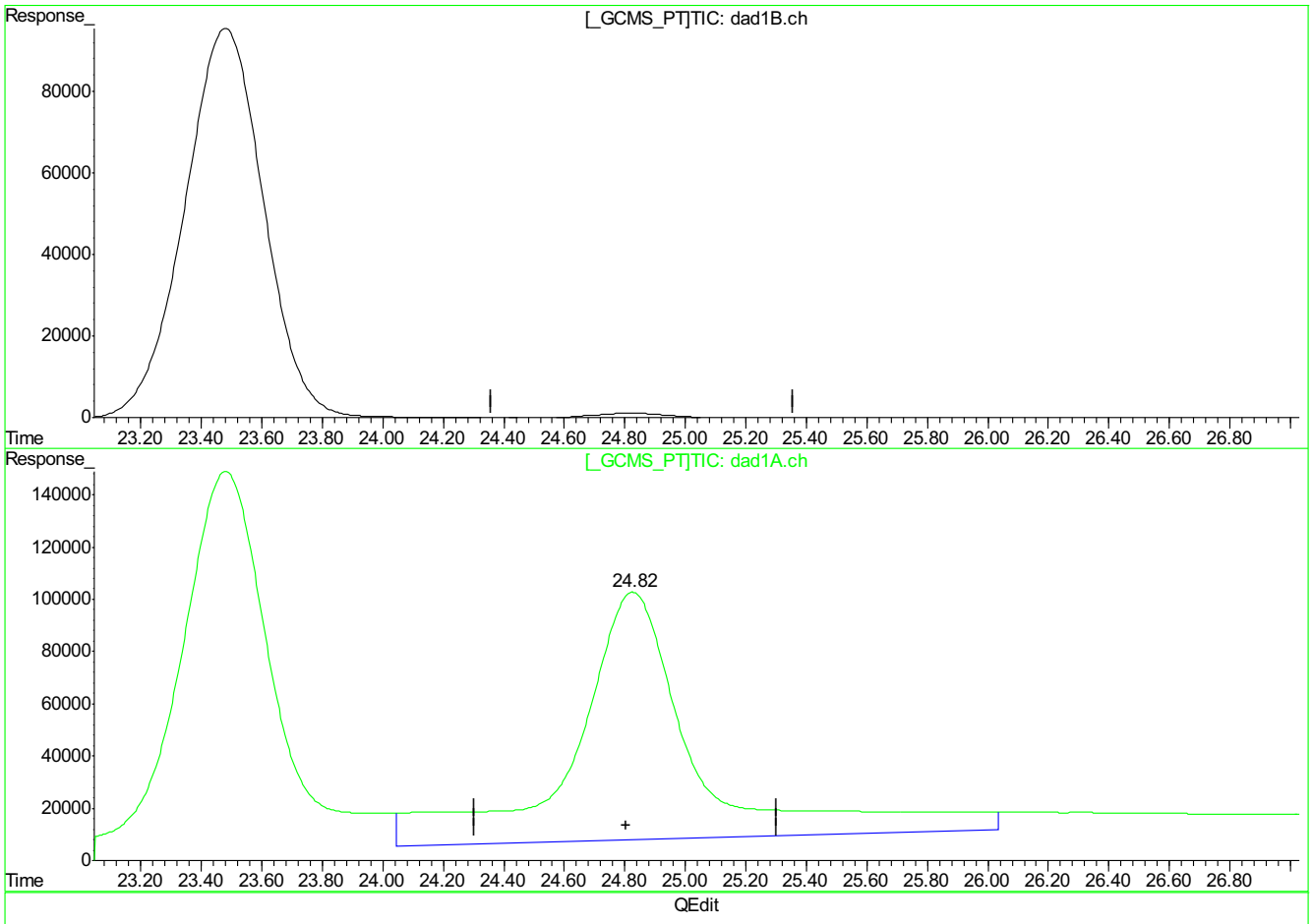
response 24661322

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:45 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.83min 11301.822ppb

response 26610680

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:49 2017

9.5.21.12

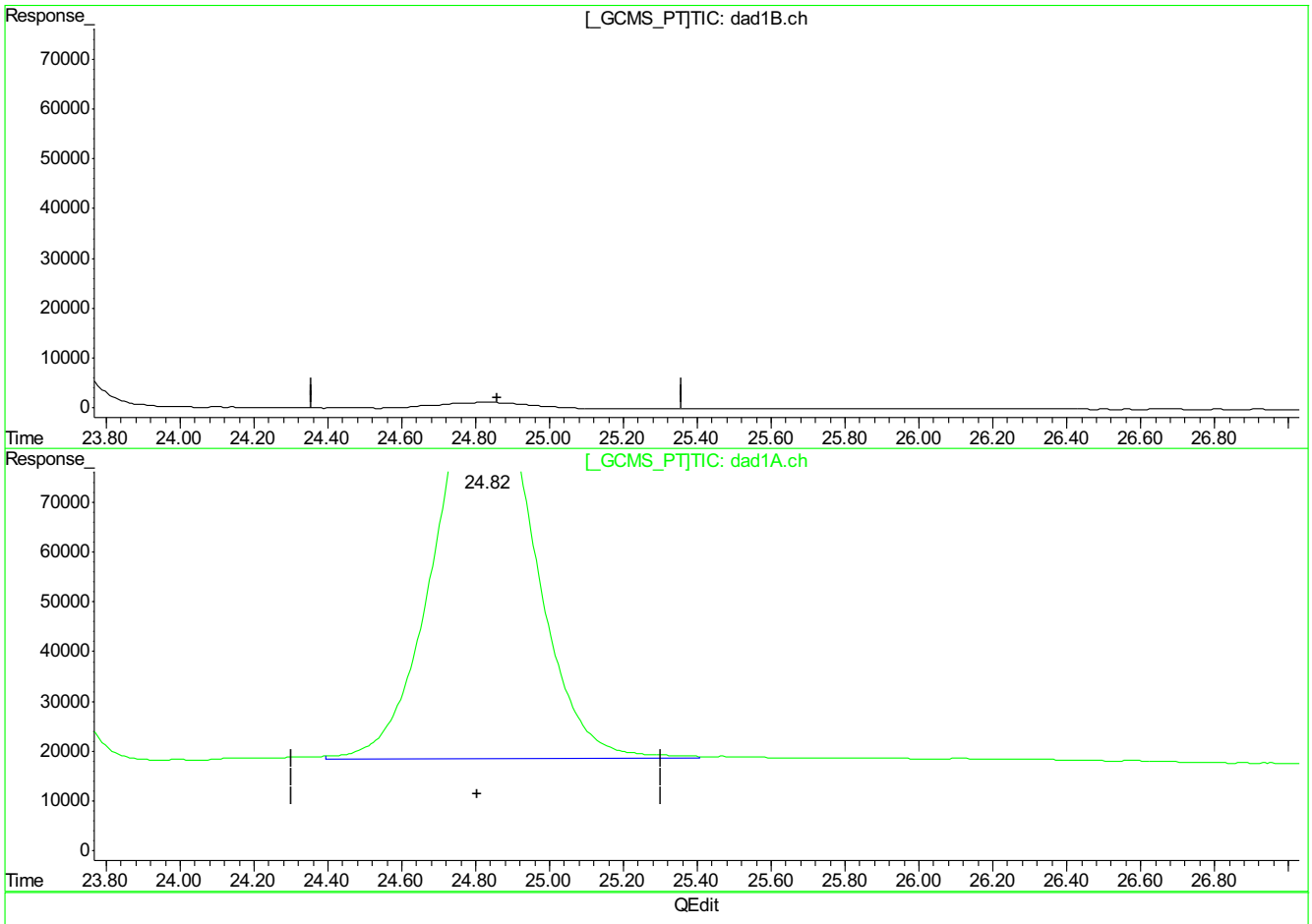
9

PP381827.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381827.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0424_RPB\PP381827.D\dad1A.ch
Acq On : 24-Apr-2017, 15:42:48 Operator: evitam
Sample : ic2096-2000 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:19 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:19:45 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.82min 6218.909ppb m

response 14642719

(+) = Expected Retention Time
PP381827.D 0424_8330RPB.M Tue Apr 25 10:22:57 2017

9.5.21.13

9

PP381827.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53:12 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.71	4.71	4405934	6270660	505.539	483.176
2)	HMX	5.10	5.10	1929143	5528462	522.104	513.013
3)	DNX	5.25	5.25	3798758	6290240	473.419	453.954
4)	MNX	6.33	6.33	2828134	4381611	508.894	466.656
5)	1,3,5-Trinitrobe	7.35	7.35	4948136	8482530	484.794	490.722
6)	RDX	7.74	7.74	2487561	4723282	512.238	551.085
7)	1,3-Dinitrobenze	9.90	9.90	6188298	4586647	464.503	454.898
8)	Nitrobenzene	10.98	10.98	3528290	3312663	461.030	442.973
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	13.05	0	8012815	N.D. d	2486.109m
11)	Tetryl	13.88	13.88	2993776	5144383	473.796	501.454m
13)	2,6-Dinitrotolue	15.69	15.69	3449875	5333027	513.558	547.239
14)	2,4-Dinitrotolue	16.55	16.55	5994342	4382443	479.424	467.055
15)	o-Nitrotoluene	18.90	18.90	2195940	3380436	433.300	478.010
16)	3,5-Dinitroanili	18.11	18.12	5336145	8985257	568.862m	604.559
17)	p-Nitrotoluene	20.52	20.54	2087739	3056211	539.634m	592.097m
18)	4-Amino-2,6-Dini	21.02	21.02	3055038	5480977	498.703	558.593
19)	m-Nitrotoluene	22.34	22.35	2538322	4159848	455.785	442.527m
20)	2-Amino-4,6-Dini	23.37	23.37	5058989	6584176	511.650	498.077m
21)	PETN	0.00	24.72	0	9325564	N.D. d	4543.543m

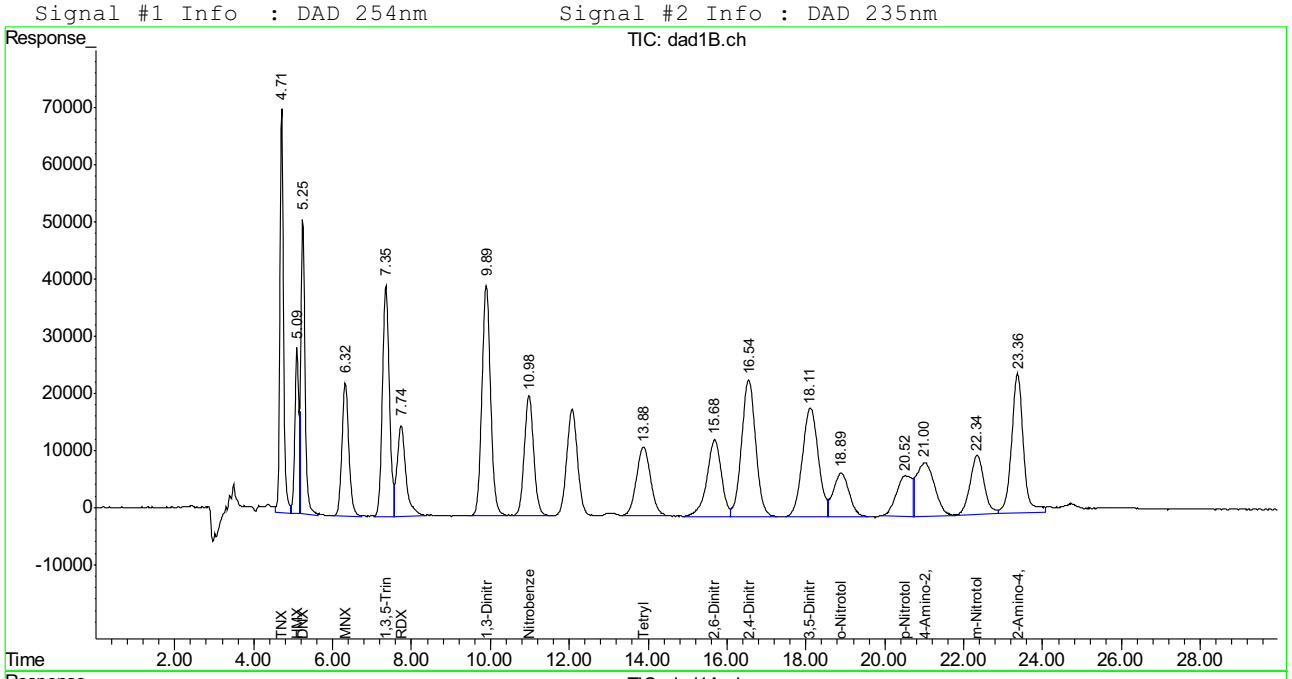
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381828.D 0424_8330RPB.M Tue Apr 25 14:45:01 2017 Page 1

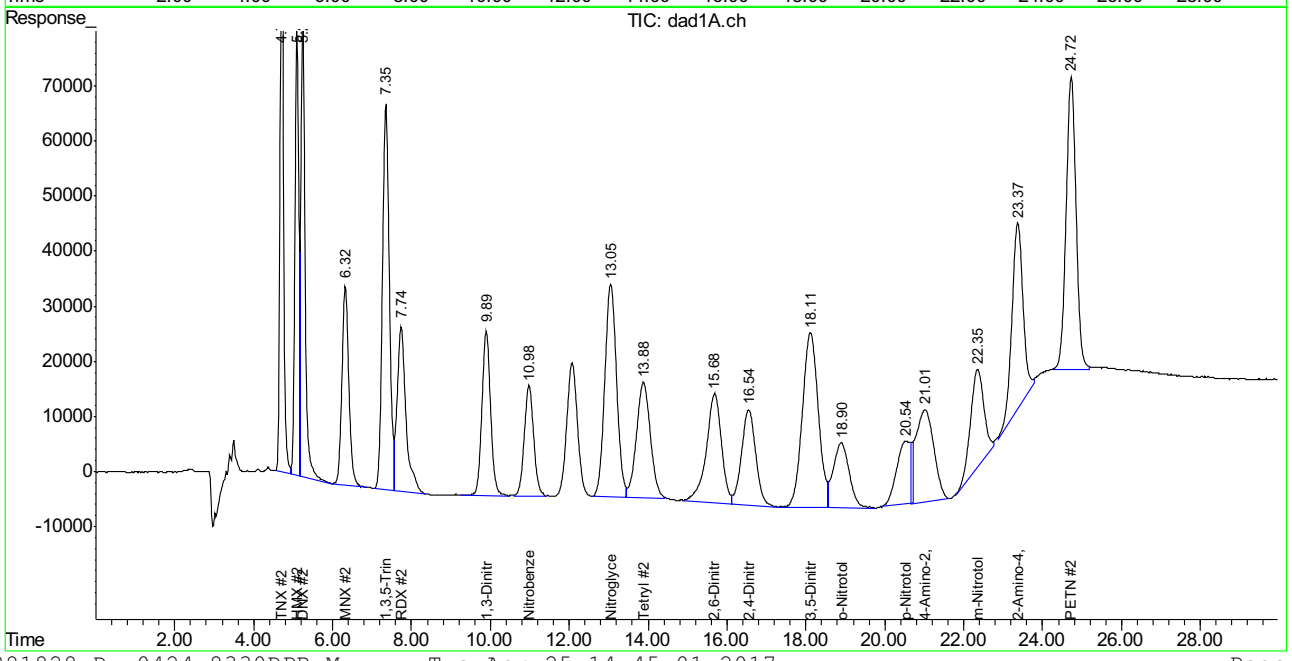
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 14:44 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

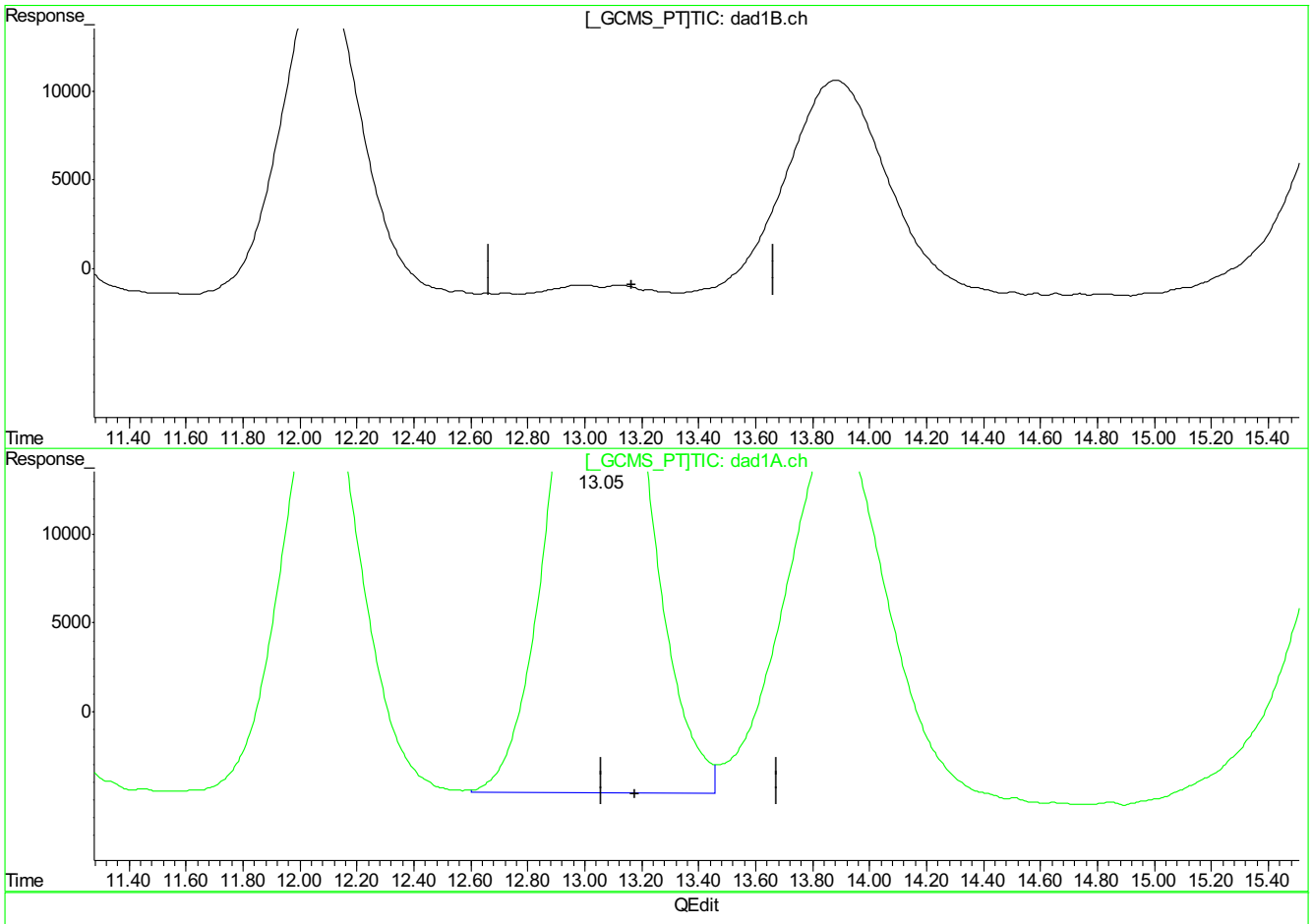
Sample Number: GPP2096-ICV2096 **Method:** SW846 8330A
Lab FileID: PP381828.D **Analyst approved:** 04/25/17 13:47 Evita Martinez
Injection Time: 04/24/17 16:15 **Supervisor approved:** 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.05	Poorly defined baseline
Tetryl	479-45-8	2	13.88	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	18.11	Poorly defined baseline
p-Nitrotoluene	99-99-0	1	20.52	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	20.54	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.35	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.37	Poorly defined baseline
PETN	78-11-5	2	24.72	Poorly defined baseline

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch         Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On    : 24-Apr-2017, 16:15:18                    Operator: evitam
Sample    : icv2096-500                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.05min 2486.109ppb m

response 8012815

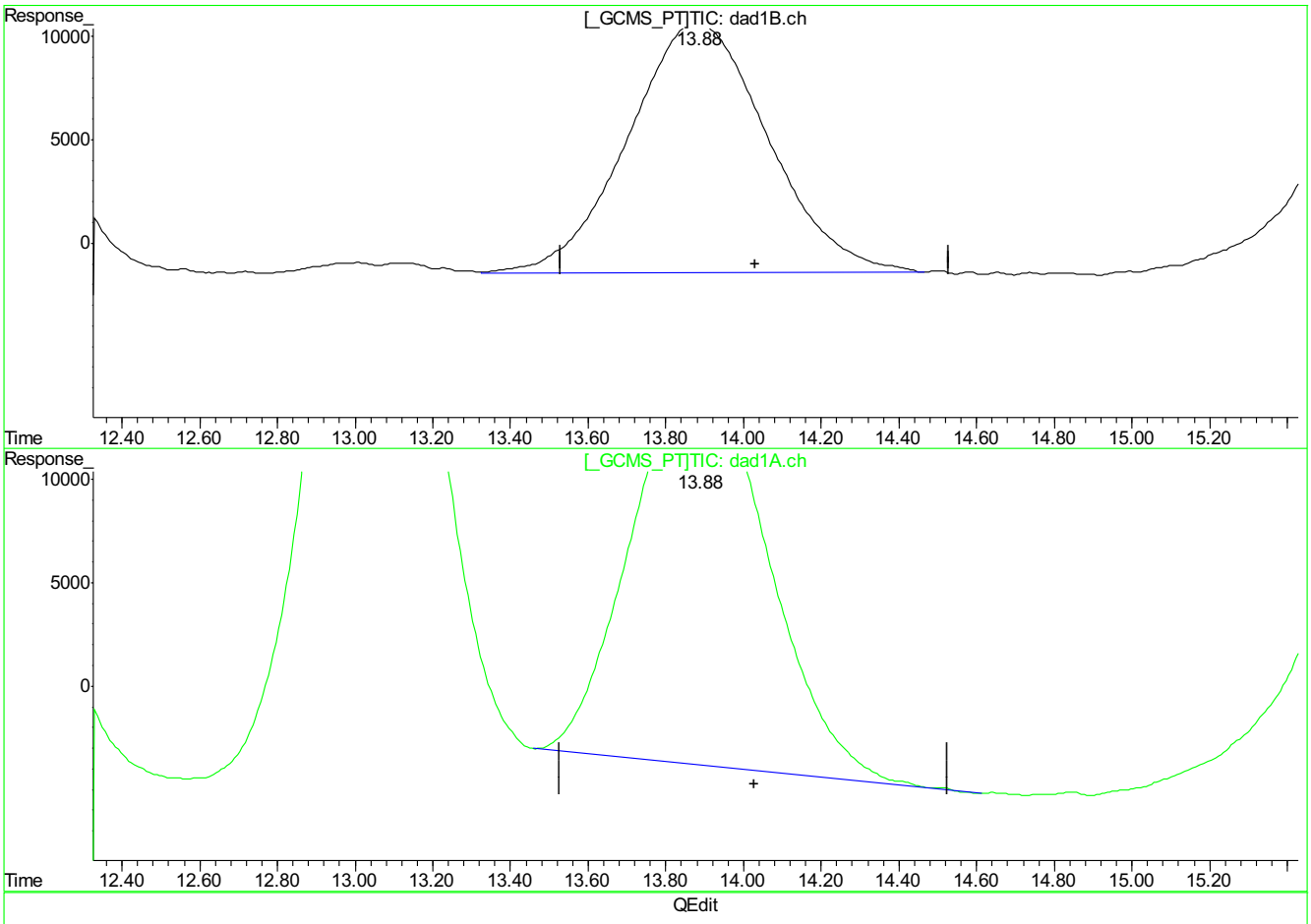
(+) = Expected Retention Time

PP381828.D 0424_8330RPB.M Tue Apr 25 10:53:35 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.88min 473.796ppb

response 2993776

(11) Tetryl #2

13.88min 453.198ppb

response 4651515

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:53:42 2017

9.5.22.3

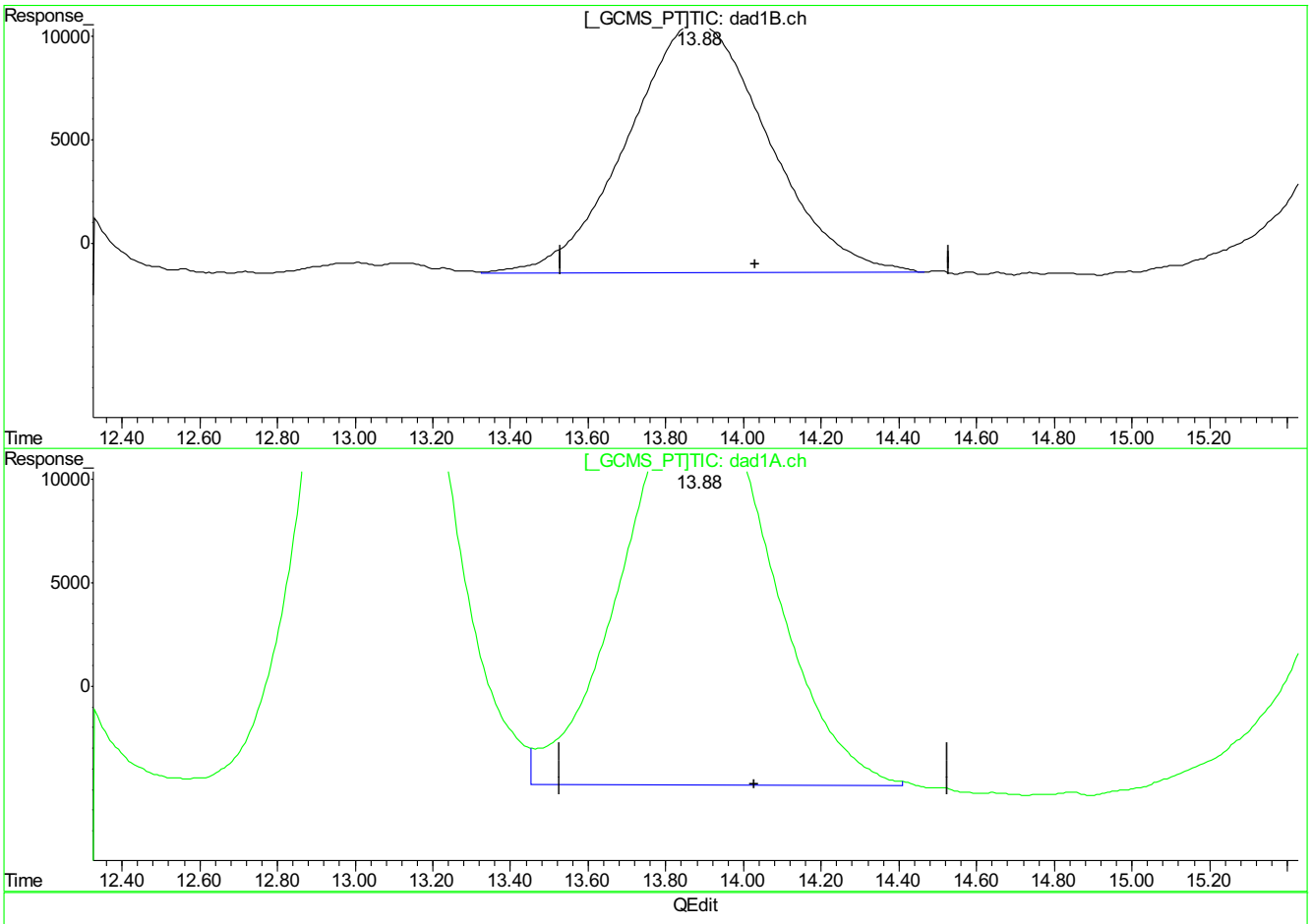
9

PP381828.D edits: Tetryl

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.88min 473.796ppb

response 2993776

(11) Tetryl #2

13.88min 501.454ppb m

response 5144383

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:53:48 2017

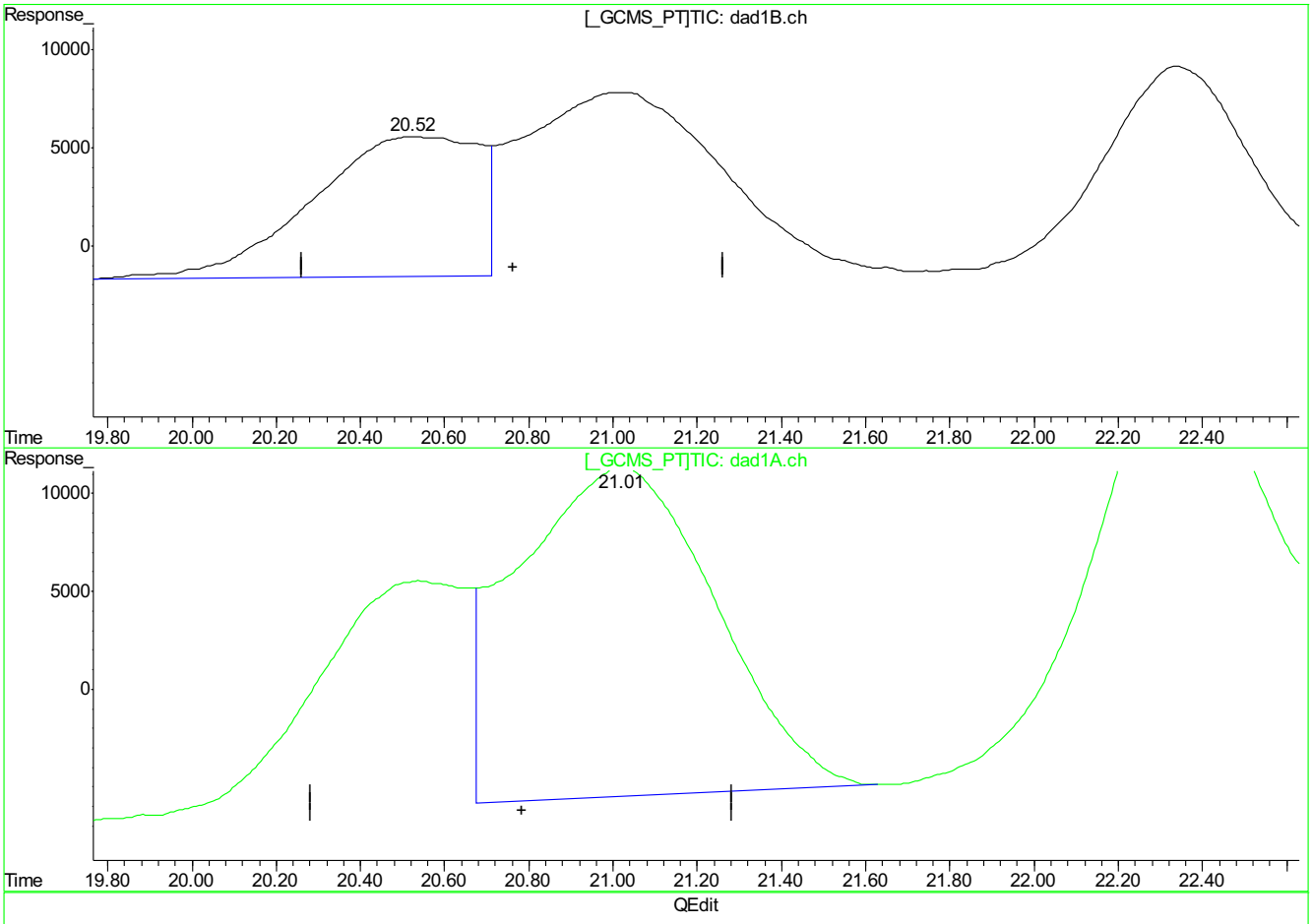
9.5.22.4

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

20.53min 497.333ppb

response 1936901

(17) p-Nitrotoluene #2

21.02min 1096.288ppb

response 5480977

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:54:21 2017

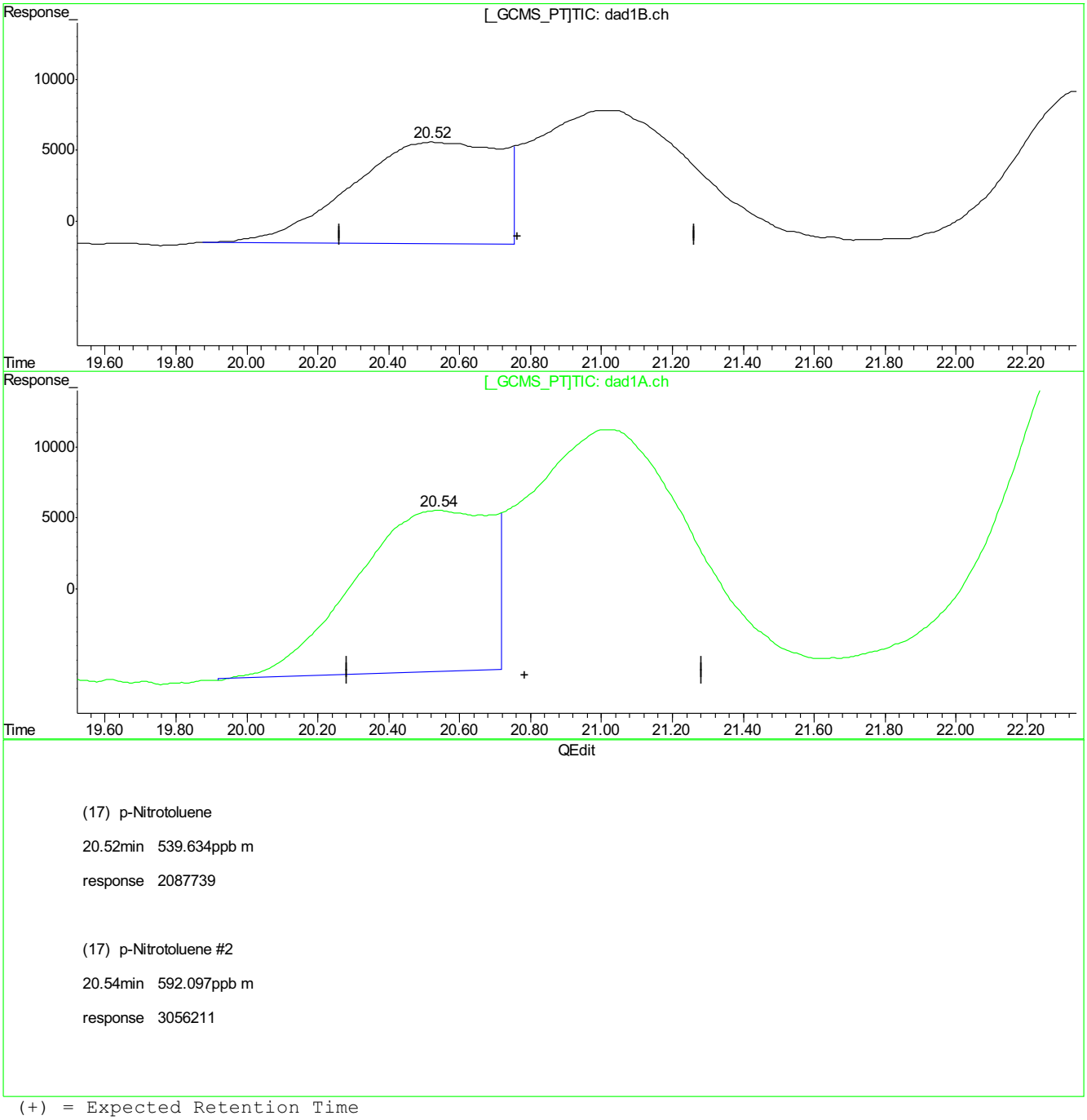
9.5.22.5

9

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch         Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On    : 24-Apr-2017, 16:15:18                    Operator: evitam
Sample    : icv2096-500                              Inst    : G1315B
Misc      : OP64675,GPP2096,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 10:53 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
```



(17) p-Nitrotoluene

20.52min 539.634ppb m

response 2087739

(17) p-Nitrotoluene #2

20.54min 592.097ppb m

response 3056211

(+) = Expected Retention Time

PP381828.D 0424_8330RPB.M Tue Apr 25 10:54:51 2017

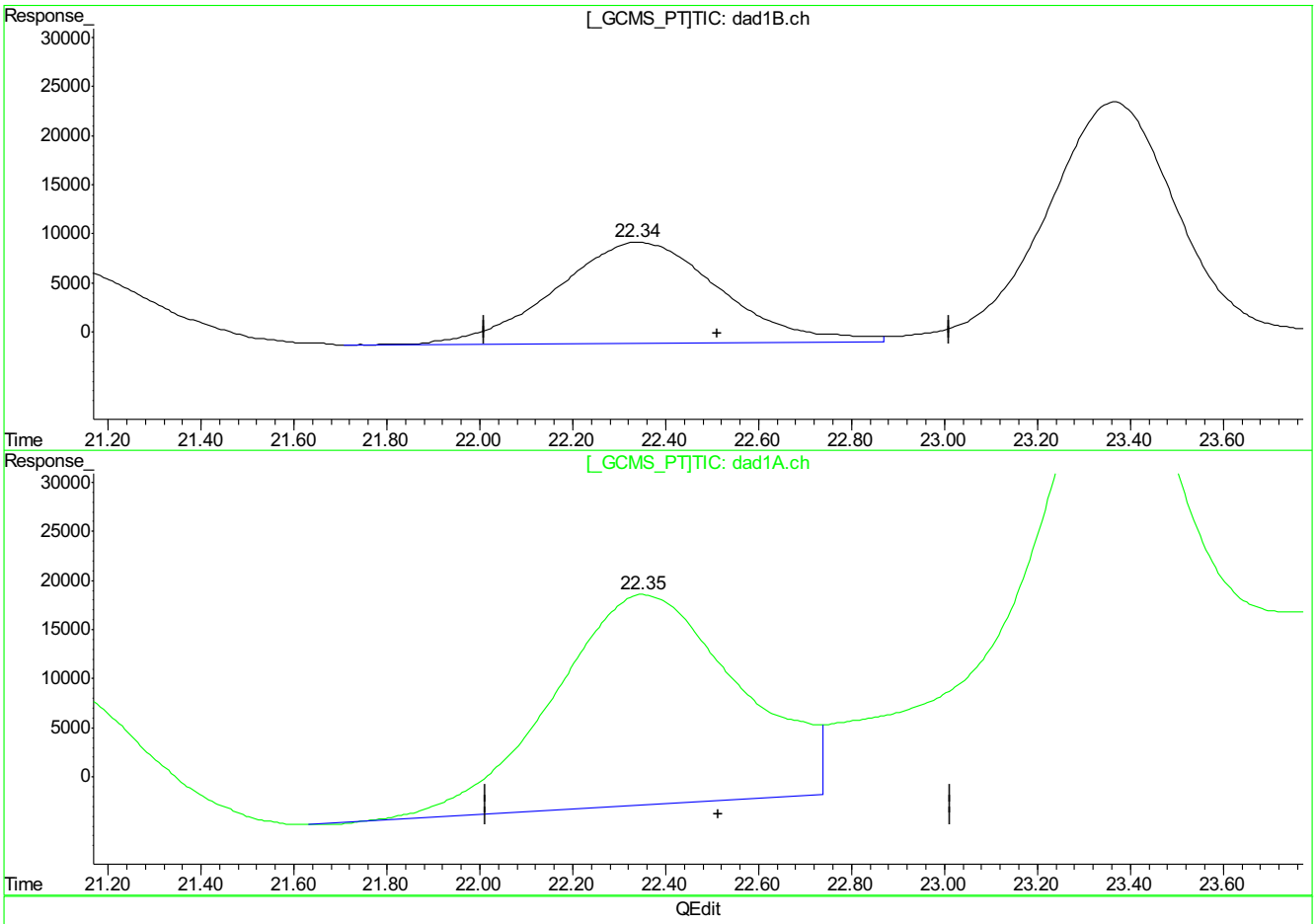
9.5.22.6

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.34min 455.785ppb

response 2538322

(19) m-Nitrotoluene #2

22.35min 642.978ppb

response 5921541

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:15 2017

9.5.22.7

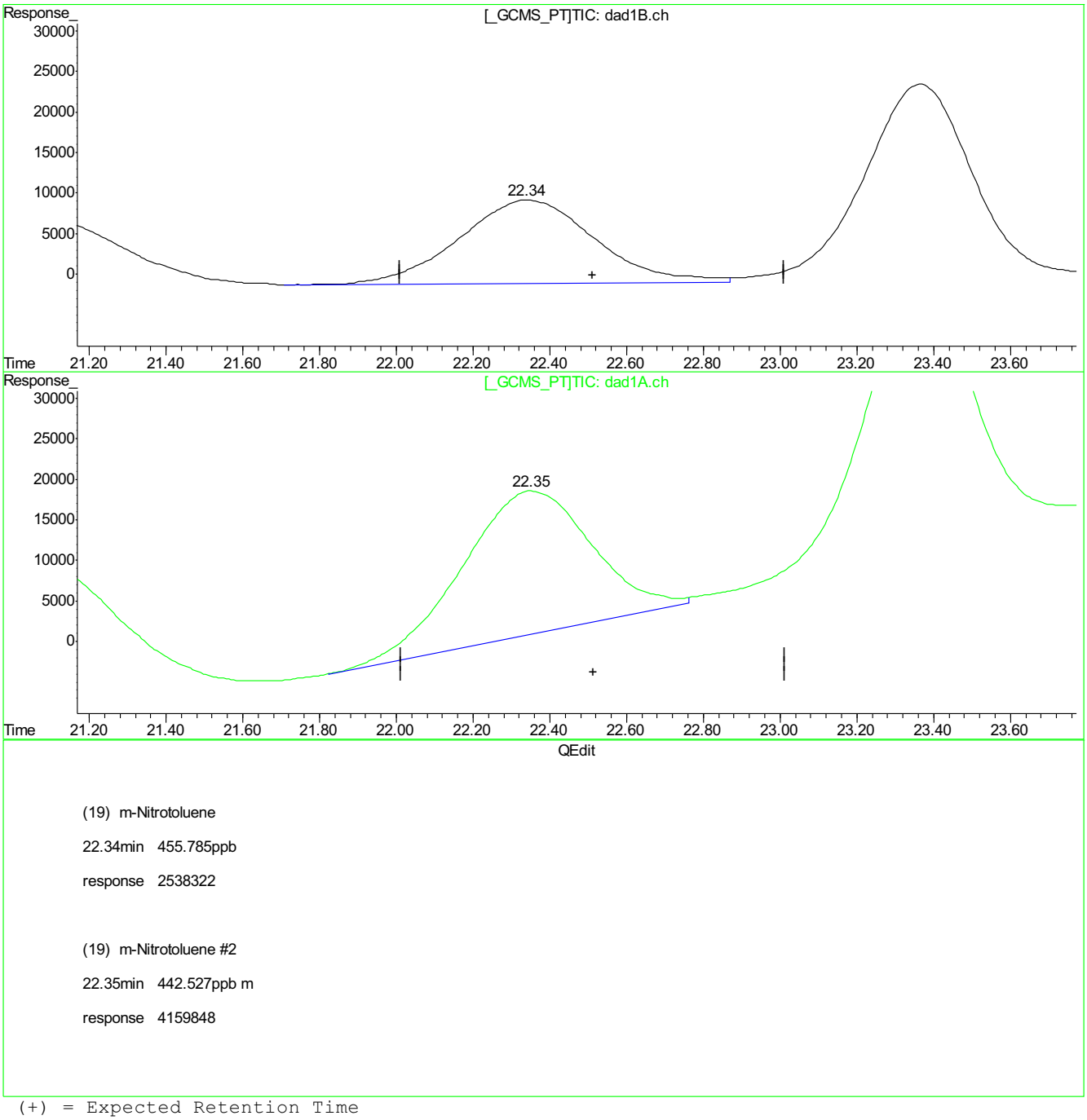
6

PP381828.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.34min 455.785ppb

response 2538322

(19) m-Nitrotoluene #2

22.35min 442.527ppb m

response 4159848

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:19 2017

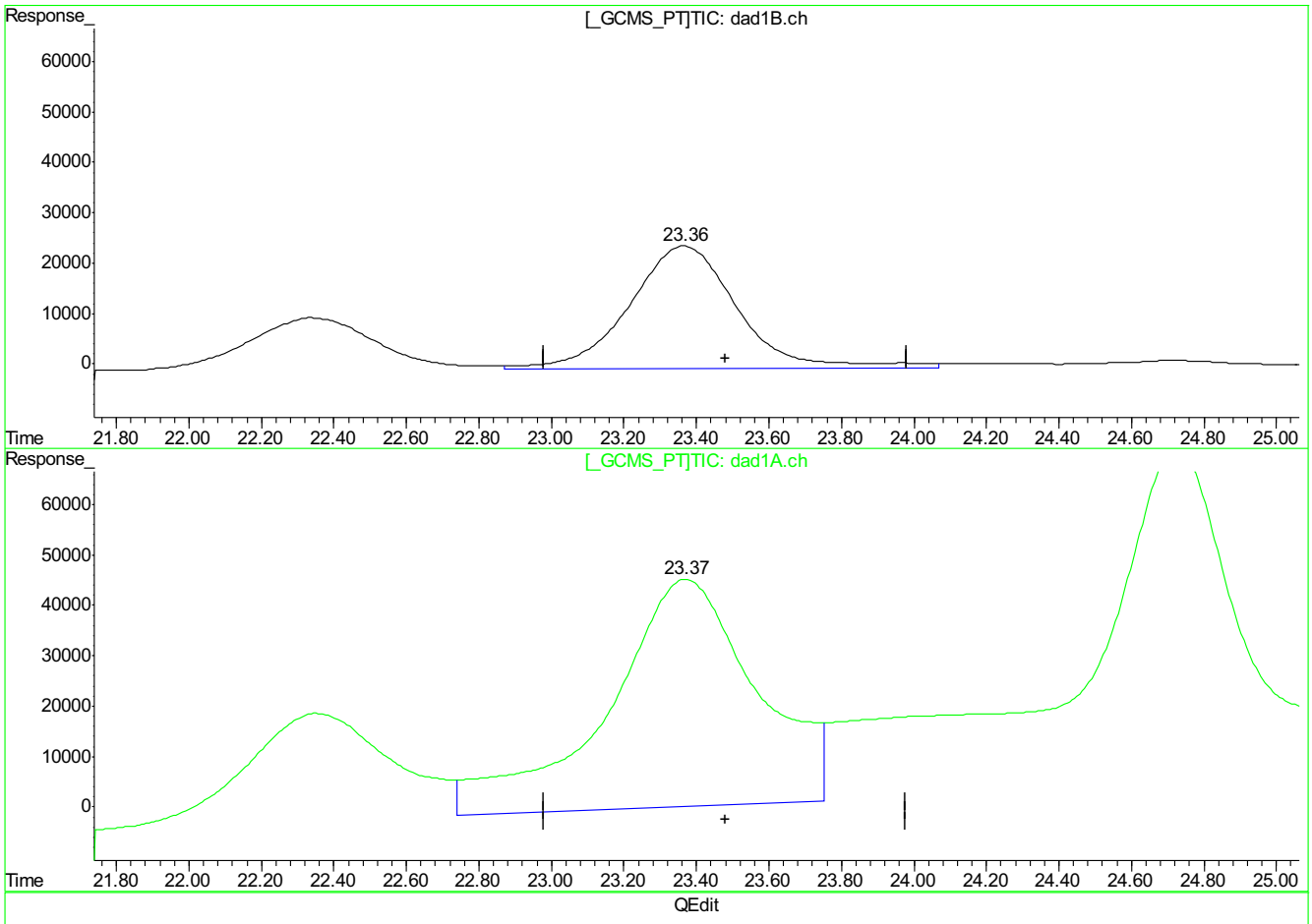
9.5.22.8

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 511.650ppb

response 5058989

(20) 2-Amino-4,6-Dinitrotoluene #2

23.37min 999.146ppb

response 12911900

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:22 2017

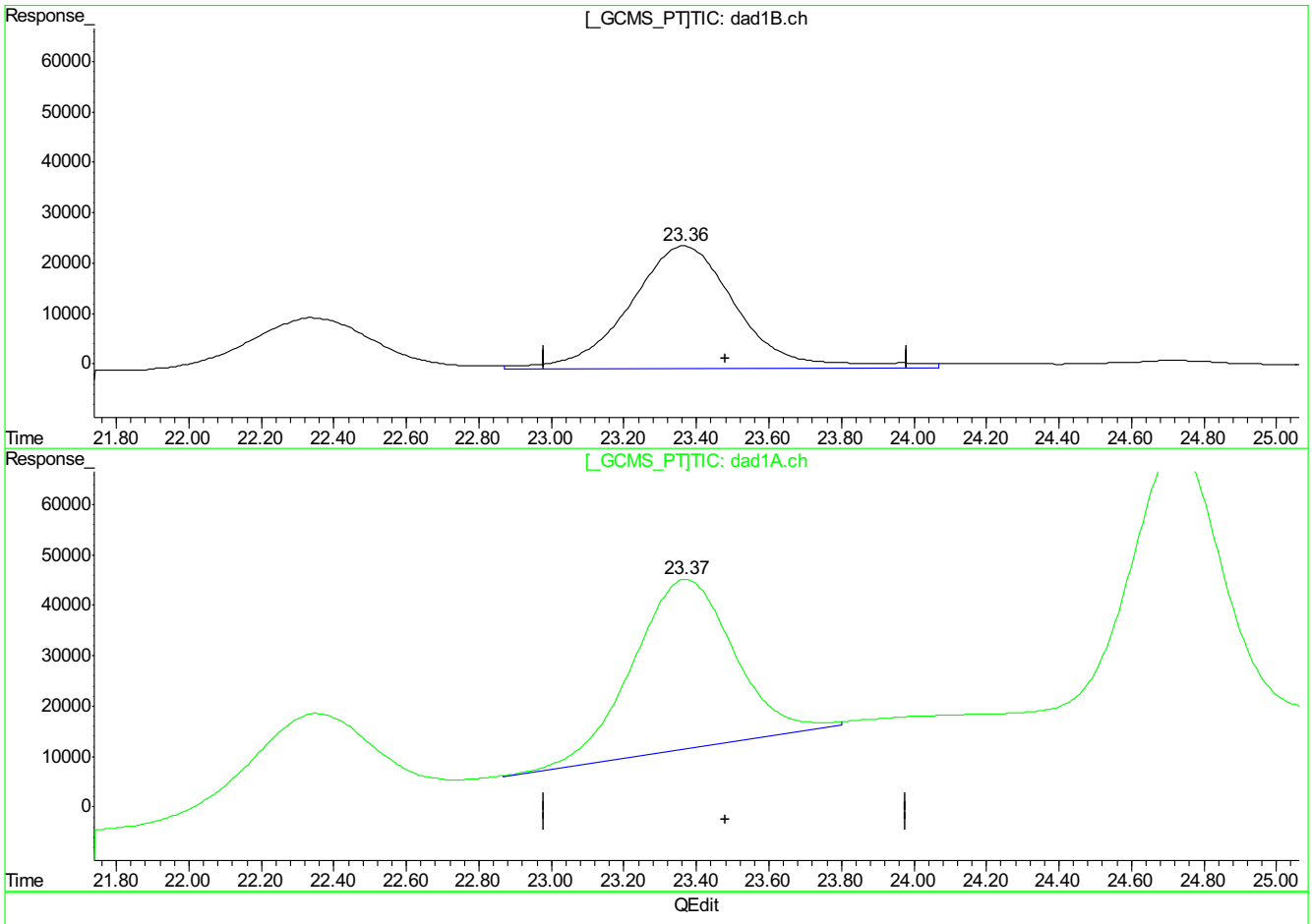
9.5.22.9

6

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.37min 511.650ppb

response 5058989

(20) 2-Amino-4,6-Dinitrotoluene #2

23.37min 498.077ppb m

response 6584176

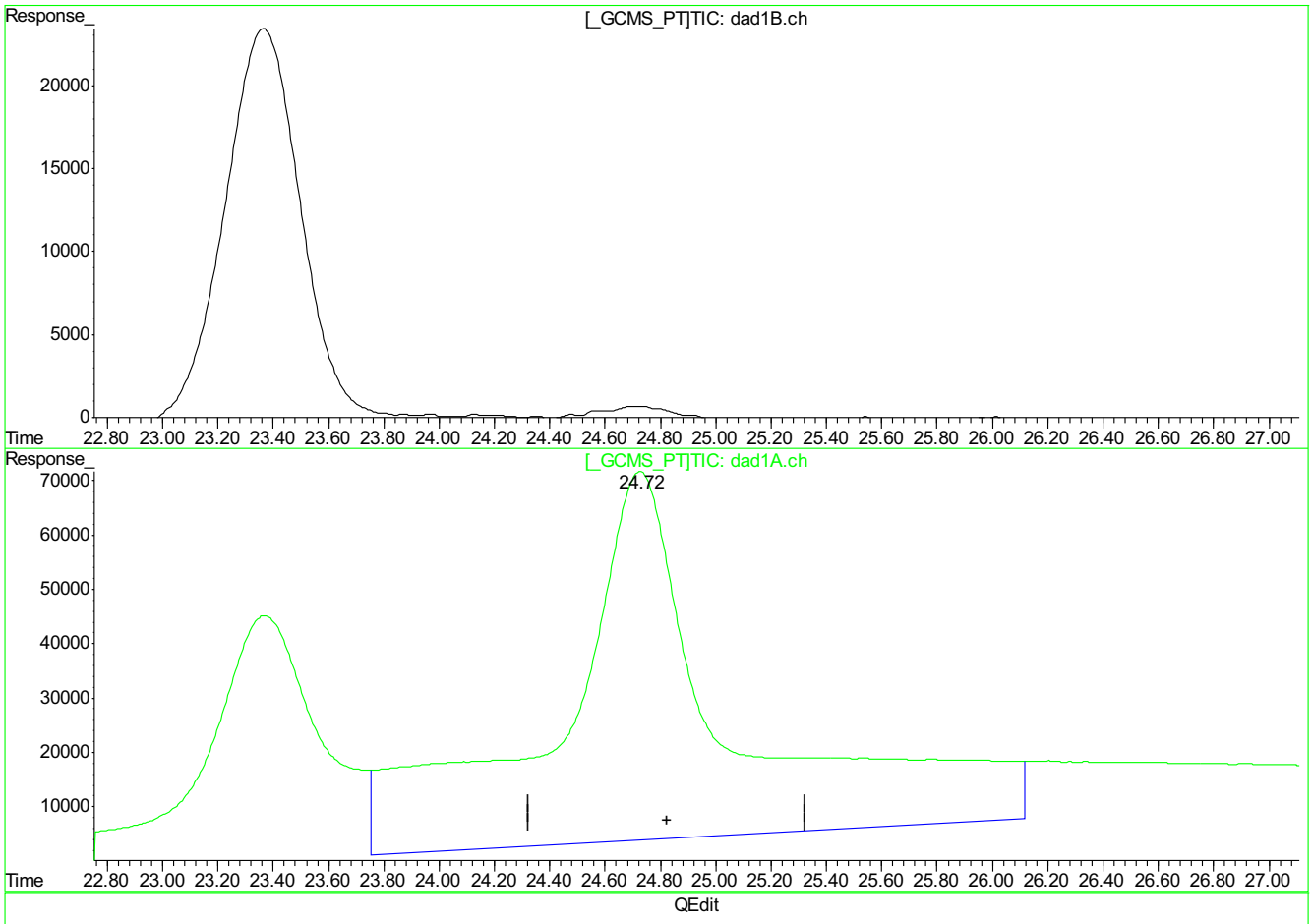
(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:26 2017

9.5.22.10
9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.73min 14205.387ppb

response 29156376

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:28 2017

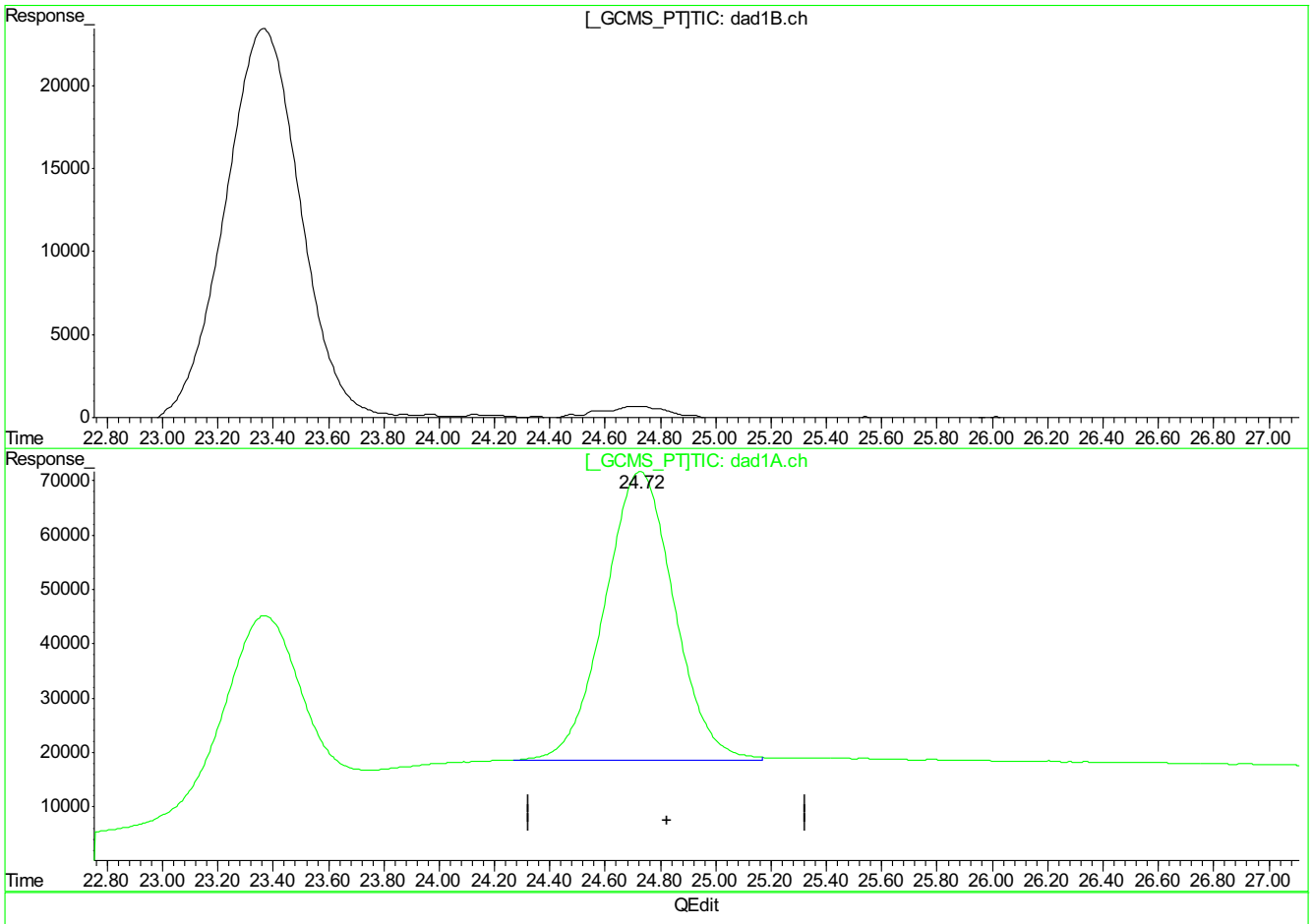
9.5.22.11

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381828.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0424_RPB\PP381828.D\dad1A.ch
Acq On : 24-Apr-2017, 16:15:18 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:54 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.72min 4543.543ppb m

response 9325564

(+) = Expected Retention Time
PP381828.D 0424_8330RPB.M Tue Apr 25 10:55:32 2017

9.5.22.12

9

PP381828.D edits: PETN

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381829.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0424_RPB\PP381829.D\dad1A.ch
Acq On : 24-Apr-2017, 16:47:49 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:56:16 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	12.14	12.14	4503710	5920404	468.081	482.531
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

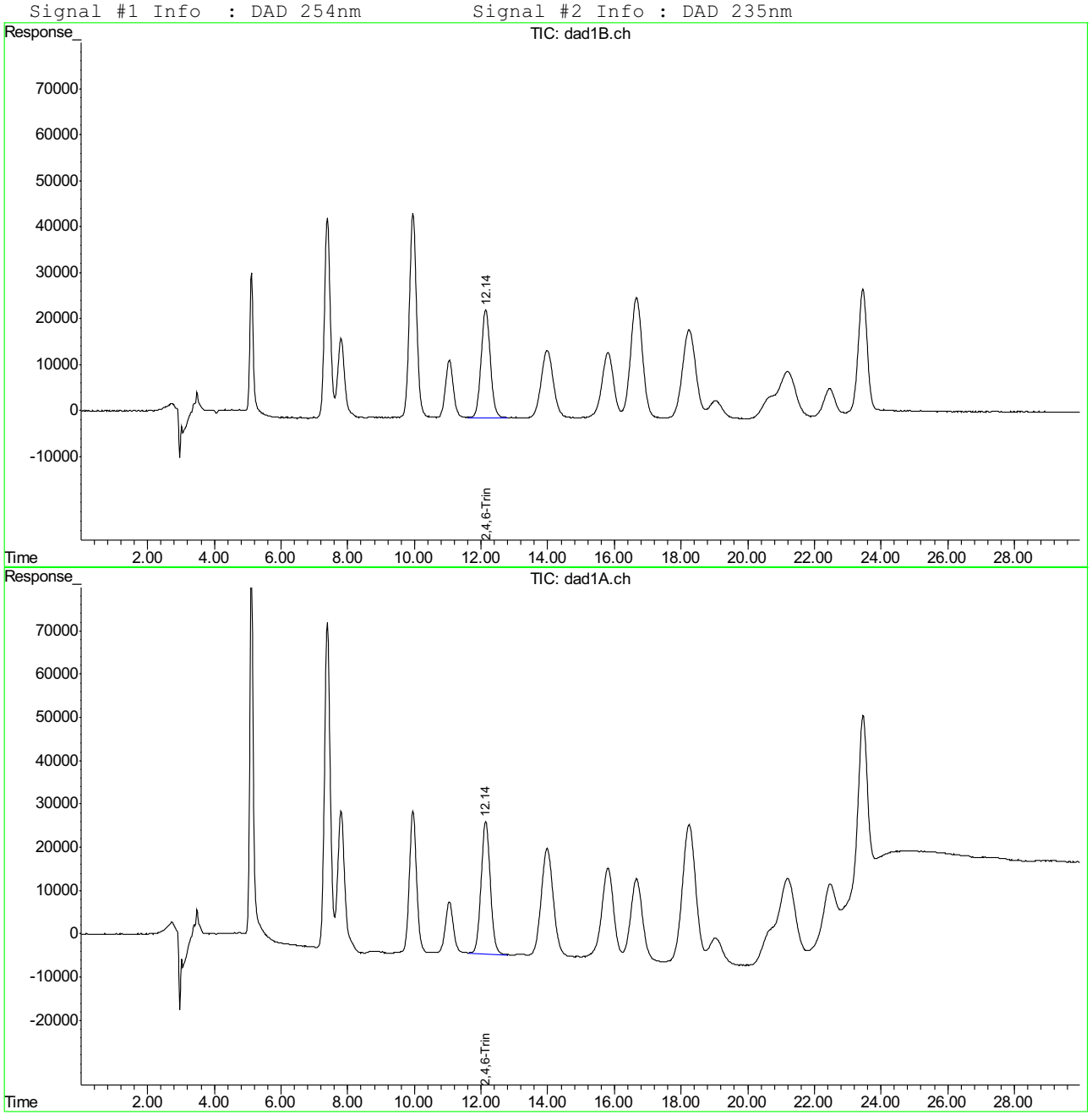
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381829.D 0424_8330RPB.M Tue Apr 25 10:59:46 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381829.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0424_RPB\PP381829.D\dad1A.ch
Acq On : 24-Apr-2017, 16:47:49 Operator: evitam
Sample : icv2096-500 Inst : G1315B
Misc : OP64675,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 10:56 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:52:43 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/26/17 17:23

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:43 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.25	15.24	4900201	9692005	902.955	958.772
	Spiked Amount 500.000	Range 70 - 136		Recovery =		180.59%#	191.75%#
	Target Compounds						
1)	TNX	4.70	4.70	8152361	12016829	935.406	925.939
2)	HMX	5.08	5.08	3197735	9492218	889.321	900.962
3)	DNX	5.24	5.24	7132946	11627701	888.941	876.970
4)	MNX	6.32	6.32	5423337	8528112	975.874	918.942
5)	1,3,5-Trinitrobe	7.33	7.33	9096253	15751486	891.206	911.238
6)	RDX	7.74	7.75	4230851	7975870	871.216	930.578
7)	1,3-Dinitrobenze	9.89	9.89	12332488	9090280	925.695	901.563
8)	Nitrobenzene	10.98	10.98	7876509	7492806	1029.197	1001.946
9)	2,4,6-Trinitroto	12.05	12.05	8590600	10932011	892.842	890.992
10)	Nitroglycerin	0.00	13.03	0	14867106	N.D. d	4653.566m
11)	Tetryl	13.88	13.88	5833317	9750877	934.550	954.699m
13)	2,6-Dinitrotolue	15.69	15.68	6171632	8790114	929.955	901.981
14)	2,4-Dinitrotolue	16.55	16.55	11356349	8246066	908.275	878.817
15)	o-Nitrotoluene	18.90	18.90	4954329	7691663	1101.898	1087.638
16)	3,5-Dinitroanili	18.15	18.15	8798350	14566291	937.952	980.070
17)	p-Nitrotoluene	20.50	20.51	4102674	6561432	1179.228	1332.652
18)	4-Amino-2,6-Dini	21.07	21.07	5718773	10443945	920.459	991.158
19)	m-Nitrotoluene	22.34	22.34	5451762	9245501	1092.146	1047.694m
20)	2-Amino-4,6-Dini	23.38	23.38	8750264	12085377	906.598	932.339m
21)	PETN	0.00	24.67	0	4645476	N.D. d	2263.340m

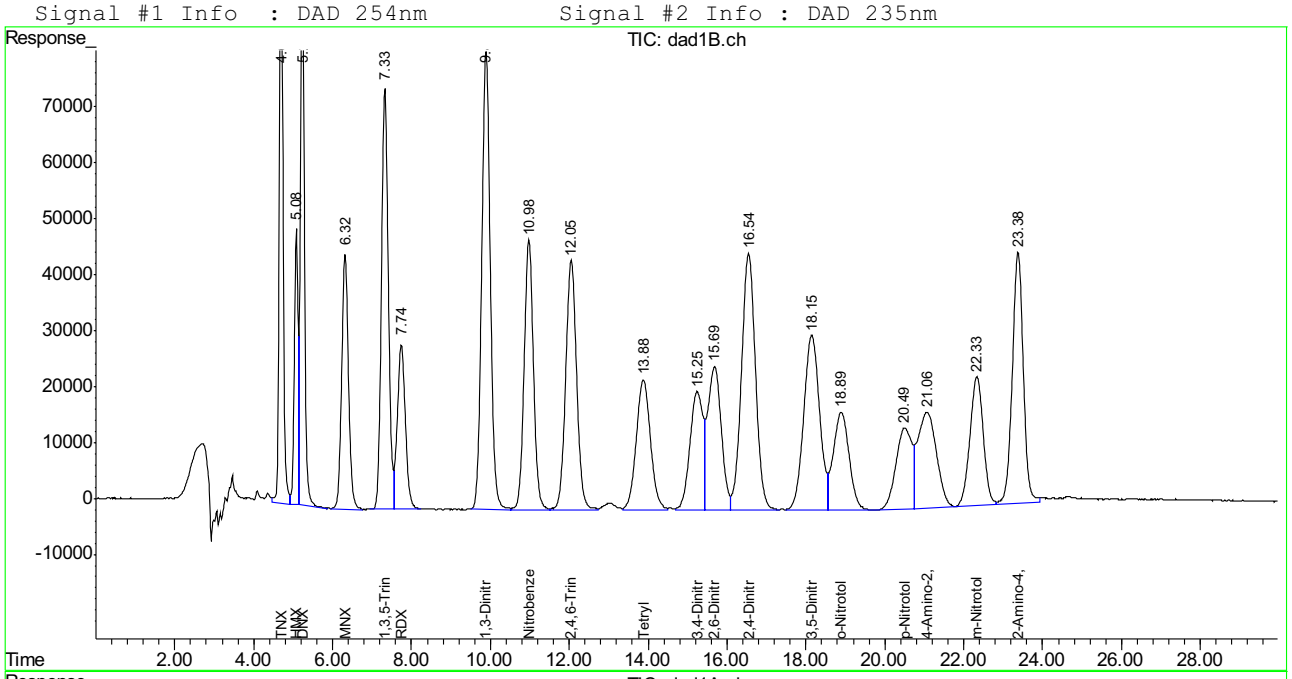
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381840.D 0424_8330RPB.M Tue Apr 25 14:37:01 2017 Page 1

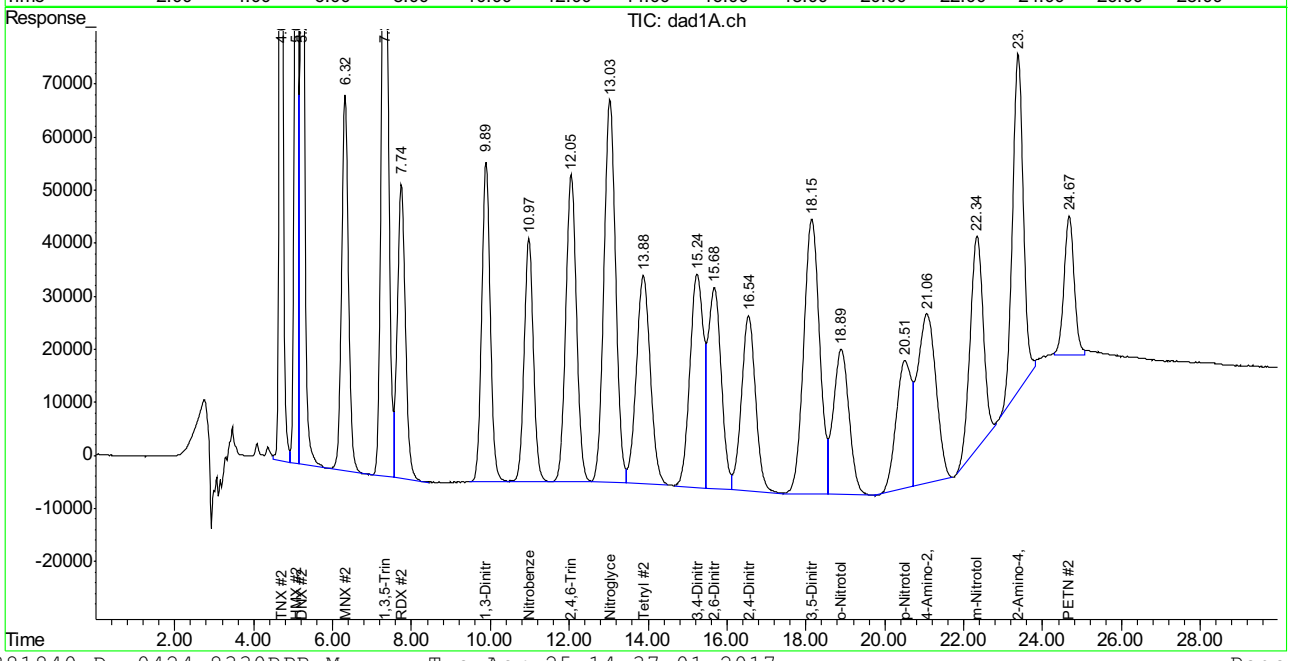
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 12:27 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

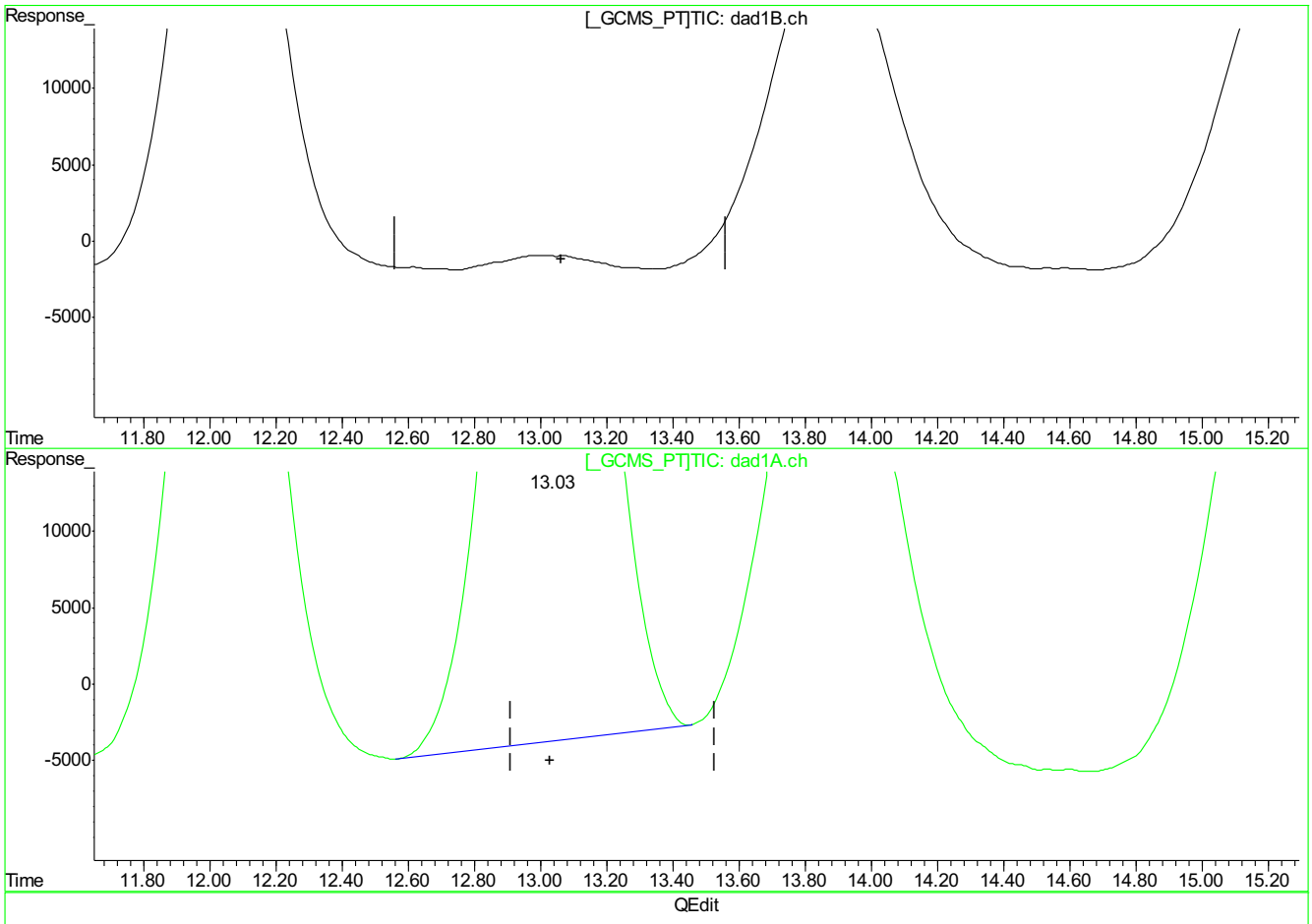
Sample Number: GPP2096-CC2096
Lab FileID: PP381840.D
Injection Time: 04/24/17 22:45
Method: SW846 8330B
Analyst approved: 04/25/17 13:47 Evita Martinez
Supervisor approved: 04/26/17 17:23 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.03	Poorly defined baseline
Tetryl	479-45-8	2	13.88	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.34	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.38	Poorly defined baseline
PETN	78-11-5	2	24.67	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.03min 4431.613ppb

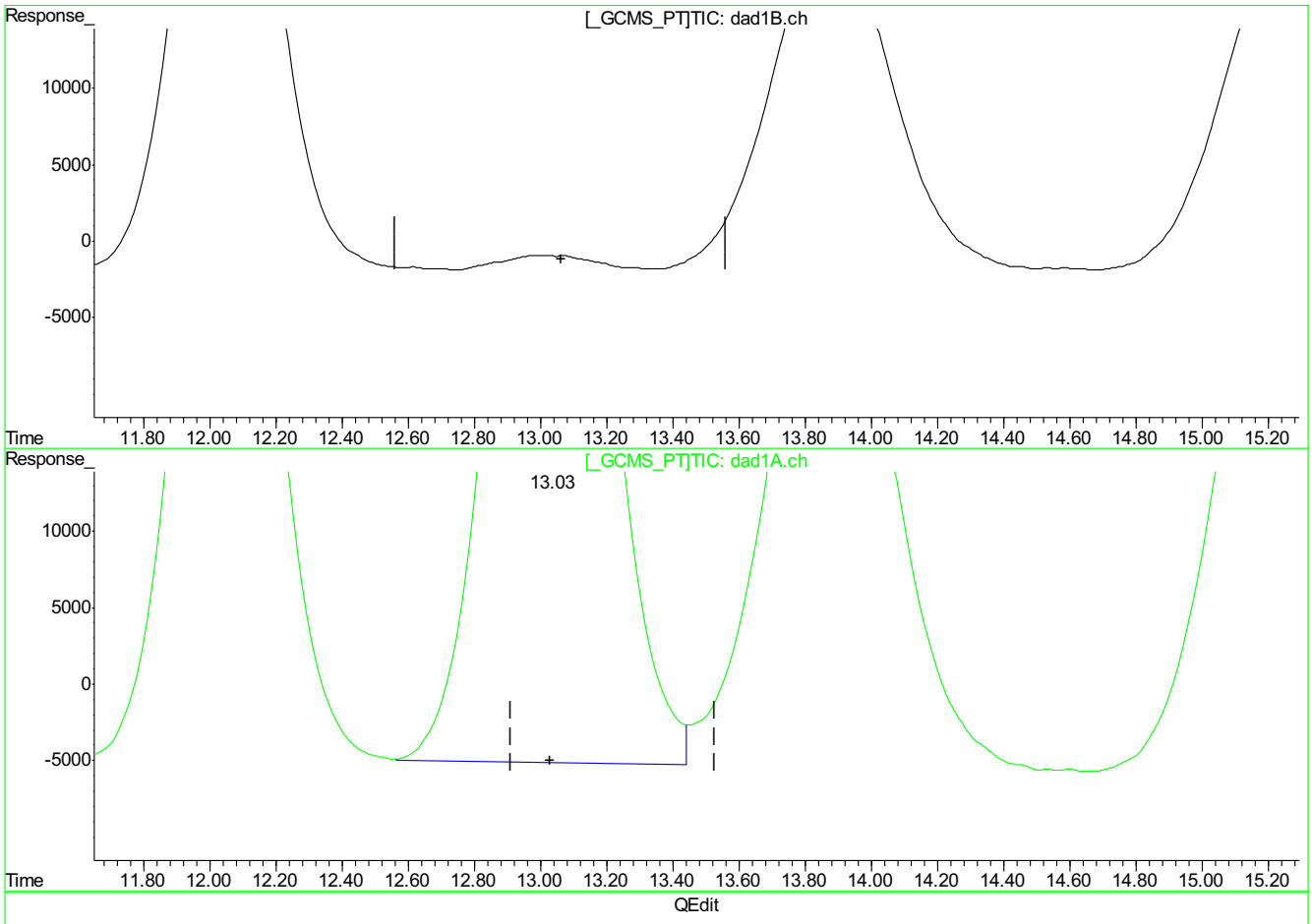
response 14170840

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:26:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.03min 4653.566ppb m

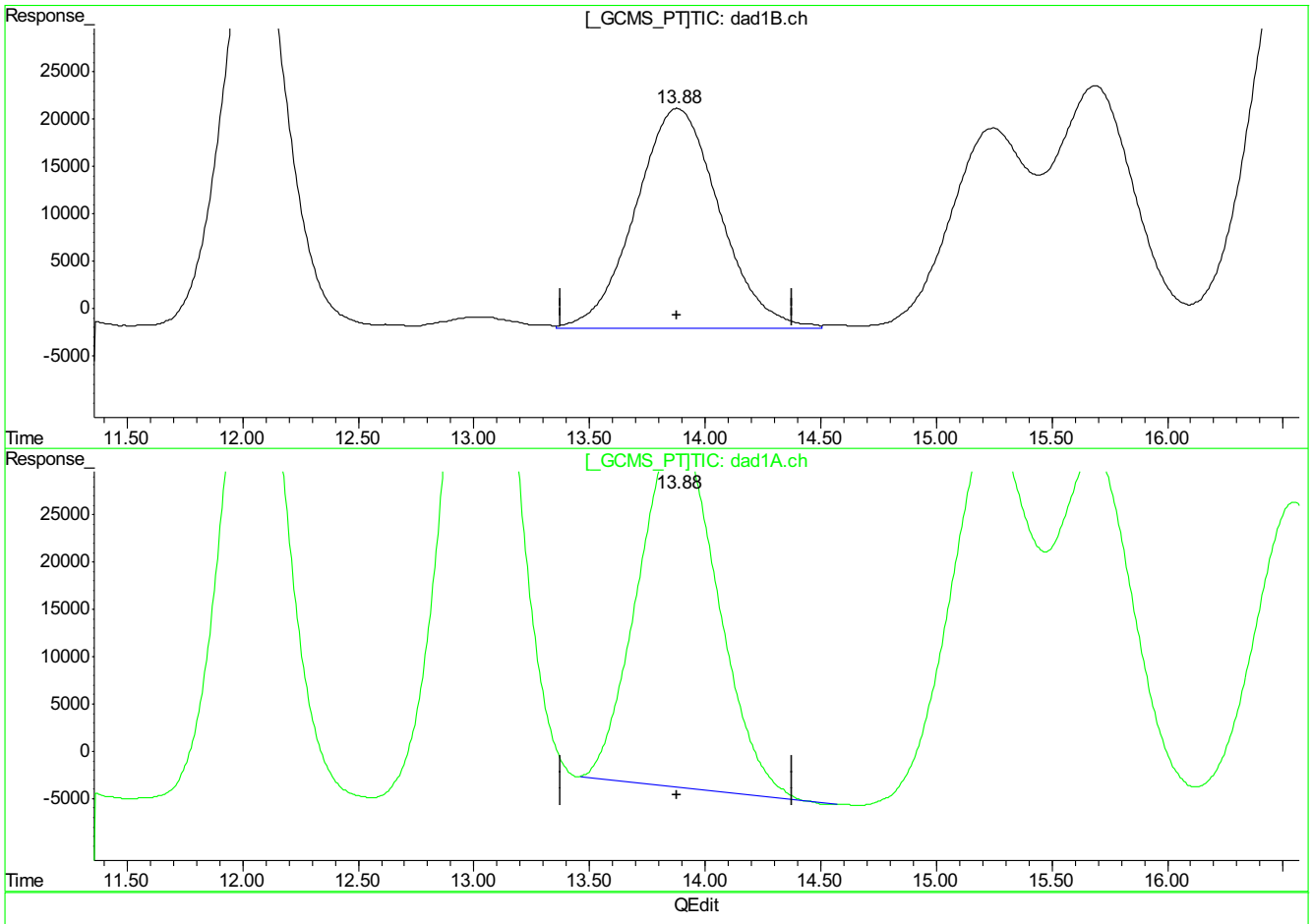
response 14867106

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:00 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.88min 934.550ppb

response 5833317

(11) Tetryl #2

13.88min 865.785ppb

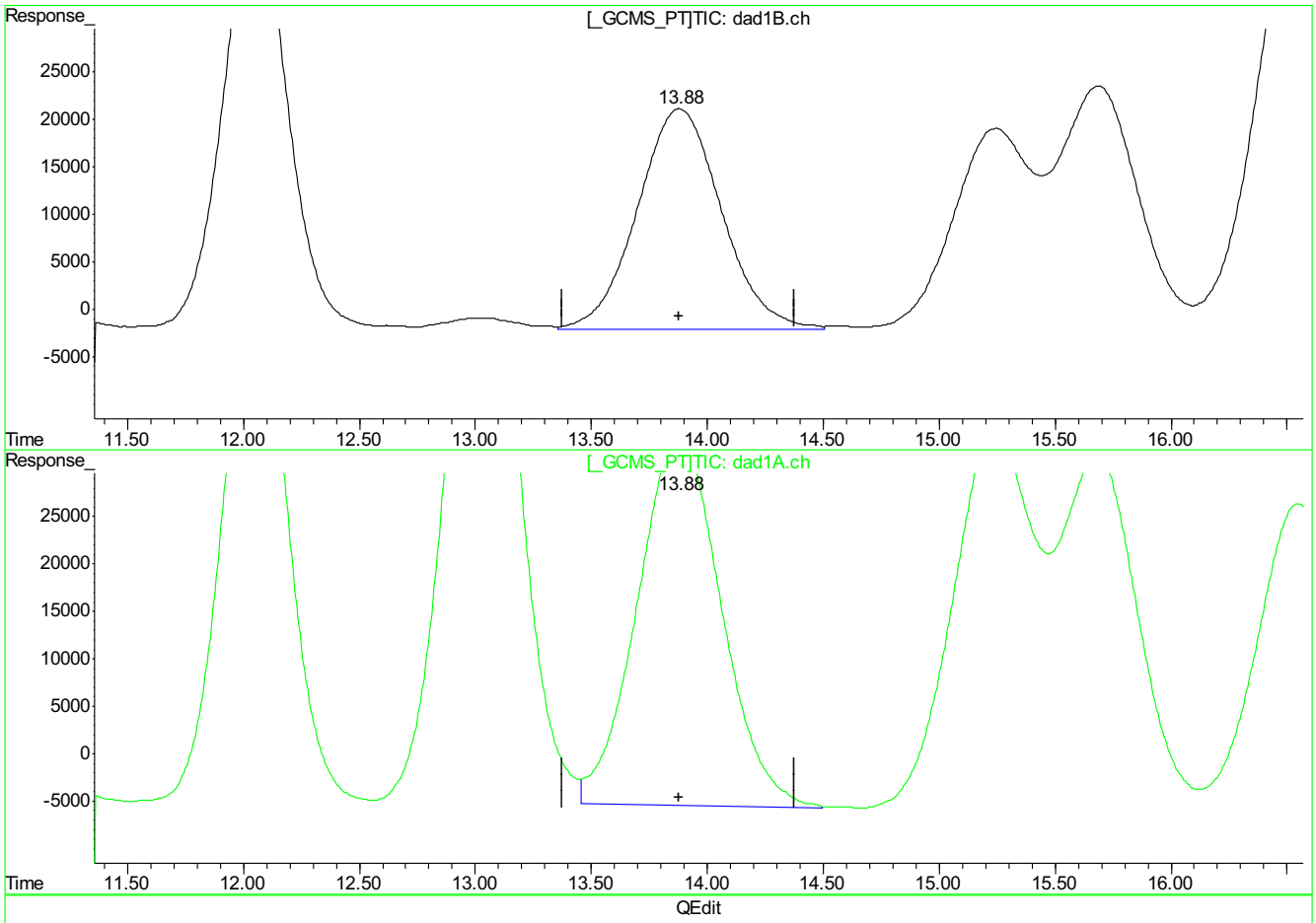
response 8850454

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:04 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.88min 934.550ppb

response 5833317

(11) Tetryl #2

13.88min 954.699ppb m

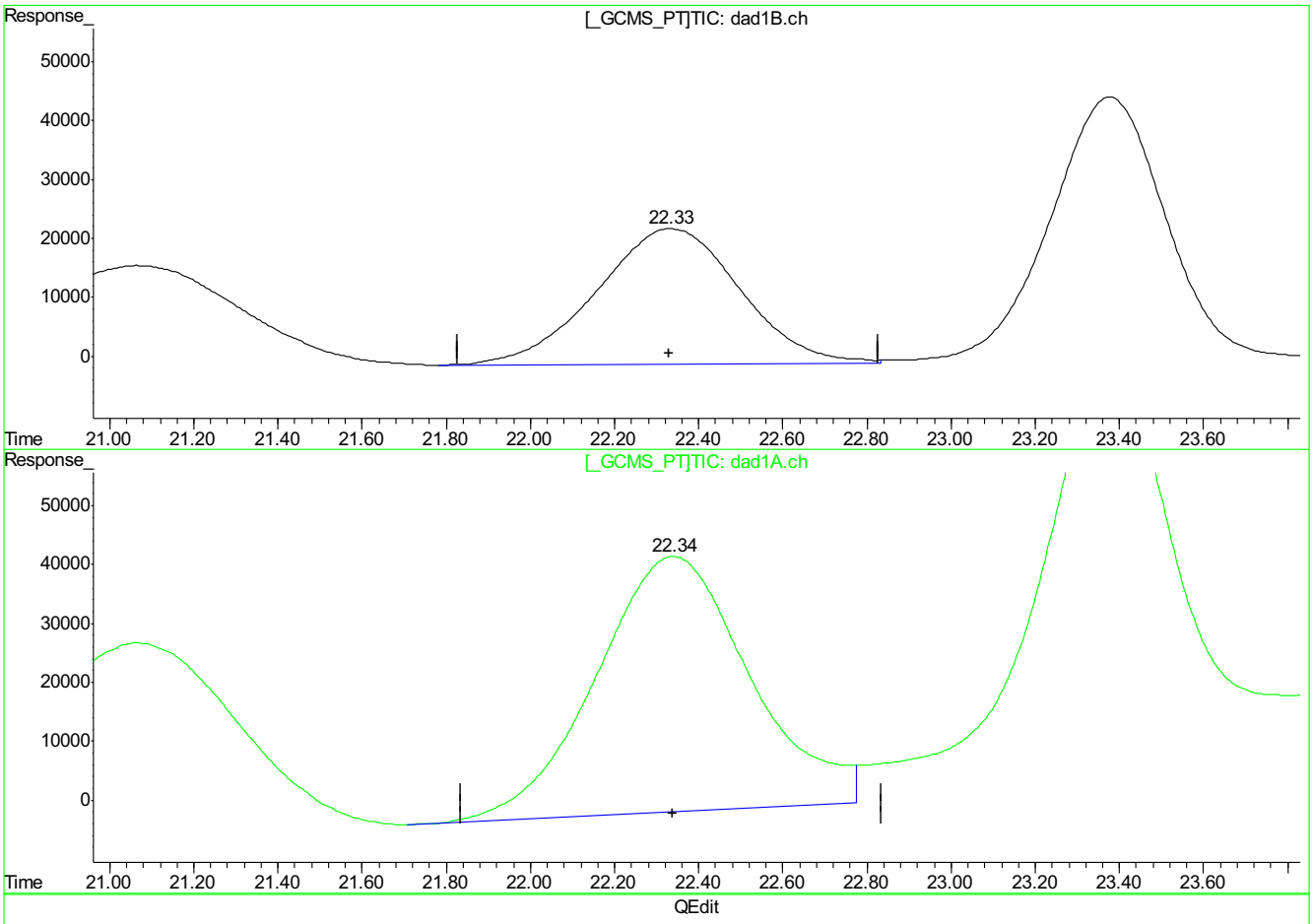
response 9750877

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:09 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.34min 1092.146ppb

response 5451762

(19) m-Nitrotoluene #2

22.34min 1268.612ppb

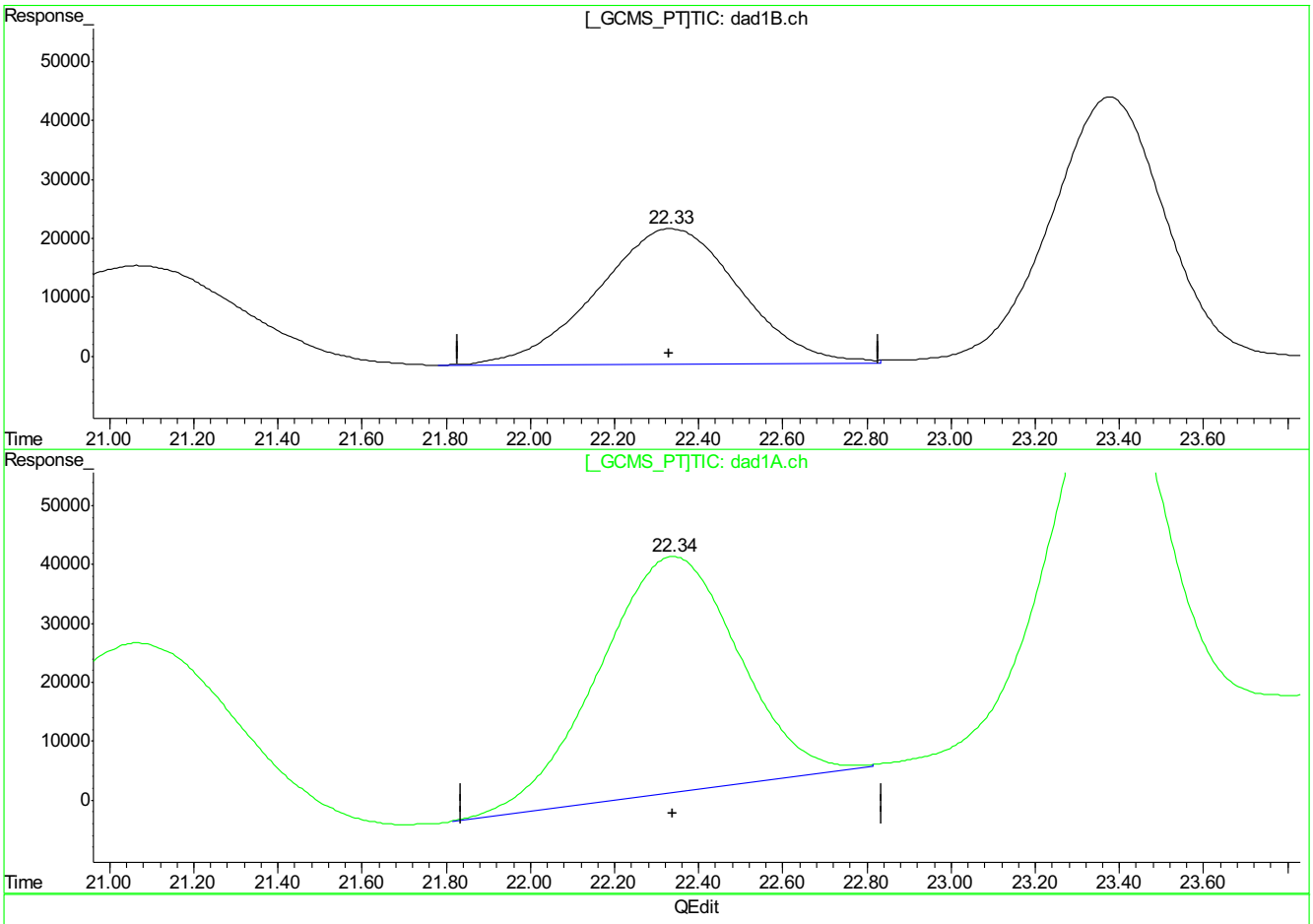
response 10928449

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:32 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.34min 1092.146ppb

response 5451762

(19) m-Nitrotoluene #2

22.34min 1047.694ppb m

response 9245501

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:35 2017

9.5.24.7

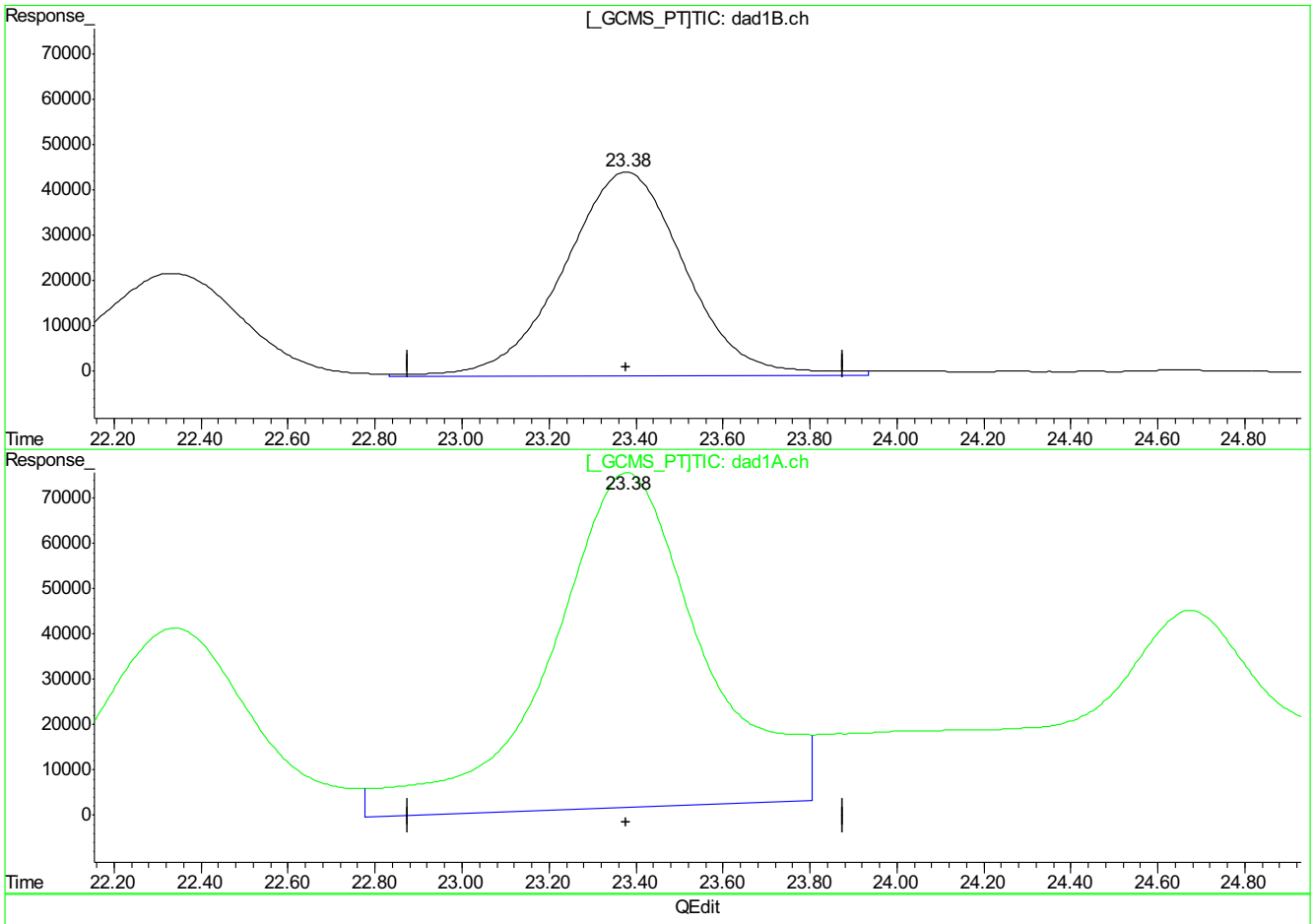
9

PP381840.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.38min 906.598ppb

response 8750264

(20) 2-Amino-4,6-Dinitrotoluene #2

23.38min 1418.056ppb

response 17974219

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:39 2017

9.5.24.8

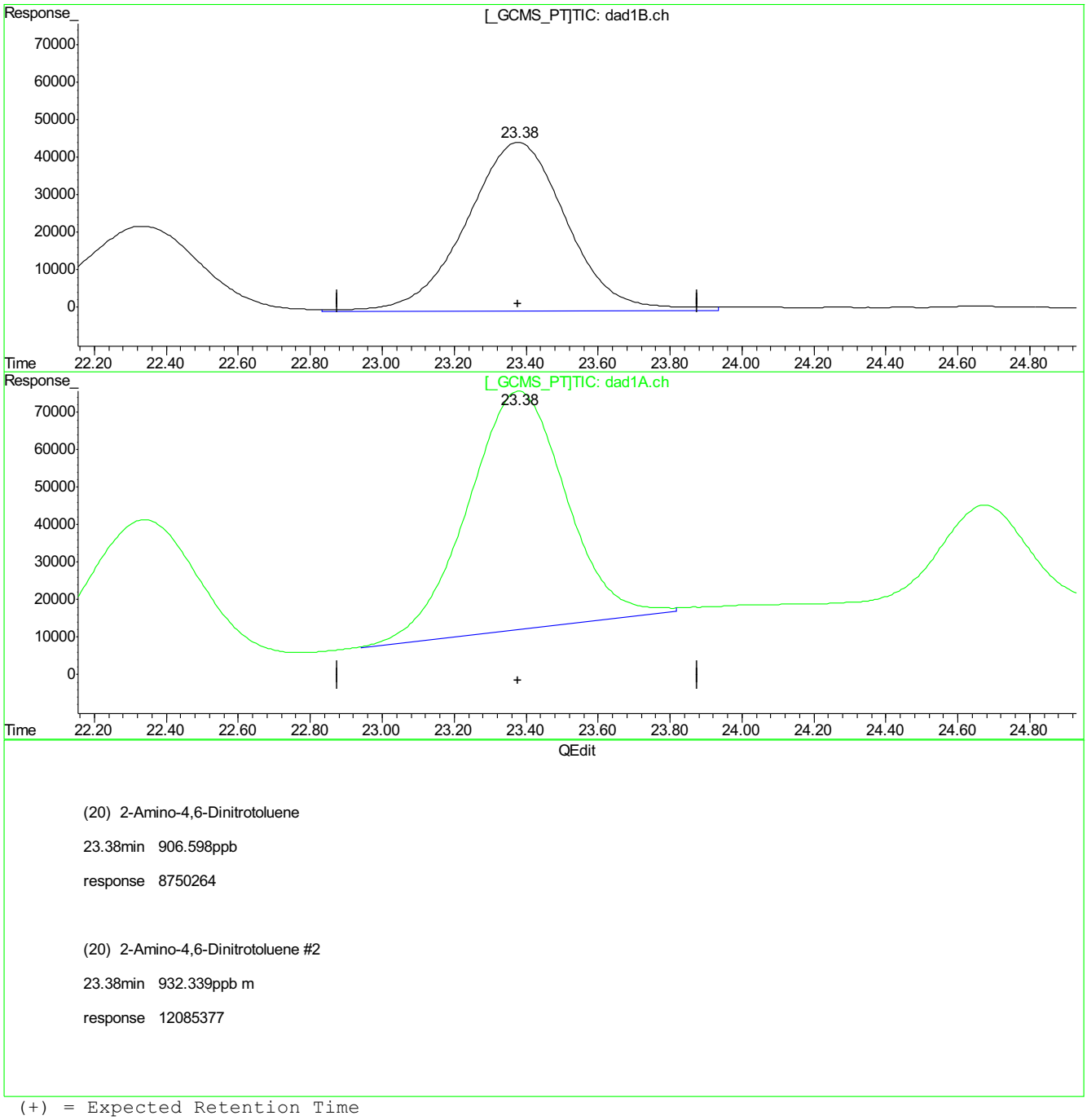
9

PP381840.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.38min 906.598ppb

response 8750264

(20) 2-Amino-4,6-Dinitrotoluene #2

23.38min 932.339ppb m

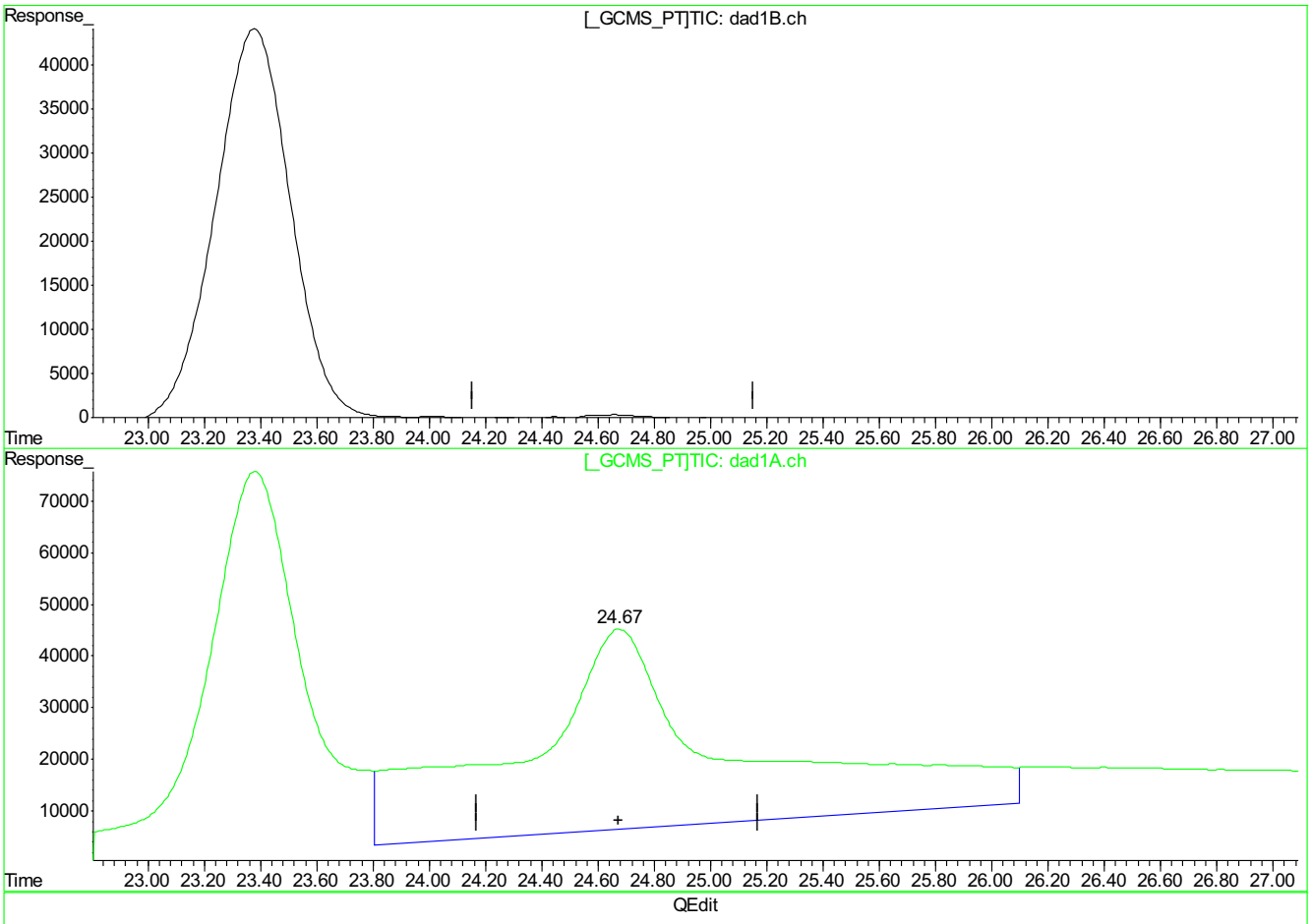
response 12085377

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:42 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.68min 9979.376ppb

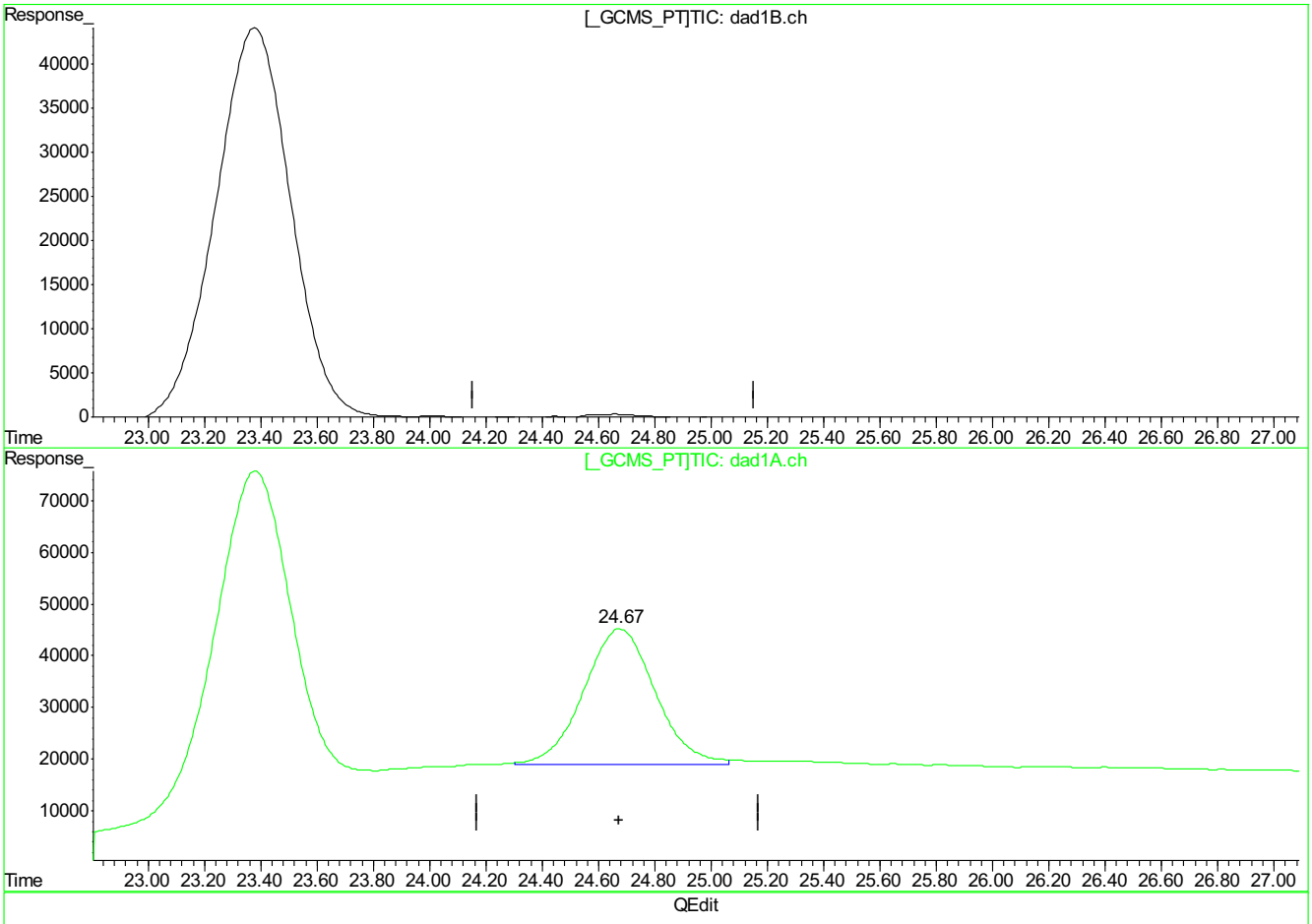
response 20482543

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:46 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381840.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381840.D\dad1A.ch
Acq On : 24-Apr-2017, 22:45:00 Operator: evitam
Sample : cc2096-1000 Inst : G1315B
Misc : OP64666,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

24.67min 2263.340ppb m

response 4645476

(+) = Expected Retention Time
PP381840.D 0424_8330RPB.M Tue Apr 25 12:27:49 2017

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/17 09:22

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP64684,GPP2096,1040,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04:55 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.36	15.36	4872957	9571260	897.742	946.827
	Spiked Amount 500.000	Range 70 - 136		Recovery =		179.55%#	189.37%#
	Target Compounds						
1)	TNX	4.70	4.70	8136957	12003492	933.638	924.911
2)	HMX	5.09	5.09	3180992	9437241	884.332	895.453
3)	DNX	5.24	5.24	7133878	11581843	889.057	873.157
4)	MNX	6.34	6.34	5364552	8447824	965.296	910.081
5)	1,3,5-Trinitrobe	7.35	7.35	9000740	15593464	881.848	902.096
6)	RDX	7.78	7.78	4201679	7937088	865.209	926.053
7)	1,3-Dinitrobenze	9.93	9.92	12394812	9289476	930.374	921.319
8)	Nitrobenzene	11.03	11.03	7831507	7598985	1023.317	1016.144
9)	2,4,6-Trinitroto	12.10	12.10	8500180	10792158	883.444	879.593
10)	Nitroglycerin	0.00	13.10	0	14558490	N.D. d	4555.136m
11)	Tetryl	13.98	13.97	5805811	9492347	930.031	929.154m
13)	2,6-Dinitrotolue	15.79	15.79	6193874	8914014	933.401	914.695
14)	2,4-Dinitrotolue	16.66	16.65	11310948	8222898	904.644	876.348
15)	o-Nitrotoluene	19.03	19.03	4721351	7331614	1037.345	1036.726
16)	3,5-Dinitroanili	18.28	18.28	8723650	14512359	929.988	976.441
17)	p-Nitrotoluene	20.65	20.66	3994744	6046987	1140.463	1219.129
18)	4-Amino-2,6-Dini	21.26	21.27	5555342	9923399	894.913	948.231
19)	m-Nitrotoluene	22.46	22.46	5280724	8954767	1049.803	1010.721m
20)	2-Amino-4,6-Dini	23.48	23.48	8665794	12014627	897.331	926.640m
21)	PETN	0.00	24.73	0	4494251	N.D. d	2189.661m

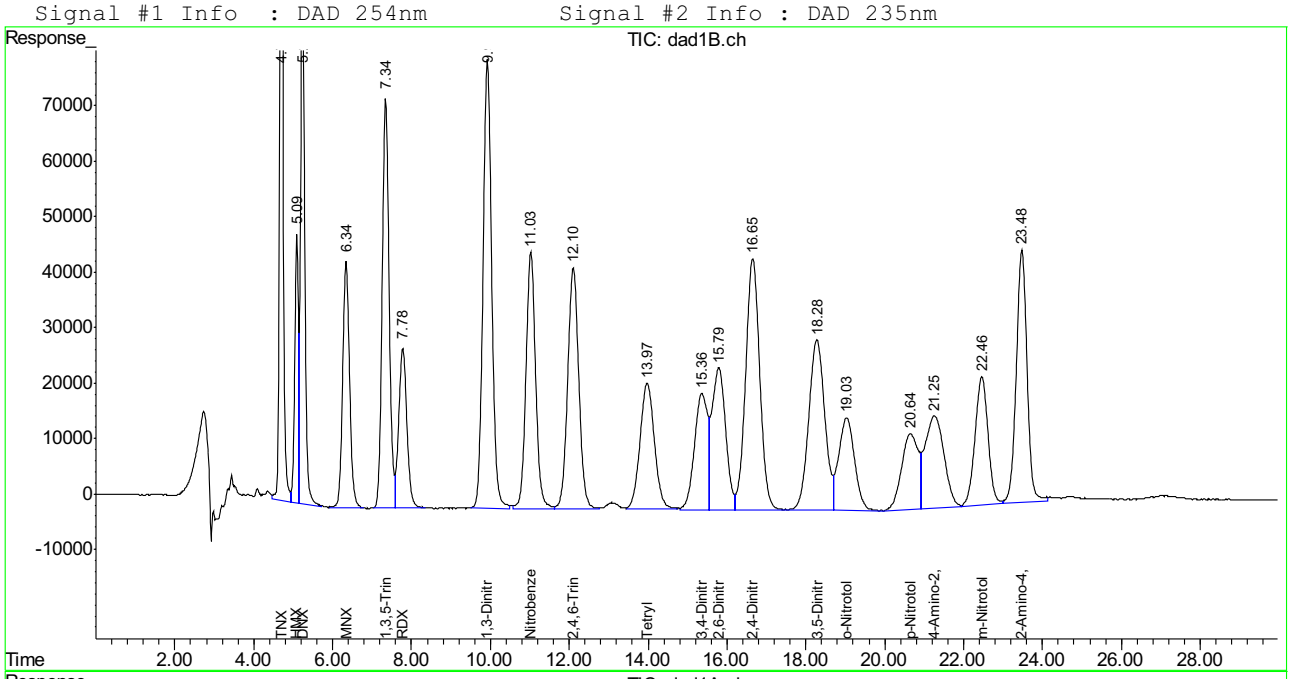
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP381852.D 0424_8330RPB.M Thu Apr 27 10:06:56 2017 Page 1

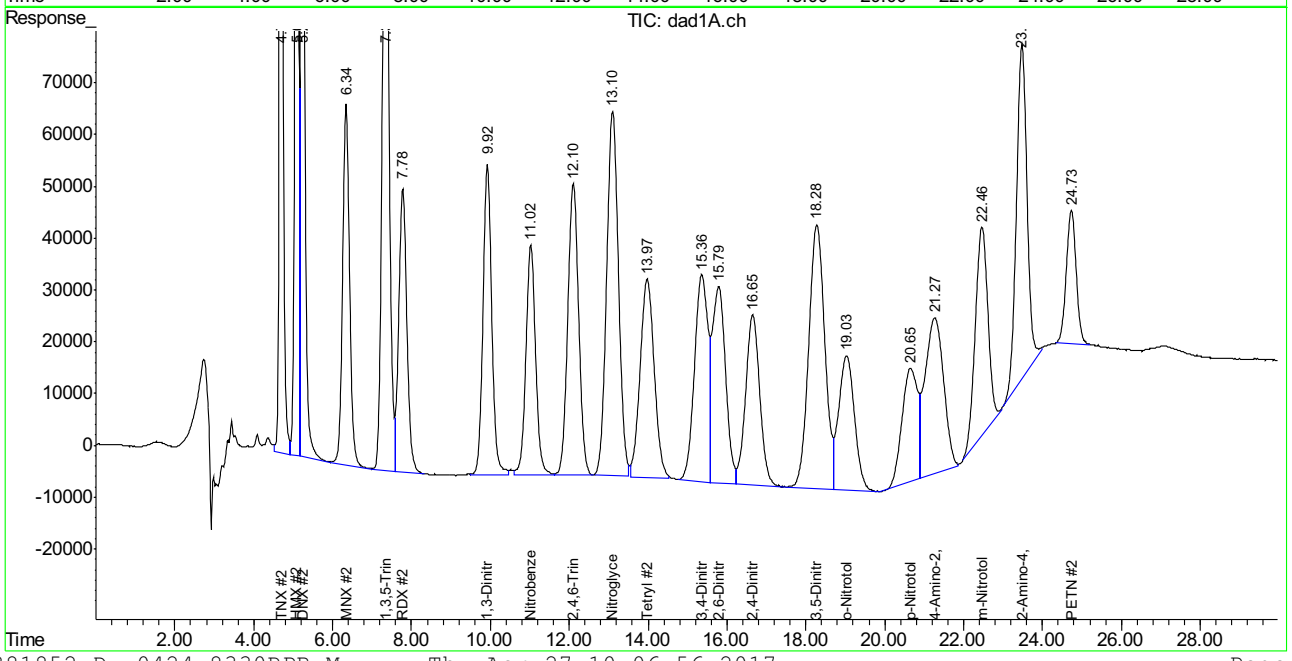
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP64684,GPP2096,1040,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 13:18 2017 Quant Results File: 0424_8330RPB.RES

Quant Method : C:\MSDCHEM\2...\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA43028

Manual Integration Approval Summary

Sample Number: GPP2096-ECC2096
Lab FileID: PP381852.D
Injection Time: 04/25/17 05:14

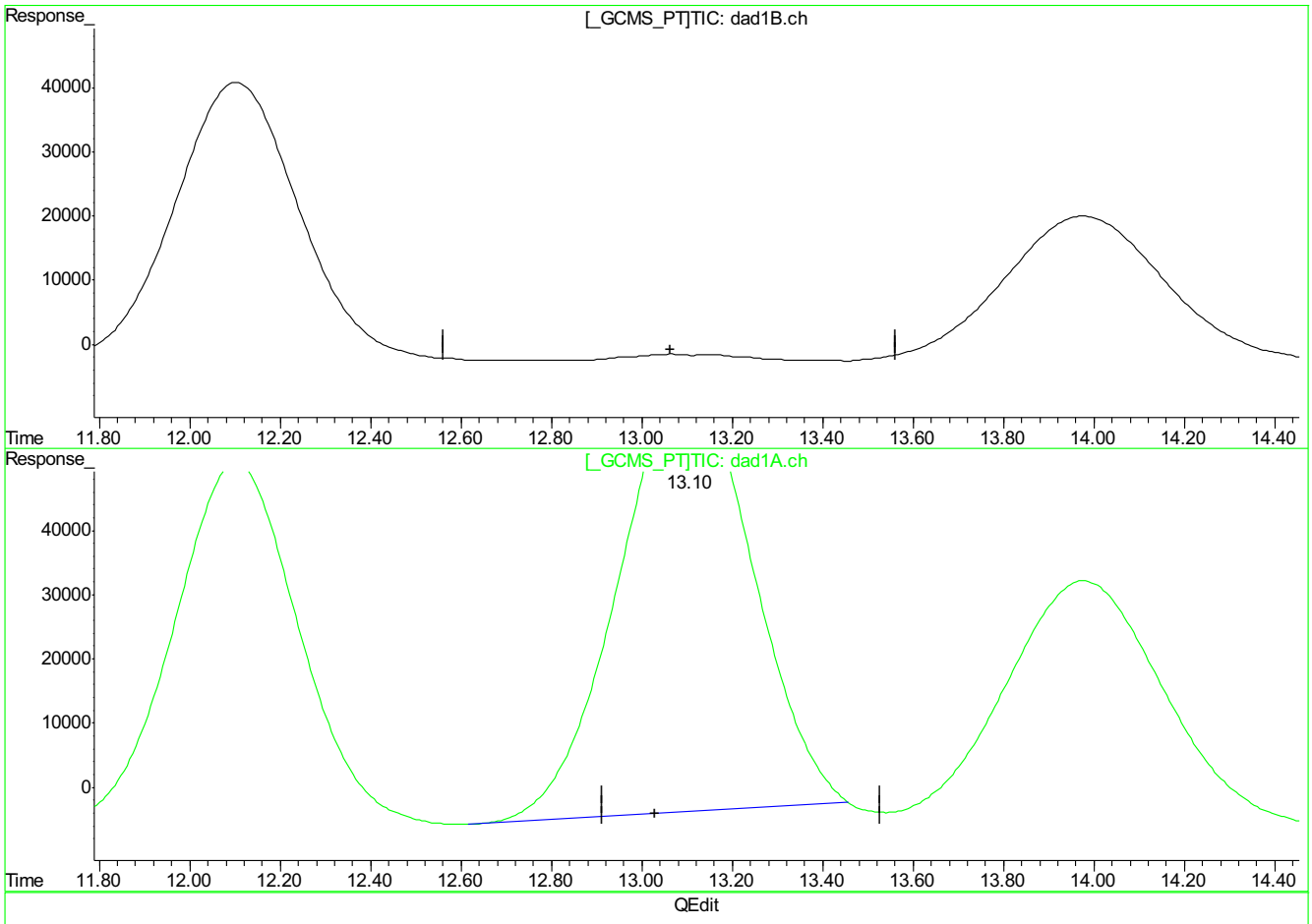
Method: SW846 8330B
Analyst approved: 04/27/17 09:08 Evita Martinez
Supervisor approved: 04/27/17 09:22 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	13.10	Poorly defined baseline
Tetryl	479-45-8	2	13.97	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	22.46	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.48	Poorly defined baseline
PETN	78-11-5	2	24.73	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.10min 4252.970ppb

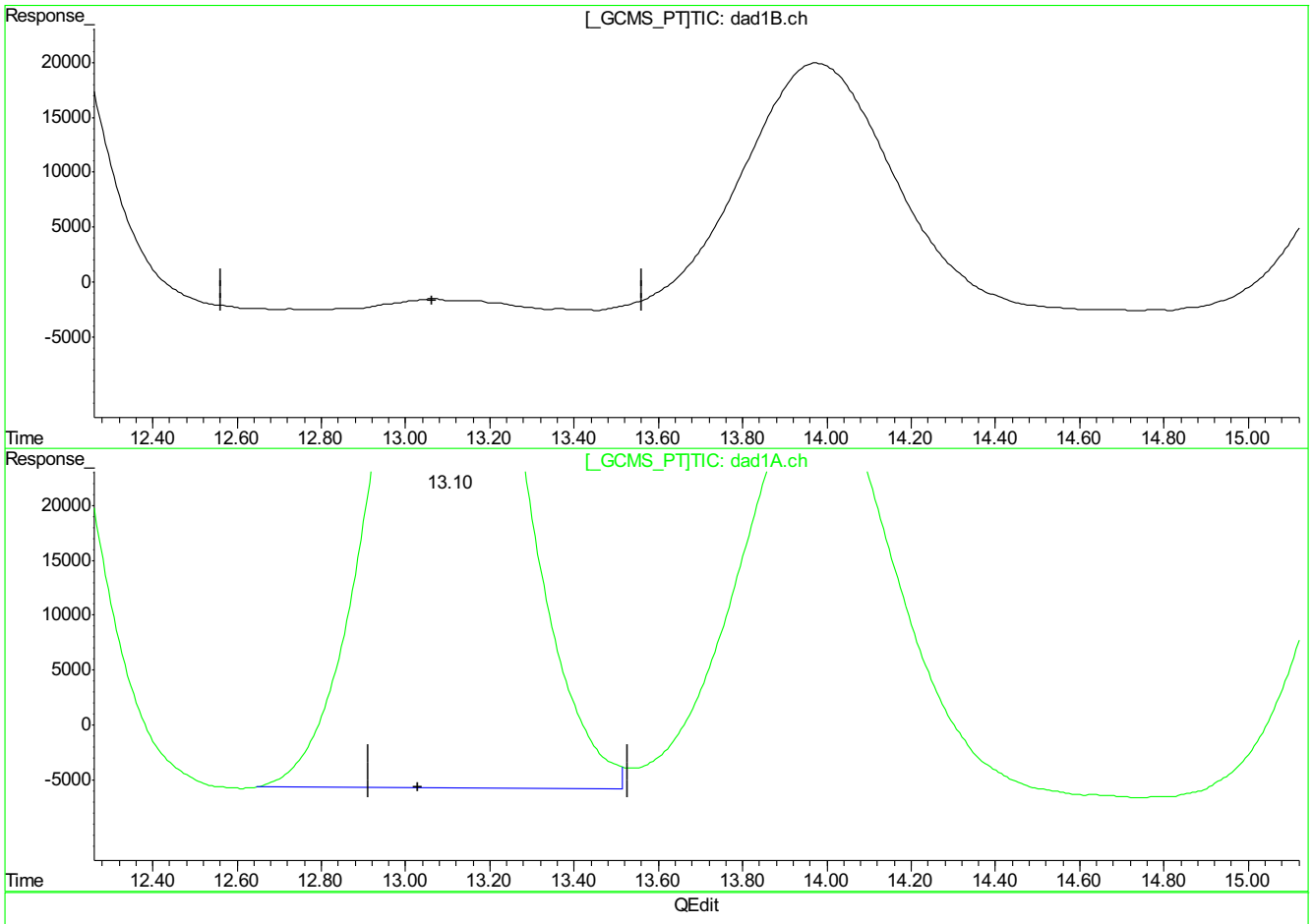
response 13609503

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:17:27 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

13.10min 4555.136ppb m

response 14558490

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:17:37 2017

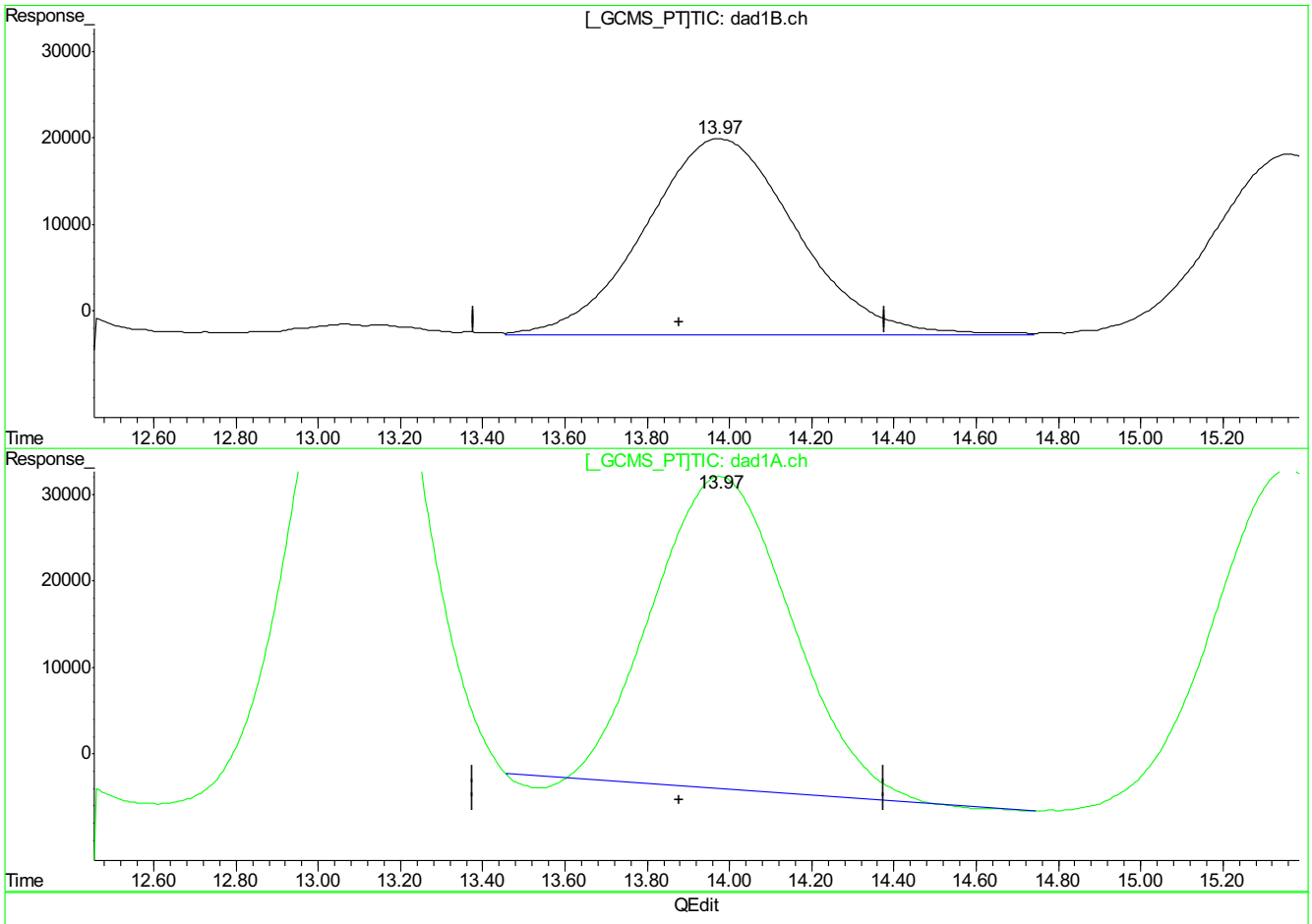
9.5.25.3

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.98min 930.031ppb

response 5805811

(11) Tetryl #2

13.98min 814.066ppb

response 8325968

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:17:42 2017

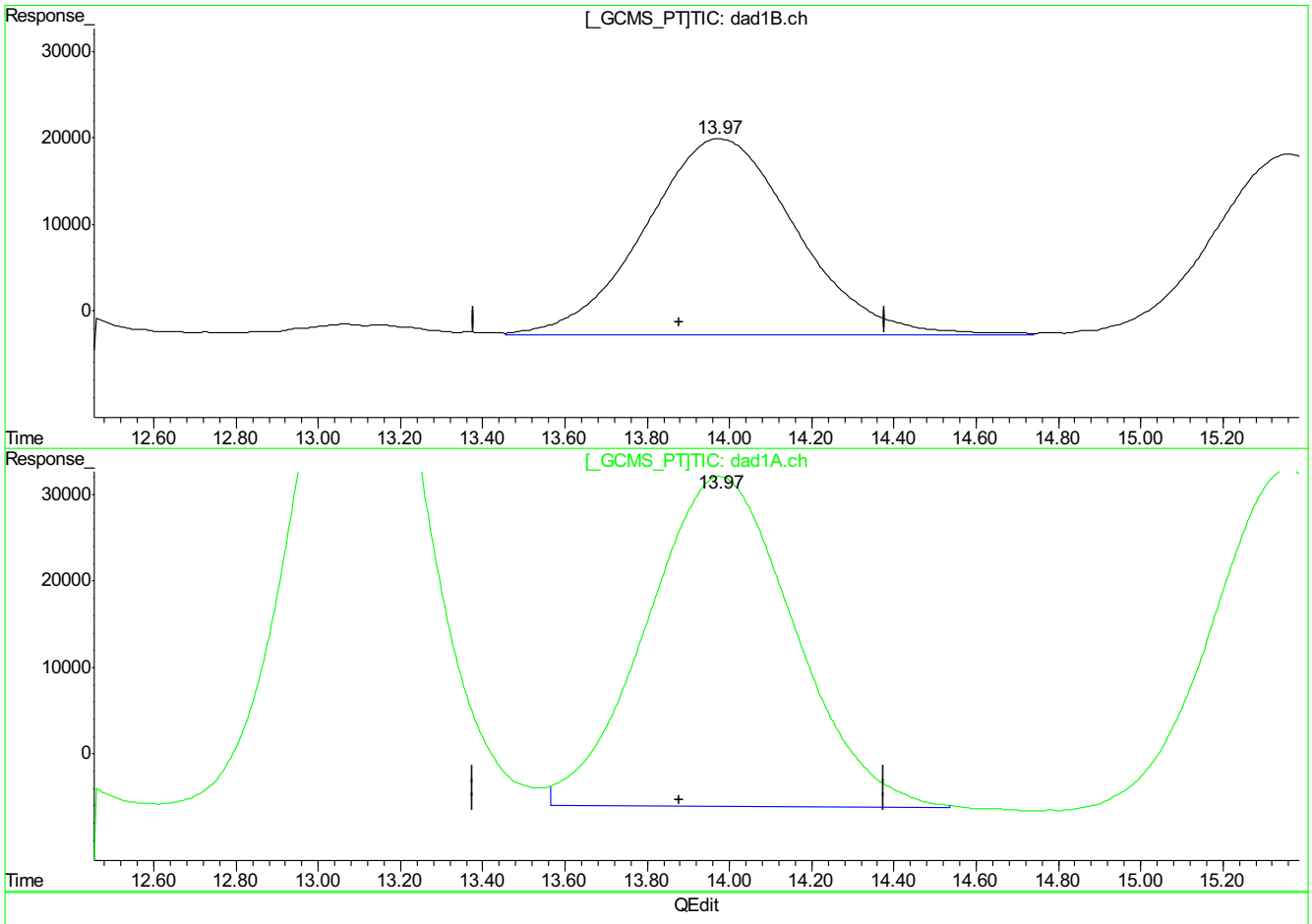
9.5.25.4

9

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.98min 930.031ppb

response 5805811

(11) Tetryl #2

13.97min 929.154ppb m

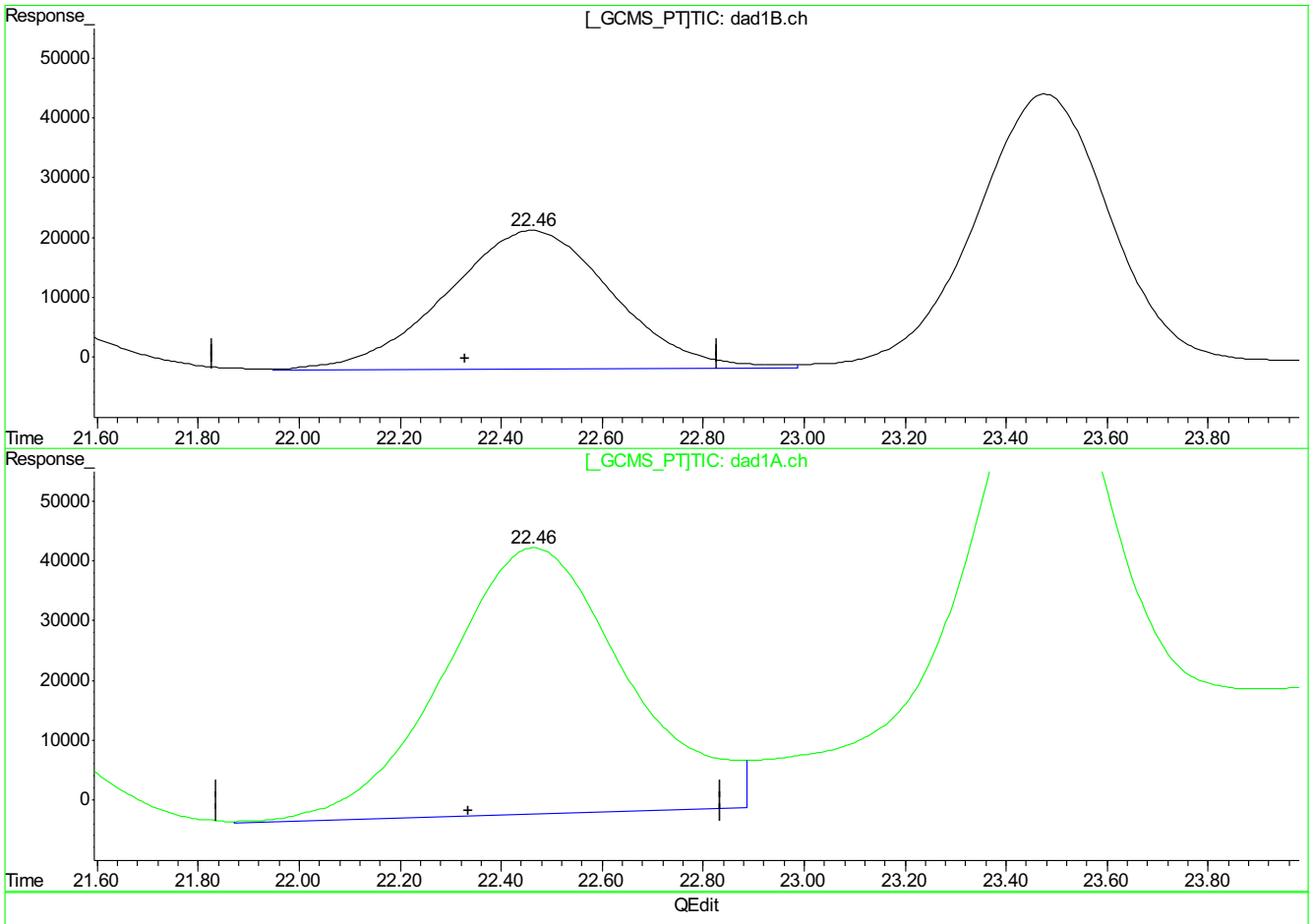
response 9492347

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:17:50 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.46min 1049.803ppb

response 5280724

(19) m-Nitrotoluene #2

22.47min 1297.393ppb

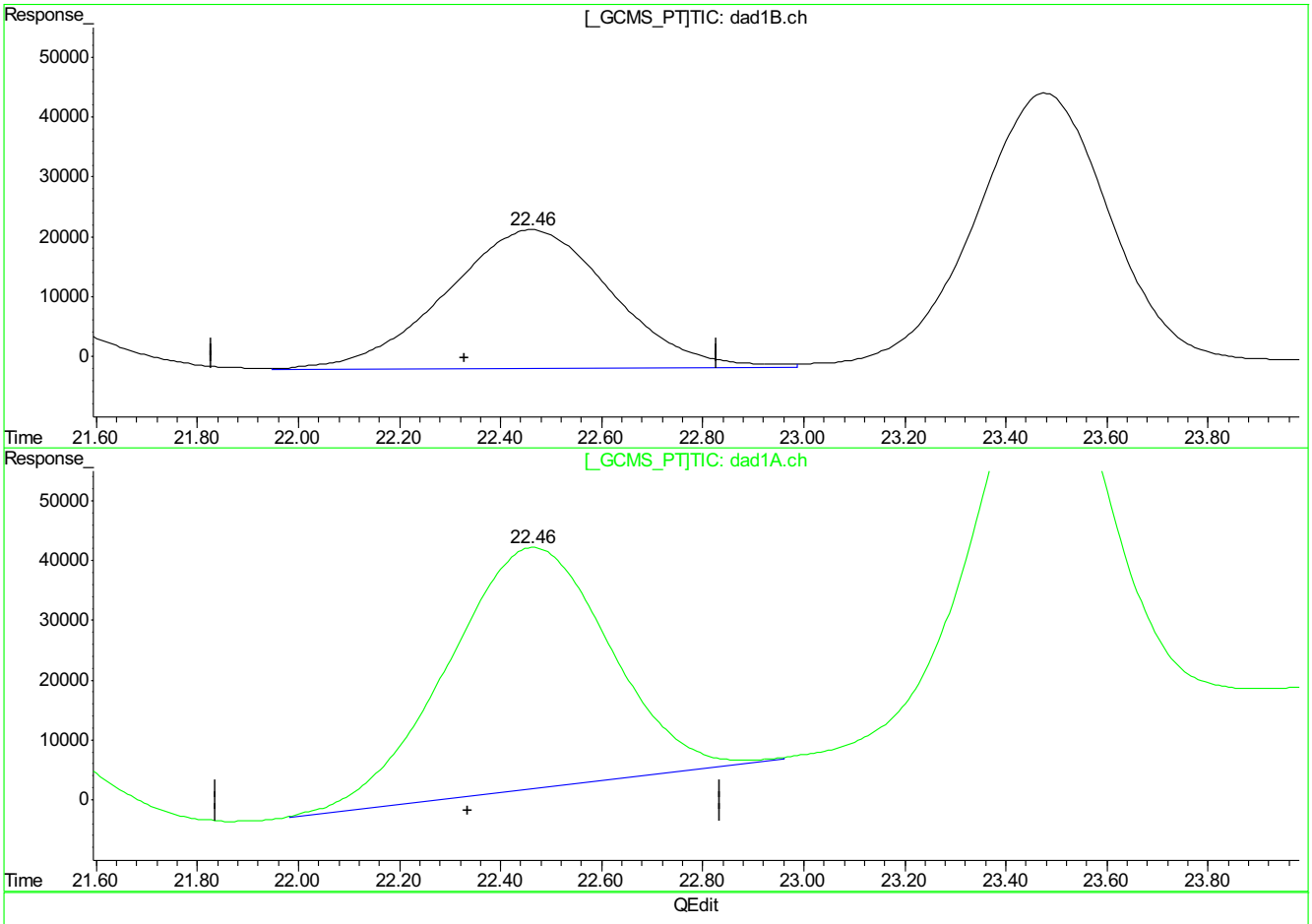
response 11140865

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:18:02 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

22.46min 1049.803ppb

response 5280724

(19) m-Nitrotoluene #2

22.46min 1010.721ppb m

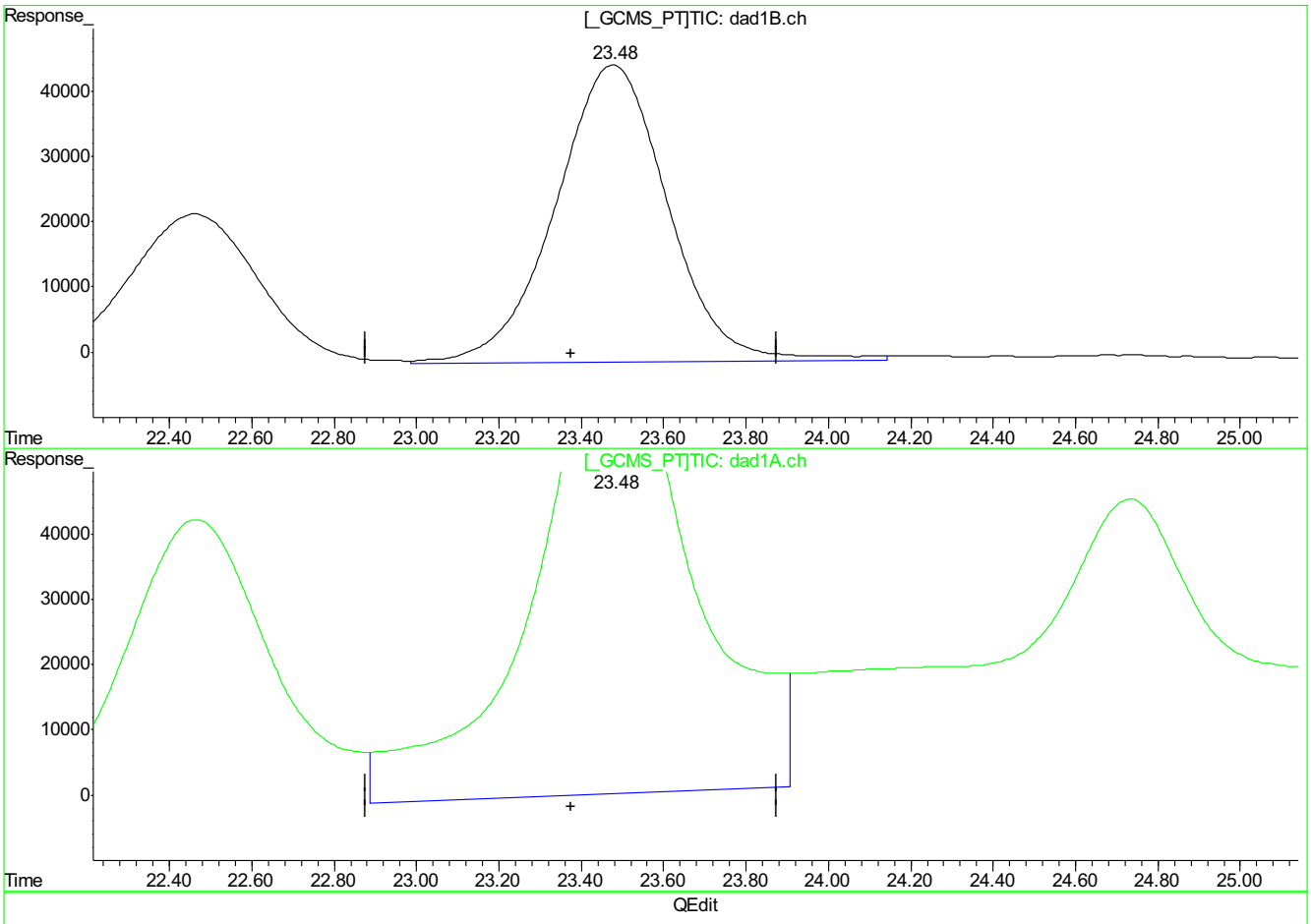
response 8954767

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:18:05 2017

Quantitation Report (Qedit)

```
Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch         Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On    : 25-Apr-2017, 05:14:26                    Operator: evitam
Sample    : ecc2096-1000                             Inst    : G1315B
Misc      : OP6708,GPP2096,1000,,,10,1,water         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017  Quant Results File: 0424_8330RPB.RES

Method       : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration
```



(20) 2-Amino-4,6-Dinitrotoluene

23.48min 897.331ppb

response 8665794

(20) 2-Amino-4,6-Dinitrotoluene #2

23.48min 1530.278ppb

response 19295130

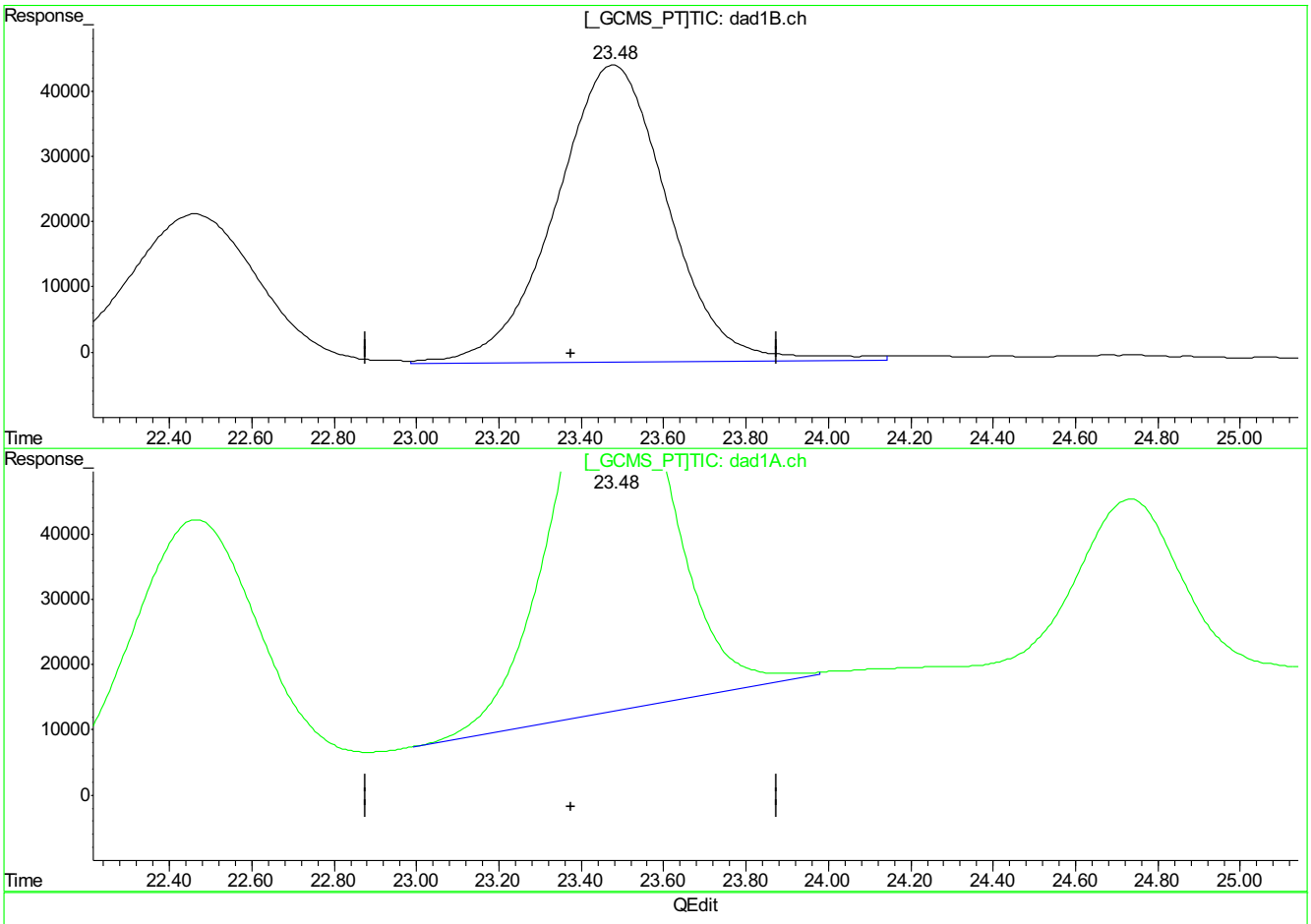
(+) = Expected Retention Time

PP381852.D 0424_8330RPB.M Tue Apr 25 13:18:08 2017

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

23.48min 897.331ppb

response 8665794

(20) 2-Amino-4,6-Dinitrotoluene #2

23.48min 926.640ppb m

response 12014627

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:18:11 2017

9.5.25.9

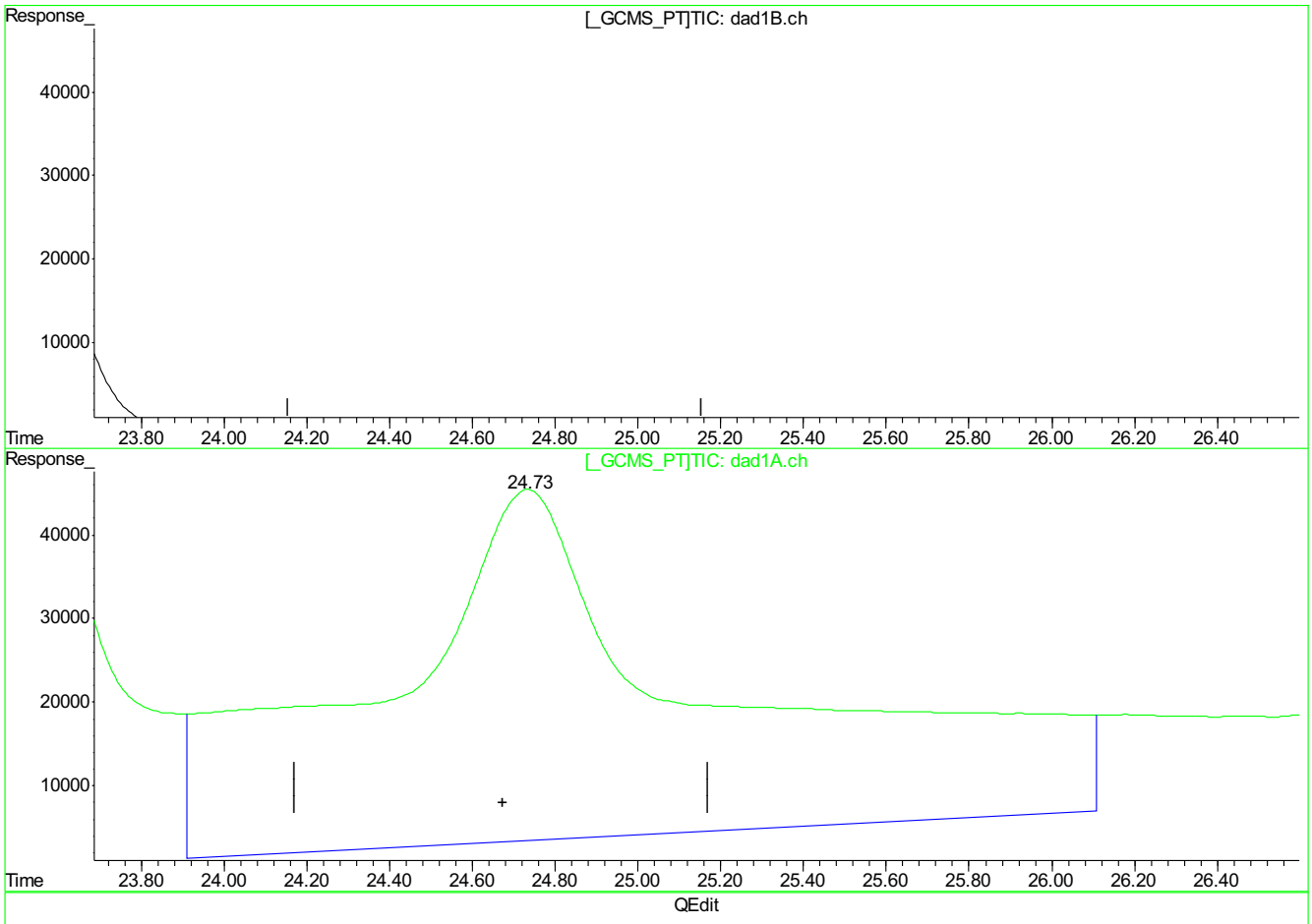
6

PP381852.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(21) PETN

24.74min 0.000ppb

response 128892

(21) PETN #2

24.73min 11906.194ppb

response 24437311

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:18:14 2017

9.5.25.10

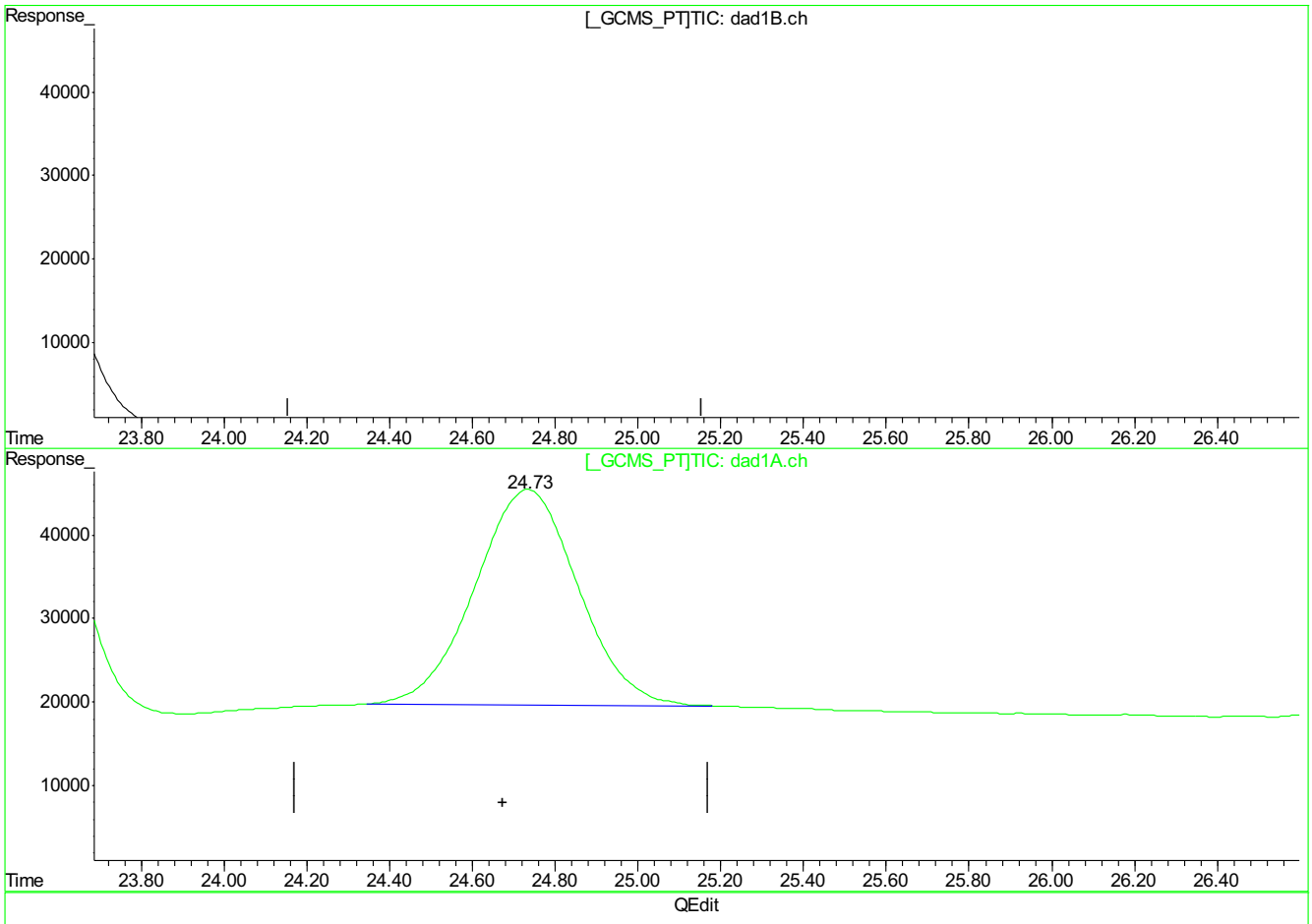
9

PP381852.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : P:\DATA\0424_RPB\PP381852.D\dad1B.ch Vial: 91
Signal #2 : P:\DATA\0424_RPB\PP381852.D\dad1A.ch
Acq On : 25-Apr-2017, 05:14:26 Operator: evitam
Sample : ecc2096-1000 Inst : G1315B
Misc : OP6708,GPP2096,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 25 11:04 2017 Quant Results File: 0424_8330RPB.RES

Method : C:\MSDCHEM\2\METHODS\0424_8330RPB.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 25 10:59:14 2017
Response via : Multiple Level Calibration



(21) PETN

24.74min 0.000ppb

response 128892

(21) PETN #2

24.73min 2189.661ppb m

response 4494251

(+) = Expected Retention Time
PP381852.D 0424_8330RPB.M Tue Apr 25 13:18:18 2017

SGS ACCUTEST-ORLANDO

DATE:	4/19/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 B 0419 pii
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1578

ANALYST:	GM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166151
HEAD PRESSURE:	233

DATA FILE *	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054259	1	CCB	8330				ND
BB 60	2	test					test
BB 61	3	IC1578-20		LC887	50+150	pii	conc pass
BB 62	4	-50			100+300		
BB 63	5	-100			250+750		
BB 64	6	-200			500+1500		
BB 65	7	icc -500			1000+3000		
BB 66	8	ic -1000			2000+6000		
BB 67	9	-2000		✓	1X		
BB 68	10	icv -500		ES134 CC 887 LC 827 ES 825	20 25 10) 1mL		PETN
BB 69	11	-500		ES858	10+40	40x	RL for conf. not used
BB 70	91	-50		ES8-B	✓	✓	pass only used for 2,4T
BB 71	92	opr4675-BS		opr4675	1x	pii	low TNX, 2,4TNT spike
BB 72	13	-MB					ND
BB 73	14	far4922-2,1e				pii	✓
BB 74	15	far4923-1					✓
BB 75	16	-2					✓
BB 76	17	-3					
BB 77	18	opr4675-MS				pii	ND
BB 78	19	-MSD					✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: G. Mains

SGS ACCUTEST-ORLANDO

DATE:	4/19/17
COLUMN TYPE:	EXT C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A13
ACQ. METHOD:	8330B
PROC. METHOD:	8330 5th replace
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1578

ANALYST:	EM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166351
HEAD PRESSURE:	233

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 54279	2	RCC 1578-1000	8330	LC831	1:1	pl	pass
BB ↓ 80	1	CCB	↓	—	—		no
BB ↓ 81	20	opt calib-B4	↓	opt calib	1X		RL machine stop
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

NA 2nd 4hold

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: EM

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	ExtC18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A16
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04/9plus
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1579

ANALYST:	EM
ACETONITRILE LOT #:	3353
MEOH LOT #:	166751
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054282	1	CCB	8330				ND
BB 83	2	cc1578-1000		LC837	1.1	pii	PASS (PTEMP)
BB 84	20	opa4666-BS		opa4666	1x	↓	✓
BB 85	21	↓ -MB					ND
BB 86	22	F942969-1					✓
BB 87	23	-2				pii	
BB 88	11	E5858-404		E5858	19/400	pii	✓
BB 89	24	F942969-6		opa4666	1x		les
BB 90	25	opa4666-LCS					ND
BB 91	26	↓ -MSD				pii	✓
BB 92	27	F942969-11				pii	✓
BB 93	18	-12					✓
BB 94	29	↓ -13					✓
BB 95	2	CC 1578-1000		LC837	1.1	↓	✓
BB 96	1	CCB					PASS PTEMP
BB 97	30	F942969-14					ND
BB 98	31	↓ -15		opa4666	1x		ND
BB 99	32	Fa43019-1				pii	✓
BB 300133	33	↓ -2					✓
BB 01	34	↓ -3	↓	↓	↓	↓	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC5-BB	

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 DW/SPLS
CALIB. DATE:	4/6/17
RUN BATCH: GBB	1579

ANALYST:	EM
ACETONITRILE LOT #:	333
MEOH LOT #:	166751
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0504307	35	FQ42028-1	8330	OP44684	1X	pii	RR @ 10X
BB 0504308	36	-2					ND
BB 0504309	37	-3					ND
BB 0504310	2	CC 1578-1000		LC837	1:1	pii	pass
BB 0504311	1	CCB					ND
BB 0504312	38	OP44684-BS		OP44684	1X	pii	✓
BB 0504313	39	-MB					ND
BB 0504314	40	FQ42969-3				pii	↑surrg fed10
BB 0504315	41	-4				pii	✓
BB 0504316	42	-5					ND
BB 0504317	43	-7				pii	✓
BB 0504318	44	-8					✓
BB 0504319	45	-9					✓
BB 0504320	46	OP44684-MS					✓
BB 0504321	47	-MSD					✓
BB 0504322	2	CC 1578-1000		LC837	1:1		PASS
BB 0504323	1	CCB					ND
BB 0504324	48	FQ42969-10		OP44684	1X		ND
BB 0504325	49	OP44685-BS					✓
BB 0504326	50	-PDI					✓

4/20/17 KL

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: D Nance

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04190417
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1579

ANALYST:	EH
ACETONITRILE LOT #:	3353
MEOH LOT #:	166351
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054322	51	OP44695-MB	8330	OP44695	1x		ND
BB 23	52	F94242-20					ND
BB 24	53	OP44695-DUP					ND
BB 25	54	↓ -DUP2					ND
BB 26	55	F94242-21					ND
BB 27	56	↓ -23					ND
BB 28	57	↓ -24		↓	↓		ND
BB 29	91	CCI578-1000		IC837	1.1	pii	PASS
BB 30	1	CCB					ND
BB 31	58	F94242-25		OP44695	1x		ND
BB 32	59	↓ -30		↓	↓		ND
BB 33	60	F94263-1					ND
BB 34	61	OP44695-MS				pii	✓
BB 35		↓ -MSD				pii	✓
BB 36	62 to 63	gblank A					ND
BB 37	64	↓ B					ND
BB 38	65	↓ C		↓	↓		ND
BB 39	77	F94328-1		OP44666	40/400	10x pii GLU ABLNT	ND ✓
BB 40	91	CCI578-1000		IC837	1.1	pii	PASS
BB 41	1	CCB	↓				ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A1B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0419 plus
CALIB. DATE:	4/19/17
RUN BATCH: GBB	1579

ANALYST:	EM
ACETONITRILE LOT #:	335-3
MEOH LOT #:	166251
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 054342	66	op64709-BS	8330	op64709	1x		✓
BB 43	67	↓ -MB					ND
BB 44	68	F942092-1					ND
BB 45	69	op64709-MD					✓
BB 46	70	↓ -MSD					✓
BB 47	71	op64708-BS		op64708			✓
BB 48	72	↓ -MB					ND
BB 49	73	IA 32444a11				pii	✓
BB 50	74	F943141-1					ND
BB 51	91	CC 1378-1000		LC837	1:1	pii	pass
BB 52	1	CCB					ND
BB 53	75	~~op64708~~ op64708-BS		op64708	1x	pii	✓
BB 54	76	↓ -MS1SD			↓	↓	✓
BB 55	78	op64710-BS		op64710	1x	pii	✓
BB 56	79	↓ -MS				pii	✓
BB 57	80	↓ -MB					ND
BB 58	81	F942433-7,re					ND
BB 59	82	↓ -1,re					ND
BB 60	83	F942817-1					ND
BB 61	84	op64710-dup					ND

EM 4/21/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	4/20/17
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 04/9 plus
CALIB. DATE:	4/6/17
RUN BATCH: GBB	1579

ANALYST:	EN
ACETONITRILE LOT #:	33553
MEOH LOT #:	166757
HEAD PRESSURE:	263

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0543602	85	OP64710-D492	8330	OP64710	1X		ND
BB 63	86	FQ42917-2	↓	↓	J		ND
BB 64	91	CC 1578-1000	↓	LC837	1:1	PII	RLS
BB 65	1	CCB	↓	↓	↓		ND
BB 66	87	FQ42817-3	↓	OP64710	1X		ND
BB 67	88	↓ -4	↓	↓	↓		ND
BB 68	89	↓ -5	↓	↓	↓		ND
BB 69	90	OP64710-MS	↓	↓	↓	PII	✓
BB 70	92	↓ -MSD	↓	↓	↓	PII	✓
BB 71	93	gblank A	↓	↓	↓		ND
BB 72	94	↓ B	↓	↓	↓		ND
BB 73	95	↓ C	↓	↓	↓		ND
BB 74	91	CC 1578-1000	↓	LC837	1:1	PII	RLS
BB							
BB							
BB							
BB							
BB							
BB							
BB							

4/21/17

MA 4/21/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	04/24/17
COLUMN TYPE:	BOND RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 P PB
PROC. METHOD:	ORV-8330 P PB
CALIB. DATE:	4/24/17
RUN BATCH:	GPP 2096

ANALYST:	EH
ACETONITRILE LOT #:	133153
MEOH LOT #:	164163
HEAD PRESSURE:	1855

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 381818	1	CCB	8330				ND
PP 19	91	test					test only
PP 20	91	↓					↓
PP 21	2	ICV2096-20		LC8330	50+450 / 35+465	EH 4/24/17 PII	curve PASS PETN 4
PP 22	3	-50			10+390		
PP 23	4	-100			25+475		
PP 24	5	-200			50+450		
PP 25	6	ICL -500			100+450 EH 4/24/17 300		
PP 26	7	-1000			200+200		
PP 27	8	-2000			1X		
PP 28	9	ICV -500		ES724 LC827 ES825	20:20 25:10 1 mL		4 3,5di 2nd screen & p-nitro
PP 29	10	↓ ↓ -500		ES813	10/400		only for 2,4T
PP 30	11	OP64666-MB		OP64666	1X		ND
PP 31	12	FA42969-1CS				PII	
PP 32	13	↓ -2					
PP 33	14	-11					
PP 34	15	-12					
PP 35	16	-13					
PP 36	17	↓ -15		↓	↓	↓	↓
PP 37	18	FA4630 19-1	↓				

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/16

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	4/24/17
COLUMN TYPE:	Bones RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 A PB
PROC. METHOD:	424 8330 A PB
CALIB. DATE:	4/24/17
RUN BATCH:	GPP 2096

ANALYST:	EM
ACETONITRILE LOT #:	3330
MEOH LOT #:	162362
HEAD PRESSURE:	135

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 381838	19	FA43019-2cf	8330	OP64684	1X	pii	✓
PP 39	20	↓ -3cf		↓	↓	pii	✓
PP 40	21	CC 2096-1000		LC837	1:1	pii	4 p-nitro
PP 41	1	CCB					ND ✓
PP 42	21	FA43028-1cf		OP64684	1X	pii	✓
PP 43	22	-1cf		↓	40/400	8X pii	✓
PP 44	23	OP64684-MB		OP64684	1X		ND
PP 45	24	FA42969-3cf				pii	✓ Ledo
PP 46	25	-4					✓
PP 47	26	-7					✓
PP 48	27	-8					✓
PP 49	28	-9		↓	↓	↓	ND no need
PP 50	29	OP64908-MB		OP64708			ND Noeed
PP 51	30	FA32446-11cf		↓	↓		ND noneed
PP ✓ 52	91	CC 2096-1000	↓	LC837	1:1		4 p-nitro & PCE N and signed
PP							
PP							
PP							
PP							
PP							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Mains

4/24/17

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 04/17/17 1030 {mm/dd/yy 24:00}

Date/Time Finished: 04/17/17 1700 {mm/dd/yy 24:00}

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP64666 Ext. By: MB Conc. By: — Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP64666MB	X	1000	6	N/A	250ul		10ml	
OP64666BS	X	1000				250+250ul		200ul 8330 Plus
FA42969-1	2	1040						
-2	2	1040						
-6	5	1050						
-11	1	1040						
-12	2	1060						
-13	1	1060						
-14	2	1040						
-15	2	1050						
FA43019-1	2	1000	6	N/A	250ul			
-2	2	1000						
-3	3	1000						
FA43028-1	5	1000						
-2	3	1000						
-3	3	1080						
			MB 04/17/17					
FA42969-6MS	1	520	6	N/A	250ul	MB 04/17/17 250+250ul	10ml	200ul 8330 Plus
-6MSD	1	520	↓	↓	↓	↓	↓	↓
DUP								

Comments: ES734 25ppm 03/08/17 8330 Plus SPK

Surr.1 ID: ES858B Conc: 20ppm Exp. Date: 09/28/17 Inj. By: MB Ver. By MB

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk.1 ID: ES858A Conc: 20ppm Exp. Date: 09/29/17 Inj. By: MB Ver. By MB

Spk.2 ID: LC827 Conc: 100ppm Exp. Date: 06/16/17 Inj. By: MB Ver. By MB

Initial Bath Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: —

Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: —

Methanol Lot # —

Acetonitrile Lot # 161623

Water Lot# DI H2O

SPE Lot # S214-0065

SPE Lot # —

Syringe Filter Lot# —

pH Paper # 230016

Reagent # —

Solvent # —

Relinquished By: BF Date: 04/17/17

Accepted By: 1400 Date: 4/17

NF 02/16

extwater_spe 020116.xls

9.7.1

9

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 386442

Priority: Standard

Status: Final

Project: #126485 EEA-IN / RADFORD AAP

Samples Submitted: Three groundwater samples

Copies to: None

Collected: 04/10/17 By: Client Received: 04/12/17

REPORT SUMMARY

Three groundwater samples were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sosz Reporter — 04/26/2017

Reviewed By | Title | Date

Finalized By | Title | Date

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 386442
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3672202	852429 54MW10	300.0	04/10/17 12:10	Client	04/12/17 09:45
3672203	852439 54TM10	300.0	04/10/17 12:15	Client	04/12/17 09:45
3672204	852441 54MW13	300.0	04/10/17 15:10	Client	04/12/17 09:45

Report Summary

Note: See attached page for additional comments.

Purchase Order # 126485 EEA-IN / Project: Radford AAP

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | 04/26/2017 Date

Client Name: CT Laboratories
Report #: 386442

Client Name: CT Laboratories Report #: 386442

Sampling Point: 852429 54MW10 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/13/17 10:01	3672202
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/13/17 10:01	3672202

Sampling Point: 852439 54TM10 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/13/17 10:40	3672203
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/13/17 10:40	3672203

Sampling Point: 852441 54MW13 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/13/17 11:20	3672204
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/13/17 11:20	3672204

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

CT LABORATORIES
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www.ctlaboratories.com

386442 ~~312718~~ SS 4-12-17

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 126485 EEA-IN

317808

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Government UPS Shipping Acct ? (Y) N

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: Standard TAT ***RUSH TURNAROUND NEEDED? Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM 5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: ERIS + Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description		Analyses / Method		Cost
852429	04/10/2017 1210	GROUND WATER	54MW10	3672 202	CHLORATE/CHLORITE	300.1	
852439	04/10/2017 1215	GROUND WATER	54TM10	203	CHLORATE/CHLORITE	300.1	
852441	04/10/2017 1510	GROUND WATER	54MW13	204	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 04/11/2017 13:50

Received by: [signature] Date/Time: 4-12-17 0945 Receipt Temperature (C) 1.2°C

COMMENTS: NO DESIGNATED MS/MSD WITH THIS BATCH OF SAMPLES.

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Eurofins Eaton Analytical
Run Log

Run ID: **228115** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3673373		RW	ES	04/10/2017 16:10	
QCS	3673379		RW	ES	04/12/2017 15:38	
LRB	3673382		RW	ES	04/12/2017 17:37	
LFB	3673383		RW	ES	04/12/2017 18:16	
IPC	3673386		RW	ES	04/13/2017 02:48	
CCB	3673387		RW	ES	04/13/2017 03:27	
FS	3672202	852429 54MW10	GW	ES	04/13/2017 10:01	
FS	3672203	852439 54TM10	GW	ES	04/13/2017 10:40	
FS	3672204	852441 54MW13	GW	ES	04/13/2017 11:20	
IPC	3673390		RW	ES	04/13/2017 11:59	
CCB	3673391		RW	ES	04/13/2017 12:38	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/10/2017 16:10	3673373
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/10/2017 16:10	3673373
QCS	Chlorate	300.0	10	---		246.2240	250	ug/L	98	90 - 110	---	---	1.0	---	04/12/2017 15:38	3673379
QCS	Chlorite	300.0	10	---		255.0210	250	ug/L	102	90 - 110	---	---	1.0	---	04/12/2017 15:38	3673379
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/12/2017 17:37	3673382
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/12/2017 17:37	3673382
LFB	Chlorate	300.0	10	---		249.5610	250	ug/L	100	90 - 110	---	---	1.0	---	04/12/2017 18:16	3673383
LFB	Chlorite	300.0	10	---		252.5440	250	ug/L	101	90 - 110	---	---	1.0	---	04/12/2017 18:16	3673383
IPC	Chlorate	300.0	10	---		253.0200	250	ug/L	101	90 - 110	---	---	1.0	---	04/13/2017 02:48	3673386
IPC	Chlorite	300.0	10	---		253.2680	250	ug/L	101	90 - 110	---	---	1.0	---	04/13/2017 02:48	3673386
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 03:27	3673387
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 03:27	3673387
FS	Chlorate	300.0	10	852429 54MW10	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 10:01	3672202
FS	Chlorite	300.0	10	852429 54MW10	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 10:01	3672202
FS	Chlorate	300.0	10	852439 54TM10	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 10:40	3672203
FS	Chlorite	300.0	10	852439 54TM10	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 10:40	3672203
FS	Chlorate	300.0	10	852441 54MW13	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 11:20	3672204
FS	Chlorite	300.0	10	852441 54MW13	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 11:20	3672204
IPC	Chlorate	300.0	10	---		246.7890	250	ug/L	99	90 - 110	---	---	1.0	---	04/13/2017 11:59	3673390
IPC	Chlorite	300.0	10	---		246.5960	250	ug/L	99	90 - 110	---	---	1.0	---	04/13/2017 11:59	3673390
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 12:38	3673391
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/13/2017 12:38	3673391

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
QCS	Quality Control Sample		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 228115 **Instrument#** ES

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	160208	3/13/2017	3/13/2017	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-94b(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-94b(4-6)

Analyst: S. Lovick **Prep Date:** 2/23/2017 **Exp. Date:** 5/23/2017

Cal Standard	Br-, ClO3- & ClO2- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100		1000	100	100

Analyst: S. Lovick **Prep Date:** 4/10/2017 **Exp. Date:** 4/17/2017

LFB/MS/MSD	250	100		10	10

Analyst: S. Lovick **Prep Date:** 4/12/2017 **Exp. Date:** 4/17/2017

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL	Prep ID	IOC49-8c

Analyst: S. Lovick **Prep Date:** 4/10/2017 **Exp. Date:** 5/10/2017

Comments: Dionex IonPac AS19 4mm s/n 170117167 lot#01617190 installed 02/07/2017
EGC 500-KOH Eluent Cartridge s/n 161002519319 installed 02/07/2017

Analyst: [signature] **Date:** APR 14 2017

Technician Review: [signature] **Date:** 04/14/2017

(signature)

Summary

Sequence Details		
Name:	**041217A**	**14/Jan/15 15:09:59**
Directory:	**Instrument Data\ES\300B\2017**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**13/Apr/17 13:13:04**
No. of Injections:	**39**	**us25_usr_sbnlabpcs**

By Component	Chlorite

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount ppb CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount ppb CD_1 Bromide
1	\ICB\RW\1\	04/10/17 16:10	0.000	6.697	0.000	6.632	0.000	6.470
2	\ICS\RW\1\10	04/10/17 16:50	0.006	13.874	0.005	14.438	0.005	14.134
3	\ICS\RW\1\20	04/10/17 17:29	0.013	22.753	0.011	23.719	0.012	23.399
4	\ICS\RW\1\100	04/10/17 18:08	0.066	91.491	0.054	90.823	0.058	91.485
5	\ICS\RW\1\250	04/10/17 18:48	0.180	238.596	0.149	237.105	0.158	237.457
6	\ICS\RW\1\500	04/10/17 19:27	0.388	506.590	0.323	507.283	0.343	507.056
7	\QCS\RW\1\250	04/12/17 15:38	0.193	255.021	0.155	246.224	0.166	249.439
8	\IPC\RW\1\250	04/12/17 16:18	0.190	251.782	0.158	251.684	0.166	248.904
9	\RLC\RW\1\10	04/12/17 16:57	0.006	14.038	0.005	15.024	0.006	15.150
10	\LRB\RW\1\	04/12/17 17:37	n.a.	n.a.	0.000	6.585	0.000	6.434
11	\LFB\RW\1\250	04/12/17 18:16	0.191	252.544	0.157	249.561	0.166	248.821
12	3671894\FS\DW\1\	04/12/17 18:55	0.085	116.589	0.274	430.461	0.043	69.297
13	3671894\MS\DW\1\250	04/12/17 19:35	0.281	368.695	0.440	689.072 X	0.213	317.727
14	3671894\MSD\DW\1\250	04/12/17 20:14	0.286	375.285	0.444	694.115 X	0.217	323.344
15	3672022\FS\DW\1\	04/12/17 20:54	0.101	136.738	0.018	35.170	0.002	9.207
16	3672023\FS\DW\1\	04/12/17 21:33	0.032	48.208	0.012	25.158	0.001	7.795
17	3672024\FS\DW\1\	04/12/17 22:12	0.004	11.642	0.003	10.657	0.001	7.477
18	3672027\FS\DW\1\	04/12/17 22:52	0.115	154.723	0.147	234.086	0.002	9.289
19	3672028\FS\DW\1\	04/12/17 23:31	0.147	196.299	0.166	263.993	0.003	10.878
20	3672029\FS\DW\1\	04/13/17 00:10	0.153	203.668	0.156	248.045	0.004	11.666
21	3672030\FS\DW\1\	04/13/17 00:50	0.630	818.343 X	0.123	196.809	0.009	20.040
22	3672031\FS\DW\1\	04/13/17 01:29	0.454	590.838 X	0.199	314.678	0.005	13.914
23	3672032\FS\DW\1\	04/13/17 02:09	0.527	685.516 X	0.208	328.182	0.005	13.263
24	\IPC\RW\1\250	04/13/17 02:48	0.192	253.268	0.159	253.020	0.168	251.922
25	\CCB\RW\1\	04/13/17 03:27	0.000	6.658	0.000	6.785	n.a.	n.a.
26	3672039\FS\DW\1\	04/13/17 04:07	0.190	251.330	0.073	119.891	0.005	13.889
27	3672039\MS\DW\1\250	04/13/17 04:46	0.386	504.108 X	0.236	371.770	0.167	251.069
28	3672039\MSD\DW\1\250	04/13/17 05:25	0.388	505.885 X	0.238	374.850	0.170	255.371
29	3672040\FS\DW\1\	04/13/17 06:05	0.053	74.925	0.143	227.732	0.009	19.614
30	3672041\FS\DW\1\	04/13/17 06:44	0.000	7.251	0.234	368.905	0.007	16.055
31	3672052\FS\DW\1\	04/13/17 07:23	0.152	202.977	0.107	171.631	0.016	29.976
32	3672053\FS\DW\1\	04/13/17 08:03	0.117	157.425	0.102	164.045	0.018	32.215
33	3672054\FS\DW\1\	04/13/17 08:42	0.134	179.077	0.119	190.233	0.019	34.314
34	3672068\FS\SW\1\	04/13/17 09:22	n.a.	n.a.	0.005	14.233	0.006	14.562 ⊗
35	3672202\FS\GW\1\	04/13/17 10:01	n.a.	n.a.	0.000	6.996	0.010	21.214
36	3672203\FS\GW\1\	04/13/17 10:40	n.a.	n.a.	0.001	7.759	0.010	20.868
37	3672204\FS\GW\1\	04/13/17 11:20	n.a.	n.a.	0.001	8.088	0.008	18.666
38	\IPC\RW\1\250	04/13/17 11:59	0.186	246.596	0.155	246.789	0.164	246.362
39	\CCB\RW\1\	04/13/17 12:38	n.a.	n.a.	0.000	7.133	0.000	6.487

⊗ - not Reportable SR 4/13/17

X - over Cal Range, not reported. SR 4/13/17

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0001 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	1.00 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
7.600 [min]	Inhibit Integration	Off	Any	All Channels
8.500 [min]	Inhibit Integration	On	Any	All Channels
15.250 [min]	Inhibit Integration	Off	Any	All Channels
18.200 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	7.920	2.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	15.920	5.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	17.390	2.500 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Total**
Curve Fitting	**Inverted**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Ok	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G2	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G3	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G4	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G5	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G6	150.0 [µl]		as19 4mm	as19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	4/10/2017 4:10:53 PM		50BC70FC-5200-47D2-9244-	0	0.00
Finished	4/10/2017 4:59:13 PM		27E5950C-C1E8-48D2-87DB-	0	0.00
Finished	4/10/2017 5:29:35 PM		E5358A6D-F25F-43C0-	0	0.00
Finished	4/10/2017 6:08:57 PM		8CF1CDB7-11E6-4EA2-	0	0.00
Finished	4/10/2017 6:48:19 PM		B76A72EF-6ECA-4027-	0	0.00
Finished	4/10/2017 7:27:40 PM		8EB77C0E-719A-4F22-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**as19 4mm**
Comment	
Description	**Instrument: ICS5000** **Creation Time: 1/14/2015 12:38:02 PM** **Created by EurofinsEatonAnaly**
Run time	**35.000 [min]**
Instrument	**ES on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		DC.Compartment_TC.AcquireExclusiveAccess		
		DC.Column_TC.AcquireExclusiveAccess		
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_1	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Pump_1.Pressure.UpperLimit	3500 [psi]	
		Pump_1.%A.Equate	"%A"	
		Pump_1.Pressure.LowerLimit	200 [psi]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	2.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		CDet1.Rise_Time	0.50 [s]	
		CDet1.Data_Collection_Rate	5.0 [Hz]	
		CDet1.CellHeater.Mode	On	
		CDet1.CellHeater.TemperatureSet	35.00 [°C]	
		CDet1.Temperature_Compensation	1.7 [%/°C]	
		DC.Column_TC.Mode	On	
		DC.Column_TC.TemperatureSet	30.00 [°C]	
		DC.Compartment_TC.Mode	On	
		DC.Compartment_TC.TemperatureSet	30.00 [°C]	
		DC.Suppressor1.Type	AERS_4mm	
		DC.Suppressor1.Carbonate	0.0 [mM]	
		DC.Suppressor1.Bicarbonate	0.0 [mM]	
		DC.Suppressor1.Hydroxide	40.0 [mM]	
		DC.Suppressor1.Tetraborate	0.0 [mM]	

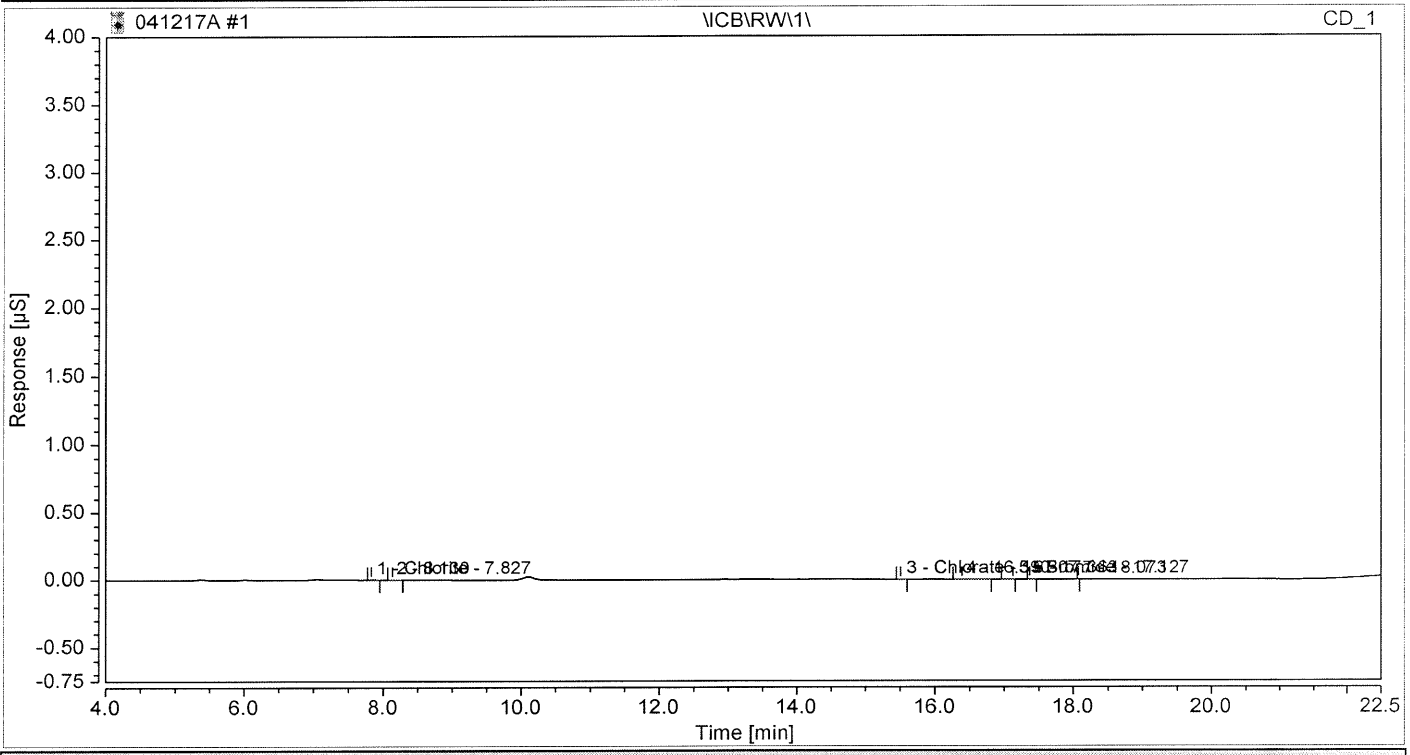
		DC.Suppressor1.OtherEluent	0.0 [mN]
		DC.Suppressor1.RecommendedCurrent	99 [mA]
		DC.Suppressor1.CurrentSet	100 [mA]
		Pump_1.Flow	1
		EluentGenerator.EGC_1.CR_TC	On
		Pump_1.Curve	5
		Sampler.PunctureOffset	0 [mm]
		Sampler.InjectWash	BeforeInj
		EluentGenerator.EGC_1.Curve	5
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_1.Pump_1_Pressure.AcqOn	
		CDet1.Autozero	
		CDet1.CD_1.AcqOn	
		CDet1.CD_1_Total.AcqOn	
Run			Duration = 35.000 [min]
	0.000		
	17.500		
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
		EluentGenerator.EGC_1.Curve	5
	23.500		
		EluentGenerator.EGC_1.Concentration	40.00 [mM]
		EluentGenerator.EGC_1.Curve	5
	24.000		
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
		EluentGenerator.EGC_1.Curve	1
Stop Run			
	35.000		
		Pump_1.Pump_1_Pressure.AcqOff	
		CDet1.CD_1.AcqOff	
		CDet1.CD_1_Total.AcqOff	
Post Run			
	35.000		
		DC.Column_TC.ReleaseExclusiveAccess	
		DC.Compartment_TC.ReleaseExclusiveAc	
End			

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Apr/17 16:10**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

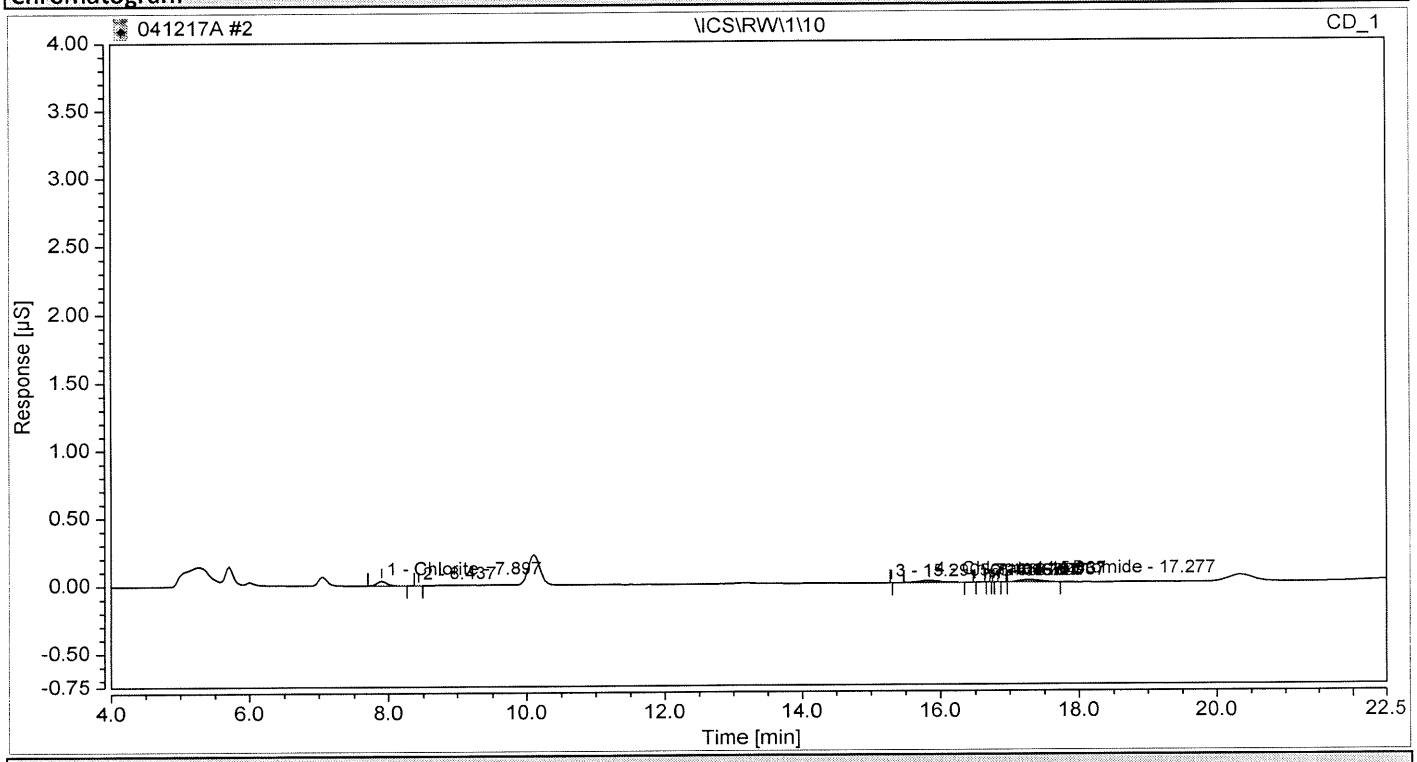
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.827	0.000	0.000	10.54	16.71	6.6966
3	Chlorate	15.507	0.000	0.001	11.81	17.68	6.6319
5	Bromide	17.127	0.000	0.000	11.08	11.88	6.4701
Total:			**0.000**	**0.001**	**33.43**	**46.27**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**35.00**
Vial Number:	**G2**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Apr/17 16:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

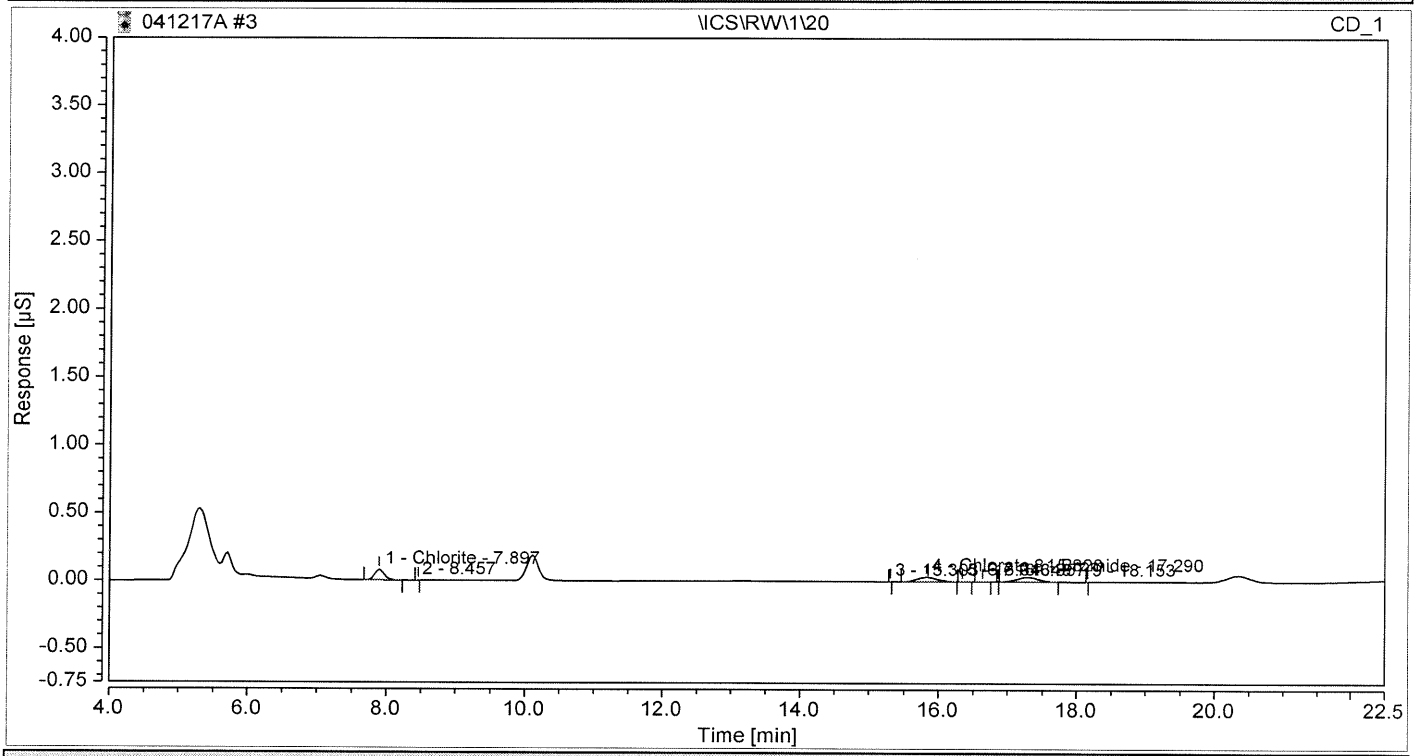
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.897	0.006	0.033	34.99	51.41	13.8735
4	Chlorate	15.837	0.005	0.015	31.69	22.67	14.4378
11	Bromide	17.277	0.005	0.015	32.96	23.49	14.1340
Total:			**0.016**	**0.063**	**99.64**	**97.57**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**35.00**
Vial Number:	**G3**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Apr/17 17:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

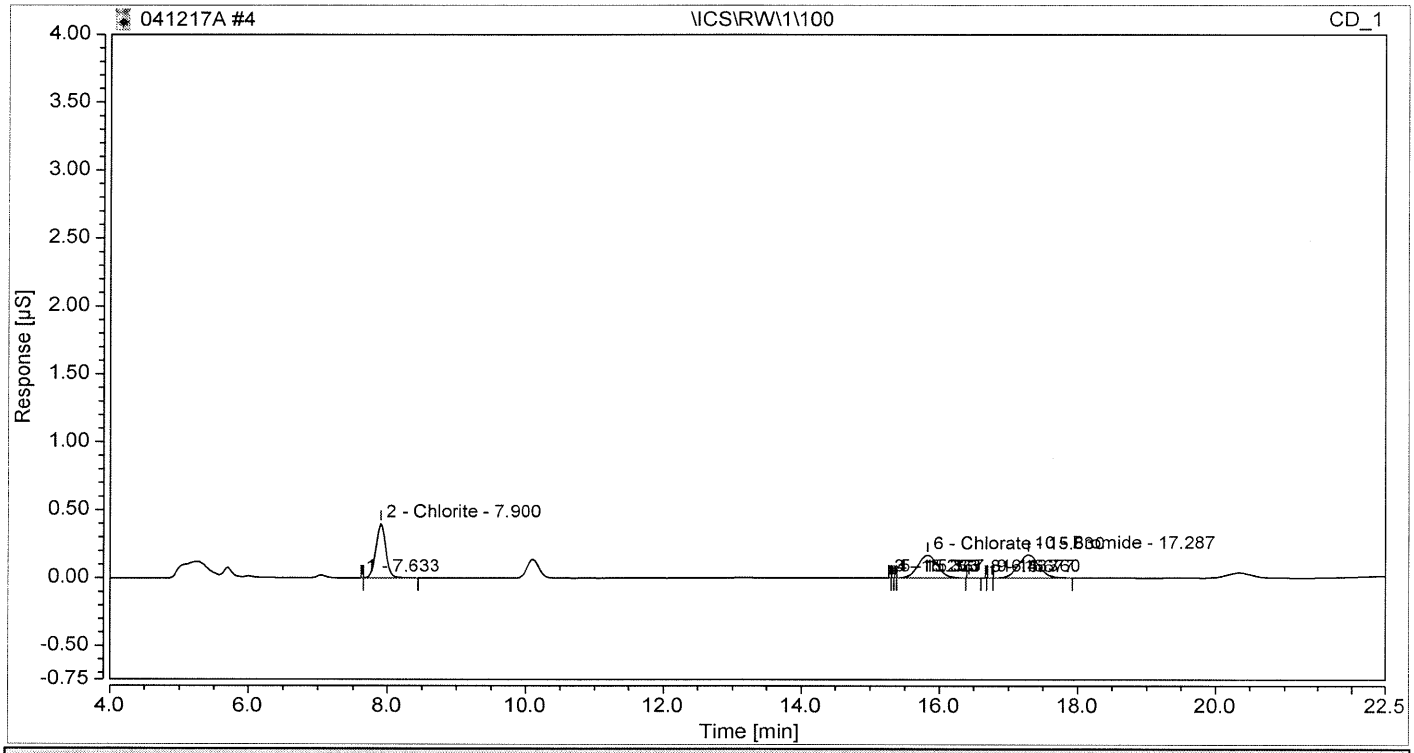
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.897	0.013	0.076	35.31	52.02	22.7530
4	Chlorate	15.820	0.011	0.034	31.26	22.91	23.7187
8	Bromide	17.290	0.012	0.034	32.82	23.47	23.3987
Total:			**0.035**	**0.144**	**99.40**	**98.39**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**35.00**
Vial Number:	**G4**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Apr/17 18:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

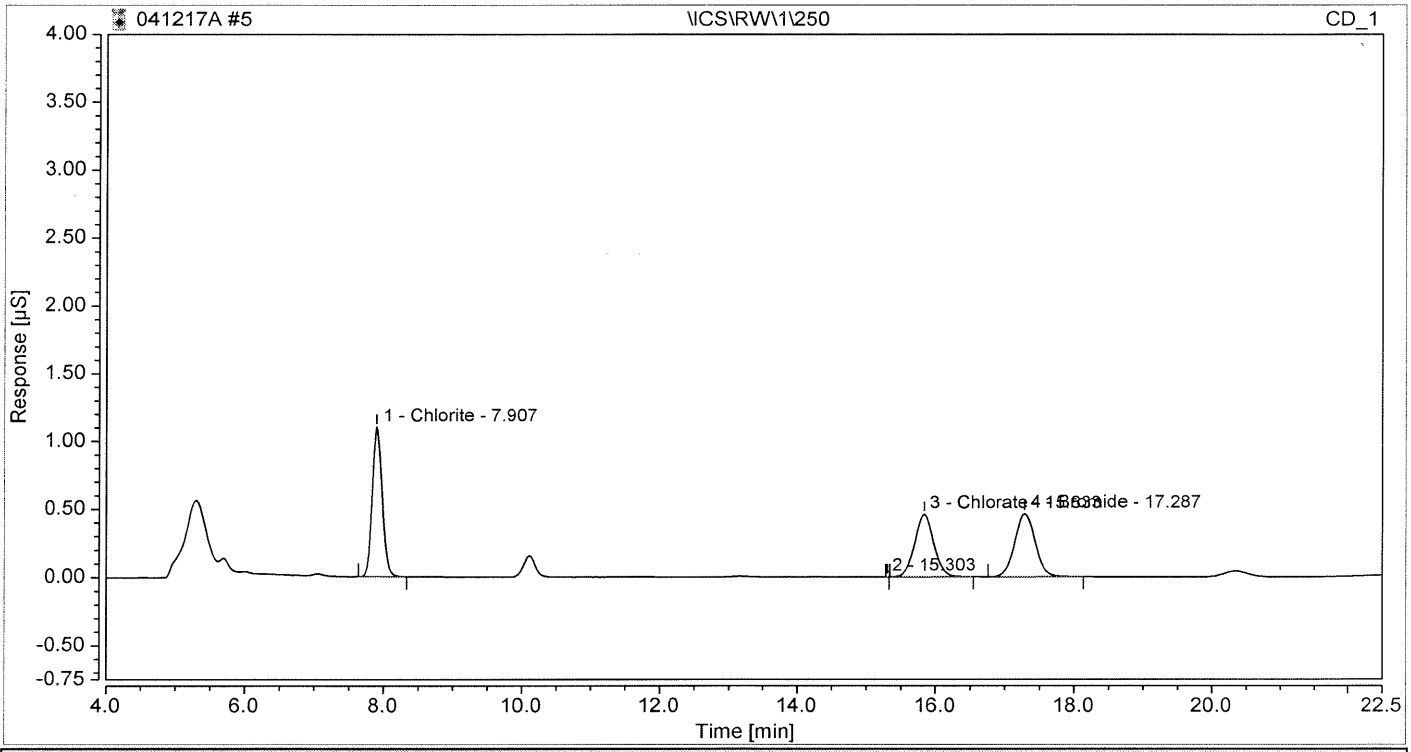
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
2	Chlorite	7.900	0.066	0.400	36.90	54.16	91.4913
6	Chlorate	15.830	0.054	0.167	30.46	22.56	90.8234
10	Bromide	17.287	0.058	0.170	32.60	23.02	91.4845
Total:			**0.179**	**0.736**	**99.96**	**99.75**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Apr/17 18:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

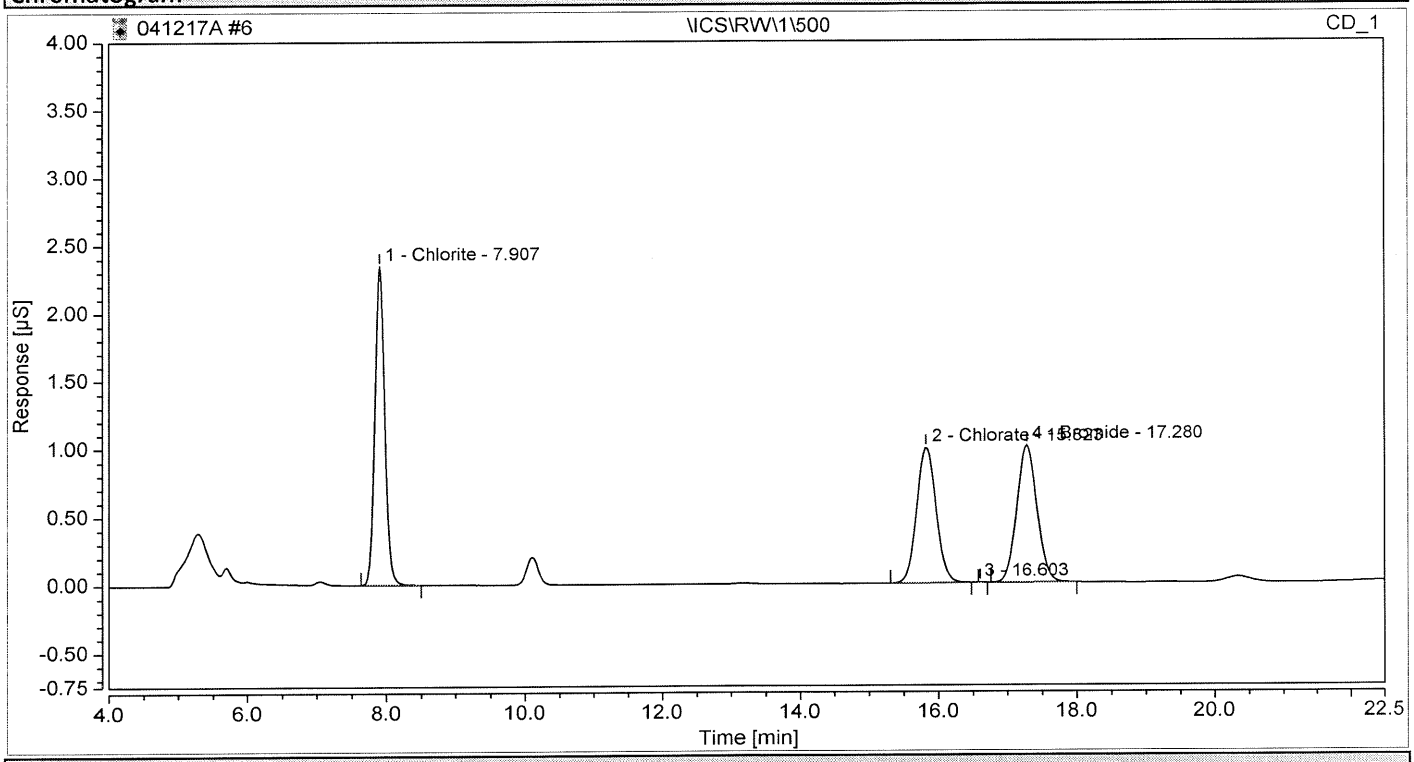
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.907	0.180	1.098	36.99	54.38	238.5959
3	Chlorate	15.833	0.149	0.457	30.55	22.65	237.1049
4	Bromide	17.287	0.158	0.464	32.46	22.96	237.4570
Total:			**0.487**	**2.019**	**100.00**	**99.99**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**35.00**
Vial Number:	**G6**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**10/Apr/17 19:27**	*Sample Weight:*	**1.0000**

Chromatogram



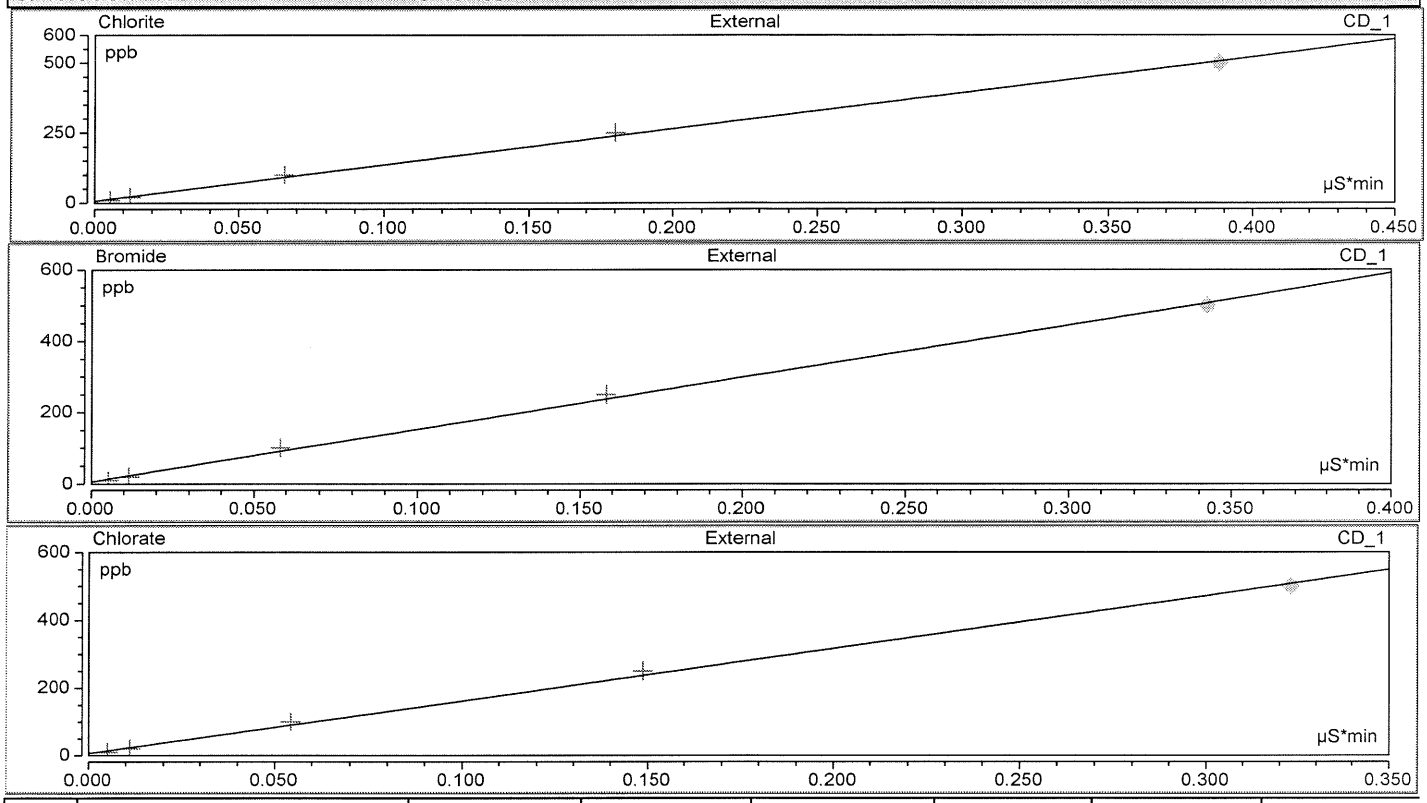
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.907	0.388	2.343	36.83	53.96	506.5896
2	Chlorate	15.823	0.323	0.992	30.66	22.85	507.2833
4	Bromide	17.280	0.343	1.006	32.50	23.17	507.0557
Total:			**1.054**	**4.342**	**100.00**	**99.99**	

Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	6.6359
Evaluation Type	Area	*Slope (C1)*	1287.7446
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9984

Calibration Plot **Chlorite**



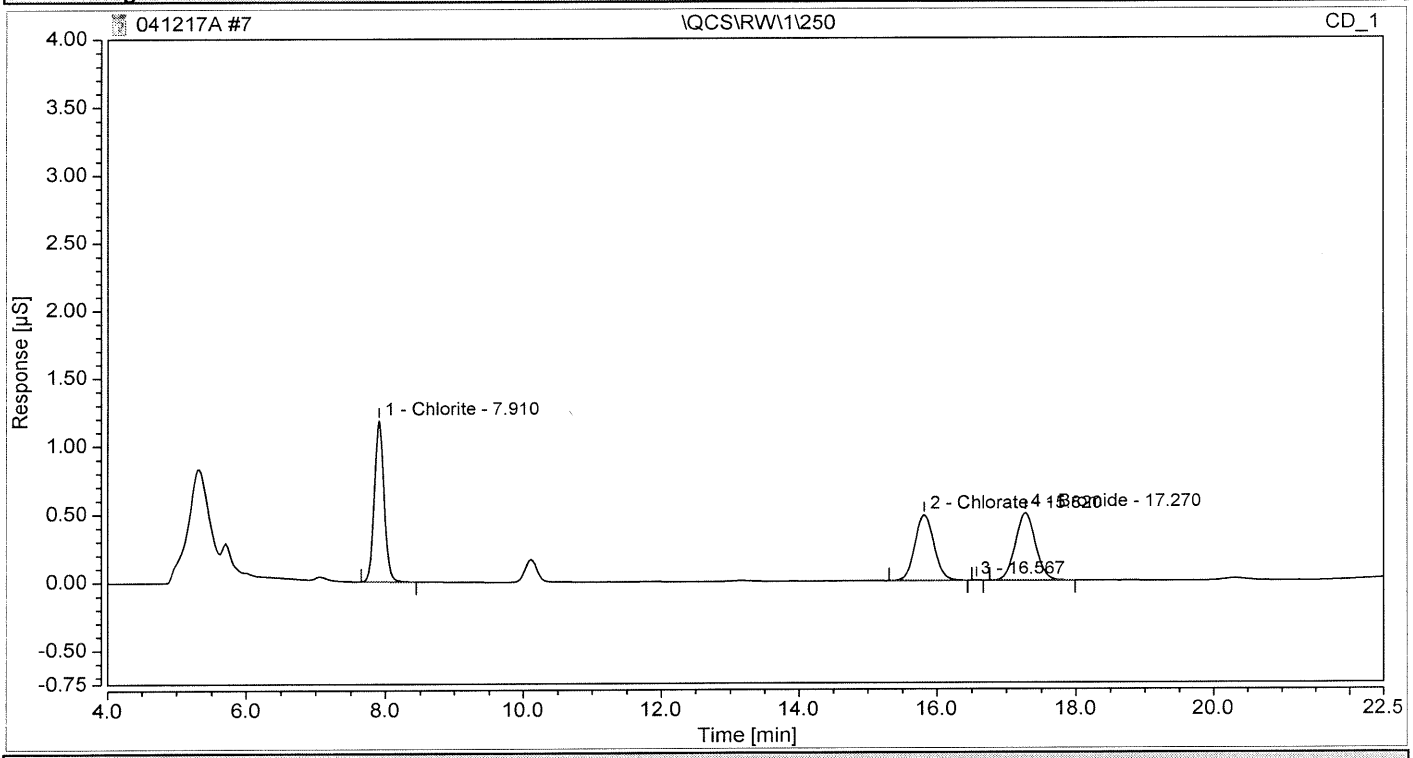
No.	Peak Name	Corr.Coeff. %	Slope	Offset	Weights	Cal. Type	Response Factor
1	Chlorite	99.919	1287.74	6.636	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.902	1549.53	6.550	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.910	1461.43	6.398	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\QCS\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G7**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Apr/17 15:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

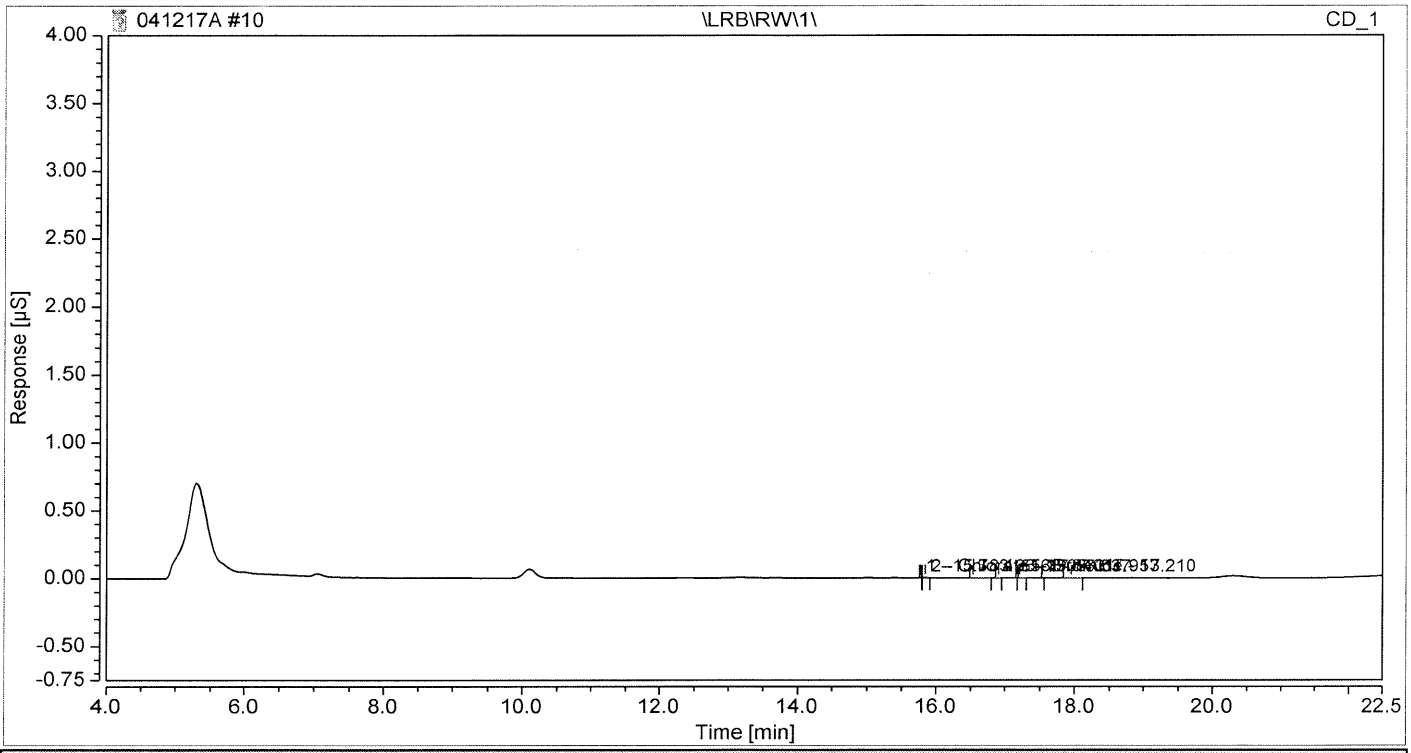
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.910	0.193	1.178	37.53	54.73	255.0210
2	Chlorate	15.820	0.155	0.480	30.10	22.32	246.2241
4	Bromide	17.270	0.166	0.493	32.36	22.93	249.4390
Total:			**0.514**	**2.151**	**99.99**	**99.98**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**GA2**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Apr/17 17:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

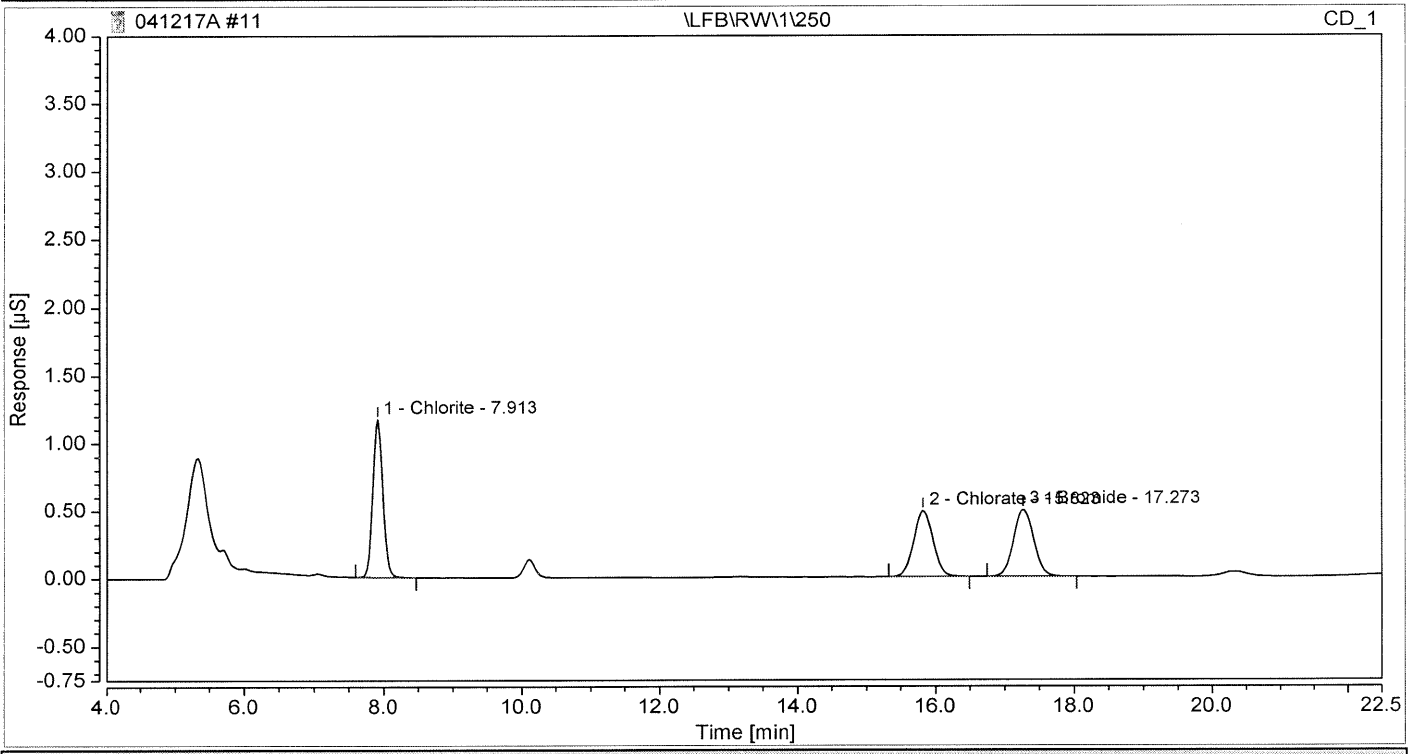
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
2	Chlorate	15.840	0.000	0.000	8.18	13.85	6.5853
6	Bromide	17.210	0.000	0.000	8.93	14.79	6.4341
Total:			**0.000**	**0.001**	**17.12**	**28.63**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**GA3**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**12/Apr/17 18:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

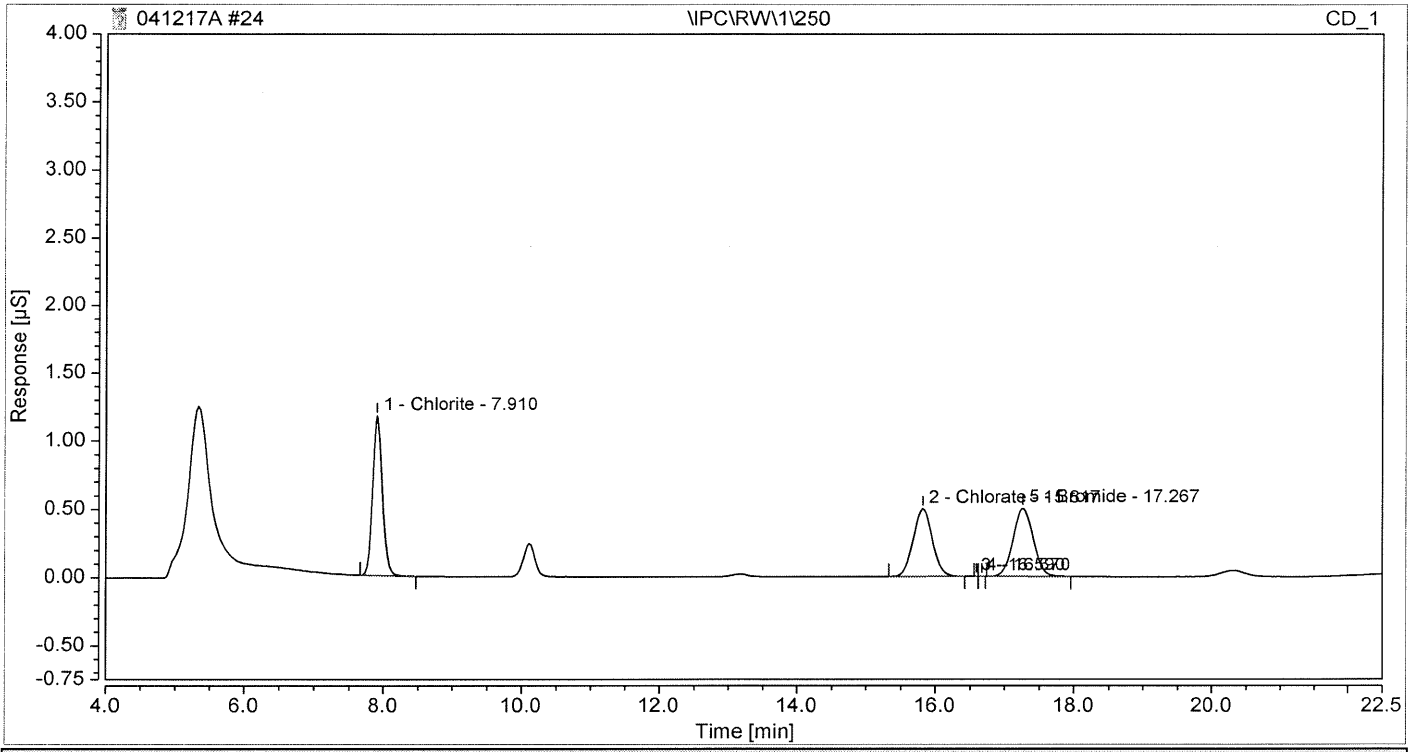
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.913	0.191	1.165	37.18	54.36	252.5436
2	Chlorate	15.823	0.157	0.486	30.53	22.66	249.5609
3	Bromide	17.273	0.166	0.493	32.29	22.98	248.8213
Total:			**0.514**	**2.144**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 02:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

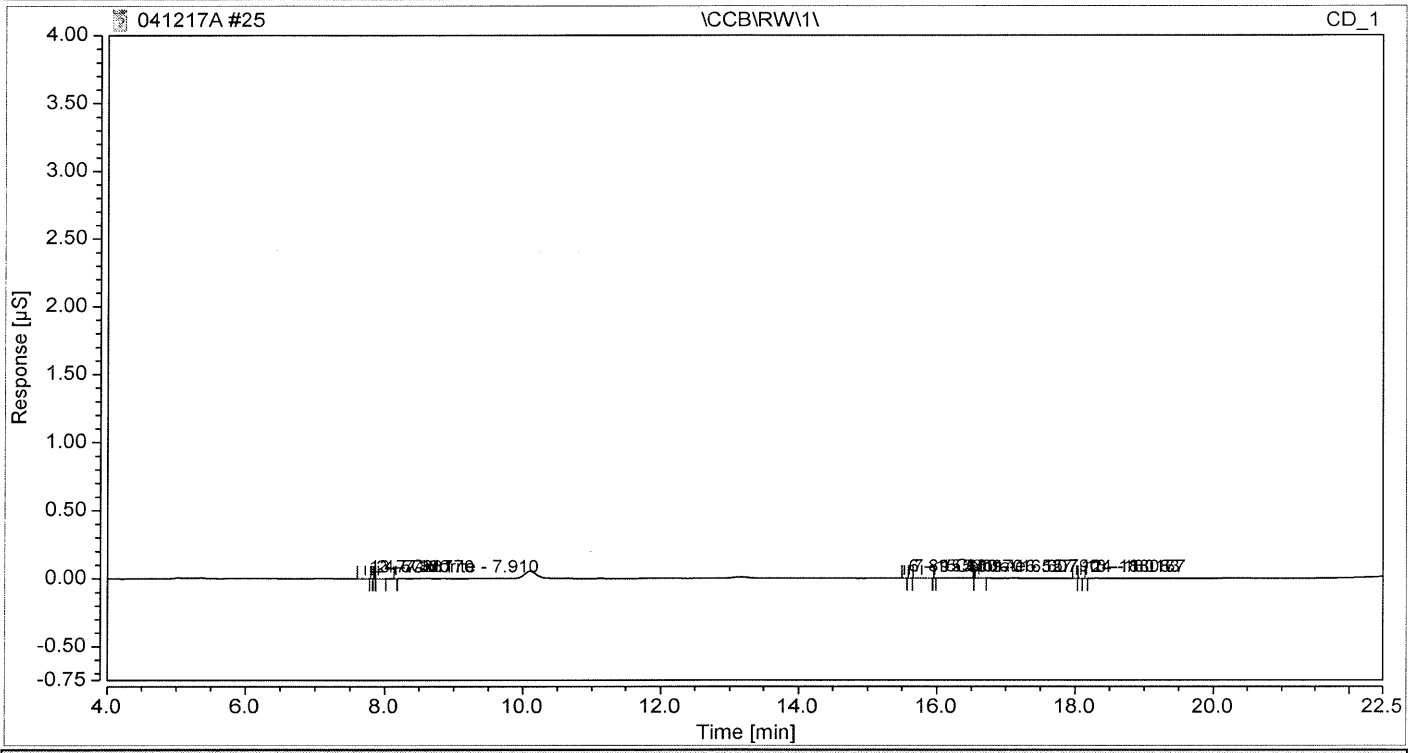
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.910	0.192	1.168	36.93	54.04	253.2683
2	Chlorate	15.817	0.159	0.495	30.67	22.89	253.0200
5	Bromide	17.267	0.168	0.498	32.40	23.06	251.9225
Total:			**0.519**	**2.162**	**100.00**	**99.99**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 03:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

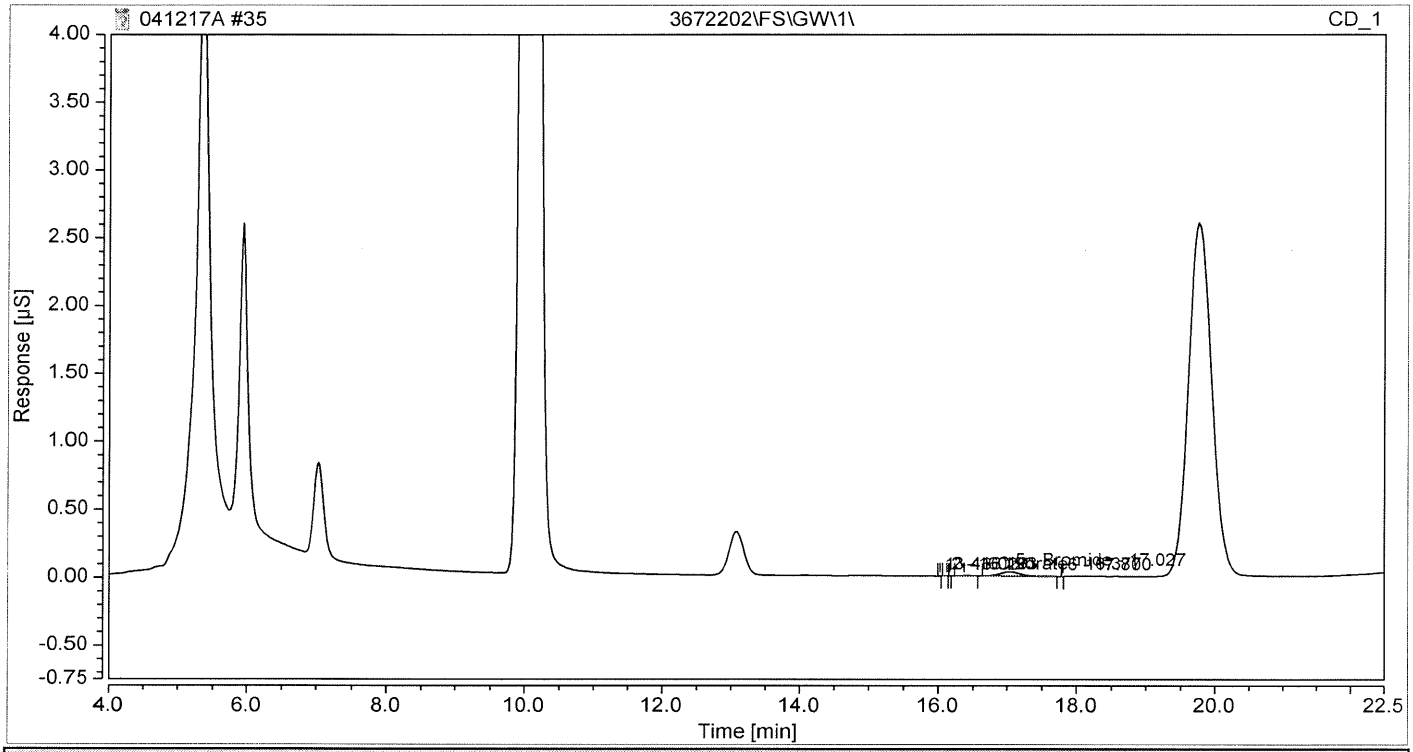
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
4	Chlorite	7.910	0.000	0.000	5.48	7.67	6.6578
8	Chlorate	15.790	0.000	0.001	48.69	27.73	6.7846
Total:			**0.000**	**0.001**	**54.17**	**35.39**	

Chromatogram and Results

Injection Details

Injection Name:	**3672202\FS\GW\1**	*Run Time (min):*	**35.00**
Vial Number:	**RE6**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 10:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

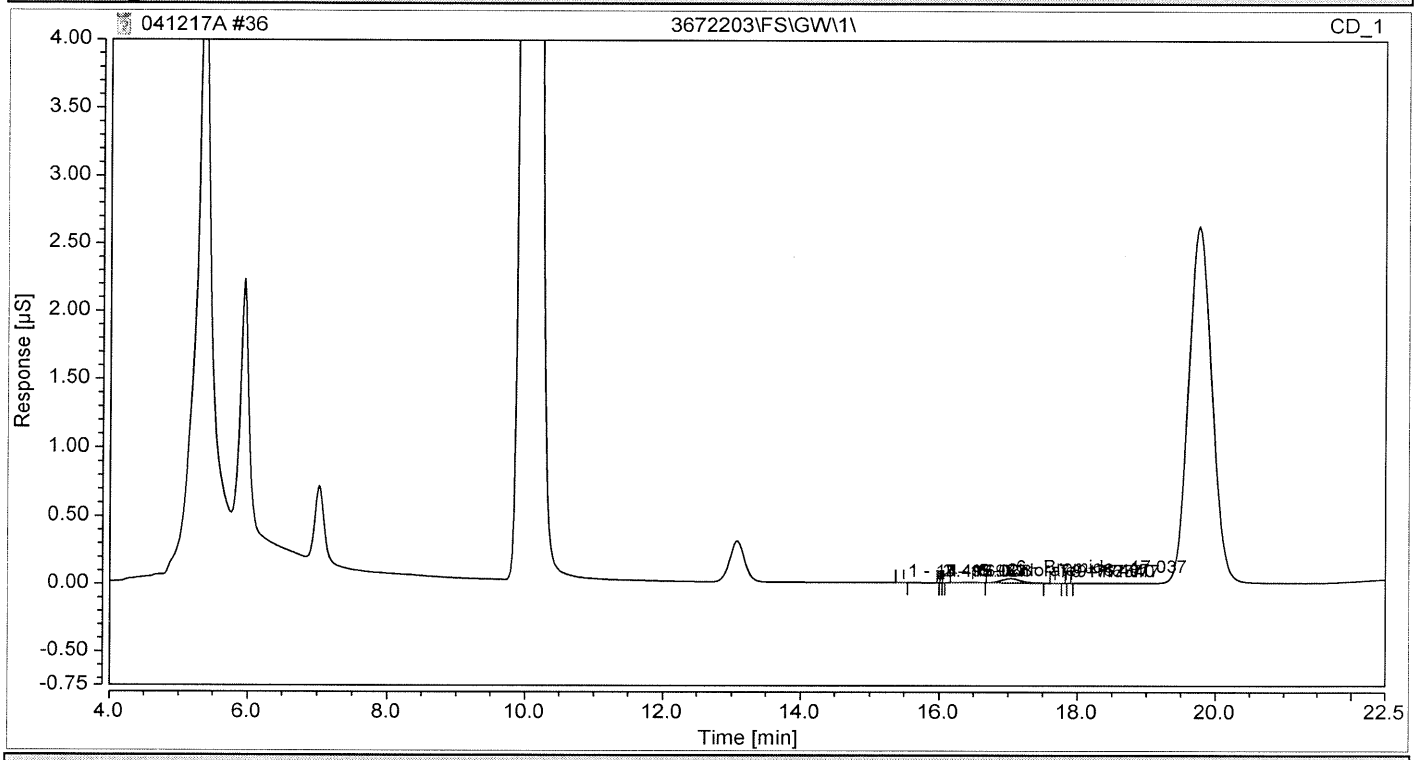
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
4	Chlorate	16.377	0.000	0.001	2.76	4.37	6.9963
5	Bromide	17.027	0.010	0.031	97.08	93.94	21.2140
Total:			**0.010**	**0.033**	**99.84**	**98.31**	

Chromatogram and Results

Injection Details

Injection Name:	**3672203\FS\GW\1**	*Run Time (min):*	**35.00**
Vial Number:	**RE7**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 10:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

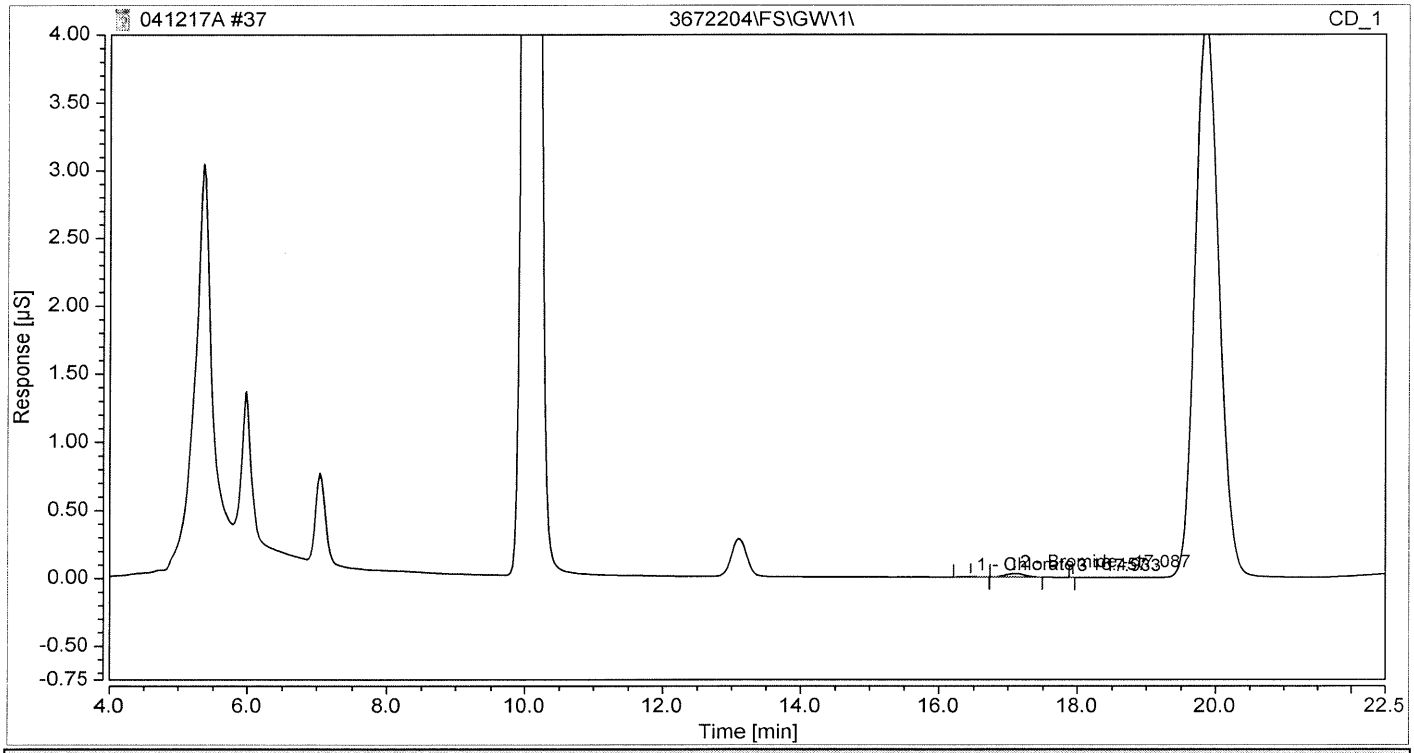
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
5	Chlorate	16.487	0.001	0.003	7.26	7.57	7.7587
6	Bromide	17.037	0.010	0.032	92.14	89.41	20.8682
Total:			**0.011**	**0.034**	**99.39**	**96.98**	

Chromatogram and Results

Injection Details

Injection Name:	**3672204\FS\GW\1**	*Run Time (min):*	**35.00**
Vial Number:	**GE8**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 11:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

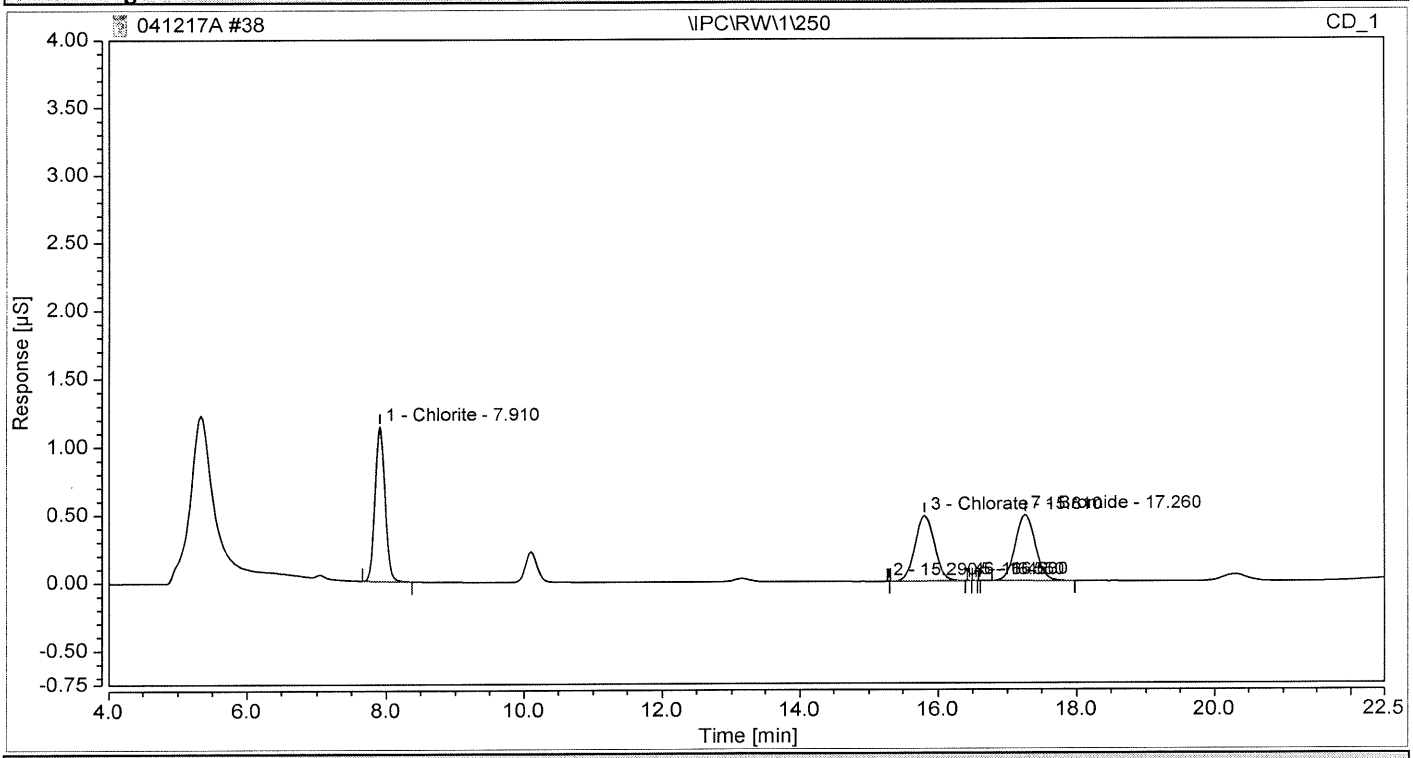
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorate	16.457	0.001	0.004	10.57	12.18	8.0881
2	Bromide	17.087	0.008	0.027	89.37	87.41	18.6664
Total:			**0.009**	**0.030**	**99.93**	**99.59**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 11:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

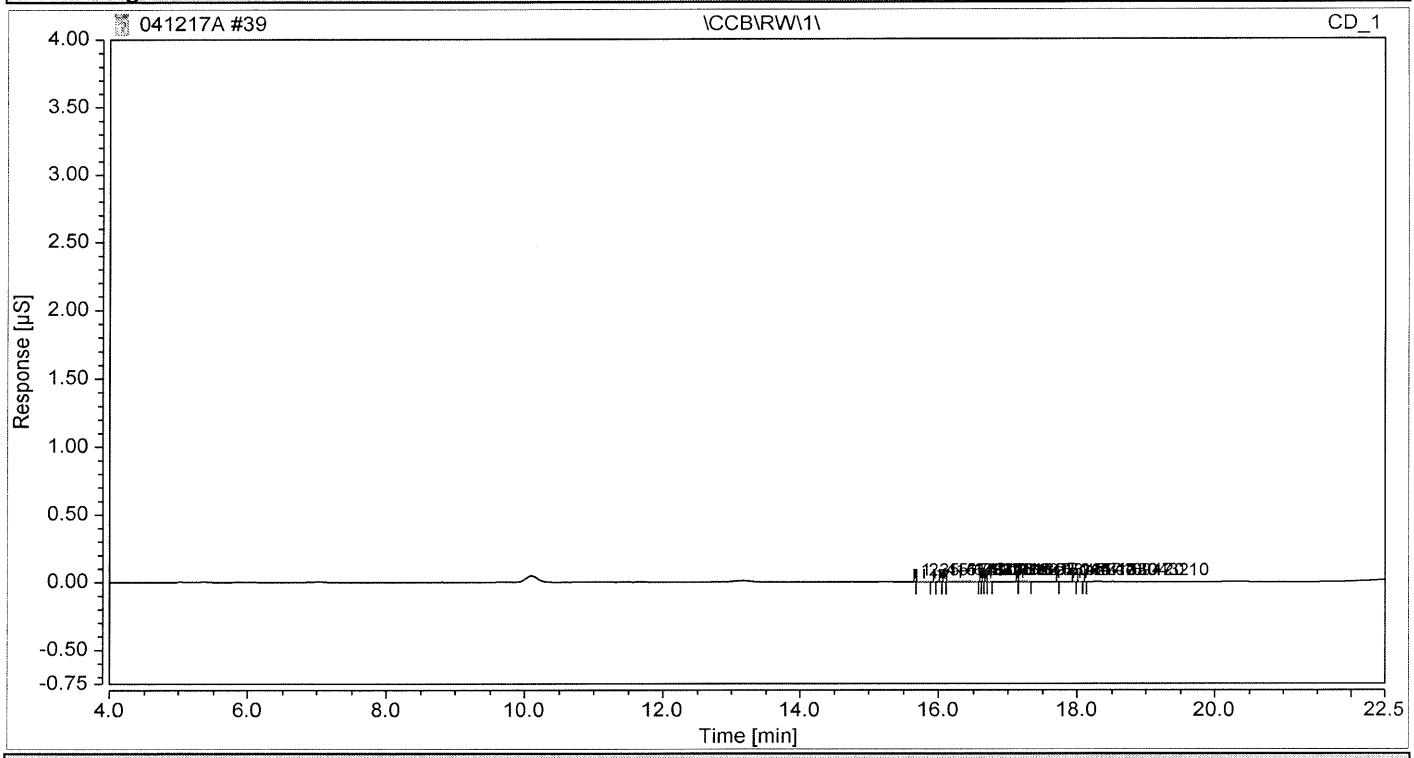
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.910	0.186	1.136	36.86	53.96	246.5956
3	Chlorate	15.810	0.155	0.481	30.66	22.87	246.7890
7	Bromide	17.260	0.164	0.487	32.48	23.14	246.3618
Total:			**0.506**	**2.105**	**100.00**	**99.98**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**13/Apr/17 12:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
6	Chlorate	16.313	0.000	0.001	71.34	33.39	7.1333
12	Bromide	17.210	0.000	0.001	11.57	15.23	6.4869
Total:			**0.000**	**0.002**	**82.91**	**48.62**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	1/31/2017
Instrument:	ES	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC resutls.- SL LOD will be updated on the MDL-300.0B-DT-01102017 sheet, which is also being approved today, 1/31/17 - JW*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
11/17/2016	Bromide	10	13.34	13.466	13.686	12.418	13.149	13.517	13.356	13.276	0.413334	1.2991088
11/17/2016	Chlorate	10	13.745	13.64	13.587	12.926	12.672	12.903	13.358	13.2616	0.424439	1.3340111
11/17/2016	Chlorite	10	10.397	10.727	11.968	12.605	11.081	10.939	11.178	11.2707	0.761594	2.3936889

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 386590

Priority: Standard

Status: Final

Project: #126534 EEA-IN / RADFORD AAP

Samples Submitted: Three groundwater samples and one matrix spike/matrix spike duplicate

Copies to: None

Collected: 04/11/17 By: Client Received: 04/13/17

REPORT SUMMARY

Three groundwater samples and one matrix spike/matrix spike duplicate were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: Sample containers were provided by the client.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sipe Reporter

Reviewed By	Title	Date
		04/28/2017

Finalized By	Title	Date

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 386590
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3673421	853081	300.0	04/11/17 10:00	Client	04/13/17 10:00
3673422	853083	300.0	04/11/17 08:45	Client	04/13/17 10:00
3673423	853085	300.0	04/11/17 11:20	Client	04/13/17 10:00

Report Summary

Note: See attached page for additional comments.

Project: 126534 EEA-IN / Radford AAP

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | Date: 04/27/2017

Client Name: CT Laboratories
Report #: 386590

Client Name: CT Laboratories Report #: 386590

Sampling Point: 853081 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/18/17 19:58	3673421
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/18/17 19:58	3673421

Sampling Point: 853083 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/18/17 20:38	3673422
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/18/17 20:38	3673422

Sampling Point: 853085 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/18/17 21:17	3673423
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/18/17 21:17	3673423

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

317881

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386590

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 126534 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Eurofins Eaton Analytical - IN
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: bszymanski@ctlaboratories.com

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Government UPS Shipping Acct ? (Y) N

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM 5.0) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: ERIS + Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
853081 (MS)	04/11/2017 1000	GROUND WATER	54MW12	CHLORATE/CHLORITE	300.1	
853083 (1)	04/11/2017 0845	GROUND WATER	54MW1	CHLORATE/CHLORITE	300.1	
853085 (1)	04/11/2017 1120	GROUND WATER	041117R1	CHLORATE/CHLORITE	300.1	

853081 MS
MSD

3673 421
422
423
424
425

Relinquished by: Brett Szymanski Date/Time: 04/12/2017 13:55

Received by: dMastis Date/Time: 4/13/17 1000 Receipt Temperature (C) 4.6

Wtice

COMMENTS: DESIGNATED MS/MSD SAMPLE = 54MW12. THE SAMPLES ARE UNPRESERVED - PLEASE PRESERVE WITH EDA UPON RECEIPT.

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

Client Provided Sample Container

Eurofins Eaton Analytical

Run Log

Run ID: **228386** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3677643		RW	CQ	04/17/2017 15:37	
IPC	3677649		RW	CQ	04/18/2017 17:16	
LRB	3677651		RW	CQ	04/18/2017 18:39	
LFB	3677652		RW	CQ	04/18/2017 19:19	
FS	3673421	853081	GW	CQ	04/18/2017 19:58	
FS	3673422	853083	GW	CQ	04/18/2017 20:38	
FS	3673423	853085	GW	CQ	04/18/2017 21:17	
MS	3673424	853081-ms	GW	CQ	04/18/2017 21:57	
MSD	3673425	853081-msd	GW	CQ	04/18/2017 22:36	
IPC	3677653		RW	CQ	04/19/2017 03:13	
CCB	3677654		RW	CQ	04/19/2017 03:52	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/17/2017 15:37	3677643
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/17/2017 15:37	3677643
IPC	Chlorate	300.0	10	---		252.4870	250	ug/L	101	90 - 110	---	---	1.0	---	04/18/2017 17:16	3677649
IPC	Chlorite	300.0	10	---		251.5020	250	ug/L	101	90 - 110	---	---	1.0	---	04/18/2017 17:16	3677649
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 18:39	3677651
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 18:39	3677651
LFB	Chlorate	300.0	10	---		249.2250	250	ug/L	100	90 - 110	---	---	1.0	---	04/18/2017 19:19	3677652
LFB	Chlorite	300.0	10	---		252.3420	250	ug/L	101	90 - 110	---	---	1.0	---	04/18/2017 19:19	3677652
FS	Chlorate	300.0	10	853081	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 19:58	3673421
FS	Chlorite	300.0	10	853081	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 19:58	3673421
FS	Chlorate	300.0	10	853083	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 20:38	3673422
FS	Chlorite	300.0	10	853083	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 20:38	3673422
FS	Chlorate	300.0	10	853085	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 21:17	3673423
FS	Chlorite	300.0	10	853085	<	10		ug/L	---	---	---	---	1.0	---	04/18/2017 21:17	3673423
MS	Chlorate	300.0	10	853081-ms		241.0160	250	ug/L	96	90 - 110	---	---	1.0	---	04/18/2017 21:57	3673424
MS	Chlorite	300.0	10	853081-ms		242.6900	250	ug/L	97	90 - 110	---	---	1.0	---	04/18/2017 21:57	3673424
MSD	Chlorate	300.0	10	853081-msd		236.3240	250	ug/L	95	90 - 110	2.0	10	1.0	---	04/18/2017 22:36	3673425
MSD	Chlorite	300.0	10	853081-msd		240.3140	250	ug/L	96	90 - 110	1.0	10	1.0	---	04/18/2017 22:36	3673425
IPC	Chlorate	300.0	10	---		251.8780	250	ug/L	101	90 - 110	---	---	1.0	---	04/19/2017 03:13	3677653
IPC	Chlorite	300.0	10	---		252.4910	250	ug/L	101	90 - 110	---	---	1.0	---	04/19/2017 03:13	3677653
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/19/2017 03:52	3677654
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/19/2017 03:52	3677654

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 228386 **Instrument#** CQ

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	148201	8/19/2015	8/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-94b(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-94b(4-6)

Analyst: S. Lovick **Prep Date:** 2/23/2017 **Exp. Date:** 5/23/2017

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100		1000	100	100

Analyst: S. Lovick **Prep Date:** 4/17/2017 **Exp. Date:** 4/24/2017

LFB	250	100		10	10
LRB				10	10

Analyst: S. Lovick **Prep Date:** 4/18/2017 **Exp. Date:** 4/24/2017

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL	Prep ID	IOC49-8c

Analyst: S. Lovick **Prep Date:** 4/10/2017 **Exp. Date:** 5/10/2017

Comments: Dionex IonPac AS19-HC 4mm s/n 170118169 lot#01617190 installed 02/08/2017
EGCIII-Eluent Cartridge s/n 170151638011 installed 02/08/2017

Analyst: [signature] **Date:** APR 20 2017

Technician Review: [signature] **Date:** 04/20/2017

(signature)

Summary

Sequence Details		
Name:	**041817a**	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2017**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**19/Apr/17 10:03:53**
No. of Injections:	**23**	**us25_usr_sbnlabpcs**

By Component **Chlorite**

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount PPM CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount PPM CD_1 Bromide
1	\ICB\RW\1\	04/17/17 15:37	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	\ICS\RW\1\10	04/17/17 16:16	0.007	12.315	0.006	12.402	0.006	12.957
3	\ICS\RW\1\20	04/17/17 16:55	0.014	21.206	0.013	22.678	0.013	21.982
4	\ICS\RW\1\100	04/17/17 17:34	0.075	98.781	0.062	96.245	0.066	97.880
5	\ICS\RW\1\250	04/17/17 18:14	0.191	245.098	0.161	246.158	0.168	243.789
6	\ICS\RW\1\500	04/17/17 18:53	0.394	502.600	0.331	502.517	0.350	503.391
7	\IPC\RW\1\250	04/18/17 17:16	0.196	251.502	0.165	252.487	0.173	250.161
8	\RLC\RW\1\10	04/18/17 17:55	0.007	12.191	0.006	11.805	0.006	12.333
9	\LRB\RW\1\	04/18/17 18:39	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10	\LFB\RW\1\250	04/18/17 19:19	0.196	252.342	0.163	249.225	0.173	250.232
11	3673421\FS\GW\1\	04/18/17 19:58	n.a.	n.a.	n.a.	n.a.	0.012	21.835
12	3673422\FS\GW\1\	04/18/17 20:38	n.a.	n.a.	n.a.	n.a.	0.007	14.098
13	3673423\FS\GW\1\	04/18/17 21:17	0.002	5.900	n.a.	n.a.	0.002	7.306
14	3673424\MS\GW\1\250	04/18/17 21:57	0.189	242.690	0.158	241.016	0.186	268.702
15	3673425\MSD\GW\1\250	04/18/17 22:36	0.187	240.314	0.155	236.324	0.185	267.293
16	3673732\FS\SW\1\	04/18/17 23:16	n.a.	n.a.	0.002	6.072	0.014	24.053
17	3673733\FS\SW\1\	04/18/17 23:55	0.002	5.813	0.082	126.920	0.010	18.167
18	3673734\FS\SW\1\	04/19/17 00:35	0.133	171.687	0.083	127.979	0.011	20.328
19	3673735\FS\SW\1\	04/19/17 01:14	0.029	40.791	0.016	27.344	0.027	41.961
20	3673736\FS\SW\1\	04/19/17 01:54	n.a.	n.a.	0.042	65.869	0.020	32.545
21	3673737\FS\SW\1\	04/19/17 02:33	0.001	5.267	0.052	81.811	0.019	31.787
22	\IPC\RW\1\250	04/19/17 03:13	0.196	252.491	0.165	251.878	0.174	252.283
23	\CCB\RW\1\	04/19/17 03:52	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0100 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	2.00 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0010 [Signal*min]	Any	All Channels
7.100 [min]	Inhibit Integration	Off	Any	All Channels
8.000 [min]	Inhibit Integration	On	Any	All Channels
14.150 [min]	Inhibit Integration	Off	Any	All Channels
17.000 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	7.400	7.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	14.700	5.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	16.100	5.000 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Group**
Curve Fitting	**Normal**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Missing Peak	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	150.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G2	150.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G3	150.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G4	150.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G5	150.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G6	150.0 [µl]		AS19 4mm	AS19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	4/17/2017		9B61D11A-687D-	0	0.00
Finished	4/17/2017		580EDAB5-	0	0.00
Finished	4/17/2017		DB56A507-	0	0.00
Finished	4/17/2017		A954A55E-4694-	0	0.00
Finished	4/17/2017		430E2F79-B244-	0	0.00
Finished	4/17/2017		3C23A49D-5100-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

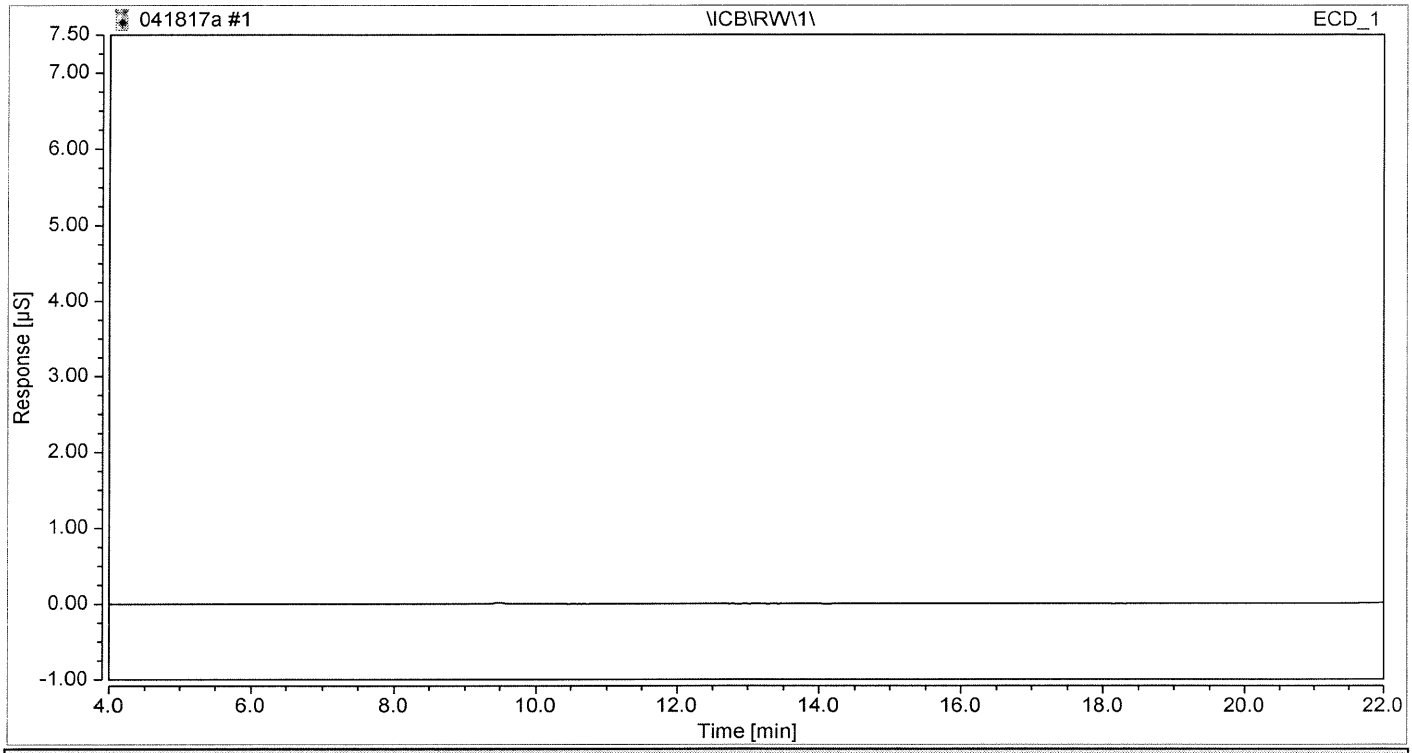
Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Apr/17 15:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

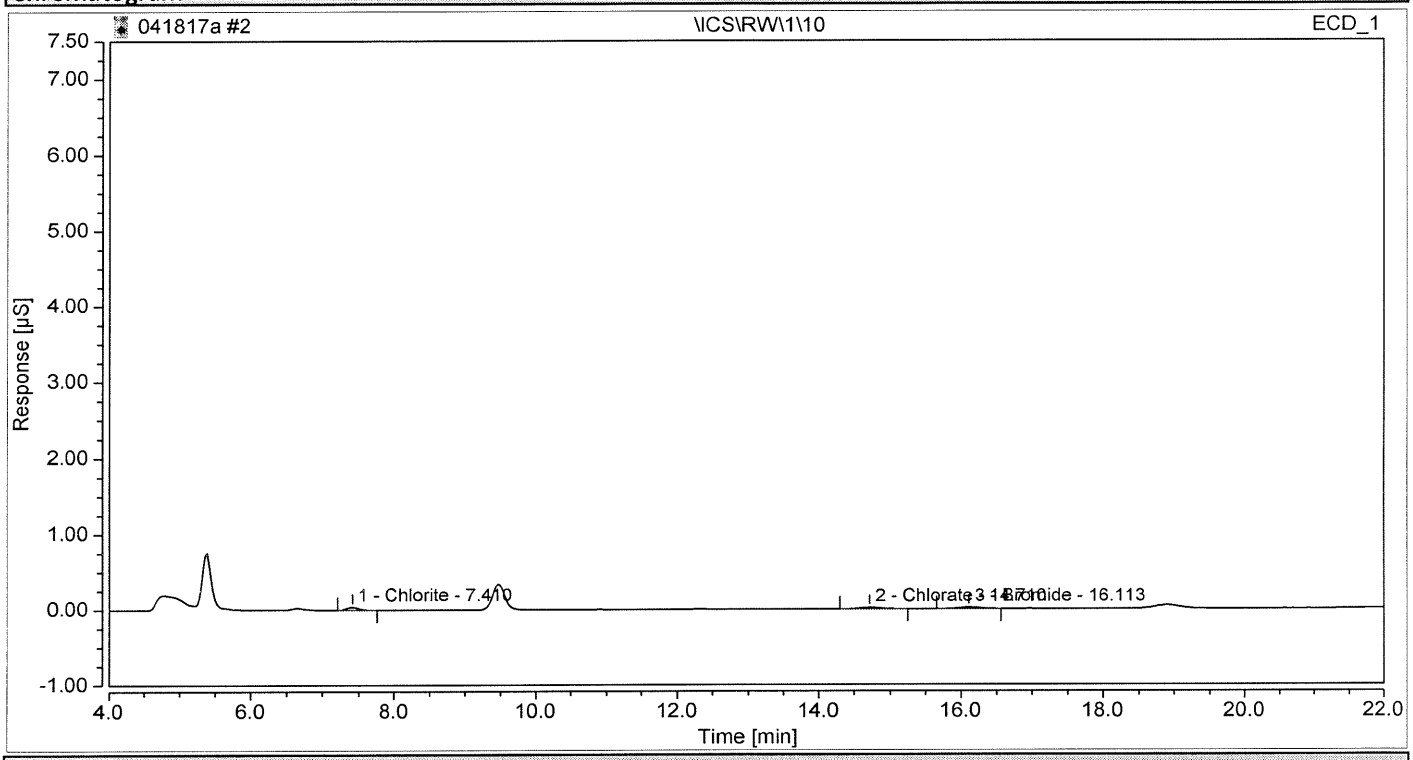
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**35.00**
Vial Number:	**G2**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Apr/17 16:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

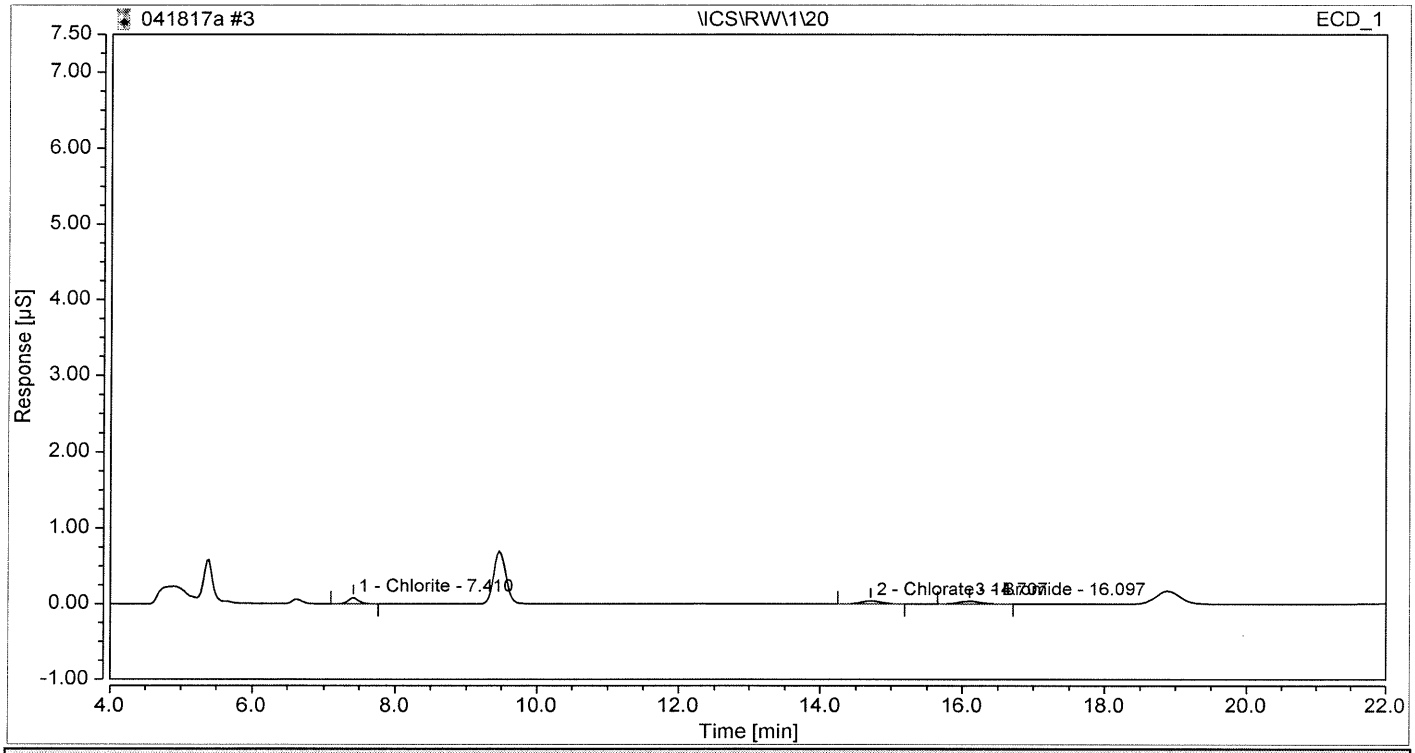
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.410	0.007	0.039	35.30	51.80	12.3152
2	Chlorate	14.710	0.006	0.018	32.03	23.93	12.4020
3	Bromide	16.113	0.006	0.018	32.67	24.27	12.9574
Total:			**0.019**	**0.075**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**35.00**
Vial Number:	**G3**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Apr/17 16:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

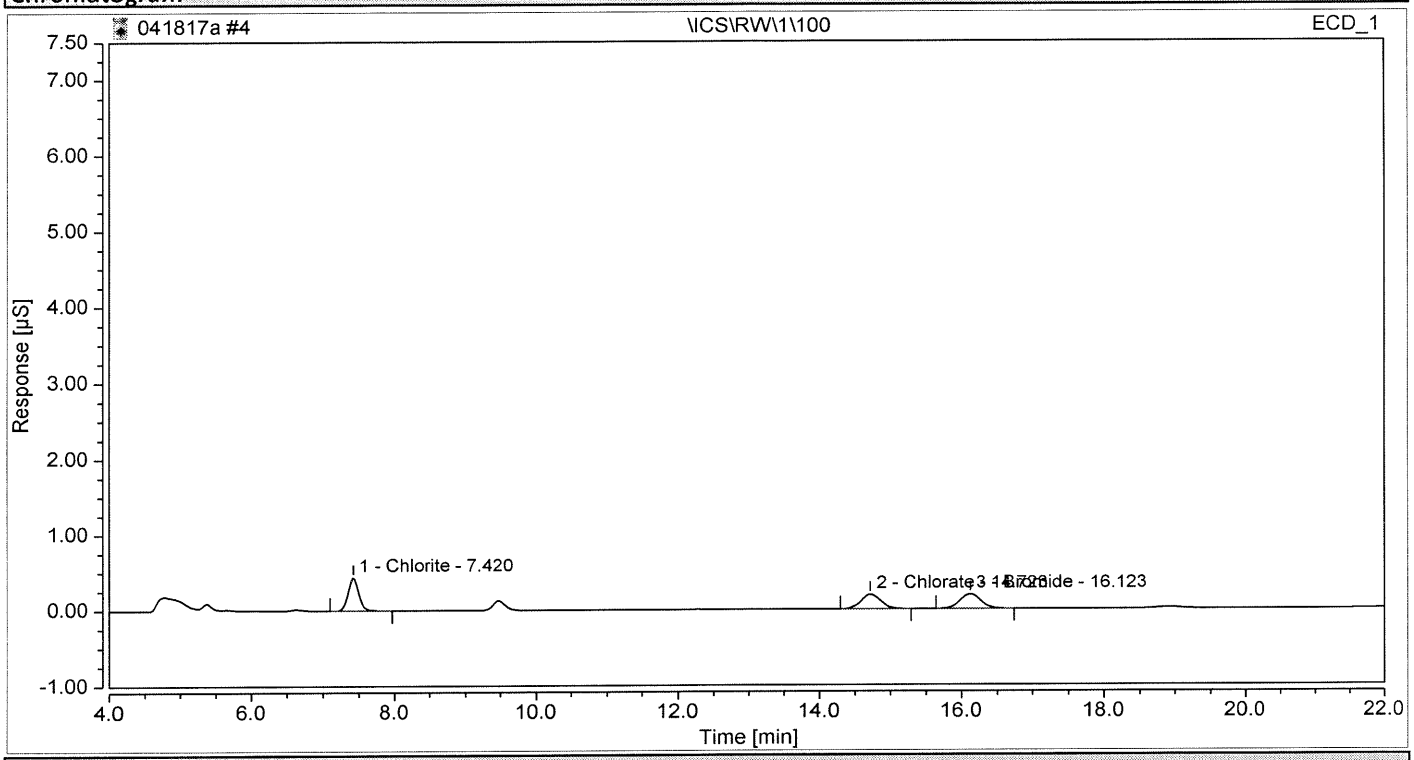
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.410	0.014	0.080	35.05	50.96	21.2055
2	Chlorate	14.707	0.013	0.040	32.95	25.35	22.6785
3	Bromide	16.097	0.013	0.037	32.01	23.69	21.9823
Total:			**0.039**	**0.157**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**35.00**
Vial Number:	**G4**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Apr/17 17:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

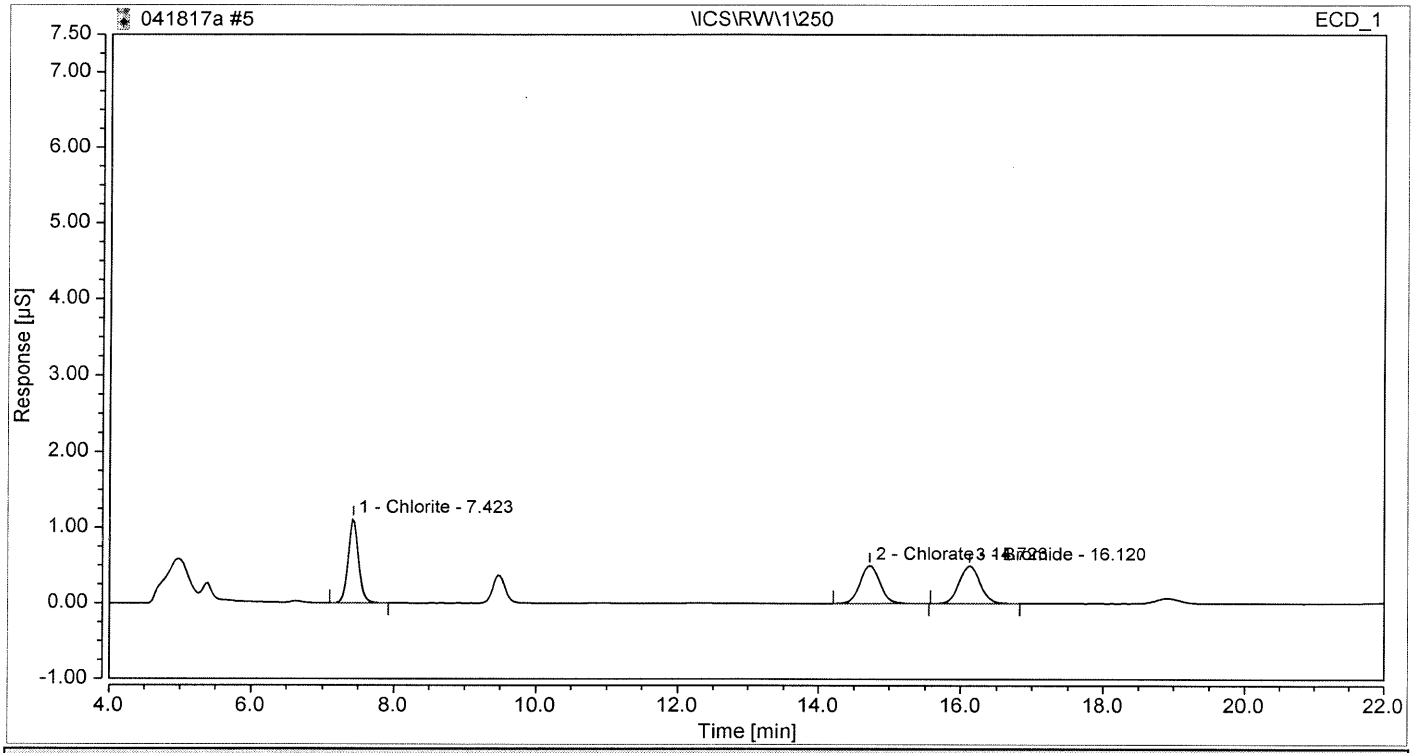
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.420	0.075	0.436	37.04	53.13	98.7809
2	Chlorate	14.723	0.062	0.192	30.47	23.37	96.2446
3	Bromide	16.123	0.066	0.193	32.49	23.50	97.8805
Total:			**0.202**	**0.821**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Apr/17 18:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

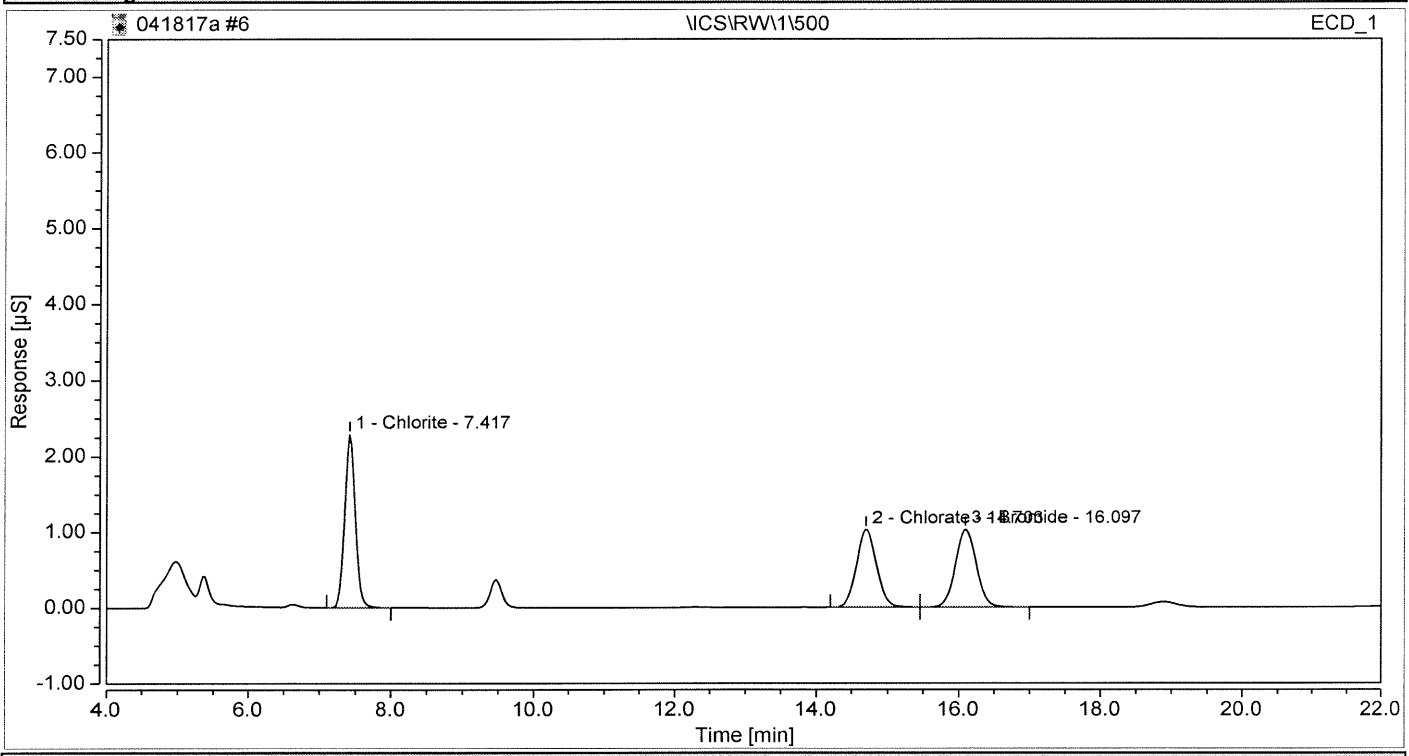
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.423	0.191	1.109	36.65	52.78	245.0982
2	Chlorate	14.723	0.161	0.498	31.00	23.69	246.1581
3	Bromide	16.120	0.168	0.495	32.35	23.53	243.7888
Total:			**0.520**	**2.102**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**35.00**
Vial Number:	**G6**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Apr/17 18:53**	*Sample Weight:*	**1.0000**

Chromatogram



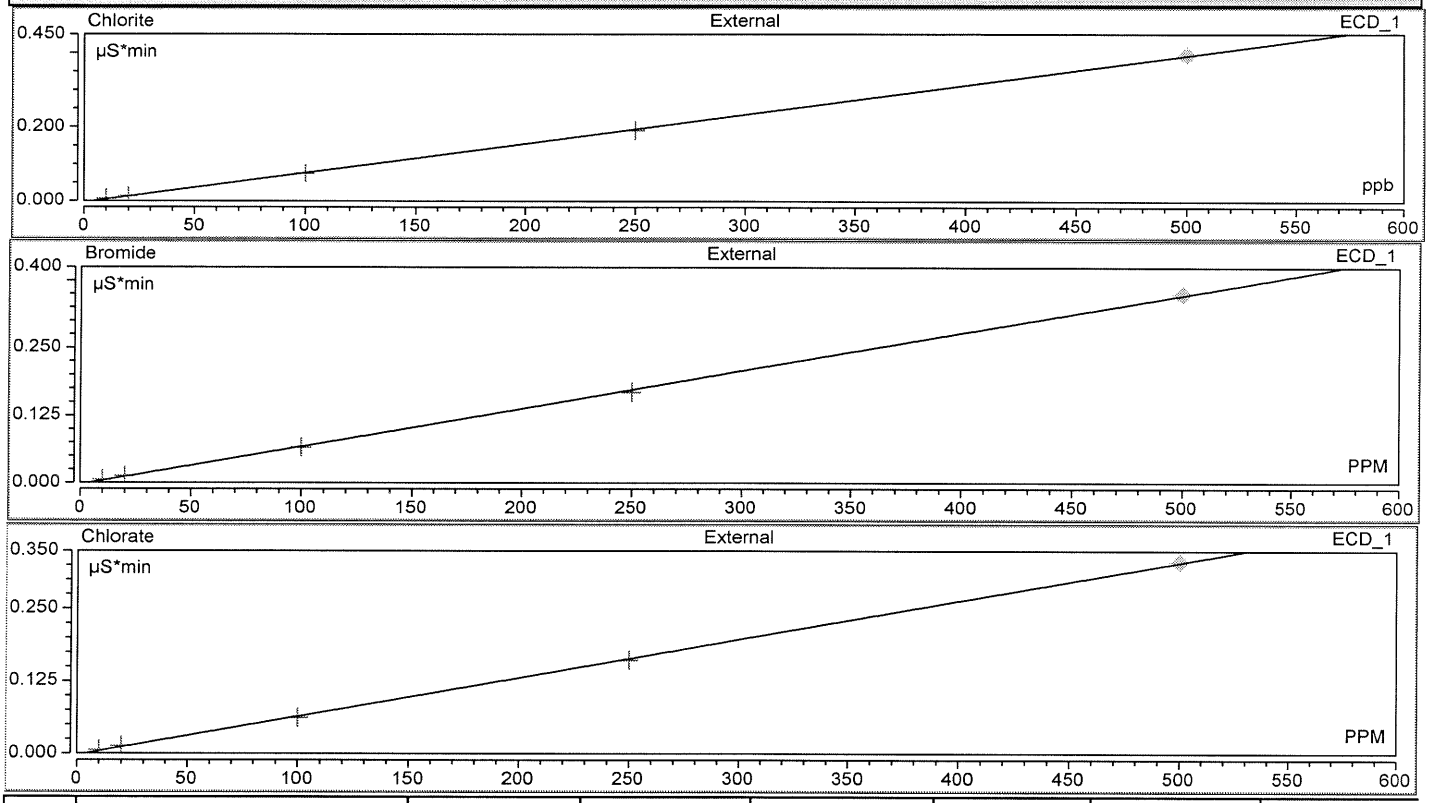
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.417	0.394	2.285	36.63	52.64	502.6002
2	Chlorate	14.703	0.331	1.028	30.80	23.68	502.5169
3	Bromide	16.097	0.350	1.028	32.57	23.68	503.3911
Total:			**1.076**	**4.341**	**100.00**	**100.00**	

Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	-0.0031
Evaluation Type	Area	*Slope (C1)*	0.0008
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9998

Calibration Plot **Chlorite**



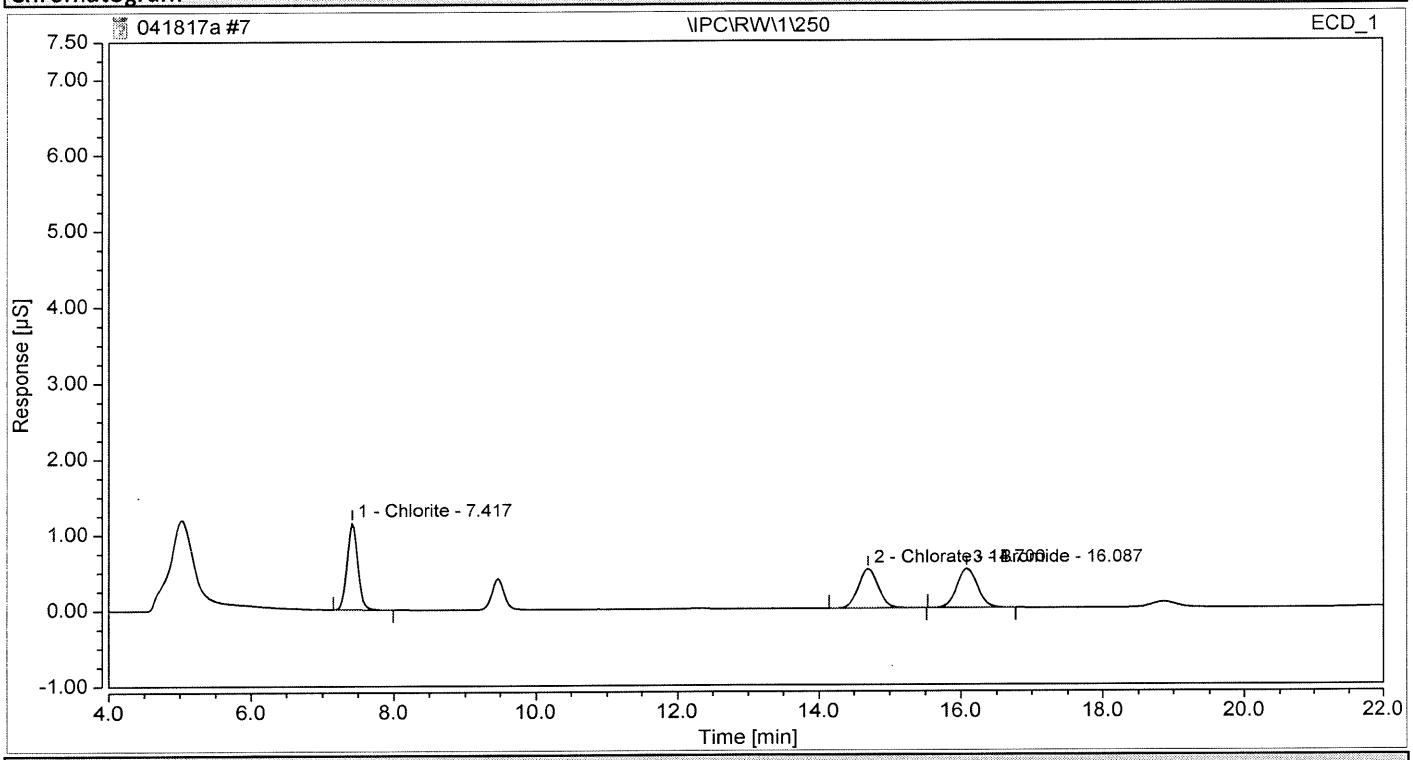
No.	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.988	1265.72	-0.003	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.986	1506.74	-0.002	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.980	1424.79	-0.003	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 17:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

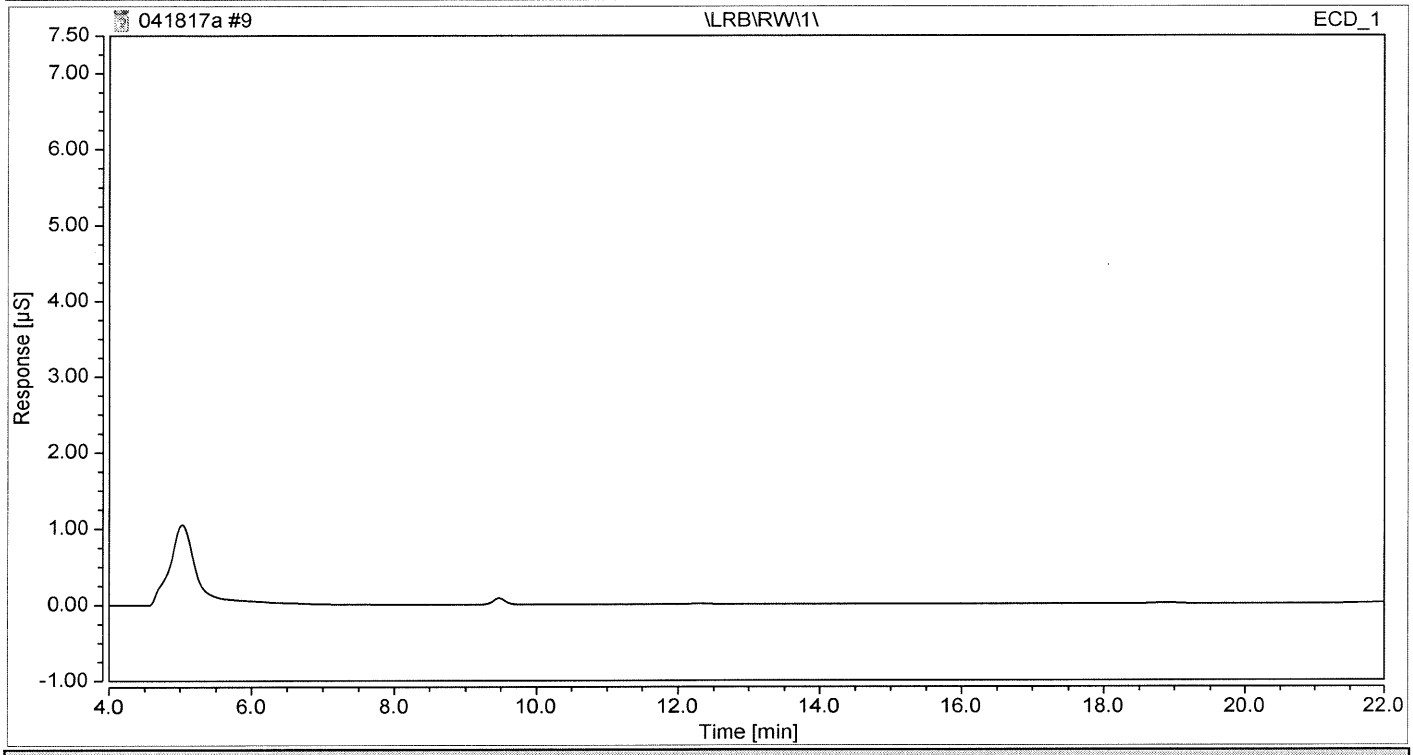
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.417	0.196	1.144	36.66	52.71	251.5018
2	Chlorate	14.700	0.165	0.515	30.99	23.71	252.4872
3	Bromide	16.087	0.173	0.512	32.35	23.59	250.1608
Total:			**0.534**	**2.171**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**G8**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 18:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

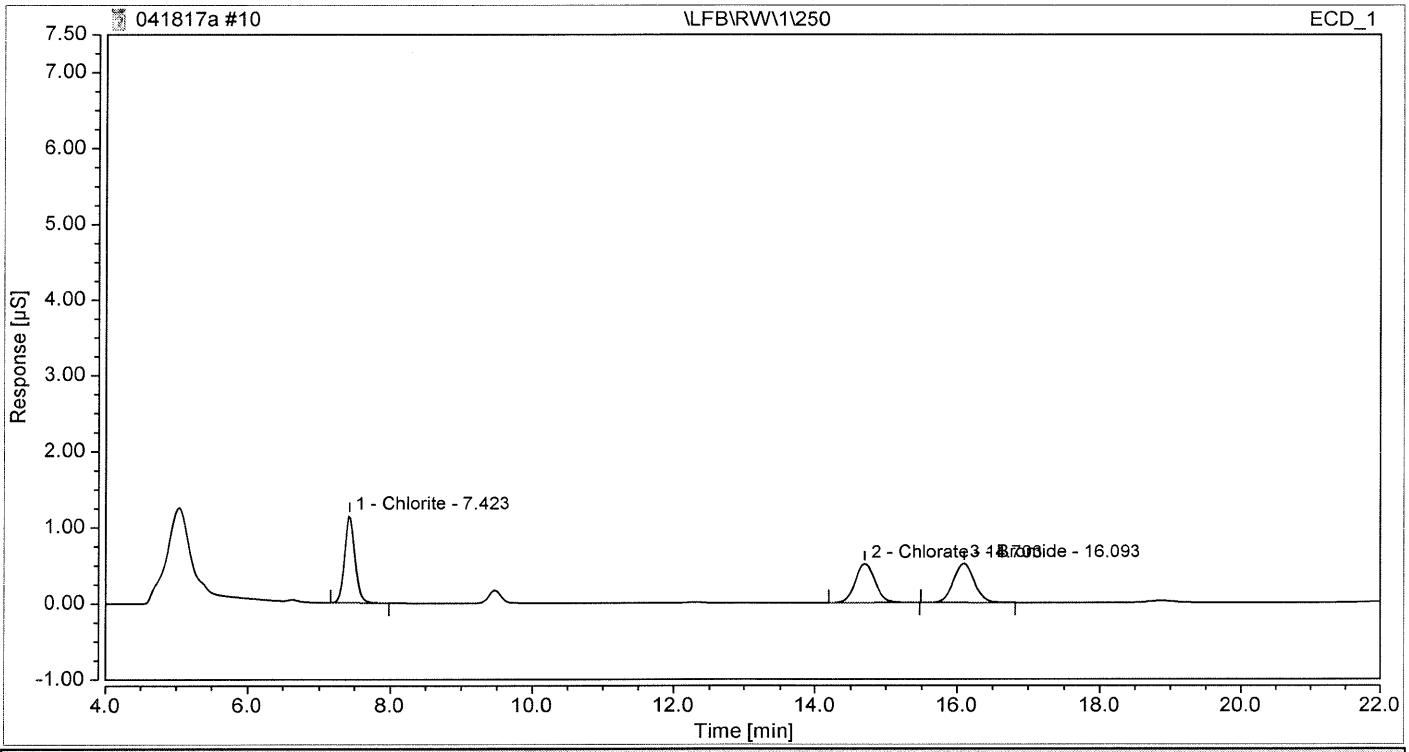
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**GA3**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 19:19**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

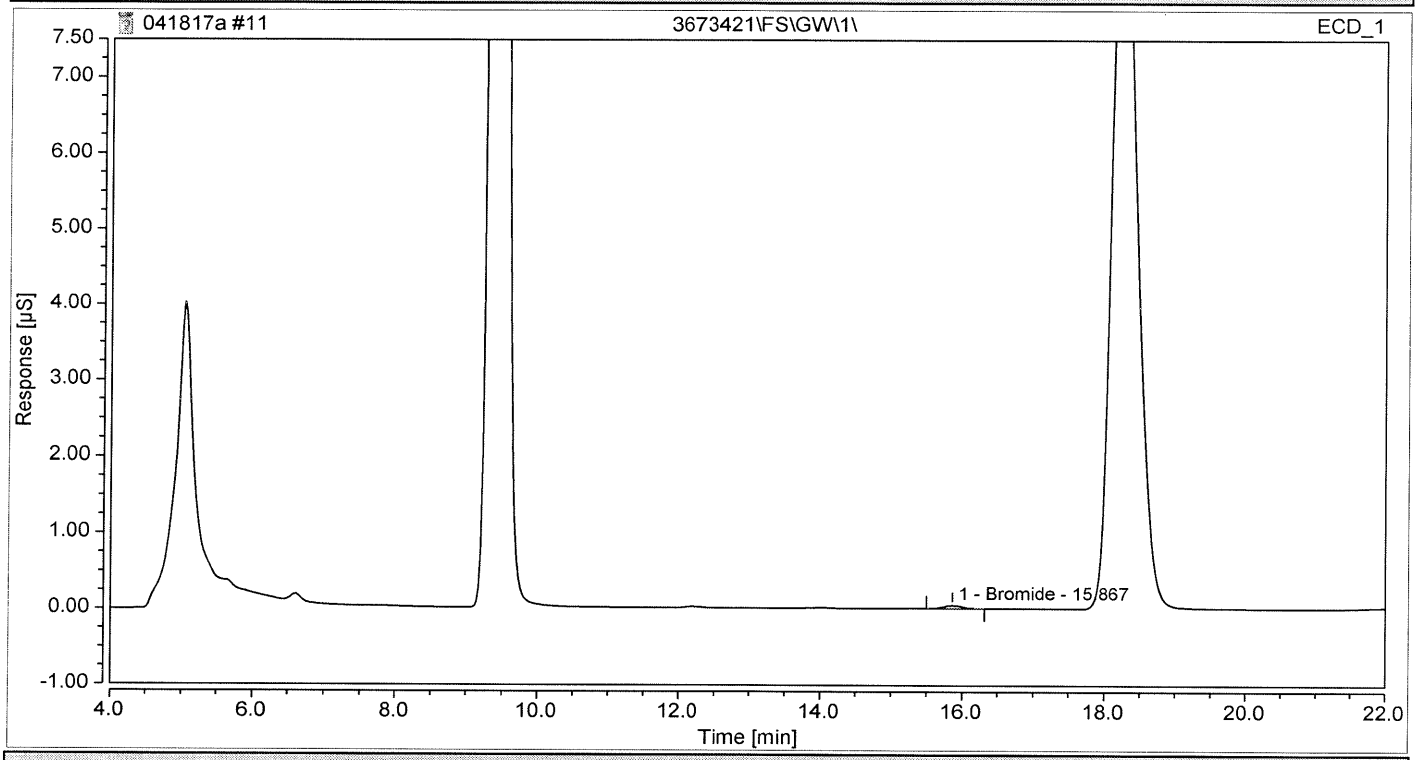
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.423	0.196	1.148	36.88	52.93	252.3424
2	Chlorate	14.703	0.163	0.509	30.67	23.46	249.2249
3	Bromide	16.093	0.173	0.512	32.45	23.61	250.2318
Total:			**0.532**	**2.168**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3673421\FS\GW\1**	*Run Time (min):*	**35.00**
Vial Number:	**RD1**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 19:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

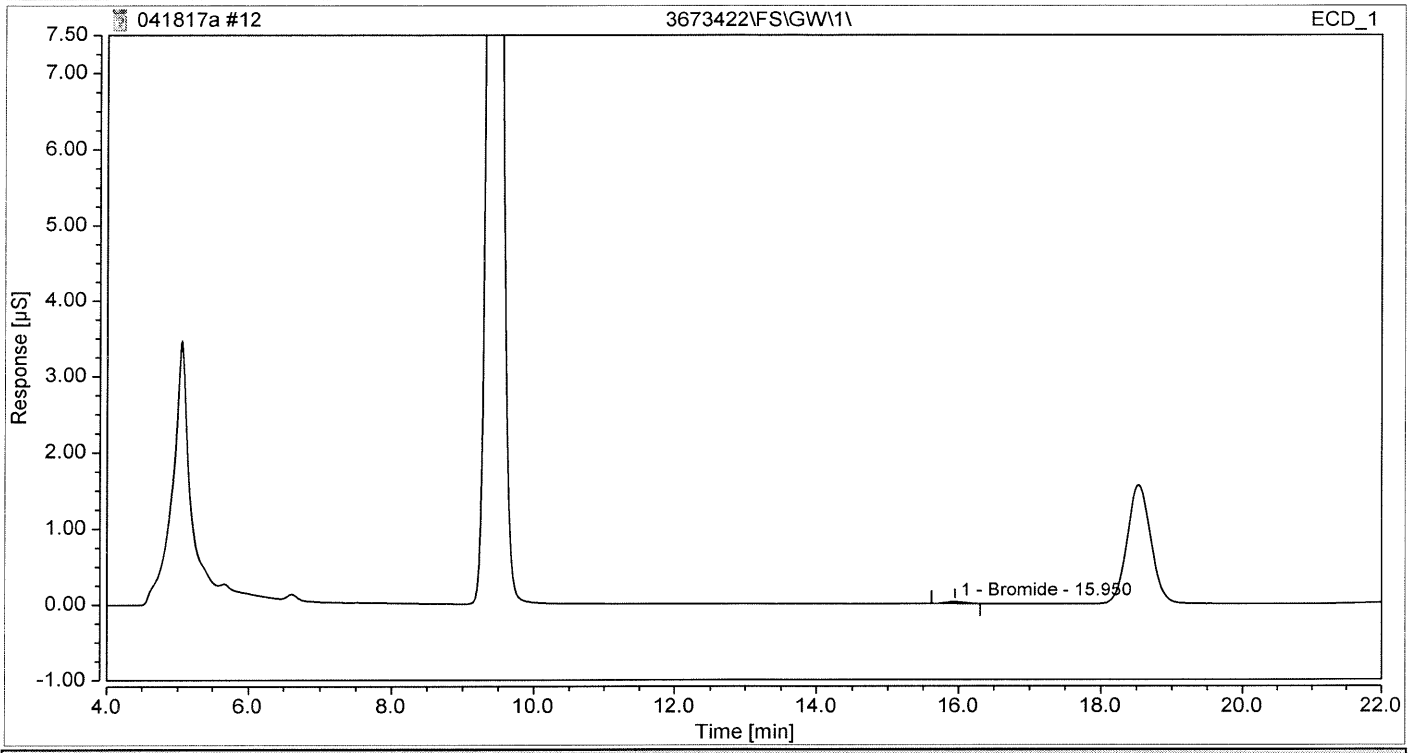
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	15.867	0.012	0.040	100.00	100.00	21.8351
Total:			**0.012**	**0.040**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3673422\FS\GW\1**	*Run Time (min):*	**35.00**
Vial Number:	**RD2**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 20:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

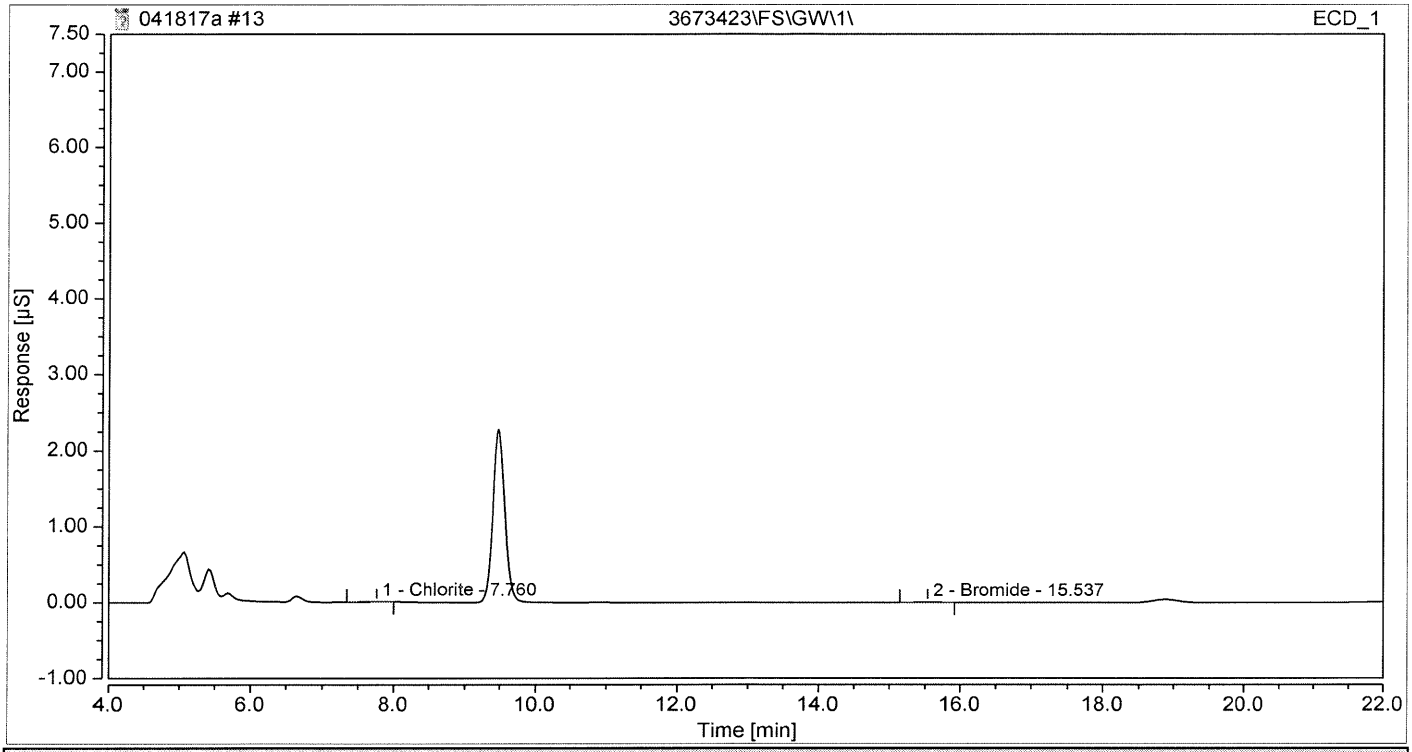
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	15.950	0.007	0.023	100.00	100.00	14.0985
Total:			**0.007**	**0.023**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3673423\FS\GW\1**	*Run Time (min):*	**35.00**
Vial Number:	**RD3**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 21:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

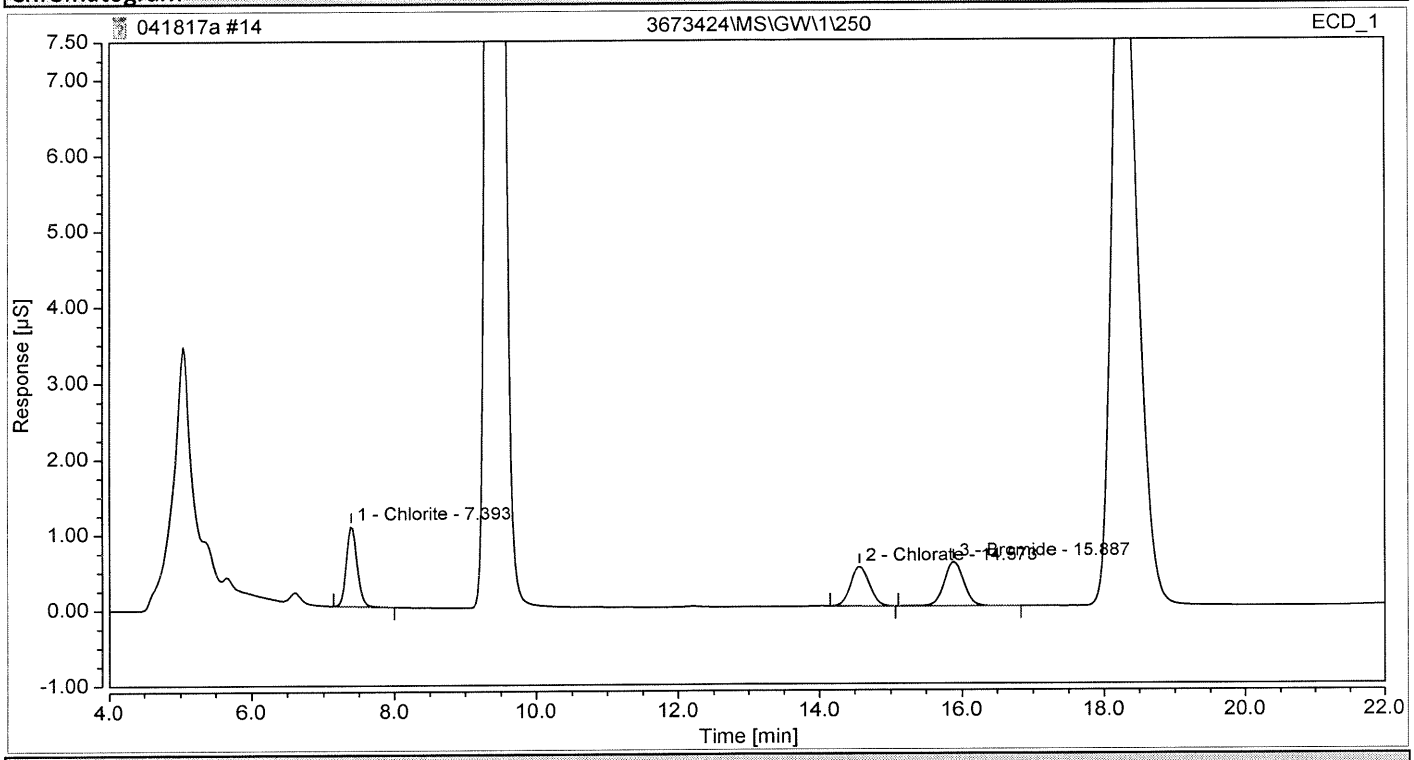
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.760	0.002	0.004	42.06	40.36	5.9000
2	Bromide	15.537	0.002	0.006	57.94	59.64	7.3065
Total:			**0.004**	**0.011**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3673424\MS\GW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**RD4**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 21:57**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

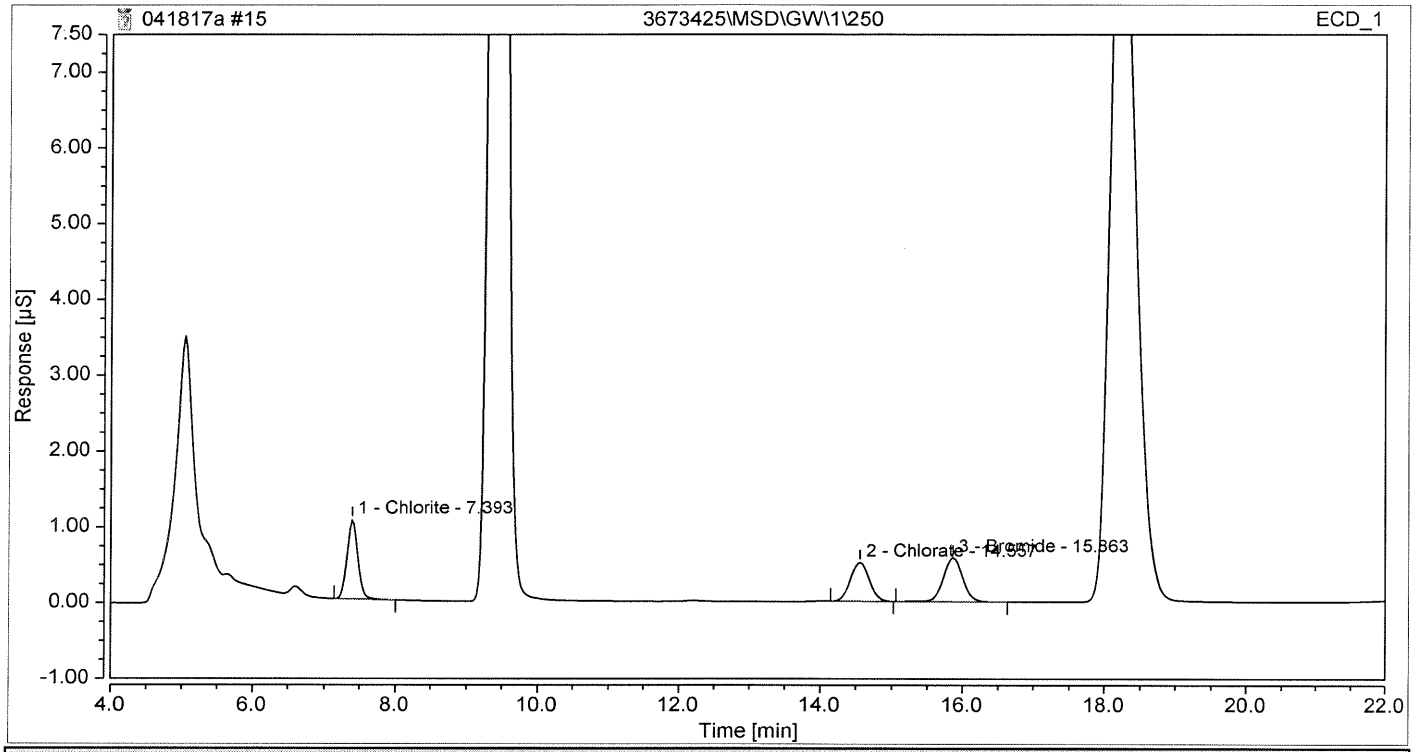
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.393	0.189	1.066	35.46	49.19	242.6898
2	Chlorate	14.573	0.158	0.519	29.65	23.95	241.0164
3	Bromide	15.887	0.186	0.582	34.89	26.86	268.7017
Total:			**0.532**	**2.168**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3673425\MSD\GW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**RD5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Apr/17 22:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

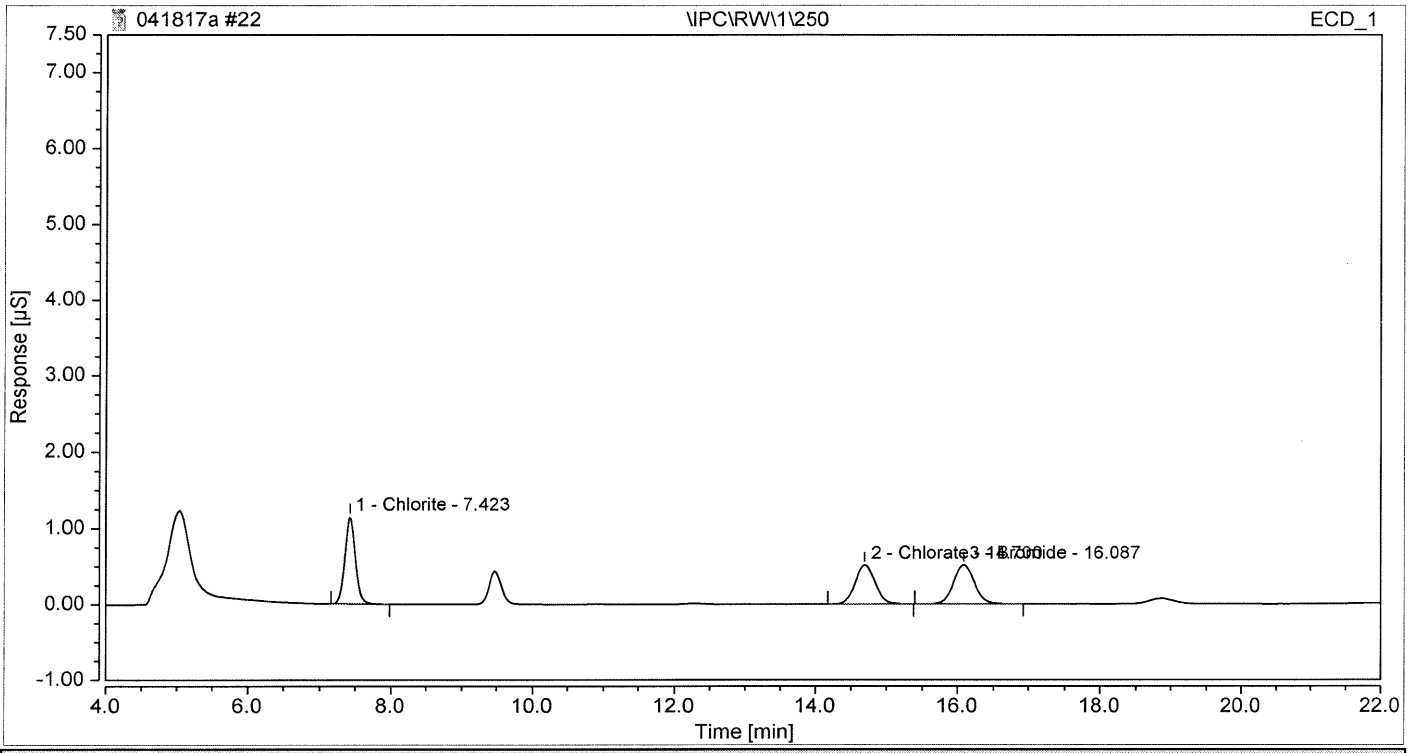
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.393	0.187	1.050	35.50	49.04	240.3136
2	Chlorate	14.557	0.155	0.512	29.40	23.92	236.3244
3	Bromide	15.863	0.185	0.579	35.10	27.04	267.2931
Total:			**0.526**	**2.141**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**35.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Apr/17 03:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

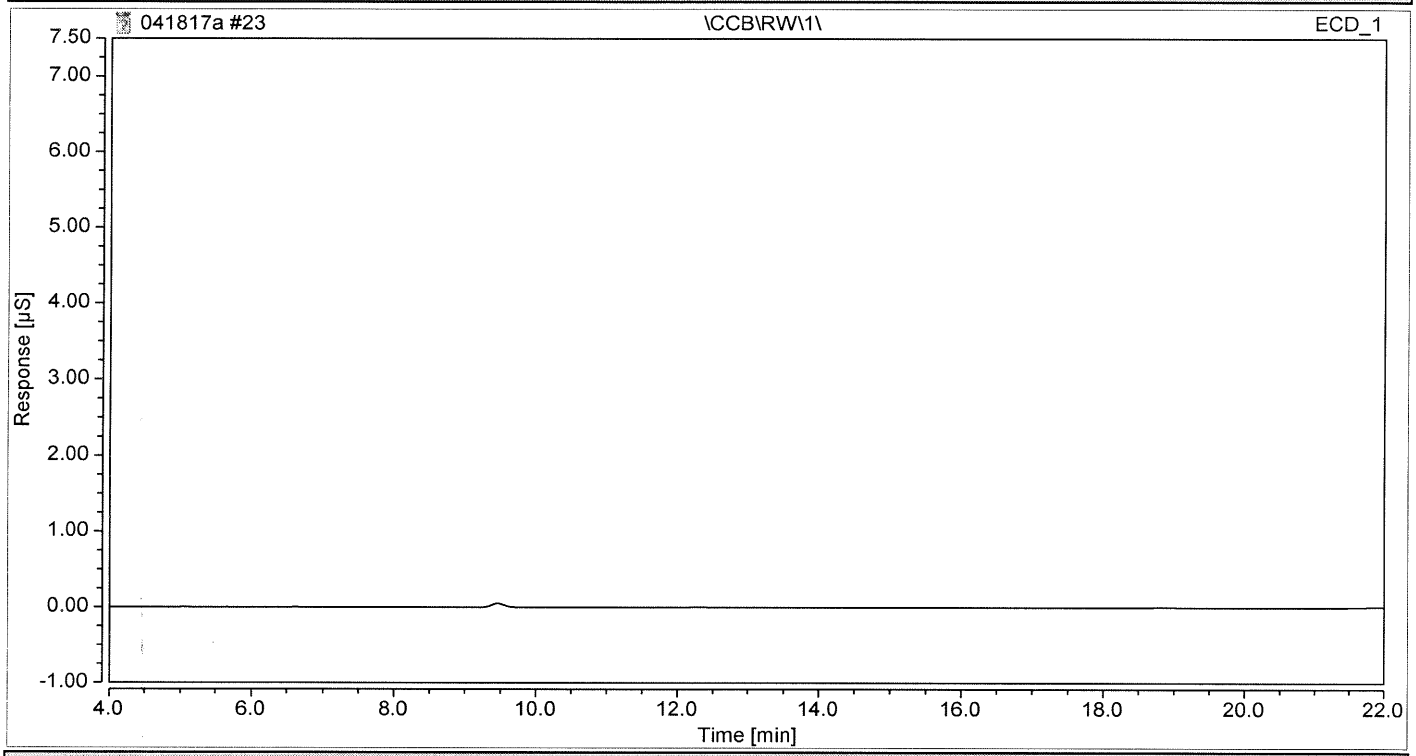
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.423	0.196	1.147	36.68	52.70	252.4912
2	Chlorate	14.700	0.165	0.515	30.81	23.69	251.8777
3	Bromide	16.087	0.174	0.514	32.52	23.61	252.2834
Total:			**0.536**	**2.176**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**35.00**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Apr/17 03:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	1/31/2017
Instrument:	CQ	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC samples. -SL LOD will be updated on the MDL-300.0B-DT-01102017 sheet, also approved today, 1/31/17 - JW*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
12/27/2016	Bromide	10	11.371	11.284	11.994	12.272	12.59	12.478	12.666	12.0936	0.568795	1.7877232
12/27/2016	Chlorate	10	11.98	11.757	11.884	12.933	13.23	12.978	13.116	12.554	0.646764	2.0327792
12/27/2016	Chlorite	10	10.766	10.185	8.766	11.891	11.732	11.816	11.843	10.9999	1.184339	3.7223761

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 3/2015

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757) 256-6231
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL/PTP

CT LABORATORIES

Folder # 126485
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PAL BAL

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
DSM RCRA SDWA NPDES
Solid Waste Other _____

PO # BSN-1336

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 3001 C STREET #1000
ANCHORAGE, AK 99503
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/DNX/TNX	TOC	PERCHLORATE	CHLORATE/ CHLORIDE	TIC/ SULFATE/ NITRATE/ CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
4/10/17	1210	GW	GRAB	1	SAMW10	N	1	1	1	1	1	1	6		852429/852435
4/10/17	1215	GW	GRAB	2	SATMW10	N	1	1	1	1	1	1	6		852439/852446
4/10/17	1510	GW	GRAB	3	SATMW13	N	1	1	1	1	1	1	6		852441/852442

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	4/10/17 1700		4/11/17 1050
Received by:	**Date/Time**	**Received for Laboratory by:**	**Date/Time**
			4-11-17 1222

Lab Use Only
Ice Present (Yes) No
Temp 3.6 IR Gun 16
Cooler # 5433

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes **NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED.** No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Cooler Receipt Form

Ice Present [YES] NO

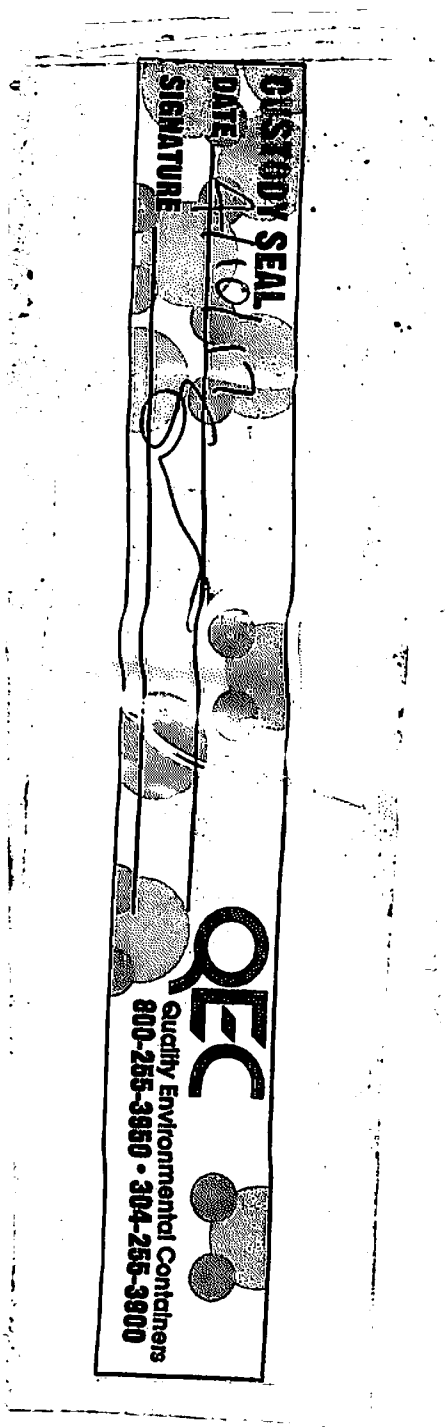
Temperature 3.6

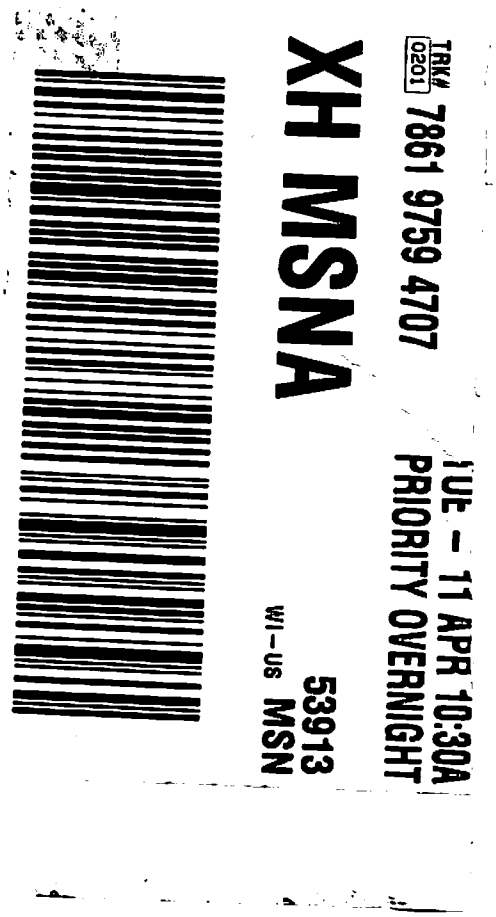
IR Gun # 14

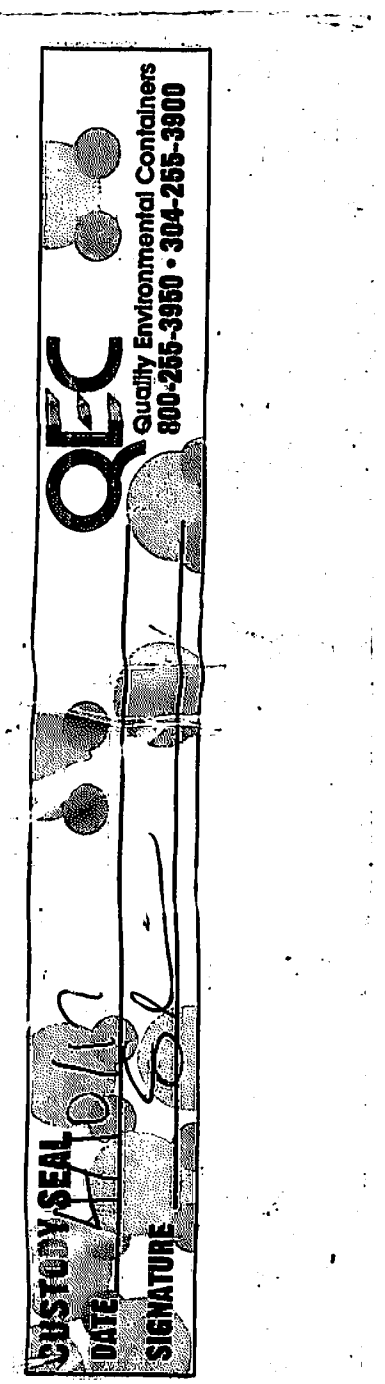
Initials RS

Date 4/11/17 Time 1045

Cooler #: 5433







Folder #: 126485

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: RADFORD, VA **PO Number:** BSN-1336 **Invoice #:** 127032

Project Manager: *BMS* **Date Received:** 04/11/17 **Log Date:** 04/11/2017

Report To: S. JULIA LIU CC:
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 3.6 oC

SAMPLE #: 852429 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/10/2017 Time: 1210**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/24/2017	04/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				05/08/2017	04/23/2017		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/08/2017	04/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					04/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					04/23/2017		Logged

SAMPLE #: 852435 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/10/2017 Time: 1210**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					04/23/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/12/2017	04/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 126485 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 852435 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/10/2017 **Time:** 1210

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 852439 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/10/2017 **Time:** 1215

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/24/2017	04/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				05/08/2017	04/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/08/2017	04/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					04/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					04/23/2017		Logged

SAMPLE #: 852440 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/10/2017 **Time:** 1215

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					04/23/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/12/2017	04/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 852441 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/10/2017 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/24/2017	04/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				05/08/2017	04/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/08/2017	04/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					04/23/2017		Logged

Folder #: 126485 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 852441 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/10/2017 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1291	SUB MNX/DNX/TNX	(8330B)					04/23/2017		Logged

SAMPLE #: 852442 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/10/2017 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					04/23/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/12/2017	04/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Invoice Number: 127032 **Preliminary Invoice Estimate:** $ 1,122.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 10.00	0.00	$ 30.00
CARBON, INORG & ORG	GROUND WATER	3	$ 25.00	0.00	$ 75.00
FILTRATION, SAMPLE	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 25.00	0.00	$ 75.00
SUB CHLORATE/CHLORITE	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB MNX/DNX/TNX	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB PERCHLORATE	GROUND WATER	3	$ 104.00	0.00	$ 312.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**10**	SUB MNX DNX TNX
H2SO4 PL	**5**	TOC
LABEL ONLY	**3**	SAMPLE FILTRATION
UNPRES PL	**13**	Anions
VOA	**2**	SUB CHLORATE CHLORITE

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 126485
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 04/11/2017 11:59
Received Date / Time / By: 04/11/2017 10:50 DRT

Project Name: RADFORD AAP
Project Phase: RADFORD, VA

Log-In Date / Time / By: 04/11/2017 11:59 BNA
Project #: 313010-001 PM: BMS

Coolers: 5433
Custody Seals Present : **Y**

Temperature: 3.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 0201786197594707
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - DATED 4/10/17 AND SIGNED.

THE SAMPLE BOTTLES FOR CHLORATE/CHLORITE ANALYSIS WERE TRANSFERRED TO EDA-PRESERVED BOTTLES UPON RECEIPT.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
852429 54MW10	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
852429 54MW10	UNPRES PL	9	/	SUB CHLORATE CHLORITE
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
852429 54MW10	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
852429 54MW10	UNPRES PL	1	/	SUB Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
852429 54MW10	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
852435 54MW10	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
852435 54MW10				

	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
852439 54TM10				
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
852439 54TM10				
	UNPRES PL	9	/	SUB CHLORATE CHLORITE
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
852439 54TM10				
	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
852439 54TM10				
	UNPRES PL	1	/	SUB Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
852439 54TM10				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
852440 54TM10				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
852440 54TM10				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
852441 54MW13				
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
852441 54MW13				
	VOA	9	/	SUB CHLORATE CHLORITE
	Total # of Containers of Type	**(*VOA*) = 1**		
852441 54MW13				
	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
852441 54MW13				
	VOA	1	/	SUB PERCH

Total # of Containers of Type (*VOA*) = 1

852441 54MW13

H2SO4 PL 1 / TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

852442 54MW13

UNPRES PL 1 / Anions

Total # of Containers of Type (*UNPRES PL*) = 1

852442 54MW13

LABEL ONLY 1 / SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 1

Condition Code	*Condition Description*
9	Incorrectly Preserved

126485

Rev. 3/2015

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757) 256-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL/PTP

CT LABORATORIES

Folder #: 126534
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

ogram:
M RCRA SDWA NPDES
d Waste Other _____

#
USN-1336

Report To:
EMAIL: SLIU@BSEN.COM
Company: 3601 C STREET #1000
Address: ANCHORAGE, AK 99503

Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER
* / Amber Brotzen

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX / DNX / TNX	PERCHLORATE / CHLORATE	TOC	TIC / NITRATE / SULFATE / CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test							
4/11/17	1000	GW	GRAB	1	SAMW12	N	3	3	3	3	3	3	18*	X	853681 / 853082

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	4/11/17 1730		
Received by:	**Date/Time**	**Received for Laboratory by:**	**Date/Time**
			4-12-17 1244

Lab Use Only
Ice Present Yes No
Temp 3.4 IR Gun 14
Cooler # 5601

Page 1 of 1

Rev. 3/2015

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757) 250-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL / PTD

CT LABORATORIES
Folder #: 126534
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

rogram:
SM RCRA SDWA NPDES
olid Waste Other _____

) # BSN-1336

Report To:
EMAIL: SLIU@BSEN.COM
Company: BSEN
Address: 3001 C STREET #1000 ANCHORAGE AK 99503

Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: Explosives	Nitrox / DNX / TNX	Perchlorate	Chlorate / Chloride	TOC	TN / Nitrate / Sulfate / Chloride	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
4/11/17	0845	GW	GRAB	1	SAMW1	N	1	1	1	1	1	1	6		853083/853084
4/11/17	1120	GW	GRAB	2	041117R1	N	1	1	1	1	1	1	6		853085/853086

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	4/11/17 1730		
Received by:	**Date/Time**	**Received for Laboratory by:**	**Date/Time**
		[signature]	4-12-17 1243

Lab Use Only
Ice Present (Yes) No
Temp 2.2 IR Gun 14
Cooler # 5461

Page 1681

Cooler Receipt Form

Ice Present (YES) NO

Temperature 3.4

IR Gun # 14

Initials JB

Date 4/12/17 Time 1130

Cooler #: 5201

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.2°

IR Gun # 14

Initials JS

Date 4/12/17 Time 1130

Cooler #: 5461

ORIGIN ID:WALA (757) 256-6281
JULIA LIU

3601 C ST STE 1000-30

ANCHORAGE, AK 99503
UNITED STATES US

SHIP DATE: 11APR17
ACTWGT: 40.30 LB
CAD: 6997114/SSF01801
DIMS: 28x15x15 IN

BILL THIRD PARTY

TO

CT LABORATORIES
1230 LANGE CT

BARABOO WI 53913

(608) 356-2760 REF:
INV:
PO: DEPT:

FedEx Express

3 of 3

7862 1241 7526

WED - 12 APR 10:30A
PRIORITY OVERNIGHT

7862 1241 7504

0201

MSNA

53 13

CUSTODY SEAL
DATE 4/12/17
SIGNATURE

QEC Quality Environmental Containers 800-255-3950 • 304-255-3900

Folder #: 126534

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: RADFORD, VA **PO Number:** BSN-1336 **Invoice #:** 127080

Project Manager: *BMS* **Date Received:** 04/12/17 **Log Date:** 04/12/2017

Report To: S. JULIA LIU CC:
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 3.4 oC

SAMPLE #: 853081 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/11/2017 Time: 1000**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	04/25/2017	04/24/2017		Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	05/09/2017	04/24/2017		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	05/09/2017	04/24/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		04/24/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)			***DESIGNATED MATRIX SPIKE***		04/24/2017		Logged

SAMPLE #: 853082 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/11/2017 Time: 1000**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)			***DESIGNATED MATRIX SPIKE***		04/24/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	04/13/2017	04/24/2017		Logged
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 126534 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 853082 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/11/2017 **Time:** 1000

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 853083 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/11/2017 **Time:** 0845

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/25/2017	04/24/2017		Logged
878	SUB PERCHLORATE	(SW6850)				05/09/2017	04/24/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/09/2017	04/24/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					04/24/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					04/24/2017		Logged

SAMPLE #: 853084 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/11/2017 **Time:** 0845

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					04/24/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/13/2017	04/24/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 853085 **DESCR:** 041117R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/11/2017 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/25/2017	04/24/2017		Logged
878	SUB PERCHLORATE	(SW6850)				05/09/2017	04/24/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/09/2017	04/24/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					04/24/2017		Logged

Folder #: 126534 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 853085 **DESCR:** 041117R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/11/2017 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1291	SUB MNX/DNX/TNX	(8330B)					04/24/2017		Logged

SAMPLE #: 853086 **DESCR:** 041117R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/11/2017 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					04/24/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/13/2017	04/24/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Invoice Number: 127080 **Preliminary Invoice Estimate:** $ 1,122.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 10.00	0.00	$ 30.00
CARBON, INORG & ORG	GROUND WATER	3	$ 25.00	0.00	$ 75.00
FILTRATION, SAMPLE	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 25.00	0.00	$ 75.00
SUB CHLORATE/CHLORITE	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB MNX/DNX/TNX	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB PERCHLORATE	GROUND WATER	3	$ 104.00	0.00	$ 312.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**9**	SUB EXPL
H2SO4 PL	**5**	TIC TOC
LABEL ONLY	**3**	SAMPLE FILTRATION
UNPRES PL	**15**	Anions

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Sample Condition Report

Folder #: 126534
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 04/12/2017 12:44
Received Date / Time / By: 04/12/2017 11:30 JLS

Project Name: RADFORD AAP
Project Phase: RADFORD, VA

Log-In Date / Time / By: 04/12/2017 12:44 BNA
Project #: 313010-001 PM: BMS

Coolers: 5601, 5461
Custody Seals Present : **Y**

Temperature: <3.4 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 786212417504
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - ALL WERE DATED 4/11/17 AND SIGNED.

ONE 1-L AMBER GLASS JAR FOR SAMPLE 54MW12 (DESIGNATED QC SAMPLE) WAS RECEIVED BROKEN. THERE IS SUFFICIENT SAMPLE VOLUME REMAINING IN THE OTHER SAMPLE JARS RECEIVED TO PERFORM THE REQUESTED ANALYSES.

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
853081	54MW12				
		UNPRES PL	1	/	Perchlorate
		UNPRES PL	1	/	Perchlorate
		UNPRES PL	1	/	Perchlorate
		Total # of Containers of Type	**(*UNPRES PL*) = 3**		
853081	54MW12				
		UNPRES PL	1	/	RATE/RITE
		UNPRES PL	1	/	RATE/RITE
		UNPRES PL	1	/	RATE/RITE
		Total # of Containers of Type	**(*UNPRES PL*) = 3**		
853081	54MW12				
		AMBER GL	1	/	SUB EXPL
		AMBER GL	1	/	SUB EXPL
		AMBER GL	1	/	SUB EXPL
		AMBER GL	1	/	SUB EXPL
		AMBER GL	1	/	SUB EXPL
		Total # of Containers of Type	**(*AMBER GL*) = 5**		
853081	54MW12				
		H2SO4 PL	1	Y /	TIC TOC
		H2SO4 PL	1	Y /	TIC TOC
		H2SO4 PL	1	Y /	TIC TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 3**		

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

853082 54MW12

UNPRES PL	1	/	Anions
UNPRES PL	1	/	Anions
UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 3

853082 54MW12

LABEL ONLY	1	/	SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

853083 54MW1

UNPRES PL	1	/	RATE/RITE

Total # of Containers of Type (*UNPRES PL*) = 1

853083 54MW1

AMBER GL	1	/	SUB EXPL
AMBER GL	1	/	SUB EXPL

Total # of Containers of Type (*AMBER GL*) = 2

853083 54MW1

UNPRES PL	1	/	SUB PERCH

Total # of Containers of Type (*UNPRES PL*) = 1

853083 54MW1

H2SO4 PL	1	/	TIC TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

853084 54MW1

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

853084 54MW1

LABEL ONLY	1	/	SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

853085 041117R1

UNPRES PL	1	/	RATE/RITE

Total # of Containers of Type (*UNPRES PL*) = 1

853085 041117R1

AMBER GL	1	/	SUB EXPL
AMBER GL	1	/	SUB EXPL

Total # of Containers of Type (*AMBER GL*) = 2

853085 041117R1

UNPRES PL	1	/	SUB PERCH

126534

Total # of Containers of Type (*UNPRES PL*) = 1

853085 041117R1

H2SO4 PL 1 / TIC TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

853086 041117R1

UNPRES PL 1 / Anions

Total # of Containers of Type (*UNPRES PL*) = 1

853086 041117R1

LABEL ONLY 1 / SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 1

Condition Code	*Condition Description*
1	Sample Received OK

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
3601 C STREET
SUITE 1000-31
ANCHORAGE, AL 99503

PROJECT SITE:	RAAP; RADFORD, VA
PROJECT #:	313010-001
SDG:	128820
FOLDERS:	(128820, 128867, 128923, & 128935)
PREPARED:	August 8, 2017
DOCUMENT PAGES:	2745

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

ACCREDITED IN ACCORDANCE WITH nelac

CT LABORATORIES

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 07/11/2017, 07/12/2017, 07/13/2017, & 07/14/2017
SDG #: 128820 (Folders 128820, 128867, 128923, & 128935)

Twenty-two water samples were received and analyzed for a variety of parameters, including: VOCs, Dissolved Gases, Metals, pH, COD, Anions, TOC, TIC, Chlorate/Chlorite, Perchlorate, and Explosives. Two trip blanks were included with the VOC analyses. The Chlorate and Chlorite analyses were subcontracted to Eurofins Eaton Analytical, South Bend, IN. The Explosives analyses (which included the RDX breakdown products: MNX/DNX/TNX) and Perchlorate analyses were subcontracted to Accutest Southeast, Orlando, FL. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be "flagged" on RF forms as a result.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target compounds within the calibration range of the instrument.

VOC (8260C) Water Analysis

The Initial Calibration Verification recovery for 1,4-dioxane was outside specified criteria on the initial calibration curve (W071917). This compound was qualified with a "Z" flag on all associated samples. Tetrahydrofuran, n-butylbenzene, 1,2,4-trichlorobenzene, naphthalene, and 1,2,3-trichlorobenzene were detected in the Initial Calibration Blank (ICB).

Analytical Run # 139958

The Matrix Spike (MS) and/or the Matrix Spike Duplicate (MSD) for sample # 891497 had a high recovery for 1,4-dioxane and a low recovery for carbon tetrachloride. The parent sample result for these compounds was qualified with an "M" flag. The MS and MSD exceeded Relative Percent Difference (RPD) limits for 2-hexanone and 1,4-dioxane. The parent sample result for these compounds was qualified with a "Y" flag.

Dissolved Gases (RSK-175) Analysis

Analytical Run # 139901 (Methane, Ethene, Ethane)

All analytical results for this run met the method/project specified quality control criteria.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 139864

Barium was detected in the Continuing Calibration Blank (CCB) standard greater than the Limit of Detection (LOD). The sample was reported and qualified with a "B" flag and not reanalyzed because the CCB result was less than 1/10th of the sample result.

Chromium and magnesium were detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The sample was reported and qualified with a "B" flag for chromium because the MB result was greater than 1/10th of the sample result.

Calcium was detected in the MB above the MDL and greater than ½ the RL. The sample was reported and not reanalyzed because the MB result was less than 1/10th of the sample result.

The Serial Dilution (L) for sample # 890671 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was acceptable. The parent sample was reported and not qualified.

The L for sample # 890671 was not acceptable for calcium and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The Duplicate (DUP) for sample # 890671 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 139974

Barium was detected in the Initial Calibration Blank (ICB) standard greater than the LOD. The sample was reported and qualified with a "B" flag and not reanalyzed because the ICB result was less than 1/10th of the sample result.

Arsenic was detected in the MB greater than the MDL but less than ½ the RL. The sample was reported and qualified with a "B" flag for arsenic because the MB result was greater than 1/10th of the sample result.

Silver was detected in the MB above the MDL and greater than ½ the RL. The sample was reported and not reanalyzed because the result was less than the MDL.

The L for sample # 891494 was not applicable for multiple elements because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was unacceptable for thallium. The parent sample was reported and qualified with an "M" flag for the failing element.

The L for sample # 891494 was not acceptable for aluminum, calcium, and magnesium because the results exceeded the RPD limit. A PDS was analyzed and was unacceptable for magnesium. The parent sample was reported and qualified with an "M" flag for the failing element.

The DUP for sample # 891494 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. An MSD was analyzed to demonstrate precision and was unacceptable for thallium. The parent sample was reported and qualified with a "Y" flag for the failing element.

The Matrix Spike (MS) and/or MSD for sample # 891494 exceeded the recovery limit for aluminum, iron, lead, selenium, and thallium. A PDS was analyzed and was unacceptable for thallium. The parent sample was reported and qualified with an "M" flag for the failing element.

ICP Sodium and Potassium (6010C) Water Analysis

Analytical Run # 139865

Sodium was detected in the MB above the MDL and greater than ½ the RL. The samples were re-digested using an incorrect sample. The correct sample was re-digested and sodium was detected in the MB greater than ½ the RL due to the RO filtration system. The original sample was then analyzed directly.

A DUP, MS, and MSD were not analyzed because the sample was analyzed directly and there was insufficient volume.

The L for sample # 890671 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 890671 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 139973

The L for sample # 891494 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 140019

The DUP for sample # 890671 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC, TIC), 9040C (pH), 410.4 (COD) and 9056A (anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 139762

The MS and the MSD for sample # 890667 had low recoveries for chloride and sulfate. The parent sample result for these analytes was qualified with an "M" flag.

Analytical Run # 139873

The MS and the MSD for sample # 891324 had low recoveries for chloride and sulfate. The parent sample result for these analytes was qualified with an "M" flag.

Analytical Run # 139920

All analytical results for this run met the method/project specified quality control criteria

Chemical Oxygen Demand (410.4) Water Analysis

Analytical Run # 140215

All analytical results for this run met the method/project specified quality control criteria

Filtration Analysis

Analytical Run #'s 139767, 139885 & 139985

All samples were filtered prior to analysis.

pH (9040C) Water Analysis

Analytical Run # 139907

All analytical results for this run met the method/project specified quality control criteria

Analytical Run # 140159

All analytical results for this run met the method/project specified quality control criteria

Total Inorganic Carbon (9060A) Water Analysis

Analytical Run # 139823

All analytical results for this run met the method/project specified quality control criteria

Total Organic Carbon (9060A) Water Analysis

Analytical Run # 139821

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 139914

All analytical results for this run met the method/project specified quality control criteria.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

128820

BERING SEA ENVIRONMENTAL
S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
889901	128820		54MW10	GROUND WATER	07/10/2017	07/11/2017
889902	128820		54MW10	GROUND WATER	07/10/2017	07/11/2017
889903	128820		54TM10	GROUND WATER	07/10/2017	07/11/2017
889904	128820		54TM10	GROUND WATER	07/10/2017	07/11/2017
889905	128820		54MW1	GROUND WATER	07/10/2017	07/11/2017
889906	128820		54MW1	GROUND WATER	07/10/2017	07/11/2017
889907	128820		071017R1	GROUND WATER	07/10/2017	07/11/2017
889908	128820		071017R1	GROUND WATER	07/10/2017	07/11/2017
890666	128867		54MW12	GROUND WATER	07/11/2017	07/12/2017
890667	128867		54MW12	GROUND WATER	07/11/2017	07/12/2017
890669	128867		54MW13	GROUND WATER	07/11/2017	07/12/2017
890670	128867		54MW13	GROUND WATER	07/11/2017	07/12/2017
890671	128867		54ADW01	GROUND WATER	07/11/2017	07/12/2017
891323	128923		48MW06	GROUND WATER	07/12/2017	07/13/2017
891324	128923		48MW06	GROUND WATER	07/12/2017	07/13/2017
891325	128923		49TM1	GROUND WATER	07/12/2017	07/13/2017
891326	128923		49TM1	GROUND WATER	07/12/2017	07/13/2017
891327	128923		48MW1	GROUND WATER	07/12/2017	07/13/2017
891328	128923		48MW1	GROUND WATER	07/12/2017	07/13/2017
891329	128923		49MW01	GROUND WATER	07/12/2017	07/13/2017
891330	128923		49MW01	GROUND WATER	07/12/2017	07/13/2017
891331	128923		49MW02	GROUND WATER	07/12/2017	07/13/2017
891332	128923		49MW02	GROUND WATER	07/12/2017	07/13/2017
891333	128923		49TM2	GROUND WATER	07/12/2017	07/13/2017
891334	128923		49TM2	GROUND WATER	07/12/2017	07/13/2017
891335	128923		13MW4	GROUND WATER	07/12/2017	07/13/2017
891336	128923		13MW4	GROUND WATER	07/12/2017	07/13/2017
891337	128923		13MW2	GROUND WATER	07/12/2017	07/13/2017
891338	128923		13MW2	GROUND WATER	07/12/2017	07/13/2017
891339	128923		071217T1	TRIP BLANK	07/12/2017	07/13/2017
891494	128935		49ADW1	GROUND WATER	07/13/2017	07/14/2017
891495	128935		50MW02	GROUND WATER	07/13/2017	07/14/2017

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Sample Delivery Group

128820

BERING SEA ENVIRONMENTAL
S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
891496	128935		50MW02	GROUND WATER	07/13/2017	07/14/2017
891497	128935		48MW3	GROUND WATER	07/13/2017	07/14/2017
891498	128935		48MW3	GROUND WATER	07/13/2017	07/14/2017
891502	128935		48MW2	GROUND WATER	07/13/2017	07/14/2017
891504	128935		48MW2	GROUND WATER	07/13/2017	07/14/2017
891506	128935		071317R1	GROUND WATER	07/13/2017	07/14/2017
891507	128935		071317R1	GROUND WATER	07/13/2017	07/14/2017
891508	128935		13MW3	GROUND WATER	07/13/2017	07/14/2017
891509	128935		13MW3	GROUND WATER	07/13/2017	07/14/2017
891510	128935		49MW04	GROUND WATER	07/13/2017	07/14/2017
891511	128935		49MW04	GROUND WATER	07/13/2017	07/14/2017
891512	128935		071317T1	TRIP BLANK	07/13/2017	07/14/2017

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	08/08/2017
Date Received:	07/12/2017
SDG #:	128820

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890671	pH	EPA 9040C	GROUND WATER		139907
891494	pH	EPA 9040C	GROUND WATER		140159

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
889902	Sample Filtration	SOP #PR007	GROUND WATER		139767
889904	Sample Filtration	SOP #PR007	GROUND WATER		139767
889906	Sample Filtration	SOP #PR007	GROUND WATER		139767
889908	Sample Filtration	SOP #PR007	GROUND WATER		139767
890667	Sample Filtration	SOP #PR007	GROUND WATER		139767
890670	Sample Filtration	SOP #PR007	GROUND WATER		139767
891324	Sample Filtration	SOP #PR007	GROUND WATER		139885
891326	Sample Filtration	SOP #PR007	GROUND WATER		139885
891328	Sample Filtration	SOP #PR007	GROUND WATER		139885
891330	Sample Filtration	SOP #PR007	GROUND WATER		139885
891332	Sample Filtration	SOP #PR007	GROUND WATER		139885
891334	Sample Filtration	SOP #PR007	GROUND WATER		139885
891336	Sample Filtration	SOP #PR007	GROUND WATER		139885
891338	Sample Filtration	SOP #PR007	GROUND WATER		139885
891496	Sample Filtration	SOP #PR007	GROUND WATER		139985
891498	Sample Filtration	SOP #PR007	GROUND WATER		139985
891504	Sample Filtration	SOP #PR007	GROUND WATER		139985
891507	Sample Filtration	SOP #PR007	GROUND WATER		139985
891509	Sample Filtration	SOP #PR007	GROUND WATER		139985
891511	Sample Filtration	SOP #PR007	GROUND WATER		139985

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
889901	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		139823
889903	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		139823

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SDG #: 128820

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
889905	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		139823
889907	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		139823
890666	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		139823
890669	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		139823

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890671	COD QSM	EPA 410.4	GROUND WATER	63319	140215
891494	COD QSM	EPA 410.4	GROUND WATER	63319	140215

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
889902	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
889904	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
889906	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
889908	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
890667	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
890670	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
891324	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891326	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891328	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891330	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891332	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891334	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891336	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891338	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891496	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
891498	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
891504	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
891507	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
891509	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
891511	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
889902	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
889904	Anions QSM 5.0	EPA 9056A	GROUND WATER		139762
891324	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891326	Anions QSM 5.0	EPA 9056A	GROUND WATER		139873
891496	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920
891509	Anions QSM 5.0	EPA 9056A	GROUND WATER		139920

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
889901	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
889903	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
889905	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
889907	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
890666	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821

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SDG #: 128820

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890669	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891323	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891325	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891327	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891329	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891331	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891333	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891335	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891337	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139821
891495	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139914
891497	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139914
891502	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139914
891506	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139914
891508	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139914
891510	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		139914

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890671	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	63150	139865
891494	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	63197	139973

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890671	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	63150	139865
891494	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	63197	139973

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890671	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	63150	139864
891494	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	63197	139974

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
890671	Mercury, Total QSM	EPA 7470A	GROUND WATER	63229	140019
891494	Mercury, Total QSM	EPA 7470A	GROUND WATER	63229	140019

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
891323	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891325	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 128820

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
891327	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891329	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891331	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891333	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891335	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891337	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891339	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		139958
891495	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891497	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891502	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891506	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891508	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891510	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		139958
891512	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		139958

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
891323	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891325	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891327	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891329	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891331	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891333	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891335	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891337	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891495	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891497	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891502	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891506	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891508	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901
891510	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	63186	139901

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **071217T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891339
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 12:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

071217T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891339
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 12:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.42	J	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071217T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891339
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 12:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071317R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891506
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 11:46
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 12:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description: **071317R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891506
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 18:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	5.7	J	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071317R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891506
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 18:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	0.55	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.39	J	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071317R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891506
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 18:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **071317T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891512
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 12:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **071317T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891512
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 12:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	0.58	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071317T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891512
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 12:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891337
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 11:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	1.4		0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891337
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 16:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891337
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 16:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.35	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891337
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 16:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891508
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 11:46
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 12:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891508
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 19:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891508
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 19:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	4.3		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.45	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.67	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891508
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 19:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.0		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.23	J	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891335
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 10:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891335
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 16:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891335
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 16:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.42	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891335
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 16:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.3		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891323
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 09:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.42	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891323
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 13:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.71	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	5.0		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.43	J	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	1.1		0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891323
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 13:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	9.7		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.87	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891323
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 13:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	6.1		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891327
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 09:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891327
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 14:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.22	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.72	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891327
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 14:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	1.8		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891327
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 14:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.7		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891502
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 11:46
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 12:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.73	J	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.48	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891502
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 18:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891502
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 18:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	47		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	4.2		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.49	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891502
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 18:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	5.2		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891497
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 11:46
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 12:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891497
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 17:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Y,M,Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U Y	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891497
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 17:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	69	M	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	8.1		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.58	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891497
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 17:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	11		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891329
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 10:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891329
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 14:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891329
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 14:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	3.5		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.36	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	1.2		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.1	J	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891329
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 14:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.37	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891331
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 10:07	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891331
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 15:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891331
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 15:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.82	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891331
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 15:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.23	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891510
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 11:46
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 13:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891510
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 19:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891510
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 19:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.55	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.28	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891510
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 19:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891325
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 09:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.42	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891325
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 13:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.75	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	5.1		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.39	J	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	1.2		0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891325
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 13:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	9.8		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.91	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891325
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 13:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	6.1		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891333
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 10:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891333
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 15:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891333
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 15:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.88	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891333
% Solids:		Date Received:	07/13/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 15:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.25	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891495
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 11:46
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Date & Time Analyzed:	07/14/2017 / 12:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.68	J	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891495
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 17:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.26	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.38	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891495
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 17:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.95	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	1.3		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	891495
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	139958	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2017 / 17:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.2		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	128820
Sample wt/vol:	19.0 (g/mL)	CTL Sample ID:	891455
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	19.0 (mL)	Date/Time Prepared:	07/14/2017 / 08:49
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	63186
Analytical Run #:	139901	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	07/14/2017	09:24	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	07/14/2017	09:24	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	07/14/2017	09:24	0.3	U	0.3	0.7	***0.4***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	894316
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	139958	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	07/20/2017	11:46	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	07/20/2017	11:46	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	07/20/2017	11:46	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	07/20/2017	11:46	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	07/20/2017	11:46	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	07/20/2017	11:46	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	07/20/2017	11:46	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	07/20/2017	11:46	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	07/20/2017	11:46	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	07/20/2017	11:46	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	07/20/2017	11:46	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	07/20/2017	11:46	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	07/20/2017	11:46	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	07/20/2017	11:46	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	07/20/2017	11:46	286	B	5	25	***12.5***
78-93-3	2-Butanone	07/20/2017	11:46	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	07/20/2017	11:46	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	07/20/2017	11:46	3	U	3	10	***5***
67-64-1	Acetone	07/20/2017	11:46	5	U	5	20	***10***
71-43-2	Benzene	07/20/2017	11:46	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	07/20/2017	11:46	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	07/20/2017	11:46	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	07/20/2017	11:46	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	894316
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	139958	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	07/20/2017	11:46	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	07/20/2017	11:46	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	07/20/2017	11:46	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	07/20/2017	11:46	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	07/20/2017	11:46	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	07/20/2017	11:46	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	07/20/2017	11:46	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	07/20/2017	11:46	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	07/20/2017	11:46	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	07/20/2017	11:46	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	07/20/2017	11:46	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	07/20/2017	11:46	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	07/20/2017	11:46	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	07/20/2017	11:46	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	07/20/2017	11:46	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	07/20/2017	11:46	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	07/20/2017	11:46	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	07/20/2017	11:46	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	07/20/2017	11:46	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	07/20/2017	11:46	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	07/20/2017	11:46	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	07/20/2017	11:46	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	07/20/2017	11:46	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	128820
Sample wt/vol:	(g/mL)	CTL Sample ID:	894316
% Solids:		Date Received:	07/14/2017
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	139958	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071917.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	07/20/2017	11:46	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	07/20/2017	11:46	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	07/20/2017	11:46	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	07/20/2017	11:46	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	07/20/2017	11:46	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	07/20/2017	11:46	0.18	U	0.18	1.00	***0.50***

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	128820
Analytical Run #:	139958	ICAL Calibration #:	W071917.

CTLab #	891323				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	

CTLab #	891325				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	891327				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	891329				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	891331				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	891333				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	98	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	128820
Analytical Run #:	139958	ICAL Calibration #:	W071917.

CTLab #	891335				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	

CTLab #	891337				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	

CTLab #	891339				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	94	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	891495				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	891497				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	105	85	114	
d8-Toluene	100	96	89	112	
Dibromofluoromethane	100	95	80	119	

CTLab #	891502				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	108	85	114	
d8-Toluene	100	90	89	112	
Dibromofluoromethane	100	89	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Analytical Method: EPA 8260C | SDG: 128820

Analytical Run #: 139958 | ICAL Calibration #: W071917.

CTLab #	891506				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	105	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	97	80	119	
CTLab #	**891508**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	93	81	118	
Bromofluorobenzene	100	104	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	95	80	119	
CTLab #	**891510**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	95	80	119	
CTLab #	**891512**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**894191**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**894192**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	70	120	
Bromofluorobenzene	100	103	70	120	
d8-Toluene	100	102	85	120	
Dibromofluoromethane	100	101	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	128820
Analytical Run #:	139958	ICAL Calibration #:	W071917.

CTLab #	894316	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	70	120	
Bromofluorobenzene	100	102	75	120	
d8-Toluene	100	96.0	85	120	
Dibromofluoromethane	100	96.0	85	115	

CTLab #	894527	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	92.0	89	112	
Dibromofluoromethane	100	93.0	80	119	

CTLab #	894528	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	94.0	81	118	
Bromofluorobenzene	100	115	85	114	*FAIL*
d8-Toluene	100	92.0	89	112	
Dibromofluoromethane	100	91.0	80	119	

CTLab #	894529	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	50	150	
Bromofluorobenzene	100	105	50	150	
d8-Toluene	100	101	50	150	
Dibromofluoromethane	100	98.0	50	150	

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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 128820
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 139958
Sample No.: 894527
Parent Sample No.: 891497
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W071917.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	07/20/2017	20:11	74-131	9.83	BDL	10.0	98	
1,1,2,2-Tetrachloroethane	07/20/2017	20:11	71-121	10.4	BDL	10.0	104	
1,1,2-Trichloroethane	07/20/2017	20:11	80-119	10.6	BDL	10.0	106	
1,1-Dichloroethane	07/20/2017	20:11	77-125	10.2	BDL	10.0	102	
1,1-Dichloroethene	07/20/2017	20:11	71-131	10.5	BDL	10.0	105	
1,2,3-Trichlorobenzene	07/20/2017	20:11	69-129	9.99	BDL	10.0	100	
1,2,4-Trichlorobenzene	07/20/2017	20:11	69-130	9.74	BDL	10.0	97	
1,2-Dibromo-3-chloropropane	07/20/2017	20:11	62-128	9.14	BDL	10.0	91	
1,2-Dibromoethane	07/20/2017	20:11	77-121	10.6	BDL	10.0	106	
1,2-Dichlorobenzene	07/20/2017	20:11	80-119	10.4	BDL	10.0	104	
1,2-Dichloroethane	07/20/2017	20:11	73-128	10.6	BDL	10.0	106	
1,2-Dichloropropane	07/20/2017	20:11	78-122	9.59	BDL	10.0	96	
1,3-Dichlorobenzene	07/20/2017	20:11	80-119	10.3	BDL	10.0	103	
1,4-Dichlorobenzene	07/20/2017	20:11	79-118	10.2	BDL	10.0	102	
1,4-Dioxane	07/20/2017	20:11	59-139	709	BDL	500	142	*FAIL*
2-Butanone	07/20/2017	20:11	56-143	105	BDL	100	105	
2-Hexanone	07/20/2017	20:11	57-139	119	BDL	100	119	
4-Methyl-2-pentanone	07/20/2017	20:11	67-130	102	BDL	100	102	
Acetone	07/20/2017	20:11	39-160	75.4	BDL	100	75	
Benzene	07/20/2017	20:11	79-120	11.2	BDL	10.0	112	
Bromochloromethane	07/20/2017	20:11	78-123	8.97	BDL	10.0	90	
Bromodichloromethane	07/20/2017	20:11	79-125	9.57	BDL	10.0	96	
Bromoform	07/20/2017	20:11	66-130	8.71	BDL	10.0	87	
Bromomethane	07/20/2017	20:11	53-141	7.29	BDL	10.0	73	
Carbon disulfide	07/20/2017	20:11	64-133	22.3	BDL	20.0	112	
Carbon tetrachloride	07/20/2017	20:11	72-136	78.1	69	10.0	91	
Chlorobenzene	07/20/2017	20:11	82-118	10.6	BDL	10.0	106	
Chloroethane	07/20/2017	20:11	60-138	7.85	BDL	10.0	78	
Chloroform	07/20/2017	20:11	79-124	17.1	8.1	10.0	90	
Chloromethane	07/20/2017	20:11	50-139	10.4	BDL	10.0	104	
cis-1,2-Dichloroethene	07/20/2017	20:11	78-123	10.7	0.58	10.0	101	

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 128820

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 139958 | Sample No.: 894527 | Parent Sample No.: 891497

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W071917.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
cis-1,3-Dichloropropene	07/20/2017	20:11	75-124	9.08	BDL	10.0	91
Cyclohexane	07/20/2017	20:11	71-130	11.7	BDL	10.0	117
Dibromochloromethane	07/20/2017	20:11	74-126	10.2	BDL	10.0	102
Dichlorodifluoromethane	07/20/2017	20:11	32-152	10.2	BDL	10.0	102
Ethylbenzene	07/20/2017	20:11	79-121	11.1	BDL	10.0	111
Freon 113	07/20/2017	20:11	70-136	20.8	BDL	20.0	104
Isopropylbenzene	07/20/2017	20:11	72-131	11.1	BDL	10.0	111
m & p-Xylene	07/20/2017	20:11	80-121	22.0	BDL	20.0	110
Methyl Acetate	07/20/2017	20:11	56-136	8.27	BDL	10.0	83
Methyl tert-butyl ether	07/20/2017	20:11	71-124	9.87	BDL	10.0	99
Methylcyclohexane	07/20/2017	20:11	72-132	10.9	BDL	10.0	109
Methylene chloride	07/20/2017	20:11	74-124	9.41	BDL	10.0	94
o-Xylene	07/20/2017	20:11	78-122	10.7	BDL	10.0	107
Styrene	07/20/2017	20:11	78-123	10.8	BDL	10.0	108
Tetrachloroethene	07/20/2017	20:11	74-129	10.7	BDL	10.0	107
Toluene	07/20/2017	20:11	80-121	10.7	BDL	10.0	107
trans-1,2-Dichloroethene	07/20/2017	20:11	75-124	10.1	BDL	10.0	101
trans-1,3-Dichloropropene	07/20/2017	20:11	73-127	9.70	BDL	10.0	97
Trichloroethene	07/20/2017	20:11	79-123	20.3	11	10.0	93
Trichlorofluoromethane	07/20/2017	20:11	65-141	10.1	BDL	10.0	101
Vinyl chloride	07/20/2017	20:11	58-137	10.2	BDL	10.0	102

Spike Recovery: 1 out of 52 outside QC limits

CT LABORATORIES
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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

48MW3

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 128820

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 139901 Sample No.: 891706 Parent Sample No.: 891497

Analytical Prep Batch #: 63186 Analytical Preparation Date/Time: 07/14/2017 11:46

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/14/2017 12:31	74-131	4.12	BDL	4.79	86
Ethene	07/14/2017 12:31	72-133	6.07	BDL	6.81	89
Methane	07/14/2017 12:31	73-125	2.09	BDL	2.30	91

Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 128820

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 139958 | Sample No.: 894528 | Parent Sample No.: 894527

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W071917.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	07/20/2017	20:40	9.97	10.0	100	1	74-131	20	
1,1,2,2-Tetrachloroethane	07/20/2017	20:40	11.2	10.0	112	7	71-121	20	
1,1,2-Trichloroethane	07/20/2017	20:40	9.80	10.0	98	8	80-119	20	
1,1-Dichloroethane	07/20/2017	20:40	10.1	10.0	101	1	77-125	20	
1,1-Dichloroethene	07/20/2017	20:40	10.5	10.0	105	0	71-131	20	
1,2,3-Trichlorobenzene	07/20/2017	20:40	9.96	10.0	100	0	69-129	20	
1,2,4-Trichlorobenzene	07/20/2017	20:40	10.0	10.0	100	3	69-130	20	
1,2-Dibromo-3-chloropropane	07/20/2017	20:40	9.04	10.0	90	1	62-128	20	
1,2-Dibromoethane	07/20/2017	20:40	9.75	10.0	98	8	77-121	20	
1,2-Dichlorobenzene	07/20/2017	20:40	10.2	10.0	102	2	80-119	20	
1,2-Dichloroethane	07/20/2017	20:40	9.27	10.0	93	13	73-128	20	
1,2-Dichloropropane	07/20/2017	20:40	10.4	10.0	104	8	78-122	20	
1,3-Dichlorobenzene	07/20/2017	20:40	10.4	10.0	104	1	80-119	20	
1,4-Dichlorobenzene	07/20/2017	20:40	10.1	10.0	101	1	79-118	20	
1,4-Dioxane	07/20/2017	20:40	381	500	76	60	59-139	20	*FAIL*
2-Butanone	07/20/2017	20:40	87.4	100	87	18	56-143	20	
2-Hexanone	07/20/2017	20:40	95.6	100	96	22	57-139	20	*FAIL*
4-Methyl-2-pentanone	07/20/2017	20:40	94.7	100	95	8	67-130	20	
Acetone	07/20/2017	20:40	64.5	100	64	16	39-160	20	
Benzene	07/20/2017	20:40	10.3	10.0	103	9	79-120	20	
Bromochloromethane	07/20/2017	20:40	9.40	10.0	94	5	78-123	20	
Bromodichloromethane	07/20/2017	20:40	10.4	10.0	104	9	79-125	20	
Bromoform	07/20/2017	20:40	8.68	10.0	87	0	66-130	20	
Bromomethane	07/20/2017	20:40	8.03	10.0	80	10	53-141	20	
Carbon disulfide	07/20/2017	20:40	22.4	20.0	112	1	64-133	20	
Carbon tetrachloride	07/20/2017	20:40	72.8	10.0	38	7	72-136	20	*FAIL*
Chlorobenzene	07/20/2017	20:40	10.4	10.0	104	2	82-118	20	
Chloroethane	07/20/2017	20:40	9.17	10.0	92	16	60-138	20	
Chloroform	07/20/2017	20:40	17.2	10.0	91	1	79-124	20	
Chloromethane	07/20/2017	20:40	11.2	10.0	112	8	50-139	20	
cis-1,2-Dichloroethene	07/20/2017	20:40	10.5	10.0	99	2	78-123	20	

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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 128820
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 139958
Sample No.: 894528
Parent Sample No.: 894527
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W071917.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
cis-1,3-Dichloropropene	07/20/2017	20:40	9.05	10.0	90	0	75-124	20
Cyclohexane	07/20/2017	20:40	10.8	10.0	108	8	71-130	20
Dibromochloromethane	07/20/2017	20:40	9.08	10.0	91	11	74-126	20
Dichlorodifluoromethane	07/20/2017	20:40	10.1	10.0	101	1	32-152	20
Ethylbenzene	07/20/2017	20:40	11.0	10.0	110	1	79-121	20
Freon 113	07/20/2017	20:40	20.7	20.0	104	1	70-136	20
Isopropylbenzene	07/20/2017	20:40	12.1	10.0	121	9	72-131	20
m & p-Xylene	07/20/2017	20:40	22.1	20.0	110	0	80-121	20
Methyl Acetate	07/20/2017	20:40	7.73	10.0	77	7	56-136	20
Methyl tert-butyl ether	07/20/2017	20:40	9.59	10.0	96	3	71-124	20
Methylcyclohexane	07/20/2017	20:40	11.3	10.0	113	4	72-132	20
Methylene chloride	07/20/2017	20:40	9.45	10.0	94	0	74-124	20
o-Xylene	07/20/2017	20:40	10.7	10.0	107	0	78-122	20
Styrene	07/20/2017	20:40	10.6	10.0	106	2	78-123	20
Tetrachloroethene	07/20/2017	20:40	9.95	10.0	100	7	74-129	20
Toluene	07/20/2017	20:40	9.96	10.0	100	7	80-121	20
trans-1,2-Dichloroethene	07/20/2017	20:40	9.92	10.0	99	2	75-124	20
trans-1,3-Dichloropropene	07/20/2017	20:40	8.42	10.0	84	14	73-127	20
Trichloroethene	07/20/2017	20:40	22.5	10.0	115	10	79-123	20
Trichlorofluoromethane	07/20/2017	20:40	10.3	10.0	103	3	65-141	20
Vinyl chloride	07/20/2017	20:40	10.4	10.0	104	2	58-137	20

RPD or Spike Recovery: 3 out of 52 outside QC limits

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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description

48MW3

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 128820

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 139901 Sample No.: 891707 Parent Sample No.: 891706

Analytical Prep Batch #: 63186 Analytical Preparation Date/Time: 07/14/2017 11:46

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time	Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	07/14/2017 12:35	3.94	4.79	82	5	74-131	30
Ethene	07/14/2017 12:35	5.96	6.81	88	2	72-133	30
Methane	07/14/2017 12:35	2.06	2.30	90	1	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 891456
SDG No.: 128820
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 891456
Parent Sample No.: 0
Analytical Prep Batch #: 63186
Analytical Preparation Date/Time: 07/14/2017 08:49
Analytical Run #: 139901
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/14/2017	09:13	74-131	3.93		4.79	82
Ethene	07/14/2017	09:13	72-133	5.59		6.81	82
Methane	07/14/2017	09:13	73-125	1.95		2.30	85

Spike Recovery: 0 out of 3 outside limits

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 894191 | SDG No.: 128820

Analytical Method: EPA 8260C | Concentration Units: ug/L

Sample No.: 894191 | Parent Sample No.: 0

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

Analytical Run #: 139958 | ICAL Calibration #: W071917.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	07/20/2017	10:36	74-131	10.3		10.0	103
1,1,2,2-Tetrachloroethane	07/20/2017	10:36	71-121	10.4		10.0	104
1,1,2-Trichloroethane	07/20/2017	10:36	80-119	10.1		10.0	101
1,1-Dichloroethane	07/20/2017	10:36	77-125	10.2		10.0	102
1,1-Dichloroethene	07/20/2017	10:36	71-131	10.2		10.0	102
1,2,3-Trichlorobenzene	07/20/2017	10:36	69-129	9.82		10.0	98
1,2,4-Trichlorobenzene	07/20/2017	10:36	69-130	9.91		10.0	99
1,2-Dibromo-3-chloropropane	07/20/2017	10:36	62-128	10.0		10.0	100
1,2-Dibromoethane	07/20/2017	10:36	77-121	9.94		10.0	99
1,2-Dichlorobenzene	07/20/2017	10:36	80-119	10.0		10.0	100
1,2-Dichloroethane	07/20/2017	10:36	73-128	9.92		10.0	99
1,2-Dichloropropane	07/20/2017	10:36	78-122	9.88		10.0	99
1,3-Dichlorobenzene	07/20/2017	10:36	80-119	10.2		10.0	102
1,4-Dichlorobenzene	07/20/2017	10:36	79-118	9.92		10.0	99
1,4-Dioxane	07/20/2017	10:36	59-139	454		500	91
2-Butanone	07/20/2017	10:36	56-143	105		100	105
2-Hexanone	07/20/2017	10:36	57-139	101		100	101
4-Methyl-2-pentanone	07/20/2017	10:36	67-130	109		100	109
Acetone	07/20/2017	10:36	39-160	99.9		100	100
Benzene	07/20/2017	10:36	79-120	10.2		10.0	102
Bromochloromethane	07/20/2017	10:36	78-123	9.61		10.0	96
Bromodichloromethane	07/20/2017	10:36	79-125	10.1		10.0	101
Bromoform	07/20/2017	10:36	66-130	10.6		10.0	106
Bromomethane	07/20/2017	10:36	53-141	10.3		10.0	103
Carbon disulfide	07/20/2017	10:36	64-133	23.0		20.0	115
Carbon tetrachloride	07/20/2017	10:36	72-136	10.7		10.0	107
Chlorobenzene	07/20/2017	10:36	82-118	10.0		10.0	100
Chloroethane	07/20/2017	10:36	60-138	9.60		10.0	96

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 894191

SDG No.: 128820

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 894191

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 139958

ICAL Calibration #: W071917.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	07/20/2017	10:36	79-124	10.0		10.0	100
Chloromethane	07/20/2017	10:36	50-139	10.2		10.0	102
cis-1,2-Dichloroethene	07/20/2017	10:36	78-123	10.2		10.0	102
cis-1,3-Dichloropropene	07/20/2017	10:36	75-124	10.1		10.0	101
Cyclohexane	07/20/2017	10:36	71-130	10.5		10.0	105
Dibromochloromethane	07/20/2017	10:36	74-126	10.2		10.0	102
Dichlorodifluoromethane	07/20/2017	10:36	32-152	10.7		10.0	107
Ethylbenzene	07/20/2017	10:36	79-121	10.4		10.0	104
Freon 113	07/20/2017	10:36	70-136	20.6		20.0	103
Isopropylbenzene	07/20/2017	10:36	72-131	10.6		10.0	106
m & p-Xylene	07/20/2017	10:36	80-121	20.7		20.0	104
Methyl Acetate	07/20/2017	10:36	56-136	9.27		10.0	93
Methyl tert-butyl ether	07/20/2017	10:36	71-124	10.3		10.0	103
Methylcyclohexane	07/20/2017	10:36	72-132	10.7		10.0	107
Methylene chloride	07/20/2017	10:36	74-124	10.0		10.0	100
o-Xylene	07/20/2017	10:36	78-122	9.98		10.0	100
Styrene	07/20/2017	10:36	78-123	10.1		10.0	101
Tetrachloroethene	07/20/2017	10:36	74-129	10.3		10.0	103
Toluene	07/20/2017	10:36	80-121	10.2		10.0	102
trans-1,2-Dichloroethene	07/20/2017	10:36	75-124	10.1		10.0	101
trans-1,3-Dichloropropene	07/20/2017	10:36	73-127	9.83		10.0	98
Trichloroethene	07/20/2017	10:36	79-123	10.2		10.0	102
Trichlorofluoromethane	07/20/2017	10:36	65-141	10.3		10.0	103
Vinyl chloride	07/20/2017	10:36	58-137	10.5		10.0	105

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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	894191	SDG No.:	128820
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	891455	SDG No.:	128820
Matrix:	LIQUID	Date Extracted:	07/14/2017
Date Analyzed:	07/14/2017	Time Analyzed:	09:24
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	139901	Extraction Batch #:	63186
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	891807	07/14/2017 09:03	P4DG020315
2	LCSW	891456	07/14/2017 09:13	P4DG020315
3	MBW	891455	07/14/2017 09:24	P4DG020315
4	48MW06	891323	07/14/2017 09:43	P4DG020315
5	49TM1	891325	07/14/2017 09:47	P4DG020315
6	48MW1	891327	07/14/2017 09:53	P4DG020315
7	49MW01	891329	07/14/2017 10:03	P4DG020315
8	49MW02	891331	07/14/2017 10:07	P4DG020315
9	49TM2	891333	07/14/2017 10:32	P4DG020315
10	13MW4	891335	07/14/2017 10:41	P4DG020315
11	13MW2	891337	07/14/2017 11:09	P4DG020315
12	CCV	891808	07/14/2017 11:39	P4DG020315
13	50MW02	891495	07/14/2017 12:23	P4DG020315
14	48MW3	891497	07/14/2017 12:27	P4DG020315
15	48MW3MSW	891706	07/14/2017 12:31	P4DG020315
16	48MW3MSDW	891707	07/14/2017 12:35	P4DG020315
17	48MW2	891502	07/14/2017 12:45	P4DG020315
18	071317R1	891506	07/14/2017 12:50	P4DG020315
19	13MW3	891508	07/14/2017 12:59	P4DG020315
20	49MW04	891510	07/14/2017 13:18	P4DG020315
21	CCV	891809	07/14/2017 13:21	P4DG020315

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	894316	SDG No.:	128820
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	07/20/2017	Time Analyzed:	11:46
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	139958	Extraction Batch #:	0
		ICAL Calibration #:	W071917.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	894638	07/20/2017 09:52	
2	LCSW	894191	07/20/2017 10:36	W071917.
3	CCV	894192	07/20/2017 10:36	W071917.
4	MBW	894316	07/20/2017 11:46	W071917.
5	071217T1	891339	07/20/2017 12:16	W071917.
6	071317T1	891512	07/20/2017 12:45	W071917.
7	48MW06	891323	07/20/2017 13:15	W071917.
8	49TM1	891325	07/20/2017 13:45	W071917.
9	48MW1	891327	07/20/2017 14:14	W071917.
10	49MW01	891329	07/20/2017 14:44	W071917.
11	49MW02	891331	07/20/2017 15:14	W071917.
12	49TM2	891333	07/20/2017 15:44	W071917.
13	13MW4	891335	07/20/2017 16:14	W071917.
14	13MW2	891337	07/20/2017 16:44	W071917.
15	50MW02	891495	07/20/2017 17:14	W071917.
16	48MW3	891497	07/20/2017 17:44	W071917.
17	48MW2	891502	07/20/2017 18:13	W071917.
18	071317R1	891506	07/20/2017 18:43	W071917.
19	13MW3	891508	07/20/2017 19:12	W071917.
20	49MW04	891510	07/20/2017 19:42	W071917.
21	48MW3MSW	894527	07/20/2017 20:11	W071917.
22	48MW3MSDW	894528	07/20/2017 20:40	W071917.
23	CCVF	894529	07/20/2017 21:10	W071917.

Data File : C:\INSTARCH\Data\JUL1917\BFB1.D Vial: 1
Acq On : 19 Jul 2017 8:21 Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W071917.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.380 to 4.404 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	20353	PASS
75	95	30	60	52.9	52924	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.1	7117	PASS
173	174	0.00	2	0.3	240	PASS
174	95	50	100	88.9	88898	PASS
175	174	5	9	7.3	6480	PASS
176	174	95	101	96.4	85664	PASS
177	176	5	9	7.2	6196	PASS

W071917.M Thu Jul 20 10:25:57 2017

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL1917\BFB1.D
Injection Date : 19 Jul 2017 Log Time Period (hrs) : ALL
Injection Time : 08:21 Total files within period : 15
Sample Directory : C:\INSTARCH\DATA\JUL1917\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	19 Jul 2017	09:35
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	19 Jul 2017	10:05
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	19 Jul 2017	10:34
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100.0 ug/L, 5.0 mL P	19 Jul 2017	11:04
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200.0 ug/L, 5.0 mL P	19 Jul 2017	11:34
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300.0 ug/L, 5.0 mL P	19 Jul 2017	12:04
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400.0 ug/L, 5.0 mL P	19 Jul 2017	12:33
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800.0 ug/L, 5.0 mL P	19 Jul 2017	13:03
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100 ug/L, 5.0 mL Pur	19 Jul 2017	14:02
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300 ug/L, 5.0 mL Pur	19 Jul 2017	14:32
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	19 Jul 2017	15:31

Data File : C:\INSTARCH\Data\JUL2017\BFB1.D Vial: 1
Acq On : 20 Jul 2017 9:52 Operator: AGK-RLD
Sample : 139958,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W071917.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.411 to 4.423 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	10390	PASS
75	95	30	60	50.5	29232	PASS
95	95	100	100	100.0	57928	PASS
96	95	5	9	7.2	4191	PASS
173	174	0.00	2	0.8	471	PASS
174	95	50	100	97.0	56178	PASS
175	174	5	9	6.4	3614	PASS
176	174	95	101	96.9	54437	PASS
177	176	5	9	7.1	3840	PASS

W071917.M Fri Jul 21 09:55:16 2017

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2017\BFB1.D
Injection Date : 20 Jul 2017 Log Time Period (hrs) : ALL
Injection Time : 09:52 Total files within period : 27
Sample Directory : C:\INSTARCH\DATA\JUL2017\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date Time
CCV-LCS1	1.00	1.00	1.00	139958,LCSW, 10.0/100.0 ug/L, 5.0 mL P	20 Jul 2017 10:36
MB1	1.00	1.00	1.00	139958,MBW, pH<2, 5.0 mL DI H20 Purge	20 Jul 2017 11:46
891339	1.00	1.00	1.00	139958,891339, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 12:16
891512	1.00	1.00	1.00	139958,891512, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 12:45
891323	1.00	1.00	1.00	139958,891323, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 13:15
891325	1.00	1.00	1.00	139958,891325, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 13:45
891327	1.00	1.00	1.00	139958,891327, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 14:14
891329	1.00	1.00	1.00	139958,891329, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 14:44
891331	1.00	1.00	1.00	139958,891331, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 15:14
891333	1.00	1.00	1.00	139958,891333, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 15:44
891335	1.00	1.00	1.00	139958,891335, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 16:14
891337	1.00	1.00	1.00	139958,891337, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 16:44
891495	1.00	1.00	1.00	139958,891495, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 17:14
891497	1.00	1.00	1.00	139958,891497, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 17:44
891502	1.00	1.00	1.00	139958,891502, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 18:13
891506	1.00	1.00	1.00	139958,891506, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 18:43
891508	1.00	1.00	1.00	139958,891508, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 19:12
891510	1.00	1.00	1.00	139958,891510, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 19:42
891497MS	1.00	1.00	1.00	139958,MSW891497, pH<2, 10.0/100 ug/L, 5.0	20 Jul 2017 20:11
891497SD	1.00	1.00	1.00	139958,MSDW891497, pH<2, 10.0/100 ug/L, 5.0	20 Jul 2017 20:40

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2017\BFB1.D
Injection Date : 20 Jul 2017 Log Time Period (hrs) : ALL
Injection Time : 09:52 Total files within period : 27
Sample Directory : C:\INSTARCH\DATA\JUL2017\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCVF1	1.00	1.00	1.00	139958,CCVF, 10.0/100.0 ug/L, 5.0 mL P	20 Jul 2017	21:10

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 19 Jul 2017
Instrument ID : VMS3 Time Analyzed : 11:04
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1416085	7.49	1117261	11.39	648391	14.69
UPPER LIMIT	2832170	7.99	2234522	11.89	1296782	15.19
LOWER LIMIT	708043	6.99	558631	10.89	324196	14.19
File ID Sample						
891323 139958,89	1362113	7.50	1051292	11.40	599999	14.69
891325 139958,89	1354432	7.50	1042143	11.40	596095	14.69
891327 139958,89	1370565	7.50	1052295	11.40	593875	14.69
891329 139958,89	1382724	7.50	1071121	11.40	597638	14.69
891331 139958,89	1406829	7.50	1070110	11.40	595249	14.69
891333 139958,89	1412390	7.50	1084254	11.40	608043	14.69
891335 139958,89	1410772	7.50	1083182	11.40	625848	14.69
891337 139958,89	1394259	7.50	1075311	11.40	613244	14.69
891339 139958,89	1374744	7.50	1050081	11.39	582604	14.69
891495 139958,89	1457398	7.50	1112308	11.40	632525	14.69
891497 139958,89	1556579	7.50	1184854	11.39	657518	14.69
891497MS 139958,MS	1667676	7.50	1217883	11.39	723815	14.69
891497SD 139958,MS	1634939	7.49	1208394	11.39	703670	14.69
891502 139958,89	1611849	7.50	1163793	11.40	644486	14.69
891506 139958,89	1636580	7.50	1205342	11.40	677015	14.69
891508 139958,89	1556939	7.50	1163013	11.40	684116	14.69
891510 139958,89	1523069	7.50	1154716	11.40	662141	14.69
891512 139958,89	1331413	7.50	1020503	11.40	568588	14.69
CCVF1 139958,CC	1591829	7.50	1228044	11.39	701522	14.69
CCV-LCS1 139958,LC	1441590	7.50	1151172	11.39	652963	14.69
MB1 139958,MB	1404884	7.50	1061017	11.39	596848	14.69

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891339.D Vial: 6
Acq On : 20 Jul 2017 12:16 Operator: AGK-RLD
Sample : 139958,891339, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:36:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1374744	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1050081	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	582604	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	348944	20.042	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.06	102	92458	18.856	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 94 %			
61) SURRd8Tolule	9.50	98	1366038	19.686	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.02	95	493347	20.582	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	9837	0.4233	ug/L	96
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	5227	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	6753	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	19341	N.D.		
16) Iodomethane	4.00	142	8977	0.5034	ug/L #	86
17) Carbon Dislf	4.09	76	5159	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	4393	N.D.		
21) tbutylalcohol	4.73	59	5604	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.47	42	10757	Below	Cal	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891339.D Vial: 6
Acq On : 20 Jul 2017 12:16 Operator: AGK-RLD
Sample : 139958,891339, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:36:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.36	43	6804	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.49	43	14557	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	11.42	112	4887	N.D.		
73)	1Clhexane	11.39	91	3068	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.60	91	3199	N.D.		
76)	m p-Xylene	11.78	106	2244	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	12.83	105	4082	N.D.		
81)	cyclohexanone	12.91	55	4467	34.3580	ug/L #	38
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.42	91	5654	N.D.		
89)	2chlorotolue	13.42	91	5580	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	13.68	105	2235	N.D.		
92)	tbutylbenzen	14.14	119	2705	N.D.		
93)	124Trimetben	14.21	105	3847	N.D.		
94)	sbutylbenzen	14.45	105	4729	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.67	119	5088	N.D.		
97)	14dichlorobe	14.72	146	2386	N.D.		
98)	12dichlorobe	15.25	146	2398	N.D.		
99)	nButylbenzen	15.29	91	6570	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	16.72	180	2323	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891339.D Vial: 6
Acq On : 20 Jul 2017 12:16 Operator: AGK-RLD
Sample : 139958,891339, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:36:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

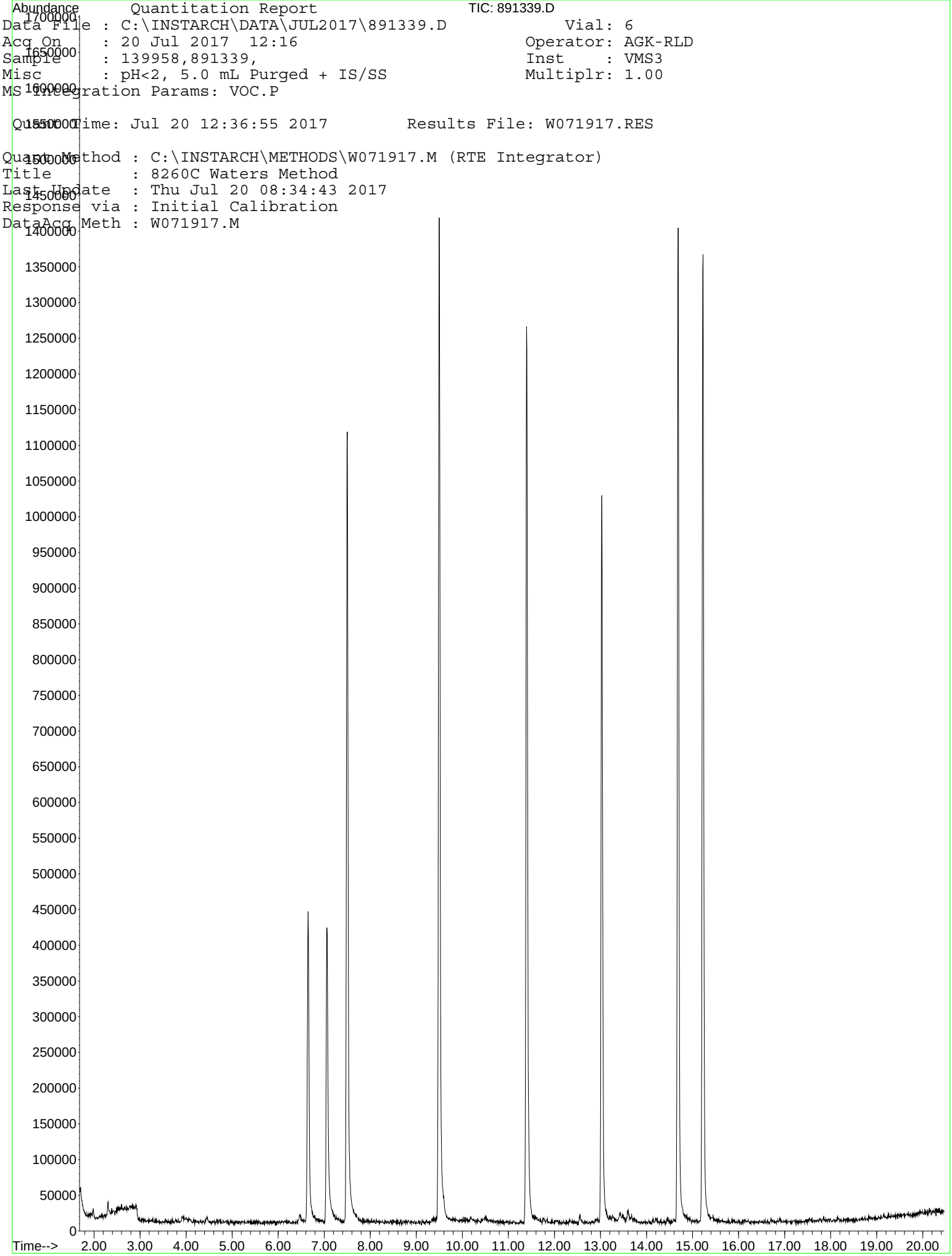
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.55	180	2808	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.85	128	8573	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

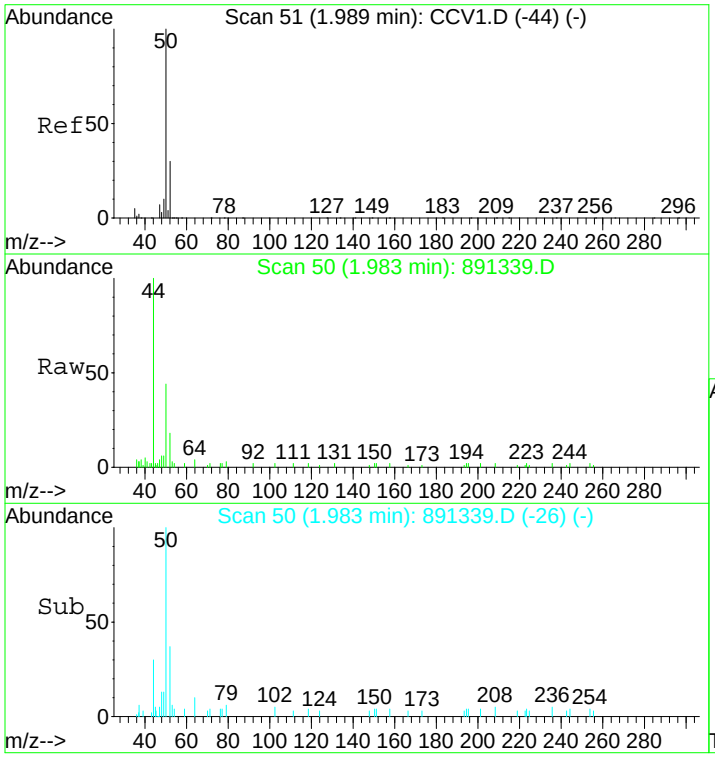
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2017\891339.D Vial: 6
Acq On : 20 Jul 2017 12:16 Operator: AGK-RLD
Sample : 139958,891339, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:36:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

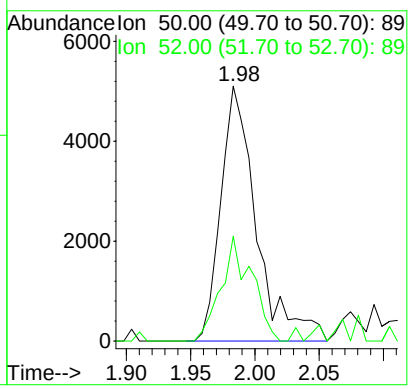




#3
Chloromethan
Concen: 0.42 ug/L
RT: 1.98 min Scan# 50
Delta R.T. -0.01 min
Lab File: 891339.D
Acq: 20 Jul 2017 12:16

Tgt Ion: 50 Resp: 9837

Ion	Ratio	Lower	Upper
50	100		
52	35.4	13.3	53.3



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891512.D Vial: 7
Acq On : 20 Jul 2017 12:45 Operator: AGK-RLD
Sample : 139958,891512, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:06:32 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1331413	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1020503	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	568588	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	331767	19.676	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	92411	19.459	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.50	98	1331535	19.814	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.03	95	472258	20.188	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	6323	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.61	94	3210	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.94	58	2762	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.95	43	11348	N.D.		
16) Iodomethane	4.01	142	7688	N.D.		
17) Carbon Dislf	4.09	76	3820	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	10481	0.5760	ug/L	92
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.49	42	17192	Below Cal #		42

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891512.D Vial: 7
Acq On : 20 Jul 2017 12:45 Operator: AGK-RLD
Sample : 139958,891512, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:06:32 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.15	78	2777	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.39	43	3503	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.51	43	8125	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.39	91	3265	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.79	106	2142	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	12.84	105	2369	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	13.14	75	3045	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.43	91	4869	N.D.	
89)	2chlorotolue	13.43	91	4731	N.D.	
90)	4chlorotolue	13.69	91	2115	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.21	105	2466	N.D.	
94)	sbutylbenzen	14.45	105	3524	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.68	119	3423	N.D.	
97)	14dichlorobe	14.72	146	2251	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.21	91	2149	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891512.D Vial: 7
Acq On : 20 Jul 2017 12:45 Operator: AGK-RLD
Sample : 139958,891512, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:06:32 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	5238	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

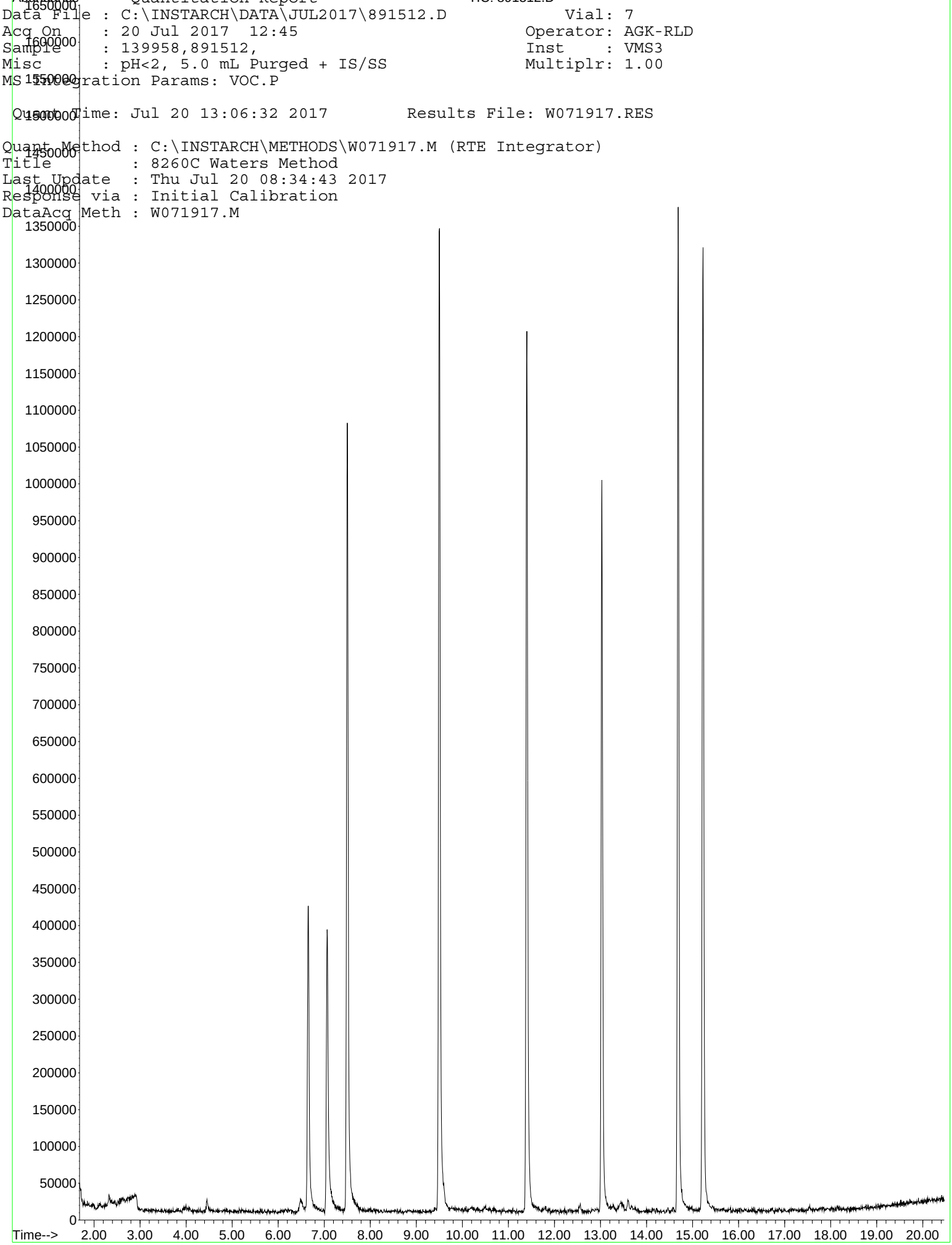
(#) = qualifier out of range (m) = manual integration

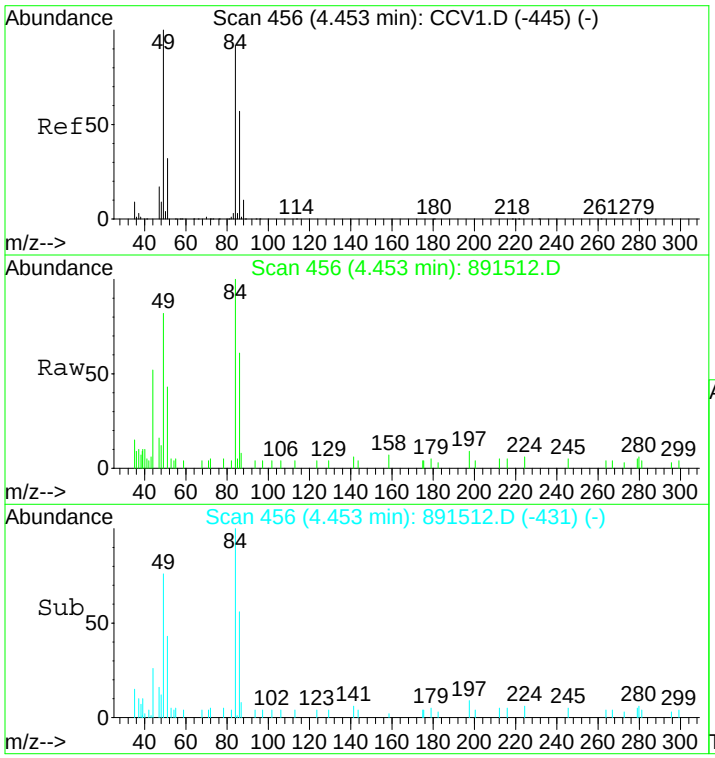
Abundance Quantitation Report TIC: 891512.D

Data File : C:\INSTARCH\DATA\JUL2017\891512.D Vial: 7
Acq On : 20 Jul 2017 12:45 Operator: AGK-RLD
Sample : 139958,891512, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:06:32 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

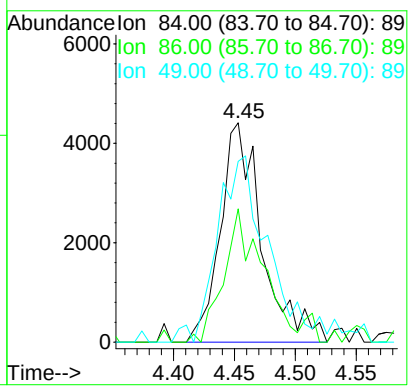




#20
Methylchlorid
Concen: 0.58 ug/L
RT: 4.45 min Scan# 456
Delta R.T. -0.00 min
Lab File: 891512.D
Acq: 20 Jul 2017 12:45

Tgt Ion: 84 Resp: 10481

Ion	Ratio	Lower	Upper
84	100		
86	56.6	43.4	83.4
49	108.4	96.8	136.8



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891323.D Vial: 8
Acq On : 20 Jul 2017 13:15 Operator: AGK-RLD
Sample : 139958,891323, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:36:07 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1362113	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1051292	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	599999	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	338505	19.623	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	94655	19.483	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.50	98	1355330	19.713	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.03	95	494739	20.042	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	6734	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	2174	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.55	67	9566	0.4882	ug/L	97
11) propyleneoxide	3.91	58	2936	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	3.82	96	7049	0.4252	ug/L	92
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	19103	N.D.		
16) Iodomethane	4.00	142	7473	N.D.		
17) Carbon Dislf	4.09	76	3636	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.46	84	2051	N.D.		
21) tbutylalcohol	4.76	59	5606	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.34	63	151206	4.9903	ug/L	99
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.07	96	184952	9.6978	ug/L	91
33) 2Butanone	6.09	72	2353	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.49	42	3217	Below Cal #		30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891323.D Vial: 8
Acq On : 20 Jul 2017 13:15 Operator: AGK-RLD
Sample : 139958,891323, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:36:07 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	6.70	97	20042	0.7137	ug/L		90
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	7.16	78	80330	1.1225	ug/L	#	81
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	7.96	95	112464	6.0839	ug/L		95
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	9.38	43	3507	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	10.32	166	19678	0.8719	ug/L		94
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	10.50	43	9244	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.39	91	2673	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	11.60	91	2517	N.D.			
76)	m p-Xylene	11.77	106	3802	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	12.85	105	2726	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	13.14	75	2992	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	13.41	91	4260	N.D.			
89)	2chlorotolue	13.41	91	4260	N.D.			
90)	4chlorotolue	13.68	91	2982	N.D.			
91)	135Trimebenz	13.68	105	2008	N.D.			
92)	tbutylbenzen	14.13	119	2459	N.D.			
93)	124Trimetben	14.23	105	3416	N.D.			
94)	sbutylbenzen	14.46	105	16363	0.2222	ug/L		90
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	14.67	119	3366	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.27	91	4588	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891323.D Vial: 8
Acq On : 20 Jul 2017 13:15 Operator: AGK-RLD
Sample : 139958,891323, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:36:07 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

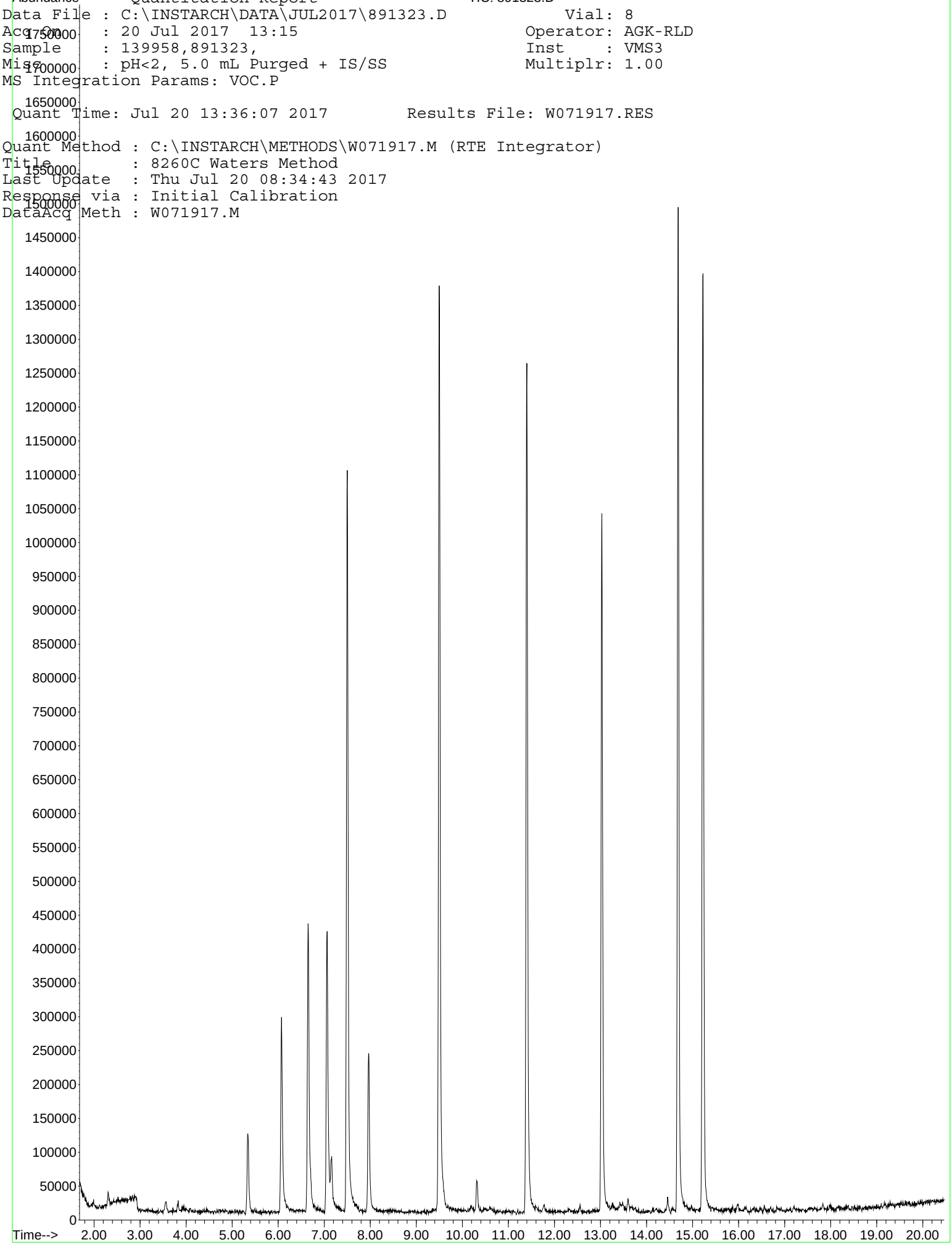
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	2787	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.84	128	6626	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

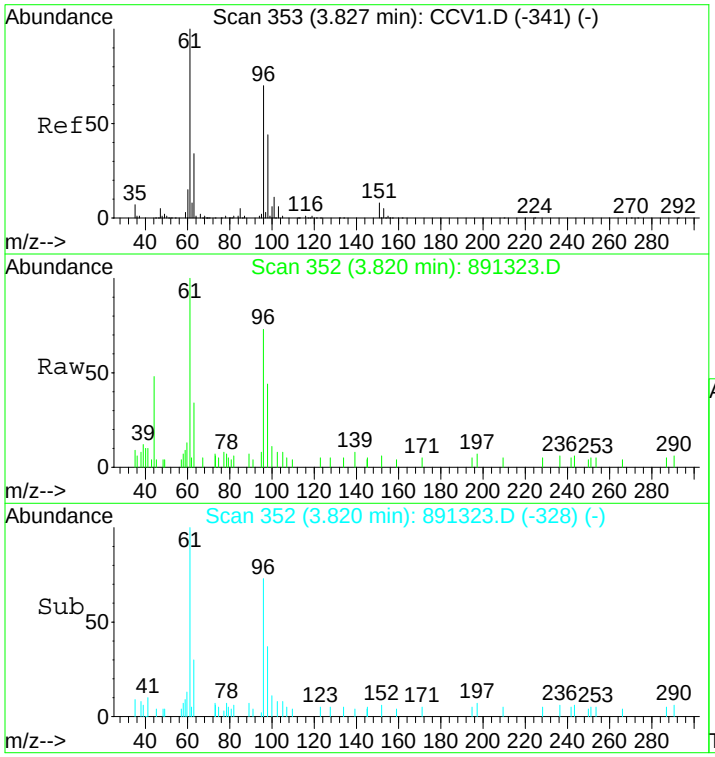
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2017\891323.D Vial: 8
Acq On : 20 Jul 2017 13:15 Operator: AGK-RLD
Sample : 139958,891323, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 13:36:07 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

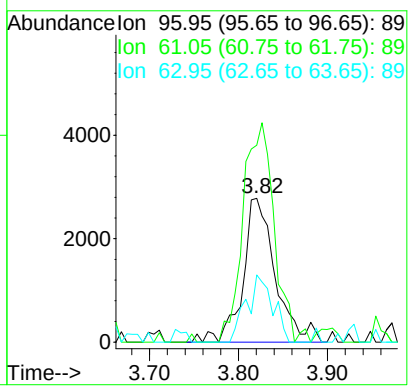


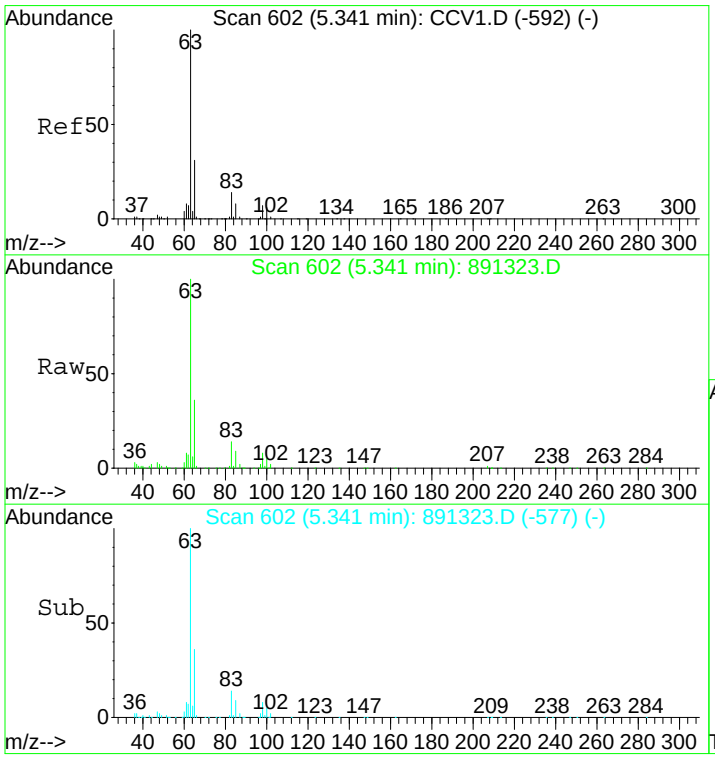


#13
11dichlorthe
Concen: 0.43 ug/L
RT: 3.82 min Scan# 352
Delta R.T. -0.01 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion: 96 Resp: 7049

Ion	Ratio	Lower	Upper
96	100		
61	145.9	131.2	171.2
63	38.1	30.8	70.8

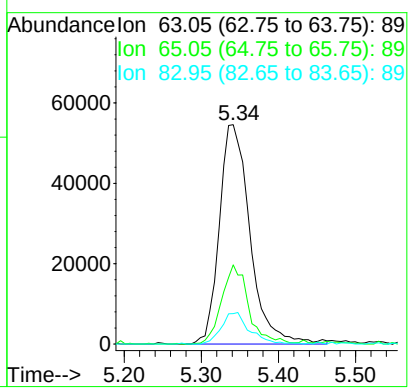


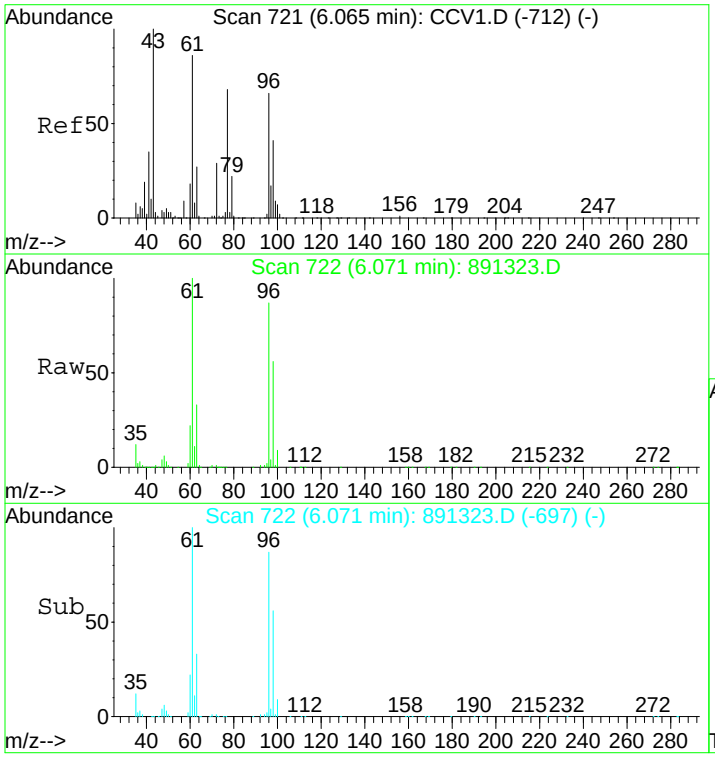


#26
11dichlorota
Concen: 4.99 ug/L
RT: 5.34 min Scan# 602
Delta R.T. -0.00 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion: 63 Resp: 151206

Ion	Ratio	Lower	Upper
63	100		
65	31.6	11.2	51.2
83	13.1	0.0	33.6

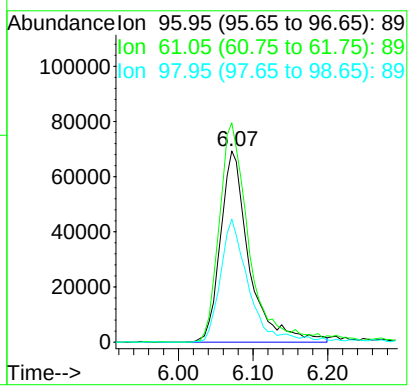


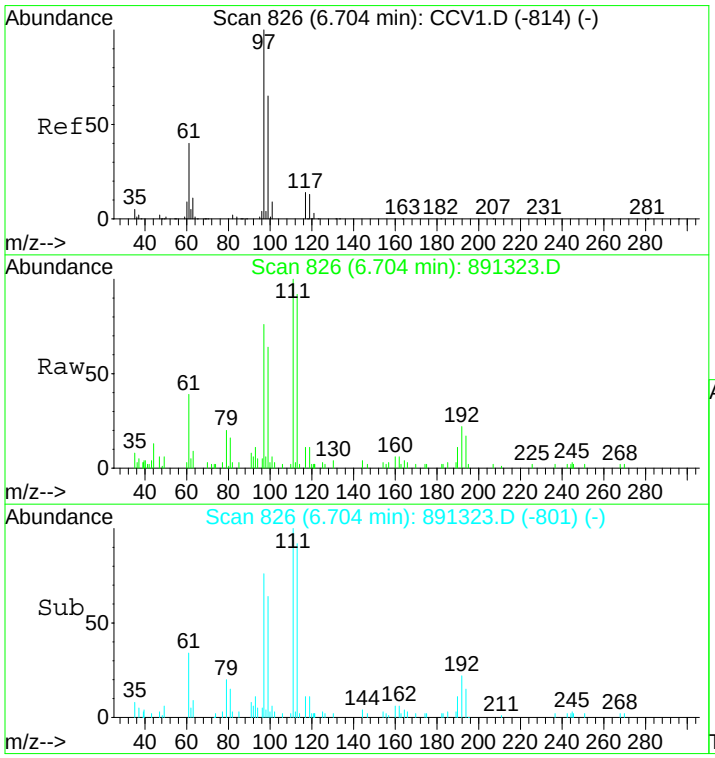


#32
c12dichlorte
Concen: 9.70 ug/L
RT: 6.07 min Scan# 722
Delta R.T. -0.00 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion: 96 Resp: 184952

Ion	Ratio	Lower	Upper
96	100		
61	118.2	112.2	152.2
98	63.4	44.7	84.7

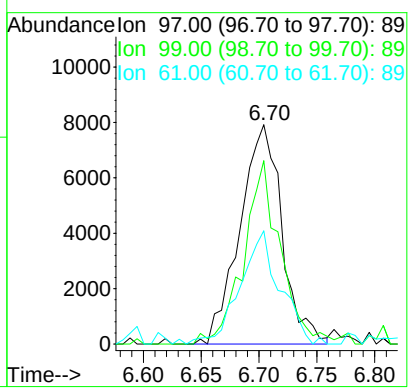


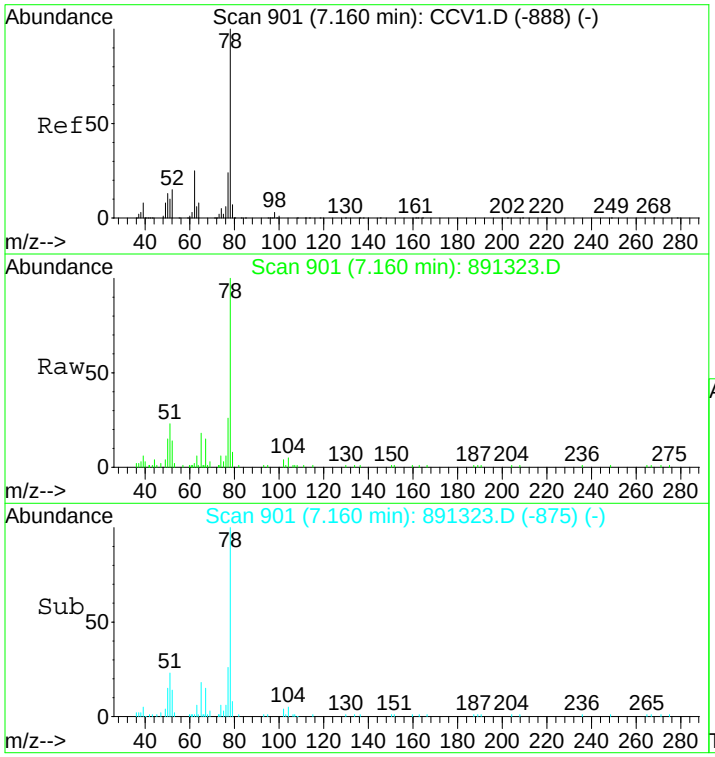


#40
111trichlota
Concen: 0.71 ug/L
RT: 6.70 min Scan# 826
Delta R.T. -0.00 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion: 97 Resp: 20042

Ion	Ratio	Lower	Upper
97	100		
99	74.1	45.5	85.5
61	49.1	23.8	63.8

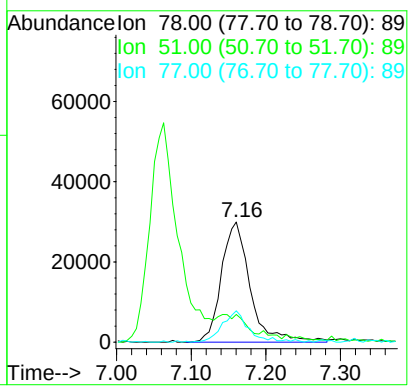


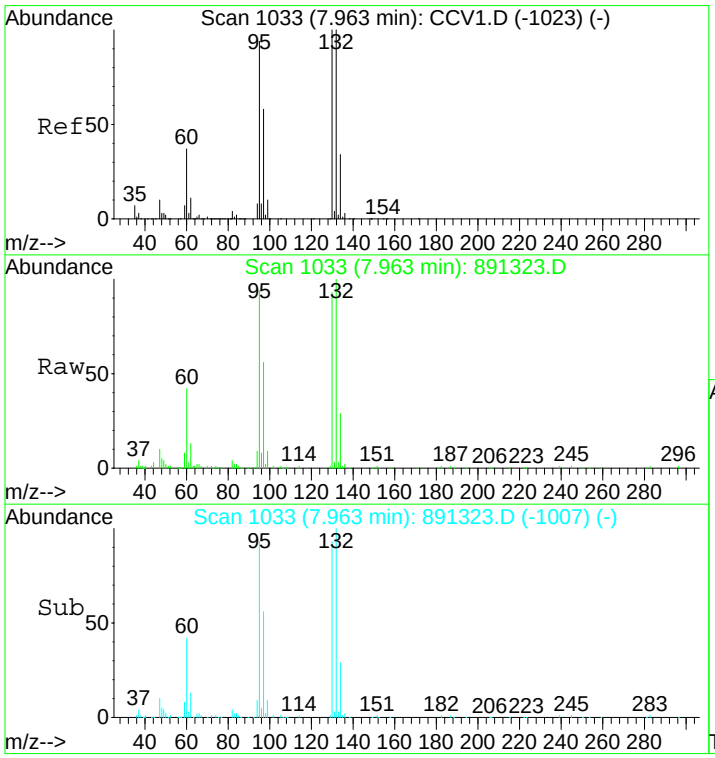


#46
Benzene
Concen: 1.12 ug/L
RT: 7.16 min Scan# 901
Delta R.T. 0.01 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion: 78 Resp: 80330

Ion	Ratio	Lower	Upper
78	100		
51	0.0	0.0	39.3
77	24.0	4.0	44.0

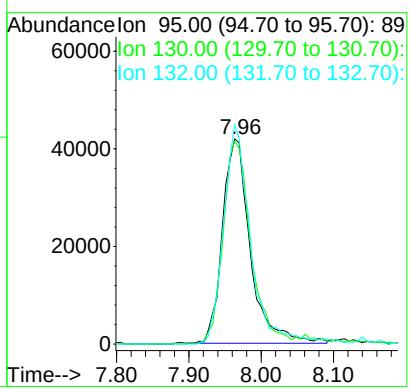


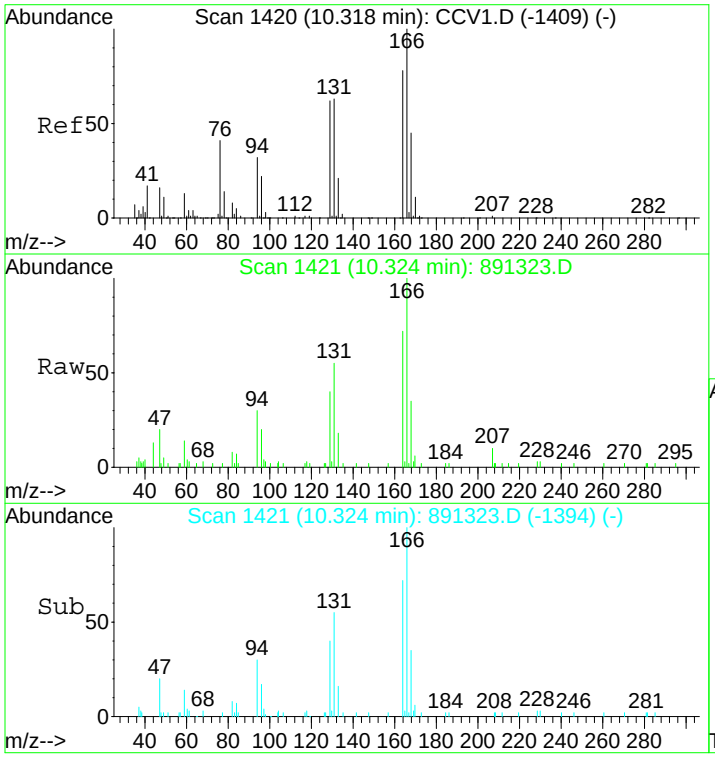


#49
trichloroete
Concen: 6.08 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. 0.01 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion: 95 Resp: 112464

Ion	Ratio	Lower	Upper
95	100		
130	101.5	88.4	128.4
132	103.6	86.2	126.2

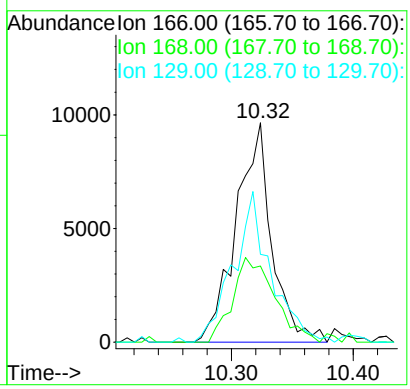




#66
Tetrachlorte
Concen: 0.87 ug/L
RT: 10.32 min Scan# 1421
Delta R.T. 0.01 min
Lab File: 891323.D
Acq: 20 Jul 2017 13:15

Tgt Ion:166 Resp: 19678

Ion	Ratio	Lower	Upper
166	100		
168	45.3	29.4	69.4
129	71.4	46.5	86.5



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891325.D Vial: 9
Acq On : 20 Jul 2017 13:45 Operator: AGK-RLD
Sample : 139958,891325, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 14:05:39 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1354432	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1042143	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	596095	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	339388	19.786	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.06	102	92602	19.168	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.50	98	1342396	19.636	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.03	95	489398	19.955	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	6303	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3402	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.55	67	9847	0.5054	ug/L	95
11) propyleneoxide	3.92	58	4340	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	3.83	96	6495	0.3940	ug/L	89
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.90	43	18292	N.D.		
16) Iodomethane	3.99	142	6627	N.D.		
17) Carbon Dislf	4.09	76	3719	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.73	59	5886	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.34	63	154865	5.1401	ug/L	97
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.07	96	186699	9.8449	ug/L	93
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.47	42	3200	Below Cal #		30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891325.D Vial: 9
Acq On : 20 Jul 2017 13:45 Operator: AGK-RLD
Sample : 139958,891325, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 14:05:39 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	6.70	97	20989	0.7517 ug/L	95
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.16	78	82609	1.1609 ug/L #	81
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	7.96	95	112938	6.1442 ug/L	97
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	9.40	43	3614	N.D.	
62) Toluene	9.58	92	2429	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	10.31	166	20496	0.9133 ug/L	97
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.40	91	2505	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.61	91	2560	N.D.	
76) m p-Xylene	11.77	106	2744	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	12.84	105	2295	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	13.43	91	4071	N.D.	
89) 2chlorotolue	13.43	91	4071	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	14.14	119	2654	N.D.	
93) 124Trimetben	14.21	105	3456	N.D.	
94) sbutylbenzen	14.45	105	17247	0.2357 ug/L	96
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	14.69	119	2862	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	15.26	146	2151	N.D.	
99) nButylbenzen	15.28	91	3985	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891325.D Vial: 9
Acq On : 20 Jul 2017 13:45 Operator: AGK-RLD
Sample : 139958,891325, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 14:05:39 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

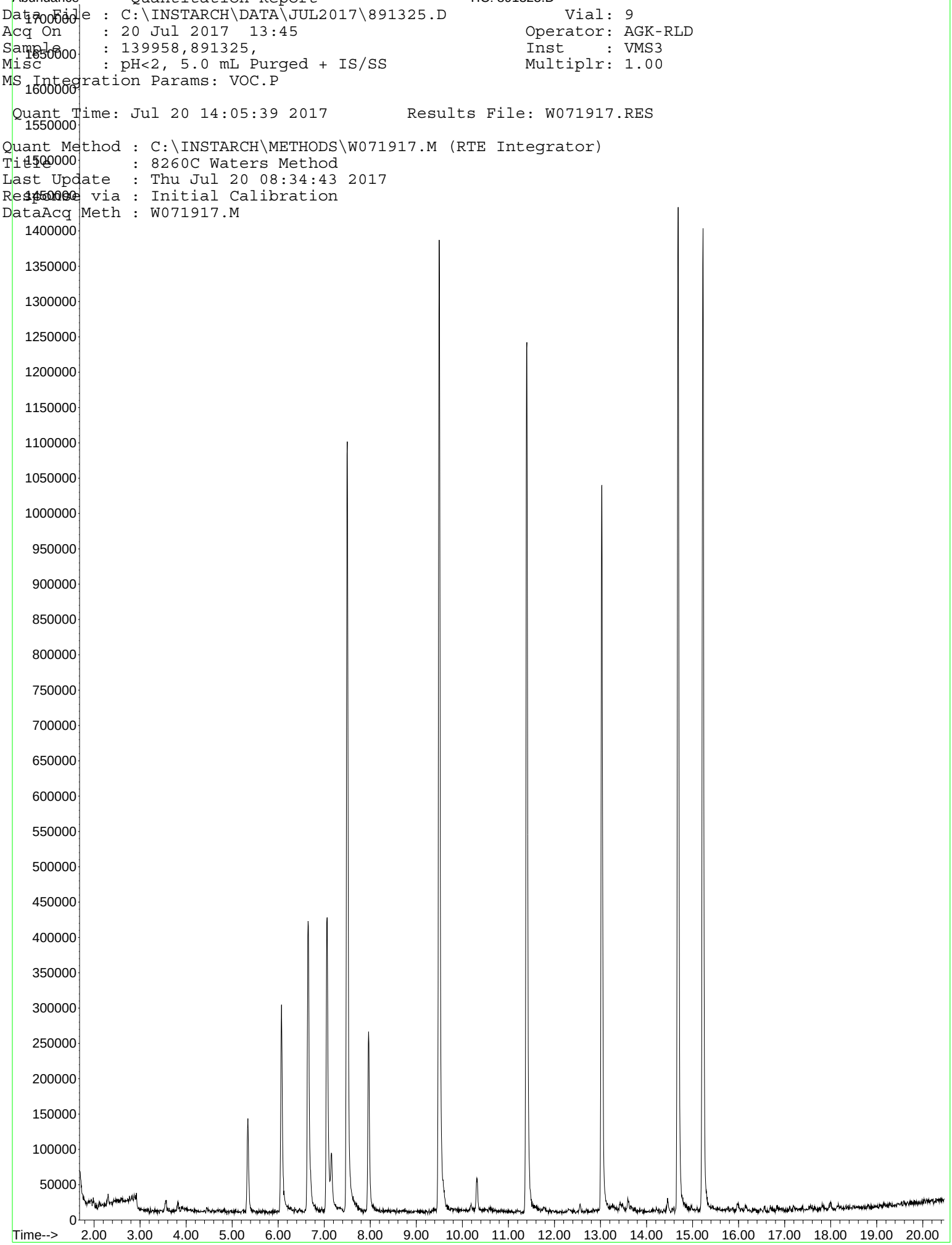
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.82	128	5571	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

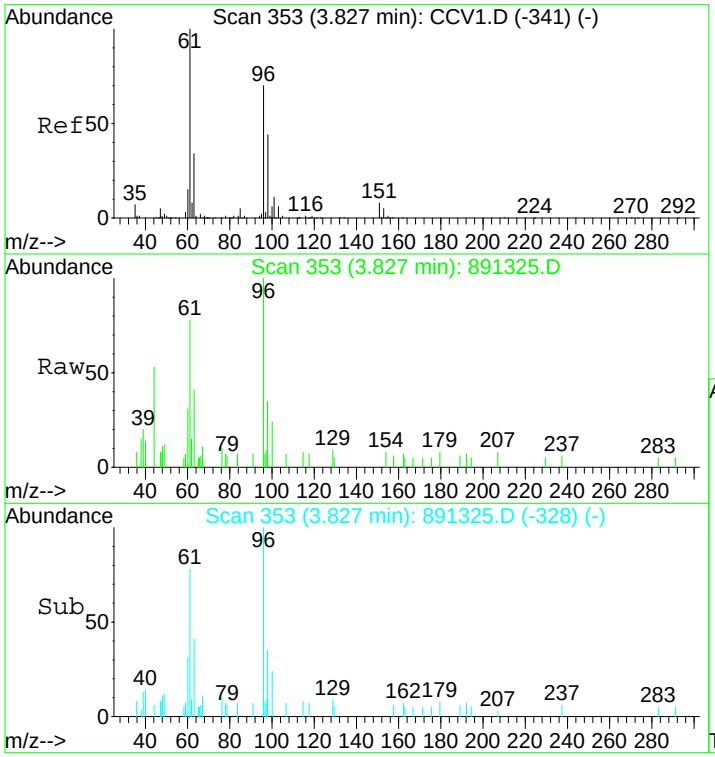
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2017\891325.D Vial: 9
Acq On : 20 Jul 2017 13:45 Operator: AGK-RLD
Sample : 139958,891325, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 14:05:39 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

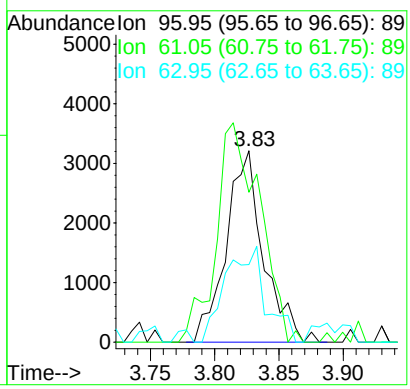


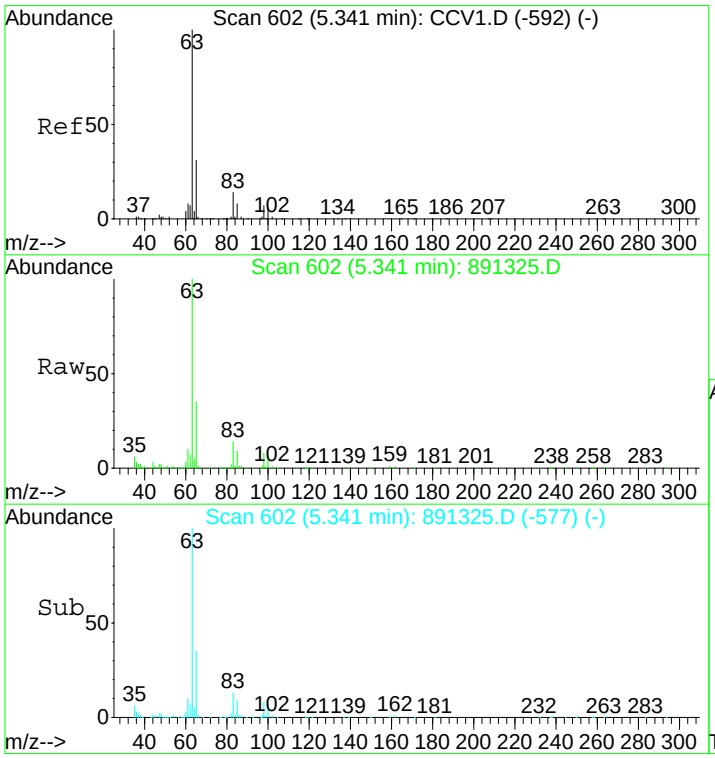


#13
11dichlorthe
Concen: 0.39 ug/L
RT: 3.83 min Scan# 353
Delta R.T. -0.00 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion: 96 Resp: 6495

Ion	Ratio	Lower	Upper
96	100		
61	133.6	131.2	171.2
63	53.6	30.8	70.8

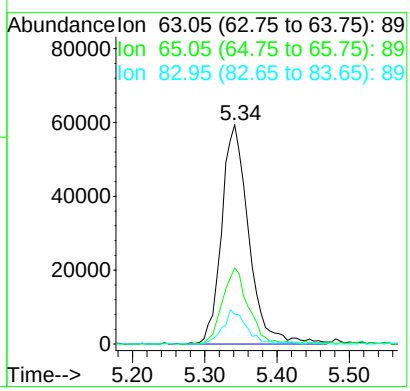


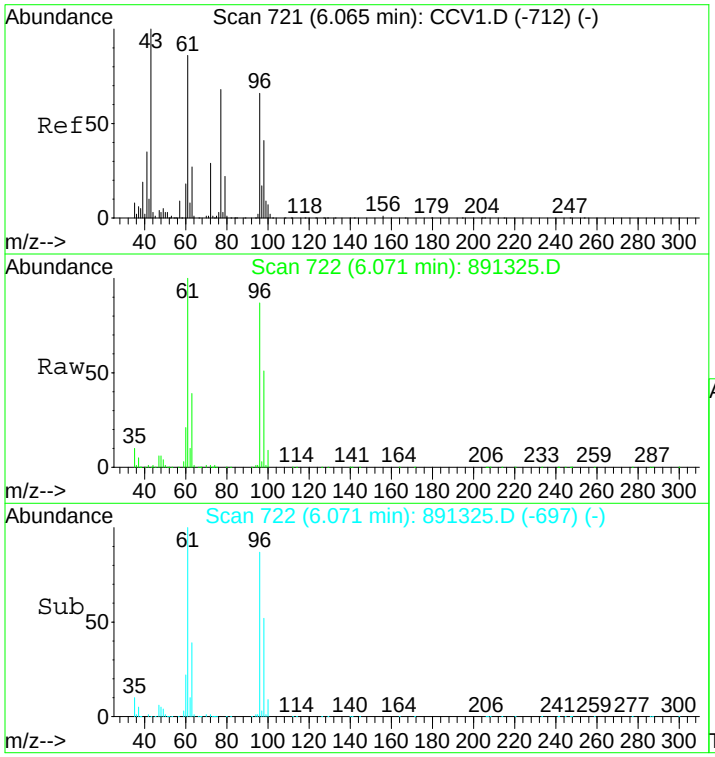


#26
11dichlorota
Concen: 5.14 ug/L
RT: 5.34 min Scan# 602
Delta R.T. -0.00 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion: 63 Resp: 154865

Ion	Ratio	Lower	Upper
63	100		
65	33.2	11.2	51.2
83	13.9	0.0	33.6

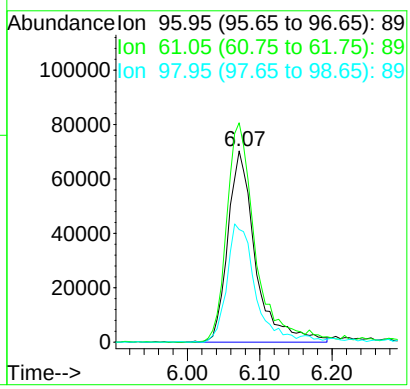


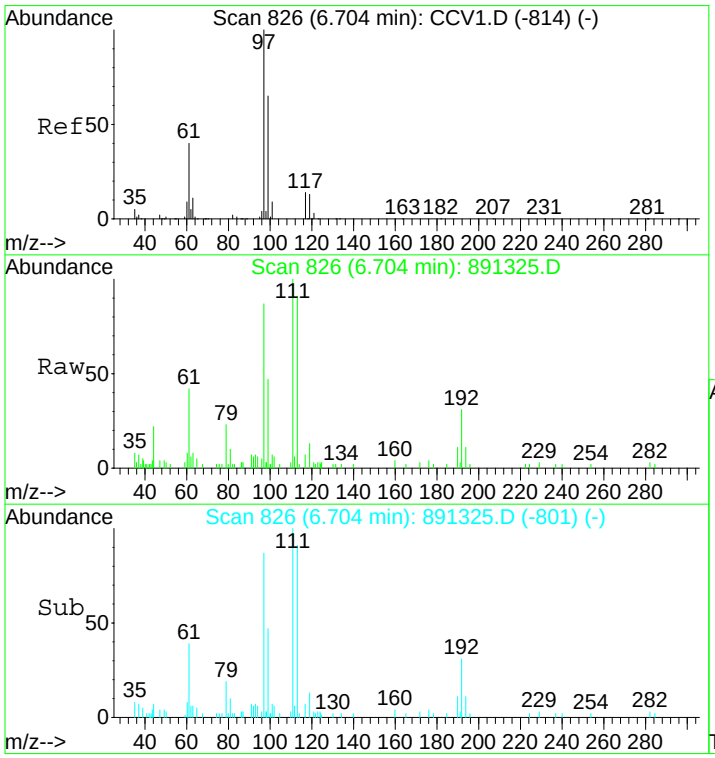


#32
c12dichlorte
Concen: 9.84 ug/L
RT: 6.07 min Scan# 722
Delta R.T. -0.00 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion: 96 Resp: 186699

Ion	Ratio	Lower	Upper
96	100		
61	119.5	112.2	152.2
98	64.4	44.7	84.7

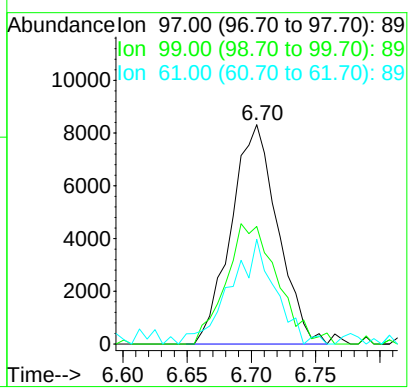


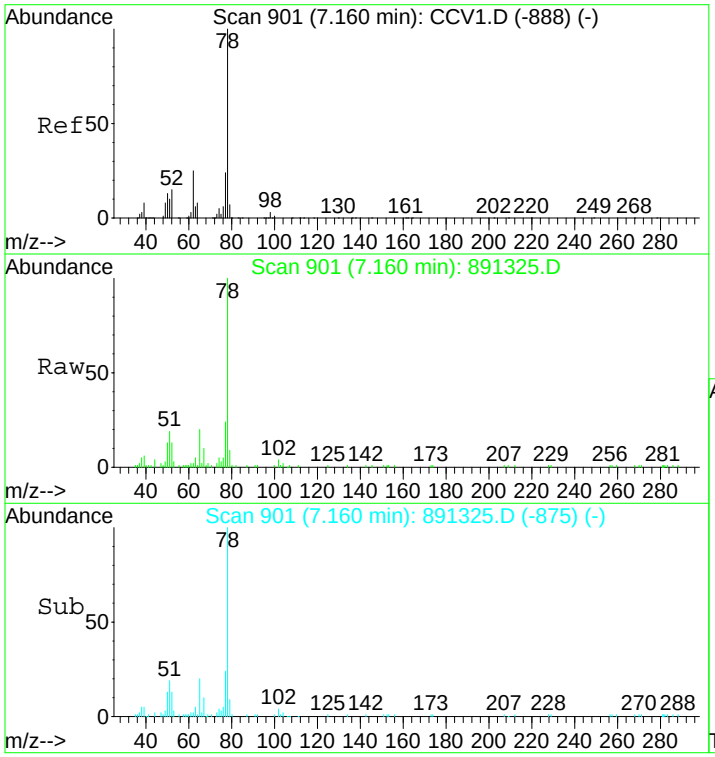


#40
111trichlota
Concen: 0.75 ug/L
RT: 6.70 min Scan# 826
Delta R.T. -0.00 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion: 97 Resp: 20989

Ion	Ratio	Lower	Upper
97	100		
99	60.5	45.5	85.5
61	45.9	23.8	63.8

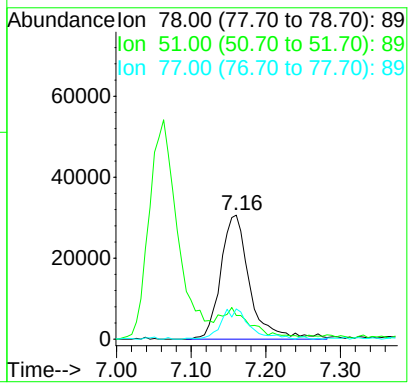


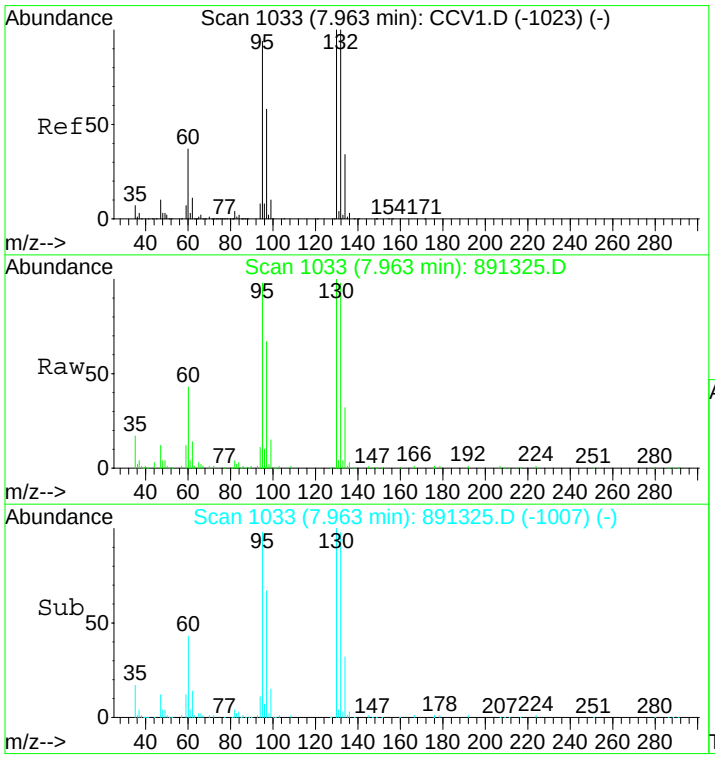


#46
Benzene
Concen: 1.16 ug/L
RT: 7.16 min Scan# 901
Delta R.T. 0.01 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion: 78 Resp: 82609

Ion	Ratio	Lower	Upper
78	100		
51	0.0	0.0	39.3
77	24.3	4.0	44.0

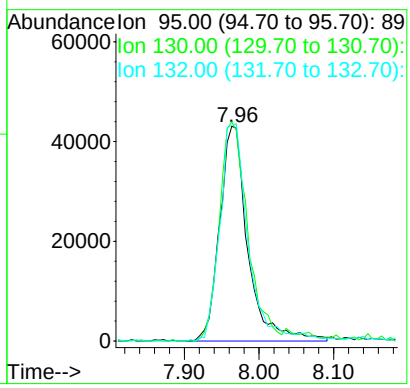


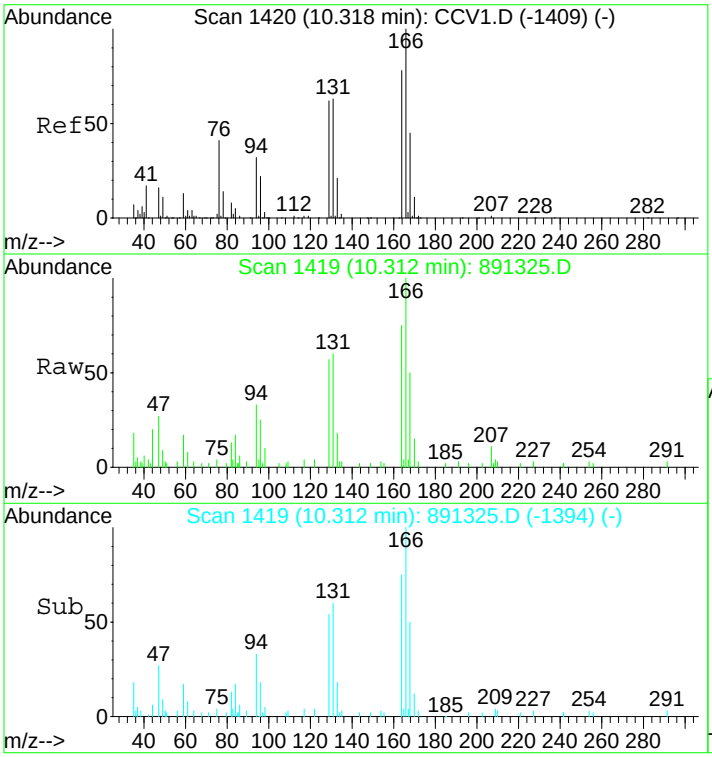


#49
trichloroete
Concen: 6.14 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. 0.01 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion: 95 Resp: 112938

Ion	Ratio	Lower	Upper
95	100		
130	106.3	88.4	128.4
132	101.8	86.2	126.2

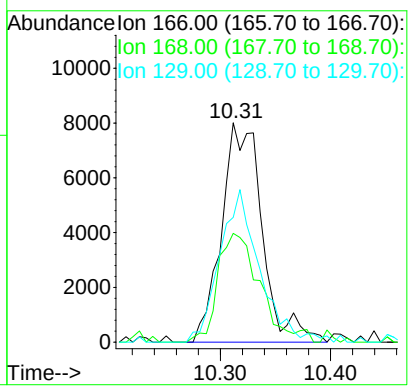




#66
Tetrachlorte
Concen: 0.91 ug/L
RT: 10.31 min Scan# 1419
Delta R.T. -0.00 min
Lab File: 891325.D
Acq: 20 Jul 2017 13:45

Tgt Ion:166 Resp: 20496

Ion	Ratio	Lower	Upper
166	100		
168	51.6	29.4	69.4
129	68.6	46.5	86.5



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891327.D Vial: 10
Acq On : 20 Jul 2017 14:14 Operator: AGK-RLD
Sample : 139958,891327, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 14:35:18 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1370565	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1052295	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	593875	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	344774	19.863	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.06	102	93354	19.096	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.50	98	1341801	19.396	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.03	95	497506	20.362	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	6466	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	3365	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.56	67	4992	0.2532	ug/L #	70
11) propyleneoxide	3.91	58	4572	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	3.83	96	3146	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	14860	N.D.		
16) Iodomethane	4.00	142	4268	N.D.		
17) Carbon Dislf	4.09	76	3669	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.47	84	2167	N.D.		
21) tbutylalcohol	4.68	59	2620	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.34	63	22006	0.7218	ug/L	95
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	35006	1.8242	ug/L	88
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.45	42	3694	Below Cal	#	30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891327.D Vial: 10
Acq On : 20 Jul 2017 14:14 Operator: AGK-RLD
Sample : 139958,891327, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 14:35:18 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.70	97	6276	0.2221 ug/L	85
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.15	78	2488	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	7.96	95	32205	1.7314 ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.39	43	2623	N.D.	
62)	Toluene	9.59	92	4891	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.32	166	2672	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.46	43	2251	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.39	91	2113	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.60	91	7589	N.D.	
76)	m p-Xylene	11.78	106	13414	N.D.	
77)	o-Xylene	12.32	106	4866	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	12.83	105	2076	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.44	91	2763	N.D.	
89)	2chlorotolue	13.44	91	2763	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.22	105	4035	N.D.	
94)	sbutylbenzen	14.47	105	2571	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.67	119	3944	N.D.	
97)	14dichlorobe	14.71	146	2147	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.28	91	2263	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

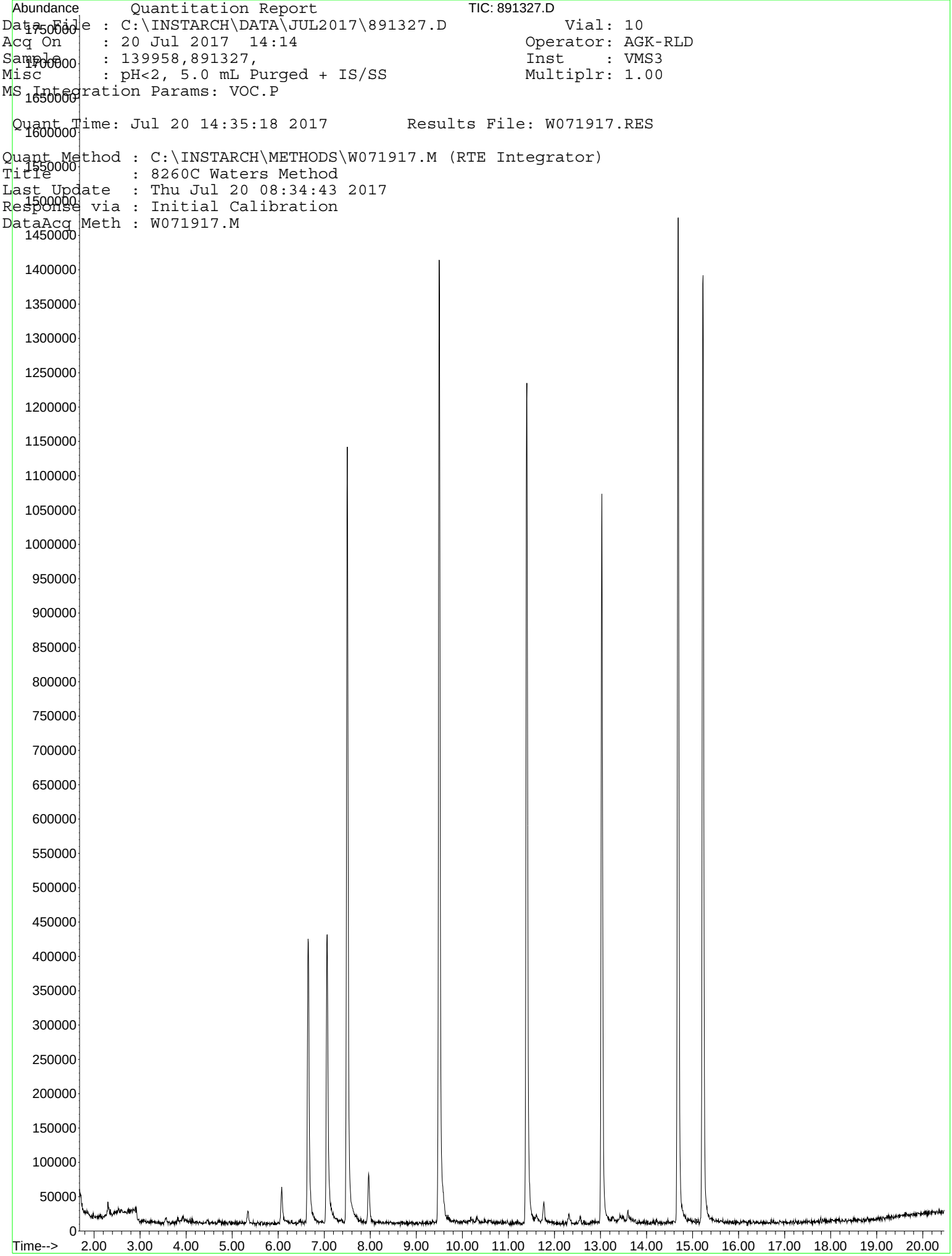
Data File : C:\INSTARCH\DATA\JUL2017\891327.D Vial: 10
Acq On : 20 Jul 2017 14:14 Operator: AGK-RLD
Sample : 139958,891327, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

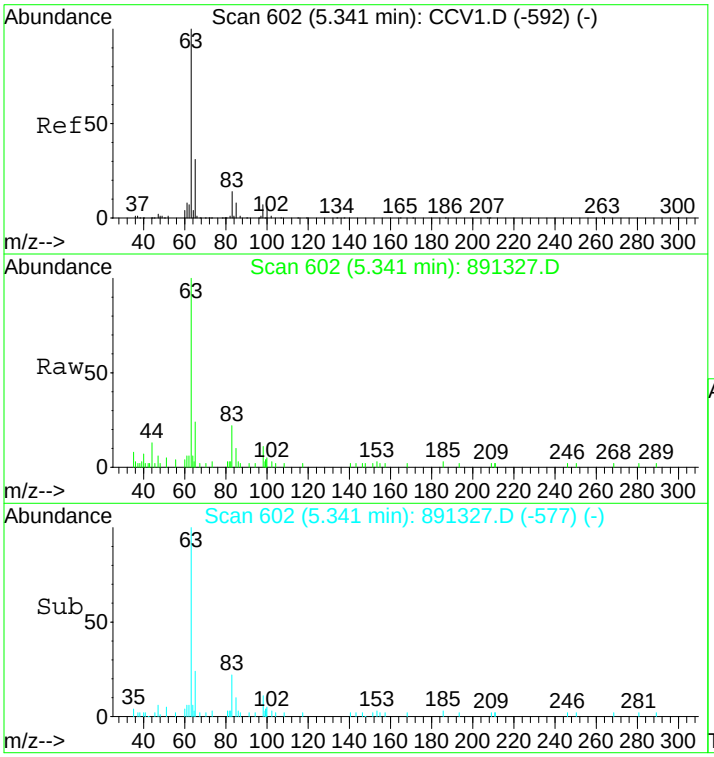
Quant Time: Jul 20 14:35:18 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.84	128	5245	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

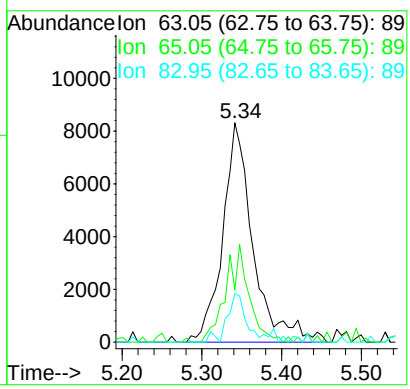

Abundance
Quantitation Report
TIC: 891327.D
Data File : C:\INSTARCH\DATA\JUL2017\891327.D
Vial: 10
Acq On : 20 Jul 2017 14:14
Operator: AGK-RLD
Sample : 139958,891327,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jul 20 14:35:18 2017
Results File: W071917.RES
Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
Time-->

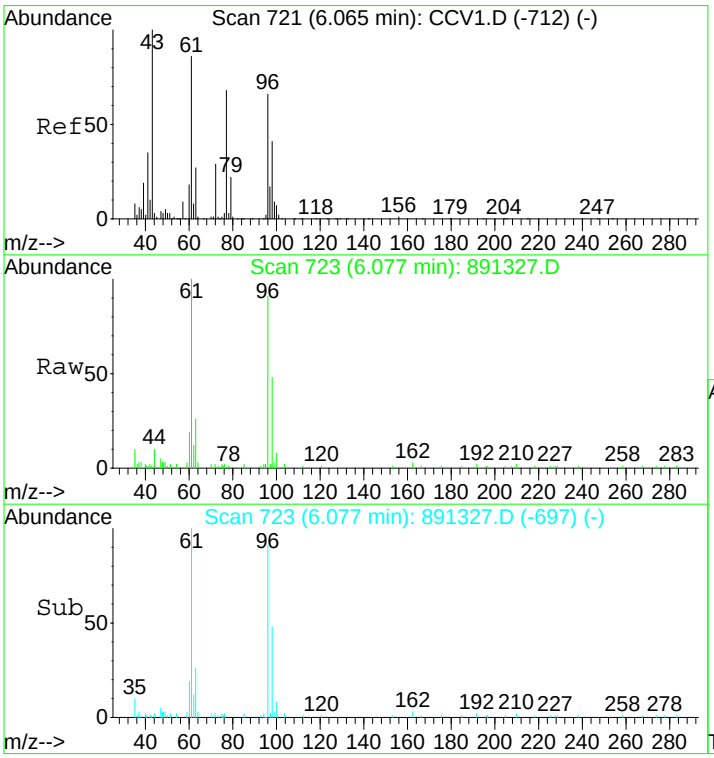


#26
11dichlorota
Concen: 0.72 ug/L
RT: 5.34 min Scan# 602
Delta R.T. -0.00 min
Lab File: 891327.D
Acq: 20 Jul 2017 14:14

Tgt Ion: 63 Resp: 22006

Ion	Ratio	Lower	Upper
63	100		
65	33.6	11.2	51.2
83	15.6	0.0	33.6

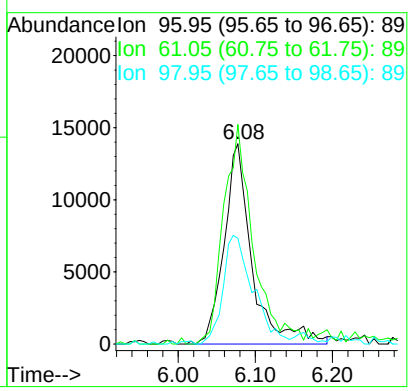


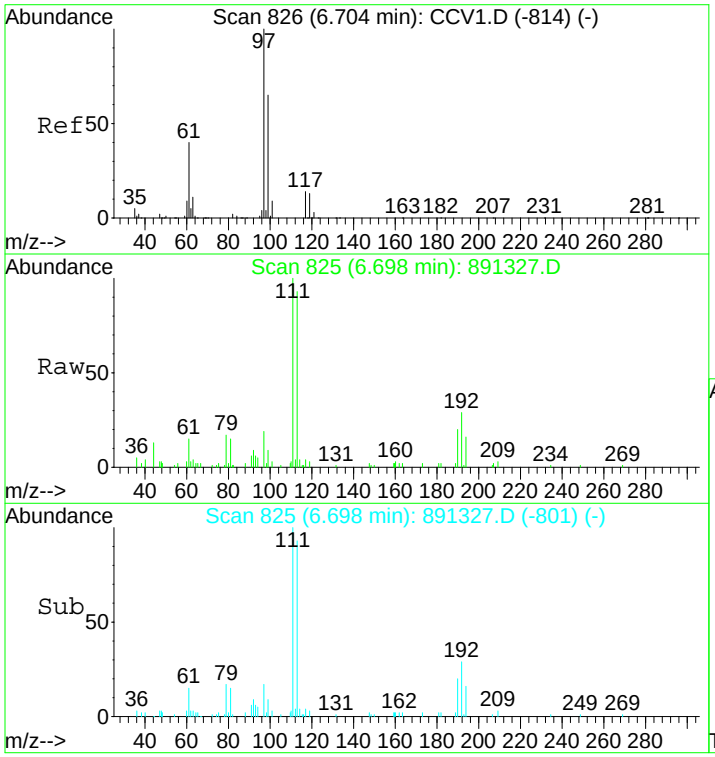


#32
c12dichlorte
Concen: 1.82 ug/L
RT: 6.08 min Scan# 723
Delta R.T. 0.01 min
Lab File: 891327.D
Acq: 20 Jul 2017 14:14

Tgt Ion: 96 Resp: 35006

Ion	Ratio	Lower	Upper
96	100		
61	115.7	112.2	152.2
98	58.4	44.7	84.7

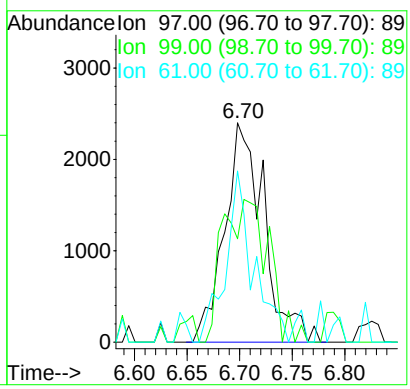


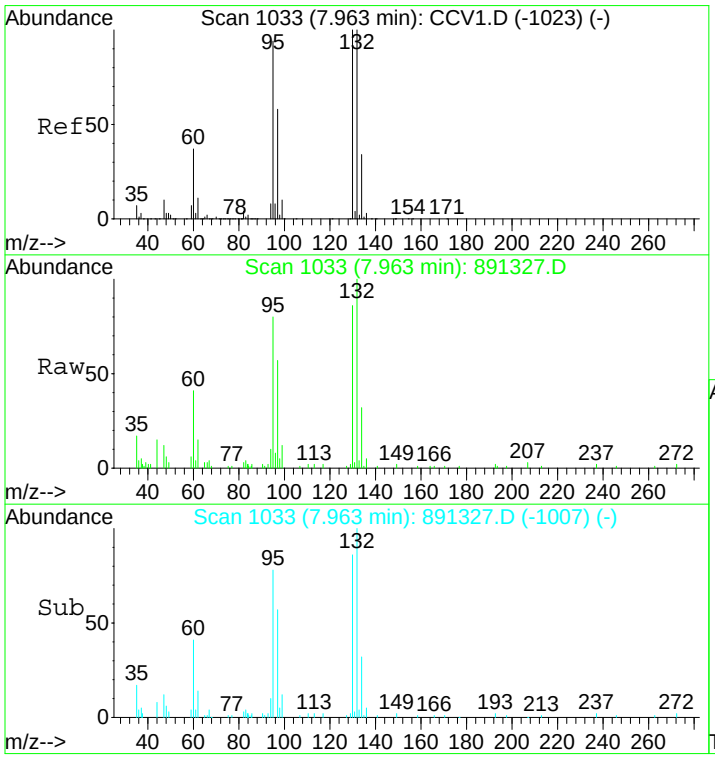


#40
111trichlota
Concen: 0.22 ug/L
RT: 6.70 min Scan# 825
Delta R.T. -0.01 min
Lab File: 891327.D
Acq: 20 Jul 2017 14:14

Tgt Ion: 97 Resp: 6276

Ion	Ratio	Lower	Upper
97	100		
99	76.2	45.5	85.5
61	54.2	23.8	63.8

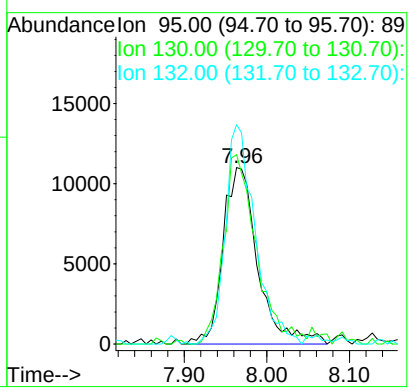




#49
trichloroete
Concen: 1.73 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. 0.01 min
Lab File: 891327.D
Acq: 20 Jul 2017 14:14

Tgt Ion: 95 Resp: 32205

Ion	Ratio	Lower	Upper
95	100		
130	101.7	88.4	128.4
132	106.0	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891329.D Vial: 11
Acq On : 20 Jul 2017 14:44 Operator: AGK-RLD
Sample : 139958,891329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:05:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1382724	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1071121	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	597638	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	345871	19.751	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.06	102	99925	20.261	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.50	98	1387425	19.879	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.03	95	504595	20.522	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	6656	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	2215	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.55	67	23574	1.1852	ug/L	97
11) propyleneoxide	3.94	58	4588	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.86	101	17594	1.1458	ug/L	99
15) Acetone	3.93	43	11694	N.D.		
16) Iodomethane	4.00	142	3580	N.D.		
17) Carbon Dislf	4.09	76	2810	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	3461	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	23956	1.2374	ug/L	92
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891329.D Vial: 11
Acq On : 20 Jul 2017 14:44 Operator: AGK-RLD
Sample : 139958,891329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:05:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.46	83	11195	0.3551 ug/L	93
40)	111trichlota	6.71	97	5766	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	6.92	119	76313	3.5075 ug/L	100
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.16	78	2592	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	7.96	95	6909	0.3682 ug/L	86
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.58	92	6246	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.47	43	2730	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.39	91	3400	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.61	91	8967	N.D.	
76)	m p-Xylene	11.77	106	14269	N.D.	
77)	o-Xylene	12.31	106	5840	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.43	91	3576	N.D.	
89)	2chlorotolue	13.43	91	3576	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.20	105	3207	N.D.	
94)	sbutylbenzen	14.45	105	2924	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.69	119	2660	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.29	91	2356	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891329.D Vial: 11
Acq On : 20 Jul 2017 14:44 Operator: AGK-RLD
Sample : 139958,891329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:05:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

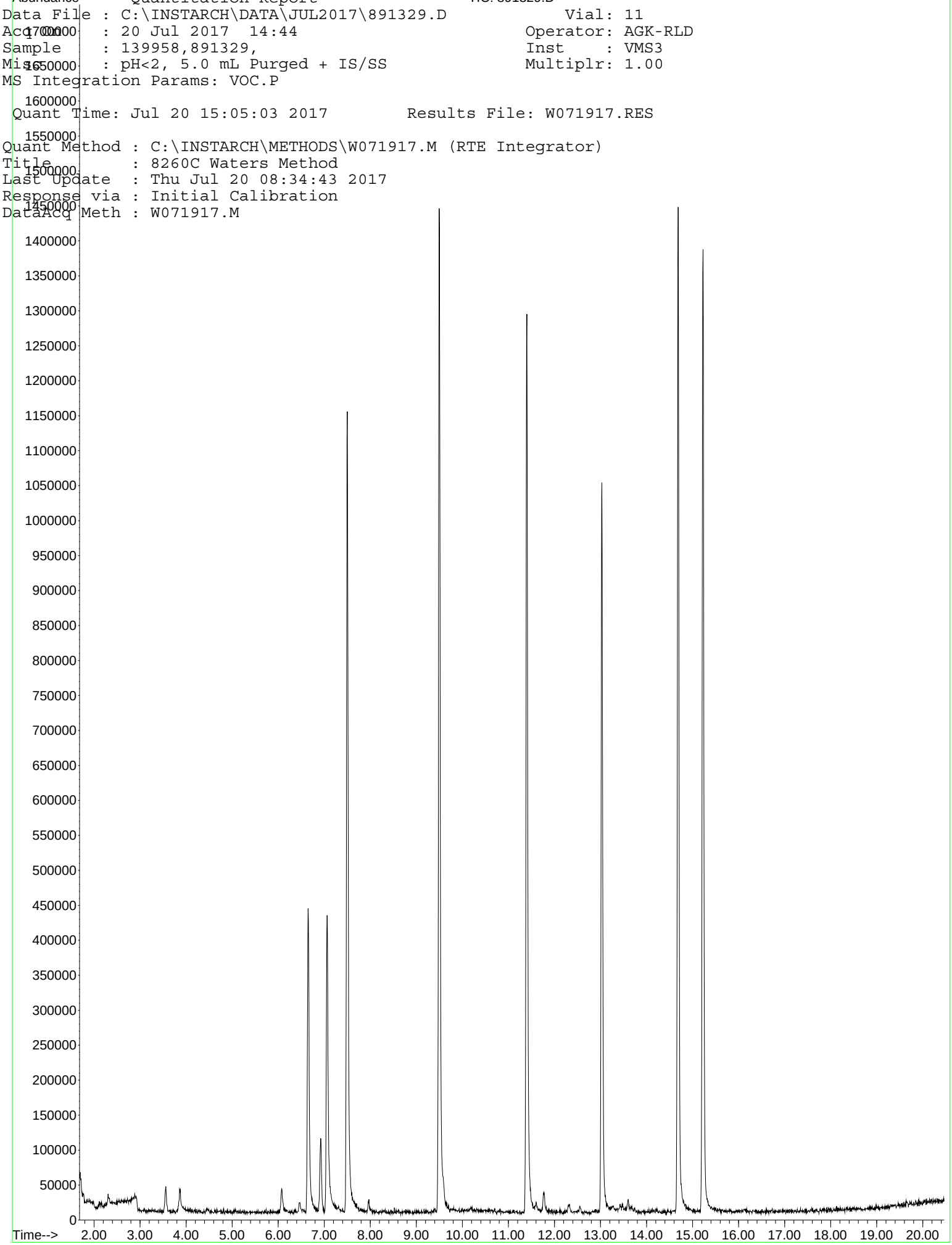
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.85	128	4221	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

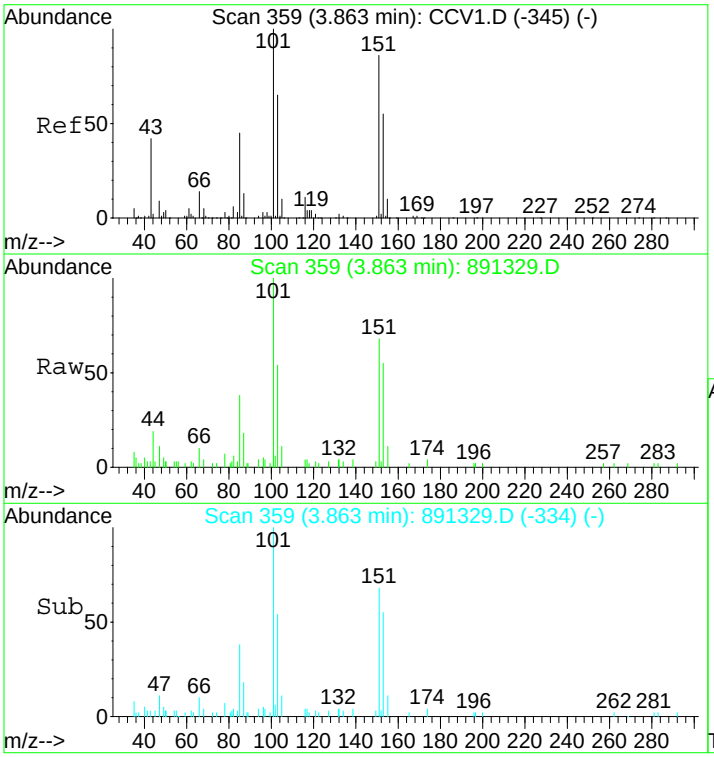
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2017\891329.D Vial: 11
Acq On : 20 Jul 2017 14:44 Operator: AGK-RLD
Sample : 139958,891329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:05:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

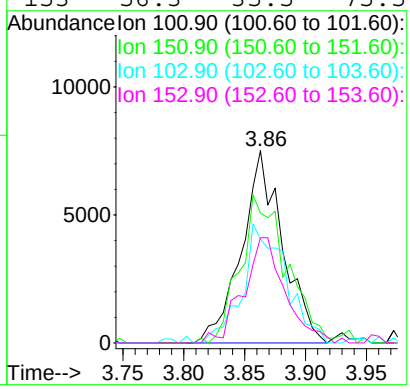


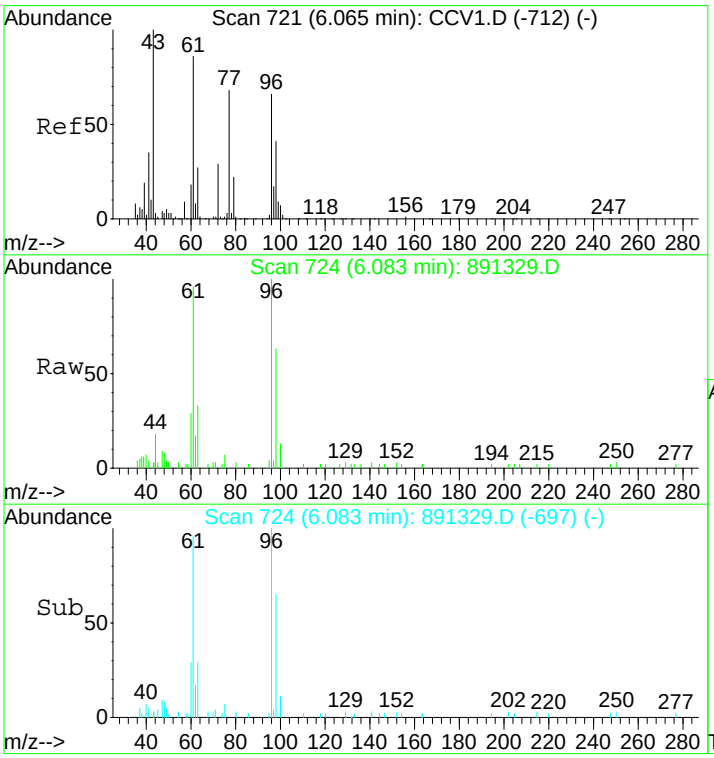


#14
Trichlorotfluoroeth
Concen: 1.15 ug/L
RT: 3.86 min Scan# 359
Delta R.T. -0.00 min
Lab File: 891329.D
Acq: 20 Jul 2017 14:44

Tgt Ion:101 Resp: 17594

Ion	Ratio	Lower	Upper
101	100		
151	87.3	66.4	106.4
103	65.2	43.3	83.3
153	56.3	35.5	75.5

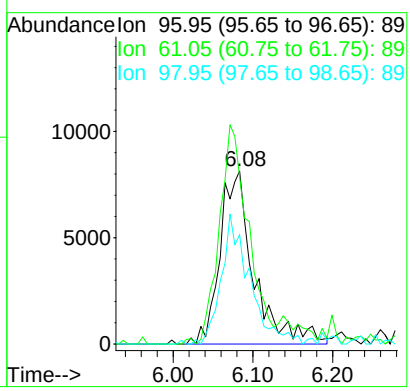


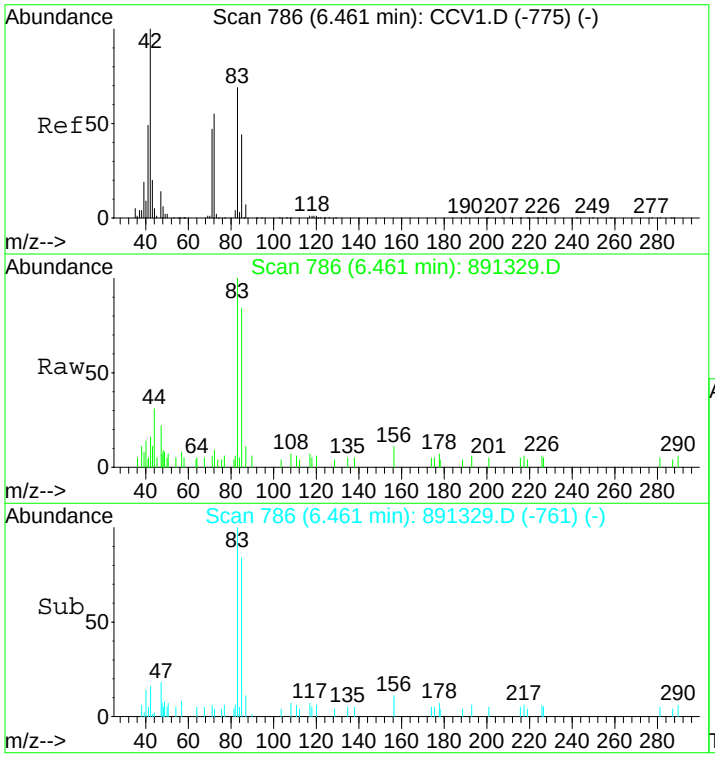


#32
c12dichlorte
Concen: 1.24 ug/L
RT: 6.08 min Scan# 724
Delta R.T. 0.01 min
Lab File: 891329.D
Acq: 20 Jul 2017 14:44

Tgt Ion: 96 Resp: 23956

Ion	Ratio	Lower	Upper
96	100		
61	119.5	112.2	152.2
98	62.9	44.7	84.7

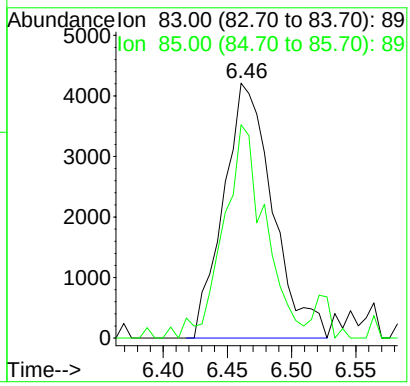


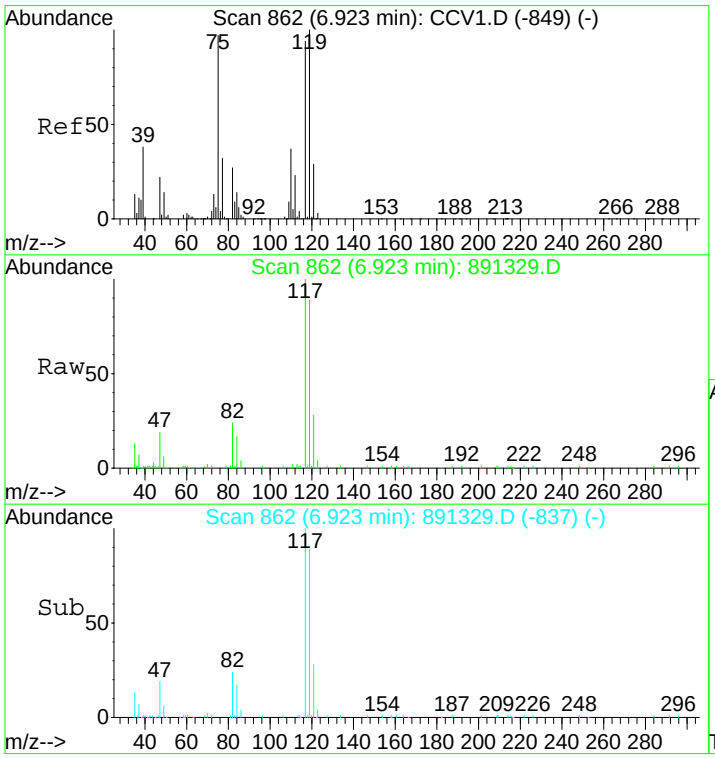


#39
Chloroform
Concen: 0.36 ug/L
RT: 6.46 min Scan# 786
Delta R.T. -0.00 min
Lab File: 891329.D
Acq: 20 Jul 2017 14:44

Tgt Ion: 83 Resp: 11195

Ion	Ratio	Lower	Upper
83	100		
85	71.1	45.6	85.6

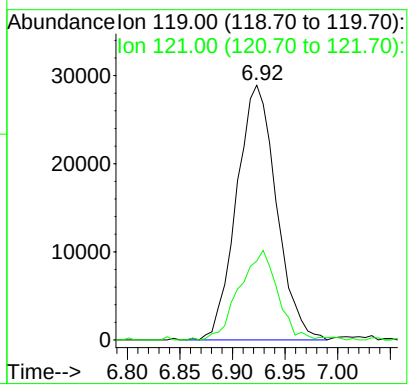


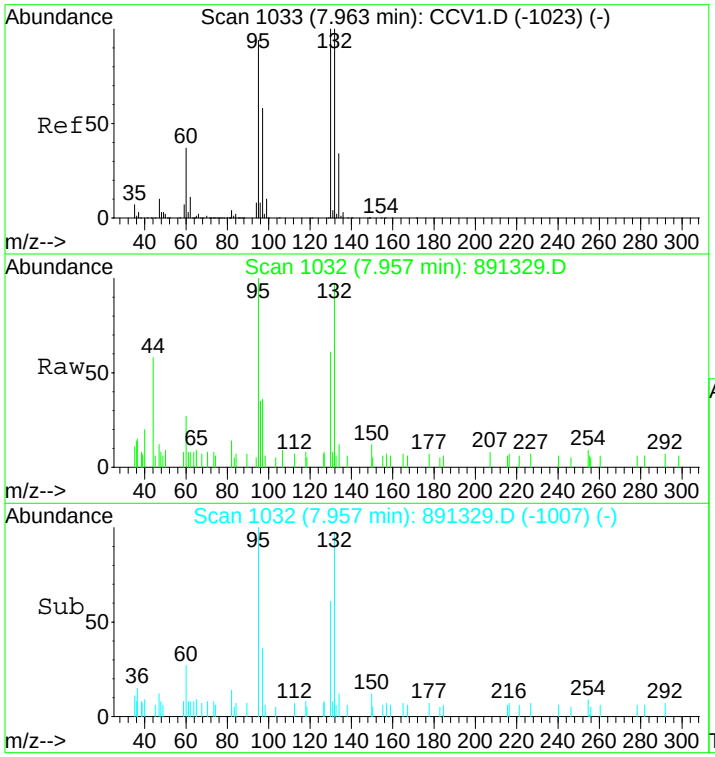


#43
Carbtetraclo
Concen: 3.51 ug/L
RT: 6.92 min Scan# 862
Delta R.T. -0.00 min
Lab File: 891329.D
Acq: 20 Jul 2017 14:44

Tgt Ion:119 Resp: 76313

Ion	Ratio	Lower	Upper
119	100		
121	34.2	14.0	54.0

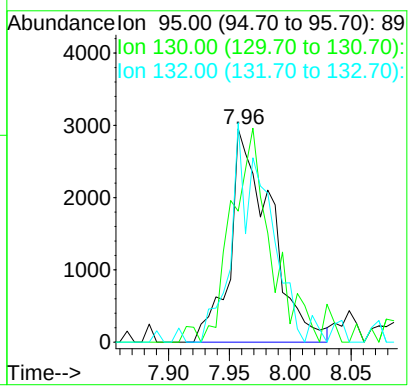




#49
trichloroete
Concen: 0.37 ug/L
RT: 7.96 min Scan# 1032
Delta R.T. -0.00 min
Lab File: 891329.D
Acq: 20 Jul 2017 14:44

Tgt Ion: 95 Resp: 6909

Ion	Ratio	Lower	Upper
95	100		
130	94.7	88.4	128.4
132	90.6	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891331.D Vial: 12
Acq On : 20 Jul 2017 15:14 Operator: AGK-RLD
Sample : 139958,891331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:34:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1406829	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1070110	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	595249	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	351980	19.756	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.06	102	98757	19.681	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.50	98	1377778	19.403	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.03	95	506575	20.685	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	7507	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	2909	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	12223	N.D.		
16) Iodomethane	4.00	142	4885	N.D.		
17) Carbon Dislf	4.08	76	4439	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	2807	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	16195	0.8222	ug/L #	85
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.51	42	2893	Below Cal	#	30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891331.D Vial: 12
Acq On : 20 Jul 2017 15:14 Operator: AGK-RLD
Sample : 139958,891331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:34:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.16	78	2528	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.98	95	4419	0.2315	ug/L	96
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.58	92	4734	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.53	43	4872	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.40	91	3136	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.61	91	6093	N.D.		
76)	m p-Xylene	11.77	106	10161	N.D.		
77)	o-Xylene	12.32	106	3778	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	13.18	75	2347	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.43	91	3106	N.D.		
89)	2chlorotolue	13.43	91	3035	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.22	105	2764	N.D.		
94)	sbutylbenzen	14.45	105	2215	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.69	119	2496	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.25	91	2081	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891331.D Vial: 12
Acq On : 20 Jul 2017 15:14 Operator: AGK-RLD
Sample : 139958,891331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:34:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	3232	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

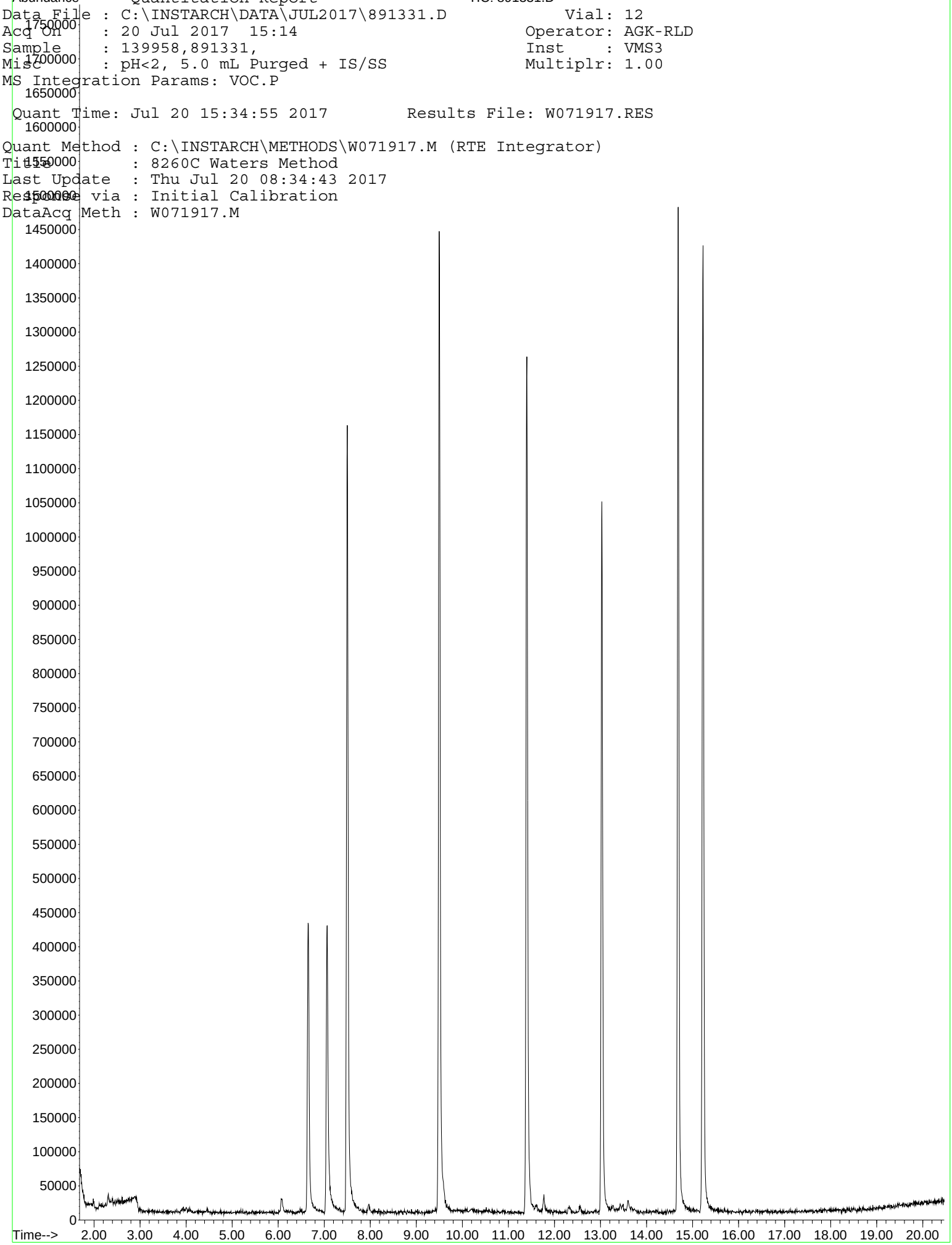
(#) = qualifier out of range (m) = manual integration

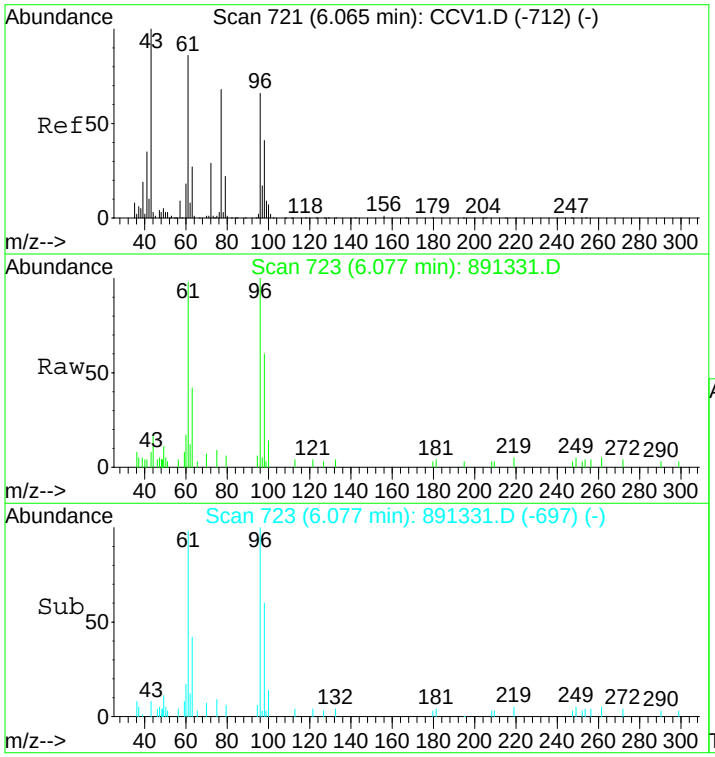
Abundance Quantitation Report TIC: 891331.D

Data File : C:\INSTARCH\DATA\JUL2017\891331.D Vial: 12
Acq On : 20 Jul 2017 15:14 Operator: AGK-RLD
Sample : 139958,891331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 15:34:55 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

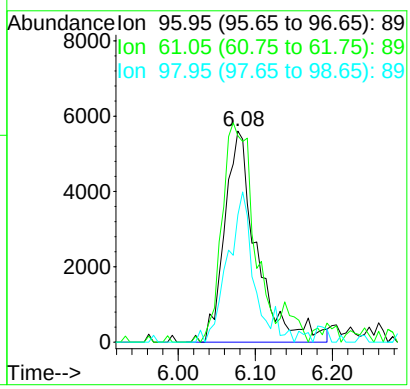


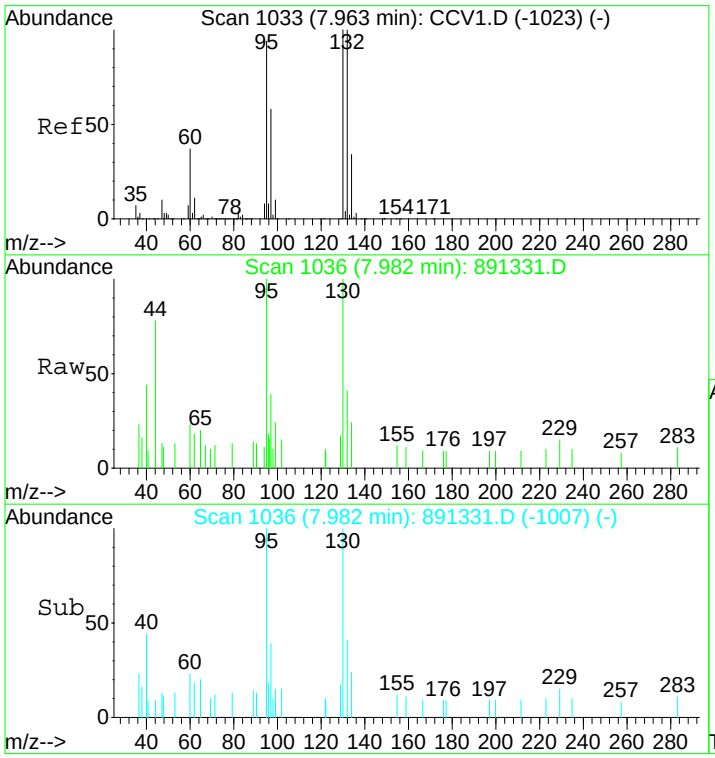


#32
c12dichlorte
Concen: 0.82 ug/L
RT: 6.08 min Scan# 723
Delta R.T. 0.01 min
Lab File: 891331.D
Acq: 20 Jul 2017 15:14

Tgt Ion: 96 Resp: 16195

Ion	Ratio	Lower	Upper
96	100		
61	110.8	112.2	152.2#
98	58.5	44.7	84.7

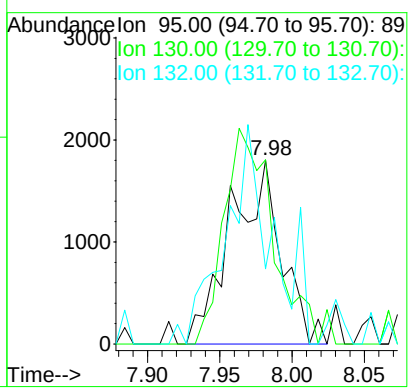




#49
trichloroete
Concen: 0.23 ug/L
RT: 7.98 min Scan# 1036
Delta R.T. 0.02 min
Lab File: 891331.D
Acq: 20 Jul 2017 15:14

Tgt Ion: 95 Resp: 4419

Ion	Ratio	Lower	Upper
95	100		
130	115.1	88.4	128.4
132	108.4	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891333.D Vial: 13
Acq On : 20 Jul 2017 15:44 Operator: AGK-RLD
Sample : 139958,891333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 16:04:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1412390	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1084254	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	608043	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	349206	19.523	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	97304	19.315	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.50	98	1384759	19.424	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.03	95	503512	20.128	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	5666	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.96	43	7715	N.D.		
16) Iodomethane	4.00	142	4439	N.D.		
17) Carbon Dislf	4.09	76	3357	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	3393	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	17387	0.8792	ug/L	89
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891333.D Vial: 13
Acq On : 20 Jul 2017 15:44 Operator: AGK-RLD
Sample : 139958,891333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 16:04:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.15	78	2523	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	7.98	95	4767	0.2487 ug/L	90
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.59	92	5293	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.41	91	3067	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.60	91	6580	N.D.	
76)	m p-Xylene	11.78	106	10075	N.D.	
77)	o-Xylene	12.31	106	3433	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.45	91	2430	N.D.	
89)	2chlorotolue	13.45	91	2430	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.22	105	2054	N.D.	
94)	sbutylbenzen	14.47	105	2355	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.67	119	2085	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.21	91	2428	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

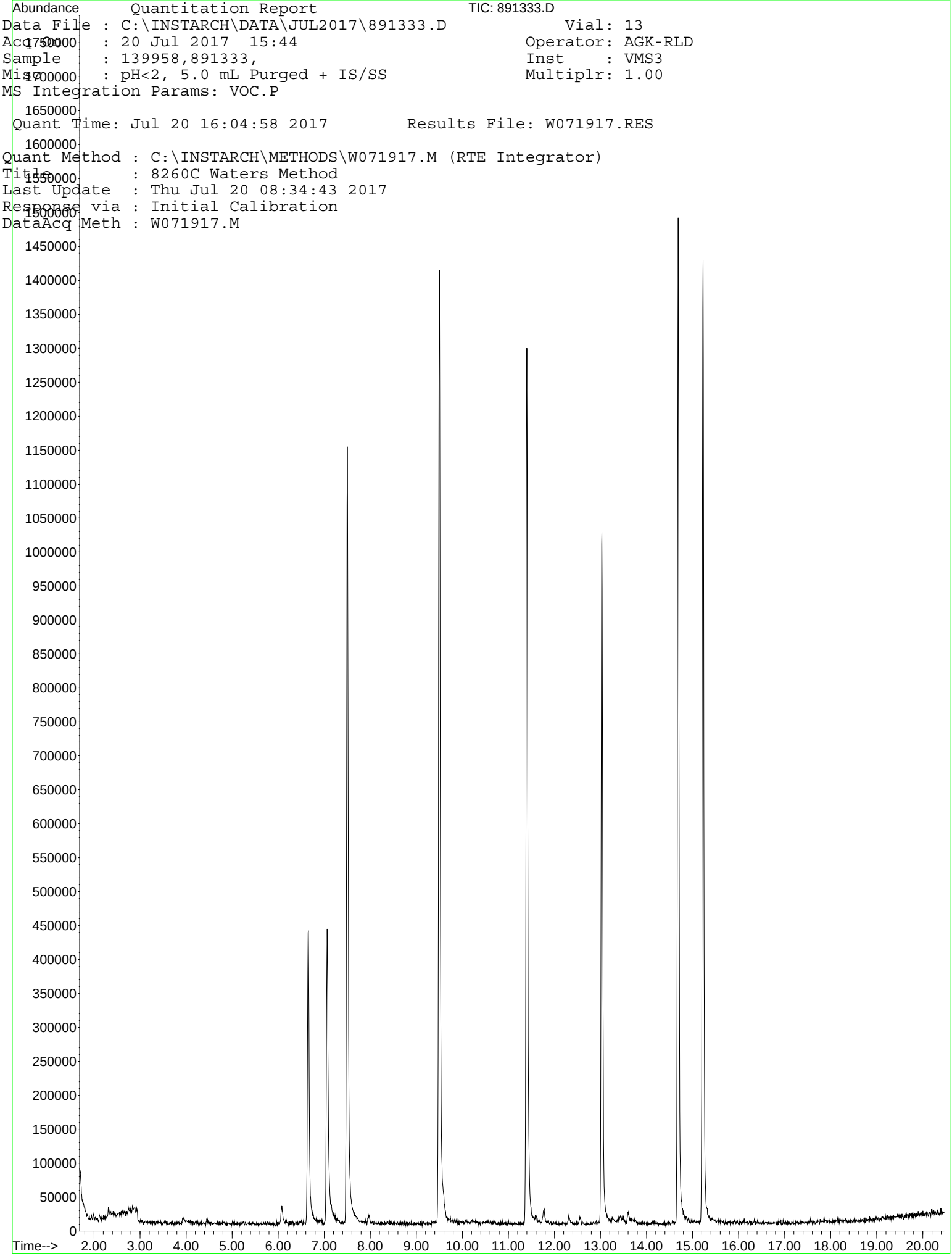
Data File : C:\INSTARCH\DATA\JUL2017\891333.D Vial: 13
Acq On : 20 Jul 2017 15:44 Operator: AGK-RLD
Sample : 139958,891333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

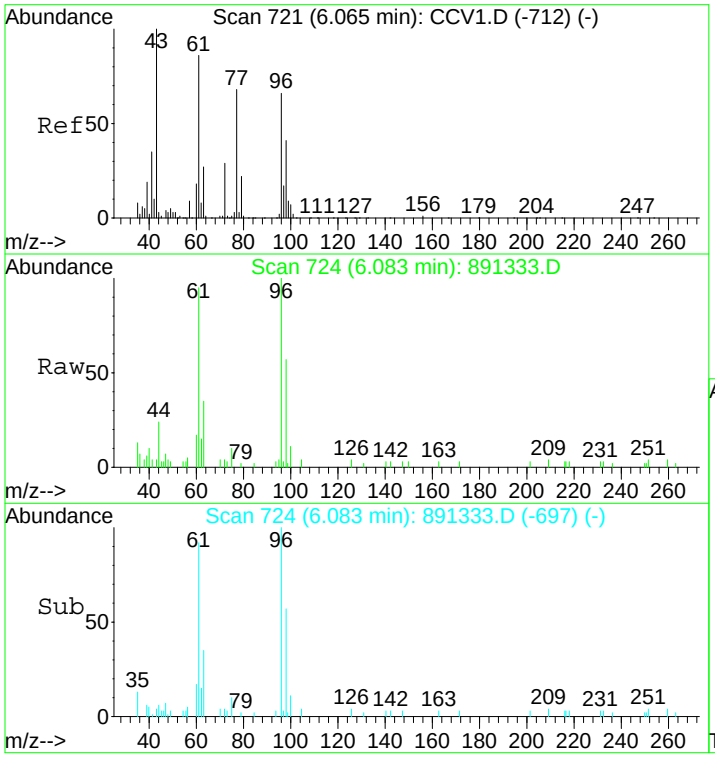
Quant Time: Jul 20 16:04:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

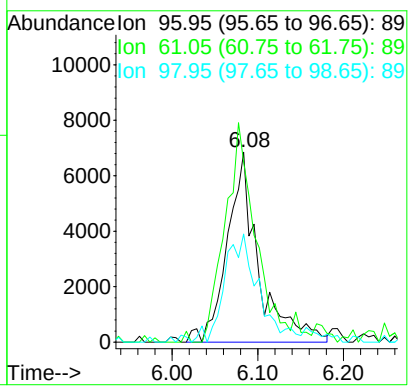

Abundance
Quantitation Report
TIC: 891333.D
Data File : C:\INSTARCH\DATA\JUL2017\891333.D
Vial: 13
Acq : 20 Jul 2017 15:44
Operator: AGK-RLD
Sample : 139958,891333,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jul 20 16:04:58 2017
Results File: W071917.RES
Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
Time-->

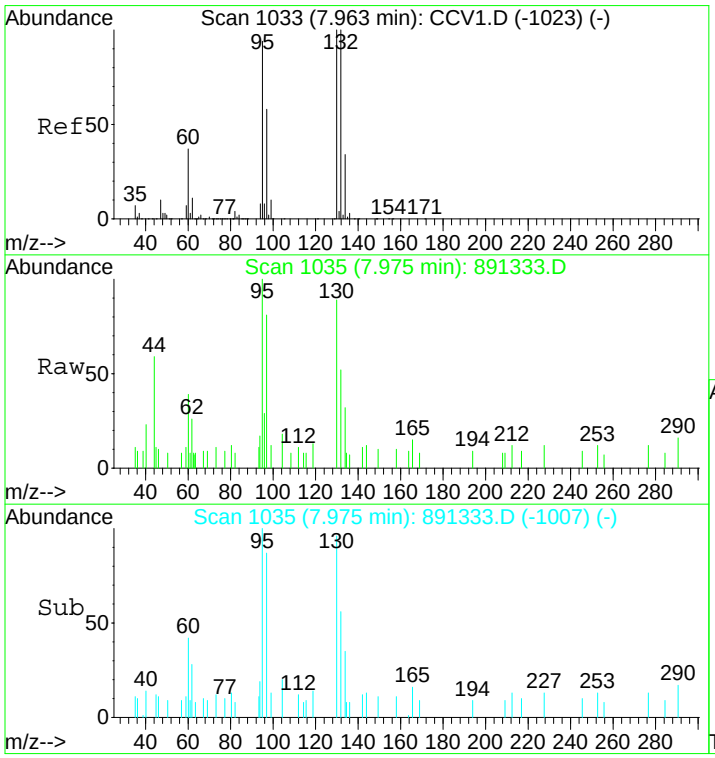


#32
c12dichlorte
Concen: 0.88 ug/L
RT: 6.08 min Scan# 724
Delta R.T. 0.01 min
Lab File: 891333.D
Acq: 20 Jul 2017 15:44

Tgt Ion: 96 Resp: 17387

Ion	Ratio	Lower	Upper
96	100		
61	115.2	112.2	152.2
98	61.7	44.7	84.7

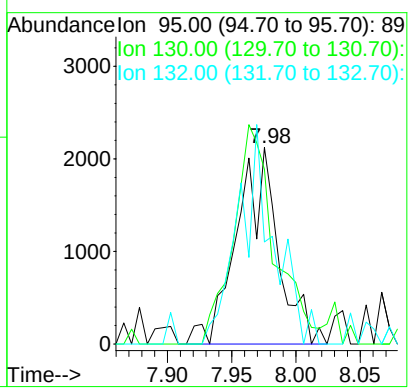




#49
trichloroete
Concen: 0.25 ug/L
RT: 7.98 min Scan# 1035
Delta R.T. 0.02 min
Lab File: 891333.D
Acq: 20 Jul 2017 15:44

Tgt Ion: 95 Resp: 4767

Ion	Ratio	Lower	Upper
95	100		
130	118.3	88.4	128.4
132	94.6	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891335.D Vial: 14
Acq On : 20 Jul 2017 16:14 Operator: AGK-RLD
Sample : 139958,891335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 16:35:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1410772	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1083182	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	625848	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	350303	19.607	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	95868	19.052	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.50	98	1406552	19.753	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.03	95	517124	20.084	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	7298	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.62	94	2997	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	3479	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	14247	N.D.		
16) Iodomethane	4.01	142	6522	N.D.		
17) Carbon Dislf	4.08	76	3705	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	2525	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	8315	0.4210	ug/L	91
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.45	42	3781	Below Cal #		30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891335.D Vial: 14
Acq On : 20 Jul 2017 16:14 Operator: AGK-RLD
Sample : 139958,891335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 16:35:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.93	119	2097	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.96	95	43801	2.2878	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.59	92	2184	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.40	91	3270	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	13.13	75	3477	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.41	91	2711	N.D.		
89)	2chlorotolue	13.41	91	2711	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	14.47	105	2358	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.67	119	2528	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.28	91	2524	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891335.D Vial: 14
Acq On : 20 Jul 2017 16:14 Operator: AGK-RLD
Sample : 139958,891335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 16:35:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.89	128	2450	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

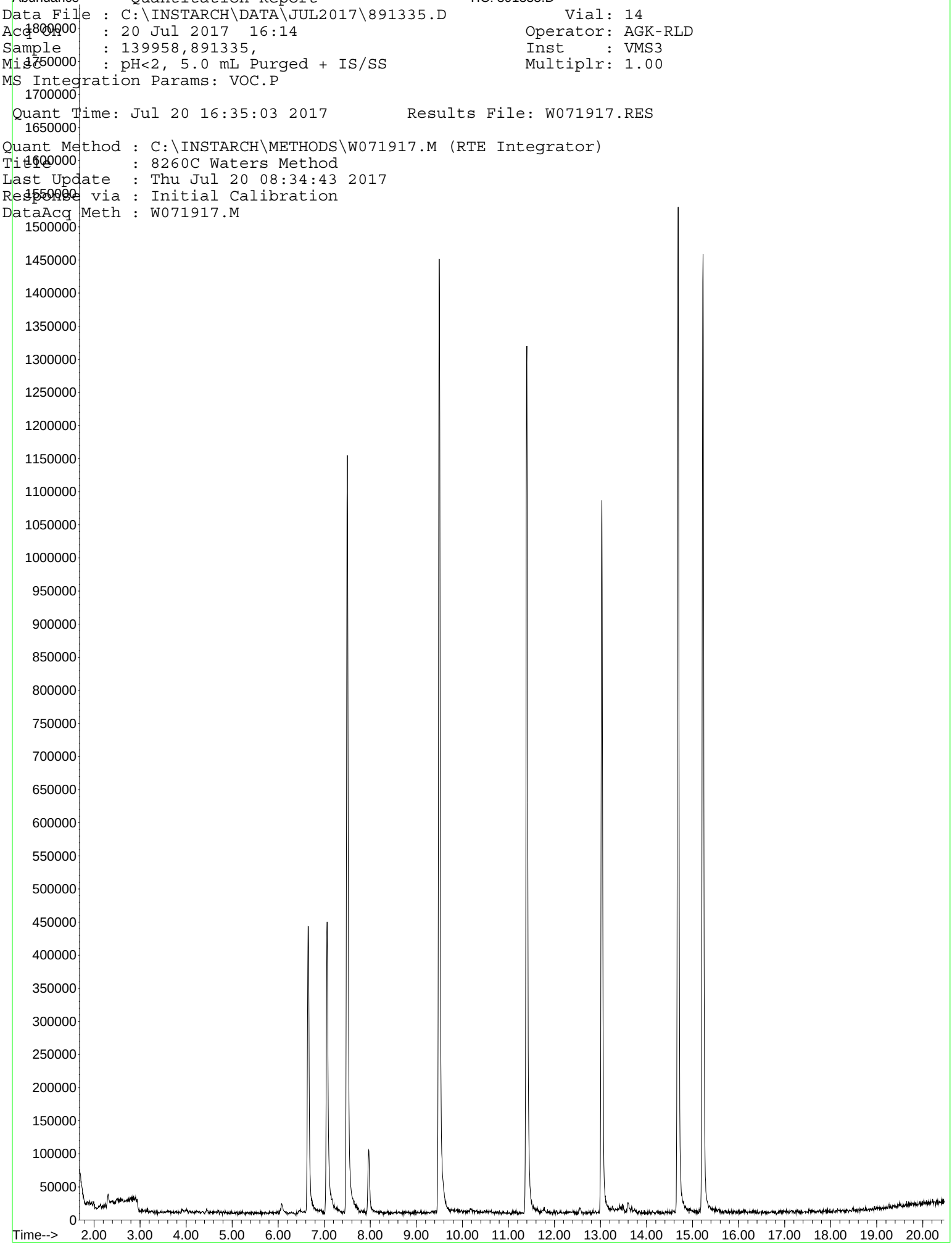
(#) = qualifier out of range (m) = manual integration

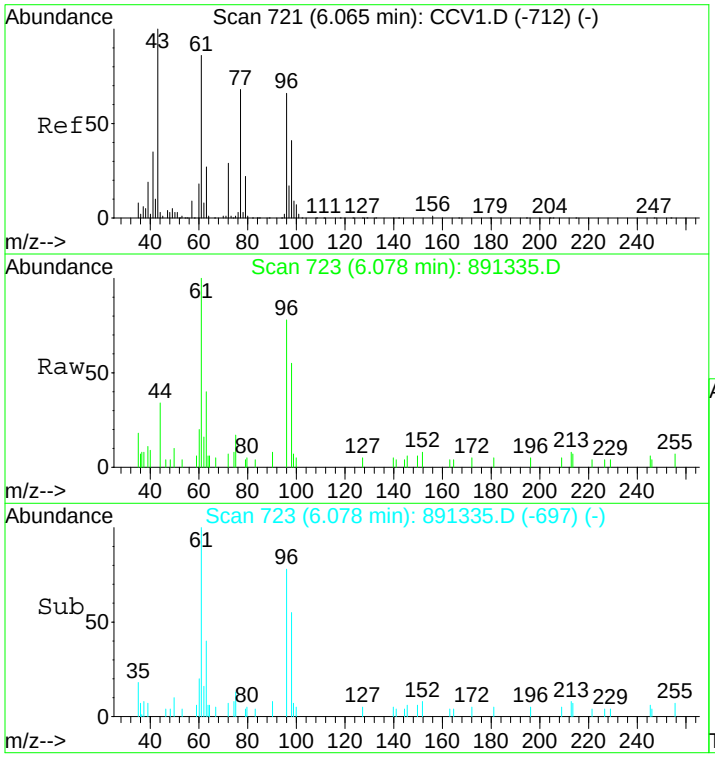
Abundance Quantitation Report TIC: 891335.D

Data File : C:\INSTARCH\DATA\JUL2017\891335.D Vial: 14
Acq On : 20 Jul 2017 16:14 Operator: AGK-RLD
Sample : 139958,891335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 16:35:03 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

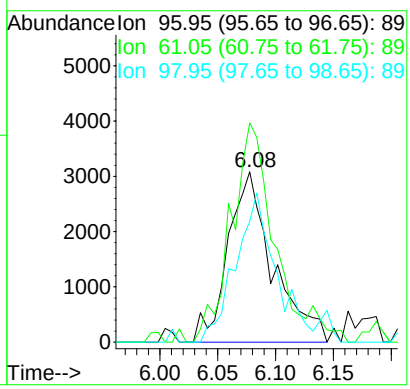


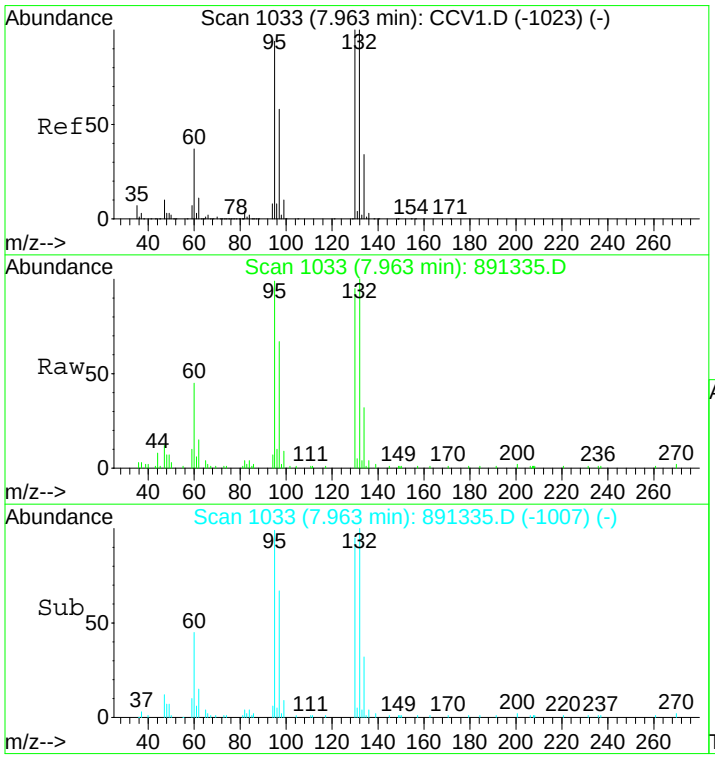


#32
c12dichlorte
Concen: 0.42 ug/L
RT: 6.08 min Scan# 723
Delta R.T. 0.01 min
Lab File: 891335.D
Acq: 20 Jul 2017 16:14

Tgt Ion: 96 Resp: 8315

Ion	Ratio	Lower	Upper
96	100		
61	125.7	112.2	152.2
98	78.5	44.7	84.7

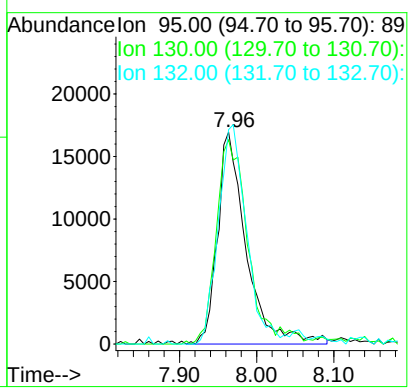




#49
trichloroete
Concen: 2.29 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. 0.01 min
Lab File: 891335.D
Acq: 20 Jul 2017 16:14

Tgt Ion: 95 Resp: 43801

Ion	Ratio	Lower	Upper
95	100		
130	108.5	88.4	128.4
132	101.7	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891337.D Vial: 15
Acq On : 20 Jul 2017 16:44 Operator: AGK-RLD
Sample : 139958,891337, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:05:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1394259	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1075311	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	613244	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	346790	19.640	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	98825	19.872	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.50	98	1396583	19.845	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.02	95	510042	20.216	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	1.99	50	5760	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.60	94	3262	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	4.00	58	3777	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	3.93	43	13033	N.D.	
16) Iodomethane	4.00	142	4172	N.D.	
17) Carbon Dislf	4.09	76	2787	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.47	84	3070	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	6.09	96	6827	0.3497 ug/L	89
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891337.D Vial: 15
Acq On : 20 Jul 2017 16:44 Operator: AGK-RLD
Sample : 139958,891337, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:05:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	6.93	119	2330	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.15	78	3354	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	7.96	95	2530	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.58	92	2482	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.55	43	2488	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.39	91	2540	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	13.25	75	2343	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.43	91	2698	N.D.	
89)	2chlorotolue	13.43	91	2698	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891337.D Vial: 15
Acq On : 20 Jul 2017 16:44 Operator: AGK-RLD
Sample : 139958,891337, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:05:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

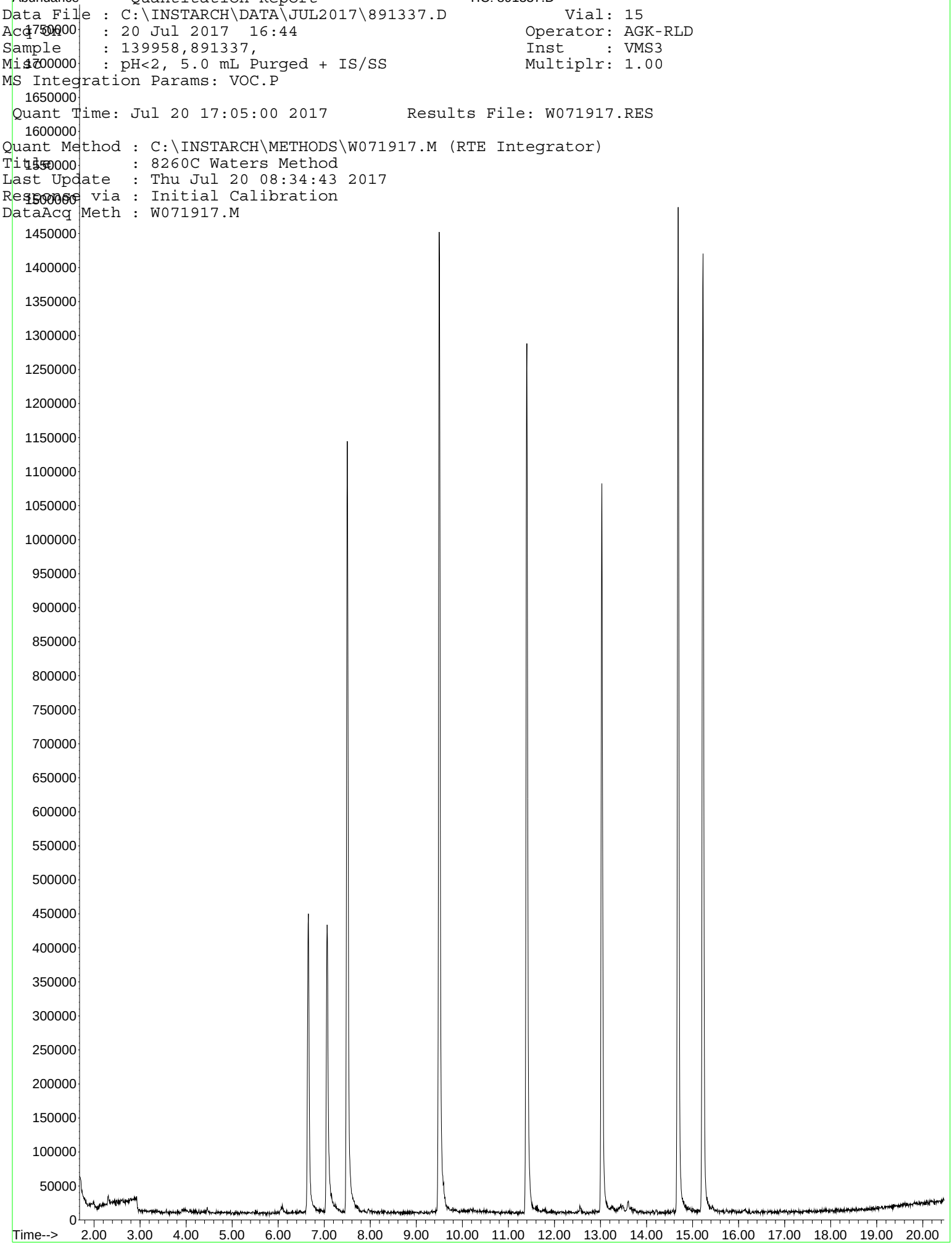
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

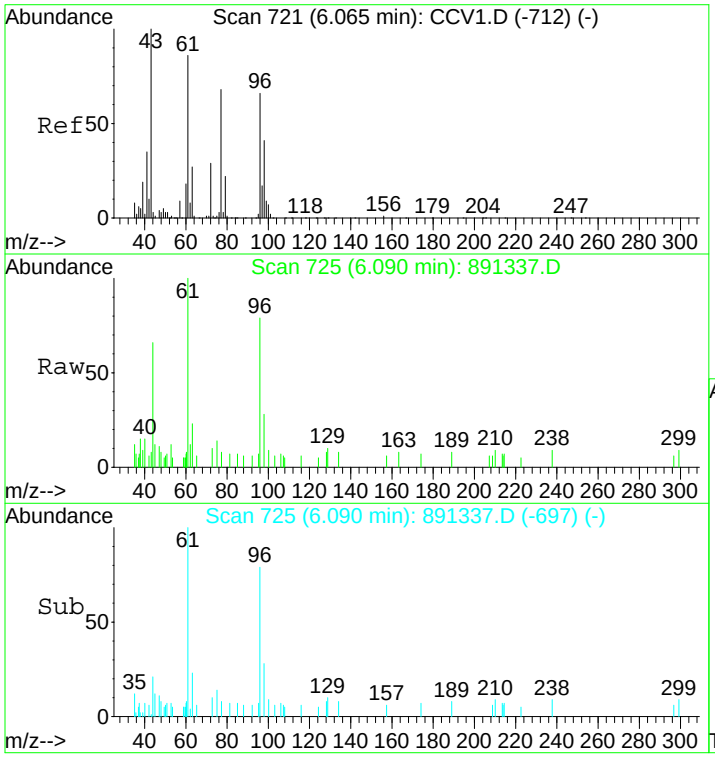
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2017\891337.D Vial: 15
Acq On : 20 Jul 2017 16:44 Operator: AGK-RLD
Sample : 139958,891337, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:05:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

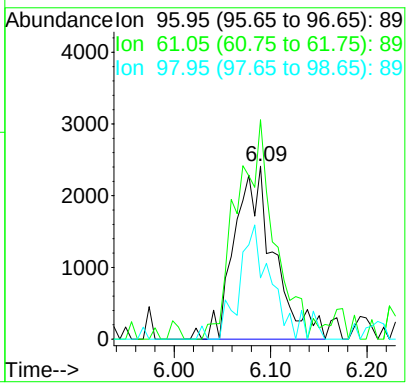




#32
c12dichlorte
Concen: 0.35 ug/L
RT: 6.09 min Scan# 725
Delta R.T. 0.02 min
Lab File: 891337.D
Acq: 20 Jul 2017 16:44

Tgt Ion: 96 Resp: 6827

Ion	Ratio	Lower	Upper
96	100		
61	124.0	112.2	152.2
98	49.9	44.7	84.7



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891495.D Vial: 16
Acq On : 20 Jul 2017 17:14 Operator: AGK-RLD
Sample : 139958,891495, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:34:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1457398	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1112308	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	632525	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	356165	19.297	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.06	102	100286	19.292	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.50	98	1433906	19.493	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.03	95	531728	20.433	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	5974	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3284	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.13	101	4139	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.55	67	2228	N.D.		
11) propyleneoxide	3.92	58	7308	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.94	43	17469	N.D.		
16) Iodomethane	4.00	142	4722	N.D.		
17) Carbon Dislf	4.09	76	3496	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.46	84	3500	N.D.		
21) tbutylalcohol	4.71	59	2417	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.35	63	12212	0.3767	ug/L #	84
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	27215	1.3337	ug/L	90
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.46	42	3014	Below Cal	#	30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891495.D Vial: 16
Acq On : 20 Jul 2017 17:14 Operator: AGK-RLD
Sample : 139958,891495, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:34:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.45	83	3968	N.D.		
40)	111trichlota	6.71	97	7685	0.2558	ug/L	95
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.92	119	21744	0.9482	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.15	78	3150	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.97	95	42770	2.1625	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.38	43	3318	N.D.		
62)	Toluene	9.59	92	5828	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	10.32	166	5991	0.2481	ug/L	96
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.39	91	3461	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.60	91	8044	N.D.		
76)	m p-Xylene	11.77	106	13278	N.D.		
77)	o-Xylene	12.31	106	4672	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.21	105	2932	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891495.D Vial: 16
Acq On : 20 Jul 2017 17:14 Operator: AGK-RLD
Sample : 139958,891495, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:34:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

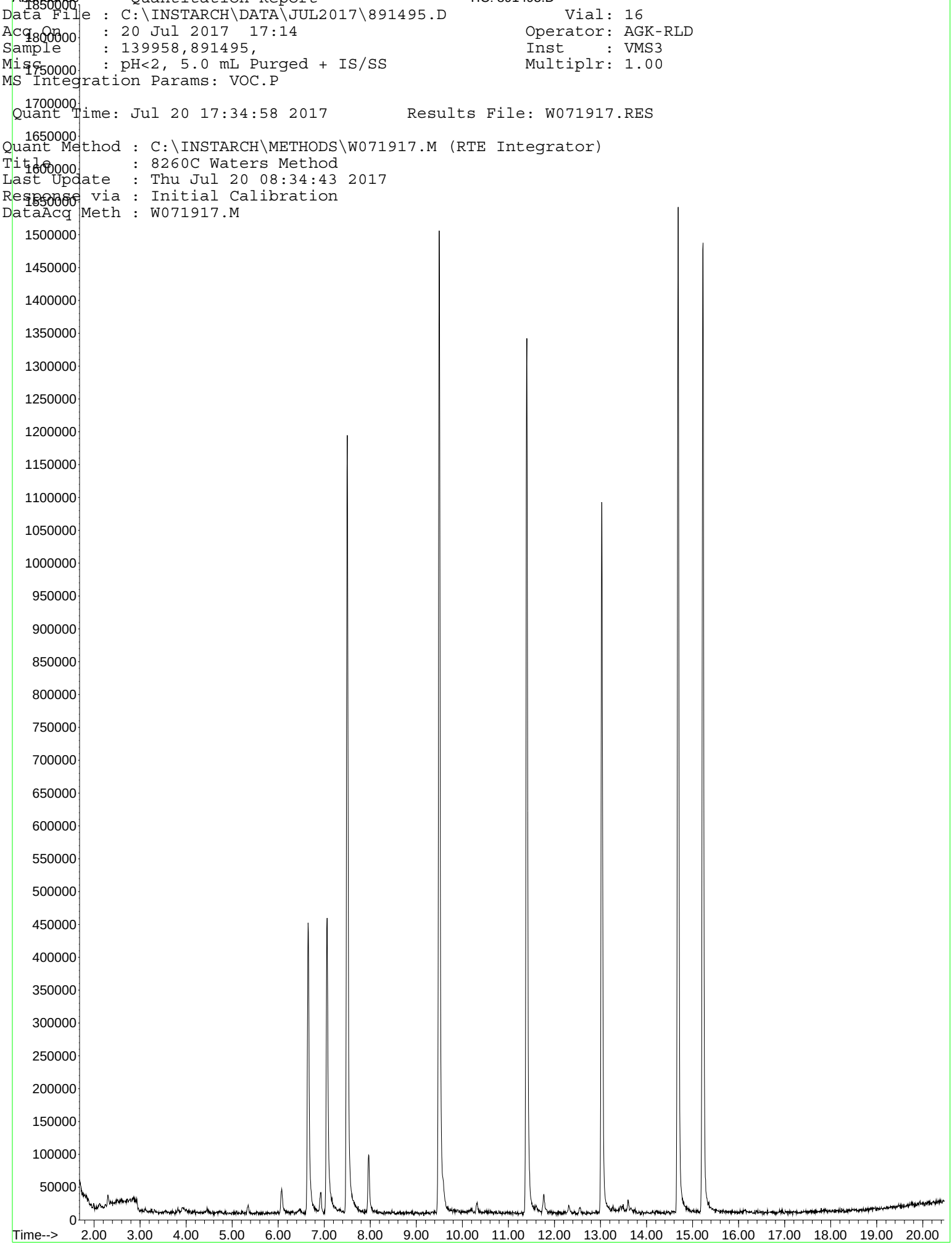
(#) = qualifier out of range (m) = manual integration

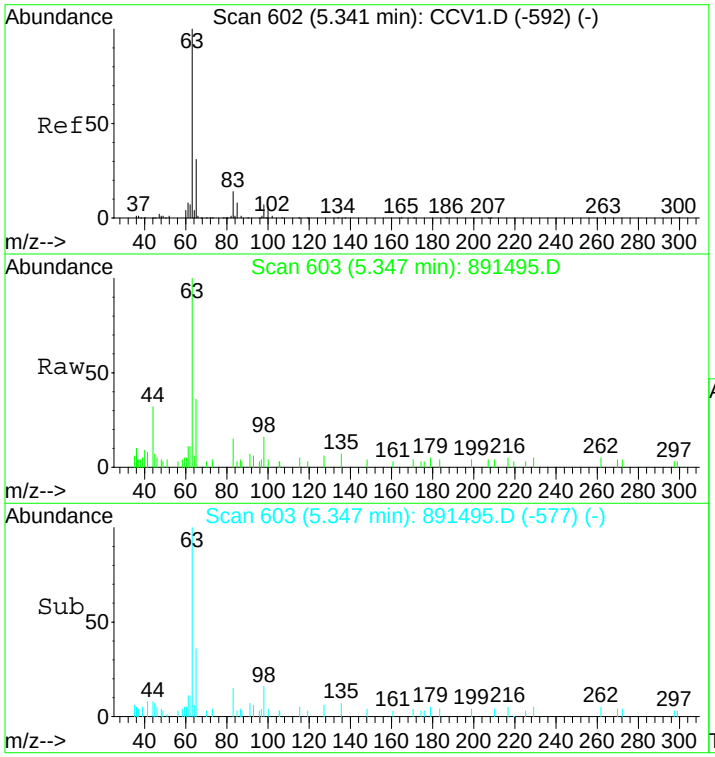
Abundance Quantitation Report TIC: 891495.D

Data File : C:\INSTARCH\DATA\JUL2017\891495.D Vial: 16
Acq On : 20 Jul 2017 17:14 Operator: AGK-RLD
Sample : 139958,891495, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 17:34:58 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

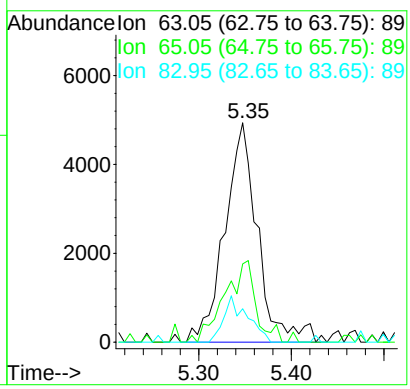


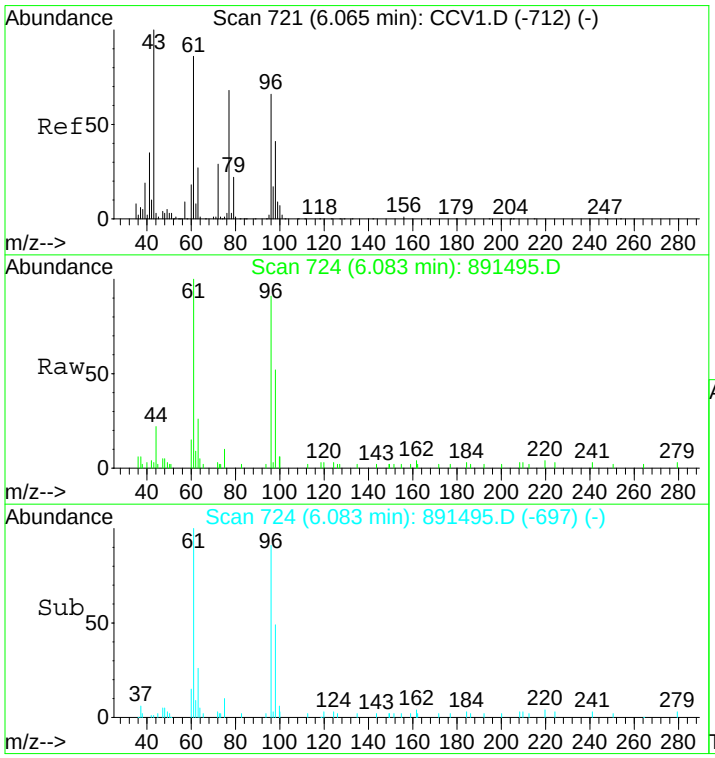


#26
11dichlorota
Concen: 0.38 ug/L
RT: 5.35 min Scan# 603
Delta R.T. 0.01 min
Lab File: 891495.D
Acq: 20 Jul 2017 17:14

Tgt Ion: 63 Resp: 12212

Ion	Ratio	Lower	Upper
63	100		
65	35.4	11.2	51.2
83	0.0	0.0	33.6

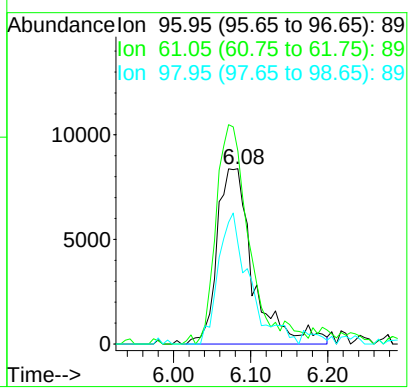


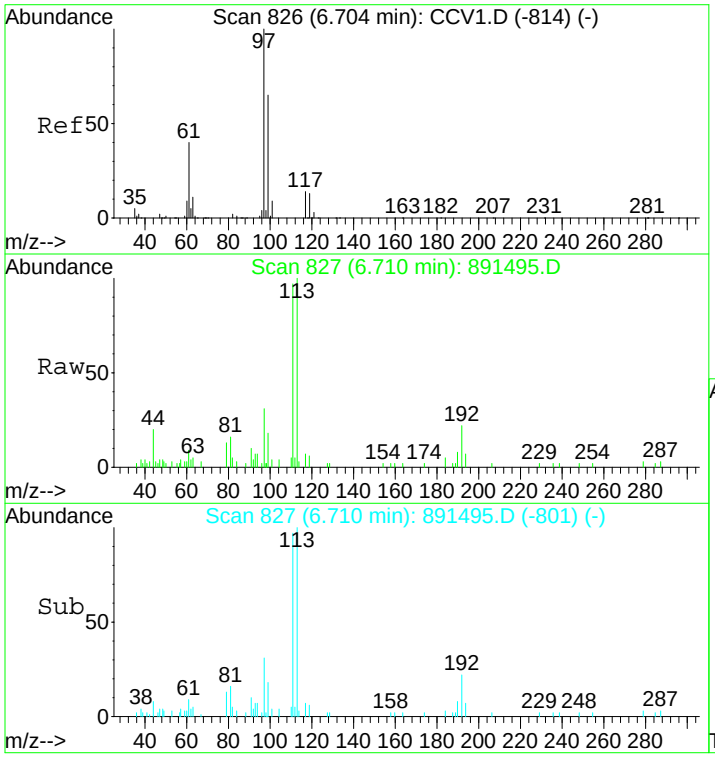


#32
c12dichlorte
Concen: 1.33 ug/L
RT: 6.08 min Scan# 724
Delta R.T. 0.01 min
Lab File: 891495.D
Acq: 20 Jul 2017 17:14

Tgt Ion: 96 Resp: 27215

Ion	Ratio	Lower	Upper
96	100		
61	115.7	112.2	152.2
98	64.4	44.7	84.7

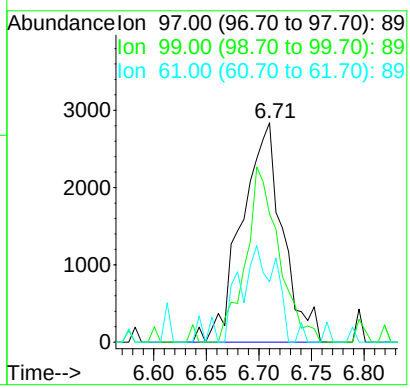


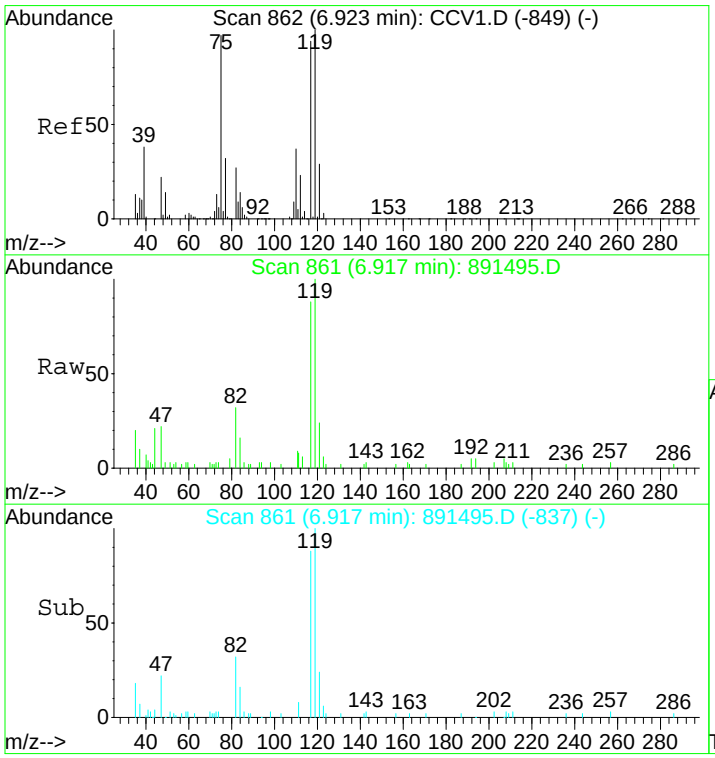


#40
111trichlota
Concen: 0.26 ug/L
RT: 6.71 min Scan# 827
Delta R.T. 0.01 min
Lab File: 891495.D
Acq: 20 Jul 2017 17:14

Tgt Ion: 97 Resp: 7685

Ion	Ratio	Lower	Upper
97	100		
99	64.7	45.5	85.5
61	37.1	23.8	63.8

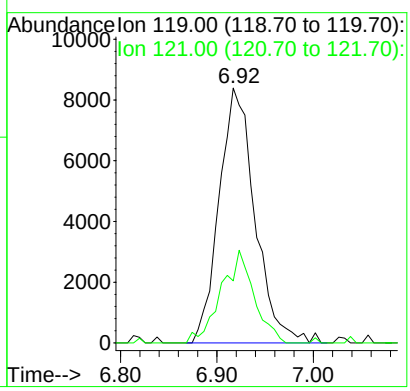


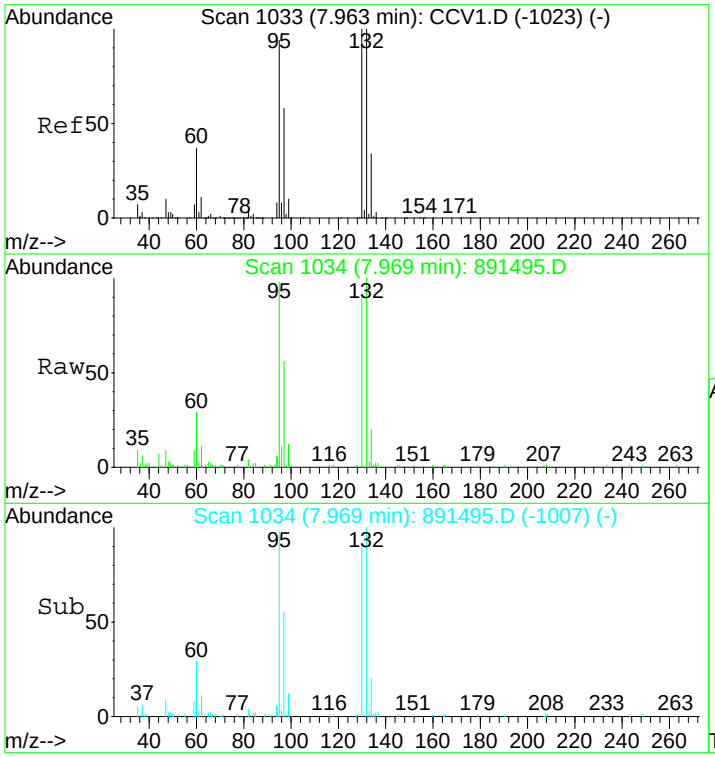


#43
Carbtetraclo
Concen: 0.95 ug/L
RT: 6.92 min Scan# 861
Delta R.T. -0.01 min
Lab File: 891495.D
Acq: 20 Jul 2017 17:14

Tgt Ion:119 Resp: 21744

Ion	Ratio	Lower	Upper
119	100		
121	33.2	14.0	54.0

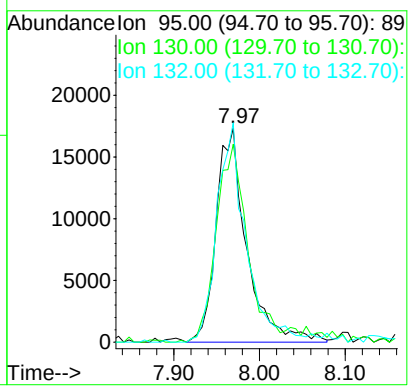


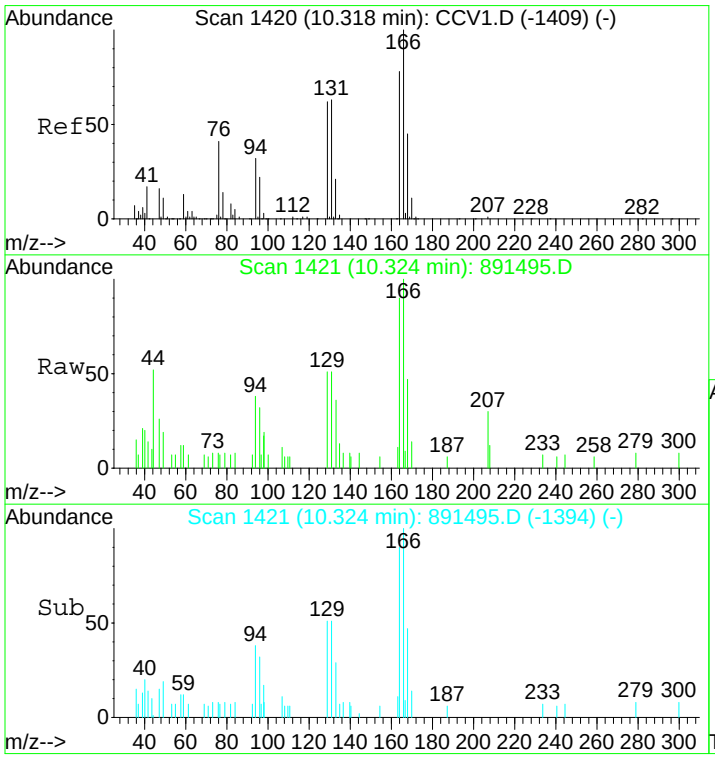


#49
trichloroete
Concen: 2.16 ug/L
RT: 7.97 min Scan# 1034
Delta R.T. 0.01 min
Lab File: 891495.D
Acq: 20 Jul 2017 17:14

Tgt Ion: 95 Resp: 42770

Ion	Ratio	Lower	Upper
95	100		
130	101.8	88.4	128.4
132	100.2	86.2	126.2

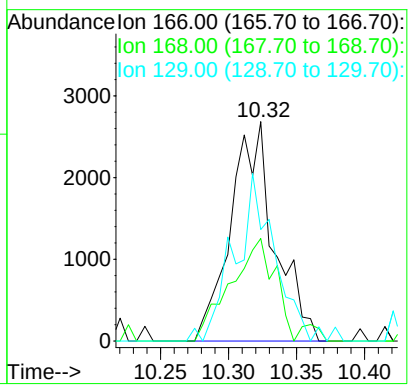




#66
Tetrachlorte
Concen: 0.25 ug/L
RT: 10.32 min Scan# 1421
Delta R.T. 0.01 min
Lab File: 891495.D
Acq: 20 Jul 2017 17:14

Tgt Ion:166 Resp: 5991

Ion	Ratio	Lower	Upper
166	100		
168	47.4	29.4	69.4
129	70.8	46.5	86.5



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891497.D Vial: 17
Acq On : 20 Jul 2017 17:44 Operator: AGK-RLD
Sample : 139958,891497, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 18:04:34 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1556579	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1184854	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	657518	20.00	ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma	6.65	113	374932	19.019	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.06	102	112389	20.243	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.50	98	1506909	19.180	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
83) SURR4BrFBenz	13.03	95	567669	20.985	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 105 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	7052	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3822	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	4576	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	13172	N.D.		
16) Iodomethane	4.01	142	4722	N.D.		
17) Carbon Dislf	4.08	76	6486	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	2746	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.07	96	12704	0.5829	ug/L	95
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.45	42	3387	Below	Cal #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891497.D Vial: 17
Acq On : 20 Jul 2017 17:44 Operator: AGK-RLD
Sample : 139958,891497, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 18:04:34 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	288606	8.1326	ug/L	100
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.92	119	1692175	69.0895	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.17	78	3282	N.D.		
47)	12dichlorota	7.15	62	3924	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.96	95	241906	11.4515	ug/L	96
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.58	92	3532	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.60	91	5131	N.D.		
76)	m p-Xylene	11.76	106	8590	N.D.		
77)	o-Xylene	12.31	106	3661	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.42	91	2022	N.D.		
89)	2chlorotolue	13.42	91	2022	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.21	105	2642	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.67	119	2390	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.23	91	2375	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

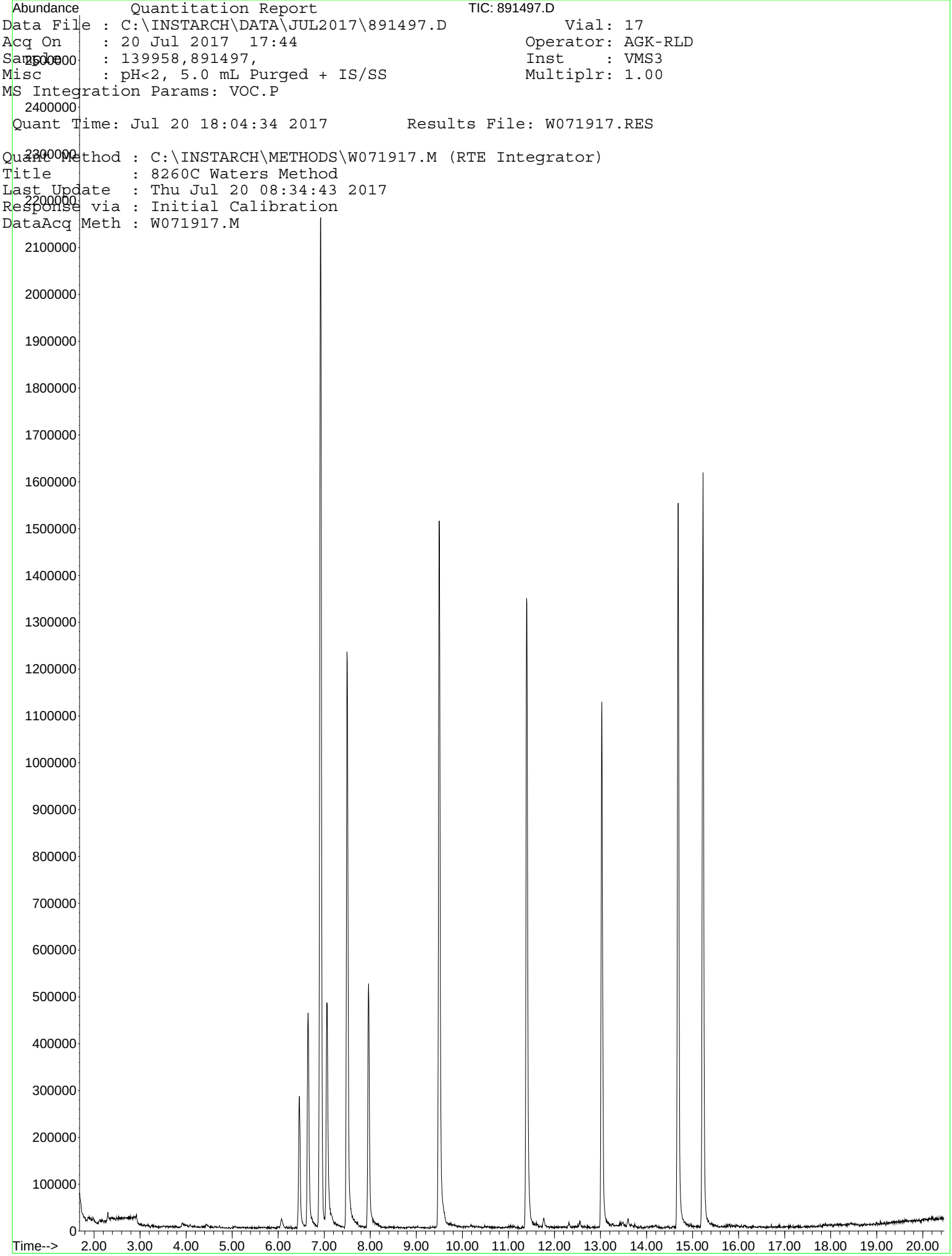
Data File : C:\INSTARCH\DATA\JUL2017\891497.D Vial: 17
Acq On : 20 Jul 2017 17:44 Operator: AGK-RLD
Sample : 139958,891497, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

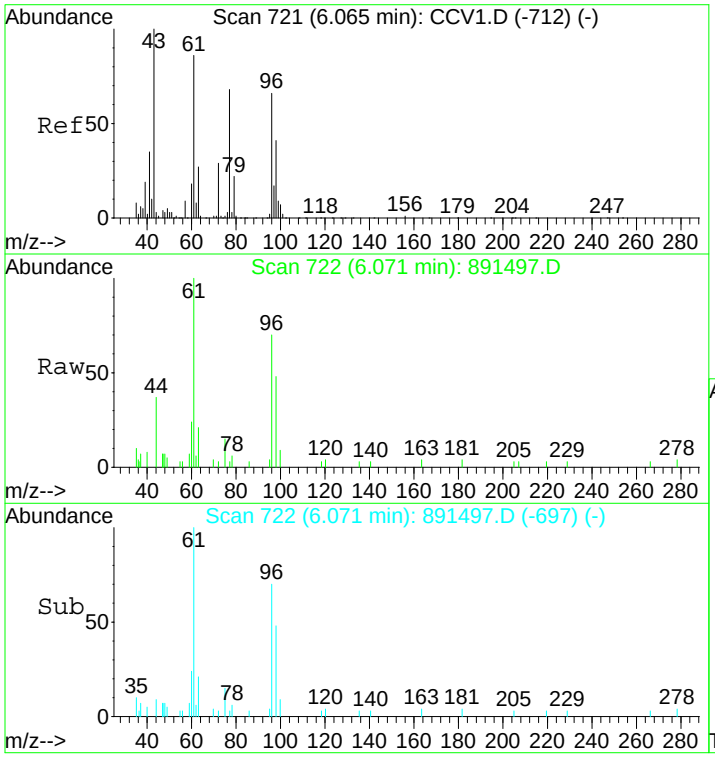
Quant Time: Jul 20 18:04:34 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.87	128	2586	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

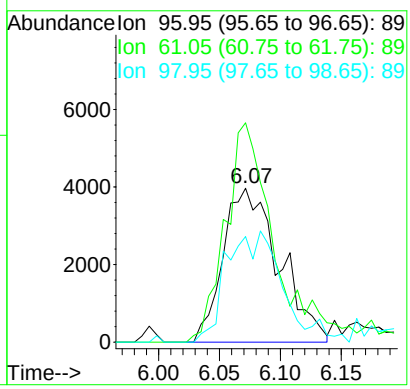

Abundance
Quantitation Report
TIC: 891497.D
Data File : C:\INSTARCH\DATA\JUL2017\891497.D
Vial: 17
Acq On : 20 Jul 2017 17:44
Operator: AGK-RLD
Sample : 139958,891497,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jul 20 18:04:34 2017
Results File: W071917.RES
Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
Time-->

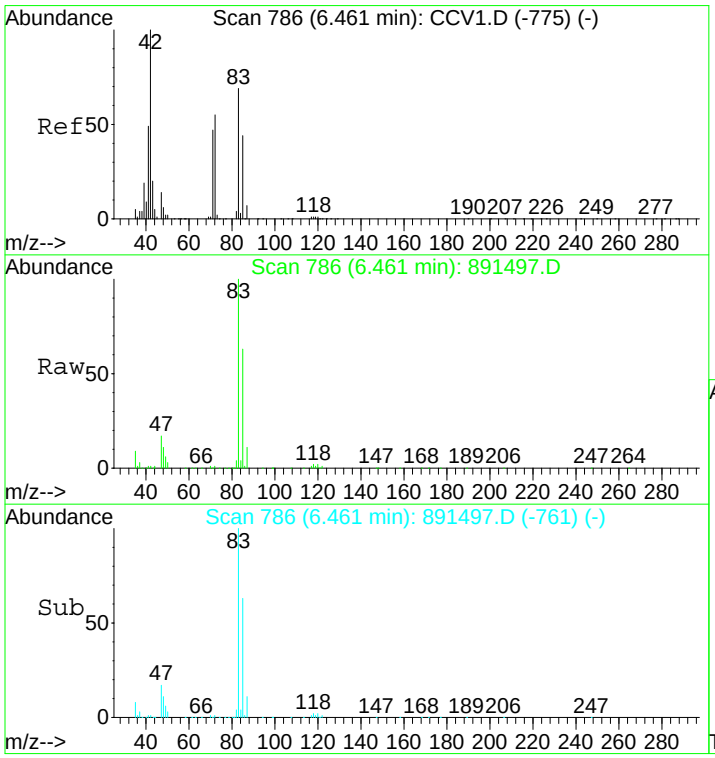


#32
c12dichlorte
Concen: 0.58 ug/L
RT: 6.07 min Scan# 722
Delta R.T. -0.00 min
Lab File: 891497.D
Acq: 20 Jul 2017 17:44

Tgt Ion: 96 Resp: 12704

Ion	Ratio	Lower	Upper
96	100		
61	129.3	112.2	152.2
98	72.1	44.7	84.7

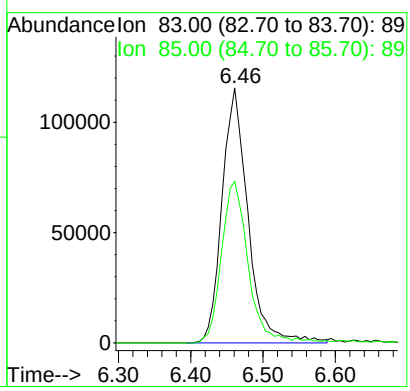


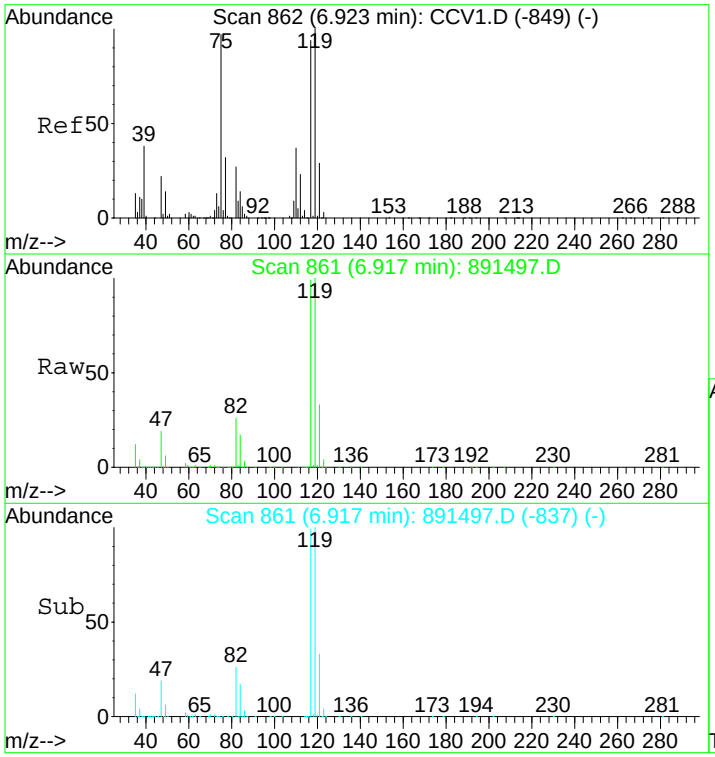


#39
Chloroform
Concen: 8.13 ug/L
RT: 6.46 min Scan# 786
Delta R.T. -0.00 min
Lab File: 891497.D
Acq: 20 Jul 2017 17:44

Tgt Ion: 83 Resp: 288606

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.6	85.6

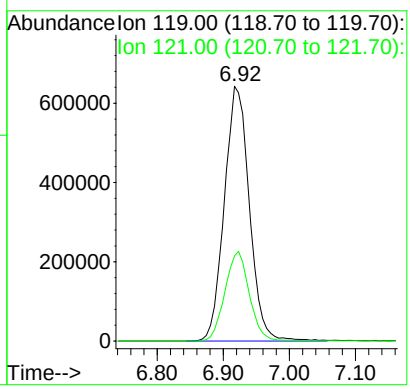


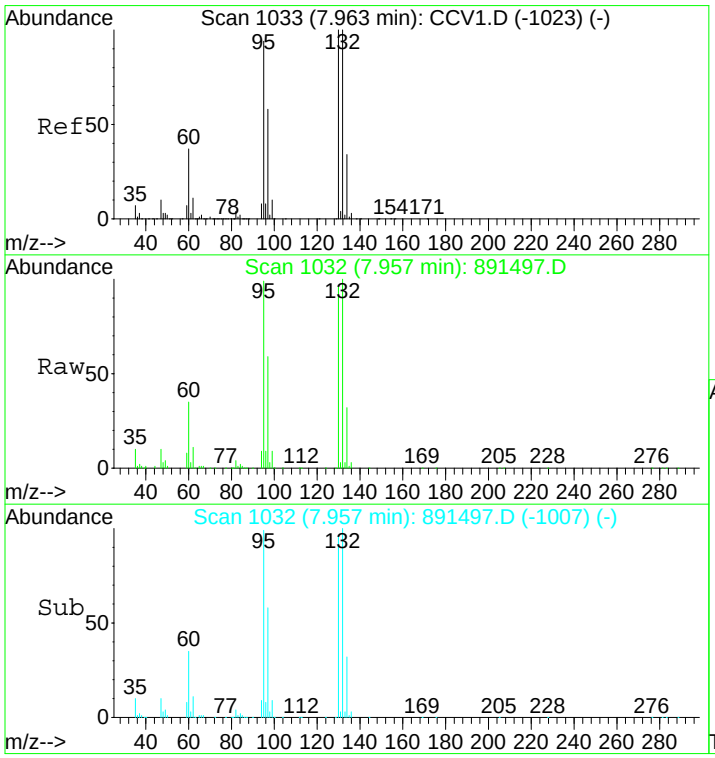


#43
Carbtetraclo
Concen: 69.09 ug/L
RT: 6.92 min Scan# 861
Delta R.T. -0.01 min
Lab File: 891497.D
Acq: 20 Jul 2017 17:44

Tgt Ion:119 Resp: 1692175

Ion	Ratio	Lower	Upper
119	100		
121	34.3	14.0	54.0

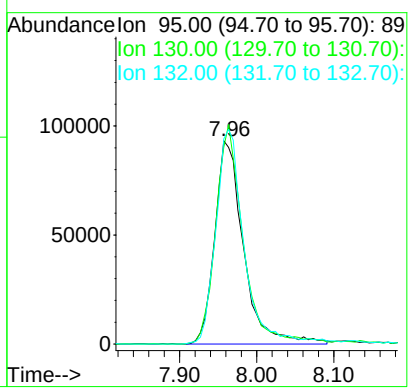




#49
trichloroete
Concen: 11.45 ug/L
RT: 7.96 min Scan# 1032
Delta R.T. -0.00 min
Lab File: 891497.D
Acq: 20 Jul 2017 17:44

Tgt Ion: 95 Resp: 241906

Ion	Ratio	Lower	Upper
95	100		
130	103.1	88.4	128.4
132	103.4	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891502.D Vial: 18
Acq On : 20 Jul 2017 18:13 Operator: AGK-RLD
Sample : 139958,891502, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 18:34:04 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1611849	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1163793	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	644486	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	364305	17.847	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 89 %			
45) SURR12DCAd4	7.06	102	110379	19.199	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.50	98	1464257	17.998	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 90 %			
83) SURR4BrFBenz	13.02	95	571360	21.548	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 108 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	6127	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.87	101	2386	N.D.		
15) Acetone	3.95	43	9881	N.D.		
16) Iodomethane	3.98	142	4089	N.D.		
17) Carbon Dislf	4.09	76	4459	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	3158	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.09	96	10990	0.4870	ug/L #	84
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891502.D Vial: 18
Acq On : 20 Jul 2017 18:13 Operator: AGK-RLD
Sample : 139958,891502, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 18:34:04 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	155210	4.2237	ug/L	95
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.92	119	1188295	46.8530	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.16	78	3416	N.D.		
47)	12dichlorota	7.14	62	2341	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.96	95	113199	5.1749	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.41	43	2913	N.D.		
62)	Toluene	9.59	92	5237	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.41	91	2102	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.61	91	6132	N.D.		
76)	m p-Xylene	11.77	106	11915	N.D.		
77)	o-Xylene	12.31	106	5005	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	13.16	75	5563	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.44	91	2300	N.D.		
89)	2chlorotolue	13.44	91	2300	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.22	105	2617	N.D.		
94)	sbutylbenzen	14.45	105	2014	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.21	91	2008	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891502.D Vial: 18
Acq On : 20 Jul 2017 18:13 Operator: AGK-RLD
Sample : 139958,891502, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 18:34:04 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.87	128	2405	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

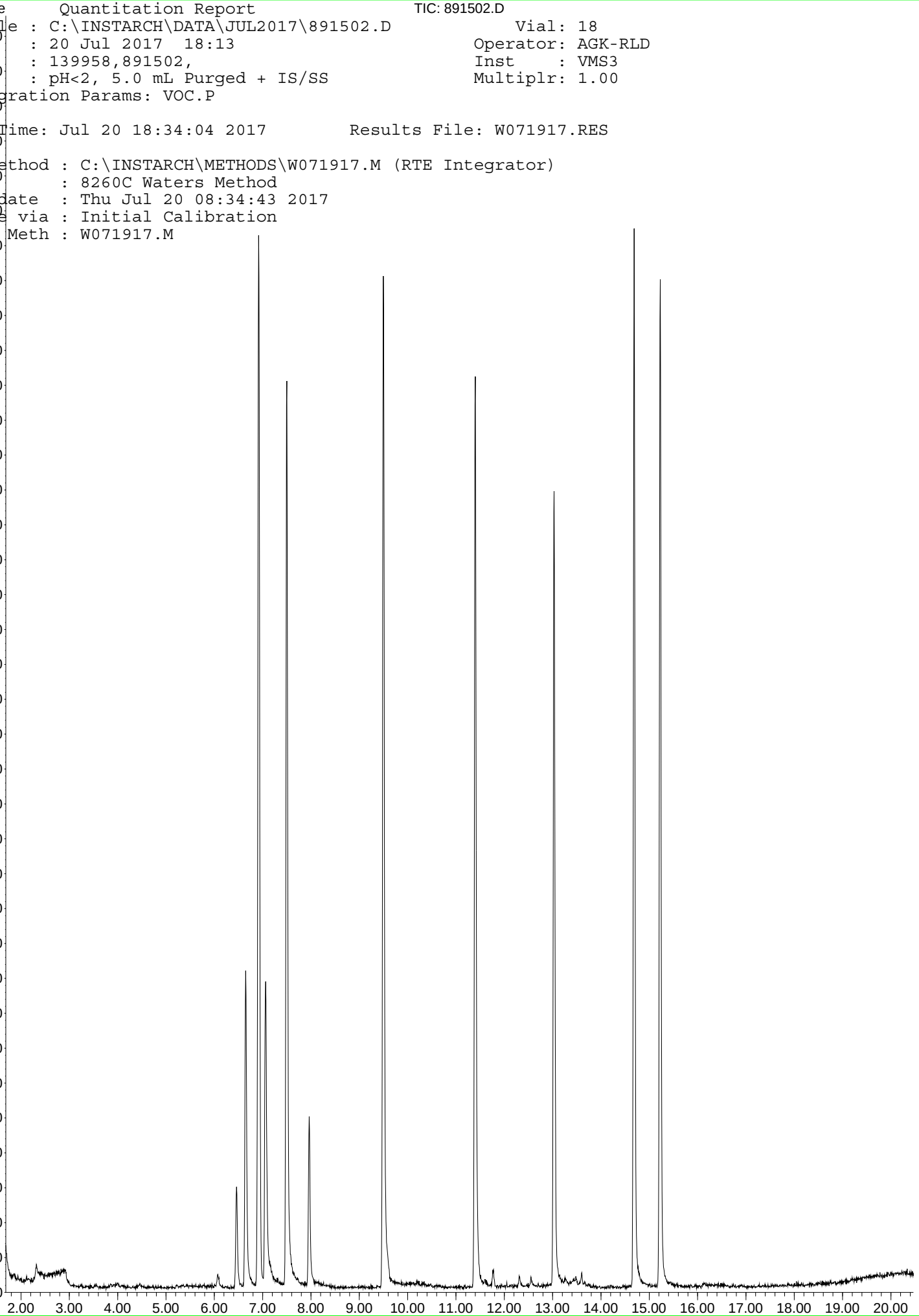
(#) = qualifier out of range (m) = manual integration

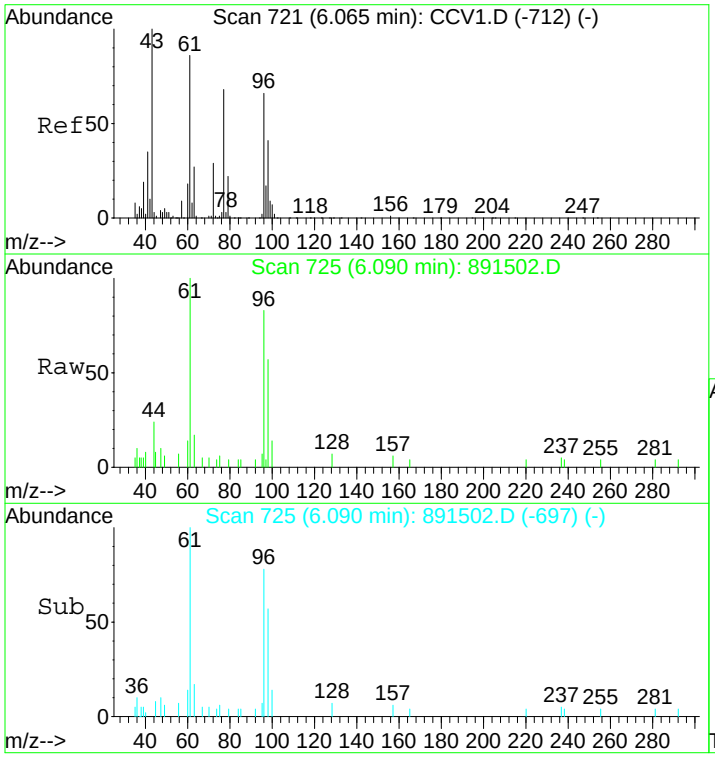
Abundance Quantitation Report TIC: 891502.D

Data File : C:\INSTARCH\DATA\JUL2017\891502.D Vial: 18
Acq On : 20 Jul 2017 18:13 Operator: AGK-RLD
Sample : 139958,891502, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 18:34:04 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

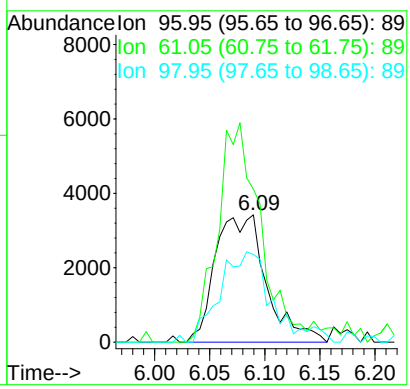


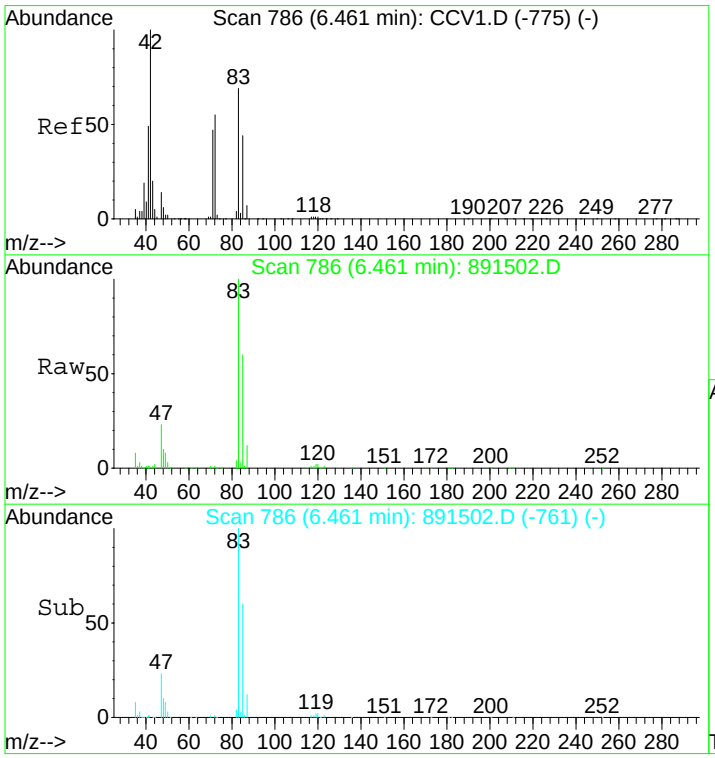


#32
c12dichlorte
Concen: 0.49 ug/L
RT: 6.09 min Scan# 725
Delta R.T. 0.02 min
Lab File: 891502.D
Acq: 20 Jul 2017 18:13

Tgt Ion: 96 Resp: 10990

Ion	Ratio	Lower	Upper
96	100		
61	153.2	112.2	152.2#
98	73.5	44.7	84.7

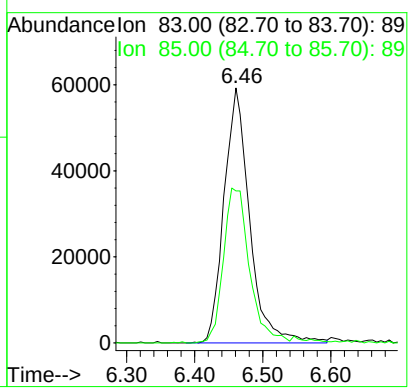


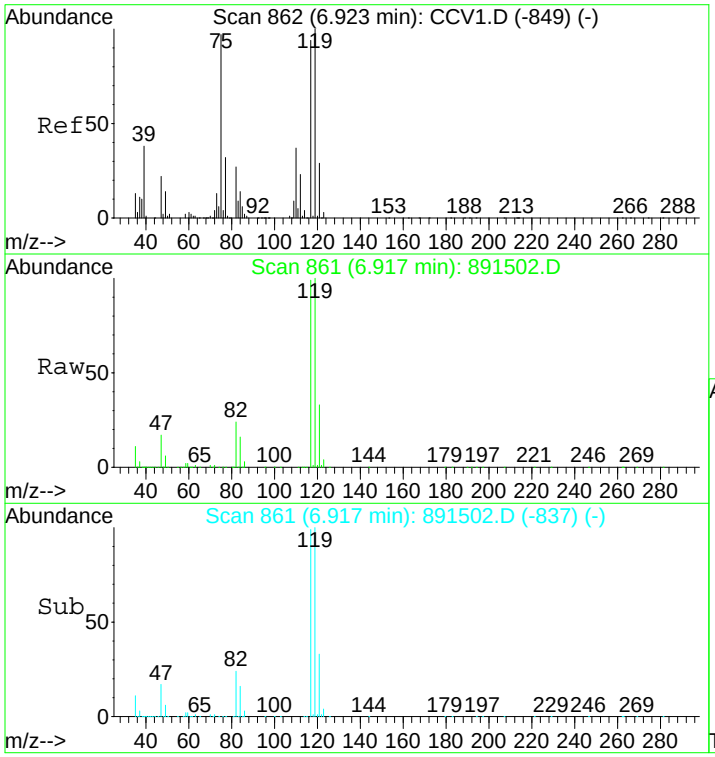


#39
Chloroform
Concen: 4.22 ug/L
RT: 6.46 min Scan# 786
Delta R.T. -0.00 min
Lab File: 891502.D
Acq: 20 Jul 2017 18:13

Tgt Ion: 83 Resp: 155210

Ion	Ratio	Lower	Upper
83	100		
85	61.5	45.6	85.6

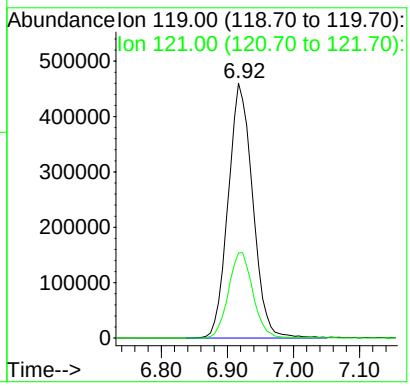


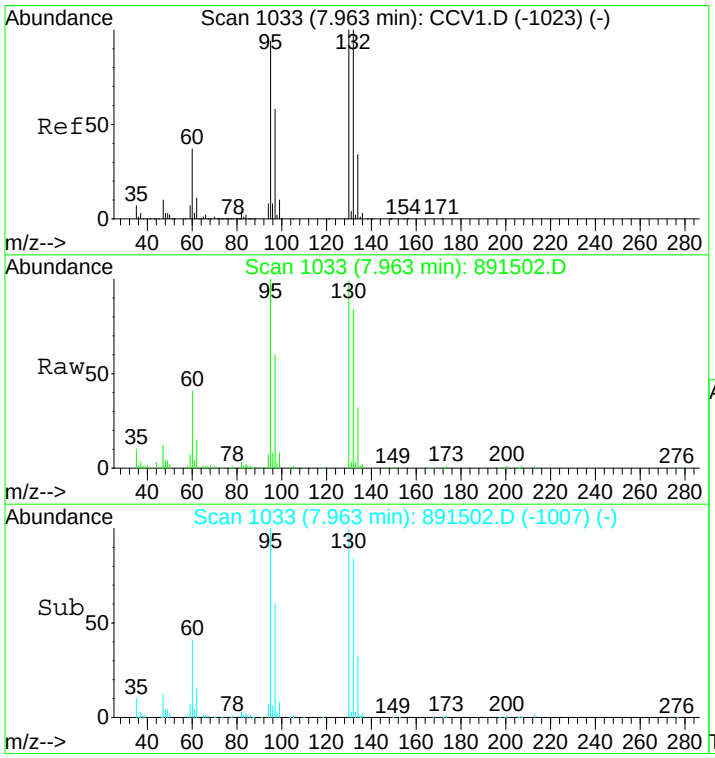


#43
Carbtetraclo
Concen: 46.85 ug/L
RT: 6.92 min Scan# 861
Delta R.T. -0.01 min
Lab File: 891502.D
Acq: 20 Jul 2017 18:13

Tgt Ion:119 Resp: 1188295

Ion	Ratio	Lower	Upper
119	100		
121	33.6	14.0	54.0

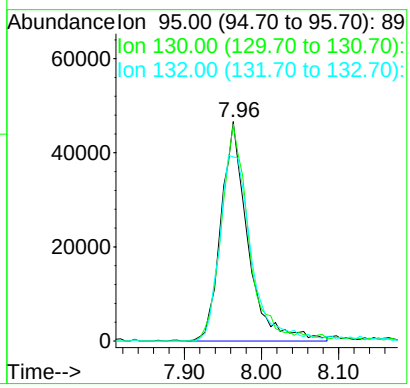




#49
trichloroete
Concen: 5.17 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. 0.01 min
Lab File: 891502.D
Acq: 20 Jul 2017 18:13

Tgt Ion: 95 Resp: 113199

Ion	Ratio	Lower	Upper
95	100		
130	102.1	88.4	128.4
132	100.3	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891506.D Vial: 19
Acq On : 20 Jul 2017 18:43 Operator: AGK-RLD
Sample : 139958,891506, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:03:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1636580	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1205342	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	677015	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	401857	19.389	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.06	102	116047	19.880	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.50	98	1625473	19.677	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.02	95	583204	20.938	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 105 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	8235	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	4441	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	22981	6.3713	ug/L #	85
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.91	43	62927	5.7442	ug/L	92
16) Iodomethane	4.01	142	5038	N.D.		
17) Carbon Dislf	4.09	76	4571	N.D.		
18) allylchloride	4.31	41	4875	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	12404	0.5546	ug/L	94
21) tbutylalcohol	4.68	59	2868	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.13	72	2823	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.47	42	4836	Below Cal	#	65

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891506.D Vial: 19
Acq On : 20 Jul 2017 18:43 Operator: AGK-RLD
Sample : 139958,891506, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:03:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.16	78	2857	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.35	43	4761	N.D.		
62)	Toluene	9.58	92	21798	0.3942	ug/L	95
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.47	43	5348	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.39	91	2971	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.61	91	2207	N.D.		
76)	m p-Xylene	11.77	106	2309	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	13.27	75	2912	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.41	91	2468	N.D.		
89)	2chlorotolue	13.41	91	2468	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	13.68	105	2217	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.20	105	4740	N.D.		
94)	sbutylbenzen	14.46	105	2137	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.67	119	2365	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.23	91	3388	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891506.D Vial: 19
Acq On : 20 Jul 2017 18:43 Operator: AGK-RLD
Sample : 139958,891506, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:03:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

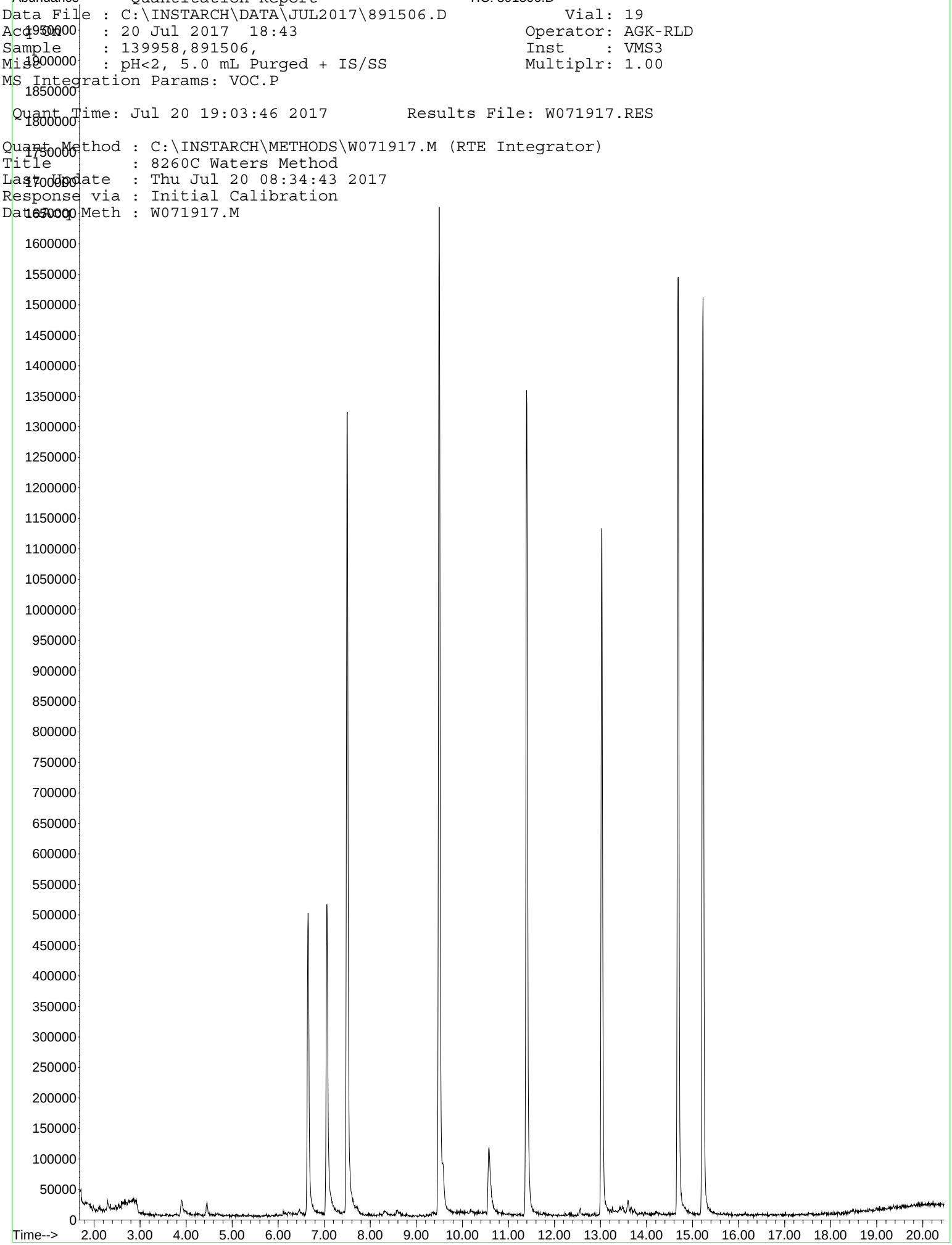
(#) = qualifier out of range (m) = manual integration

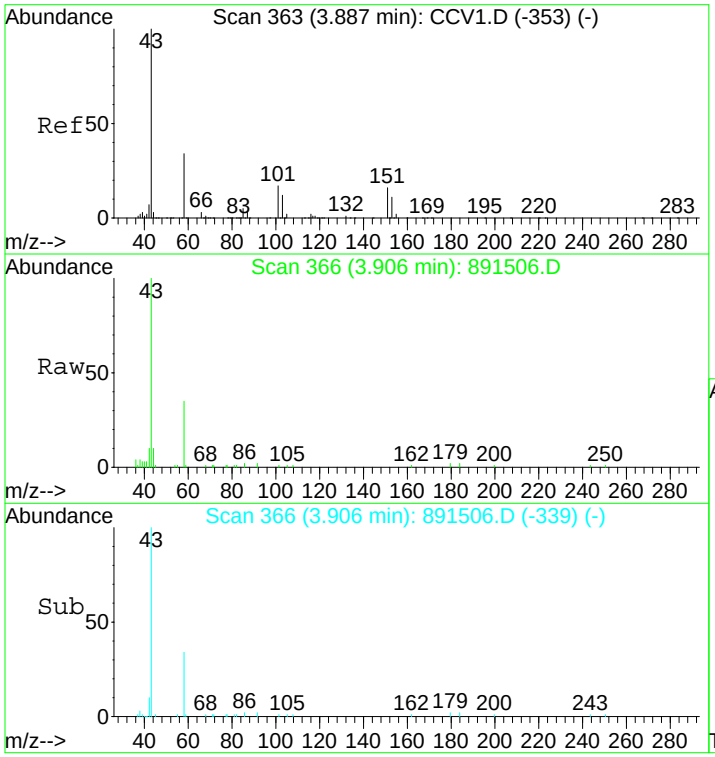
Abundance Quantitation Report TIC: 891506.D

Data File : C:\INSTARCH\DATA\JUL2017\891506.D Vial: 19
Acq On : 20 Jul 2017 18:43 Operator: AGK-RLD
Sample : 139958,891506, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:03:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
Data Path Meth : W071917.M

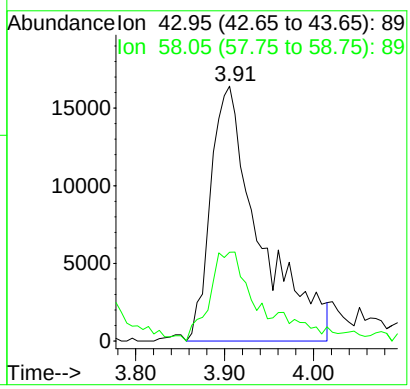


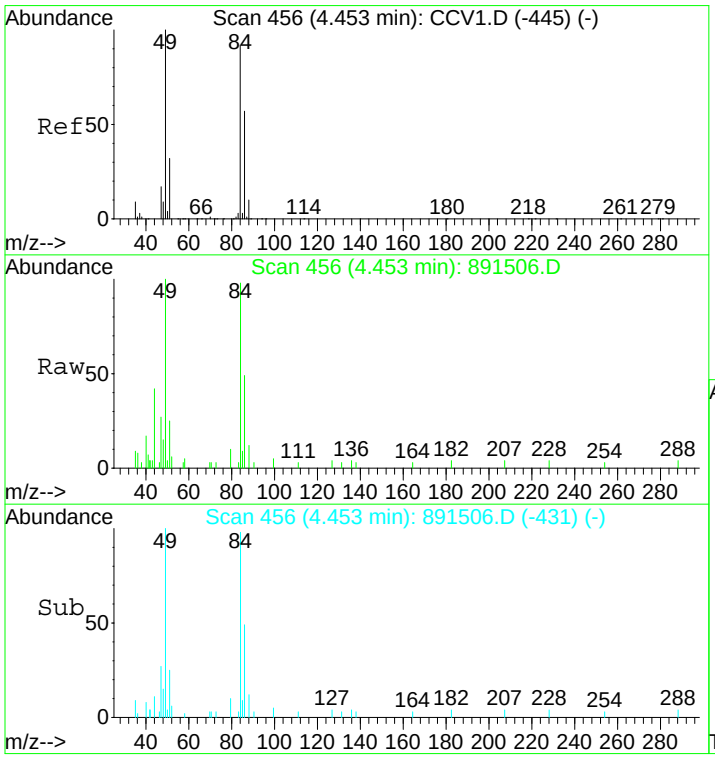


#15
Acetone
Concen: 5.74 ug/L
RT: 3.91 min Scan# 366
Delta R.T. 0.01 min
Lab File: 891506.D
Acq: 20 Jul 2017 18:43

Tgt Ion: 43 Resp: 62927

Ion	Ratio	Lower	Upper
43	100		
58	36.2	12.0	52.0

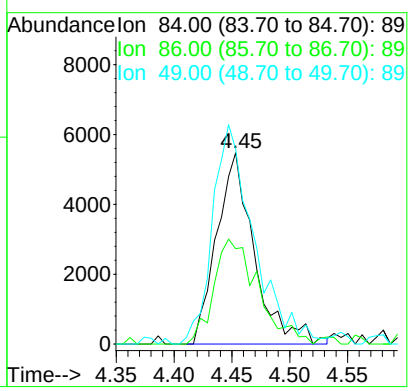


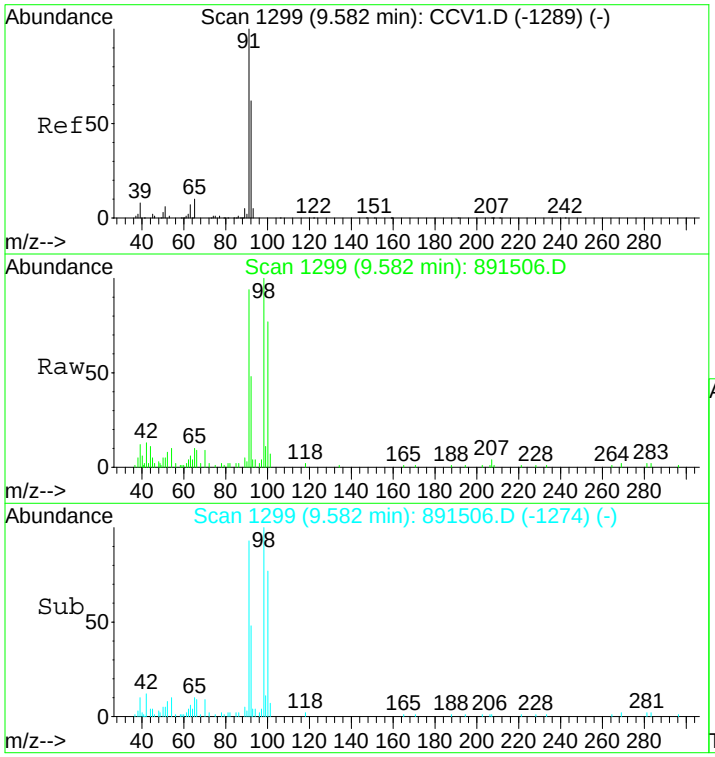


#20
Methylchlorid
Concen: 0.55 ug/L
RT: 4.45 min Scan# 456
Delta R.T. -0.00 min
Lab File: 891506.D
Acq: 20 Jul 2017 18:43

Tgt Ion: 84 Resp: 12404

Ion	Ratio	Lower	Upper
84	100		
86	64.5	43.4	83.4
49	125.9	96.8	136.8

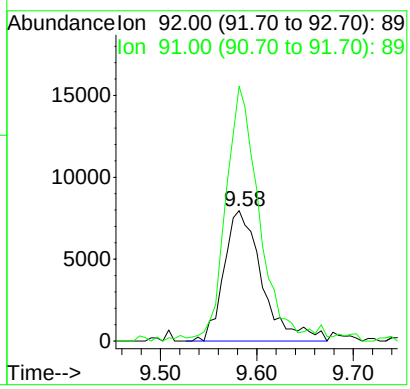




#62
Toluene
Concen: 0.39 ug/L
RT: 9.58 min Scan# 1299
Delta R.T. -0.00 min
Lab File: 891506.D
Acq: 20 Jul 2017 18:43

Tgt Ion: 92 Resp: 21798

Ion	Ratio	Lower	Upper
92	100		
91	177.0	150.6	190.6



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891508.D Vial: 20
Acq On : 20 Jul 2017 19:12 Operator: AGK-RLD
Sample : 139958,891508, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:33:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1556939	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1163013	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	684116	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	376287	19.084	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.06	102	103278	18.598	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 93 %			
61) SURRd8Tolule	9.50	98	1572877	20.015	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.02	95	587977	20.890	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 104 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	6596	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.11	101	7030	0.2291	ug/L #	95
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.95	58	4299	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	11368	N.D.		
16) Iodomethane	4.00	142	3501	N.D.		
17) Carbon Dislf	4.09	76	3683	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.45	84	3942	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.35	63	2320	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	14689	0.6738	ug/L	94
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891508.D Vial: 20
Acq On : 20 Jul 2017 19:12 Operator: AGK-RLD
Sample : 139958,891508, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:33:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.45	83	16106	0.4537	ug/L	97
40)	111trichlota	6.70	97	2384	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.92	119	104306	4.2577	ug/L	98
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.17	78	2870	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.96	95	21256	1.0060	ug/L	99
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.59	92	2612	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.41	91	2872	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	11.77	106	2647	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	13.27	75	2439	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.22	105	2684	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891508.D Vial: 20
Acq On : 20 Jul 2017 19:12 Operator: AGK-RLD
Sample : 139958,891508, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:33:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	2257	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

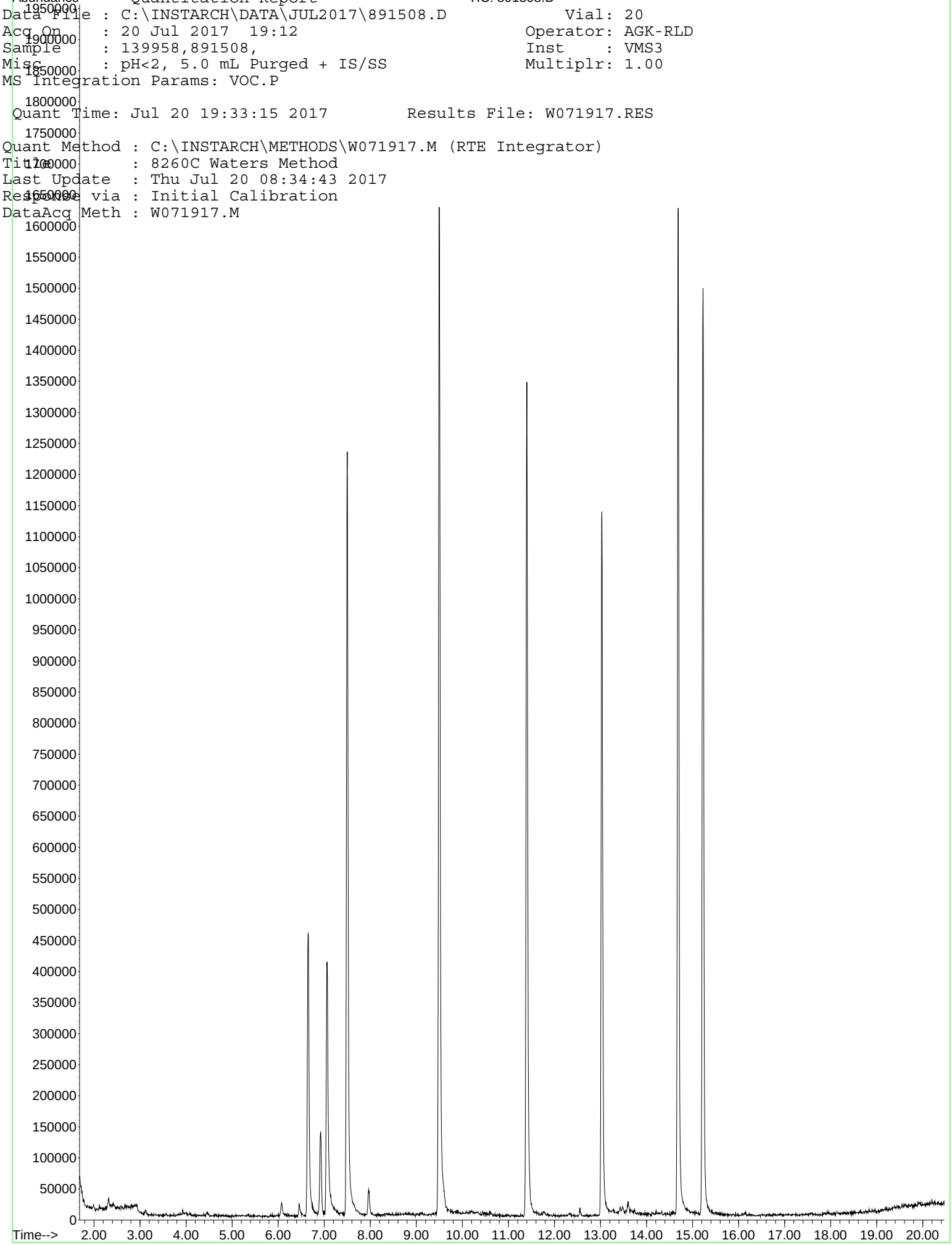
(#) = qualifier out of range (m) = manual integration

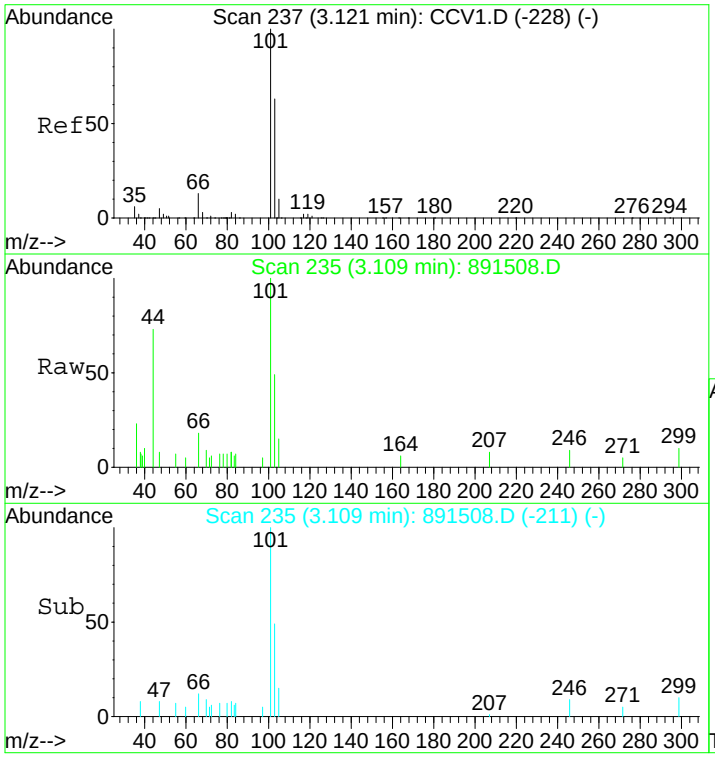
Abundance Quantitation Report TIC: 891508.D

Data File : C:\INSTARCH\DATA\JUL2017\891508.D Vial: 20
Acq On : 20 Jul 2017 19:12 Operator: AGK-RLD
Sample : 139958,891508, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 19:33:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

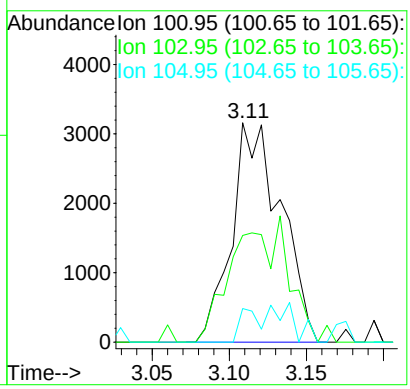


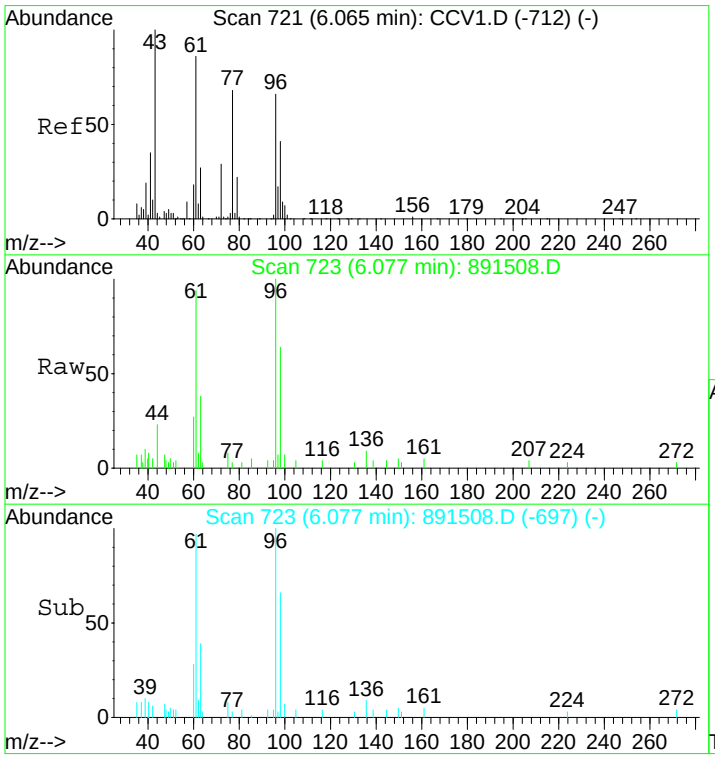


#8
Trichlorofma
Concen: 0.23 ug/L
RT: 3.11 min Scan# 235
Delta R.T. -0.01 min
Lab File: 891508.D
Acq: 20 Jul 2017 19:12

Tgt Ion:101 Resp: 7030

Ion	Ratio	Lower	Upper
101	100		
103	64.1	43.2	83.2
105	0.0	0.0	30.4

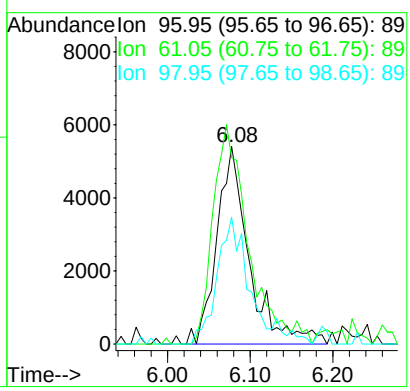


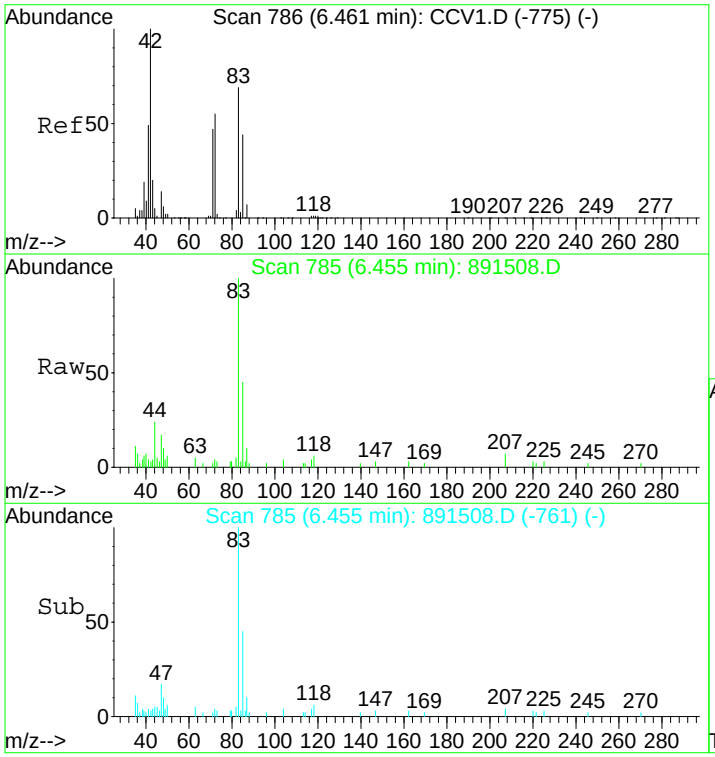


#32
c12dichlorte
Concen: 0.67 ug/L
RT: 6.08 min Scan# 723
Delta R.T. 0.01 min
Lab File: 891508.D
Acq: 20 Jul 2017 19:12

Tgt Ion: 96 Resp: 14689

Ion	Ratio	Lower	Upper
96	100		
61	121.6	112.2	152.2
98	65.6	44.7	84.7

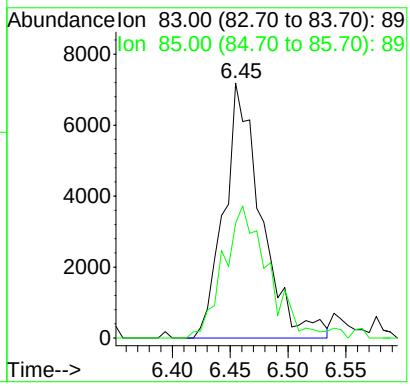


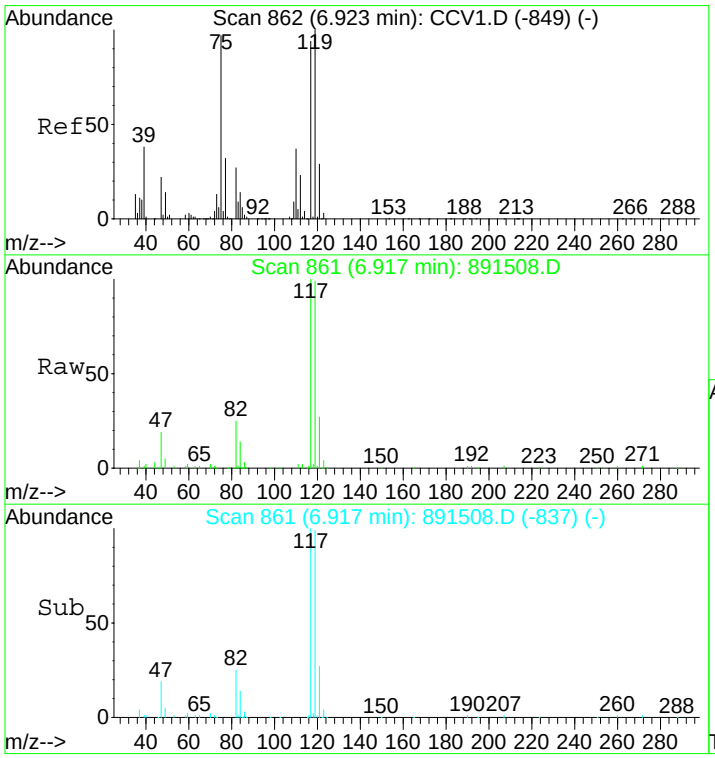


#39
Chloroform
Concen: 0.45 ug/L
RT: 6.45 min Scan# 785
Delta R.T. -0.01 min
Lab File: 891508.D
Acq: 20 Jul 2017 19:12

Tgt Ion: 83 Resp: 16106

Ion	Ratio	Lower	Upper
83	100		
85	63.4	45.6	85.6

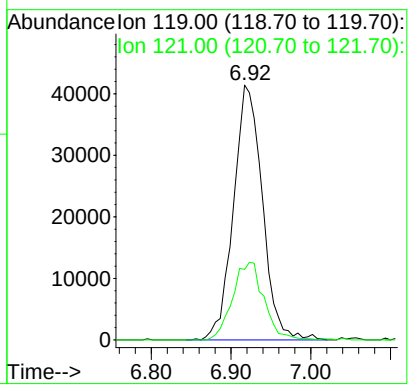


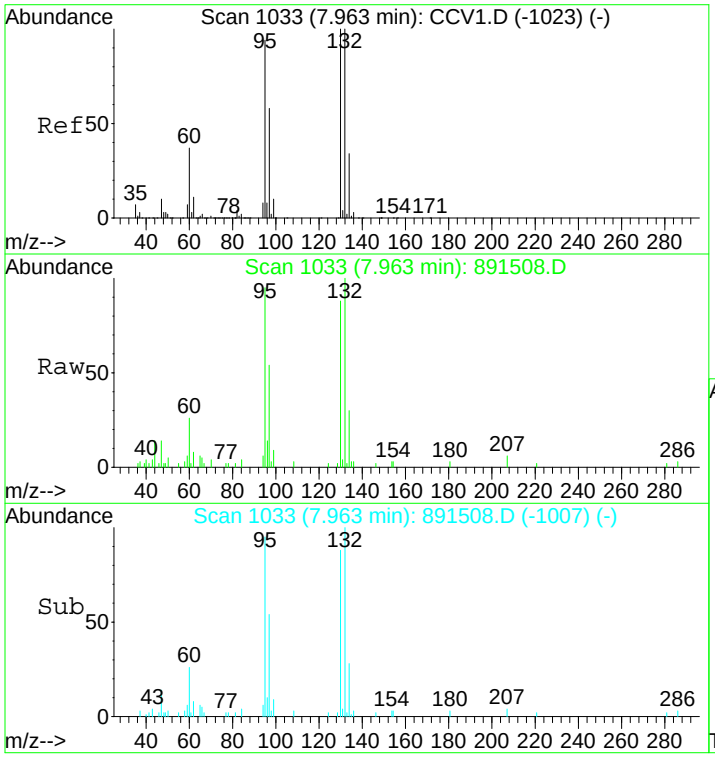


#43
Carbtetraclo
Concen: 4.26 ug/L
RT: 6.92 min Scan# 861
Delta R.T. -0.01 min
Lab File: 891508.D
Acq: 20 Jul 2017 19:12

Tgt Ion:119 Resp: 104306

Ion	Ratio	Lower	Upper
119	100		
121	33.0	14.0	54.0

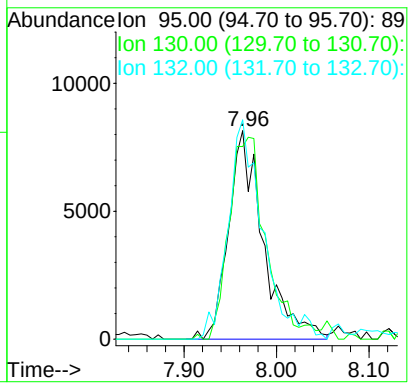




#49
trichloroete
Concen: 1.01 ug/L
RT: 7.96 min Scan# 1033
Delta R.T. 0.01 min
Lab File: 891508.D
Acq: 20 Jul 2017 19:12

Tgt Ion: 95 Resp: 21256

Ion	Ratio	Lower	Upper
95	100		
130	106.2	88.4	128.4
132	105.3	86.2	126.2



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891510.D Vial: 21
Acq On : 20 Jul 2017 19:42 Operator: AGK-RLD
Sample : 139958,891510, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:02:44 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1523069	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1154716	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	662141	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	367962	19.077	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.06	102	104089	19.160	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.50	98	1488319	19.360	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.02	95	553508	20.318	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	5964	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	2148	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	5227	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	16262	N.D.		
16) Iodomethane	3.99	142	2961	N.D.		
17) Carbon Dislf	4.09	76	3332	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.46	84	3091	N.D.		
21) tbutylalcohol	4.72	59	2368	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.08	96	5965	0.2797	ug/L	95
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.47	42	3198	Below Cal #		30

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891510.D Vial: 21
Acq On : 20 Jul 2017 19:42 Operator: AGK-RLD
Sample : 139958,891510, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:02:44 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.47	83	2473	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	6.92	119	13184	0.5501	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	7.98	95	3210	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.58	92	3370	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.39	91	3335	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.61	91	4614	N.D.		
76)	m p-Xylene	11.77	106	7442	N.D.		
77)	o-Xylene	12.31	106	2638	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.21	105	2210	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891510.D Vial: 21
Acq On : 20 Jul 2017 19:42 Operator: AGK-RLD
Sample : 139958,891510, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:02:44 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

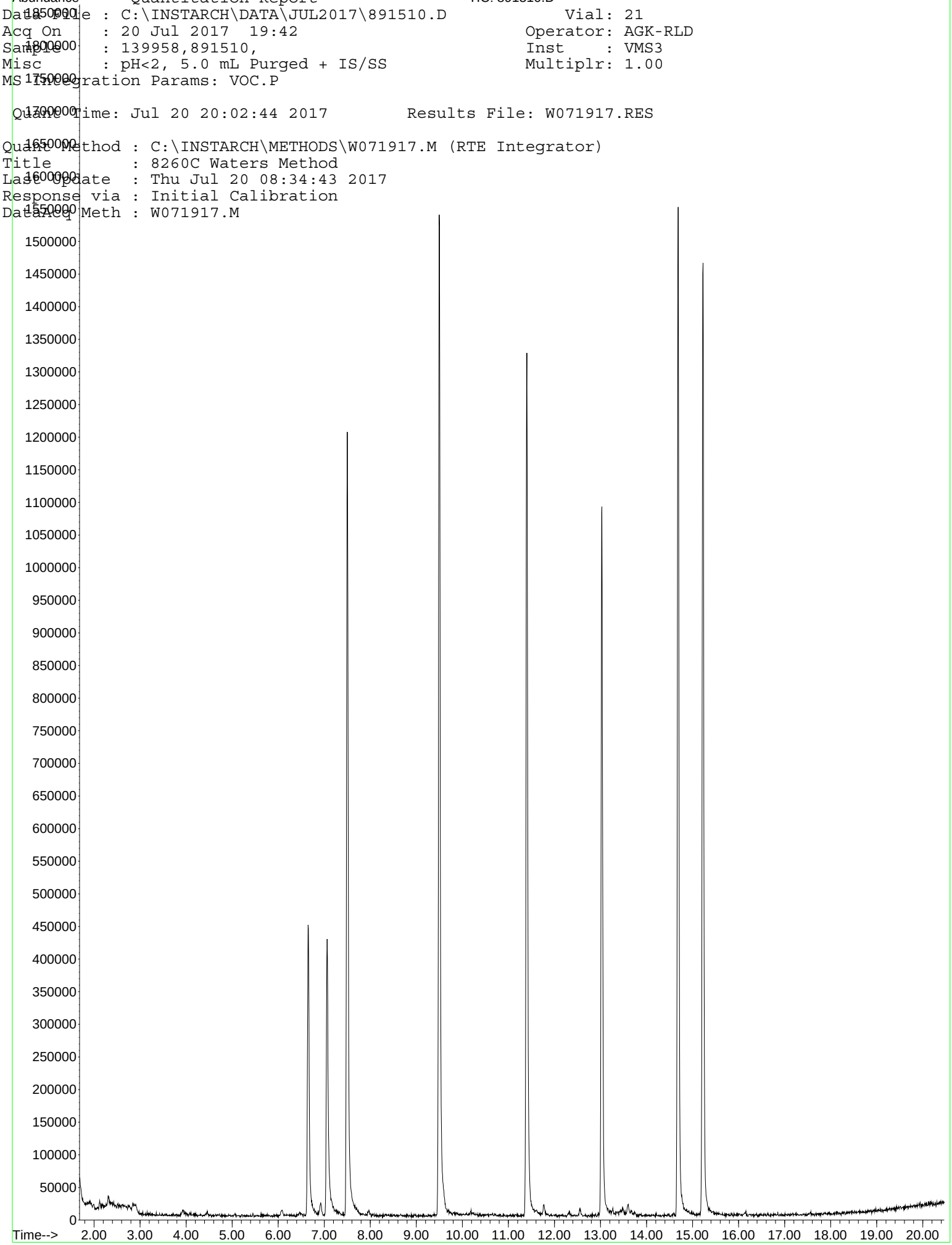
(#) = qualifier out of range (m) = manual integration

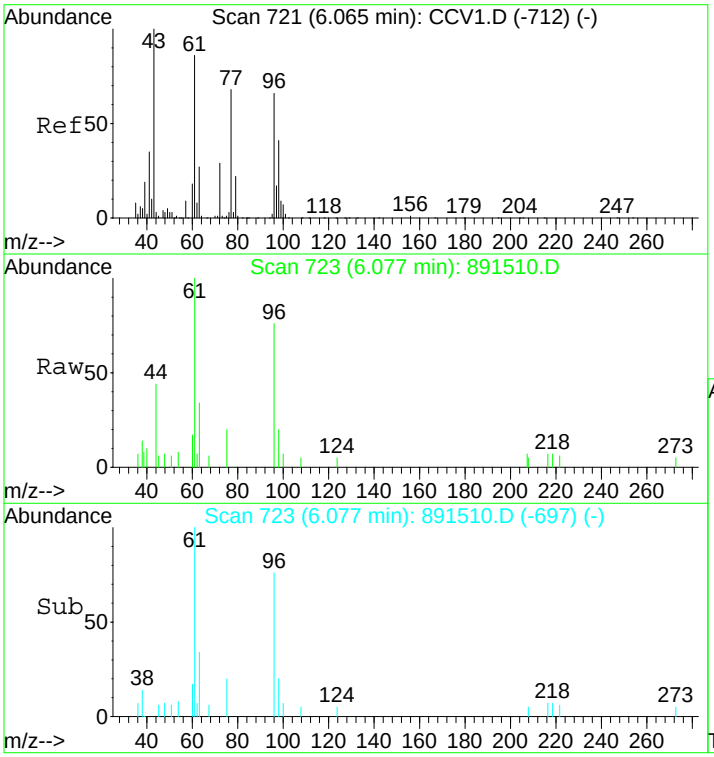
Abundance Quantitation Report TIC: 891510.D

Data File : C:\INSTARCH\DATA\JUL2017\891510.D Vial: 21
Acq On : 20 Jul 2017 19:42 Operator: AGK-RLD
Sample : 139958,891510, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:02:44 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

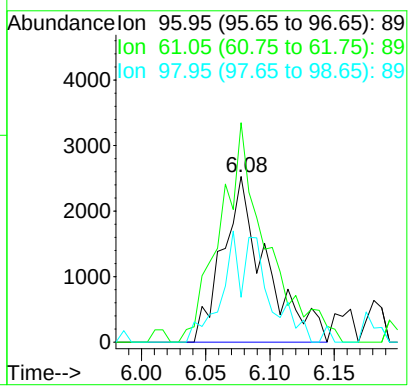


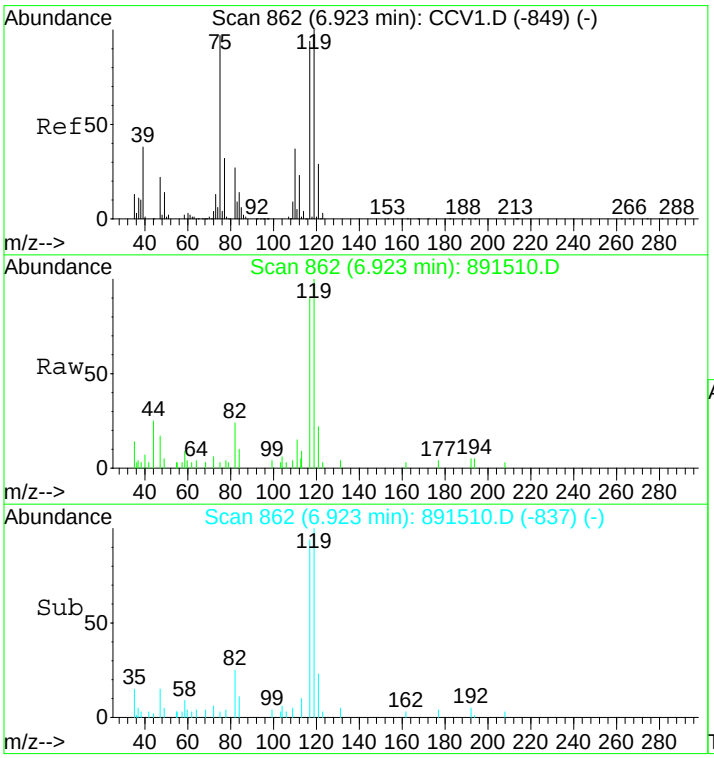


#32
c12dichlorte
Concen: 0.28 ug/L
RT: 6.08 min Scan# 723
Delta R.T. 0.01 min
Lab File: 891510.D
Acq: 20 Jul 2017 19:42

Tgt Ion: 96 Resp: 5965

Ion	Ratio	Lower	Upper
96	100		
61	141.3	112.2	152.2
98	65.4	44.7	84.7

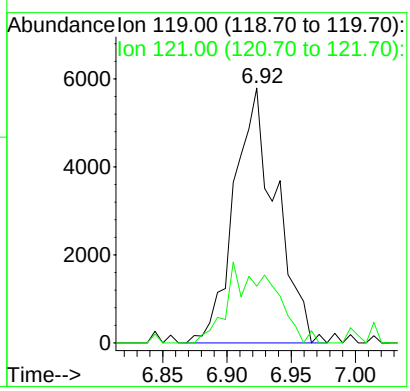




#43
Carbtetraclo
Concen: 0.55 ug/L
RT: 6.92 min Scan# 862
Delta R.T. -0.00 min
Lab File: 891510.D
Acq: 20 Jul 2017 19:42

Tgt Ion:119 Resp: 13184

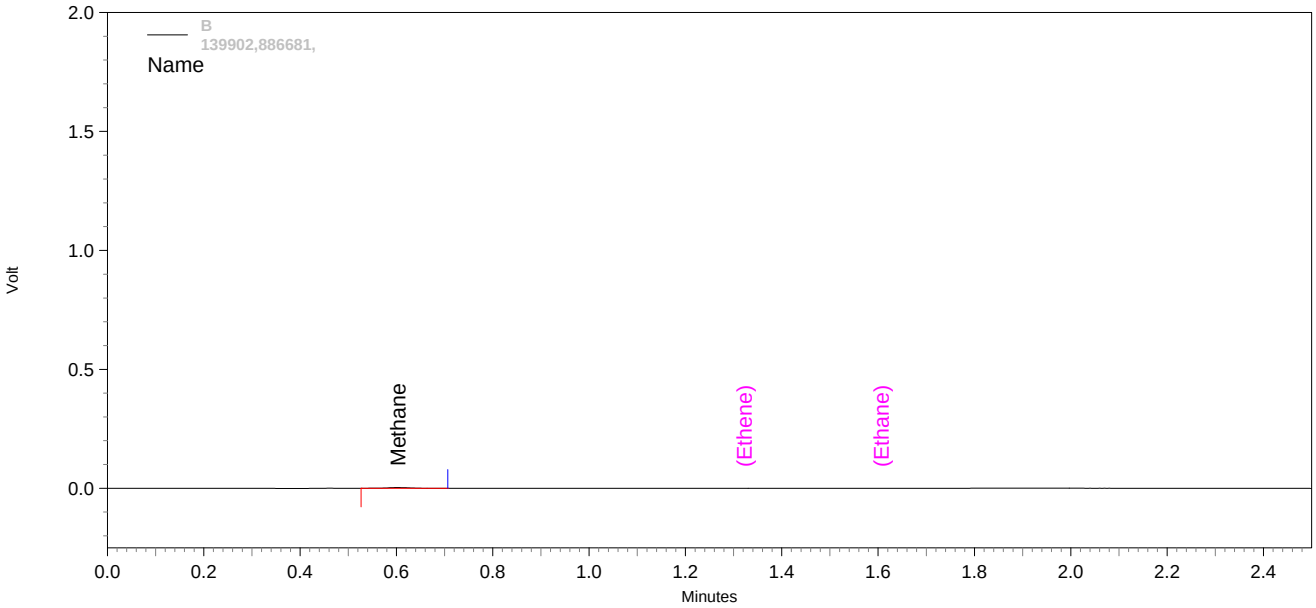
Ion	Ratio	Lower	Upper
119	100		
121	34.5	14.0	54.0



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139902,886681,
Acquired: Jul 14, 2017 09:34:02
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

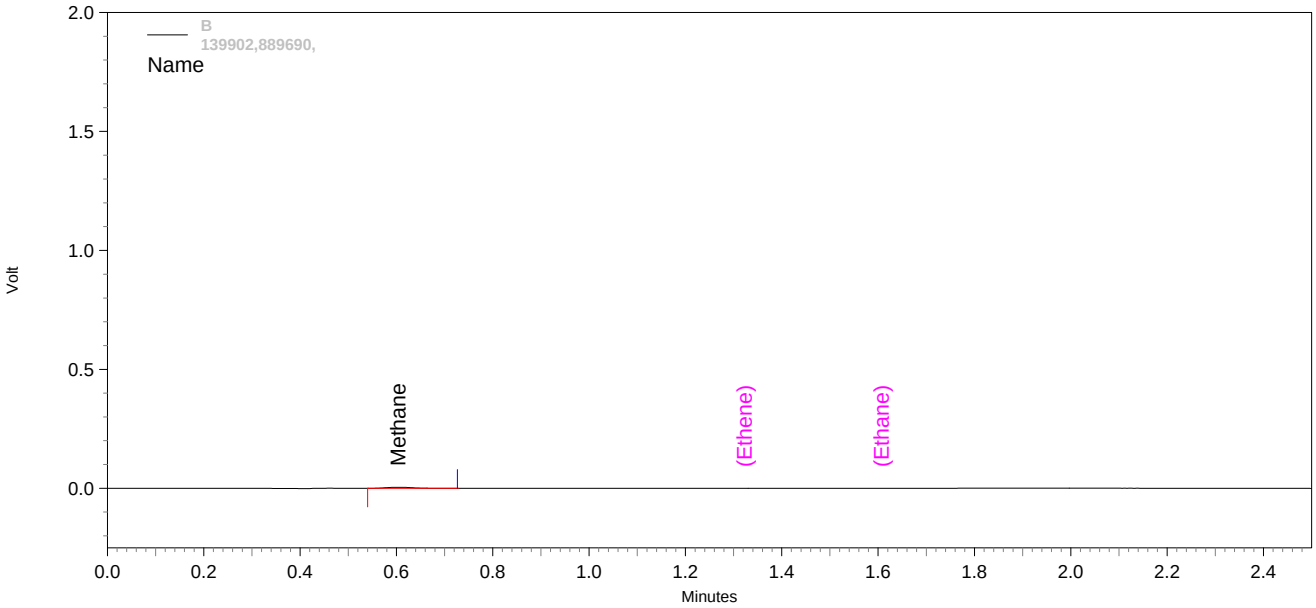
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	10349	**1.074**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10349	**1.074**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139902,889690,
Acquired: Jul 14, 2017 09:39:25
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

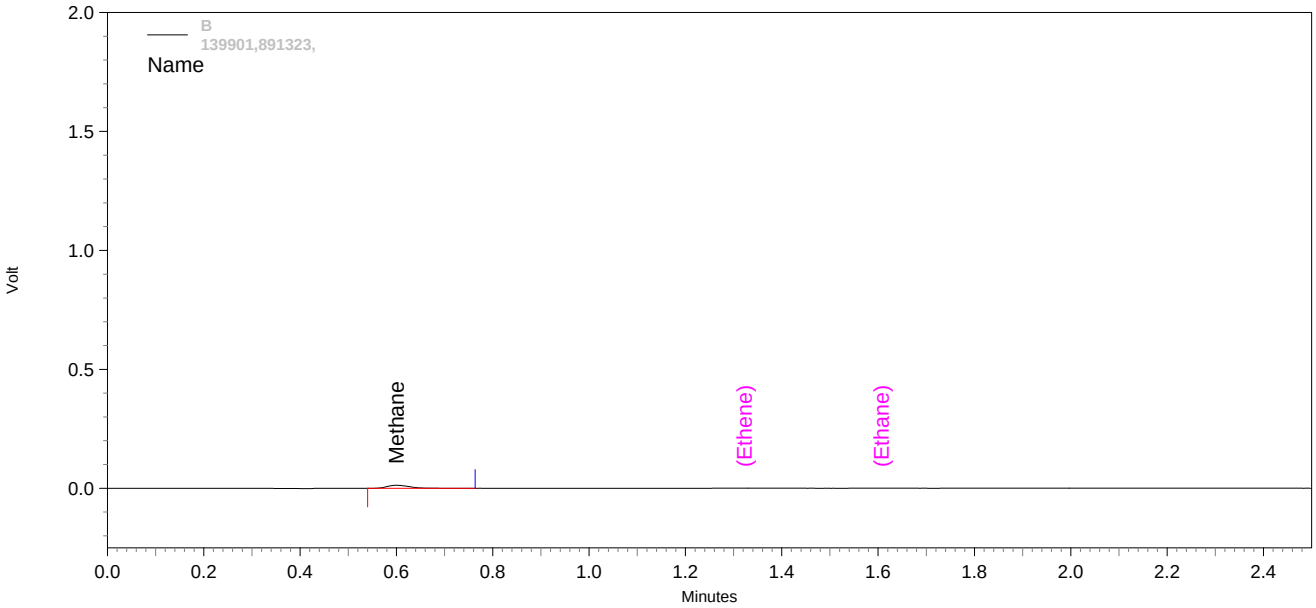
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	15711	**1.675**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			15711	**1.675**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891323,
Acquired: Jul 14, 2017 09:43:13
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

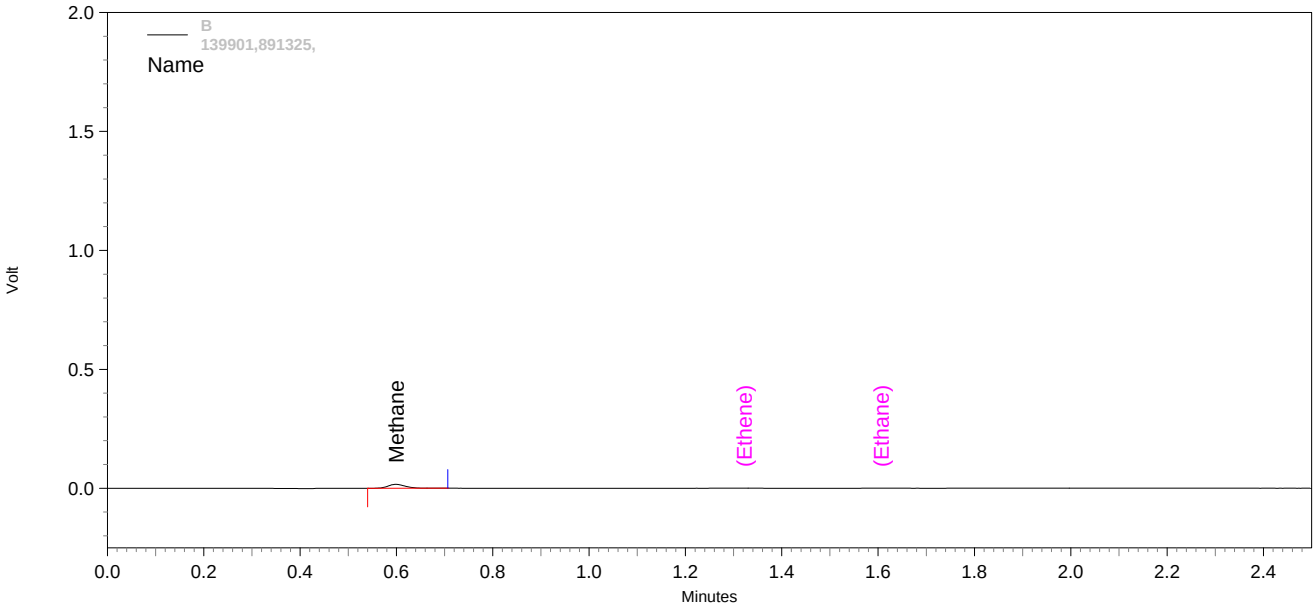
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	41138	**4.527**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			41138	**4.527**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891325,
Acquired: Jul 14, 2017 09:47:08
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

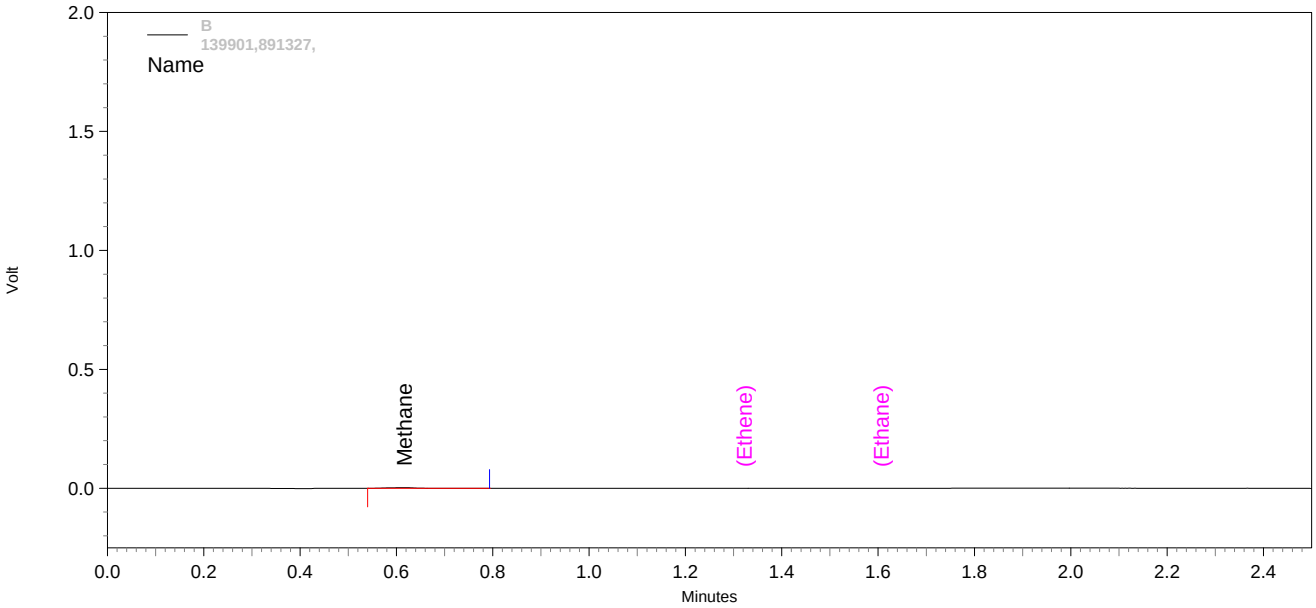
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	41376	**4.553**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			41376	**4.553**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891327,
Acquired: Jul 14, 2017 09:53:24
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

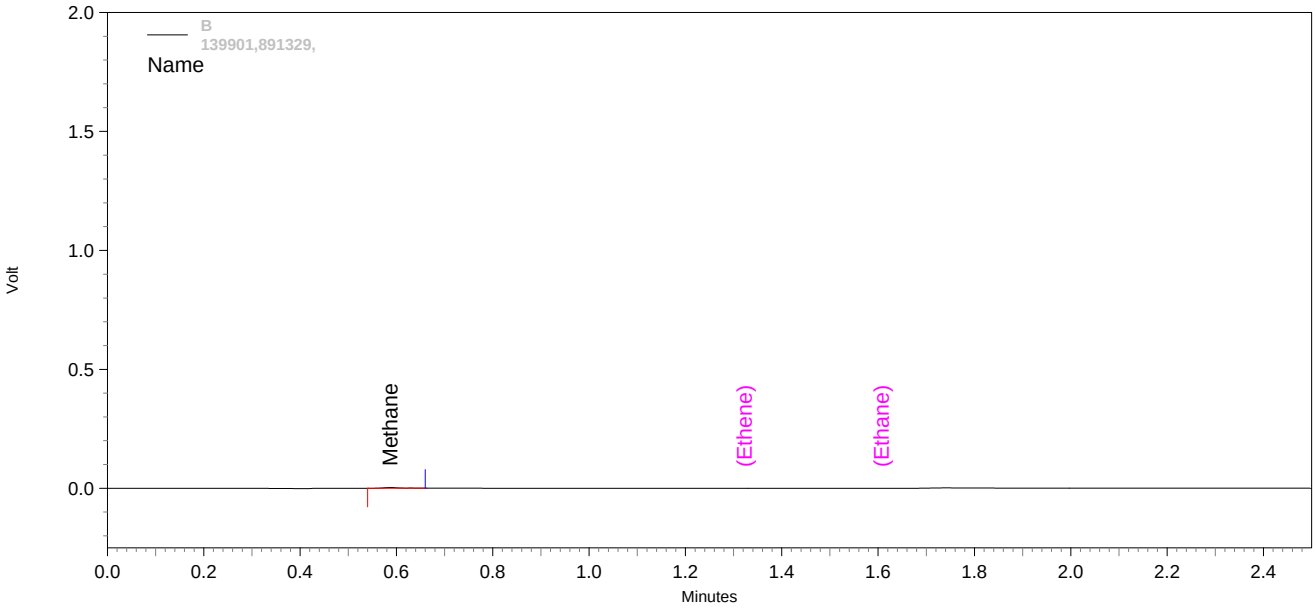
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.617	10758	**1.120**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10758	**1.120**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891329,
Acquired: Jul 14, 2017 10:03:46
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

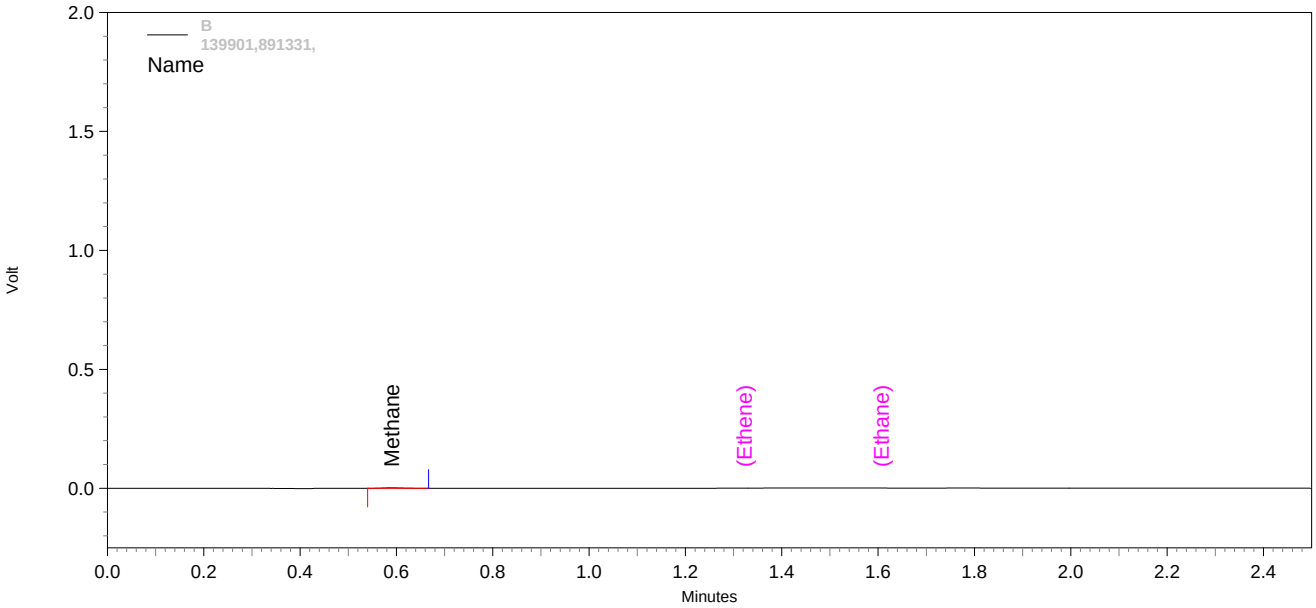
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	7242	**0.726**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			7242	**0.726**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891331,
Acquired: Jul 14, 2017 10:07:13
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

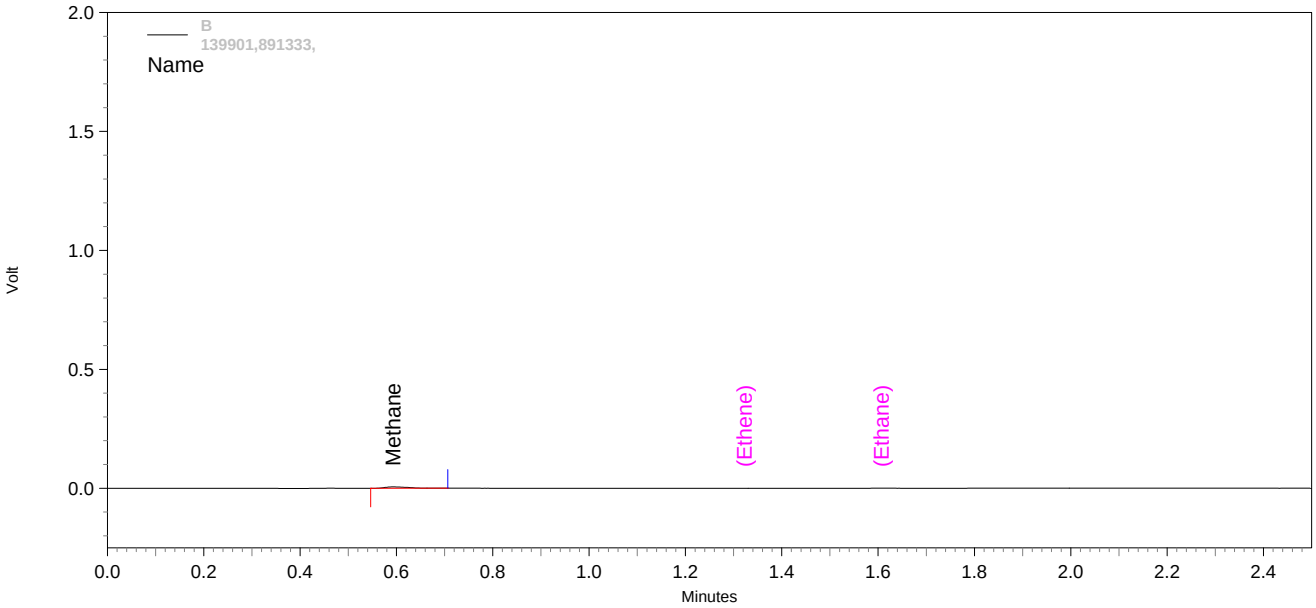
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	5403	**0.520**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			5403	**0.520**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891333,
Acquired: Jul 14, 2017 10:32:07
File Desc. MATRIX SPIKE (Methane, Ethene, Ethane)
1mL injection



B Results

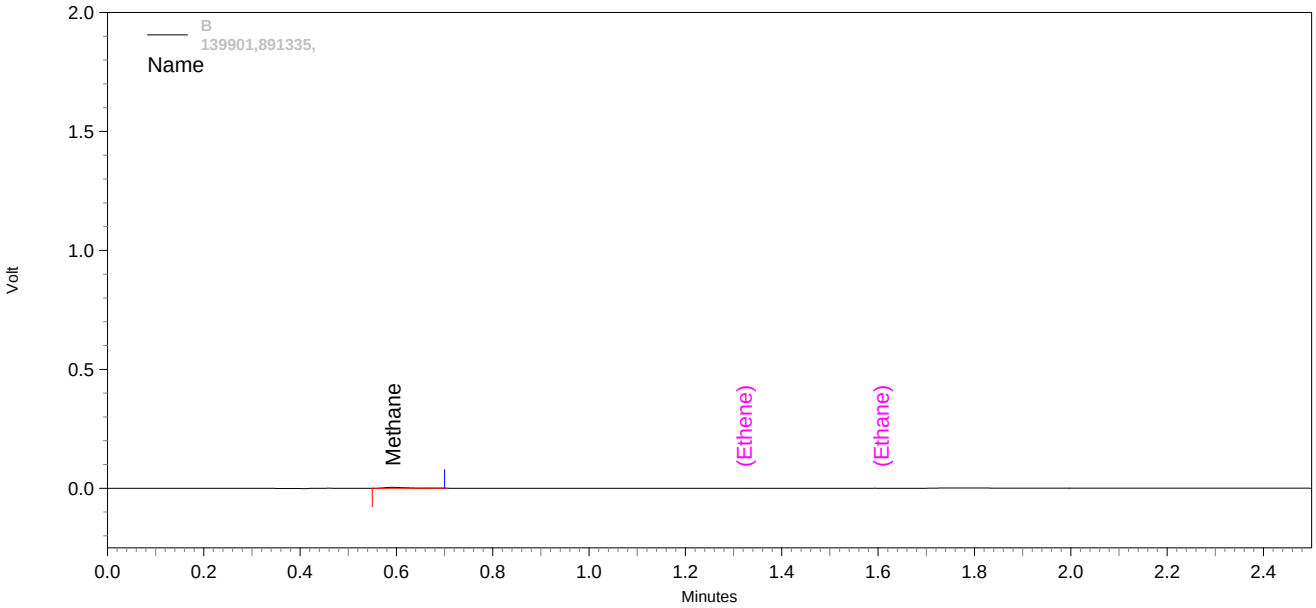
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	18454	**1.983**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			18454	**1.983**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891335,
Acquired: Jul 14, 2017 10:41:05
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

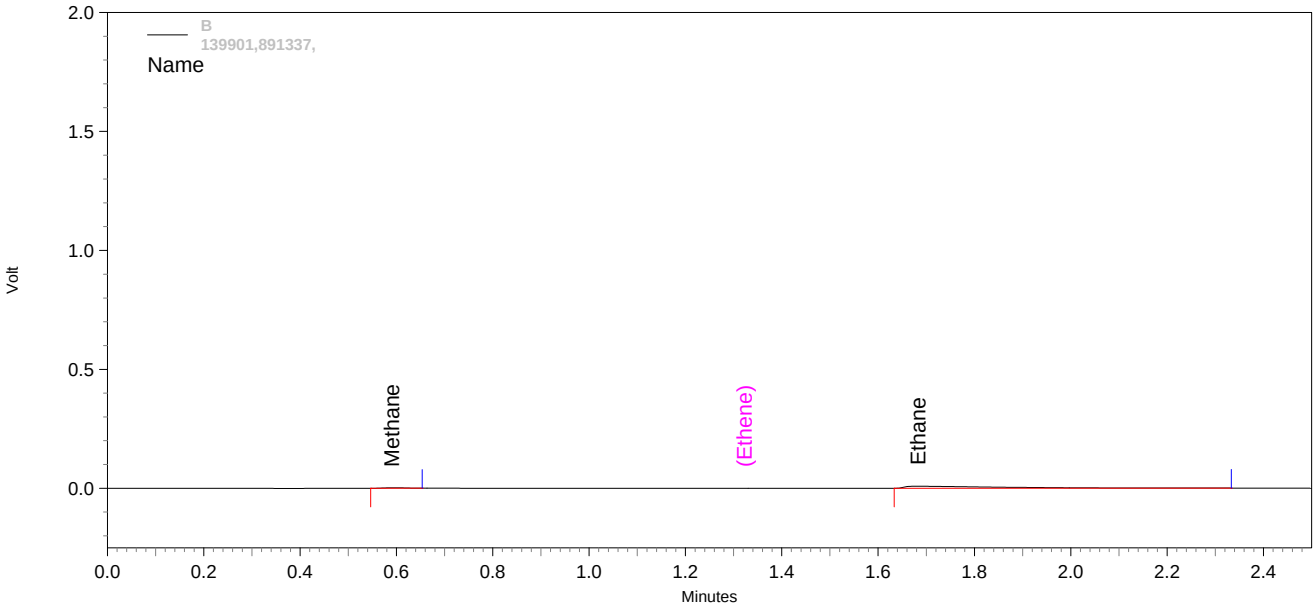
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	11432	**1.196**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			11432	**1.196**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891337,
Acquired: Jul 14, 2017 11:09:11
File Desc. 1mL injection (Methane, Ethene, Ethane)



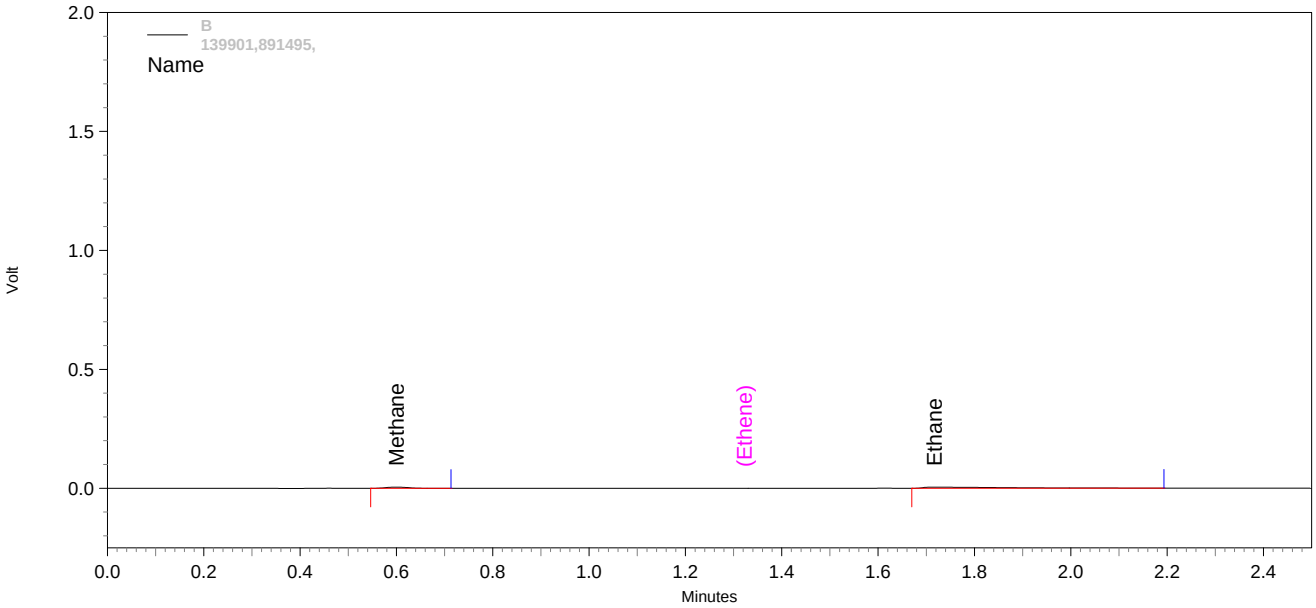
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	5625	**0.544**
	Ethene			**0.000 BDL**
2	Ethane	1.683	114495	**7.295**
Totals			120120	**7.839**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891495,
Acquired: Jul 14, 2017 12:23:43
File Desc. 1mL injection (Methane, Ethene, Ethane)



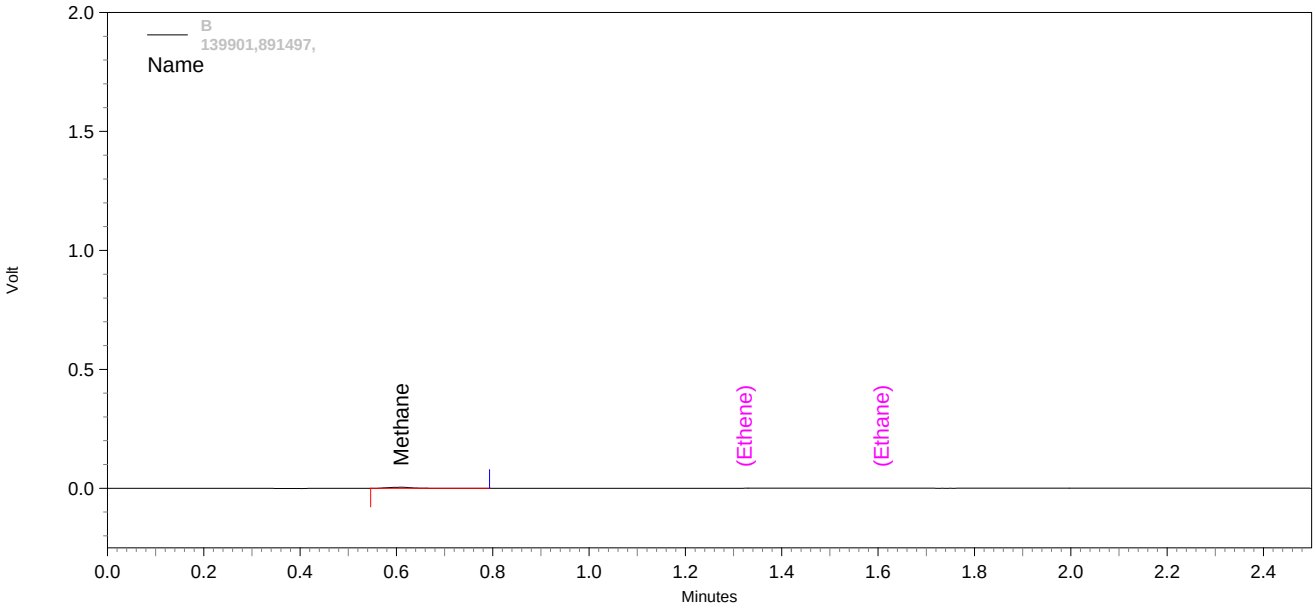
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	15441	**1.645**
	Ethene			**0.000 BDL**
2	Ethane	1.717	50625	**3.559**
Totals			66066	**5.204**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891497,
Acquired: Jul 14, 2017 12:27:16
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

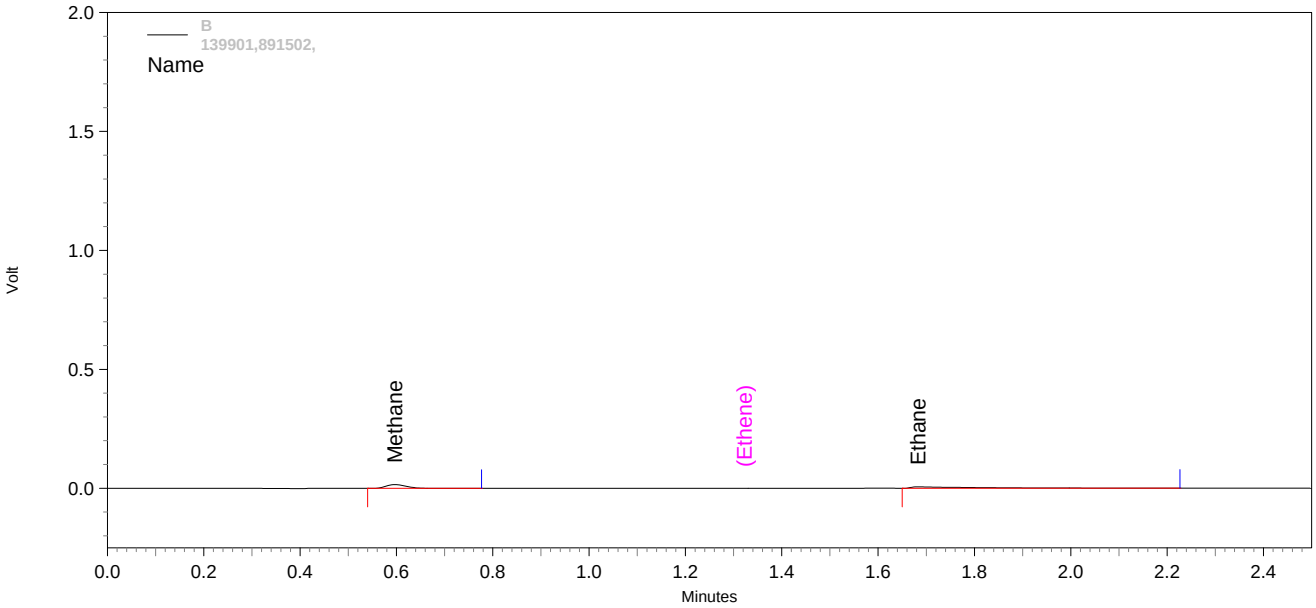
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.610	15797	**1.685**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			15797	**1.685**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891502,
Acquired: Jul 14, 2017 12:45:16
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

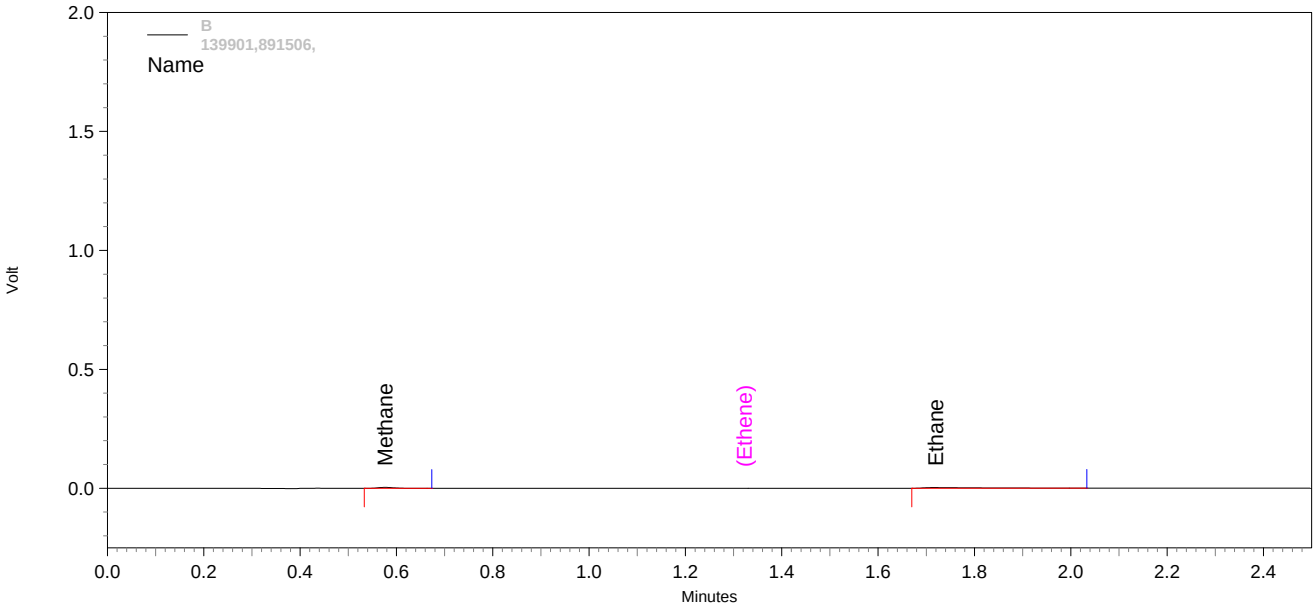
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	46816	**5.163**
	Ethene			**0.000 BDL**
2	Ethane	1.683	55128	**3.822**

Totals			101944	**8.985**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891506,
Acquired: Jul 14, 2017 12:50:31
File Desc. 1mL injection (Methane, Ethene, Ethane)



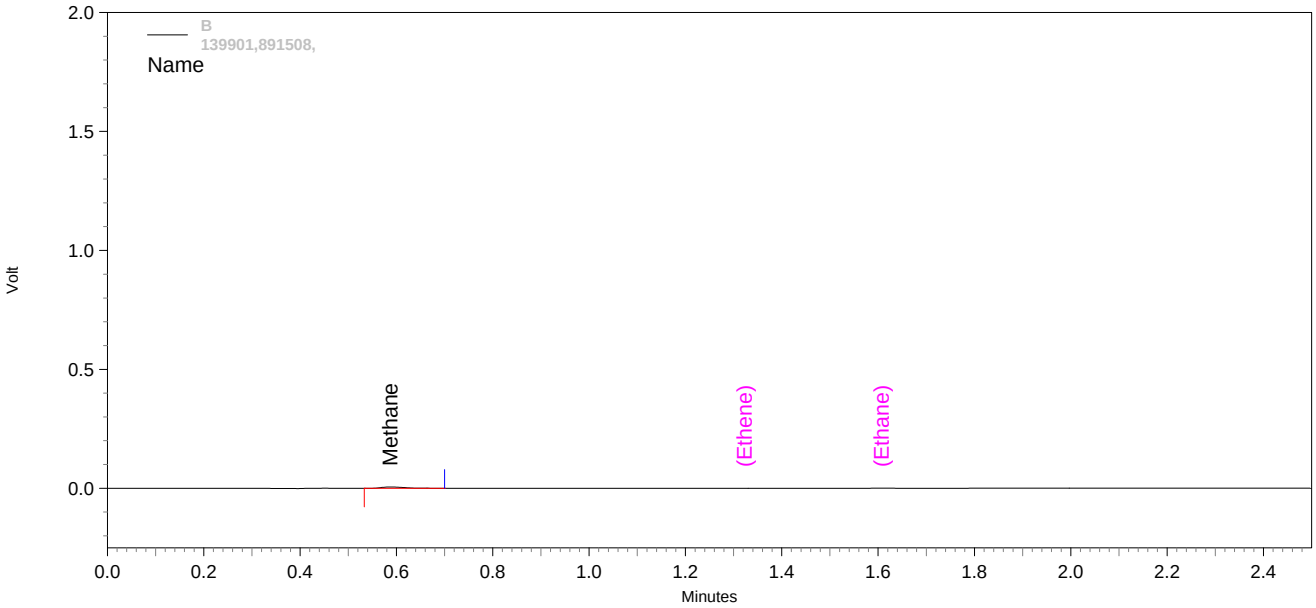
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	8869	**0.908**
	Ethene			**0.000 BDL**
2	Ethane	1.720	21559	**1.858**
Totals			30428	**2.767**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891508,
Acquired: Jul 14, 2017 12:59:42
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

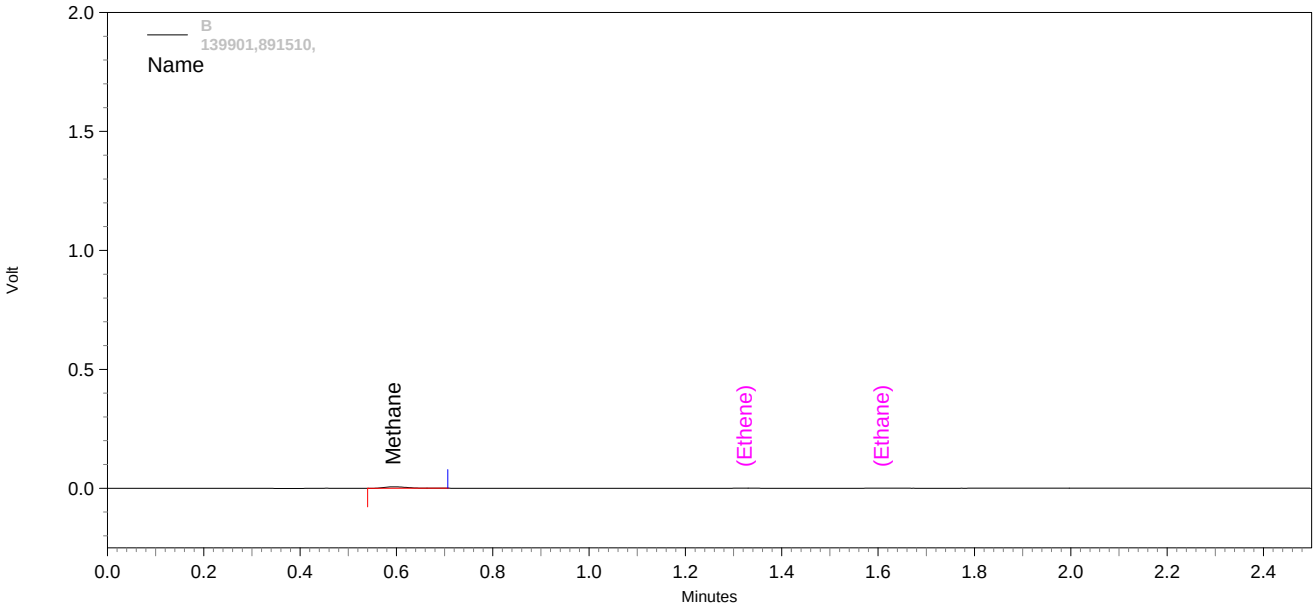
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	17787	**1.908**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			17787	**1.908**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,891510,
Acquired: Jul 14, 2017 13:18:36
File Desc. 1mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	19989	**2.155**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			19989	**2.155**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W071917.M
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response Via : Initial Calibration

RJ 07/20/2019

Calibration Files ug/L
1 0.5/5.00 =WCAL1.D 2 2.0/20.0 =WCAL2.D 3 5.0/50.0 =WCAL3.D
4 10.0/100 =WCAL4.D 5 20.0/200 =WCAL5.D 6 30.0/300 =WCAL6.D
7 40.0/400 =WCAL7.D 8 80.0/800 =WCAL8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.363	0.287	0.300	0.313	0.298	0.293	0.287	0.261	0.300	9.81
3)	PT	Chloromethan	0.402	0.399	0.362	0.332	0.322	0.318	0.291	0.279	0.338	13.64
4)	PT	VinylChlorid	0.332	0.302	0.315	0.322	0.301	0.296	0.290	0.268	0.303	6.58
5)	PT	Bromomethane	0.177	0.186	0.184	0.170	0.164	0.159	0.152	0.153	0.168	7.85
6)	PT	Chloroethane	0.256	0.231	0.231	0.219	0.210	0.209	0.199	0.190	0.218	9.58
7)	T	Dichloroflmetha	0.523	0.460	0.482	0.464	0.434	0.439	0.418	0.384	0.450	9.40
8)	PT	Trichlorofma	0.465	0.392	0.399	0.410	0.385	0.384	0.372	0.346	0.394	8.76
9)	T	Ethylether	0.209	0.188	0.181	0.177	0.185	0.193	0.189	0.186	0.189	5.12
10)	T	dichlorotfluoro	0.321	0.279	0.299	0.299	0.281	0.284	0.278	0.261	0.288	6.27
11)	T	propyleneoxide	0.049	0.043	0.047	0.043	0.043	0.045	0.038	0.044	0.044	6.93
12)	T	Acrolein	0.061	0.066	0.079	0.072	0.077	0.081	0.074	0.078	0.073	9.23
13)	PT	11dichlorthe	0.281	0.229	0.251	0.244	0.240	0.240	0.236	0.227	0.243	7.00
14)	PT	Trichlorotfluor	0.248	0.215	0.226	0.231	0.221	0.221	0.213	0.202	0.222	6.18
15)	PT	Acetone	0.148	0.133	0.148	0.134	0.134	0.137	0.121	0.116	0.134	8.41
16)	T	Iodomethane	0.332	0.251	0.251	0.250	0.245	0.256	0.250	0.241	0.259	11.40
17)	PT	Carbon Dislf	0.580	0.488	0.525	0.536	0.526	0.535	0.502	0.433	0.516	8.32
18)	T	allylchloride	0.286	0.317	0.315	0.319	0.317	0.316	0.309	0.263	0.305	6.63
19)	PT	methylacetate	0.081	0.060	0.063	0.065	0.062	0.068	0.070	0.084	0.069#	12.67
20)	PT	Methylchlorid	0.314	0.304	0.284	0.267	0.258	0.260	0.254	0.245	0.273	9.11
21)	T	tbutylalcohol	0.036	0.031	0.044	0.036	0.041	0.045	0.032	0.035	0.037	13.59
22)	T	Acrylonitrile	0.100	0.087	0.100	0.101	0.110	0.121	0.108	0.116	0.105	10.11
23)	PT	t12dichlorte	0.288	0.259	0.256	0.260	0.251	0.262	0.254	0.248	0.260	4.75
24)	PT	MtBE	0.711	0.668	0.714	0.674	0.680	0.696	0.677	0.630	0.681	3.97
25)	T	Hexane	0.406	0.347	0.372	0.386	0.374	0.373	0.359	0.318	0.367	7.22
26)	PT	11dichlorota	0.462	0.466	0.468	0.452	0.435	0.441	0.431	0.405	0.445	4.79
27)	T	Vinylacetate	0.403	0.418	0.461	0.405	0.405	0.388	0.335	0.402	9.28	

28)	T	chloroprene	0.409	0.378	0.403	0.407	0.395	0.394	0.380	0.387	6.53
			0.332								
29)	T	Diisopether	0.772	0.769	0.765	0.743	0.739	0.749	0.719	0.738	5.44
			0.649								
30)	T	ETBE	0.659	0.622	0.669	0.625	0.662	0.676	0.658	0.647	3.94
			0.607								
31)	T	22dichloropr	0.363	0.328	0.332	0.329	0.341	0.358	0.360	0.345	4.24
			0.352								
32)	PT	c12dichlorte	0.268	0.288	0.286	0.285	0.282	0.282	0.279	0.280	2.60
			0.270								
33)	PT	2Butanone	0.036	0.042	0.053	0.051	0.053	0.057	0.050	0.050#	14.41
			0.055								
34)	T	propionitrile	0.038	0.034	0.048	0.045	0.047	0.053	0.044	0.045	14.29
			0.050								
35)	T	Ethylacetate	0.014	0.012	0.015	0.015	0.017	0.018	0.018	0.015#	14.64
36)	T	methacrylonitri	0.124	0.133	0.147	0.149	0.152	0.162	0.153	0.148	8.84
			0.160								
37)	T	Bromochlorma	0.176	0.136	0.137	0.131	0.131	0.131	0.125	0.136	12.19
			0.124								
38)	T	Tetrahydofur	0.277	0.188	0.161	0.135	0.124	0.129	0.110	-----	
			0.102								
								Q	A= -0.001 R=0.997		
									B= 0.125		
									C= 0.068		
39)	PT	Chloroform	0.495	0.472	0.471	0.452	0.446	0.455	0.441	0.456	5.23
			0.415								
40)	PT	111trichlota	0.472	0.380	0.411	0.407	0.405	0.419	0.412	0.412	6.56
			0.392								
41)	S	SURRDibrflma	0.249	0.254	0.248	0.254	0.255	0.251	0.256	0.253	1.32
			0.258								
42)	PT	Cyclohexane	0.446	0.375	0.400	0.427	0.411	0.421	0.409	0.409	5.56
			0.385								
43)	PT	Carbtetraclo	0.310	0.279	0.309	0.312	0.320	0.331	0.331	0.315	5.48
			0.326								
44)	T	11dicloprope	0.158	0.126	0.130	0.133	0.133	0.136	0.138	0.136	6.96
			0.136								
45)	S	SURR12DCAd4	0.069	0.068	0.069	0.073	0.069	0.070	0.079	0.071	5.22
			0.073								
46)	PT	Benzene	1.286	1.126	1.102	1.067	1.019	1.017	0.964	1.051	12.71
			0.825								
47)	PT	12dichlorota	0.362	0.317	0.326	0.321	0.319	0.324	0.318	0.325	4.91
			0.310								
48)	T	TAME	0.669	0.646	0.661	0.632	0.674	0.686	0.682	0.661	3.15
			0.635								
49)	PT	trichloroete	0.308	0.251	0.273	0.271	0.269	0.270	0.265	0.271	5.98
			0.264								
50)	PT	methylcyclohexa	0.534	0.443	0.492	0.530	0.510	0.519	0.512	0.502	6.08
			0.477								
51)	PT	12dicloropra	0.303	0.275	0.268	0.266	0.263	0.270	0.265	0.271	5.03
			0.260								
52)	T	23Dicl1propene	0.400	0.340	0.365	0.355	0.363	0.376	0.373	0.367	4.70
			0.368								
53)	T	Dibromometha	0.174	0.166	0.171	0.158	0.164	0.168	0.165	0.166	2.88
			0.166								
54)	T	methylmethacryl	0.184	0.168	0.206	0.210	0.224	0.245	0.244	0.217	14.31
			0.257								
55)	T	14dioxane	0.001	0.001	0.001	0.001	0.001	0.001	0.001	----- #	
			0.001								
								Q	A= -0.000 R=0.992		
									B= 0.001		
									C= 0.001		
56)	PT	Bromodiclrma	0.331	0.319	0.316	0.309	0.323	0.332	0.332	0.323	2.56
			0.321								
57)	T	2Nitropropane	0.057	0.059	0.071	0.075	0.081	0.095	0.088	-----	
			0.088								
								Q	A= -0.000 R=0.998		
									B= 0.093		
									C= -0.045		

58) T 2CLEVE 0.005 0.002 0.002 0.003 0.020 0.048 0.057 ----- #
0.093

Q A= 0.004 R=0.997
B= 0.019
C= -0.027

59) PT c13dicloproe 0.342 0.362 0.389 0.376 0.385 0.409 0.404 0.382 5.72
0.390
60) PT 4Meth2Pentan 0.304 0.306 0.371 0.337 0.319 0.306 0.264 0.315 10.43

61) S SURRd8Tolule 0.990 0.992 0.999 1.014 1.007 1.022 1.029 1.009 1.47
1.023
62) PT Toluene 0.777 0.700 0.691 0.667 0.662 0.675 0.652 0.676 8.05
0.582
63) PT t13Dicloprop 0.297 0.281 0.308 0.311 0.331 0.355 0.352 0.323 8.55
0.348
64) T ethylmethacryla 0.263 0.274 0.338 0.333 0.362 0.382 0.366 0.333 12.84
0.342
65) PT 112Triclotha 0.215 0.204 0.213 0.203 0.206 0.213 0.208 0.208 2.27
0.205
66) PT Tetrachlorte 0.343 0.331 0.329 0.334 0.330 0.335 0.330 0.331 2.00
0.320
67) T 13Diclorpropa 0.425 0.398 0.426 0.416 0.413 0.426 0.410 0.414 2.88
0.397

68) I d5-CHLOROBENZENE**IST ----------ISTD----------
69) PT 2Hexanone 0.243 0.245 0.337 0.303 0.313 0.318 0.270 0.290 12.83

70) PT Clorodibrmta 0.303 0.276 0.292 0.289 0.309 0.327 0.321 0.306 6.18
0.327
71) PT 12Dibrometha 0.355 0.330 0.326 0.314 0.326 0.342 0.326 0.331 3.79
0.327
72) PT Chlorobenzen 0.996 0.942 0.962 0.898 0.887 0.908 0.856 0.903 7.64
0.772
73) T 1Clhexane 0.472 0.417 0.433 0.436 0.450 0.470 0.463 0.448 4.37
0.442
74) T 1112Tetclota 0.310 0.294 0.320 0.306 0.318 0.331 0.326 0.316 3.83
0.323
75) PT Ethylbenzene 1.707 1.571 1.594 1.527 1.494 1.489 1.386 1.490 11.09
1.152
76) PT m p-Xylene 0.609 0.611 0.621 0.603 0.605 0.604 0.567 0.589 7.12
0.493
77) PT o-Xylene 0.636 0.597 0.612 0.604 0.602 0.624 0.596 0.604 3.65
0.562
78) PT Styrene 0.950 0.838 0.963 0.921 0.955 0.975 0.928 0.921 5.82
0.841
79) PT Bromoform 0.174 0.158 0.184 0.188 0.206 0.232 0.228 0.196 14.19

80) PT Isopropylben 1.514 1.473 1.532 1.489 1.458 1.465 1.361 1.429 8.97
1.138
81) T cyclohexanone 0.003 0.002 0.004 0.003 0.004 0.004 0.004 ----- #
0.004

Q A= 0.000 R=0.999
B= 0.004
C= -0.002

82) I d4-1,4-DICHLOROBENZEN ----------ISTD----------
83) S SURR4BrFBenz 0.816 0.828 0.819 0.811 0.829 0.826 0.827 0.823 0.82
0.826
84) T Bromobenzene 0.765 0.692 0.703 0.691 0.681 0.690 0.670 0.692 4.98
0.645
85) PT 1122Tetrclta 1.069 0.904 0.978 0.873 0.863 0.869 0.824 0.894 10.34
0.771
86) T 123Triclproa 1.278 0.941 0.977 0.908 0.934 0.980 0.923 0.988 12.15
0.961
87) T 14dichloro2bute 0.111 0.100 0.119 0.123 0.138 0.163 0.161 -----
0.198

Q A= 0.017 R=0.999
B= 0.132
C= -0.004

88) T n-Propylbenz 3.156 2.943 2.988 2.946 2.832 2.745 2.547 2.770 12.95

			2.002								
89)	T	2chlorotolue	2.144	1.756	1.816	1.804	1.715	1.711	1.628	1.748	11.77
			1.409								
90)	T	4chlorotolue	2.271	1.979	2.042	1.958	1.950	1.921	1.815	1.936	10.42
			1.556								
91)	T	135Trimebenz	2.283	2.106	2.162	2.064	2.058	2.024	1.898	2.026	9.90
			1.611								
92)	T	tbutylbenzen	1.959	1.824	1.871	1.866	1.813	1.805	1.723	1.793	7.90
			1.484								
93)	T	124Trimetben	2.095	2.039	2.140	2.037	2.062	2.019	1.911	1.988	8.48
			1.604								
94)	T	sbutylbenzen	2.597	2.498	2.638	2.662	2.547	2.472	2.337	2.455	10.26
			1.886								
95)	PT	13Diclorbenz	1.367	1.282	1.318	1.266	1.247	1.240	1.194	1.250	6.85
			1.082								
96)	T	pIsopropylto	2.260	2.118	2.176	2.134	2.134	2.124	2.008	2.079	8.53
			1.675								
97)	PT	14dichlorobe	1.593	1.353	1.319	1.242	1.242	1.255	1.206	1.288	11.26
			1.096								
98)	PT	12dichlorobe	1.382	1.308	1.299	1.191	1.167	1.166	1.124	1.208	9.48
			1.028								
99)	T	nButylbenzen	1.900	1.758	1.819	1.837	1.870	1.854	1.756	1.788	6.92
			1.508								
100)	PT	12dibromo3cl	0.246	0.184	0.206	0.212	0.220	0.240	0.221	0.222	9.99
			0.250								
101)	T	135Trichloroben	0.891	0.896	0.892	0.855	0.866	0.862	0.829	0.857	5.07
			0.765								
102)	PT	124Trichlobe	0.759	0.686	0.754	0.713	0.747	0.752	0.714	0.726	4.39
			0.679								
103)	T	Hexachlorobu	0.429	0.372	0.387	0.382	0.391	0.387	0.369	0.385	5.14
			0.367								
104)	T	Naphthalene	1.502	1.474	1.898	1.820	1.919	1.950	1.830	1.749	11.04
			1.603								
105)	T	123Trichlben	0.712	0.659	0.705	0.658	0.678	0.683	0.662	0.674	3.84
			0.634								

Total Average %RSD 7.59

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W071917.M Thu Jul 20 11:05:09 2017

Data File : C:\INSTARCH\Data\JUL1917\BFB1.D Vial: 1
Acq On : 19 Jul 2017 8:21 Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W071917.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.380 to 4.404 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	20353	PASS
75	95	30	60	52.9	52924	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.1	7117	PASS
173	174	0.00	2	0.3	240	PASS
174	95	50	100	88.9	88898	PASS
175	174	5	9	7.3	6480	PASS
176	174	95	101	96.4	85664	PASS
177	176	5	9	7.2	6196	PASS

W071917.M Thu Jul 20 10:25:57 2017

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL1.D Vial: 4
Acq On : 19 Jul 2017 9:35 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:30:19 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1344066	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1020426	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	576982	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	335130	19.688	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	92442	19.283	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.50	98	1331192	19.622	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.03	95	471059	19.844	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			

Target Compounds						Qvalue
2) Dichlorodi	1.76	85	12198	0.6046	ug/L	87
3) Chloromethan	1.99	50	13517m	0.5636	ug/L	99
4) VinylChlorid	2.15	62	11144	0.5468	ug/L	82
5) Bromomethane	2.59	94	5937m	0.4944	ug/L #	92
6) Chloroethane	2.75	64	8594	0.5861	ug/L	70
7) Dichloroflmethane	3.04	67	17589	0.5810	ug/L	98
8) Trichlorofma	3.12	101	15640	0.5903	ug/L	92
9) Ethylether	3.57	59	7027	0.5544	ug/L	91
10) dichlorotfluoroethan	3.55	67	10775	0.5573	ug/L	90
11) propyleneoxide	3.95	58	16423	5.5440	ug/L	95
12) Acrolein	3.71	56	10283	2.0825	ug/L	85
13) 11dichlorthe	3.82	96	9432	0.5766	ug/L	97
14) Trichlorotfluoroeth	3.86	101	16679	1.1174	ug/L	95
15) Acetone	3.94	43	49777	5.5327	ug/L	98
16) Iodomethane	4.00	142	22296	1.2788	ug/L	93
17) Carbon Dislf	4.08	76	38982	1.1247	ug/L	91
18) allylchloride	4.30	41	19215	0.9366	ug/L	85
19) methylacetate	4.45	74	2711m	0.6234	ug/L #	39
20) Methylchlorid	4.45	84	10544m	0.5422	ug/L #	94
21) tbutylalcohol	4.78	59	60261m	25.4452	ug/L #	1
22) Acrylonitrile	4.81	53	16753m	2.4592	ug/L #	24
23) t12dichlorte	4.83	96	9679	0.5545	ug/L	95
24) MtBE	4.87	73	23904	0.5221	ug/L	86
25) Hexane	5.22	57	27317	1.1078	ug/L	96
26) 11dichlorota	5.35	63	15528	0.5194	ug/L	96
27) Vinylacetate	5.48	43	135520	5.3187	ug/L	94
28) chloroprene	5.48	53	27510	1.0568	ug/L	91
29) Diisopether	5.51	45	25929	0.5227	ug/L	93
30) ETBE	5.96	59	22160	0.5094	ug/L	92
31) 22dichloropr	6.07	77	12186	0.5254	ug/L	93
32) c12dichlorte	6.07	96	9018	0.4792	ug/L #	78
33) 2Butanone	6.14	72	12086	3.6198	ug/L	67
34) propionitrile	6.21	54	12623m	4.5444	ug/L #	54
35) Ethylacetate	6.24	88	2286m	2.2264	ug/L #	57
36) methacrylonitrile	6.37	67	8355	0.8427	ug/L	88
37) Bromochlorma	6.38	128	5908	0.6452	ug/L #	83
38) Tetrahydofur	6.47	42	93001m	8.1604	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL1.D Vial: 4
Acq On : 19 Jul 2017 9:35 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:30:19 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.47	83	16646	0.5432	ug/L		97
40)	111trichlota	6.70	97	15859	0.5723	ug/L		92
42)	Cyclohexane	6.80	56	14986	0.5448	ug/L		91
43)	Carbtetraclo	6.92	119	10410	0.4922	ug/L		100
44)	11dicloprope	6.92	110	5294	0.5788	ug/L	#	81
46)	Benzene	7.17	78	43221	0.6121	ug/L	#	81
47)	12dichlorota	7.15	62	12174	0.5579	ug/L		94
48)	TAME	7.34	73	22469	0.5061	ug/L		95
49)	trichloroete	7.97	95	10347	0.5673	ug/L		89
50)	methylcyclohexane	8.23	83	17950	0.5320	ug/L		98
51)	12dicloropra	8.21	63	10176	0.5588	ug/L		89
52)	23Dicl1propene	8.30	75	13429	0.5440	ug/L		93
53)	Dibromometha	8.37	93	5834	0.5220	ug/L		91
54)	methylmethacrylate	8.41	69	6181m	0.4487	ug/L	#	43
55)	14dioxane	8.46	88	1199m	22.1066	ug/L	#	0
56)	Bromodiclrma	8.57	83	11108	0.5119	ug/L	#	95
57)	2Nitropropane	8.82	43	19051	3.7175	ug/L	#	83
58)	2CLEVE	9.04	63	791m	0.4133	ug/L	#	0
59)	c13dicloproe	9.15	75	11503	0.4481	ug/L		98
60)	4Meth2Pentan	9.41	43	101984	5.0822	ug/L		98
62)	Toluene	9.59	92	26107	0.5748	ug/L		99
63)	t13Dicloprop	9.85	75	9972	0.4595	ug/L		92
64)	ethylmethacrylate	10.03	69	17663	0.7904	ug/L		92
65)	112Triclotha	10.07	83	7219	0.5156	ug/L		91
66)	Tetrachlorte	10.32	166	11534	0.5179	ug/L		99
67)	13Diclorpropa	10.29	76	14287	0.5135	ug/L		100
69)	2Hexanone	10.49	43	62038m	4.4358	ug/L		99
70)	Clorodibrmta	10.60	129	7737	0.4962	ug/L		97
71)	12Dibrometha	10.76	107	9069	0.5374	ug/L		82
72)	Chlorobenzen	11.44	112	25405	0.5516	ug/L	#	62
73)	1Clhexane	11.42	91	12052	0.5275	ug/L	#	45
74)	1112Tetclota	11.53	131	7902	0.4901	ug/L		89
75)	Ethylbenzene	11.60	91	43553	0.5728	ug/L		97
76)	m p-Xylene	11.77	106	31067	1.0338	ug/L		87
77)	o-Xylene	12.31	106	16222	0.5264	ug/L		94
78)	Styrene	12.33	104	24239	0.5156	ug/L		100
79)	Bromoform	12.54	173	4430m	0.4330	ug/L		93
80)	Isopropylben	12.84	105	38619	0.5298	ug/L		99
81)	cyclohexanone	12.93	55	1670m	9.0832	ug/L	#	37
84)	Bromobenzene	13.24	156	11034	0.5526	ug/L		96
85)	1122Tetrclta	13.20	83	15424	0.5981	ug/L		98
86)	123Triclproa	13.26	75	18437	0.6470	ug/L		90
87)	14dichloro2butene	13.27	53	1600m	0.4087	ug/L	#	0
88)	n-Propylbenz	13.41	91	45531	0.5698	ug/L		97
89)	2chlorotolue	13.53	91	30927	0.6133	ug/L		97
90)	4chlorotolue	13.68	91	32760	0.5864	ug/L		92
91)	135Trimebenz	13.68	105	32925	0.5634	ug/L		90
92)	tbutylbenzen	14.13	119	28261	0.5463	ug/L		92
93)	124Trimetben	14.22	105	30225	0.5269	ug/L		97
94)	sbutylbenzen	14.46	105	37464	0.5291	ug/L		100
95)	13Diclorbenz	14.60	146	19725	0.5472	ug/L		96
96)	pIsopropylto	14.68	119	32604	0.5437	ug/L	#	97
97)	14dichlorobe	14.72	146	22982	0.6183	ug/L		92
98)	12dichlorobe	15.26	146	19938	0.5720	ug/L	#	72
99)	nButylbenzen	15.28	91	27405	0.5314	ug/L		90
100)	12dibromo3cl	16.36	157	3549	0.5530	ug/L	#	72
101)	135Trichlorobenzene	16.71	180	12856	0.5200	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL1.D Vial: 4
Acq On : 19 Jul 2017 9:35 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:30:19 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
102) 124Trichlobe	17.53	180	10946	0.5229	ug/L		93
103) Hexachlorobu	17.76	225	6192	0.5568	ug/L		92
104) Naphthalene	17.83	128	21665	0.4293	ug/L	#	90
105) 123Trichlben	18.14	180	10271	0.5282	ug/L		91

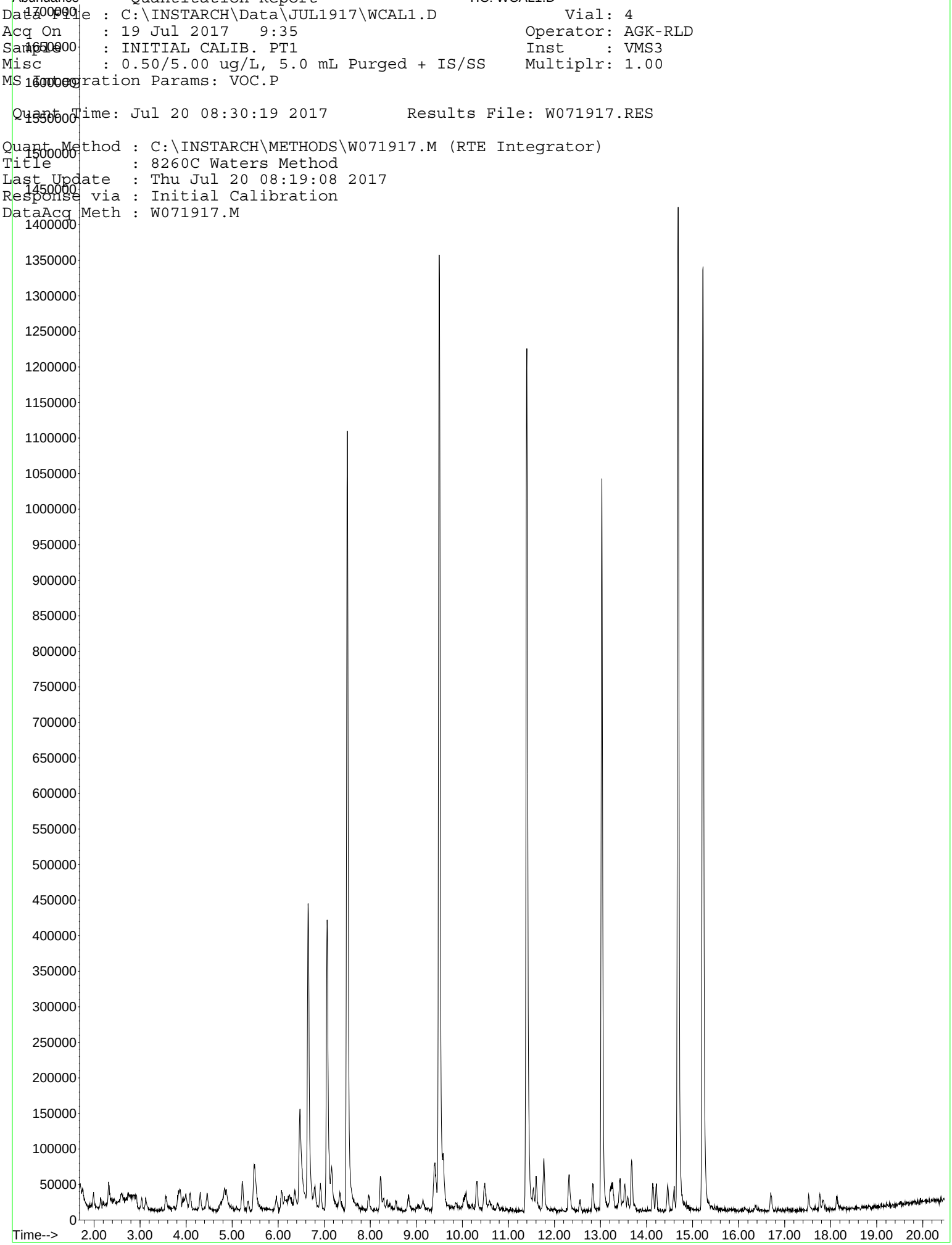
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\Data\JUL1917\WCAL1.D Vial: 4
Acq On : 19 Jul 2017 9:35 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:30:19 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



After Manual Integration

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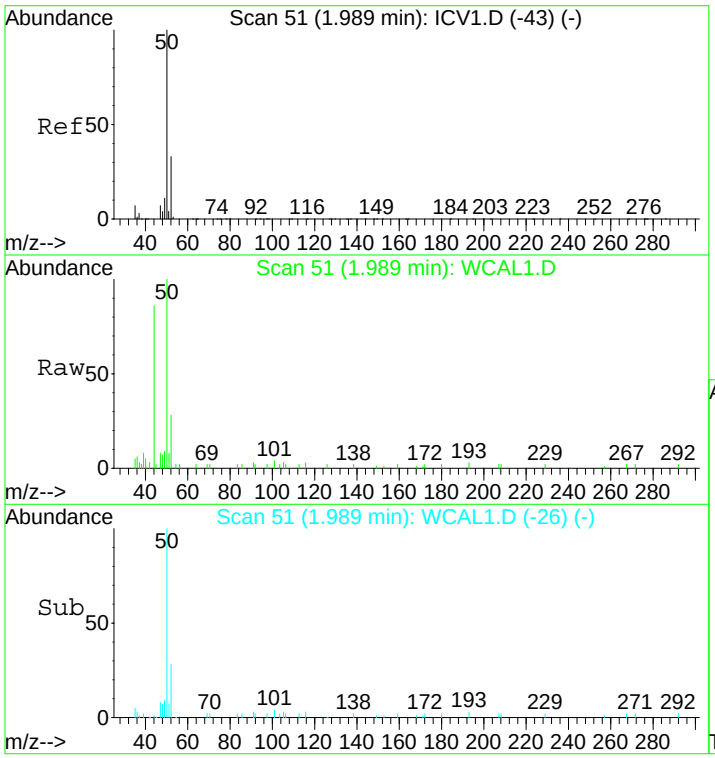
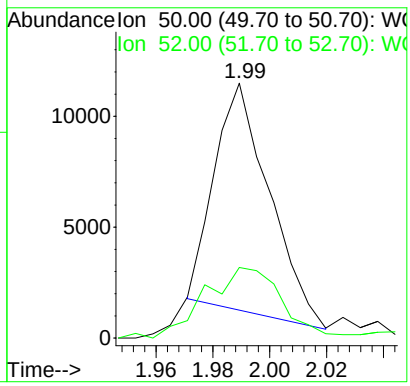
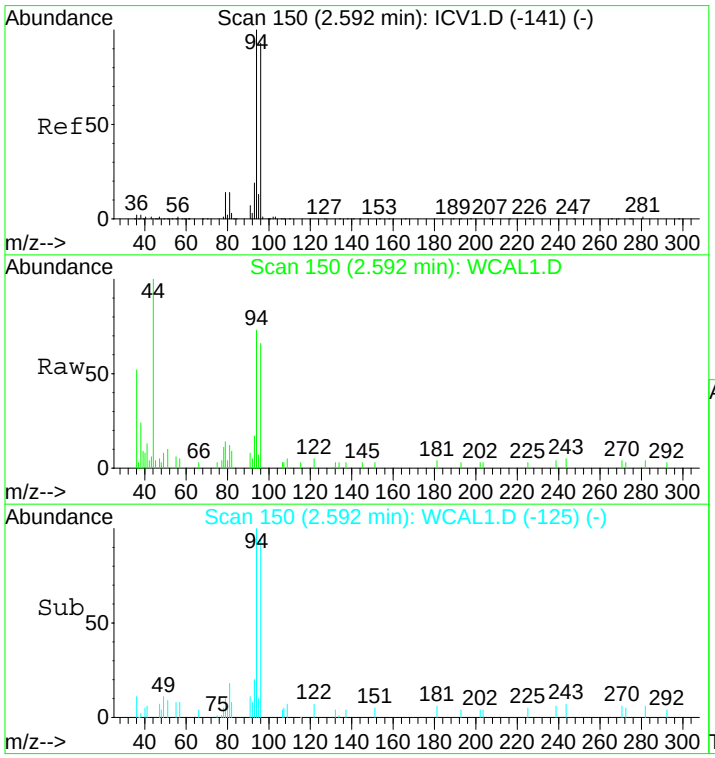


#3
Chloromethan
Concen: 0.56 ug/L m
RT: 1.99 min Scan# 51
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 50 Resp: 13517

Ion	Ratio	Lower	Upper
50	100		
52	44.8	13.3	53.3

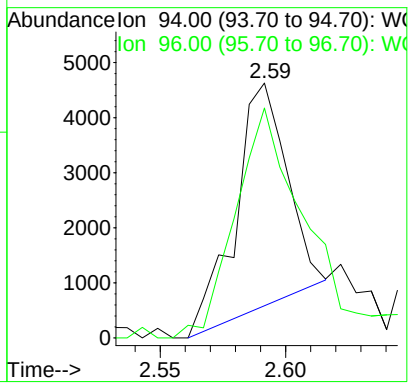




#5
Bromomethane
Concen: 0.49 ug/L m
RT: 2.59 min Scan# 150
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 94 Resp: 5937

Ion	Ratio	Lower	Upper
94	100		
96	151.5	74.0	114.0#



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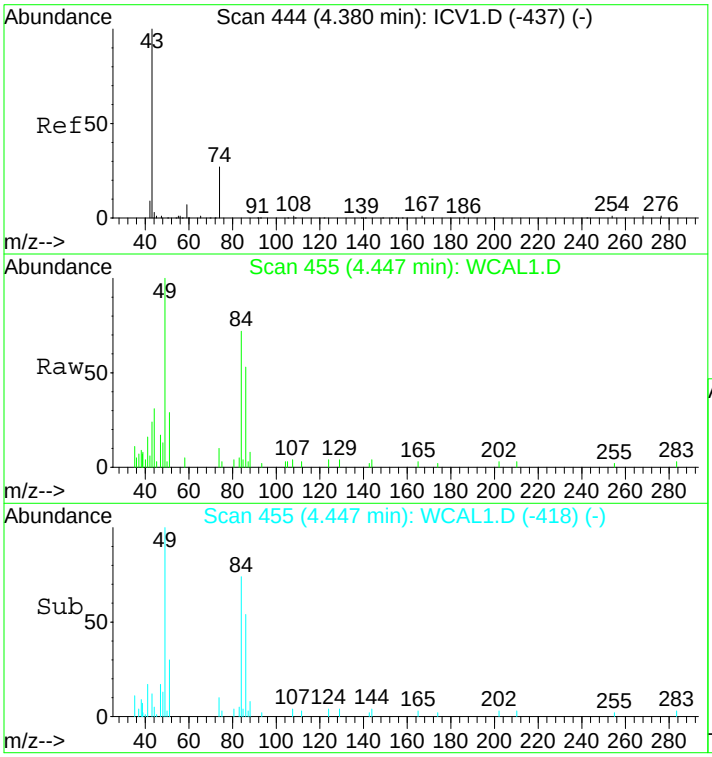
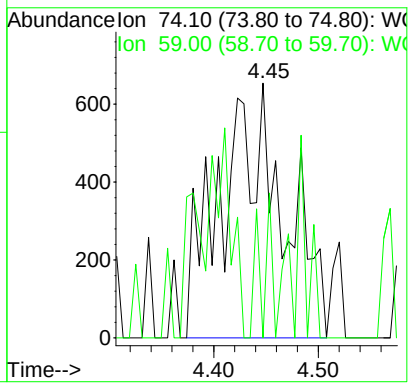
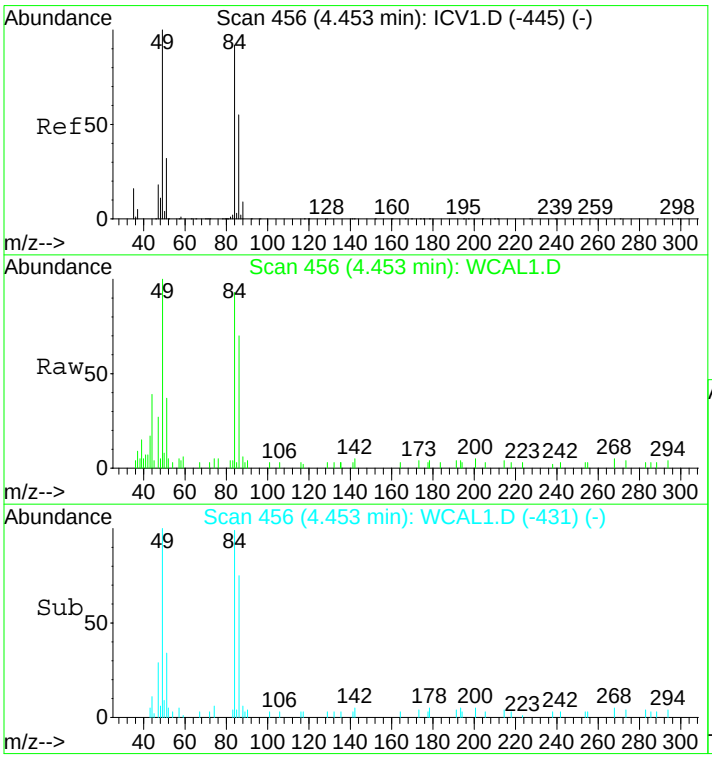


#19
methylacetate
Concen: 0.62 ug/L m
RT: 4.45 min Scan# 455
Delta R.T. 0.07 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 74 Resp: 2711

Ion	Ratio	Lower	Upper
74	100		
59	0.0	15.5	55.5#

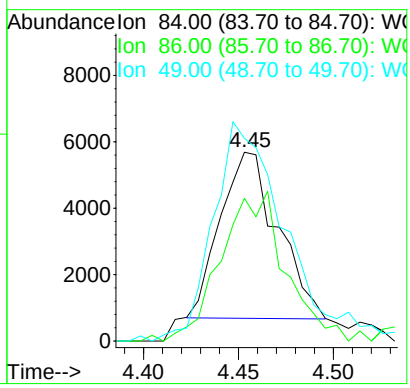




#20
Methylchlorid
Concen: 0.54 ug/L m
RT: 4.45 min Scan# 456
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 84 Resp: 10544

Ion	Ratio	Lower	Upper
84	100		
86	101.5	43.6	83.6#
49	168.9	96.8	136.8#



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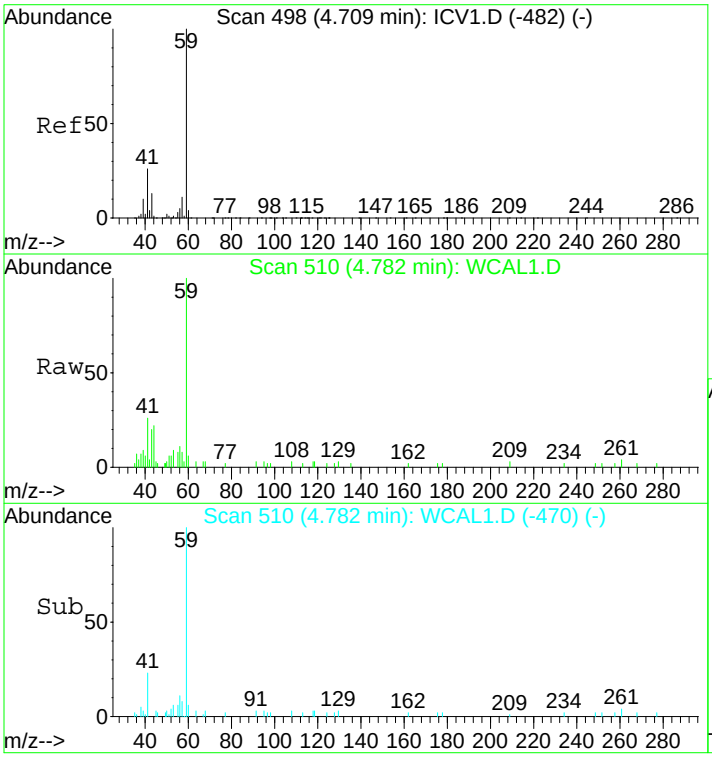
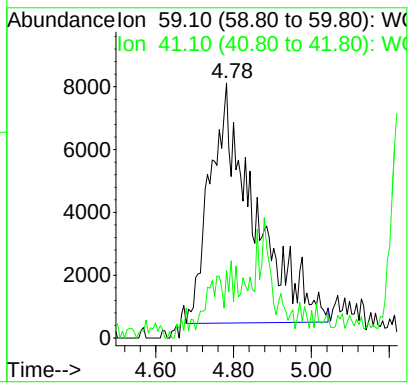
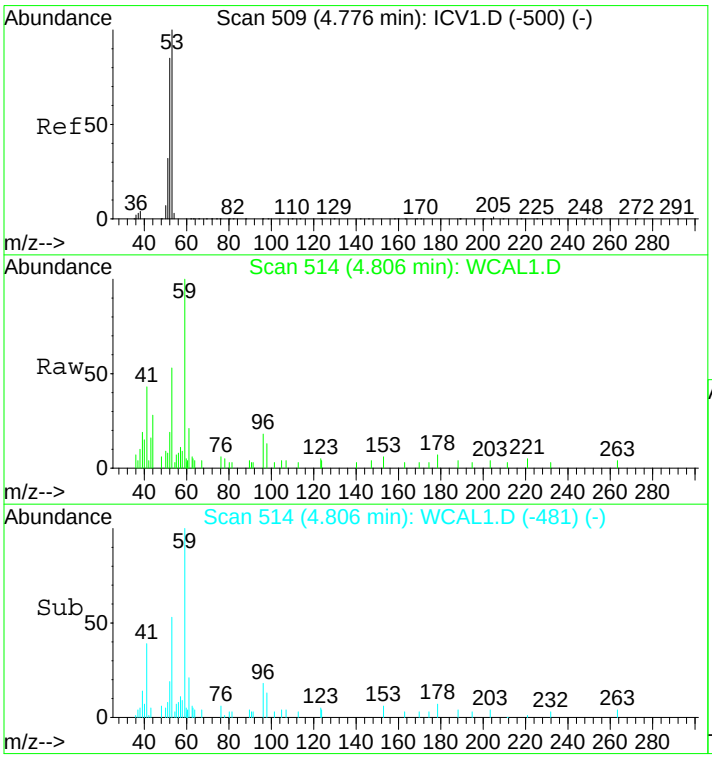


#21
tbutylalcohol
Concen: 25.45 ug/L m
RT: 4.78 min Scan# 510
Delta R.T. 0.09 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 59 Resp: 60261

Ion	Ratio	Lower	Upper
59	100		
41	2.5	3.5	43.5#

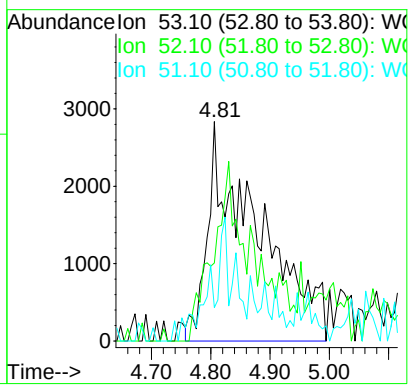




#22
Acrylonitrile
Concen: 2.46 ug/L m
RT: 4.81 min Scan# 514
Delta R.T. 0.05 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 53 Resp: 16753

Ion	Ratio	Lower	Upper
53	100		
52	0.0	64.0	104.0#
51	9.8	15.8	55.8#



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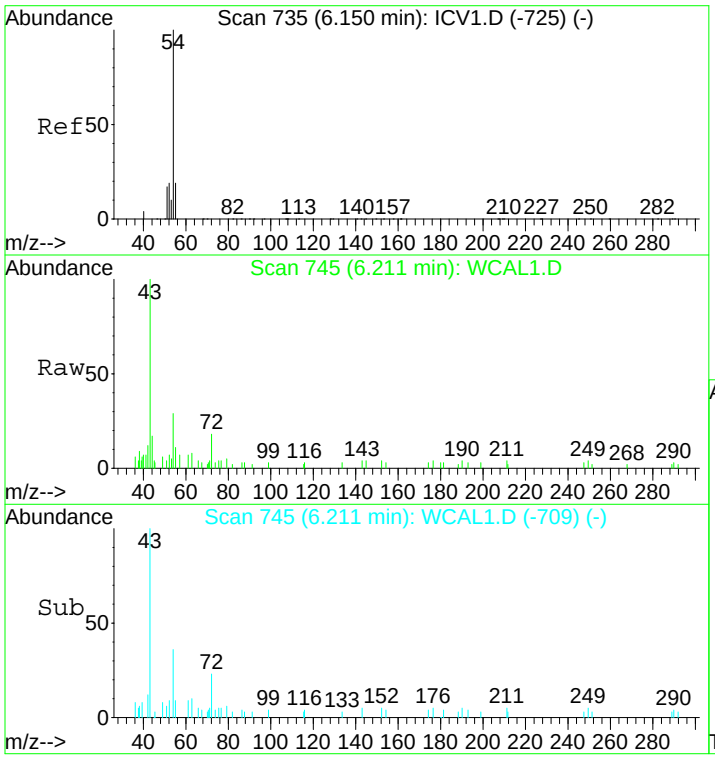
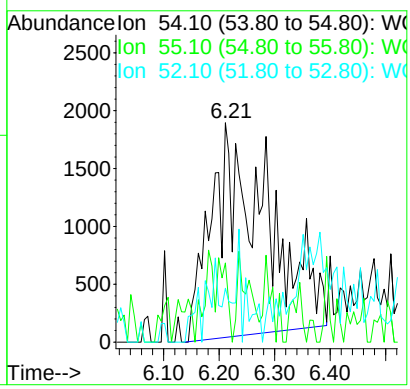
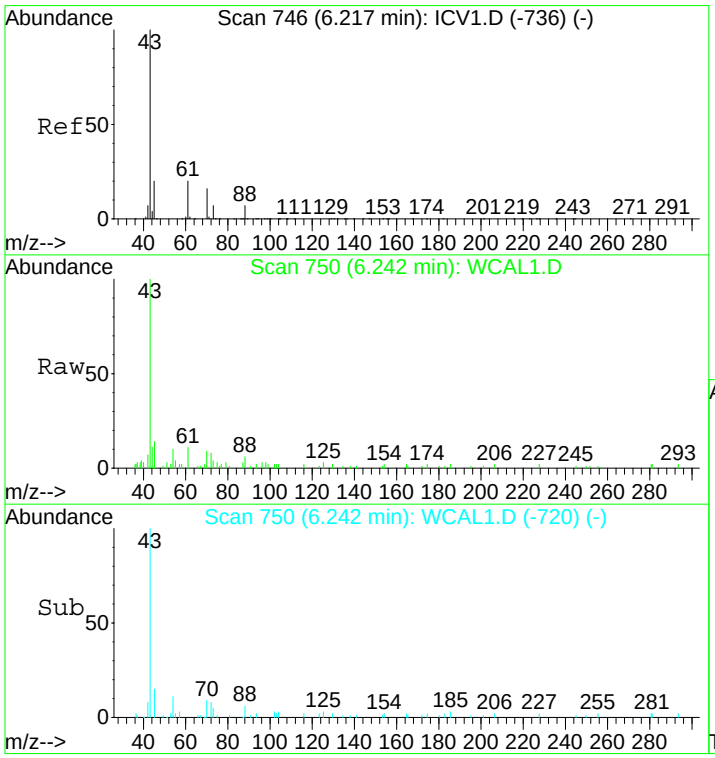


#34
propionitrile
Concen: 4.54 ug/L m
RT: 6.21 min Scan# 745
Delta R.T. 0.07 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 54 Resp: 12623

Ion	Ratio	Lower	Upper
54	100		
55	0.0	2.7	42.7#
52	0.0	1.1	41.1#

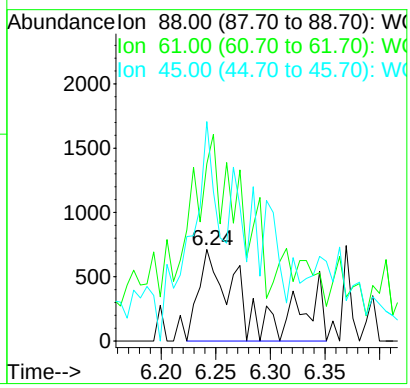




#35
Ethylacetate
Concen: 2.23 ug/L m
RT: 6.24 min Scan# 750
Delta R.T. 0.03 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 88 Resp: 2286

Ion	Ratio	Lower	Upper
88	100		
61	162.1	239.0	279.0#
45	294.1	274.8	314.8



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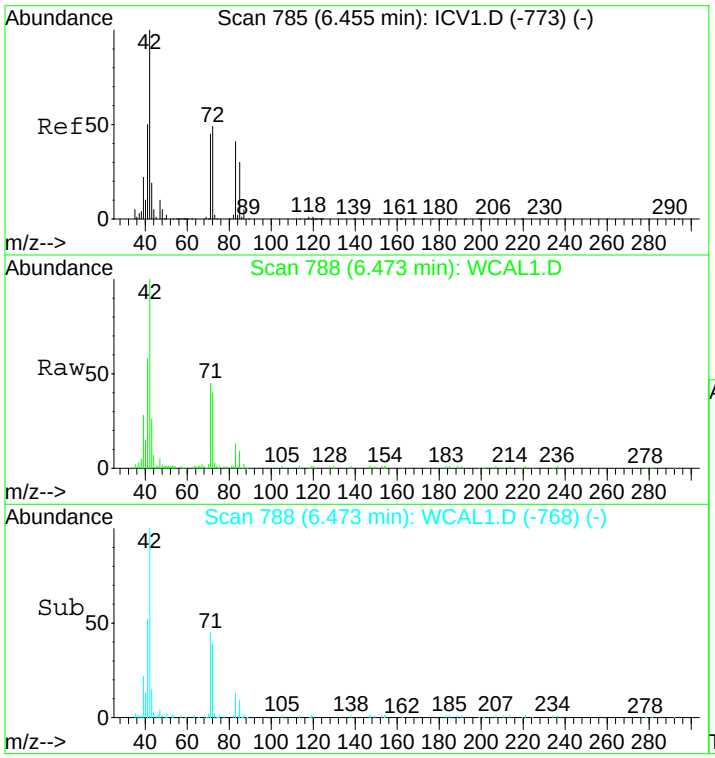
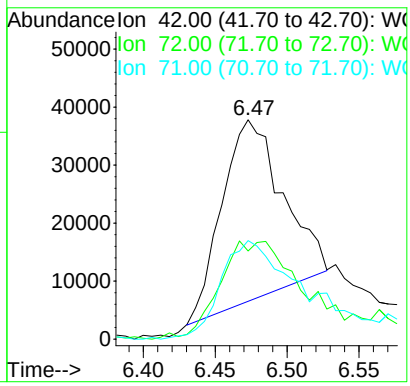
AgK 07/20/17

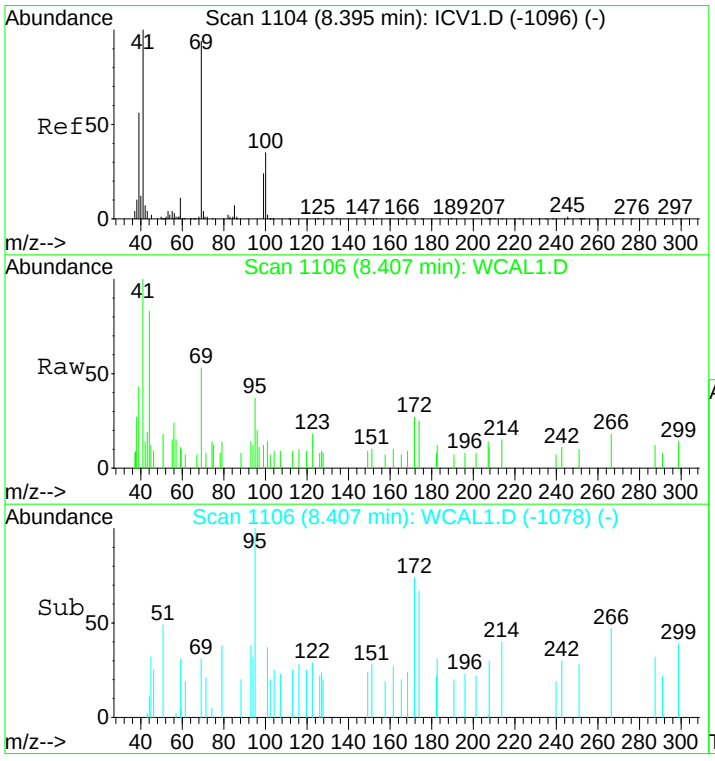


#38
Tetrahydofur
Concen: 8.16 ug/L m
RT: 6.47 min Scan# 788
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 42 Resp: 93001

Ion	Ratio	Lower	Upper
42	100		
72	68.1	28.1	68.1
71	62.1	25.2	65.2

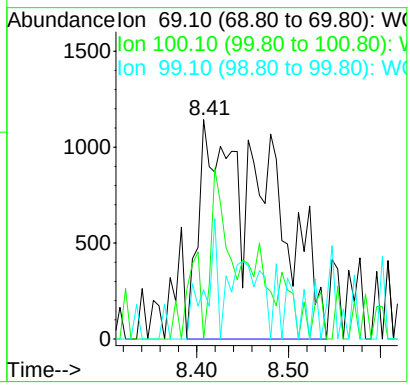




#54
methylmethacrylate
Concen: 0.45 ug/L m
RT: 8.41 min Scan# 1106
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 69 Resp: 6181

Ion	Ratio	Lower	Upper
69	100		
100	36.9	19.1	59.1
99	0.0	0.6	40.6#



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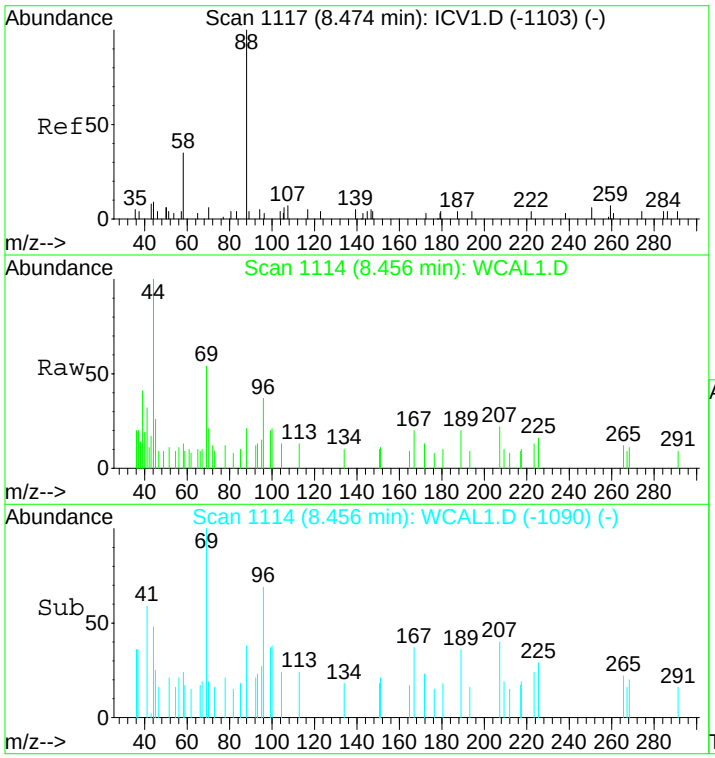
After Manual Integration

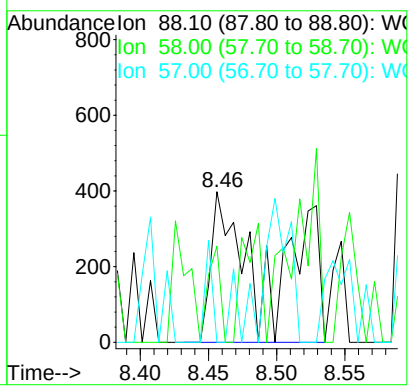
AgK 07/20/17

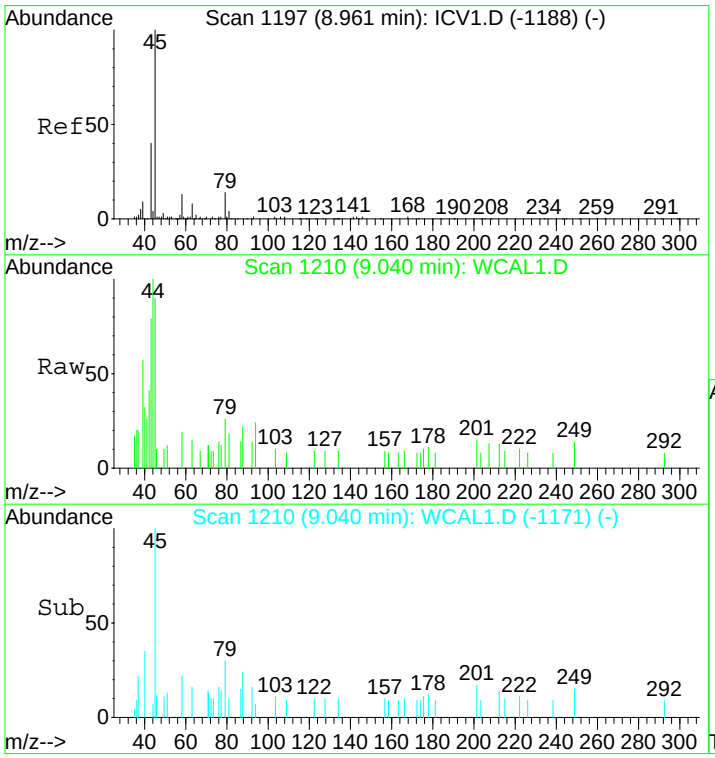


#55
14dioxane
Concen: 22.11 ug/L m
RT: 8.46 min Scan# 1114
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 88 Resp: 1199

Ion	Ratio	Lower	Upper
88	100		
58	0.0	64.9	104.9#
57	0.0	0.0	33.5

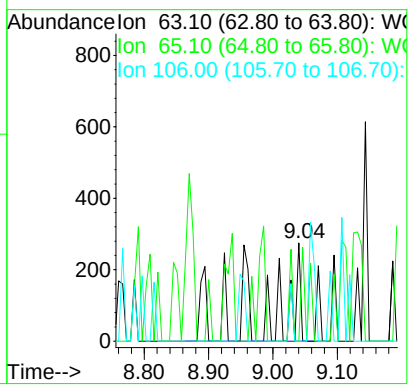




#58
2CLEVE
Concen: 0.41 ug/L m
RT: 9.04 min Scan# 1210
Delta R.T. 0.09 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 63 Resp: 791

Ion	Ratio	Lower	Upper
63	100		
65	0.0	20.6	60.6#
106	0.0	2.1	42.1#



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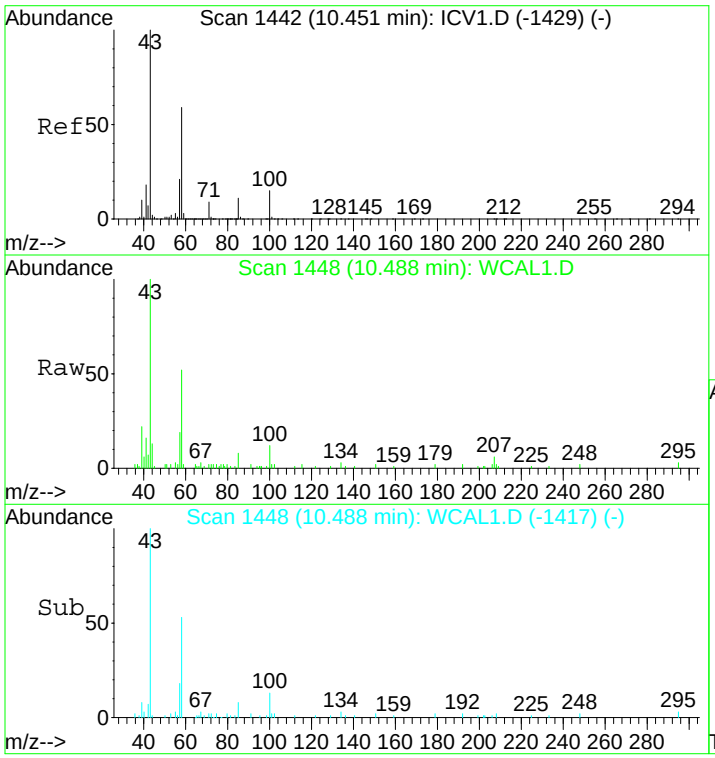
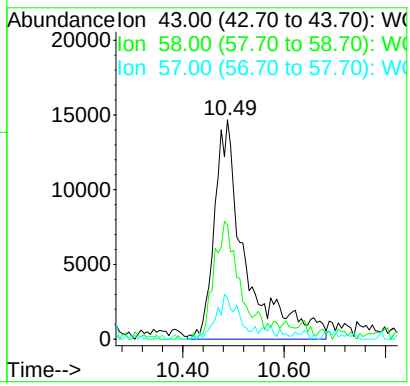
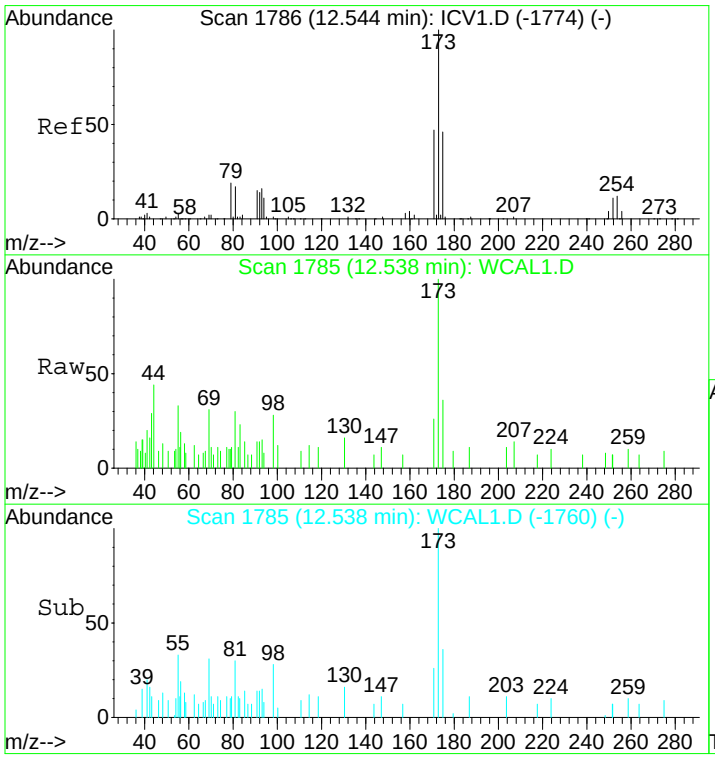


#69
2Hexanone
Concen: 4.44 ug/L m
RT: 10.49 min Scan# 1448
Delta R.T. 0.04 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 43 Resp: 62038

Ion	Ratio	Lower	Upper
43	100		
58	46.5	38.2	78.2
57	16.9	0.0	39.9

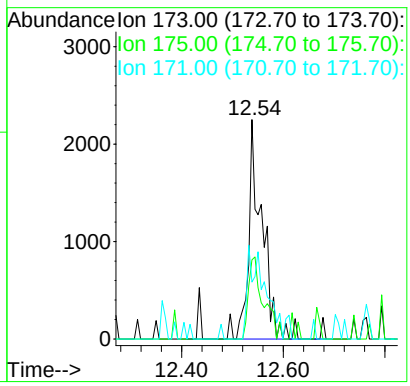




#79
Bromoform
Concen: 0.43 ug/L m
RT: 12.54 min Scan# 1785
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion:173 Resp: 4430

Ion	Ratio	Lower	Upper
173	100		
175	38.9	28.3	68.3
171	50.3	31.0	71.0



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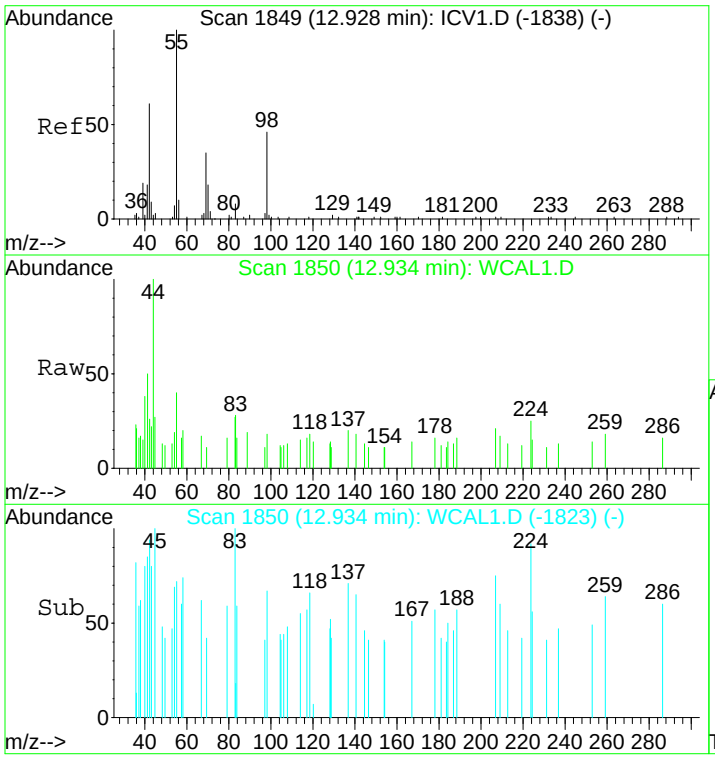
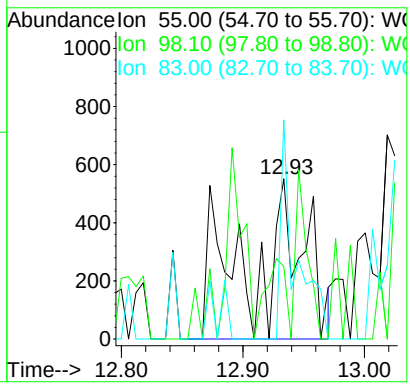
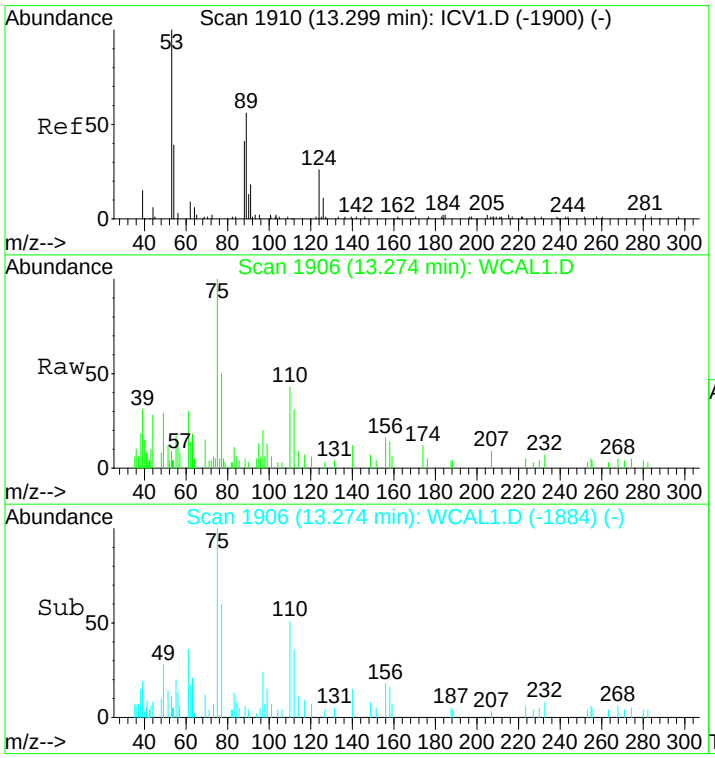


#81
cyclohexanone
Concen: 9.08 ug/L m
RT: 12.93 min Scan# 1850
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 55 Resp: 1670

Ion	Ratio	Lower	Upper
55	100		
98	0.0	28.2	68.2#
83	0.0	0.0	34.7

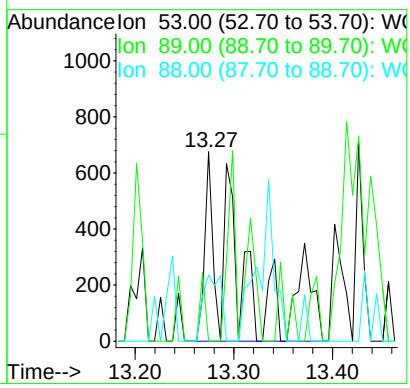




#87
14dichloro2butene
Concen: 0.41 ug/L m
RT: 13.27 min Scan# 1906
Delta R.T. -0.02 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 53 Resp: 1600

Ion	Ratio	Lower	Upper
53	100		
89	0.0	40.2	80.2#
88	0.0	29.9	69.9#



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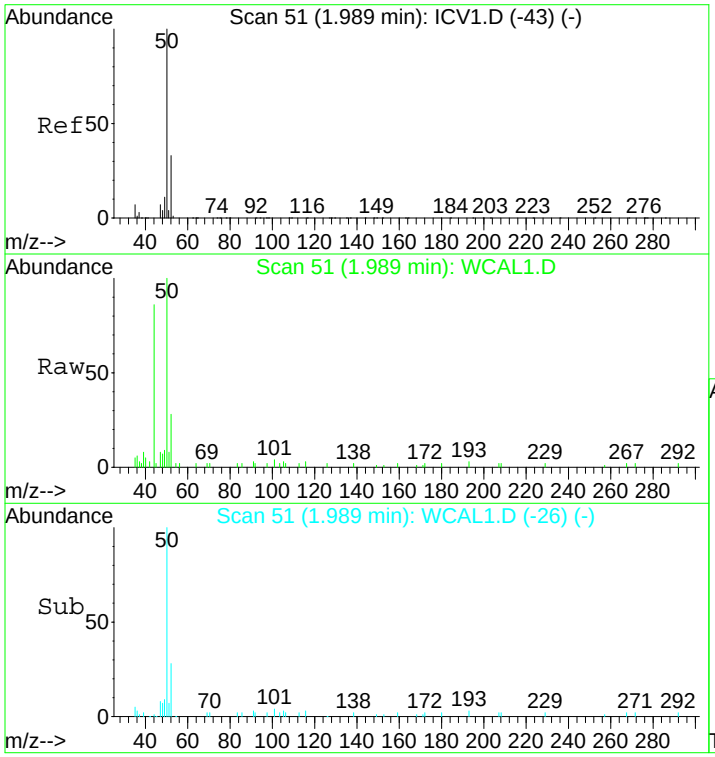
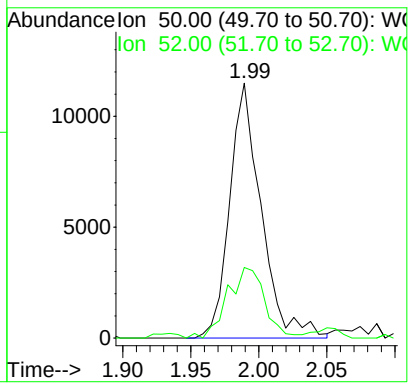
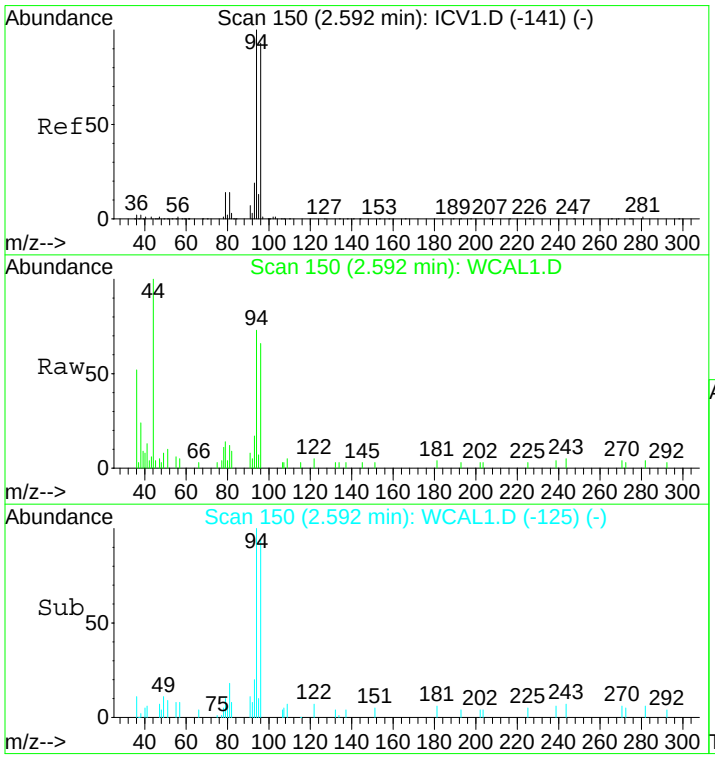


#3
Chloromethan
Concen: 0.82 ug/L
RT: 1.99 min Scan# 51
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 50 Resp: 18568

Ion	Ratio	Lower	Upper
50	100		
52	32.6	13.3	53.3

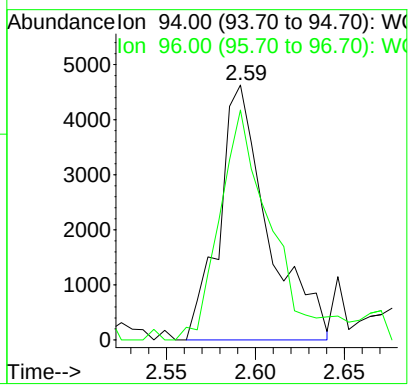




#5
Bromomethane
Concen: 0.78 ug/L
RT: 2.59 min Scan# 150
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 94 Resp: 8819

Ion	Ratio	Lower	Upper
94	100		
96	102.0	73.7	113.7



Before Manual Integration

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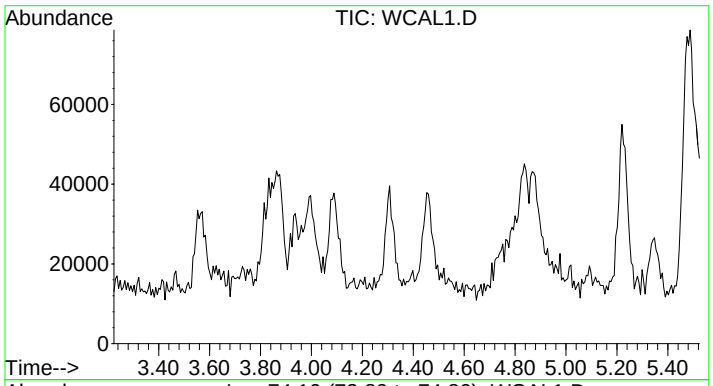
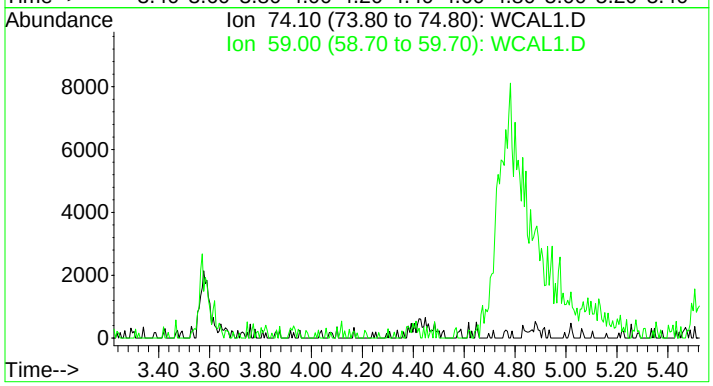




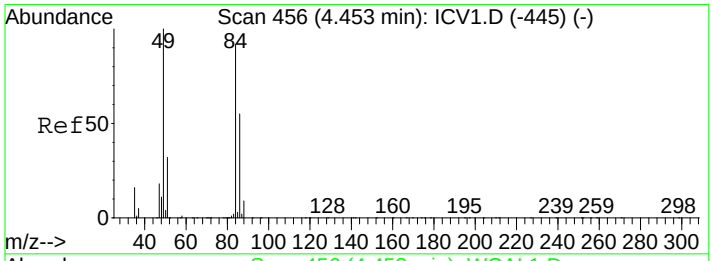
#19
methylacetate
Concen: N.D.
Expected RT: 4.37 min

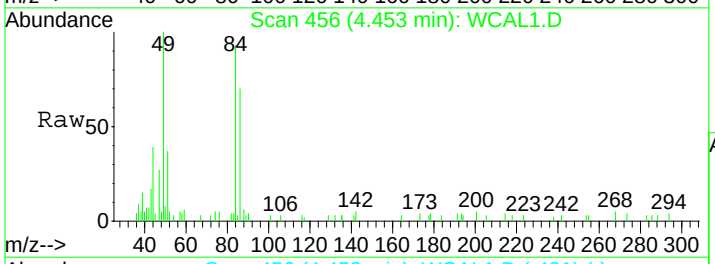
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

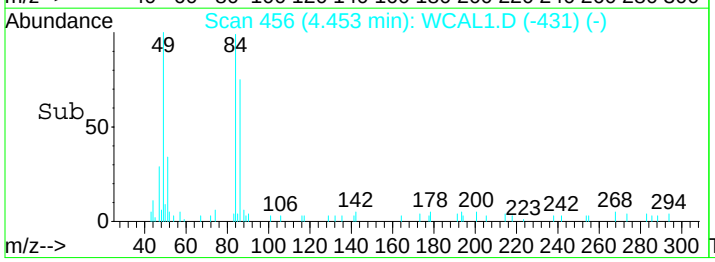
Tgt Ion: 74

Sig	Exp Ratio
74	100
59	35.8

REASON # 1



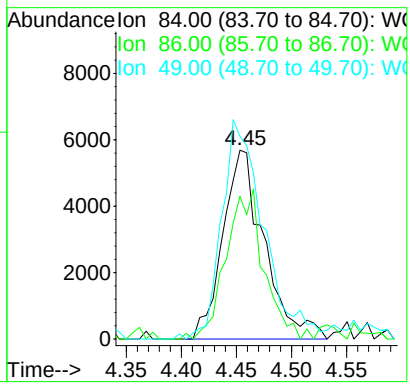




#20
Methylchlorid
Concen: 0.81 ug/L
RT: 4.45 min Scan# 456
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 84 Resp: 14859

Ion	Ratio	Lower	Upper
84	100		
86	72.0	43.4	83.4
49	119.9	96.8	136.8



REASON # 2

Before Manual Integration

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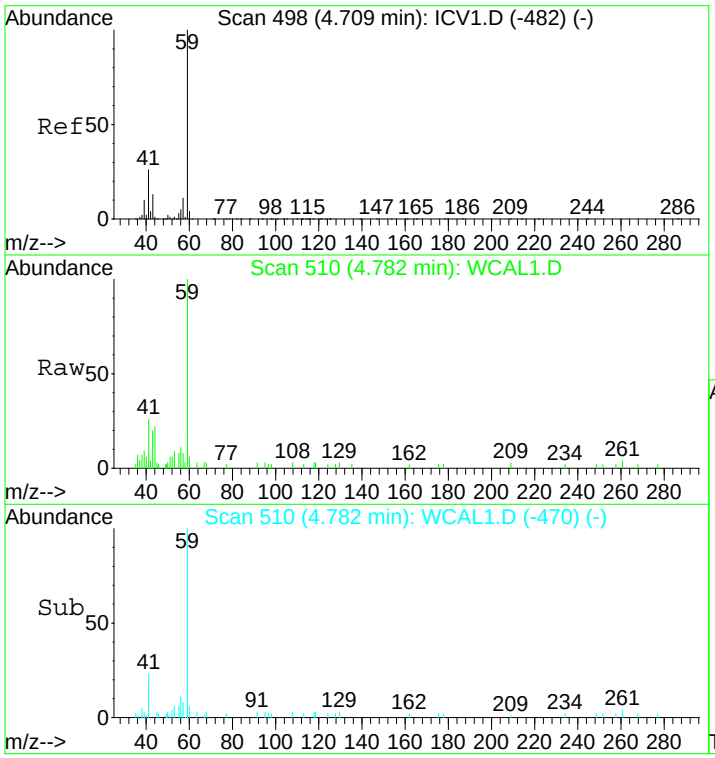
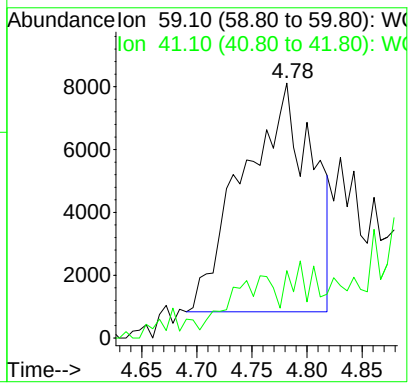


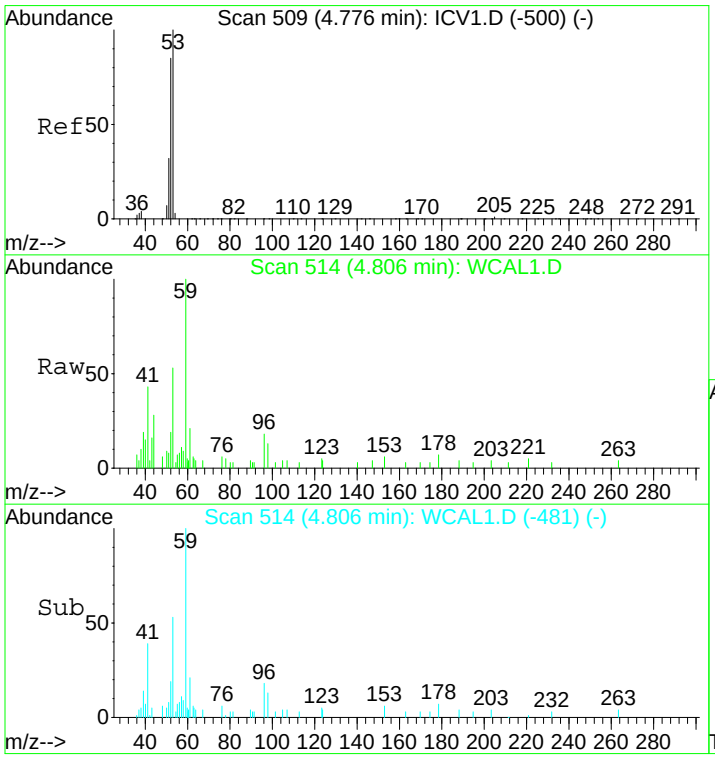
#21
tbutylalcohol
Concen: 12.60 ug/L
RT: 4.78 min Scan# 510
Delta R.T. 0.09 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 59 Resp: 31638

Ion	Ratio	Lower	Upper
59	100		
41	14.9	3.9	43.9



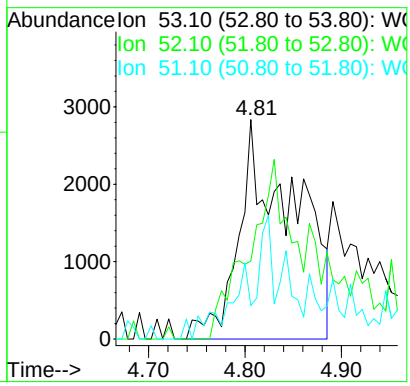
REASON # 2



#22
Acrylonitrile
Concen: 1.59 ug/L
RT: 4.81 min Scan# 514
Delta R.T. 0.05 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 53 Resp: 11254

Ion	Ratio	Lower	Upper
53	100		
52	73.0	65.5	105.5
51	0.0	15.7	55.7#



REASON # 2

Before Manual Integration

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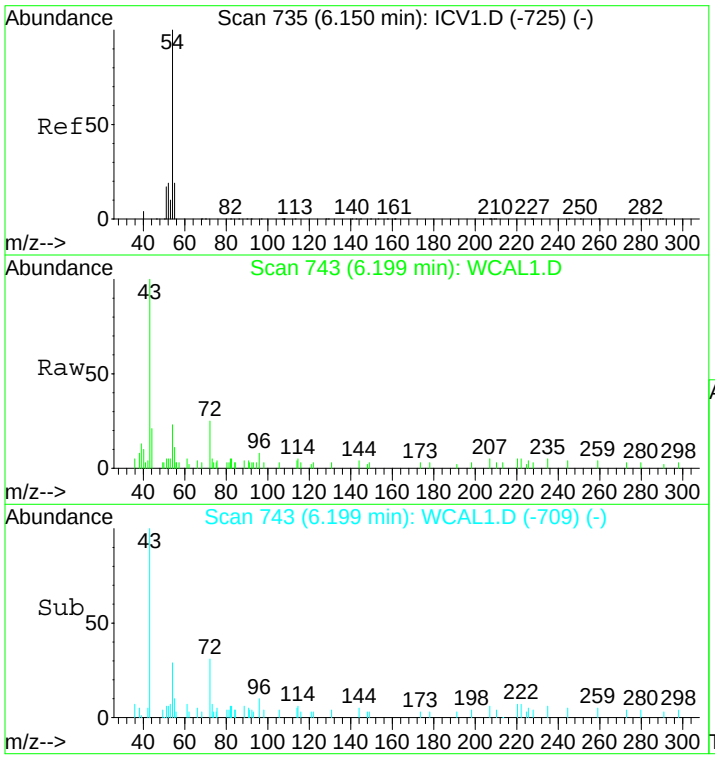
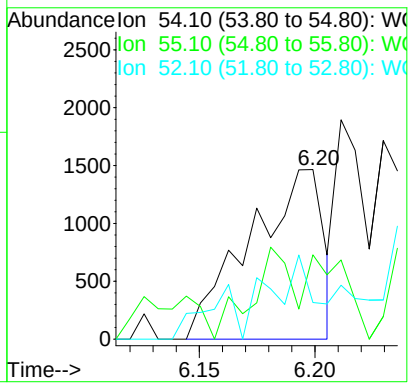


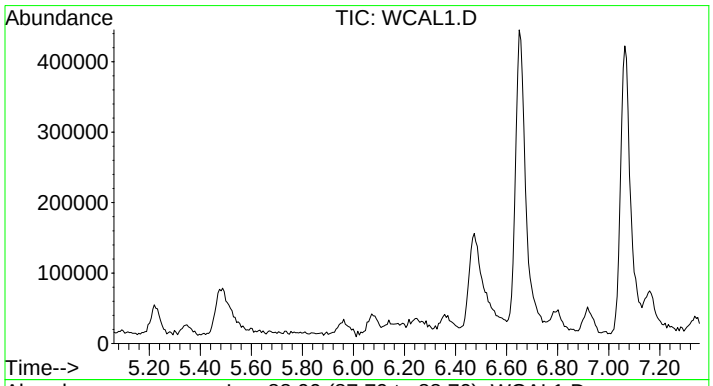
#34
propionitrile
Concen: 1.08 ug/L
RT: 6.20 min Scan# 743
Delta R.T. 0.05 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 54 Resp: 3249

Ion	Ratio	Lower	Upper
54	100		
55	0.0	2.3	42.3#
52	70.7	0.7	40.7#



REASON # 2

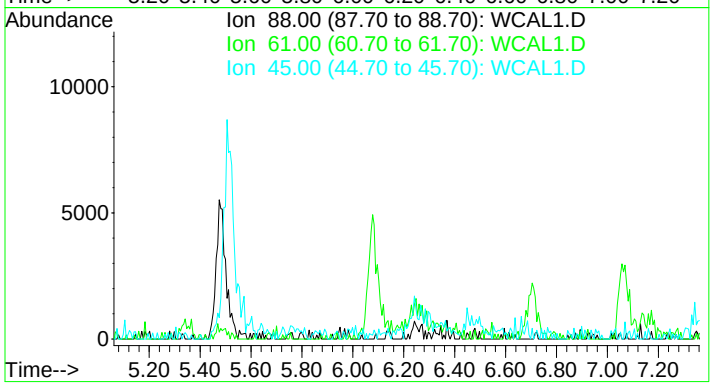


#35
Ethylacetate
Concen: N.D.
Expected RT: 6.21 min

Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 88

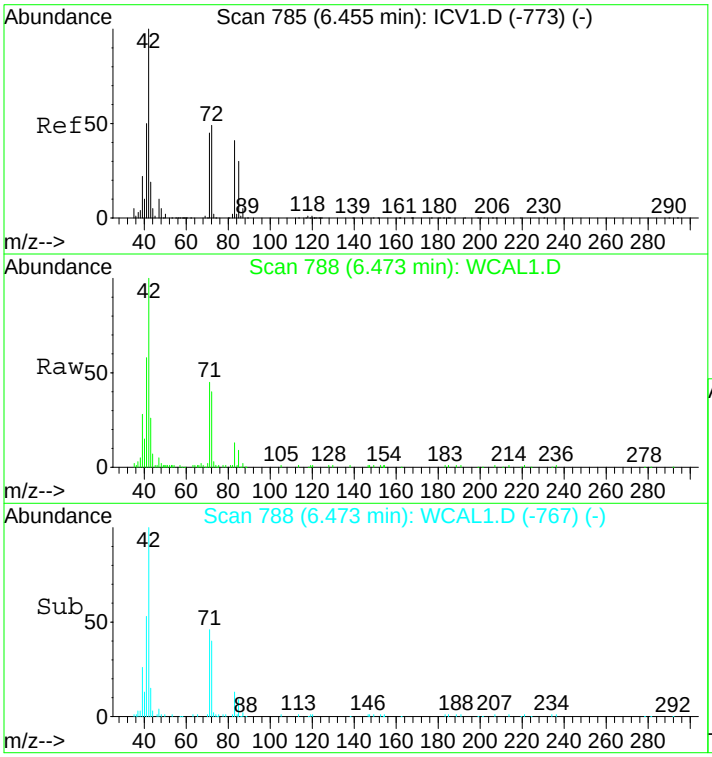
Sig	Exp Ratio
88	100
61	268.9
45	295.3



REASON # 1

Before Manual Integration

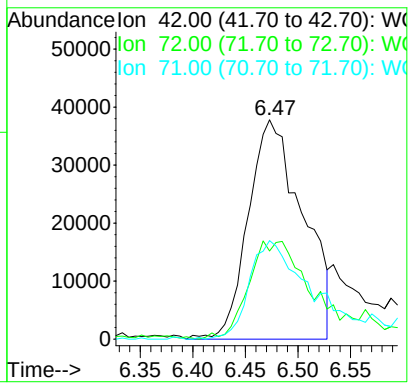
07/20/17



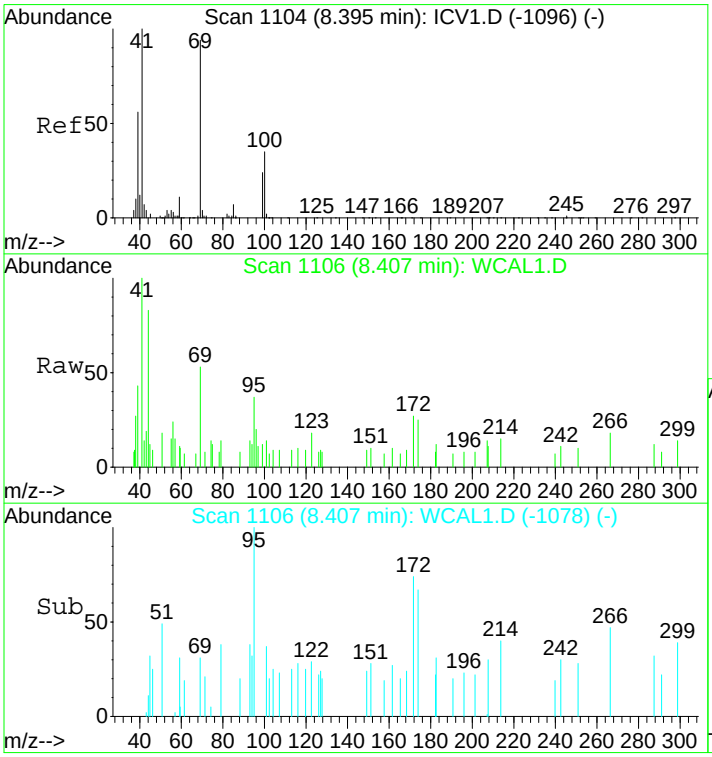
#38
Tetrahydofur
Concen: 5.38 ug/L
RT: 6.47 min Scan# 788
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 42 Resp: 136758

Ion	Ratio	Lower	Upper
42	100		
72	46.3	28.2	68.2
71	42.3	25.4	65.4



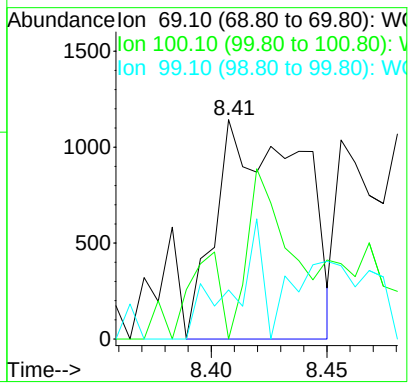
REASON # 2



#54
methylmethacrylate
Concen: 0.20 ug/L
RT: 8.41 min Scan# 1106
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 69 Resp: 2911

Ion	Ratio	Lower	Upper
69	100		
100	78.3	19.1	59.1#
99	0.0	0.6	40.6#



REASON # 2

Before Manual Integration

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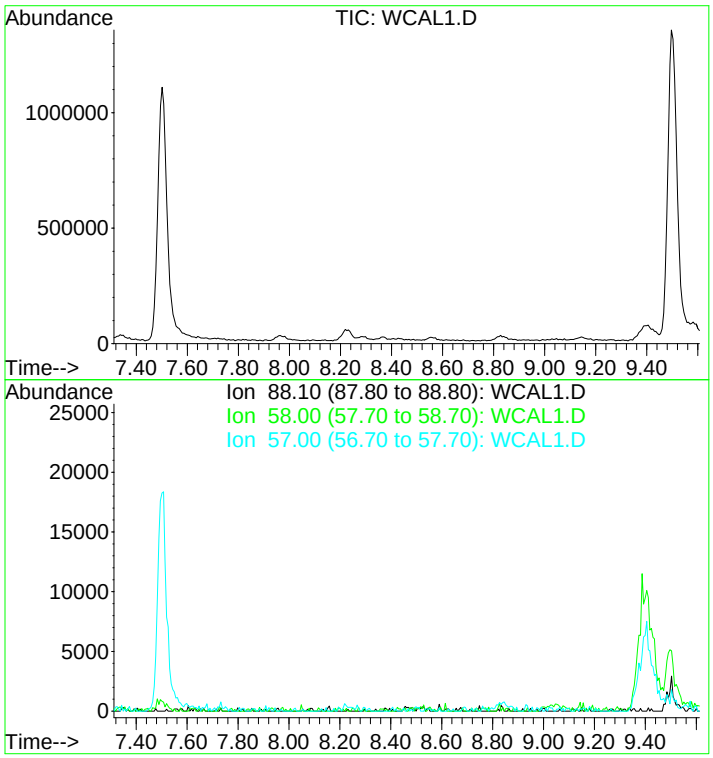


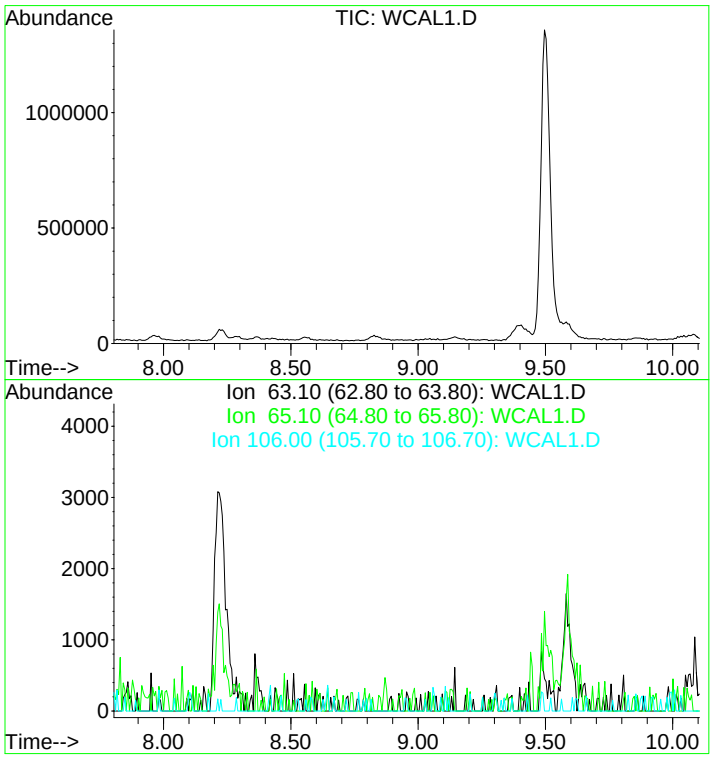
#55
14dioxane
Concen: N.D.
Expected RT: 8.46 min

Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 88

Sig	Exp Ratio
88	100
58	84.6
57	11.7

REASON # 1



#58
2CLEVE
Concen: N.D.
Expected RT: 8.96 min

Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 63

Sig	Exp Ratio
63	100
65	40.6
106	22.1

REASON # 1

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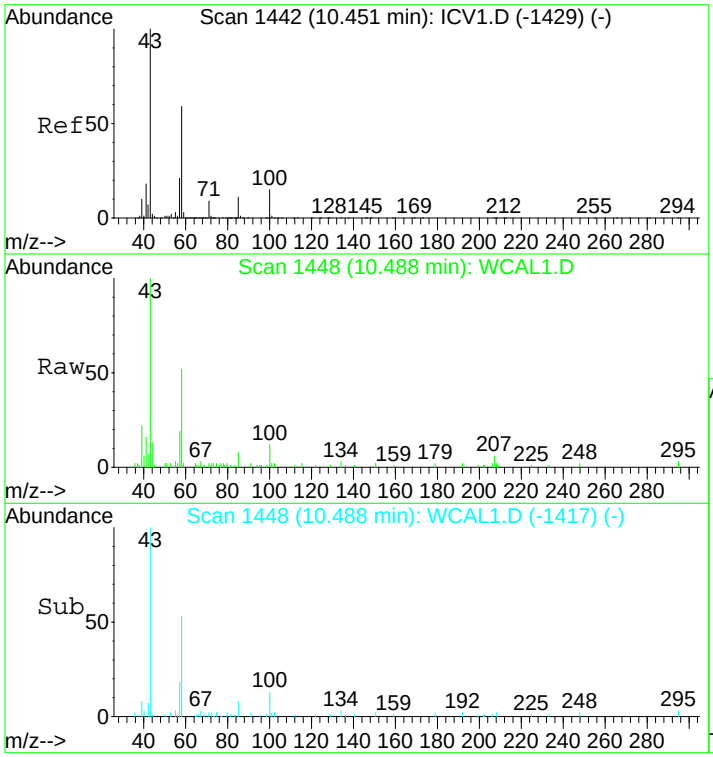
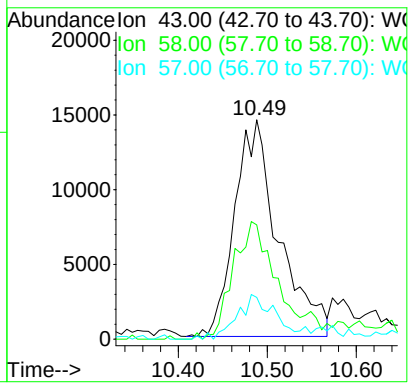


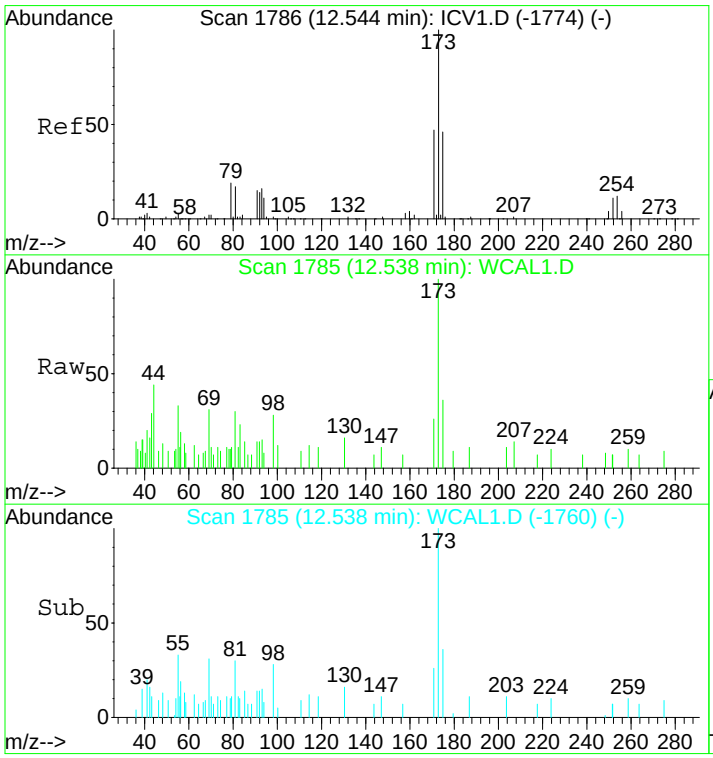
#69
2Hexanone
Concen: 3.36 ug/L
RT: 10.49 min Scan# 1448
Delta R.T. 0.04 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 43 Resp: 49683

Ion	Ratio	Lower	Upper
43	100		
58	56.4	38.1	78.1
57	21.0	0.0	39.9



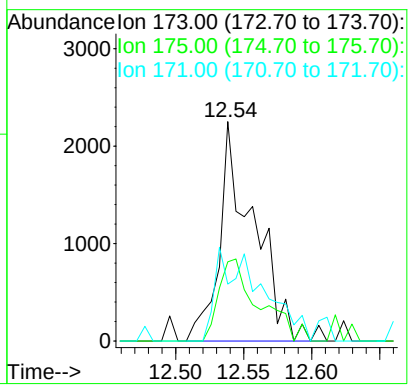
REASON # 2



#79
Bromoform
Concen: 0.40 ug/L
RT: 12.54 min Scan# 1785
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion:173 Resp: 3988

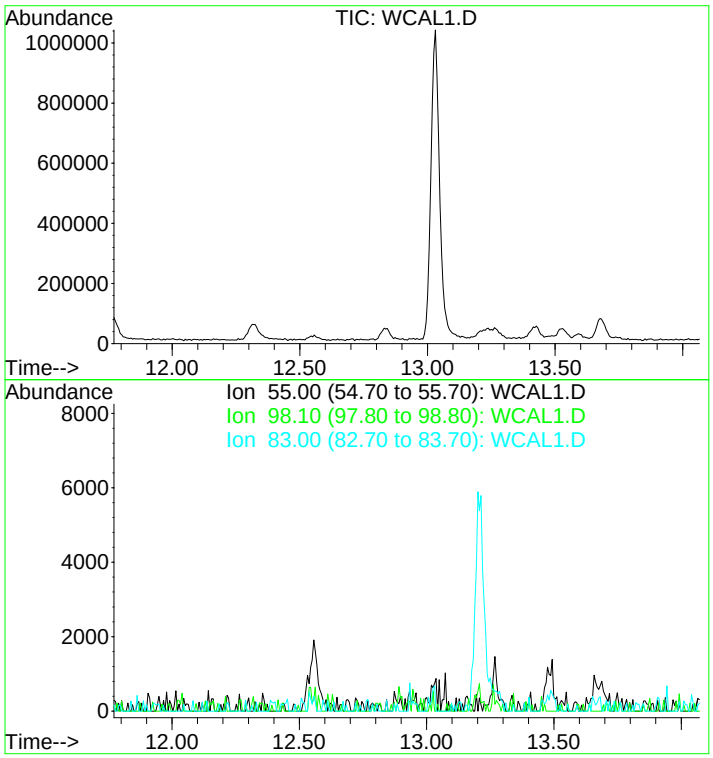
Ion	Ratio	Lower	Upper
173	100		
175	0.0	28.3	68.3#
171	55.9	31.0	71.0



REASON # 2

Before Manual Integration

07/20/17



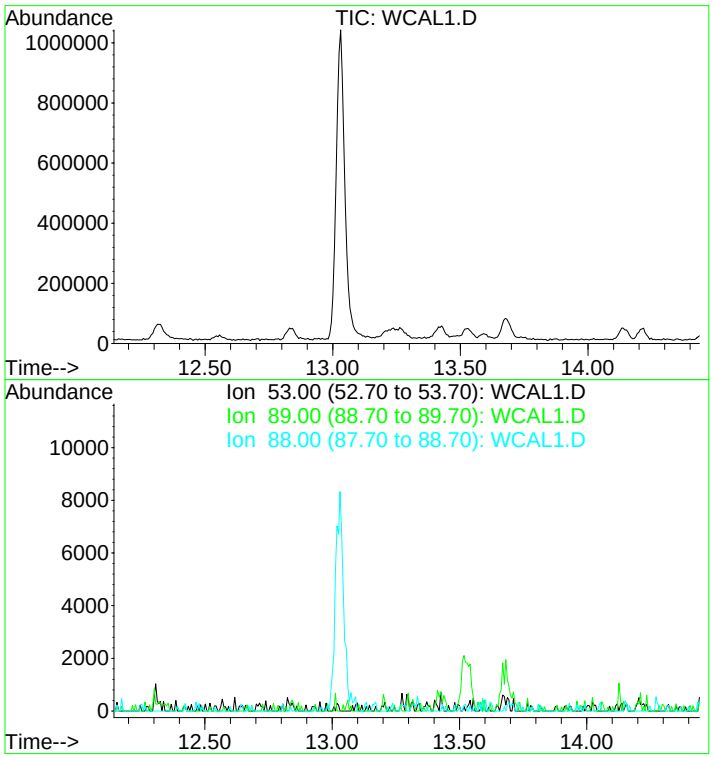
#81
cyclohexanone
Concen: N.D.
Expected RT: 12.92 min

Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 55

Sig	Exp Ratio
55	100
98	47.4
83	14.1

REASON # 1



#87
14dichloro2butene
Concen: N.D.
Expected RT: 13.29 min

Lab File: WCAL1.D
Acq: 19 Jul 2017 9:35

Tgt Ion: 53

Sig	Exp Ratio
53	100
89	60.2
88	49.9

REASON # 1

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL2.D Vial: 5
Acq On : 19 Jul 2017 10:05 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:19:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:23 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.49	96	1367693	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1048832	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	599123	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	346887	20.027	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.06	102	92611	18.984	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.50	98	1356352	19.648	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.03	95	496339	20.136	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	39215	1.9102	ug/L	97
3) Chloromethan	1.99	50	54589	2.2367	ug/L	91
4) VinylChlorid	2.14	62	41338	1.9932	ug/L	97
5) Bromomethane	2.59	94	25382	2.0772	ug/L	95
6) Chloroethane	2.74	64	31602	2.1180	ug/L	92
7) Dichloroflmethane	3.03	67	62901	2.0419	ug/L	96
8) Trichlorofma	3.12	101	53640	1.9896	ug/L	97
9) Ethylether	3.56	59	25739	1.9955	ug/L	93
10) dichlorotfluoroethan	3.56	67	38105	1.9368	ug/L	98
11) propyleneoxide	3.91	58	59156	19.6247	ug/L	98
12) Acrolein	3.69	56	45068	8.9693	ug/L	89
13) 11dichlorthe	3.83	96	31266	1.8782	ug/L	95
14) Trichlorotfluoroeth	3.87	101	58850	3.8746	ug/L	98
15) Acetone	3.91	43	181597	19.8358	ug/L	99
16) Iodomethane	3.99	142	68673	3.8707	ug/L	98
17) Carbon Dislf	4.08	76	133482	3.7846	ug/L	99
18) allylchloride	4.30	41	86737	4.1546	ug/L	97
19) methylacetate	4.39	74	8259	1.8665	ug/L	90
20) Methylchlorid	4.45	84	41643	2.1044	ug/L	98
21) tbutylalcohol	4.71	59	211100	87.5971	ug/L	97
22) Acrylonitrile	4.79	53	59721	8.6152	ug/L	97
23) t12dichlorte	4.82	96	35465	1.9965	ug/L	96
24) MtBE	4.87	73	91319	1.9600	ug/L	95
25) Hexane	5.22	57	94856	3.7804	ug/L	99
26) 11dichlorota	5.34	63	63695	2.0936	ug/L	98
27) Vinylacetate	5.45	43	571900	22.0573	ug/L	97
28) chloroprene	5.47	53	103465	3.9060	ug/L	98
29) Diisopether	5.50	45	105201	2.0842	ug/L	95
30) ETBE	5.95	59	85046	1.9231	ug/L	97
31) 22dichloropr	6.07	77	44850	1.9001	ug/L	98
32) c12dichlorte	6.08	96	39433	2.0592	ug/L	94
33) 2Butanone	6.11	72	57148	16.8204	ug/L	95
34) propionitrile	6.17	54	46204	16.3465	ug/L	97
35) Ethylacetate	6.22	88	8074	7.7275	ug/L #	56
36) methacrylonitrile	6.34	67	36254	3.5934	ug/L	94
37) Bromochlorma	6.36	128	18593	1.9955	ug/L	94
38) Tetrahydofur	6.45	42	257305	22.1873	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL2.D Vial: 5
Acq On : 19 Jul 2017 10:05 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:19:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:23 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.46	83	64509	2.0688 ug/L		100
40)	111trichlota	6.70	97	51976	1.8433 ug/L		99
42)	Cyclohexane	6.79	56	51310	1.8330 ug/L		98
43)	Carbtetraclo	6.92	119	38116	1.7712 ug/L		95
44)	11dicloprope	6.92	110	17191	1.8471 ug/L		98
46)	Benzene	7.15	78	154057	2.1440 ug/L		96
47)	12dichlorota	7.16	62	43347	1.9521 ug/L		93
48)	TAME	7.33	73	88379	1.9564 ug/L		97
49)	trichloroete	7.96	95	34380	1.8523 ug/L		95
50)	methylcyclohexane	8.22	83	60545	1.7633 ug/L		94
51)	12dicloropra	8.21	63	37546	2.0263 ug/L		99
52)	23Dicl1propene	8.29	75	46449	1.8490 ug/L		99
53)	Dibromometha	8.35	93	22641	1.9909 ug/L		96
54)	methylmethacrylate	8.40	69	22993	1.6404 ug/L		96
55)	14dioxane	8.48	88	5697	103.2242 ug/L	#	70
56)	Bromodiclrma	8.55	83	43672	1.9777 ug/L		91
57)	2Nitropropane	8.81	43	80558	15.4482 ug/L		89
58)	2CLEVE	8.95	63	1250m	0.6419 ug/L	#	0
59)	c13dicloproe	9.14	75	49489	1.8945 ug/L		100
60)	4Meth2Pentan	9.37	43	417832	20.4622 ug/L		99
62)	Toluene	9.59	92	95788	2.0727 ug/L		95
63)	t13Dicloprop	9.86	75	38444	1.7410 ug/L		93
64)	ethylmethacrylate	10.01	69	75080	3.3018 ug/L		96
65)	112Triclotha	10.07	83	27839	1.9540 ug/L		96
66)	Tetrachlorte	10.31	166	45207	1.9949 ug/L		97
67)	13Diclorpropa	10.30	76	54391	1.9212 ug/L		100
69)	2Hexanone	10.47	43	256701	17.8573 ug/L		97
70)	Clorodibrmta	10.60	129	28912	1.8041 ug/L		96
71)	12Dibrometha	10.76	107	34616	1.9957 ug/L		95
72)	Chlorobenzen	11.44	112	98830	2.0876 ug/L		93
73)	1Clhexane	11.42	91	43696	1.8607 ug/L		85
74)	1112Tetclota	11.54	131	30812	1.8593 ug/L		91
75)	Ethylbenzene	11.61	91	164822	2.1091 ug/L		94
76)	m p-Xylene	11.77	106	128212	4.1508 ug/L		99
77)	o-Xylene	12.31	106	62584	1.9759 ug/L		97
78)	Styrene	12.33	104	87843	1.8179 ug/L		100
79)	Bromoform	12.54	173	16540	1.5729 ug/L		100
80)	Isopropylben	12.84	105	154503	2.0621 ug/L		99
81)	cyclohexanone	12.94	55	4234	22.5727 ug/L	#	88
84)	Bromobenzene	13.24	156	41480	2.0007 ug/L		97
85)	1122Tetrclta	13.21	83	54161	2.0227 ug/L		96
86)	123Triclproa	13.26	75	56375	1.9052 ug/L		96
87)	14dichloro2butene	13.30	53	6010	1.4785 ug/L		90
88)	n-Propylbenz	13.42	91	176341	2.1251 ug/L		96
89)	2chlorotolue	13.52	91	105220	2.0096 ug/L		98
90)	4chlorotolue	13.68	91	118584	2.0443 ug/L		99
91)	135Trimebenz	13.68	105	126178	2.0794 ug/L		99
92)	tbutylbenzen	14.14	119	109261	2.0342 ug/L		97
93)	124Trimetben	14.20	105	122144	2.0528 ug/L		92
94)	sbutylbenzen	14.46	105	149636	2.0350 ug/L		98
95)	13Diclorbenz	14.59	146	76816	2.0521 ug/L		98
96)	pIsopropylto	14.67	119	126868	2.0375 ug/L		98
97)	14dichlorobe	14.72	146	81090	2.1011 ug/L		94
98)	12dichlorobe	15.26	146	78371	2.1654 ug/L		94
99)	nButylbenzen	15.27	91	105304	1.9664 ug/L		98
100)	12dibromo3cl	16.36	157	11028	1.6549 ug/L		95
101)	135Trichlorobenzene	16.69	180	53656	2.0902 ug/L		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL2.D Vial: 5
Acq On : 19 Jul 2017 10:05 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:19:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:23 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.51	180	41110	1.8914 ug/L	97
103) Hexachlorobu	17.76	225	22283	1.9297 ug/L	99
104) Naphthalene	17.82	128	88299	1.6849 ug/L	99
105) 123Trichlben	18.13	180	39512	1.9567 ug/L	94

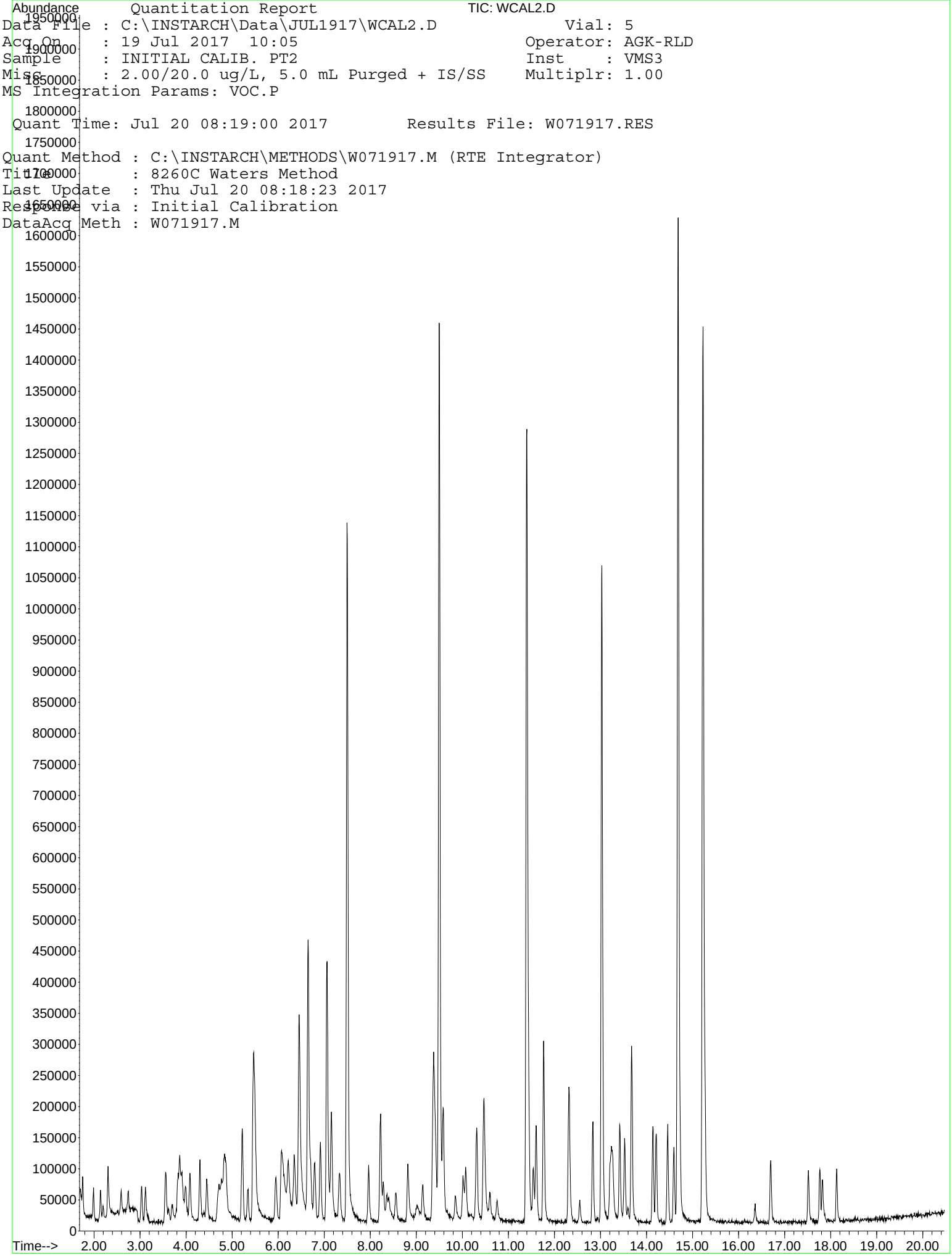
(#) = qualifier out of range (m) = manual integration

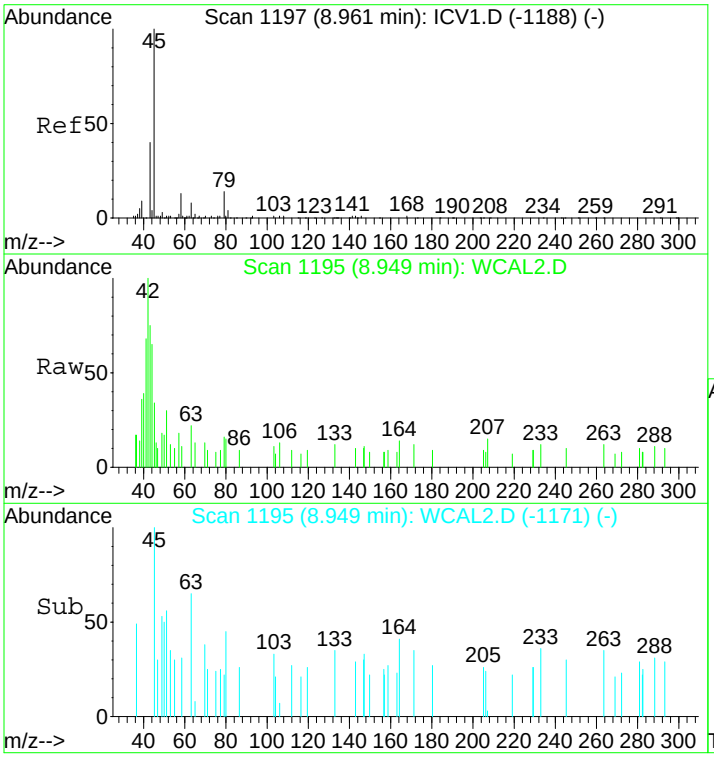
Abundance Quantitation Report TIC: WCAL2.D

Data File : C:\INSTARCH\Data\JUL1917\WCAL2.D Vial: 5
Acq On : 19 Jul 2017 10:05 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:19:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:23 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

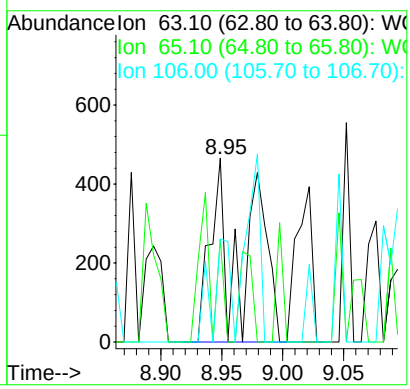




#58
2CLEVE
Concen: 0.64 ug/L m
RT: 8.95 min Scan# 1195
Delta R.T. -0.01 min
Lab File: WCAL2.D
Acq: 19 Jul 2017 10:05

Tgt Ion: 63 Resp: 1250

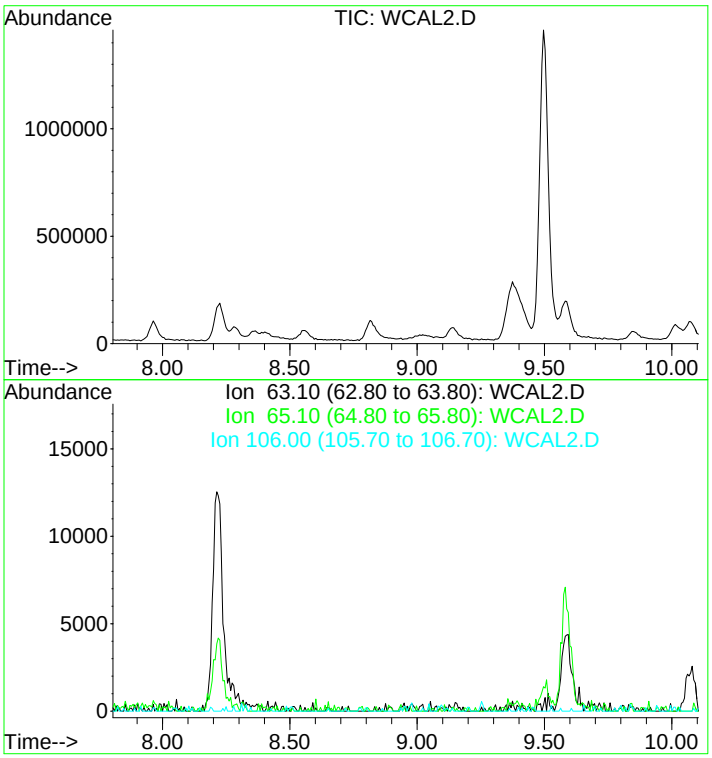
Ion	Ratio	Lower	Upper
63	100		
65	0.0	20.6	60.6#
106	0.0	2.1	42.1#



After Manual Integration

AgK 07/20/17

RJ07/20/2019



#58
2CLEVE
Concen: N.D.
Expected RT: 8.96 min

Lab File: WCAL2.D
Acq: 19 Jul 2017 10:05

Tgt Ion: 63

Sig	Exp Ratio
63	100
65	40.6
106	22.1

Before Manual Integration

AGK 07/20/17

REASON # 1

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL3.D Vial: 6
Acq On : 19 Jul 2017 10:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:16:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:16:42 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1371931	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.40	117	1052108	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	617500	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	340819	19.686	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	94752	19.858	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.50	98	1369904	19.994	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.03	95	505433	20.000	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.75	85	102933	4.6736	ug/L	100
3) Chloromethan	1.99	50	124108	4.2286	ug/L	96
4) VinylChlorid	2.14	62	108146	4.9491	ug/L	100
5) Bromomethane	2.59	94	63037	4.4662	ug/L	91
6) Chloroethane	2.74	64	79373	4.9182	ug/L	100
7) Dichloroflmethane	3.04	67	165344	4.9959	ug/L	98
8) Trichlorofma	3.12	101	136726	4.7166	ug/L	97
9) Ethylether	3.56	59	62157	4.7407	ug/L	99
10) dichlorotfluoroethan	3.55	67	102707	5.0027	ug/L	96
11) propyleneoxide	3.90	58	160161	52.1262	ug/L	96
12) Acrolein	3.70	56	134934	29.7965	ug/L	99
13) 11dichlorthe	3.82	96	86107	4.9971	ug/L	99
14) Trichlorotfluoroeth	3.86	101	155054	9.7708	ug/L	98
15) Acetone	3.90	43	506675	53.7309	ug/L	99
16) Iodomethane	3.99	142	172261	9.0467	ug/L	98
17) Carbon Dislf	4.08	76	360282	9.8216	ug/L	98
18) allylchloride	4.30	41	216326	10.2656	ug/L	99
19) methylacetate	4.37	74	21508	5.5692	ug/L	96
20) Methylchlorid	4.45	84	97477	4.2089	ug/L	98
21) tbutylalcohol	4.68	59	747458	404.7227	ug/L	98
22) Acrylonitrile	4.77	53	171188	29.5526	ug/L	98
23) t12dichlorte	4.83	96	87785	4.7572	ug/L	93
24) MtBE	4.86	73	244798	5.2161	ug/L	98
25) Hexane	5.22	57	255433	9.8086	ug/L	100
26) 11dichlorota	5.34	63	160363	5.0836	ug/L	99
27) Vinylacetate	5.44	43	1579942	56.4032	ug/L	99
28) chloroprene	5.48	53	276467	10.1178	ug/L	99
29) Diisopether	5.50	45	262368	5.0240	ug/L	98
30) ETBE	5.94	59	229447	5.2879	ug/L	98
31) 22dichloropr	6.07	77	113700	4.8783	ug/L	99
32) c12dichlorte	6.07	96	98024	5.0924	ug/L	98
33) 2Butanone	6.10	72	181530	61.9911	ug/L	100
34) propionitrile	6.15	54	163876	84.0587	ug/L	97
35) Ethylacetate	6.21	88	25420	31.6523	ug/L #	86
36) methacrylonitrile	6.33	67	100974	10.9428	ug/L	95
37) Bromochlorma	6.35	128	46819	4.6227	ug/L	95
38) Tetrahydofur	6.45	42	553441	33.4309	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL3.D Vial: 6
Acq On : 19 Jul 2017 10:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:16:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:16:42 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.46	83	161383	4.9737 ug/L		98
40)	111trichlota	6.70	97	140834	4.8912 ug/L		98
42)	Cyclohexane	6.80	56	137211	4.8083 ug/L		96
43)	Carbtetraclo	6.92	119	105900	5.1457 ug/L		97
44)	11dicloprope	6.92	110	44545	4.6716 ug/L		99
46)	Benzene	7.15	78	377830	4.7481 ug/L		98
47)	12dichlorota	7.15	62	111890	4.8978 ug/L		91
48)	TAME	7.33	73	226745	5.0933 ug/L		98
49)	trichloroete	7.96	95	93733	4.9363 ug/L		97
50)	methylcyclohexane	8.23	83	168835	4.8998 ug/L		97
51)	12dicloropra	8.21	63	91778	4.7619 ug/L		98
52)	23Dicl1propene	8.28	75	125150	4.9995 ug/L		98
53)	Dibromometha	8.35	93	58780	5.1718 ug/L		92
54)	methylmethacrylate	8.40	69	70589	6.6435 ug/L		99
55)	14dioxane	8.46	88	19765	487.4796 ug/L		87
56)	Bromodiclrma	8.55	83	108312	4.9396 ug/L		95
57)	2Nitropropane	8.82	43	245044	57.5675 ug/L		99
58)	2CLEVE	8.96	63	3833	23.2665 ug/L	#	41
59)	c13dicloproe	9.14	75	133406	5.4037 ug/L		99
60)	4Meth2Pentan	9.36	43	1272305	59.0697 ug/L		99
62)	Toluene	9.58	92	237116	4.8357 ug/L		96
63)	t13Dicloprop	9.84	75	105707	5.1994 ug/L		96
64)	ethylmethacrylate	10.01	69	231962	11.6779 ug/L		98
65)	112Triclotha	10.07	83	73106	5.1432 ug/L		94
66)	Tetrachlorte	10.31	166	112788	4.8956 ug/L		98
67)	13Diclorpropa	10.29	76	146119	5.1600 ug/L		100
69)	2Hexanone	10.45	43	885856	68.4909 ug/L		100
70)	Clorodibrmta	10.59	129	76860	5.0475 ug/L		97
71)	12Dibrometha	10.75	107	85842	4.8984 ug/L		99
72)	Chlorobenzen	11.44	112	253101	5.0894 ug/L		99
73)	1Clhexane	11.43	91	113849	4.8999 ug/L		95
74)	1112Tetclota	11.54	131	84177	5.2773 ug/L		96
75)	Ethylbenzene	11.60	91	419294	4.9757 ug/L		98
76)	m p-Xylene	11.77	106	326539	10.2150 ug/L		95
77)	o-Xylene	12.31	106	161056	5.0022 ug/L		94
78)	Styrene	12.33	104	253422	5.3357 ug/L		100
79)	Bromoform	12.54	173	48402	5.5019 ug/L		100
80)	Isopropylben	12.84	105	402981	5.1342 ug/L		99
81)	cyclohexanone	12.94	55	18738	136.2888 ug/L		99
84)	Bromobenzene	13.24	156	108590	4.9119 ug/L		98
85)	1122Tetrclta	13.21	83	150918	5.1518 ug/L		98
86)	123Triclproa	13.26	75	150797	4.6853 ug/L		99
87)	14dichloro2butene	13.30	53	18327	5.7939 ug/L		91
88)	n-Propylbenz	13.42	91	461244	4.9545 ug/L		99
89)	2chlorotolue	13.52	91	280334	4.7754 ug/L		98
90)	4chlorotolue	13.68	91	315162	4.9328 ug/L		99
91)	135Trimebenz	13.68	105	333712	5.0261 ug/L		97
92)	tbutylbenzen	14.14	119	288832	4.9686 ug/L		99
93)	124Trimetben	14.21	105	330380	5.2165 ug/L		99
94)	sbutylbenzen	14.46	105	407289	5.1021 ug/L		99
95)	13Diclorbenz	14.59	146	203502	5.0503 ug/L		99
96)	pIsopropylto	14.67	119	335872	5.0118 ug/L		98
97)	14dichlorobe	14.72	146	203665	4.7021 ug/L		94
98)	12dichlorobe	15.25	146	200543	5.0204 ug/L		98
99)	nButylbenzen	15.27	91	280781	4.9683 ug/L		99
100)	12dibromo3cl	16.36	157	31833	4.8148 ug/L		84
101)	135Trichlorobenzene	16.69	180	137769	5.0678 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL3.D Vial: 6
Acq On : 19 Jul 2017 10:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:16:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:16:42 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

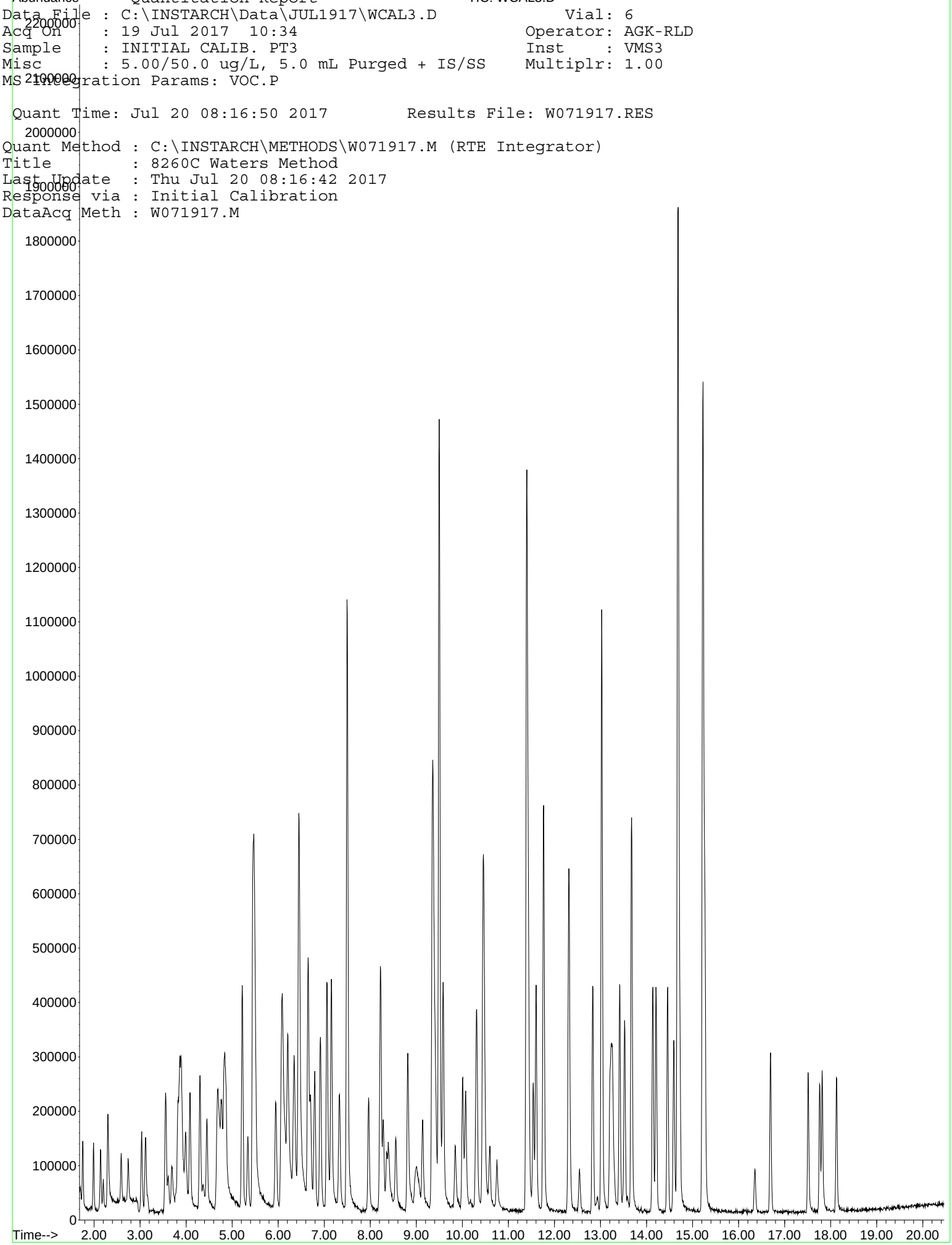
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	116428	5.2421	ug/L	99
103) Hexachlorobu	17.76	225	59677	4.9018	ug/L	96
104) Naphthalene	17.81	128	292964	5.9358	ug/L	99
105) 123Trichlben	18.13	180	108790	5.2084	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\Data\JUL1917\WCAL3.D Vial: 6
Acq On : 19 Jul 2017 10:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:16:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:16:42 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL4.D Vial: 7
Acq On : 19 Jul 2017 11:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:11 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:04 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.49	96	1416085	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1117261	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	648391	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	359951	20.222	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.06	102	102926	20.936	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 105 %			
61) SURRd8Tolule	9.50	98	1436336	20.312	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.02	95	525634	19.808	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.75	85	221945	9.9251	ug/L	100
3) Chloromethan	1.99	50	234967	8.0673	ug/L	100
4) VinylChlorid	2.14	62	227819	10.1264	ug/L	100
5) Bromomethane	2.59	94	120242	8.4799	ug/L	100
6) Chloroethane	2.74	64	155051	9.3461	ug/L	100
7) Dichloroflmethane	3.04	67	328569	9.6202	ug/L	100
8) Trichlorofma	3.11	101	290243	9.8397	ug/L	100
9) Ethylether	3.55	59	125132	9.3677	ug/L	100
10) dichlorotfluoroethan	3.56	67	211414	9.9753	ug/L	100
11) propyleneoxide	3.90	58	303776	94.7771	ug/L	99
12) Acrolein	3.69	56	256273	52.3170	ug/L	100
13) 11dichlorthe	3.83	96	172974	9.7267	ug/L	100
14) Trichlorotfluoroeth	3.86	101	326674	20.0586	ug/L	100
15) Acetone	3.89	43	949420	95.7567	ug/L	100
16) Iodomethane	3.99	142	353920	18.4471	ug/L	100
17) Carbon Dislf	4.09	76	759349	20.1449	ug/L	100
18) allylchloride	4.30	41	451150	20.6046	ug/L	100
19) methylacetate	4.37	74	45991	11.2182	ug/L	100
20) Methylchlorid	4.45	84	188814	8.2238	ug/L	100
21) tbutylalcohol	4.69	59	1267935	576.0140	ug/L	99
22) Acrylonitrile	4.76	53	358221	57.3036	ug/L	99
23) t12dichlorte	4.82	96	183861	9.7716	ug/L	100
24) MtBE	4.85	73	477571	9.7532	ug/L	99
25) Hexane	5.22	57	546109	20.4144	ug/L	100
26) 11dichlorota	5.34	63	319861	9.7828	ug/L	100
27) Vinylacetate	5.44	43	2865338	96.0273	ug/L	100
28) chloroprene	5.48	53	576943	20.3958	ug/L	100
29) Diisopether	5.49	45	526138	9.7490	ug/L	100
30) ETBE	5.94	59	442420	9.7380	ug/L	100
31) 22dichloropr	6.07	77	232754	9.7342	ug/L	100
32) c12dichlorte	6.07	96	201887	10.1145	ug/L	100
33) 2Butanone	6.10	72	363404	113.4294	ug/L	99
34) propionitrile	6.14	54	317017	134.6164	ug/L	99
35) Ethylacetate	6.21	88	54826	62.0140	ug/L	97
36) methacrylonitrile	6.33	67	210466	21.5886	ug/L	98
37) Bromochlorma	6.35	128	92874	9.0549	ug/L	100
38) Tetrahydofur	6.45	42	958443	61.1566	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL4.D Vial: 7
Acq On : 19 Jul 2017 11:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:11 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:04 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	320021	9.5679	ug/L	100
40)	111trichlota	6.70	97	288349	9.7553	ug/L	100
42)	Cyclohexane	6.80	56	302227	10.3601	ug/L	100
43)	Carbtetraclo	6.92	119	220605	10.3098	ug/L	100
44)	11dicloprope	6.90	110	94297	9.7410	ug/L	100
46)	Benzene	7.15	78	755822	9.3194	ug/L	100
47)	12dichlorota	7.15	62	227023	9.6771	ug/L	100
48)	TAME	7.32	73	447546	9.6944	ug/L	100
49)	trichloroete	7.96	95	191792	9.8167	ug/L	100
50)	methylcyclohexane	8.22	83	375319	10.6058	ug/L	100
51)	12dicloropra	8.21	63	188010	9.5646	ug/L	100
52)	23Dicl1propene	8.28	75	251705	9.7419	ug/L	100
53)	Dibromometha	8.35	93	111796	9.4486	ug/L	100
54)	methylmethacrylate	8.39	69	148644	12.5243	ug/L	100
55)	14dioxane	8.46	88	24183	466.9546	ug/L	99
56)	Bromodiclrma	8.55	83	218843	9.6985	ug/L	100
57)	2Nitropropane	8.82	43	528376	115.8750	ug/L	100
58)	2CLEVE	8.96	63	12082	72.3051	ug/L	100
59)	c13dicloproe	9.13	75	265892	10.2278	ug/L	100
60)	4Meth2Pentan	9.35	43	2383341	102.5514	ug/L	100
62)	Toluene	9.58	92	472388	9.4107	ug/L	100
63)	t13Dicloprop	9.84	75	220403	10.3992	ug/L	100
64)	ethylmethacrylate	10.00	69	471375	22.0654	ug/L	100
65)	112Triclotha	10.07	83	143910	9.7390	ug/L	100
66)	Tetrachlorte	10.31	166	236330	9.9903	ug/L	100
67)	13Diclorpropa	10.29	76	294543	9.9972	ug/L	100
69)	2Hexanone	10.45	43	1693997	112.8976	ug/L	100
70)	Clorodibrmta	10.59	129	161694	9.9757	ug/L	100
71)	12Dibrometha	10.74	107	175329	9.4694	ug/L	100
72)	Chlorobenzen	11.43	112	501618	9.4561	ug/L	100
73)	1Clhexane	11.42	91	243562	9.9210	ug/L	100
74)	1112Tetclota	11.53	131	171003	9.9575	ug/L	100
75)	Ethylbenzene	11.60	91	852999	9.5437	ug/L	100
76)	m p-Xylene	11.76	106	673574	19.7364	ug/L	100
77)	o-Xylene	12.31	106	337162	9.8601	ug/L	100
78)	Styrene	12.32	104	514437	10.0313	ug/L	100
79)	Bromoform	12.54	173	104841	10.9476	ug/L	100
80)	Isopropylben	12.83	105	831903	9.9143	ug/L	100
81)	cyclohexanone	12.92	55	33547	210.6601	ug/L	99
84)	Bromobenzene	13.24	156	224024	9.6933	ug/L	100
85)	1122Tetrclta	13.20	83	282885	9.1273	ug/L	100
86)	123Triclproa	13.26	75	294416	8.8511	ug/L	100
87)	14dichloro2butene	13.29	53	39723	11.5032	ug/L	100
88)	n-Propylbenz	13.41	91	955063	9.7924	ug/L	100
89)	2chlorotolue	13.52	91	584768	9.5945	ug/L	100
90)	4chlorotolue	13.68	91	634656	9.4920	ug/L	100
91)	135Trimebenz	13.68	105	669180	9.5859	ug/L	100
92)	tbutylbenzen	14.14	119	604796	9.9238	ug/L	100
93)	124Trimetben	14.21	105	660342	9.8233	ug/L	100
94)	sbutylbenzen	14.46	105	862997	10.2434	ug/L	100
95)	13Diclorbenz	14.59	146	410327	9.6736	ug/L	100
96)	pIsopropylto	14.67	119	691789	9.8251	ug/L	100
97)	14dichlorobe	14.72	146	402744	8.9893	ug/L	99
98)	12dichlorobe	15.25	146	386129	9.1964	ug/L	100
99)	nButylbenzen	15.27	91	595472	10.0506	ug/L	100
100)	12dibromo3cl	16.36	157	68828	10.0071	ug/L	100
101)	135Trichlorobenzene	16.69	180	277068	9.6735	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL4.D Vial: 7
Acq On : 19 Jul 2017 11:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:11 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:04 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

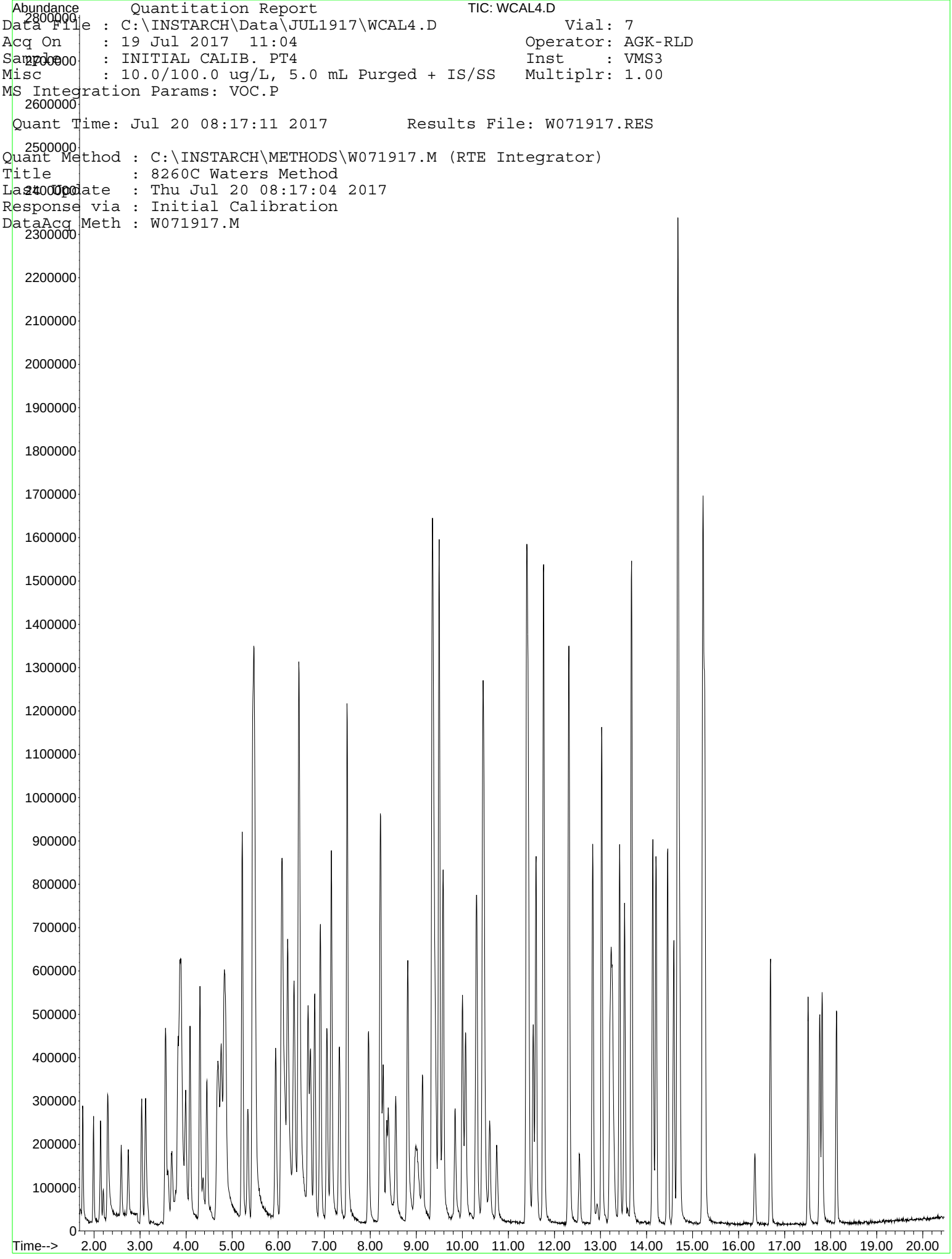
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	231175	9.7940	ug/L	100
103) Hexachlorobu	17.76	225	123765	9.7293	ug/L	100
104) Naphthalene	17.81	128	589999	10.8757	ug/L	100
105) 123Trichlben	18.13	180	213480	9.6332	ug/L	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\Data\JUL1917\WCAL4.D Vial: 7
Acq On : 19 Jul 2017 11:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:11 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:04 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL5.D Vial: 8
Acq On : 19 Jul 2017 11:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:31 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:24 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1479523	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1165181	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	692839	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	377756	20.312	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.06	102	102675	19.953	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.50	98	1489860	20.165	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.03	95	574358	20.256	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	440809	18.8672	ug/L	100
3) Chloromethan	1.99	50	476645	15.6633	ug/L	99
4) VinylChlorid	2.14	62	445849	18.9680	ug/L	99
5) Bromomethane	2.59	94	241967	16.3207	ug/L	100
6) Chloroethane	2.74	64	310876	17.9354	ug/L	99
7) Dichloroflmethane	3.04	67	642190	17.9965	ug/L	100
8) Trichlorofma	3.12	101	570196	18.5039	ug/L	97
9) Ethylether	3.55	59	273701	19.5948	ug/L	98
10) dichlorotfluoroethan	3.55	67	415958	18.7849	ug/L	99
11) propyleneoxide	3.89	58	641139	190.7648	ug/L	100
12) Acrolein	3.67	56	566592	110.1315	ug/L	96
13) 11dichlorthe	3.82	96	354910	19.1016	ug/L	99
14) Trichlorotfluoroeth	3.87	101	654281	38.4519	ug/L	100
15) Acetone	3.89	43	1981075	190.3566	ug/L	100
16) Iodomethane	3.99	142	725108	36.1736	ug/L	100
17) Carbon Dislf	4.08	76	1557463	39.5467	ug/L	99
18) allylchloride	4.30	41	938388	41.0198	ug/L	100
19) methylacetate	4.36	74	91252	20.9926	ug/L	95
20) Methylchlorid	4.45	84	381669	15.9048	ug/L	98
21) tbutylalcohol	4.66	59	3007722	1259.7200	ug/L	99
22) Acrylonitrile	4.75	53	814321	123.9190	ug/L	99
23) t12dichlorte	4.82	96	370745	18.8590	ug/L	97
24) MtBE	4.85	73	1005817	19.6530	ug/L	99
25) Hexane	5.22	57	1106403	39.5857	ug/L	98
26) 11dichlorota	5.34	63	643708	18.8433	ug/L	98
27) Vinylacetate	5.44	43	5996288	192.2155	ug/L	96
28) chloroprene	5.47	53	1167661	39.5087	ug/L	99
29) Diisopether	5.49	45	1093744	19.3973	ug/L	99
30) ETBE	5.94	59	979586	20.6060	ug/L	99
31) 22dichloropr	6.07	77	504134	20.1798	ug/L	98
32) c12dichlorte	6.07	96	416628	19.9779	ug/L	99
33) 2Butanone	6.08	72	785797	233.4511	ug/L	99
34) propionitrile	6.13	54	699408	278.0635	ug/L	99
35) Ethylacetate	6.21	88	125699	135.0908	ug/L	96
36) methacrylonitrile	6.33	67	450537	44.0778	ug/L	99
37) Bromochlorma	6.35	128	193974	18.1009	ug/L	99
38) Tetrahydofur	6.44	42	1834706	111.2348	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL5.D Vial: 8
Acq On : 19 Jul 2017 11:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:31 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:24 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.46	83	660295	18.8949	ug/L		100
40)	111trichlota	6.70	97	599165	19.4015	ug/L		99
42)	Cyclohexane	6.80	56	608463	19.9633	ug/L		97
43)	Carbtetraclo	6.92	119	473153	21.1644	ug/L		98
44)	11dicloprope	6.91	110	196631	19.4621	ug/L		99
46)	Benzene	7.15	78	1506947	17.7842	ug/L		99
47)	12dichlorota	7.15	62	472041	19.2474	ug/L		97
48)	TAME	7.32	73	996657	20.6631	ug/L		99
49)	trichloroete	7.96	95	397869	19.4961	ug/L		98
50)	methylcyclohexane	8.23	83	754992	20.4198	ug/L		97
51)	12dicloropra	8.21	63	388856	18.9341	ug/L		100
52)	23Dicl1propene	8.28	75	536664	19.8803	ug/L		98
53)	Dibromometha	8.35	93	242876	19.6468	ug/L		94
54)	methylmethacrylate	8.39	69	331774	26.7557	ug/L		98
55)	14dioxane	8.44	88	73192	1309.9968	ug/L	#	19
56)	Bromodiclrma	8.55	83	478553	20.2987	ug/L		96
57)	2Nitropropane	8.81	43	1202329	252.3699	ug/L		100
58)	2CLEVE	8.96	63	151222	866.1887	ug/L		88
59)	c13dicloproe	9.13	75	568901	20.9451	ug/L		96
60)	4Meth2Pentan	9.33	43	4716595	193.7099	ug/L		96
62)	Toluene	9.58	92	979405	18.6746	ug/L		96
63)	t13Dicloprop	9.84	75	490136	22.1343	ug/L		99
64)	ethylmethacrylate	10.00	69	1070858	47.9197	ug/L		98
65)	112Triclotha	10.07	83	304833	19.7449	ug/L		97
66)	Tetrachlorte	10.31	166	487902	19.7406	ug/L		99
67)	13Diclorpropa	10.29	76	611713	19.8669	ug/L		99
69)	2Hexanone	10.43	43	3641554	231.6038	ug/L		98
70)	Clorodibrmta	10.59	129	360561	21.3300	ug/L		99
71)	12Dibrometha	10.74	107	379778	19.6681	ug/L		100
72)	Chlorobenzen	11.44	112	1034062	18.6917	ug/L		98
73)	1Clhexane	11.42	91	523910	20.4627	ug/L		99
74)	1112Tetclota	11.54	131	371023	20.7161	ug/L		99
75)	Ethylbenzene	11.60	91	1741356	18.6818	ug/L		100
76)	m p-Xylene	11.76	106	1408845	39.5828	ug/L		95
77)	o-Xylene	12.31	106	700976	19.6565	ug/L		99
78)	Styrene	12.32	104	1113307	20.8162	ug/L		99
79)	Bromoform	12.54	173	239773	24.0077	ug/L		100
80)	Isopropylben	12.83	105	1698703	19.4120	ug/L		99
81)	cyclohexanone	12.93	55	85747	511.2832	ug/L		98
84)	Bromobenzene	13.23	156	471575	19.0942	ug/L		98
85)	1122Tetrclta	13.21	83	598010	18.0596	ug/L		98
86)	123Triclproa	13.26	75	647003	18.2032	ug/L		99
87)	14dichloro2butene	13.29	53	95798	25.9619	ug/L		98
88)	n-Propylbenz	13.41	91	1962048	18.8266	ug/L		98
89)	2chlorotolue	13.52	91	1187939	18.2405	ug/L		98
90)	4chlorotolue	13.68	91	1351154	18.9117	ug/L		99
91)	135Trimebenz	13.67	105	1426075	19.1150	ug/L		100
92)	tbutylbenzen	14.14	119	1255775	19.2835	ug/L		97
93)	124Trimetben	14.21	105	1428418	19.8861	ug/L		100
94)	sbutylbenzen	14.45	105	1764467	19.5994	ug/L		96
95)	13Diclorbenz	14.59	146	863855	19.0592	ug/L		99
96)	pIsopropylto	14.67	119	1478852	19.6558	ug/L		98
97)	14dichlorobe	14.72	146	860438	18.0368	ug/L		98
98)	12dichlorobe	15.25	146	808425	18.0191	ug/L		99
99)	nButylbenzen	15.27	91	1295731	20.4583	ug/L		98
100)	12dibromo3cl	16.35	157	152629	20.7674	ug/L		93
101)	135Trichlorobenzene	16.69	180	599714	19.5951	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL5.D Vial: 8
Acq On : 19 Jul 2017 11:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:31 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:24 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	517623	20.5229	ug/L	99
103) Hexachlorobu	17.76	225	270654	19.9115	ug/L	99
104) Naphthalene	17.81	128	1329641	22.9375	ug/L	98
105) 123Trichlben	18.12	180	470057	19.8468	ug/L	98

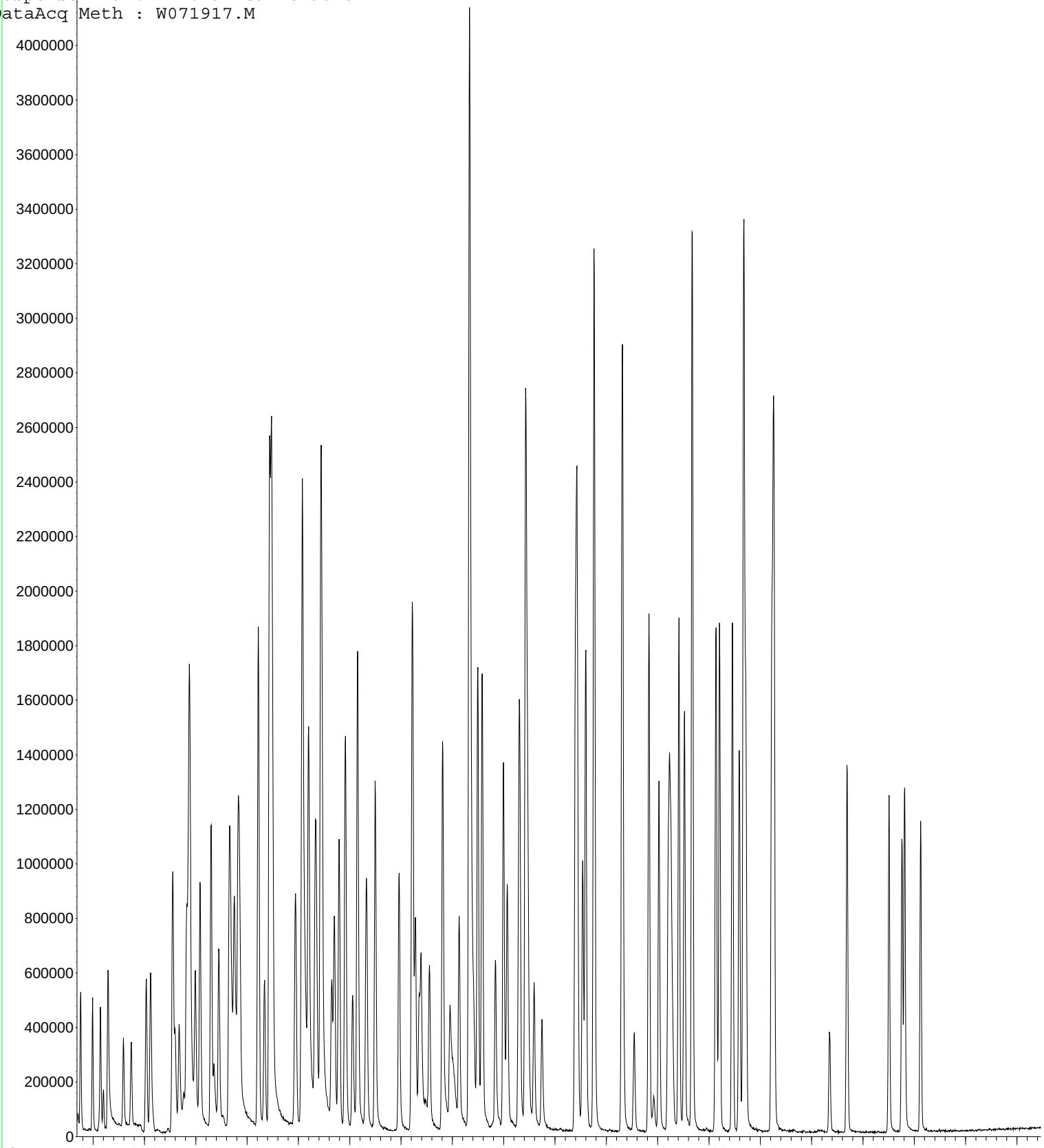
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\Data\JUL1917\WCAL5.D Vial: 8
Acq On : 19 Jul 2017 11:34 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:31 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:24 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL6.D Vial: 9
Acq On : 19 Jul 2017 12:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:39 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.49	96	1514049	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1194903	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	726224	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	380386	19.925	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.06	102	106729	20.278	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.50	98	1547710	20.437	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.02	95	599910	20.133	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	664745	28.1217	ug/L	99
3) Chloromethan	1.99	50	723036	24.2709	ug/L	99
4) VinylChlorid	2.14	62	672891	28.2661	ug/L	97
5) Bromomethane	2.59	94	362120	24.7797	ug/L	98
6) Chloroethane	2.74	64	474408	27.3097	ug/L	98
7) Dichloroflmethane	3.04	67	996675	27.8516	ug/L	99
8) Trichlorofma	3.12	101	873225	28.1121	ug/L	98
9) Ethylether	3.55	59	438167	30.7786	ug/L	98
10) dichlorotfluoroethan	3.55	67	644745	28.8030	ug/L	98
11) propyleneoxide	3.88	58	1019439	299.1704	ug/L	97
12) Acrolein	3.67	56	916049	170.5412	ug/L	98
13) 11dichlorthe	3.82	96	545729	28.9620	ug/L	99
14) Trichlorotfluoroeth	3.86	101	1002675	58.0324	ug/L	100
15) Acetone	3.88	43	3117713	295.5924	ug/L	99
16) Iodomethane	3.99	142	1163638	57.8334	ug/L	99
17) Carbon Dislf	4.08	76	2429915	60.4297	ug/L	97
18) allylchloride	4.30	41	1436621	61.0557	ug/L	100
19) methylacetate	4.36	74	153626	34.1964	ug/L	96
20) Methylchlorid	4.45	84	590151	25.0579	ug/L	99
21) tbutylalcohol	4.65	59	5080020	1976.4732	ug/L	99
22) Acrylonitrile	4.75	53	1372803	194.8221	ug/L	98
23) t12dichlorte	4.82	96	594957	29.9154	ug/L	99
24) MtBE	4.85	73	1581765	30.3071	ug/L	99
25) Hexane	5.22	57	1695739	59.4109	ug/L	99
26) 11dichlorota	5.34	63	1000678	28.9599	ug/L	97
27) Vinylacetate	5.43	43	8820449	278.4662	ug/L	91
28) chloroprene	5.48	53	1790930	59.3615	ug/L	99
29) Diisopether	5.49	45	1699990	29.6401	ug/L	97
30) ETBE	5.94	59	1535788	31.3790	ug/L	99
31) 22dichloropr	6.07	77	812370	31.7195	ug/L	98
32) c12dichlorte	6.07	96	640537	30.0209	ug/L	98
33) 2Butanone	6.08	72	1302097	365.7807	ug/L	98
34) propionitrile	6.12	54	1209240	435.7761	ug/L	99
35) Ethylacetate	6.19	88	205646	201.8081	ug/L	93
36) methacrylonitrile	6.33	67	735968	68.9548	ug/L	98
37) Bromochlorma	6.35	128	296950	27.6025	ug/L	99
38) Tetrahydofur	6.44	42	2933265	190.7115	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL6.D Vial: 9
Acq On : 19 Jul 2017 12:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:39 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	1033684	29.2282	ug/L	100
40)	111trichlota	6.70	97	951868	30.3008	ug/L	99
42)	Cyclohexane	6.79	56	956600	30.6810	ug/L	99
43)	Carbtetraclo	6.92	119	752160	32.4989	ug/L	98
44)	11dicloprope	6.91	110	308663	30.0155	ug/L	97
46)	Benzene	7.15	78	2309423	27.2366	ug/L	98
47)	12dichlorota	7.15	62	735698	29.5362	ug/L	96
48)	TAME	7.32	73	1557631	31.3492	ug/L	98
49)	trichloroete	7.96	95	613291	29.5155	ug/L	99
50)	methylcyclohexane	8.22	83	1177851	31.0000	ug/L	97
51)	12dicloropra	8.21	63	612173	29.4419	ug/L	98
52)	23Dicl1propene	8.28	75	854199	30.9586	ug/L	98
53)	Dibromometha	8.35	93	380559	30.1889	ug/L	96
54)	methylmethacrylate	8.39	69	555424	41.0005	ug/L	97
55)	14dioxane	8.42	88	127044	2092.2728	ug/L	84
56)	Bromodiclrma	8.55	83	753687	31.1469	ug/L	97
57)	2Nitropropane	8.81	43	2162269	421.4415	ug/L	98
58)	2CLEVE	8.95	63	546804	1208.6000	ug/L	86
59)	c13dicloproe	9.13	75	928614	33.0961	ug/L	98
60)	4Meth2Pentan	9.33	43	6960758	281.1266	ug/L	91
62)	Toluene	9.58	92	1532700	28.9416	ug/L	93
63)	t13Dicloprop	9.84	75	805899	34.8210	ug/L	99
64)	ethylmethacrylate	10.00	69	1733675	72.9232	ug/L	99
65)	112Triclotha	10.07	83	484451	30.7421	ug/L	97
66)	Tetrachlorte	10.32	166	760668	30.1531	ug/L	100
67)	13Diclorpropa	10.29	76	968077	30.7647	ug/L	99
69)	2Hexanone	10.42	43	5692516	342.2245	ug/L	94
70)	Clorodibrmta	10.59	129	585748	33.3462	ug/L	99
71)	12Dibrometha	10.74	107	612498	31.0343	ug/L	99
72)	Chlorobenzen	11.44	112	1626689	29.0527	ug/L	99
73)	1Clhexane	11.42	91	842321	31.9330	ug/L	98
74)	1112Tetclota	11.54	131	593472	32.0826	ug/L	99
75)	Ethylbenzene	11.60	91	2669434	28.2992	ug/L	96
76)	m p-Xylene	11.76	106	2165369	59.4488	ug/L	92
77)	o-Xylene	12.31	106	1118569	30.6917	ug/L	94
78)	Styrene	12.32	104	1746881	31.5923	ug/L	99
79)	Bromoform	12.54	173	415860	39.0384	ug/L	99
80)	Isopropylben	12.83	105	2625627	29.4311	ug/L	97
81)	cyclohexanone	12.92	55	187822	1034.5067	ug/L	97
84)	Bromobenzene	13.23	156	751746	29.3045	ug/L	99
85)	1122Tetrclta	13.20	83	946673	27.8145	ug/L	97
86)	123Triclproa	13.26	75	1067912	29.1885	ug/L	96
87)	14dichloro2butene	13.29	53	177335	43.2699	ug/L	94
88)	n-Propylbenz	13.41	91	2990367	27.6997	ug/L	96
89)	2chlorotolue	13.52	91	1864206	27.7976	ug/L	96
90)	4chlorotolue	13.68	91	2092191	28.2449	ug/L	97
91)	135Trimebenz	13.67	105	2204650	28.4442	ug/L	98
92)	tbutylbenzen	14.14	119	1966398	29.0155	ug/L	96
93)	124Trimetben	14.21	105	2199534	29.2470	ug/L	97
94)	sbutylbenzen	14.45	105	2692646	28.6493	ug/L	94
95)	13Diclorbenz	14.59	146	1351221	28.7116	ug/L	98
96)	pIsopropylto	14.67	119	2313509	29.4372	ug/L	97
97)	14dichlorobe	14.72	146	1366966	27.8849	ug/L	98
98)	12dichlorobe	15.25	146	1270218	27.5564	ug/L	99
99)	nButylbenzen	15.27	91	2019802	30.2859	ug/L	96
100)	12dibromo3cl	16.35	157	261218	33.6504	ug/L	95
101)	135Trichlorobenzene	16.69	180	939151	29.3943	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL6.D Vial: 9
Acq On : 19 Jul 2017 12:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:39 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	819195	30.8254	ug/L	99
103) Hexachlorobu	17.76	225	422094	29.6513	ug/L	99
104) Naphthalene	17.81	128	2124335	33.9643	ug/L	97
105) 123Trichlben	18.12	180	744093	30.0189	ug/L	98

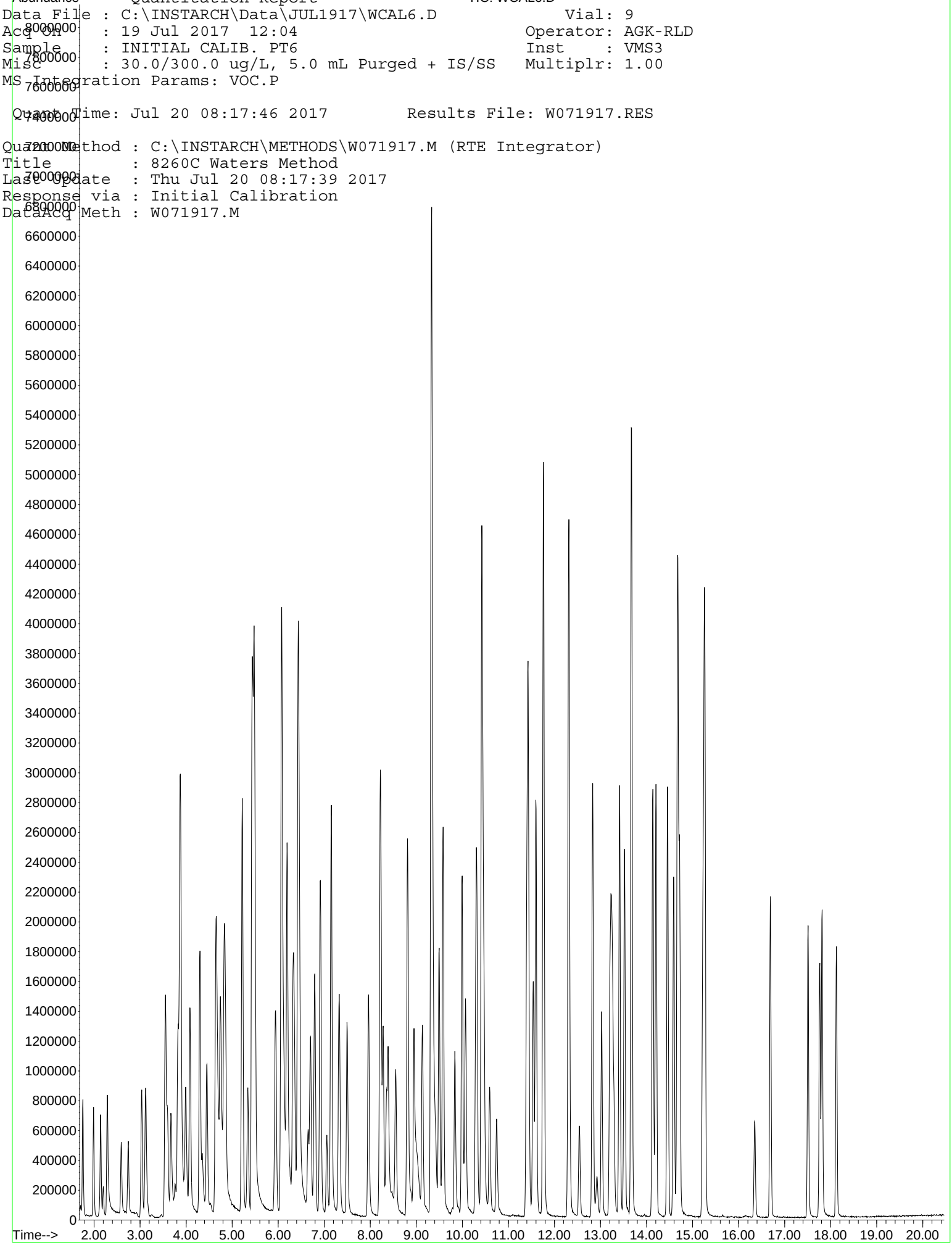
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\Data\JUL1917\WCAL6.D Vial: 9
Acq On : 19 Jul 2017 12:04 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:17:46 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:39 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL7.D Vial: 10
Acq On : 19 Jul 2017 12:33 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:53 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.49	96	1578989	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1266173	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	762085	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	404845	20.347	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.06	102	125079	22.734	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 114	%#		
61) SURRd8Tolule	9.50	98	1624694	20.496	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.02	95	630336	20.136	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	904851	37.0920	ug/L	98
3) Chloromethan	1.99	50	917803	30.5129	ug/L	100
4) VinylChlorid	2.14	62	915564	37.2370	ug/L	98
5) Bromomethane	2.59	94	479279	32.3873	ug/L	99
6) Chloroethane	2.74	64	629258	35.2610	ug/L	96
7) Dichloroflmethane	3.03	67	1318535	35.7572	ug/L	98
8) Trichlorofma	3.12	101	1174602	36.6436	ug/L	96
9) Ethylether	3.55	59	597731	40.0868	ug/L	98
10) dichlorotfluoroethan	3.55	67	877532	37.8418	ug/L	98
11) propyleneoxide	3.88	58	1212888	341.4594	ug/L	98
12) Acrolein	3.67	56	1168795	203.9901	ug/L	98
13) 11dichlorthe	3.82	96	745547	38.1592	ug/L	98
14) Trichlorotfluoroeth	3.86	101	1348079	75.2258	ug/L	98
15) Acetone	3.88	43	3811214	347.3330	ug/L	99
16) Iodomethane	3.99	142	1577897	75.6522	ug/L	98
17) Carbon Dislf	4.08	76	3170492	75.5142	ug/L	96
18) allylchloride	4.29	41	1951998	79.3144	ug/L	98
19) methylacetate	4.35	74	220227	45.9344	ug/L	95
20) Methylchlorid	4.45	84	802864	33.6106	ug/L	98
21) tbutylalcohol	4.65	59	5128003	1816.8973	ug/L	99
22) Acrylonitrile	4.75	53	1713033	222.0491	ug/L	99
23) t12dichlorte	4.82	96	802834	38.7258	ug/L	99
24) MtBE	4.85	73	2139072	39.2327	ug/L	98
25) Hexane	5.22	57	2267308	76.2939	ug/L	97
26) 11dichlorota	5.34	63	1361941	38.0136	ug/L	97
27) Vinylacetate	5.43	43	10585481	324.3247	ug/L	86
28) chloroprene	5.48	53	2401991	76.4767	ug/L	97
29) Diisopether	5.49	45	2271607	38.0537	ug/L	95
30) ETBE	5.94	59	2076864	40.3797	ug/L	99
31) 22dichloropr	6.07	77	1136394	42.1438	ug/L	97
32) c12dichlorte	6.07	96	880577	39.5692	ug/L	99
33) 2Butanone	6.08	72	1591525	413.5839	ug/L	98
34) propionitrile	6.12	54	1395110	448.2678	ug/L	100
35) Ethylacetate	6.19	88	276635	246.1384	ug/L	95
36) methacrylonitrile	6.32	67	966425	84.7157	ug/L	98
37) Bromochlorma	6.35	128	393823	35.5755	ug/L	99
38) Tetrahydofur	6.44	42	3477159	230.7884	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL7.D Vial: 10
Acq On : 19 Jul 2017 12:33 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:53 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.46	83	1393746	37.9512	ug/L	99
40)	111trichlota	6.70	97	1302122	39.6793	ug/L	99
42)	Cyclohexane	6.80	56	1290793	39.5473	ug/L	97
43)	Carbtetraclo	6.92	119	1046441	42.7608	ug/L	99
44)	11dicloprope	6.91	110	434584	40.5190	ug/L	95
46)	Benzene	7.15	78	3044232	34.9629	ug/L	97
47)	12dichlorota	7.15	62	1005364	38.8025	ug/L	95
48)	TAME	7.32	73	2154437	41.2680	ug/L	98
49)	trichloroete	7.96	95	837894	38.7708	ug/L	98
50)	methylcyclohexane	8.22	83	1616361	40.5662	ug/L	97
51)	12dicloropra	8.21	63	837502	38.7424	ug/L	98
52)	23Dicl1propene	8.28	75	1176751	40.6781	ug/L	98
53)	Dibromometha	8.35	93	519550	39.4783	ug/L	97
54)	methylmethacrylate	8.39	69	770380	51.3888	ug/L	97
55)	14dioxane	8.44	88	94938	1406.6500	ug/L #	82
56)	Bromodiclrma	8.55	83	1048084	41.2689	ug/L	96
57)	2Nitropropane	8.81	43	2774078	485.6825	ug/L	97
58)	2CLEVE	8.94	63	900750	877.2286	ug/L	86
59)	c13dicloproe	9.13	75	1275917	42.8665	ug/L	96
60)	4Meth2Pentan	9.33	43	8343506	326.5371	ug/L	88
62)	Toluene	9.58	92	2058075	37.4842	ug/L	89
63)	t13Dicloprop	9.84	75	1110968	44.8274	ug/L	99
64)	ethylmethacrylate	10.00	69	2312404	90.0338	ug/L	97
65)	112Triclotha	10.07	83	655635	39.7302	ug/L	98
66)	Tetrachlorte	10.32	166	1043218	39.6190	ug/L	100
67)	13Diclorpropa	10.29	76	1295735	39.3168	ug/L	99
69)	2Hexanone	10.43	43	6825123	378.3440	ug/L	92
70)	Clorodibrmta	10.59	129	813391	42.9017	ug/L	99
71)	12Dibrometha	10.74	107	825224	39.2338	ug/L	100
72)	Chlorobenzen	11.44	112	2168844	36.7487	ug/L	97
73)	1Clhexane	11.42	91	1171338	41.4615	ug/L	98
74)	1112Tetclota	11.54	131	825306	41.6225	ug/L	99
75)	Ethylbenzene	11.60	91	3509065	35.4412	ug/L	95
76)	m p-Xylene	11.76	106	2871433	74.5101	ug/L	88
77)	o-Xylene	12.31	106	1509505	38.9374	ug/L	92
78)	Styrene	12.32	104	2349975	39.7553	ug/L	97
79)	Bromoform	12.54	173	578350	48.7863	ug/L	98
80)	Isopropylben	12.83	105	3446716	36.5758	ug/L	95
81)	cyclohexanone	12.92	55	192132	891.1242	ug/L	97
84)	Bromobenzene	13.23	156	1020596	38.0598	ug/L	98
85)	1122Tetrclta	13.21	83	1256073	35.6007	ug/L	97
86)	123Triclproa	13.26	75	1407018	36.8134	ug/L	98
87)	14dichloro2butene	13.29	53	245242	53.1082	ug/L	92
88)	n-Propylbenz	13.41	91	3882398	34.7139	ug/L	93
89)	2chlorotolue	13.52	91	2481738	35.7012	ug/L	94
90)	4chlorotolue	13.68	91	2766310	35.9387	ug/L	95
91)	135Trimebenz	13.67	105	2892220	35.8692	ug/L	96
92)	tbutylbenzen	14.14	119	2625911	37.1268	ug/L	94
93)	124Trimetben	14.21	105	2912709	37.0626	ug/L	95
94)	sbutylbenzen	14.45	105	3561825	36.3869	ug/L	92
95)	13Diclorbenz	14.59	146	1819630	37.1109	ug/L	97
96)	pIsopropylto	14.67	119	3061154	37.2338	ug/L	95
97)	14dichlorobe	14.72	146	1837847	36.1511	ug/L	97
98)	12dichlorobe	15.25	146	1713306	35.9072	ug/L	100
99)	nButylbenzen	15.26	91	2676364	38.1816	ug/L	94
100)	12dibromo3cl	16.35	157	336939	40.5402	ug/L	96
101)	135Trichlorobenzene	16.69	180	1262809	37.7917	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL7.D Vial: 10
Acq On : 19 Jul 2017 12:33 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:53 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	1088438	38.8513	ug/L	98
103) Hexachlorobu	17.76	225	562016	37.6958	ug/L	96
104) Naphthalene	17.81	128	2789271	41.5812	ug/L	95
105) 123Trichlben	18.12	180	1009439	38.8033	ug/L	98

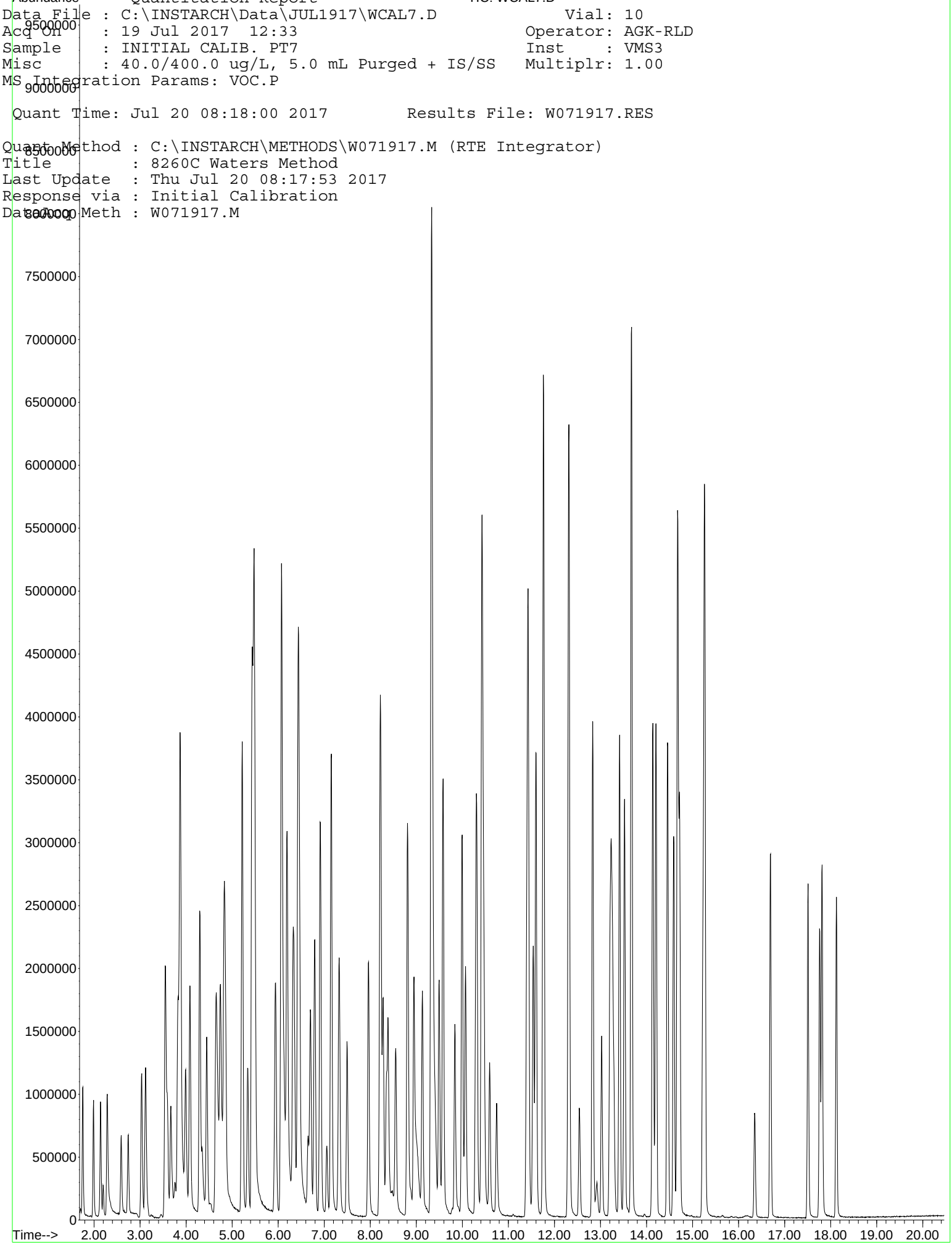
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL7.D

Data File : C:\INSTARCH\Data\JUL1917\WCAL7.D Vial: 10
Acq On : 19 Jul 2017 12:33 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:00 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:17:53 2017
Response via : Initial Calibration
Data Acq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL8.D Vial: 11
Acq On : 19 Jul 2017 13:03 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1656276	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1326697	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	819796	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	426926	20.405	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.06	102	121483	20.647	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103	%		
61) SURRd8Tolule	9.50	98	1694112	20.303	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.03	95	677541	20.101	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	1730430	68.3341	ug/L	96
3) Chloromethan	1.99	50	1845841	60.5543	ug/L	96
4) VinylChlorid	2.14	62	1773434	69.4471	ug/L	95
5) Bromomethane	2.59	94	1014114	67.1569	ug/L	99
6) Chloroethane	2.74	64	1258874	68.4082	ug/L	95
7) Dichloroflmethane	3.04	67	2542347	66.7397	ug/L	96
8) Trichlorofma	3.12	101	2291856	68.9888	ug/L	95
9) Ethylether	3.54	59	1235384	78.9604	ug/L	99
10) dichlorotfluoroethan	3.55	67	1731397	71.7318	ug/L	97
11) propyleneoxide	3.88	58	2933523	804.1378	ug/L #	77
12) Acrolein	3.66	56	2595340	430.6014	ug/L	99
13) 11dichlorthe	3.82	96	1500736	73.7122	ug/L	96
14) Trichlorotfluoroeth	3.86	101	2670111	143.2668	ug/L	97
15) Acetone	3.87	43	7712076	682.8843	ug/L	89
16) Iodomethane	3.99	142	3188153	146.8634	ug/L	94
17) Carbon Dislf	4.08	76	5740158	131.3909	ug/L	90
18) allylchloride	4.30	41	3483541	135.1053	ug/L	96
19) methylacetate	4.34	74	553500	107.7763	ug/L	92
20) Methylchlorid	4.45	84	1625384	66.3837	ug/L	97
21) tbutylalcohol	4.64	59	11577234	3962.3316	ug/L	94
22) Acrylonitrile	4.74	53	3848015	468.1444	ug/L	99
23) t12dichlorte	4.82	96	1645274	76.0046	ug/L	98
24) MtBE	4.85	73	4171130	73.1332	ug/L	98
25) Hexane	5.22	57	4211498	136.0023	ug/L	92
26) 11dichlorota	5.34	63	2683407	71.9127	ug/L	94
27) Vinylacetate	5.43	43	14411489	432.6372	ug/L	72
28) chloroprene	5.48	53	4393175	134.1912	ug/L	93
29) Diisopether	5.49	45	4298343	69.1258	ug/L	97
30) ETBE	5.94	59	4021569	74.4403	ug/L	94
31) 22dichloropr	6.07	77	2332971	81.8555	ug/L	95
32) c12dichlorte	6.07	96	1789617	76.7830	ug/L	97
33) 2Butanone	6.08	72	3618288	892.0678	ug/L	93
34) propionitrile	6.11	54	3310182	996.7920	ug/L	99
35) Ethylacetate	6.19	88	639227	524.9185	ug/L #	91
36) methacrylonitrile	6.32	67	2123928	176.0111	ug/L	97
37) Bromochlorma	6.35	128	821507	71.8827	ug/L	98
38) Tetrahydofur	6.43	42	6727445	453.0624	ug/L	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL8.D Vial: 11
Acq On : 19 Jul 2017 13:03 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.46	83	2752173	71.9703	ug/L		96
40)	111trichlota	6.70	97	2599365	75.6004	ug/L		98
42)	Cyclohexane	6.79	56	2552994	74.6894	ug/L		96
43)	Carbtetraclo	6.92	119	2162369	83.4154	ug/L		98
44)	11dicloprope	6.91	110	901533	79.9850	ug/L		92
46)	Benzene	7.15	78	5463358	60.9143	ug/L		90
47)	12dichlorota	7.15	62	2055073	75.9401	ug/L		93
48)	TAME	7.32	73	4206178	76.4629	ug/L		94
49)	trichloroete	7.96	95	1746507	77.3825	ug/L		98
50)	methylcyclohexane	8.23	83	3158491	75.4180	ug/L		95
51)	12dicloropra	8.21	63	1719564	76.1764	ug/L		95
52)	23Dicl1propene	8.28	75	2436238	80.0924	ug/L		97
53)	Dibromometha	8.35	93	1098008	79.6880	ug/L		96
54)	methylmethacrylate	8.38	69	1699596	103.8582	ug/L		96
55)	14dioxane	8.41	88	240475	3547.0724	ug/L		84
56)	Bromodiclrma	8.55	83	2128907	79.5547	ug/L		99
57)	2Nitropropane	8.81	43	5838197	945.5149	ug/L		95
58)	2CLEVE	8.95	63	3071945	1922.2598	ug/L		87
59)	c13dicloproe	9.13	75	2582850	81.8876	ug/L		94
60)	4Meth2Pentan	9.33	43	12106944	463.8863	ug/L	#	67
62)	Toluene	9.58	92	3856167	67.5630	ug/L	#	82
63)	t13Dicloprop	9.84	75	2305246	87.1730	ug/L		97
64)	ethylmethacrylate	9.99	69	4533341	165.3081	ug/L		93
65)	112Triclotha	10.07	83	1357706	78.5107	ug/L		97
66)	Tetrachlorte	10.31	166	2117591	76.7729	ug/L		98
67)	13Diclorpropa	10.29	76	2630017	76.2655	ug/L		96
69)	2Hexanone	10.42	43	11343175	604.7896	ug/L		78
70)	Clorodibrmta	10.59	129	1733477	86.3649	ug/L		98
71)	12Dibrometha	10.74	107	1733755	78.8837	ug/L		99
72)	Chlorobenzen	11.44	112	4096990	67.0304	ug/L		93
73)	1Clhexane	11.42	91	2348155	78.9132	ug/L		97
74)	1112Tetclota	11.54	131	1713584	82.0032	ug/L		98
75)	Ethylbenzene	11.60	91	6114352	59.9126	ug/L		85
76)	m p-Xylene	11.76	106	5230334	130.8114	ug/L	#	74
77)	o-Xylene	12.31	106	2980174	73.6455	ug/L	#	81
78)	Styrene	12.32	104	4464100	72.1385	ug/L		91
79)	Bromoform	12.54	173	1338834	104.5049	ug/L		97
80)	Isopropylben	12.83	105	6037209	61.8998	ug/L		85
81)	cyclohexanone	12.92	55	465595	2027.9540	ug/L		97
84)	Bromobenzene	13.23	156	2114115	73.8003	ug/L		98
85)	1122Tetrclta	13.20	83	2529032	67.6976	ug/L		94
86)	123Triclproa	13.26	75	3151232	77.5274	ug/L		96
87)	14dichloro2butene	13.29	53	647848	124.5856	ug/L		89
88)	n-Propylbenz	13.41	91	6565767	55.6242	ug/L		81
89)	2chlorotolue	13.52	91	4620197	62.7487	ug/L		88
90)	4chlorotolue	13.68	91	5102503	62.5300	ug/L		87
91)	135Trimebenz	13.67	105	5283230	61.8220	ug/L		90
92)	tbutylbenzen	14.14	119	4867942	64.6443	ug/L		89
93)	124Trimetben	14.21	105	5261026	62.8908	ug/L		87
94)	sbutylbenzen	14.45	105	6185999	59.5142	ug/L		82
95)	13Diclorbenz	14.59	146	3547762	67.9633	ug/L		92
96)	pIsopropylto	14.67	119	5492599	62.7249	ug/L		87
97)	14dichlorobe	14.72	146	3594448	66.6429	ug/L		93
98)	12dichlorobe	15.25	146	3371802	66.6656	ug/L		97
99)	nButylbenzen	15.26	91	4945543	66.0162	ug/L		87
100)	12dibromo3cl	16.35	157	819474	91.4809	ug/L		93
101)	135Trichlorobenzene	16.69	180	2510029	70.3840	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\WCAL8.D Vial: 11
Acq On : 19 Jul 2017 13:03 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	2226813	74.1940	ug/L	96
103) Hexachlorobu	17.76	225	1205031	75.7581	ug/L	97
104) Naphthalene	17.81	128	5255678	72.4247	ug/L	89
105) 123Trichlben	18.12	180	2079113	74.6148	ug/L	97

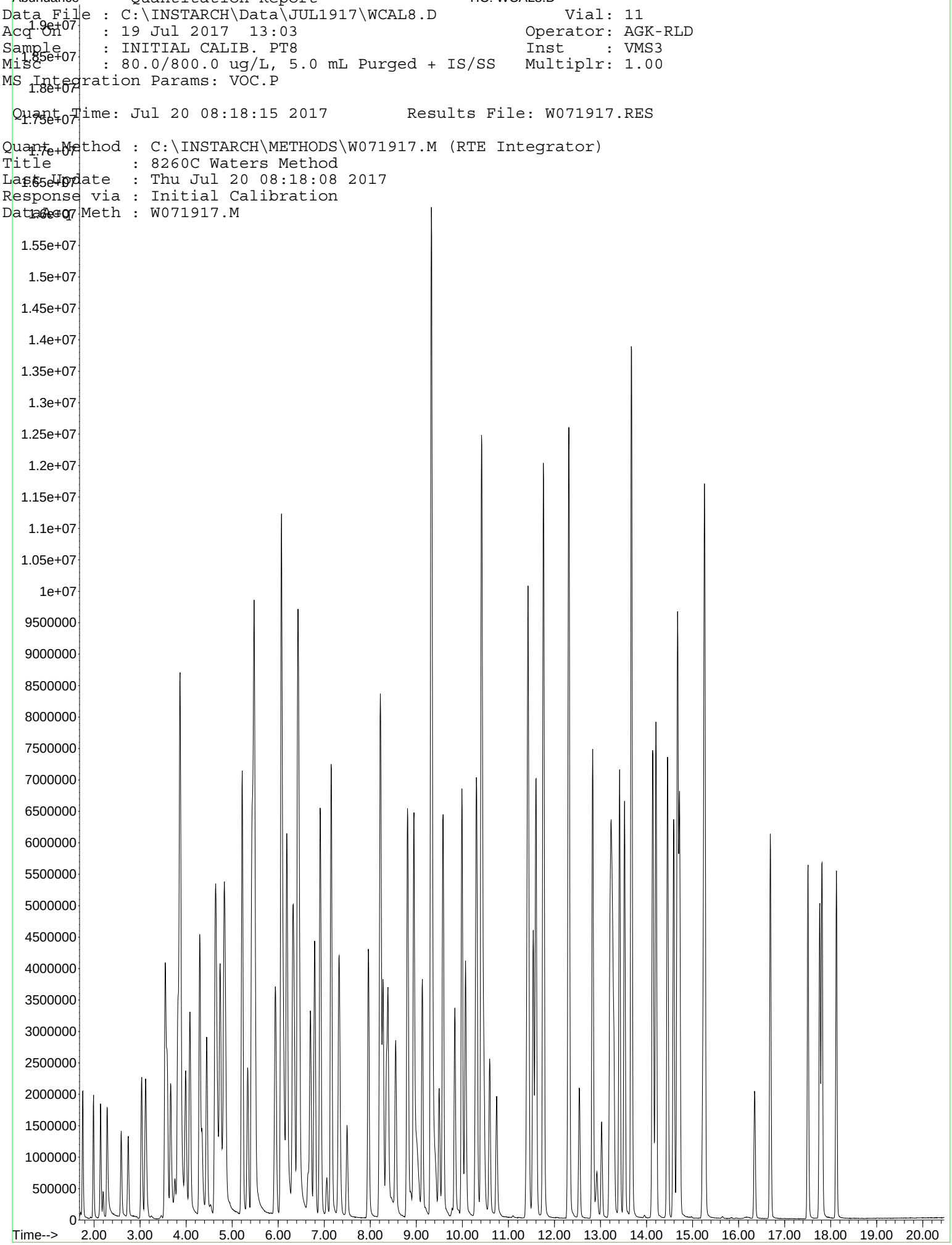
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : C:\INSTARCH\Data\JUL1917\WCAL8.D Vial: 11
Acq On : 19 Jul 2017 13:03 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:18:15 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:18:08 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1917\ICV1.D Vial: 13
Acq On : 19 Jul 2017 14:02 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 08:33:50 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	110	0.00
2	PT	Dichlorodi	0.3002	0.3051	-1.63	107	0.00
3	PT	Chloromethan	0.3381	0.3483	-3.02	116	0.00
4	PT	VinylChlorid	0.3033	0.3091	-1.91	106	0.00
5	PT	Bromomethane	0.1680	0.1831	-8.99	119	0.00
6	PT	Chloroethane	0.2182	0.2093	4.08	105	0.00
7	T	Dichloroflmethane	0.4505	0.4523	-0.40	107	0.00
8	PT	Trichlorofma	0.3942	0.3923	0.48	105	0.00
9	T	Ethylether	0.1886	0.1820	3.50	113	0.00
10	T	dichlorotfluoroethan	0.2877	0.2829	1.67	104	0.00
11	T	propyleneoxide	0.0441	0.0357	19.05	92	0.02
12	T	Acrolein	0.0735	0.0730	0.68	111	0.00
13	PT	11dichlorthe	0.2434	0.2380	2.22	107	0.00
14	PT	Trichlorotfluoroeth	0.2221	0.2171	2.25	104	0.00
15	PT	Acetone	0.1339	0.1266	5.45	104	0.02
16	T	Iodomethane	0.2594	0.2751	-6.05	121	0.00
17	PT	Carbon Dislf	0.5157	0.5625	-9.08	116	0.00
18	T	allylchloride	0.3053	0.3310	-8.42	114	0.00
19	PT	methylacetate	0.0689	0.0569#	17.42	97	0.00
20	PT	Methylchlorid	0.2733	0.2661	2.63	110	0.00
21	T	tbutylalcohol	0.0374	0.0355	5.08	109	0.02
22	T	Acrylonitrile	0.1055	0.1006	4.64	109	0.02
23	PT	t12dichlorte	0.2598	0.2583	0.58	110	0.00
24	PT	MtBE	0.6813	0.7039	-3.32	115	0.00
25	T	Hexane	0.3669	0.3595	2.02	103	0.00
26	PT	11dichlorota	0.4449	0.4466	-0.38	109	0.00
27	T	Vinylacetate	0.4022	0.4423	-9.97	120	0.00
28	T	chloroprene	0.3874	0.4060	-4.80	110	0.00
29	T	Diisopether	0.7381	0.7649	-3.63	113	0.00
30	T	ETBE	0.6473	0.6686	-3.29	118	0.00
31	T	22dichloropr	0.3452	0.3311	4.08	111	0.00
32	PT	c12dichlorte	0.2800	0.2873	-2.61	111	0.00
33	PT	2Butanone	0.0497	0.0494#	0.60	106	0.01
34	T	propionitrile	0.0448	0.0452	-0.89	111	0.00
35	T	Ethylacetate	0.0155	0.0165#	-6.45	117	0.00
36	T	methacrylonitrile	0.1475	0.1514	-2.64	112	0.02
37	T	Bromochlorma	0.1363	0.1348	1.10	113	0.00
38	T	Tetrahydofur	0.1533	0.1285	16.18	105	0.00
39	PT	Chloroform	0.4560	0.4570	-0.22	111	0.00
40	PT	111trichlota	0.4123	0.4167	-1.07	113	0.00
41	S	SURRDibrflma	0.2533	0.2530	0.12	110	0.00
42	PT	Cyclohexane	0.4093	0.4139	-1.12	107	0.00
43	PT	Carbtetraclo	0.3147	0.3184	-1.18	113	0.00
44	T	11dicloprope	0.1361	0.1355	0.44	112	0.00
45	S	SURR12DCAd4	0.0713	0.0704	1.26	107	0.00
46	PT	Benzene	1.0507	1.0802	-2.81	111	0.00
47	PT	12dichlorota	0.3247	0.3277	-0.92	113	0.00
48	T	TAME	0.6606	0.6742	-2.06	117	0.01

49	PT	trichloroete	0.2714	0.2664	1.84	108	0.00
50	PT	methylcyclohexane	0.5021	0.5128	-2.13	107	0.00
51	PT	12dicloropra	0.2710	0.2677	1.22	111	0.00
52	T	23Dicl1propene	0.3674	0.3745	-1.93	116	0.00
53	T	Dibromometha	0.1663	0.1658	0.30	116	0.00
54	T	methylmethacrylate	0.2171	0.2184	-0.60	115	0.00
55	T	14dioxane	0.0008	0.0005#	37.50#	87	0.01
56	PT	Bromodiclrma	0.3229	0.3258	-0.90	116	0.00
57	T	2Nitropropane	0.0768	0.0783	-1.95	116	0.00
58	T	2CLEVE	0.0288	0.0029#	89.93#	93	0.00
59	PT	c13dicloproe	0.3820	0.3811	0.24	112	0.00
60	PT	4Meth2Pentan	0.3152	0.3461	-9.80	113	0.00
61	S	SURRd8Tolule	1.0095	0.9920	1.73	108	0.00
62	PT	Toluene	0.6758	0.6733	0.37	111	0.00
63	PT	t13Dicloprop	0.3229	0.3114	3.56	110	0.00
64	T	ethylmethacrylate	0.3325	0.3649	-9.74	121	0.00
65	PT	112Triclotha	0.2083	0.2076	0.34	112	0.00
66	PT	Tetrachlorte	0.3314	0.3281	1.00	108	0.00
67	T	13Diclorpropa	0.4140	0.4199	-1.43	111	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	108	0.00
69	PT	2Hexanone	0.2897	0.3385	-16.85	120	0.00
70	PT	Clorodibrmta	0.3056	0.3101	-1.47	115	0.00
71	PT	12Dibrometha	0.3308	0.3306	0.06	113	0.00
72	PT	Chlorobenzen	0.9027	0.9182	-1.72	110	0.00
73	T	1Clhexane	0.4478	0.4496	-0.40	111	0.00
74	T	1112Tetclota	0.3160	0.3232	-2.28	114	0.00
75	PT	Ethylbenzene	1.4902	1.5651	-5.03	110	0.00
76	PT	m p-Xylene	0.5890	0.6158	-4.55	110	0.00
77	PT	o-Xylene	0.6040	0.6211	-2.83	111	0.00
78	PT	Styrene	0.9214	0.9573	-3.90	112	0.00
79	PT	Bromoform	0.1956	0.2014	-2.97	115	0.00
80	PT	Isopropylben	1.4287	1.5143	-5.99	109	0.00
81	T	cyclohexanone	0.0035	0.0050#	-42.86#	180	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	107	0.00
83	S	SURR4BrFBenz	0.8228	0.8403	-2.13	111	0.00
84	T	Bromobenzene	0.6921	0.7145	-3.24	111	0.00
85	PT	1122Tetrclta	0.8939	0.9055	-1.30	111	0.00
86	T	123Triclproa	0.9878	0.9463	4.20	111	0.00
87	T	14dichloro2butene	0.1390	0.1403	-0.94	122	0.00
88	T	n-Propylbenz	2.7700	3.0248	-9.20	110	0.00
89	T	2chlorotolue	1.7479	1.8431	-5.45	109	0.00
90	T	4chlorotolue	1.9364	2.0633	-6.55	113	0.00
91	T	135Trimebenz	2.0257	2.1897	-8.10	113	0.00
92	T	tbutylbenzen	1.7931	1.9322	-7.76	111	0.00
93	T	124Trimetben	1.9884	2.1423	-7.74	112	0.00
94	T	sbutylbenzen	2.4546	2.6686	-8.72	107	0.00
95	PT	13Diclorbenz	1.2496	1.3125	-5.03	111	0.00
96	T	pIsopropylto	2.0786	2.2538	-8.43	113	0.00
97	PT	14dichlorobe	1.2884	1.2943	-0.46	111	0.00
98	PT	12dichlorobe	1.2082	1.2283	-1.66	110	0.00
99	T	nButylbenzen	1.7877	1.9737	-10.40	115	0.00
100	PT	12dibromo3cl	0.2225	0.2268	-1.93	114	0.00
101	T	135Trichlorobenzene	0.8569	0.9175	-7.07	115	0.00
102	PT	124Trichlobe	0.7256	0.7851	-8.20	118	0.00
103	T	Hexachlorobu	0.3855	0.4003	-3.84	112	0.00
104	T	Naphthalene	1.7494	2.0591	-17.70	121	0.00
105	T	123Trichlben	0.6741	0.7284	-8.06	118	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W071917.M Thu Jul 20 10:42:37 2017

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1917\ICV1.D Vial: 13
Acq On : 19 Jul 2017 14:02 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 08:33:50 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	110	0.00
2	PT	Dichlorodi	10.0000	10.1636	-1.64	107	0.00
3	PT	Chloromethan	10.0000	10.3026	-3.03	116	0.00
4	PT	VinylChlorid	10.0000	10.1915	-1.91	106	0.00
5	PT	Bromomethane	10.0000	10.8989	-8.99	119	0.00
6	PT	Chloroethane	10.0000	9.5923	4.08	105	0.00
7	T	Dichloroflmethane	10.0000	10.0415	-0.41	107	0.00
8	PT	Trichlorofma	10.0000	9.9497	0.50	105	0.00
9	T	Ethylether	10.0000	9.6490	3.51	113	0.00
10	T	dichlorotfluoroethan	10.0000	9.8343	1.66	104	0.00
11	T	propyleneoxide	100.0000	80.8808	19.12	92	0.02
12	T	Acrolein	50.0000	49.6991	0.60	111	0.00
13	PT	11dichlorthe	10.0000	9.7786	2.21	107	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.5519	2.24	104	0.00
15	PT	Acetone	100.0000	94.5420	5.46	104	0.02
16	T	Iodomethane	20.0000	21.2033	-6.02	121	0.00
17	PT	Carbon Dislf	20.0000	21.8132	-9.07	116	0.00
18	T	allylchloride	20.0000	21.6869	-8.43	114	0.00
19	PT	methylacetate	10.0000	8.2600	17.40	97	0.00
20	PT	Methylchlorid	10.0000	9.7357	2.64	110	0.00
21	T	tbutylalcohol	500.0000	475.2181	4.96	109	0.02
22	T	Acrylonitrile	50.0000	47.6879	4.62	109	0.02
23	PT	t12dichlorte	10.0000	9.9425	0.57	110	0.00
24	PT	MtBE	10.0000	10.3310	-3.31	115	0.00
25	T	Hexane	20.0000	19.5952	2.02	103	0.00
26	PT	11dichlorota	10.0000	10.0387	-0.39	109	0.00
27	T	Vinylacetate	100.0000	109.9685	-9.97	120	0.00
28	T	chloroprene	20.0000	20.9629	-4.81	110	0.00
29	T	Diisopether	10.0000	10.3635	-3.64	113	0.00
30	T	ETBE	10.0000	10.3301	-3.30	118	0.00
31	T	22dichloropr	10.0000	9.5932	4.07	111	0.00
32	PT	c12dichlorte	10.0000	10.2601	-2.60	111	0.00
33	PT	2Butanone	100.0000	99.4024	0.60	106	0.01
34	T	propionitrile	100.0000	100.8957	-0.90	111	0.00
35	T	Ethylacetate	50.0000	53.1619	-6.32	117	0.00
36	T	methacrylonitrile	20.0000	20.5203	-2.60	112	0.02
37	T	Bromochlorma	10.0000	9.8958	1.04	113	0.00
38	T	Tetrahydofur	100.0000	93.8992	6.10	105	0.00
39	PT	Chloroform	10.0000	10.0219	-0.22	111	0.00
40	PT	111trichlota	10.0000	10.1053	-1.05	113	0.00
41	S	SURRDibrflma	20.0000	19.9787	0.11	110	0.00
42	PT	Cyclohexane	10.0000	10.1119	-1.12	107	0.00
43	PT	Carbtetraclo	10.0000	10.1176	-1.18	113	0.00
44	T	11dicloprope	10.0000	9.9542	0.46	112	0.00
45	S	SURR12DCAd4	20.0000	19.7376	1.31	107	0.00
46	PT	Benzene	10.0000	10.2807	-2.81	111	0.00
47	PT	12dichlorota	10.0000	10.0925	-0.92	113	0.00
48	T	TAME	10.0000	10.2064	-2.06	117	0.01

49	PT	trichloroete	10.0000	9.8144	1.86	108	0.00
50	PT	methylcyclohexane	10.0000	10.2124	-2.12	107	0.00
51	PT	12dicloropra	10.0000	9.8796	1.20	111	0.00
52	T	23Dicl1propene	10.0000	10.1953	-1.95	116	0.00
53	T	Dibromometha	10.0000	9.9675	0.33	116	0.00
54	T	methylmethacrylate	10.0000	10.0595	-0.59	115	0.00
55	T	14dioxane	500.0000	292.0400	41.59#	87	0.01
56	PT	Bromodiclrma	10.0000	10.0886	-0.89	116	0.00
57	T	2Nitropropane	100.0000	94.1938	5.81	116	0.00
58	T	2CLEVE	50.0000	28.1092	43.78#	93	0.00
59	PT	c13dicloproe	10.0000	9.9775	0.23	112	0.00
60	PT	4Meth2Pentan	100.0000	109.8331	-9.83	113	0.00
61	S	SURRd8Tolule	20.0000	19.6541	1.73	108	0.00
62	PT	Toluene	10.0000	9.9631	0.37	111	0.00
63	PT	t13Dicloprop	10.0000	9.6424	3.58	110	0.00
64	T	ethylmethacrylate	20.0000	21.9478	-9.74	121	0.00
65	PT	112Triclotha	10.0000	9.9650	0.35	112	0.00
66	PT	Tetrachlorte	10.0000	9.9009	0.99	108	0.00
67	T	13Diclorpropa	10.0000	10.1431	-1.43	111	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	108	0.00
69	PT	2Hexanone	100.0000	116.8557	-16.86	120	0.00
70	PT	Clorodibrmta	10.0000	10.1474	-1.47	115	0.00
71	PT	12Dibrometha	10.0000	9.9966	0.03	113	0.00
72	PT	Chlorobenzen	10.0000	10.1708	-1.71	110	0.00
73	T	1Clhexane	10.0000	10.0399	-0.40	111	0.00
74	T	1112Tetclota	10.0000	10.2282	-2.28	114	0.00
75	PT	Ethylbenzene	10.0000	10.5024	-5.02	110	0.00
76	PT	m p-Xylene	20.0000	20.9101	-4.55	110	0.00
77	PT	o-Xylene	10.0000	10.2836	-2.84	111	0.00
78	PT	Styrene	10.0000	10.3897	-3.90	112	0.00
79	PT	Bromoform	10.0000	10.2943	-2.94	115	0.00
80	PT	Isopropylben	10.0000	10.5992	-5.99	109	0.00
81	T	cyclohexanone	200.0000	280.9427	-40.47#	180	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	107	0.00
83	S	SURR4BrFBenz	20.0000	20.4247	-2.12	111	0.00
84	T	Bromobenzene	10.0000	10.3241	-3.24	111	0.00
85	PT	1122Tetrclta	10.0000	10.1301	-1.30	111	0.00
86	T	123Triclproa	10.0000	9.5797	4.20	111	0.00
87	T	14dichloro2butene	10.0000	10.5305	-5.30	122	0.00
88	T	n-Propylbenz	10.0000	10.9196	-9.20	110	0.00
89	T	2chlorotolue	10.0000	10.5448	-5.45	109	0.00
90	T	4chlorotolue	10.0000	10.6552	-6.55	113	0.00
91	T	135Trimebenz	10.0000	10.8099	-8.10	113	0.00
92	T	tbutylbenzen	10.0000	10.7762	-7.76	111	0.00
93	T	124Trimetben	10.0000	10.7738	-7.74	112	0.00
94	T	sbutylbenzen	10.0000	10.8717	-8.72	107	0.00
95	PT	13Diclorbenz	10.0000	10.5039	-5.04	111	0.00
96	T	pIsopropylto	10.0000	10.8428	-8.43	113	0.00
97	PT	14dichlorobe	10.0000	10.0461	-0.46	111	0.00
98	PT	12dichlorobe	10.0000	10.1660	-1.66	110	0.00
99	T	nButylbenzen	10.0000	11.0403	-10.40	115	0.00
100	PT	12dibromo3cl	10.0000	10.1970	-1.97	114	0.00
101	T	135Trichlorobenzene	10.0000	10.7065	-7.07	115	0.00
102	PT	124Trichlobe	10.0000	10.8198	-8.20	118	0.00
103	T	Hexachlorobu	10.0000	10.3853	-3.85	112	0.00
104	T	Naphthalene	10.0000	11.7704	-17.70	121	0.00
105	T	123Trichlben	10.0000	10.8057	-8.06	118	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071917.M Thu Jul 20 10:42:50 2017

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICV1.D Vial: 13
Acq On : 19 Jul 2017 14:02 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:33:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:33:45 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.49	96	1559548	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1201797	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	692905	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	394593	19.979	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.06	102	109793	19.738	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.50	98	1547131	19.654	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
83) SURR4BrFBenz	13.02	95	582256	20.425	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	237925	10.1636	ug/L	100
3) Chloromethan	1.99	50	271628	10.3026	ug/L	100
4) VinylChlorid	2.14	62	241015	10.1915	ug/L	100
5) Bromomethane	2.59	94	142748	10.8989	ug/L	100
6) Chloroethane	2.74	64	163201	9.5923	ug/L	99
7) Dichloroflmethane	3.03	67	352712	10.0415	ug/L	99
8) Trichlorofma	3.12	101	305878	9.9497	ug/L	98
9) Ethylether	3.55	59	141917	9.6490	ug/L	97
10) dichlorotfluoroethan	3.55	67	220621	9.8343	ug/L	98
11) propyleneoxide	3.92	58	278004	80.8808	ug/L #	78
12) Acrolein	3.70	56	284752	49.6991	ug/L	98
13) 11dichlorthe	3.82	96	185617	9.7786	ug/L	98
14) Trichlorotfluoroeth	3.87	101	338628	19.5519	ug/L	97
15) Acetone	3.91	43	986948	94.5420	ug/L	93
16) Iodomethane	3.99	142	428958	21.2033	ug/L	98
17) Carbon Dislf	4.08	76	877257	21.8132	ug/L	99
18) allylchloride	4.30	41	516277	21.6869	ug/L	100
19) methylacetate	4.38	74	44389	8.2600	ug/L	96
20) Methylchlorid	4.45	84	207492	9.7357	ug/L	98
21) tbutylalcohol	4.71	59	1384789	475.2181	ug/L	99
22) Acrylonitrile	4.78	53	392163	47.6879	ug/L	99
23) t12dichlorte	4.82	96	201391	9.9425	ug/L	97
24) MtBE	4.86	73	548859	10.3310	ug/L	97
25) Hexane	5.22	57	560643	19.5952	ug/L	98
26) 11dichlorota	5.34	63	348257	10.0387	ug/L	99
27) Vinylacetate	5.45	43	3449208	109.9685	ug/L	100
28) chloroprene	5.48	53	633178	20.9629	ug/L	99
29) Diisopether	5.50	45	596475	10.3635	ug/L	100
30) ETBE	5.95	59	521386	10.3301	ug/L	99
31) 22dichloropr	6.07	77	258194	9.5932	ug/L	99
32) c12dichlorte	6.07	96	224040	10.2601	ug/L	99
33) 2Butanone	6.11	72	385098	99.4024	ug/L	95
34) propionitrile	6.15	54	352627	100.8957	ug/L	98
35) Ethylacetate	6.22	88	64162	53.1619	ug/L	95
36) methacrylonitrile	6.35	67	236074	20.5203	ug/L	99
37) Bromochlorma	6.36	128	105138	9.8958	ug/L	100
38) Tetrahydofur	6.45	42	1002279	93.8992	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICV1.D Vial: 13
Acq On : 19 Jul 2017 14:02 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:33:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:33:45 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	356333	10.0219	ug/L	97
40)	111trichlota	6.70	97	324910	10.1053	ug/L	98
42)	Cyclohexane	6.80	56	322753	10.1119	ug/L	97
43)	Carbtetraclo	6.92	119	248277	10.1176	ug/L	98
44)	11dicloprope	6.91	110	105642	9.9542	ug/L	97
46)	Benzene	7.15	78	842330	10.2807	ug/L	99
47)	12dichlorota	7.15	62	255539	10.0925	ug/L	97
48)	TAME	7.34	73	525736	10.2064	ug/L	99
49)	trichloroete	7.96	95	207719	9.8144	ug/L	97
50)	methylcyclohexane	8.22	83	399831	10.2124	ug/L	99
51)	12dicloropra	8.21	63	208737	9.8796	ug/L	98
52)	23Dicl1propene	8.28	75	292051	10.1953	ug/L	98
53)	Dibromometha	8.36	93	129257	9.9675	ug/L	96
54)	methylmethacrylate	8.40	69	170326	10.0595	ug/L	99
55)	14dioxane	8.47	88	21020	292.0400	ug/L	93
56)	Bromodiclrma	8.55	83	254030	10.0886	ug/L	97
57)	2Nitropropane	8.82	43	610616	94.1938	ug/L	98
58)	2CLEVE	8.96	63	11293	28.1092	ug/L	88
59)	c13dicloproe	9.14	75	297200	9.9775	ug/L	100
60)	4Meth2Pentan	9.35	43	2699121	109.8331	ug/L	98
62)	Toluene	9.58	92	525031	9.9631	ug/L	98
63)	t13Dicloprop	9.84	75	242789	9.6424	ug/L	100
64)	ethylmethacrylate	10.00	69	569088	21.9478	ug/L	98
65)	112Triclotha	10.07	83	161886	9.9650	ug/L	98
66)	Tetrachlorte	10.31	166	255846	9.9009	ug/L	99
67)	13Diclorpropa	10.29	76	327436	10.1431	ug/L	99
69)	2Hexanone	10.45	43	2033944	116.8557	ug/L	99
70)	Clorodibrmta	10.59	129	186334	10.1474	ug/L	99
71)	12Dibrometha	10.75	107	198680	9.9966	ug/L	99
72)	Chlorobenzen	11.44	112	551716	10.1708	ug/L	98
73)	1Clhexane	11.42	91	270164	10.0399	ug/L	100
74)	1112Tetclota	11.54	131	194218	10.2282	ug/L	98
75)	Ethylbenzene	11.60	91	940442	10.5024	ug/L	99
76)	m p-Xylene	11.77	106	740083	20.9101	ug/L	98
77)	o-Xylene	12.31	106	373221	10.2836	ug/L	99
78)	Styrene	12.33	104	575256	10.3897	ug/L	99
79)	Bromoform	12.54	173	120998	10.2943	ug/L	99
80)	Isopropylben	12.83	105	909952	10.5992	ug/L	99
81)	cyclohexanone	12.93	55	60459	280.9427	ug/L	95
84)	Bromobenzene	13.23	156	247549	10.3241	ug/L	98
85)	1122Tetrclta	13.21	83	313714	10.1301	ug/L	98
86)	123Triclproa	13.26	75	327843	9.5797	ug/L	99
87)	14dichloro2butene	13.30	53	48618	10.5305	ug/L	94
88)	n-Propylbenz	13.41	91	1047933	10.9196	ug/L	100
89)	2chlorotolue	13.52	91	638551	10.5448	ug/L	98
90)	4chlorotolue	13.68	91	714835	10.6552	ug/L	98
91)	135Trimebenz	13.67	105	758635	10.8099	ug/L	97
92)	tbutylbenzen	14.14	119	669426	10.7762	ug/L	98
93)	124Trimetben	14.21	105	742200	10.7738	ug/L	100
94)	sbutylbenzen	14.46	105	924540	10.8717	ug/L	97
95)	13Diclorbenz	14.59	146	454731	10.5039	ug/L	99
96)	pIsopropylto	14.67	119	780843	10.8428	ug/L	100
97)	14dichlorobe	14.72	146	448421	10.0461	ug/L	99
98)	12dichlorobe	15.26	146	425535	10.1660	ug/L	99
99)	nButylbenzen	15.27	91	683783	11.0403	ug/L	99
100)	12dibromo3cl	16.35	157	78590	10.1970	ug/L	98
101)	135Trichlorobenzene	16.69	180	317868	10.7065	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICV1.D Vial: 13
Acq On : 19 Jul 2017 14:02 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:33:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:33:45 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	271984	10.8198	ug/L	98
103) Hexachlorobu	17.76	225	138698	10.3853	ug/L	99
104) Naphthalene	17.81	128	713395	11.7704	ug/L	98
105) 123Trichlben	18.13	180	252351	10.8057	ug/L	98

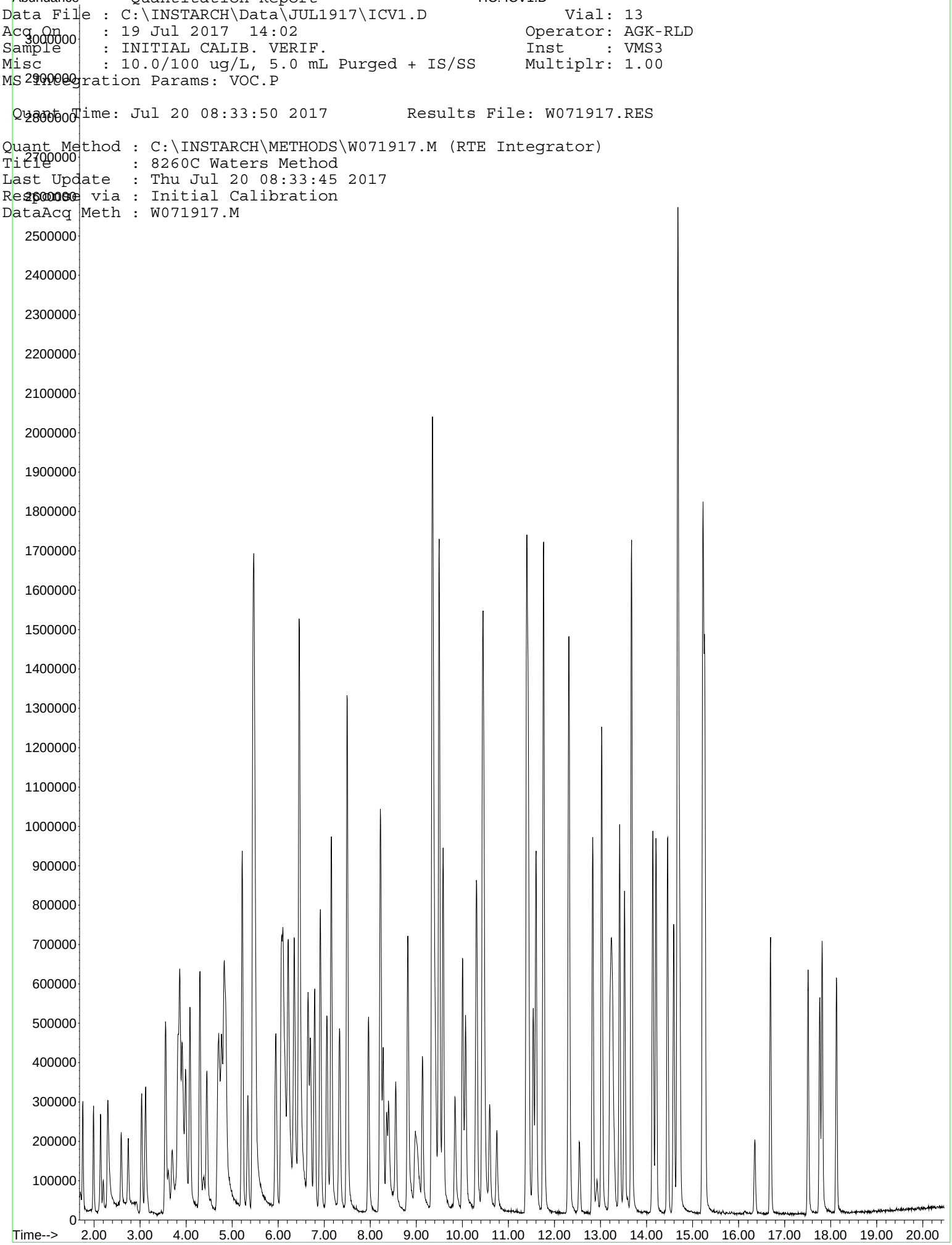
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\INSTARCH\Data\JUL1917\ICV1.D Vial: 13
Acq On : 19 Jul 2017 14:02 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:33:50 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:33:45 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1917\ICV2.D Vial: 14
Acq On : 19 Jul 2017 14:32 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 08:35:08 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	108	0.00
2 PT	Dichlorodi	30.0000	28.5723	4.76	106	0.00
3 PT	Chloromethan	30.0000	25.3743	15.42	97	0.00
4 PT	VinylChlorid	30.0000	28.1721	6.09	104	0.00
5 PT	Bromomethane	30.0000	26.3631	12.12	100	0.00
6 PT	Chloroethane	30.0000	26.6105	11.30	100	0.00
7 T	Dichloroflmethane	30.0000	28.1882	6.04	105	0.00
8 PT	Trichlorofma	30.0000	27.6812	7.73	103	0.00
9 T	Ethylether	30.0000	30.6631	-2.21	108	0.00
10 T	dichlorotfluoroethan	30.0000	28.0918	6.36	103	0.00
11 T	propyleneoxide	300.0000	290.5318	3.16	103	-0.02
12 T	Acrolein	150.0000	157.9276	-5.29	104	-0.02
13 PT	11dichlorthe	30.0000	28.1686	6.10	103	0.00
14 PT	Trichlorotfluoroeth	60.0000	55.1350	8.11	100	0.00
15 PT	Acetone	300.0000	297.5485	0.82	105	-0.01
16 T	Iodomethane	60.0000	58.3885	2.69	107	0.00
17 PT	Carbon Dislf	60.0000	58.9958	1.67	103	0.00
18 T	allylchloride	60.0000	60.9430	-1.57	106	0.00
19 PT	methylacetate	30.0000	28.7436	4.19	106	-0.02
20 PT	Methylchlorid	30.0000	27.4738	8.42	104	0.00
21 T	tbutylalcohol	1500.0000	1694.3508	-12.96	102	-0.04
22 T	Acrylonitrile	150.0000	161.5450	-7.70	102	-0.01
23 PT	t12dichlorte	30.0000	29.0515	3.16	104	0.00
24 PT	MtBE	30.0000	30.4606	-1.54	108	0.00
25 T	Hexane	60.0000	56.5578	5.74	100	0.00
26 PT	11dichlorota	30.0000	28.5490	4.84	104	0.00
27 T	Vinylacetate	300.0000	272.8383	9.05	102	-0.01
28 T	chloroprene	60.0000	58.7297	2.12	104	0.00
29 T	Diisopether	30.0000	29.6154	1.28	105	0.00
30 T	ETBE	30.0000	31.0369	-3.46	107	0.00
31 T	22dichloropr	30.0000	28.9713	3.43	101	0.00
32 PT	c12dichlorte	30.0000	29.7484	0.84	107	0.00
33 PT	2Butanone	300.0000	331.6336	-10.54	104	-0.02
34 T	propionitrile	300.0000	338.7613	-12.92	103	-0.02
35 T	Ethylacetate	150.0000	176.7601	-17.84	109	-0.02
36 T	methacrylonitrile	60.0000	63.9774	-6.63	105	-0.01
37 T	Bromochlorma	30.0000	27.1764	9.41	102	0.00
38 T	Tetrahydofur	300.0000	301.6791	-0.56	101	-0.02
39 PT	Chloroform	30.0000	28.8088	3.97	104	0.00
40 PT	111trichlota	30.0000	29.1809	2.73	104	0.00
41 S	SURRDibrflma	20.0000	19.9017	0.49	109	0.00
42 PT	Cyclohexane	30.0000	29.3825	2.06	103	0.00
43 PT	Carbtetraclo	30.0000	30.5017	-1.67	105	0.00
44 T	11dicloprope	30.0000	28.9610	3.46	105	0.00
45 S	SURR12DCAd4	20.0000	19.4277	2.86	107	-0.01
46 PT	Benzene	30.0000	27.6907	7.70	103	0.00
47 PT	12dichlorota	30.0000	28.9776	3.41	105	0.00
48 T	TAME	30.0000	30.5701	-1.90	106	0.00

49	PT	trichloroete	30.0000	28.9189	3.60	105	0.00	
50	PT	methylcyclohexane	30.0000	29.5228	1.59	103	0.00	
51	PT	12dicloropra	30.0000	28.8657	3.78	105	0.00	
52	T	23Dicl1propene	30.0000	29.6411	1.20	105	0.00	
53	T	Dibromometha	30.0000	29.2918	2.36	105	0.00	
54	T	methylmethacrylate	30.0000	32.9611	-9.87	106	0.00	
55	T	14dioxane	1500.0000	1687.9620	-12.53	114	-0.05	
56	PT	Bromodiclrma	30.0000	29.7006	1.00	104	0.00	
57	T	2Nitropropane	300.0000	311.7392	-3.91	105	0.00	
58	T	2CLEVE	150.0000	162.7688	-8.51	114	0.00	
59	PT	c13dicloproe	30.0000	30.6705	-2.24	103	0.00	
60	PT	4Meth2Pentan	300.0000	275.6317	8.12	102	-0.02	
61	S	SURRd8Tolule	20.0000	20.0937	-0.47	108	0.00	
62	PT	Toluene	30.0000	28.5106	4.96	103	0.00	
63	PT	t13Dicloprop	30.0000	31.0928	-3.64	102	0.00	
64	T	ethylmethacrylate	60.0000	67.4523	-12.42	106	0.00	
65	PT	112Triclotha	30.0000	29.1575	2.81	103	0.00	
66	PT	Tetrachlorte	30.0000	29.1603	2.80	104	0.00	
67	T	13Diclorpropa	30.0000	29.6965	1.01	104	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	108	0.00	
69	PT	2Hexanone	300.0000	311.7347	-3.91	102	-0.02	
70	PT	Clorodibrmta	30.0000	31.7841	-5.95	107	0.00	
71	PT	12Dibrometha	30.0000	29.7604	0.80	104	0.00	
72	PT	Chlorobenzen	30.0000	28.9046	3.65	103	0.00	
73	T	1Clhexane	30.0000	30.5154	-1.72	105	0.00	
74	T	1112Tetclota	30.0000	30.7180	-2.39	106	0.00	
75	PT	Ethylbenzene	30.0000	28.8413	3.86	104	0.00	
76	PT	m p-Xylene	60.0000	59.4036	0.99	104	0.00	
77	PT	o-Xylene	30.0000	29.8951	0.35	104	0.00	
78	PT	Styrene	30.0000	30.3931	-1.31	103	0.00	
79	PT	Bromoform	30.0000	35.1101	-17.03	107	0.00	
80	PT	Isopropylben	30.0000	29.1408	2.86	102	0.00	
81	T	cyclohexanone	600.0000	721.3170	-20.22#	123	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	108	0.00	
83	S	SURR4BrFBenz	20.0000	20.2881	-1.44	109	0.00	
84	T	Bromobenzene	30.0000	28.8470	3.84	104	0.00	
85	PT	1122Tetrclta	30.0000	27.9090	6.97	103	0.00	
86	T	123Triclproa	30.0000	29.0078	3.31	105	0.00	
87	T	14dichloro2butene	30.0000	32.4736	-8.25	112	0.00	
88	T	n-Propylbenz	30.0000	28.5782	4.74	104	0.00	
89	T	2chlorotolue	30.0000	28.0234	6.59	103	0.00	
90	T	4chlorotolue	30.0000	28.6566	4.48	104	0.00	
91	T	135Trimebenz	30.0000	28.5671	4.78	103	0.00	
92	T	tbutylbenzen	30.0000	28.8410	3.86	103	0.00	
93	T	124Trimetben	30.0000	29.1279	2.91	103	0.00	
94	T	sbutylbenzen	30.0000	28.9225	3.59	103	0.00	
95	PT	13Diclorbenz	30.0000	28.5505	4.83	103	0.00	
96	T	pIsopropylto	30.0000	29.1507	2.83	102	0.00	
97	PT	14dichlorobe	30.0000	27.8216	7.26	103	0.00	
98	PT	12dichlorobe	30.0000	27.5937	8.02	103	0.00	
99	T	nButylbenzen	30.0000	29.3735	2.09	102	0.00	
100	PT	12dibromo3cl	30.0000	31.5376	-5.13	105	0.00	
101	T	135Trichlorobenzene	30.0000	28.8871	3.71	103	0.00	
102	PT	124Trichlobe	30.0000	28.6648	4.45	99	0.00	
103	T	Hexachlorobu	30.0000	28.2907	5.70	101	0.00	
104	T	Naphthalene	30.0000	31.5008	-5.00	102	0.00	
105	T	123Trichlben	30.0000	28.4605	5.13	101	0.00	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071917.M Thu Jul 20 11:08:59 2017

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICV2.D Vial: 14
Acq On : 19 Jul 2017 14:32 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:35:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1640666	20.00	ug/L	0.00
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1290076	20.00	ug/L	0.00
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	782574	20.00	ug/L	0.00

System Monitoring Compounds							
41) SURRDibrflma	6.65	113	413518	19.902	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.05	102	113690	19.428	ug/L	-0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97	%		
61) SURRd8Tolule	9.50	98	1664006	20.094	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.02	95	653209	20.288	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		

Target Compounds						Qvalue
2) Dichlorodi	1.75	85	703655	28.5723	ug/L	97
3) Chloromethan	1.99	50	703789	25.3743	ug/L	100
4) VinylChlorid	2.14	62	700886	28.1721	ug/L	99
5) Bromomethane	2.59	94	363249	26.3631	ug/L	98
6) Chloroethane	2.74	64	476295	26.6105	ug/L	99
7) Dichloroflmethane	3.04	67	1041626	28.1882	ug/L	99
8) Trichlorofma	3.12	101	895250	27.6812	ug/L	97
9) Ethylether	3.55	59	474450	30.6631	ug/L	96
10) dichlorotfluoroethan	3.55	67	662986	28.0918	ug/L	99
11) propyleneoxide	3.88	58	1050560	290.5318	ug/L	99
12) Acrolein	3.67	56	951914	157.9276	ug/L	99
13) 11dichlorthe	3.82	96	562509	28.1686	ug/L	99
14) Trichlorotfluoroeth	3.86	101	1004578	55.1350	ug/L	97
15) Acetone	3.88	43	3267747	297.5485	ug/L	100
16) Iodomethane	3.99	142	1242682	58.3885	ug/L	98
17) Carbon Dislf	4.08	76	2496031	58.9958	ug/L	97
18) allylchloride	4.30	41	1526266	60.9430	ug/L	99
19) methylacetate	4.35	74	162501	28.7436	ug/L	99
20) Methylchlorid	4.45	84	615994	27.4738	ug/L	98
21) tbutylalcohol	4.65	59	5194161	1694.3508	ug/L	99
22) Acrylonitrile	4.75	53	1397568	161.5450	ug/L	99
23) t12dichlorte	4.82	96	619062	29.0515	ug/L	99
24) MtBE	4.85	73	1702475	30.4606	ug/L	99
25) Hexane	5.22	57	1702358	56.5578	ug/L	97
26) 11dichlorota	5.34	63	1041926	28.5490	ug/L	97
27) Vinylacetate	5.43	43	9002803	272.8383	ug/L	90
28) chloroprene	5.47	53	1866181	58.7297	ug/L	98
29) Diisopether	5.49	45	1793177	29.6154	ug/L	97
30) ETBE	5.94	59	1647985	31.0369	ug/L	99
31) 22dichloropr	6.07	77	820303	28.9713	ug/L	98
32) c12dichlorte	6.07	96	683373	29.7484	ug/L	98
33) 2Butanone	6.08	72	1351619	331.6336	ug/L	97
34) propionitrile	6.12	54	1245541	338.7613	ug/L	100
35) Ethylacetate	6.19	88	224431	176.7601	ug/L	95
36) methacrylonitrile	6.32	67	774306	63.9774	ug/L	97
37) Bromochlorma	6.35	128	303754	27.1764	ug/L	99
38) Tetrahydofur	6.43	42	2974269	301.6791	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICV2.D Vial: 14
Acq On : 19 Jul 2017 14:32 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:35:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	1077585	28.8088	ug/L	100
40)	111trichlota	6.70	97	987037	29.1809	ug/L	99
42)	Cyclohexane	6.80	56	986617	29.3825	ug/L	97
43)	Carbtetraclo	6.92	119	787419	30.5017	ug/L	99
44)	11dicloprope	6.91	110	323344	28.9610	ug/L	96
46)	Benzene	7.15	78	2386782	27.6907	ug/L	97
47)	12dichlorota	7.15	62	771866	28.9776	ug/L	96
48)	TAME	7.32	73	1656586	30.5701	ug/L	97
49)	trichloroete	7.96	95	643897	28.9189	ug/L	99
50)	methylcyclohexane	8.23	83	1215987	29.5228	ug/L	98
51)	12dicloropra	8.21	63	641602	28.8657	ug/L	97
52)	23Dicl1propene	8.28	75	893248	29.6411	ug/L	99
53)	Dibromometha	8.35	93	399608	29.2918	ug/L	96
54)	methylmethacrylate	8.39	69	587122	32.9611	ug/L	98
55)	14dioxane	8.41	88	113835	1687.9620	ug/L	85
56)	Bromodiclrma	8.55	83	786757	29.7006	ug/L	99
57)	2Nitropropane	8.81	43	2270451	311.7392	ug/L	98
58)	2CLEVE	8.95	63	621429	162.7688	ug/L	87
59)	c13dicloproe	9.13	75	961100	30.6705	ug/L	97
60)	4Meth2Pentan	9.33	43	7125900	275.6317	ug/L	90
62)	Toluene	9.58	92	1580586	28.5106	ug/L	93
63)	t13Dicloprop	9.84	75	823612	31.0928	ug/L	98
64)	ethylmethacrylate	10.00	69	1839949	67.4523	ug/L	98
65)	112Triclotha	10.07	83	498313	29.1575	ug/L	98
66)	Tetrachlorte	10.31	166	792716	29.1603	ug/L	100
67)	13Diclorpropa	10.29	76	1008514	29.6965	ug/L	99
69)	2Hexanone	10.43	43	5824496	311.7347	ug/L	94
70)	Clorodibrmta	10.59	129	626516	31.7841	ug/L	99
71)	12Dibrometha	10.74	107	634928	29.7604	ug/L	98
72)	Chlorobenzen	11.43	112	1683109	28.9046	ug/L	99
73)	1Clhexane	11.42	91	881458	30.5154	ug/L	97
74)	1112Tetclota	11.54	131	626135	30.7180	ug/L	99
75)	Ethylbenzene	11.60	91	2772300	28.8413	ug/L	97
76)	m p-Xylene	11.76	106	2256950	59.4036	ug/L	91
77)	o-Xylene	12.31	106	1164675	29.8951	ug/L	94
78)	Styrene	12.32	104	1806413	30.3931	ug/L	98
79)	Bromoform	12.54	173	442993	35.1101	ug/L	97
80)	Isopropylben	12.83	105	2685543	29.1408	ug/L	97
81)	cyclohexanone	12.92	55	181190	721.3170	ug/L	96
84)	Bromobenzene	13.23	156	781201	28.8470	ug/L	98
85)	1122Tetrclta	13.20	83	976146	27.9090	ug/L	97
86)	123Triclproa	13.26	75	1121187	29.0078	ug/L	97
87)	14dichloro2butene	13.29	53	199023	32.4736	ug/L	95
88)	n-Propylbenz	13.41	91	3097504	28.5782	ug/L	96
89)	2chlorotolue	13.52	91	1916593	28.0234	ug/L	96
90)	4chlorotolue	13.68	91	2171296	28.6566	ug/L	97
91)	135Trimebenz	13.68	105	2264275	28.5671	ug/L	98
92)	tbutylbenzen	14.14	119	2023479	28.8410	ug/L	96
93)	124Trimetben	14.21	105	2266267	29.1279	ug/L	97
94)	sbutylbenzen	14.45	105	2777892	28.9225	ug/L	94
95)	13Diclorbenz	14.59	146	1395942	28.5505	ug/L	97
96)	pIsopropylto	14.67	119	2370949	29.1507	ug/L	97
97)	14dichlorobe	14.72	146	1402557	27.8216	ug/L	99
98)	12dichlorobe	15.25	146	1304504	27.5937	ug/L	100
99)	nButylbenzen	15.26	91	2054682	29.3735	ug/L	95
100)	12dibromo3cl	16.35	157	274520	31.5376	ug/L	96
101)	135Trichlorobenzene	16.69	180	968621	28.8871	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICV2.D Vial: 14
Acq On : 19 Jul 2017 14:32 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:35:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	813816	28.6648	ug/L	97
103) Hexachlorobu	17.76	225	426722	28.2907	ug/L	99
104) Naphthalene	17.81	128	2156312	31.5008	ug/L	97
105) 123Trichlben	18.12	180	750664	28.4605	ug/L	98

(#) = qualifier out of range (m) = manual integration

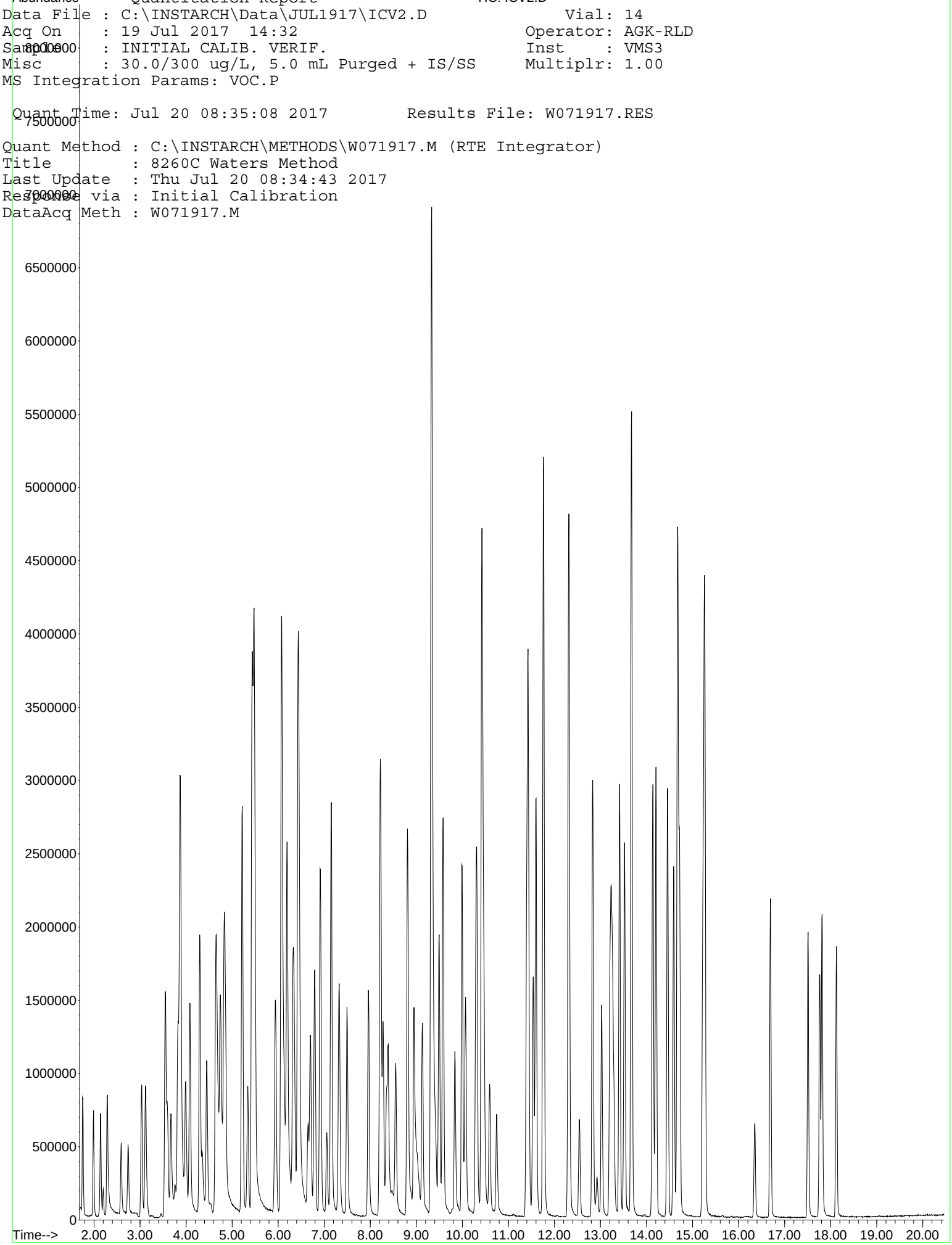
Quantitation Report

TIC: ICV2.D

Data File : C:\INSTARCH\Data\JUL1917\ICV2.D Vial: 14
Acq On : 19 Jul 2017 14:32 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 08:35:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICB1.D Vial: 16
Acq On : 19 Jul 2017 15:31 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 09:27:41 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1449059	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1091576	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	622965	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	358473	19.534	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.07	102	99993	19.347	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.50	98	1434406	19.612	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.03	95	513287	20.027	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.99	50	9435	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	4897	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.95	58	8898	N.D.		
12) Acrolein	3.73	56	2250	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.95	43	35416	N.D.		
16) Iodomethane	4.01	142	11910	0.6336	ug/L #	87
17) Carbon Dislf	4.09	76	7768	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.47	84	7311	N.D.		
21) tbutylalcohol	4.81	59	2857	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.49	43	4483	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	5.50	45	2666	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.47	42	130134	3.4693	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICB1.D Vial: 16
Acq On : 19 Jul 2017 15:31 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 09:27:41 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	7.17	78	3292	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.49	88	2156	16.2753	ug/L	#	15
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	8.84	43	2959	10.1448	ug/L	#	13
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	9.39	43	40903	N.D.			
62)	Toluene	9.59	92	2492	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	10.04	69	3631	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	10.48	43	61352	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	11.45	112	3156	N.D.			
73)	1Clhexane	11.44	91	2751	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	11.61	91	9070	N.D.			
76)	m p-Xylene	11.77	106	6808	N.D.			
77)	o-Xylene	12.29	106	2608	N.D.			
78)	Styrene	12.35	104	5299	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	12.84	105	9745	N.D.			
81)	cyclohexanone	12.92	55	9774	60.3244	ug/L	#	78
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	13.26	75	3970	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	13.42	91	16755	N.D.			
89)	2chlorotolue	13.53	91	5849	N.D.			
90)	4chlorotolue	13.68	91	10660	N.D.			
91)	135Trimebenz	13.67	105	6324	N.D.			
92)	tbutylbenzen	14.15	119	7772	N.D.			
93)	124Trimetben	14.20	105	10254	N.D.			
94)	sbutylbenzen	14.45	105	13492	N.D.			
95)	13Diclorbenz	14.60	146	6287	N.D.			
96)	pIsopropylto	14.67	119	13733	N.D.			
97)	14dichlorobe	14.72	146	9347	0.2329	ug/L	#	50
98)	12dichlorobe	15.26	146	6765	N.D.			
99)	nButylbenzen	15.28	91	14796	0.2657	ug/L		81
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	16.70	180	6229	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1917\ICB1.D Vial: 16
Acq On : 19 Jul 2017 15:31 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 09:27:41 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
102) 124Trichlobe	17.53	180	7413	0.3280	ug/L	#	77
103) Hexachlorobu	17.76	225	3609	0.3006	ug/L		86
104) Naphthalene	17.82	128	34006	0.6241	ug/L	#	91
105) 123Trichlben	18.13	180	8830	0.4206	ug/L		90

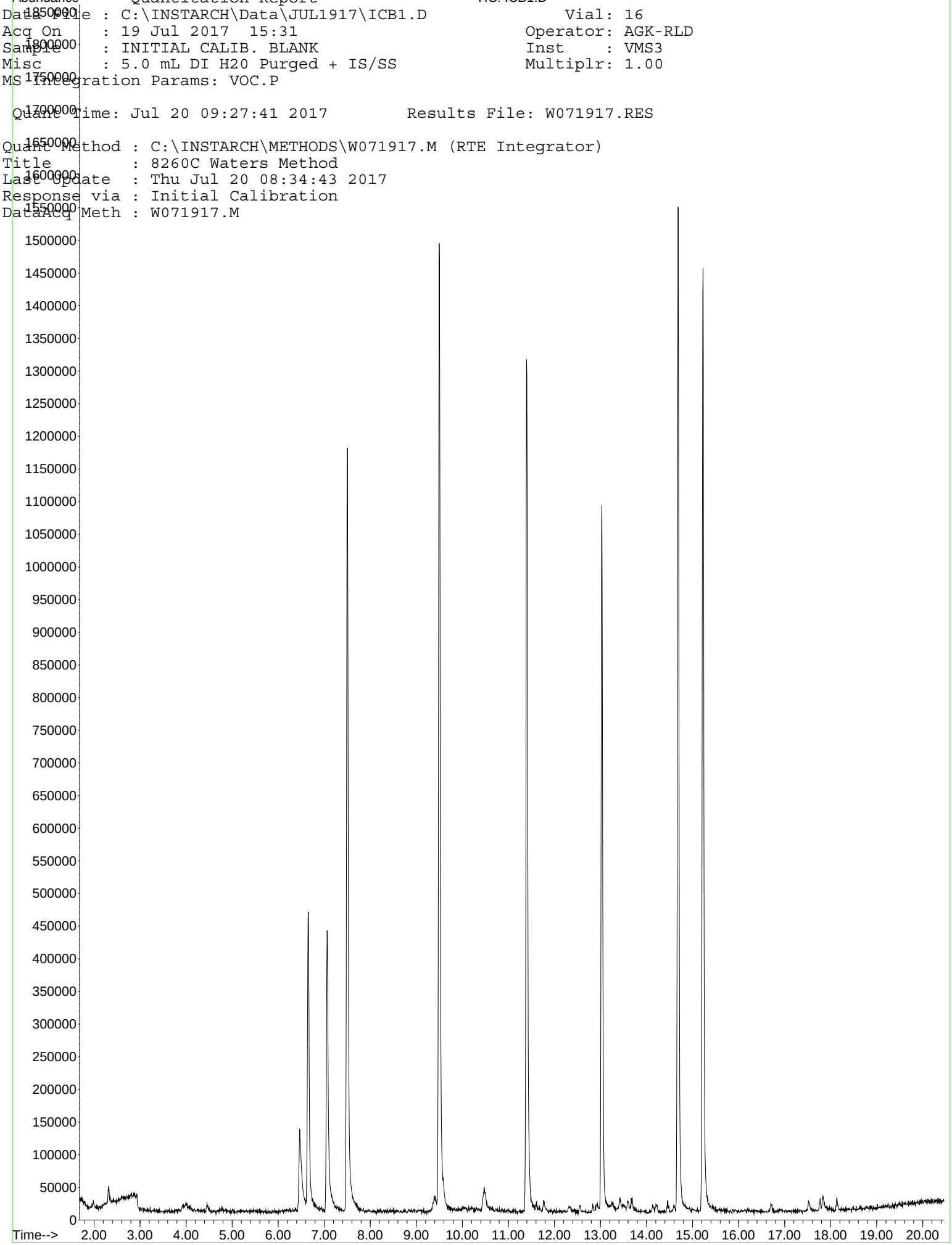
(#) = qualifier out of range (m) = manual integration

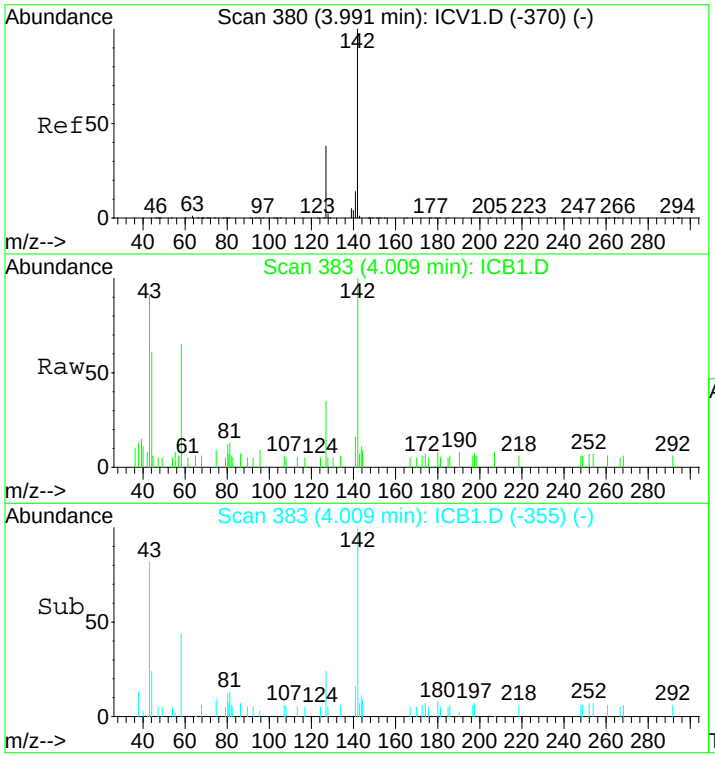
Abundance Quantitation Report TIC: ICB1.D

Data File : C:\INSTARCH\Data\JUL1917\ICB1.D Vial: 16
Acq On : 19 Jul 2017 15:31 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 09:27:41 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

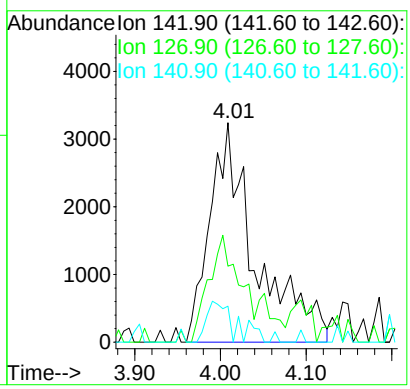


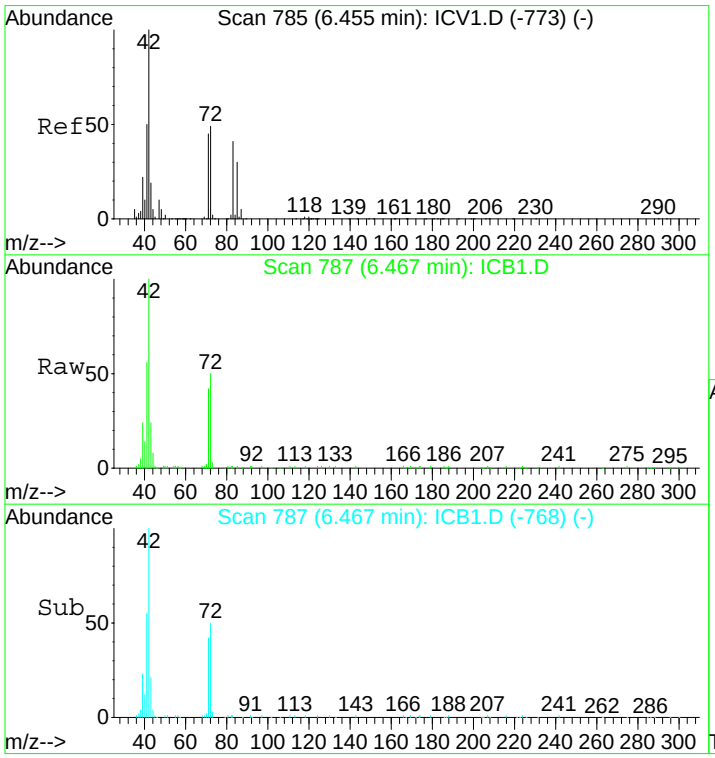


#16
Iodomethane
Concen: 0.63 ug/L
RT: 4.01 min Scan# 383
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion:142 Resp: 11910

Ion	Ratio	Lower	Upper
142	100		
127	41.0	18.0	58.0
141	0.0	0.0	34.2

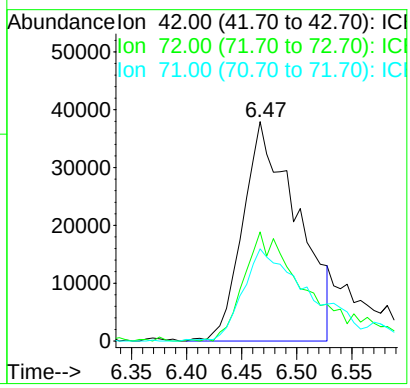


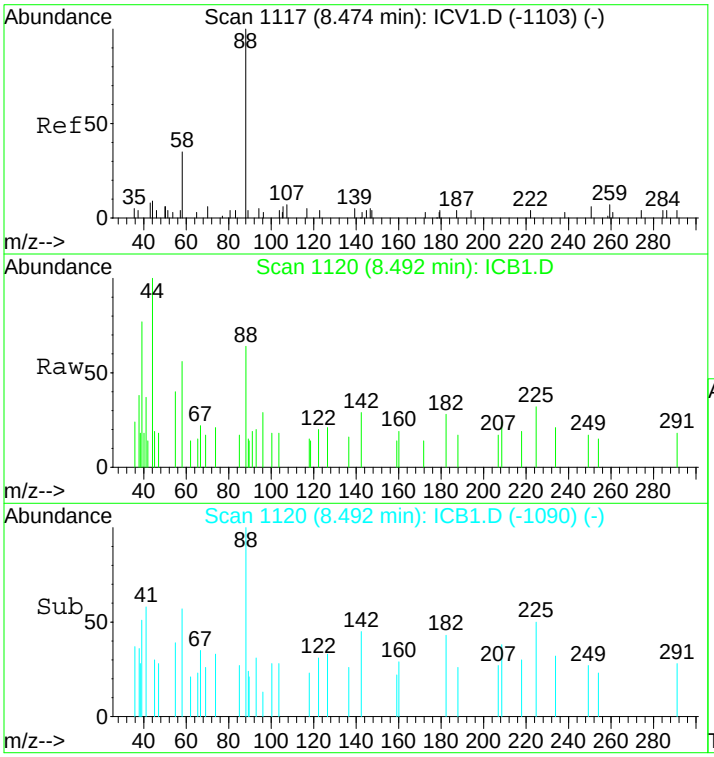


#38
Tetrahydofur
Concen: 3.47 ug/L
RT: 6.47 min Scan# 787
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion: 42 Resp: 130134

Ion	Ratio	Lower	Upper
42	100		
72	47.3	28.2	68.2
71	42.7	25.4	65.4

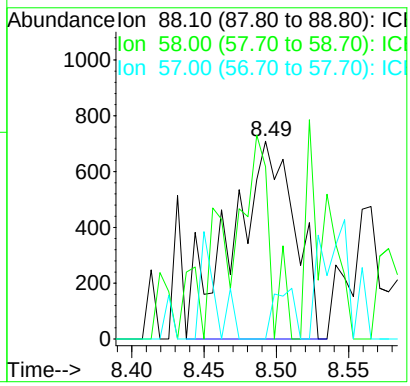


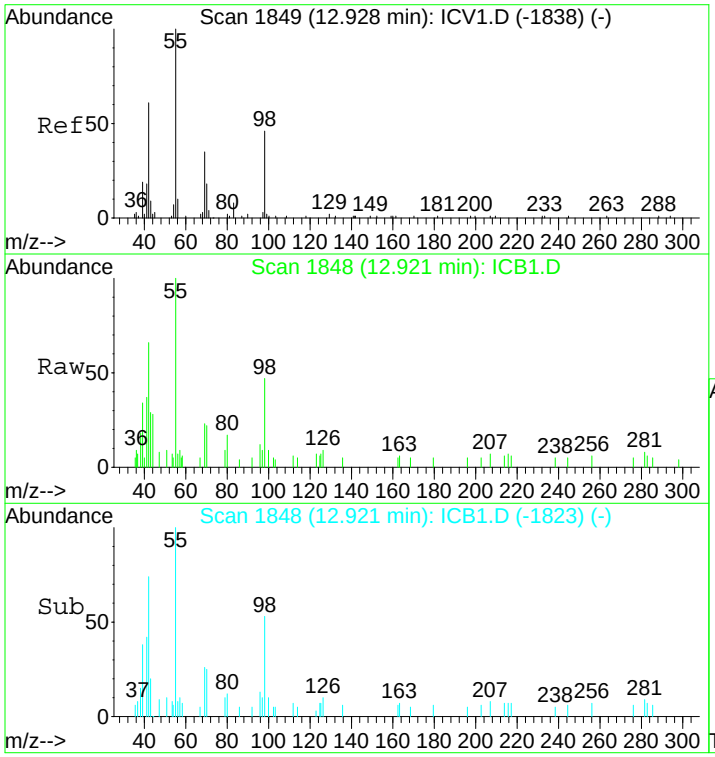


#55
14dioxane
Concen: 16.28 ug/L
RT: 8.49 min Scan# 1120
Delta R.T. 0.03 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion: 88 Resp: 2156

Ion	Ratio	Lower	Upper
88	100		
58	0.0	64.6	104.6#
57	0.0	0.0	31.7

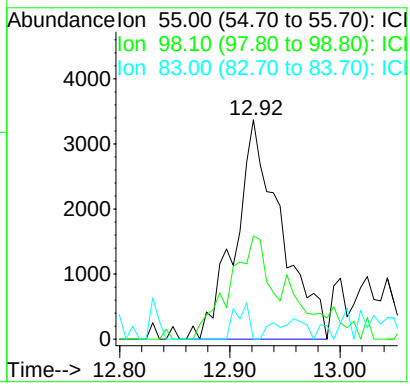


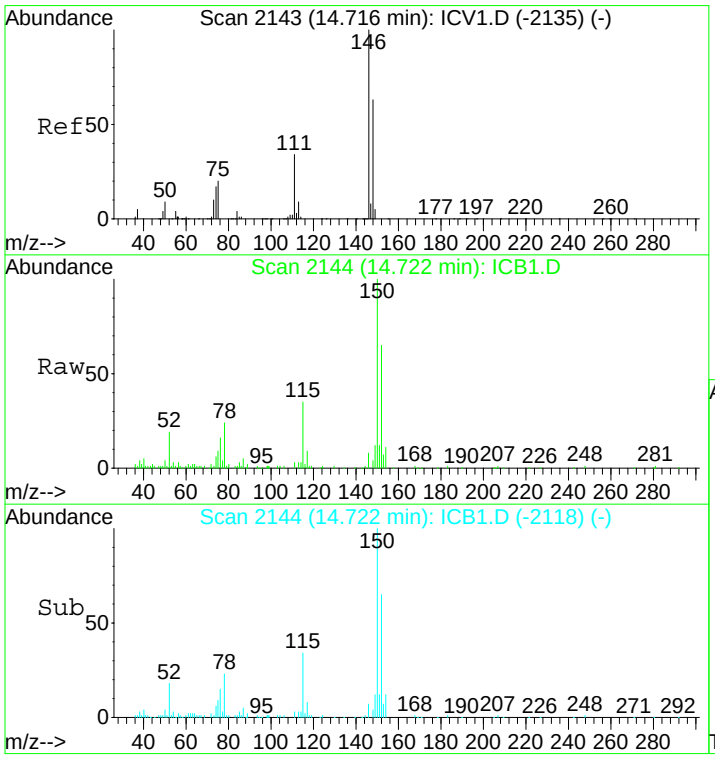


#81
cyclohexanone
Concen: 60.32 ug/L
RT: 12.92 min Scan# 1848
Delta R.T. 0.00 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion: 55 Resp: 9774

Ion	Ratio	Lower	Upper
55	100		
98	59.5	27.4	67.4
83	0.0	0.0	34.1

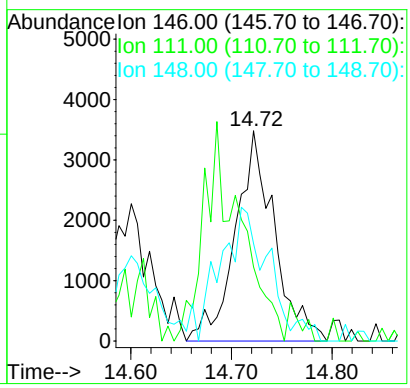


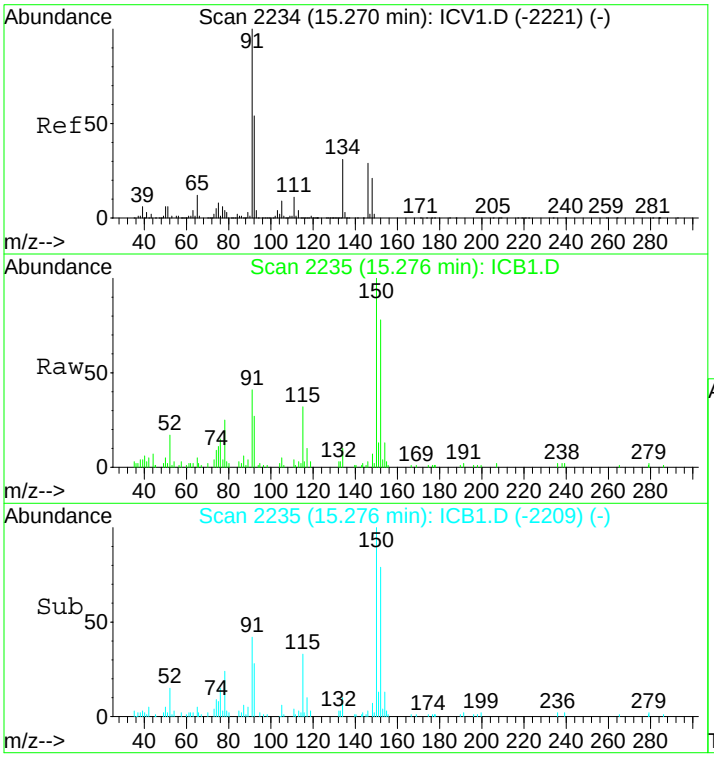


#97
14dichlorobe
Concen: 0.23 ug/L
RT: 14.72 min Scan# 2144
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion:146 Resp: 9347

Ion	Ratio	Lower	Upper
146	100		
111	98.0	17.6	57.6#
148	80.3	44.5	84.5

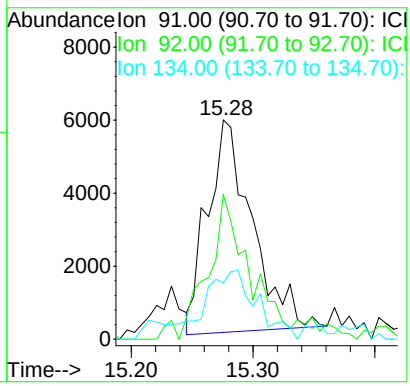


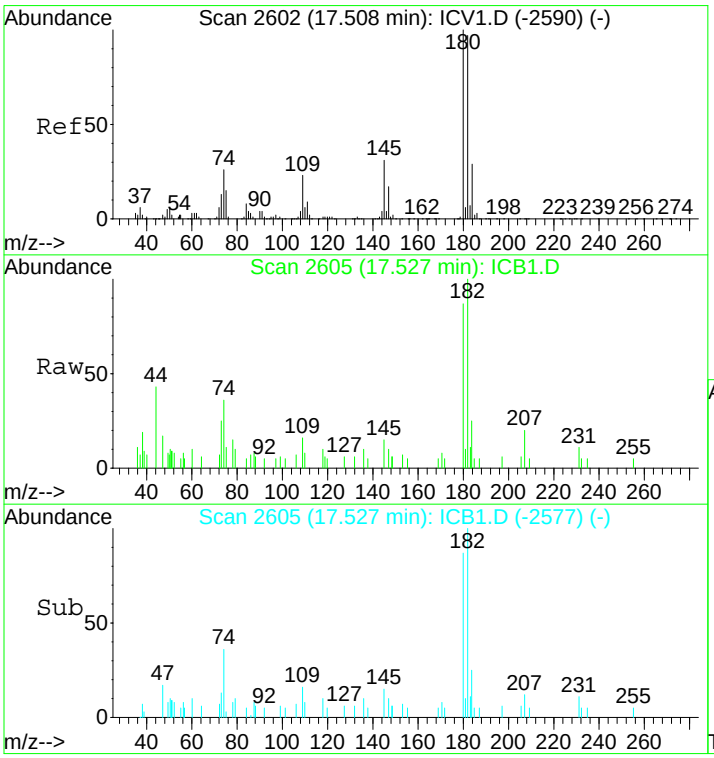


#99
nButylbenzen
Concen: 0.27 ug/L
RT: 15.28 min Scan# 2235
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion: 91 Resp: 14796

Ion	Ratio	Lower	Upper
91	100		
92	70.8	34.9	74.9
134	35.4	8.7	48.7

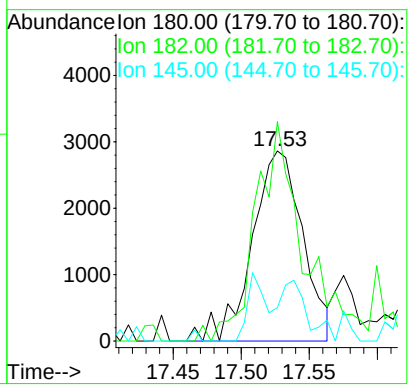


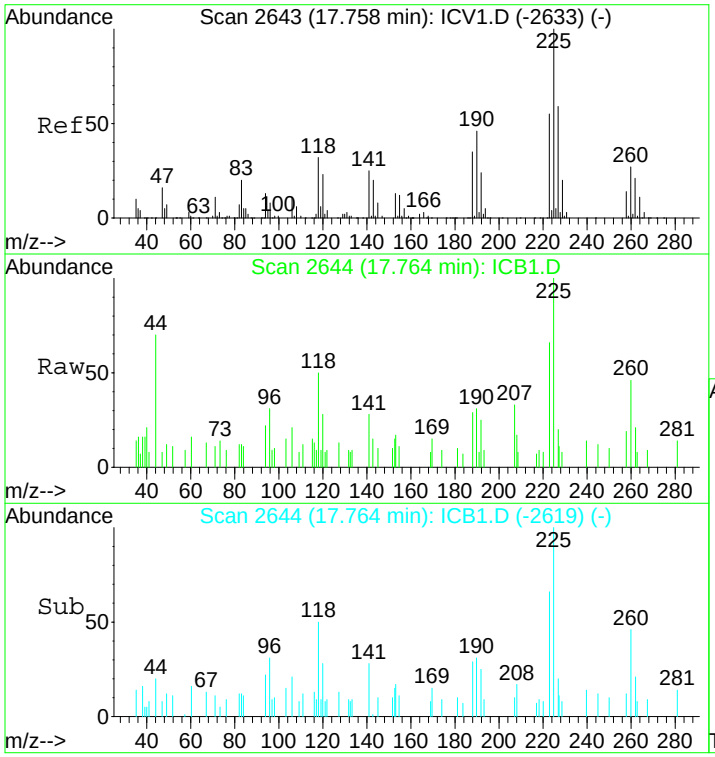


#102
124Trichlobe
Concen: 0.33 ug/L
RT: 17.53 min Scan# 2605
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion:180 Resp: 7413

Ion	Ratio	Lower	Upper
180	100		
182	109.1	74.6	114.6
145	0.0	7.2	47.2#

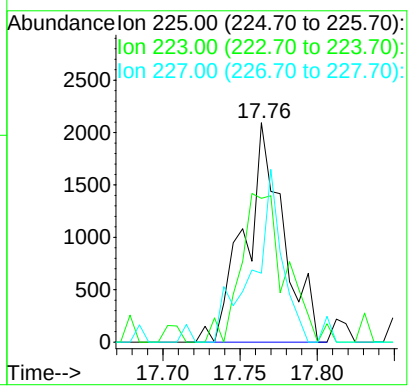


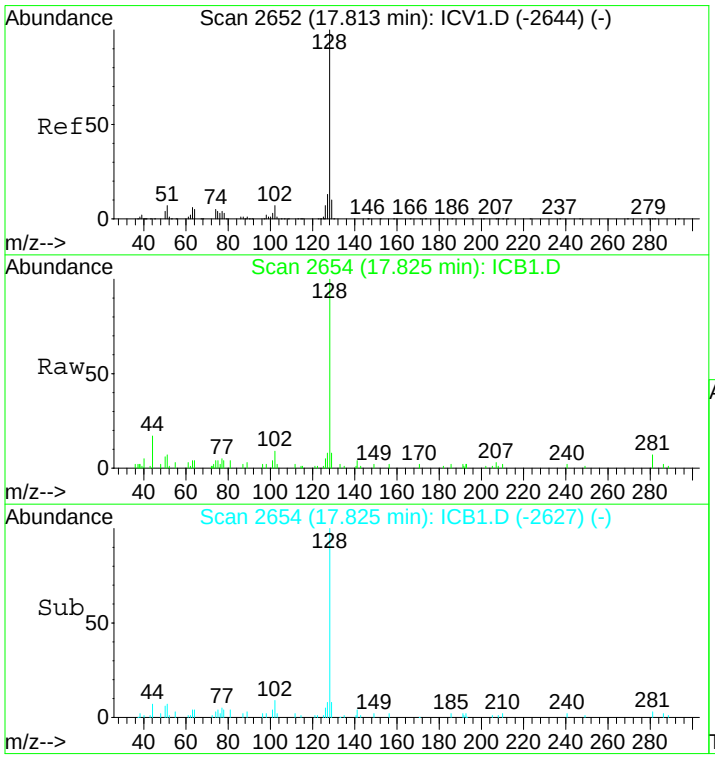


#103
Hexachlorobu
Concen: 0.30 ug/L
RT: 17.76 min Scan# 2644
Delta R.T. -0.00 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion:225 Resp: 3609

Ion	Ratio	Lower	Upper
225	100		
223	79.1	42.0	82.0
227	59.7	44.3	84.3

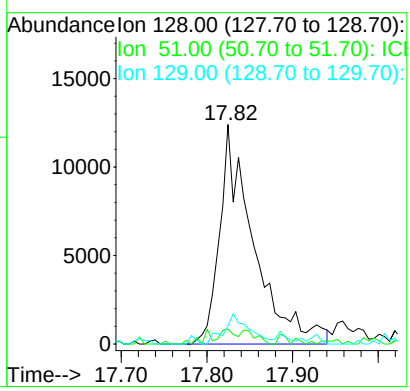


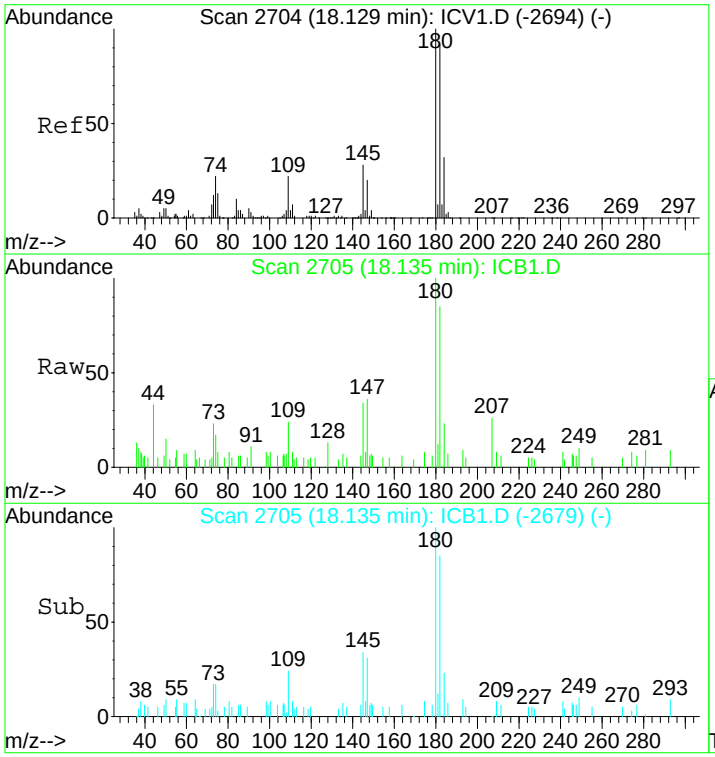


#104
Naphthalene
Concen: 0.62 ug/L
RT: 17.82 min Scan# 2654
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion:128 Resp: 34006

Ion	Ratio	Lower	Upper
128	100		
51	0.0	0.0	26.6
129	10.0	0.0	31.2

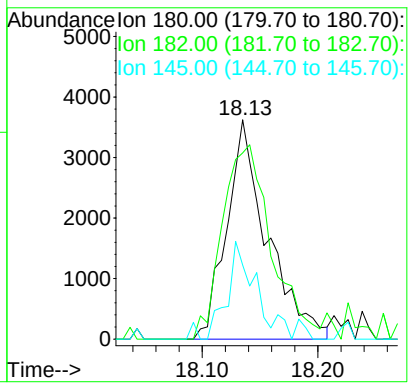




#105
123Trichlben
Concen: 0.42 ug/L
RT: 18.13 min Scan# 2705
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 19 Jul 2017 15:31

Tgt Ion:180 Resp: 8830

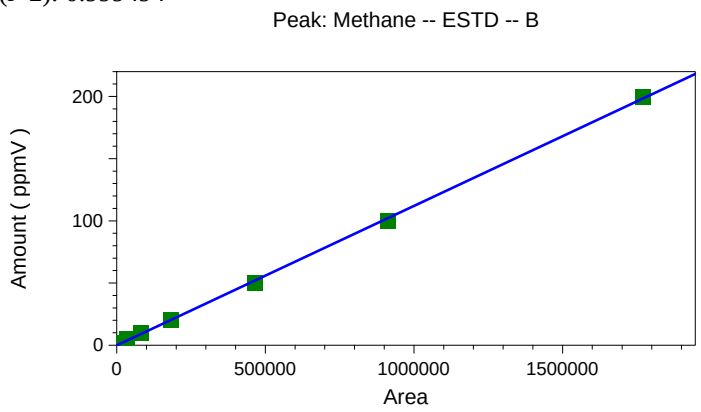
Ion	Ratio	Lower	Upper
180	100		
182	109.4	78.5	118.5
145	31.5	9.0	49.0



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000126758 RF StDev: 2.66182e-005 RF %RSD: 20.9992
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000112132x - 0.0862934
Goodness of fit (r^2): 0.999494



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	11158	34407	81596	181231	466265
RF	0.000179243	0.00014531926	0.000122555027	0.000110356395	0.0001072351
	592041585	6428343	207216	98082	55973534
Last Area					
Residual	0.835122	1.22816	0.936751	-0.235545	-2.19705
Rep StDev					
Rep %RSD					
Rep 1 Area	11158	34407	81596	181231	466265
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	912807	1769205

RJ 02/11/2015

Calibration Report

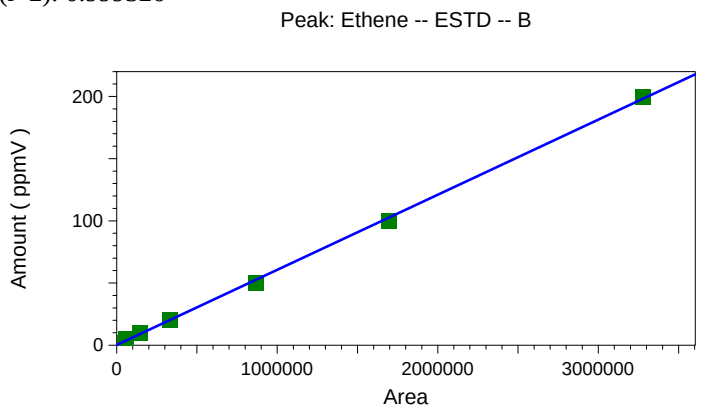
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

RF	0.000109552183539346	0.00011304512 4787687
Last Area Residual	-2.2688	1.70137
Rep StDev		
Rep %RSD		
Rep 1 Area	912807	1769205
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 7.34101e-005 RF StDev: 2.20333e-005 RF %RSD: 30.0140
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 6.03920e-005x + 0.196712
Goodness of fit (r^2): 0.999326



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17089	56566	142389	330410	867023
RF	0.000117034 349581602	8.83923204751 971e-005	7.023014418248 6e-005	6.053085560364 4e-005	5.7668597026 8378e-005
Last Area Residual	0.77125	1.38716	1.20414	-0.150822	-2.55794
Rep StDev					
Rep %RSD					
Rep 1 Area	17089	56566	142389	330410	867023
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1696051	3275808

RJ 02/11/2015

Calibration Report

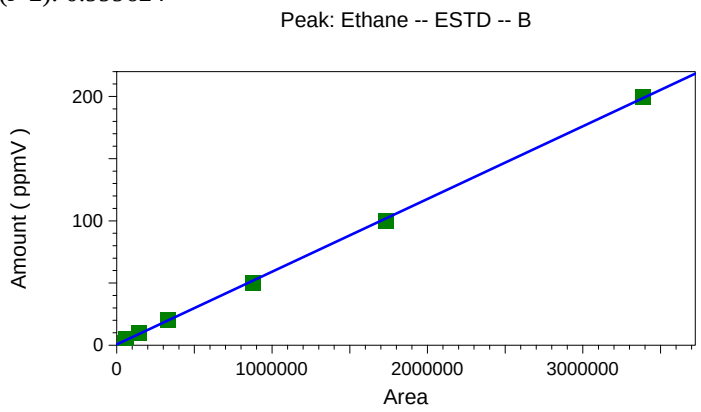
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

RF	5.89604911644756e-005	6.10536392853305e-005
Last Area Residual	-2.62457	1.97079
Rep StDev		
Rep %RSD		
Rep 1 Area	1696051	3275808
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 7.20208e-005 RF StDev: 2.08377e-005 RF %RSD: 28.9328
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 5.84964e-005x + 0.597310
Goodness of fit (r^2): 0.999624



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17853	56692	142896	332327	878485
RF	0.000112025 990029687	8.81958653778 311e-005	6.998096517747 17e-005	6.018168851763 47e-005	5.6916168175 8937e-005
Last Area Residual	0.358353	1.08641	1.04378	-0.0372589	-1.98556
Rep StDev					
Rep %RSD					
Rep 1 Area	17853	56692	142896	332327	878485
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1731517	3384539

RJ 02/11/2015

Calibration Report

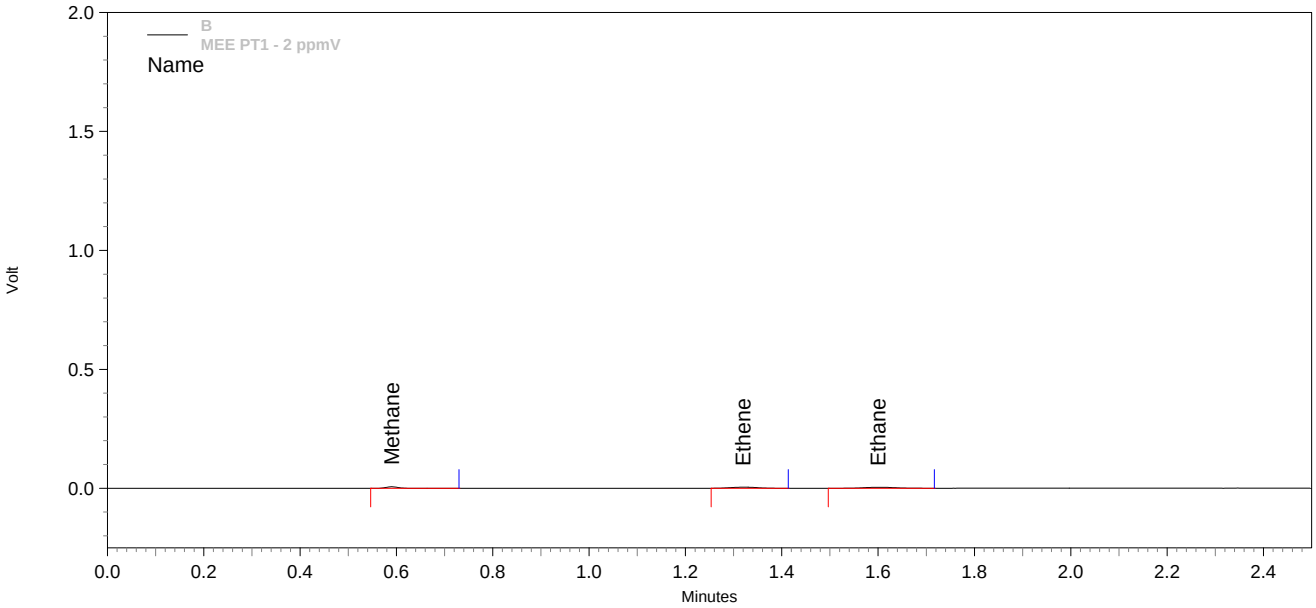
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

RF	5.77528259901578e-005	5.90922426953863e-005
Last Area Residual	-1.8849	1.41918
Rep StDev		
Rep %RSD		
Rep 1 Area	1731517	3384539
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Feb 03, 2015 10:27:30
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



B Results

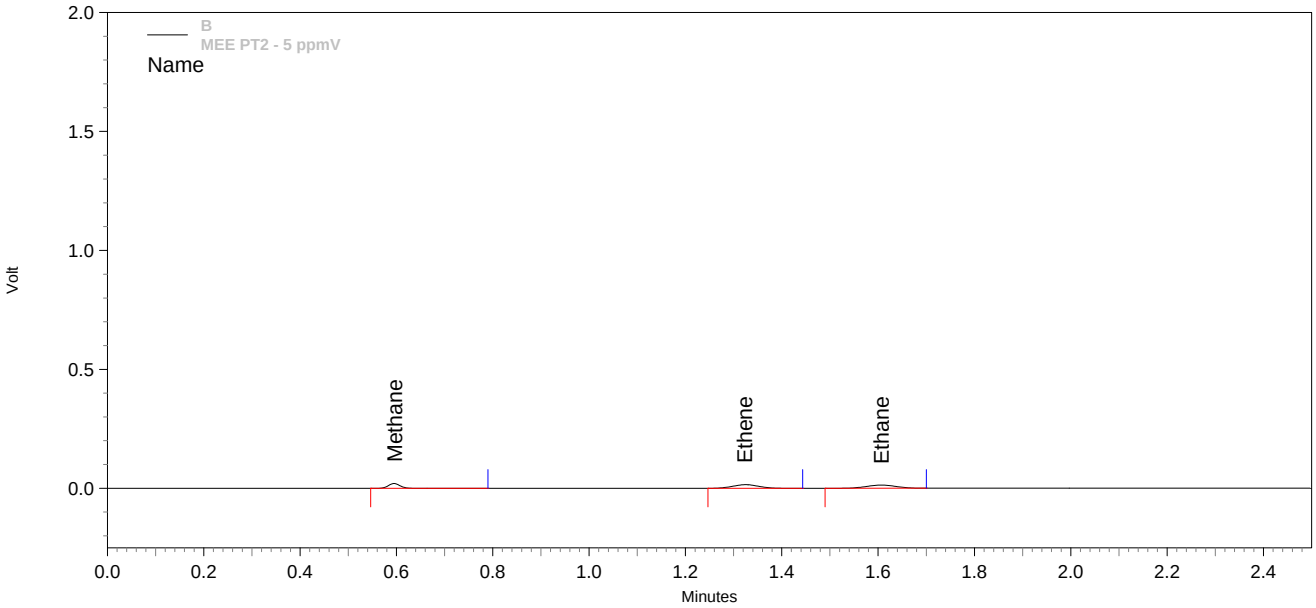
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	11158	**1.165**
2	Ethene	1.320	17089	**1.229**
3	Ethane	1.600	17853	**1.642**

Totals			46100	**4.035**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Feb 03, 2015 10:35:02
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



B Results

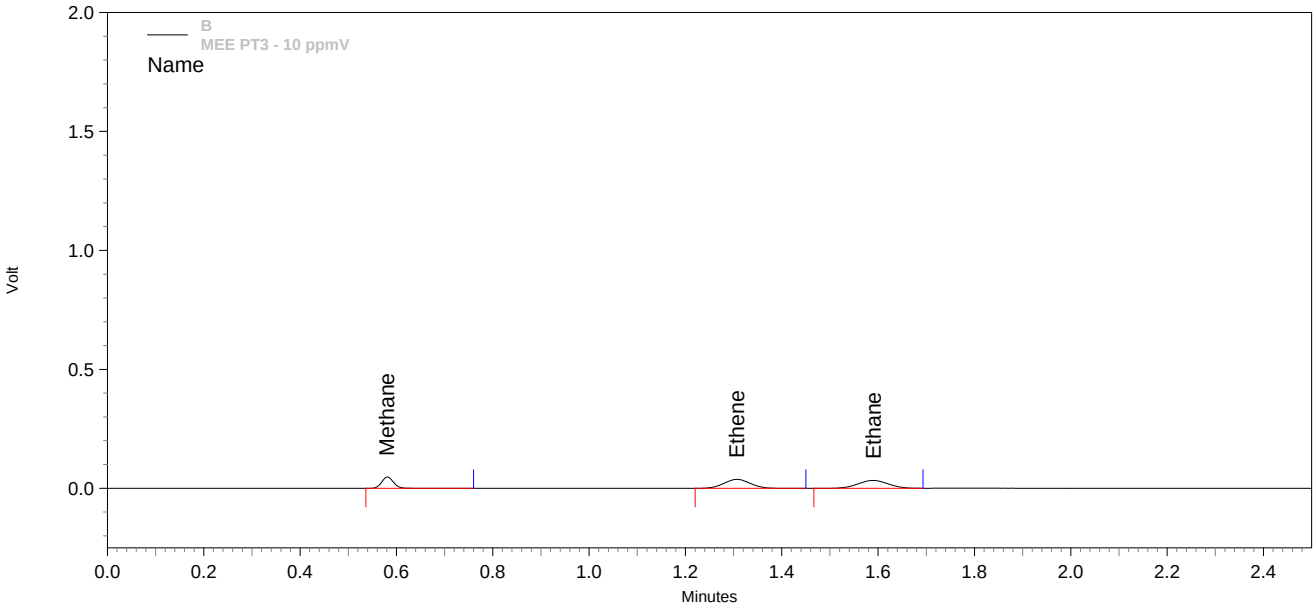
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	34407	**5.000 CAL**
2	Ethene	1.323	56566	**5.000 CAL**
3	Ethane	1.607	56692	**5.000 CAL**

Totals			147665	**15.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Feb 03, 2015 10:38:17
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



B Results

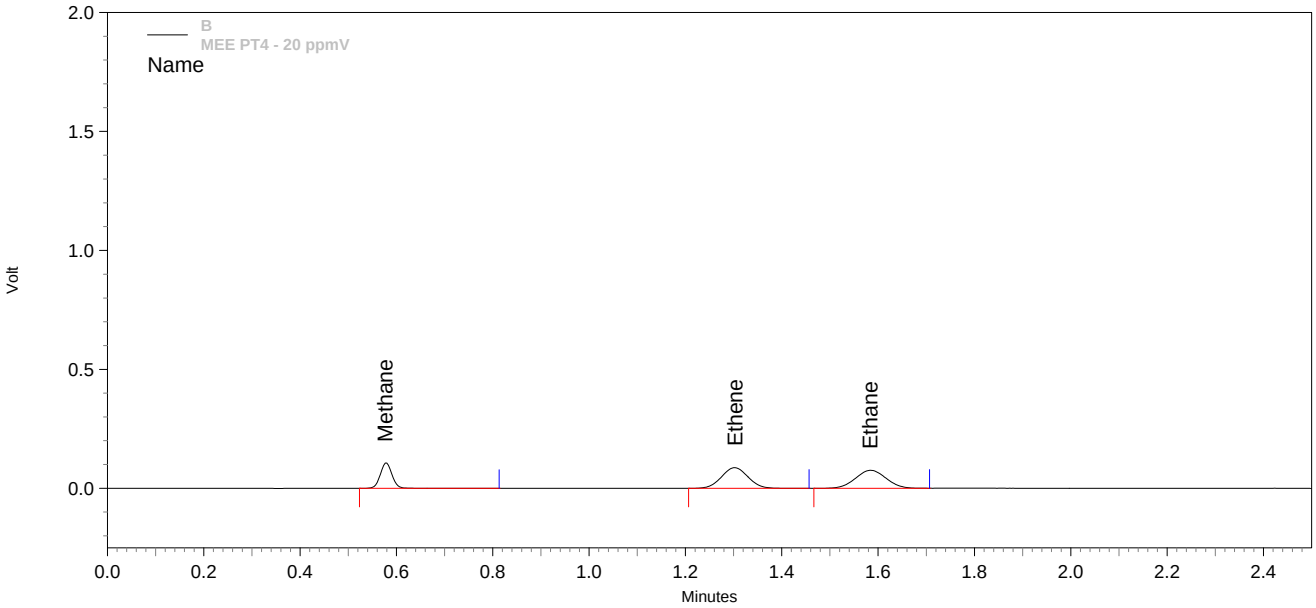
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	81596	**10.000 CAL**
2	Ethene	1.307	142389	**10.000 CAL**
3	Ethane	1.590	142896	**10.000 CAL**

Totals			366881	**30.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Feb 03, 2015 10:41:32
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



B Results

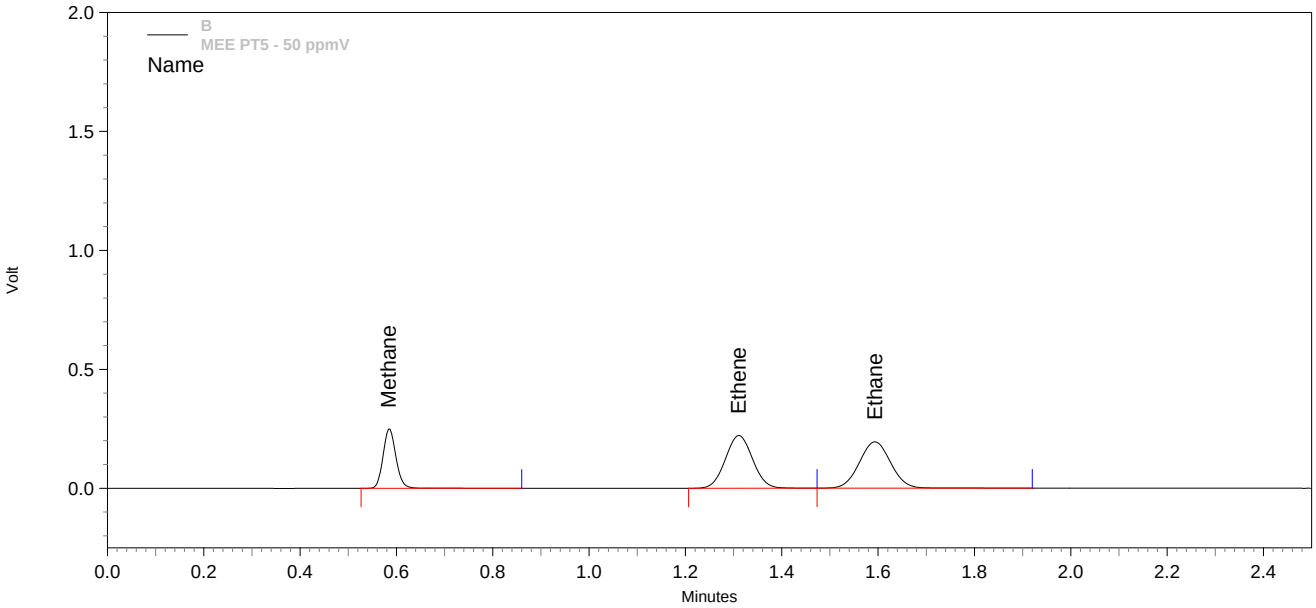
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	181231	**20.000 CAL**
2	Ethene	1.303	330410	**20.000 CAL**
3	Ethane	1.583	332327	**20.000 CAL**

Totals			843968	**60.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Feb 03, 2015 10:44:59
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



B Results

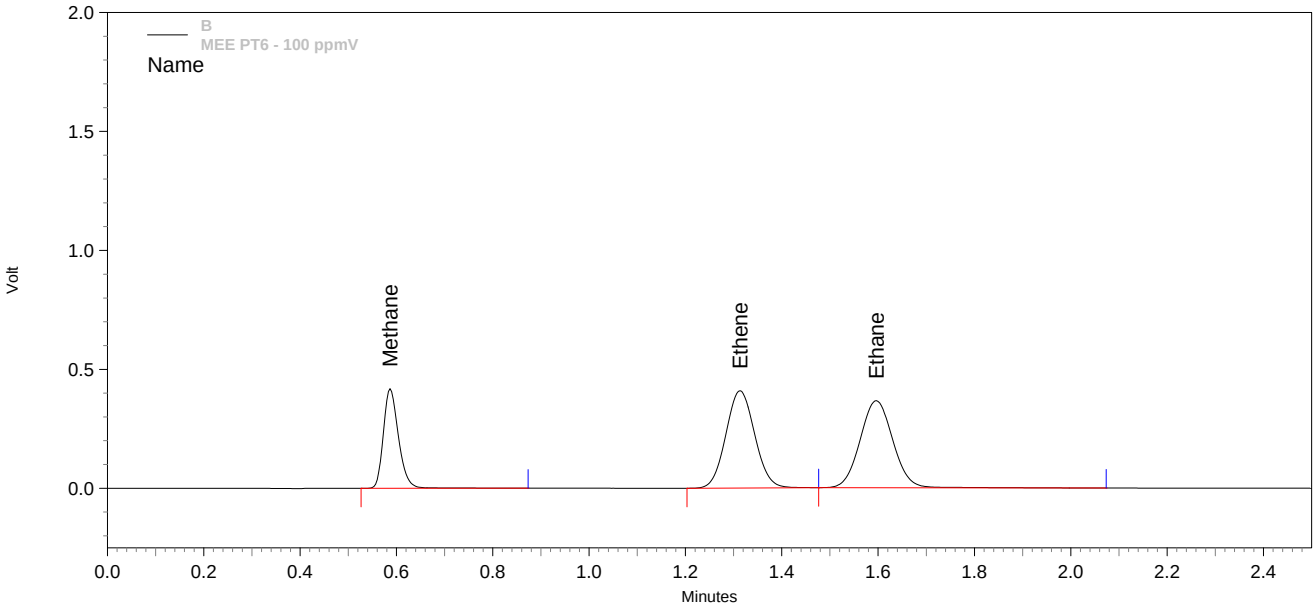
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	466265	**50.000 CAL**
2	Ethene	1.310	867023	**50.000 CAL**
3	Ethane	1.593	878485	**50.000 CAL**

Totals			2211773	**150.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Feb 03, 2015 10:48:29
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



B Results

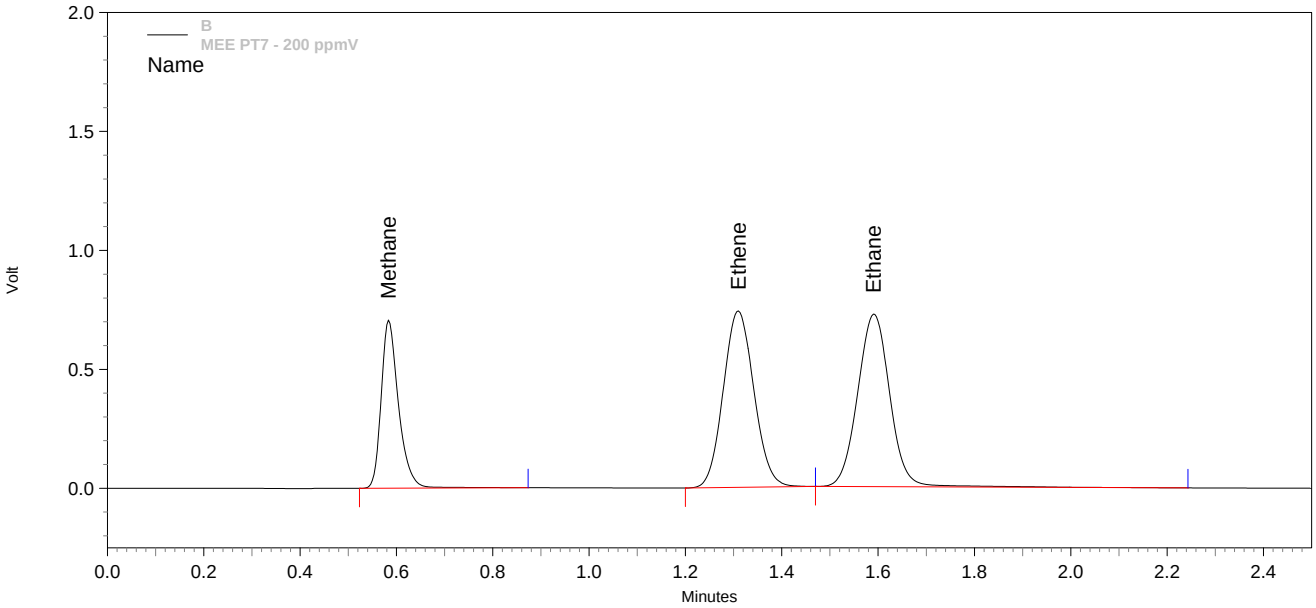
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	912807	**100.000 CAL**
2	Ethene	1.313	1696051	**100.000 CAL**
3	Ethane	1.597	1731517	**100.000 CAL**

Totals			4340375	**300.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Feb 03, 2015 10:52:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	1769205	**200.000 CAL**
2	Ethene	1.310	3275808	**200.000 CAL**
3	Ethane	1.590	3384539	**200.000 CAL**

Totals			8429552	**600.000 CAL**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020315DGIC.seq
User : AGK
Printed : Feb 11, 2015 14:43:24

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\020315icdg\008.dat	ICV - 50 ppmV	Feb 11, 2015 14:43:24

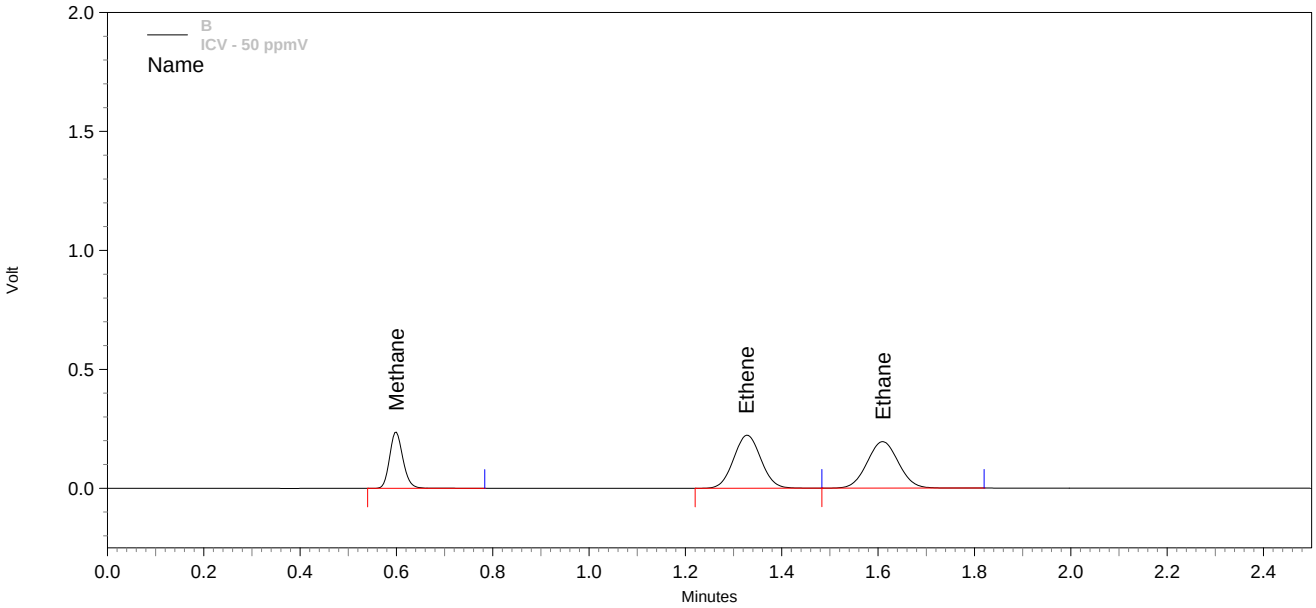
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.955	1.911	15.000	**Passed**
Ethene	50.000	53.018	6.036	15.000	**Passed**
Ethane	50.000	52.143	4.287	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICV - 50 ppmV
Acquired: Feb 03, 2015 11:02:07
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



B Results

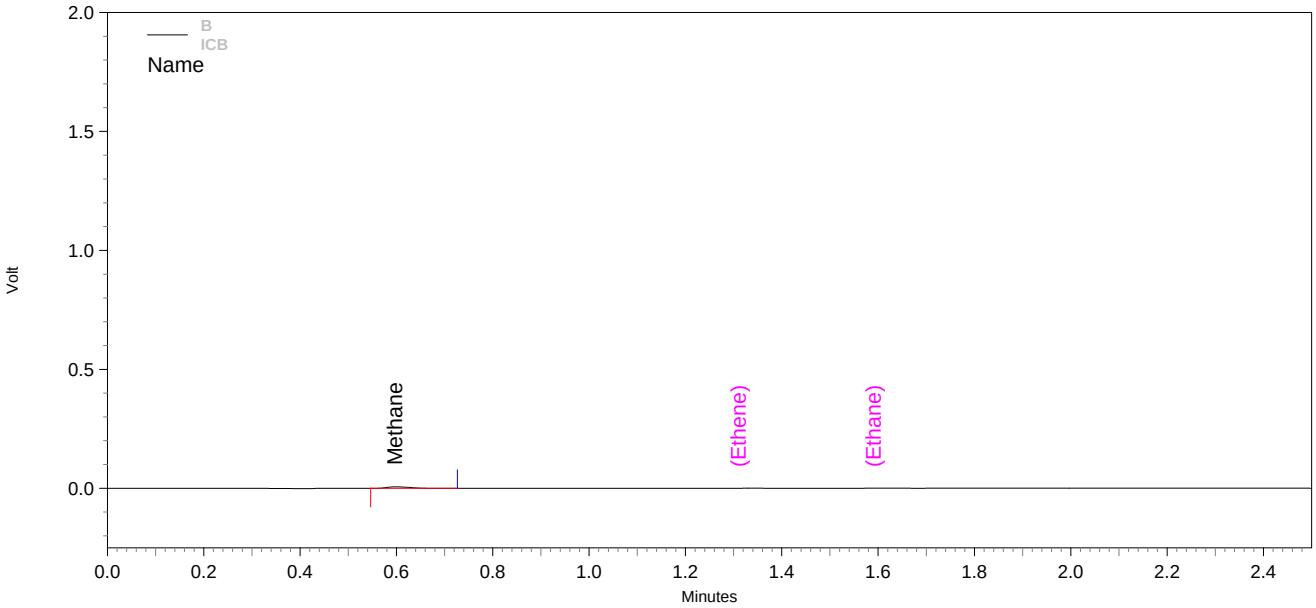
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	455191	**50.955**
2	Ethene	1.327	874641	**53.018**
3	Ethane	1.610	881181	**52.143**

Totals			2211013	**156.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICB
Acquired: Feb 03, 2015 11:19:15
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20063	**2.163**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20063	**2.163**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\INSTARCH\Data\JUL2017\BFB1.D Vial: 1
Acq On : 20 Jul 2017 9:52 Operator: AGK-RLD
Sample : 139958,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W071917.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.411 to 4.423 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	10390	PASS
75	95	30	60	50.5	29232	PASS
95	95	100	100	100.0	57928	PASS
96	95	5	9	7.2	4191	PASS
173	174	0.00	2	0.8	471	PASS
174	95	50	100	97.0	56178	PASS
175	174	5	9	6.4	3614	PASS
176	174	95	101	96.9	54437	PASS
177	176	5	9	7.1	3840	PASS

W071917.M Fri Jul 21 09:55:16 2017

49	PT	trichloroete	0.2714	0.2771	-2.10	104	0.00
50	PT	methylcyclohexane	0.5021	0.5364	-6.83	103	0.00
51	PT	12dicloropra	0.2710	0.2678	1.18	103	0.00
52	T	23Dicl1propene	0.3674	0.3723	-1.33	107	0.00
53	T	Dibromometha	0.1663	0.1673	-0.60	108	0.00
54	T	methylmethacrylate	0.2171	0.2154	0.78	104	0.00
55	T	14dioxane	0.0008	0.0008#	0.00	121	0.00
56	PT	Bromodiclrma	0.3229	0.3276	-1.46	108	0.00
57	T	2Nitropropane	0.0768	0.0865	-12.63	118	0.00
58	T	2CLEVE	0.0288	0.0055#	80.90#	164	0.00
59	PT	c13dicloproe	0.3820	0.3852	-0.84	104	0.00
60	PT	4Meth2Pentan	0.3152	0.3424	-8.63	104	0.00
61	S	SURRd8Tolule	1.0095	1.0267	-1.70	103	0.00
62	PT	Toluene	0.6758	0.6907	-2.20	105	0.00
63	PT	t13Dicloprop	0.3229	0.3174	1.70	104	0.00
64	T	ethylmethacrylate	0.3325	0.3460	-4.06	106	0.00
65	PT	112Triclotha	0.2083	0.2109	-1.25	106	0.00
66	PT	Tetrachlorte	0.3314	0.3403	-2.69	104	0.00
67	T	13Diclorpropa	0.4140	0.4151	-0.27	102	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	103	0.00
69	PT	2Hexanone	0.2897	0.2926	-1.00	99	0.00
70	PT	Clorodibrmta	0.3056	0.3106	-1.64	111	0.00
71	PT	12Dibrometha	0.3308	0.3288	0.60	108	0.00
72	PT	Chlorobenzen	0.9027	0.9045	-0.20	104	0.00
73	T	1Clhexane	0.4478	0.4441	0.83	105	0.00
74	T	1112Tetclota	0.3160	0.3157	0.09	106	0.00
75	PT	Ethylbenzene	1.4902	1.5486	-3.92	104	0.00
76	PT	m p-Xylene	0.5890	0.6084	-3.29	104	0.00
77	PT	o-Xylene	0.6040	0.6030	0.17	103	0.00
78	PT	Styrene	0.9214	0.9280	-0.72	104	0.00
79	PT	Bromoform	0.1956	0.2066	-5.62	113	0.00
80	PT	Isopropylben	1.4287	1.5085	-5.59	104	0.00
81	T	cyclohexanone	0.0035	0.0021#	40.00#	72	0.01
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	101	0.00
83	S	SURR4BrFBenz	0.8228	0.8476	-3.01	105	0.00
84	T	Bromobenzene	0.6921	0.7123	-2.92	104	0.00
85	PT	1122Tetrclta	0.8939	0.9312	-4.17	107	0.00
86	T	123Triclproa	0.9878	0.9745	1.35	108	0.00
87	T	14dichloro2butene	0.1390	0.1528	-9.93	126	0.00
88	T	n-Propylbenz	2.7700	3.0072	-8.56	103	0.00
89	T	2chlorotolue	1.7479	1.8503	-5.86	103	0.00
90	T	4chlorotolue	1.9364	2.0081	-3.70	103	0.00
91	T	135Trimebenz	2.0257	2.1270	-5.00	104	0.00
92	T	tbutylbenzen	1.7931	1.9153	-6.82	103	0.00
93	T	124Trimetben	1.9884	2.1096	-6.10	104	0.00
94	T	sbutylbenzen	2.4546	2.6562	-8.21	100	0.00
95	PT	13Diclorbenz	1.2496	1.2800	-2.43	102	0.00
96	T	pIsopropylto	2.0786	2.1833	-5.04	103	0.00
97	PT	14dichlorobe	1.2884	1.2781	0.80	104	0.00
98	PT	12dichlorobe	1.2082	1.2133	-0.42	103	0.00
99	T	nButylbenzen	1.7877	1.8983	-6.19	104	0.00
100	PT	12dibromo3cl	0.2225	0.2227	-0.09	106	-0.01
101	T	135Trichlorobenzene	0.8569	0.8719	-1.75	103	0.00
102	PT	124Trichlobe	0.7256	0.7190	0.91	102	0.00
103	T	Hexachlorobu	0.3855	0.3771	2.18	99	0.00
104	T	Naphthalene	1.7494	1.7537	-0.25	97	0.00
105	T	123Trichlben	0.6741	0.6616	1.85	101	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W071917.M Fri Jul 21 09:58:09 2017

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 10:57:21 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	102	0.00
2	PT	Dichlorodi	0.3002	0.3205	-6.76	104	0.00
3	PT	Chloromethan	0.3381	0.3453	-2.13	106	0.00
4	PT	VinylChlorid	0.3033	0.3176	-4.71	100	0.00
5	PT	Bromomethane	0.1680	0.1735	-3.27	104	0.00
6	PT	Chloroethane	0.2182	0.2096	3.94	97	0.00
7	T	Dichloroflmethane	0.4505	0.4672	-3.71	102	0.00
8	PT	Trichlorofma	0.3942	0.4080	-3.50	101	0.00
9	T	Ethylether	0.1886	0.1870	0.85	108	0.00
10	T	dichlorotfluoroethan	0.2877	0.2980	-3.58	102	0.00
11	T	propyleneoxide	0.0441	0.0414	6.12	98	0.00
12	T	Acrolein	0.0735	0.0767	-4.35	108	0.00
13	PT	11dichlorthe	0.2434	0.2471	-1.52	103	0.00
14	PT	Trichlorotfluoroeth	0.2221	0.2291	-3.15	101	0.00
15	PT	Acetone	0.1339	0.1338	0.07	102	0.00
16	T	Iodomethane	0.2594	0.2558	1.39	104	0.00
17	PT	Carbon Dislf	0.5157	0.5942	-15.22	113	0.00
18	T	allylchloride	0.3053	0.3283	-7.53	105	0.00
19	PT	methylacetate	0.0689	0.0639#	7.26	100	0.00
20	PT	Methylchlorid	0.2733	0.2735	-0.07	104	0.00
21	T	tbutylalcohol	0.0374	0.0379	-1.34	108	-0.01
22	T	Acrylonitrile	0.1055	0.1091	-3.41	110	0.00
23	PT	t12dichlorte	0.2598	0.2630	-1.23	103	0.00
24	PT	MtBE	0.6813	0.6990	-2.60	105	0.00
25	T	Hexane	0.3669	0.3668	0.03	97	0.00
26	PT	11dichlorota	0.4449	0.4542	-2.09	102	0.00
27	T	Vinylacetate	0.4022	0.4430	-10.14	111	0.00
28	T	chloroprene	0.3874	0.4048	-4.49	101	0.00
29	T	Diisopether	0.7381	0.7453	-0.98	102	0.00
30	T	ETBE	0.6473	0.6612	-2.15	108	0.00
31	T	22dichloropr	0.3452	0.3345	3.10	104	0.00
32	PT	c12dichlorte	0.2800	0.2870	-2.50	102	0.00
33	PT	2Butanone	0.0497	0.0520#	-4.63	103	0.00
34	T	propionitrile	0.0448	0.0462	-3.12	105	0.00
35	T	Ethylacetate	0.0155	0.0159#	-2.58	104	0.00
36	T	methacrylonitrile	0.1475	0.1552	-5.22	106	0.00
37	T	Bromochlorma	0.1363	0.1310	3.89	102	0.00
38	T	Tetrahydofur	0.1533	0.1417	7.57	107	0.00
39	PT	Chloroform	0.4560	0.4566	-0.13	103	0.00
40	PT	111trichlota	0.4123	0.4239	-2.81	106	0.00
41	S	SURRDibrflma	0.2533	0.2567	-1.34	103	0.00
42	PT	Cyclohexane	0.4093	0.4300	-5.06	103	0.00
43	PT	Carbtetraclo	0.3147	0.3377	-7.31	110	0.00
44	T	11dicloprope	0.1361	0.1345	1.18	103	0.00
45	S	SURR12DCAd4	0.0713	0.0719	-0.84	101	0.00
46	PT	Benzene	1.0507	1.0709	-1.92	102	0.00
47	PT	12dichlorota	0.3247	0.3222	0.77	102	0.00
48	T	TAME	0.6606	0.6683	-1.17	108	0.00

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 10:57:21 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	102	0.00
2	PT	Dichlorodi	10.0000	10.6752	-6.75	104	0.00
3	PT	Chloromethan	10.0000	10.2131	-2.13	106	0.00
4	PT	VinylChlorid	10.0000	10.4724	-4.72	100	0.00
5	PT	Bromomethane	10.0000	10.3267	-3.27	104	0.00
6	PT	Chloroethane	10.0000	9.6041	3.96	97	0.00
7	T	Dichloroflmethane	10.0000	10.3708	-3.71	102	0.00
8	PT	Trichlorofma	10.0000	10.3488	-3.49	101	0.00
9	T	Ethylether	10.0000	9.9140	0.86	108	0.00
10	T	dichlorotfluoroethan	10.0000	10.3569	-3.57	102	0.00
11	T	propyleneoxide	100.0000	93.8456	6.15	98	0.00
12	T	Acrolein	50.0000	52.1897	-4.38	108	0.00
13	PT	11dichlorthe	10.0000	10.1515	-1.52	103	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.6307	-3.15	101	0.00
15	PT	Acetone	100.0000	99.9071	0.09	102	0.00
16	T	Iodomethane	20.0000	19.7223	1.39	104	0.00
17	PT	Carbon Dislf	20.0000	23.0436	-15.22	113	0.00
18	T	allylchloride	20.0000	21.5051	-7.53	105	0.00
19	PT	methylacetate	10.0000	9.2727	7.27	100	0.00
20	PT	Methylchlorid	10.0000	10.0051	-0.05	104	0.00
21	T	tbutylalcohol	500.0000	506.8864	-1.38	108	-0.01
22	T	Acrylonitrile	50.0000	51.7454	-3.49	110	0.00
23	PT	t12dichlorte	10.0000	10.1261	-1.26	103	0.00
24	PT	MtBE	10.0000	10.2593	-2.59	105	0.00
25	T	Hexane	20.0000	19.9931	0.03	97	0.00
26	PT	11dichlorota	10.0000	10.2093	-2.09	102	0.00
27	T	Vinylacetate	100.0000	110.1416	-10.14	111	0.00
28	T	chloroprene	20.0000	20.8988	-4.49	101	0.00
29	T	Diisopether	10.0000	10.0974	-0.97	102	0.00
30	T	ETBE	10.0000	10.2157	-2.16	108	0.00
31	T	22dichloropr	10.0000	9.6919	3.08	104	0.00
32	PT	c12dichlorte	10.0000	10.2496	-2.50	102	0.00
33	PT	2Butanone	100.0000	104.5869	-4.59	103	0.00
34	T	propionitrile	100.0000	103.1202	-3.12	105	0.00
35	T	Ethylacetate	50.0000	51.3387	-2.68	104	0.00
36	T	methacrylonitrile	20.0000	21.0456	-5.23	106	0.00
37	T	Bromochlorma	10.0000	9.6142	3.86	102	0.00
38	T	Tetrahydofur	100.0000	104.9291	-4.93	107	0.00
39	PT	Chloroform	10.0000	10.0134	-0.13	103	0.00
40	PT	111trichlota	10.0000	10.2817	-2.82	106	0.00
41	S	SURRDibrflma	20.0000	20.2678	-1.34	103	0.00
42	PT	Cyclohexane	10.0000	10.5060	-5.06	103	0.00
43	PT	Carbtetraclo	10.0000	10.7319	-7.32	110	0.00
44	T	11dicloprope	10.0000	9.8802	1.20	103	0.00
45	S	SURR12DCAd4	20.0000	20.1547	-0.77	101	0.00
46	PT	Benzene	10.0000	10.1924	-1.92	102	0.00
47	PT	12dichlorota	10.0000	9.9223	0.78	102	0.00
48	T	TAME	10.0000	10.1165	-1.17	108	0.00

49	PT	trichloroete	10.0000	10.2087	-2.09	104	0.00
50	PT	methylcyclohexane	10.0000	10.6833	-6.83	103	0.00
51	PT	12dicloropra	10.0000	9.8848	1.15	103	0.00
52	T	23Dicl1propene	10.0000	10.1345	-1.34	107	0.00
53	T	Dibromometha	10.0000	10.0582	-0.58	108	0.00
54	T	methylmethacrylate	10.0000	9.9196	0.80	104	0.00
55	T	14dioxane	500.0000	453.7510	9.25	121	0.00
56	PT	Bromodiclrma	10.0000	10.1458	-1.46	108	0.00
57	T	2Nitropropane	100.0000	103.0969	-3.10	118	0.00
58	T	2CLEVE	50.0000	32.3409	35.32#	164	0.00
59	PT	c13dicloproe	10.0000	10.0836	-0.84	104	0.00
60	PT	4Meth2Pentan	100.0000	108.6585	-8.66	104	0.00
61	S	SURRd8Tolule	20.0000	20.3405	-1.70	103	0.00
62	PT	Toluene	10.0000	10.2204	-2.20	105	0.00
63	PT	t13Dicloprop	10.0000	9.8300	1.70	104	0.00
64	T	ethylmethacrylate	20.0000	20.8134	-4.07	106	0.00
65	PT	112Triclotha	10.0000	10.1239	-1.24	106	0.00
66	PT	Tetrachlorte	10.0000	10.2684	-2.68	104	0.00
67	T	13Diclorpropa	10.0000	10.0259	-0.26	102	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	103	0.00
69	PT	2Hexanone	100.0000	101.0138	-1.01	99	0.00
70	PT	Clorodibrmta	10.0000	10.1652	-1.65	111	0.00
71	PT	12Dibrometha	10.0000	9.9404	0.60	108	0.00
72	PT	Chlorobenzen	10.0000	10.0200	-0.20	104	0.00
73	T	1Clhexane	10.0000	9.9160	0.84	105	0.00
74	T	1112Tetclota	10.0000	9.9893	0.11	106	0.00
75	PT	Ethylbenzene	10.0000	10.3919	-3.92	104	0.00
76	PT	m p-Xylene	20.0000	20.6574	-3.29	104	0.00
77	PT	o-Xylene	10.0000	9.9836	0.16	103	0.00
78	PT	Styrene	10.0000	10.0716	-0.72	104	0.00
79	PT	Bromoform	10.0000	10.5620	-5.62	113	0.00
80	PT	Isopropylben	10.0000	10.5582	-5.58	104	0.00
81	T	cyclohexanone	200.0000	125.2292	37.39#	72	0.01
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	101	0.00
83	S	SURR4BrFBenz	20.0000	20.6027	-3.01	105	0.00
84	T	Bromobenzene	10.0000	10.2913	-2.91	104	0.00
85	PT	1122Tetrclta	10.0000	10.4172	-4.17	107	0.00
86	T	123Triclproa	10.0000	9.8654	1.35	108	0.00
87	T	14dichloro2butene	10.0000	11.3629	-13.63	126	0.00
88	T	n-Propylbenz	10.0000	10.8563	-8.56	103	0.00
89	T	2chlorotolue	10.0000	10.5857	-5.86	103	0.00
90	T	4chlorotolue	10.0000	10.3704	-3.70	103	0.00
91	T	135Trimebenz	10.0000	10.5001	-5.00	104	0.00
92	T	tbutylbenzen	10.0000	10.6820	-6.82	103	0.00
93	T	124Trimetben	10.0000	10.6092	-6.09	104	0.00
94	T	sbutylbenzen	10.0000	10.8211	-8.21	100	0.00
95	PT	13Diclorbenz	10.0000	10.2435	-2.43	102	0.00
96	T	pIsopropylto	10.0000	10.5034	-5.03	103	0.00
97	PT	14dichlorobe	10.0000	9.9203	0.80	104	0.00
98	PT	12dichlorobe	10.0000	10.0424	-0.42	103	0.00
99	T	nButylbenzen	10.0000	10.6187	-6.19	104	0.00
100	PT	12dibromo3cl	10.0000	10.0088	-0.09	106	-0.01
101	T	135Trichlorobenzene	10.0000	10.1743	-1.74	103	0.00
102	PT	124Trichlobe	10.0000	9.9093	0.91	102	0.00
103	T	Hexachlorobu	10.0000	9.7829	2.17	99	0.00
104	T	Naphthalene	10.0000	10.0244	-0.24	97	0.00
105	T	123Trichlben	10.0000	9.8157	1.84	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071917.M Tue Jul 25 13:35:57 2017

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1441590	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1151172	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	652963	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	370025	20.268	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.06	102	103633	20.155	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.50	98	1480056	20.341	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.03	95	553473	20.603	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	231000	10.6752	ug/L	99
3) Chloromethan	1.99	50	248901	10.2131	ug/L	98
4) VinylChlorid	2.14	62	228927	10.4724	ug/L	98
5) Bromomethane	2.59	94	125023	10.3267	ug/L	100
6) Chloroethane	2.74	64	151044	9.6041	ug/L	96
7) Dichloroflmethane	3.04	67	336728	10.3708	ug/L	99
8) Trichlorofma	3.12	101	294085	10.3488	ug/L	97
9) Ethylether	3.55	59	134786	9.9140	ug/L	98
10) dichlorotfluoroethan	3.56	67	214771	10.3569	ug/L	98
11) propyleneoxide	3.89	58	298169	93.8456	ug/L	95
12) Acrolein	3.69	56	276405	52.1897	ug/L	100
13) 11dichlorthe	3.82	96	178121	10.1515	ug/L	97
14) Trichlorotfluoroeth	3.86	101	330287	20.6307	ug/L	97
15) Acetone	3.89	43	964070	99.9071	ug/L	98
16) Iodomethane	3.99	142	368818	19.7223	ug/L	99
17) Carbon Dislf	4.09	76	856644	23.0436	ug/L	100
18) allylchloride	4.30	41	473226	21.5051	ug/L	99
19) methylacetate	4.37	74	46062	9.2727	ug/L	96
20) Methylchlorid	4.45	84	197107	10.0051	ug/L	98
21) tbutylalcohol	4.68	59	1365351	506.8864	ug/L	99
22) Acrylonitrile	4.76	53	393344	51.7454	ug/L	97
23) t12dichlorte	4.82	96	189597	10.1261	ug/L	98
24) MtBE	4.85	73	503827	10.2593	ug/L	99
25) Hexane	5.22	57	528763	19.9931	ug/L	99
26) 11dichlorota	5.34	63	327388	10.2093	ug/L	100
27) Vinylacetate	5.44	43	3193343	110.1416	ug/L	100
28) chloroprene	5.48	53	583497	20.8988	ug/L	100
29) Diisopether	5.49	45	537202	10.0974	ug/L	100
30) ETBE	5.94	59	476613	10.2157	ug/L	99
31) 22dichloropr	6.07	77	241121	9.6919	ug/L	98
32) c12dichlorte	6.07	96	206882	10.2496	ug/L	98
33) 2Butanone	6.10	72	374537	104.5869	ug/L	98
34) propionitrile	6.14	54	333142	103.1202	ug/L	99
35) Ethylacetate	6.21	88	57275	51.3387	ug/L	96
36) methacrylonitrile	6.33	67	223804	21.0456	ug/L	98
37) Bromochlorma	6.35	128	94420	9.6142	ug/L	98
38) Tetrahydofur	6.44	42	1021075	104.9291	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.46	83	329102	10.0134	ug/L	99
40)	111trichlota	6.70	97	305578	10.2817	ug/L	99
42)	Cyclohexane	6.80	56	309969	10.5060	ug/L	98
43)	Carbtetraclo	6.92	119	243433	10.7319	ug/L	100
44)	11dicloprope	6.91	110	96925	9.8802	ug/L	99
46)	Benzene	7.15	78	771930	10.1924	ug/L	99
47)	12dichlorota	7.15	62	232228	9.9223	ug/L	96
48)	TAME	7.32	73	481692	10.1165	ug/L	100
49)	trichloroete	7.96	95	199723	10.2087	ug/L	98
50)	methylcyclohexane	8.23	83	386634	10.6833	ug/L	99
51)	12dicloropra	8.21	63	193052	9.8848	ug/L	99
52)	23Dicl1propene	8.28	75	268350	10.1345	ug/L	100
53)	Dibromometha	8.35	93	120567	10.0582	ug/L	96
54)	methylmethacrylate	8.40	69	155254	9.9196	ug/L	97
55)	14dioxane	8.46	88	29357	453.7510	ug/L #	17
56)	Bromodiclrma	8.55	83	236148	10.1458	ug/L	97
57)	2Nitropropane	8.81	43	623621	103.0969	ug/L	98
58)	2CLEVE	8.95	63	19795	32.3409	ug/L	86
59)	c13dicloproe	9.13	75	277641	10.0836	ug/L	97
60)	4Meth2Pentan	9.35	43	2468288	108.6585	ug/L	99
62)	Toluene	9.58	92	497855	10.2204	ug/L	97
63)	t13Dicloprop	9.84	75	228790	9.8300	ug/L	97
64)	ethylmethacrylate	10.00	69	498853	20.8134	ug/L	99
65)	112Triclotha	10.07	83	152028	10.1239	ug/L	98
66)	Tetrachlorte	10.31	166	245273	10.2684	ug/L	98
67)	13Diclorpropa	10.29	76	299171	10.0259	ug/L	99
69)	2Hexanone	10.45	43	1684143	101.0138	ug/L	99
70)	Clorodibrmta	10.60	129	178799	10.1652	ug/L	99
71)	12Dibrometha	10.74	107	189240	9.9404	ug/L	98
72)	Chlorobenzen	11.44	112	520641	10.0200	ug/L	99
73)	1Clhexane	11.42	91	255591	9.9160	ug/L	99
74)	1112Tetclota	11.54	131	181691	9.9893	ug/L	98
75)	Ethylbenzene	11.60	91	891349	10.3919	ug/L	99
76)	m p-Xylene	11.76	106	700341	20.6574	ug/L	97
77)	o-Xylene	12.31	106	347071	9.9836	ug/L	98
78)	Styrene	12.32	104	534151	10.0716	ug/L	99
79)	Bromoform	12.54	173	118915	10.5620	ug/L	97
80)	Isopropylben	12.83	105	868255	10.5582	ug/L	100
81)	cyclohexanone	12.93	55	24009	125.2292	ug/L #	86
84)	Bromobenzene	13.24	156	232538	10.2913	ug/L	98
85)	1122Tetrclta	13.21	83	304008	10.4172	ug/L	99
86)	123Triclproa	13.26	75	318157	9.8654	ug/L	98
87)	14dichloro2butene	13.29	53	49900	11.3629	ug/L	98
88)	n-Propylbenz	13.41	91	981796	10.8563	ug/L	100
89)	2chlorotolue	13.52	91	604078	10.5857	ug/L	99
90)	4chlorotolue	13.68	91	655621	10.3704	ug/L	99
91)	135Trimebenz	13.68	105	694416	10.5001	ug/L	98
92)	tbutylbenzen	14.14	119	625322	10.6820	ug/L	98
93)	124Trimetben	14.21	105	688731	10.6092	ug/L	99
94)	sbutylbenzen	14.45	105	867189	10.8211	ug/L	100
95)	13Diclorbenz	14.59	146	417893	10.2435	ug/L	99
96)	pIsopropylto	14.67	119	712802	10.5034	ug/L	100
97)	14dichlorobe	14.72	146	417280	9.9203	ug/L	99
98)	12dichlorobe	15.25	146	396127	10.0424	ug/L	99
99)	nButylbenzen	15.27	91	619759	10.6187	ug/L	98
100)	12dibromo3cl	16.35	157	72693	10.0088	ug/L	95
101)	135Trichlorobenzene	16.69	180	284655	10.1743	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	234737	9.9093	ug/L	99
103) Hexachlorobu	17.76	225	123121	9.7829	ug/L	98
104) Naphthalene	17.81	128	572550	10.0244	ug/L	100
105) 123Trichlben	18.12	180	216016	9.8157	ug/L	97

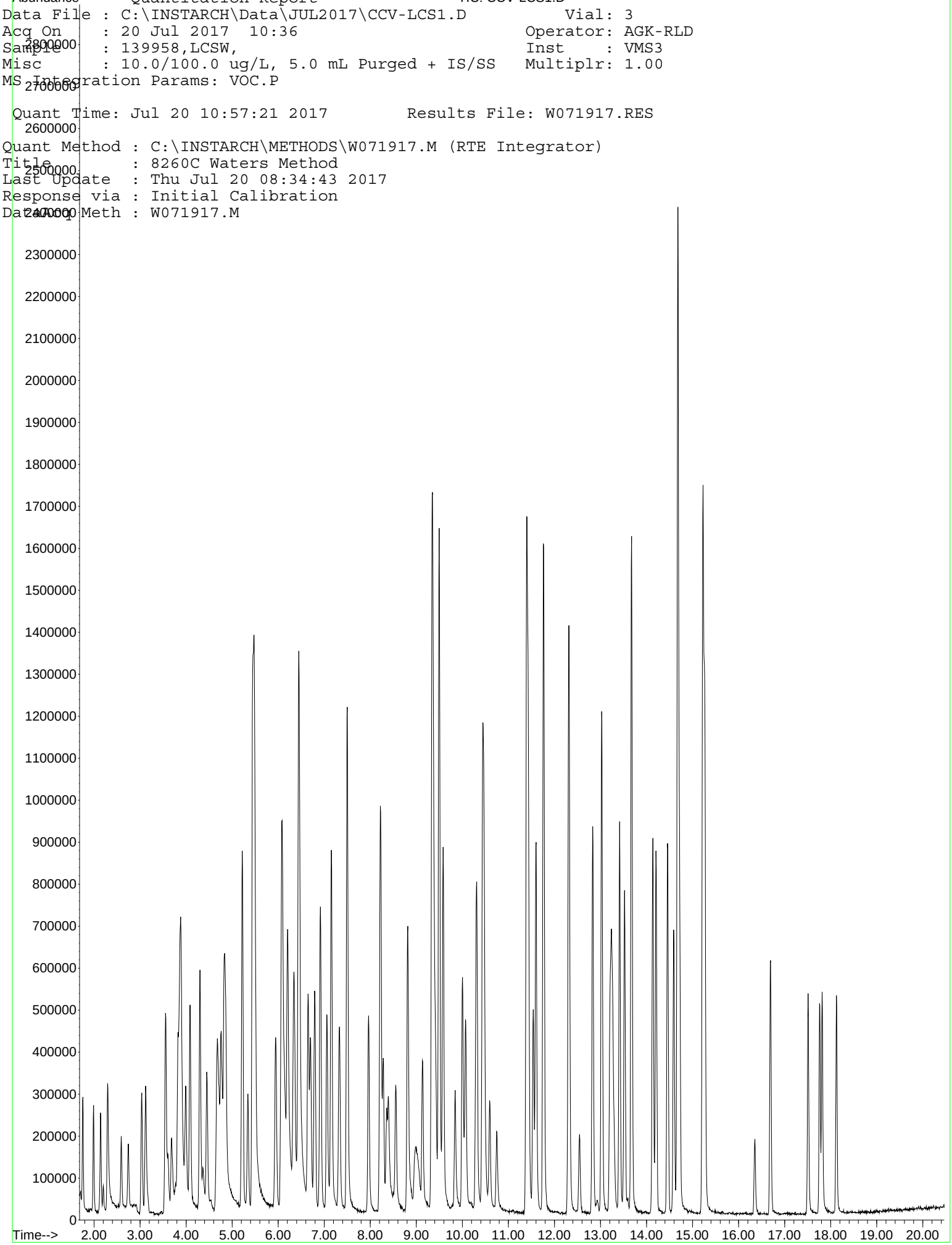
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
Data Meth : W071917.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL2017\CCVF1.D Vial: 24
Acq On : 20 Jul 2017 21:10 Operator: AGK-RLD
Sample : 139958,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 21:30:52 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	112	0.00
2	PT	Dichlorodi	0.3002	0.2950	1.73	106	0.00
3	PT	Chloromethan	0.3381	0.3606	-6.65	122	0.00
4	PT	VinylChlorid	0.3033	0.3067	-1.12	107	0.00
5	PT	Bromomethane	0.1680	0.1287	23.39	85	0.00
6	PT	Chloroethane	0.2182	0.1772	18.79	91	0.00
7	T	Dichloroflmethane	0.4505	0.4413	2.04	107	0.00
8	PT	Trichlorofma	0.3942	0.3999	-1.45	110	0.00
9	T	Ethylether	0.1886	0.1905	-1.01	121	0.00
10	T	dichlorotfluoroethan	0.2877	0.2936	-2.05	111	0.00
11	T	propyleneoxide	0.0441	0.0411	6.80	108	0.00
12	T	Acrolein	0.0735	0.0638	13.20	99	-0.01
13	PT	11dichlorthe	0.2434	0.2560	-5.18	118	0.00
14	PT	Trichlorotfluoroeth	0.2221	0.2278	-2.57	111	0.00
15	PT	Acetone	0.1339	0.1236	7.69	104	0.00
16	T	Iodomethane	0.2594	0.2458	5.24	111	0.00
17	PT	Carbon Dislf	0.5157	0.5688	-10.30	119	0.00
18	T	allylchloride	0.3053	0.3152	-3.24	111	0.00
19	PT	methylacetate	0.0689	0.0660#	4.21	114	-0.01
20	PT	Methylchlorid	0.2733	0.2773	-1.46	117	0.00
21	T	tbutylalcohol	0.0374	0.0429	-14.71	135	-0.02
22	T	Acrylonitrile	0.1055	0.1065	-0.95	118	0.00
23	PT	t12dichlorte	0.2598	0.2673	-2.89	116	0.00
24	PT	MtBE	0.6813	0.6908	-1.39	115	0.00
25	T	Hexane	0.3669	0.3604	1.77	105	0.00
26	PT	11dichlorota	0.4449	0.4553	-2.34	113	0.00
27	T	Vinylacetate	0.4022	0.3999	0.57	111	0.00
28	T	chloroprene	0.3874	0.3827	1.21	106	0.00
29	T	Diisopether	0.7381	0.7471	-1.22	113	0.00
30	T	ETBE	0.6473	0.6589	-1.79	119	0.00
31	T	22dichloropr	0.3452	0.2847	17.53	97	0.00
32	PT	c12dichlorte	0.2800	0.2896	-3.43	114	0.00
33	PT	2Butanone	0.0497	0.0536#	-7.85	117	-0.01
34	T	propionitrile	0.0448	0.0489	-9.15	123	-0.01
35	T	Ethylacetate	0.0155	0.0182#	-17.42	132	0.00
36	T	methacrylonitrile	0.1475	0.1633	-10.71	123	0.00
37	T	Bromochlorma	0.1363	0.1367	-0.29	117	0.00
38	T	Tetrahydofur	0.1533	0.1389	9.39	115	-0.01
39	PT	Chloroform	0.4560	0.4498	1.36	112	0.00
40	PT	111trichlota	0.4123	0.4093	0.73	113	0.00
41	S	SURRDibrflma	0.2533	0.2476	2.25	109	0.00
42	PT	Cyclohexane	0.4093	0.4273	-4.40	113	0.00
43	PT	Carbtetraclo	0.3147	0.3152	-0.16	114	0.00
44	T	11dicloprope	0.1361	0.1393	-2.35	118	0.00
45	S	SURR12DCAd4	0.0713	0.0721	-1.12	112	0.00
46	PT	Benzene	1.0507	1.1172	-6.33	118	0.00
47	PT	12dichlorota	0.3247	0.3102	4.47	109	0.00
48	T	TAME	0.6606	0.7219	-9.28	128	0.00

49	PT	trichloroete	0.2714	0.2903	-6.96	120	0.00	
50	PT	methylcyclohexane	0.5021	0.5282	-5.20	112	0.00	
51	PT	12dicloropra	0.2710	0.2800	-3.32	119	0.00	
52	T	23Dicl1propene	0.3674	0.3753	-2.15	119	0.00	
53	T	Dibromometha	0.1663	0.1621	2.53	115	0.00	
54	T	methylmethacrylate	0.2171	0.2304	-6.13	123	0.00	
55	T	14dioxane	0.0008	0.0011#	-37.50	189	-0.02	
56	PT	Bromodiclrma	0.3229	0.3090	4.30	112	0.00	
57	T	2Nitropropane	0.0768	0.0635	17.32	96	0.00	
58	T	2CLEVE	0.0288	0.0078#	72.92#	256#	0.00	
59	PT	c13dicloproe	0.3820	0.3717	2.70	111	0.00	
60	PT	4Meth2Pentan	0.3152	0.3358	-6.54	112	-0.01	
61	S	SURRd8Tolule	1.0095	1.0193	-0.97	113	0.00	
62	PT	Toluene	0.6758	0.7304	-8.08	123	0.00	
63	PT	t13Dicloprop	0.3229	0.3325	-2.97	120	0.00	
64	T	ethylmethacrylate	0.3325	0.4047	-21.71	137	0.00	
65	PT	112Triclotha	0.2083	0.2343	-12.48	130	0.00	
66	PT	Tetrachlorte	0.3314	0.3478	-4.95	117	0.00	
67	T	13Diclorpropa	0.4140	0.4652	-12.37	126	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	110	0.00	
69	PT	2Hexanone	0.2897	0.3369	-16.29	122	-0.01	
70	PT	Clorodibrmta	0.3056	0.2990	2.16	114	0.00	
71	PT	12Dibrometha	0.3308	0.3545	-7.16	124	0.00	
72	PT	Chlorobenzen	0.9027	0.9358	-3.67	115	0.00	
73	T	1Clhexane	0.4478	0.4694	-4.82	118	0.00	
74	T	1112Tetclota	0.3160	0.3152	0.25	113	0.00	
75	PT	Ethylbenzene	1.4902	1.6833	-12.96	121	0.00	
76	PT	m p-Xylene	0.5890	0.6421	-9.02	117	0.00	
77	PT	o-Xylene	0.6040	0.6422	-6.32	117	0.00	
78	PT	Styrene	0.9214	0.9989	-8.41	119	0.00	
79	PT	Bromoform	0.1956	0.1610	17.69	94	0.00	
80	PT	Isopropylben	1.4287	1.5644	-9.50	115	0.00	
81	T	cyclohexanone	0.0035	0.0036#	-2.86	132	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	108	0.00	
83	S	SURR4BrFBenz	0.8228	0.8668	-5.35	116	0.00	
84	T	Bromobenzene	0.6921	0.7403	-6.96	116	0.00	
85	PT	1122Tetrclta	0.8939	0.9220	-3.14	114	0.00	
86	T	123Triclproa	0.9878	0.9302	5.83	111	0.00	
87	T	14dichloro2butene	0.1390	0.0856	38.42	76	0.00	
88	T	n-Propylbenz	2.7700	3.1674	-14.35	116	0.00	
89	T	2chlorotolue	1.7479	1.9008	-8.75	114	0.00	
90	T	4chlorotolue	1.9364	2.1267	-9.83	118	0.00	
91	T	135Trimebenz	2.0257	2.2613	-11.63	119	0.00	
92	T	tbutylbenzen	1.7931	1.9693	-9.83	114	0.00	
93	T	124Trimetben	1.9884	2.2487	-13.09	119	0.00	
94	T	sbutylbenzen	2.4546	2.8296	-15.28	115	0.00	
95	PT	13Diclorbenz	1.2496	1.3483	-7.90	115	0.00	
96	T	pIsopropylto	2.0786	2.3111	-11.19	117	0.00	
97	PT	14dichlorobe	1.2884	1.3074	-1.47	114	0.00	
98	PT	12dichlorobe	1.2082	1.3685	-13.27	124	0.00	
99	T	nButylbenzen	1.7877	2.1085	-17.94	124	0.00	
100	PT	12dibromo3cl	0.2225	0.2034	8.58	104	0.00	
101	T	135Trichlorobenzene	0.8569	0.9077	-5.93	115	0.00	
102	PT	124Trichlobe	0.7256	0.7581	-4.48	115	0.00	
103	T	Hexachlorobu	0.3855	0.3973	-3.06	113	0.00	
104	T	Naphthalene	1.7494	1.9297	-10.31	115	0.00	
105	T	123Trichlben	0.6741	0.7077	-4.98	116	0.00	

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W071917.M Fri Jul 21 09:58:32 2017

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL2017\CCVF1.D Vial: 24
Acq On : 20 Jul 2017 21:10 Operator: AGK-RLD
Sample : 139958,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 20 21:30:52 2017

Quant Method : C:\INSTARCH\METHODS\W071917.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071917.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	112	0.00
2	PT	Dichlorodi	10.0000	9.8256	1.74	106	0.00
3	PT	Chloromethan	10.0000	10.6650	-6.65	122	0.00
4	PT	VinylChlorid	10.0000	10.1124	-1.12	107	0.00
5	PT	Bromomethane	10.0000	7.6626	23.37	85	0.00
6	PT	Chloroethane	10.0000	8.1191	18.81	91	0.00
7	T	Dichloroflmethane	10.0000	9.7960	2.04	107	0.00
8	PT	Trichlorofma	10.0000	10.1441	-1.44	110	0.00
9	T	Ethylether	10.0000	10.1000	-1.00	121	0.00
10	T	dichlorotfluoroethan	10.0000	10.2063	-2.06	111	0.00
11	T	propyleneoxide	100.0000	93.1562	6.84	108	0.00
12	T	Acrolein	50.0000	43.3965	13.21	99	-0.01
13	PT	11dichlorthe	10.0000	10.5174	-5.17	118	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.5081	-2.54	111	0.00
15	PT	Acetone	100.0000	92.3373	7.66	104	0.00
16	T	Iodomethane	20.0000	18.9445	5.28	111	0.00
17	PT	Carbon Dislf	20.0000	22.0565	-10.28	119	0.00
18	T	allylchloride	20.0000	20.6467	-3.23	111	0.00
19	PT	methylacetate	10.0000	9.5721	4.28	114	-0.01
20	PT	Methylchlorid	10.0000	10.1468	-1.47	117	0.00
21	T	tbutylalcohol	500.0000	573.6782	-14.74	135	-0.02
22	T	Acrylonitrile	50.0000	50.4802	-0.96	118	0.00
23	PT	t12dichlorte	10.0000	10.2908	-2.91	116	0.00
24	PT	MtBE	10.0000	10.1398	-1.40	115	0.00
25	T	Hexane	20.0000	19.6462	1.77	105	0.00
26	PT	11dichlorota	10.0000	10.2334	-2.33	113	0.00
27	T	Vinylacetate	100.0000	99.4169	0.58	111	0.00
28	T	chloroprene	20.0000	19.7614	1.19	106	0.00
29	T	Diisopether	10.0000	10.1218	-1.22	113	0.00
30	T	ETBE	10.0000	10.1795	-1.80	119	0.00
31	T	22dichloropr	10.0000	8.2472	17.53	97	0.00
32	PT	c12dichlorte	10.0000	10.3426	-3.43	114	0.00
33	PT	2Butanone	100.0000	107.7904	-7.79	117	-0.01
34	T	propionitrile	100.0000	109.1067	-9.11	123	-0.01
35	T	Ethylacetate	50.0000	58.8344	-17.67	132	0.00
36	T	methacrylonitrile	20.0000	22.1346	-10.67	123	0.00
37	T	Bromochlorma	10.0000	10.0322	-0.32	117	0.00
38	T	Tetrahydofur	100.0000	102.6250	-2.63	115	-0.01
39	PT	Chloroform	10.0000	9.8656	1.34	112	0.00
40	PT	111trichlota	10.0000	9.9262	0.74	113	0.00
41	S	SURRDibrflma	20.0000	19.5498	2.25	109	0.00
42	PT	Cyclohexane	10.0000	10.4397	-4.40	113	0.00
43	PT	Carbtetraclo	10.0000	10.0164	-0.16	114	0.00
44	T	11dicloprope	10.0000	10.2318	-2.32	118	0.00
45	S	SURR12DCAd4	20.0000	20.2154	-1.08	112	0.00
46	PT	Benzene	10.0000	10.6324	-6.32	118	0.00
47	PT	12dichlorota	10.0000	9.5534	4.47	109	0.00
48	T	TAME	10.0000	10.9289	-9.29	128	0.00

49	PT	trichloroete	10.0000	10.6947	-6.95	120	0.00
50	PT	methylcyclohexane	10.0000	10.5203	-5.20	112	0.00
51	PT	12dicloropra	10.0000	10.3329	-3.33	119	0.00
52	T	23Dicl1propene	10.0000	10.2157	-2.16	119	0.00
53	T	Dibromometha	10.0000	9.7469	2.53	115	0.00
54	T	methylmethacrylate	10.0000	10.6127	-6.13	123	0.00
55	T	14dioxane	500.0000	652.1145	-30.42	189	-0.02
56	PT	Bromodiclrma	10.0000	9.5697	4.30	112	0.00
57	T	2Nitropropane	100.0000	78.1198	21.88	96	0.00
58	T	2CLEVE	50.0000	35.8691	28.26	256	0.00
59	PT	c13dicloproe	10.0000	9.7294	2.71	111	0.00
60	PT	4Meth2Pentan	100.0000	106.5597	-6.56	112	-0.01
61	S	SURRd8Tolule	20.0000	20.1950	-0.98	113	0.00
62	PT	Toluene	10.0000	10.8081	-8.08	123	0.00
63	PT	t13Dicloprop	10.0000	10.2981	-2.98	120	0.00
64	T	ethylmethacrylate	20.0000	24.3419	-21.71	137	0.00
65	PT	112Triclotha	10.0000	11.2454	-12.45	130	0.00
66	PT	Tetrachlorte	10.0000	10.4940	-4.94	117	0.00
67	T	13Diclorpropa	10.0000	11.2382	-12.38	126	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	110	0.00
69	PT	2Hexanone	100.0000	116.3043	-16.30	122	-0.01
70	PT	Clorodibrmta	10.0000	9.7856	2.14	114	0.00
71	PT	12Dibrometha	10.0000	10.7172	-7.17	124	0.00
72	PT	Chlorobenzen	10.0000	10.3664	-3.66	115	0.00
73	T	1Clhexane	10.0000	10.4828	-4.83	118	0.00
74	T	1112Tetclota	10.0000	9.9732	0.27	113	0.00
75	PT	Ethylbenzene	10.0000	11.2956	-12.96	121	0.00
76	PT	m p-Xylene	20.0000	21.8032	-9.02	117	0.00
77	PT	o-Xylene	10.0000	10.6337	-6.34	117	0.00
78	PT	Styrene	10.0000	10.8414	-8.41	119	0.00
79	PT	Bromoform	10.0000	8.2311	17.69	94	0.00
80	PT	Isopropylben	10.0000	10.9499	-9.50	115	0.00
81	T	cyclohexanone	200.0000	206.0488	-3.02	132	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	108	0.00
83	S	SURR4BrFBenz	20.0000	21.0687	-5.34	116	0.00
84	T	Bromobenzene	10.0000	10.6965	-6.97	116	0.00
85	PT	1122Tetrclta	10.0000	10.3142	-3.14	114	0.00
86	T	123Triclproa	10.0000	9.4169	5.83	111	0.00
87	T	14dichloro2butene	10.0000	6.7947	32.05	76	0.00
88	T	n-Propylbenz	10.0000	11.4348	-14.35	116	0.00
89	T	2chlorotolue	10.0000	10.8751	-8.75	114	0.00
90	T	4chlorotolue	10.0000	10.9826	-9.83	118	0.00
91	T	135Trimebenz	10.0000	11.1632	-11.63	119	0.00
92	T	tbutylbenzen	10.0000	10.9832	-9.83	114	0.00
93	T	124Trimetben	10.0000	11.3088	-13.09	119	0.00
94	T	sbutylbenzen	10.0000	11.5275	-15.28	115	0.00
95	PT	13Diclorbenz	10.0000	10.7903	-7.90	115	0.00
96	T	pIsopropylto	10.0000	11.1182	-11.18	117	0.00
97	PT	14dichlorobe	10.0000	10.1479	-1.48	114	0.00
98	PT	12dichlorobe	10.0000	11.3267	-13.27	124	0.00
99	T	nButylbenzen	10.0000	11.7943	-17.94	124	0.00
100	PT	12dibromo3cl	10.0000	9.1452	8.55	104	0.00
101	T	135Trichlorobenzene	10.0000	10.5926	-5.93	115	0.00
102	PT	124Trichlobe	10.0000	10.4476	-4.48	115	0.00
103	T	Hexachlorobu	10.0000	10.3057	-3.06	113	0.00
104	T	Naphthalene	10.0000	11.0305	-10.31	115	0.00
105	T	123Trichlben	10.0000	10.4991	-4.99	116	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071917.M Fri Jul 21 09:58:45 2017

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCVF1.D Vial: 24
Acq On : 20 Jul 2017 21:10 Operator: AGK-RLD
Sample : 139958,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:30:52 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1591829	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1228044	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	701522	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	394114	19.550	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.06	102	114778	20.215	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.50	98	1622611	20.195	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.02	95	608085	21.069	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 105 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	234773	9.8256	ug/L	97
3) Chloromethan	1.99	50	287002	10.6650	ug/L	100
4) VinylChlorid	2.14	62	244094	10.1124	ug/L	99
5) Bromomethane	2.59	94	102438	7.6626	ug/L	98
6) Chloroethane	2.74	64	140997	8.1191	ug/L	98
7) Dichloroflmethane	3.04	67	351212	9.7960	ug/L	97
8) Trichlorofma	3.12	101	318310	10.1441	ug/L	98
9) Ethylether	3.55	59	151626	10.1000	ug/L	97
10) dichlorotfluoroethan	3.55	67	233705	10.2063	ug/L	96
11) propyleneoxide	3.89	58	326825	93.1562	ug/L	95
12) Acrolein	3.68	56	253788	43.3965	ug/L	96
13) 11dichlorthe	3.82	96	203775	10.5174	ug/L	93
14) Trichlorotfluoroeth	3.86	101	362541	20.5081	ug/L	98
15) Acetone	3.89	43	983884	92.3373	ug/L	98
16) Iodomethane	3.99	142	391195	18.9445	ug/L	98
17) Carbon Dislf	4.08	76	905402	22.0565	ug/L	99
18) allylchloride	4.30	41	501688	20.6467	ug/L	92
19) methylacetate	4.36	74	52505	9.5721	ug/L	98
20) Methylchlorid	4.45	84	220730	10.1468	ug/L	98
21) tbutylalcohol	4.67	59	1706305	573.6782	ug/L	97
22) Acrylonitrile	4.76	53	423718	50.4802	ug/L	97
23) t12dichlorte	4.82	96	212760	10.2908	ug/L	100
24) MtBE	4.85	73	549852	10.1398	ug/L	95
25) Hexane	5.22	57	573736	19.6462	ug/L	100
26) 11dichlorota	5.34	63	362362	10.2334	ug/L	98
27) Vinylacetate	5.44	43	3182796	99.4169	ug/L	98
28) chloroprene	5.48	53	609243	19.7614	ug/L	94
29) Diisopether	5.49	45	594620	10.1218	ug/L	97
30) ETBE	5.94	59	524416	10.1795	ug/L	99
31) 22dichloropr	6.07	77	226562	8.2472	ug/L	98
32) c12dichlorte	6.07	96	230515	10.3426	ug/L	95
33) 2Butanone	6.08	72	426238	107.7904	ug/L	99
34) propionitrile	6.13	54	389217	109.1067	ug/L	98
35) Ethylacetate	6.21	88	72478	58.8344	ug/L	96
36) methacrylonitrile	6.33	67	259917	22.1346	ug/L	96
37) Bromochlorma	6.35	128	108793	10.0322	ug/L	98
38) Tetrahydofur	6.44	42	1105719	102.6250	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCVF1.D Vial: 24
Acq On : 20 Jul 2017 21:10 Operator: AGK-RLD
Sample : 139958,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:30:52 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.46	83	358034	9.8656	ug/L	99
40)	111trichlota	6.70	97	325757	9.9262	ug/L	97
42)	Cyclohexane	6.80	56	340112	10.4397	ug/L	98
43)	Carbtetraclo	6.92	119	250883	10.0164	ug/L	99
44)	11dicloprope	6.91	110	110836	10.2318	ug/L	97
46)	Benzene	7.15	78	889172	10.6324	ug/L	98
47)	12dichlorota	7.15	62	246895	9.5534	ug/L	97
48)	TAME	7.33	73	574608	10.9289	ug/L	99
49)	trichloroete	7.96	95	231037	10.6947	ug/L	98
50)	methylcyclohexane	8.23	83	420412	10.5203	ug/L	98
51)	12dicloropra	8.21	63	222833	10.3329	ug/L	97
52)	23Dicl1propene	8.28	75	298692	10.2157	ug/L	99
53)	Dibromometha	8.36	93	129012	9.7469	ug/L	97
54)	methylmethacrylate	8.40	69	183413	10.6127	ug/L	98
55)	14dioxane	8.44	88	45629	652.1145	ug/L	83
56)	Bromodiclrma	8.55	83	245953	9.5697	ug/L	96
57)	2Nitropropane	8.81	43	505101	78.1198	ug/L	94
58)	2CLEVE	8.96	63	30881	35.8691	ug/L	87
59)	c13dicloproe	9.14	75	295807	9.7294	ug/L	98
60)	4Meth2Pentan	9.34	43	2672881	106.5597	ug/L	97
62)	Toluene	9.58	92	581350	10.8081	ug/L	96
63)	t13Dicloprop	9.84	75	264666	10.2981	ug/L	98
64)	ethylmethacrylate	10.00	69	644229	24.3419	ug/L	98
65)	112Triclotha	10.07	83	186467	11.2454	ug/L	97
66)	Tetrachlorte	10.31	166	276785	10.4940	ug/L	99
67)	13Diclorpropa	10.29	76	370295	11.2382	ug/L	100
69)	2Hexanone	10.44	43	2068558	116.3043	ug/L	96
70)	Clorodibrmta	10.59	129	183616	9.7856	ug/L	99
71)	12Dibrometha	10.75	107	217653	10.7172	ug/L	97
72)	Chlorobenzen	11.44	112	574610	10.3664	ug/L	99
73)	1Clhexane	11.42	91	288243	10.4828	ug/L	97
74)	1112Tetclota	11.54	131	193513	9.9732	ug/L	96
75)	Ethylbenzene	11.60	91	1033555	11.2956	ug/L	99
76)	m p-Xylene	11.76	106	788547	21.8032	ug/L	98
77)	o-Xylene	12.31	106	394355	10.6337	ug/L	98
78)	Styrene	12.32	104	613376	10.8414	ug/L	98
79)	Bromoform	12.54	173	98860	8.2311	ug/L	99
80)	Isopropylben	12.83	105	960596	10.9499	ug/L	99
81)	cyclohexanone	12.93	55	44190	206.0488	ug/L	94
84)	Bromobenzene	13.24	156	259668	10.6965	ug/L	97
85)	1122Tetrclta	13.21	83	323387	10.3142	ug/L	96
86)	123Triclproa	13.26	75	326279	9.4169	ug/L	94
87)	14dichloro2butene	13.30	53	30024	6.7947	ug/L	92
88)	n-Propylbenz	13.41	91	1111015	11.4348	ug/L	99
89)	2chlorotolue	13.52	91	666742	10.8751	ug/L	100
90)	4chlorotolue	13.68	91	745959	10.9826	ug/L	100
91)	135Trimebenz	13.68	105	793168	11.1632	ug/L	99
92)	tbutylbenzen	14.14	119	690770	10.9832	ug/L	97
93)	124Trimetben	14.21	105	788741	11.3088	ug/L	99
94)	sbutylbenzen	14.45	105	992505	11.5275	ug/L	100
95)	13Diclorbenz	14.59	146	472937	10.7903	ug/L	99
96)	pIsopropylto	14.67	119	810631	11.1182	ug/L	100
97)	14dichlorobe	14.72	146	458598	10.1479	ug/L	98
98)	12dichlorobe	15.25	146	480014	11.3267	ug/L	98
99)	nButylbenzen	15.27	91	739566	11.7943	ug/L	98
100)	12dibromo3cl	16.35	157	71360	9.1452	ug/L	93
101)	135Trichlorobenzene	16.69	180	318397	10.5926	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCVF1.D Vial: 24
Acq On : 20 Jul 2017 21:10 Operator: AGK-RLD
Sample : 139958,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:30:52 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	265895	10.4476	ug/L	99
103) Hexachlorobu	17.76	225	139346	10.3057	ug/L	96
104) Naphthalene	17.81	128	676866	11.0305	ug/L	100
105) 123Trichlben	18.12	180	248239	10.4991	ug/L	99

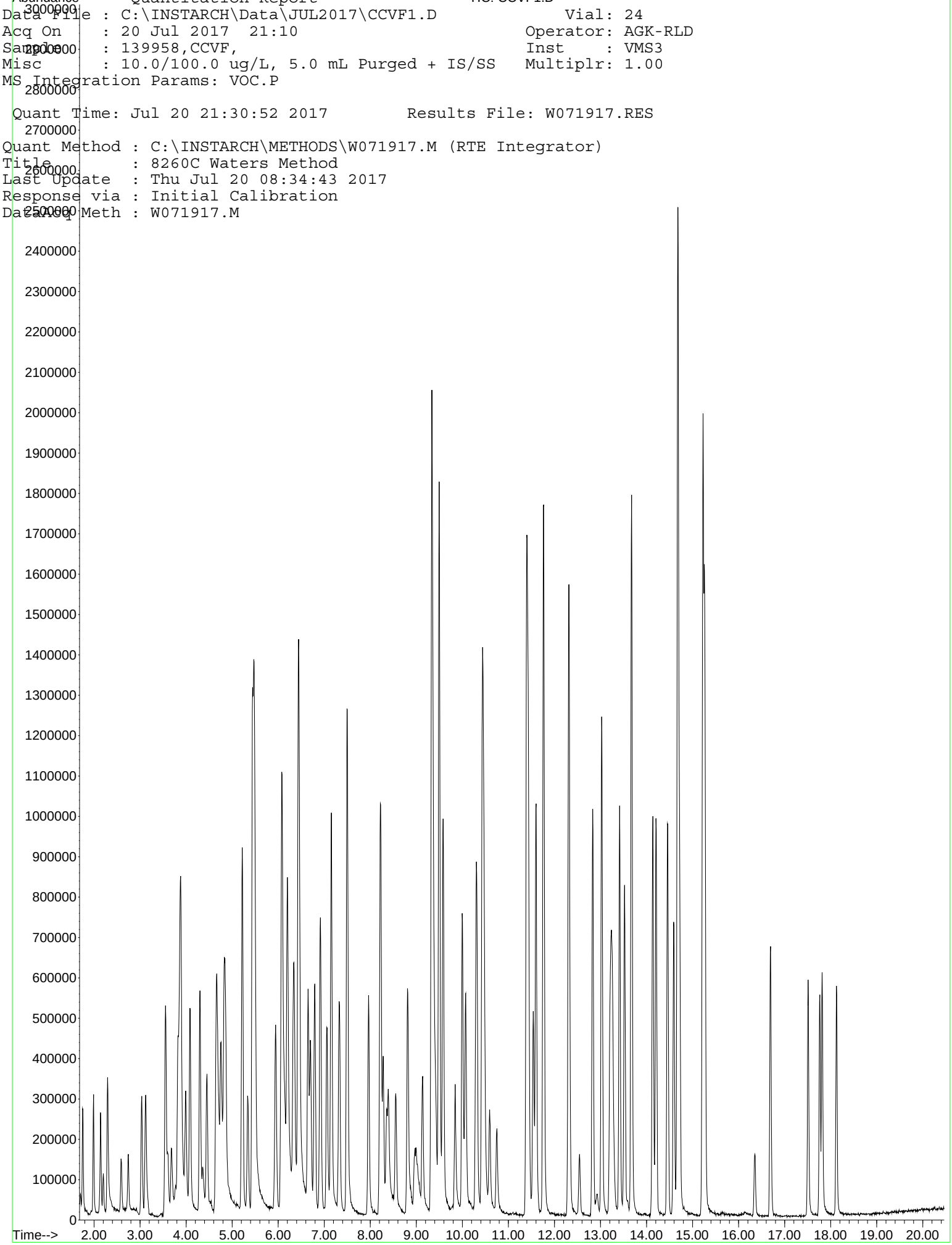
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : C:\INSTARCH\Data\JUL2017\CCVF1.D Vial: 24
Acq On : 20 Jul 2017 21:10 Operator: AGK-RLD
Sample : 139958,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:30:52 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\071417 - 139901 139902.seq
User : AGK
Printed : Jul 14, 2017 13:31:16

File	Sample ID	Acquired
C:\Instarch\PVOC4\DATA\071417 - 139901 139902\001.dat	139901,CCV,	Jul 14, 2017 13:31:16

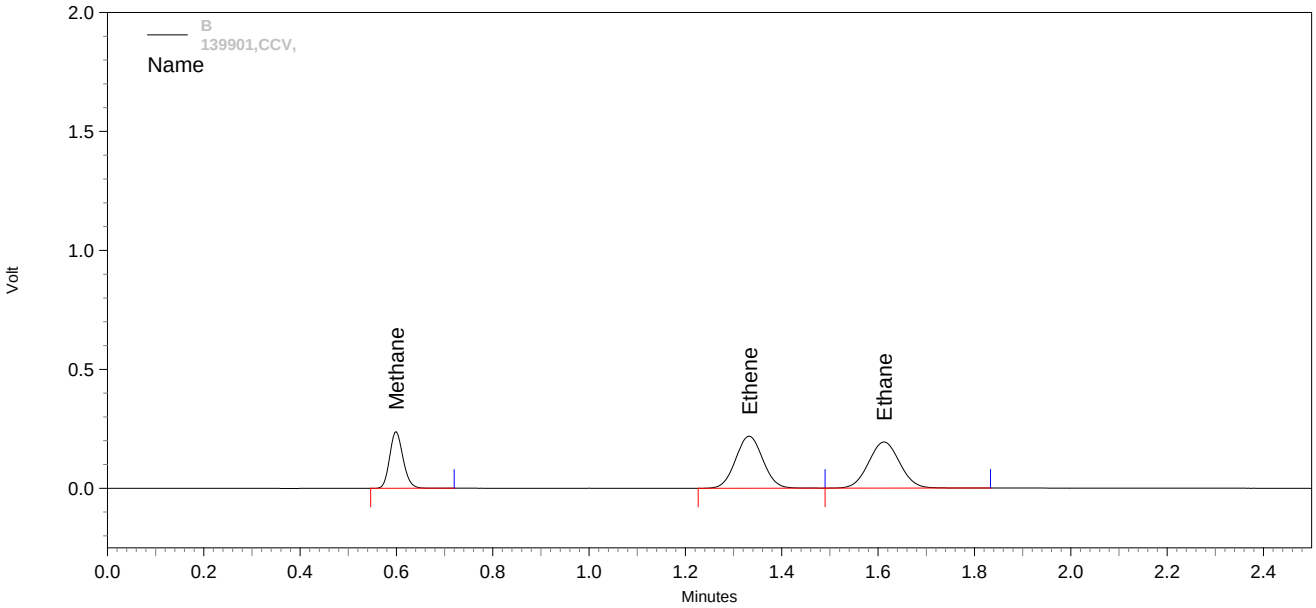
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.607	3.215	15.000	**Passed**
Ethene	50.000	51.887	3.775	15.000	**Passed**
Ethane	50.000	51.352	2.704	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,CCV,
Acquired: Jul 14, 2017 09:03:36
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	461006	**51.607**
2	Ethene	1.333	855919	**51.887**
3	Ethane	1.613	867654	**51.352**

Totals			2184579	**154.847**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\071417 - 139901 139902.seq
User : AGK
Printed : Jul 14, 2017 13:32:31

File	Sample ID	Acquired
C:\Instarch\PVOC4\DATA\071417 - 139901 139902\014.dat	139901,CCV,	Jul 14, 2017 13:32:31

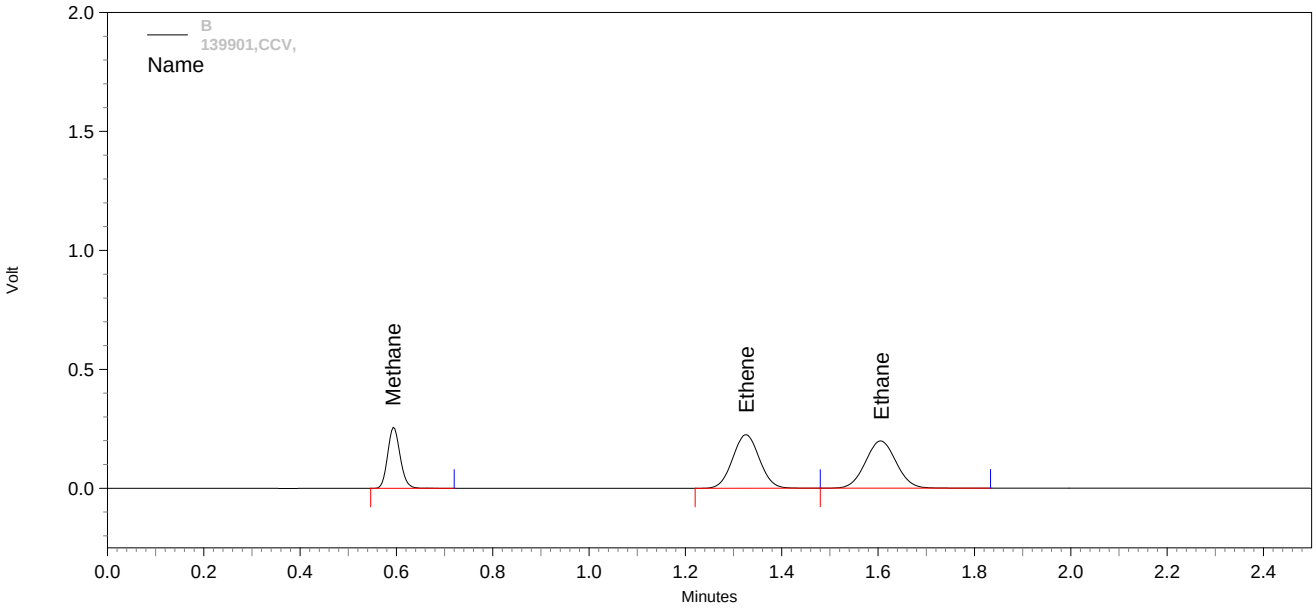
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.702	3.404	15.000	**Passed**
Ethene	50.000	52.487	4.974	15.000	**Passed**
Ethane	50.000	51.975	3.950	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,CCV,
Acquired: Jul 14, 2017 11:39:50
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	461850	**51.702**
2	Ethene	1.327	865851	**52.487**
3	Ethane	1.607	878306	**51.975**

Totals			2206007	**156.164**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\071417 - 139901 139902.seq
User : AGK
Printed : Jul 14, 2017 13:33:17

File	Sample ID	Acquired
C:\Instarch\PVOC4\DATA\071417 - 139901 139902\023.dat	139901,CCV,	Jul 14, 2017 13:33:16

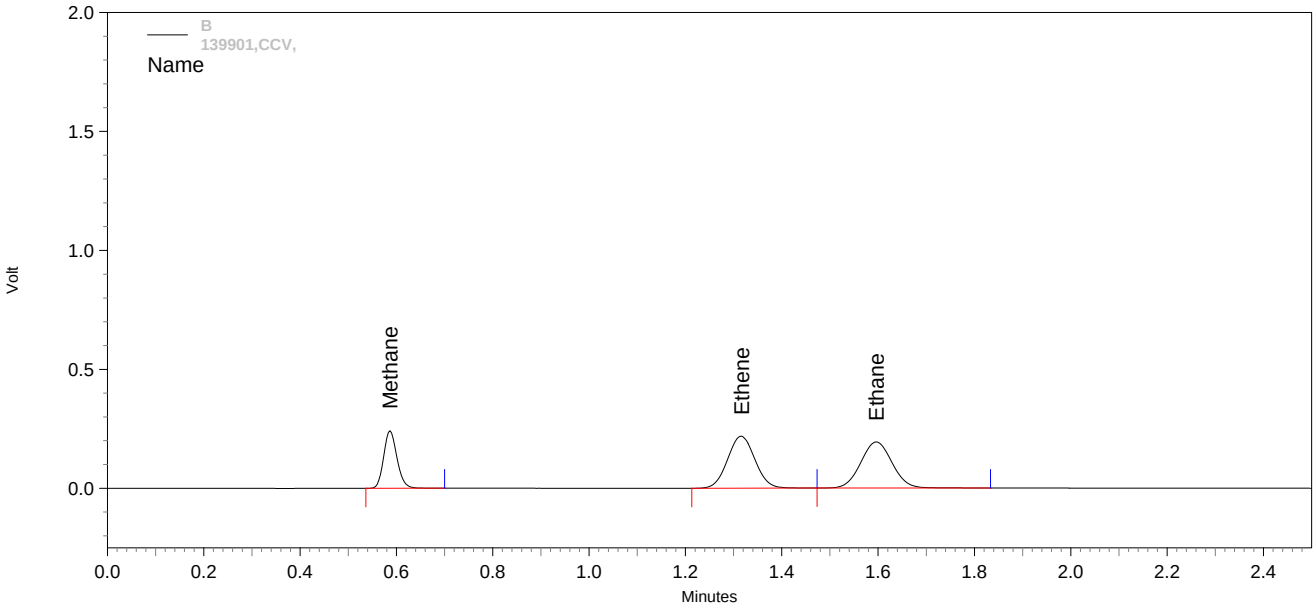
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.871	3.741	15.000	**Passed**
Ethene	50.000	52.095	4.190	15.000	**Passed**
Ethane	50.000	51.601	3.202	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,CCV,
Acquired: Jul 14, 2017 13:21:57
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	463354	**51.871**
2	Ethene	1.317	859359	**52.095**
3	Ethane	1.597	871914	**51.601**

Totals			2194627	**155.567**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1441590	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1151172	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	652963	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	370025	20.268	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.06	102	103633	20.155	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.50	98	1480056	20.341	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.03	95	553473	20.603	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	231000	10.6752	ug/L	99
3) Chloromethan	1.99	50	248901	10.2131	ug/L	98
4) VinylChlorid	2.14	62	228927	10.4724	ug/L	98
5) Bromomethane	2.59	94	125023	10.3267	ug/L	100
6) Chloroethane	2.74	64	151044	9.6041	ug/L	96
7) Dichloroflmethane	3.04	67	336728	10.3708	ug/L	99
8) Trichlorofma	3.12	101	294085	10.3488	ug/L	97
9) Ethylether	3.55	59	134786	9.9140	ug/L	98
10) dichlorotfluoroethan	3.56	67	214771	10.3569	ug/L	98
11) propyleneoxide	3.89	58	298169	93.8456	ug/L	95
12) Acrolein	3.69	56	276405	52.1897	ug/L	100
13) 11dichlorthe	3.82	96	178121	10.1515	ug/L	97
14) Trichlorotfluoroeth	3.86	101	330287	20.6307	ug/L	97
15) Acetone	3.89	43	964070	99.9071	ug/L	98
16) Iodomethane	3.99	142	368818	19.7223	ug/L	99
17) Carbon Dislf	4.09	76	856644	23.0436	ug/L	100
18) allylchloride	4.30	41	473226	21.5051	ug/L	99
19) methylacetate	4.37	74	46062	9.2727	ug/L	96
20) Methylchlorid	4.45	84	197107	10.0051	ug/L	98
21) tbutylalcohol	4.68	59	1365351	506.8864	ug/L	99
22) Acrylonitrile	4.76	53	393344	51.7454	ug/L	97
23) t12dichlorte	4.82	96	189597	10.1261	ug/L	98
24) MtBE	4.85	73	503827	10.2593	ug/L	99
25) Hexane	5.22	57	528763	19.9931	ug/L	99
26) 11dichlorota	5.34	63	327388	10.2093	ug/L	100
27) Vinylacetate	5.44	43	3193343	110.1416	ug/L	100
28) chloroprene	5.48	53	583497	20.8988	ug/L	100
29) Diisopether	5.49	45	537202	10.0974	ug/L	100
30) ETBE	5.94	59	476613	10.2157	ug/L	99
31) 22dichloropr	6.07	77	241121	9.6919	ug/L	98
32) c12dichlorte	6.07	96	206882	10.2496	ug/L	98
33) 2Butanone	6.10	72	374537	104.5869	ug/L	98
34) propionitrile	6.14	54	333142	103.1202	ug/L	99
35) Ethylacetate	6.21	88	57275	51.3387	ug/L	96
36) methacrylonitrile	6.33	67	223804	21.0456	ug/L	98
37) Bromochlorma	6.35	128	94420	9.6142	ug/L	98
38) Tetrahydofur	6.44	42	1021075	104.9291	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.46	83	329102	10.0134	ug/L	99
40)	111trichlota	6.70	97	305578	10.2817	ug/L	99
42)	Cyclohexane	6.80	56	309969	10.5060	ug/L	98
43)	Carbtetraclo	6.92	119	243433	10.7319	ug/L	100
44)	11dicloprope	6.91	110	96925	9.8802	ug/L	99
46)	Benzene	7.15	78	771930	10.1924	ug/L	99
47)	12dichlorota	7.15	62	232228	9.9223	ug/L	96
48)	TAME	7.32	73	481692	10.1165	ug/L	100
49)	trichloroete	7.96	95	199723	10.2087	ug/L	98
50)	methylcyclohexane	8.23	83	386634	10.6833	ug/L	99
51)	12dicloropra	8.21	63	193052	9.8848	ug/L	99
52)	23Dicl1propene	8.28	75	268350	10.1345	ug/L	100
53)	Dibromometha	8.35	93	120567	10.0582	ug/L	96
54)	methylmethacrylate	8.40	69	155254	9.9196	ug/L	97
55)	14dioxane	8.46	88	29357	453.7510	ug/L #	17
56)	Bromodiclrma	8.55	83	236148	10.1458	ug/L	97
57)	2Nitropropane	8.81	43	623621	103.0969	ug/L	98
58)	2CLEVE	8.95	63	19795	32.3409	ug/L	86
59)	c13dicloproe	9.13	75	277641	10.0836	ug/L	97
60)	4Meth2Pentan	9.35	43	2468288	108.6585	ug/L	99
62)	Toluene	9.58	92	497855	10.2204	ug/L	97
63)	t13Dicloprop	9.84	75	228790	9.8300	ug/L	97
64)	ethylmethacrylate	10.00	69	498853	20.8134	ug/L	99
65)	112Triclotha	10.07	83	152028	10.1239	ug/L	98
66)	Tetrachlorte	10.31	166	245273	10.2684	ug/L	98
67)	13Diclorpropa	10.29	76	299171	10.0259	ug/L	99
69)	2Hexanone	10.45	43	1684143	101.0138	ug/L	99
70)	Clorodibrmta	10.60	129	178799	10.1652	ug/L	99
71)	12Dibrometha	10.74	107	189240	9.9404	ug/L	98
72)	Chlorobenzen	11.44	112	520641	10.0200	ug/L	99
73)	1Clhexane	11.42	91	255591	9.9160	ug/L	99
74)	1112Tetclota	11.54	131	181691	9.9893	ug/L	98
75)	Ethylbenzene	11.60	91	891349	10.3919	ug/L	99
76)	m p-Xylene	11.76	106	700341	20.6574	ug/L	97
77)	o-Xylene	12.31	106	347071	9.9836	ug/L	98
78)	Styrene	12.32	104	534151	10.0716	ug/L	99
79)	Bromoform	12.54	173	118915	10.5620	ug/L	97
80)	Isopropylben	12.83	105	868255	10.5582	ug/L	100
81)	cyclohexanone	12.93	55	24009	125.2292	ug/L #	86
84)	Bromobenzene	13.24	156	232538	10.2913	ug/L	98
85)	1122Tetrclta	13.21	83	304008	10.4172	ug/L	99
86)	123Triclproa	13.26	75	318157	9.8654	ug/L	98
87)	14dichloro2butene	13.29	53	49900	11.3629	ug/L	98
88)	n-Propylbenz	13.41	91	981796	10.8563	ug/L	100
89)	2chlorotolue	13.52	91	604078	10.5857	ug/L	99
90)	4chlorotolue	13.68	91	655621	10.3704	ug/L	99
91)	135Trimebenz	13.68	105	694416	10.5001	ug/L	98
92)	tbutylbenzen	14.14	119	625322	10.6820	ug/L	98
93)	124Trimetben	14.21	105	688731	10.6092	ug/L	99
94)	sbutylbenzen	14.45	105	867189	10.8211	ug/L	100
95)	13Diclorbenz	14.59	146	417893	10.2435	ug/L	99
96)	pIsopropylto	14.67	119	712802	10.5034	ug/L	100
97)	14dichlorobe	14.72	146	417280	9.9203	ug/L	99
98)	12dichlorobe	15.25	146	396127	10.0424	ug/L	99
99)	nButylbenzen	15.27	91	619759	10.6187	ug/L	98
100)	12dibromo3cl	16.35	157	72693	10.0088	ug/L	95
101)	135Trichlorobenzene	16.69	180	284655	10.1743	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	234737	9.9093	ug/L	99
103) Hexachlorobu	17.76	225	123121	9.7829	ug/L	98
104) Naphthalene	17.81	128	572550	10.0244	ug/L	100
105) 123Trichlben	18.12	180	216016	9.8157	ug/L	97

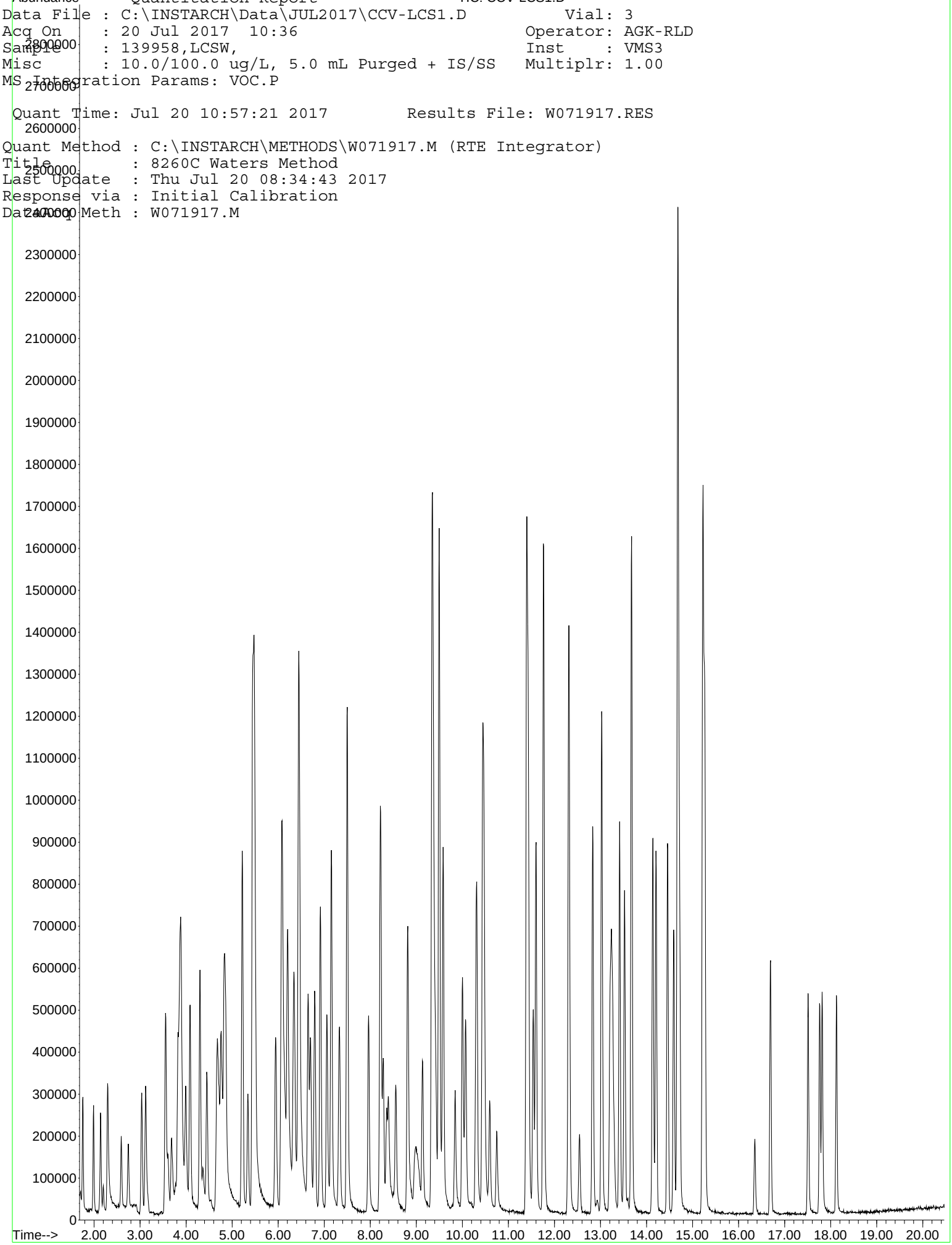
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\JUL2017\CCV-LCS1.D Vial: 3
Acq On : 20 Jul 2017 10:36 Operator: AGK-RLD
Sample : 139958,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 10:57:21 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
Data Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\MB1.D Vial: 5
Acq On : 20 Jul 2017 11:46 Operator: AGK-RLD
Sample : 139958,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:14:37 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1404884	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1061017	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	596848	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.66	113	342885	19.272	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.06	102	96535	19.265	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.50	98	1368132	19.294	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
83) SURR4BrFBenz	13.02	95	499027	20.322	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	1.98	50	9126	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	3601	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	11823	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	36671	N.D.		
16) Iodomethane	4.00	142	8361	N.D.		
17) Carbon Dislf	4.09	76	4289	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.44	84	4460	N.D.		
21) tbutylalcohol	4.72	59	6604	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.48	43	2356	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.46	42	134332	4.3979	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\MB1.D Vial: 5
Acq On : 20 Jul 2017 11:46 Operator: AGK-RLD
Sample : 139958,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:14:37 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.15	78	2173	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.46	88	18553	285.6993 ug/L #	37
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.36	43	4564	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.48	43	20987	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.40	91	3935	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.61	91	4038	N.D.	
76)	m p-Xylene	11.78	106	3473	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	12.33	104	2332	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	12.82	105	4963	N.D.	
81)	cyclohexanone	12.92	55	13498	81.0008 ug/L #	87
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	13.27	75	2829	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.43	91	7274	N.D.	
89)	2chlorotolue	13.53	91	2740	N.D.	
90)	4chlorotolue	13.69	91	5464	N.D.	
91)	135Trimebenz	13.68	105	3533	N.D.	
92)	tbutylbenzen	14.14	119	3791	N.D.	
93)	124Trimetben	14.22	105	4754	N.D.	
94)	sbutylbenzen	14.47	105	7951	N.D.	
95)	13Diclorbenz	14.59	146	3354	N.D.	
96)	pIsopropylto	14.69	119	7272	N.D.	
97)	14dichlorobe	14.72	146	3854	N.D.	
98)	12dichlorobe	15.25	146	2387	N.D.	
99)	nButylbenzen	15.27	91	7812	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	16.72	180	2199	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL2017\MB1.D Vial: 5
Acq On : 20 Jul 2017 11:46 Operator: AGK-RLD
Sample : 139958,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:14:37 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.55	180	3694	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.82	128	13862	N.D.	
105) 123Trichlben	18.15	180	3856	N.D.	

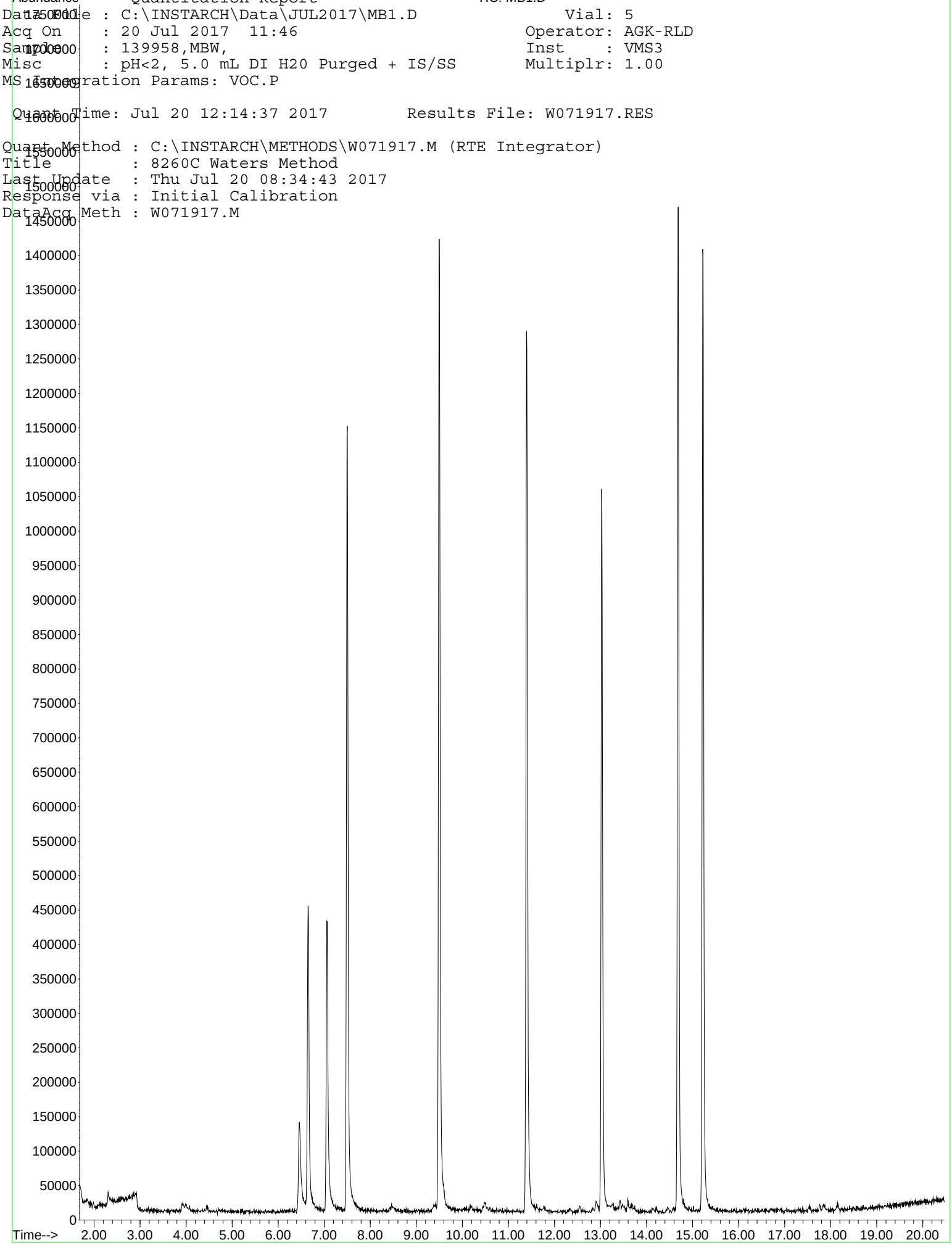
(#) = qualifier out of range (m) = manual integration

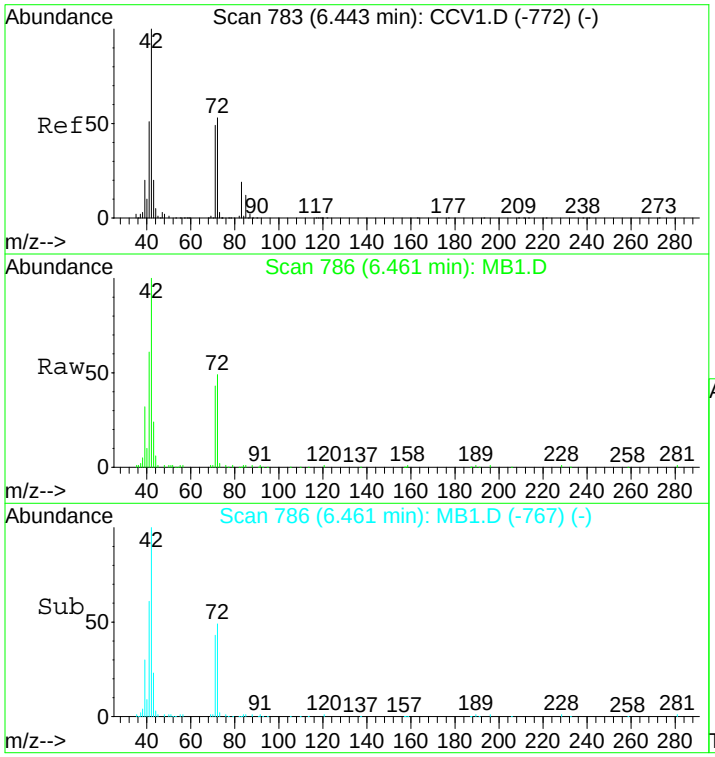
Abundance Quantitation Report TIC: MB1.D

Data File : C:\INSTARCH\Data\JUL2017\MB1.D Vial: 5
Acq On : 20 Jul 2017 11:46 Operator: AGK-RLD
Sample : 139958,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 12:14:37 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

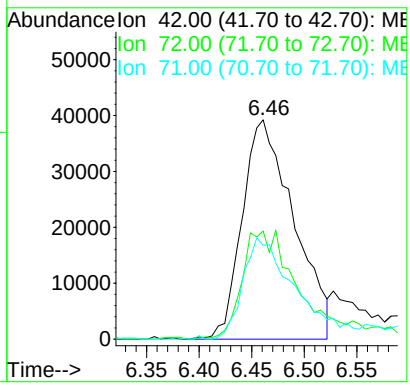


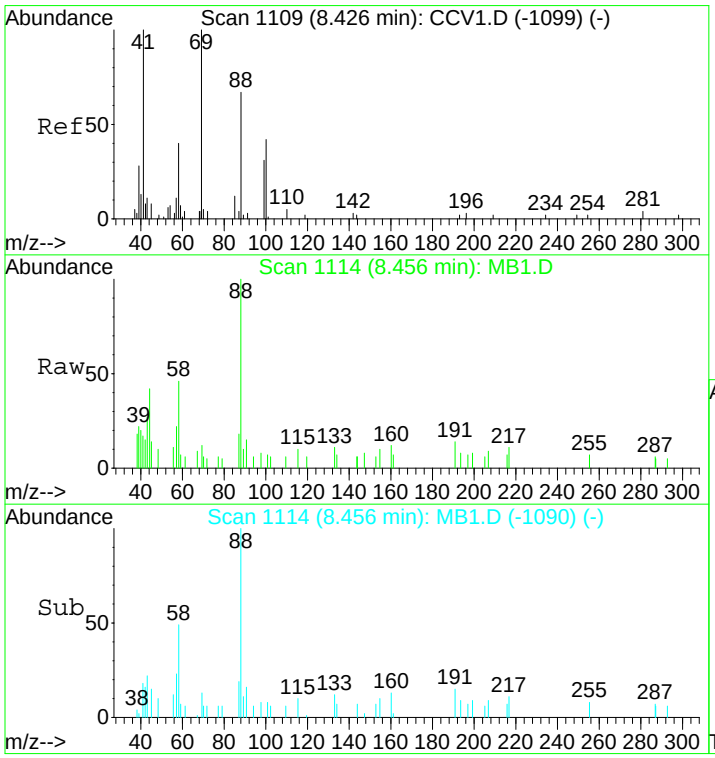


#38
Tetrahydofur
Concen: 4.40 ug/L
RT: 6.46 min Scan# 786
Delta R.T. 0.01 min
Lab File: MB1.D
Acq: 20 Jul 2017 11:46

Tgt Ion: 42 Resp: 134332

Ion	Ratio	Lower	Upper
42	100		
72	50.3	28.2	68.2
71	43.9	25.4	65.4

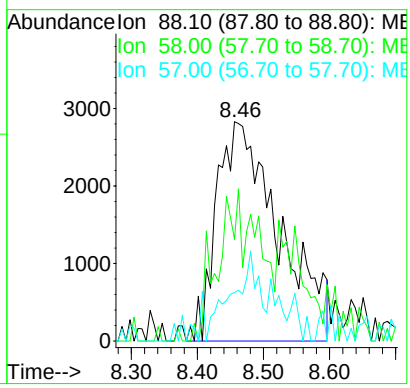




#55
14dioxane
Concen: 285.70 ug/L
RT: 8.46 min Scan# 1114
Delta R.T. -0.01 min
Lab File: MB1.D
Acq: 20 Jul 2017 11:46

Tgt Ion: 88 Resp: 18553

Ion	Ratio	Lower	Upper
88	100		
58	21.2	64.6	104.6#
57	17.7	0.0	31.7



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891497MS.D Vial: 22
Acq On : 20 Jul 2017 20:11 Operator: AGK-RLD
Sample : 139958,MSW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:32:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.50	96	1667676	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1217883	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	723815	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.64	113	392307	18.575	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.06	102	121665	20.454	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.50	98	1545937	18.366	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 92 %			
83) SURR4BrFBenz	13.02	95	609233	20.458	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	254175	10.1537	ug/L	100
3) Chloromethan	1.99	50	293201	10.3998	ug/L	96
4) VinylChlorid	2.14	62	257755	10.1927	ug/L	98
5) Bromomethane	2.59	94	102067	7.2876	ug/L	98
6) Chloroethane	2.74	64	142746	7.8460	ug/L	98
7) Dichloroflmethane	3.03	67	375757	10.0039	ug/L	99
8) Trichlorofma	3.12	101	330676	10.0589	ug/L	96
9) Ethylether	3.55	59	145833	9.2724	ug/L	98
10) dichlorotfluoroethan	3.55	67	246051	10.2567	ug/L	97
11) propyleneoxide	3.89	58	299804	81.5678	ug/L #	86
12) Acrolein	3.69	56	230140	37.5631	ug/L	100
13) 11dichlorthe	3.82	96	213863	10.5361	ug/L	96
14) Trichlorotfluoroeth	3.86	101	385465	20.8131	ug/L	99
15) Acetone	3.89	43	841265	75.3617	ug/L	94
16) Iodomethane	3.99	142	376053	17.3830	ug/L	97
17) Carbon Dislf	4.08	76	957209	22.2580	ug/L	99
18) allylchloride	4.30	41	517141	20.3147	ug/L	92
19) methylacetate	4.37	74	47546	8.2738	ug/L	96
20) Methylchlorid	4.45	84	214475	9.4108	ug/L	97
21) tbutylalcohol	4.66	59	1848620	593.2586	ug/L	98
22) Acrylonitrile	4.76	53	431055	49.0187	ug/L	97
23) t12dichlorte	4.82	96	218406	10.0834	ug/L	99
24) MtBE	4.85	73	560919	9.8734	ug/L	95
25) Hexane	5.22	57	642063	20.9859	ug/L	99
26) 11dichlorota	5.34	63	377321	10.1712	ug/L	98
27) Vinylacetate	5.44	43	3055369	91.0961	ug/L	99
28) chloroprene	5.48	53	665979	20.6193	ug/L	98
29) Diisopether	5.50	45	588560	9.5630	ug/L	98
30) ETBE	5.94	59	531062	9.8396	ug/L	98
31) 22dichloropr	6.07	77	229295	7.9670	ug/L	96
32) c12dichlorte	6.07	96	250793	10.7406	ug/L	96
33) 2Butanone	6.08	72	434403	104.8590	ug/L	99
34) propionitrile	6.13	54	411286	110.0495	ug/L	99
35) Ethylacetate	6.21	88	63917	49.5252	ug/L #	91
36) methacrylonitrile	6.33	67	250317	20.3476	ug/L	96
37) Bromochlorma	6.35	128	101901	8.9693	ug/L	99
38) Tetrahydofur	6.44	42	977763	84.4773	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891497MS.D Vial: 22
Acq On : 20 Jul 2017 20:11 Operator: AGK-RLD
Sample : 139958,MSW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:32:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.45	83	648510	17.0568	ug/L	99
40)	111trichlota	6.70	97	338036	9.8319	ug/L	98
42)	Cyclohexane	6.80	56	399927	11.7174	ug/L	98
43)	Carbtetraclo	6.92	119	2050698	78.1498	ug/L	99
44)	11dicloprope	6.92	110	123014	10.8396	ug/L	99
46)	Benzene	7.15	78	985340	11.2464	ug/L	99
47)	12dichlorota	7.15	62	286028	10.5642	ug/L	99
48)	TAME	7.32	73	604297	10.9709	ug/L	98
49)	trichloroete	7.96	95	459950	20.3228	ug/L	99
50)	methylcyclohexane	8.23	83	454805	10.8633	ug/L	100
51)	12dicloropra	8.21	63	216648	9.5892	ug/L	98
52)	23Dicl1propene	8.28	75	321306	10.4894	ug/L	96
53)	Dibromometha	8.35	93	126321	9.1095	ug/L	99
54)	methylmethacrylate	8.40	69	176329	9.7388	ug/L	98
55)	14dioxane	8.44	88	51730	709.1027	ug/L	77
56)	Bromodiclrma	8.55	83	257598	9.5670	ug/L	94
57)	2Nitropropane	8.82	43	523367	77.3672	ug/L	94
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.13	75	289220	9.0801	ug/L	99
60)	4Meth2Pentan	9.34	43	2684349	102.1497	ug/L	97
62)	Toluene	9.58	92	600382	10.6543	ug/L	96
63)	t13Dicloprop	9.84	75	261097	9.6972	ug/L	98
64)	ethylmethacrylate	10.00	69	623566	22.4896	ug/L	99
65)	112Triclotha	10.07	83	185003	10.6496	ug/L	96
66)	Tetrachlorte	10.32	166	295828	10.7059	ug/L	99
67)	13Diclorpropa	10.29	76	364659	10.5638	ug/L	99
69)	2Hexanone	10.44	43	2094005	118.7174	ug/L	99
70)	Clorodibrmta	10.60	129	189151	10.1647	ug/L	99
71)	12Dibrometha	10.75	107	213115	10.5813	ug/L	97
72)	Chlorobenzen	11.44	112	582673	10.5996	ug/L	100
73)	1Clhexane	11.43	91	291196	10.6786	ug/L	97
74)	1112Tetclota	11.54	131	194337	10.0993	ug/L	98
75)	Ethylbenzene	11.60	91	1003551	11.0592	ug/L	99
76)	m p-Xylene	11.77	106	789775	22.0193	ug/L	99
77)	o-Xylene	12.31	106	391846	10.6542	ug/L	99
78)	Styrene	12.32	104	607016	10.8185	ug/L	99
79)	Bromoform	12.54	173	103780	8.7128	ug/L	99
80)	Isopropylben	12.83	105	961839	11.0556	ug/L	99
81)	cyclohexanone	12.93	55	29741	144.4352	ug/L	85
84)	Bromobenzene	13.24	156	260692	10.4079	ug/L	99
85)	1122Tetrclta	13.20	83	337259	10.4253	ug/L	99
86)	123Triclproa	13.26	75	334793	9.3651	ug/L	99
87)	14dichloro2butene	13.29	53	34152	7.4041	ug/L	96
88)	n-Propylbenz	13.41	91	1110861	11.0810	ug/L	100
89)	2chlorotolue	13.52	91	677332	10.7076	ug/L	99
90)	4chlorotolue	13.68	91	751380	10.7217	ug/L	99
91)	135Trimebenz	13.68	105	803808	10.9645	ug/L	100
92)	tbutylbenzen	14.14	119	711690	10.9673	ug/L	98
93)	124Trimetben	14.21	105	792893	11.0182	ug/L	99
94)	sbutylbenzen	14.45	105	1000148	11.2585	ug/L	99
95)	13Diclorbenz	14.59	146	467749	10.3433	ug/L	99
96)	pIsopropylto	14.67	119	822871	10.9385	ug/L	100
97)	14dichlorobe	14.72	146	474549	10.1775	ug/L	98
98)	12dichlorobe	15.25	146	455920	10.4268	ug/L	99
99)	nButylbenzen	15.27	91	737136	11.3935	ug/L	98
100)	12dibromo3cl	16.35	157	73621	9.1444	ug/L	94
101)	135Trichlorobenzene	16.69	180	324277	10.4560	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUL2017\891497MS.D Vial: 22
Acq On : 20 Jul 2017 20:11 Operator: AGK-RLD
Sample : 139958,MSW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:32:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

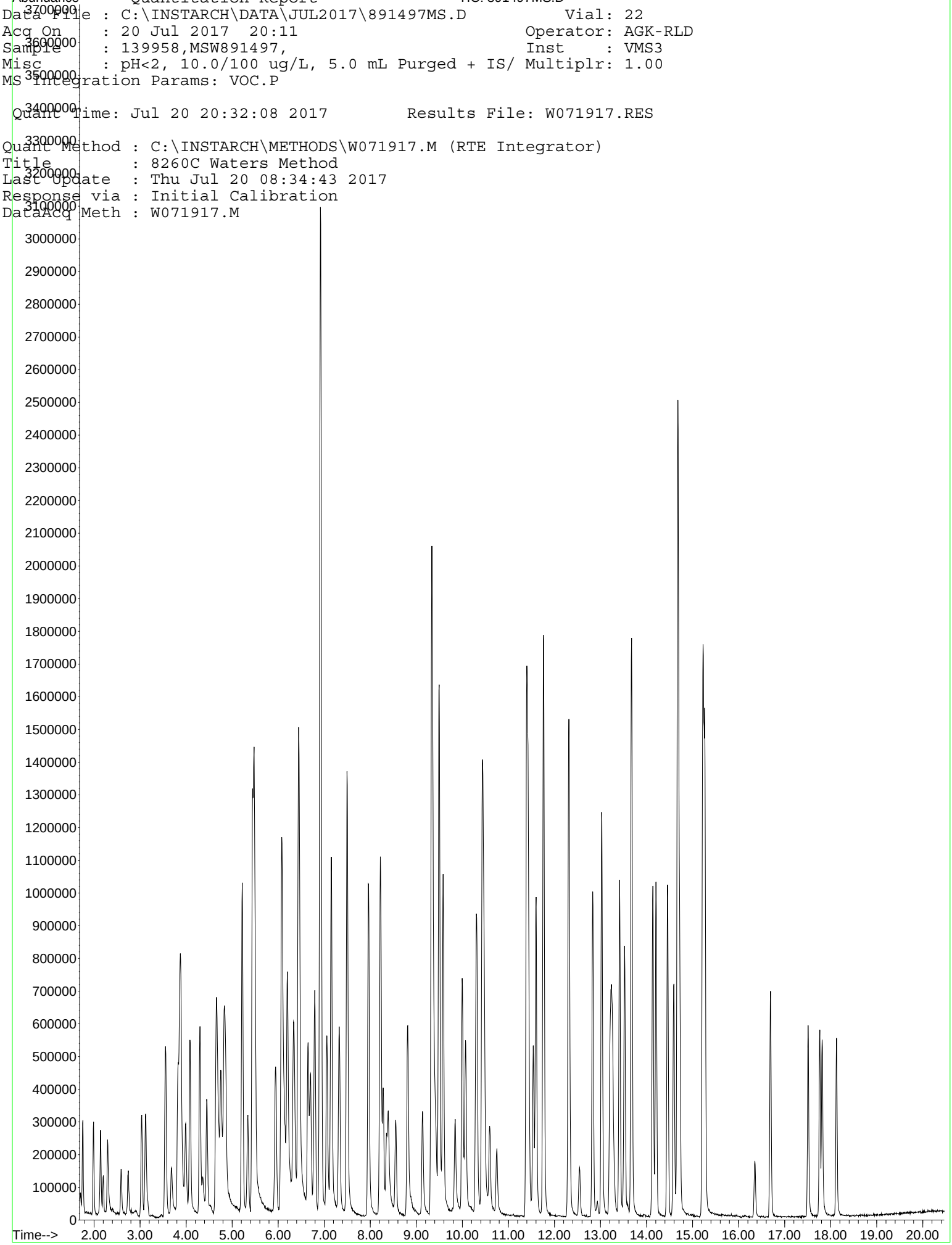
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	255812	9.7419	ug/L	95
103) Hexachlorobu	17.76	225	142633	10.2239	ug/L	97
104) Naphthalene	17.81	128	622681	9.8350	ug/L	99
105) 123Trichlben	18.13	180	243749	9.9917	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2017\891497MS.D Vial: 22
Acq On : 20 Jul 2017 20:11 Operator: AGK-RLD
Sample : 139958,MSW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 20:32:08 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891497SD.D Vial: 23
Acq On : 20 Jul 2017 20:40 Operator: AGK-RLD
Sample : 139958,MSDW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:01:14 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.49	96	1634939	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.39	117	1208394	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.69	152	703670	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.65	113	378119	18.262	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 91 %			
45) SURR12DCAd4	7.06	102	109636	18.801	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 94 %			
61) SURRd8Tolule	9.50	98	1524003	18.468	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 92 %			
83) SURR4BrFBenz	13.02	95	666884	23.035	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 115 %			
Target Compounds						Qvalue
2) Dichlorodi	1.76	85	246943	10.0624	ug/L	99
3) Chloromethan	1.99	50	310875	11.2475	ug/L	99
4) VinylChlorid	2.14	62	257369	10.3812	ug/L	97
5) Bromomethane	2.59	94	110243	8.0290	ug/L	96
6) Chloroethane	2.74	64	163618	9.1733	ug/L	100
7) Dichloroflmethane	3.03	67	376624	10.2278	ug/L	99
8) Trichlorofma	3.12	101	332408	10.3141	ug/L	100
9) Ethylether	3.55	59	138106	8.9569	ug/L	96
10) dichlorotfluoroethan	3.55	67	243147	10.3386	ug/L	98
11) propyleneoxide	3.90	58	249780	69.3185	ug/L #	87
12) Acrolein	3.69	56	192163	31.9925	ug/L	100
13) 11dichlorthe	3.82	96	209773	10.5415	ug/L	94
14) Trichlorotfluoroeth	3.86	101	376002	20.7087	ug/L	99
15) Acetone	3.89	43	705940	64.5053	ug/L	94
16) Iodomethane	3.99	142	401802	18.9451	ug/L	97
17) Carbon Dislf	4.08	76	943431	22.3769	ug/L	99
18) allylchloride	4.29	41	521490	20.8958	ug/L	90
19) methylacetate	4.37	74	43536	7.7277	ug/L	96
20) Methylchlorid	4.45	84	211232	9.4541	ug/L	96
21) tbutylalcohol	4.68	59	1301793	426.1363	ug/L	97
22) Acrylonitrile	4.76	53	381011	44.1954	ug/L	95
23) t12dichlorte	4.82	96	210550	9.9153	ug/L	98
24) MtBE	4.85	73	534050	9.5887	ug/L	94
25) Hexane	5.22	57	602922	20.1012	ug/L	100
26) 11dichlorota	5.34	63	367863	10.1148	ug/L	97
27) Vinylacetate	5.44	43	2834648	86.2075	ug/L	98
28) chloroprene	5.47	53	640873	20.2393	ug/L	95
29) Diisopether	5.50	45	572699	9.4916	ug/L	99
30) ETBE	5.94	59	522655	9.8778	ug/L	100
31) 22dichloropr	6.07	77	224227	7.9469	ug/L	98
32) c12dichlorte	6.07	96	241063	10.5306	ug/L	97
33) 2Butanone	6.10	72	355138	87.4420	ug/L	99
34) propionitrile	6.15	54	326733	89.1759	ug/L	96
35) Ethylacetate	6.21	88	58035	45.8680	ug/L #	84
36) methacrylonitrile	6.33	67	225034	18.6587	ug/L	96
37) Bromochlorma	6.35	128	104734	9.4032	ug/L	96
38) Tetrahydofur	6.45	42	809007	69.2880	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2017\891497SD.D Vial: 23
Acq On : 20 Jul 2017 20:40 Operator: AGK-RLD
Sample : 139958,MSDW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:01:14 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.46	83	639720	17.1626 ug/L		100
40)	111trichlota	6.70	97	336138	9.9724 ug/L		97
42)	Cyclohexane	6.79	56	361215	10.7951 ug/L		98
43)	Carbtetraclo	6.92	119	1872515	72.7883 ug/L		100
44)	11dicloprope	6.91	110	112058	10.0719 ug/L		95
46)	Benzene	7.15	78	880895	10.2557 ug/L		98
47)	12dichlorota	7.15	62	246069	9.2703 ug/L		96
48)	TAME	7.33	73	545816	10.1076 ug/L		99
49)	trichloroete	7.96	95	500176	22.5427 ug/L		98
50)	methylcyclohexane	8.22	83	465208	11.3343 ug/L		98
51)	12dicloropra	8.21	63	229642	10.3678 ug/L		100
52)	23Dicl1propene	8.28	75	321026	10.6901 ug/L		99
53)	Dibromometha	8.35	93	139104	10.2322 ug/L		97
54)	methylmethacrylate	8.40	69	177947	10.0250 ug/L		98
55)	14dioxane	8.45	88	28228	380.6660 ug/L	#	83
56)	Bromodiclrma	8.55	83	275617	10.4412 ug/L		96
57)	2Nitropropane	8.82	43	506206	76.4558 ug/L		93
58)	2CLEVE	8.95	63	3444	24.5944 ug/L	#	41
59)	c13dicloproe	9.14	75	282468	9.0457 ug/L		99
60)	4Meth2Pentan	9.35	43	2439022	94.6725 ug/L		98
62)	Toluene	9.58	92	550217	9.9596 ug/L		95
63)	t13Dicloprop	9.84	75	222260	8.4201 ug/L		99
64)	ethylmethacrylate	10.00	69	547380	20.1372 ug/L		92
65)	112Triclotha	10.07	83	166967	9.8039 ug/L		97
66)	Tetrachlorte	10.31	166	269472	9.9473 ug/L		99
67)	13Diclorpropa	10.30	76	325581	9.6206 ug/L		98
69)	2Hexanone	10.45	43	1673129	95.6011 ug/L		96
70)	Clorodibrmta	10.60	129	167631	9.0790 ug/L		96
71)	12Dibrometha	10.75	107	194865	9.7511 ug/L		100
72)	Chlorobenzen	11.43	112	566402	10.3845 ug/L		97
73)	1Clhexane	11.42	91	288462	10.6614 ug/L		98
74)	1112Tetclota	11.54	131	194170	10.1698 ug/L		98
75)	Ethylbenzene	11.60	91	985904	10.9500 ug/L		99
76)	m p-Xylene	11.77	106	785041	22.0592 ug/L		99
77)	o-Xylene	12.31	106	389076	10.6619 ug/L		99
78)	Styrene	12.32	104	589312	10.5855 ug/L		99
79)	Bromoform	12.54	173	102563	8.6783 ug/L		99
80)	Isopropylben	12.83	105	1047016	12.1291 ug/L		98
81)	cyclohexanone	12.92	55	43105	204.3963 ug/L		90
84)	Bromobenzene	13.23	156	282001	11.5810 ug/L		98
85)	1122Tetrclta	13.21	83	353402	11.2371 ug/L		99
86)	123Triclproa	13.27	75	353386	10.1682 ug/L		100
87)	14dichloro2butene	13.30	53	32339	7.2342 ug/L		96
88)	n-Propylbenz	13.41	91	1083706	11.1197 ug/L		99
89)	2chlorotolue	13.52	91	658124	10.7018 ug/L		100
90)	4chlorotolue	13.68	91	727289	10.6750 ug/L		98
91)	135Trimebenz	13.68	105	783846	10.9983 ug/L		100
92)	tbutylbenzen	14.14	119	699981	11.0957 ug/L		98
93)	124Trimetben	14.21	105	782232	11.1812 ug/L		98
94)	sbutylbenzen	14.45	105	989164	11.4537 ug/L		99
95)	13Diclorbenz	14.59	146	458693	10.4334 ug/L		99
96)	pIsopropylto	14.67	119	808019	11.0485 ug/L		98
97)	14dichlorobe	14.72	146	457739	10.0980 ug/L		100
98)	12dichlorobe	15.25	146	433801	10.2050 ug/L		100
99)	nButylbenzen	15.27	91	674630	10.7259 ug/L		98
100)	12dibromo3cl	16.35	157	70744	9.0386 ug/L		94
101)	135Trichlorobenzene	16.69	180	311642	10.3362 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUL2017\891497SD.D Vial: 23
Acq On : 20 Jul 2017 20:40 Operator: AGK-RLD
Sample : 139958,MSDW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:01:14 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.51	180	256510	10.0481	ug/L	97
103) Hexachlorobu	17.76	225	143047	10.5471	ug/L	98
104) Naphthalene	17.81	128	635232	10.3204	ug/L	100
105) 123Trichlben	18.13	180	236173	9.9583	ug/L	96

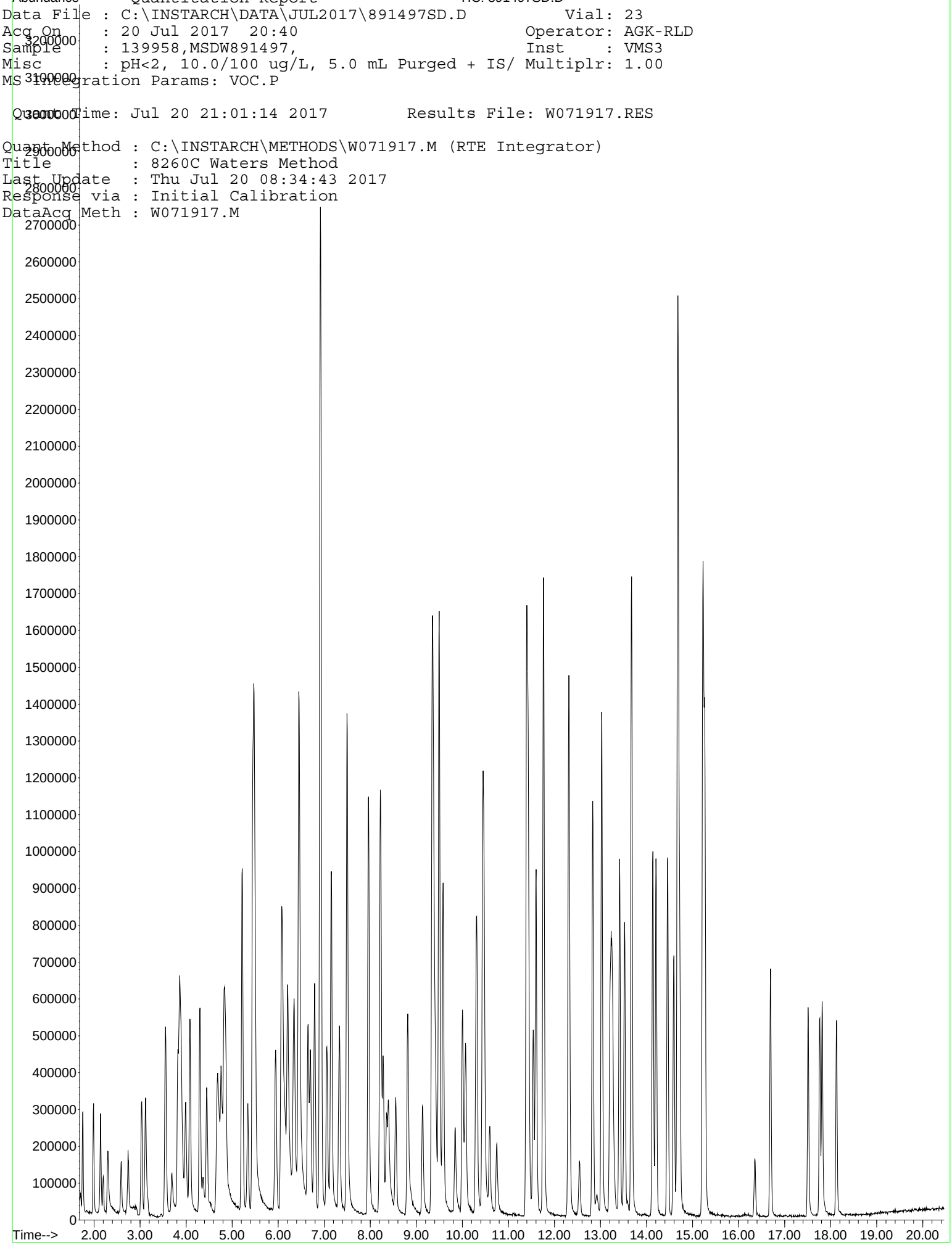
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 891497SD.D

Data File : C:\INSTARCH\DATA\JUL2017\891497SD.D Vial: 23
Acq On : 20 Jul 2017 20:40 Operator: AGK-RLD
Sample : 139958,MSDW891497, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 20 21:01:14 2017 Results File: W071917.RES

Quant Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jul 20 08:34:43 2017
Response via : Initial Calibration
DataAcq Meth : W071917.M

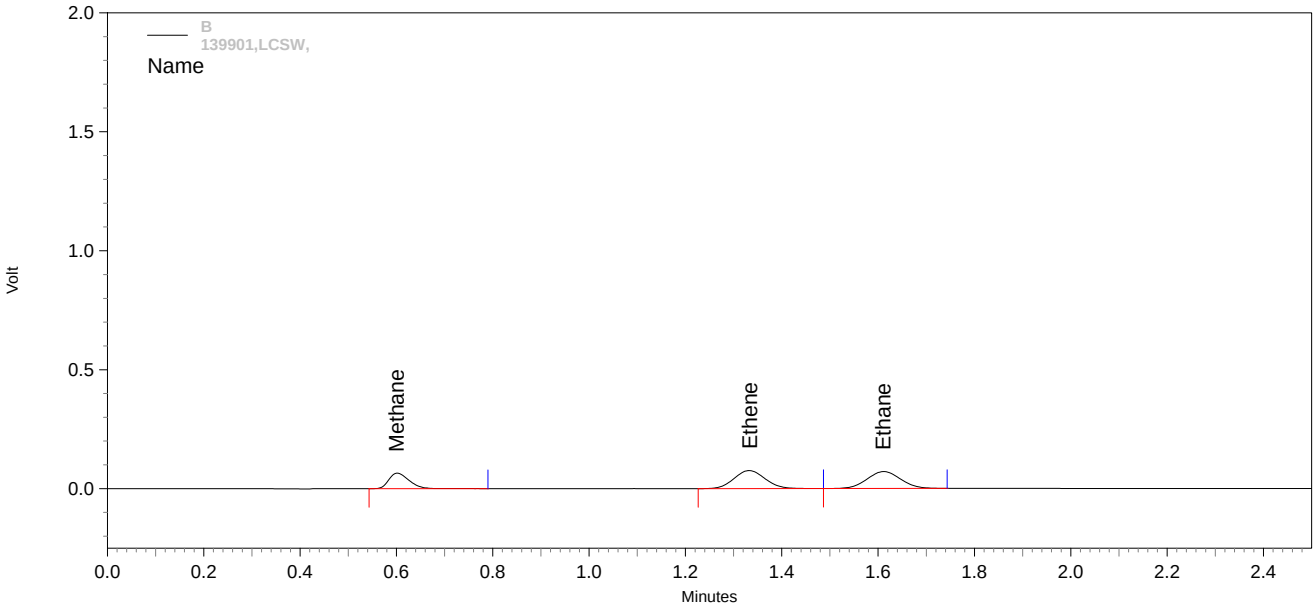


Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,LCSW,
Acquired: Jul 14, 2017 09:13:54
File Desc. Laboratory Control Sample - 25 ppmV -

500 uL of the 200 ppmV MEE Std. into 4 mL of headspace. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

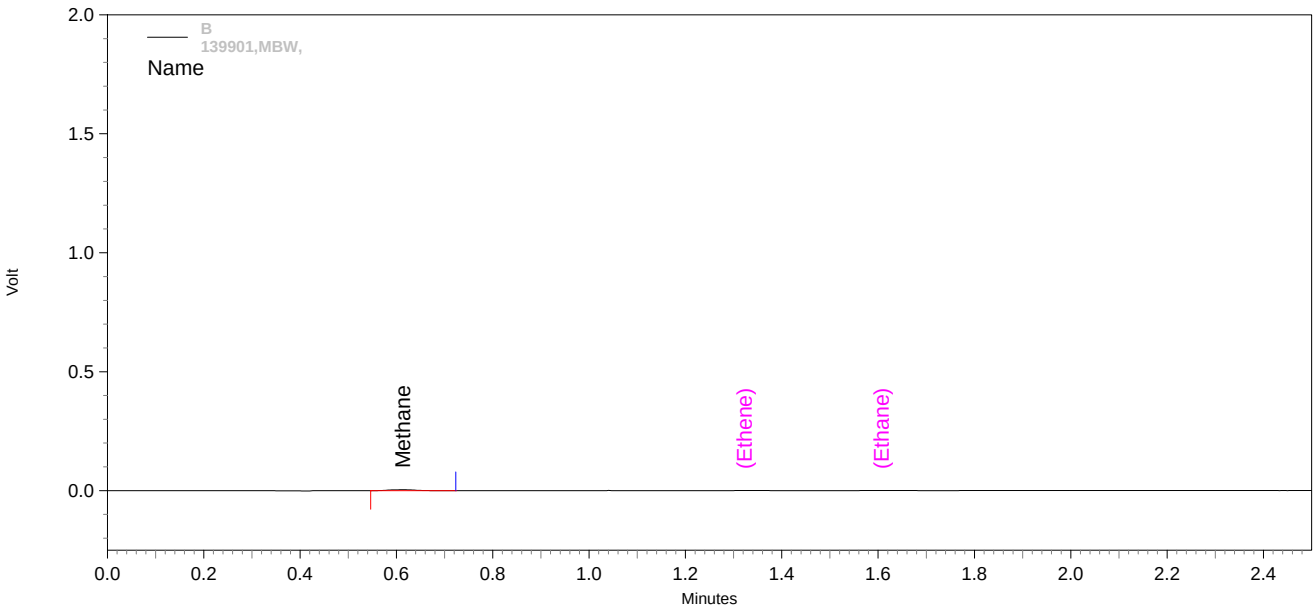
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	189520	**21.165**
2	Ethene	1.333	336873	**20.541**
3	Ethane	1.610	340303	**20.504**

Totals			866696	**62.210**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,MBW,
Acquired: Jul 14, 2017 09:24:09
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



B Results

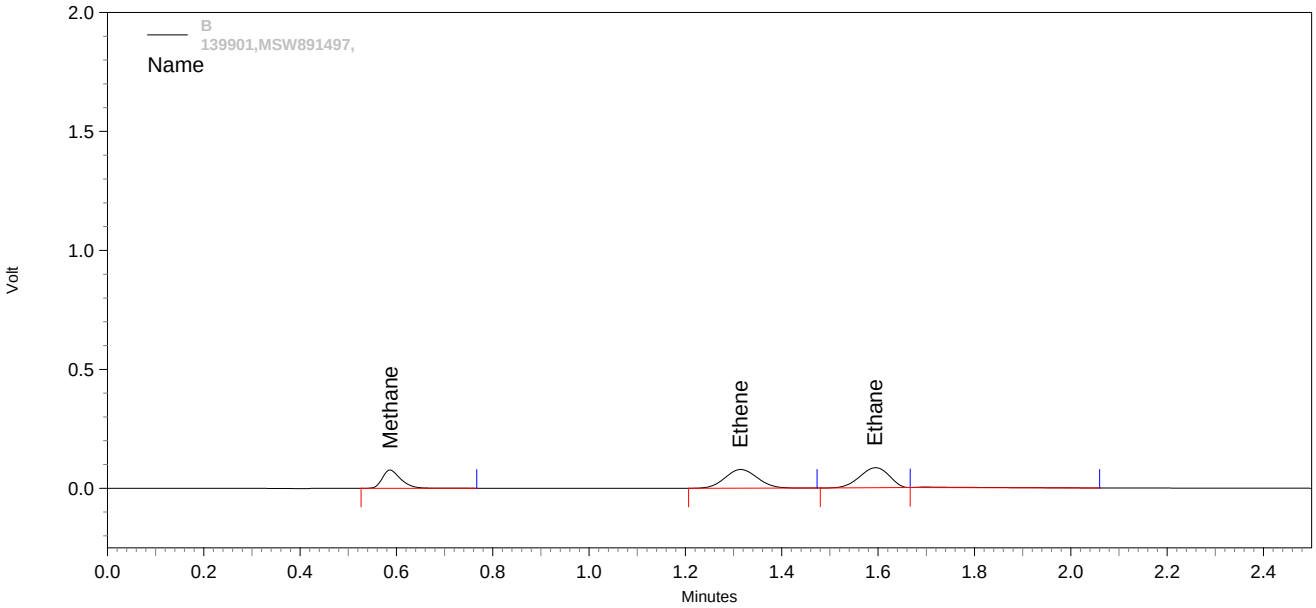
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.613	13556	**1.434**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			13556	**1.434**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,MSW891497,
Acquired: Jul 14, 2017 12:31:04
File Desc. MATRIX SPIKE (Methane, Ethene, Ethane)
1mL injection



B Results

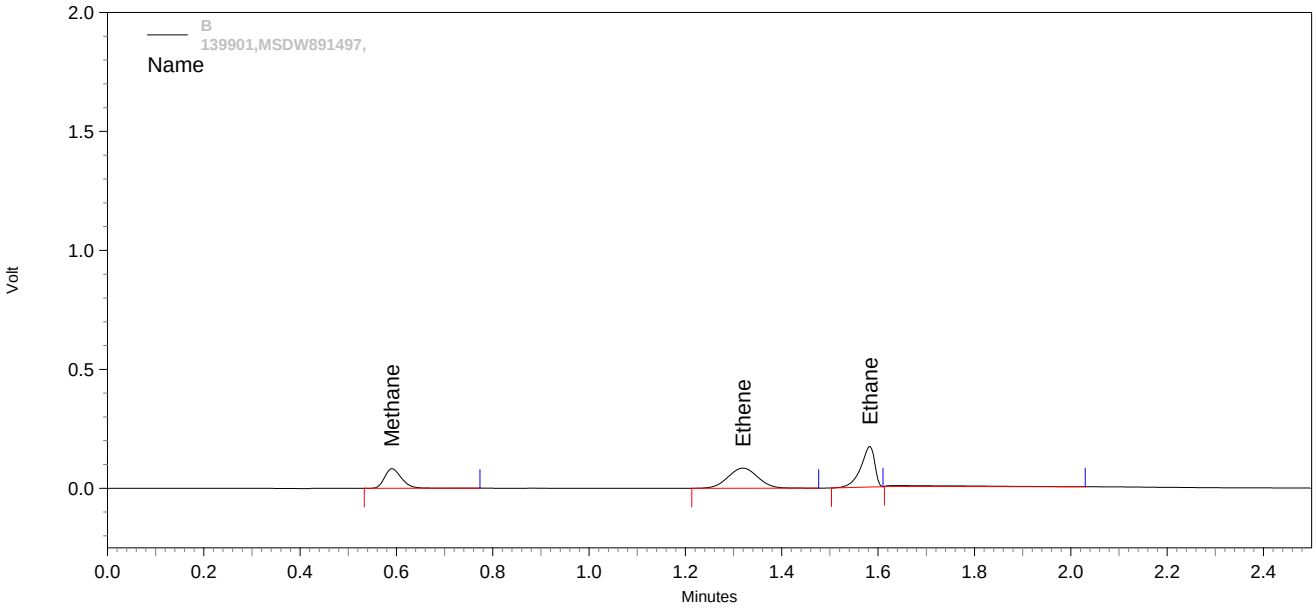
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	203233	**22.703**
2	Ethene	1.313	365984	**22.299**
3	Ethane	1.593	357335	**21.500**

Totals			926552	**66.502**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\DATA\071417 - 139901 139902\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 139901,MSDW891497,
Acquired: Jul 14, 2017 12:35:40
File Desc. MATRIX SPIKE DUPLICATE (Methane, Ethene, Ethane)
1mL injection



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	200610	**22.409**
2	Ethene	1.320	359534	**21.910**
3	Ethane	1.583	340931	**20.541**

Totals			901075	**64.859**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
139958 on 7/21/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	894638							VOC 8260 QSM WATER 5.0				
					BFB				0			
	894191							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	894192							VOC 8260 QSM WATER 5.0				
					CCV				0			
	894316							VOC 8260 QSM WATER 5.0				
					MBW				0			
128923	891339	071217T1	7/12/2017	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	4	
128935	891512	071317T1	7/13/2017	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	4	
128923	891323	48MW06	7/12/2017	0840		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891325	49TM1	7/12/2017	0845		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891327	48MW1	7/12/2017	1030		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891329	49MW01	7/12/2017	1220		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891331	49MW02	7/12/2017	1400		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891333	49TM2	7/12/2017	1405		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891335	13MW4	7/12/2017	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128923	891337	13MW2	7/12/2017	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128935	891495	50MW02	7/13/2017	0935		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128935	891497	48MW3	7/13/2017	1115	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128935	891502	48MW2	7/13/2017	1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128935	891506	071317R1	7/13/2017	1310		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
128935	891508	13MW3	7/13/2017	1520		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

VOC 8260 QSM WATER 5.0 Analytical Run
139958 on 7/21/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128935	891510		7/13/2017	1625			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		49MW04											
	894527		7/13/2017	1115					VOC 8260 QSM 5.0				
		48MW3			MSW	891497				0			
	894528		7/13/2017	1115					VOC 8260 QSM 5.0				
		48MW3			MSDW	894527				0			
	894529								VOC 8260 QSM WATER 5.0				
					CCVF					0			

23 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2017\BFB1.D
Injection Date : 20 Jul 2017 Log Time Period (hrs) : ALL
Injection Time : 09:52 Total files within period : 27
Sample Directory : C:\INSTARCH\DATA\JUL2017\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date Time
CCV-LCS1	1.00	1.00	1.00	139958,LCSW, 10.0/100.0 ug/L, 5.0 mL P	20 Jul 2017 10:36
MB1	1.00	1.00	1.00	139958,MBW, pH<2, 5.0 mL DI H20 Purge	20 Jul 2017 11:46
891339	1.00	1.00	1.00	139958,891339, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 12:16
891512	1.00	1.00	1.00	139958,891512, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 12:45
891323	1.00	1.00	1.00	139958,891323, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 13:15
891325	1.00	1.00	1.00	139958,891325, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 13:45
891327	1.00	1.00	1.00	139958,891327, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 14:14
891329	1.00	1.00	1.00	139958,891329, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 14:44
891331	1.00	1.00	1.00	139958,891331, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 15:14
891333	1.00	1.00	1.00	139958,891333, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 15:44
891335	1.00	1.00	1.00	139958,891335, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 16:14
891337	1.00	1.00	1.00	139958,891337, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 16:44
891495	1.00	1.00	1.00	139958,891495, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 17:14
891497	1.00	1.00	1.00	139958,891497, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 17:44
891502	1.00	1.00	1.00	139958,891502, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 18:13
891506	1.00	1.00	1.00	139958,891506, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 18:43
891508	1.00	1.00	1.00	139958,891508, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 19:12
891510	1.00	1.00	1.00	139958,891510, pH<2, 5.0 mL Purged + IS/	20 Jul 2017 19:42
891497MS	1.00	1.00	1.00	139958,MSW891497, pH<2, 10.0/100 ug/L, 5.0	20 Jul 2017 20:11
891497SD	1.00	1.00	1.00	139958,MSDW891497, pH<2, 10.0/100 ug/L, 5.0	20 Jul 2017 20:40

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2017\BFB1.D
Injection Date : 20 Jul 2017 Log Time Period (hrs) : ALL
Injection Time : 09:52 Total files within period : 27
Sample Directory : C:\INSTARCH\DATA\JUL2017\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCVF1	1.00	1.00	1.00	139958,CCVF, 10.0/100.0 ug/L, 5.0 mL P	20 Jul 2017	21:10

8260 ISTD/SSTD 20ug/ml VOC0349
8260 BFB STD. 50ug/ml VOC0348
8260 ICV STD. 100ug/ml VOC0353
8260 CCV/CALIB. 100ug/ml VOC0354

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	Approved? No	Instrument
07/20/2017	139958	AGK	RLD	07/21/2017	Yes		VMS3
Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.							

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits		No		No	If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?						If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)		No		No	If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?		Yes		Yes		If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						If yes, affected results qualified "Q"
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	generated limits, or client specific limits.					If no, affected results qualified "Y"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	generated limits, or client specific limits.		No		No	If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W071917.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL1917\BFB1.D
Injection Date : 19 Jul 2017 Log Time Period (hrs) : ALL
Injection Time : 08:21 Total files within period : 15
Sample Directory : C:\INSTARCH\DATA\JUL1917\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	19 Jul 2017	09:35
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	19 Jul 2017	10:05
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	19 Jul 2017	10:34
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100.0 ug/L, 5.0 mL P	19 Jul 2017	11:04
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200.0 ug/L, 5.0 mL P	19 Jul 2017	11:34
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300.0 ug/L, 5.0 mL P	19 Jul 2017	12:04
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400.0 ug/L, 5.0 mL P	19 Jul 2017	12:33
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800.0 ug/L, 5.0 mL P	19 Jul 2017	13:03
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100 ug/L, 5.0 mL Pur	19 Jul 2017	14:02
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300 ug/L, 5.0 mL Pur	19 Jul 2017	14:32
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	19 Jul 2017	15:31

8260 ISTD/SSTD 20ug/ml VOC0349
8260 BFB STD. 50ug/ml VOC0348
8260 ICV STD. 100ug/ml VOC0353
8260 CCV/CALIB. 100ug/ml VOC0354

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 49
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071917

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0353	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0824, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0838, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0848 into 2250uL of MeOH.	MeOH / Fisher/166879	100 ug/mL	07/19/2017	07/26/2017	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0354	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0841, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0839, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0847 into 2250uL of MeOH.	MeOH / Fisher/166879	100 ug/mL	07/19/2017	07/26/2017	RLD

1

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 47
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 070717

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0348	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V787 into 2925uL of MeOH.	MeOH / Fisher/166879	50 ug/mL	07/07/2017	08/07/2017	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0349	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V799 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V756 into 25mL of MeOH.	MeOH / Fisher/166879	20 ug/mL	07/07/2017	08/07/2017	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0350	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0824, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0838, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0836 into 2250uL of MeOH.	MeOH / Fisher/166879	100 ug/mL	07/07/2017	07/14/2017	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0351	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0841, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0839, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0835 into 2250uL of MeOH.	MeOH / Fisher/166879	100 ug/mL	07/07/2017	07/14/2017	RLD

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 41
Page is Locked
Author: rdigmann on: 5/26/2017 2:42:47 PM
Page is not Witnessed
Project: Unassigned
Page Title: 051217

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0841	8260 VOC Mix	Ultra Scientific	DWM-588-1	CR-0232
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	02/28/2020	05/09/2017	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. Std. preparation.	

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Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0838	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW170424010
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	07/23/2017	05/01/2017	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0839	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW170424011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	07/23/2017	05/01/2017	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0835	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW170406010
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	10/03/2017	04/17/2017	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std. prep.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0836	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW170411014
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	10/08/2017	04/17/2017	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/CaLib. Std. prep.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0822	8260 ISTD/SSTD Mix	Ultra Scientific	STM-540	CP-5637
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,500 ug/mL	MeOH	12/31/2019	02/20/2017	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ISTD/SSTD preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0823	1,2-Dichlorobenzene-$_{d4}$	Ultra Scientific	STS-210-1	RM07505
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	09/30/2019	02/20/2017	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ISTD/SSTD preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0824	8260 VOC Mix	AccuStandard	M-502-10X-PAK	216091260
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	09/26/2019	02/22/2017	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0799	8260 ISTD/SSTD Mix	Ultra Scientific	STM-540	CM-1098
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,500 ug/mL	MeOH	04/30/2018	08/22/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ISTD/SSTD.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0800	8260 VOC Mix	Ultra Scientific	DWM-588-1	CP-2742
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	07/31/2019	08/22/2016	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. Std.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 18
Page is Locked
Author: rdigmann on: 06.07.2016 10:03:05
Witness: AAnstett on: 03.08.2016 13:47:19
Project: Unassigned
Page Title: 062216

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0787	4-Bromofluorobenzene	Ultra Scientific	STS-110N	CH-3248A
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	11/30/2017	06/21/2016	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 BFB Standard.	

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CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION and EXPIRATION DATE [1]	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V742	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/22/15	MeOH	6/2/15, RD	2x1mL
V743	8260 VOC Mix.	Accu Standard	M-502-10X-PAK	21501040	2000 ug/mL, 1/12/18	MeOH	6/9/15, RD	5x1mL
V744	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-1859	2000 ug/mL, 5/31/18	MeOH	6/18/15, RD	2x1mL
V745	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-50000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2x1mL
V746	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2x1mL
V747	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721007	1000-10000 ug/mL, 10/19/15	MeOH	7/23/15, RD	2x1mL
V748	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721008	1000-10000 ug/mL, 10/19/15	MeOH	7/23/15, RD	2x1mL
V749	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-3808	2000 ug/mL, 8/31/18	MeOH	8/6/15, RD	2x1mL
V750	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-50000 ug/mL, 11/30/15	MeOH	9/1/15, RD	2x1mL
V751	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150904001	1000-50000 ug/mL, 12/3/15	MeOH	9/10/15, RD	2x1mL
V752	Fluorobenzene	Ultra Sci	STS-160-1	CL-3264	2000 ug/mL 9/30/18	MeOH	9/25/15 RD	4x1mL
V753	a,a,a-TFT	Ultra Sci	STS-220N-1	CM-5040	2000 ug/mL 10/31/19	MeOH	9/25/15 RD	4x1mL
V754	VOC 8360 Special Addition	SPEX	VO-CTWI-5	BW150925015	1,000-50,000 ug/mL 03/23/16	MeOH	10/02/15 Bms	2x1mL
V755	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150925016	1,000-50,000 ug/mL 03/23/16	MeOH	10/02/15 Bms	2x1mL
V756	12-Dichlorobenzene-d4	Ultra Sci	STS-210-1	CG-1939Z	2000 ug/mL 9/30/18	MeOH	10/6/15 RD	4x1mL
V757	8260 VOC Mix	Ultra Sci	DWM-588-1	CM-3956	2000 ug/mL 8/31/18	MeOH	10/15/15 RD	4x1mL
V758	8260 VOC Mix.	Accustandard	M-502-10X-PAK	21508111	2000 ug/mL 8/25/18	MeOH	11/3/15 RD	5x1mL
V759	PVOC/GRO Mix	RESTEK	30095	A0112470	1,000/10,000 ug/mL 08/31/22	MeOH	11/10/15 Bms	2x1mL
V760	PVOC/GRO Mix	ULTRA	UST-100-1	CK-2547A	1,000/10,000 ug/mL 09/30/17	MeOH	11/10/15 Bms	4x1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 11/23/15

V METH, ETH, ETHENE QSM 5.0 Analytical Run # 139901 on 7/18/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	891807						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	891456						METH,ETH,ETHE QSM 5.0				
				LCSW				63186			
	891455						METH,ETH,ETHE QSM 5.0				
				MBW				63186			
128923	891323		7/12/2017 0840		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06						63186			
128923	891325		7/12/2017 0845		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM1						63186			
128923	891327		7/12/2017 1030		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1						63186			
128923	891329		7/12/2017 1220		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01						63186			
128923	891331		7/12/2017 1400		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02						63186			
128923	891333		7/12/2017 1405		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM2						63186			
128923	891335		7/12/2017 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4						63186			
128923	891337		7/12/2017 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2						63186			
	891808						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
128935	891495		7/13/2017 0935		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02						63186			
128935	891497		7/13/2017 1115		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3		Designated MS/MSD				63186			
	891706		7/13/2017 1115				METH,ETH,ETHE QSM 5.0				
		48MW3		MSW 891497				63186			
	891707		7/13/2017 1115				METH,ETH,ETHE QSM 5.0				
		48MW3		MSDW 891706				63186			
128935	891502		7/13/2017 1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2						63186			
128935	891506		7/13/2017 1310		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		071317R1						63186			
128935	891508		7/13/2017 1520		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3						63186			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
139901 on 7/18/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128935	891510		7/13/2017 1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04						63186			
	891809						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 7/18/2017

Prep Batch **63,186** Date Prepped: 7/14/2017 Prepped By AGK

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	891455	MBW		METH,ETH,ETHE QSM	LIQUID	19.0				
	891456	LCSW		METH,ETH,ETHE QSM	LIQUID	19.0				
128923	891323			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891325			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891327			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891329			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891331			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891333			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891335			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891337			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
128935	891495			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891497	*		METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891502			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891506			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891508			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891510			METH,ETH,ETHE QSM	GROUND WATER	19.0			4	
	891706	MSW	891497	METH,ETH,ETHE QSM	GROUND WATER	19.0				

PREP WORKSHEET
on 7/18/2017

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	891707	MSDW	891706	METH,ETH,ETHE QSM	GROUND WATER	19.0				

Notes:_____

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\071417 - 139901 139902.seq
Instrument: PVOC4
Processing Date: Jul 14, 2017 13:21:57

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	139901,CCV,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:03:36
2	139901,LCSW,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:13:54
3	139901,MBW,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:24:09
4	139902,886681,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:34:02
5	139902,889690,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:39:25
6	139901,891323,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:43:13
7	139901,891325,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:47:08
8	139901,891327,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 09:53:24
9	139901,891329,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 10:03:46
10	139901,891331,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 10:07:13
11	139901,891333,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 10:32:07
12	139901,891335,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 10:41:05
13	139901,891337,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 11:09:11
14	139074,CCV,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 11:39:50
15	139901,891495,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:23:43
16	139901,891497,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:27:16
17	139901,MSW891497,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:31:04
18	139901,MSDW8914...	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:35:40
19	139901,891502,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:45:16
20	139901,891506,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:50:31
21	139901,891508,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 12:59:42
22	139901,891510,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 13:18:36
23	139901,CCV,	C:\Instarch\PVOC4\DATA\071417 - 1399...	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 14, 2017 13:21:57

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): 139901, 139902 Instrument: PVOC4

Sequence Date: 7/14/17 Analyst: AGK

Calibration Date: 02/3/15 Ambient Temp. (°C): 19.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	CCV	0.25	42
2	LCSW	1.00	42
3	MBW	1.00	42
4	886681	1.0	42
5	889690	1.0	42
6	891323	1.0	42
7	891325	1.0	42
8	891327	1.0	42
9	891329	1.0	42
10	891331	1.0	42
11	891333	1.0	42
12	891335	1.0	42
13	891337	1.0	42
14	CCV	0.25	42
15	891495	1.0	42
16	891497	1.0	42
17	891497 MS	1.0	42
18	891497 MSD	1.0	42
19	891502	1.0	42
20	891506	1.0	42
21	891508	1.0	42
22	891510	1.0	42
23	CCV	0.25	42
24			42
25	AGIC 7/14/17		42

Calibration Standard Ref. #: VOC0299 (Ex. 3/17/20)

Second Source Ref. #: VOC730

Page 1

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
139901 139902	07/14/2017	AGK	RLD	07/19/2017	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020315DGIC.seq
Instrument: PVOC4
Processing Date: Feb 03, 2015 11:19:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\020315icdg\001....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:27:30
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\020315icdg\002....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:35:02
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\020315icdg\003....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:38:17
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\020315icdg\004....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:41:32
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\005....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:44:59
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\020315icdg\006....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:48:29
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\020315icdg\007....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:52:17
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\008....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:02:07
9	ICB	C:\Instarch\PVOC4\Data\020315icdg\009....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:19:15

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): _____ Instrument: PVOC4

Sequence Date: 02/03/15 Analyst: AGK / BMS

Calibration Date: 02/03/15 Ambient Temp. (°C): 21.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	MEE PT 1	0.01 mL	42
2	MEE PT 2	0.025 mL	42
3	MEE PT 3	0.05 mL	42
4	MEE PT 4	0.10 mL	42
5	MEE PT 5	0.25 mL	42
6	MEE PT 6	0.50 mL	42
7	MEE PT 7	1.0 mL	42
8	ICV	.25 mL	42
9	ICB	1 mL	42
10	Re-Cert Rep 1	.25 mL	42
11	Re Cert Rep 2	.25 mL	42
12	Re Cert Rep 3	.25 mL	42
13	Re Cert Rep 4	.25 mL	42
14	Re Cert Rep 5	.25 mL	42
15			42
16			42
17			42
18			42
19	AGK		42
20	02/03/15		42
21			42
22			42
23			42
24			42
25			42

Calibration Standard Ref. #: V681

Second Source Ref. #: V619 / V730

Page 1

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 27
Page is Locked
Author: AKURTH on: 22.03.2017 10:57:51
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	VOC0299	Standard/Reagent:	MEE RECERTIFICATION O
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	03/17/17	Expiration Date:	03/17/20
Prep:	Recertification of methane, ethane, ethane tank (V681). Ran 4 consecutive CCV's with acceptable recoveries.		

1

CT Laboratories, LLC

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Addition	SPEX	VO-CTWI-5	C114111900B	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Addition	SPEX	VO-CTWI-5	C114111900G	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-32YBA	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X02HE99C33A0087	54-1244467791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7 CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C112121902	1000 ug/mL, 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 1/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C115020201Z	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C115020201B	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V666	8260 Addition	SPEX	VO-CTWI-12	C1130701014	1000-10,000 ug/mL 09/29/13	MeOH	07/08/13 BmS	2 x 1mL
V667	VOC Mix	ULTRA	DWM-588	CK-1488	2000 ug/mL 06/30/16	MeOH	07/08/13 BmS	4 x 1mL
V668	8260 Istd./Sstd. Mix	ULTRA	STM-540	CK-3154	2500 ug/mL 07/31/16	MeOH	07/08/13 BmS	4 x 1mL
V669	Fluorobenzene	ULTRA	STS-160	CE-4128A	2000 ug/mL 01/31/15	MeOH	07/08/13 BmS	4 x 1mL
V670	Unleaded Gasoline	ULTRA	RGO-601	CH-0979	5000 ug/mL 04/30/15	MeOH	07/08/13 BmS	4 x 1mL
V671	8260 Special Addition	SPEX	VO-CTWI-5	C1130726021	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V672	8260 Special Addition	SPEX	VO-CTWI-5	C1130726023	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V673	Carbon Dioxide Std.	AIRGAS	X02HE99C33A1899	Cylinder#: FF7598 Lot: 136-400335836-1	10,000 ppmV 8/2016	1% CO_2/He	08/26/13 BmS	1 cylinder @ 28.7 CF
V674	8260 VOC Mix.	AccuStd.	M-502-10X-PAK	213041330	2000 ug/mL 5/20/16	MeOH	9/16/13 RJ	5 x 1mL
V675	8260 Addition	SPEX	VO-CTWI-12	C1130919006	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V676	8260 Addition	SPEX	VO CTWI-12	C1130919007	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V677	8260 Special Addition	SPEX	VO-CTWI-5	C1130923019	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V678	8260 Special Addition	SPEX	VO-CTWI-5	C1130923020	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V679	124 TMB 2-methylpentane	SPEX	VO-CTWI-1	T1131004002	1000 ug/mL 10/03/16	MeOH	10/08/13 BmS	1mL
V680	α,α,α-Trifluorotoluene	ULTRA	STS-220N	CE-1903Z	3000 ug/mL 08/31/16	MeOH	10/08/13 BmS	4 x 1mL
V681	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-124397530-1	200 ppmV 10/2016	Helium	10/21/13 BmS	1 cylinder @ 31.6 CF

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V609	Fluorobenzene	ULTRA	STS-160	CE-4128	2000 ug/mL 12/31/12	MeOH	09/19/11 BmS	4x1
V610	α,α,α-Trifluorotoluene	ULTRA	STS-220N	CE-1903A	2000 ug/mL 07/21/14	MeOH	09/19/11 BmS	4x1
V611	8260 SPEX Add.	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 AP6	2x1
V612	8260 SPEX Add	SPEX	VO-CTWI-5	C1110914009	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 AP6	2x1
V613	PVOC/GRO Mix	RESTEK	30095	A072677	1000 ug/mL 3/17	MeOH	09/30/11 BmS	4x1
V614	Unleaded Gasoline	RESTEK	30205	A076842	50,000 ug/mL 10/17	MeOH	09/30/11 BmS	2x1
V615	8260 SPEX Add	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	11/23/11 AP6	1x1
V616	8260 SPEX Add	SPEX	VO-CTWI-5	C1111123007	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 AP6	2x1
V617	8260 SPEX Add	SPEX	VO-CTWI-5	C1111129018	1000-10,000 2000 ug/mL 5/27/12	meoH	12/6/11 AP6	2x1
V618	Carbon Dioxide	Air Gas	X02He99C337A1894	Cylinder # XE0016953	10,000 ppmV 12/2014	1% CO_2/He	RD 12/19/11	1 cylinder @ 28.7 CF
V619	Methane, Ethene, Ethane Std.	Airgas	X04HE99C353Q80	Cylinder # 4774237	200 ppmV 12/2014	Helium	BmS 12/27/11	1 cylinder @ 31.6 CF
V620	8260 IST0/SSTD mix	ULTRA	STM-540	CH-2681	2500 ug/mL 9/30/14	meoH	AP6 11/9/12	4x1
V621	Methane, Ethene, Ethane Std.	PRAXAIR	HE ET200EMIC-AQ	917830501	200 ppm 01/11/13	Helium	BmS 01/11/12	Re-Certified (V488)

me lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation
ee vials of DRO standard solution, CTI001A-C)
the concentrations vary, mark VARIES.

METALS
CLP FORMS
DOCUMENTS

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891494
Analytical Method:	EPA 7470A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	140019	Analysis Date/Time	07/19/2017 09:17
Analytical Prep Batch #:	63229	Prep. Date/Time:	07/18/2017 11:30
ICAL Calibration #:	07192017	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891494
Analytical Method:	EPA 6010C	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139973	Analysis Date/Time	07/18/2017 12:49
Analytical Prep Batch #:	63197	Prep. Date/Time:	07/17/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	2610		90	250	500	500
7440-23-5	Total Sodium	80000		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891494
Analytical Method:	EPA 6010C	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139974	Analysis Date/Time	07/18/2017 14:16
Analytical Prep Batch #:	63197	Prep. Date/Time:	07/17/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	2290			6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	4.7	J	B	4.0	12	24	24
7440-39-3	Total Barium	476		B	0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	60000			17	50	100	100
7440-47-3	Total Chromium	9.3			0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	J		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	1730			16	50	100	100
7439-92-1	Total Lead	2.0	U		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	31700		M	6.0	20	40	40
7439-96-5	Total Manganese	20.0			0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	4.7	J		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U		2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	M,Y	2.5	7.5	15	15
7440-62-2	Total Vanadium	1.3	J		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	48.9			1.6	5.0	10	10

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890671
Analytical Method:	EPA 6010C	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139864	Analysis Date/Time	07/14/2017 02:19
Analytical Prep Batch #:	63150	Prep. Date/Time:	07/12/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	53.4		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	5.4	J	4.0	12	24	24
7440-39-3	Total Barium	84.0	B	0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	0.34	J	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	60000		17	50	100	100
7440-47-3	Total Chromium	6.4	B	0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	68.6	J	16	50	100	100
7439-92-1	Total Lead	1.7	J	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	21200		6.0	20	40	40
7439-96-5	Total Manganese	6.2		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	6.8		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	2.5	U	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	7.2	J	1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890671
Analytical Method:	EPA 7470A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	140019	Analysis Date/Time	07/19/2017 09:08
Analytical Prep Batch #:	63229	Prep. Date/Time:	07/18/2017 11:30
ICAL Calibration #:	07192017	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890671
Analytical Method:	EPA 6010C	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139865	Analysis Date/Time	07/18/2017 10:35
Analytical Prep Batch #:	63150	Prep. Date/Time:	07/12/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	800		90	250	500	500

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890671
Analytical Method:	EPA 6010C	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139865	Analysis Date/Time	07/24/2017 13:50
Analytical Prep Batch #:	63150	Prep. Date/Time:	07/12/2017 12:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-23-5	Total Sodium	24000		100	300	600	600

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893502

ICAL Calibration #: 07182017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/19/17 07:37	3.00	3.09	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892398

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/13/17	09:16	12000	12200	102	90	110
Antimony	7/13/17	09:16	500.0	513.0	103	90	110
Arsenic	7/13/17	09:16	2000	2030	102	90	110
Barium	7/13/17	09:16	2000	2110	106	90	110
Beryllium	7/13/17	09:16	50.00	47.60	95	90	110
Cadmium	7/13/17	09:16	50.00	48.10	96	90	110
Calcium	7/13/17	09:16	10000	10300	103	90	110
Chromium	7/13/17	09:16	200.0	200.0	100	90	110
Cobalt	7/13/17	09:16	500.0	497.0	99	90	110
Copper	7/13/17	09:16	250.0	253.0	101	90	110
Iron	7/13/17	09:16	5000	5180	104	90	110
Lead	7/13/17	09:16	500.0	517.0	103	90	110
Magnesium	7/13/17	09:16	10000	10500	105	90	110
Manganese	7/13/17	09:16	500.0	516.0	103	90	110
Nickel	7/13/17	09:16	500.0	499.0	100	90	110
Selenium	7/13/17	09:16	2000	1900	95	90	110
Silver	7/13/17	09:16	50.00	46.10	92	90	110
Thallium	7/13/17	09:16	2000	2070	104	90	110
Vanadium	7/13/17	09:16	500.0	501.0	100	90	110
Zinc	7/13/17	09:16	500.0	517.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892399

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/13/17	09:23	1200	1230	102	80	120
Antimony	7/13/17	09:23	60.00	68.90	115	80	120
Arsenic	7/13/17	09:23	60.00	67.30	112	80	120
Barium	7/13/17	09:23	30.00	32.20	107	80	120
Beryllium	7/13/17	09:23	12.00	13.10	109	80	120
Cadmium	7/13/17	09:23	15.00	16.30	109	80	120
Calcium	7/13/17	09:23	1500	1610	107	80	120
Chromium	7/13/17	09:23	30.00	34.10	114	80	120
Cobalt	7/13/17	09:23	30.00	31.20	104	80	120
Copper	7/13/17	09:23	30.00	32.80	109	80	120
Iron	7/13/17	09:23	900.0	939.0	104	80	120
Lead	7/13/17	09:23	30.00	32.90	110	80	120
Magnesium	7/13/17	09:23	1500	1500	100	80	120
Manganese	7/13/17	09:23	30.00	34.10	114	80	120
Nickel	7/13/17	09:23	30.00	32.00	107	80	120
Selenium	7/13/17	09:23	60.00	68.40	114	80	120
Thallium	7/13/17	09:23	60.00	60.60	101	80	120
Vanadium	7/13/17	09:23	30.00	32.00	107	80	120
Zinc	7/13/17	09:23	30.00	33.80	113	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892403

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/13/17 10:04	10.00	8.95	90	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973

Lab Sample ID: 893349

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	08:07	100000	101000	101	90	110
Sodium	7/18/17	08:07	100000	97700	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893350

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	08:10	3000	3150	105	80	120
Sodium	7/18/17	08:10	3000	2920	97	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893708

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/18/17	13:08	12000	10800	90	90	110
Antimony	7/18/17	13:08	500.0	489.0	98	90	110
Arsenic	7/18/17	13:08	2000	1880	94	90	110
Barium	7/18/17	13:08	2000	1860	93	90	110
Beryllium	7/18/17	13:08	50.00	48.00	96	90	110
Cadmium	7/18/17	13:08	50.00	48.30	97	90	110
Calcium	7/18/17	13:08	10000	10100	101	90	110
Chromium	7/18/17	13:08	200.0	196.0	98	90	110
Cobalt	7/18/17	13:08	500.0	486.0	97	90	110
Copper	7/18/17	13:08	250.0	233.0	93	90	110
Iron	7/18/17	13:08	5000	4730	95	90	110
Lead	7/18/17	13:08	500.0	490.0	98	90	110
Magnesium	7/18/17	13:08	10000	9380	94	90	110
Manganese	7/18/17	13:08	500.0	458.0	92	90	110
Nickel	7/18/17	13:08	500.0	470.0	94	90	110
Selenium	7/18/17	13:08	2000	1960	98	90	110
Silver	7/18/17	13:08	50.00	47.70	95	90	110
Thallium	7/18/17	13:08	2000	1920	96	90	110
Vanadium	7/18/17	13:08	500.0	476.0	95	90	110
Zinc	7/18/17	13:08	500.0	490.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893709

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/18/17	13:15	1200	1130	94	80	120
Antimony	7/18/17	13:15	60.00	59.70	100	80	120
Arsenic	7/18/17	13:15	60.00	59.60	99	80	120
Barium	7/18/17	13:15	30.00	31.00	103	80	120
Beryllium	7/18/17	13:15	12.00	13.10	109	80	120
Cadmium	7/18/17	13:15	15.00	15.40	103	80	120
Calcium	7/18/17	13:15	1500	1530	102	80	120
Chromium	7/18/17	13:15	30.00	31.60	105	80	120
Cobalt	7/18/17	13:15	30.00	28.80	96	80	120
Copper	7/18/17	13:15	30.00	30.10	100	80	120
Iron	7/18/17	13:15	900.0	794.0	88	80	120
Lead	7/18/17	13:15	30.00	31.60	105	80	120
Magnesium	7/18/17	13:15	1500	1400	93	80	120
Manganese	7/18/17	13:15	30.00	30.30	101	80	120
Nickel	7/18/17	13:15	30.00	28.80	96	80	120
Selenium	7/18/17	13:15	60.00	61.70	103	80	120
Thallium	7/18/17	13:15	60.00	58.40	97	80	120
Vanadium	7/18/17	13:15	30.00	28.70	96	80	120
Zinc	7/18/17	13:15	30.00	32.90	110	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893713

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/18/17 13:56	10.00	11.70	117	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896167

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/24/17	09:51	100000	99500	100	90	110
Sodium	7/24/17	09:51	100000	99800	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896168

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/24/17	09:54	3000	3060	102	80	120
Sodium	7/24/17	09:54	3000	2970	99	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896312

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	08:07	100000	103000	103	90	110
Sodium	7/18/17	08:07	100000	97700	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865

Lab Sample ID: 896313

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	08:10	3000	3100	103	80	120
Sodium	7/18/17	08:10	3000	2920	97	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892404

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/14/17	01:34	5000	4760	95	90	110
Antimony	7/14/17	01:34	5000	5310	106	90	110
Arsenic	7/14/17	01:34	5000	4820	96	90	110
Barium	7/14/17	01:34	5000	5080	102	90	110
Beryllium	7/14/17	01:34	500.0	481.0	96	90	110
Cadmium	7/14/17	01:34	500.0	485.0	97	90	110
Calcium	7/14/17	01:34	5000	4890	98	90	110
Chromium	7/14/17	01:34	5000	5130	103	90	110
Cobalt	7/14/17	01:34	5000	4930	99	90	110
Copper	7/14/17	01:34	5000	4690	94	90	110
Iron	7/14/17	01:34	5000	5190	104	90	110
Lead	7/14/17	01:34	5000	5050	101	90	110
Magnesium	7/14/17	01:34	5000	4660	93	90	110
Manganese	7/14/17	01:34	5000	4880	98	90	110
Nickel	7/14/17	01:34	5000	5130	103	90	110
Selenium	7/14/17	01:34	5000	5070	101	90	110
Thallium	7/14/17	01:34	5000	4840	97	90	110
Vanadium	7/14/17	01:34	5000	4950	99	90	110
Zinc	7/14/17	01:34	5000	5010	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892405

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/14/17	01:40	500.0	449.0	90	90	110
Antimony	7/14/17	01:40	500.0	526.0	105	90	110
Arsenic	7/14/17	01:40	500.0	484.0	97	90	110
Barium	7/14/17	01:40	500.0	527.0	105	90	110
Beryllium	7/14/17	01:40	50.00	51.30	103	90	110
Cadmium	7/14/17	01:40	50.00	50.80	102	90	110
Calcium	7/14/17	01:40	500.0	485.0	97	90	110
Chromium	7/14/17	01:40	500.0	510.0	102	90	110
Cobalt	7/14/17	01:40	500.0	494.0	99	90	110
Copper	7/14/17	01:40	500.0	515.0	103	90	110
Iron	7/14/17	01:40	500.0	506.0	101	90	110
Lead	7/14/17	01:40	500.0	527.0	105	90	110
Magnesium	7/14/17	01:40	500.0	493.0	99	90	110
Manganese	7/14/17	01:40	500.0	487.0	97	90	110
Nickel	7/14/17	01:40	500.0	519.0	104	90	110
Selenium	7/14/17	01:40	500.0	506.0	101	90	110
Silver	7/14/17	01:40	50.00	52.90	106	90	110
Thallium	7/14/17	01:40	500.0	500.0	100	90	110
Vanadium	7/14/17	01:40	500.0	491.0	98	90	110
Zinc	7/14/17	01:40	500.0	516.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892411

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/14/17	03:01	5000	4770	95	90	110
Antimony	7/14/17	03:01	5000	5330	107	90	110
Arsenic	7/14/17	03:01	5000	4800	96	90	110
Barium	7/14/17	03:01	5000	5110	102	90	110
Beryllium	7/14/17	03:01	500.0	482.0	96	90	110
Cadmium	7/14/17	03:01	500.0	485.0	97	90	110
Calcium	7/14/17	03:01	5000	4960	99	90	110
Chromium	7/14/17	03:01	5000	5150	103	90	110
Cobalt	7/14/17	03:01	5000	4940	99	90	110
Copper	7/14/17	03:01	5000	4710	94	90	110
Iron	7/14/17	03:01	5000	5230	105	90	110
Lead	7/14/17	03:01	5000	5050	101	90	110
Magnesium	7/14/17	03:01	5000	4710	94	90	110
Manganese	7/14/17	03:01	5000	4910	98	90	110
Nickel	7/14/17	03:01	5000	5130	103	90	110
Selenium	7/14/17	03:01	5000	5070	101	90	110
Thallium	7/14/17	03:01	5000	4820	96	90	110
Vanadium	7/14/17	03:01	5000	4960	99	90	110
Zinc	7/14/17	03:01	5000	5030	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892412

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/14/17	03:07	500.0	450.0	90	90	110
Antimony	7/14/17	03:07	500.0	530.0	106	90	110
Arsenic	7/14/17	03:07	500.0	486.0	97	90	110
Barium	7/14/17	03:07	500.0	536.0	107	90	110
Beryllium	7/14/17	03:07	50.00	51.90	104	90	110
Cadmium	7/14/17	03:07	50.00	51.00	102	90	110
Calcium	7/14/17	03:07	500.0	490.0	98	90	110
Chromium	7/14/17	03:07	500.0	515.0	103	90	110
Cobalt	7/14/17	03:07	500.0	496.0	99	90	110
Copper	7/14/17	03:07	500.0	517.0	103	90	110
Iron	7/14/17	03:07	500.0	510.0	102	90	110
Lead	7/14/17	03:07	500.0	527.0	105	90	110
Magnesium	7/14/17	03:07	500.0	497.0	99	90	110
Manganese	7/14/17	03:07	500.0	493.0	99	90	110
Nickel	7/14/17	03:07	500.0	521.0	104	90	110
Selenium	7/14/17	03:07	500.0	472.0	94	90	110
Silver	7/14/17	03:07	50.00	52.50	105	90	110
Thallium	7/14/17	03:07	500.0	497.0	99	90	110
Vanadium	7/14/17	03:07	500.0	496.0	99	90	110
Zinc	7/14/17	03:07	500.0	518.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893367

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	12:10	100000	97700	98	90	110
Sodium	7/18/17	12:10	100000	91600	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893369

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	12:44	100000	98200	98	90	110
Sodium	7/18/17	12:44	100000	91900	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893373

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	13:17	100000	98800	99	90	110
Sodium	7/18/17	13:17	100000	93100	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893504

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/19/17 08:22	3.00	3.22	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893506

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/19/17 09:01	3.00	2.73	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893508

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/19/17 09:28	3.00	2.88	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893716

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/18/17	15:04	5000	4540	91	90	110
Antimony	7/18/17	15:04	5000	4640	93	90	110
Arsenic	7/18/17	15:04	5000	4640	93	90	110
Barium	7/18/17	15:04	5000	4980	100	90	110
Beryllium	7/18/17	15:04	500.0	530.0	106	90	110
Cadmium	7/18/17	15:04	500.0	516.0	103	90	110
Calcium	7/18/17	15:04	5000	4950	99	90	110
Chromium	7/18/17	15:04	5000	5270	105	90	110
Cobalt	7/18/17	15:04	5000	5420	108	90	110
Copper	7/18/17	15:04	5000	5200	104	90	110
Iron	7/18/17	15:04	5000	5040	101	90	110
Lead	7/18/17	15:04	5000	4890	98	90	110
Magnesium	7/18/17	15:04	5000	5120	102	90	110
Manganese	7/18/17	15:04	5000	4640	93	90	110
Nickel	7/18/17	15:04	5000	4660	93	90	110
Selenium	7/18/17	15:04	5000	4590	92	90	110
Silver	7/18/17	15:04	500.0	529.0	106	90	110
Thallium	7/18/17	15:04	5000	4680	94	90	110
Vanadium	7/18/17	15:04	5000	4890	98	90	110
Zinc	7/18/17	15:04	5000	5180	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893717

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/18/17	15:10	500.0	466.0	93	90	110
Antimony	7/18/17	15:10	500.0	499.0	100	90	110
Arsenic	7/18/17	15:10	500.0	484.0	97	90	110
Barium	7/18/17	15:10	500.0	521.0	104	90	110
Beryllium	7/18/17	15:10	50.00	50.40	101	90	110
Cadmium	7/18/17	15:10	50.00	54.20	108	90	110
Calcium	7/18/17	15:10	500.0	479.0	96	90	110
Chromium	7/18/17	15:10	500.0	537.0	107	90	110
Cobalt	7/18/17	15:10	500.0	502.0	100	90	110
Copper	7/18/17	15:10	500.0	488.0	98	90	110
Iron	7/18/17	15:10	500.0	478.0	96	90	110
Lead	7/18/17	15:10	500.0	511.0	102	90	110
Magnesium	7/18/17	15:10	500.0	527.0	105	90	110
Manganese	7/18/17	15:10	500.0	481.0	96	90	110
Nickel	7/18/17	15:10	500.0	480.0	96	90	110
Selenium	7/18/17	15:10	500.0	470.0	94	90	110
Silver	7/18/17	15:10	50.00	52.50	105	90	110
Thallium	7/18/17	15:10	500.0	502.0	100	90	110
Vanadium	7/18/17	15:10	500.0	495.0	99	90	110
Zinc	7/18/17	15:10	500.0	518.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896175

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/24/17	11:45	100000	97800	98	90	110
Sodium	7/24/17	11:45	100000	95700	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896177

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/24/17	12:18	100000	96400	96	90	110
Sodium	7/24/17	12:18	100000	95900	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896179

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/24/17	13:24	100000	96200	96	90	110
Sodium	7/24/17	13:24	100000	96100	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896182

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/24/17	13:58	100000	96600	97	90	110
Sodium	7/24/17	13:58	100000	97100	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896318

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	09:57	100000	99000	99	90	110
Sodium	7/18/17	09:57	100000	95100	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896320

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	10:30	100000	99300	99	90	110
Sodium	7/18/17	10:30	100000	91900	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896322

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/18/17	11:03	100000	99600	100	90	110
Sodium	7/18/17	11:03	100000	94700	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893503

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07182017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/19/2017 07:40	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892400

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/13/2017 09:36	-1.67	U	6	18
Antimony	07/13/2017 09:36	-1.76	U	2.0	6.0
Arsenic	07/13/2017 09:36	5.39		4	12
Barium	07/13/2017 09:36	0.0460	U	0.29	0.90
Beryllium	07/13/2017 09:36	-0.134	U	0.10	0.30
Cadmium	07/13/2017 09:36	-0.0570	U	0.3	1.0
Calcium	07/13/2017 09:36	40.30		17	50
Chromium	07/13/2017 09:36	0.568	U	0.6	2.0
Cobalt	07/13/2017 09:36	-0.974	U	0.7	2.0
Copper	07/13/2017 09:36	-1.76	U	1.2	3.5
Iron	07/13/2017 09:36	0.256	U	16	50
Lead	07/13/2017 09:36	-3.26	U	1.4	2.0
Magnesium	07/13/2017 09:36	-8.01	U	6	20
Manganese	07/13/2017 09:36	-0.682	U	0.7	2.0
Nickel	07/13/2017 09:36	-1.72	U	1.0	3.0
Selenium	07/13/2017 09:36	1.91	U	2.2	6.5
Silver	07/13/2017 09:36	-0.654	U	0.7	2.0
Thallium	07/13/2017 09:36	-2.50	U	2.5	7.5
Vanadium	07/13/2017 09:36	-0.409	U	0.8	2.5
Zinc	07/13/2017 09:36	-3.10	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893351

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 08:12	167.0		90	250
Sodium	07/18/2017 08:12	95.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893710

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	07/18/2017 13:28	-3.54	U	6	18	
Antimony	07/18/2017 13:28	-1.54	U	2.0	6.0	
Arsenic	07/18/2017 13:28	1.65	U	4	12	
Barium	07/18/2017 13:28	0.919		0.29	0.90	FAIL
Beryllium	07/18/2017 13:28	0.0570	U	0.10	0.30	
Cadmium	07/18/2017 13:28	-0.660	U	0.3	1.0	
Calcium	07/18/2017 13:28	15.80	U	17	50	
Chromium	07/18/2017 13:28	0.0920	U	0.6	2.0	
Cobalt	07/18/2017 13:28	-0.822	U	0.7	2.0	
Copper	07/18/2017 13:28	0.110	U	1.2	3.5	
Iron	07/18/2017 13:28	7.48	U	16	50	
Lead	07/18/2017 13:28	-0.514	U	1.4	2.0	
Magnesium	07/18/2017 13:28	9.81		6	20	
Manganese	07/18/2017 13:28	0.787		0.7	2.0	
Nickel	07/18/2017 13:28	-0.339	U	1.0	3.0	
Selenium	07/18/2017 13:28	-2.82	U	2.2	6.5	
Silver	07/18/2017 13:28	-0.294	U	0.7	2.0	
Thallium	07/18/2017 13:28	0.434	U	2.5	7.5	
Vanadium	07/18/2017 13:28	-0.629	U	0.8	2.5	
Zinc	07/18/2017 13:28	1.84		1.6	4.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896169

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/24/2017 09:57	157.0		90	250
Sodium	07/24/2017 09:57	49.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896314

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 08:12	148.0		90	250
Sodium	07/18/2017 08:12	95.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893505

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/19/2017 08:24	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893507

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/19/2017 09:04	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 893509

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/19/2017 09:30	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892406

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	07/14/2017 01:46	-0.598	U	6	18	
Antimony	07/14/2017 01:46	-1.95	U	2.0	6.0	
Arsenic	07/14/2017 01:46	1.69	U	4	12	
Barium	07/14/2017 01:46	0.950		0.29	0.90	FAIL
Beryllium	07/14/2017 01:46	-0.0710	U	0.10	0.30	
Cadmium	07/14/2017 01:46	0.110	U	0.3	1.0	
Calcium	07/14/2017 01:46	26.60		17	50	
Chromium	07/14/2017 01:46	1.24		0.6	2.0	
Cobalt	07/14/2017 01:46	-1.58	U	0.7	2.0	
Copper	07/14/2017 01:46	-1.22	U	1.2	3.5	
Iron	07/14/2017 01:46	4.80	U	16	50	
Lead	07/14/2017 01:46	0	U	1.4	2.0	
Magnesium	07/14/2017 01:46	-14.4	U	6	20	
Manganese	07/14/2017 01:46	0.480	U	0.7	2.0	
Nickel	07/14/2017 01:46	1.41		1.0	3.0	
Selenium	07/14/2017 01:46	1.79	U	2.2	6.5	
Silver	07/14/2017 01:46	-1.49	U	0.7	2.0	
Thallium	07/14/2017 01:46	-1.18	U	2.5	7.5	
Vanadium	07/14/2017 01:46	0.366	U	0.8	2.5	
Zinc	07/14/2017 01:46	-1.69	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

3-2

CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 892413

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	07/14/2017 03:13	-0.994	U	6	18	
Antimony	07/14/2017 03:13	-1.55	U	2.0	6.0	
Arsenic	07/14/2017 03:13	2.46	U	4	12	
Barium	07/14/2017 03:13	1.19		0.29	0.90	FAIL
Beryllium	07/14/2017 03:13	-0.0380	U	0.10	0.30	
Cadmium	07/14/2017 03:13	0.243	U	0.3	1.0	
Calcium	07/14/2017 03:13	26.20		17	50	
Chromium	07/14/2017 03:13	1.86		0.6	2.0	
Cobalt	07/14/2017 03:13	-0.763	U	0.7	2.0	
Copper	07/14/2017 03:13	-1.60	U	1.2	3.5	
Iron	07/14/2017 03:13	3.00	U	16	50	
Lead	07/14/2017 03:13	-9.93	U	1.4	2.0	
Magnesium	07/14/2017 03:13	-14.1	U	6	20	
Manganese	07/14/2017 03:13	0.371	U	0.7	2.0	
Nickel	07/14/2017 03:13	1.56		1.0	3.0	
Selenium	07/14/2017 03:13	-5.92	U	2.2	6.5	
Silver	07/14/2017 03:13	-1.15	U	0.7	2.0	
Thallium	07/14/2017 03:13	0.929	U	2.5	7.5	
Vanadium	07/14/2017 03:13	0.399	U	0.8	2.5	
Zinc	07/14/2017 03:13	-1.63	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893368

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 12:12	85.00	U	90	250
Sodium	07/18/2017 12:12	106.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893370

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 12:46	110.0		90	250
Sodium	07/18/2017 12:46	118.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 893374

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 13:20	29.00	U	90	250
Sodium	07/18/2017 13:20	103.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 893718

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/18/2017 15:16	-6.70	U	6	18
Antimony	07/18/2017 15:16	-2.14	U	2.0	6.0
Arsenic	07/18/2017 15:16	6.52		4	12
Barium	07/18/2017 15:16	0.0760	U	0.29	0.90
Beryllium	07/18/2017 15:16	0.0320	U	0.10	0.30
Cadmium	07/18/2017 15:16	-0.729	U	0.3	1.0
Calcium	07/18/2017 15:16	3.58	U	17	50
Chromium	07/18/2017 15:16	-0.197	U	0.6	2.0
Cobalt	07/18/2017 15:16	-0.400	U	0.7	2.0
Copper	07/18/2017 15:16	-0.768	U	1.2	3.5
Iron	07/18/2017 15:16	-0.191	U	16	50
Lead	07/18/2017 15:16	0.109	U	1.4	2.0
Magnesium	07/18/2017 15:16	10.60		6	20
Manganese	07/18/2017 15:16	-0.0180	U	0.7	2.0
Nickel	07/18/2017 15:16	-1.14	U	1.0	3.0
Selenium	07/18/2017 15:16	-0.341	U	2.2	6.5
Silver	07/18/2017 15:16	-1.08	U	0.7	2.0
Thallium	07/18/2017 15:16	6.22		2.5	7.5
Vanadium	07/18/2017 15:16	-1.52	U	0.8	2.5
Zinc	07/18/2017 15:16	-0.310	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896176

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/24/2017 11:48	-54.0	U	90	250
Sodium	07/24/2017 11:48	35.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896178

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/24/2017 12:21	48.00	U	90	250
Sodium	07/24/2017 12:21	58.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896180

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/24/2017 13:27	41.00	U	90	250
Sodium	07/24/2017 13:27	84.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896183

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/24/2017 14:01	43.00	U	90	250
Sodium	07/24/2017 14:01	94.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896319

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 10:00	-152	U	90	250
Sodium	07/18/2017 10:00	79.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896321

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 10:33	-77.0	U	90	250
Sodium	07/18/2017 10:33	98.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 896323

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/18/2017 11:06	-127	U	90	250
Sodium	07/18/2017 11:06	70.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140019 Lab Sample ID: 892809

Analytical Prep Batch # 63229 Preparation Date/Time: 07/18/2017 11:30

ICAL Calibration #: 07192017 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	07/19/2017 09:06	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139864 Lab Sample ID: 890759

Analytical Prep Batch # 63150 Preparation Date/Time: 07/12/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	07/14/2017 02:13	-2.13	U	6	18	
Total Antimony	07/14/2017 02:13	-1.14	U	2.0	6.0	
Total Arsenic	07/14/2017 02:13	-1.19	U	4	12	
Total Barium	07/14/2017 02:13	0.106	U	0.29	0.90	
Total Beryllium	07/14/2017 02:13	-0.162	U	0.10	0.30	
Total Cadmium	07/14/2017 02:13	0.184	U	0.3	1.0	
Total Calcium	07/14/2017 02:13	61.70		17	50	FAIL
Total Chromium	07/14/2017 02:13	0.809		0.6	2.0	FAIL
Total Cobalt	07/14/2017 02:13	-2.67	U	0.7	2.0	
Total Copper	07/14/2017 02:13	-2.81	U	1.2	3.5	
Total Iron	07/14/2017 02:13	3.37	U	16	50	
Total Lead	07/14/2017 02:13	0	U	1.4	2.0	
Total Magnesium	07/14/2017 02:13	8.86		6	20	FAIL
Total Manganese	07/14/2017 02:13	-0.592	U	0.7	2.0	
Total Nickel	07/14/2017 02:13	0.506	U	1.0	3.0	
Total Selenium	07/14/2017 02:13	-0.151	U	2.2	6.5	
Total Silver	07/14/2017 02:13	-2.16	U	0.7	2.0	
Total Thallium	07/14/2017 02:13	-4.16	U	2.5	7.5	
Total Vanadium	07/14/2017 02:13	-0.424	U	0.8	2.5	
Total Zinc	07/14/2017 02:13	-2.27	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 890759

Analytical Prep Batch # 63150 Preparation Date/Time: 07/12/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/18/2017 10:27	-109	U	90	250
Total Sodium	07/18/2017 10:27	-21.0	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139865 Lab Sample ID: 890759

Analytical Prep Batch # 63150 Preparation Date/Time: 07/12/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/24/2017 11:53	-109	U	90	250
Total Sodium	07/24/2017 11:53	-21.0	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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3-3

METHOD BLANKS

Sample No

MB

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 891860

Analytical Prep Batch # 63197 Preparation Date/Time: 07/17/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/18/2017 12:41	56.00	U	90	250
Total Sodium	07/18/2017 12:41	90.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139973 Lab Sample ID: 891860

Analytical Prep Batch # 63197 Preparation Date/Time: 07/17/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/18/2017 12:41	56.00	U	90	250
Total Sodium	07/18/2017 12:41	90.00	U	100	300

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139974 Lab Sample ID: 891860

Analytical Prep Batch # 63197 Preparation Date/Time: 07/17/2017 12:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	07/18/2017 14:09	-1.93	U	6	18	
Total Antimony	07/18/2017 14:09	-2.49	U	2.0	6.0	
Total Arsenic	07/18/2017 14:09	4.59		4	12	FAIL
Total Barium	07/18/2017 14:09	-0.147	U	0.29	0.90	
Total Beryllium	07/18/2017 14:09	0.0250	U	0.10	0.30	
Total Cadmium	07/18/2017 14:09	-0.576	U	0.3	1.0	
Total Calcium	07/18/2017 14:09	14.20	U	17	50	
Total Chromium	07/18/2017 14:09	-0.533	U	0.6	2.0	
Total Cobalt	07/18/2017 14:09	-0.973	U	0.7	2.0	
Total Copper	07/18/2017 14:09	-1.00	U	1.2	3.5	
Total Iron	07/18/2017 14:09	6.59	U	16	50	
Total Lead	07/18/2017 14:09	-2.79	U	1.4	2.0	
Total Magnesium	07/18/2017 14:09	-0.979	U	6	20	
Total Manganese	07/18/2017 14:09	0.268	U	0.7	2.0	
Total Nickel	07/18/2017 14:09	-1.32	U	1.0	3.0	
Total Selenium	07/18/2017 14:09	1.96	U	2.2	6.5	
Total Silver	07/18/2017 14:09	2.39		0.7	2.0	FAIL
Total Thallium	07/18/2017 14:09	1.59	U	2.5	7.5	
Total Vanadium	07/18/2017 14:09	-1.46	U	0.8	2.5	
Total Zinc	07/18/2017 14:09	0.926	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX

Analytical Run #: 139864
Lab Sample ID: 892401
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/13/2017 09:49	500000	503000	101	80	120
Antimony	07/13/2017 09:49	0	1.16		-5	5
Arsenic	07/13/2017 09:49	0	-0.501		-6	6
Barium	07/13/2017 09:49	0	0.0940		-0.7	0.7
Beryllium	07/13/2017 09:49	0	0		-0.29	0.29
Cadmium	07/13/2017 09:49	0	-0.00300		-0.26	0.26
Calcium	07/13/2017 09:49	500000	479000	96	80	120
Chromium	07/13/2017 09:49	0	-0.776		-1.9	1.9
Cobalt	07/13/2017 09:49	0	-0.365		-1.2	1.2
Copper	07/13/2017 09:49	0	-0.372		-4	4
Iron	07/13/2017 09:49	500000	498000	100	80	120
Lead	07/13/2017 09:49	0	-0.502		-1.5	1.5
Magnesium	07/13/2017 09:49	500000	504000	101	80	120
Manganese	07/13/2017 09:49	0	0.118		-1.6	1.6
Nickel	07/13/2017 09:49	0	-0.0110		-2.3	2.3
Selenium	07/13/2017 09:49	0	-0.0340		-12	12
Silver	07/13/2017 09:49	0	-0.444		-2.0	2.0
Thallium	07/13/2017 09:49	0	-0.0260		-5	5
Vanadium	07/13/2017 09:49	0	-0.0270		-1.7	1.7
Zinc	07/13/2017 09:49	0	0.940		-2.4	2.4

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX

Analytical Run #: 139973
Lab Sample ID: 893353
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/18/2017 08:18	500000	503000	101	80	120
Calcium	07/18/2017 08:18	500000	506000	101	80	120
Iron	07/18/2017 08:18	500000	493000	99	80	120
Magnesium	07/18/2017 08:18	500000	516000	103	80	120
Potassium	07/18/2017 08:18	0	-48.0		-170	170
Sodium	07/18/2017 08:18	0	0		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX

Analytical Run #: 139974
Lab Sample ID: 893711
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/18/2017 13:41	500000	502000	100	80	120
Antimony	07/18/2017 13:41	0	0.00900		-5	5
Arsenic	07/18/2017 13:41	0	-0.405		-6	6
Barium	07/18/2017 13:41	0	-0.0100		-0.7	0.7
Beryllium	07/18/2017 13:41	0	0		-0.29	0.29
Cadmium	07/18/2017 13:41	0	-0.00300		-0.26	0.26
Calcium	07/18/2017 13:41	500000	484000	97	80	120
Chromium	07/18/2017 13:41	0	0		-1.9	1.9
Cobalt	07/18/2017 13:41	0	-0.350		-1.2	1.2
Copper	07/18/2017 13:41	0	-0.131		-4	4
Iron	07/18/2017 13:41	500000	504000	101	80	120
Lead	07/18/2017 13:41	0	-0.500		-1.5	1.5
Magnesium	07/18/2017 13:41	500000	535000	107	80	120
Manganese	07/18/2017 13:41	0	-0.00700		-1.6	1.6
Nickel	07/18/2017 13:41	0	-0.00200		-2.3	2.3
Selenium	07/18/2017 13:41	0	0.273		-12	12
Silver	07/18/2017 13:41	0	-0.655		-2.0	2.0
Thallium	07/18/2017 13:41	0	-0.00800		-5	5
Vanadium	07/18/2017 13:41	0	-0.0280		-1.7	1.7
Zinc	07/18/2017 13:41	0	0.0170		-2.4	2.4

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX

Analytical Run #: 139865
Lab Sample ID: 896171
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/24/2017 10:03	500000	502000	100	80	120
Calcium	07/24/2017 10:03	500000	509000	102	80	120
Iron	07/24/2017 10:03	500000	523000	105	80	120
Magnesium	07/24/2017 10:03	500000	521000	104	80	120
Potassium	07/24/2017 10:03	0	-20.0		-170	170
Sodium	07/24/2017 10:03	0	0		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX

Analytical Run #: 139865
Lab Sample ID: 896316
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/18/2017 08:18	500000	503000	101	80	120
Calcium	07/18/2017 08:18	500000	506000	101	80	120
Iron	07/18/2017 08:18	500000	493000	99	80	120
Magnesium	07/18/2017 08:18	500000	516000	103	80	120
Potassium	07/18/2017 08:18	0	0		-170	170
Sodium	07/18/2017 08:18	0	0		-140	140

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX, Ultra

Analytical Run #: 139864
Lab Sample ID: 892402
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/13/2017 09:56	500000	530000	106	80	120
Antimony	07/13/2017 09:56	500.0	546.0	109	80	120
Arsenic	07/13/2017 09:56	500.0	515.0	103	80	120
Barium	07/13/2017 09:56	500.0	482.0	96	80	120
Beryllium	07/13/2017 09:56	500.0	508.0	102	80	120
Cadmium	07/13/2017 09:56	500.0	441.0	88	80	120
Calcium	07/13/2017 09:56	500000	503000	101	80	120
Chromium	07/13/2017 09:56	500.0	494.0	99	80	120
Cobalt	07/13/2017 09:56	500.0	488.0	98	80	120
Copper	07/13/2017 09:56	500.0	487.0	97	80	120
Iron	07/13/2017 09:56	500000	549000	110	80	120
Lead	07/13/2017 09:56	500.0	429.0	86	80	120
Magnesium	07/13/2017 09:56	500000	531000	106	80	120
Manganese	07/13/2017 09:56	500.0	509.0	102	80	120
Nickel	07/13/2017 09:56	500.0	485.0	97	80	120
Selenium	07/13/2017 09:56	500.0	506.0	101	80	120
Silver	07/13/2017 09:56	500.0	465.0	93	80	120
Thallium	07/13/2017 09:56	500.0	443.0	89	80	120
Vanadium	07/13/2017 09:56	500.0	514.0	103	80	120
Zinc	07/13/2017 09:56	500.0	530.0	106	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX, Ultra

Analytical Run #: 139973
Lab Sample ID: 893354
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/18/2017 08:21	500000	497000	99	80	120
Calcium	07/18/2017 08:21	500000	501000	100	80	120
Iron	07/18/2017 08:21	500000	523000	105	80	120
Magnesium	07/18/2017 08:21	500000	507000	101	80	120
Potassium	07/18/2017 08:21	100000	111000	111	80	120
Sodium	07/18/2017 08:21	100000	105000	105	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX, Ultra

Analytical Run #: 139974
Lab Sample ID: 893712
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/18/2017 13:48	500000	514000	103	80	120
Antimony	07/18/2017 13:48	500.0	569.0	114	80	120
Arsenic	07/18/2017 13:48	500.0	496.0	99	80	120
Barium	07/18/2017 13:48	500.0	504.0	101	80	120
Beryllium	07/18/2017 13:48	500.0	593.0	119	80	120
Cadmium	07/18/2017 13:48	500.0	500.0	100	80	120
Calcium	07/18/2017 13:48	500000	496000	99	80	120
Chromium	07/18/2017 13:48	500.0	547.0	109	80	120
Cobalt	07/18/2017 13:48	500.0	552.0	110	80	120
Copper	07/18/2017 13:48	500.0	489.0	98	80	120
Iron	07/18/2017 13:48	500000	541000	108	80	120
Lead	07/18/2017 13:48	500.0	430.0	86	80	120
Magnesium	07/18/2017 13:48	500000	552000	110	80	120
Manganese	07/18/2017 13:48	500.0	499.0	100	80	120
Nickel	07/18/2017 13:48	500.0	493.0	99	80	120
Selenium	07/18/2017 13:48	500.0	550.0	110	80	120
Silver	07/18/2017 13:48	500.0	496.0	99	80	120
Thallium	07/18/2017 13:48	500.0	408.0	82	80	120
Vanadium	07/18/2017 13:48	500.0	535.0	107	80	120
Zinc	07/18/2017 13:48	500.0	555.0	111	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX, Ultra

Analytical Run #: 139865
Lab Sample ID: 896172
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/24/2017 10:05	500000	522000	104	80	120
Calcium	07/24/2017 10:05	500000	527000	105	80	120
Iron	07/24/2017 10:05	500000	580000	116	80	120
Magnesium	07/24/2017 10:05	500000	536000	107	80	120
Potassium	07/24/2017 10:05	100000	111000	111	80	120
Sodium	07/24/2017 10:05	100000	109000	109	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 128820
ICS Source: SPEX, Ultra

Analytical Run #: 139865
Lab Sample ID: 896317
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/18/2017 08:21	500000	497000	99	80	120
Calcium	07/18/2017 08:21	500000	501000	100	80	120
Iron	07/18/2017 08:21	500000	523000	105	80	120
Magnesium	07/18/2017 08:21	500000	507000	101	80	120
Potassium	07/18/2017 08:21	100000	113000	113	80	120
Sodium	07/18/2017 08:21	100000	105000	105	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	892812	Parent Sample No.:	890671
Analytical Prep Batch #	63229	Analytical Preparation Date/Time:	07/18/2017 11:30
Analytical Run #:	140019	ICAL Calibration #:	07192017

Analysis Type *Initial Analysis* Analysis Date: ----- 07/19/2017 Analysis Time: -------- 09:12

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.8		BDL	U	2.0	90		CV

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	890762	Parent Sample No.:	890671
Analytical Prep Batch #	63150	Analytical Preparation Date/Time:	07/12/2017 12:00
Analytical Run #:	139864	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/14/2017 Analysis Time: -------- 02:41

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Aluminum	86-115	887		53.4		800	104		P
Total Antimony	88-113	221		BDL	U	200	110		P
Total Arsenic	87-113	832		5.4	J	800	103		P
Total Barium	88-113	956		84.0		800	109		P
Total Beryllium	89-112	19.3		BDL	U	20.0	96		P
Total Cadmium	88-113	19.3		0.34	J	20.0	95		P
Total Calcium	87-113	247000		60000		200000	94		P
Total Chromium	90-113	88.4		6.4		80.0	102		P
Total Cobalt	89-114	211		BDL	U	200	106		P
Total Copper	86-114	104		BDL	U	100	104		P
Total Iron	87-115	458		68.6	J	400	97		P
Total Lead	86-113	187		1.7	J	200	93		P
Total Magnesium	85-113	112000		21200		100000	91		P
Total Manganese	90-114	220		6.2		200	107		P
Total Nickel	88-113	212		6.8		200	103		P
Total Selenium	83-114	820		BDL	U	800	102		P
Total Silver	84-115	17.7		BDL	U	20.0	88		P
Total Thallium	85-114	751		BDL	U	800	94		P
Total Vanadium	90-111	205		BDL	U	200	102		P
Total Zinc	87-115	228		7.2	J	200	110		P

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	890762	Parent Sample No.:	890671
Analytical Prep Batch #	63150	Analytical Preparation Date/Time:	07/12/2017 12:00
Analytical Run #:	139865	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 10:44

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	102000		800		100000	101		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

49ADW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	891863	Parent Sample No.:	891494
Analytical Prep Batch #	63197	Analytical Preparation Date/Time:	07/17/2017 12:00
Analytical Run #:	139973	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 12:58

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	107000		2610		100000	104		P
Total Sodium	87-115	177000		80000		100000	97		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **49ADW1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	891863	Parent Sample No.:	891494
Analytical Prep Batch #	63197	Analytical Preparation Date/Time:	07/17/2017 12:00
Analytical Run #:	139974	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 14:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	3080		2290		800	99		P	
Total Antimony	88-113	211		BDL	U	200	106		P	
Total Arsenic	87-113	762		4.7	J	800	95		P	
Total Barium	88-113	1330		476		800	107		P	
Total Beryllium	89-112	18.8		BDL	U	20.0	94		P	
Total Cadmium	88-113	19.8		BDL	U	20.0	99		P	
Total Calcium	87-113	246000		60000		200000	93		P	
Total Chromium	90-113	95.1		9.3		80.0	107		P	
Total Cobalt	89-114	203		BDL	U	200	102		P	
Total Copper	86-114	101		3.5	J	100	98		P	
Total Iron	87-115	2070		1730		400	85		P	*FAIL*
Total Lead	86-113	174		BDL	U	200	87		P	
Total Magnesium	85-113	136000		31700		100000	104		P	
Total Manganese	90-114	235		20.0		200	108		P	
Total Nickel	88-113	196		4.7	J	200	96		P	
Total Selenium	83-114	853		BDL	U	800	107		P	
Total Silver	84-115	18.7		BDL	U	20.0	94		P	
Total Thallium	85-114	98.1		BDL	U	800	12		P	*FAIL*
Total Vanadium	90-111	204		1.3	J	200	101		P	
Total Zinc	87-115	267		48.9		200	109		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solids for Sample:
Concentration Units: ug/L
Sample No: 892410
Parent Sample No.: 890671
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 139864
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/14/2017 Analysis Time: -------- 02:54

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Aluminum	80-120	4220		53.4		4000	104		P
Antimony	80-120	1090		BDL	U	1000	109		P
Arsenic	80-120	4150		5.4	J	4000	104		P
Barium	80-120	4460		84.0		4000	109		P
Beryllium	80-120	94.2		BDL	U	100	94		P
Cadmium	80-120	92.3		0.34	J	100	92		P
Calcium	80-120	467000		60000		400000	102		P
Chromium	80-120	410		6.4		400	101		P
Cobalt	80-120	958		BDL	U	1000	96		P
Copper	80-120	507		BDL	U	500	101		P
Iron	80-120	2010		68.6	J	2000	97		P
Lead	80-120	879		1.7	J	1000	88		P
Magnesium	80-120	223000		21200		200000	101		P
Manganese	80-120	1030		6.2		1000	102		P
Nickel	80-120	992		6.8		1000	99		P
Selenium	80-120	4120		BDL	U	4000	103		P
Silver	80-120	95.4		BDL	U	100	95		P
Thallium	80-120	3590		BDL	U	4000	90		P
Vanadium	80-120	1010		BDL	U	1000	101		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49ADW1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	893372	Parent Sample No.:	891494
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139973	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 13:03

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	102000		2610		100000	99		P
Sodium	80-120.	175000		80000		100000	95		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49ADW1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solids for Sample:
Concentration Units: ug/L
Sample No: 893715
Parent Sample No.: 891494
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 139974
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 14:50

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	6180		2290		4000	97		P	
Antimony	80-120	968		BDL	U	1000	97		P	
Arsenic	80-120	3660		4.7	J	4000	91		P	
Barium	80-120	4660		476		4000	105		P	
Beryllium	80-120	91.4		BDL	U	100	91		P	
Cadmium	80-120	98.8		BDL	U	100	99		P	
Calcium	80-120	536000		60000		400000	119		P	
Chromium	80-120	446		9.3		400	109		P	
Cobalt	80-120	1100		BDL	U	1000	110		P	
Copper	80-120	481		3.5	J	500	96		P	
Iron	80-120	3620		1730		2000	94		P	
Lead	80-120	872		BDL	U	1000	87		P	
Magnesium	80-120	307000		31700		200000	138		P	*FAIL*
Manganese	80-120	1070		20.0		1000	105		P	
Nickel	80-120	920		4.7	J	1000	92		P	
Selenium	80-120	3870		BDL	U	4000	97		P	
Silver	80-120	97.5		BDL	U	100	98		P	
Thallium	80-120	3160		BDL	U	4000	79		P	*FAIL*
Vanadium	80-120	1050		1.3	J	1000	105		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	896299	Parent Sample No.:	890671
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139865	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/18/2017	Analysis Time: --------	10:49

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	97600		800		100000	97		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	896300	Parent Sample No.:	890671
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139865	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/24/2017	Analysis Time: --------	13:55

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Sodium	80-120.	119000		24000		100000	95		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	892813	Parent Sample No.:	892812
Analytical Prep Batch #	63229	Analytical Preparation Date/Time:	07/18/2017 11:30
Analytical Run #:	140019	ICAL Calibration #:	07192017

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/19/2017	Analysis Time: --------	09:15

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.7		BDL	U	2.0	85		CV

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	890763	Parent Sample No.:	890762
Analytical Prep Batch #	63150	Analytical Preparation Date/Time:	07/12/2017 12:00
Analytical Run #:	139864	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/14/2017 Analysis Time: -------- 02:47

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Aluminum	86-115	879		53.4		800	103		P
Total Antimony	88-113	214		BDL	U	200	107		P
Total Arsenic	87-113	825		5.4	J	800	102		P
Total Barium	88-113	950		84.0		800	108		P
Total Beryllium	89-112	19.0		BDL	U	20.0	95		P
Total Cadmium	88-113	19.0		0.34	J	20.0	93		P
Total Calcium	87-113	245000		60000		200000	92		P
Total Chromium	90-113	88.5		6.4		80.0	103		P
Total Cobalt	89-114	209		BDL	U	200	104		P
Total Copper	86-114	102		BDL	U	100	102		P
Total Iron	87-115	458		68.6	J	400	97		P
Total Lead	86-113	183		1.7	J	200	91		P
Total Magnesium	85-113	111000		21200		100000	90		P
Total Manganese	90-114	219		6.2		200	106		P
Total Nickel	88-113	207		6.8		200	100		P
Total Selenium	83-114	804		BDL	U	800	100		P
Total Silver	84-115	17.3		BDL	U	20.0	86		P
Total Thallium	85-114	737		BDL	U	800	92		P
Total Vanadium	90-111	204		BDL	U	200	102		P
Total Zinc	87-115	223		7.2	J	200	108		P

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	890763	Parent Sample No.:	890762
Analytical Prep Batch #	63150	Analytical Preparation Date/Time:	07/12/2017 12:00
Analytical Run #:	139865	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 10:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	101000		800		100000	100		P

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49ADW1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	891864	Parent Sample No.:	891863
Analytical Prep Batch #	63197	Analytical Preparation Date/Time:	07/17/2017 12:00
Analytical Run #:	139973	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 13:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	107000		2610		100000	104		P
Total Sodium	87-115	178000		80000		100000	98		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49ADW1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	ug/L
Sample No	891864	Parent Sample No.:	891863
Analytical Prep Batch #	63197	Analytical Preparation Date/Time:	07/17/2017 12:00
Analytical Run #:	139974	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/18/2017 Analysis Time: -------- 14:44

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	3320		2290		800	129		P	*FAIL*
Total Antimony	88-113	207		BDL	U	200	104		P	
Total Arsenic	87-113	759		4.7	J	800	94		P	
Total Barium	88-113	1330		476		800	107		P	
Total Beryllium	89-112	18.7		BDL	U	20.0	94		P	
Total Cadmium	88-113	19.8		BDL	U	20.0	99		P	
Total Calcium	87-113	248000		60000		200000	94		P	
Total Chromium	90-113	96.8		9.3		80.0	109		P	
Total Cobalt	89-114	203		BDL	U	200	102		P	
Total Copper	86-114	102		3.5	J	100	98		P	
Total Iron	87-115	2170		1730		400	110		P	
Total Lead	86-113	167		BDL	U	200	84		P	*FAIL*
Total Magnesium	85-113	138000		31700		100000	106		P	
Total Manganese	90-114	233		20.0		200	106		P	
Total Nickel	88-113	197		4.7	J	200	96		P	
Total Selenium	83-114	923		BDL	U	800	115		P	*FAIL*
Total Silver	84-115	20.7		BDL	U	20.0	104		P	
Total Thallium	85-114	672		BDL	U	800	84		P	*FAIL*
Total Vanadium	90-111	206		1.3	J	200	102		P	
Total Zinc	87-115	268		48.9		200	110		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 63229

Analytical Run #: 140019

ICAL Calibration #: 07192017

Sample #: 892811

Parent Sample #: 890671

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	07/19/2017	09:10	20	0.030	U	0.030	U	0		CV

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DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 63150

Analytical Run #: 139864

ICAL Calibration #:

Sample #: 890761

Parent Sample #: 890671

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	07/14/2017	02:33	20	53.4		56.2		5		P	
Total Antimony	07/14/2017	02:33	20	2.0	U	2.0	U	0		P	
Total Arsenic	07/14/2017	02:33	20	5.4	J	4.0	U	200		P	*FAIL*
Total Barium	07/14/2017	02:33	20	84.0		85.1		1		P	
Total Beryllium	07/14/2017	02:33	20	0.10	U	0.10	U	0		P	
Total Cadmium	07/14/2017	02:33	20	0.34	J	0.30	U	200		P	*FAIL*
Total Calcium	07/14/2017	02:33	20	60000		60400		1		P	
Total Chromium	07/14/2017	02:33	20	6.4		6.9		8		P	
Total Cobalt	07/14/2017	02:33	20	0.70	U	0.70	U	0		P	
Total Copper	07/14/2017	02:33	20	1.2	U	1.2	U	0		P	
Total Iron	07/14/2017	02:33	20	68.6	J	70.9	J	3		P	
Total Lead	07/14/2017	02:33	20	1.7	J	1.4	U	200		P	*FAIL*
Total Magnesium	07/14/2017	02:33	20	21200		21400		1		P	
Total Manganese	07/14/2017	02:33	20	6.2		6.4		3		P	
Total Nickel	07/14/2017	02:33	20	6.8		7.3		7		P	
Total Selenium	07/14/2017	02:33	20	2.2	U	2.2	U	0		P	
Total Silver	07/14/2017	02:33	20	0.70	U	0.70	U	0		P	
Total Thallium	07/14/2017	02:33	20	2.5	U	2.5	U	0		P	
Total Vanadium	07/14/2017	02:33	20	0.80	U	0.80	U	0		P	
Total Zinc	07/14/2017	02:33	20	7.2	J	8.0	J	11		P	

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DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 63150

Analytical Run #: 139865

ICAL Calibration #:

Sample #: 890761

Parent Sample #: 890671

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	07/18/2017	10:41	20	800		811		1		P

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DUPLICATES

Sample Description

49ADW1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 63197

Analytical Run #: 139973

ICAL Calibration #:

Sample #: 891862

Parent Sample #: 891494

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	07/18/2017	12:55	20	2610		2580		1		P
Total Sodium	07/18/2017	12:55	20	80000		82400		3		P

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DUPLICATES

Sample Description

49ADW1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 63197

Analytical Run #: 139974

ICAL Calibration #:

Sample #: 891862

Parent Sample #: 891494

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	07/18/2017	14:30	20	2290		2280		0		P	
Total Antimony	07/18/2017	14:30	20	2.0	U	2.0	U	0		P	
Total Arsenic	07/18/2017	14:30	20	4.7	J	4.0	U	200		P	*FAIL*
Total Barium	07/18/2017	14:30	20	476		488		2		P	
Total Beryllium	07/18/2017	14:30	20	0.10	U	0.10	U	0		P	
Total Cadmium	07/18/2017	14:30	20	0.30	U	0.30	U	0		P	
Total Calcium	07/18/2017	14:30	20	60000		60900		1		P	
Total Chromium	07/18/2017	14:30	20	9.3		9.7		4		P	
Total Cobalt	07/18/2017	14:30	20	0.70	U	0.70	U	0		P	
Total Copper	07/18/2017	14:30	20	3.5	J	1.4	J	86		P	*FAIL*
Total Iron	07/18/2017	14:30	20	1730		1770		2		P	
Total Lead	07/18/2017	14:30	20	1.4	U	1.4	U	0		P	
Total Magnesium	07/18/2017	14:30	20	31700		32600		3		P	
Total Manganese	07/18/2017	14:30	20	20.0		20.1		0		P	
Total Nickel	07/18/2017	14:30	20	4.7	J	5.2	J	10		P	
Total Selenium	07/18/2017	14:30	20	2.2	U	4.8	J	200		P	*FAIL*
Total Silver	07/18/2017	14:30	20	0.70	U	0.70	U	0		P	
Total Thallium	07/18/2017	14:30	20	2.5	U	2.5	U	0		P	
Total Vanadium	07/18/2017	14:30	20	1.3	J	0.80	U	200		P	*FAIL*
Total Zinc	07/18/2017	14:30	20	48.9		50.1		2		P	

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: ug/L

Analytical Prep Batch #: 63229
Analytical Preparation Date/Time: 07/18/2017 11:30
Analytical Run #: 140019
ICAL Calibration #: 07192017
Sample #: 892813
Parent Sample #: 892812

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	07/19/2017	09:15	20	1.8		1.7		6		CV

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 128820

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 63150 | Analytical Preparation Date/Time: 07/12/2017 12:00

Analytical Run #: 139864 | ICAL Calibration #:

Sample #: 890763 | Parent Sample #: 890762

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	07/14/2017	02:47	20	887		879		1		P
Total Antimony	07/14/2017	02:47	20	221		214		3		P
Total Arsenic	07/14/2017	02:47	20	832		825		1		P
Total Barium	07/14/2017	02:47	20	956		950		1		P
Total Beryllium	07/14/2017	02:47	20	19.3		19.0		2		P
Total Cadmium	07/14/2017	02:47	20	19.3		19.0		2		P
Total Calcium	07/14/2017	02:47	20	247000		245000		1		P
Total Chromium	07/14/2017	02:47	20	88.4		88.5		0		P
Total Cobalt	07/14/2017	02:47	20	211		209		1		P
Total Copper	07/14/2017	02:47	20	104		102		2		P
Total Iron	07/14/2017	02:47	20	458		458		0		P
Total Lead	07/14/2017	02:47	20	187		183		2		P
Total Magnesium	07/14/2017	02:47	20	112000		111000		1		P
Total Manganese	07/14/2017	02:47	20	220		219		0		P
Total Nickel	07/14/2017	02:47	20	212		207		2		P
Total Selenium	07/14/2017	02:47	20	820		804		2		P
Total Silver	07/14/2017	02:47	20	17.7		17.3		2		P
Total Thallium	07/14/2017	02:47	20	751		737		2		P
Total Vanadium	07/14/2017	02:47	20	205		204		0		P
Total Zinc	07/14/2017	02:47	20	228		223		2		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 63150
Analytical Preparation Date/Time: 07/12/2017 12:00
Analytical Run #: 139865
ICAL Calibration #:
Sample #: 890763
Parent Sample #: 890762

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	07/18/2017	10:46	20	102000		101000		1		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 63197
Analytical Preparation Date/Time: 07/17/2017 12:00
Analytical Run #: 139973
ICAL Calibration #:
Sample #: 891864
Parent Sample #: 891863

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	07/18/2017	13:00	20	107000		107000		0		P
Total Sodium	07/18/2017	13:00	20	177000		178000		1		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW1**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 128820

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 63197 | Analytical Preparation Date/Time: 07/17/2017 12:00

Analytical Run #: 139974 | ICAL Calibration #:

Sample #: 891864 | Parent Sample #: 891863

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	07/18/2017	14:44	20	3080		3320		8		P	
Total Antimony	07/18/2017	14:44	20	211		207		2		P	
Total Arsenic	07/18/2017	14:44	20	762		759		0		P	
Total Barium	07/18/2017	14:44	20	1330		1330		0		P	
Total Beryllium	07/18/2017	14:44	20	18.8		18.7		1		P	
Total Cadmium	07/18/2017	14:44	20	19.8		19.8		0		P	
Total Calcium	07/18/2017	14:44	20	246000		248000		1		P	
Total Chromium	07/18/2017	14:44	20	95.1		96.8		2		P	
Total Cobalt	07/18/2017	14:44	20	203		203		0		P	
Total Copper	07/18/2017	14:44	20	101		102		1		P	
Total Iron	07/18/2017	14:44	20	2070		2170		5		P	
Total Lead	07/18/2017	14:44	20	174		167		4		P	
Total Magnesium	07/18/2017	14:44	20	136000		138000		1		P	
Total Manganese	07/18/2017	14:44	20	235		233		1		P	
Total Nickel	07/18/2017	14:44	20	196		197		1		P	
Total Selenium	07/18/2017	14:44	20	853		923		8		P	
Total Silver	07/18/2017	14:44	20	18.7		20.7		10		P	
Total Thallium	07/18/2017	14:44	20	98.1		672		149		P	*FAIL*
Total Vanadium	07/18/2017	14:44	20	204		206		1		P	
Total Zinc	07/18/2017	14:44	20	267		268		0		P	

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: ug/L

Analytical Run #: 140019 Sample No.:#: 892810

Analytical Prep Batch #: 63229 Preparation Date/Time: 07/18/2017 11:30

ICAL Calibration #: 07192017

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	07/19/2017 08:46	82-119	2.78		3.00	93		CV

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: ug/L

Analytical Run #: 139864 Sample No.:#: 890760

Analytical Prep Batch #: 63150 Preparation Date/Time: 07/12/2017 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	07/14/2017 02:06	86-115	816.0		800.0	102		P
Total Antimony	07/14/2017 02:06	88-113	221.0		200.0	110		P
Total Arsenic	07/14/2017 02:06	87-113	840.0		800.0	105		P
Total Barium	07/14/2017 02:06	88-113	878.0		800.0	110		P
Total Beryllium	07/14/2017 02:06	89-112	19.60		20.00	98		P
Total Cadmium	07/14/2017 02:06	88-113	19.60		20.00	98		P
Total Calcium	07/14/2017 02:06	87-113	194000		200000	97		P
Total Chromium	07/14/2017 02:06	90-113	84.50		80.00	106		P
Total Cobalt	07/14/2017 02:06	89-114	216.0		200.0	108		P
Total Copper	07/14/2017 02:06	86-114	104.0		100.0	104		P
Total Iron	07/14/2017 02:06	87-115	402.0		400.0	100		P
Total Lead	07/14/2017 02:06	86-113	195.0		200.0	98		P
Total Magnesium	07/14/2017 02:06	85-113	92800		100000	93		P
Total Manganese	07/14/2017 02:06	90-114	218.0		200.0	109		P
Total Nickel	07/14/2017 02:06	88-113	208.0		200.0	104		P
Total Selenium	07/14/2017 02:06	83-114	825.0		800.0	103		P
Total Silver	07/14/2017 02:06	84-115	18.40		20.00	92		P
Total Thallium	07/14/2017 02:06	85-114	759.0		800.0	95		P
Total Vanadium	07/14/2017 02:06	90-111	207.0		200.0	104		P
Total Zinc	07/14/2017 02:06	87-115	220.0		200.0	110		P

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Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: ug/L

Analytical Run #: 139865 Sample No.:#: 890760

Analytical Prep Batch #: 63150 Preparation Date/Time: 07/12/2017 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	07/18/2017 10:24	86-114	102000		100000	102		P
Total Sodium	07/18/2017 10:24	87-115	101000		100000	101		P

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: ug/L

Analytical Run #: 139973 Sample No.:#: 891861

Analytical Prep Batch #: 63197 Preparation Date/Time: 07/17/2017 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	07/18/2017 12:38	86-114	101000		100000	101		P
Total Sodium	07/18/2017 12:38	87-115	95000		100000	95		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: ug/L

Analytical Run #: 139974 Sample No.:#: 891861

Analytical Prep Batch #: 63197 Preparation Date/Time: 07/17/2017 12:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	07/18/2017 14:03	86-115	914.0		800.0	114		P
Total Antimony	07/18/2017 14:03	88-113	208.0		200.0	104		P
Total Arsenic	07/18/2017 14:03	87-113	776.0		800.0	97		P
Total Barium	07/18/2017 14:03	88-113	848.0		800.0	106		P
Total Beryllium	07/18/2017 14:03	89-112	19.60		20.00	98		P
Total Cadmium	07/18/2017 14:03	88-113	19.80		20.00	99		P
Total Calcium	07/18/2017 14:03	87-113	189000		200000	94		P
Total Chromium	07/18/2017 14:03	90-113	86.10		80.00	108		P
Total Cobalt	07/18/2017 14:03	89-114	204.0		200.0	102		P
Total Copper	07/18/2017 14:03	86-114	101.0		100.0	101		P
Total Iron	07/18/2017 14:03	87-115	381.0		400.0	95		P
Total Lead	07/18/2017 14:03	86-113	178.0		200.0	89		P
Total Magnesium	07/18/2017 14:03	85-113	102000		100000	102		P
Total Manganese	07/18/2017 14:03	90-114	213.0		200.0	106		P
Total Nickel	07/18/2017 14:03	88-113	198.0		200.0	99		P
Total Selenium	07/18/2017 14:03	83-114	894.0		800.0	112		P
Total Silver	07/18/2017 14:03	84-115	21.40		20.00	107		P
Total Thallium	07/18/2017 14:03	85-114	708.0		800.0	88		P
Total Vanadium	07/18/2017 14:03	90-111	202.0		200.0	101		P
Total Zinc	07/18/2017 14:03	87-115	218.0		200.0	109		P

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9

ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 128820

Concentration Units: ug/L

Sample No.: 892409 Parent Sample No.: 890671

LIMS Run #: 139864 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	07/14/2017 02:26	53.4	J	36.05	J	32		P	*INVALID*
Antimony	07/14/2017 02:26	BDL	U	10	U	0		P	*INVALID*
Arsenic	07/14/2017 02:26	5.35	U	25.4	J	375		P	*INVALID*
Barium	07/14/2017 02:26	84.0		85.5		2		P	*INVALID*
Beryllium	07/14/2017 02:26	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	07/14/2017 02:26	.343	U	1.5	U	100		P	*INVALID*
Calcium	07/14/2017 02:26	60000.		131000		118		P	*FAIL*
Chromium	07/14/2017 02:26	6.41	J	13.6	J	112		P	*INVALID*
Cobalt	07/14/2017 02:26	BDL	U	3.5	U	0		P	*INVALID*
Copper	07/14/2017 02:26	BDL	U	6	U	0		P	*INVALID*
Iron	07/14/2017 02:26	68.6	U	89.5	J	30		P	*INVALID*
Lead	07/14/2017 02:26	1.69	U	7	U	100		P	*INVALID*
Magnesium	07/14/2017 02:26	21200.		46150		118		P	*FAIL*
Manganese	07/14/2017 02:26	6.16	J	7.8	J	27		P	*INVALID*
Nickel	07/14/2017 02:26	6.82	J	8.95	J	31		P	*INVALID*
Selenium	07/14/2017 02:26	BDL	U	11	U	0		P	*INVALID*
Silver	07/14/2017 02:26	BDL	U	3.5	U	0		P	*INVALID*
Thallium	07/14/2017 02:26	BDL	U	22	J	0		P	*INVALID*
Vanadium	07/14/2017 02:26	BDL	U	4	U	0		P	*INVALID*
Zinc	07/14/2017 02:26	7.21	U	8	U	100		P	*INVALID*

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9

ICP SERIAL DILUTION

Sample Description

49ADW1

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 128820

Concentration Units: ug/L

Sample No.: 893371 Parent Sample No.: 891494

LIMS Run #: 139973 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	07/18/2017 12:52	2.61	U	450	U	100		P	*INVALID*
Sodium	07/18/2017 12:52	80.0	U	500	U	100		P	*INVALID*

CT LABORATORIES
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9

ICP SERIAL DILUTION

Sample Description

49ADW1

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 128820

Concentration Units: ug/L

Sample No.: 893714 Parent Sample No.: 891494

LIMS Run #: 139974 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	07/18/2017 14:23	2290.		2925		28		P	*FAIL*
Antimony	07/18/2017 14:23	BDL	U	10	U	0		P	*INVALID*
Arsenic	07/18/2017 14:23	4.65	U	46.15	J	892		P	*INVALID*
Barium	07/18/2017 14:23	476.		440.5		7		P	
Beryllium	07/18/2017 14:23	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	07/18/2017 14:23	BDL	U	1.5	U	0		P	*INVALID*
Calcium	07/18/2017 14:23	60000.		79500		32		P	*FAIL*
Chromium	07/18/2017 14:23	9.25	J	7.6	J	18		P	*INVALID*
Cobalt	07/18/2017 14:23	BDL	U	3.5	U	0		P	*INVALID*
Copper	07/18/2017 14:23	3.51	U	6	U	100		P	*INVALID*
Iron	07/18/2017 14:23	1730.		2180		26		P	*INVALID*
Lead	07/18/2017 14:23	BDL	U	7	U	0		P	*INVALID*
Magnesium	07/18/2017 14:23	31700.		41850		32		P	*FAIL*
Manganese	07/18/2017 14:23	20.0	J	22		10		P	*INVALID*
Nickel	07/18/2017 14:23	4.73	U	5	U	100		P	*INVALID*
Selenium	07/18/2017 14:23	BDL	U	11	U	0		P	*INVALID*
Silver	07/18/2017 14:23	BDL	U	9.1	J	0		P	*INVALID*
Thallium	07/18/2017 14:23	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	07/18/2017 14:23	1.26	U	4	U	100		P	*INVALID*
Zinc	07/18/2017 14:23	48.9	J	48.2	J	1		P	*INVALID*

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9

ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 128820

Concentration Units: ug/L

Sample No.: 896297 Parent Sample No.: 890671

LIMS Run #: 139865 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	07/18/2017 10:38	.800	U	450	U	100		P	*INVALID*

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9

ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 128820

Concentration Units: ug/L

Sample No.: 896298 Parent Sample No.: 890671

LIMS Run #: 139865 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Sodium	07/24/2017 13:52	24.0	U	500	U	100		P	*INVALID*

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 128820

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	-0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 {452}	☒	1	Ca	0.000022
Ni 231.604 {445}	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 {455}	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 {153}	☒	1	Fe	0.000024
Pb 220.353 {453}	☒	9	Fe	0.000071
			Si	0.000940
			Tl	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 {463}	☒	1	Fe	0.000032
Sb 217.581 {455}	☒	1	Fe	-0.000048
Se 196.090 {172}	☒	1	Fe	-0.000205
Se 196.090 {472}	☒	1	Fe	0.000022
Se 206.279 {463}	☒	1	Fe	0.001119
Tl 276.787 {122}	☒	1	Mg	0.006492
Tl 190.856 {477}	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 {116}	☒	1	Fe	0.000170
V 292.402 {115}	☒	1	Fe	0.000041
Zn 206.200 {463}	☒	1	Fe	0.000173
Zn 213.856 {458}	☒	1	Fe	0.000380
Y 360.073 { 94}*	☒	None		
Na 330.298 {102}	☒	1	Fe	0.000991
Si 251.611 {134}	☒	1	Fe	-0.000042
Ti 334.941 {101}	☒	1	Fe	0.000050
Ti 337.280 {100}	☒	1	Fe	0.000006
Sr 407.771 { 83}	☒	1	Fe	0.000039
Sr 421.552 { 80}	☒	1	Fe	0.000039

CT LABORATORIES
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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 350.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 128820

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 128820

Preparation Batch #: 63150

Preparation Date/Time: 07/12/2017 / 12:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
890671	Normal Sample	54ADW01	GROUND WATER	50
890759	Method Blank		LIQUID	50
890760	Lab Control Spike		LIQUID	50
890761	Lab Duplicate	54ADW01	GROUND WATER	50
890762	Matrix Spike	54ADW01	GROUND WATER	50
890763	Matrix Spike Duplicate	54ADW01	GROUND WATER	50

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 128820

Preparation Batch #: 63197

Preparation Date/Time: 07/17/2017 / 12:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
891494	Normal Sample	49ADW1	GROUND WATER	50
891860	Method Blank		LIQUID	50
891861	Lab Control Spike		LIQUID	50
891862	Lab Duplicate	49ADW1	GROUND WATER	50
891863	Matrix Spike	49ADW1	GROUND WATER	50
891864	Matrix Spike Duplicate	49ADW1	GROUND WATER	50

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PREPARATION LOG

Lab Name: CT Laboratories | Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A | SDG No.: 128820

Preparation Batch #: 63229 | Preparation Date/Time: 07/18/2017 / 11:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
890671	Normal Sample	54ADW01	GROUND WATER	25.0
891494	Normal Sample	49ADW1	GROUND WATER	25.0
892809	Method Blank		LIQUID	25.0
892810	Lab Control Spike		LIQUID	25.0
892811	Lab Duplicate	54ADW01	GROUND WATER	25.0
892812	Matrix Spike	54ADW01	GROUND WATER	25.0
892813	Matrix Spike Duplicate	54ADW01	GROUND WATER	25.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 128820

Instrument ID Number: CETAC
Method Number: CV

Start & End Date: 07/19/2017 to 07/19/2017
Analytical Run #: 140019

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
893502	ICV	1.00	7/19 07:37																X													
893503	ICB	1.00	7/19 07:40																X													
893504	CCV	1.00	7/19 08:22																X													
893505	CCB	1.00	7/19 08:24																X													
892810	LCSW	1.00	7/19 08:46																X													
893506	CCV	1.00	7/19 09:01																X													
893507	CCB	1.00	7/19 09:04																X													
892809	MBW	1.00	7/19 09:06																X													
890671	Initial	1.00	7/19 09:08																X													
892811	DUP	1.00	7/19 09:10																X													
892812	MSW	1.00	7/19 09:12																X													
892813	MSDW	1.00	7/19 09:15																X													
891494	Initial	1.00	7/19 09:17																X													
893508	CCV	1.00	7/19 09:28																X													
893509	CCB	1.00	7/19 09:30																X													

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 128820

Instrument ID Number: TJA
Method Number: P

Start & End Date: 07/13/2017 to 07/14/2017
Analytical Run #: 139864

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
892398	ICV	1.00	7/13 09:16	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892399	ICVLL	1.00	7/13 09:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
892400	ICB	1.00	7/13 09:36	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892401	ICSA	1.00	7/13 09:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892402	ICSAB	1.00	7/13 09:56	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892403	ICVLL	1.00	7/13 10:04																							X							
892404	CCV1	1.00	7/14 01:34	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
892405	CCV2	1.00	7/14 01:40	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892406	CCB	1.00	7/14 01:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
890760	LCSW	1.00	7/14 02:06	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
890759	MBW	1.00	7/14 02:13	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
890671	Initial	1.00	7/14 02:19	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892409	L	5	7/14 02:26	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
890761	DUP	1.00	7/14 02:33	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
890762	MSW	1.00	7/14 02:41	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
890763	MSDW	1.00	7/14 02:47	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892410	PDSW	1.00	7/14 02:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892411	CCV1	1.00	7/14 03:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
892412	CCV2	1.00	7/14 03:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
892413	CCB	1.00	7/14 03:13	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 128820

Instrument ID Number: TJA
Method Number: P

Start & End Date: 07/18/2017 to 07/24/2017
Analytical Run #: 139865

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
896312	ICV	1.00	7/18 08:07																				X				X					
896313	ICVLL	1.00	7/18 08:10																				X				X					
896314	ICB	1.00	7/18 08:12																				X				X					
896316	ICSA	1.00	7/18 08:18	X							X				X		X						X				X					
896317	ICSAB	1.00	7/18 08:21	X							X				X		X						X				X					
896318	CCV	1.00	7/18 09:57																				X				X					
896319	CCB	1.00	7/18 10:00																				X				X					
890760	LCSW	1.00	7/18 10:24																				X				X					
890759	MBW	1.00	7/18 10:27																				X				X					
896320	CCV	1.00	7/18 10:30																				X				X					
896321	CCB	1.00	7/18 10:33																				X				X					
890671	Initial	1.00	7/18 10:35																				X									
896297	L	5	7/18 10:38																				X									
890761	DUP	1.00	7/18 10:41																				X									
890762	MSW	1.00	7/18 10:44																				X									
890763	MSDW	1.00	7/18 10:46																				X									
896299	PDSW	1.00	7/18 10:49																				X									
896322	CCV	1.00	7/18 11:03																				X				X					
896323	CCB	1.00	7/18 11:06																				X				X					
896167	ICV	1.00	7/24 09:51																				X				X					
896168	ICVLL	1.00	7/24 09:54																				X				X					
896169	ICB	1.00	7/24 09:57																				X				X					
896171	ICSA	1.00	7/24 10:03	X							X				X		X						X				X					
896172	ICSAB	1.00	7/24 10:05	X							X				X		X						X				X					
896175	CCV	1.00	7/24 11:45																				X				X					
896176	CCB	1.00	7/24 11:48																				X				X					
890759	MBW	1.00	7/24 11:53																				X				X					
896177	CCV	1.00	7/24 12:18																				X				X					

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 128820

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/18/2017 to 07/24/2017

Analytical Run #: 139865

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
896178	CCB	1.00	7/24 12:21																				X				X					
896179	CCV	1.00	7/24 13:24																				X				X					
896180	CCB	1.00	7/24 13:27																				X				X					
890671	Initial	1.00	7/24 13:50																								X					
896298	L	5	7/24 13:52																								X					
896300	PDSW	1.00	7/24 13:55																								X					
896182	CCV	1.00	7/24 13:58																				X				X					
896183	CCB	1.00	7/24 14:01																				X				X					

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 128820

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/18/2017 to 07/18/2017

Analytical Run #: 139973

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
893349	ICV	1.00	7/18 08:07																				X				X					
893350	ICVLL	1.00	7/18 08:10																				X				X					
893351	ICB	1.00	7/18 08:12																				X				X					
893353	ICSA	1.00	7/18 08:18	X							X				X		X						X				X					
893354	ICSAB	1.00	7/18 08:21	X							X				X		X						X				X					
893367	CCV	1.00	7/18 12:10																				X				X					
893368	CCB	1.00	7/18 12:12																				X				X					
891861	LCSW	1.00	7/18 12:38																				X				X					
891860	MBW	1.00	7/18 12:41																				X				X					
893369	CCV	1.00	7/18 12:44																				X				X					
893370	CCB	1.00	7/18 12:46																				X				X					
891494	Initial	1.00	7/18 12:49																				X				X					
893371	L	5	7/18 12:52																				X				X					
891862	DUP	1.00	7/18 12:55																				X				X					
891863	MSW	1.00	7/18 12:58																				X				X					
891864	MSDW	1.00	7/18 13:00																				X				X					
893372	PDSW	1.00	7/18 13:03																				X				X					
893373	CCV	1.00	7/18 13:17																				X				X					
893374	CCB	1.00	7/18 13:20																				X				X					

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 128820

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/18/2017 to 07/18/2017

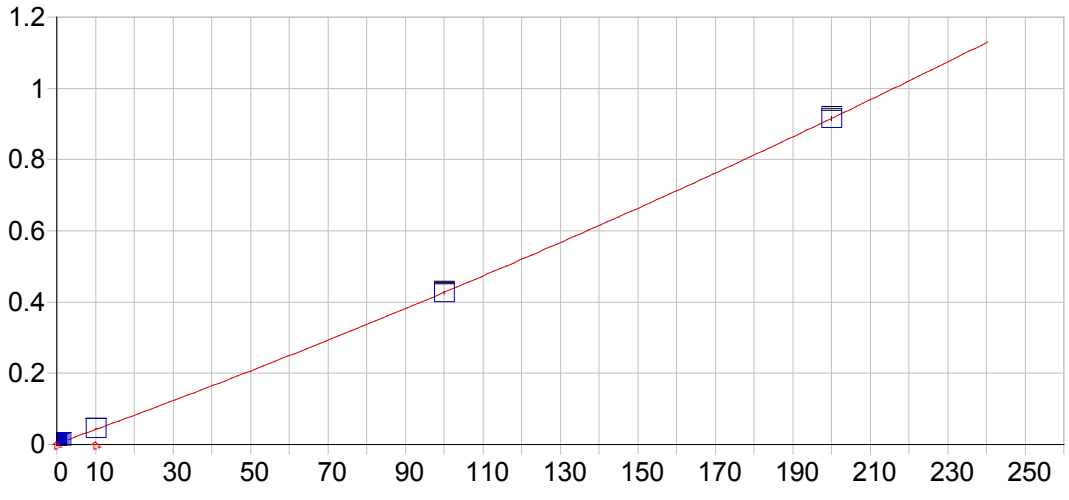
Analytical Run #: 139974

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
893708	ICV	1.00	7/18 13:08	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893709	ICVLL	1.00	7/18 13:15	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
893710	ICB	1.00	7/18 13:28	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893711	ICSA	1.00	7/18 13:41	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893712	ICSAB	1.00	7/18 13:48	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893713	ICVLL	1.00	7/18 13:56																							X							
891861	LCSW	1.00	7/18 14:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
891860	MBW	1.00	7/18 14:09	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
891494	Initial	1.00	7/18 14:16	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893714	L	5	7/18 14:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
891862	DUP	1.00	7/18 14:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
891863	MSW	1.00	7/18 14:37	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
891864	MSDW	1.00	7/18 14:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893715	PDSW	1.00	7/18 14:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893716	CCV1	1.00	7/18 15:04	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893717	CCV2	1.00	7/18 15:10	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
893718	CCB	1.00	7/18 15:16	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	07/25/2017 08:59:37	07/18/2017 08:04:12	Curvili	None	0.002305	0.003930	0.000003	1.000000	0.999994	0.001647	0.074350	0.247832
	Na 330.237 {102}	07/25/2017 08:59:37	07/18/2017 08:04:12	Linear	1/Conc	0.000177	0.000105	0.000000	1.000000	0.999520	0.000008	1.591711	5.305702
	Na 589.592 { 57}	07/25/2017 08:59:37	07/18/2017 08:04:12	Linear	1/Conc	0.002271	0.052836	0.000000	1.000000	0.999533	0.000797	0.010231	0.034102
	Y 360.073 { 94}	07/25/2017 08:59:37	07/18/2017 07:44:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	07/25/2017 08:59:37	07/18/2017 07:44:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	07/25/2017 08:59:37	07/18/2017 08:07:15	Linear	1/Conc	0.003495	0.000018	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	07/25/2017 08:59:37	07/18/2017 08:07:15	Linear	1/Conc	-0.000033	0.010000	0.000000	1.000000	1.000000	0.000000	0.020226	0.067419
	Mg 285.213 {118}	07/25/2017 08:59:37	07/18/2017 08:07:15	Linear	None	0.000435	0.040112	0.000000	1.000000	1.000000	0.000000	0.002516	0.008386
	Ca 317.933 {106}	07/25/2017 08:59:37	07/18/2017 08:07:15	Linear	None	0.033346	0.010013	0.000000	1.000000	1.000000	0.000000	0.009963	0.033211
	Fe 234.349 {144}	07/25/2017 08:59:37	07/18/2017 08:07:15	Linear	None	0.000052	0.000997	0.000000	1.000000	1.000000	0.000000	0.038371	0.127904

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	Warnin	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

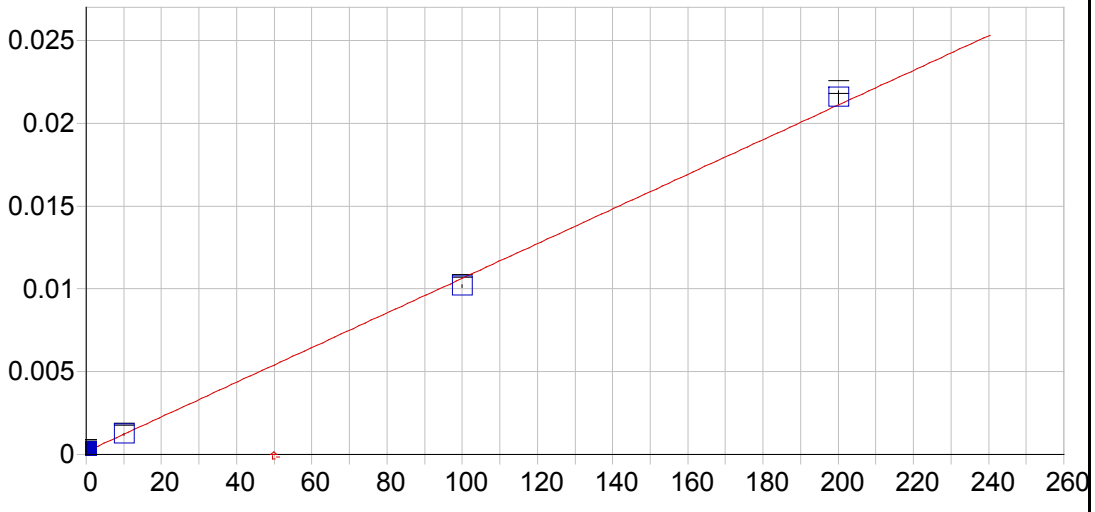


K 766.490 { 44}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.002305	Re-Slope:	1.000000
A1 (Gain):	0.003930	Y-int:	0.000000
A2 (Curvature):	0.000003		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	Warning Positive Curvature
Std Error of Est:	0.001647		
Predicted MDL:	0.074350		
Predicted MQL:	0.247832		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.22426	-.224	.000	.00142	.000	1
CalibStd-1.0	1.0000	.85882	-.141	-14.1	.00568	.000	1
CalibStd-10.	10.000	10.629	.629	6.29	.04443	.000	1
CalibStd-0.5	.50000	.31575	-.184	-36.9	.00355	.000	1
CalibStd-200	200.00	200.02	.021	.010	.91556	.005	1
CalibStd-100	100.00	99.899	-.101	-.101	.42662	.003	1

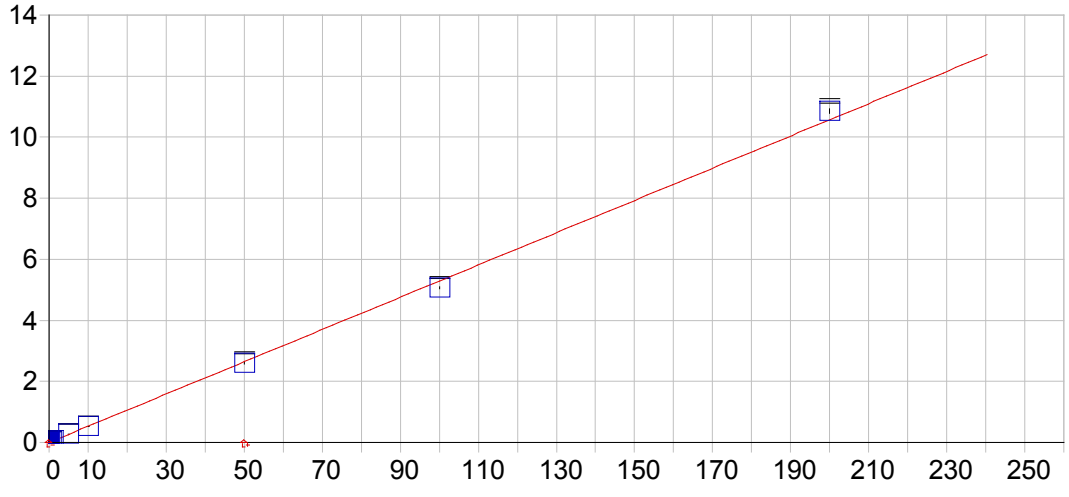


Na 330.237 {102}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000177	Re-Slope:	1.000000
A1 (Gain):	0.000105	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999520	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	1.591711		
Predicted MQL:	5.305702		

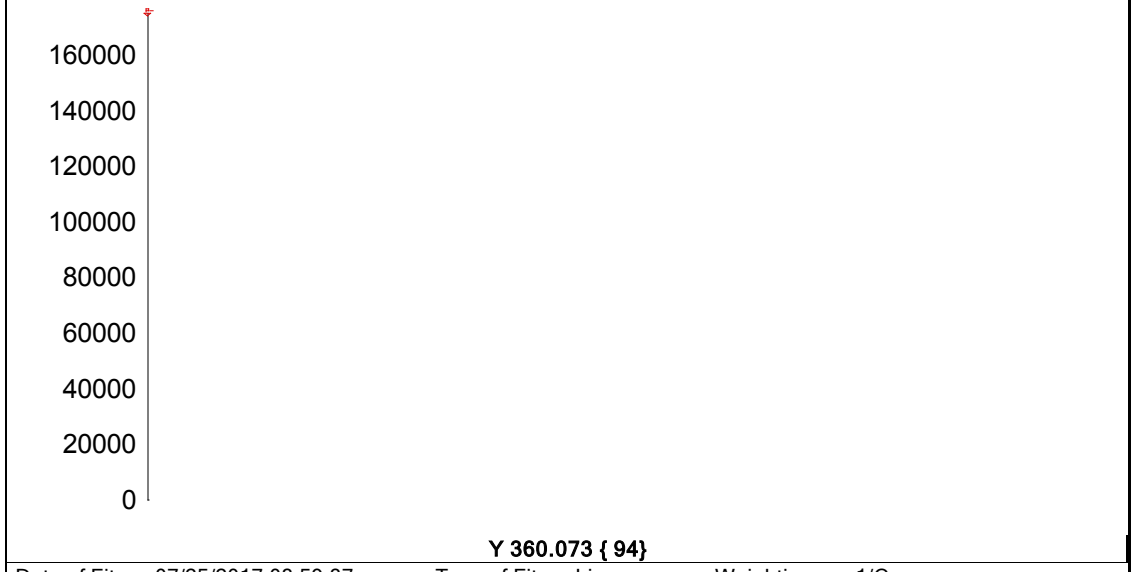
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00017	.000	.000	.00018	.000	1
CalibStd-200	200.00	204.42	4.42	2.21	.02156	.000	1
CalibStd-10.	10.000	10.058	.058	.583	.00123	.000	1
CalibStd-100	100.00	95.526	-4.47	-4.47	.01017	.000	1



Na 589.592 { 57}

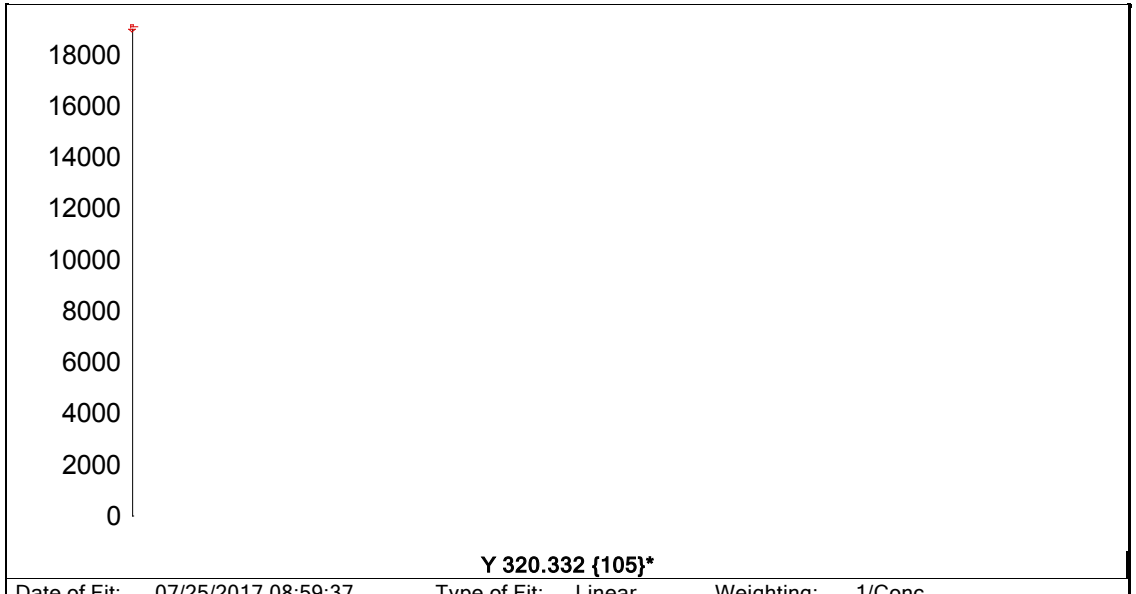
Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.002271		Re-Slope:	1.000000	
A1 (Gain):	0.052836		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999533		Status:	OK.	
Std Error of Est:	0.000797				
Predicted MDL:	0.010231				
Predicted MQL:	0.034102				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00006	.000	.000	.00227	.001	1
CalibStd-0.5	.50000	.47632	-.024	-4.74	.02744	.000	1
CalibStd-1.0	1.0000	.96994	-.030	-3.01	.05352	.001	1
CalibStd-5.0	5.0000	4.9820	-.018	-.360	.26550	.003	1
CalibStd-10.	10.000	9.9416	-.058	-.584	.52754	.004	1
CalibStd-50	50.000	49.139	-.861	-1.72	2.5986	.029	1
CalibStd-100	100.00	95.699	-4.30	-4.30	5.0586	.031	1
CalibStd-200	200.00	205.29	5.29	2.65	10.849	.072	1



Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

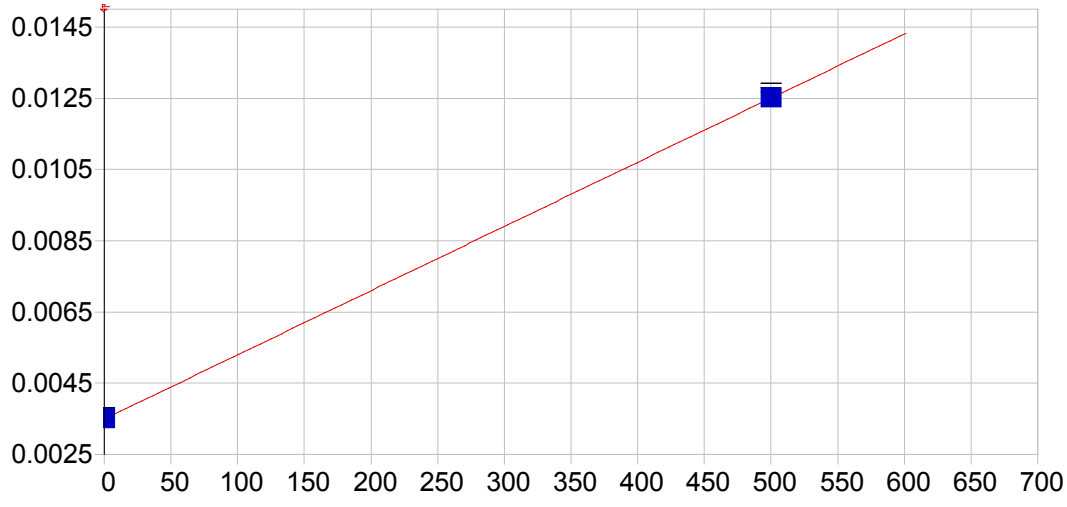
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	161730.	3030.	1



Y 320.332 {105}*

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	17631.	87.6	1

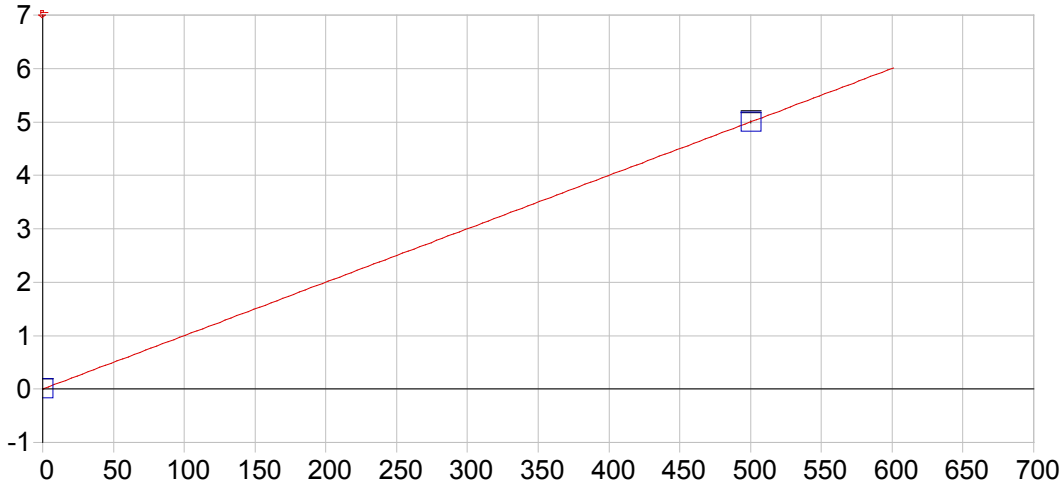


Al 308.215 {109}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003495	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00349	.000	1
CalibStd-500	500.00	500.00	.000	.000	.01250	.000	1

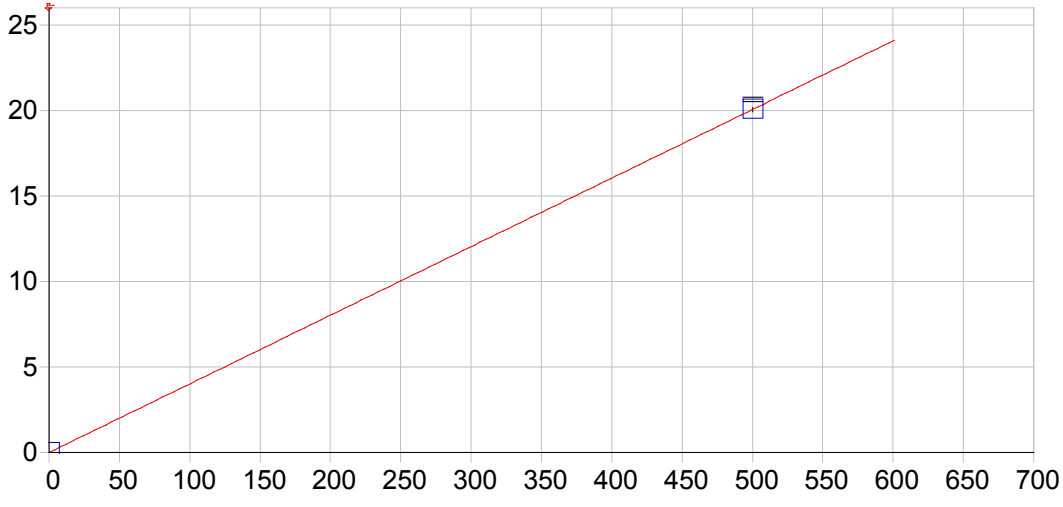


Al 396.152 { 85}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000033	Re-Slope:	1.000000
A1 (Gain):	0.010000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.020226		
Predicted MQL:	0.067419		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00003	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.9998	.017	1

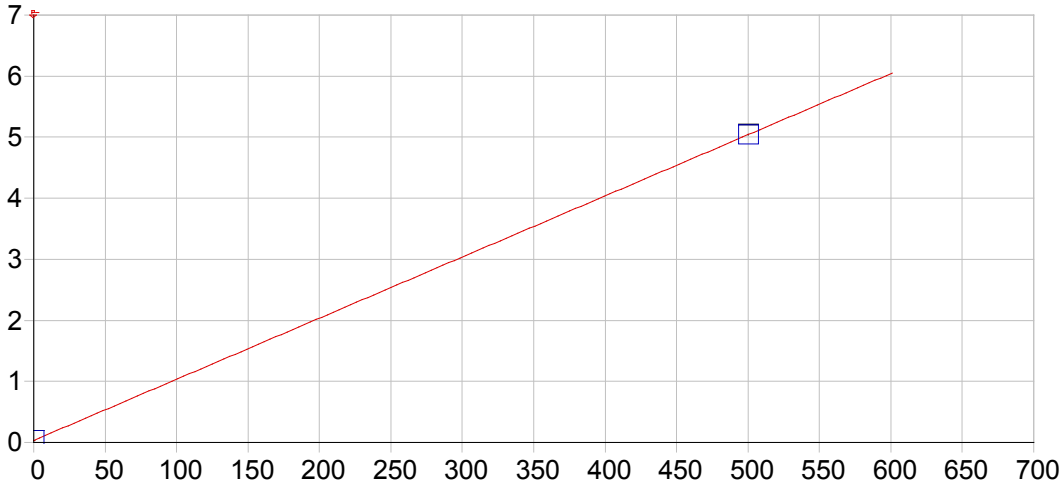


Mg 285.213 {118}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000435	Re-Slope:	1.000000
A1 (Gain):	0.040112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002516		
Predicted MQL:	0.008386		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00043	.000	1
CalibStd-500	500.00	500.00	.000	.000	20.057	.132	1

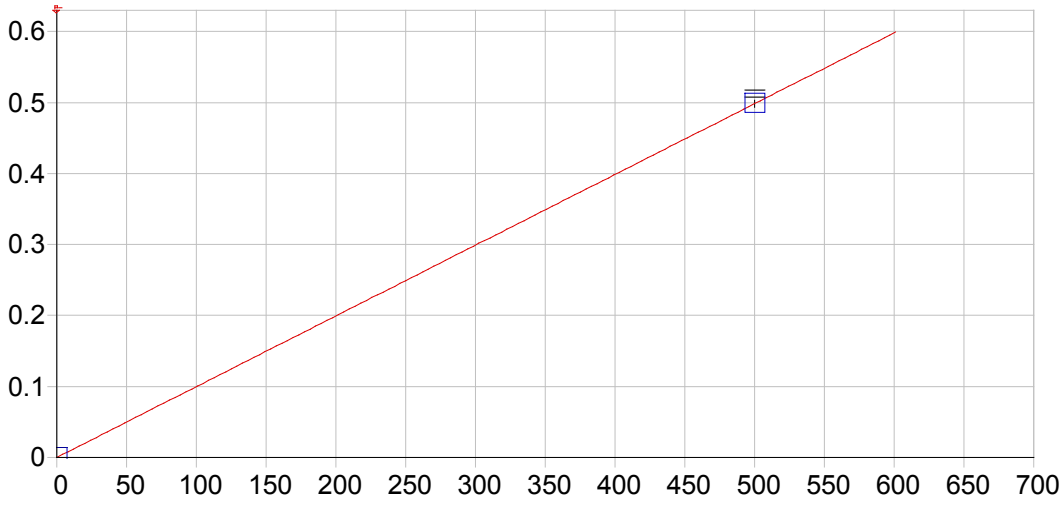


Ca 317.933 {106}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.033346	Re-Slope:	1.000000
A1 (Gain):	0.010013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009963		
Predicted MQL:	0.033211		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.03335	.000	1
CalibStd-500	500.00	500.00	.000	.000	5.0399	.007	1



Fe 234.349 {144}

Date of Fit:	07/25/2017 08:59:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000997	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.038371		
Predicted MQL:	0.127904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00005	.000	1
CalibStd-500	500.00	500.00	.000	.000	.49840	.005	1

Sample Name: Blank Acquired: 07/18/2017 07:41:59 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.002**	**-.000**	**.000**	**.033**	**.000**
Stddev	.000	.000	.001	.000	.000	.000	.000
%RSD	28.4	48.1	33.7	487.	28.1	1.18	39.7

Int. Std.	Y_3203
Units	Cts/S
Avg	**17631.**
Stddev	88.
%RSD	.49660

Sample Name: CalibStd-0.5 Acquired: 07/18/2017 07:44:54 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.004**	**.027**
Stddev	.000	.000
%RSD	1.76	1.31

Int. Std.	Y_3203
Units	Cts/S
Avg	**17485.**
Stddev	122.
%RSD	.69851

Sample Name: CalibStd-1.0 Acquired: 07/18/2017 07:47:39 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.006**	**.054**
Stddev	.000	.001
%RSD	2.82	1.00

Int. Std.	Y_3203
Units	Cts/S
Avg	**17359.**
Stddev	79.
%RSD	.45325

Sample Name: CalibStd-5.0 Acquired: 07/18/2017 07:50:25 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.265
Stddev	.003
%RSD	1.12

Int. Std.	Y_3203
Units	Cts/S
Avg	17423.
Stddev	110.
%RSD	.63304

Sample Name: CalibStd-10.0 Acquired: 07/18/2017 07:53:10 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.044**	**.001**	**.528**
Stddev	.000	.000	.004
%RSD	.457	4.75	.749

Int. Std.	Y_3203
Units	Cts/S
Avg	**17643.**
Stddev	46.
%RSD	.26140

Sample Name: CalibStd-50 Acquired: 07/18/2017 07:55:57 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.60**
Stddev	.03
%RSD	1.13

Int. Std.	Y_3203
Units	Cts/S
Avg	**17551.**
Stddev	95.
%RSD	.53999

Sample Name: CalibStd-100 Acquired: 07/18/2017 07:58:44 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.427**	**.010**	**5.06**
Stddev	.003	.000	.03
%RSD	.747	.731	.622

Int. Std.	Y_3203
Units	Cts/S
Avg	**17506.**
Stddev	47.
%RSD	.26739

Sample Name: CalibStd-200 Acquired: 07/18/2017 08:01:30 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.916**	**.022**	**10.8**
Stddev	.005	.000	.1
%RSD	.547	1.81	.659

Int. Std.	Y_3203
Units	Cts/S
Avg	**17314.**
Stddev	92.
%RSD	.52934

Sample Name: CalibStd-500 Acquired: 07/18/2017 08:04:15 Type: Cal
Method: Sodium and Potassium 1(v908) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.00**	**20.1**	**5.04**	**.498**
Stddev	.02	.1	.01	.005
%RSD	.342	.657	.132	.940

Int. Std.	Y_3203
Units	Cts/S
Avg	**16261.**
Stddev	104.
%RSD	.63693

Sample Name: icv Acquired: 07/18/2017 08:07:18 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**97.7**	**.063**	**.060**	**.138**	**.240**
Stddev	1.	1.0	.021	.003	.013	.046
%RSD	.966	1.02	33.7	4.61	9.07	19.0
#1	104.	98.5	.052	.061	.152	.301
#2	102.	96.7	.094	.058	.123	.239
#3	103.	98.6	.057	.063	.143	.229
#4	102.	97.0	.048	.058	.136	.191
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17465.**
Stddev	119.
%RSD	.67941
#1	17308.
#2	17523.
#3	17445.
#4	17583.

Sample Name: ICVLL Acquired: 07/18/2017 08:10:03 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.10**	**2.92**	**-.009**	**-.001**	**.067**	**.002**
Stddev	.07	.02	.013	.002	.006	.042
%RSD	2.17	.815	147.	220.	9.32	2070.
#1	3.11	2.93	-.019	-.002	.071	-.002
#2	3.04	2.90	-.010	.001	.059	.031
#3	3.19	2.96	.010	-.000	.073	-.056
#4	3.05	2.91	-.017	-.002	.064	.036
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17620.**
Stddev	85.
%RSD	.48107
#1	17733.
#2	17612.
#3	17528.
#4	17607.

Sample Name: icb Acquired: 07/18/2017 08:12:49 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.148**	**.095**	**-.018**	**.003**	**.061**	**.010**
Stddev	.035	.004	.012	.002	.025	.030
%RSD	23.5	4.30	66.0	59.3	41.3	289.
#1	.144	.095	-.013	.005	.046	.033
#2	.164	.089	-.005	.002	.089	-.026
#3	.183	.099	-.033	.002	.034	.036
#4	.102	.096	-.022	.002	.073	-.002
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17564.**
Stddev	41.
%RSD	.23345
#1	17539.
#2	17611.
#3	17584.
#4	17522.

Sample Name: mrl Acquired: 07/18/2017 08:15:36 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.842**	**.974**	**-.007**	**-.006**	**.076**	**-.003**
Stddev	.029	.002	.009	.002	.018	.022
%RSD	3.39	.202	128.	25.3	23.0	815.
#1	.838	.972	-.016	-.004	.077	-.012
#2	.865	.973	.005	-.007	.076	-.016
#3	.862	.976	-.013	-.006	.098	.030
#4	.804	.975	-.005	-.008	.055	-.014
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17561.**
Stddev	42.
%RSD	.23956
#1	17570.
#2	17586.
#3	17588.
#4	17499.

Sample Name: icsa Acquired: 07/18/2017 08:18:21 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.000**	**-.000**	**503.**	**516.**	**506.**	**493.**
Stddev	.059	.009	3.	4.	2.	4.
%RSD	1820000.	58e15	.629	.698	.420	.868
#1	-.070	-.001	502.	511.	503.	492.
#2	-.027	-.009	505.	519.	508.	494.
#3	.050	-.004	499.	517.	505.	498.
#4	.047	.013	506.	518.	507.	488.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**16400.**
Stddev	83.
%RSD	.50380
#1	16479.
#2	16295.
#3	16450.
#4	16375.

Sample Name: icsab Acquired: 07/18/2017 08:21:15 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**113.**	**105.**	**497.**	**507.**	**501.**	**523.**
Stddev	1.	.	2.	5.	1.	3.
%RSD	.578	.357	.470	.939	.249	.522
#1	112.	104.	495.	508.	502.	525.
#2	112.	105.	495.	511.	500.	519.
#3	113.	105.	500.	500.	500.	523.
#4	113.	104.	497.	507.	501.	526.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**16084.**
Stddev	14.
%RSD	.08864
#1	16064.
#2	16087.
#3	16096.
#4	16092.

Sample Name: ccv Acquired: 07/18/2017 09:57:18 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.0**	**95.1**	**-.005**	**.009**	**.197**	**.034**
Stddev	.4	1.5	.021	.002	.010	.022
%RSD	.376	1.55	450.	25.2	5.09	63.2
#1	99.3	96.8	-.020	.006	.197	.016
#2	98.5	93.5	-.012	.012	.189	.032
#3	99.0	94.4	-.013	.008	.190	.024
#4	99.2	95.8	.026	.008	.211	.065
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17544.**
Stddev	58.
%RSD	.33334
#1	17541.
#2	17628.
#3	17509.
#4	17499.

Sample Name: ccb Acquired: 07/18/2017 10:00:05 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.152**	**.079**	**-.006**	**.011**	**.186**	**.000**
Stddev	.046	.007	.015	.002	.019	.016
%RSD	30.2	8.86	268.	15.3	10.3	7440.
#1	-.173	.081	.001	.014	.176	-.016
#2	-.143	.074	-.005	.011	.213	.000
#3	-.199	.088	-.027	.010	.171	-.006
#4	-.092	.074	.008	.010	.183	.022
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17645.**
Stddev	99.
%RSD	.56263
#1	17560.
#2	17581.
#3	17658.
#4	17780.

Sample Name: lcsw63150 Acquired: 07/18/2017 10:24:45 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**101.**	**.812**	**105.**	**186.**	**.479**
Stddev	.	1.	.017	.	1.	.018
%RSD	.412	.708	2.06	.260	.372	3.75
#1	102.	102.	.811	104.	185.	.505
#2	102.	100.	.832	104.	186.	.468
#3	103.	101.	.791	105.	187.	.466
#4	103.	102.	.813	105.	185.	.477

Int. Std.	Y_3203
Units	Cts/S
Avg	**17197.**
Stddev	40.
%RSD	.23183
#1	17208.
#2	17178.
#3	17154.
#4	17247.

Sample Name: mbw63150 Acquired: 07/18/2017 10:27:30 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.109**	**6.36**	**-.009**	**.031**	**.268**	**-.017**
Stddev	.062	.08	.017	.002	.016	.025
%RSD	57.1	1.24	184.	6.14	5.97	152.
#1	-.046	6.34	-.002	.033	.278	-.035
#2	-.145	6.46	-.011	.031	.268	.007
#3	-.068	6.38	-.032	.031	.282	.004
#4	-.178	6.27	.008	.028	.246	-.042

Int. Std.	Y_3203
Units	Cts/S
Avg	**17773.**
Stddev	94.
%RSD	.52922
#1	17759.
#2	17719.
#3	17703.
#4	17909.

Sample Name: ccv Acquired: 07/18/2017 10:30:19 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.3**	**91.9**	**-.010**	**.009**	**.204**	**.038**
Stddev	.5	1.4	.015	.002	.007	.027
%RSD	.477	1.51	148.	25.0	3.65	71.8
#1	99.1	91.2	-.022	.011	.212	.062
#2	99.1	90.2	-.023	.010	.201	-.001
#3	99.0	93.0	-.005	.006	.196	.044
#4	100.	93.1	.009	.008	.208	.049
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17610.**
Stddev	21.
%RSD	.11817
#1	17593.
#2	17627.
#3	17628.
#4	17590.

Sample Name: ccb Acquired: 07/18/2017 10:33:06 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.077**	**.098**	**-.016**	**.012**	**.198**	**.034**
Stddev	.010	.003	.018	.001	.012	.020
%RSD	13.1	3.04	108.	7.61	6.30	58.0
#1	-.079	.095	-.021	.012	.214	.008
#2	-.063	.096	-.034	.012	.195	.045
#3	-.079	.102	-.018	.011	.184	.053
#4	-.087	.099	.008	.013	.199	.031
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17727.**
Stddev	37.
%RSD	.20906
#1	17714.
#2	17681.
#3	17746.
#4	17766.

Sample Name: 890671 Acquired: 07/18/2017 10:35:54 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.800**	**22.9**	**.065**	**24.6**	**56.3**	**.064**
Stddev	.054	.1	.011	.1	.2	.049
%RSD	6.72	.550	16.7	.350	.391	75.6
#1	.763	23.1	.067	24.7	56.2	.054
#2	.750	22.9	.071	24.6	56.1	.087
#3	.866	22.7	.049	24.5	56.5	.002
#4	.820	22.9	.073	24.6	56.5	.114

Int. Std.	Y_3203
Units	Cts/S
Avg	**17640.**
Stddev	41.
%RSD	.23028
#1	17602.
#2	17697.
#3	17628.
#4	17631.

Sample Name: I890671 Acquired: 07/18/2017 10:38:40 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.125**	**9.48**	**-.019**	**5.04**	**11.5**	**-.010**
Stddev	.028	.05	.014	.02	.0	.014
%RSD	22.7	.526	70.1	.336	.394	139.
#1	-.159	9.53	-.000	5.05	11.5	-.013
#2	-.127	9.48	-.022	5.04	11.6	-.005
#3	-.090	9.41	-.033	5.02	11.5	-.029
#4	-.124	9.51	-.022	5.05	11.6	.005

Int. Std.	Y_3203
Units	Cts/S
Avg	**17861.**
Stddev	59.
%RSD	.33051
#1	17858.
#2	17887.
#3	17919.
#4	17781.

Sample Name: dup890671 Acquired: 07/18/2017 10:41:25 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.811**	**23.4**	**.062**	**25.4**	**57.3**	**.040**
Stddev	.057	.3	.008	.3	.5	.048
%RSD	6.99	1.20	12.3	1.04	.840	118.
#1	.892	23.6	.070	25.5	56.8	.014
#2	.806	23.6	.051	25.7	57.5	.104
#3	.764	23.5	.063	25.5	57.8	.047
#4	.783	23.0	.062	25.0	56.9	-.004

Int. Std.	Y_3203
Units	Cts/S
Avg	**17254.**
Stddev	103.
%RSD	.59742
#1	17359.
#2	17254.
#3	17114.
#4	17288.

Sample Name: msw890671 Acquired: 07/18/2017 10:44:11 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**116.**	**.859**	**129.**	**235.**	**.549**
Stddev	.	1.	.015	1.	2.	.038
%RSD	.348	.769	1.77	.471	.781	6.92
#1	102.	116.	.849	129.	233.	.558
#2	102.	117.	.843	128.	235.	.598
#3	102.	117.	.869	130.	238.	.524
#4	103.	115.	.874	129.	234.	.515

Int. Std.	Y_3203
Units	Cts/S
Avg	**16742.**
Stddev	118.
%RSD	.70700
#1	16864.
#2	16753.
#3	16580.
#4	16772.

Sample Name: msdw890671 Acquired: 07/18/2017 10:46:56 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**114.**	**.833**	**124.**	**232.**	**.558**
Stddev	1.	1.	.024	1.	1.	.030
%RSD	.560	.685	2.82	.585	.588	5.40
#1	100.	113.	.850	123.	230.	.542
#2	101.	115.	.850	125.	232.	.597
#3	101.	115.	.831	125.	233.	.565
#4	101.	114.	.800	124.	232.	.528

Int. Std.	Y_3203
Units	Cts/S
Avg	**16935.**
Stddev	98.
%RSD	.57843
#1	17048.
#2	16843.
#3	16864.
#4	16986.

Sample Name: pdsw890671 Acquired: 07/18/2017 10:49:42 Type: Unk
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.6**	**115.**	**.062**	**24.1**	**56.2**	**.055**
Stddev	1.2	1.	.009	.3	.6	.045
%RSD	1.24	.983	14.6	1.38	1.09	81.2
#1	96.8	115.	.050	24.0	56.4	.001
#2	97.1	114.	.062	23.9	55.5	.086
#3	99.4	116.	.067	24.6	56.9	.099
#4	97.2	114.	.071	23.9	56.0	.036

Int. Std.	Y_3203
Units	Cts/S
Avg	**17152.**
Stddev	137.
%RSD	.80074
#1	17161.
#2	17303.
#3	16970.
#4	17175.

Sample Name: ccv Acquired: 07/18/2017 11:03:25 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.6**	**94.7**	**-.001**	**.012**	**.234**	**.104**
Stddev	.3	.9	.006	.003	.013	.033
%RSD	.315	.917	543.	22.5	5.71	31.7
#1	100.	95.5	-.006	.012	.218	.144
#2	99.4	93.9	.002	.013	.235	.090
#3	99.6	93.9	-.005	.013	.233	.116
#4	99.5	95.3	.005	.008	.250	.067
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17667.**
Stddev	96.
%RSD	.54489
#1	17597.
#2	17747.
#3	17754.
#4	17572.

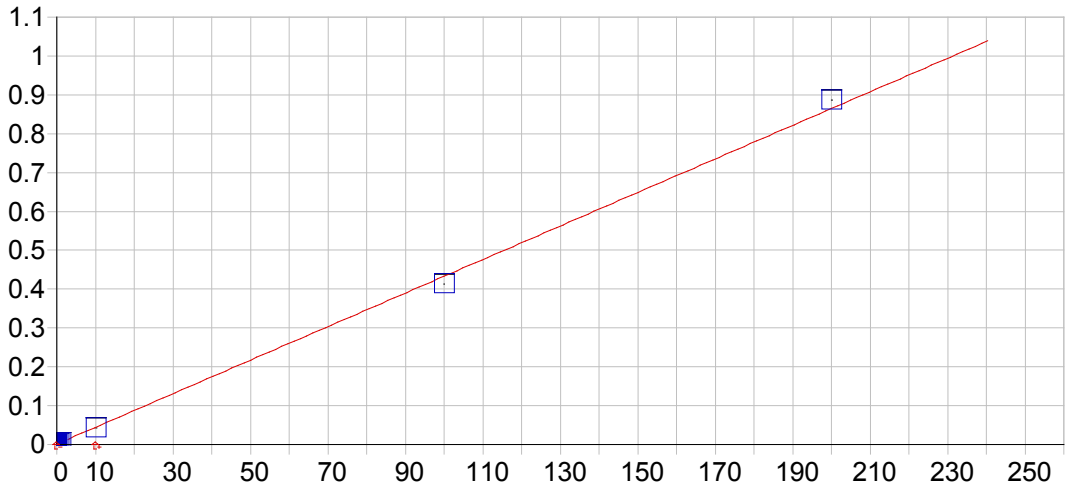
Sample Name: ccb Acquired: 07/18/2017 11:06:11 Type: QC
Method: Sodium and Potassium 1(v908) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.127**	**.070**	**-.002**	**.012**	**.239**	**.056**
Stddev	.072	.004	.013	.001	.012	.042
%RSD	56.7	6.07	545.	9.73	4.99	75.3
#1	-.026	.071	-.011	.013	.237	.112
#2	-.149	.075	-.014	.010	.238	.053
#3	-.196	.071	.013	.013	.226	.009
#4	-.135	.065	.003	.012	.255	.050
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17663.**
Stddev	34.
%RSD	.19253
#1	17617.
#2	17686.
#3	17656.
#4	17691.

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	07/25/2017 08:24:20	07/24/2017 09:48:48	Linear	1/Conc	0.001296	0.004317	0.000000	1.000000	0.999431	0.000070	0.064725	0.215751
	Na 330.237 {102}	07/25/2017 08:24:20	07/24/2017 09:48:48	Linear	1/Conc	0.000136	0.000101	0.000000	1.000000	0.999411	0.000009	1.566105	5.220349
	Na 589.592 { 57}	07/25/2017 08:24:20	07/24/2017 09:48:48	Linear	1/Conc	0.002890	0.049435	0.000000	1.000000	0.999325	0.000898	0.010370	0.034568
	Y 360.073 { 94}	07/25/2017 08:24:20	07/24/2017 09:29:19	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	07/25/2017 08:24:20	07/24/2017 09:29:19	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	07/25/2017 08:24:20	07/24/2017 09:51:50	Linear	1/Conc	0.003302	0.000017	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	07/25/2017 08:24:20	07/24/2017 09:51:50	Linear	1/Conc	-0.000252	0.009274	0.000000	1.000000	1.000000	0.000000	0.020796	0.069321
	Mg 285.213 {118}	07/25/2017 08:24:20	07/24/2017 09:51:50	Linear	None	0.001373	0.037564	0.000000	1.000000	1.000000	0.000000	0.002534	0.008448
	Ca 317.933 {106}	07/25/2017 08:24:20	07/24/2017 09:51:50	Linear	None	0.032800	0.009561	0.000000	1.000000	1.000000	0.000000	0.009822	0.032739
	Fe 234.349 {144}	07/25/2017 08:24:20	07/24/2017 09:51:50	Linear	None	0.000024	0.000977	0.000000	1.000000	1.000000	0.000000	0.037325	0.124417

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

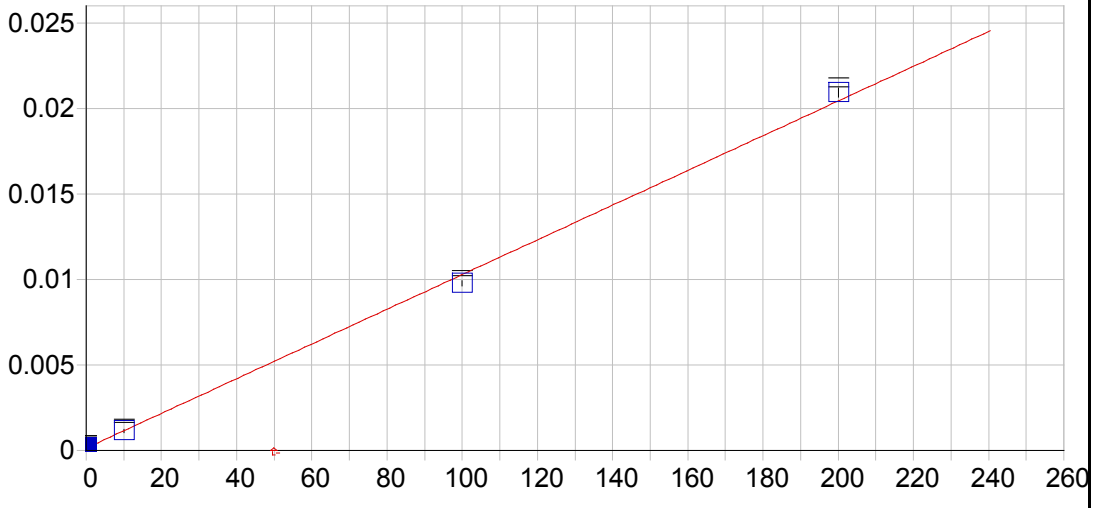


K 766.490 { 44}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001296	Re-Slope:	1.000000
A1 (Gain):	0.004317	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999431	Status:	OK.
Std Error of Est:	0.000070		
Predicted MDL:	0.064725		
Predicted MQL:	0.215751		

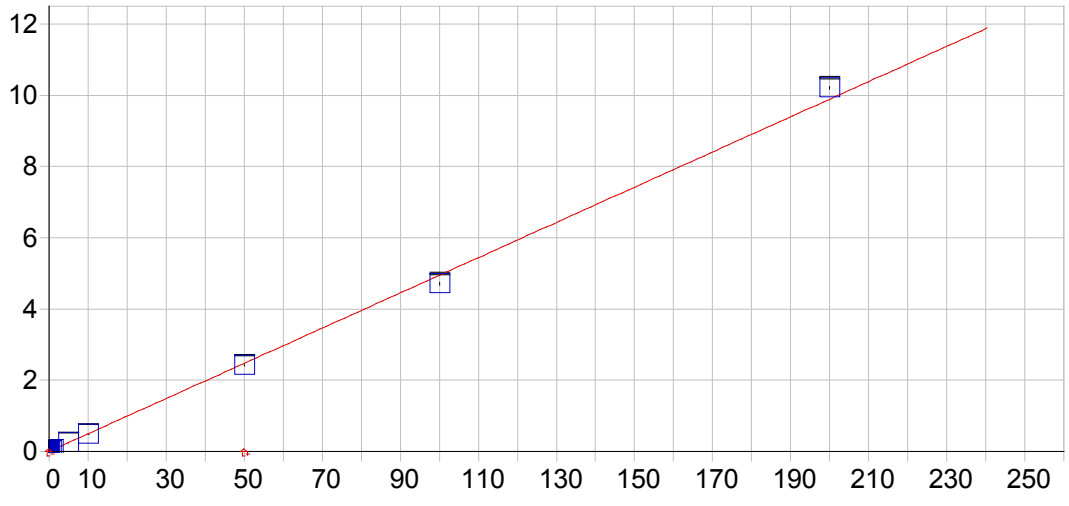
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00008	.000	.000	.00130	.000	1
CalibStd-1.0	1.0000	.95761	-.042	-4.24	.00543	.000	1
CalibStd-10.	10.000	9.6578	-.342	-3.42	.04299	.000	1
CalibStd-0.5	.50000	.46703	-.033	-6.59	.00331	.000	1
CalibStd-200	200.00	205.03	5.03	2.51	.88641	.001	1
CalibStd-100	100.00	95.388	-4.61	-4.61	.41309	.001	1



Na 330.237 {102}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000136		Re-Slope:	1.000000	
A1 (Gain):	0.000101		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999411		Status:	OK.	
Std Error of Est:	0.000009				
Predicted MDL:	1.566105				
Predicted MQL:	5.220349				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00031	.000	.000	.00014	.000	1
CalibStd-200	200.00	204.98	4.98	2.49	.02094	.000	1
CalibStd-10.	10.000	9.9295	-.070	-.705	.00114	.000	1
CalibStd-100	100.00	95.093	-4.91	-4.91	.00979	.000	1

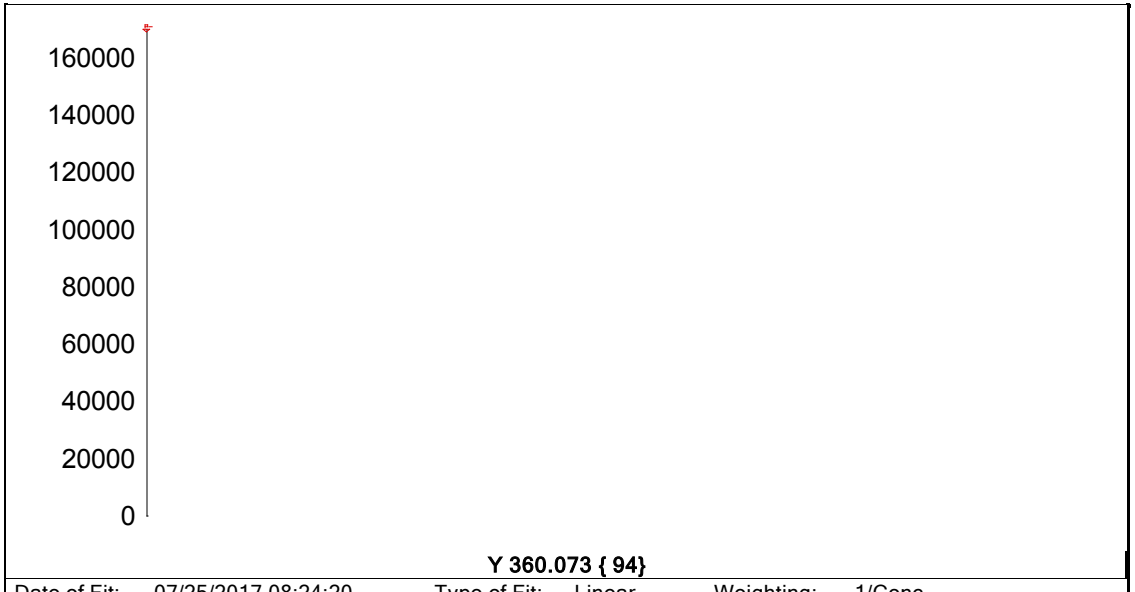


Na 589.592 { 57}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc

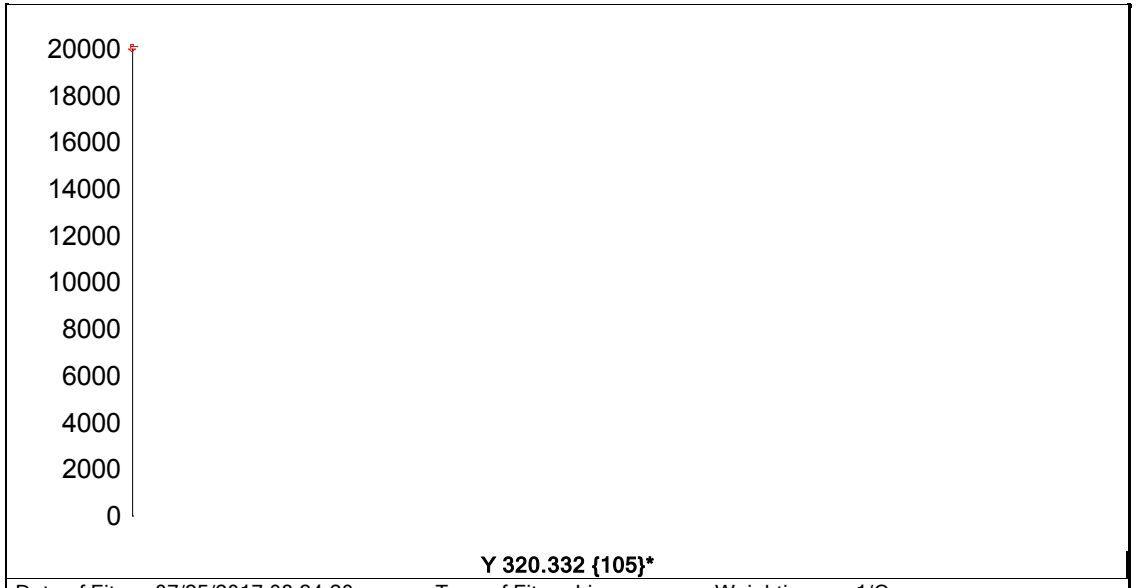
A0 (Offset):	0.002890	Re-Slope:	1.000000
A1 (Gain):	0.049435	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999325	Status:	OK.
Std Error of Est:	0.000898		
Predicted MDL:	0.010370		
Predicted MQL:	0.034568		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00012	.000	.000	.00290	.000	1
CalibStd-0.5	.50000	.45871	-.041	-8.26	.02557	.000	1
CalibStd-1.0	1.0000	.93848	-.062	-6.15	.04928	.000	1
CalibStd-5.0	5.0000	4.8511	-.149	-2.98	.24271	.002	1
CalibStd-10.	10.000	9.8397	-.160	-1.60	.48931	.003	1
CalibStd-50	50.000	48.770	-1.23	-2.46	2.4138	.019	1
CalibStd-100	100.00	95.120	-4.88	-4.88	4.7051	.034	1
CalibStd-200	200.00	206.52	6.52	3.26	10.212	.032	1



Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

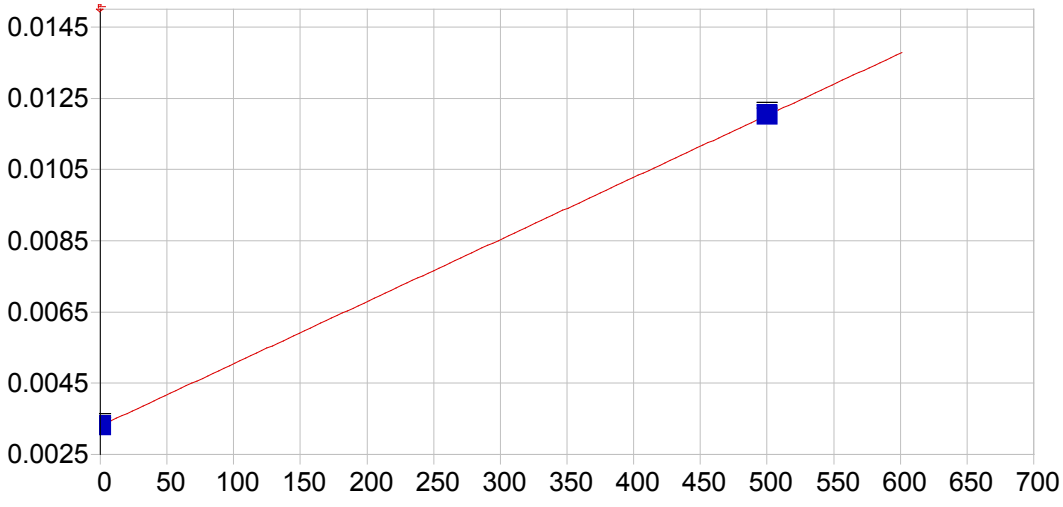
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	152280.	1440.	1



Y 320.332 {105}*

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	18488.	217.	1

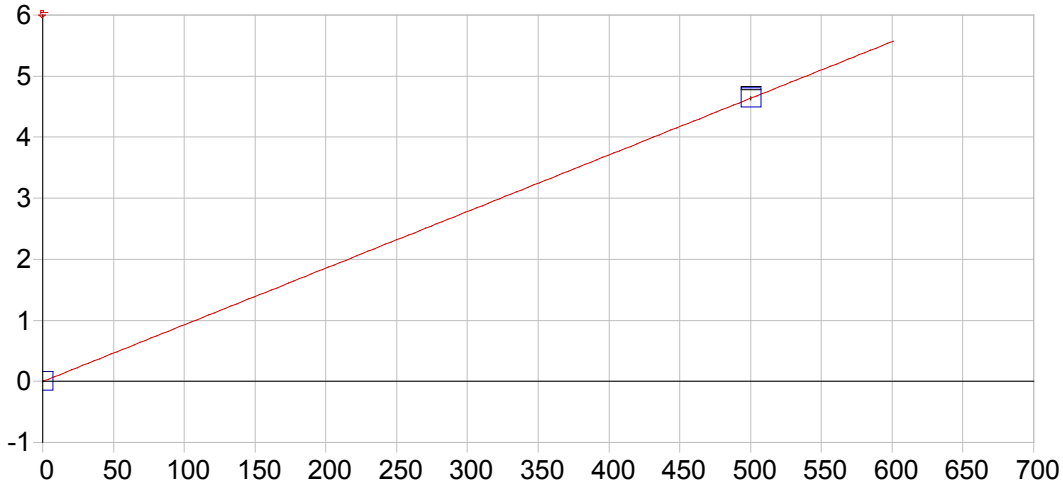


Al 308.215 {109}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003302	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00330	.000	1
CalibStd-500	500.00	500.00	.000	.000	.01202	.000	1

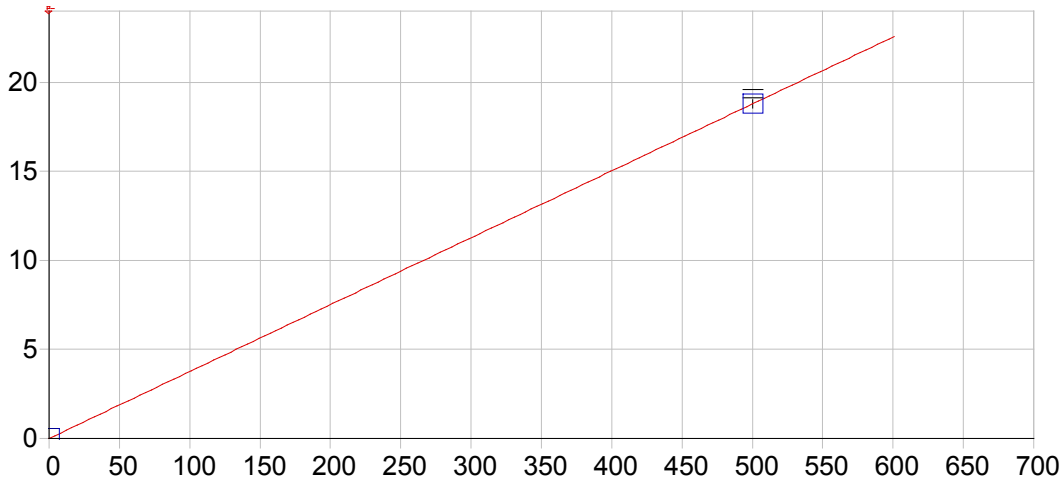


Al 396.152 { 85}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000252	Re-Slope:	1.000000
A1 (Gain):	0.009274	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.020796		
Predicted MQL:	0.069321		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00025	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.6369	.028	1

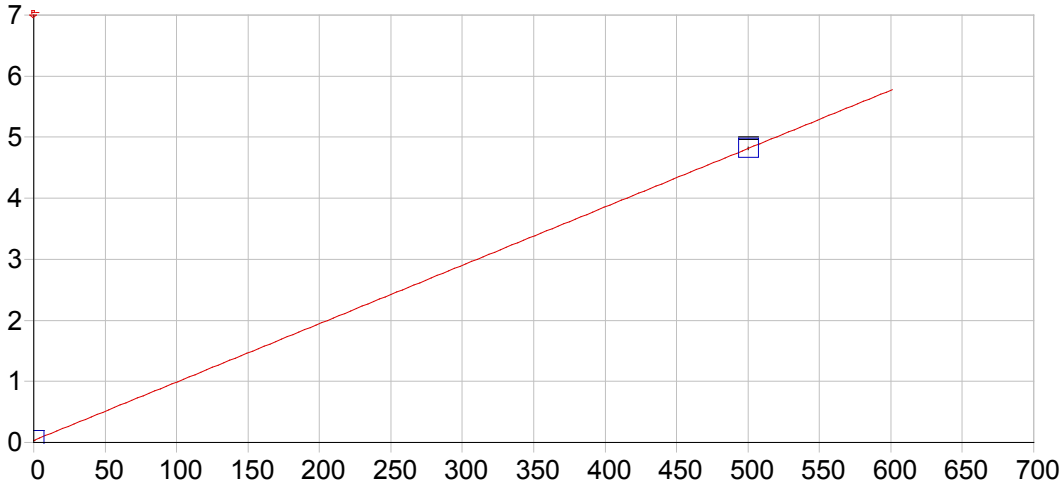


Mg 285.213 {118}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.001373	Re-Slope:	1.000000
A1 (Gain):	0.037564	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002534		
Predicted MQL:	0.008448		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00137	.000	1
CalibStd-500	500.00	500.00	.000	.000	18.783	.237	1

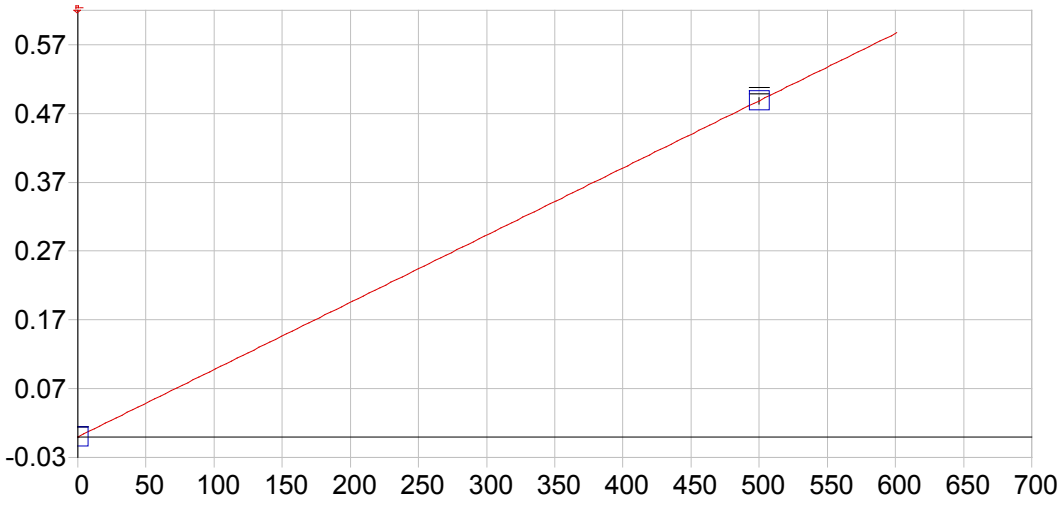


Ca 317.933 {106}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.032800	Re-Slope:	1.000000
A1 (Gain):	0.009561	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009822		
Predicted MQL:	0.032739		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.03280	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.8135	.019	1



Fe 234.349 {144}

Date of Fit:	07/25/2017 08:24:20	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000977	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.037325		
Predicted MQL:	0.124417		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalibStd-500	500.00	500.00	.000	.000	.48856	.005	1

Sample Name: Blank Acquired: 07/24/2017 09:26:21 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.003**	**-.000**	**.001**	**.033**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	9.38	84.7	14.8	35.1	3.15	1.47	145.

Int. Std.	Y_3203
Units	Cts/S
Avg	**18488.**
Stddev	217.
%RSD	1.1738

Sample Name: CalibStd-0.5 Acquired: 07/24/2017 09:29:22 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.003**	**.026**
Stddev	.000	.000
%RSD	2.57	1.51

Int. Std.	Y_3203
Units	Cts/S
Avg	**18303.**
Stddev	84.
%RSD	.45702

Sample Name: CalibStd-1.0 Acquired: 07/24/2017 09:32:11 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.005**	**.049**
Stddev	.000	.000
%RSD	3.59	.752

Int. Std.	Y_3203
Units	Cts/S
Avg	**18168.**
Stddev	54.
%RSD	.29454

Sample Name: CalibStd-5.0 Acquired: 07/24/2017 09:34:56 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**.243**
Stddev	.002
%RSD	.956

Int. Std.	Y_3203
Units	Cts/S
Avg	**18023.**
Stddev	52.
%RSD	.28840

Sample Name: CalibStd-10.0 Acquired: 07/24/2017 09:37:42 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.043**	**.001**	**.489**
Stddev	.000	.000	.003
%RSD	.382	7.83	.609

Int. Std.	Y_3203
Units	Cts/S
Avg	**18056.**
Stddev	72.
%RSD	.39804

Sample Name: CalibStd-50 Acquired: 07/24/2017 09:40:29 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.41**
Stddev	.02
%RSD	.787

Int. Std.	Y_3203
Units	Cts/S
Avg	**18061.**
Stddev	85.
%RSD	.47231

Sample Name: CalibStd-100 Acquired: 07/24/2017 09:43:18 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.414**	**.010**	**4.71**
Stddev	.001	.000	.03
%RSD	.172	1.51	.727

Int. Std.	Y_3203
Units	Cts/S
Avg	**17935.**
Stddev	90.
%RSD	.50031

Sample Name: CalibStd-200 Acquired: 07/24/2017 09:46:05 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.888**	**.021**	**10.2**
Stddev	.001	.000	.0
%RSD	.103	1.26	.309

Int. Std.	Y_3203
Units	Cts/S
Avg	**17723.**
Stddev	73.
%RSD	.41066

Sample Name: CalibStd-500 Acquired: 07/24/2017 09:48:51 Type: Cal
Method: Sodium and Potassium 1(v907) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.64**	**18.8**	**4.81**	**.489**
Stddev	.03	.2	.02	.005
%RSD	.607	1.26	.396	.928

Int. Std.	Y_3203
Units	Cts/S
Avg	**16355.**
Stddev	81.
%RSD	.49305

Sample Name: icv Acquired: 07/24/2017 09:51:55 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.5**	**99.8**	**.112**	**.094**	**.295**	**.289**
Stddev	.5	1.0	.019	.002	.012	.074
%RSD	.476	1.03	16.9	2.52	4.05	25.7
#1	100.	101.	.110	.097	.303	.384
#2	99.2	99.8	.119	.093	.307	.312
#3	99.2	98.4	.132	.092	.281	.243
#4	99.6	100.	.087	.094	.289	.219
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17625.**
Stddev	147.
%RSD	.83464
#1	17558.
#2	17620.
#3	17830.
#4	17490.

Sample Name: ICVLL Acquired: 07/24/2017 09:54:42 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.06**	**2.97**	**.001**	**.003**	**.212**	**.057**
Stddev	.07	.01	.011	.002	.010	.029
%RSD	2.18	.240	1770.	69.0	4.66	51.0
#1	3.11	2.97	.006	.002	.208	.052
#2	2.98	2.97	-.015	.001	.220	.040
#3	3.02	2.96	.000	.005	.200	.099
#4	3.12	2.98	.011	.003	.220	.036
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17810.**
Stddev	59.
%RSD	.33130
#1	17741.
#2	17821.
#3	17883.
#4	17795.

Sample Name: icb Acquired: 07/24/2017 09:57:29 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.157**	**.049**	**.003**	**-.000**	**.244**	**.015**
Stddev	.079	.006	.012	.002	.015	.016
%RSD	50.5	12.4	365.	1250.	6.07	107.
#1	.139	.044	.003	-.003	.260	.013
#2	.123	.051	-.013	.001	.224	-.005
#3	.272	.057	.008	.002	.246	.035
#4	.093	.046	.015	-.000	.247	.018
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17724.**
Stddev	34.
%RSD	.19028
#1	17713.
#2	17771.
#3	17691.
#4	17721.

Sample Name: mrl Acquired: 07/24/2017 10:00:17 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.04**	**.993**	**.035**	**-.000**	**.277**	**.063**
Stddev	.02	.010	.014	.001	.016	.021
%RSD	2.17	.979	41.6	549.	5.93	33.2
#1	1.04	1.00	.021	-.002	.276	.084
#2	1.03	1.00	.023	-.000	.288	.077
#3	1.01	.985	.046	.001	.255	.054
#4	1.07	.985	.048	-.000	.291	.038
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17639.**
Stddev	26.
%RSD	.14899
#1	17655.
#2	17615.
#3	17618.
#4	17668.

Sample Name: icsa Acquired: 07/24/2017 10:03:03 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.020**	**.000**	**502.**	**521.**	**509.**	**523.**
Stddev	.046	.013	1.	2.	1.	5.
%RSD	235.	15e15	.270	.466	.140	.984
#1	-.051	.019	503.	520.	509.	518.
#2	.028	-.006	502.	525.	508.	519.
#3	.011	-.013	500.	521.	508.	525.
#4	-.068	.000	502.	520.	509.	529.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**16299.**
Stddev	44.
%RSD	.27011
#1	16259.
#2	16313.
#3	16355.
#4	16270.

Sample Name: icsab Acquired: 07/24/2017 10:05:57 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**111.**	**109.**	**522.**	**536.**	**527.**	**580.**
Stddev	.	2.	3.	6.	2.	10.
%RSD	.419	1.44	.525	1.21	.427	1.69
#1	112.	108.	526.	528.	525.	568.
#2	111.	107.	520.	542.	526.	579.
#3	112.	110.	524.	533.	527.	581.
#4	111.	110.	520.	541.	530.	592.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**16118.**
Stddev	78.
%RSD	.48241
#1	16147.
#2	16105.
#3	16202.
#4	16017.

Sample Name: lcsw63150 Acquired: 07/24/2017 10:08:50 Type: Unk
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.198**	**101.**	**.222**	**117.**	**210.**	**.284**
Stddev	.054	1.	.015	.	1.	.046
%RSD	27.2	1.44	6.71	.422	.270	16.2
#1	.217	103.	.239	117.	210.	.348
#2	.119	99.1	.218	117.	211.	.282
#3	.240	100.	.227	116.	210.	.240
#4	.216	101.	.204	117.	210.	.266

Int. Std.	Y_3203
Units	Cts/S
Avg	**17055.**
Stddev	79.
%RSD	.46142
#1	17098.
#2	16948.
#3	17046.
#4	17127.

Sample Name: ccv Acquired: 07/24/2017 10:37:31 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.4**	**96.9**	**.018**	**.024**	**.404**	**.106**
Stddev	.4	1.1	.013	.001	.005	.043
%RSD	.393	1.14	70.5	4.15	1.33	40.2
#1	97.4	96.4	.028	.022	.401	.043
#2	97.5	96.9	.006	.024	.403	.129
#3	96.9	95.8	.030	.024	.400	.136
#4	97.9	98.4	.008	.024	.412	.117
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17441.**
Stddev	73.
%RSD	.42088
#1	17462.
#2	17397.
#3	17534.
#4	17369.

Sample Name: ccb Acquired: 07/24/2017 10:40:19 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.128**	**.097**	**5.07**	**.005**	**.392**	**.039**
Stddev	.071	.008	.03	.000	.018	.025
%RSD	55.8	8.45	.515	8.58	4.63	64.6
#1	.077	.100	5.05	.005	.401	.013
#2	.231	.106	5.04	.004	.393	.045
#3	.084	.090	5.10	.005	.367	.027
#4	.119	.089	5.08	.005	.409	.072
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17383.**
Stddev	28.
%RSD	.16321
#1	17349.
#2	17395.
#3	17415.
#4	17373.

Sample Name: ccv Acquired: 07/24/2017 11:45:17 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.8**	**95.7**	**.125**	**.024**	**.441**	**.108**
Stddev	.4	.9	.008	.002	.012	.011
%RSD	.410	.945	6.52	6.85	2.69	10.6
#1	97.6	94.5	.131	.021	.434	.125
#2	98.4	95.7	.131	.024	.459	.104
#3	97.5	95.9	.114	.025	.439	.105
#4	97.8	96.7	.122	.024	.434	.099
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17402.**
Stddev	53.
%RSD	.30689
#1	17478.
#2	17402.
#3	17369.
#4	17361.

Sample Name: ccb Acquired: 07/24/2017 11:48:04 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.054**	**.035**	**4.99**	**.006**	**.414**	**.069**
Stddev	.051	.009	.02	.001	.005	.023
%RSD	93.6	24.2	.487	23.5	1.27	33.3
#1	-.026	.040	4.99	.006	.421	.056
#2	-.122	.024	4.96	.007	.417	.054
#3	-.007	.035	4.98	.004	.410	.103
#4	-.062	.043	5.02	.005	.410	.063
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17570.**
Stddev	69.
%RSD	.39120
#1	17563.
#2	17476.
#3	17634.
#4	17606.

Sample Name: mbw Acquired: 07/24/2017 11:53:39 Type: Unk
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.123**	**-.021**	**.007**	**-.008**	**.352**	**-.037**
Stddev	.067	.005	.012	.001	.027	.028
%RSD	54.6	23.1	186.	17.0	7.56	75.2
#1	-.029	-.023	.006	-.009	.377	-.067
#2	-.176	-.026	-.001	-.009	.373	-.045
#3	-.166	-.017	.024	-.010	.326	-.034
#4	-.120	-.016	-.003	-.006	.332	-.001

Int. Std.	Y_3203
Units	Cts/S
Avg	**17807.**
Stddev	83.
%RSD	.46577
#1	17714.
#2	17759.
#3	17879.
#4	17874.

Sample Name: ccv Acquired: 07/24/2017 12:18:32 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**96.4**	**95.9**	**.105**	**.021**	**.422**	**.122**
Stddev	.5	.9	.020	.003	.013	.017
%RSD	.538	.913	19.1	12.9	3.19	13.9
#1	97.1	95.7	.109	.020	.441	.130
#2	96.5	96.6	.087	.020	.418	.099
#3	96.0	96.4	.131	.021	.409	.123
#4	96.0	94.7	.092	.025	.421	.139
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17299.**
Stddev	95.
%RSD	.55186
#1	17175.
#2	17326.
#3	17290.
#4	17405.

Sample Name: ccb Acquired: 07/24/2017 12:21:20 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.048**	**.058**	**4.92**	**.006**	**.371**	**.077**
Stddev	.087	.012	.02	.002	.018	.022
%RSD	182.	20.2	.372	31.8	4.76	28.7
#1	.169	.074	4.91	.007	.372	.103
#2	-.035	.056	4.92	.006	.382	.065
#3	.043	.056	4.90	.006	.346	.085
#4	.015	.046	4.95	.003	.384	.053
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17362.**
Stddev	89.
%RSD	.51261
#1	17338.
#2	17262.
#3	17477.
#4	17371.

Sample Name: ccv Acquired: 07/24/2017 13:24:58 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**96.2**	**96.1**	**.106**	**.024**	**.419**	**.129**
Stddev	.5	.6	.014	.002	.012	.002
%RSD	.497	.644	12.8	7.97	2.98	1.73
#1	96.7	96.8	.106	.026	.404	.131
#2	96.6	95.5	.114	.022	.435	.126
#3	95.8	95.6	.086	.024	.418	.130
#4	95.8	96.3	.116	.023	.419	.128
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17447.**
Stddev	134.
%RSD	.76849
#1	17369.
#2	17305.
#3	17599.
#4	17514.

Sample Name: ccb Acquired: 07/24/2017 13:27:46 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.041**	**.084**	**4.92**	**.007**	**.381**	**.040**
Stddev	.019	.009	.06	.001	.030	.014
%RSD	46.1	10.5	1.22	21.6	7.80	34.5
#1	.045	.078	4.89	.008	.386	.050
#2	.046	.089	4.98	.006	.401	.020
#3	.058	.076	4.97	.008	.398	.045
#4	.014	.094	4.86	.005	.337	.045
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17488.**
Stddev	85.
%RSD	.48787
#1	17502.
#2	17366.
#3	17522.
#4	17563.

Sample Name: 890671 Acquired: 07/24/2017 13:50:12 Type: Unk
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.873**	**24.0**	**.113**	**26.1**	**60.0**	**.120**
Stddev	.063	.1	.006	.1	.3	.032
%RSD	7.22	.401	5.32	.338	.531	27.0
#1	.908	23.8	.112	26.0	60.3	.139
#2	.933	24.0	.115	26.0	59.7	.136
#3	.789	24.1	.105	26.2	60.1	.072
#4	.861	24.0	.120	26.0	59.7	.134

Int. Std.	Y_3203
Units	Cts/S
Avg	**17628.**
Stddev	44.
%RSD	.24938
#1	17629.
#2	17678.
#3	17634.
#4	17571.

Sample Name: I890671 Acquired: 07/24/2017 13:52:58 Type: Unk
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.050**	**4.44**	**.027**	**4.95**	**11.9**	**.010**
Stddev	.020	.03	.023	.01	.0	.039
%RSD	39.7	.699	87.3	.246	.193	381.
#1	.062	4.41	.031	4.96	11.9	.046
#2	.047	4.45	.014	4.95	11.9	-.040
#3	.066	4.48	.057	4.96	12.0	.036
#4	.023	4.43	.004	4.94	11.9	-.001

Int. Std.	Y_3203
Units	Cts/S
Avg	**17813.**
Stddev	63.
%RSD	.35290
#1	17823.
#2	17834.
#3	17724.
#4	17871.

Sample Name: pdss890671 Acquired: 07/24/2017 13:55:45 Type: Unk
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.9**	**119.**	**.137**	**25.3**	**58.2**	**.115**
Stddev	.1	1.	.019	.0	.3	.015
%RSD	.056	.938	14.1	.162	.497	13.4
#1	98.9	119.	.164	25.3	57.9	.104
#2	98.9	120.	.137	25.3	58.1	.138
#3	98.9	120.	.120	25.3	58.2	.111
#4	98.8	118.	.127	25.4	58.6	.107

Int. Std.	Y_3203
Units	Cts/S
Avg	**17486.**
Stddev	77.
%RSD	.43971
#1	17570.
#2	17421.
#3	17533.
#4	17421.

Sample Name: ccv Acquired: 07/24/2017 13:58:31 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**96.6**	**97.1**	**.111**	**.027**	**.410**	**.098**
Stddev	.3	1.7	.015	.002	.015	.023
%RSD	.262	1.70	13.2	6.42	3.71	23.4
#1	97.0	94.7	.123	.025	.428	.080
#2	96.5	97.7	.107	.026	.404	.108
#3	96.6	97.9	.093	.026	.393	.127
#4	96.4	98.3	.123	.029	.413	.079
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17433.**
Stddev	57.
%RSD	.32917
#1	17499.
#2	17399.
#3	17460.
#4	17373.

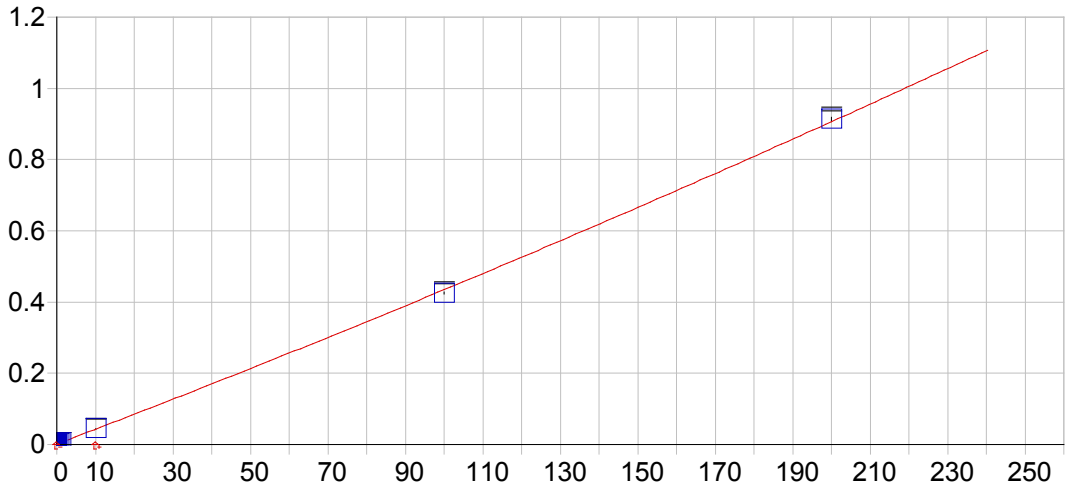
Sample Name: ccb Acquired: 07/24/2017 14:01:18 Type: QC
Method: Sodium and Potassium 1(v907) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.043**	**.094**	**4.89**	**.006**	**.370**	**.080**
Stddev	.022	.013	.02	.002	.015	.036
%RSD	51.3	14.0	.392	42.0	4.16	45.3
#1	.025	.104	4.92	.006	.380	.073
#2	.066	.099	4.87	.007	.350	.042
#3	.023	.075	4.88	.002	.384	.129
#4	.057	.095	4.90	.008	.367	.077
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17465.**
Stddev	39.
%RSD	.22561
#1	17430.
#2	17463.
#3	17521.
#4	17447.

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	07/18/2017 15:03:41	07/18/2017 08:04:12	Curvili	1/Var	0.001455	0.004138	0.000002	1.000000	0.999845	0.000872	0.070607	0.235358
	Na 330.237 {102}	07/18/2017 15:03:41	07/18/2017 08:04:12	Linear	1/Conc	0.000177	0.000105	0.000000	1.000000	0.999520	0.000008	1.591711	5.305702
	Na 589.592 { 57}	07/18/2017 15:03:41	07/18/2017 08:04:12	Linear	1/Conc	0.002271	0.052836	0.000000	1.000000	0.999533	0.000797	0.010231	0.034102
	Y 360.073 { 94}	07/18/2017 15:03:41	07/18/2017 07:44:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	07/18/2017 15:03:41	07/18/2017 07:44:51	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	07/18/2017 15:03:41	07/18/2017 08:07:15	Linear	1/Conc	0.003495	0.000018	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	07/18/2017 15:03:41	07/18/2017 08:07:15	Linear	1/Conc	-0.000033	0.010000	0.000000	1.000000	1.000000	0.000000	0.020226	0.067419
	Mg 285.213 {118}	07/18/2017 15:03:41	07/18/2017 08:07:15	Linear	None	0.000435	0.040112	0.000000	1.000000	1.000000	0.000000	0.002516	0.008386
	Ca 317.933 {106}	07/18/2017 15:03:41	07/18/2017 08:07:15	Linear	None	0.033346	0.010013	0.000000	1.000000	1.000000	0.000000	0.009963	0.033211
	Fe 234.349 {144}	07/18/2017 15:03:41	07/18/2017 08:07:15	Linear	None	0.000052	0.000997	0.000000	1.000000	1.000000	0.000000	0.038371	0.127904

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	Warnin	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

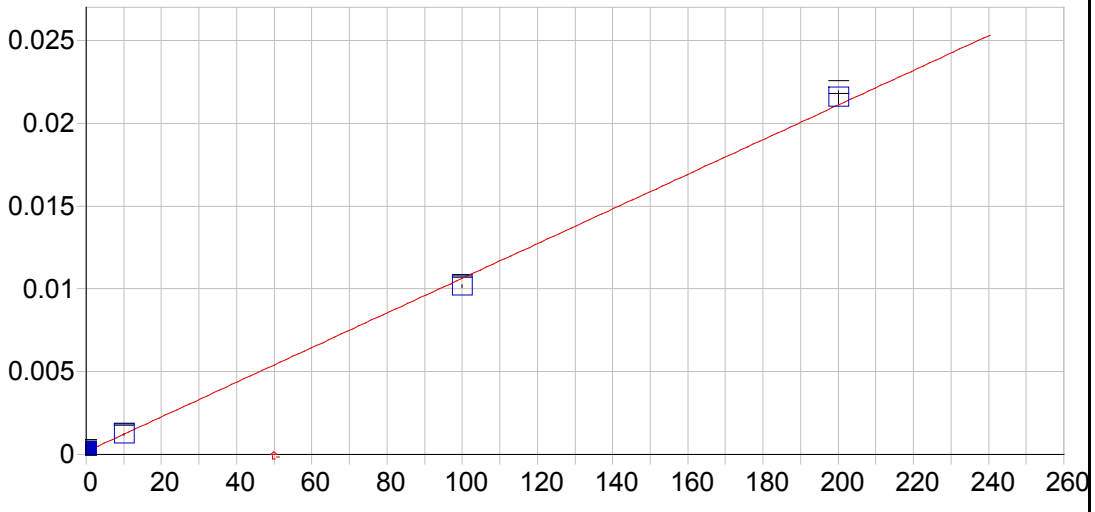


K 766.490 { 44}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.001455	Re-Slope:	1.000000
A1 (Gain):	0.004138	Y-int:	0.000000
A2 (Curvature):	0.000002		
n (Exponent):	1.000000		
Correlation:	0.999845	Status:	Warning Positive Curvature
Std Error of Est:	0.000872		
Predicted MDL:	0.070607		
Predicted MQL:	0.235358		

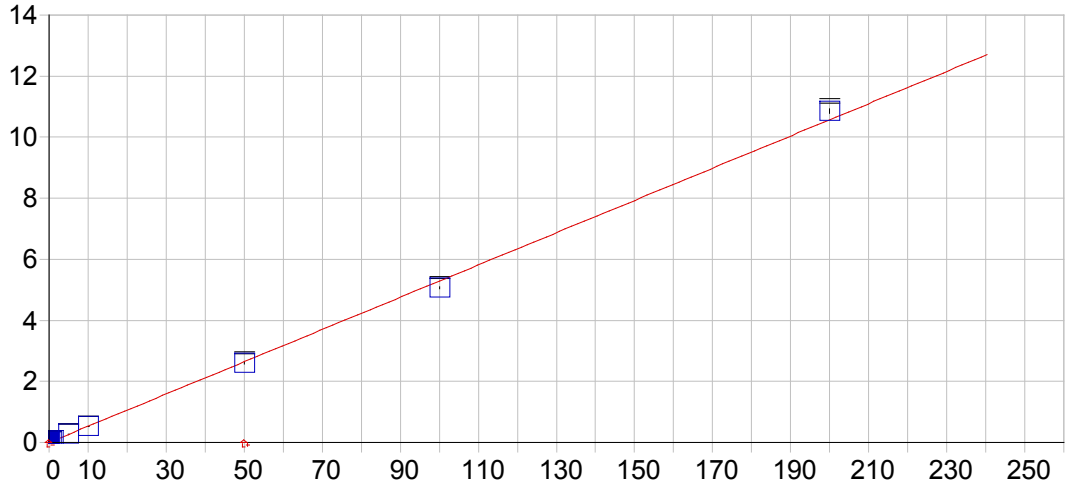
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01351	-.014	.000	.00140	.000	1
CalibStd-1.0	1.0000	.96942	-.031	-3.06	.00547	.000	1
CalibStd-10.	10.000	10.222	.222	2.22	.04396	.000	1
CalibStd-0.5	.50000	.45991	-.040	-8.02	.00336	.000	1
CalibStd-200	200.00	201.44	1.44	.722	.91339	.005	1
CalibStd-100	100.00	97.961	-2.04	-2.04	.42537	.003	1



Na 330.237 {102}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000177		Re-Slope:	1.000000	
A1 (Gain):	0.000105		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999520		Status:	OK.	
Std Error of Est:	0.000008				
Predicted MDL:	1.591711				
Predicted MQL:	5.305702				

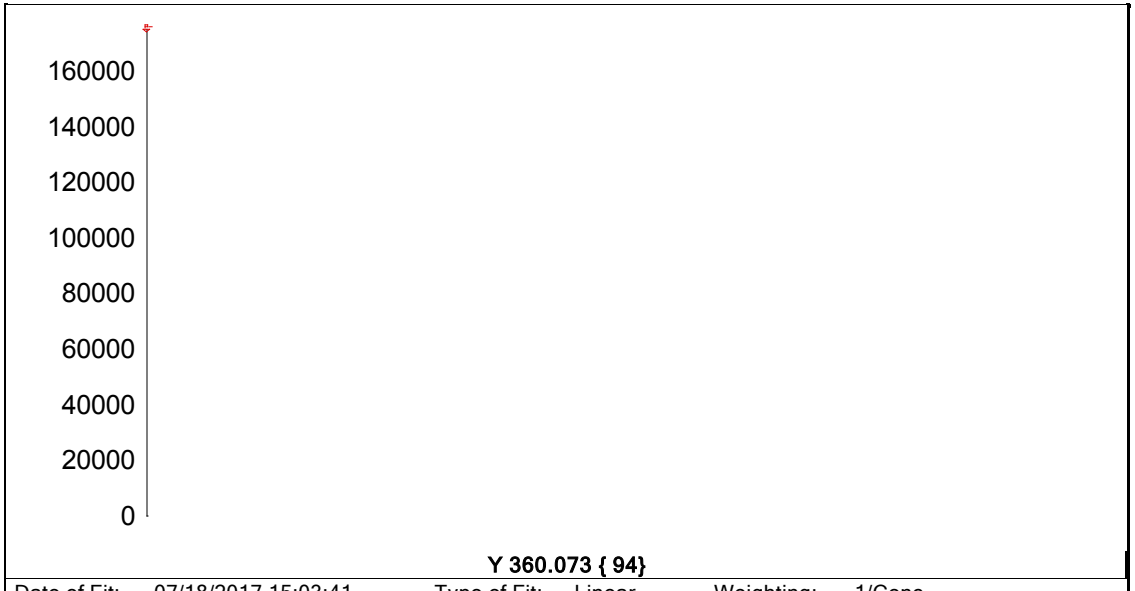
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00017	.000	.000	.00018	.000	1
CalibStd-200	200.00	204.42	4.42	2.21	.02156	.000	1
CalibStd-10.	10.000	10.058	.058	.583	.00123	.000	1
CalibStd-100	100.00	95.526	-4.47	-4.47	.01017	.000	1



Na 589.592 { 57}

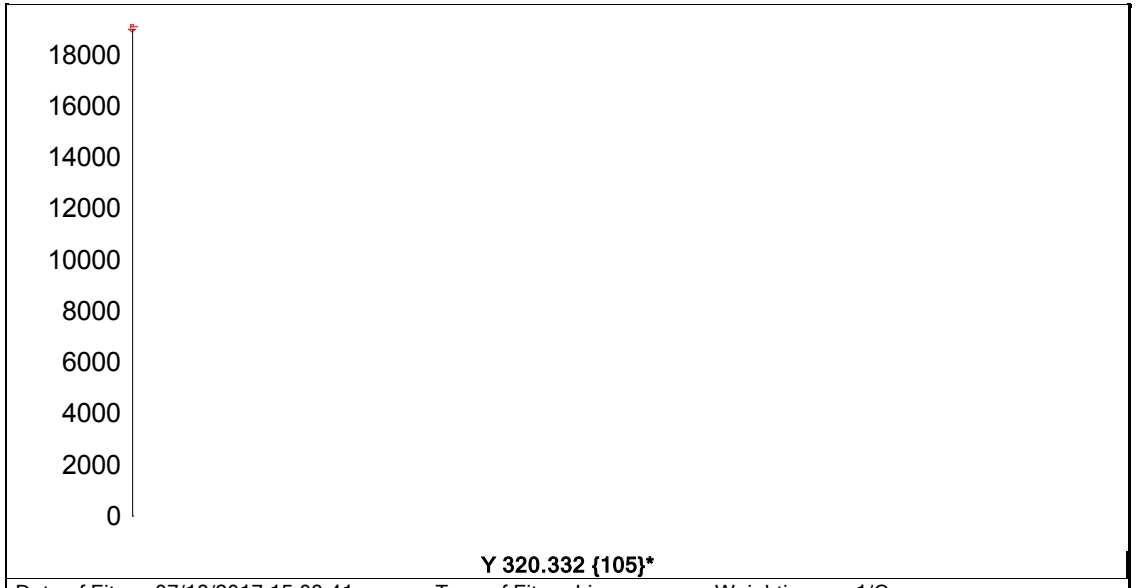
Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.002271		Re-Slope:	1.000000	
A1 (Gain):	0.052836		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999533		Status:	OK.	
Std Error of Est:	0.000797				
Predicted MDL:	0.010231				
Predicted MQL:	0.034102				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00006	.000	.000	.00227	.001	1
CalibStd-0.5	.50000	.47632	-.024	-4.74	.02744	.000	1
CalibStd-1.0	1.0000	.96994	-.030	-3.01	.05352	.001	1
CalibStd-5.0	5.0000	4.9820	-.018	-.360	.26550	.003	1
CalibStd-10.	10.000	9.9416	-.058	-.584	.52754	.004	1
CalibStd-50	50.000	49.139	-.861	-1.72	2.5986	.029	1
CalibStd-100	100.00	95.699	-4.30	-4.30	5.0586	.031	1
CalibStd-200	200.00	205.29	5.29	2.65	10.849	.072	1



Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

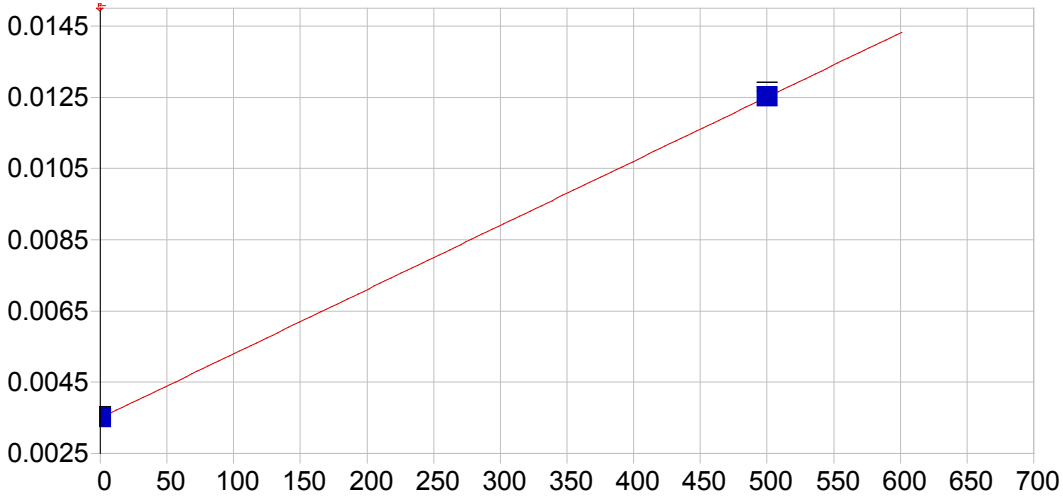
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	161730.	3030.	1



Y 320.332 {105}*

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	17631.	87.6	1

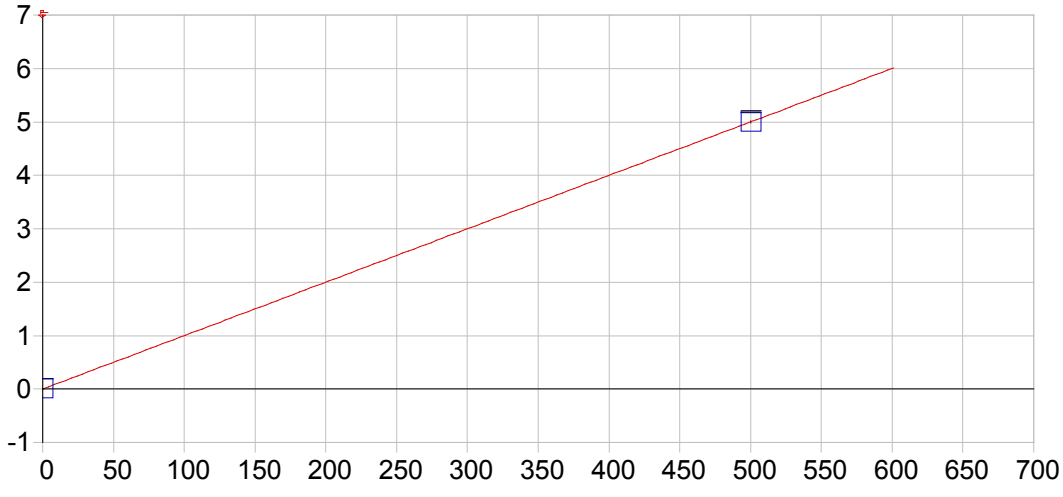


Al 308.215 {109}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003495	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00349	.000	1
CalibStd-500	500.00	500.00	.000	.000	.01250	.000	1

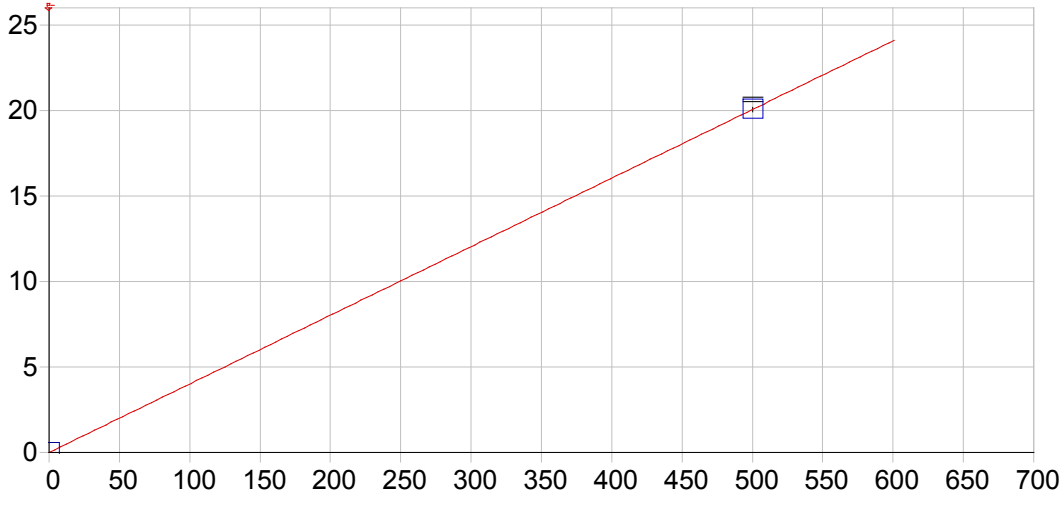


Al 396.152 { 85}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000033	Re-Slope:	1.000000
A1 (Gain):	0.010000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.020226		
Predicted MQL:	0.067419		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00003	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.9998	.017	1

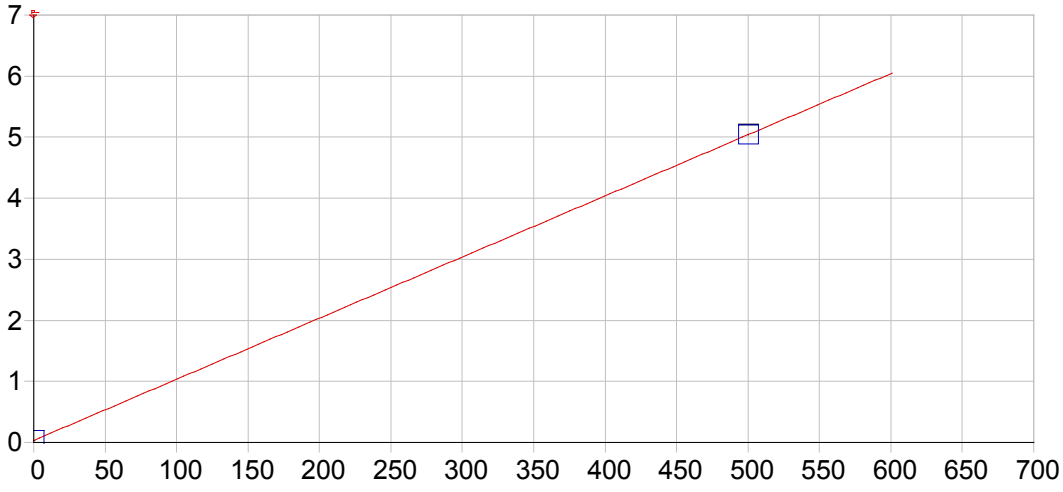


Mg 285.213 {118}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000435	Re-Slope:	1.000000
A1 (Gain):	0.040112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002516		
Predicted MQL:	0.008386		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00043	.000	1
CalibStd-500	500.00	500.00	.000	.000	20.057	.132	1

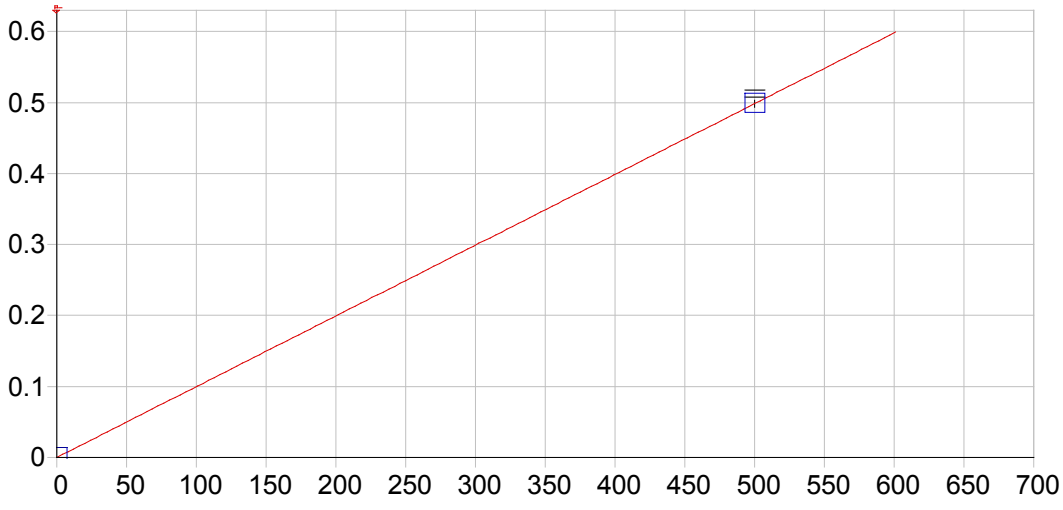


Ca 317.933 {106}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.033346	Re-Slope:	1.000000
A1 (Gain):	0.010013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009963		
Predicted MQL:	0.033211		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.03335	.000	1
CalibStd-500	500.00	500.00	.000	.000	5.0399	.007	1



Fe 234.349 {144}

Date of Fit:	07/18/2017 15:03:41	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000997	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.038371		
Predicted MQL:	0.127904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00005	.000	1
CalibStd-500	500.00	500.00	.000	.000	.49840	.005	1

Sample Name: Blank Acquired: 07/18/2017 07:41:59 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.002**	**-.000**	**.000**	**.033**	**.000**
Stddev	.000	.000	.001	.000	.000	.000	.000
%RSD	36.0	48.1	33.7	487.	28.1	1.18	39.7

Int. Std.	Y_3203
Units	Cts/S
Avg	**17631.**
Stddev	88.
%RSD	.49660

Sample Name: CalibStd-0.5 Acquired: 07/18/2017 07:44:54 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.004**	**.027**
Stddev	.000	.000
%RSD	5.02	1.31

Int. Std.	Y_3203
Units	Cts/S
Avg	**17485.**
Stddev	122.
%RSD	.69851

Sample Name: CalibStd-1.0 Acquired: 07/18/2017 07:47:39 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.006**	**.054**
Stddev	.000	.001
%RSD	2.24	1.00

Int. Std.	Y_3203
Units	Cts/S
Avg	**17359.**
Stddev	79.
%RSD	.45325

Sample Name: CalibStd-5.0 Acquired: 07/18/2017 07:50:25 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.265
Stddev	.003
%RSD	1.12

Int. Std.	Y_3203
Units	Cts/S
Avg	17423.
Stddev	110.
%RSD	.63304

Sample Name: CalibStd-10.0 Acquired: 07/18/2017 07:53:10 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.044**	**.001**	**.528**
Stddev	.000	.000	.004
%RSD	.875	4.75	.749

Int. Std.	Y_3203
Units	Cts/S
Avg	**17643.**
Stddev	46.
%RSD	.26140

Sample Name: CalibStd-50 Acquired: 07/18/2017 07:55:57 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.60**
Stddev	.03
%RSD	1.13

Int. Std.	Y_3203
Units	Cts/S
Avg	**17551.**
Stddev	95.
%RSD	.53999

Sample Name: CalibStd-100 Acquired: 07/18/2017 07:58:44 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.427**	**.010**	**5.06**
Stddev	.003	.000	.03
%RSD	.747	.731	.622

Int. Std.	Y_3203
Units	Cts/S
Avg	**17506.**
Stddev	47.
%RSD	.26739

Sample Name: CalibStd-200 Acquired: 07/18/2017 08:01:30 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.913**	**.022**	**10.8**
Stddev	.005	.000	.1
%RSD	.586	1.81	.659

Int. Std.	Y_3203
Units	Cts/S
Avg	**17314.**
Stddev	92.
%RSD	.52934

Sample Name: CalibStd-500 Acquired: 07/18/2017 08:04:15 Type: Cal
Method: Sodium and Potassium 1(v905) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.00**	**20.1**	**5.04**	**.498**
Stddev	.02	.1	.01	.005
%RSD	.342	.657	.132	.940

Int. Std.	Y_3203
Units	Cts/S
Avg	**16261.**
Stddev	104.
%RSD	.63693

Sample Name: icv Acquired: 07/18/2017 08:07:18 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**97.7**	**.063**	**.060**	**.138**	**.240**
Stddev	1.	1.0	.021	.003	.013	.046
%RSD	.977	1.02	33.7	4.61	9.07	19.0
#1	102.	98.5	.052	.061	.152	.301
#2	100.	96.7	.094	.058	.123	.239
#3	101.	98.6	.057	.063	.143	.229
#4	100.	97.0	.048	.058	.136	.191
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17465.**
Stddev	119.
%RSD	.67941
#1	17308.
#2	17523.
#3	17445.
#4	17583.

Sample Name: ICVLL Acquired: 07/18/2017 08:10:03 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.15**	**2.92**	**-.009**	**-.001**	**.067**	**.002**
Stddev	.06	.02	.013	.002	.006	.042
%RSD	1.99	.815	147.	220.	9.32	2070.
#1	3.23	2.93	-.019	-.002	.071	-.002
#2	3.15	2.90	-.010	.001	.059	.031
#3	3.14	2.96	.010	-.000	.073	-.056
#4	3.08	2.91	-.017	-.002	.064	.036
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17620.**
Stddev	85.
%RSD	.48107
#1	17733.
#2	17612.
#3	17528.
#4	17607.

Sample Name: icb Acquired: 07/18/2017 08:12:49 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.167**	**.095**	**-.018**	**.003**	**.061**	**.010**
Stddev	.063	.004	.012	.002	.025	.030
%RSD	37.6	4.30	66.0	59.3	41.3	289.
#1	.243	.095	-.013	.005	.046	.033
#2	.091	.089	-.005	.002	.089	-.026
#3	.154	.099	-.033	.002	.034	.036
#4	.180	.096	-.022	.002	.073	-.002
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17564.**
Stddev	41.
%RSD	.23345
#1	17539.
#2	17611.
#3	17584.
#4	17522.

Sample Name: mrl Acquired: 07/18/2017 08:15:36 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.933**	**.974**	**-.007**	**-.006**	**.076**	**-.003**
Stddev	.038	.002	.009	.002	.018	.022
%RSD	4.10	.202	128.	25.3	23.0	815.
#1	.933	.972	-.016	-.004	.077	-.012
#2	.893	.973	.005	-.007	.076	-.016
#3	.985	.976	-.013	-.006	.098	.030
#4	.920	.975	-.005	-.008	.055	-.014
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17561.**
Stddev	42.
%RSD	.23956
#1	17570.
#2	17586.
#3	17588.
#4	17499.

Sample Name: icsa Acquired: 07/18/2017 08:18:21 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.048**	**-.000**	**503.**	**516.**	**506.**	**493.**
Stddev	.061	.009	3.	4.	2.	4.
%RSD	128.	58e15	.629	.698	.420	.868
#1	-.087	-.001	502.	511.	503.	492.
#2	-.084	-.009	505.	519.	508.	494.
#3	.042	-.004	499.	517.	505.	498.
#4	-.062	.013	506.	518.	507.	488.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**16400.**
Stddev	83.
%RSD	.50380
#1	16479.
#2	16295.
#3	16450.
#4	16375.

Sample Name: icsab Acquired: 07/18/2017 08:21:15 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**111.**	**105.**	**497.**	**507.**	**501.**	**523.**
Stddev	1.	.	2.	5.	1.	3.
%RSD	.669	.357	.470	.939	.249	.522
#1	110.	104.	495.	508.	502.	525.
#2	110.	105.	495.	511.	500.	519.
#3	112.	105.	500.	500.	500.	523.
#4	111.	104.	497.	507.	501.	526.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**16084.**
Stddev	14.
%RSD	.08864
#1	16064.
#2	16087.
#3	16096.
#4	16092.

Sample Name: ccv Acquired: 07/18/2017 12:10:04 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.7**	**91.6**	**-.010**	**.011**	**.260**	**.021**
Stddev	.9	.6	.006	.001	.023	.032
%RSD	.968	.690	60.7	6.77	8.90	152.
#1	96.3	91.9	-.010	.011	.271	-.004
#2	98.1	91.1	-.006	.012	.266	.011
#3	98.5	91.0	-.018	.010	.279	.069
#4	97.7	92.3	-.005	.011	.227	.009
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17583.**
Stddev	68.
%RSD	.38760
#1	17569.
#2	17508.
#3	17582.
#4	17673.

Sample Name: ccb Acquired: 07/18/2017 12:12:52 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.085**	**.106**	**-.004**	**.013**	**.251**	**.033**
Stddev	.053	.009	.003	.001	.009	.011
%RSD	62.1	8.32	64.9	4.76	3.44	33.6
#1	.044	.093	-.000	.013	.259	.040
#2	.035	.109	-.005	.014	.243	.027
#3	.122	.113	-.006	.014	.258	.020
#4	.137	.109	-.006	.013	.244	.043
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17715.**
Stddev	104.
%RSD	.58498
#1	17789.
#2	17702.
#3	17796.
#4	17574.

Sample Name: lcsw63197 Acquired: 07/18/2017 12:38:24 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**95.0**	**.834**	**104.**	**180.**	**.433**
Stddev	.	.4	.021	.	.	.018
%RSD	.239	.470	2.57	.332	.271	4.22
#1	101.	94.3	.828	104.	181.	.432
#2	101.	95.2	.836	104.	180.	.429
#3	101.	95.3	.810	104.	180.	.457
#4	102.	95.2	.862	105.	181.	.413

Int. Std.	Y_3203
Units	Cts/S
Avg	**17145.**
Stddev	65.
%RSD	.38067
#1	17071.
#2	17166.
#3	17224.
#4	17120.

Sample Name: mbw63197 Acquired: 07/18/2017 12:41:11 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.056**	**.090**	**-.004**	**.008**	**.279**	**-.052**
Stddev	.047	.010	.020	.002	.017	.029
%RSD	84.5	10.8	462.	18.3	6.03	55.4
#1	.060	.083	-.034	.008	.261	-.094
#2	.087	.090	.002	.009	.301	-.044
#3	-.012	.084	.007	.010	.282	-.034
#4	.089	.104	.008	.006	.273	-.035

Int. Std.	Y_3203
Units	Cts/S
Avg	**17723.**
Stddev	125.
%RSD	.70385
#1	17653.
#2	17829.
#3	17583.
#4	17828.

Sample Name: ccv Acquired: 07/18/2017 12:44:01 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.2**	**91.9**	**-.007**	**.016**	**.252**	**.054**
Stddev	.5	1.4	.012	.001	.011	.031
%RSD	.532	1.55	184.	7.41	4.34	57.7
#1	98.9	93.5	.000	.016	.268	.095
#2	97.8	90.0	-.009	.017	.244	.033
#3	97.9	92.1	-.023	.015	.253	.027
#4	98.1	92.1	.005	.015	.244	.060
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17630.**
Stddev	66.
%RSD	.37527
#1	17533.
#2	17647.
#3	17661.
#4	17681.

Sample Name: ccb Acquired: 07/18/2017 12:46:49 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.110**	**.118**	**-.018**	**.013**	**.252**	**.017**
Stddev	.031	.009	.010	.002	.013	.032
%RSD	28.4	7.41	58.1	16.7	5.28	182.
#1	.153	.129	-.019	.016	.244	.037
#2	.113	.110	-.007	.014	.270	.023
#3	.093	.120	-.031	.011	.252	-.029
#4	.081	.113	-.013	.012	.241	.038
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17704.**
Stddev	81.
%RSD	.45593
#1	17612.
#2	17664.
#3	17758.
#4	17784.

Sample Name: 891494 Acquired: 07/18/2017 12:49:40 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**2.61**	**80.0**	**2.16**	**33.5**	**55.4**	**2.04**
Stddev	.04	.5	.03	.1	.1	.04
%RSD	1.46	.624	1.25	.352	.264	1.92
#1	2.56	80.7	2.16	33.4	55.5	2.01
#2	2.65	80.1	2.18	33.6	55.2	2.05
#3	2.61	79.5	2.12	33.5	55.5	2.01
#4	2.61	79.8	2.18	33.4	55.4	2.09

Int. Std.	Y_3203
Units	Cts/S
Avg	**17240.**
Stddev	21.
%RSD	.12067
#1	17252.
#2	17258.
#3	17211.
#4	17238.

Sample Name: I891494 Acquired: 07/18/2017 12:52:26 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.369**	**20.9**	**.404**	**6.80**	**11.7**	**.401**
Stddev	.038	.0	.012	.01	.1	.066
%RSD	10.3	.234	3.05	.199	.605	16.5
#1	.347	20.9	.402	6.81	11.7	.305
#2	.341	21.0	.422	6.81	11.6	.417
#3	.425	20.8	.397	6.80	11.7	.457
#4	.364	20.9	.395	6.78	11.6	.425

Int. Std.	Y_3203
Units	Cts/S
Avg	**17726.**
Stddev	29.
%RSD	.16413
#1	17727.
#2	17708.
#3	17767.
#4	17702.

Sample Name: dup891494 Acquired: 07/18/2017 12:55:13 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**2.58**	**82.4**	**2.22**	**34.6**	**57.3**	**2.17**
Stddev	.03	2.2	.01	.1	.3	.05
%RSD	1.13	2.69	.574	.423	.538	2.21
#1	2.58	83.3	2.23	34.8	57.5	2.12
#2	2.54	84.5	2.22	34.7	57.3	2.14
#3	2.59	82.6	2.24	34.7	56.9	2.20
#4	2.61	79.3	2.21	34.4	57.5	2.22

Int. Std.	Y_3203
Units	Cts/S
Avg	**17140.**
Stddev	72.
%RSD	.41798
#1	17044.
#2	17128.
#3	17204.
#4	17184.

Sample Name: msw891494 Acquired: 07/18/2017 12:58:00 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**107.**	**177.**	**3.03**	**138.**	**227.**	**2.49**
Stddev	.	1.	.02	1.	1.	.04
%RSD	.359	.715	.677	.565	.430	1.53
#1	108.	178.	3.04	138.	228.	2.44
#2	107.	178.	3.03	137.	226.	2.51
#3	107.	175.	3.04	138.	229.	2.47
#4	107.	177.	3.00	137.	227.	2.52

Int. Std.	Y_3203
Units	Cts/S
Avg	**16813.**
Stddev	45.
%RSD	.26583
#1	16772.
#2	16822.
#3	16785.
#4	16872.

Sample Name: msdw891494 Acquired: 07/18/2017 13:00:46 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**107.**	**178.**	**3.15**	**138.**	**229.**	**2.57**
Stddev	.	2.	.01	.	1.	.06
%RSD	.206	1.18	.328	.130	.269	2.26
#1	107.	175.	3.16	138.	229.	2.53
#2	107.	180.	3.15	138.	230.	2.61
#3	107.	178.	3.14	138.	228.	2.52
#4	107.	178.	3.16	138.	229.	2.64

Int. Std.	Y_3203
Units	Cts/S
Avg	**16800.**
Stddev	51.
%RSD	.30441
#1	16781.
#2	16746.
#3	16868.
#4	16806.

Sample Name: pdsw891494 Acquired: 07/18/2017 13:03:33 Type: Unk
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**175.**	**2.05**	**32.5**	**54.2**	**2.03**
Stddev	1.	2.	.01	.1	.6	.03
%RSD	.996	1.22	.690	.381	1.19	1.67
#1	103.	177.	2.07	32.6	53.6	2.07
#2	102.	173.	2.05	32.3	53.7	2.02
#3	101.	173.	2.04	32.6	54.9	1.99
#4	101.	175.	2.06	32.5	54.5	2.05

Int. Std.	Y_3203
Units	Cts/S
Avg	**17143.**
Stddev	143.
%RSD	.83362
#1	17222.
#2	17301.
#3	16993.
#4	17056.

Sample Name: ccv Acquired: 07/18/2017 13:17:29 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.8**	**93.1**	**.003**	**.013**	**.262**	**.055**
Stddev	.4	1.9	.006	.001	.011	.045
%RSD	.454	2.07	217.	9.53	4.36	82.6
#1	98.9	95.3	-.003	.013	.254	.061
#2	98.4	93.2	.010	.013	.251	.009
#3	99.4	90.6	.004	.012	.266	.034
#4	98.5	93.3	.000	.015	.276	.115
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**17474.**
Stddev	68.
%RSD	.39171
#1	17493.
#2	17546.
#3	17477.
#4	17382.

Sample Name: ccb Acquired: 07/18/2017 13:20:17 Type: QC
Method: Sodium and Potassium 1(v905) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.029**	**.103**	**-.014**	**.010**	**.246**	**.041**
Stddev	.035	.011	.021	.001	.010	.009
%RSD	121.	10.5	155.	13.6	4.11	21.5
#1	.037	.103	-.040	.010	.256	.032
#2	-.019	.112	.010	.008	.253	.046
#3	.034	.109	-.021	.009	.234	.034
#4	.066	.088	-.004	.011	.243	.050
Check ?	None	None	None	None	None	None
Value						
Range						

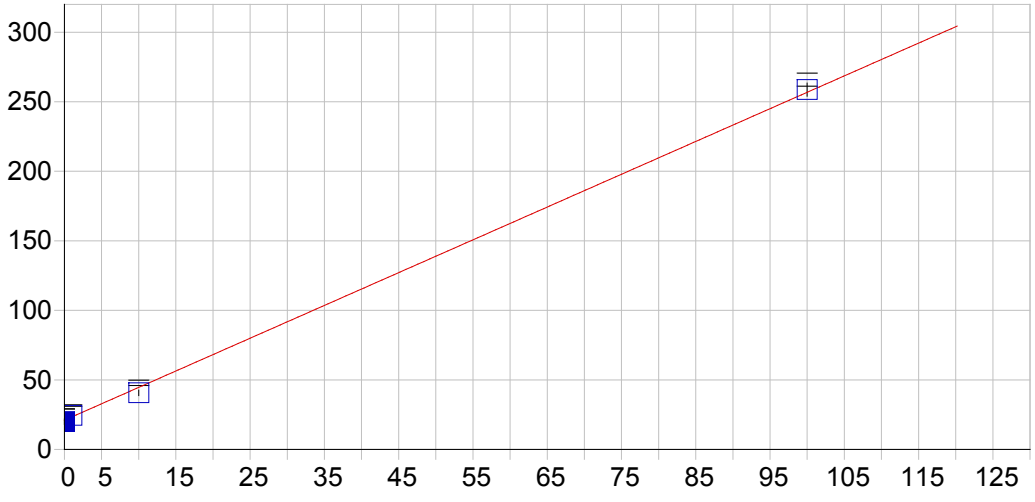
Int. Std.	Y_3203
Units	Cts/S
Avg	**17606.**
Stddev	48.
%RSD	.27266
#1	17554.
#2	17578.
#3	17650.
#4	17644.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	07/20/2017 12:18:34	07/13/2017 08:29:21	Linear	1/Var	21.016937	2.357829	0.000000	1.000000	0.998870	2.515686	1.454307	4.847689
Al 309.271 {109}	07/20/2017 12:18:34	07/13/2017 09:10:04	Curvili	None	0.000413	0.000001	0.000000	1.000000	1.000000	0.000345	14.582162	48.607207
Al 396.152 { 85}	07/20/2017 12:18:34	07/13/2017 09:10:04	Full Fit	1/Var	0.000263	0.000004	0.000000	0.990000	0.999985	0.000040	6.639982	22.133273
Al 167.079 {502}	07/20/2017 12:18:34	07/13/2017 08:35:21	Linear	1/Var	0.000100	0.000007	0.000000	1.000000	0.999495	0.000027	1.866679	6.222262
As 193.759 {474}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Conc	-0.000181	0.000006	0.000000	1.000000	0.999796	0.000002	5.894449	19.648163
As 189.042 {479}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	0.000005	0.000002	0.000000	1.000000	0.999989	0.000011	13.784734	45.949112
Ba 233.527 {445}	07/20/2017 12:18:34	07/13/2017 08:35:21	Linear	1/Conc	0.000011	0.000086	0.000000	1.000000	0.999912	0.000001	0.349330	1.164434
Ba 455.403 { 74}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	0.000383	0.000108	0.000000	1.000000	0.999615	0.000051	0.237523	0.791744
Ba 493.409 { 68}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	0.017896	0.000052	0.000000	1.000000	0.999800	0.000617	1.299091	4.330303
Be 313.042 {108}	07/20/2017 12:18:34	07/13/2017 08:35:21	Linear	1/Conc	0.000336	0.000521	0.000000	1.000000	0.999957	0.000003	0.037303	0.124344
Be 234.861 {144}	07/20/2017 12:18:34	07/13/2017 08:35:21	Linear	1/Conc	-0.000007	0.000012	0.000000	1.000000	0.999995	0.000001	0.373087	1.243625
Ca 315.887 {107}	07/20/2017 12:18:34	07/13/2017 09:10:04	Curvili	1/Var	0.000145	0.000001	0.000000	1.000000	0.999970	0.000023	8.878919	29.596397
Ca 317.933 {106}	07/20/2017 12:18:34	07/13/2017 09:10:04	Linear	1/Var	0.003409	0.000004	0.000000	1.000000	0.997489	0.000619	2.661637	8.872122
Ca 393.366 { 86}	07/20/2017 12:18:34	07/13/2017 08:35:22	Linear	1/Conc	0.006966	0.000053	0.000000	1.000000	0.971676	0.000233	0.051471	0.171571
Ca 396.847 { 85}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	0.009652	0.000192	0.000000	1.000000	0.998301	0.007019	0.098802	0.329341
Cd 226.502 {449}	07/20/2017 12:18:34	07/13/2017 08:35:22	Linear	1/Var	0.000040	0.000236	0.000000	1.000000	0.999901	0.000091	0.192808	0.642692
Cd 228.802 {447}	07/20/2017 12:18:34	07/13/2017 08:35:22	Linear	1/Conc	-0.001456	0.000217	0.000000	1.000000	0.999920	0.000003	0.325647	1.085489
Co 228.616 {447}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	0.000309	0.000053	0.000000	1.000000	0.999660	0.000222	0.875518	2.918393
Co 238.892 {141}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	0.000006	0.000002	0.000000	1.000000	0.999757	0.000007	1.175846	3.919486
Cr 205.560 {464}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Conc	-0.000222	0.000070	-0.000000	1.000000	0.999989	0.000004	0.379325	1.264416
Cr 267.716 {126}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Var	-0.000014	0.000004	-0.000000	1.000000	0.999948	0.000004	0.724521	2.415071
Cu 224.700 {450}	07/20/2017 12:18:34	07/13/2017 08:48:59	Linear	1/Conc	0.000397	0.000062	0.000000	1.000000	0.999217	0.000003	0.742935	2.476449
Cu 324.754 {104}	07/20/2017 12:18:34	07/13/2017 08:48:59	Linear	None	0.005089	0.000006	0.000000	1.000000	0.999997	0.000659	2.585485	8.618283
Cu 327.396 {103}	07/20/2017 12:18:34	07/13/2017 08:48:59	Linear	1/Conc	-0.001951	0.000004	0.000000	1.000000	0.983066	0.000043	6.033338	20.111126
Fe 234.349 {144}	07/20/2017 12:18:34	07/13/2017 09:10:04	Full Fit	1/Var	0.000027	0.000001	0.000000	0.980000	0.999845	0.000007	1.393269	4.644230
Fe 239.562 {140}	07/20/2017 12:18:34	07/13/2017 09:10:04	Linear	1/Conc	-0.000016	0.000001	0.000000	1.000000	0.999357	0.000040	8.871004	29.570014
Fe 259.940 {129}	07/20/2017 12:18:34	07/13/2017 09:10:04	Linear	1/Conc	-0.000012	0.000001	0.000000	1.000000	0.999237	0.000067	6.421381	21.404605
Mg 202.582 {466}	07/20/2017 12:18:34	07/13/2017 09:10:04	Full Fit	1/Var	0.000330	0.000020	0.000000	0.960000	0.999967	0.000136	1.912508	6.375027
Mg 279.079 {121}	07/20/2017 12:18:34	07/13/2017 09:10:04	Curvili	1/Var	0.000013	0.000000	0.000000	1.000000	0.999998	0.000002	21.641484	72.138281
Mg 280.270 {120}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Conc	0.001704	0.000033	0.000000	1.000000	0.999574	0.000046	0.049045	0.163483
Mn 257.610 {131}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Conc	0.000007	0.000010	-0.000000	1.000000	0.999991	0.000001	0.129849	0.432830
Mn 259.373 {130}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Var	0.000065	0.000025	-0.000000	1.000000	0.999993	0.000013	0.361343	1.204476
Mo 202.030 {466}	07/20/2017 12:18:34	07/13/2017 08:35:22	Linear	1/Conc	-0.000068	0.000047	0.000000	1.000000	0.999968	0.000001	0.616054	2.053512
Mo 204.598 {464}	07/20/2017 12:18:34	07/13/2017 08:42:04	Linear	1/Var	-0.000082	0.000030	0.000000	1.000000	0.999808	0.000057	1.106260	3.687535
Mo 204.598 {465}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	0.000141	0.000014	0.000000	1.000000	0.999888	0.000046	2.101247	7.004156
Ni 221.647 {452}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	0.000498	0.000077	0.000000	1.000000	0.999601	0.001020	0.706574	2.355245
Ni 231.604 {445}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	-0.000689	0.000076	0.000000	1.000000	0.999140	0.000417	0.737494	2.458312
Pb 216.999 {455}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Var	0.000070	0.000011	-0.000000	1.000000	0.999178	0.000604	4.584020	15.280067
Pb 220.353 {453}	07/20/2017 12:18:34	07/13/2017 08:48:59	Linear	1/Conc	-9.883364	0.253428	0.000000	1.000000	0.999824	0.043324	4.718695	15.728983
Pb 220.353 {153}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Conc	0.000007	0.000000	0.000000	1.000000	0.999997	0.000000	6.824236	22.747454
Sb 206.833 {463}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	0.000365	0.000011	0.000000	1.000000	0.999924	0.000073	2.844318	9.481059
Sb 217.581 {455}	07/20/2017 12:18:34	07/13/2017 08:42:05	Curvili	1/Var	-0.000002	0.000012	-0.000000	1.000000	0.999996	0.000011	3.407346	11.357819
Se 196.090 {472}	07/20/2017 12:18:34	07/13/2017 08:42:05	Curvili	1/Var	-0.000156	0.000003	-0.000000	1.000000	0.999994	0.000013	8.071816	26.906055
Se 206.279 {463}	07/20/2017 12:18:34	07/13/2017 08:42:05	Curvili	1/Conc	0.000192	0.000000	-0.000000	1.000000	0.999796	0.000001	67.742216	225.80738

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Al 309.271 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Al 167.079 {502}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 189.042 {479}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	Warnin	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {465}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Tl 190.856 {476}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	-0.000133	0.000006	0.000000	1.000000	0.999562	0.000003	4.991581	16.638602
	Tl 190.856 {477}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	-0.000154	0.000005	0.000000	1.000000	0.999567	0.000002	6.017400	20.058000
	V 290.882 {116}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	-0.000014	0.000004	0.000000	1.000000	0.999990	0.000001	2.798076	9.326919
	V 292.402 {115}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	0.000014	0.000006	0.000000	1.000000	0.999872	0.000006	0.654182	2.180608
	Zn 206.200 {463}	07/20/2017 12:18:34	07/13/2017 08:48:59	Curvili	1/Var	0.001868	0.000138	-0.000000	1.000000	0.999865	0.002825	0.280484	0.934945
	Zn 213.856 {458}	07/20/2017 12:18:34	07/13/2017 08:48:59	Linear	1/Var	0.000772	0.000117	0.000000	1.000000	0.998774	0.000445	0.238564	0.795215
	Y 324.228 {104}*	07/20/2017 12:18:34	07/13/2017 07:36:32	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	07/20/2017 12:18:34	07/13/2017 07:36:32	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 224.306 {451}*	07/20/2017 12:18:34	07/13/2017 07:36:32	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	07/20/2017 12:18:34	07/13/2017 09:02:55	Linear	1/Conc	0.004521	0.000015	0.000000	1.000000	0.991096	0.001985	5.524198	18.413994
	Si 251.611 {134}	07/20/2017 12:18:34	07/13/2017 09:02:55	Linear	1/Conc	0.000032	0.000001	0.000000	1.000000	0.999870	0.000004	5.937041	19.790136
	Ti 334.941 {101}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	0.000028	0.000016	0.000000	1.000000	0.999990	0.000001	0.798693	2.662309
	Sr 407.771 { 83}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	-0.003297	0.000290	0.000000	1.000000	0.999389	0.000164	0.107743	0.359144
	Sn 189.989 {478}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	0.000060	0.000007	0.000000	1.000000	0.999873	0.000005	2.655286	8.850953
	B 249.678 {135}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	0.000002	0.000002	0.000000	1.000000	0.999983	0.000000	1.465184	4.883946
	B 249.773 {135}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Conc	0.000022	0.000004	0.000000	1.000000	0.999987	0.000000	0.646785	2.155950
	Li 670.784 { 50}	07/20/2017 12:18:34	07/13/2017 08:42:05	Linear	1/Var	0.001475	0.000037	0.000000	1.000000	0.999814	0.000088	1.318625	4.395417
	K 766.490 { 44}	07/20/2017 12:18:34	07/13/2017 09:02:55	Linear	1/Conc	-0.000534	0.000002	0.000000	1.000000	0.991082	0.000206	32.688381	108.96127
	P 213.618 {457}	07/20/2017 12:18:34	07/13/2017 08:42:06	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	93.058887	310.19629
	S 182.034 {485}	07/20/2017 12:18:34	07/13/2017 09:02:55	Linear	1/Var	0.000322	0.000001	0.000000	1.000000	0.443185	0.000660	32.675176	108.91725
	W 207.911 {462}	07/20/2017 12:18:34	07/13/2017 09:02:55	Curvili	1/Var	-0.000326	0.000013	-0.000000	1.000000	1.000000	0.000000	2.830560	9.435198
	Hg 184.950 {482}	07/20/2017 12:18:34	07/13/2017 08:35:24	Linear	1/Conc	0.000168	0.000028	0.000000	1.000000	0.999948	0.000005	0.948378	3.161260
	Ce 404.076 { 83}	07/20/2017 12:18:34	07/13/2017 08:42:06	Linear	1/Conc	-0.000453	-0.000000	0.000000	1.000000	0.543897	0.000003	-1.000000	-1.000000

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {458}	OK.	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Y 224.306 {451}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	W 207.911 {462}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	Warnin	1.000000	0.000000	1	0

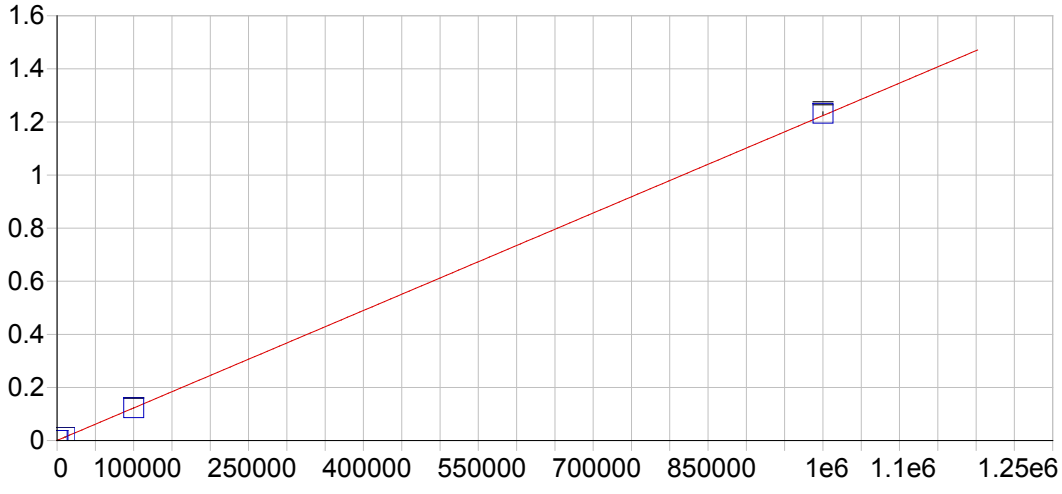


Ag 328.068 {103}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	21.016937	Re-Slope:	1.000000
A1 (Gain):	2.357829	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998870	Status:	OK.
Std Error of Est:	2.515686		
Predicted MDL:	1.454307		
Predicted MQL:	4.847689		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.45392	-.454	.000	19.947	1.96	1
CalStd5=10	10.000	8.3522	-1.65	-16.5	40.710	1.97	1
CalStd8=100	100.00	100.82	.825	.825	258.74	4.69	1
CalStd3=1	1.0000	1.4242	.424	42.4	24.375	.915	1

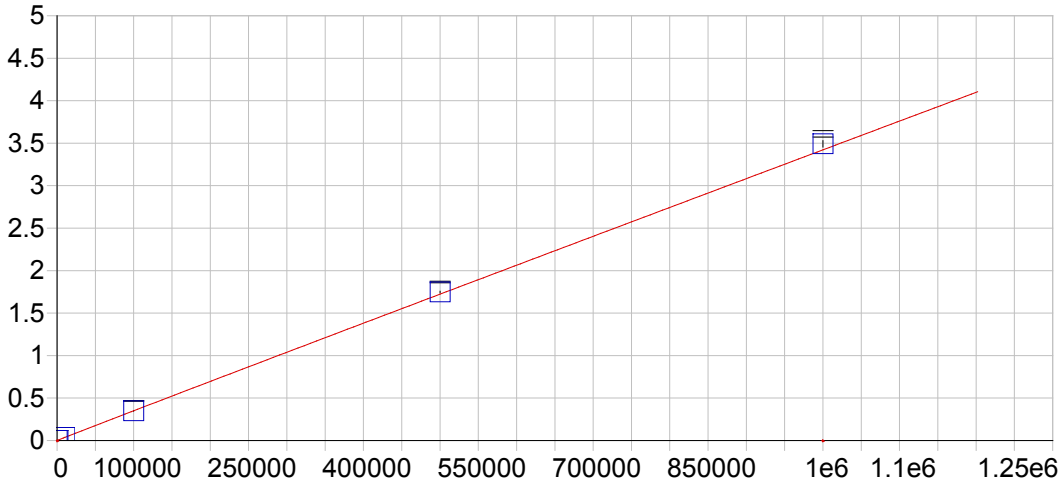


Al 309.271 {109}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000413	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000345		
Predicted MDL:	14.582162		
Predicted MQL:	48.607207		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-202.15	-202.	.000	.00017	.000	1
CalStd10=10	10000.	10330.	330.	3.30	.01305	.000	1
CalStd9=100	1000.0	907.43	-92.6	-9.26	.00152	.000	1
CalStd13=10	100000.	100030.	32.4	.032	.12281	.001	1
CalibStd15=	1000000.	1006800.	6760.	.676	1.2323	.006	1

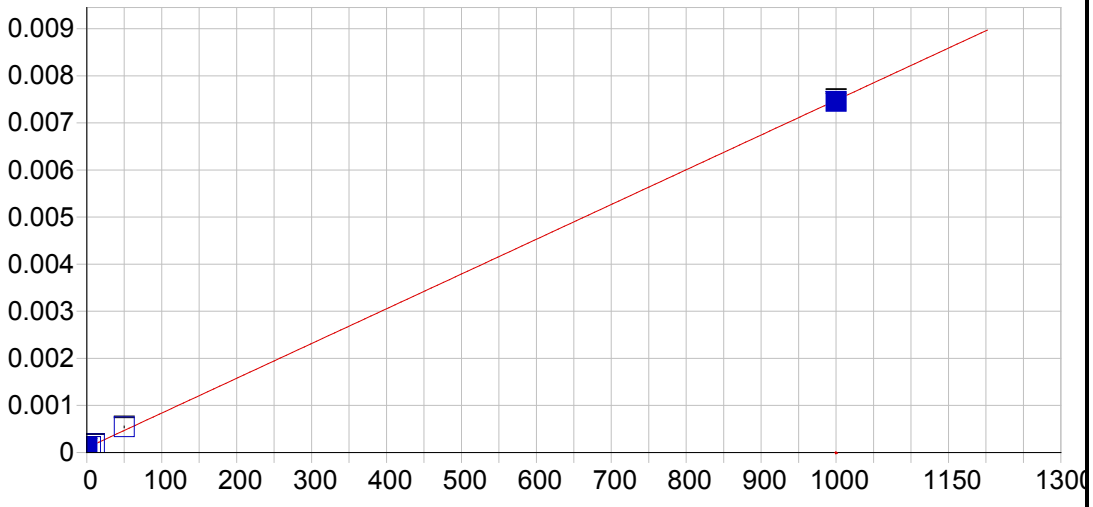


Al 396.152 { 85}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000263	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000040		
Predicted MDL:	6.639982		
Predicted MQL:	22.133273		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.31506	.315	.000	.00026	.000	1
CalStd14=50	500000.	507150.	7150.	1.43	1.7472	.009	1
CalStd13=10	100000.	99485.	-515.	-.515	.34858	.003	1
CalStd10=10	10000.	10115.	115.	1.15	.03650	.000	1
CalStd9=100	1000.0	992.07	-7.93	-.793	.00390	.000	1
CalibStd15=	1000000.	1020800.	20800.	2.08	3.4921	.038	1

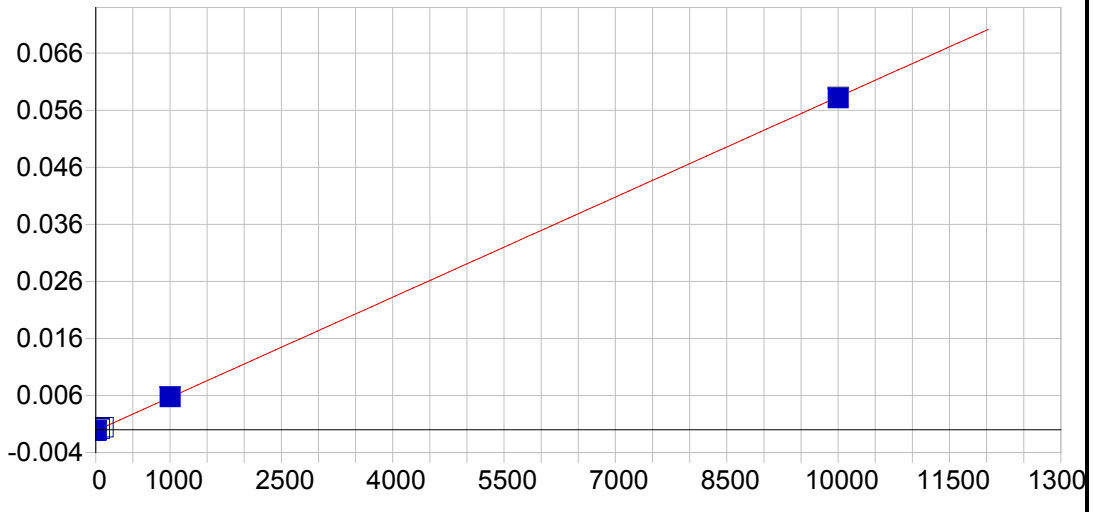


Al 167.079 {502}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000100	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999495	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	1.866679		
Predicted MQL:	6.222262		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0964	1.10	.000	.00011	.000	1
CalStd9=100	1000.0	996.38	-3.62	-.362	.00747	.000	1
CalStd5=10	10.000	11.036	1.04	10.4	.00018	.000	1
CalStd4=5	5.0000	3.5948	-1.41	-28.1	.00013	.000	1
CalStd7=50	50.000	60.235	10.2	20.5	.00054	.000	1

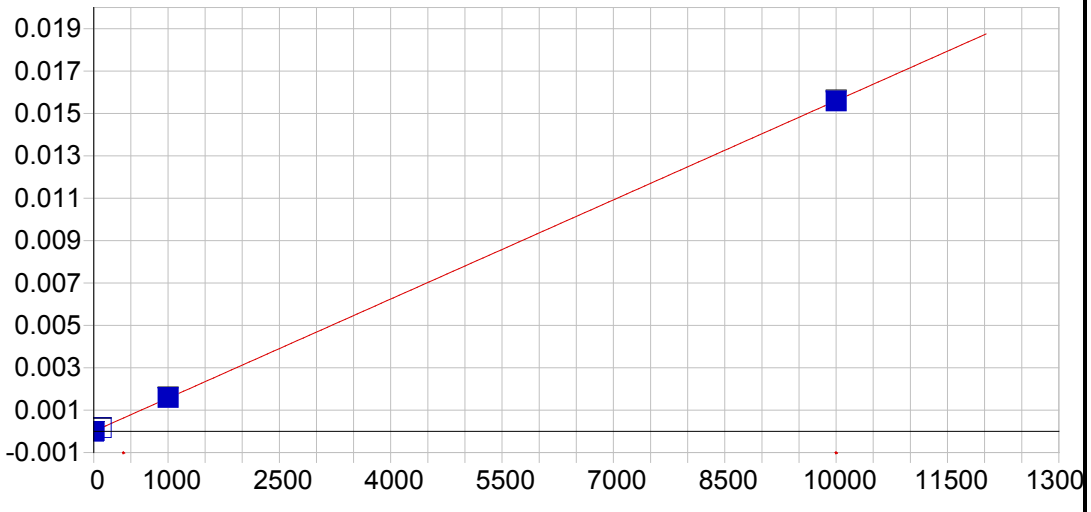


As 193.759 {474}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000181	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999796	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	5.894449		
Predicted MQL:	19.648163		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00726	-.007	.000	-.00018	.000	1
CalStd9=100	1000.0	1013.0	13.0	1.30	.00575	.000	1
CalStd7=50	50.000	59.103	9.10	18.2	.00016	.000	1
CalStd5=10	10.000	14.727	4.73	47.3	-.00009	.000	1
CalStd8=100	100.00	106.16	6.16	6.16	.00044	.000	1
CalStd10=10	10000.	9967.0	-33.0	-.330	.05814	.000	1

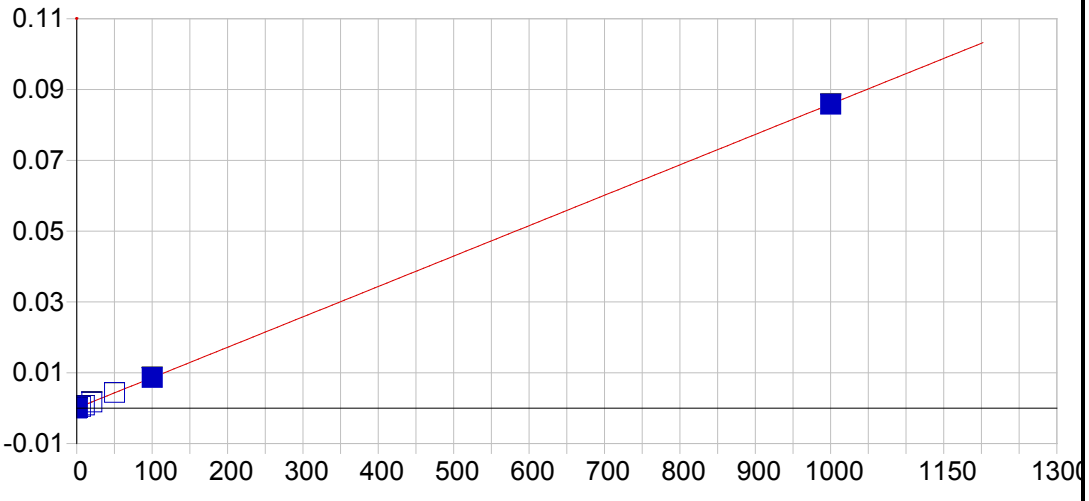


As 189.042 {479}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	13.784734		
Predicted MQL:	45.949112		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.8041	-4.80	.000	-.00000	.000	1
CalStd9=100	1000.0	1018.9	18.9	1.89	.00159	.000	1
CalStd10=10	10000.	9990.9	-9.08	-.091	.01559	.000	1
CalStd8=100	100.00	100.88	.879	.879	.00016	.000	1
CalStd4=5	5.0000	5.0212	.021	.423	.00001	.000	1

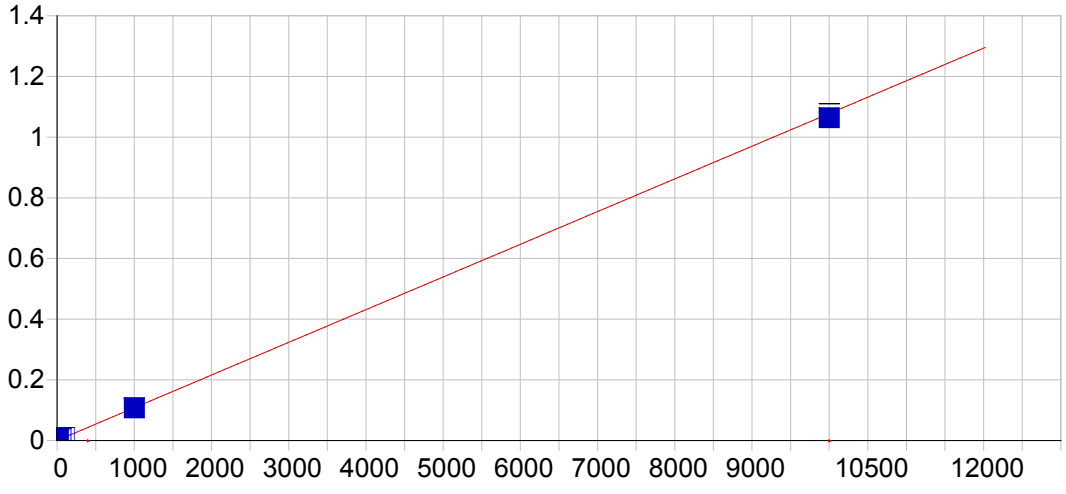


Ba 233.527 {445}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000086	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999912	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.349330		
Predicted MQL:	1.164434		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00040	.000	.000	.00001	.000	1
CalStd7=50	50.000	51.026	1.03	2.05	.00439	.000	1
CalStd5=10	10.000	9.5388	-.461	-4.61	.00083	.000	1
CalStd6=20	20.000	19.756	-.244	-1.22	.00171	.000	1
CalStd8=100	100.00	100.64	.640	.640	.00866	.000	1
CalStd4=5	5.0000	5.1203	.120	2.41	.00045	.000	1
CalStd9=100	1000.0	999.31	-.687	-.069	.08585	.000	1
CalStd3=1	1.0000	.60543	-.395	-39.5	.00006	.000	1

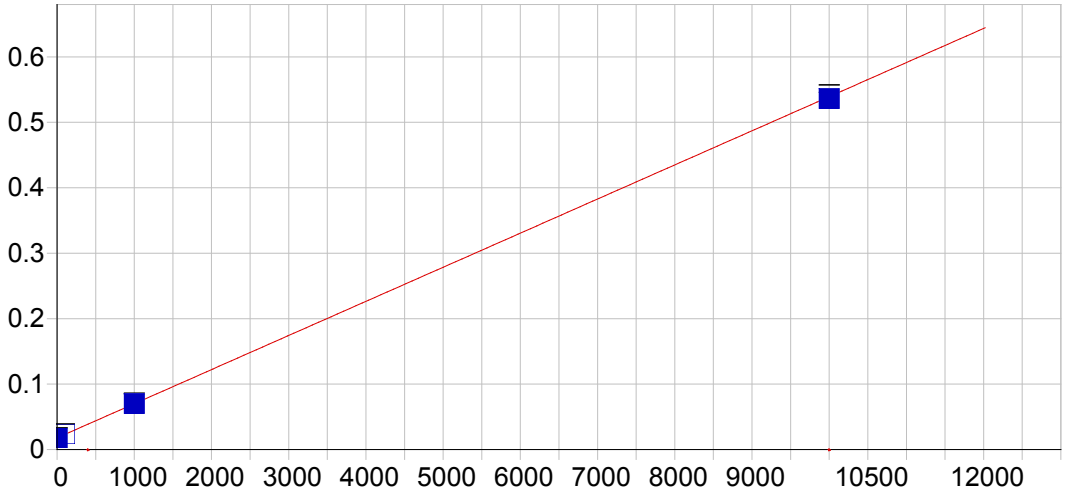


Ba 455.403 { 74}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000383	Re-Slope:	1.000000
A1 (Gain):	0.000108	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999615	Status:	OK.
Std Error of Est:	0.000051		
Predicted MDL:	0.237523		
Predicted MQL:	0.791744		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.22885	.229	.000	.00041	.000	1
CalStd7=50	50.000	52.166	2.17	4.33	.00600	.000	1
CalStd5=10	10.000	9.4588	-.541	-5.41	.00140	.000	1
CalStd6=20	20.000	19.210	-.790	-3.95	.00245	.000	1
CalStd8=100	100.00	101.06	1.06	1.06	.01127	.000	1
CalStd4=5	5.0000	5.0119	.012	.238	.00092	.000	1
CalStd9=100	1000.0	988.83	-11.2	-1.12	.10693	.001	1
CalStd3=1	1.0000	.62736	-.373	-37.3	.00045	.000	1
CalStd10=10	10000.	9866.0	-134.	-1.34	1.0634	.014	1

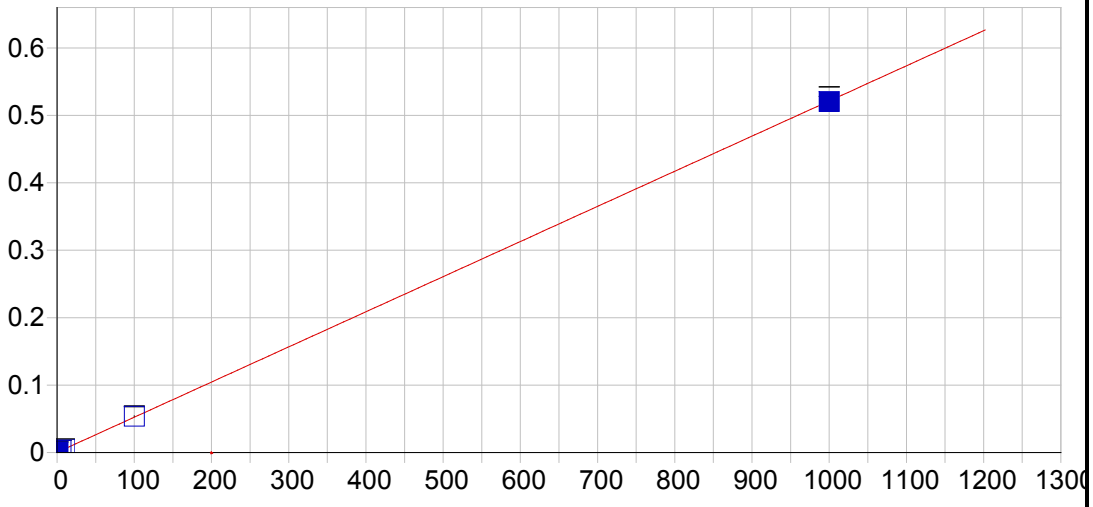


Ba 493.409 { 68}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.017896	Re-Slope:	1.000000
A1 (Gain):	0.000052	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999800	Status:	OK.
Std Error of Est:	0.000617		
Predicted MDL:	1.299091		
Predicted MQL:	4.330303		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.6130	-6.61	.000	.01755	.000	1
CalStd9=100	1000.0	1003.7	3.65	.365	.07022	.001	1
CalStd8=100	100.00	110.84	10.8	10.8	.02367	.000	1
CalStd10=10	10000.	9940.9	-59.1	-.591	.53619	.006	1

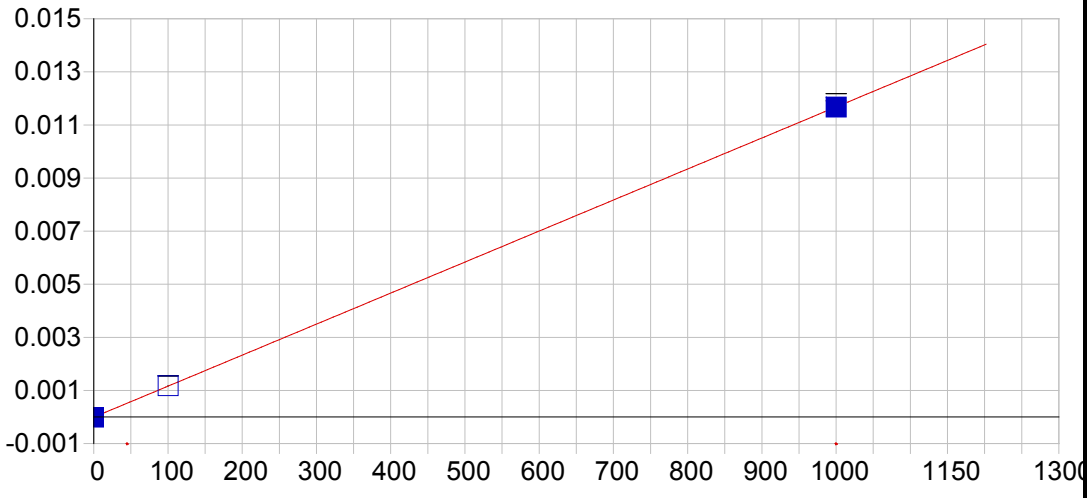


Be 313.042 {108}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000336	Re-Slope:	1.000000
A1 (Gain):	0.000521	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.037303		
Predicted MQL:	0.124344		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	.00034	.000	1
CalStd5=10	10.000	9.5394	-.461	-4.61	.00531	.000	1
CalStd8=100	100.00	102.36	2.36	2.36	.05367	.001	1
CalStd2=0.5	.50000	.46852	-.031	-6.30	.00058	.000	1
CalStd4=5	5.0000	5.1479	.148	2.96	.00302	.000	1
CalStd1=0.2	.25000	.20565	-.044	-17.7	.00044	.000	1
CalStd9=100	1000.0	998.06	-1.94	-.194	.52038	.007	1
CalStd3=1	1.0000	.96540	-.035	-3.46	.00084	.000	1

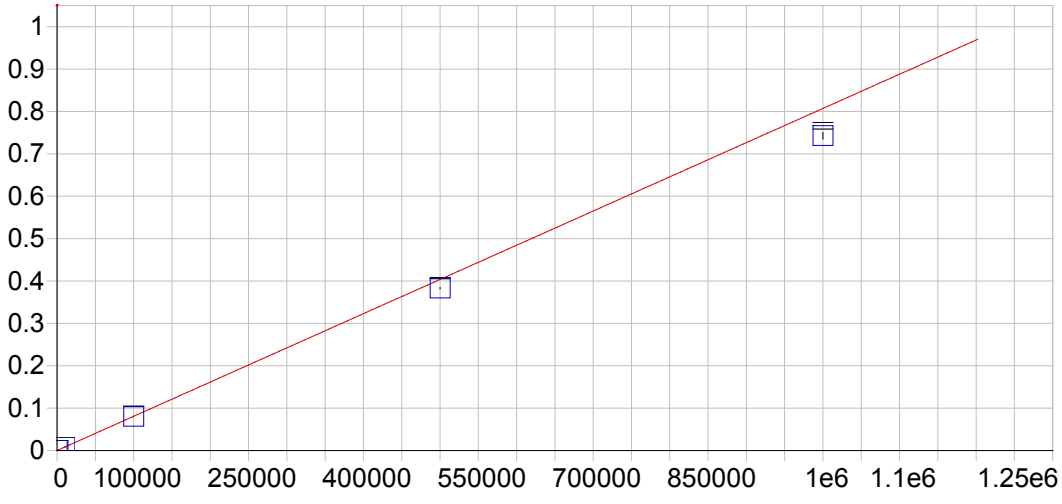


Be 234.861 {144}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.373087		
Predicted MQL:	1.243625		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00089	-.001	.000	-.00001	.000	1
CalStd9=100	1000.0	999.01	-.988	-.099	.01167	.000	1
CalStd8=100	100.00	100.99	.988	.988	.00117	.000	1

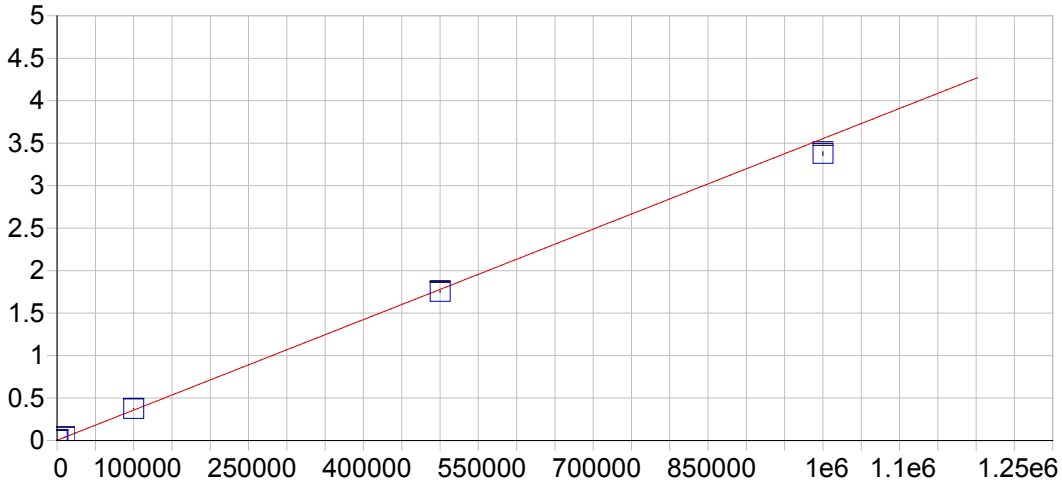


Ca 315.887 {107}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000145	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	8.878919		
Predicted MQL:	29.596397		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.5855	2.59	.000	.00015	.000	1
CalStd10=10	10000.	10169.	169.	1.69	.00835	.000	1
CalStd13=10	100000.	99459.	-541.	-.541	.08041	.001	1
CalStd14=50	500000.	474680.	-25300.	-5.06	.38323	.002	1
CalStd9=100	1000.0	996.47	-3.53	-.353	.00095	.000	1
CalibStd15=	1000000.	920200.	-79800.	-7.98	.74278	.008	1

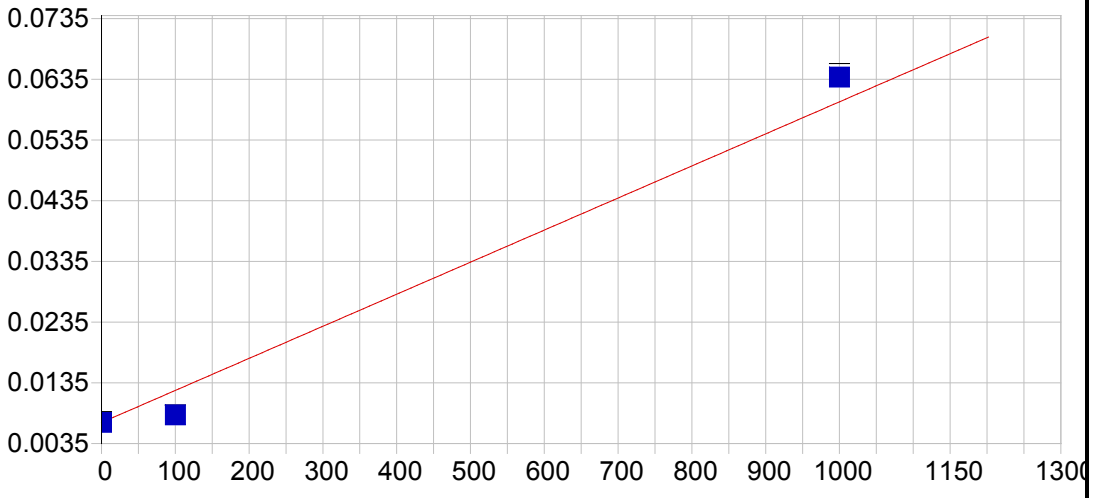


Ca 317.933 {106}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.003409	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997489	Status:	OK.
Std Error of Est:	0.000619		
Predicted MDL:	2.661637		
Predicted MQL:	8.872122		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-41.768	-41.8	.000	.00326	.000	1
CalStd10=10	10000.	10935.	935.	9.35	.04223	.000	1
CalStd13=10	100000.	104880.	4880.	4.88	.37575	.003	1
CalStd14=50	500000.	493070.	-6930.	-1.39	1.7539	.009	1
CalStd9=100	1000.0	1322.8	323.	32.3	.00811	.000	1
CalibStd15=	1000000.	950510.	-49500.	-4.95	3.3779	.021	1

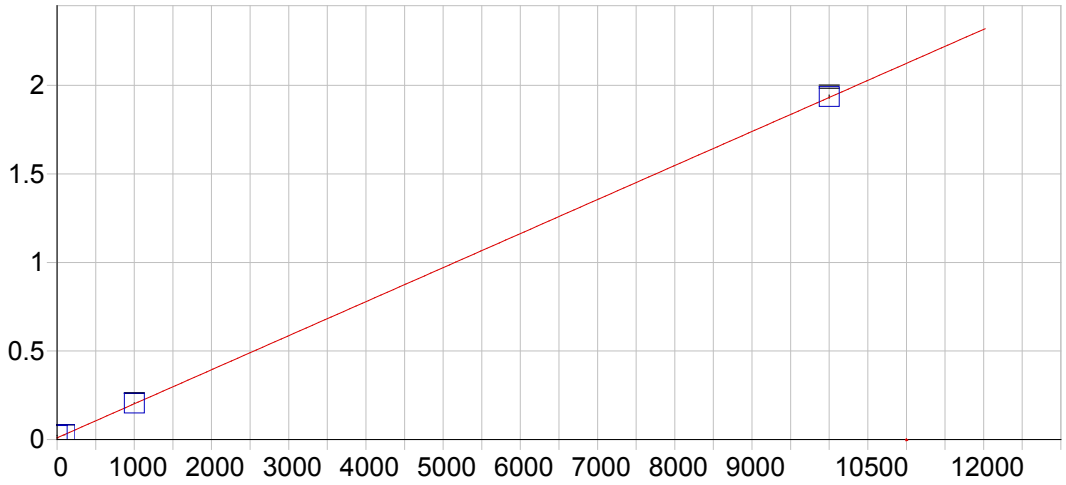


Ca 393.366 { 86}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006966	Re-Slope:	1.000000
A1 (Gain):	0.000053	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.971676	Status:	OK.
Std Error of Est:	0.000233		
Predicted MDL:	0.051471		
Predicted MQL:	0.171571		

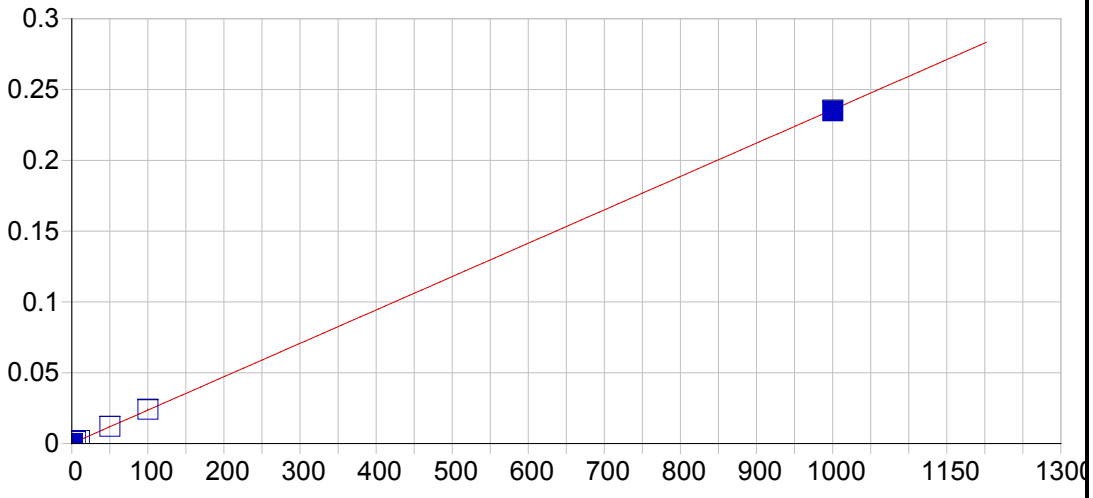
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.06918	.069	.000	.00697	.000	1
CalStd9=100	1000.0	1076.9	76.9	7.69	.06385	.001	1
CalStd8=100	100.00	23.134	-76.9	-76.9	.00819	.000	1



Ca 396.847 { 85}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.009652		Re-Slope:	1.000000	
A1 (Gain):	0.000192		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.998301		Status:	OK.	
Std Error of Est:	0.007019				
Predicted MDL:	0.098802				
Predicted MQL:	0.329341				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	66.190	66.2	.000	.02238	.001	1
CalStd10=10	10000.	10022.	21.7	.217	1.9360	.009	1
CalStd8=100	100.00	89.297	-10.7	-10.7	.02682	.000	1
CalStd9=100	1000.0	1018.5	18.5	1.85	.20543	.002	1

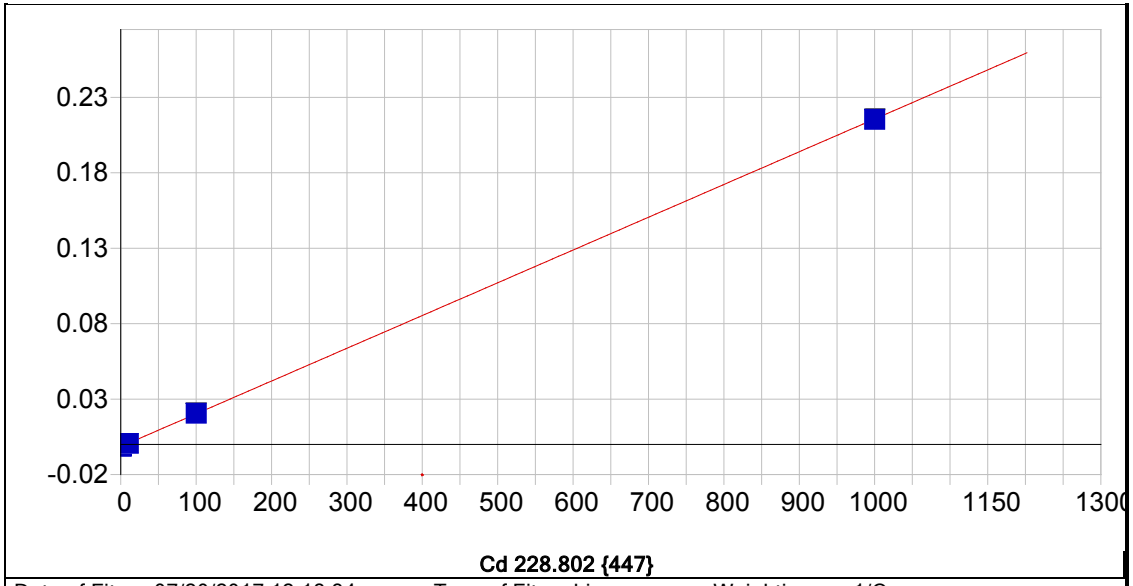


Cd 226.502 {449}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000236	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999901	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	0.192808		
Predicted MQL:	0.642692		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01914	.019	.000	.00004	.000	1
CalStd7=50	50.000	51.150	1.15	2.30	.01210	.000	1
CalStd3=1	1.0000	1.0443	.044	4.43	.00029	.000	1
CalStd2=0.5	.50000	.39675	-.103	-20.7	.00013	.000	1
CalStd4=5	5.0000	5.4044	.404	8.09	.00131	.000	1
CalStd8=100	100.00	101.83	1.83	1.83	.02404	.000	1
CalStd5=10	10.000	9.6170	-.383	-3.83	.00231	.000	1
CalStd9=100	1000.0	996.10	-3.90	-.390	.23486	.001	1

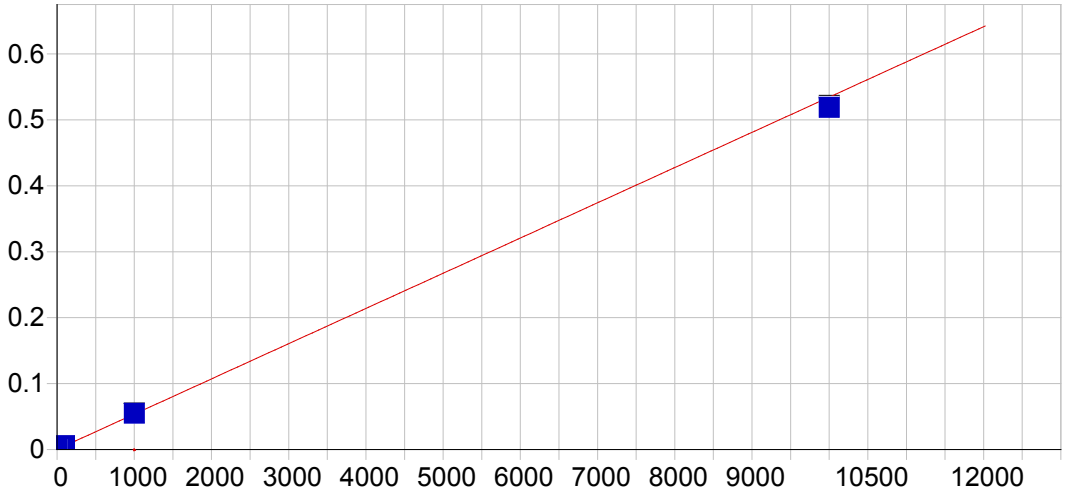


Cd 228.802 {447}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001456	Re-Slope:	1.000000
A1 (Gain):	0.000217	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999920	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.325647		
Predicted MQL:	1.085489		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00031	-.000	.000	-.00146	.000	1
CalStd9=100	1000.0	998.48	-1.52	-.152	.21561	.000	1
CalStd8=100	100.00	101.38	1.38	1.38	.02058	.000	1
CalStd2=0.5	.50000	.67385	.174	34.8	-.00131	.000	1
CalStd3=1	1.0000	1.2920	.292	29.2	-.00118	.000	1
CalStd5=10	10.000	9.6705	-.329	-3.29	.00065	.000	1

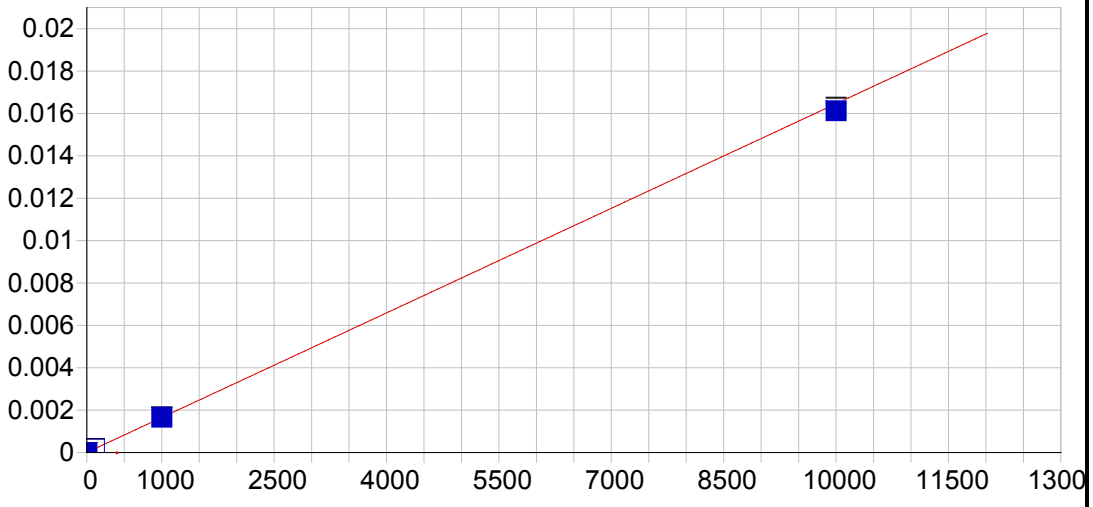


Co 228.616 {447}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000309	Re-Slope:	1.000000
A1 (Gain):	0.000053	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999660	Status:	OK.
Std Error of Est:	0.000222		
Predicted MDL:	0.875518		
Predicted MQL:	2.918393		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.4271	-1.43	.000	.00023	.000	1
CalStd7=50	50.000	50.053	.053	.106	.00299	.000	1
CalStd5=10	10.000	8.4882	-1.51	-15.1	.00076	.000	1
CalStd4=5	5.0000	4.0659	-.934	-18.7	.00053	.000	1
CalStd8=100	100.00	101.40	1.40	1.40	.00574	.000	1
CalStd9=100	1000.0	1020.4	20.4	2.04	.05492	.000	1
CalStd3=1	1.0000	-.49895	-1.50	-150.	.00028	.000	1
CalStd10=10	10000.	9701.6	-298.	-2.98	.52026	.002	1

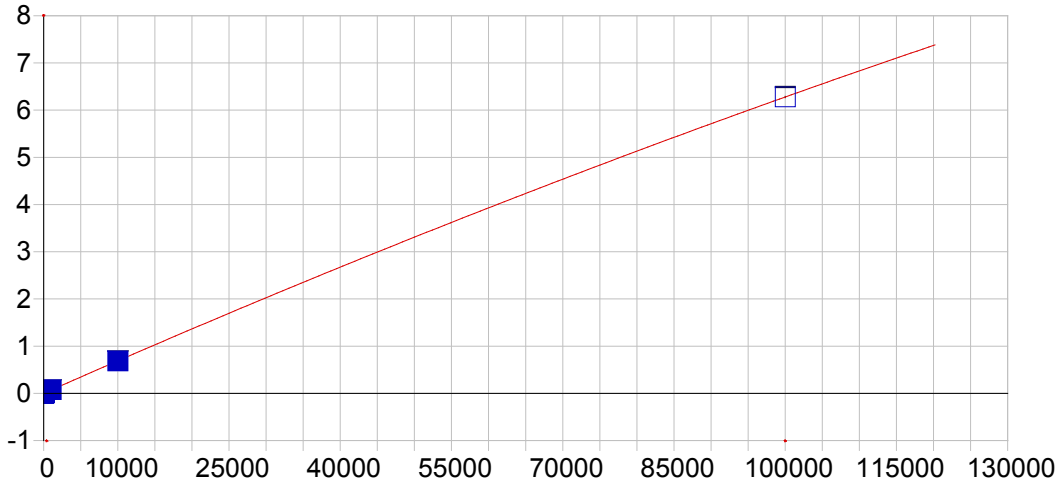


Co 238.892 {141}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999757	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	1.175846		
Predicted MQL:	3.919486		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.3853	-2.39	.000	.00000	.000	1
CalStd9=100	1000.0	1006.9	6.92	.692	.00167	.000	1
CalStd10=10	10000.	9790.8	-209.	-2.09	.01615	.000	1
CalStd8=100	100.00	102.34	2.34	2.34	.00017	.000	1

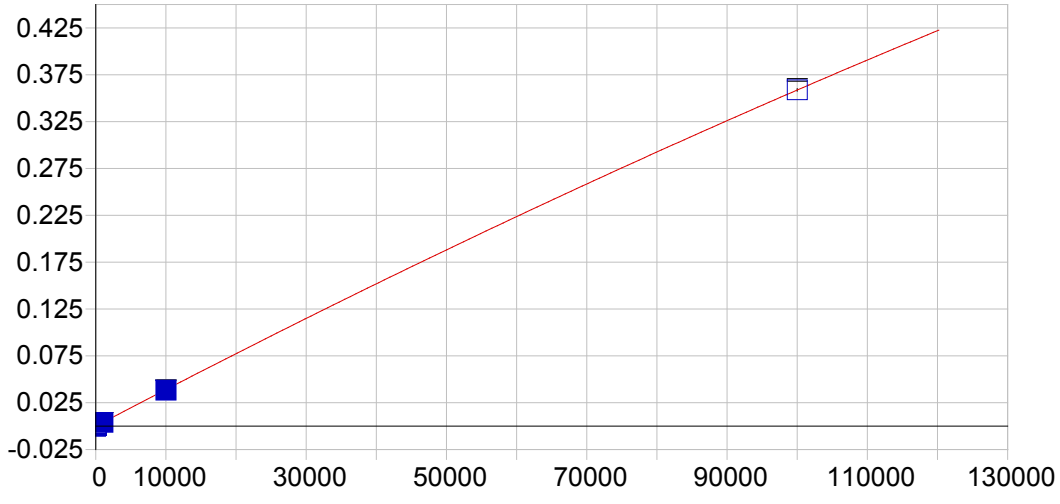


Cr 205.560 {464}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000222	Re-Slope:	1.000000
A1 (Gain):	0.000070	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.379325		
Predicted MQL:	1.264416		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00013	-.000	.000	-.00022	.000	1
CalStd5=10	10.000	10.131	.131	1.31	.00048	.000	1
CalStd7=50	50.000	52.433	2.43	4.87	.00343	.000	1
CalStd9=100	1000.0	1038.7	38.7	3.87	.07197	.000	1
CalStd8=100	100.00	103.68	3.68	3.68	.00699	.000	1
CalStd4=5	5.0000	5.4010	.401	8.02	.00015	.000	1
CalStd3=1	1.0000	.92126	-.079	-7.87	-.00016	.000	1
CalStd10=10	10000.	9949.2	-50.8	-.508	.68526	.002	1
CalStd12=10	100000.	100010.	5.70	.006	6.2787	.014	1

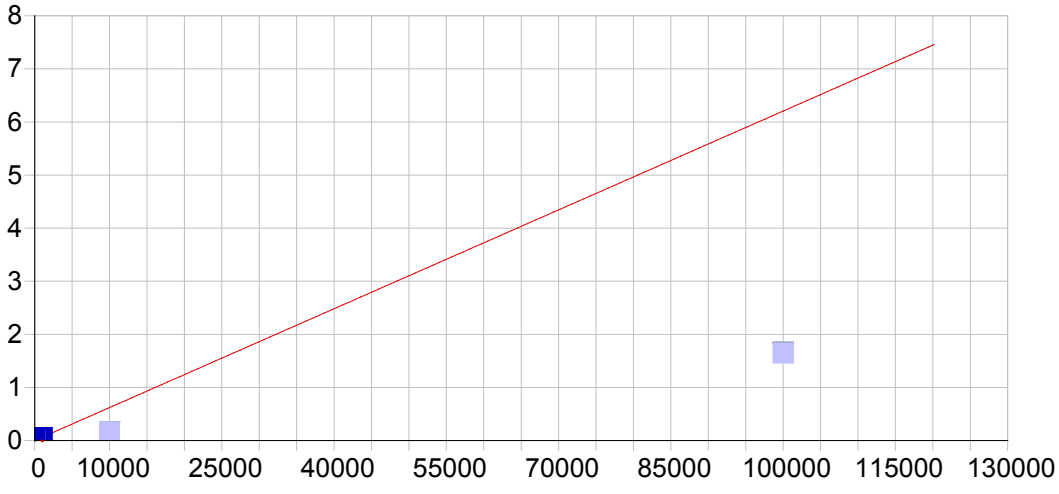


Cr 267.716 {126}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.724521		
Predicted MQL:	2.415071		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.49003	-.490	.000	-.00002	.000	1
CalStd5=10	10.000	10.102	.102	1.02	.00003	.000	1
CalStd7=50	50.000	51.300	1.30	2.60	.00019	.000	1
CalStd9=100	1000.0	995.63	-4.37	-.437	.00390	.000	1
CalStd8=100	100.00	101.75	1.75	1.75	.00039	.000	1
CalStd4=5	5.0000	4.9134	-.087	-1.73	.00001	.000	1
CalStd10=10	10000.	9796.2	-204.	-2.04	.03822	.000	1
CalStd12=10	100000.	100030.	30.5	.031	.35882	.001	1

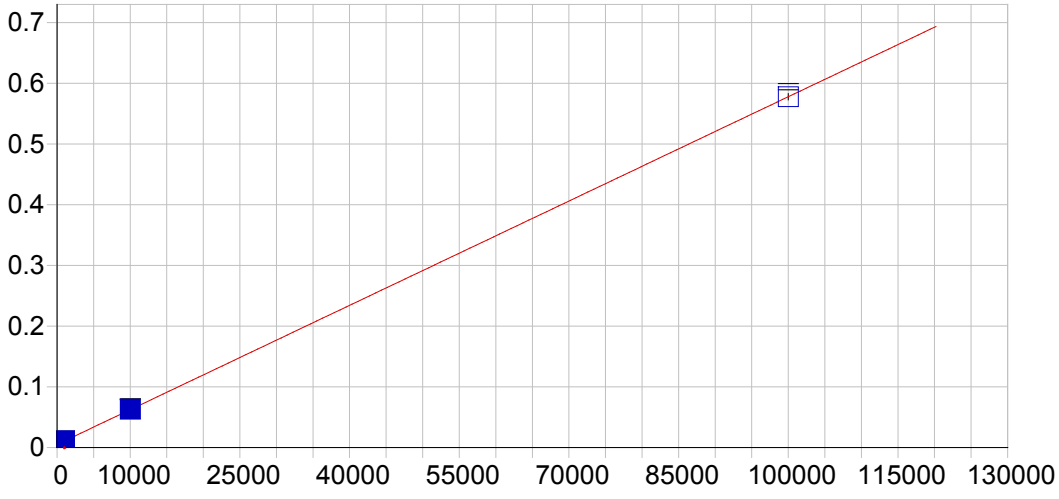


Cu 224.700 {450}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000397	Re-Slope:	1.000000
A1 (Gain):	0.000062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999217	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.742935		
Predicted MQL:	2.476449		

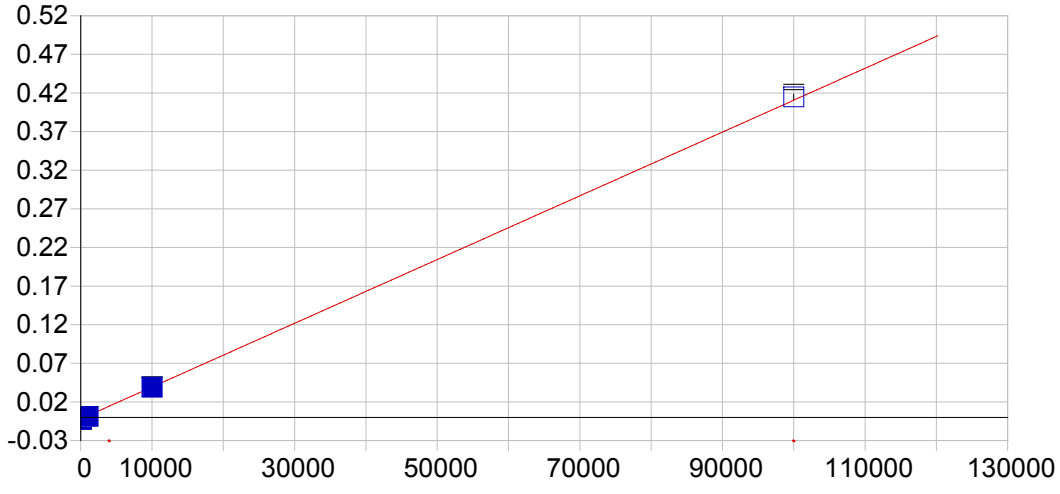
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00157	.002	.000	.00040	.000	1
CalStd9=100	1000.0	1004.9	4.90	.490	.06268	.000	1
CalStd7=50	50.000	49.631	-.369	-.739	.00348	.000	1
CalStd8=100	100.00	100.16	.162	.162	.00660	.000	1
CalStd5=10	10.000	8.7203	-1.28	-12.8	.00094	.000	1
CalStd10=10	10000.	2671.1	-7330.	-73.3	.16465	.001	0
CalStd4=5	5.0000	3.8808	-1.12	-22.4	.00064	.000	1
CalStd6=20	20.000	18.884	-1.12	-5.58	.00157	.000	1
CalStd3=1	1.0000	-.16139	-1.16	-116.	.00039	.000	1
CalStd12=10	100000.	26435.	-73600.	-73.6	1.6594	.004	0



Cu 324.754 {104}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	None
A0 (Offset):	0.005089		Re-Slope:	1.000000	
A1 (Gain):	0.000006		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999997		Status:	OK.	
Std Error of Est:	0.000659				
Predicted MDL:	2.585485				
Predicted MQL:	8.618283				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-159.55	-160.	.000	.00417	.000	1
CalStd9=100	1000.0	1033.7	33.7	3.37	.01101	.000	1
CalStd8=100	100.00	126.20	26.2	26.2	.00581	.000	1
CalStd10=10	10000.	10111.	111.	1.11	.06300	.001	1
CalStd12=10	100000.	99989.	-11.5	-.011	.57784	.005	1

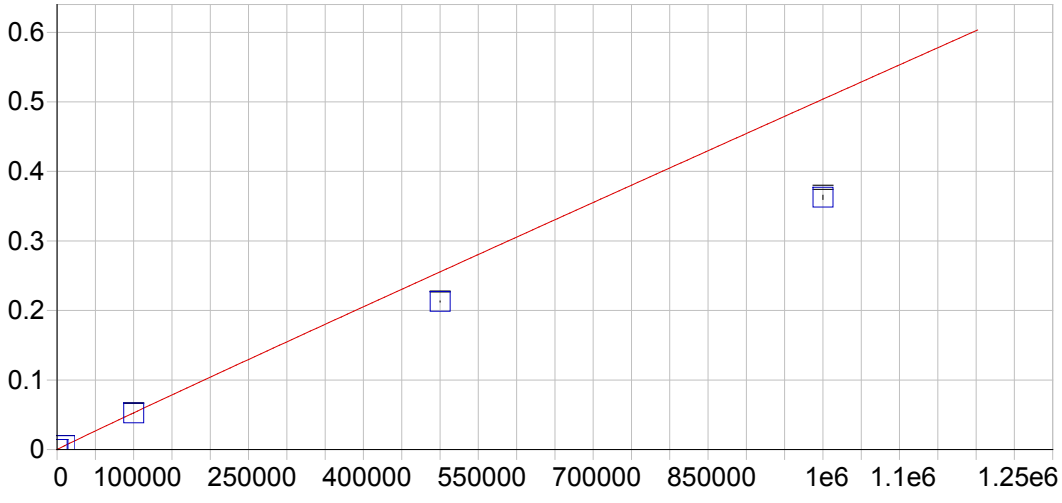


Cu 327.396 {103}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001951	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.983066	Status:	OK.
Std Error of Est:	0.000043		
Predicted MDL:	6.033338		
Predicted MQL:	20.111126		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.35163	.352	.000	-.00195	.000	1
CalStd6=20	20.000	-182.19	-202.	-1010.	-.00270	.000	1
CalStd7=50	50.000	-193.03	-243.	-486.	-.00275	.000	1
CalStd8=100	100.00	-137.81	-238.	-238.	-.00252	.000	1
CalStd9=100	1000.0	765.76	-234.	-23.4	.00121	.000	1
CalStd10=10	10000.	9906.0	-94.0	-.940	.03892	.000	1
CalStd12=10	100000.	101010.	1010.	1.01	.41483	.004	1

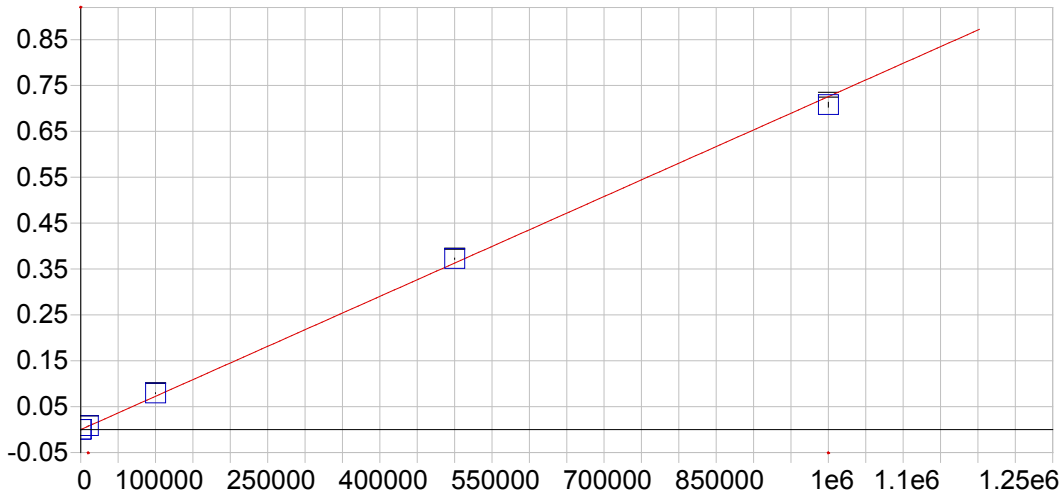


Fe 234.349 {144}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.980000		
Correlation:	0.999845	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	1.393269		
Predicted MQL:	4.644230		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04827	.048	.000	.00003	.000	1
CalStd10=10	10000.	10096.	96.2	.962	.00560	.000	1
CalStd13=10	100000.	99203.	-797.	-.797	.05238	.000	1
CalStd14=50	500000.	415230.	-84800.	-17.0	.21296	.001	1
CalStd9=100	1000.0	994.78	-5.22	-.522	.00060	.000	1
CalibStd15=	1000000.	715040.	-285000.	-28.5	.36274	.003	1

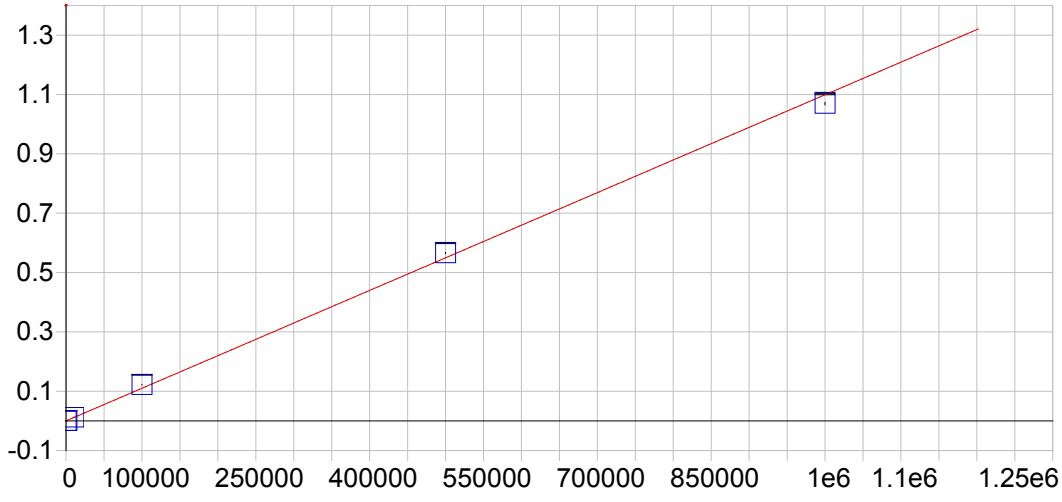


Fe 239.562 {140}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999357	Status:	OK.
Std Error of Est:	0.000040		
Predicted MDL:	8.871004		
Predicted MQL:	29.570014		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.34017	-.340	.000	-.00002	.000	1
CalStd10=10	10000.	11286.	1290.	12.9	.00818	.000	1
CalStd13=10	100000.	109710.	9710.	9.71	.07962	.001	1
CalStd14=50	500000.	513310.	13300.	2.66	.37256	.001	1
CalStd9=100	1000.0	1112.3	112.	11.2	.00079	.000	1
CalibStd15=	1000000.	975580.	-24400.	-2.44	.70808	.005	1

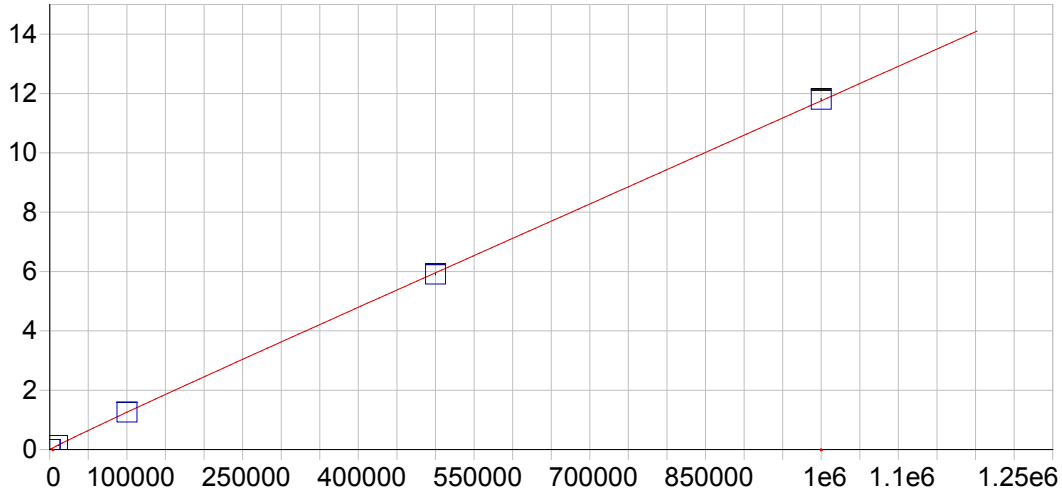


Fe 259.940 {129}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999237	Status:	OK.
Std Error of Est:	0.000067		
Predicted MDL:	6.421381		
Predicted MQL:	21.404605		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.35305	-.353	.000	-.00001	.000	1
CalStd10=10	10000.	11146.	1150.	11.5	.01224	.000	1
CalStd13=10	100000.	110770.	10800.	10.8	.12173	.001	1
CalStd14=50	500000.	514750.	14700.	2.95	.56575	.002	1
CalStd9=100	1000.0	1128.0	128.	12.8	.00123	.000	1
CalibStd15=	1000000.	973210.	-26800.	-2.68	1.0696	.004	1

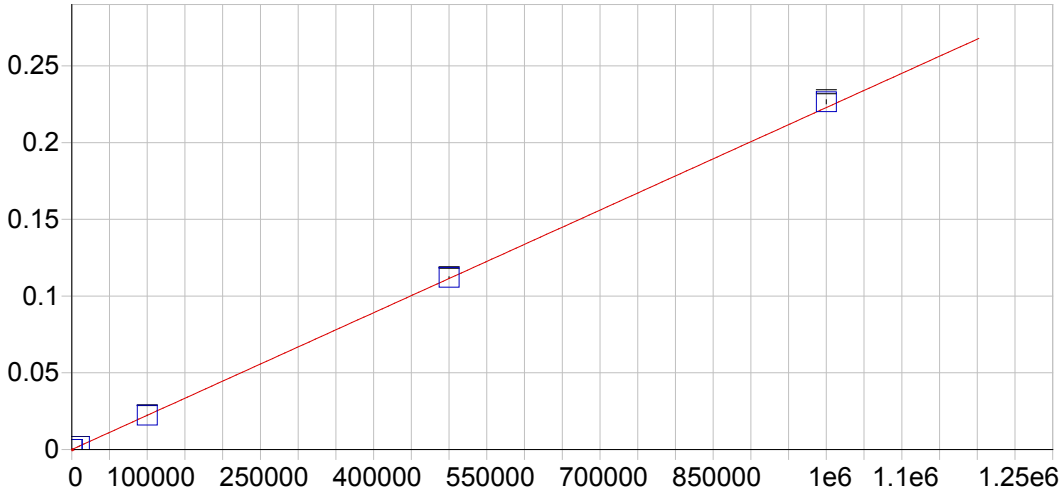


Mg 202.582 {466}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000330	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.960000		
Correlation:	0.999967	Status:	Warning Positive Curvature
Std Error of Est:	0.000136		
Predicted MDL:	1.912508		
Predicted MQL:	6.375027		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.16075	.161	.000	.00033	.000	1
CalStd13=10	100000.	99938.	-61.7	-.062	1.2551	.001	1
CalStd10=10	10000.	10302.	302.	3.02	.14157	.001	1
CalStd14=50	500000.	495780.	-4220.	-.844	5.9087	.019	1
CalStd9=100	1000.0	970.50	-29.5	-2.95	.01495	.000	1
CalibStd15=	1000000.	1003700.	3730.	.373	11.799	.032	1

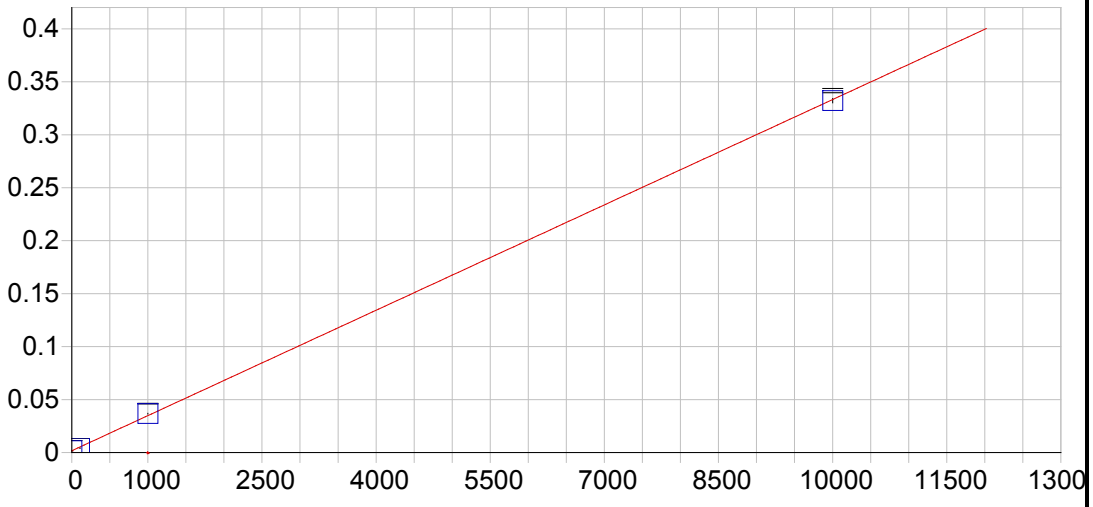


Mg 279.079 {121}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	21.641484		
Predicted MQL:	72.138281		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.1748	-1.17	.000	.00001	.000	1
CalStd13=10	100000.	100180.	175.	.175	.02234	.000	1
CalStd10=10	10000.	10062.	61.9	.619	.00225	.000	1
CalStd14=50	500000.	502940.	2940.	.588	.11209	.000	1
CalStd9=100	1000.0	1004.1	4.09	.409	.00024	.000	1
CalibStd15=	1000000.	1016800.	16800.	1.68	.22661	.001	1

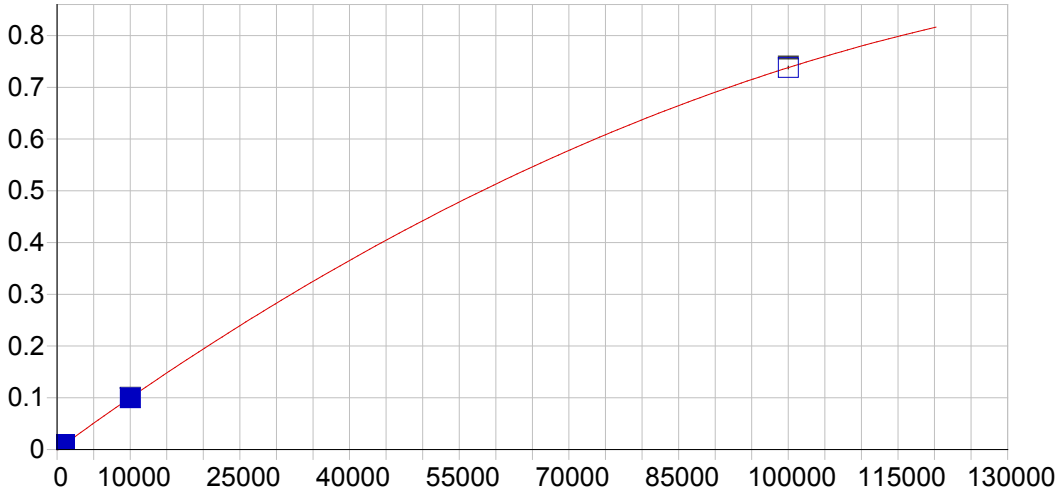


Mg 280.270 {120}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001704	Re-Slope:	1.000000
A1 (Gain):	0.000033	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999574	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	0.049045		
Predicted MQL:	0.163483		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01931	.019	.000	.00171	.000	1
CalStd9=100	1000.0	1057.0	57.0	5.70	.03675	.000	1
CalStd10=10	10000.	9967.7	-32.3	-.323	.33218	.002	1
CalStd8=100	100.00	75.307	-24.7	-24.7	.00420	.000	1

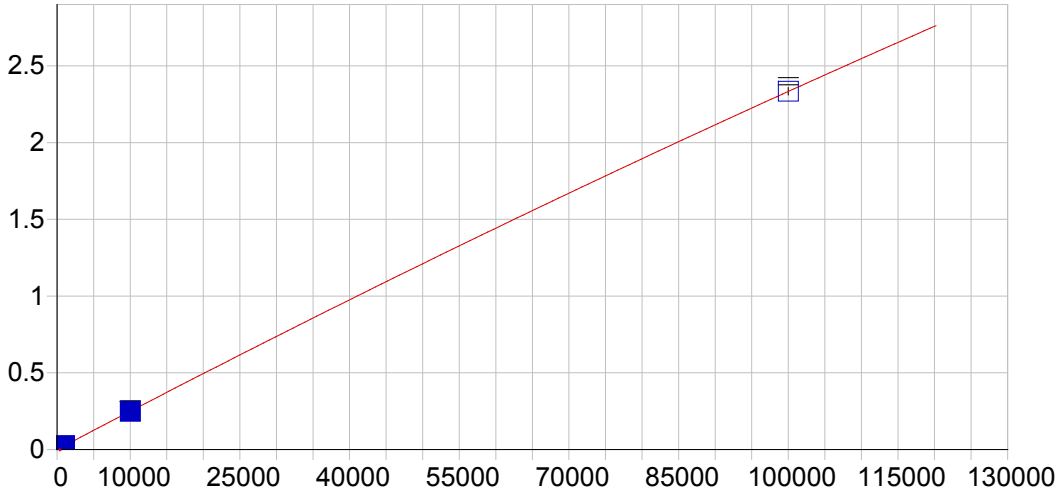


Mn 257.610 {131}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.129849		
Predicted MQL:	0.432830		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00052	-.001	.000	.00001	.000	1
CalStd5=10	10.000	9.6615	-.338	-3.38	.00011	.000	1
CalStd7=50	50.000	53.851	3.85	7.70	.00056	.000	1
CalStd6=20	20.000	19.776	-.224	-1.12	.00021	.000	1
CalStd8=100	100.00	105.22	5.22	5.22	.00109	.000	1
CalStd4=5	5.0000	5.0119	.012	.238	.00006	.000	1
CalStd9=100	1000.0	1020.9	20.9	2.09	.01050	.000	1
CalStd10=10	10000.	9965.7	-34.3	-.343	.09980	.001	1
CalStd12=10	100000.	100010.	6.98	.007	.73809	.003	1

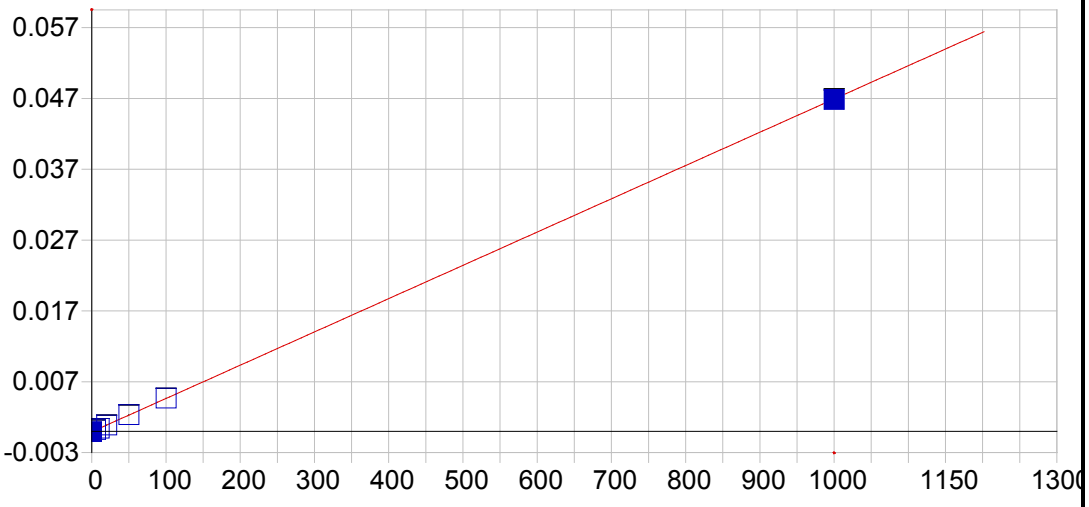


Mn 259.373 {130}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.361343		
Predicted MQL:	1.204476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00628	-.006	.000	.00007	.000	1
CalStd10=10	10000.	9953.9	-46.1	-.461	.24841	.002	1
CalStd9=100	1000.0	1004.4	4.41	.441	.02528	.000	1
CalStd12=10	100000.	100040.	42.2	.042	2.3345	.023	1

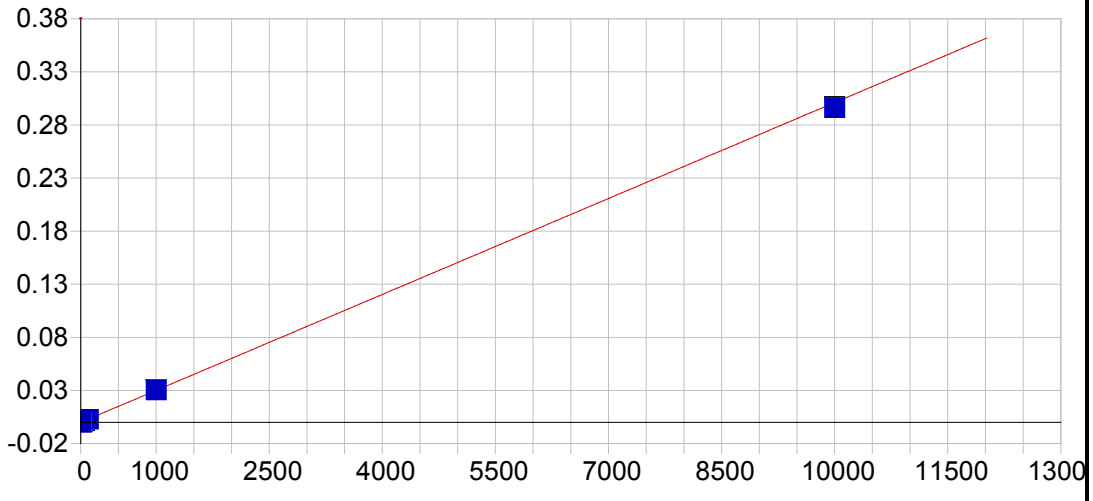


Mo 202.030 {466}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000068	Re-Slope:	1.000000
A1 (Gain):	0.000047	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.616054		
Predicted MQL:	2.053512		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00064	-.001	.000	-.00007	.000	1
CalStd7=50	50.000	50.975	.975	1.95	.00233	.000	1
CalStd6=20	20.000	19.812	-.188	-.939	.00086	.000	1
CalStd5=10	10.000	10.217	.217	2.17	.00041	.000	1
CalStd8=100	100.00	100.66	.660	.660	.00466	.000	1
CalStd4=5	5.0000	5.4600	.460	9.20	.00019	.000	1
CalStd9=100	1000.0	997.88	-2.12	-.212	.04683	.000	1

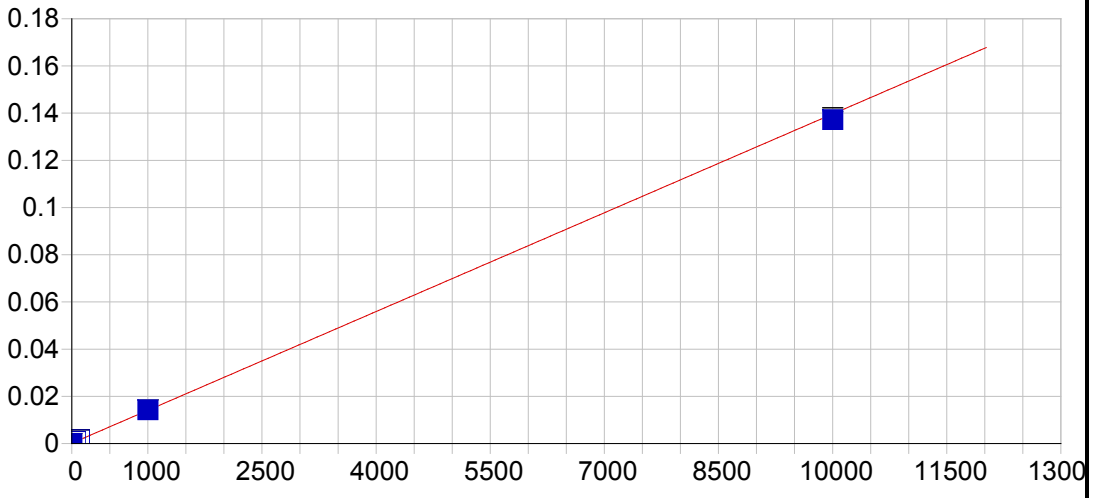


Mo 204.598 {464}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999808	Status:	OK.
Std Error of Est:	0.000057		
Predicted MDL:	1.106260		
Predicted MQL:	3.687535		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5269	-1.53	.000	-.00013	.000	1
CalStd7=50	50.000	50.889	.889	1.78	.00145	.000	1
CalStd6=20	20.000	18.537	-1.46	-7.31	.00048	.000	1
CalStd5=10	10.000	8.4131	-1.59	-15.9	.00017	.000	1
CalStd8=100	100.00	100.96	.958	.958	.00296	.000	1
CalStd4=5	5.0000	4.5467	-.453	-9.07	.00005	.000	1
CalStd9=100	1000.0	1013.8	13.8	1.38	.03045	.000	1
CalStd10=10	10000.	9839.0	-161.	-1.61	.29624	.001	1

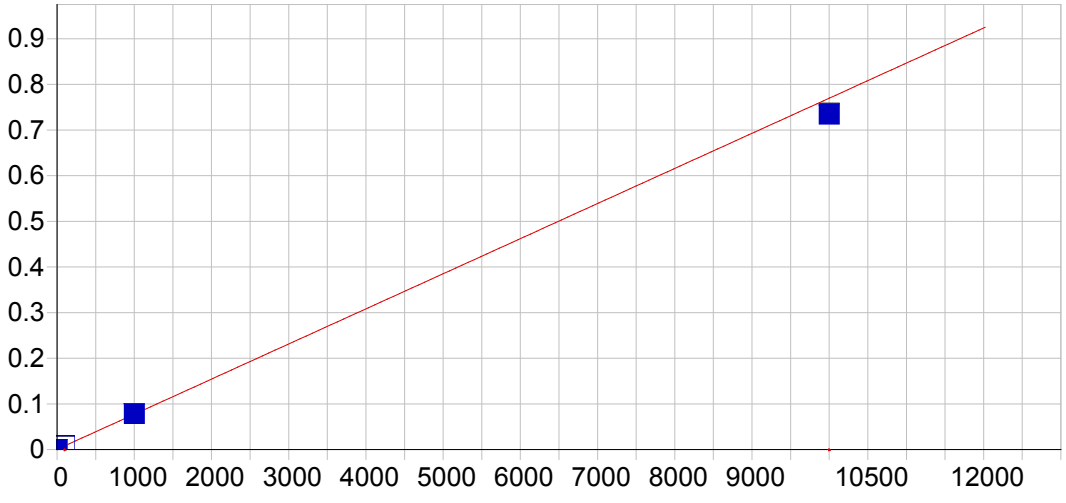


Mo 204.598 {465}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000141	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999888	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	2.101247		
Predicted MQL:	7.004156		

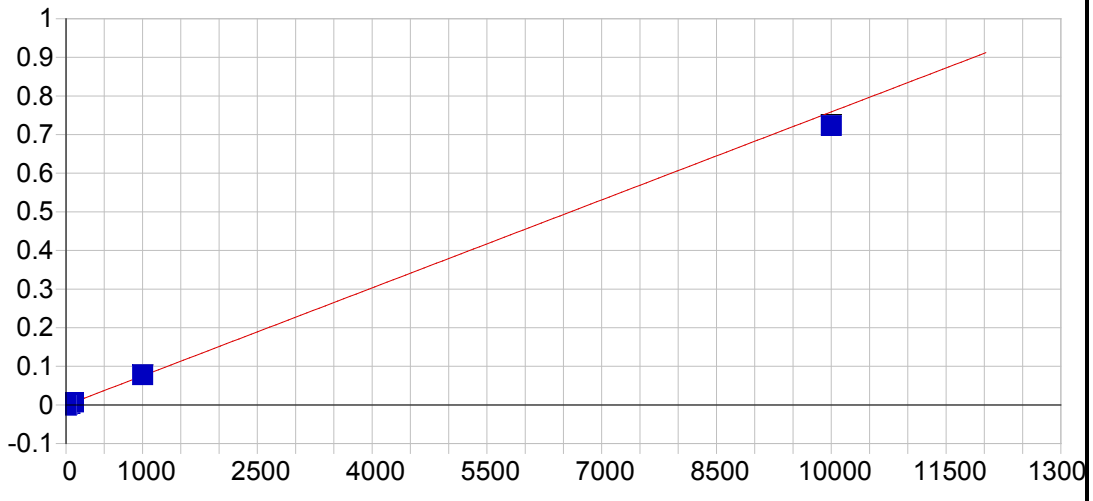
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.52914	-.529	.000	.00013	.000	1
CalStd9=100	1000.0	1011.8	11.8	1.18	.01426	.000	1
CalStd10=10	10000.	9823.5	-177.	-1.77	.13719	.001	1
CalStd7=50	50.000	50.287	.287	.573	.00084	.000	1
CalStd8=100	100.00	101.04	1.04	1.04	.00155	.000	1



Ni 221.647 {452}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000498		Re-Slope:	1.000000	
A1 (Gain):	0.000077		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999601		Status:	OK.	
Std Error of Est:	0.001020				
Predicted MDL:	0.706574				
Predicted MQL:	2.355245				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.8419	-3.84	.000	.00020	.000	1
CalStd10=10	10000.	9540.7	-459.	-4.59	.73440	.002	1
CalStd8=100	100.00	99.434	-.566	-.566	.00815	.000	1
CalStd9=100	1000.0	1014.0	14.0	1.40	.07850	.000	1

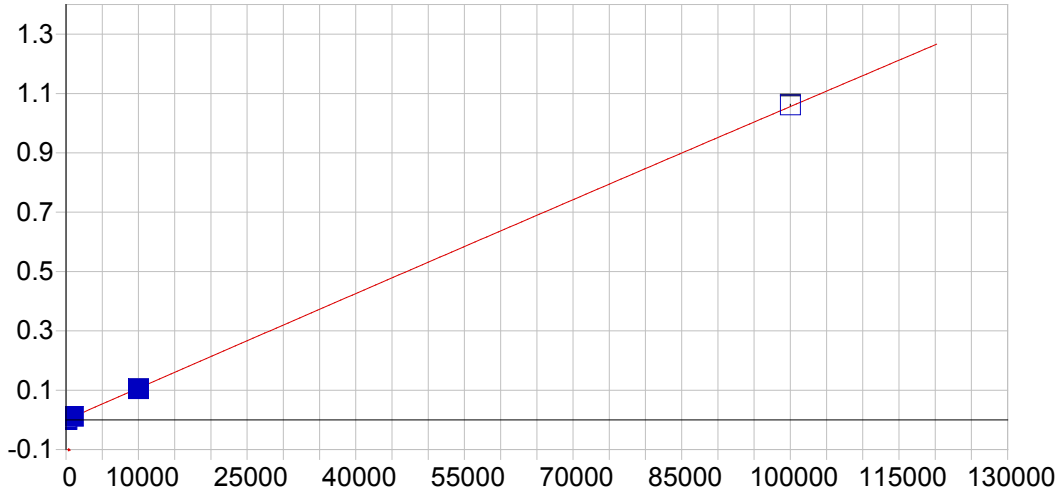


Ni 231.604 {445}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000689	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999140	Status:	OK.
Std Error of Est:	0.000417		
Predicted MDL:	0.737494		
Predicted MQL:	2.458312		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.12252	-.123	.000	-.00070	.000	1
CalStd7=50	50.000	51.420	1.42	2.84	.00322	.000	1
CalStd5=10	10.000	8.5781	-1.42	-14.2	-.00004	.000	1
CalStd8=100	100.00	103.11	3.11	3.11	.00714	.000	1
CalStd4=5	5.0000	3.8673	-1.13	-22.7	-.00040	.000	1
CalStd9=100	1000.0	1033.4	33.4	3.34	.07779	.000	1
CalStd3=1	1.0000	-.54379	-1.54	-154.	-.00073	.000	1
CalStd10=10	10000.	9533.7	-466.	-4.66	.72337	.002	1

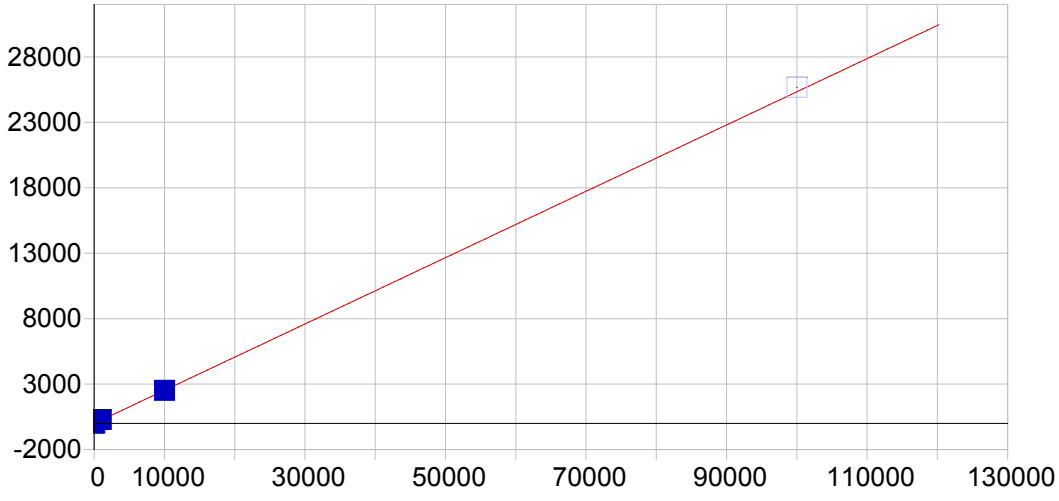


Pb 216.999 {455}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000070	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999178	Status:	OK.
Std Error of Est:	0.000604		
Predicted MDL:	4.584020		
Predicted MQL:	15.280067		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-12.651	-12.7	.000	-.00007	.000	1
CalStd9=100	1000.0	1089.2	89.2	8.92	.01174	.000	1
CalStd10=10	10000.	9783.1	-217.	-2.17	.10478	.000	1
CalStd8=100	100.00	86.931	-13.1	-13.1	.00100	.000	1
CalStd5=10	10.000	-7.1427	-17.1	-171.	-.00001	.000	1
CalStd12=10	100000.	100490.	490.	.490	1.0612	.003	1

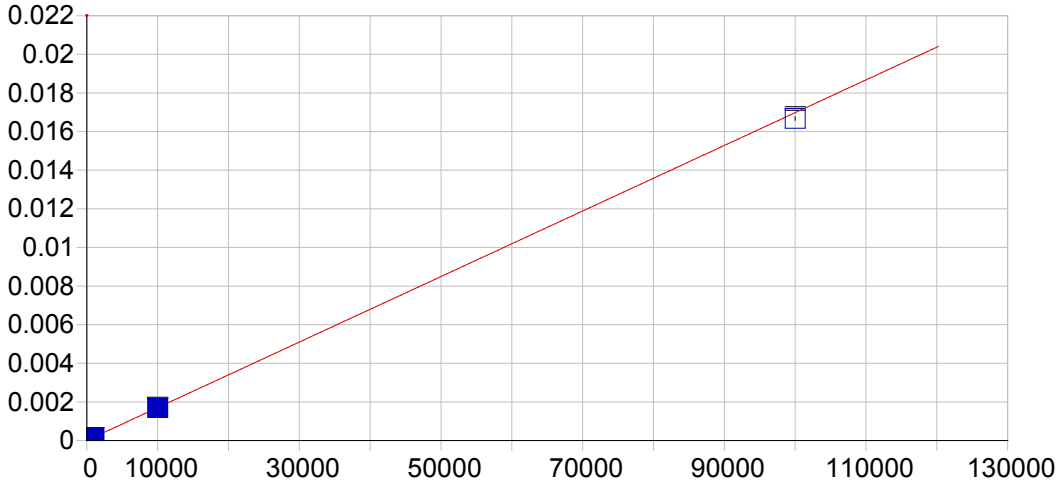


Pb 220.353 {453}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-9.883364	Re-Slope:	1.000000
A1 (Gain):	0.253428	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999824	Status:	OK.
Std Error of Est:	0.043324		
Predicted MDL:	4.718695		
Predicted MQL:	15.728983		

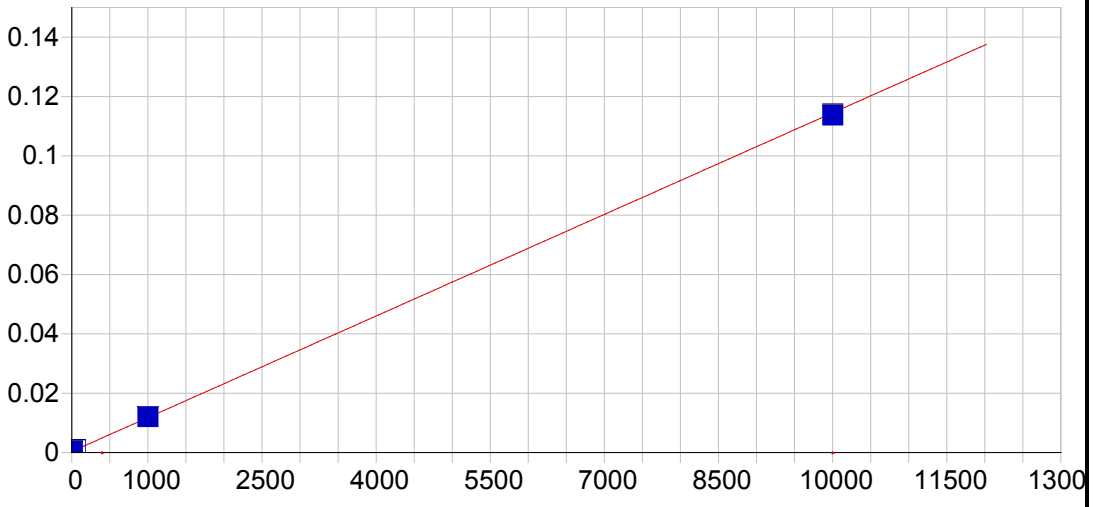
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00136	.001	.000	-9.8830	.608	1
CalStd5=10	10.000	8.8915	-1.11	-11.1	-7.6300	1.51	1
CalStd8=100	100.00	105.52	5.52	5.52	16.857	1.58	1
CalStd4=5	5.0000	3.6804	-1.32	-26.4	-8.9507	.824	1
CalStd9=100	1000.0	1053.0	53.0	5.30	256.94	1.30	1
CalStd10=10	10000.	9943.9	-56.1	-.561	2509.7	5.04	1
CalStd12=10	100000.	101300.	1300.	1.30	25662.	2.44	0



Pb 220.353 {153}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Conc
A0 (Offset):	0.000007		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999997		Status:	OK.	
Std Error of Est:	0.000000				
Predicted MDL:	6.824236				
Predicted MQL:	22.747454				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00229	-.002	.000	.00001	.000	1
CalStd9=100	1000.0	1025.0	25.0	2.50	.00018	.000	1
CalStd10=10	10000.	9954.4	-45.6	-.456	.00170	.000	1
CalStd8=100	100.00	100.04	.040	.040	.00002	.000	1
CalStd12=10	100000.	98213.	-1790.	-1.79	.01668	.000	1

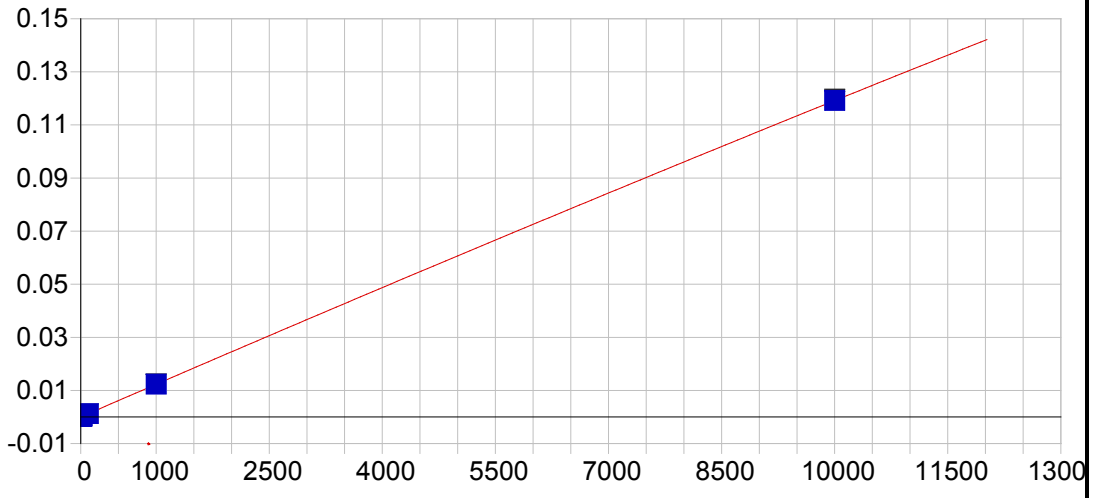


Sb 206.833 {463}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000365	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999924	Status:	OK.
Std Error of Est:	0.000073		
Predicted MDL:	2.844318		
Predicted MQL:	9.481059		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.94161	-.942	.000	.00035	.000	1
CalStd9=100	1000.0	1019.7	19.7	1.97	.01201	.000	1
CalStd5=10	10.000	7.4440	-2.56	-25.6	.00045	.000	1
CalStd7=50	50.000	49.422	-.578	-1.16	.00093	.000	1
CalStd10=10	10000.	9927.8	-72.2	-.722	.11373	.000	1

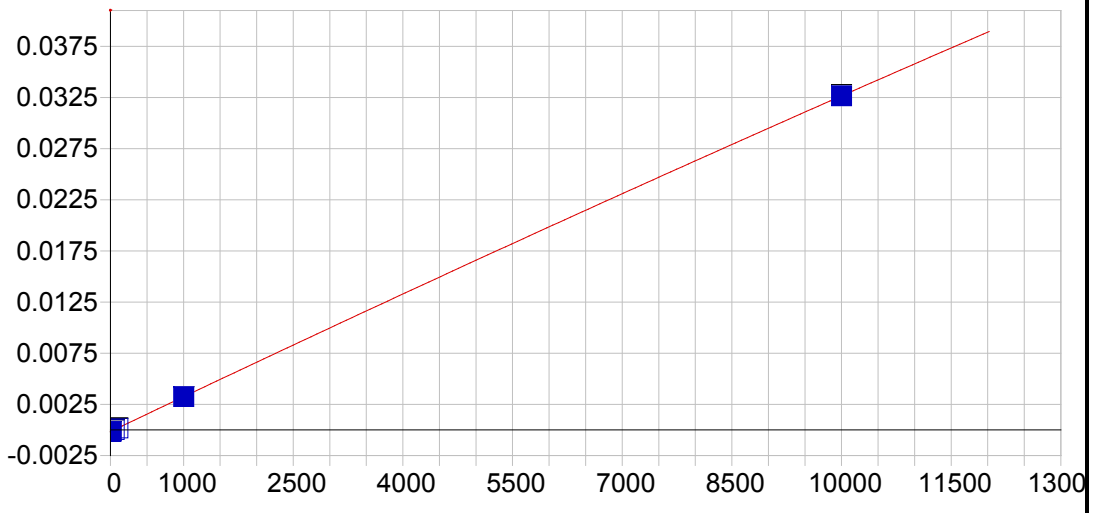


Sb 217.581 {455}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	3.407346		
Predicted MQL:	11.357819		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.66819	.668	.000	.00001	.000	1
CalStd9=100	1000.0	1000.0	.007	.001	.01233	.000	1
CalStd6=20	20.000	21.541	1.54	7.70	.00026	.000	1
CalStd5=10	10.000	11.943	1.94	19.4	.00015	.000	1
CalStd8=100	100.00	99.508	-.492	-.492	.00123	.000	1
CalStd4=5	5.0000	4.6398	-.360	-7.20	.00006	.000	1
CalStd10=10	10000.	10000.0	-.004	-.000	.11929	.000	1

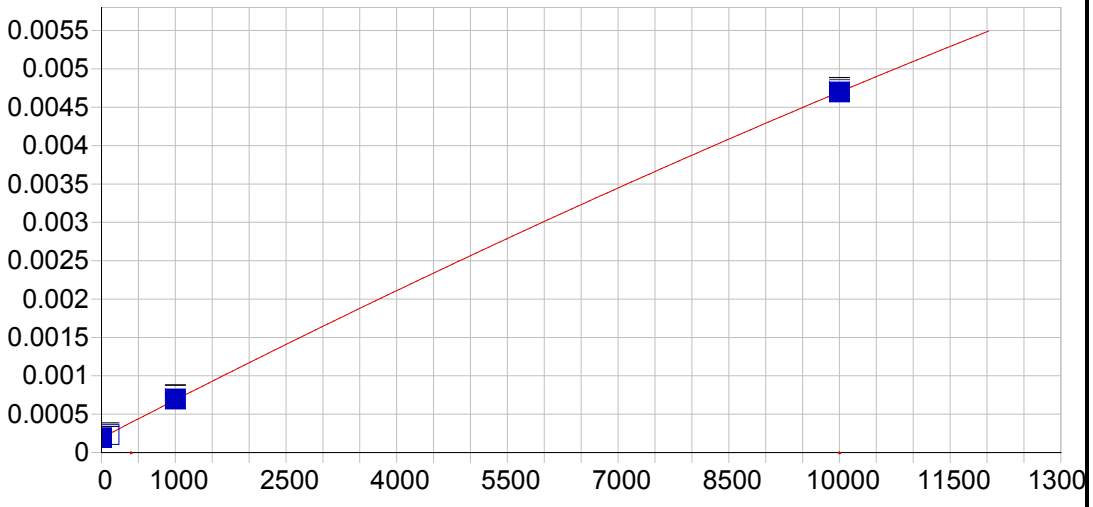


Se 196.090 {472}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000156	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	8.071816		
Predicted MQL:	26.906055		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.9164	-4.92	.000	-.00017	.000	1
CalStd7=50	50.000	52.906	2.91	5.81	.00002	.000	1
CalStd9=100	1000.0	999.91	-.086	-.009	.00324	.000	1
CalStd5=10	10.000	5.3864	-4.61	-46.1	-.00014	.000	1
CalStd8=100	100.00	97.761	-2.24	-2.24	.00018	.000	1
CalStd10=10	10000.	10000.	.072	.001	.03263	.000	1

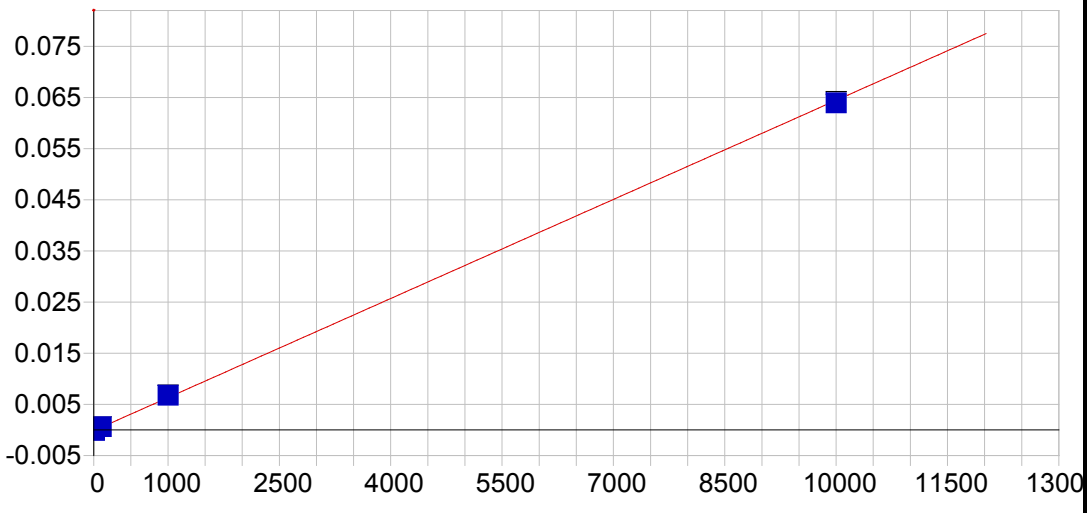


Se 206.279 {463}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000192	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999796	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	67.742216		
Predicted MQL:	225.807386		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01646	.016	.000	.00019	.000	1
CalStd9=100	1000.0	1020.6	20.6	2.06	.00070	.000	1
CalStd10=10	10000.	9997.7	-2.27	-.023	.00472	.000	1
CalStd8=100	100.00	81.506	-18.5	-18.5	.00023	.000	1

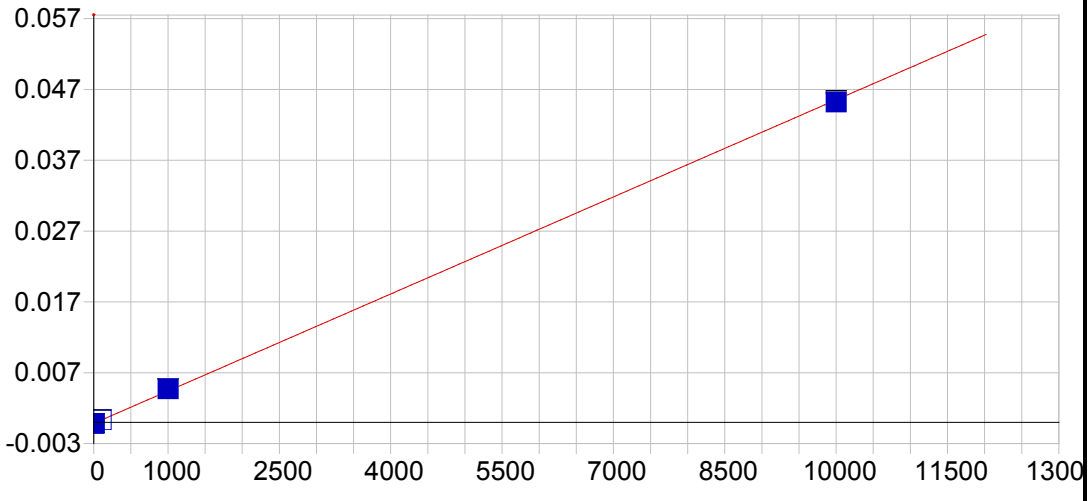


Tl 190.856 {476}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000133	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999562	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	4.991581		
Predicted MQL:	16.638602		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00304	.003	.000	-.00013	.000	1
CalStd9=100	1000.0	1069.4	69.4	6.94	.00677	.000	1
CalStd8=100	100.00	113.40	13.4	13.4	.00060	.000	1
CalStd5=10	10.000	5.0064	-4.99	-49.9	-.00010	.000	1
CalStd10=10	10000.	9922.2	-77.8	-.778	.06388	.000	1

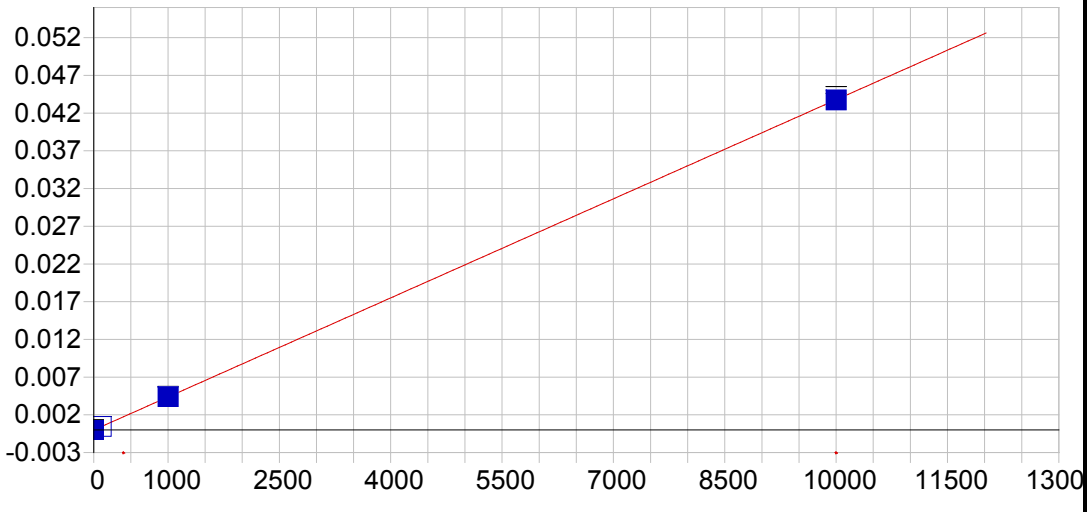


Tl 190.856 {477}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000154	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999567	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	6.017400		
Predicted MQL:	20.058000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00527	.005	.000	-.00015	.000	1
CalStd9=100	1000.0	1065.3	65.3	6.53	.00471	.000	1
CalStd8=100	100.00	107.51	7.51	7.51	.00034	.000	1
CalStd5=10	10.000	3.3970	-6.60	-66.0	-.00014	.000	1
CalStd10=10	10000.	9933.8	-66.2	-.662	.04522	.000	1

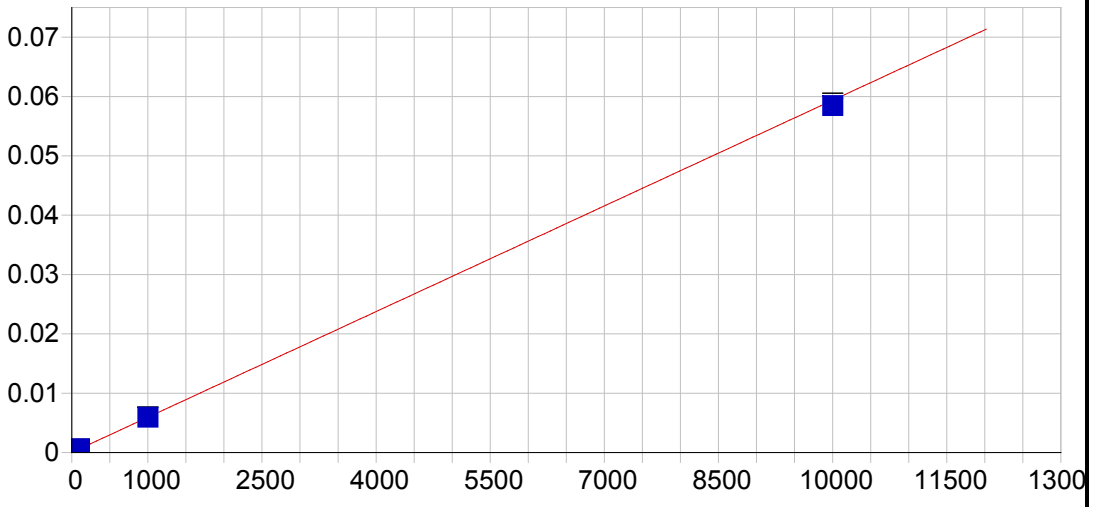


V 290.882 {116}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.798076		
Predicted MQL:	9.326919		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00470	-.005	.000	-.00001	.000	1
CalStd9=100	1000.0	1006.7	6.71	.671	.00440	.000	1
CalStd10=10	10000.	9989.2	-10.8	-.108	.04374	.000	1
CalStd8=100	100.00	104.14	4.14	4.14	.00044	.000	1

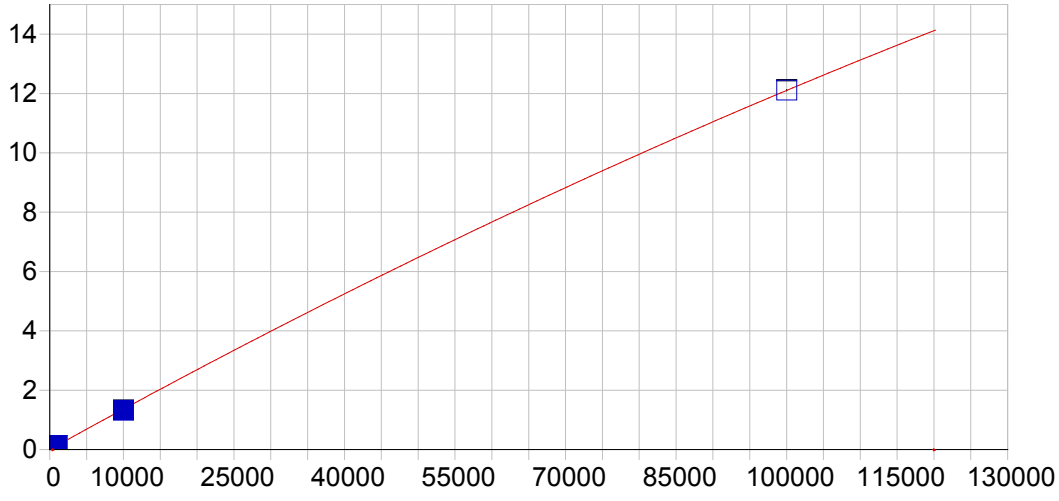


V 292.402 {115}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999872	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.654182		
Predicted MQL:	2.180608		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16948	-.169	.000	.00001	.000	1
CalStd7=50	50.000	51.139	1.14	2.28	.00032	.000	1
CalStd9=100	1000.0	998.75	-1.25	-.125	.00594	.000	1
CalStd6=20	20.000	19.681	-.319	-1.60	.00013	.000	1
CalStd5=10	10.000	9.6204	-.380	-3.80	.00007	.000	1
CalStd8=100	100.00	101.74	1.74	1.74	.00062	.000	1
CalStd10=10	10000.	9848.2	-152.	-1.52	.05844	.000	1

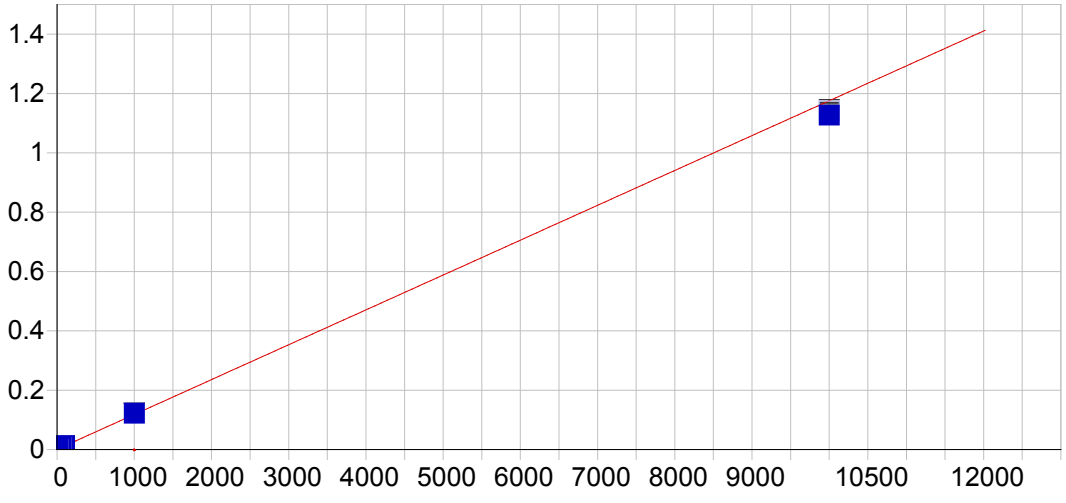


Zn 206.200 {463}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.001868	Re-Slope:	1.000000
A1 (Gain):	0.000138	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.002825		
Predicted MDL:	0.280484		
Predicted MQL:	0.934945		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9667.9	-332.	-3.32	1.3192	.006	1
Blank	.00000	-1.6357	-1.64	.000	.00164	.000	1
CalStd9=100	1000.0	1024.4	24.4	2.44	.14294	.001	1
CalStd12=10	100000.	100070.	65.1	.065	12.110	.023	1

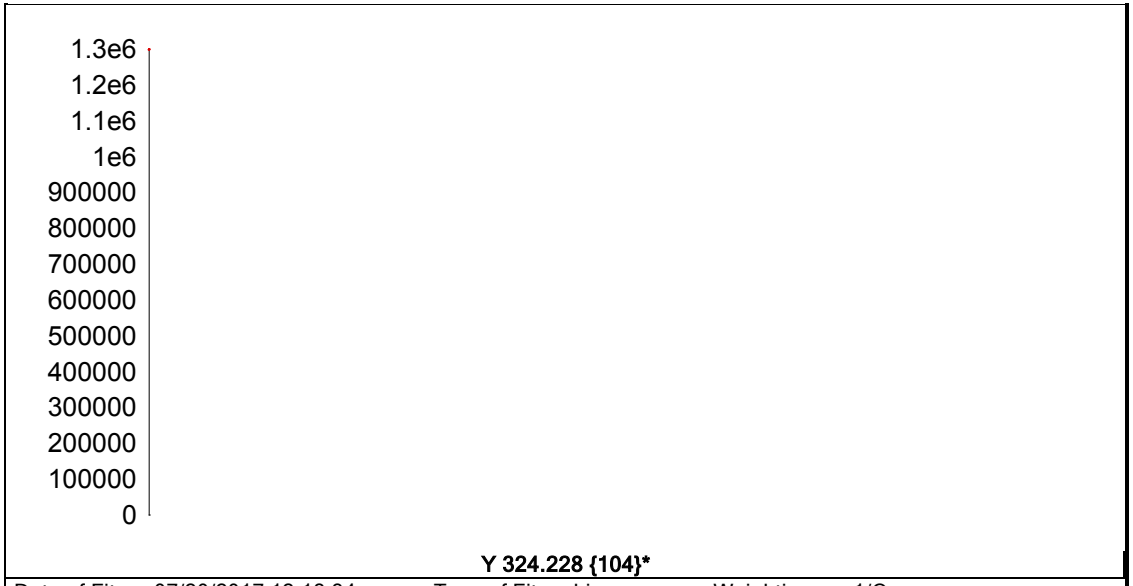


Zn 213.856 {458}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000772	Re-Slope:	1.000000
A1 (Gain):	0.000117	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998774	Status:	OK.
Std Error of Est:	0.000445		
Predicted MDL:	0.238564		
Predicted MQL:	0.795215		

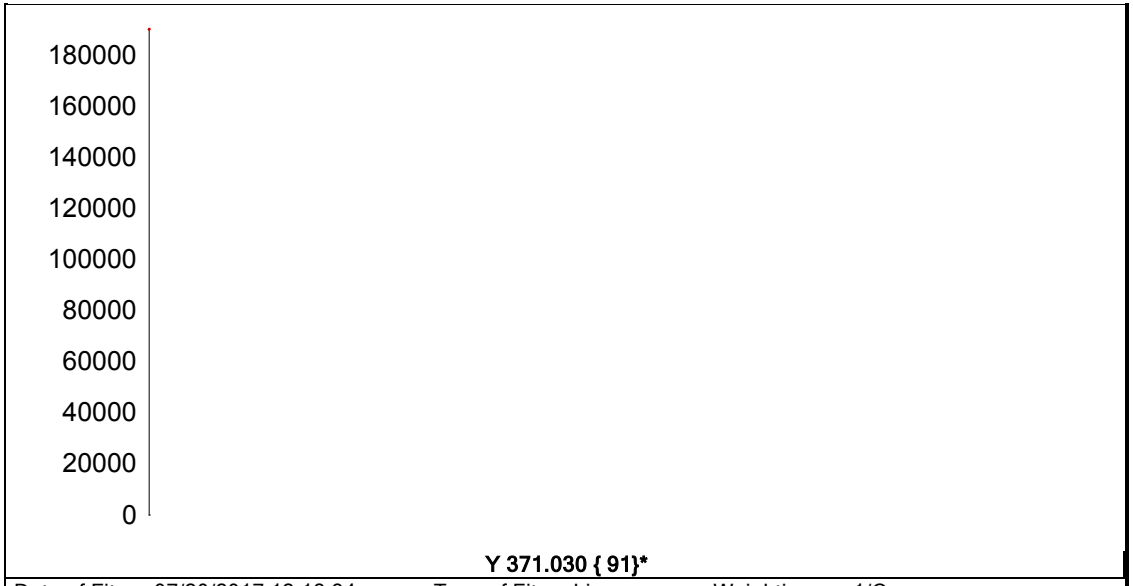
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.7319	5.73	.000	.00145	.000	1
CalStd8=100	100.00	101.45	1.45	1.45	.01283	.000	1
CalStd7=50	50.000	50.928	.928	1.86	.00680	.000	1
CalStd5=10	10.000	8.7489	-1.25	-12.5	.00181	.000	1
CalStd9=100	1000.0	1031.9	31.9	3.19	.12340	.000	1
CalStd4=5	5.0000	2.7452	-2.25	-45.1	.00110	.000	1
CalStd10=10	10000.	9585.0	-415.	-4.15	1.1409	.004	1



Y 324.228 {104}*

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

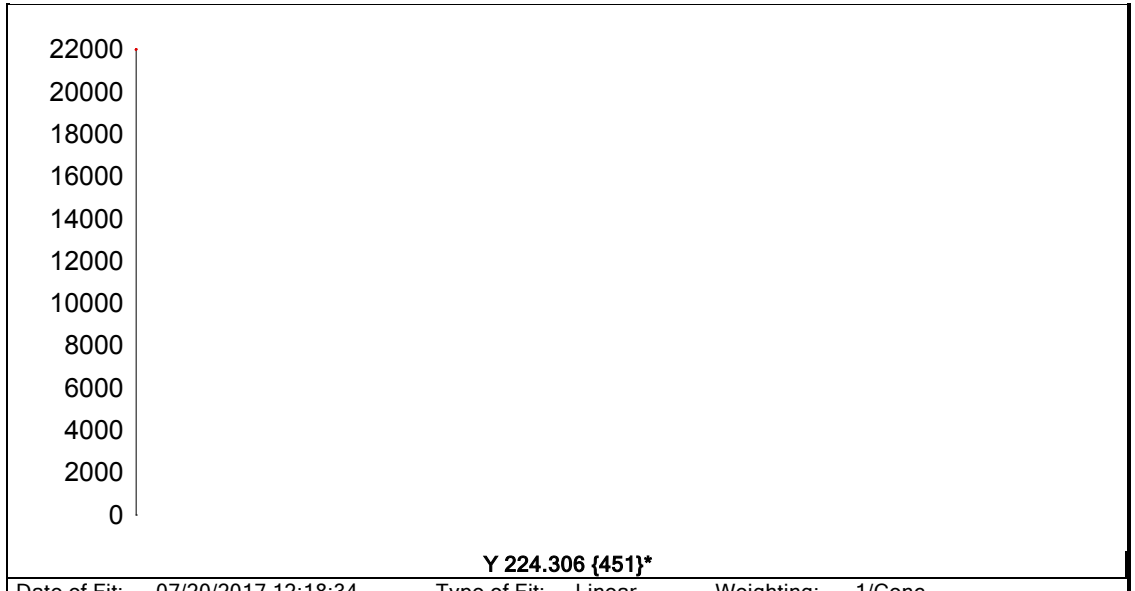
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1218900.	8090.	1



Y 371.030 { 91}*

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

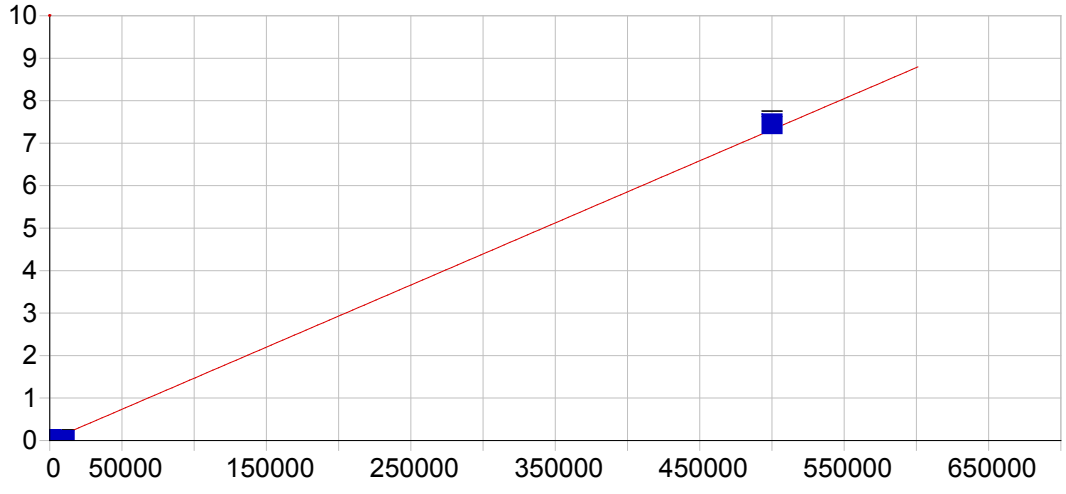
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	170090.	1950.	1



Y 224.306 {451}*

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	20098.	49.6	1

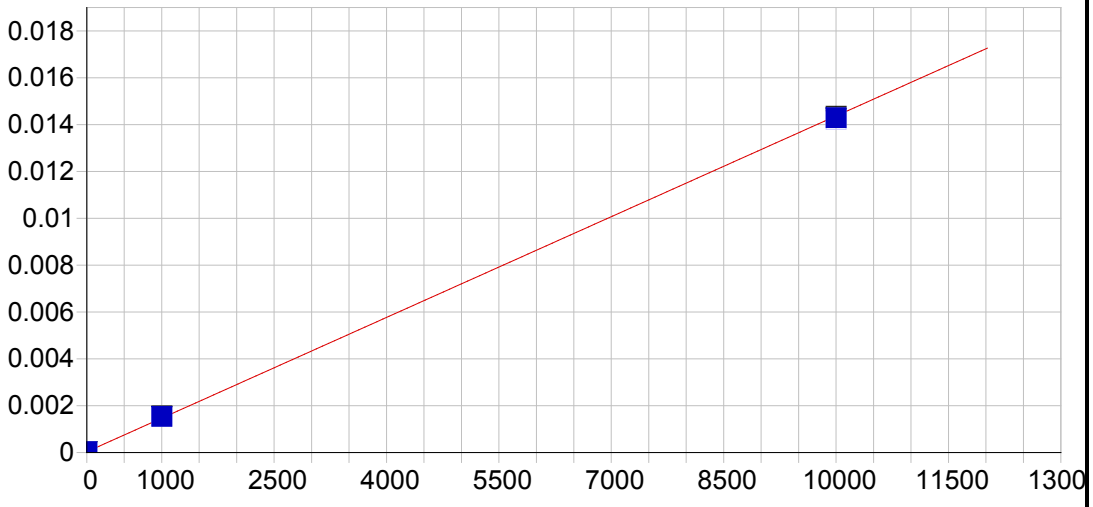


Na 588.995 { 57}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004521	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.991096	Status:	OK.
Std Error of Est:	0.001985		
Predicted MDL:	5.524198		
Predicted MQL:	18.413994		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.80551	.806	.000	.00453	.000	1
CalStd9=100	1000.0	1126.0	126.	12.6	.02099	.000	1
CalStd14=50	500000.	509380.	9380.	1.88	7.4551	.067	1
CalStd10=10	10000.	496.88	-9500.	-95.0	.01180	.000	1

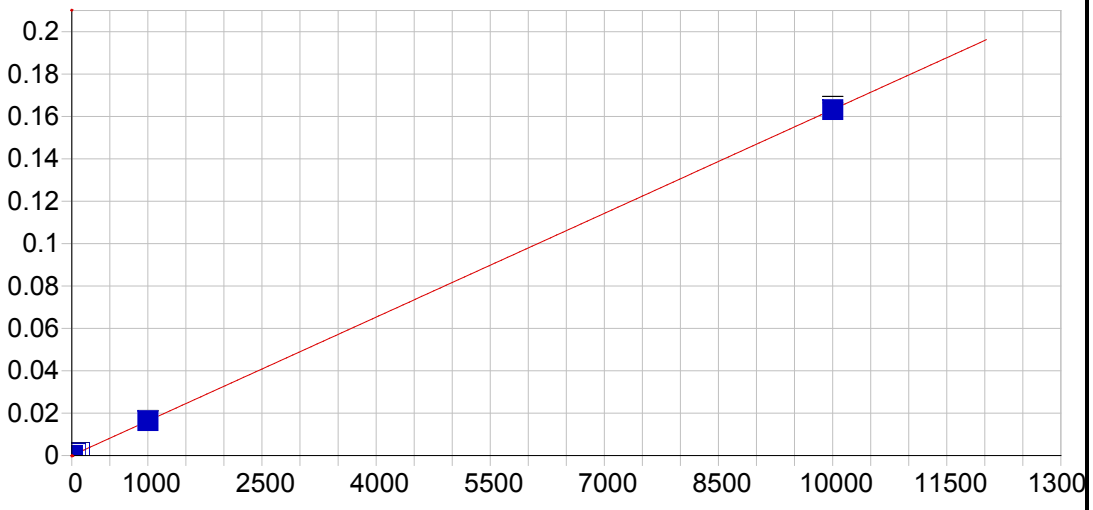


Si 251.611 {134}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999870	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	5.937041		
Predicted MQL:	19.790136		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04549	-.045	.000	.00003	.000	1
CalStd9=100	1000.0	1050.6	50.6	5.06	.00155	.000	1
CalStd14=50	10000.	9948.9	-51.1	-.511	.01422	.000	1

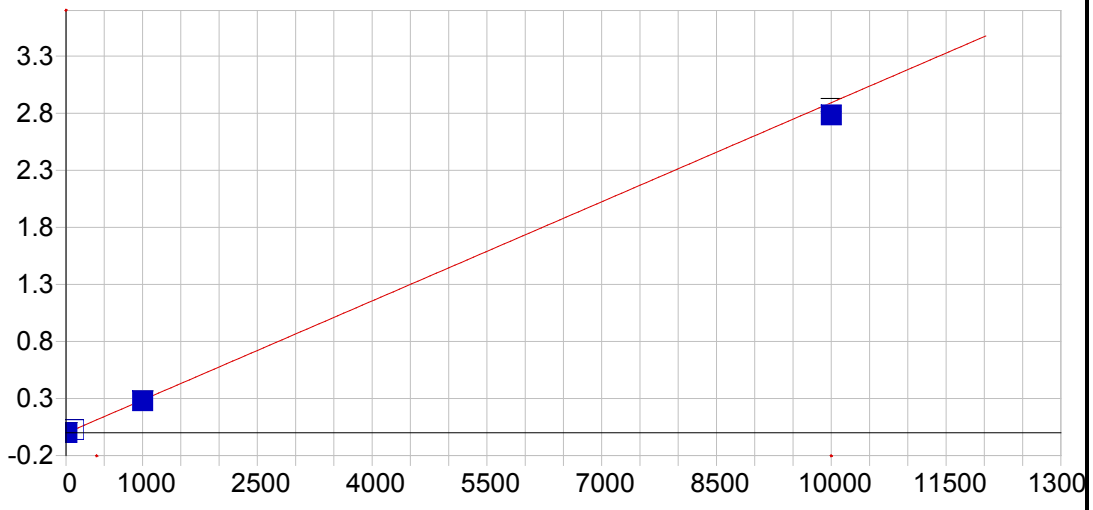


Ti 334.941 {101}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.798693		
Predicted MQL:	2.662309		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00043	.000	.000	.00003	.000	1
CalStd5=10	10.000	9.0125	-.987	-9.87	.00018	.000	1
CalStd8=100	100.00	100.57	.567	.567	.00167	.000	1
CalStd9=100	1000.0	1001.8	1.83	.183	.01638	.000	1
CalStd10=10	10000.	9996.5	-3.48	-.035	.16319	.002	1
CalStd7=50	50.000	52.263	2.26	4.53	.00088	.000	1
CalStd4=5	5.0000	4.8053	-.195	-3.89	.00011	.000	1

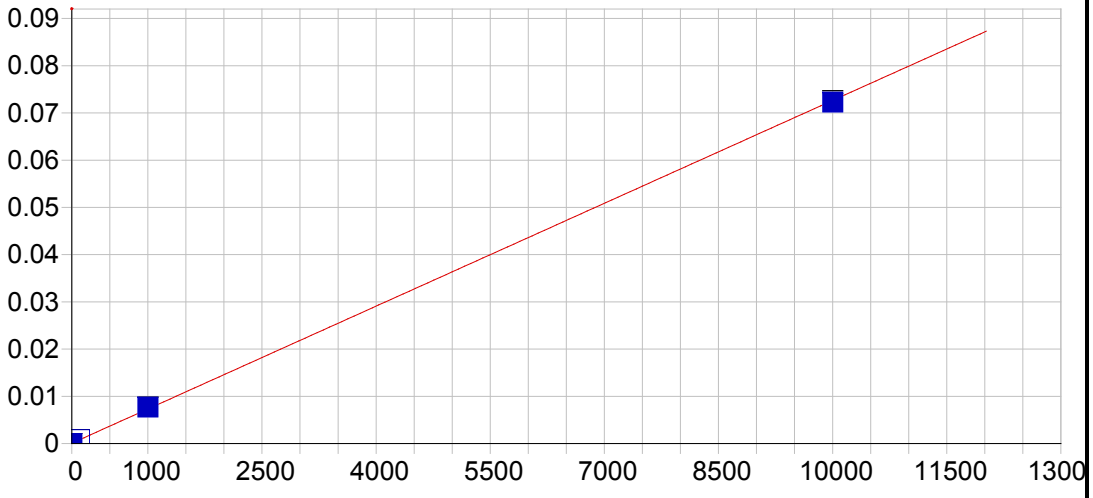


Sr 407.771 { 83}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.003297	Re-Slope:	1.000000
A1 (Gain):	0.000290	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999389	Status:	OK.
Std Error of Est:	0.000164		
Predicted MDL:	0.107743		
Predicted MQL:	0.359144		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.80387	-.804	.000	-.00353	.000	1
CalStd3=1	1.0000	.63877	-.361	-36.1	-.00311	.000	1
CalStd4=5	5.0000	5.2678	.268	5.36	-.00177	.000	1
CalStd5=10	10.000	10.241	.241	2.41	-.00033	.000	1
CalStd8=100	100.00	101.56	1.56	1.56	.02611	.000	1
CalStd9=100	1000.0	975.92	-24.1	-2.41	.27930	.003	1
CalStd10=10	10000.	9625.1	-375.	-3.75	2.7839	.058	1

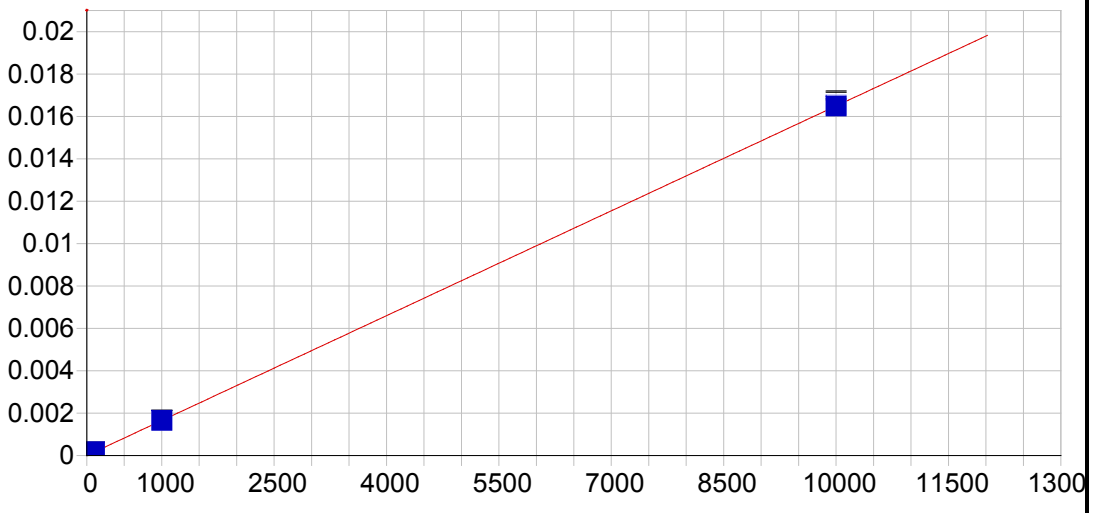


Sn 189.989 {478}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000060	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999873	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.655286		
Predicted MQL:	8.850953		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00742	-.007	.000	.00006	.000	1
CalStd10=10	10000.	9947.5	-52.5	-.525	.07226	.000	1
CalStd9=100	1000.0	1049.5	49.5	4.95	.00768	.000	1
CalStd8=100	100.00	102.99	2.99	2.99	.00081	.000	1

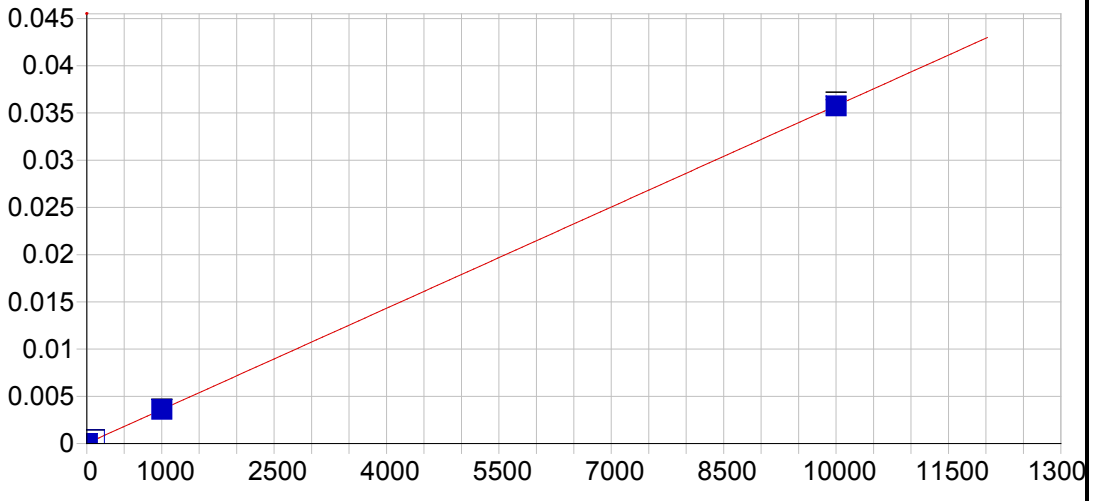


B 249.678 {135}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.465184		
Predicted MQL:	4.883946		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00122	.001	.000	.00000	.000	1
CalStd8=100	100.00	103.47	3.47	3.47	.00017	.000	1
CalStd5=10	10.000	8.4198	-1.58	-15.8	.00002	.000	1
CalStd9=100	1000.0	1002.1	2.09	.209	.00166	.000	1
CalStd10=10	10000.	9996.0	-3.99	-.040	.01655	.000	1

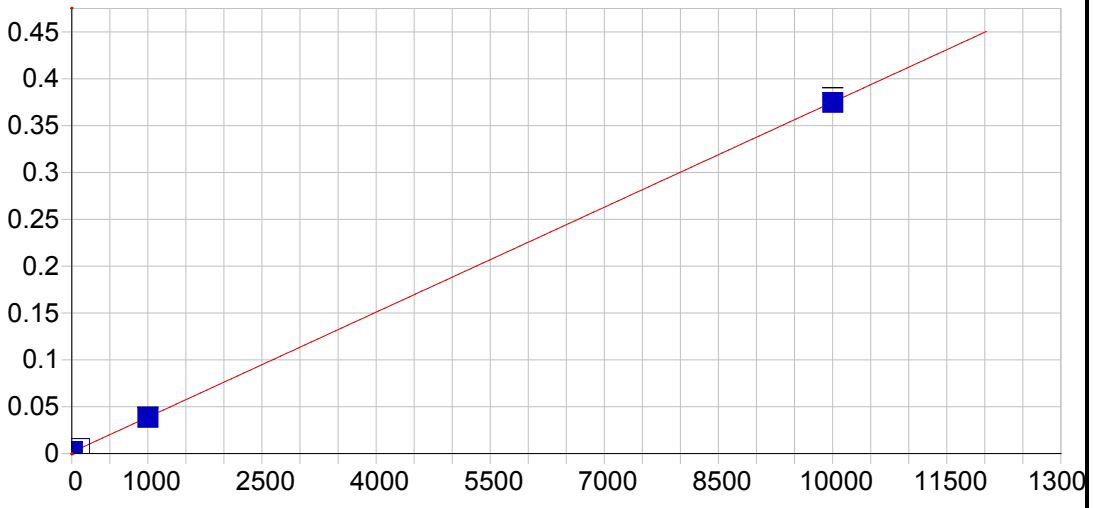


B 249.773 {135}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.646785		
Predicted MQL:	2.155950		

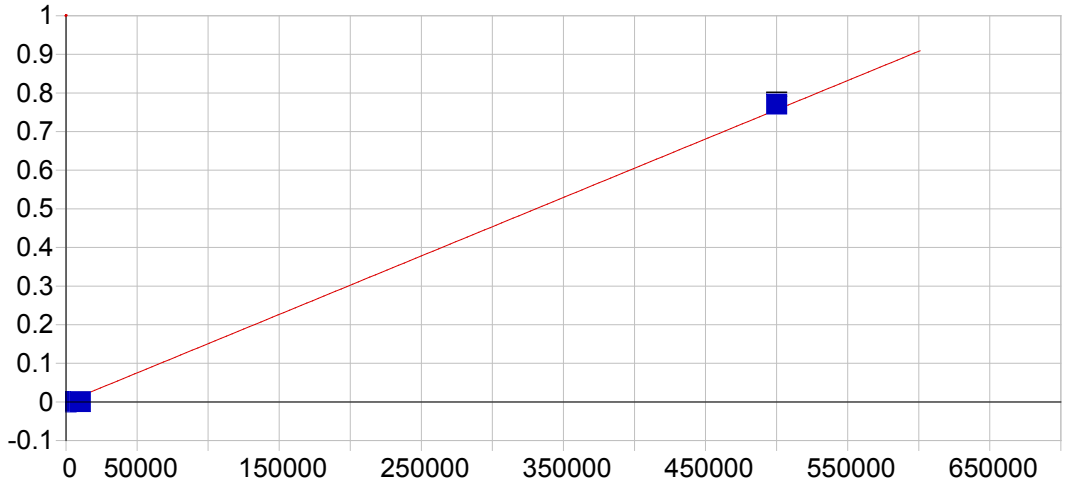
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00063	.001	.000	.00002	.000	1
CalStd8=100	100.00	103.56	3.56	3.56	.00039	.000	1
CalStd5=10	10.000	8.9609	-1.04	-10.4	.00005	.000	1
CalStd9=100	1000.0	1006.1	6.07	.607	.00362	.000	1
CalStd10=10	10000.	9991.4	-8.59	-.086	.03576	.000	1



Li 670.784 { 50}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.001475		Re-Slope:	1.000000	
A1 (Gain):	0.000037		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999814		Status:	OK.	
Std Error of Est:	0.000088				
Predicted MDL:	1.318625				
Predicted MQL:	4.395417				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.0258	-2.03	.000	.00140	.000	1
CalStd5=10	10.000	10.621	.621	6.21	.00187	.000	1
CalStd8=100	100.00	101.93	1.93	1.93	.00528	.000	1
CalStd9=100	1000.0	989.38	-10.6	-1.06	.03843	.000	1
CalStd10=10	10000.	9992.1	-7.86	-.079	.37471	.005	1

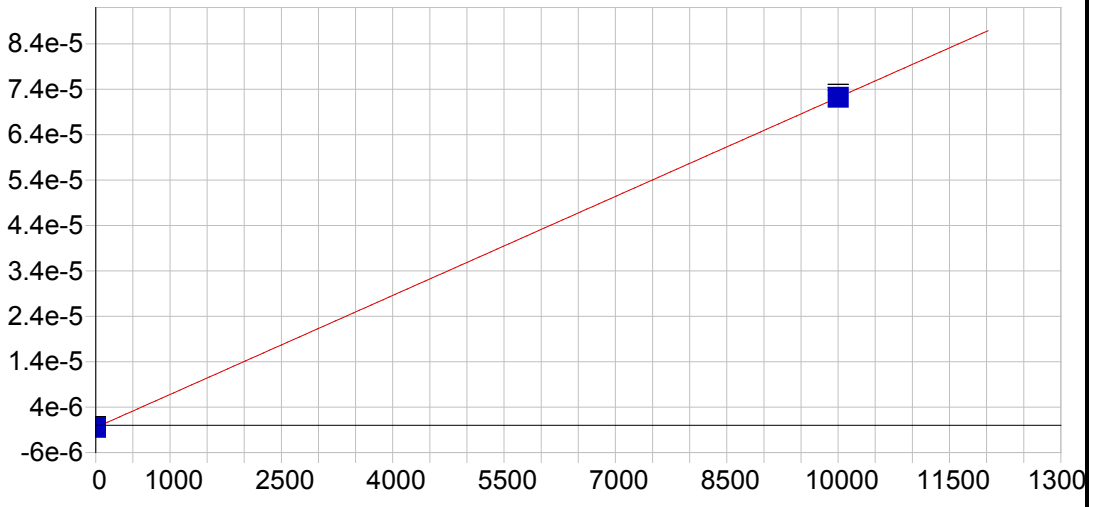


K 766.490 { 44}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000534	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.991082	Status:	OK.
Std Error of Est:	0.000206		
Predicted MDL:	32.688381		
Predicted MQL:	108.961270		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.87436	.874	.000	-.00053	.000	1
CalStd9=100	1000.0	1058.1	58.1	5.81	.00107	.000	1
CalStd14=50	500000.	509460.	9460.	1.89	.77066	.005	1
CalStd10=10	10000.	486.53	-9510.	-95.1	.00020	.000	1

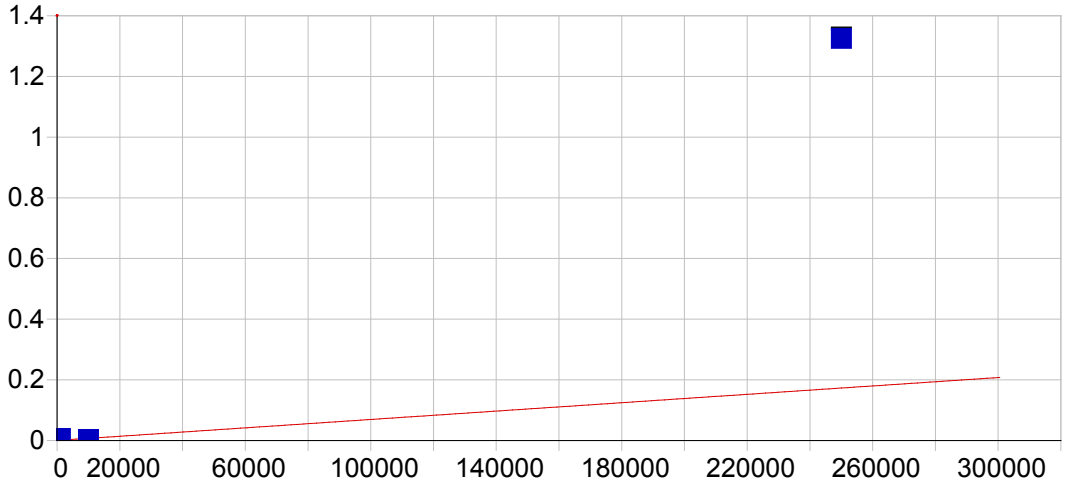


P 213.618 {457}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	93.058887		
Predicted MQL:	310.196290		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	.00007	.000	1

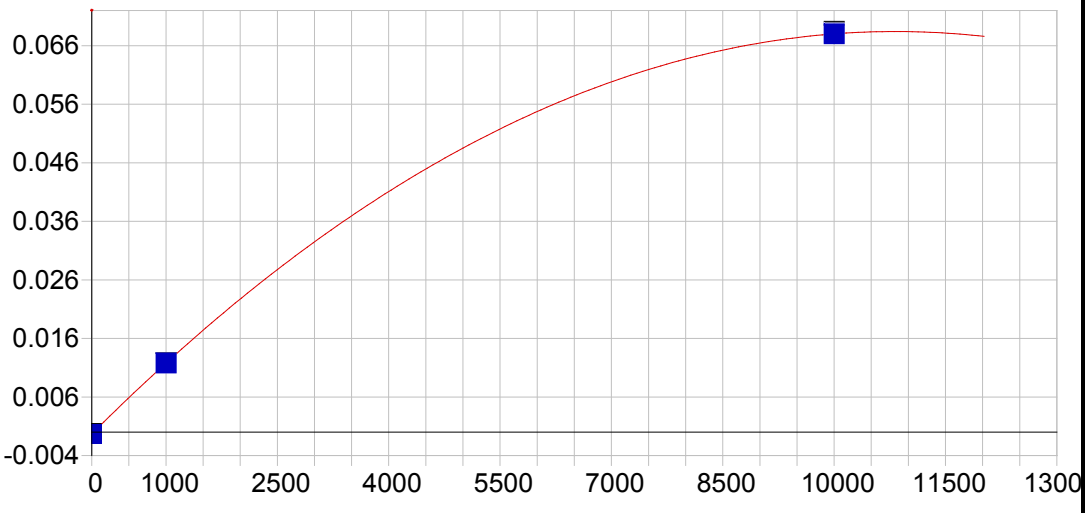


S 182.034 {485}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000322	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.443185	Status:	OK.
Std Error of Est:	0.000660		
Predicted MDL:	32.675176		
Predicted MQL:	108.917252		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.2867	-5.29	.000	.00032	.000	1
CalStd9=100	1000.0	8340.1	7340.	734.	.00608	.000	1
CalStd14=50	250000.	1917400.	1670000.	667.	1.3249	.004	1
CalStd10=10	10000.	3983.4	-6020.	-60.2	.00307	.000	1

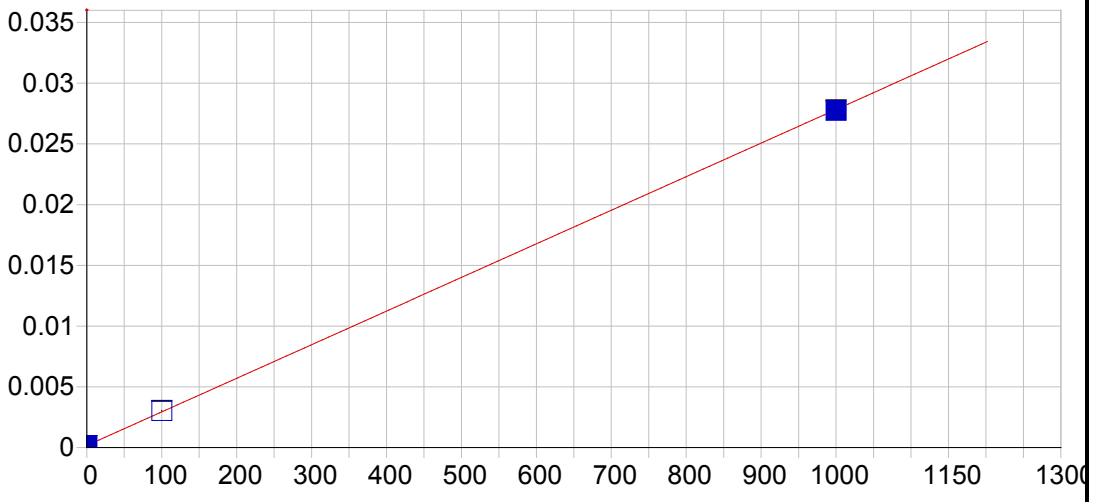


W 207.911 {462}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000326	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.830560		
Predicted MQL:	9.435198		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00033	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.01178	.000	1
CalStd14=50	10000.	10000.0	-.000	-.000	.06817	.000	1

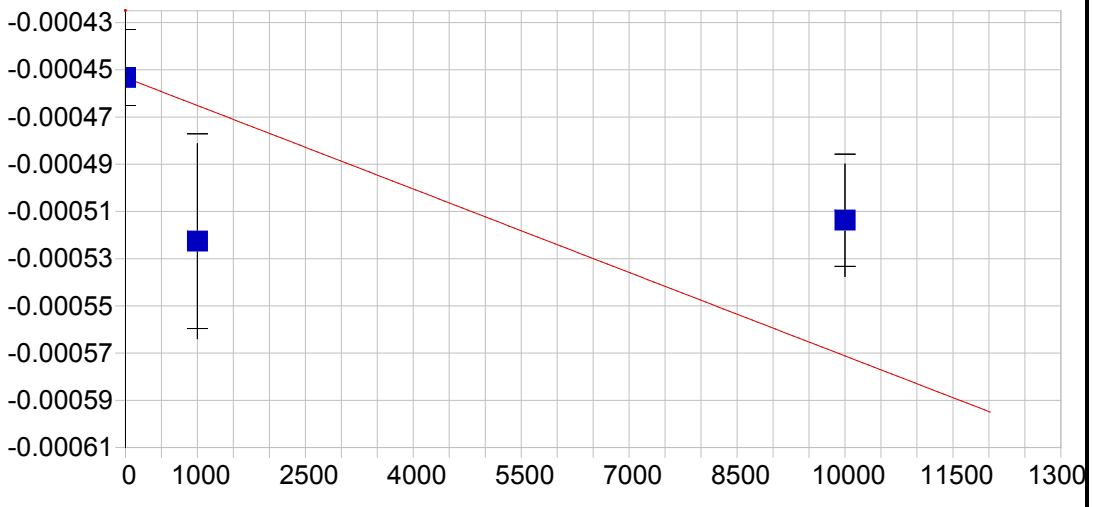


Hg 184.950 {482}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000168	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.948378		
Predicted MQL:	3.161260		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00291	-.003	.000	.00017	.000	1
CalStd8=100	100.00	103.23	3.23	3.23	.00302	.000	1
CalStd9=100	1000.0	996.77	-3.23	-.323	.02775	.000	1



Ce 404.076 { 83}

Date of Fit:	07/20/2017 12:18:34	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	-0.000453		Re-Slope:	1.000000	
A1 (Gain):	-0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.543897		Status:	Warning	Negative Gain
Std Error of Est:	0.000003				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.3896	-4.39	.000	-.00045	.000	1
CalStd9=100	1000.0	5877.4	4880.	488.	-.00052	.000	1
CalStd10=10	10000.	5122.6	-4880.	-48.8	-.00051	.000	1

Sample Name: Blank Acquired: 07/13/2017 07:29:57 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**19.9**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.018**	**.000**	**-.000**	**.000**	**.022**	**.000**
Stddev	2.0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
%RSD	9.82	6.44	16.0	29.1	330.	138.	1.39	7.89	28.0	7.29	4.74	43.3

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Mg2025	Mg2790	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.004**	**.000**	**-.000**	**.000**	**.000**	**.002**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	13.8	91.3	6.81	9.84	11.0	1.88	2.15	26.4	2.36	17.2	.636	14.6

Elem	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**-.001**	**-.000**	**-9.88**	**.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.61	.000	.000	.000	.000	.000	.000
%RSD	15.6	22.3	38.7	13.2	33.4	6.15	5.06	258.	21.9	7.30	11.5	36.6

Elem	Zn2062	Zn2138
Units	Cts/S	Cts/S
Avg	**.002**	**.001**
Stddev	.000	.000
%RSD	8.52	3.70

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1218900.**	**170090.**	**20098.**
Stddev	8088.	1955.	50.
%RSD	.66354	1.1492	.24697

Sample Name: CalStd1=0.25 Acquired: 07/13/2017 07:36:35 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.000
Stddev	.000
%RSD	3.46

Int. Std.	Y_3710
Units	Cts/S
Avg	168560.
Stddev	843.
%RSD	.49993

Sample Name: CalStd2=0.5 Acquired: 07/13/2017 07:43:13 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**.001**	**.000**
Stddev	.000	.000
%RSD	3.77	21.4

Int. Std.	Y_3710	Y_2243
Units	Cts/S	Cts/S
Avg	**167260.**	**19818.**
Stddev	2289.	41.
%RSD	1.3683	.20626

Sample Name: CalStd3=1 Acquired: 07/13/2017 07:49:51 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**24.4**	**.000**	**.001**	**.000**	**.000**	**-.000**	**.000**	**-.001**
Stddev	.9	.000	.000	.000	.000	.000	.000	.000
%RSD	3.75	30.3	1.09	10.3	20.4	3.66	3.67	5.04

Int. Std.	Y_3710	Y_2243
Units	Cts/S	Cts/S
Avg	**162110.**	**19750.**
Stddev	883.	10.
%RSD	.54491	.04955

Sample Name: CalStd4=5 Acquired: 07/13/2017 07:56:29 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.003**	**.001**	**.001**	**.000**	**.000**	**.001**	**.000**	**.000**	**-.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	3.95	45.5	2.09	1.20	2.29	6.89	12.7	33.9	4.90	3.35	38.5	9.22

Elem	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**-8.95**	**.000**	**.001**
Stddev	.82	.000	.000
%RSD	9.21	14.1	2.18

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1177200.**	**162440.**	**19555.**
Stddev	4261.	1700.	27.
%RSD	.36199	1.0468	.14049

Sample Name: CalStd5=10 Acquired: 07/13/2017 08:03:07 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**40.7**	**.000**	**-.000**	**.001**	**.005**	**.002**	**.001**	**.000**	**.000**	**.001**	**.000**	**.000**
Stddev	2.0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.83	4.52	27.7	2.43	.892	1.01	8.69	5.84	7.73	2.55	1.14	8.79

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**-.000**	**-7.63**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.002**
Stddev	.000	.000	1.51	.000	.000	.000	.000	.000	.000
%RSD	174.	618.	19.8	13.5	21.2	17.7	12.2	5.35	12.8

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1176100.**	**160880.**	**19448.**
Stddev	10990.	1142.	27.
%RSD	.93443	.70978	.13728

Sample Name: CalStd6=20 Acquired: 07/13/2017 08:09:46 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.002**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	1.48	1.99	.352	2.16	10.7	1.18

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1186200.**	**161800.**	**19402.**
Stddev	7571.	1130.	35.
%RSD	.63826	.69839	.18166

Sample Name: CalStd7=50 Acquired: 07/13/2017 08:16:21 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba2335	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.004**	**.012**	**.003**	**.003**	**.000**	**.003**	**.001**	**.001**	**.003**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.98	12.4	.689	.616	1.71	.570	2.03	1.25	1.00	3.33	1.17	1.96

Elem	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.007**
Stddev	.000	.000	.000
%RSD	60.1	1.15	.416

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1163100.**	**157920.**	**19445.**
Stddev	7407.	1365.	32.
%RSD	.63687	.86411	.16660

Sample Name: CalStd8=100 Acquired: 07/13/2017 08:22:53 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3968	Cd2265	Co2286	Co2388	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**259.**	**.000**	**.000**	**.009**	**.024**	**.054**	**.001**	**.027**	**.024**	**.006**	**.000**	**.007**
Stddev	5.	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
%RSD	1.81	5.26	8.67	.698	1.36	1.28	1.17	1.54	.590	.446	1.09	.897

Elem	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.007**	**.006**	**.004**	**.001**	**.003**	**.008**	**.007**	**.001**	**16.9**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.6	.000	.000
%RSD	.977	.655	.949	.467	.335	.219	.581	.886	2.54	9.38	3.09	19.5

Elem	Se2062	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.013**
Stddev	.000	.000	.000	.000
%RSD	9.73	6.49	.733	.373

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1162800.**	**159340.**	**19354.**
Stddev	2564.	1510.	69.
%RSD	.22046	.94779	.35396

Sample Name: CalStd9=1000 Acquired: 07/13/2017 08:29:27 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.007**	**.006**	**.002**	**.086**	**.070**	**.520**	**.012**	**.001**	**.205**	**.235**	**.055**
Stddev	.000	.000	.000	.000	.000	.001	.007	.000	.000	.002	.001	.000
%RSD	1.77	.598	.671	1.03	.217	.960	1.37	1.18	.947	1.10	.220	.286

Elem	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.072**	**.004**	**.063**	**.011**	**.001**	**.001**	**.015**	**.000**	**.037**	**.010**	**.025**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.795	.175	.836	.162	.937	.684	.913	.522	2.03	.744	.710	1.01

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.030**	**.078**	**.078**	**.012**	**257.**	**.012**	**.012**	**.003**	**.001**	**.005**	**.006**	**.143**
Stddev	.000	.000	.000	.000	1.	.000	.000	.000	.000	.000	.000	.001
%RSD	.444	.153	.293	.317	.508	.479	.309	.423	7.50	.965	.602	.357

Elem	Zn2138
Units	Cts/S
Avg	**.123**
Stddev	.000
%RSD	.352

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1162000.**	**157750.**	**19128.**
Stddev	8260.	2295.	25.
%RSD	.71084	1.4548	.13031

Sample Name: CalStd10=10000 Acquired: 07/13/2017 08:35:28 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.036**	**.058**	**.016**	**.536**	**.008**	**1.94**	**.520**	**.016**	**.685**	**.038**	*****	**.063**
Stddev	.000	.000	.000	.006	.000	.01	.002	.000	.002	.000	-----	.001
%RSD	1.23	.176	.231	1.05	1.14	.467	.327	.879	.319	.983	-----	1.33

Elem	Fe2343	Fe2395	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.008**	**.142**	**.002**	**.332**	**.100**	**.248**	**.296**	**.734**	**.723**	**.105**	**2510.**
Stddev	.000	.000	.001	.000	.002	.001	.002	.001	.002	.002	.000	5.
%RSD	.643	.851	.360	1.18	.615	.938	.993	.260	.300	.342	.169	.201

Elem	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.114**	**.119**	**.033**	**.005**	**.045**	**.058**	**1.32**	**1.14**
Stddev	.000	.000	.000	.000	.000	.000	.01	.00
%RSD	.309	.323	.377	.733	.412	.709	.425	.343

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1133600.**	**161820.**	**18953.**
Stddev	7579.	1921.	45.
%RSD	.66858	1.1874	.23740

Sample Name: CalStd12=100K Acquired: 07/13/2017 08:42:09 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Mn2576	Mn2593	Pb2169	Pb2203	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6.28**	**.359**	*****	**.578**	**.738**	**2.33**	**1.06**	**25700.**	**12.1**
Stddev	.01	.001	-----	.005	.003	.02	.00	2.	.0
%RSD	.230	.367	-----	.900	.357	.990	.261	.010	.189

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1142800.**	**162230.**	**18763.**
Stddev	4745.	1617.	27.
%RSD	.41522	.99666	.14565

Sample Name: CalStd13=100000 Acquired: 07/13/2017 08:49:03 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.349**	**.080**	**.052**	**.080**	**1.26**	**.022**
Stddev	.003	.001	.000	.001	.00	.000
%RSD	.901	.841	.644	.774	.092	.904

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1103900.**	**161380.**	**18289.**
Stddev	5859.	1431.	12.
%RSD	.53073	.88664	.06355

Sample Name: CalStd14=500000 Acquired: 07/13/2017 08:55:51 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.75**	**.383**	**.213**	**.373**	**5.91**	**.112**
Stddev	.01	.002	.001	.001	.02	.000
%RSD	.526	.392	.333	.310	.318	.394

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1015500.**	**155400.**	**16825.**
Stddev	4283.	738.	37.
%RSD	.42170	.47502	.21947

Sample Name: CalibStd15=1000k Acquired: 07/13/2017 09:02:58 Type: Cal
Method: DOD Calibration Updated 060614(v2102) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.49**	**.743**	**.363**	**.708**	**11.8**	**.227**
Stddev	.04	.008	.003	.005	.0	.001
%RSD	1.08	1.04	.847	.731	.274	.564

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**990420.**	**154440.**	**16075.**
Stddev	2825.	983.	25.
%RSD	.28523	.63637	.15854

Sample Name: icv Acquired: 07/13/2017 09:16:45 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265	Co2286
Avg	**46.1**	**12200.**	**2030.**	**2090.**	**1950.**	**2110.**	**47.6**	**49.0**	**10700.**	**10300.**	**48.1**	**514.**
Stddev	.9	229.	8.	17.	3.	45.	.8	1.1	213.	217.	.3	2.
%RSD	2.05	1.87	.399	.813	.146	2.13	1.69	2.17	2.00	2.10	.698	.331
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Co2388	Cr2677	Cu2247	Fe2343	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**497.**	**200.**	**253.**	**5180.**	**10400.**	**10500.**	**514.**	**516.**	**518.**	**499.**	**499.**	**530.**
Stddev	3.	1.	1.	26.	18.	182.	2.	8.	1.	1.	1.	2.
%RSD	.589	.365	.490	.496	.174	1.74	.358	1.63	.226	.241	.136	.464
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**517.**	**498.**	**513.**	**2020.**	**1900.**	**2070.**	**501.**	**500.**	**517.**
Stddev	3.	3.	4.	6.	15.	3.	3.	1.	1.
%RSD	.524	.625	.720	.317	.800	.136	.686	.242	.162
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Sample Name: icv Acquired: 07/13/2017 09:16:45 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1140300.**	**158730.**	**18937.**
Stddev	5196.	2733.	13.
%RSD	.45566	1.7219	.06985

Sample Name: ICVLL Acquired: 07/13/2017 09:23:23 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**44.2**	**1230.**	**67.3**	**32.2**	**13.1**	**1580.**	**1610.**	**16.3**	**31.2**	**34.1**	**32.8**	**939.**
Stddev	2.7	14.	3.2	.3	.1	15.	20.	.2	.9	.6	1.0	7.
%RSD	6.06	1.10	4.70	.841	1.08	.932	1.25	1.43	2.99	1.77	3.14	.764
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1500.**	**34.1**	**30.4**	**32.0**	**32.9**	**68.9**	**68.4**	**60.6**	**32.0**	**33.8**
Stddev	14.	.3	1.2	.7	1.5	3.8	5.9	4.4	.3	.1
%RSD	.944	.748	4.02	2.23	4.57	5.57	8.67	7.21	.802	.438
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1141500.**	**161570.**	**18782.**
Stddev	8915.	1105.	48.
%RSD	.78099	.68416	.25731

Sample Name: icb Acquired: 07/13/2017 09:36:32 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-.654**	**-1.67**	**5.39**	**.046**	**-.134**	**-.023**	**40.3**	**-.057**	**-.974**	**.568**	**-1.76**	**.256**
Stddev	1.48	1.47	3.37	.411	.014	6.43	1.2	.182	.362	.392	.47	1.77
%RSD	226.	88.2	62.6	888.	10.6	28100.	2.92	321.	37.1	69.0	26.5	690.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-8.01**	**-.682**	**-.765**	**-1.72**	**-3.26**	**-1.76**	**1.91**	**-2.50**	**-.409**	**-3.10**
Stddev	.44	.080	.693	.97	1.88	3.34	3.72	4.35	.468	.25
%RSD	5.55	11.8	90.6	56.4	57.7	190.	195.	174.	114.	8.20
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1153600.**	**162690.**	**18806.**
Stddev	10895.	1787.	50.
%RSD	.94447	1.0983	.26617

Sample Name: MRL/LLOQ Acquired: 07/13/2017 09:43:09 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**15.8**	**409.**	**18.0**	**9.96**	**4.07**	**459.**	**490.**	**5.22**	**9.40**	**10.4**	**9.62**	**316.**
Stddev	1.4	4.	2.5	.05	.06	16.	6.	.16	.07	.7	.93	2.
%RSD	8.52	1.05	13.7	.522	1.42	3.44	1.32	2.99	.783	6.89	9.67	.499
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**483.**	**10.5**	**8.77**	**8.90**	**7.87**	**20.2**	**20.0**	**17.0**	**9.83**	**9.07**
Stddev	2.	.2	1.52	.70	.67	3.7	4.8	10.0	.36	.17
%RSD	.444	1.64	17.3	7.82	8.57	18.2	24.0	58.8	3.70	1.86
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1140500.**	**160130.**	**18838.**
Stddev	4641.	1329.	26.
%RSD	.40694	.82987	.13695

Sample Name: icsa Acquired: 07/13/2017 09:49:45 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-.444**	**503000.**	**-.501**	**.094**	**.000**	**479000.**	**-.003**	**-.365**	**-.776**	**-.372**	**394000.**
Stddev	1.00	2420.	14.9	.398	.033	3400.	.687	.623	.859	2.45	1790.
%RSD	226.	.482	2980.	425.	157000.	.711	22100.	171.	111.	658.	.453
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Fe2395	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**498000.**	**516000.**	**504000.**	**.118**	**.288**	**-.011**	**-.502**	**1.16**	**-.034**	**-.026**	**-.027**
Stddev	3690.	2970.	3340.	.336	1.44	2.52	7.12	1.48	16.0	7.70	.417
%RSD	.741	.576	.664	285.	501.	23100.	1420.	127.	47000.	29300.	1520.
Check ?	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Zn2138
Avg	**.940**
Stddev	.952
%RSD	101.
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: icsa Acquired: 07/13/2017 09:49:45 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1045600.**	**157290.**	**16966.**
Stddev	5575.	1261.	61.
%RSD	.53321	.80154	.35793

Sample Name: icsab Acquired: 07/13/2017 09:56:45 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be2348	Ca3158	Cd2265	Co2286	Cr2055
Avg	**465.**	**530000.**	**515.**	**522.**	**491.**	**482.**	**508.**	**503000.**	**441.**	**488.**	**501.**
Stddev	1.	8110.	11.	24.	2.	13.	9.	7870.	2.	2.	2.
%RSD	.312	1.53	2.06	4.53	.439	2.72	1.86	1.57	.392	.409	.317
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2677	Cu2247	Fe2343	Fe2395	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Avg	**494.**	**487.**	**425000.**	**549000.**	**528000.**	**531000.**	**503.**	**509.**	**505.**	**494.**	**485.**
Stddev	8.	2.	3860.	10000.	1520.	9010.	4.	15.	2.	2.	1.
%RSD	1.52	.315	.908	1.82	.288	1.70	.700	2.92	.409	.393	.240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138
Avg	**429.**	**491.**	**546.**	**506.**	**443.**	**514.**	**483.**	**530.**
Stddev	3.	3.	3.	13.	7.	5.	1.	1.
%RSD	.633	.678	.479	2.60	1.56	.878	.309	.147
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: icsab Acquired: 07/13/2017 09:56:45 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1036800.**	**154080.**	**16885.**
Stddev	8591.	2331.	32.
%RSD	.82865	1.5131	.18886

Sample Name: ICVLL ag Acquired: 07/13/2017 10:04:16 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**8.95**	**.738**	**-3.83**	**-.245**	**-.140**	**-64.8**	**-15.8**	**-.056**	**-1.51**	**-.536**	**-1.27**	**18.8**
Stddev	.99	2.86	5.71	.071	.026	14.9	8.2	.191	.75	.454	.38	3.1
%RSD	11.1	388.	149.	29.0	18.6	23.0	52.0	340.	49.6	84.7	29.8	16.8

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-36.9**	**.009**	**-.868**	**-2.60**	**-.723**	**-2.27**	**-5.33**	**-6.64**	**-.544**	**-1.36**
Stddev	.5	.043	.582	1.15	2.30	2.51	5.90	3.73	.613	.09
%RSD	1.41	464.	67.1	44.3	318.	111.	111.	56.1	113.	6.36

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1148700.**	**161440.**	**18658.**
Stddev	8228.	1867.	37.
%RSD	.71626	1.1564	.20002

Sample Name: ccv1 Acquired: 07/14/2017 01:34:01 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be2348	Ca3158	Ca3968	Cd2265	Co2388	Cr2055
Avg	**554.**	**4760.**	**4820.**	**5170.**	**4730.**	**5080.**	**481.**	**4980.**	**4890.**	**485.**	**4930.**	**5340.**
Stddev	3.	48.	13.	16.	3.	49.	4.	39.	45.	.	15.	3.
%RSD	.526	1.01	.262	.304	.065	.959	.908	.789	.912	.091	.301	.054
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu3247	Fe2343	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**5130.**	**4690.**	**5190.**	**5040.**	**4660.**	**5120.**	**4880.**	**4920.**	**5010.**	**5130.**	**5260.**	**5050.**
Stddev	29.	57.	22.	17.	79.	19.	44.	7.	2.	4.	13.	13.
%RSD	.570	1.21	.417	.336	1.70	.373	.902	.142	.046	.068	.249	.266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2924	Zn2062
Avg	**5310.**	**4900.**	**5070.**	**4840.**	**4950.**	**5010.**
Stddev	10.	15.	61.	15.	17.	10.
%RSD	.195	.314	1.20	.316	.341	.199
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 07/14/2017 01:34:01 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1111500.**	**157960.**	**18507.**
Stddev	3195.	1314.	26.
%RSD	.28748	.83197	.13892

Sample Name: ccv2 Acquired: 07/14/2017 01:40:07 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Avg	**52.9**	**449.**	**483.**	**484.**	**514.**	**482.**	**527.**	**51.3**	**49.9**	**450.**	**485.**	**50.8**
Stddev	.8	6.	4.	6.	11.	1.	2.	.2	.8	2.	2.	.0
%RSD	1.60	1.39	.754	1.21	2.13	.114	.461	.454	1.54	.410	.490	.074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Fe2343	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Avg	**523.**	**494.**	**535.**	**510.**	**515.**	**506.**	**493.**	**512.**	**487.**	**494.**	**501.**	**519.**
Stddev	1.	3.	1.	3.	1.	3.	1.	1.	.	3.	1.	1.
%RSD	.272	.675	.260	.662	.121	.559	.250	.203	.064	.585	.128	.205
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**504.**	**527.**	**527.**	**526.**	**491.**	**506.**	**500.**	**491.**	**495.**	**516.**
Stddev	7.	4.	4.	2.	10.	70.	4.	3.	1.	1.
%RSD	1.41	.813	.714	.341	2.09	13.8	.815	.619	.215	.117
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 07/14/2017 01:40:07 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1132300.**	**158700.**	**18672.**
Stddev	3571.	680.	6.
%RSD	.31539	.42876	.03389

Sample Name: ccb Acquired: 07/14/2017 01:46:21 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-1.49**	**-.598**	**1.69**	**.950**	**-.071**	**-19.1**	**26.6**	**.110**	**-1.58**	**1.24**	**-1.22**	**4.80**
Stddev	1.23	.915	3.69	.121	.020	2.1	.5	.060	1.38	1.03	.31	.96
%RSD	83.0	153.	218.	12.7	29.0	11.2	2.00	54.7	87.4	83.0	25.4	20.1
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-14.4**	**.480**	**.920**	**1.41**	**-14.1**	**-1.95**	**1.79**	**-1.18**	**.366**	**-1.69**
Stddev	.1	.077	.558	.25	2.4	2.38	4.76	5.30	.321	.14
%RSD	.628	16.1	60.7	17.6	17.2	122.	266.	448.	87.8	8.03
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1129000.**	**158290.**	**18645.**
Stddev	4814.	561.	21.
%RSD	.42635	.35454	.11253

Sample Name: LCSW63150 Acquired: 07/14/2017 02:06:28 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.4**	**816.**	**778.**	**840.**	**899.**	**792.**	**878.**	**19.6**	**194000.**	**19.6**	**216.**
Stddev	1.4	6.	3.	7.	8.	1.	5.	.1	1080.	.2	1.
%RSD	7.46	.678	.364	.884	.916	.155	.606	.708	.555	.816	.469

Elem	Cr2677	Cu2247	Fe2343	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**84.5**	**104.**	**402.**	**102000.**	**92800.**	**218.**	**-1.65**	**204.**	**208.**	**195.**	**221.**
Stddev	1.4	1.	5.	238.	532.	2.	.98	1.	1.	2.	3.
%RSD	1.61	.877	1.25	.233	.574	.849	59.3	.604	.333	.869	1.20

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**825.**	**917.**	**759.**	**207.**	**220.**
Stddev	7.	68.	3.	2.	.
%RSD	.816	7.44	.424	.890	.227

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1054200.**	**154890.**	**17347.**
Stddev	6188.	858.	15.
%RSD	.58701	.55414	.08395

Sample Name: MBW63150 Acquired: 07/14/2017 02:13:08 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.16**	**-2.13**	**-1.19**	**.106**	**-.162**	**61.7**	**.184**	**-2.67**	**.809**	**-2.81**	**3.37**	**8.86**
Stddev	1.42	1.91	5.36	.234	.003	5.5	.109	.32	.641	.05	1.44	.21
%RSD	65.6	89.9	452.	221.	2.09	8.98	59.1	11.8	79.3	1.67	42.7	2.34

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.592**	**-1.83**	**.506**	**-13.4**	**-1.14**	**-.151**	**-4.16**	**-.424**	**-2.27**
Stddev	.094	.92	.495	3.5	2.06	14.2	6.57	.375	.14
%RSD	15.9	50.0	97.8	26.3	180.	9390.	158.	88.6	6.05

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1123900.**	**158140.**	**18529.**
Stddev	6198.	1160.	37.
%RSD	.55149	.73341	.20148

Sample Name: 890671 Acquired: 07/14/2017 02:19:48 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**-2.92**	**53.4**	**5.35**	**84.0**	**-.083**	**60000.**	**.343**	**-2.19**	**6.41**	**-1.82**	**68.6**	**23700.**
Stddev	.57	2.7	1.61	.4	.032	629.	.124	.54	.28	.35	.9	49.
%RSD	19.4	4.96	30.0	.487	38.7	1.05	36.0	24.9	4.36	19.4	1.28	.206

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21200.**	**6.16**	**-3.53**	**6.82**	**1.69**	**-2.62**	**-1.37**	**-4.55**	**-.062**	**7.21**
Stddev	176.	.05	.74	.61	2.71	2.92	8.69	5.19	.230	.14
%RSD	.829	.829	21.0	8.98	160.	111.	634.	114.	372.	1.99

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1094900.**	**157550.**	**17997.**
Stddev	2745.	1263.	15.
%RSD	.25067	.80147	.08510

Sample Name: L890671 Acquired: 07/14/2017 02:26:50 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**-.596**	**7.21**	**5.08**	**17.1**	**-.150**	**26200.**	**.220**	**-2.01**	**2.72**	**-2.65**	**17.9**	**4620.**
Stddev	.549	2.48	1.75	3.0	.021	3080.	.138	.25	.50	.21	2.0	816.
%RSD	92.1	34.4	34.4	17.8	14.0	11.8	62.5	12.1	18.3	8.00	11.1	17.7

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9230.**	**1.56**	**-2.15**	**1.79**	**1.18**	**-1.52**	**-4.44**	**4.40**	**-.830**	**-.784**
Stddev	1080.	.25	.47	.80	3.49	3.64	7.64	2.38	.575	.297
%RSD	11.8	16.2	22.0	44.5	294.	240.	172.	54.1	69.3	37.9

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1123000.**	**158180.**	**18564.**
Stddev	3263.	1047.	29.
%RSD	.29058	.66202	.15606

Sample Name: DUP890671 Acquired: 07/14/2017 02:33:57 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**-.859**	**56.2**	**.840**	**85.1**	**-.094**	**60400.**	**.154**	**-1.50**	**6.93**	**-1.77**	**70.9**	**24100.**
Stddev	.427	1.2	4.38	.4	.031	398.	.127	.60	.93	.76	1.4	116.
%RSD	49.7	2.21	521.	.517	32.4	.659	82.0	39.9	13.4	43.1	1.92	.482

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21400.**	**6.40**	**-2.97**	**7.32**	**-.805**	**-2.09**	**-.253**	**-5.23**	**.356**	**8.01**
Stddev	175.	.12	.30	.22	4.44	2.35	7.28	5.23	.198	.18
%RSD	.818	1.88	9.95	2.96	552.	112.	2880.	100.	55.6	2.22

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1098400.**	**157570.**	**18049.**
Stddev	4395.	817.	45.
%RSD	.40014	.51881	.25159

Sample Name: MSW890671 Acquired: 07/14/2017 02:41:00 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**17.7**	**887.**	**824.**	**832.**	**893.**	**869.**	**956.**	**19.3**	**247000.**	**19.3**	**211.**
Stddev	1.6	8.	4.	8.	13.	1.	10.	.1	1940.	.2	.
%RSD	8.88	.929	.537	.961	1.40	.153	1.01	.773	.785	1.18	.086

Elem	Cr2677	Cu2247	Fe2343	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**88.4**	**104.**	**458.**	**127000.**	**112000.**	**220.**	**-3.89**	**220.**	**212.**	**187.**	**221.**
Stddev	1.0	.	3.	365.	659.	1.	.86	1.	1.	5.	1.
%RSD	1.17	.468	.717	.289	.589	.313	22.2	.279	.280	2.93	.428

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**820.**	**920.**	**751.**	**205.**	**228.**
Stddev	10.	85.	5.	1.	1.
%RSD	1.17	9.28	.632	.722	.275

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1043300.**	**154960.**	**17013.**
Stddev	3975.	1055.	38.
%RSD	.38097	.68088	.22447

Sample Name: MSDW890671 Acquired: 07/14/2017 02:47:43 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**17.3**	**879.**	**808.**	**825.**	**883.**	**853.**	**950.**	**19.0**	**245000.**	**19.0**	**209.**
Stddev	.6	9.	2.	1.	11.	3.	7.	.1	711.	.1	.
%RSD	3.52	1.05	.186	.168	1.23	.407	.785	.504	.290	.555	.231

Elem	Cr2677	Cu2247	Fe2343	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**88.5**	**102.**	**458.**	**124000.**	**111000.**	**219.**	**-4.37**	**216.**	**207.**	**183.**	**214.**
Stddev	1.1	1.	3.	126.	523.	1.	1.02	1.	1.	5.	3.
%RSD	1.20	.864	.658	.101	.472	.366	23.3	.573	.381	2.91	1.57

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**804.**	**970.**	**737.**	**204.**	**223.**
Stddev	6.	74.	6.	1.	1.
%RSD	.740	7.63	.785	.553	.266

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1034700.**	**154320.**	**17054.**
Stddev	4384.	468.	27.
%RSD	.42373	.30300	.15549

Sample Name: PDSW890671 Acquired: 07/14/2017 02:54:31 Type: Unk
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2388
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**95.4**	**4220.**	**4150.**	**4470.**	**3860.**	**4460.**	**94.2**	**100.**	**467000.**	**92.3**	**958.**
Stddev	1.7	107.	10.	27.	7.	94.	.5	2.	8130.	.3	5.
%RSD	1.76	2.52	.245	.605	.193	2.10	.581	2.40	1.74	.310	.490

Elem	Cr2055	Cr2677	Cu2247	Fe2343	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**432.**	**410.**	**507.**	**2010.**	**240000.**	**223000.**	**1030.**	**765.**	**-3.37**	**987.**	**992.**
Stddev	.	2.	1.	14.	846.	4350.	5.	20.	1.00	4.	2.
%RSD	.032	.493	.228	.678	.353	1.95	.492	2.57	29.6	.359	.156

Elem	Pb2169	Pb2203	Sb2068	Se1960	Se2062	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1030.**	**879.**	**1090.**	**4040.**	**4120.**	**3590.**	**1010.**	**965.**
Stddev	4.	3.	4.	29.	26.	18.	4.	2.
%RSD	.396	.385	.324	.711	.619	.508	.421	.238

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1015300.**	**150840.**	**16628.**
Stddev	4072.	713.	34.
%RSD	.40102	.47283	.20720

Sample Name: ccv1 Acquired: 07/14/2017 03:01:09 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be2348	Ca3158	Ca3968	Cd2265	Co2388	Cr2055
Avg	**553.**	**4770.**	**4800.**	**5190.**	**4720.**	**5110.**	**482.**	**5020.**	**4960.**	**485.**	**4940.**	**5340.**
Stddev	4.	38.	22.	25.	3.	35.	5.	34.	40.	1.	15.	13.
%RSD	.725	.803	.455	.475	.060	.679	1.02	.676	.816	.140	.295	.243
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu3247	Fe2343	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**5150.**	**4710.**	**5230.**	**5030.**	**4710.**	**5150.**	**4910.**	**4900.**	**5010.**	**5130.**	**5250.**	**5050.**
Stddev	19.	39.	28.	6.	25.	18.	33.	5.	13.	13.	21.	4.
%RSD	.365	.834	.543	.126	.521	.347	.676	.104	.258	.261	.401	.081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2924	Zn2062
Avg	**5330.**	**4880.**	**5070.**	**4820.**	**4960.**	**5030.**
Stddev	13.	7.	21.	9.	32.	15.
%RSD	.236	.153	.414	.183	.642	.304
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 07/14/2017 03:01:09 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1104700.**	**156720.**	**18494.**
Stddev	4634.	367.	35.
%RSD	.41946	.23443	.18875

Sample Name: ccv2 Acquired: 07/14/2017 03:07:16 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Avg	**52.5**	**450.**	**491.**	**486.**	**515.**	**483.**	**536.**	**51.9**	**50.1**	**460.**	**490.**	**51.0**
Stddev	1.4	8.	4.	2.	14.	2.	7.	.4	.7	2.	3.	.3
%RSD	2.58	1.76	.856	.389	2.78	.366	1.22	.773	1.48	.335	.673	.543
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Fe2343	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Avg	**526.**	**496.**	**538.**	**515.**	**517.**	**510.**	**497.**	**517.**	**493.**	**494.**	**503.**	**521.**
Stddev	.	3.	1.	3.	2.	3.	2.	2.	5.	1.	1.	1.
%RSD	.064	.591	.182	.527	.368	.626	.499	.334	1.04	.244	.275	.175
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**503.**	**527.**	**525.**	**530.**	**482.**	**472.**	**497.**	**496.**	**497.**	**518.**
Stddev	3.	6.	4.	2.	7.	43.	9.	2.	1.	1.
%RSD	.547	1.15	.670	.422	1.54	9.03	1.83	.461	.245	.197
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 07/14/2017 03:07:16 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1122200.**	**157250.**	**18667.**
Stddev	4095.	1271.	26.
%RSD	.36495	.80799	.13966

Sample Name: ccb Acquired: 07/14/2017 03:13:29 Type: QC
Method: DOD Calibration Updated 060614(v2102) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-1.15**	**-.994**	**2.46**	**1.19**	**-.038**	**-17.7**	**26.2**	**.243**	**-.763**	**1.86**	**-1.60**	**3.00**
Stddev	1.21	.659	5.92	.34	.025	6.9	1.5	.180	.899	.29	.16	1.01
%RSD	105.	66.3	241.	28.3	66.4	39.0	5.81	73.9	118.	15.8	9.64	33.6
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-14.1**	**.371**	**.722**	**1.56**	**-9.93**	**-1.55**	**-5.92**	**.929**	**.399**	**-1.63**
Stddev	.4	.042	.752	.40	11.0	1.84	3.55	2.43	.900	.19
%RSD	2.66	11.3	104.	25.3	110.	119.	59.9	262.	226.	11.7
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

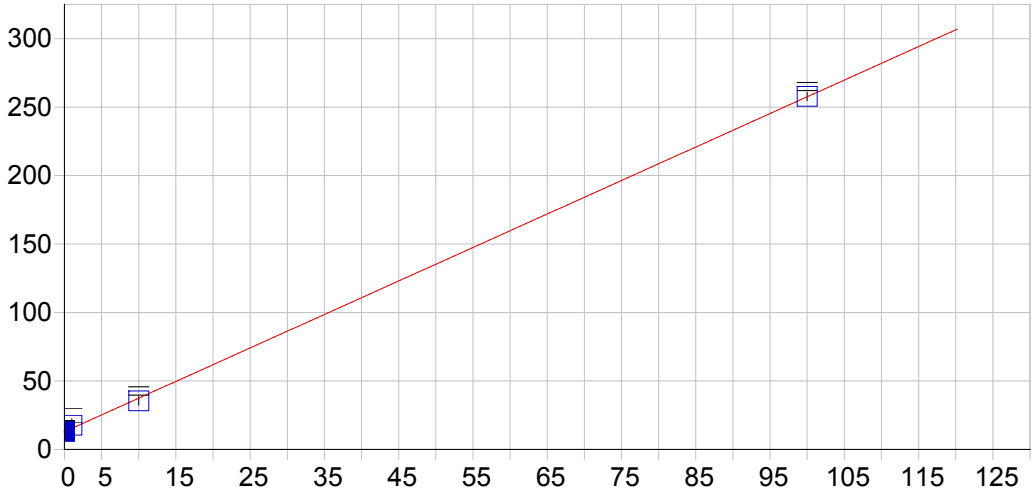
Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1139800.**	**159350.**	**18750.**
Stddev	8815.	1825.	40.
%RSD	.77332	1.1452	.21423

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	07/19/2017 11:01:00	07/18/2017 12:21:20	Linear	1/Var	12.950003	2.445601	0.000000	1.000000	0.999951	0.791306	1.299245	4.330815
Al 309.271 {109}	07/19/2017 11:01:00	07/18/2017 13:01:58	Curvili	None	0.000785	0.000001	0.000000	1.000000	1.000000	0.000664	14.511757	48.372525
Al 396.152 { 85}	07/19/2017 11:01:00	07/18/2017 13:01:58	Full Fit	1/Var	0.000088	0.000003	0.000000	1.000000	0.999894	0.000156	8.247673	27.492244
Al 167.079 {502}	07/19/2017 11:01:00	07/18/2017 12:27:20	Linear	1/Var	0.000164	0.000007	0.000000	1.000000	0.998837	0.000064	2.651593	8.838643
As 193.759 {474}	07/19/2017 11:01:00	07/18/2017 12:33:57	Linear	1/Conc	-5.590035	0.107379	0.000000	1.000000	0.999713	0.033231	6.044437	20.148124
As 189.042 {479}	07/19/2017 11:01:00	07/18/2017 12:33:57	Linear	1/Var	-0.000002	0.000001	0.000000	1.000000	0.999830	0.000039	19.413698	64.712326
Ba 233.527 {445}	07/19/2017 11:01:00	07/18/2017 12:27:20	Linear	1/Conc	0.000037	0.000078	0.000000	1.000000	0.999502	0.000003	0.467942	1.559806
Ba 455.403 { 74}	07/19/2017 11:01:00	07/18/2017 12:33:57	Linear	1/Var	0.000219	0.000102	0.000000	1.000000	0.998604	0.000116	0.244968	0.816561
Ba 493.409 { 68}	07/19/2017 11:01:00	07/18/2017 12:33:57	Linear	1/Var	0.021406	0.000056	0.000000	1.000000	0.999450	0.000948	1.157378	3.857926
Be 313.042 {108}	07/19/2017 11:01:00	07/18/2017 12:27:20	Linear	1/Conc	-144.56297	68.514072	0.000000	1.000000	0.999828	0.775091	0.048382	0.161275
Be 234.861 {144}	07/19/2017 11:01:00	07/18/2017 12:27:20	Linear	1/Conc	-0.000001	0.000010	0.000000	1.000000	0.999992	0.000001	0.395256	1.317519
Ca 315.887 {107}	07/19/2017 11:01:00	07/18/2017 13:01:58	Curvili	1/Var	0.000195	0.000001	0.000000	1.000000	0.999883	0.000040	8.961066	29.870218
Ca 317.933 {106}	07/19/2017 11:01:00	07/18/2017 13:01:58	Linear	1/Var	0.006895	0.000003	0.000000	1.000000	0.999179	0.001032	2.698058	8.993527
Ca 393.366 { 86}	07/19/2017 11:01:00	07/18/2017 12:27:21	Linear	1/Conc	0.011007	0.000059	0.000000	1.000000	0.999807	0.000021	0.049053	0.163510
Ca 396.847 { 85}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	0.032261	0.000165	0.000000	1.000000	0.997162	0.001436	0.112347	0.374488
Cd 226.502 {449}	07/19/2017 11:01:00	07/18/2017 12:27:21	Linear	1/Var	0.000041	0.000200	0.000000	1.000000	0.999454	0.000302	0.274102	0.913673
Cd 228.802 {447}	07/19/2017 11:01:00	07/18/2017 12:27:21	Linear	1/Conc	-0.000299	0.000266	0.000000	1.000000	0.999862	0.000004	0.313504	1.045014
Co 228.616 {447}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	0.000139	0.000063	0.000000	1.000000	0.999322	0.000432	0.899209	2.997362
Co 238.892 {141}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	-0.000000	0.000002	0.000000	1.000000	0.999369	0.000008	1.133130	3.777099
Cr 205.560 {464}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Conc	-0.000190	0.000086	-0.000000	1.000000	0.999973	0.000007	0.370892	1.236306
Cr 267.716 {126}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Var	-0.000001	0.000004	0.000000	1.000000	0.999778	0.000006	0.757931	2.526435
Cu 224.700 {450}	07/19/2017 11:01:00	07/18/2017 12:40:53	Linear	1/Conc	0.000135	0.000053	0.000000	1.000000	0.999978	0.000004	0.954193	3.180642
Cu 324.754 {104}	07/19/2017 11:01:00	07/18/2017 12:40:53	Linear	None	0.002501	0.000006	0.000000	1.000000	1.000000	0.000175	2.718838	9.062794
Cu 327.396 {103}	07/19/2017 11:01:00	07/18/2017 12:40:53	Linear	1/Conc	-0.008145	0.000002	0.000000	1.000000	0.997894	0.000008	17.610335	58.701116
Fe 234.349 {144}	07/19/2017 11:01:00	07/18/2017 13:01:58	Curvili	1/Var	0.000030	0.000001	0.000000	1.000000	0.999472	0.000025	1.901956	6.339854
Fe 239.562 {140}	07/19/2017 11:01:00	07/18/2017 13:01:58	Linear	1/Conc	0.000011	0.000001	0.000000	1.000000	0.999521	0.000045	6.354052	21.180172
Fe 259.940 {129}	07/19/2017 11:01:00	07/18/2017 13:01:58	Full Fit	1/Conc	-0.000000	0.000002	0.000000	0.980000	0.999955	0.000031	3.581732	11.939108
Mg 202.582 {466}	07/19/2017 11:01:00	07/18/2017 13:01:58	Full Fit	1/Var	-0.000323	0.000035	0.000000	0.900000	0.998091	0.004297	1.302034	4.340113
Mg 279.079 {121}	07/19/2017 11:01:00	07/18/2017 13:01:58	Curvili	1/Var	0.000011	0.000000	0.000000	1.000000	0.999957	0.000011	27.916738	93.055793
Mg 280.270 {120}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Conc	0.002528	0.000031	0.000000	1.000000	0.999958	0.000013	0.054664	0.182214
Mn 257.610 {131}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Conc	0.000002	0.000011	-0.000000	1.000000	0.999956	0.000002	0.131811	0.439370
Mn 259.373 {130}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Var	0.000020	0.000024	-0.000000	1.000000	0.999791	0.000066	0.367279	1.224264
Mo 202.030 {466}	07/19/2017 11:01:00	07/18/2017 12:27:21	Linear	1/Conc	-0.000129	0.000047	0.000000	1.000000	0.998986	0.000006	0.747518	2.491727
Mo 204.598 {464}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	-0.000086	0.000036	0.000000	1.000000	0.999460	0.000184	1.121947	3.739822
Mo 204.598 {465}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	0.000095	0.000023	0.000000	1.000000	0.999702	0.000156	1.559713	5.199044
Ni 221.647 {452}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	0.000159	0.000085	0.000000	1.000000	0.999642	0.000644	0.775656	2.585521
Ni 231.604 {445}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	-0.000556	0.000089	0.000000	1.000000	0.999916	0.000219	0.755658	2.518859
Pb 216.999 {455}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Var	0.000232	0.000010	-0.000000	1.000000	0.999130	0.000490	5.376960	17.923199
Pb 220.353 {453}	07/19/2017 11:01:00	07/18/2017 12:40:53	Linear	1/Conc	-8.101959	0.231254	0.000000	1.000000	0.999667	0.054451	4.740791	15.802638
Pb 220.353 {153}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Conc	0.000004	0.000000	0.000000	1.000000	0.999970	0.000000	9.941082	33.136940
Sb 206.833 {463}	07/19/2017 11:01:00	07/18/2017 12:33:58	Linear	1/Var	0.000189	0.000014	0.000000	1.000000	0.999490	0.000436	2.751316	9.171053
Sb 217.581 {455}	07/19/2017 11:01:00	07/18/2017 12:33:58	Curvili	1/Var	-0.000056	0.000015	0.000000	1.000000	0.999995	0.000027	3.470568	11.568559
Se 196.090 {472}	07/19/2017 11:01:00	07/18/2017 12:33:59	Curvili	1/Var	-0.000180	0.000005	0.000000	1.000000	0.999988	0.000005	7.101060	23.670199
Se 206.279 {463}	07/19/2017 11:01:00	07/18/2017 12:33:59	Curvili	1/Conc	0.000001	0.000001	-0.000000	1.000000	0.999335	0.000002	67.218415	224.06138

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Al 309.271 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Al 167.079 {502}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 189.042 {479}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	Warnin	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {465}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0
	Sb 217.581 {455}	Warnin	1.000000	0.000000	1	0
	Se 196.090 {472}	Warnin	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Tl 190.856 {476}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	-0.000063	0.000009	0.000000	1.000000	0.999906	0.000002	4.645385	15.484616
	Tl 190.856 {477}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	-2.367070	0.097688	0.000000	1.000000	0.999977	0.008920	5.297459	17.658197
	V 290.882 {116}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	0.000004	0.000004	0.000000	1.000000	0.999748	0.000004	2.724394	9.081312
	V 292.402 {115}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Var	0.000019	0.000006	0.000000	1.000000	0.998810	0.000020	0.694465	2.314885
	Zn 206.200 {463}	07/19/2017 11:01:00	07/18/2017 12:40:53	Curvili	1/Var	0.000185	0.000093	-0.000000	1.000000	0.999576	0.001115	0.507525	1.691749
	Zn 213.856 {458}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	0.000405	0.000151	0.000000	1.000000	0.999913	0.000018	0.246275	0.820917
	Y 324.228 {104}*	07/19/2017 11:01:00	07/18/2017 11:28:23	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	07/19/2017 11:01:00	07/18/2017 11:28:23	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 224.306 {451}*	07/19/2017 11:01:00	07/18/2017 11:28:23	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	07/19/2017 11:01:00	07/18/2017 12:54:48	Linear	1/Conc	0.002620	0.000014	0.000000	1.000000	0.991197	0.001866	5.678109	18.927029
	Si 251.611 {134}	07/19/2017 11:01:00	07/18/2017 12:54:48	Linear	1/Conc	0.000279	0.000001	0.000000	1.000000	0.999990	0.000001	5.529420	18.431399
	Ti 334.941 {101}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	0.000031	0.000017	0.000000	1.000000	0.999758	0.000003	0.722296	2.407654
	Sr 407.771 { 83}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Var	-0.005280	0.000263	0.000000	1.000000	0.999584	0.000117	0.136922	0.456405
	Sn 189.989 {478}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	0.000039	0.000008	0.000000	1.000000	0.999817	0.000007	3.083994	10.279980
	B 249.678 {135}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	0.000005	0.000002	0.000000	1.000000	0.999625	0.000001	1.575168	5.250560
	B 249.773 {135}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	0.000018	0.000004	0.000000	1.000000	0.999705	0.000001	0.667366	2.224554
	Li 670.784 { 50}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Var	0.000704	0.000036	0.000000	1.000000	0.999286	0.000112	1.346406	4.488019
	K 766.490 { 44}	07/19/2017 11:01:00	07/18/2017 12:54:48	Linear	1/Conc	-0.000889	0.000001	0.000000	1.000000	0.991122	0.000153	42.777085	142.59028
	P 213.618 {457}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	94.309000	314.36333
	S 182.034 {485}	07/19/2017 11:01:00	07/18/2017 12:54:48	Linear	1/Var	0.000493	0.000001	0.000000	1.000000	0.405097	0.007478	43.210616	144.03538
	W 207.911 {462}	07/19/2017 11:01:00	07/18/2017 12:54:48	Curvili	1/Var	-0.000163	0.000015	-0.000000	1.000000	1.000000	0.000000	2.937212	9.790706
	Hg 184.950 {482}	07/19/2017 11:01:00	07/18/2017 12:27:23	Linear	1/Conc	0.000510	0.000027	0.000000	1.000000	0.999995	0.000002	1.198654	3.995514
	Ce 404.076 { 83}	07/19/2017 11:01:00	07/18/2017 12:33:59	Linear	1/Conc	-0.000415	0.000000	0.000000	1.000000	0.252725	0.000052	298.88933	996.29777

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {458}	OK.	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Y 224.306 {451}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	W 207.911 {462}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

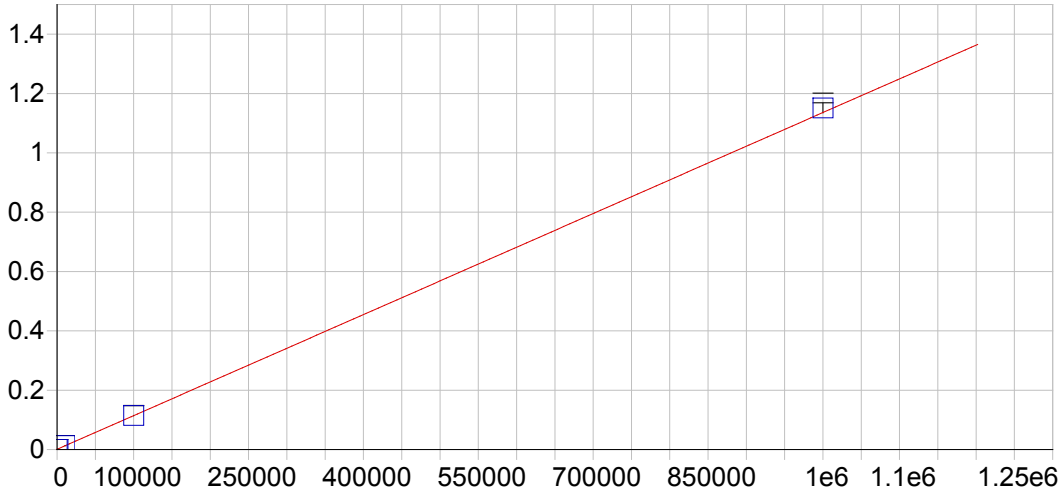


Ag 328.068 {103}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	12.950003	Re-Slope:	1.000000
A1 (Gain):	2.445601	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.791306		
Predicted MDL:	1.299245		
Predicted MQL:	4.330815		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02453	.025	.000	13.010	.745	1
CalStd5=10	10.000	9.1675	-.833	-8.33	35.370	3.05	1
CalStd8=100	100.00	100.07	.073	.073	257.69	2.92	1
CalStd3=1	1.0000	1.8707	.871	87.1	17.525	4.86	1

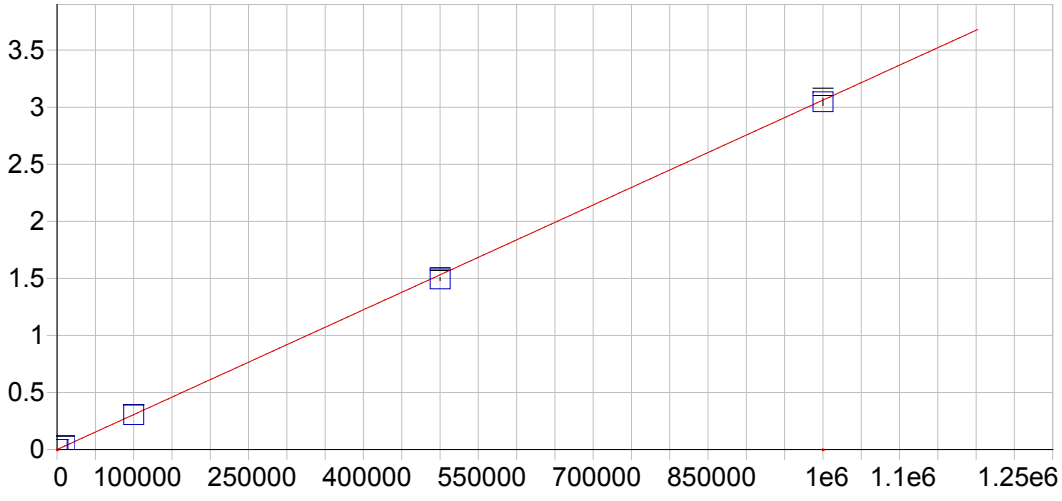


Al 309.271 {109}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000785	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000664		
Predicted MDL:	14.511757		
Predicted MQL:	48.372525		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-331.13	-331.	.000	.00041	.000	1
CalStd10=10	10000.	10697.	697.	6.97	.01293	.000	1
CalStd9=100	1000.0	708.28	-292.	-29.2	.00159	.000	1
CalStd13=10	100000.	100060.	60.4	.060	.11437	.000	1
CalibStd15=	1000000.	1013400.	13400.	1.34	1.1511	.016	1

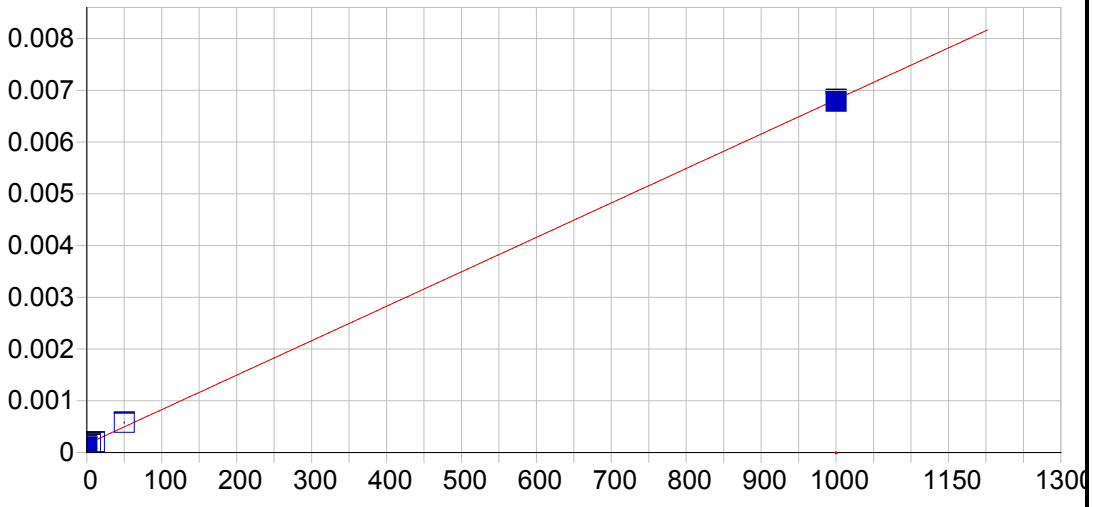


Al 396.152 { 85}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000088	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999894	Status:	OK.
Std Error of Est:	0.000156		
Predicted MDL:	8.247673		
Predicted MQL:	27.492244		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.1509	6.15	.000	.00011	.000	1
CalStd14=50	500000.	487730.	-12300.	-2.45	1.4936	.012	1
CalStd13=10	100000.	99594.	-406.	-.406	.30506	.001	1
CalStd10=10	10000.	10237.	237.	2.37	.03143	.000	1
CalStd9=100	1000.0	955.74	-44.3	-4.43	.00301	.000	1
CalibStd15=	1000000.	994970.	-5030.	-.503	3.0468	.032	1

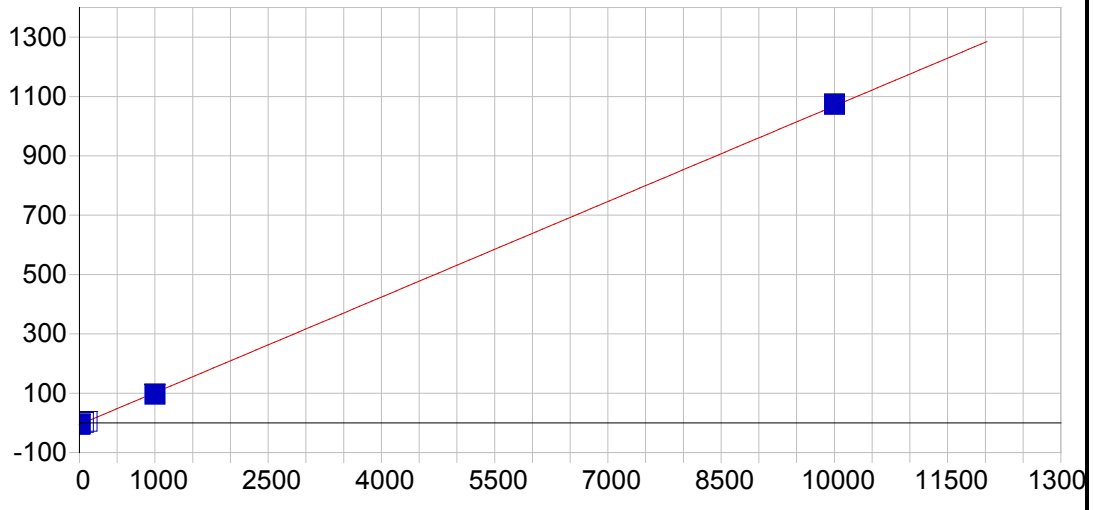


Al 167.079 {502}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000164	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998837	Status:	OK.
Std Error of Est:	0.000064		
Predicted MDL:	2.651593		
Predicted MQL:	8.838643		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.3026	-8.30	.000	.00011	.000	1
CalStd9=100	1000.0	994.41	-5.59	-.559	.00679	.000	1
CalStd5=10	10.000	6.6314	-3.37	-33.7	.00021	.000	1
CalStd4=5	5.0000	1.1728	-3.83	-76.5	.00017	.000	1
CalStd7=50	50.000	62.593	12.6	25.2	.00058	.000	1

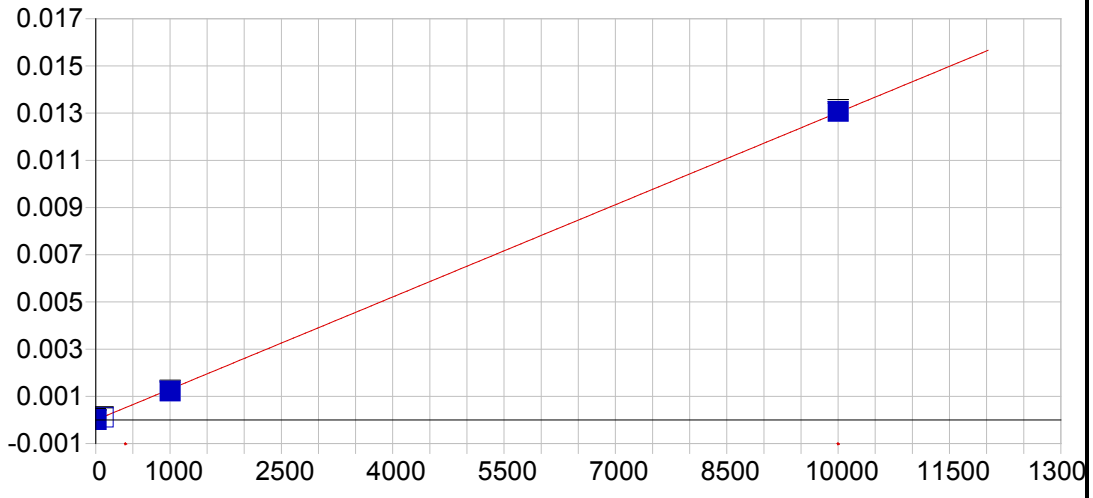


As 193.759 {474}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-5.590035	Re-Slope:	1.000000
A1 (Gain):	0.107379	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999713	Status:	OK.
Std Error of Est:	0.033231		
Predicted MDL:	6.044437		
Predicted MQL:	20.148124		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00421	-.004	.000	-5.5905	.543	1
CalStd9=100	1000.0	944.87	-55.1	-5.51	95.813	.792	1
CalStd7=50	50.000	61.009	11.0	22.0	.96106	.674	1
CalStd5=10	10.000	12.676	2.68	26.8	-4.2289	.451	1
CalStd8=100	100.00	98.390	-1.61	-1.61	4.9749	.500	1
CalStd10=10	10000.	10043.	43.1	.431	1072.3	1.78	1

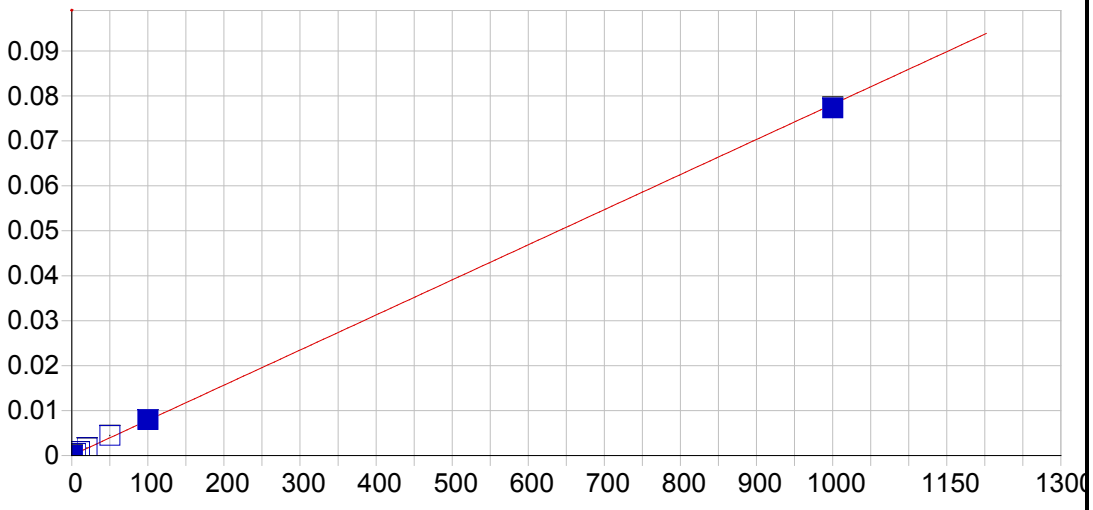


As 189.042 {479}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	19.413698		
Predicted MQL:	64.712326		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	27.370	27.4	.000	.00003	.000	1
CalStd9=100	1000.0	936.02	-64.0	-6.40	.00122	.000	1
CalStd10=10	10000.	10034.	33.6	.336	.01307	.000	1
CalStd8=100	100.00	87.440	-12.6	-12.6	.00011	.000	1
CalStd4=5	5.0000	7.1820	2.18	43.6	.00001	.000	1

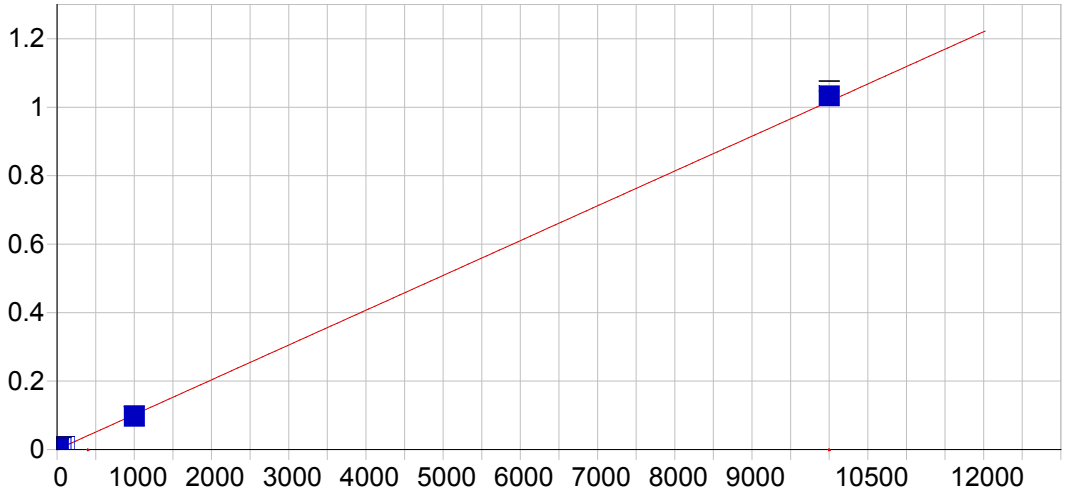


Ba 233.527 {445}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000078	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999502	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.467942		
Predicted MQL:	1.559806		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00018	-.000	.000	.00004	.000	1
CalStd7=50	50.000	56.580	6.58	13.2	.00445	.000	1
CalStd5=10	10.000	10.510	.510	5.10	.00086	.000	1
CalStd6=20	20.000	21.750	1.75	8.75	.00173	.000	1
CalStd8=100	100.00	101.55	1.55	1.55	.00797	.000	1
CalStd4=5	5.0000	4.9707	-.029	-.586	.00042	.000	1
CalStd9=100	1000.0	989.73	-10.3	-1.03	.07733	.000	1
CalStd3=1	1.0000	.90654	-.093	-9.35	.00011	.000	1

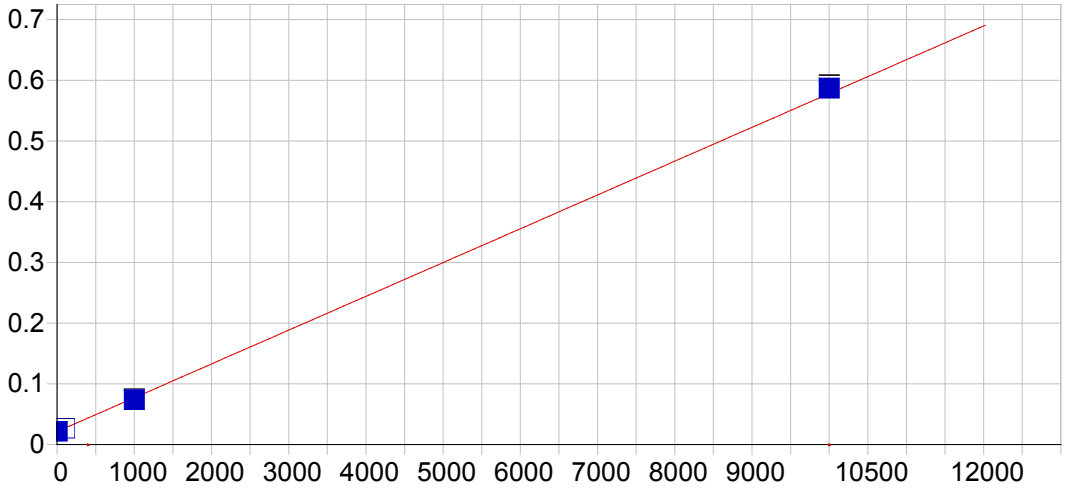


Ba 455.403 { 74}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000219	Re-Slope:	1.000000
A1 (Gain):	0.000102	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998604	Status:	OK.
Std Error of Est:	0.000116		
Predicted MDL:	0.244968		
Predicted MQL:	0.816561		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.30512	-.305	.000	.00019	.000	1
CalStd7=50	50.000	54.005	4.00	8.01	.00571	.000	1
CalStd5=10	10.000	10.003	.003	.027	.00124	.000	1
CalStd6=20	20.000	20.755	.755	3.78	.00233	.000	1
CalStd8=100	100.00	96.770	-3.23	-3.23	.01006	.000	1
CalStd4=5	5.0000	4.7543	-.246	-4.91	.00070	.000	1
CalStd9=100	1000.0	948.17	-51.8	-5.18	.09663	.001	1
CalStd3=1	1.0000	.70531	-.295	-29.5	.00029	.000	1
CalStd10=10	10000.	10155.	155.	1.55	1.0328	.015	1

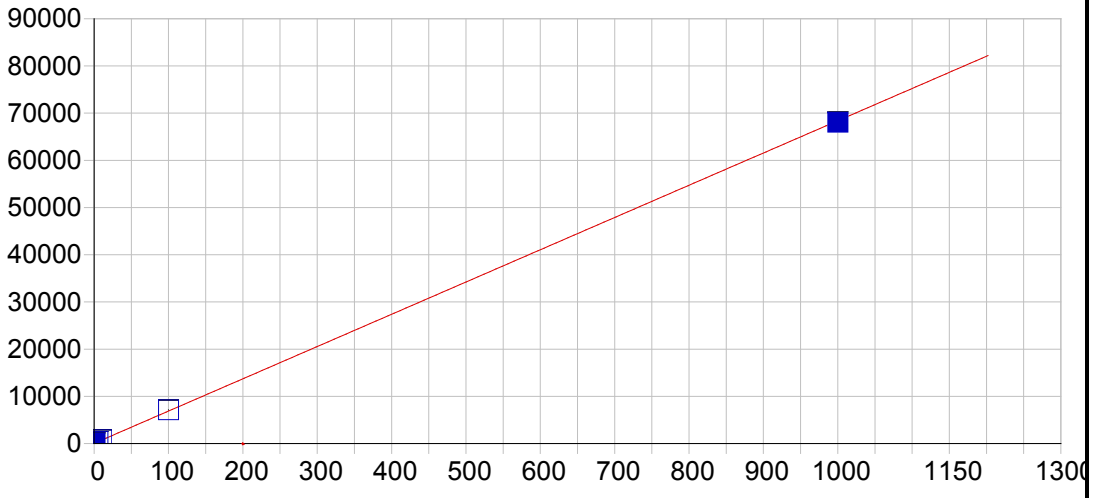


Ba 493.409 { 68}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.021406	Re-Slope:	1.000000
A1 (Gain):	0.000056	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999450	Status:	OK.
Std Error of Est:	0.000948		
Predicted MDL:	1.157378		
Predicted MQL:	3.857926		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.7977	7.80	.000	.02184	.000	1
CalStd9=100	1000.0	941.91	-58.1	-5.81	.07386	.001	1
CalStd8=100	100.00	96.586	-3.41	-3.41	.02678	.000	1
CalStd10=10	10000.	10155.	155.	1.55	.58696	.005	1

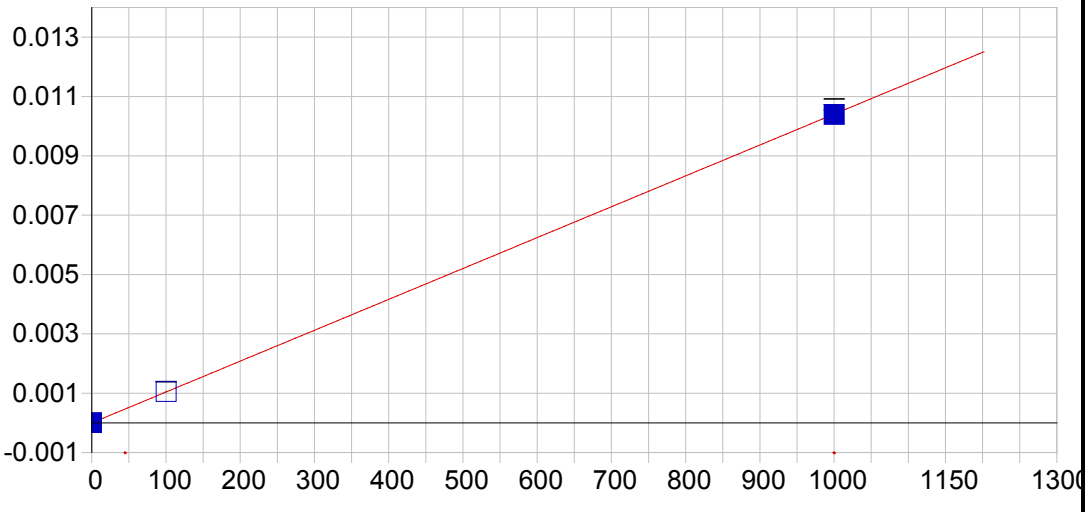


Be 313.042 {108}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	43.195967	Re-Slope:	1.000000
A1 (Gain):	68.349610	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999857	Status:	OK.
Std Error of Est:	0.704346		
Predicted MDL:	0.044956		
Predicted MQL:	0.149852		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00012	-.000	.000	43.188	2.66	1
CalStd5=10	10.000	10.850	.850	8.50	784.77	2.83	1
CalStd8=100	100.00	103.38	3.38	3.38	7108.9	26.3	1
CalStd2=0.5	.50000	.54002	.040	8.00	80.106	.582	1
CalStd4=5	5.0000	5.6565	.657	13.1	429.82	1.92	1
CalStd1=0.2	.25000	.25957	.010	3.83	60.938	1.71	1
CalStd9=100	1000.0	994.94	-5.06	-.506	68047.	159.	1
CalStd3=1	1.0000	1.1322	.132	13.2	120.58	1.59	1

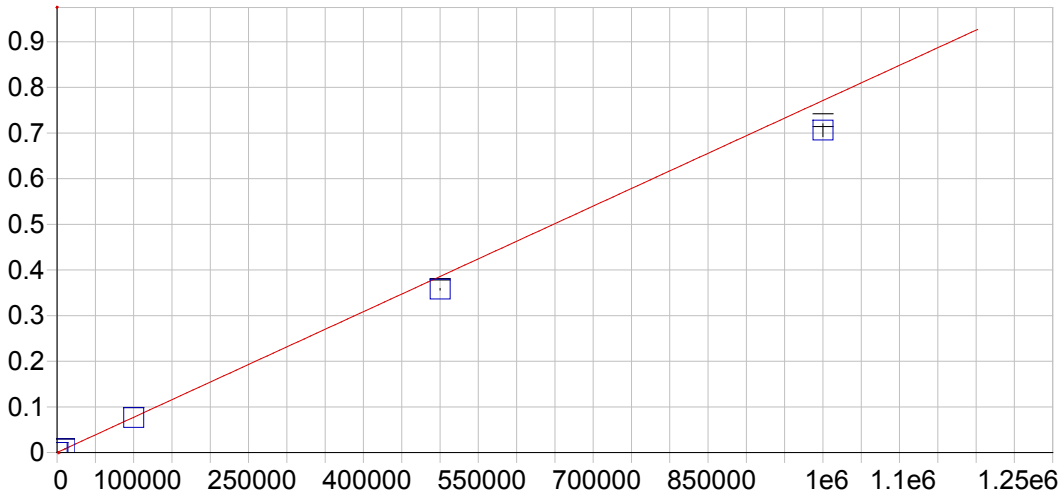


Be 234.861 {144}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.395256		
Predicted MQL:	1.317519		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00117	-.001	.000	-.00000	.000	1
CalStd9=100	1000.0	998.70	-1.30	-.130	.01039	.000	1
CalStd8=100	100.00	101.30	1.30	1.30	.00105	.000	1

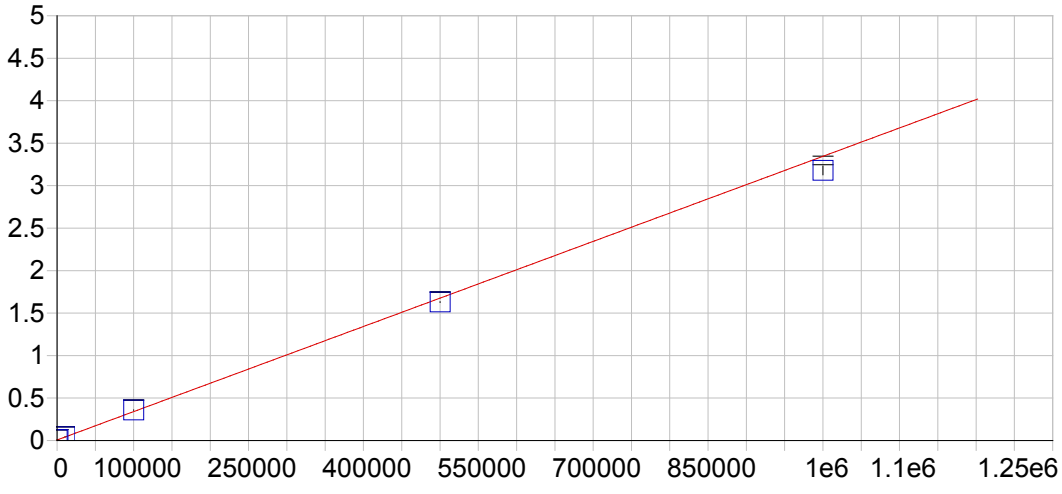


Ca 315.887 {107}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000195	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999883	Status:	OK.
Std Error of Est:	0.000040		
Predicted MDL:	8.961066		
Predicted MQL:	29.870218		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	13.014	13.0	.000	.00021	.000	1
CalStd10=10	10000.	10024.	23.6	.236	.00792	.000	1
CalStd13=10	100000.	99098.	-902.	-.902	.07661	.000	1
CalStd14=50	500000.	463760.	-36200.	-7.25	.35780	.002	1
CalStd9=100	1000.0	920.47	-79.5	-7.95	.00091	.000	1
CalibStd15=	1000000.	915780.	-84200.	-8.42	.70635	.014	1

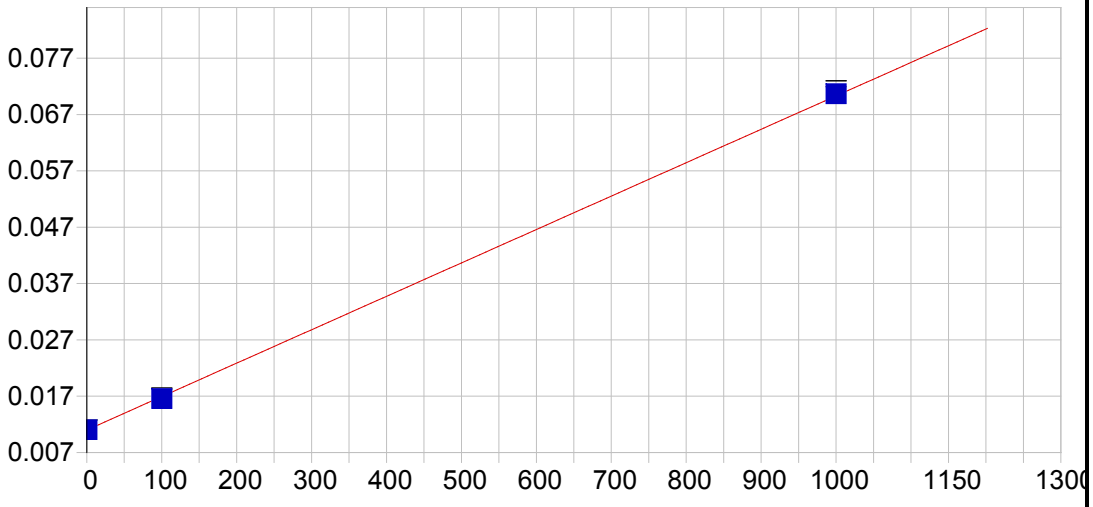


Ca 317.933 {106}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.006895	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999179	Status:	OK.
Std Error of Est:	0.001032		
Predicted MDL:	2.698058		
Predicted MQL:	8.993527		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-26.162	-26.2	.000	.00681	.000	1
CalStd10=10	10000.	10755.	755.	7.55	.04280	.000	1
CalStd13=10	100000.	105250.	5250.	5.25	.35831	.001	1
CalStd14=50	500000.	485940.	-14100.	-2.81	1.6293	.004	1
CalStd9=100	1000.0	1094.5	94.5	9.45	.01055	.000	1
CalibStd15=	1000000.	950250.	-49700.	-4.97	3.1795	.051	1

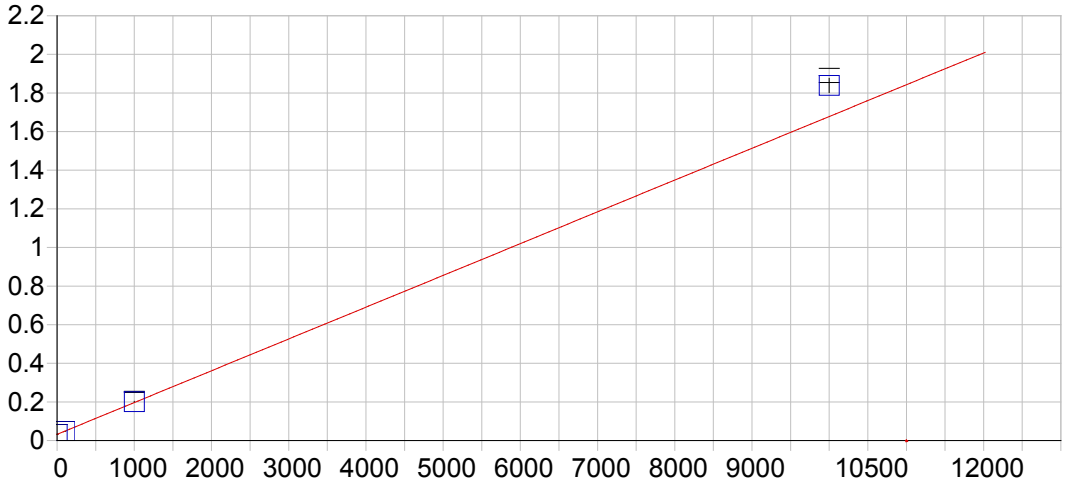


Ca 393.366 { 86}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.011007	Re-Slope:	1.000000
A1 (Gain):	0.000059	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999807	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.049053		
Predicted MQL:	0.163510		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00559	.006	.000	.01101	.000	1
CalStd9=100	1000.0	1006.2	6.21	.621	.07068	.001	1
CalStd8=100	100.00	93.793	-6.21	-6.21	.01657	.000	1

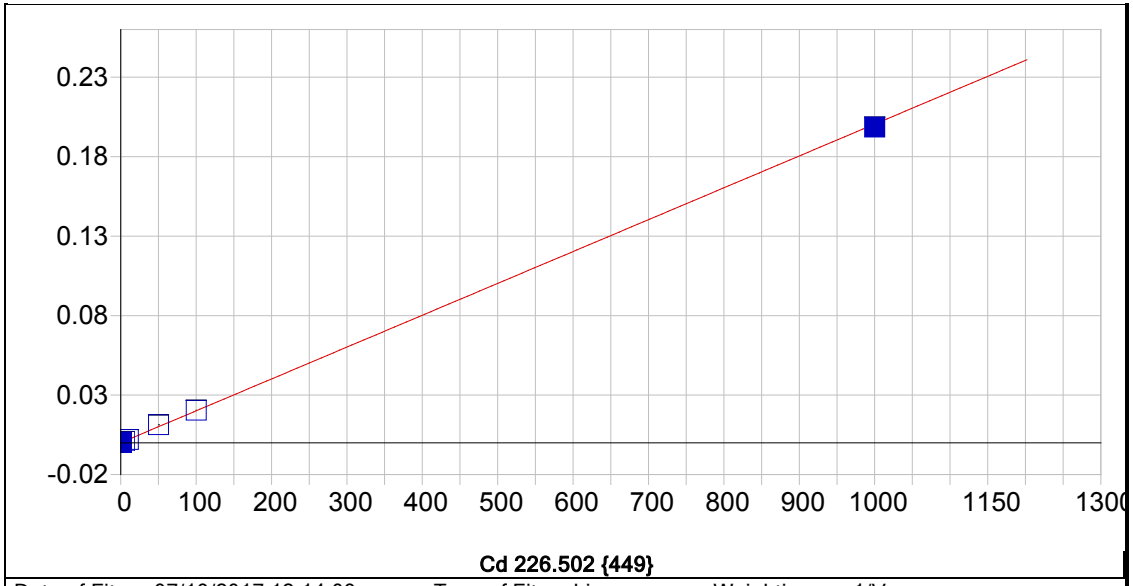


Ca 396.847 { 85}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.032261	Re-Slope:	1.000000
A1 (Gain):	0.000165	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997162	Status:	OK.
Std Error of Est:	0.001436		
Predicted MDL:	0.112347		
Predicted MQL:	0.374488		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	4.3548	4.35	.000	.03298	.000	1
CalStd10=10	10000.	10975.	975.	9.75	1.8388	.037	1
CalStd8=100	100.00	95.326	-4.67	-4.67	.04795	.000	1
CalStd9=100	1000.0	1022.1	22.1	2.21	.20049	.003	1

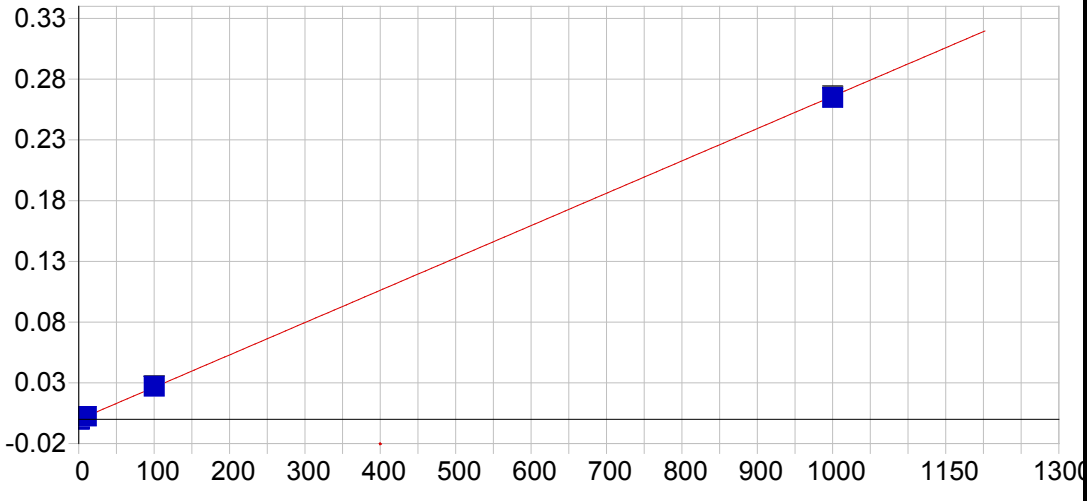


Cd 226.502 {449}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000200	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999454	Status:	OK.
Std Error of Est:	0.000302		
Predicted MDL:	0.274102		
Predicted MQL:	0.913673		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.72986	-.730	.000	-.00010	.000	1
CalStd7=50	50.000	56.105	6.10	12.2	.01129	.000	1
CalStd3=1	1.0000	.19694	-.803	-80.3	.00008	.000	1
CalStd2=0.5	.50000	-.28417	-.784	-157.	-.00002	.000	1
CalStd4=5	5.0000	4.8232	-.177	-3.54	.00101	.000	1
CalStd8=100	100.00	101.54	1.54	1.54	.02039	.000	1
CalStd5=10	10.000	9.6728	-.327	-3.27	.00198	.000	1
CalStd9=100	1000.0	990.51	-9.49	-.949	.19860	.000	1

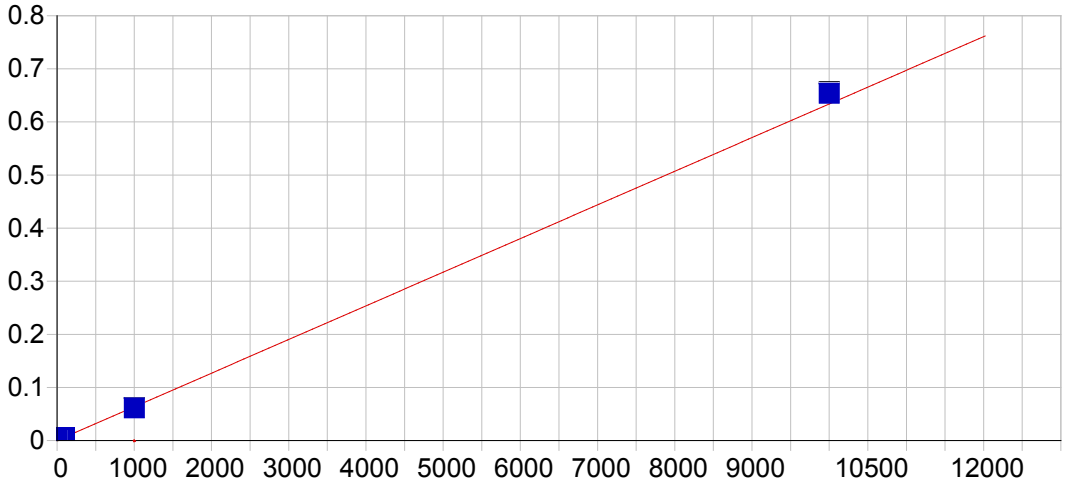


Cd 228.802 {447}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000299	Re-Slope:	1.000000
A1 (Gain):	0.000266	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999862	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.313504		
Predicted MQL:	1.045014		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00037	-.000	.000	-.00030	.000	1
CalStd9=100	1000.0	995.92	-4.08	-.408	.26518	.001	1
CalStd8=100	100.00	102.90	2.90	2.90	.02713	.000	1
CalStd2=0.5	.50000	.65654	.157	31.3	-.00012	.000	1
CalStd3=1	1.0000	1.3290	.329	32.9	.00006	.000	1
CalStd5=10	10.000	10.695	.695	6.95	.00255	.000	1

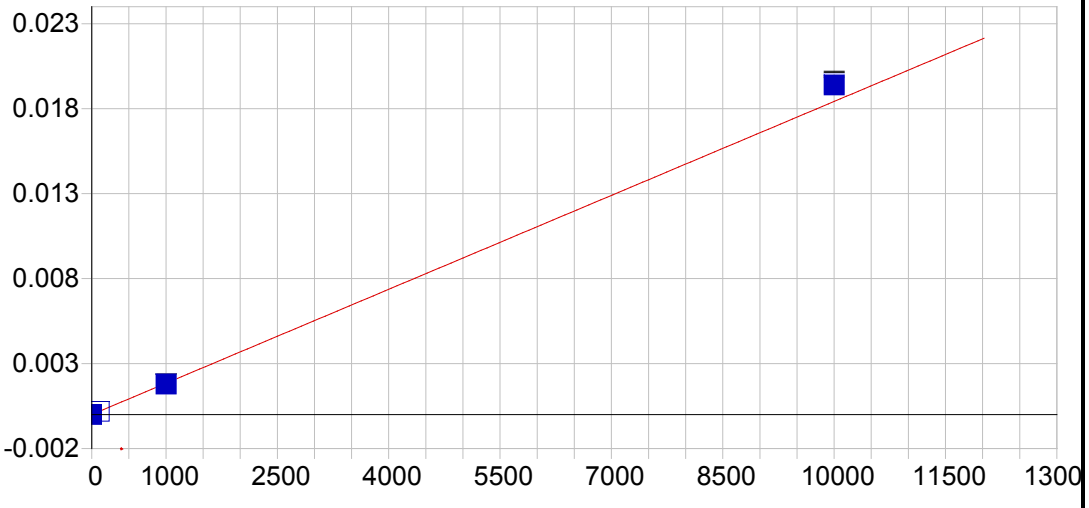


Co 228.616 {447}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000139	Re-Slope:	1.000000
A1 (Gain):	0.000063	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999322	Status:	OK.
Std Error of Est:	0.000432		
Predicted MDL:	0.899209		
Predicted MQL:	2.997362		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.96460	-.965	.000	.00008	.000	1
CalStd7=50	50.000	54.133	4.13	8.27	.00358	.000	1
CalStd5=10	10.000	9.8320	-.168	-1.68	.00076	.000	1
CalStd4=5	5.0000	4.7717	-.228	-4.57	.00044	.000	1
CalStd8=100	100.00	98.303	-1.70	-1.70	.00638	.000	1
CalStd9=100	1000.0	962.04	-38.0	-3.80	.06123	.000	1
CalStd3=1	1.0000	.08711	-.913	-91.3	.00014	.000	1
CalStd10=10	10000.	10313.	313.	3.13	.65569	.001	1

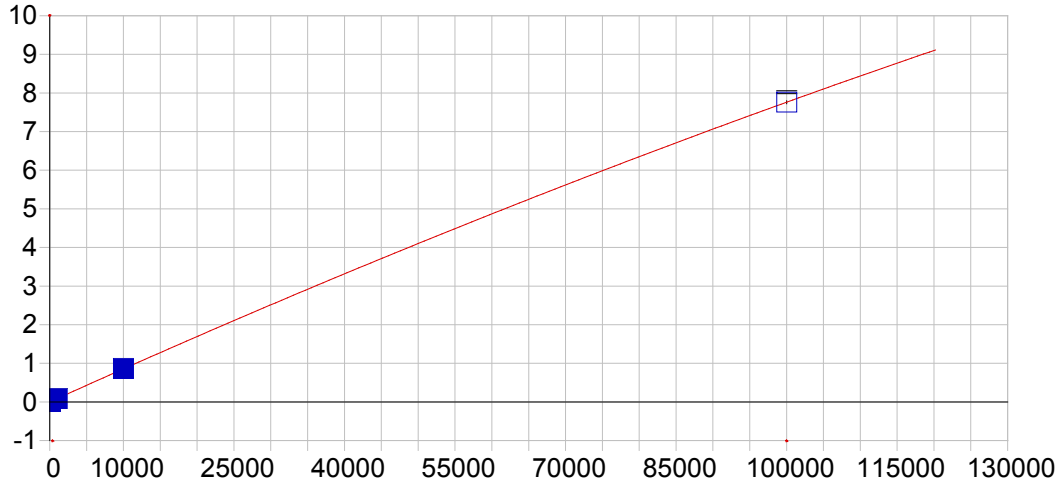


Co 238.892 {141}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999369	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	1.133130		
Predicted MQL:	3.777099		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.94942	.949	.000	.00000	.000	1
CalStd9=100	1000.0	971.20	-28.8	-2.88	.00180	.000	1
CalStd10=10	10000.	10521.	521.	5.21	.01947	.000	1
CalStd8=100	100.00	99.646	-.354	-.354	.00018	.000	1

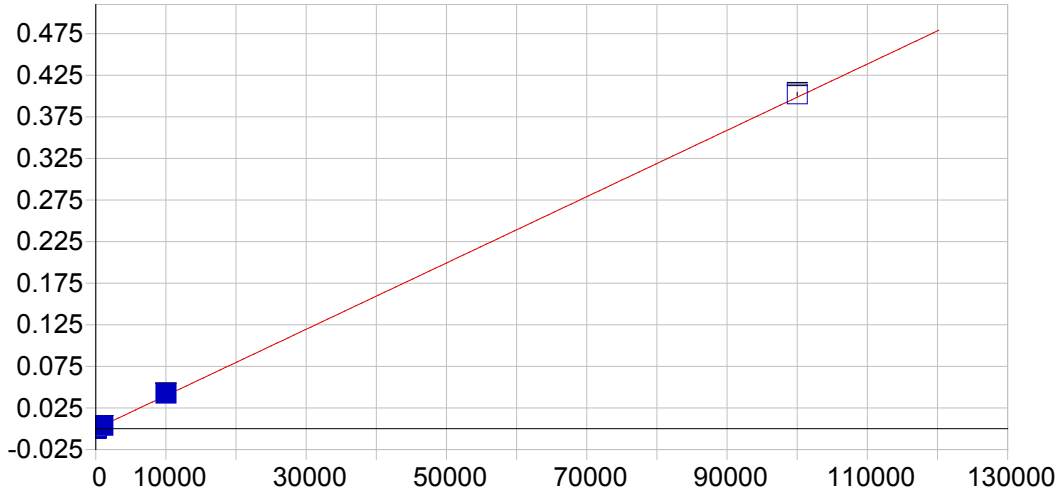


Cr 205.560 {464}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000190	Re-Slope:	1.000000
A1 (Gain):	0.000086	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.370892		
Predicted MQL:	1.236306		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00033	-.000	.000	-.00019	.000	1
CalStd5=10	10.000	10.412	.412	4.12	.00071	.000	1
CalStd7=50	50.000	53.531	3.53	7.06	.00444	.000	1
CalStd9=100	1000.0	937.87	-62.1	-6.21	.08081	.000	1
CalStd8=100	100.00	95.667	-4.33	-4.33	.00808	.000	1
CalStd4=5	5.0000	5.4871	.487	9.74	.00028	.000	1
CalStd3=1	1.0000	1.2160	.216	21.6	-.00009	.000	1
CalStd10=10	10000.	10069.	69.3	.693	.86138	.003	1
CalStd12=10	100000.	99992.	-7.75	-.008	7.7607	.037	1

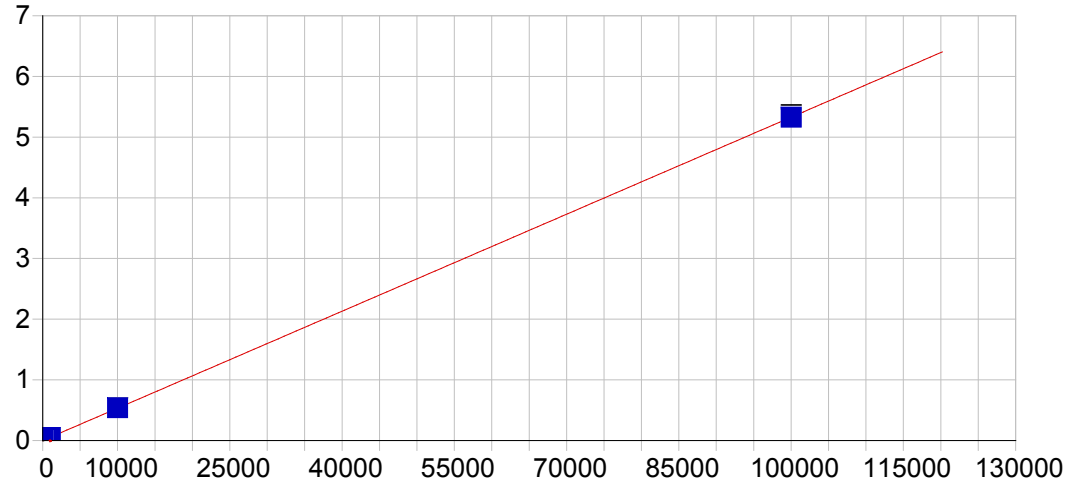


Cr 267.716 {126}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999778	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.757931		
Predicted MQL:	2.526435		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.60922	-.609	.000	-.00000	.000	1
CalStd5=10	10.000	10.313	.313	3.13	.00004	.000	1
CalStd7=50	50.000	54.563	4.56	9.13	.00022	.000	1
CalStd9=100	1000.0	986.19	-13.8	-1.38	.00393	.000	1
CalStd8=100	100.00	99.746	-.254	-.254	.00040	.000	1
CalStd4=5	5.0000	4.9987	-.001	-.025	.00002	.000	1
CalStd10=10	10000.	10685.	685.	6.85	.04259	.000	1
CalStd12=10	100000.	100940.	938.	.938	.40232	.002	1

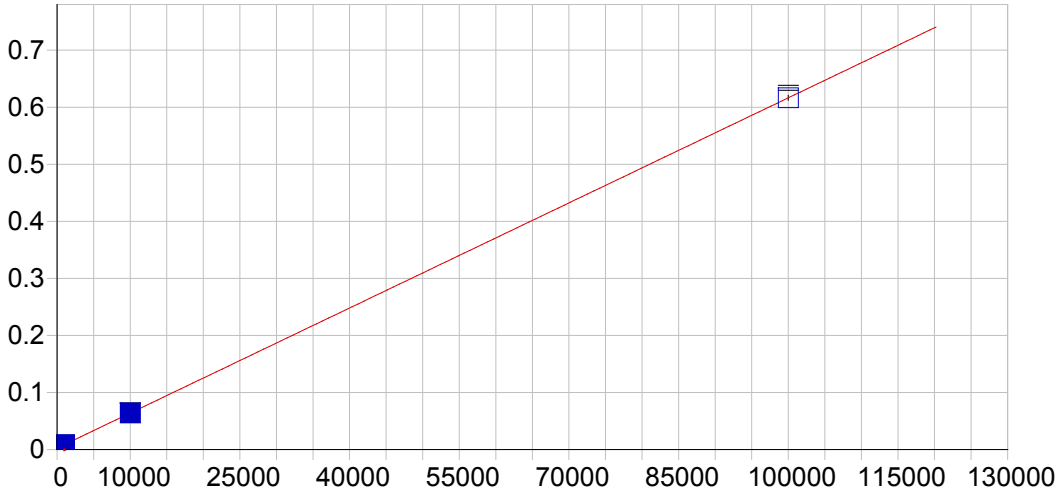


Cu 224.700 {450}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000135	Re-Slope:	1.000000
A1 (Gain):	0.000053	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.954193		
Predicted MQL:	3.180642		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00101	-.001	.000	.00013	.000	1
CalStd9=100	1000.0	950.16	-49.8	-4.98	.05074	.000	1
CalStd7=50	50.000	54.091	4.09	8.18	.00302	.000	1
CalStd8=100	100.00	97.664	-2.34	-2.34	.00533	.000	1
CalStd5=10	10.000	11.000	1.000	10.00	.00072	.000	1
CalStd10=10	10000.	10112.	112.	1.12	.53801	.001	1
CalStd4=5	5.0000	5.5092	.509	10.2	.00043	.000	1
CalStd6=20	20.000	21.153	1.15	5.76	.00126	.000	1
CalStd3=1	1.0000	1.7347	.735	73.5	.00023	.000	1
CalStd12=10	100000.	99933.	-67.1	-.067	5.3406	.028	1

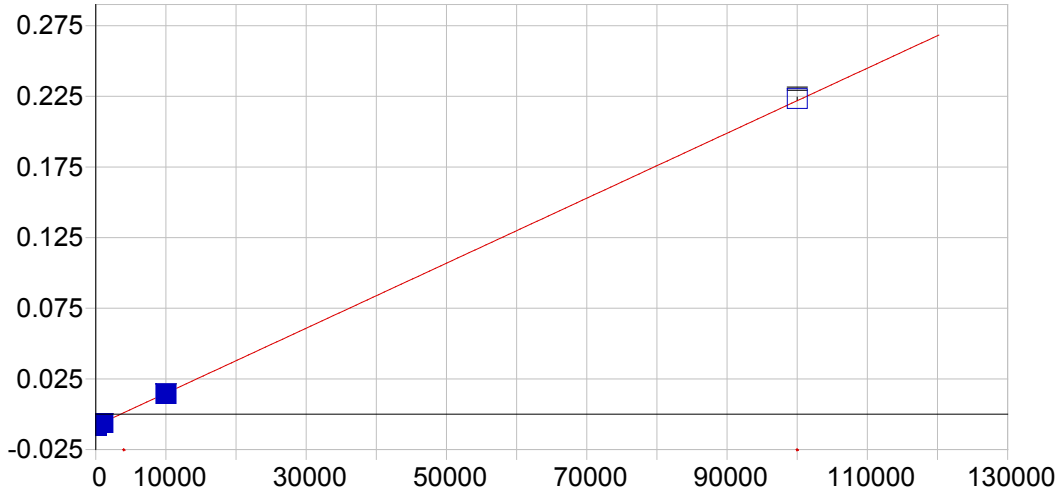


Cu 324.754 {104}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.002501	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000175		
Predicted MDL:	2.718838		
Predicted MQL:	9.062794		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.4432	2.44	.000	.00252	.000	1
CalStd9=100	1000.0	960.65	-39.4	-3.94	.00840	.000	1
CalStd8=100	100.00	112.52	12.5	12.5	.00319	.000	1
CalStd10=10	10000.	10027.	26.7	.267	.06405	.001	1
CalStd12=10	100000.	99998.	-2.29	-.002	.61643	.004	1

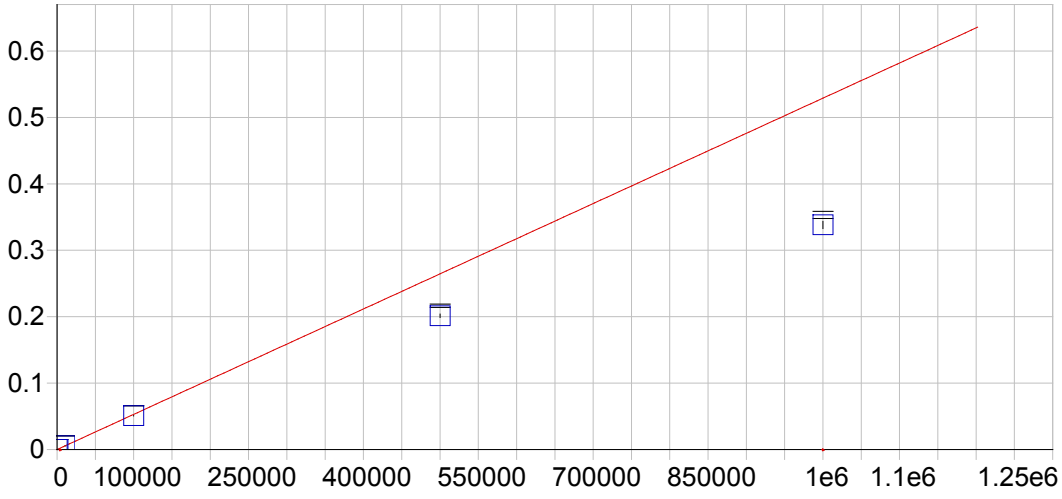


Cu 327.396 {103}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.008145	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997894	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	17.610335		
Predicted MQL:	58.701116		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.11993	.120	.000	-.00815	.000	1
CalStd6=20	20.000	-50.358	-70.4	-352.	-.00826	.000	1
CalStd7=50	50.000	-26.164	-76.2	-152.	-.00821	.000	1
CalStd8=100	100.00	26.843	-73.2	-73.2	-.00808	.000	1
CalStd9=100	1000.0	788.61	-211.	-21.1	-.00633	.000	1
CalStd10=10	10000.	9815.9	-184.	-1.84	.01444	.000	1
CalStd12=10	100000.	100620.	615.	.615	.22334	.001	1

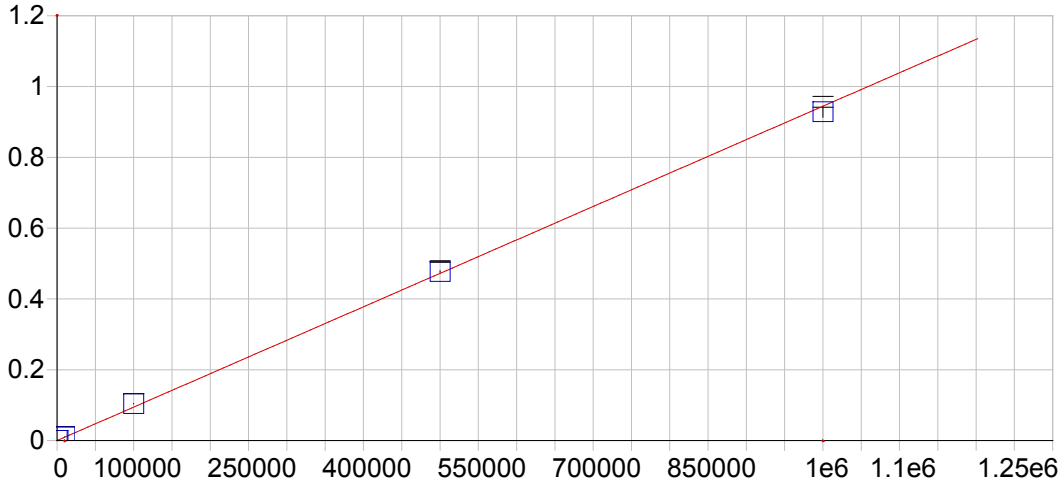


Fe 234.349 {144}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999472	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	1.901956		
Predicted MQL:	6.339854		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.9387	6.94	.000	.00003	.000	1
CalStd10=10	10000.	10365.	365.	3.65	.00551	.000	1
CalStd13=10	100000.	95964.	-4040.	-4.04	.05079	.000	1
CalStd14=50	500000.	380570.	-119000.	-23.9	.20135	.003	1
CalStd9=100	1000.0	967.90	-32.1	-3.21	.00054	.000	1
CalibStd15=	1000000.	639220.	-361000.	-36.1	.33817	.005	1

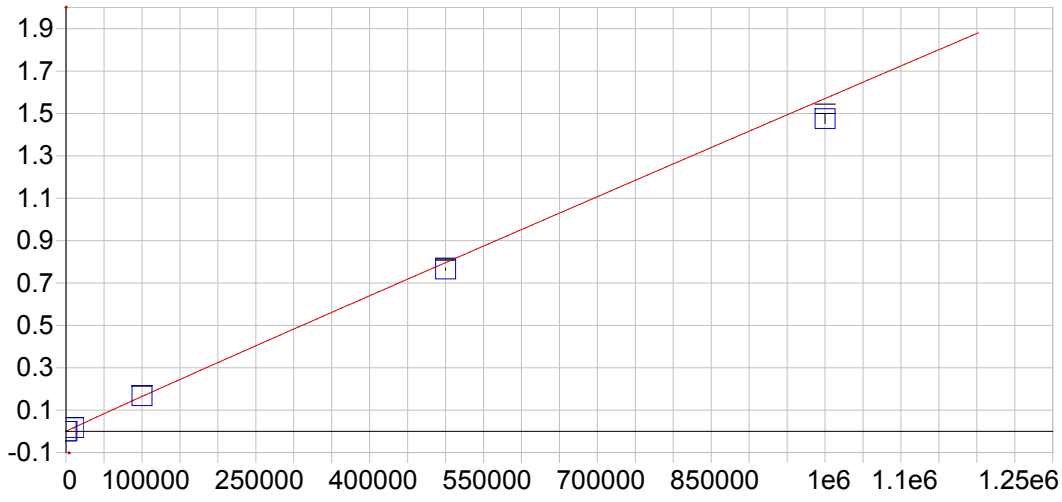


Fe 239.562 {140}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999521	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	6.354052		
Predicted MQL:	21.180172		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.23855	-.239	.000	.00001	.000	1
CalStd10=10	10000.	11183.	1180.	11.8	.01057	.000	1
CalStd13=10	100000.	110290.	10300.	10.3	.10418	.000	1
CalStd14=50	500000.	505400.	5400.	1.08	.47734	.002	1
CalStd9=100	1000.0	1023.4	23.4	2.34	.00098	.000	1
CalibStd15=	1000000.	983100.	-16900.	-1.69	.92852	.015	1

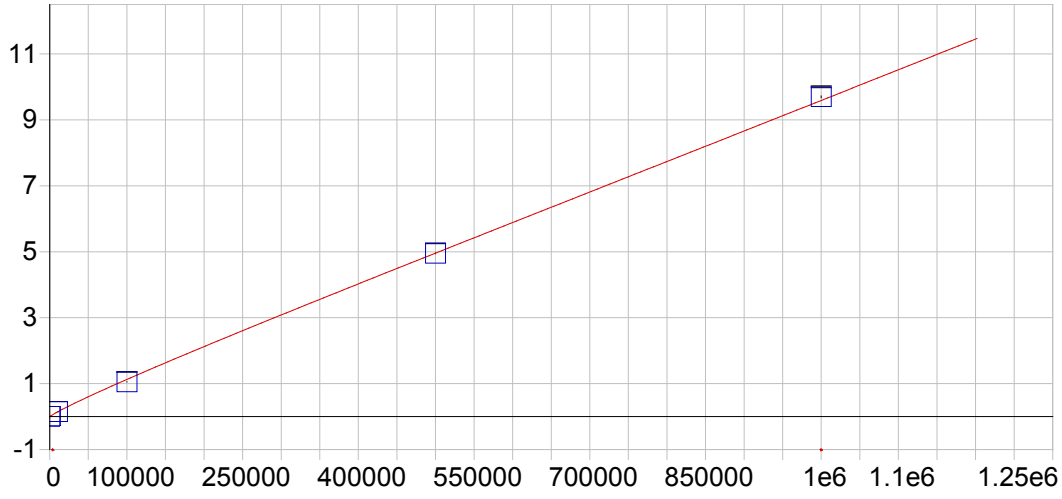


Fe 259.940 {129}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.980000		
Correlation:	0.999955	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	3.581732		
Predicted MQL:	11.939108		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.13551	.136	.000	-.00000	.000	1
CalStd10=10	10000.	9671.9	-328.	-3.28	.01667	.000	1
CalStd13=10	100000.	101790.	1790.	1.79	.16732	.000	1
CalStd14=50	500000.	480260.	-19700.	-3.95	.76536	.005	1
CalStd9=100	1000.0	848.21	-152.	-15.2	.00153	.000	1
CalibStd15=	1000000.	937960.	-62000.	-6.20	1.4749	.022	1

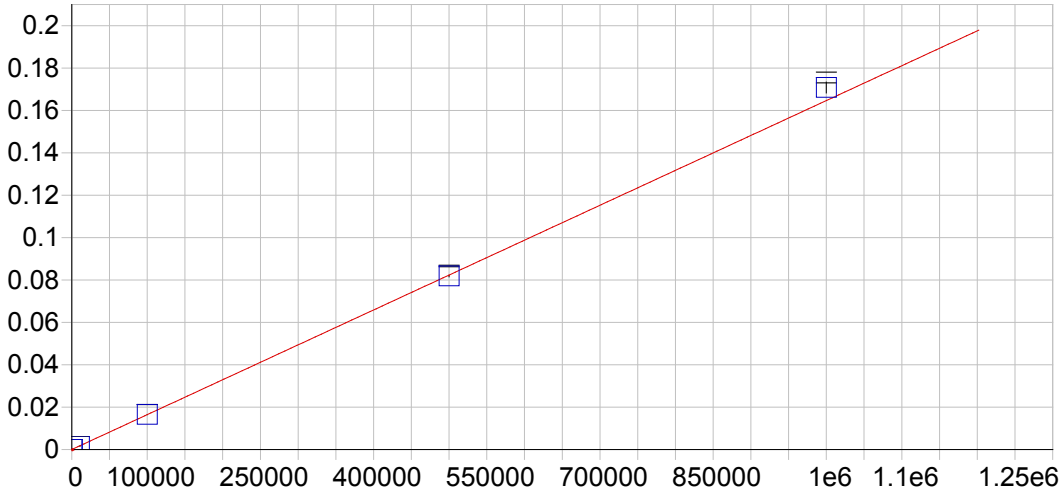


Mg 202.582 {466}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	-0.000323	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.900000		
Correlation:	0.998091	Status:	Warning Positive Curvature
Std Error of Est:	0.004297		
Predicted MDL:	1.302034		
Predicted MQL:	4.340113		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	40.079	40.1	.000	.00065	.000	1
CalStd13=10	100000.	92594.	-7410.	-7.41	1.0510	.003	1
CalStd10=10	10000.	10498.	498.	4.98	.14664	.000	1
CalStd14=50	500000.	499150.	-852.	-.170	4.9505	.011	1
CalStd9=100	1000.0	808.37	-192.	-19.2	.01428	.000	1
CalibStd15=	1000000.	1011800.	11800.	1.18	9.6998	.028	1

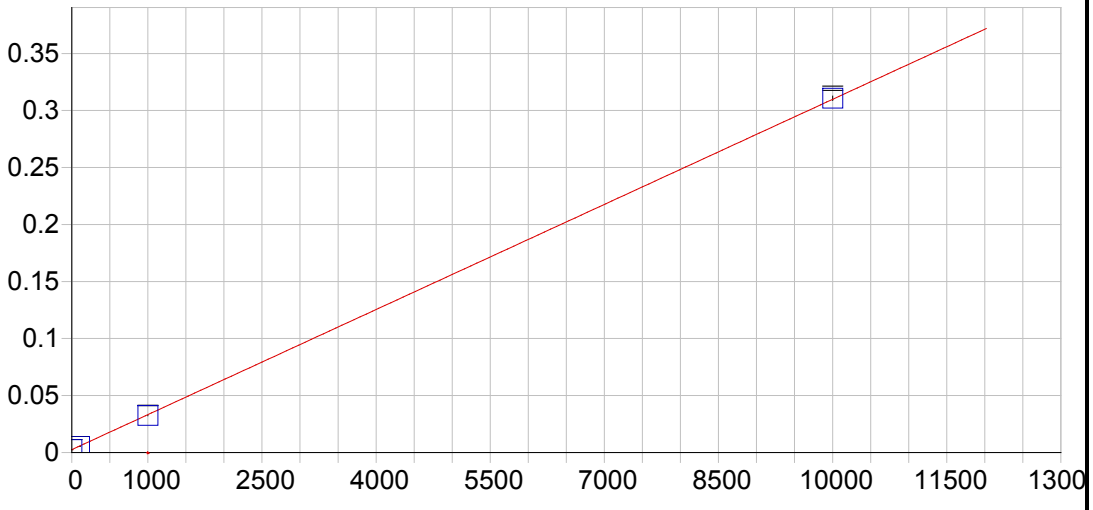


Mg 279.079 {121}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	27.916738		
Predicted MQL:	93.055793		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	25.694	25.7	.000	.00001	.000	1
CalStd13=10	100000.	100220.	217.	.217	.01651	.000	1
CalStd10=10	10000.	10009.	9.44	.094	.00166	.000	1
CalStd14=50	500000.	497180.	-2820.	-.563	.08187	.000	1
CalStd9=100	1000.0	937.86	-62.1	-6.21	.00017	.000	1
CalibStd15=	1000000.	1037500.	37500.	3.75	.17083	.003	1

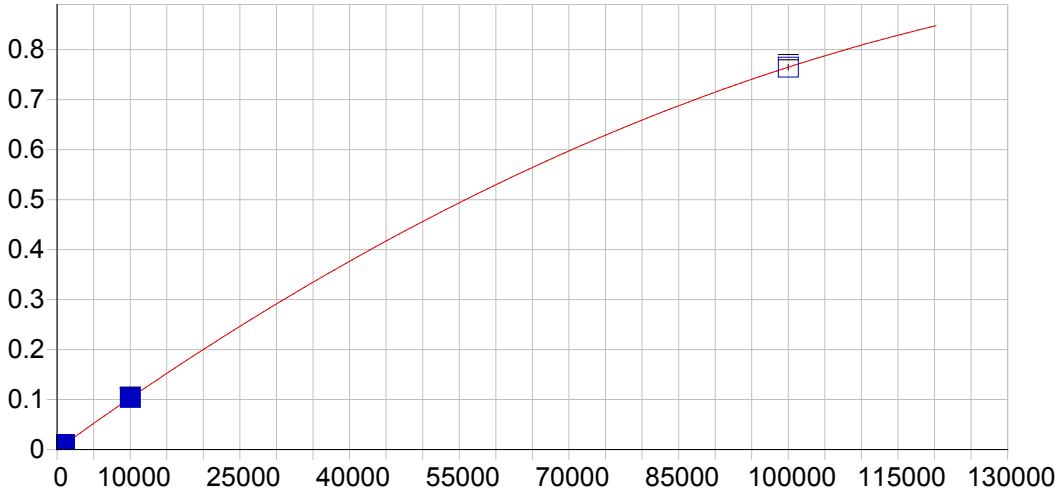


Mg 280.270 {120}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002528	Re-Slope:	1.000000
A1 (Gain):	0.000031	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.054664		
Predicted MQL:	0.182214		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00689	.007	.000	.00253	.000	1
CalStd9=100	1000.0	974.95	-25.0	-2.50	.03249	.000	1
CalStd10=10	10000.	10030.	29.7	.297	.31075	.002	1
CalStd8=100	100.00	95.319	-4.68	-4.68	.00546	.000	1

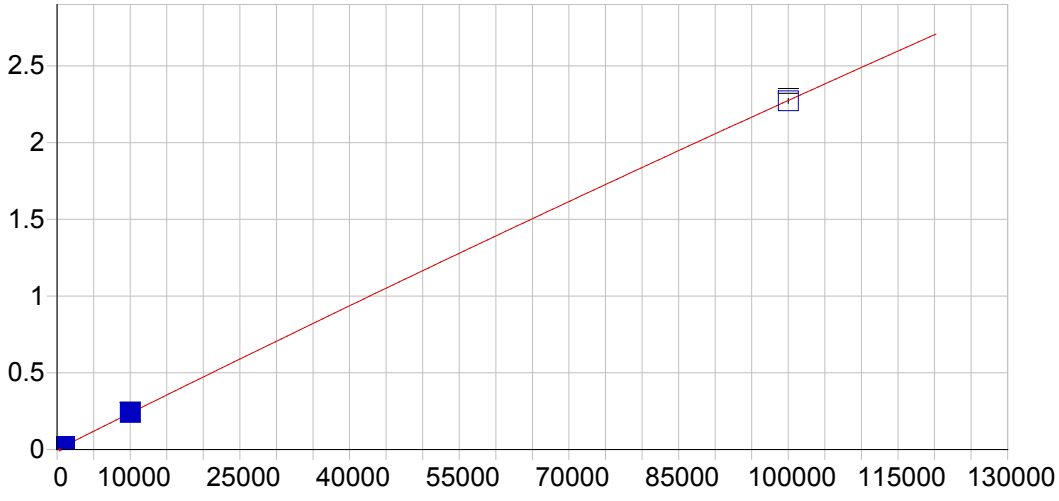


Mn 257.610 {131}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.131811		
Predicted MQL:	0.439370		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00031	-.000	.000	.00000	.000	1
CalStd5=10	10.000	9.9694	-.031	-.306	.00011	.000	1
CalStd7=50	50.000	53.281	3.28	6.56	.00057	.000	1
CalStd6=20	20.000	20.582	.582	2.91	.00022	.000	1
CalStd8=100	100.00	95.992	-4.01	-4.01	.00102	.000	1
CalStd4=5	5.0000	5.3527	.353	7.05	.00006	.000	1
CalStd9=100	1000.0	932.44	-67.6	-6.76	.00986	.000	1
CalStd10=10	10000.	10078.	78.1	.781	.10380	.001	1
CalStd12=10	100000.	99985.	-15.1	-.015	.76491	.005	1

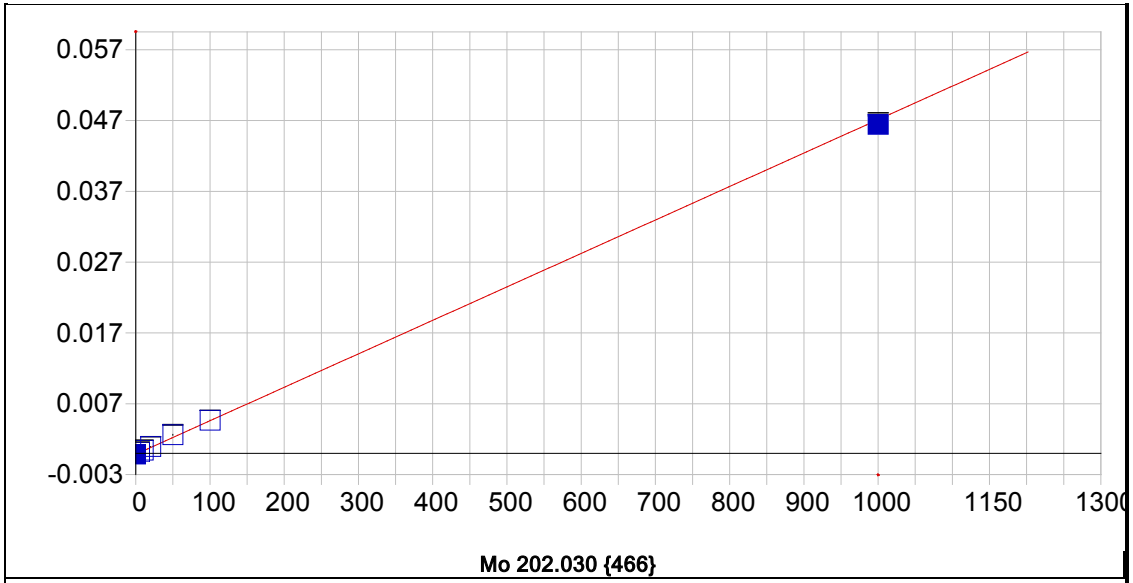


Mn 259.373 {130}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999791	Status:	OK.
Std Error of Est:	0.000066		
Predicted MDL:	0.367279		
Predicted MQL:	1.224264		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02401	.024	.000	.00002	.000	1
CalStd10=10	10000.	10154.	154.	1.54	.24146	.002	1
CalStd9=100	1000.0	945.27	-54.7	-5.47	.02259	.000	1
CalStd12=10	100000.	99877.	-123.	-.123	2.2720	.016	1

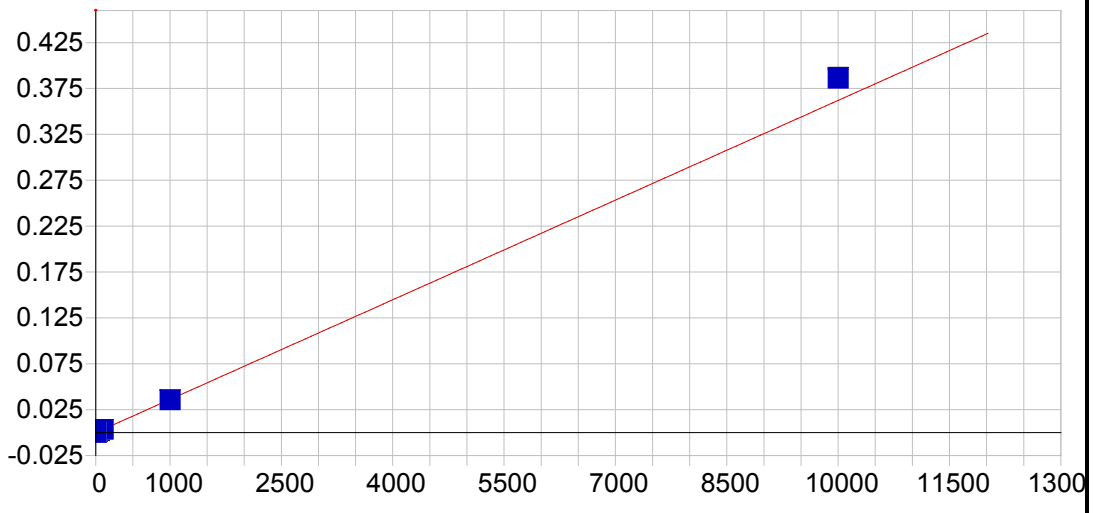


Mo 202.030 {466}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000129	Re-Slope:	1.000000
A1 (Gain):	0.000047	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998986	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.747518		
Predicted MQL:	2.491727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00357	-.004	.000	-.00013	.000	1
CalStd7=50	50.000	57.884	7.88	15.8	.00261	.000	1
CalStd6=20	20.000	22.484	2.48	12.4	.00093	.000	1
CalStd5=10	10.000	11.560	1.56	15.6	.00042	.000	1
CalStd8=100	100.00	101.13	1.13	1.13	.00465	.000	1
CalStd4=5	5.0000	6.3937	1.39	27.9	.00017	.000	1
CalStd9=100	1000.0	985.55	-14.4	-1.44	.04645	.000	1

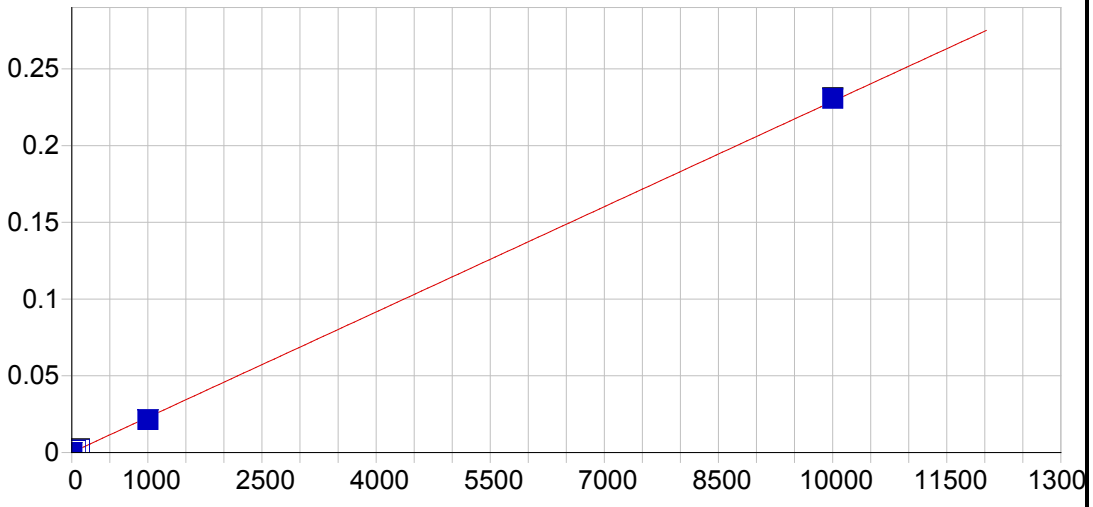


Mo 204.598 {464}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000086	Re-Slope:	1.000000
A1 (Gain):	0.000036	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999460	Status:	OK.
Std Error of Est:	0.000184		
Predicted MDL:	1.121947		
Predicted MQL:	3.739822		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.6861	-1.69	.000	-.00015	.000	1
CalStd7=50	50.000	55.385	5.38	10.8	.00192	.000	1
CalStd6=20	20.000	20.522	.522	2.61	.00066	.000	1
CalStd5=10	10.000	9.0568	-.943	-9.43	.00024	.000	1
CalStd8=100	100.00	99.768	-.232	-.232	.00353	.000	1
CalStd4=5	5.0000	3.5033	-1.50	-29.9	.00004	.000	1
CalStd9=100	1000.0	984.88	-15.1	-1.51	.03558	.000	1
CalStd10=10	10000.	10664.	664.	6.64	.38606	.001	1

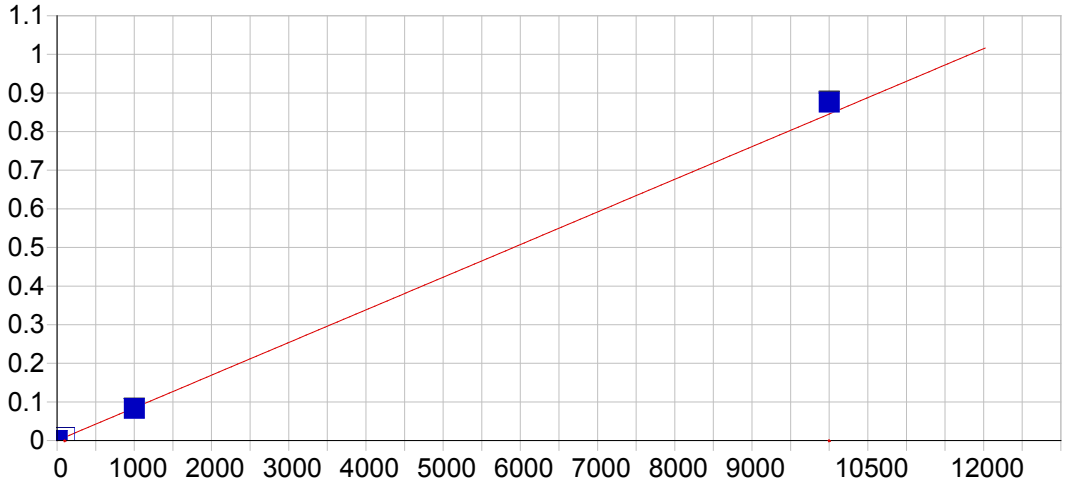


Mo 204.598 {465}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000095	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999702	Status:	OK.
Std Error of Est:	0.000156		
Predicted MDL:	1.559713		
Predicted MQL:	5.199044		

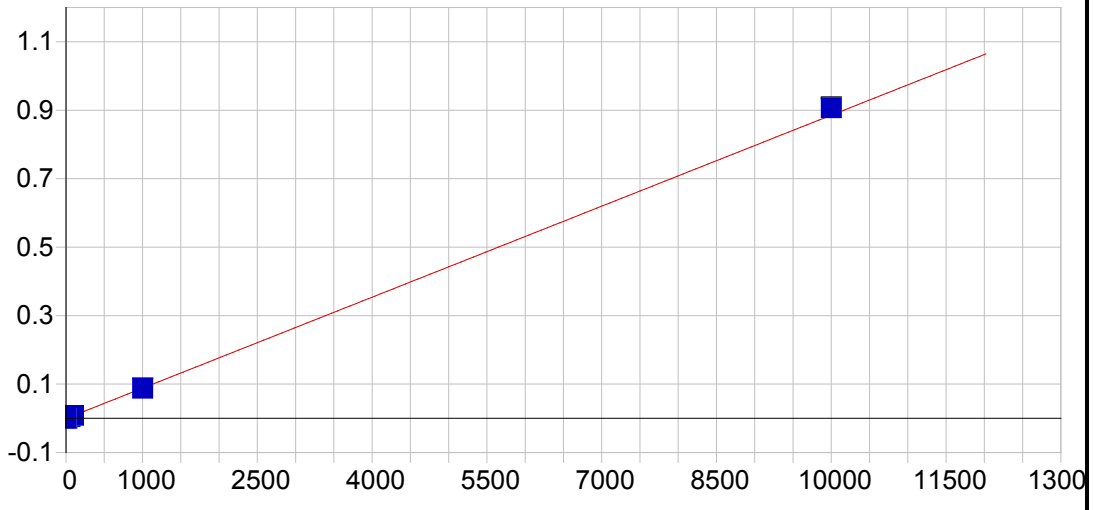
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.37128	.371	.000	.00010	.000	1
CalStd9=100	1000.0	929.99	-70.0	-7.00	.02137	.000	1
CalStd10=10	10000.	10084.	84.1	.841	.23079	.000	1
CalStd7=50	50.000	53.380	3.38	6.76	.00132	.000	1
CalStd8=100	100.00	96.508	-3.49	-3.49	.00230	.000	1



Ni 221.647 {452}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000159		Re-Slope:	1.000000	
A1 (Gain):	0.000085		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999642		Status:	OK.	
Std Error of Est:	0.000644				
Predicted MDL:	0.775656				
Predicted MQL:	2.585521				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.16678	.167	.000	.00017	.000	1
CalStd10=10	10000.	10358.	358.	3.58	.87584	.003	1
CalStd8=100	100.00	100.66	.664	.664	.00867	.000	1
CalStd9=100	1000.0	981.08	-18.9	-1.89	.08310	.000	1

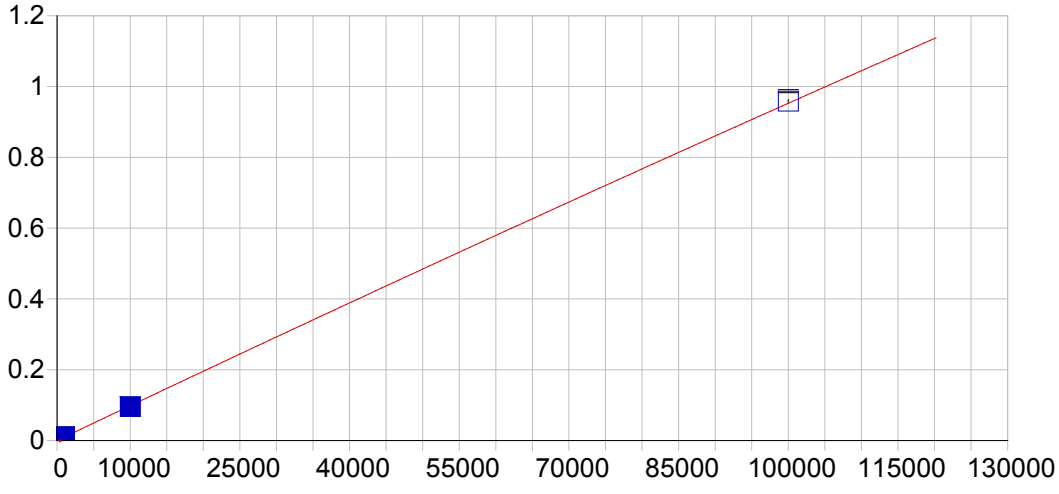


Ni 231.604 {445}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000556	Re-Slope:	1.000000
A1 (Gain):	0.000089	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000219		
Predicted MDL:	0.755658		
Predicted MQL:	2.518859		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.7614	-1.76	.000	-.00071	.000	1
CalStd7=50	50.000	56.059	6.06	12.1	.00441	.000	1
CalStd5=10	10.000	9.4629	-.537	-5.37	.00028	.000	1
CalStd8=100	100.00	100.59	.586	.586	.00836	.000	1
CalStd4=5	5.0000	3.8553	-1.14	-22.9	-.00021	.000	1
CalStd9=100	1000.0	996.06	-3.94	-.394	.08768	.000	1
CalStd3=1	1.0000	-.11104	-1.11	-111.	-.00057	.000	1
CalStd10=10	10000.	10243.	243.	2.43	.90678	.002	1

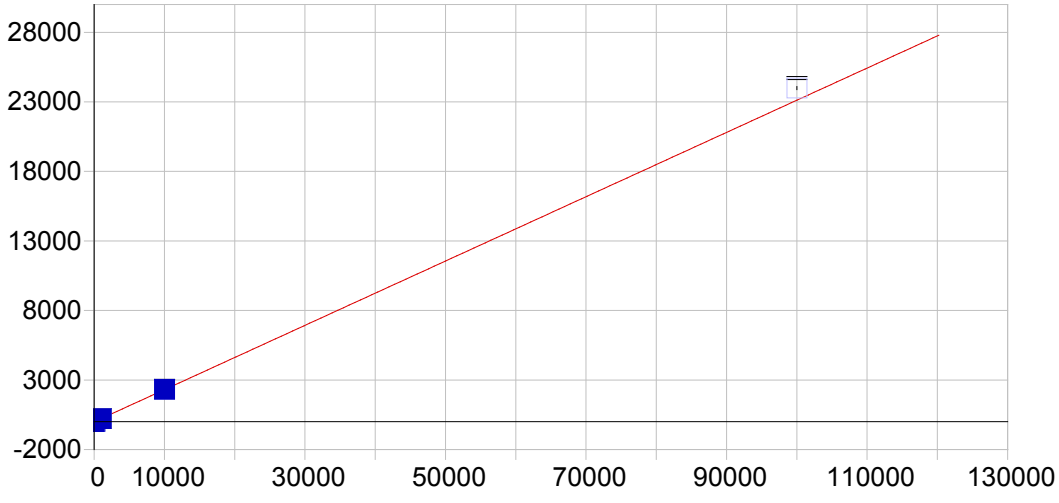


Pb 216.999 {455}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000232	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999130	Status:	OK.
Std Error of Est:	0.000490		
Predicted MDL:	5.376960		
Predicted MQL:	17.923199		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-10.401	-10.4	.000	.00013	.000	1
CalStd9=100	1000.0	1065.6	65.6	6.56	.01074	.000	1
CalStd10=10	10000.	9710.1	-290.	-2.90	.09576	.000	1
CalStd8=100	100.00	84.670	-15.3	-15.3	.00107	.000	1
CalStd5=10	10.000	-.97208	-11.0	-110.	.00022	.000	1
CalStd12=10	100000.	100610.	608.	.608	.95843	.004	1

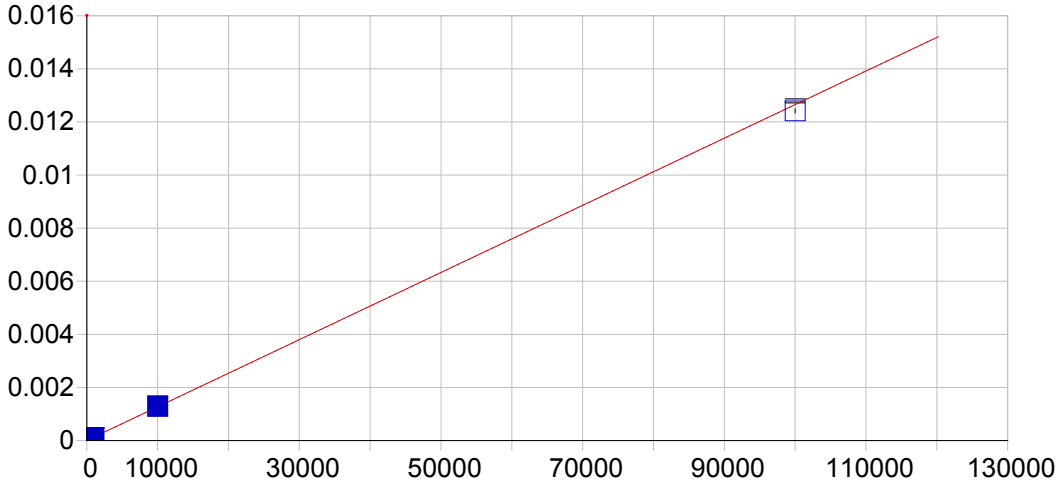


Pb 220.353 {453}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-8.101959	Re-Slope:	1.000000
A1 (Gain):	0.231254	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999667	Status:	OK.
Std Error of Est:	0.054451		
Predicted MDL:	4.740791		
Predicted MQL:	15.802638		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00672	.007	.000	-8.1004	.657	1
CalStd5=10	10.000	6.0695	-3.93	-39.3	-6.6984	.407	1
CalStd8=100	100.00	94.840	-5.16	-5.16	13.830	.753	1
CalStd4=5	5.0000	.67940	-4.32	-86.4	-7.9448	.798	1
CalStd9=100	1000.0	960.39	-39.6	-3.96	213.94	.510	1
CalStd10=10	10000.	10053.	53.0	.530	2316.1	4.99	1
CalStd12=10	100000.	103760.	3760.	3.76	23987.	108.	0

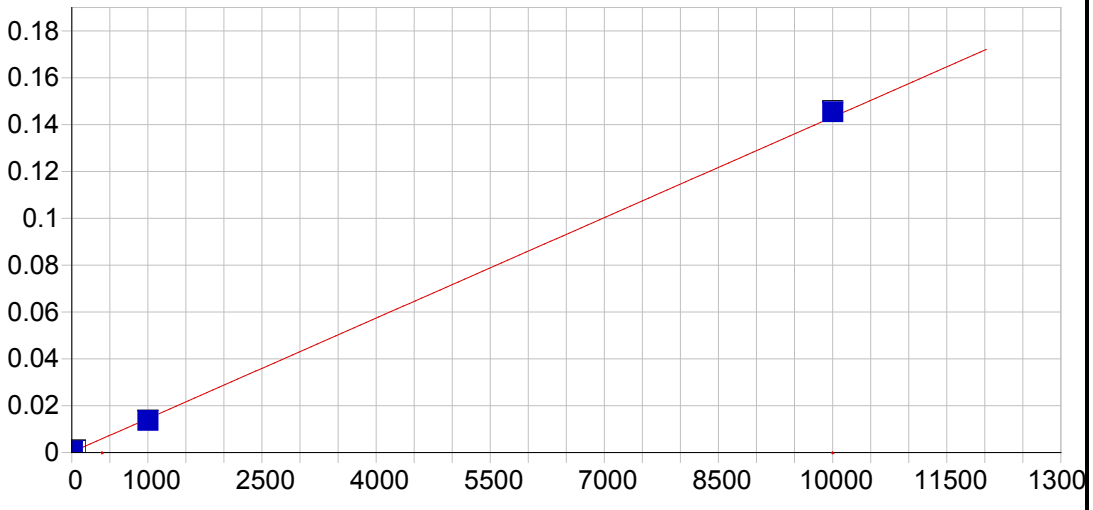


Pb 220.353 {153}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	9.941082		
Predicted MQL:	33.136940		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00956	.010	.000	.00000	.000	1
CalStd9=100	1000.0	924.71	-75.3	-7.53	.00012	.000	1
CalStd10=10	10000.	10067.	67.0	.670	.00128	.000	1
CalStd8=100	100.00	97.098	-2.90	-2.90	.00002	.000	1
CalStd12=10	100000.	98106.	-1890.	-1.89	.01241	.000	1

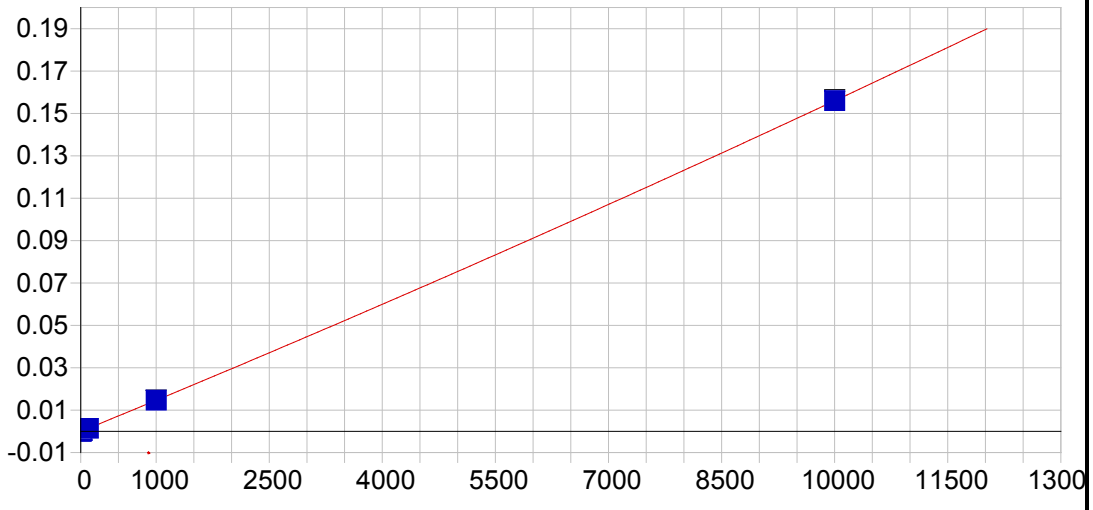


Sb 206.833 {463}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000189	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999490	Status:	OK.
Std Error of Est:	0.000436		
Predicted MDL:	2.751316		
Predicted MQL:	9.171053		

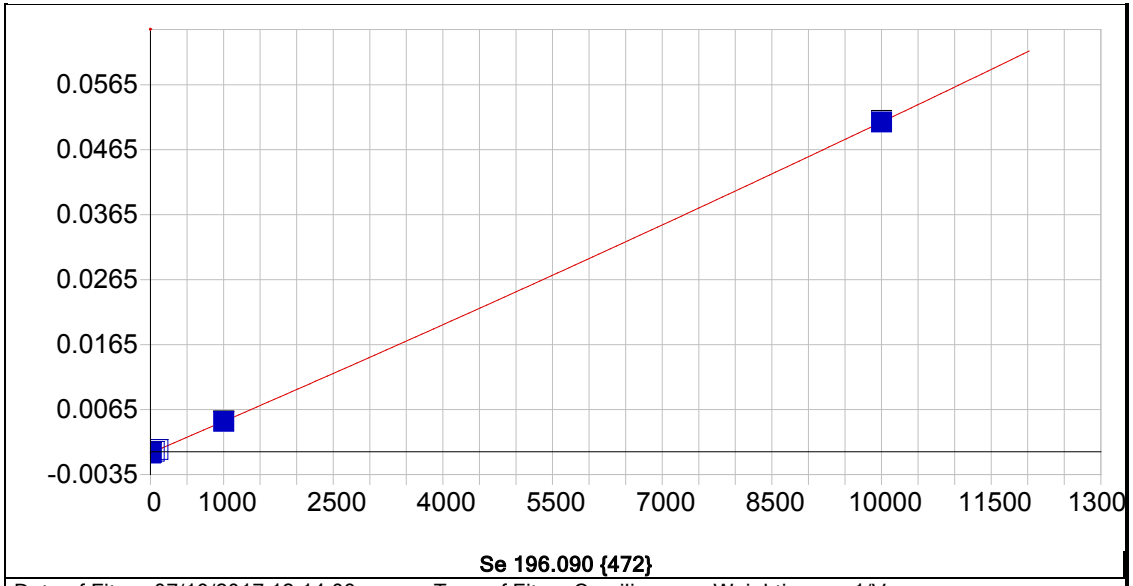
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.4145	7.41	.000	.00030	.000	1
CalStd9=100	1000.0	944.89	-55.1	-5.51	.01371	.000	1
CalStd5=10	10.000	15.949	5.95	59.5	.00042	.000	1
CalStd7=50	50.000	59.881	9.88	19.8	.00105	.000	1
CalStd10=10	10000.	10157.	157.	1.57	.14550	.000	1



Sb 217.581 {455}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var
A0 (Offset):	-0.000056		Re-Slope:	1.000000	
A1 (Gain):	0.000015		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999995		Status:	Warning	Positive Curvature
Std Error of Est:	0.000027				
Predicted MDL:	3.470568				
Predicted MQL:	11.568559				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.3912	-2.39	.000	-.00009	.000	1
CalStd9=100	1000.0	999.43	-.574	-.057	.01465	.000	1
CalStd6=20	20.000	21.179	1.18	5.90	.00025	.000	1
CalStd5=10	10.000	9.8994	-.101	-1.01	.00009	.000	1
CalStd8=100	100.00	103.02	3.02	3.02	.00145	.000	1
CalStd4=5	5.0000	4.7255	-.275	-5.49	.00001	.000	1
CalStd10=10	10000.	10000.	.263	.003	.15614	.000	1

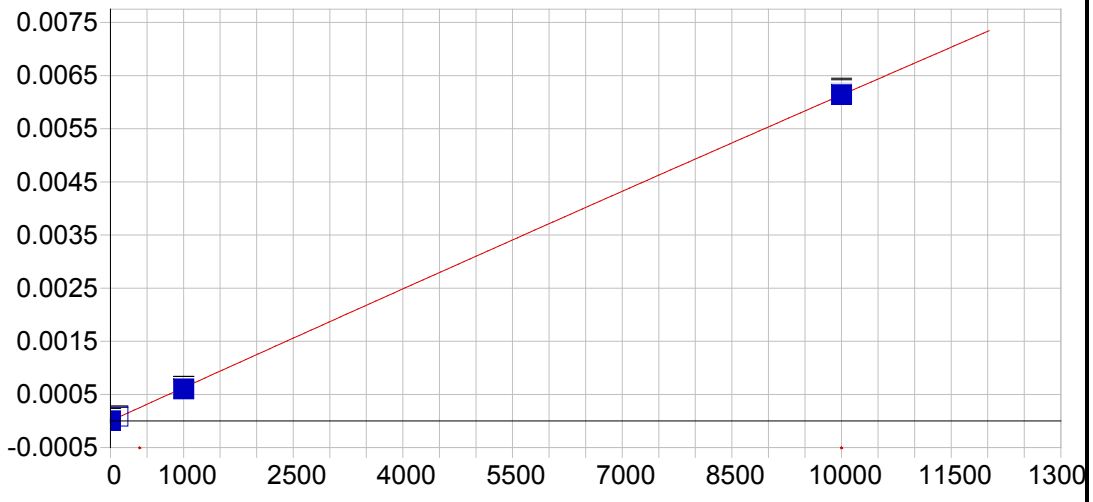


Se 196.090 {472}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000180	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	Warning Positive Curvature
Std Error of Est:	0.000005		
Predicted MDL:	7.101060		
Predicted MQL:	23.670199		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.3549	-6.35	.000	-.00021	.000	1
CalStd7=50	50.000	50.657	.657	1.31	.00007	.000	1
CalStd9=100	1000.0	998.81	-1.19	-.119	.00467	.000	1
CalStd5=10	10.000	9.9876	-.012	-.124	-.00013	.000	1
CalStd8=100	100.00	102.99	2.99	2.99	.00032	.000	1
CalStd10=10	10000.	10000.	.379	.004	.05072	.000	1

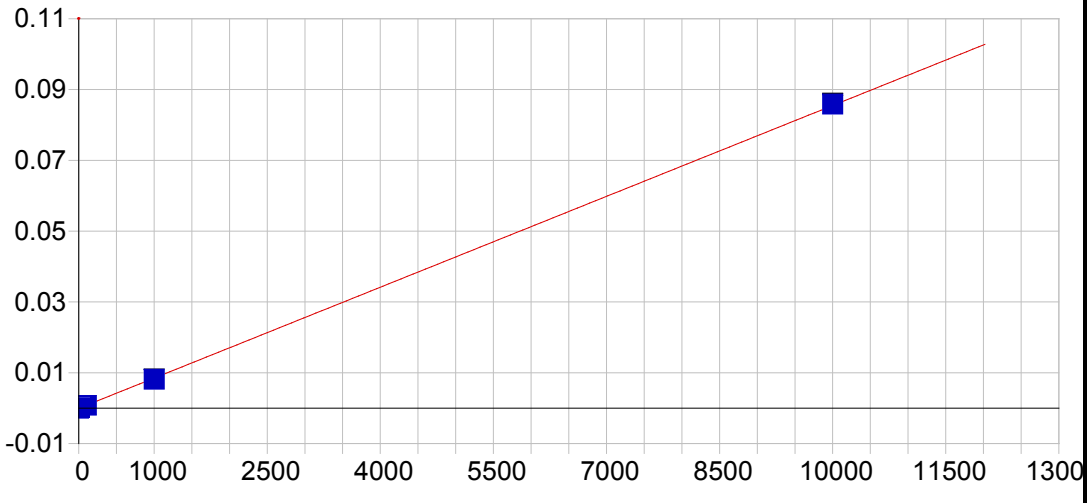


Se 206.279 {463}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999335	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	67.218415		
Predicted MQL:	224.061382		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03193	-.032	.000	.00000	.000	1
CalStd9=100	1000.0	960.64	-39.4	-3.94	.00060	.000	1
CalStd10=10	10000.	10004.	3.71	.037	.00617	.000	1
CalStd8=100	100.00	135.84	35.8	35.8	.00009	.000	1

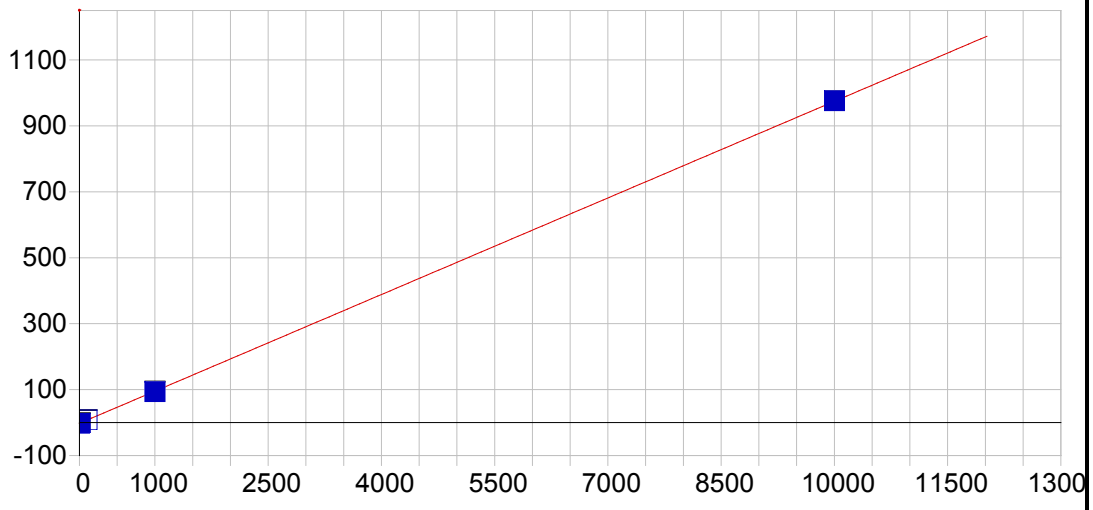


Tl 190.856 {476}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000063	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.645385		
Predicted MQL:	15.484616		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00016	.000	.000	-.00006	.000	1
CalStd9=100	1000.0	956.46	-43.5	-4.35	.00811	.000	1
CalStd8=100	100.00	99.760	-.240	-.240	.00079	.000	1
CalStd5=10	10.000	10.257	.257	2.57	.00002	.000	1
CalStd10=10	10000.	10044.	43.5	.435	.08578	.000	1

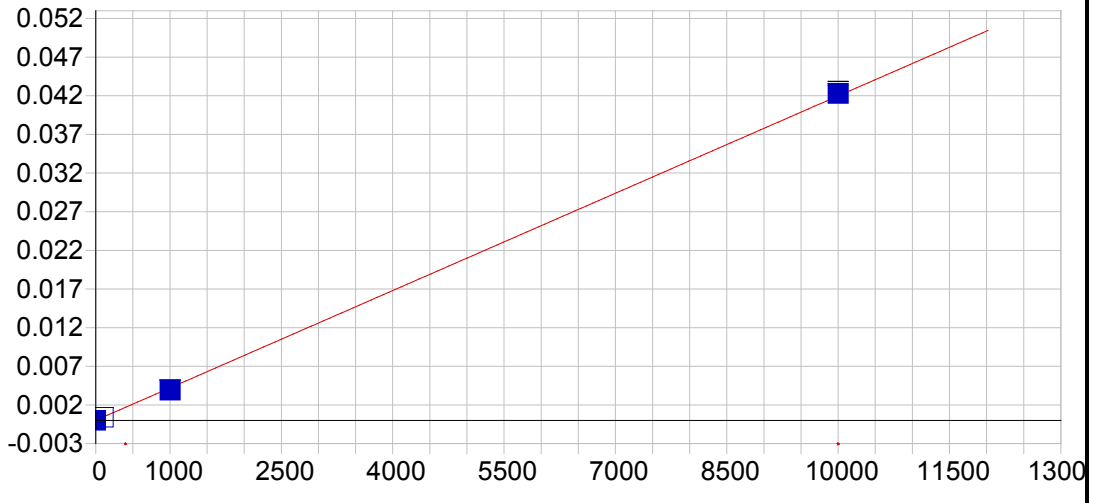


Tl 190.856 {477}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-2.367070	Re-Slope:	1.000000
A1 (Gain):	0.097688	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.008920		
Predicted MDL:	5.297459		
Predicted MQL:	17.658197		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00110	-.001	.000	-2.3672	.289	1
CalStd9=100	1000.0	981.94	-18.1	-1.81	93.540	1.11	1
CalStd8=100	100.00	101.84	1.84	1.84	7.5816	.617	1
CalStd5=10	10.000	11.085	1.08	10.8	-1.2842	.379	1
CalStd10=10	10000.	10015.	15.1	.151	975.82	.557	1

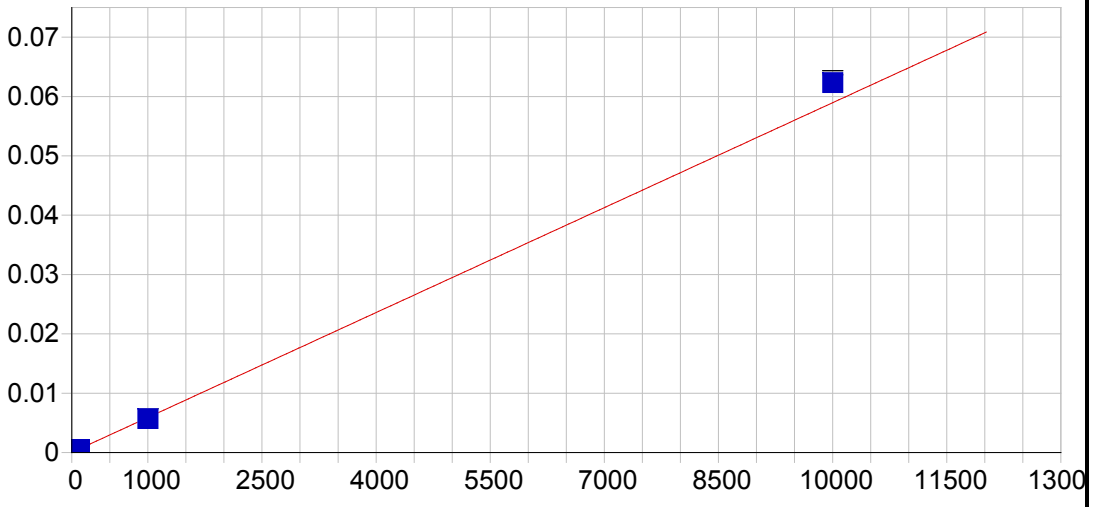


V 290.882 {116}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999748	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	2.724394		
Predicted MQL:	9.081312		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01119	.011	.000	.00000	.000	1
CalStd9=100	1000.0	930.73	-69.3	-6.93	.00391	.000	1
CalStd10=10	10000.	10074.	74.3	.743	.04231	.000	1
CalStd8=100	100.00	94.998	-5.00	-5.00	.00040	.000	1

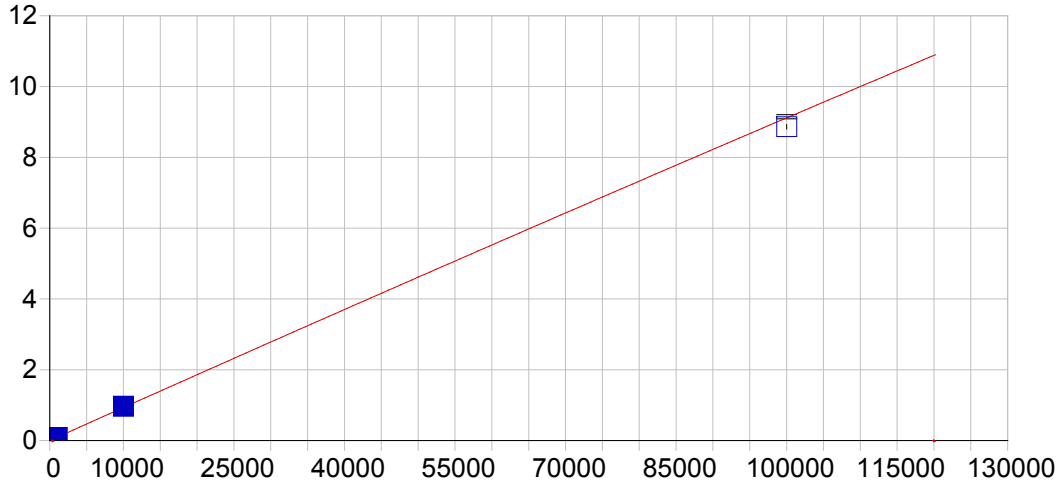


V 292.402 {115}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998810	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	0.694465		
Predicted MQL:	2.314885		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.4055	-1.41	.000	.00001	.000	1
CalStd7=50	50.000	52.845	2.85	5.69	.00033	.000	1
CalStd9=100	1000.0	961.64	-38.4	-3.84	.00568	.000	1
CalStd6=20	20.000	20.461	.461	2.31	.00014	.000	1
CalStd5=10	10.000	8.8466	-1.15	-11.5	.00007	.000	1
CalStd8=100	100.00	96.691	-3.31	-3.31	.00059	.000	1
CalStd10=10	10000.	10571.	571.	5.71	.06229	.000	1

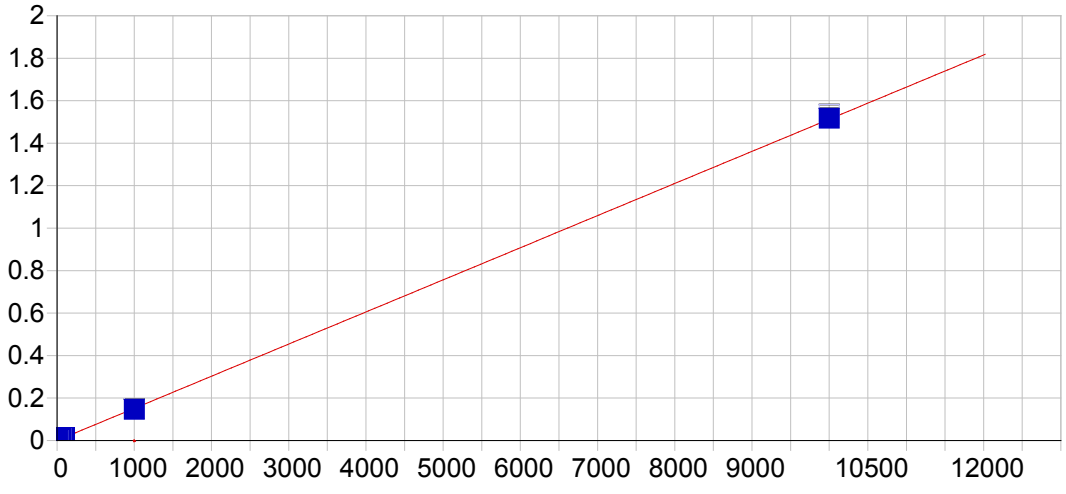


Zn 206.200 {463}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000185	Re-Slope:	1.000000
A1 (Gain):	0.000093	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999576	Status:	OK.
Std Error of Est:	0.001115		
Predicted MDL:	0.507525		
Predicted MQL:	1.691749		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10318.	318.	3.18	.96203	.002	1
Blank	.00000	.50591	.506	.000	.00023	.000	1
CalStd9=100	1000.0	973.96	-26.0	-2.60	.09119	.000	1
CalStd12=10	100000.	97144.	-2860.	-2.86	8.8605	.059	1

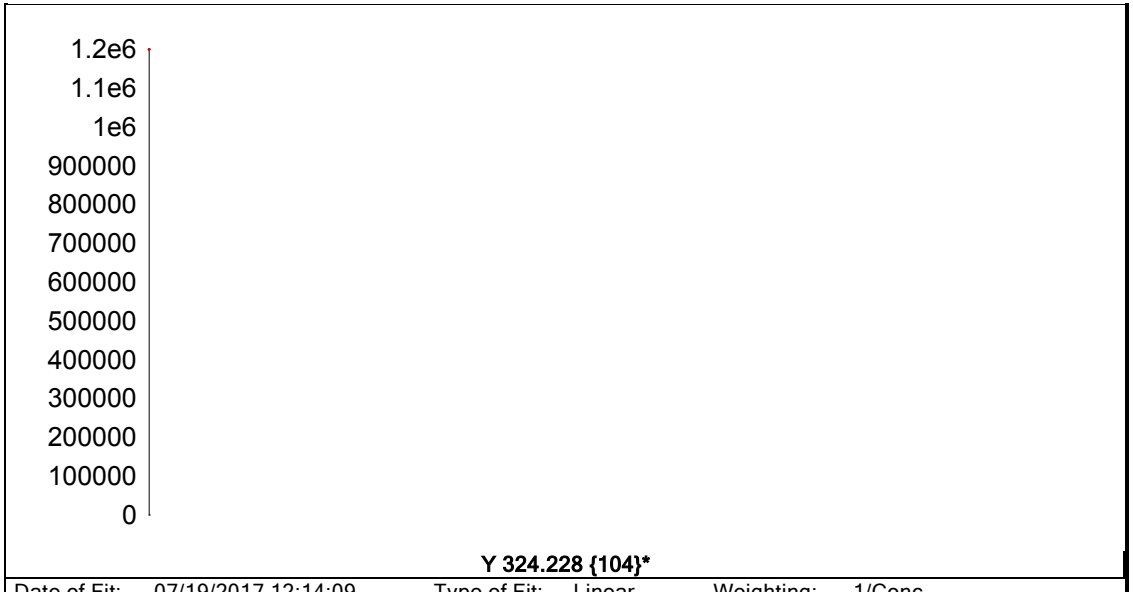


Zn 213.856 {458}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000405	Re-Slope:	1.000000
A1 (Gain):	0.000151	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999913	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.246275		
Predicted MQL:	0.820917		

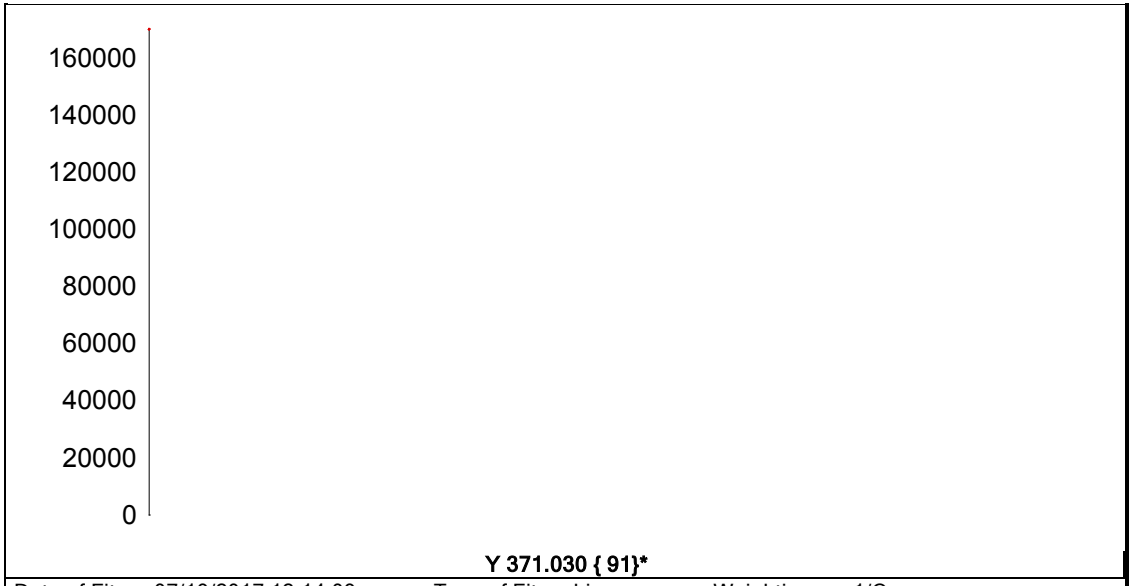
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00134	-.001	.000	.00041	.000	1
CalStd8=100	100.00	99.294	-.706	-.706	.01560	.000	1
CalStd7=50	50.000	55.920	5.92	11.8	.00893	.000	1
CalStd5=10	10.000	10.805	.805	8.05	.00205	.000	1
CalStd9=100	1000.0	967.05	-33.0	-3.30	.14845	.000	1
CalStd4=5	5.0000	5.5336	.534	10.7	.00125	.000	1
CalStd10=10	10000.	10026.	26.4	.264	1.5347	.001	1



Y 324.228 {104}*

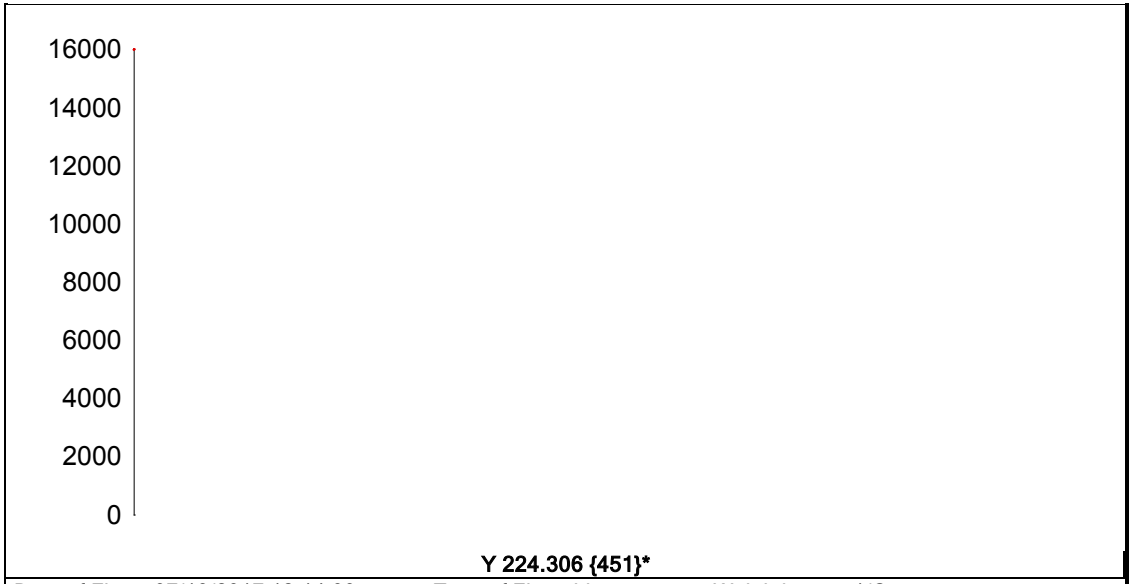
Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1043800.	6600.	1



Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

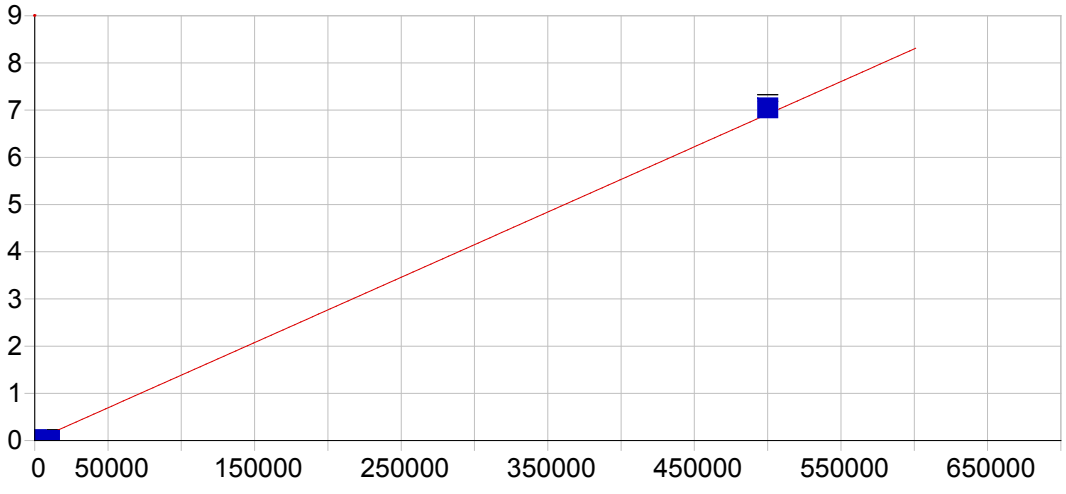
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	160470.	703.	1



Y 224.306 {451}*

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	15137.	64.0	1

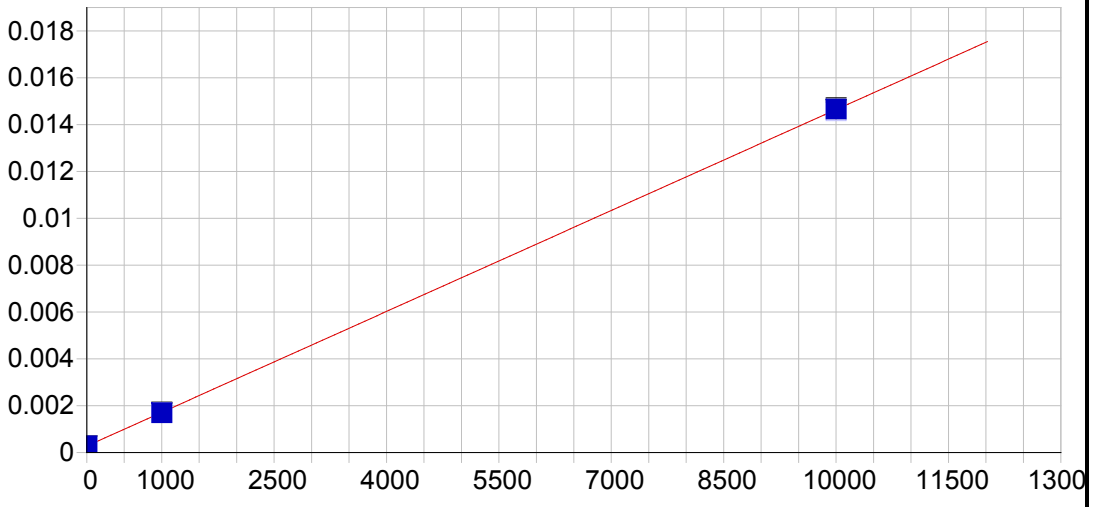


Na 588.995 { 57}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002620	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.991197	Status:	OK.
Std Error of Est:	0.001866		
Predicted MDL:	5.678109		
Predicted MQL:	18.927029		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.89132	.891	.000	.00263	.000	1
CalStd9=100	1000.0	1035.3	35.3	3.53	.01693	.000	1
CalStd14=50	500000.	509420.	9420.	1.88	7.0448	.070	1
CalStd10=10	10000.	545.69	-9450.	-94.5	.01017	.000	1

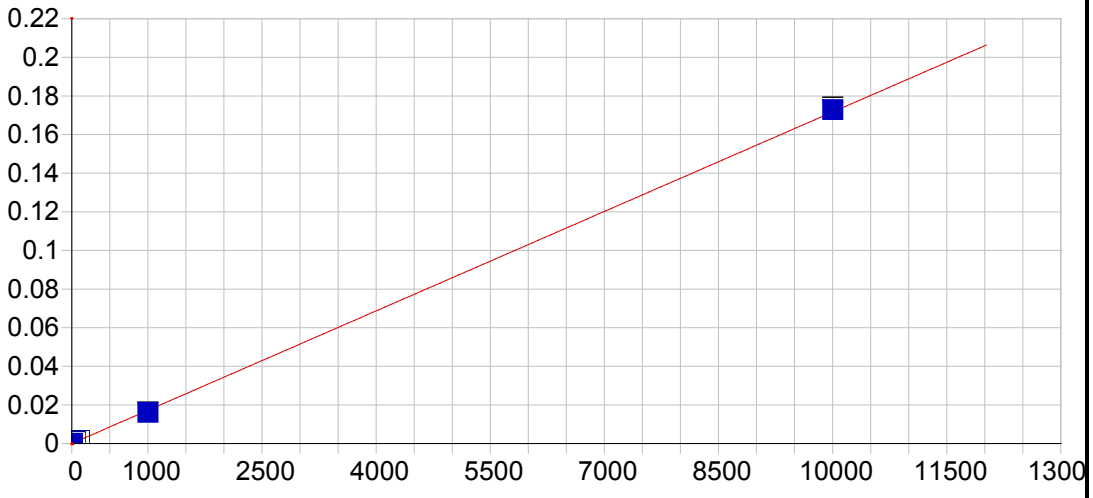


Si 251.611 {134}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000279	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.529420		
Predicted MQL:	18.431399		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01282	.013	.000	.00028	.000	1
CalStd9=100	1000.0	985.74	-14.3	-1.43	.00170	.000	1
CalStd14=50	10000.	10014.	14.4	.144	.01459	.000	1

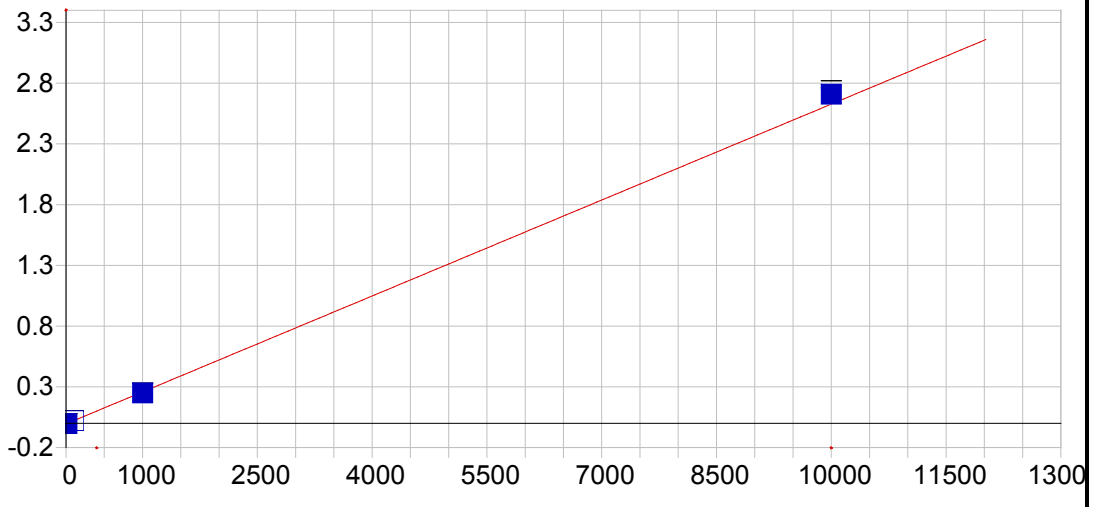


Ti 334.941 {101}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000031	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999758	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.722296		
Predicted MQL:	2.407654		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	.00003	.000	1
CalStd5=10	10.000	10.502	.502	5.02	.00021	.000	1
CalStd8=100	100.00	94.045	-5.96	-5.96	.00165	.000	1
CalStd9=100	1000.0	933.57	-66.4	-6.64	.01606	.000	1
CalStd10=10	10000.	10069.	69.2	.692	.17289	.001	1
CalStd7=50	50.000	52.657	2.66	5.31	.00093	.000	1
CalStd4=5	5.0000	5.0060	.006	.119	.00012	.000	1

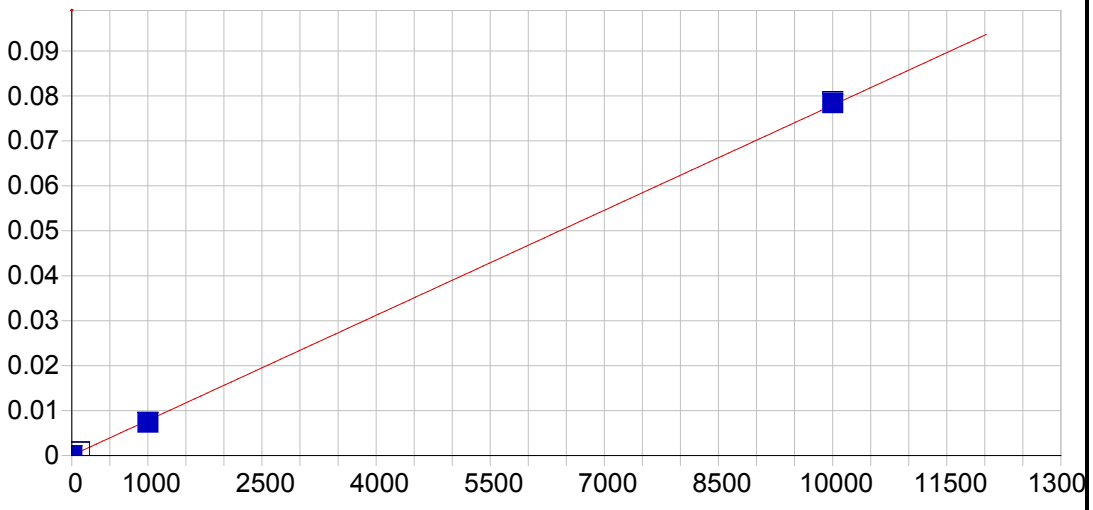


Sr 407.771 { 83}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.005280	Re-Slope:	1.000000
A1 (Gain):	0.000263	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999584	Status:	OK.
Std Error of Est:	0.000117		
Predicted MDL:	0.136922		
Predicted MQL:	0.456405		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.09641	-.096	.000	-.00531	.000	1
CalStd3=1	1.0000	.35816	-.642	-64.2	-.00519	.000	1
CalStd4=5	5.0000	5.2894	.289	5.79	-.00389	.000	1
CalStd5=10	10.000	10.172	.172	1.72	-.00260	.000	1
CalStd8=100	100.00	98.894	-1.11	-1.11	.02076	.000	1
CalStd9=100	1000.0	966.99	-33.0	-3.30	.24933	.004	1
CalStd10=10	10000.	10305.	305.	3.05	2.7080	.030	1

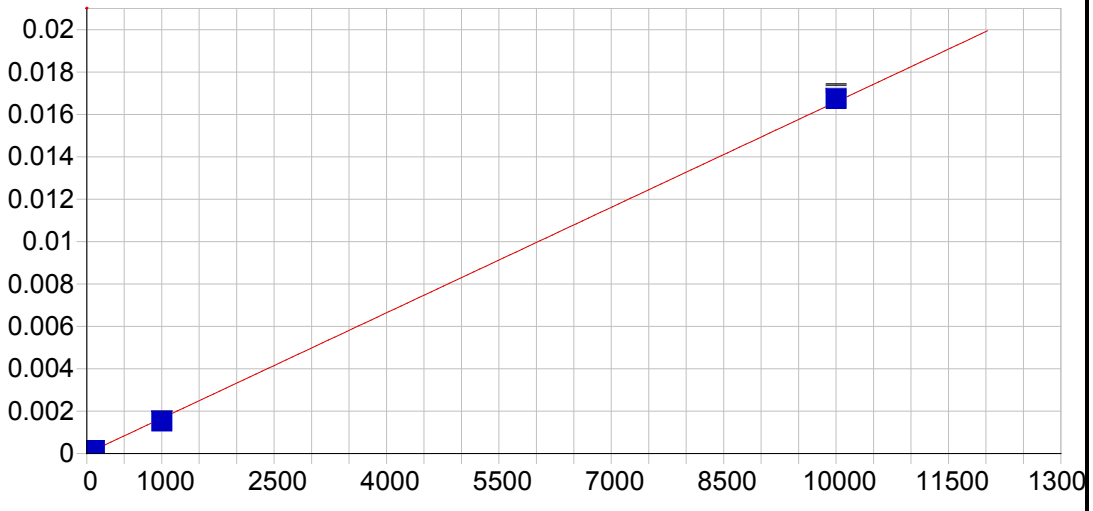


Sn 189.989 {478}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999817	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	3.083994		
Predicted MQL:	10.279980		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00747	.007	.000	.00004	.000	1
CalStd10=10	10000.	10062.	62.3	.623	.07843	.000	1
CalStd9=100	1000.0	939.78	-60.2	-6.02	.00736	.000	1
CalStd8=100	100.00	97.929	-2.07	-2.07	.00080	.000	1

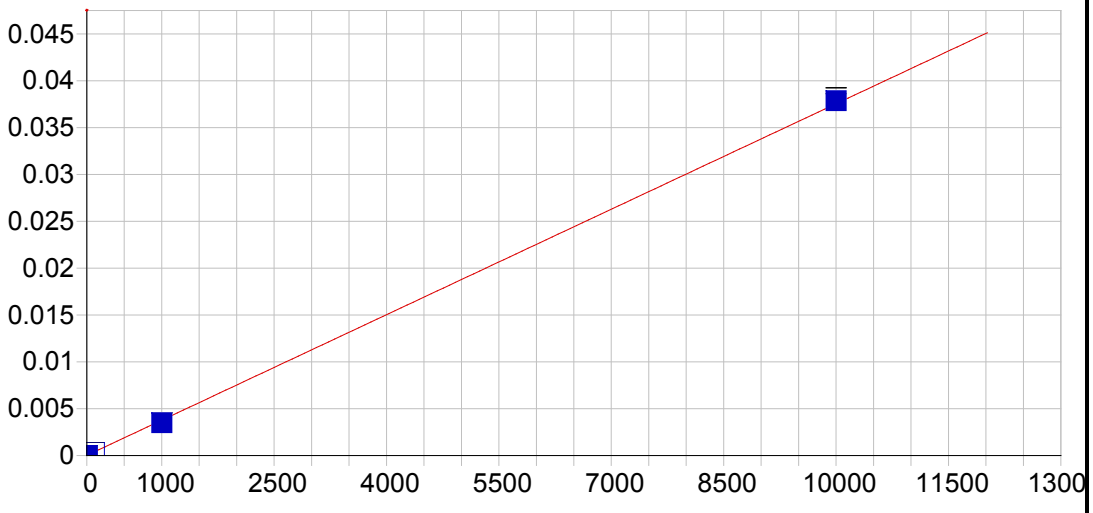


B 249.678 {135}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999625	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.575168		
Predicted MQL:	5.250560		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00265	.003	.000	.00001	.000	1
CalStd8=100	100.00	92.776	-7.22	-7.22	.00016	.000	1
CalStd5=10	10.000	8.8135	-1.19	-11.9	.00002	.000	1
CalStd9=100	1000.0	916.95	-83.1	-8.31	.00153	.000	1
CalStd10=10	10000.	10091.	91.5	.915	.01681	.000	1

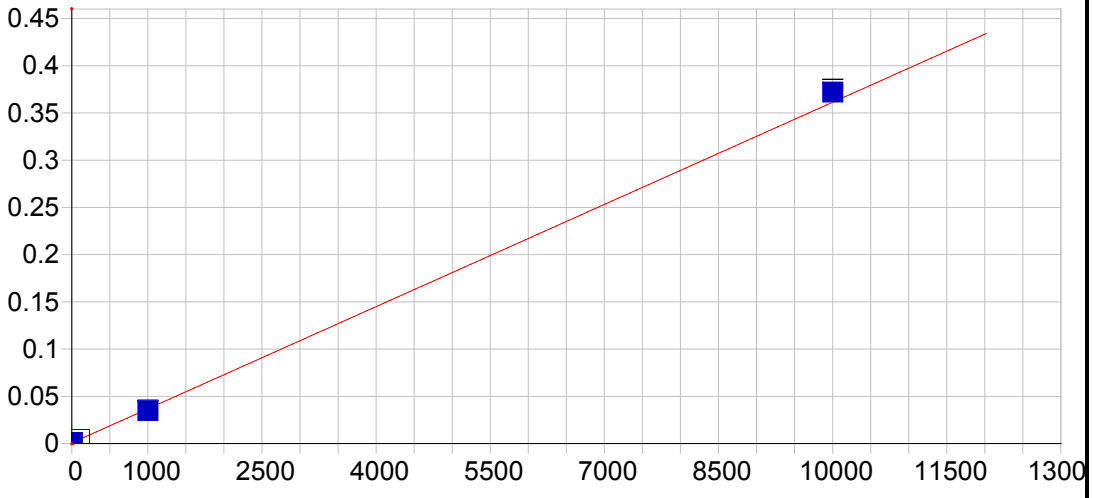


B 249.773 {135}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999705	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.667366		
Predicted MQL:	2.224554		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00152	.002	.000	.00002	.000	1
CalStd8=100	100.00	93.993	-6.01	-6.01	.00037	.000	1
CalStd5=10	10.000	9.7407	-.259	-2.59	.00005	.000	1
CalStd9=100	1000.0	925.50	-74.5	-7.45	.00350	.000	1
CalStd10=10	10000.	10081.	80.8	.808	.03789	.000	1

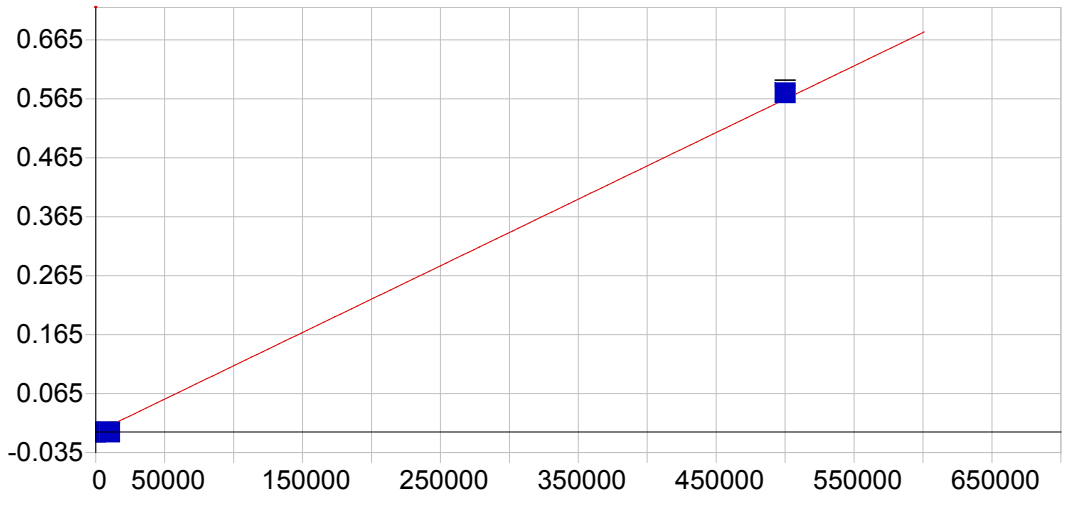


Li 670.784 { 50}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000704	Re-Slope:	1.000000
A1 (Gain):	0.000036	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999286	Status:	OK.
Std Error of Est:	0.000112		
Predicted MDL:	1.346406		
Predicted MQL:	4.488019		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.10684	.107	.000	.00071	.000	1
CalStd5=10	10.000	10.706	.706	7.06	.00109	.000	1
CalStd8=100	100.00	96.721	-3.28	-3.28	.00419	.000	1
CalStd9=100	1000.0	945.35	-54.6	-5.46	.03479	.001	1
CalStd10=10	10000.	10295.	295.	2.95	.37190	.003	1

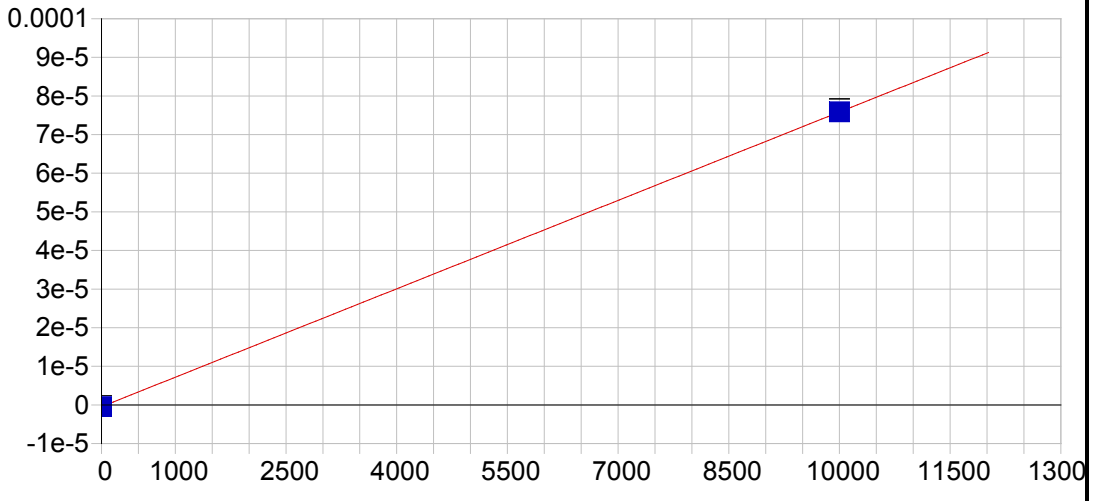


K 766.490 { 44}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000889	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.991122	Status:	OK.
Std Error of Est:	0.000153		
Predicted MDL:	42.777085		
Predicted MQL:	142.590283		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.94030	.940	.000	-.00089	.000	1
CalStd9=100	1000.0	989.92	-10.1	-1.01	.00023	.000	1
CalStd14=50	500000.	509500.	9500.	1.90	.57502	.005	1
CalStd10=10	10000.	507.74	-9490.	-94.9	-.00032	.000	1

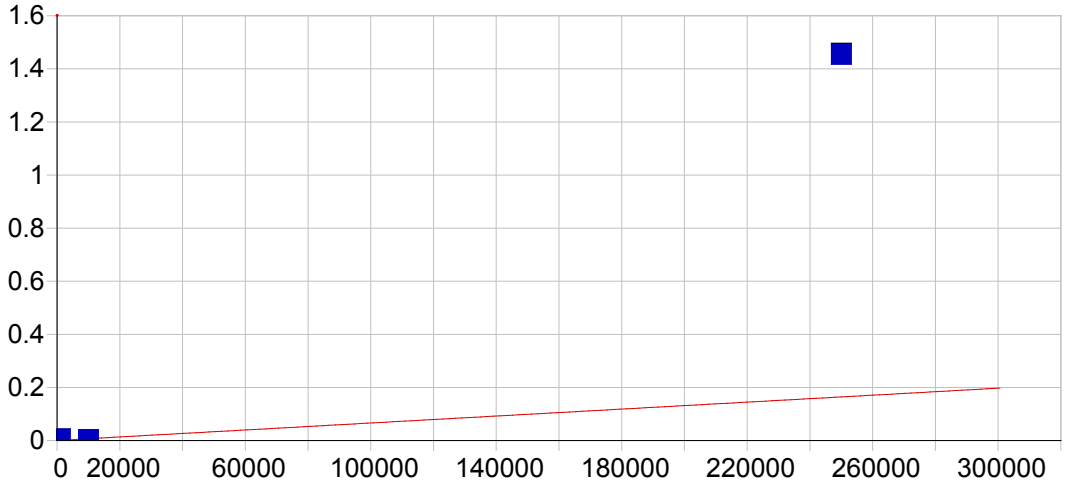


P 213.618 {457}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	94.309000		
Predicted MQL:	314.363335		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	.00008	.000	1

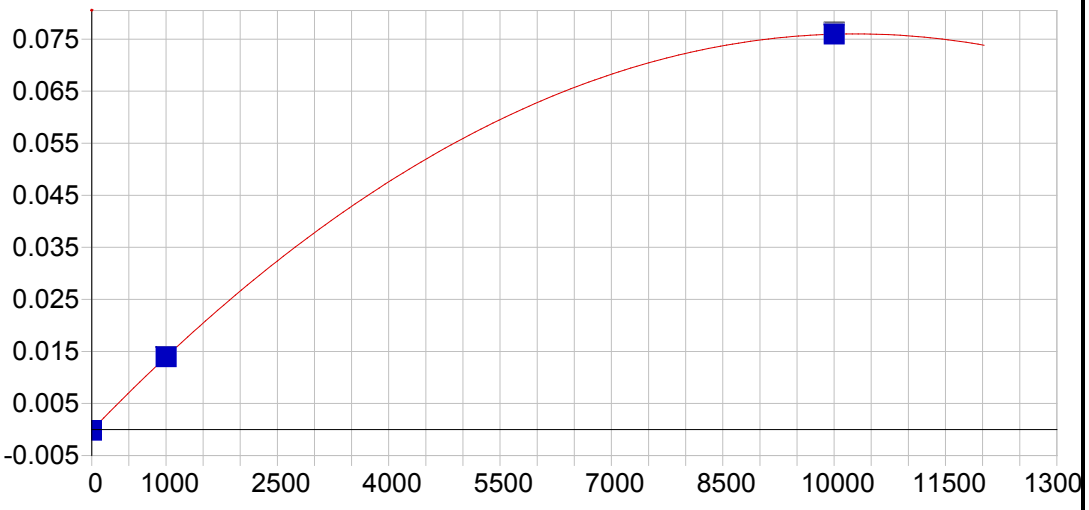


S 182.034 {485}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000493	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.405097	Status:	OK.
Std Error of Est:	0.007478		
Predicted MDL:	43.210616		
Predicted MQL:	144.035388		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-191.63	-192.	.000	.00037	.000	1
CalStd9=100	1000.0	8580.8	7580.	758.	.00612	.000	1
CalStd14=50	250000.	2217500.	1970000.	787.	1.4536	.005	1
CalStd10=10	10000.	4515.4	-5480.	-54.8	.00345	.000	1

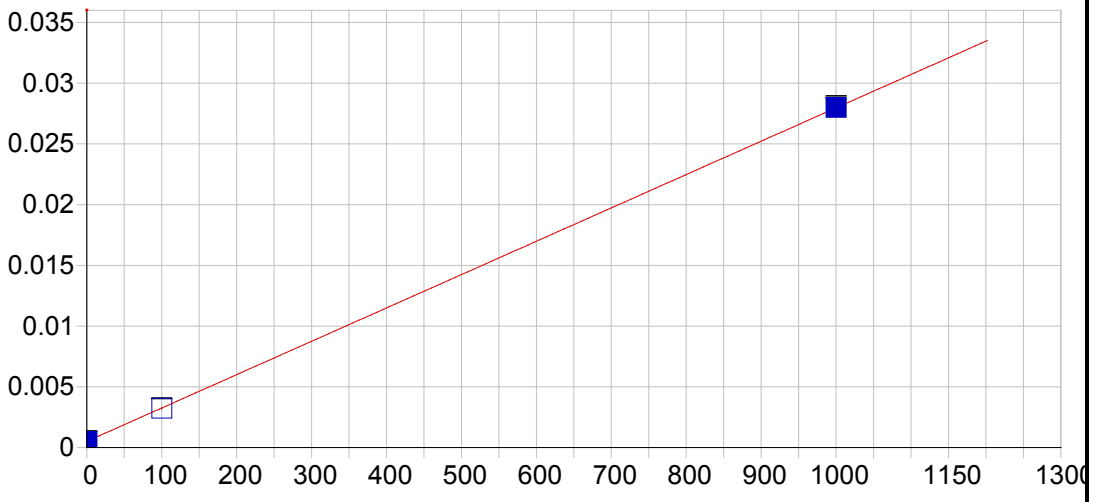


W 207.911 {462}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000163	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.937212		
Predicted MQL:	9.790706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00000	-.000	.000	-.00016	.000	1
CalStd9=100	1000.0	1000.00	-.000	-.000	.01394	.000	1
CalStd14=50	10000.	10000.0	-.000	-.000	.07614	.000	1

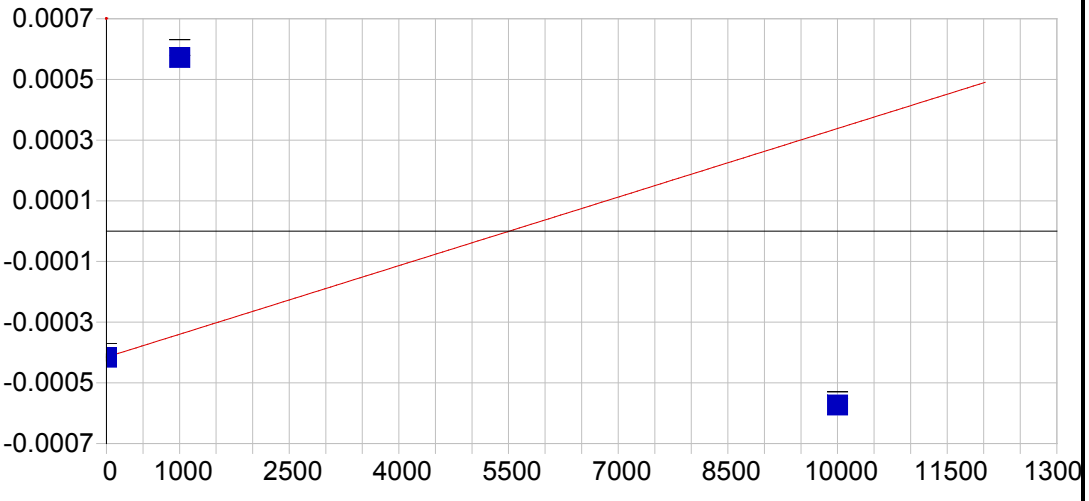


Hg 184.950 {482}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000510	Re-Slope:	1.000000
A1 (Gain):	0.000027	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.198654		
Predicted MQL:	3.995514		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00093	.001	.000	.00051	.000	1
CalStd8=100	100.00	98.966	-1.03	-1.03	.00323	.000	1
CalStd9=100	1000.0	1001.0	1.03	.103	.02800	.000	1



Ce 404.076 { 83}

Date of Fit:	07/19/2017 12:14:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000415	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.252725	Status:	OK.
Std Error of Est:	0.000052		
Predicted MDL:	298.889333		
Predicted MQL:	996.297778		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-10.892	-10.9	.000	-.00042	.000	1
CalStd9=100	1000.0	13103.	12100.	1210.	.00057	.000	1
CalStd10=10	10000.	-2102.6	-12100.	-121.	-.00057	.000	1

Sample Name: Blank Acquired: 07/18/2017 11:21:48 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**13.0**	**.000**	**.000**	**-5.59**	**.000**	**.000**	**.022**	**43.2**	**-.000**	**.000**	**.033**	**-.000**
Stddev	.7	.000	.000	.54	.000	.000	.000	2.7	.000	.000	.000	.000
%RSD	5.73	17.1	16.0	9.71	62.5	41.7	1.22	6.15	267.	2.04	.650	31.4

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.003**	**.000**	**.000**	**-.000**	**.001**	**.000**	**.003**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	71.2	81.0	21.1	85.9	20.0	.846	6.72	24.0	22400.	7.89	11.4	.633

Elem	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.000**	**.000**	**-.001**	**.000**	**-8.10**	**.000**	**-.000**	**-.000**	**.000**	**-2.37**
Stddev	.000	.000	.000	.000	.000	.000	.66	.000	.000	.000	.000	.29
%RSD	20.0	37.6	13.3	33.1	4.67	35.5	8.11	14.2	46.8	15.5	2720.	12.2

Elem	V_2924	Zn2062	Zn2138	Ti3349	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	42.8	11.5	5.90	26.7	10.5

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1043800.**	**160470.**	**15137.**
Stddev	6598.	703.	64.
%RSD	.63211	.43821	.42264

Sample Name: CalStd1=0.25 Acquired: 07/18/2017 11:28:27 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**60.9**
Stddev	1.7
%RSD	2.80

Sample Name: CalStd2=0.5 Acquired: 07/18/2017 11:35:03 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**80.1**	**-.000**
Stddev	.6	.000
%RSD	.727	218.

Int. Std.	Y_2243
Units	Cts/S
Avg	**15336.**
Stddev	32.
%RSD	.21068

Sample Name: CalStd3=1 Acquired: 07/18/2017 11:41:40 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**17.5**	**.000**	**121.**	**.000**	**.000**	**-.000**	**.000**	**-.001**
Stddev	4.9	.000	2.	.000	.000	.000	.000	.000
%RSD	27.8	36.3	1.32	84.5	38.4	19.3	25.8	5.56

Int. Std.	Y_3710	Y_2243
Units	Cts/S	Cts/S
Avg	**159960.**	**15383.**
Stddev	902.	32.
%RSD	.56374	.20937

Sample Name: CalStd4=5 Acquired: 07/18/2017 11:48:19 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**430.**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.000**
Stddev	.000	.000	.000	2.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.06	186.	5.06	.447	.877	7.61	9.90	4.05	9.35	1.54	75.4	19.6

Elem	Pb2203	Sb2175	Zn2138	Ti3349
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-7.94**	**.000**	**.001**	**.000**
Stddev	.80	.000	.000	.000
%RSD	10.0	166.	1.54	5.10

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1022000.**	**160890.**	**15419.**
Stddev	13160.	2060.	33.
%RSD	1.2877	1.2801	.21119

Sample Name: CalStd5=10 Acquired: 07/18/2017 11:55:00 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**35.4**	**.000**	**-4.23**	**.001**	**785.**	**.002**	**.001**	**.001**	**.000**	**.001**	**.000**	**.000**
Stddev	3.0	.000	.45	.000	3.	.000	.000	.000	.000	.000	.000	.000
%RSD	8.62	3.92	10.7	2.07	.361	2.69	6.13	2.53	4.48	4.06	.847	8.12

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-6.70**	**.000**	**.000**	**-.000**	**-1.28**	**.000**	**.002**	**.000**	**.000**
Stddev	.000	.000	.41	.000	.000	.000	.38	.000	.000	.000	.000
%RSD	9.84	14.1	6.07	11.2	42.0	2.48	29.5	6.55	1.52	3.15	6.26

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1045300.**	**161180.**	**15369.**
Stddev	4228.	1376.	24.
%RSD	.40444	.85393	.15364

Sample Name: CalStd6=20 Acquired: 07/18/2017 12:01:40 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.001**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	2.75	2.72	.967	1.09	24.8	1.00

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1032200.**	**161460.**	**15447.**
Stddev	1384.	567.	30.
%RSD	.13412	.35120	.19359

Sample Name: CalStd7=50 Acquired: 07/18/2017 12:08:15 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba2335	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.961**	**.004**	**.011**	**.004**	**.004**	**.000**	**.003**	**.001**	**.002**	**.004**	**.001**
Stddev	.000	.674	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.95	70.1	.855	.356	.941	.620	2.75	.823	2.47	1.91	1.10	5.46

Elem	Se1960	V_2924	Zn2138	Ti3349
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.009**	**.001**
Stddev	.000	.000	.000	.000
%RSD	31.8	2.73	.340	.867

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1032100.**	**161400.**	**15436.**
Stddev	3502.	1151.	18.
%RSD	.33930	.71328	.11351

Sample Name: CalStd8=100 Acquired: 07/18/2017 12:14:50 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3968	Cd2265	Co2286	Co2388	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**258.**	**4.97**	**.000**	**.008**	**.027**	**7110.**	**.001**	**.048**	**.020**	**.006**	**.000**	**.008**
Stddev	3.	.50	.000	.000	.000	26.	.000	.000	.000	.000	.000	.000
%RSD	1.13	10.1	19.9	.459	.856	.370	.976	.455	.333	.566	.470	.862

Elem	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.005**	**.003**	**.005**	**.001**	**.004**	**.009**	**.008**	**.001**	**13.8**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.8	.000	.000
%RSD	.349	.529	1.05	.229	.183	1.46	.426	.193	3.04	5.45	2.74	6.80

Elem	Se2062	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**7.58**	**.001**	**.016**	**.002**	**.000**
Stddev	.000	.62	.000	.000	.000	.000
%RSD	30.7	8.13	.907	.297	.903	.678

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1032700.**	**161820.**	**15493.**
Stddev	5092.	660.	48.
%RSD	.49303	.40770	.30750

Sample Name: CalStd9=1000 Acquired: 07/18/2017 12:21:25 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.007**	**95.8**	**.001**	**.077**	**.074**	**68000.**	**.010**	**.001**	**.200**	**.199**
Stddev	.000	.000	.8	.000	.000	.001	159.	.000	.000	.003	.000
%RSD	1.43	.528	.827	2.92	.263	1.44	.233	1.77	1.12	1.45	.107

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.061**	**.002**	**.081**	**.004**	**.051**	**.008**	**.001**	**.001**	**.002**	**.014**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.250	.673	.176	.495	.181	1.30	.808	1.76	1.95	.557	1.59

Elem	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.032**	**.010**	**.023**	**.036**	**.083**	**.088**	**.011**	**214.**	**.014**	**.015**	**.005**
Stddev	.000	.000	.000	.000	.000	.000	.000	1.	.000	.000	.000
%RSD	.550	.443	1.52	.138	.215	.078	.408	.238	.515	.357	.845

Elem	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Ti3349	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**93.5**	**.006**	**.091**	**.148**	**.016**	**.003**
Stddev	.000	1.1	.000	.000	.000	.000	.000
%RSD	7.58	1.19	.524	.199	.067	1.19	.467

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1028200.**	**160970.**	**15465.**
Stddev	4858.	2200.	32.
%RSD	.47243	1.3666	.20931

Sample Name: CalStd10=10000 Acquired: 07/18/2017 12:27:26 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.031**	**1070.**	**.013**	**.587**	**.008**	**1.84**	**.656**	**.019**	**.861**	**.043**	**.538**	**.064**
Stddev	.000	2.	.000	.005	.000	.04	.001	.000	.003	.000	.001	.001
%RSD	.665	.166	.609	.885	.558	2.00	.215	.751	.304	.889	.162	1.18

Elem	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.011**	**.017**	**.147**	**.002**	**.311**	**.104**	**.241**	**.386**	**.876**	**.907**	**.096**
Stddev	.000	.000	.000	.000	.000	.002	.001	.002	.001	.003	.002	.000
%RSD	.692	.687	.936	.150	1.04	.600	.703	.719	.275	.293	.241	.296

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Ti3349	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2320.**	**.146**	**.156**	**.051**	**.006**	**976.**	**.062**	**.962**	**1.53**	**.173**	**.038**
Stddev	5.	.000	.000	.000	.000	1.	.000	.002	.00	.001	.000
%RSD	.215	.261	.252	.480	1.53	.057	.549	.198	.090	.772	.833

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**997860.**	**160710.**	**15175.**
Stddev	6500.	1196.	43.
%RSD	.65141	.74395	.28042

Sample Name: CalStd12=100K Acquired: 07/18/2017 12:34:03 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Mn2576	Mn2593	Pb2169	Pb2203	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.76**	**.402**	**5.34**	**.616**	**.765**	**2.27**	**.958**	**24000.**	**8.86**
Stddev	.04	.002	.03	.004	.005	.02	.004	108.	.06
%RSD	.476	.471	.517	.690	.708	.685	.437	.448	.660

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1006300.**	**161840.**	**15229.**
Stddev	3300.	638.	46.
%RSD	.32792	.39446	.30151

Sample Name: CalStd13=100000 Acquired: 07/18/2017 12:40:57 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.305**	**.077**	**.051**	**.104**	**.167**	**1.05**	**.017**
Stddev	.001	.000	.000	.000	.000	.00	.000
%RSD	.340	.261	.548	.202	.103	.271	.187

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**971600.**	**159580.**	**14860.**
Stddev	5532.	316.	46.
%RSD	.56934	.19790	.30638

Sample Name: CalStd14=500000 Acquired: 07/18/2017 12:47:45 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.49**	**.358**	**.201**	**.477**	**.765**	**4.95**	**.082**
Stddev	.01	.002	.003	.002	.005	.01	.000
%RSD	.812	.440	1.26	.408	.595	.213	.489

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**895400.**	**154240.**	**13643.**
Stddev	11651.	375.	40.
%RSD	1.3012	.24291	.29516

Sample Name: CalibStd15=1000k Acquired: 07/18/2017 12:54:51 Type: Cal
Method: DOD Calibration Updated 060614(v2099) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.05**	**.706**	**.338**	**.929**	**1.47**	**9.70**	**.171**
Stddev	.03	.014	.005	.015	.02	.03	.003
%RSD	1.05	1.98	1.59	1.66	1.51	.290	1.51

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**870450.**	**149900.**	**13146.**
Stddev	9398.	2491.	29.
%RSD	1.0797	1.6617	.22366

Sample Name: icv Acquired: 07/18/2017 13:08:40 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265	Co2286
Avg	**47.7**	**10800.**	**1880.**	**1880.**	**1950.**	**1860.**	**48.0**	**50.1**	**9280.**	**10100.**	**48.3**	**476.**
Stddev	.7	109.	5.	3.	2.	25.	.1	.7	124.	48.	.0	2.
%RSD	1.38	1.01	.249	.175	.108	1.36	.136	1.30	1.33	.470	.066	.460
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Co2388	Cr2677	Cu2247	Fe2343	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**486.**	**196.**	**233.**	**4730.**	**7680.**	**9380.**	**464.**	**458.**	**493.**	**473.**	**470.**	**510.**
Stddev	2.	2.	1.	20.	22.	64.	3.	6.	2.	1.	1.	5.
%RSD	.457	.781	.247	.414	.287	.678	.636	1.32	.320	.234	.249	1.02
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Ti3349	B_2497
Avg	**490.**	**448.**	**489.**	**1960.**	**1960.**	**1920.**	**476.**	**495.**	**490.**	**484.**	**477.**
Stddev	8.	4.	4.	17.	40.	8.	2.	1.	.	8.	3.
%RSD	1.69	.967	.771	.866	2.03	.414	.462	.120	.096	1.60	.685
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Sample Name: icv Acquired: 07/18/2017 13:08:40 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1008500.**	**161470.**	**15674.**
Stddev	3451.	1364.	19.
%RSD	.34222	.84443	.12251

Sample Name: ICVLL Acquired: 07/18/2017 13:15:23 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Avg	**46.7**	**1130.**	**59.6**	**31.0**	**13.1**	**1530.**	**15.4**	**28.8**	**31.6**	**30.1**	**794.**	**1400.**
Stddev	1.1	23.	1.7	.4	.0	22.	.3	1.0	1.3	1.0	12.	24.
%RSD	2.36	2.02	2.83	1.42	.167	1.42	1.85	3.50	4.02	3.40	1.56	1.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Avg	**30.3**	**27.3**	**28.8**	**31.6**	**59.7**	**61.7**	**58.4**	**28.7**	**32.9**	**30.1**	**61.5**
Stddev	.2	.4	1.4	3.5	1.5	5.3	2.0	.4	.1	.9	.5
%RSD	.533	1.40	4.88	11.1	2.49	8.54	3.38	1.46	.394	3.12	.856
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**995010.**	**159560.**	**15648.**
Stddev	2798.	2013.	28.
%RSD	.28119	1.2617	.17590

Sample Name: icb Acquired: 07/18/2017 13:28:37 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**-.294**	**-3.54**	**1.65**	**.919**	**.057**	**15.8**	**-.660**	**-.822**	**.092**	**.110**	**7.48**	**9.81**
Stddev	.992	2.83	5.00	.421	.027	3.6	.276	.831	.690	.496	2.69	.27
%RSD	337.	80.0	303.	45.8	47.0	22.9	41.8	101.	750.	451.	35.9	2.75
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Avg	**.787**	**-.888**	**-.339**	**-.514**	**-1.54**	**-2.82**	**.434**	**-.629**	**1.84**	**.240**	**1.78**
Stddev	.159	.474	.368	2.60	4.70	9.43	3.67	.303	.06	.807	.54
%RSD	20.2	53.4	108.	507.	304.	334.	845.	48.1	3.41	336.	30.1
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**999390.**	**159750.**	**15738.**
Stddev	3442.	1592.	7.
%RSD	.34439	.99658	.04732

Sample Name: MRL/LLOQ Acquired: 07/18/2017 13:35:15 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**19.0**	**451.**	**25.2**	**11.2**	**4.56**	**516.**	**4.91**	**9.40**	**10.9**	**10.7**	**301.**	**522.**
Stddev	.8	5.	2.6	.4	.03	11.	.19	.59	.5	.6	2.	5.
%RSD	4.28	1.02	10.4	3.83	.597	2.19	3.81	6.25	4.80	5.24	.761	.888
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Avg	**11.2**	**9.10**	**10.1**	**9.48**	**20.7**	**21.1**	**19.5**	**8.99**	**12.2**	**10.0**	**21.9**
Stddev	.1	.41	.9	2.90	2.0	2.1	5.2	.12	.2	.6	.5
%RSD	1.00	4.47	8.41	30.6	9.45	10.2	26.7	1.34	1.88	5.68	2.31
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**979000.**	**158850.**	**15627.**
Stddev	4296.	1820.	19.
%RSD	.43878	1.1459	.12212

Sample Name: icsa Acquired: 07/18/2017 13:41:57 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**-.655**	**502000.**	**-.405**	**-.010**	**.000**	**484000.**	**-.003**	**-.350**	**-.000**	**-.131**	**504000.**
Stddev	.727	2790.	18.0	.314	.048	3510.	.617	.945	.845	3.22	4490.
%RSD	111.	.556	4450.	3150.	127000.	.725	23000.	270.	1190000.	2450.	.892
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**529000.**	**535000.**	**-.007**	**-.274**	**-.002**	**-.500**	**.009**	**.273**	**-.008**	**-.028**	**.017**
Stddev	882.	4820.	.603	.752	1.20	3.36	3.14	8.47	9.33	.763	.223
%RSD	.167	.900	8630.	275.	63400.	673.	33100.	3110.	122000.	2710.	1310.
Check ?	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Ti3349	B_2497
Avg	**13.3**	**.116**
Stddev	.5	3.43
%RSD	3.80	2960.
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Sample Name: icsa Acquired: 07/18/2017 13:41:57 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**877630.**	**152820.**	**13908.**
Stddev	3540.	1027.	23.
%RSD	.40334	.67224	.16797

Sample Name: icsab Acquired: 07/18/2017 13:48:56 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be2348	Ca3158	Cd2265	Co2286	Co2388
Avg	**496.**	**514000.**	**496.**	**546.**	**544.**	**504.**	**593.**	**496000.**	**500.**	**506.**	**552.**
Stddev	4.	2340.	13.	52.	2.	5.	3.	2230.	1.	2.	11.
%RSD	.711	.455	2.56	9.53	.279	1.07	.508	.449	.261	.416	2.03
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Fe2395	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Avg	**488.**	**547.**	**489.**	**541000.**	**547000.**	**552000.**	**517.**	**499.**	**529.**	**500.**	**493.**
Stddev	1.	7.	3.	2330.	1080.	3100.	2.	3.	1.	3.	2.
%RSD	.232	1.20	.608	.431	.197	.562	.480	.636	.263	.519	.341
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138	Ti3349	B_2497
Avg	**531.**	**430.**	**471.**	**569.**	**550.**	**408.**	**535.**	**537.**	**555.**	**555.**	**552.**
Stddev	10.	5.	2.	5.	20.	3.	3.	1.	1.	3.	6.
%RSD	1.81	1.06	.437	.915	3.70	.752	.525	.225	.090	.535	1.06
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 07/18/2017 13:48:56 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**871230.**	**151860.**	**13908.**
Stddev	2768.	762.	9.
%RSD	.31770	.50156	.06364

Sample Name: ICVLL Ag Acquired: 07/18/2017 13:56:27 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**11.7**	**16.2**	**-.180**	**-.289**	**-.025**	**-35.9**	**-.837**	**-1.55**	**-.357**	**-.118**	**95.3**	**-9.34**
Stddev	.5	19.6	1.96	.151	.029	5.2	.205	.21	.787	.948	84.0	.12
%RSD	4.67	121.	1090.	52.1	112.	14.5	24.5	13.4	221.	805.	88.1	1.26

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.054**	**-1.88**	**-1.61**	**-4.26**	**.482**	**-5.88**	**-.381**	**-1.63**	**2.03**	**.183**	**2.06**
Stddev	.072	.62	.34	3.19	1.20	4.81	2.68	.84	.36	.321	.57
%RSD	133.	33.0	21.1	74.8	249.	81.8	704.	51.9	17.7	175.	27.7

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**965710.**	**158340.**	**15770.**
Stddev	2835.	945.	35.
%RSD	.29355	.59672	.22119

Sample Name: lcsw63197 Acquired: 07/18/2017 14:03:04 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.4**	**914.**	**847.**	**776.**	**814.**	**841.**	**848.**	**19.6**	**189000.**	**19.8**	**204.**
Stddev	2.4	9.	47.	8.	37.	2.	11.	.0	1360.	.2	.
%RSD	11.2	.977	5.55	1.05	4.52	.201	1.34	.111	.716	.873	.217

Elem	Cr2677	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**86.1**	**101.**	**381.**	**95000.**	**102000.**	**213.**	**1890.**	**197.**	**198.**	**178.**	**208.**
Stddev	1.1	2.	5.	201.	730.	1.	7.	1.	1.	1.	3.
%RSD	1.32	1.63	1.35	.211	.716	.538	.358	.384	.370	.432	1.39

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**863.**	**894.**	**708.**	**202.**	**218.**	**11.5**	**1.43**
Stddev	4.	39.	7.	1.	1.	.9	.41
%RSD	.510	4.35	1.02	.710	.311	7.91	28.5

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**892170.**	**155620.**	**14584.**
Stddev	3485.	988.	31.
%RSD	.39060	.63519	.21020

Sample Name: mbw63197 Acquired: 07/18/2017 14:09:50 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**2.39**	**-1.93**	**4.59**	**-.147**	**.025**	**14.2**	**-.576**	**-.973**	**-.533**	**-1.00**	**6.59**	**-.979**
Stddev	.83	7.63	5.54	.271	.042	2.2	.154	.713	.810	.18	1.56	.531
%RSD	34.9	395.	121.	185.	168.	15.3	26.7	73.2	152.	17.9	23.7	54.3

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.268**	**-1.44**	**-1.32**	**-2.79**	**-2.49**	**1.96**	**1.59**	**-1.46**	**.926**	**.047**	**.167**
Stddev	.168	1.06	.83	1.62	2.63	2.68	2.08	.49	.223	.486	.725
%RSD	62.6	73.9	62.8	58.1	106.	136.	131.	33.7	24.1	1040.	433.

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**945500.**	**158570.**	**15732.**
Stddev	4467.	1052.	28.
%RSD	.47247	.66371	.18091

Sample Name: 891494 Acquired: 07/18/2017 14:16:28 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.02**	**2290.**	**4.65**	**476.**	**486.**	**-.136**	**60000.**	**-.664**	**.478**	**9.25**	**3.51**	**1730.**
Stddev	1.16	21.	4.18	2.	6.	.050	291.	.115	.585	.32	.70	6.
%RSD	113.	.906	89.9	.506	1.19	36.9	.485	17.3	122.	3.42	19.9	.362

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**27800.**	**31700.**	**20.0**	**.766**	**4.73**	**-1.37**	**-3.26**	**-3.96**	**-.436**	**1.26**	**48.9**	**108.**
Stddev	102.	151.	.2	1.14	.68	3.20	2.42	3.65	1.95	.74	.2	3.
%RSD	.366	.476	.796	149.	14.4	233.	74.2	92.3	447.	58.5	.392	2.40

Elem	B_2497
Units	ug/L
Avg	**18.5**
Stddev	.6
%RSD	3.41

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**897900.**	**155780.**	**14985.**
Stddev	3358.	747.	56.
%RSD	.37394	.47941	.37559

Sample Name: I891494 Acquired: 07/18/2017 14:23:25 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.82**	**585.**	**420.**	**9.23**	**88.1**	**.001**	**15900.**	**-.548**	**-1.42**	**1.52**	**-.355**	**436.**
Stddev	.83	54.	30.	2.01	5.9	.036	1250.	.153	.40	.64	.693	41.
%RSD	45.4	9.17	7.07	21.8	6.65	2630.	7.85	27.9	28.1	42.0	196.	9.35

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4590.**	**8370.**	**4.40**	**-1.62**	**.291**	**-4.33**	**.063**	**-.374**	**1.37**	**-.807**	**9.64**	**20.6**
Stddev	308.	613.	.20	.49	.737	3.61	1.21	5.36	2.19	.329	.23	3.1
%RSD	6.70	7.33	4.56	30.5	253.	83.4	1930.	1430.	160.	40.8	2.34	15.1

Elem	B_2497
Units	ug/L
Avg	**3.60**
Stddev	.89
%RSD	24.8

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**936750.**	**164230.**	**15664.**
Stddev	3704.	1023.	50.
%RSD	.39540	.62296	.31908

Sample Name: dup891494 Acquired: 07/18/2017 14:30:30 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.23**	**2280.**	**2.72**	**490.**	**488.**	**-.154**	**60900.**	**-.852**	**-.038**	**9.70**	**1.37**	**1770.**
Stddev	1.60	20.	5.05	2.	7.	.018	381.	.045	.189	.36	.47	23.
%RSD	130.	.874	186.	.314	1.41	11.7	.627	5.28	494.	3.71	34.6	1.31

Elem	Mg2025	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**29000.**	**32600.**	**20.1**	**.023**	**5.15**	**-3.84**	**-2.94**	**4.83**	**1.65**	**.749**	**50.1**	**95.8**
Stddev	67.	264.	.3	.432	.34	3.00	3.25	6.75	5.34	.730	.4	7.1
%RSD	.231	.808	1.33	1850.	6.61	78.2	110.	140.	325.	97.5	.855	7.44

Elem	B_2497
Units	ug/L
Avg	**19.1**
Stddev	.7
%RSD	3.74

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**899160.**	**157190.**	**15065.**
Stddev	4464.	1036.	47.
%RSD	.49650	.65935	.31145

Sample Name: msw891494 Acquired: 07/18/2017 14:37:27 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.7**	**3080.**	**762.**	**795.**	**1300.**	**1330.**	**18.8**	**246000.**	**19.8**	**203.**	**95.1**
Stddev	.6	48.	7.	21.	1.	18.	.1	2050.	.3	.	.3
%RSD	3.04	1.56	.866	2.61	.109	1.38	.578	.833	1.67	.213	.331

Elem	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**101.**	**2070.**	**132000.**	**136000.**	**235.**	**1850.**	**211.**	**196.**	**174.**	**211.**	**853.**
Stddev	1.	18.	314.	1090.	1.	7.	1.	1.	3.	4.	6.
%RSD	.820	.868	.239	.802	.294	.356	.523	.510	1.51	1.86	.655

Elem	Se2062	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**886.**	**677.**	**204.**	**267.**	**98.1**	**17.7**
Stddev	107.	2.	1.	1.	2.6	.7
%RSD	12.1	.327	.685	.366	2.63	3.74

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**852240.**	**152620.**	**14338.**
Stddev	2965.	1164.	43.
%RSD	.34789	.76237	.29669

Sample Name: msdw891494 Acquired: 07/18/2017 14:44:04 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.7**	**3320.**	**759.**	**787.**	**1300.**	**1330.**	**18.7**	**248000.**	**19.8**	**203.**	**96.8**
Stddev	.7	33.	9.	14.	1.	11.	.1	1390.	.2	1.	2.1
%RSD	3.54	.988	1.15	1.75	.075	.817	.403	.561	1.14	.465	2.22

Elem	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**102.**	**2170.**	**132000.**	**138000.**	**233.**	**1830.**	**212.**	**197.**	**167.**	**207.**	**847.**
Stddev	1.	15.	98.	651.	1.	6.	1.	1.	2.	4.	9.
%RSD	1.39	.684	.074	.472	.637	.339	.613	.333	1.36	2.15	1.01

Elem	Se2062	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**923.**	**672.**	**206.**	**268.**	**120.**	**18.8**
Stddev	68.	5.	2.	1.	10.	1.3
%RSD	7.36	.692	.952	.205	7.95	6.67

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**847670.**	**152250.**	**14322.**
Stddev	1485.	830.	40.
%RSD	.17523	.54524	.28004

Sample Name: pdsw891494 Acquired: 07/18/2017 14:50:41 Type: Unk
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**97.5**	**6180.**	**3660.**	**3930.**	**4490.**	**4660.**	**91.4**	**110.**	**536000.**	**98.8**	**990.**
Stddev	1.2	83.	230.	309.	287.	109.	1.2	3.	33200.	7.3	69.
%RSD	1.20	1.34	6.28	7.87	6.40	2.34	1.29	2.69	6.18	7.35	6.96

Elem	Co2388	Cr2677	Cu2247	Fe2599	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1100.**	**446.**	**481.**	**3620.**	**183000.**	**307000.**	**1070.**	**694.**	**-2.09**	**927.**	**920.**
Stddev	15.	5.	36.	66.	46200.	20500.	9.	61.	1.27	63.	64.
%RSD	1.35	1.08	7.45	1.83	25.2	6.66	.793	8.73	61.1	6.84	6.98

Elem	Pb2169	Pb2203	Sb2068	Se1960	Se2062	Tl1908	V_2924	Zn2062	Ti3349	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**926.**	**872.**	**968.**	**4050.**	**3870.**	**3160.**	**1050.**	**1070.**	**120.**	**18.5**
Stddev	72.	47.	73.	277.	242.	102.	17.	72.	3.	1.2
%RSD	7.76	5.39	7.58	6.85	6.25	3.24	1.62	6.72	2.21	6.64

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**822040.**	**148880.**	**14182.**
Stddev	2800.	891.	189.
%RSD	.34065	.59861	1.3303

Sample Name: ccv1 Acquired: 07/18/2017 15:04:05 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be2348	Ca3158	Ca3968	Cd2265	Co2388	Cr2055
Avg	**529.**	**4540.**	**4640.**	**4550.**	**4990.**	**4980.**	**530.**	**4650.**	**4950.**	**516.**	**5420.**	**4540.**
Stddev	3.	33.	10.	11.	5.	32.	3.	23.	63.	1.	17.	4.
%RSD	.512	.729	.222	.248	.100	.645	.636	.499	1.26	.116	.306	.097
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu3247	Fe2343	Mg2025	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**5270.**	**5200.**	**5040.**	**4580.**	**5120.**	**5040.**	**4640.**	**4740.**	**4530.**	**4660.**	**5020.**	**4890.**
Stddev	5.	26.	10.	9.	41.	7.	37.	3.	5.	6.	7.	13.
%RSD	.099	.504	.200	.196	.802	.132	.787	.068	.101	.121	.130	.260
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2924	Zn2062	Ti3349	B_2497
Avg	**4640.**	**4860.**	**4590.**	**4680.**	**4890.**	**5180.**	**4870.**	**4960.**
Stddev	4.	19.	88.	7.	13.	8.	34.	18.
%RSD	.076	.391	1.93	.147	.257	.158	.700	.363
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ccv1 Acquired: 07/18/2017 15:04:05 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**901380.**	**156940.**	**15541.**
Stddev	1237.	977.	9.
%RSD	.13724	.62236	.05581

Sample Name: ccv2 Acquired: 07/18/2017 15:10:09 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3968	Cd2265	Co2286	Cr2055
Avg	**52.5**	**466.**	**507.**	**484.**	**473.**	**516.**	**521.**	**50.4**	**479.**	**54.2**	**502.**	**466.**
Stddev	.9	13.	4.	5.	16.	1.	1.	.2	.	.2	1.	1.
%RSD	1.64	2.88	.804	1.07	3.35	.221	.242	.313	.102	.420	.221	.135
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Avg	**537.**	**488.**	**478.**	**527.**	**516.**	**481.**	**484.**	**465.**	**480.**	**454.**	**511.**	**481.**
Stddev	1.	1.	4.	1.	1.	2.	2.	2.	1.	2.	3.	.
%RSD	.265	.261	.909	.165	.267	.404	.401	.401	.221	.549	.626	.077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Ti3349	B_2497
Avg	**499.**	**509.**	**470.**	**502.**	**495.**	**535.**	**518.**	**508.**	**521.**
Stddev	3.	4.	26.	2.	2.	2.	1.	.	2.
%RSD	.521	.751	5.47	.439	.461	.332	.196	.068	.384
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ccv2 Acquired: 07/18/2017 15:10:09 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**916280.**	**155080.**	**15688.**
Stddev	1057.	347.	12.
%RSD	.11530	.22370	.07493

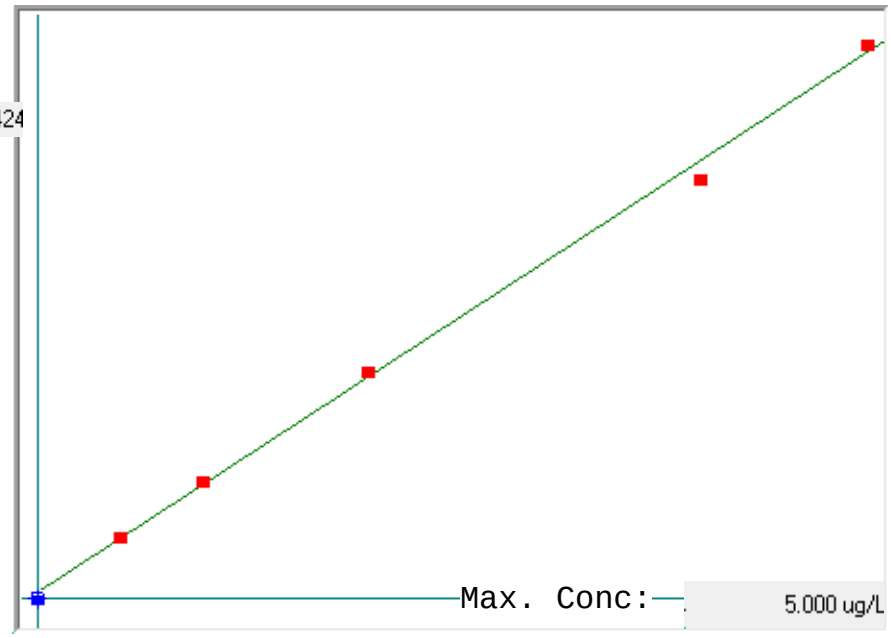
Sample Name: ccb Acquired: 07/18/2017 15:16:22 Type: QC
Method: DOD Calibration Updated 060614(v2099) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**-1.08**	**-6.70**	**6.52**	**.076**	**.032**	**3.58**	**-.729**	**-.400**	**-.197**	**-.768**	**-.191**	**10.6**
Stddev	1.29	2.44	4.03	.149	.035	1.24	.202	.503	.387	.388	4.30	1.2
%RSD	119.	36.5	61.8	196.	109.	34.6	27.8	126.	197.	50.6	2250.	11.6
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Ti3349	B_2497
Avg	**-.018**	**-1.20**	**-1.14**	**.109**	**-2.14**	**-.341**	**6.22**	**-1.52**	**-.310**	**.581**	**9.38**
Stddev	.131	.93	.39	1.41	3.17	3.86	5.14	.59	.067	.541	.66
%RSD	727.	77.4	34.6	1300.	148.	1130.	82.7	39.0	21.7	93.1	6.98
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**914770.**	**155760.**	**15749.**
Stddev	8780.	1053.	23.
%RSD	.95982	.67625	.14483

CVAA water



A= 0.0000e+000

B= 2.5141e-004

C= -4.9758e-002

Rho= 0.9989110

Accept= Accepted

Accepted Date=

07/19/17 07:37

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	-0.058	-0.058	-34	4.969	-35	-37	-39	-26	0
0.5	0.500	0.528	0.028	2296	3.9 %	2174	2257	2340	2414	
1.0	1.000	1.048	0.048	4367	5.0 %	4073	4268	4477	4651	
2.0	2.000	2.061	0.061	8394	4.9 %	7799	8264	8620	8896	
4.0	4.000	3.837	-0.163	15459	4.5 %	14521	15156	15804	16358	
5.0	5.000	5.085	0.085	20424	4.1 %	19248	20100	20845	21503	

071917wa pdf

Method: CVAA water Operator: Admin Date of Analysis: 18 Jul 2017 12:49:48

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	19 Jul 2017 07:24:49	Hg	ug/L		-34.250
0.5	19 Jul 2017 07:26:59	Hg	ug/L		2296.250
1.0	19 Jul 2017 07:29:10	Hg	ug/L		4367.250
2.0	19 Jul 2017 07:31:21	Hg	ug/L		8394.750
4.0	19 Jul 2017 07:33:33	Hg	ug/L		15459.750
5.0	19 Jul 2017 07:35:46	Hg	ug/L		20424.000
ICV	19 Jul 2017 07:37:58	Hg	ug/L		3.091
ICB	19 Jul 2017 07:40:11	Hg	ug/L		-0.376
892802 LCSW63227	19 Jul 2017 07:42:22	Hg	ug/L		2.735
892801 MBW63227	19 Jul 2017 07:44:31	Hg	ug/L		-0.301
891514	19 Jul 2017 07:46:42	Hg	ug/L		-0.052
DUP891514	19 Jul 2017 07:48:51	Hg	ug/L		-0.045
MSW891514	19 Jul 2017 07:51:00	Hg	ug/L		1.874
MSDW891514	19 Jul 2017 07:53:09	Hg	ug/L		1.721
892792 LCSW63225	19 Jul 2017 07:55:20	Hg	ug/L		2.580
892791 MBW63225	19 Jul 2017 07:57:32	Hg	ug/L		-0.317
891194	19 Jul 2017 07:59:44	Hg	ug/L		-0.067
891538	19 Jul 2017 08:01:54	Hg	ug/L		-0.053
CCV	19 Jul 2017 08:22:42	Hg	ug/L		3.220
CCB	19 Jul 2017 08:24:50	Hg	ug/L		-0.272
891543	19 Jul 2017 08:27:01	Hg	ug/L		-0.062
DUP891543	19 Jul 2017 08:29:12	Hg	ug/L		-0.052
MSW891543	19 Jul 2017 08:31:23	Hg	ug/L		1.818
MSDW891543	19 Jul 2017 08:33:32	Hg	ug/L		1.759
892807 LCSW63228	19 Jul 2017 08:35:42	Hg	ug/L		2.621
892806 MBW63228	19 Jul 2017 08:37:52	Hg	ug/L		-0.186
890744	19 Jul 2017 08:40:03	Hg	ug/L		-0.006
MSW890744	19 Jul 2017 08:42:12	Hg	ug/L		1.956
891948	19 Jul 2017 08:44:21	Hg	ug/L		-0.131
892810 LCSW63229	19 Jul 2017 08:46:33	Hg	ug/L		2.783
CCV	19 Jul 2017 09:01:58	Hg	ug/L		2.726
CCB	19 Jul 2017 09:04:07	Hg	ug/L		-0.233
892809 MBW63229	19 Jul 2017 09:06:18	Hg	ug/L		-0.061
890671	19 Jul 2017 09:08:28	Hg	ug/L		-0.051
DUP890671	19 Jul 2017 09:10:39	Hg	ug/L		-0.051
MSW890671	19 Jul 2017 09:12:49	Hg	ug/L		1.816
MSDW890671	19 Jul 2017 09:15:00	Hg	ug/L		1.714
891494	19 Jul 2017 09:17:11	Hg	ug/L		-0.174
892797 LCSW63226	19 Jul 2017 09:19:23	Hg	ug/L		2.691
892796 MBW63226	19 Jul 2017 09:21:32	Hg	ug/L		-0.229
891207	19 Jul 2017 09:23:43	Hg	ug/L		-0.063
891210	19 Jul 2017 09:25:53	Hg	ug/L		-0.033
CCV	19 Jul 2017 09:28:02	Hg	ug/L		2.875
CCB	19 Jul 2017 09:30:10	Hg	ug/L		-0.250
DUP891210	19 Jul 2017 09:32:21	Hg	ug/L		-0.047
MSW891210	19 Jul 2017 09:34:30	Hg	ug/L		1.865
MSDW891210	19 Jul 2017 09:36:40	Hg	ug/L		1.736
CCV	19 Jul 2017 09:38:52	Hg	ug/L		2.722
CCB	19 Jul 2017 09:41:02	Hg	ug/L		-0.253

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
139864 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892398								MICP WATER QSM				
					ICV					0			
	892399								MICP WATER QSM				
					ICVLL					0			
	892400								MICP WATER QSM				
					ICB					0			
	892401								MICP WATER QSM				
					ICSA					0			
	892402								MICP WATER QSM				
					ICSAB					0			
	892403								MICP WATER QSM				
					ICVLL					0			
	892404								MICP WATER QSM				
					CCV1					0			
	892405								MICP WATER QSM				
					CCV2					0			
	892406								MICP WATER QSM				
					CCB					0			
	890760								ICP TOTAL QSM 5.0				
					LCSW					63150			
	890759								ICP TOTAL QSM 5.0				
					MBW					63150			
128867	890671		07/11/2017	1150			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		54ADW01								63150			
	892409								ICP TOTAL QSM 5.0				
					L	890671				0			
	890761		07/11/2017	1150					ICP TOTAL QSM 5.0				
		54ADW01			DUP	890671				63150			
	890762		07/11/2017	1150					ICP TOTAL QSM 5.0				
		54ADW01			MSW	890671				63150			
	890763		07/11/2017	1150					ICP TOTAL QSM 5.0				
		54ADW01			MSDW	890762				63150			
	892410								ICP TOTAL QSM 5.0				
					PDSW	890671				0			
	892411								MICP WATER QSM				
					CCV1					0			
	892412								MICP WATER QSM				
					CCV2					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
139864 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892413						MICP WATER QSM				
				CCB				0			

20 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
139865 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	896312								MICP WATER QSM K&Na				
					ICV					0			
	896313								MICP WATER QSM K&Na				
					ICVLL					0			
	896314								MICP WATER QSM K&Na				
					ICB					0			
	896316								MICP WATER QSM K&Na				
					ICSA					0			
	896317								MICP WATER QSM K&Na				
					ICSAB					0			
	896318								MICP WATER QSM K&Na				
					CCV					0			
	896319								MICP WATER QSM K&Na				
					CCB					0			
	890760								ICP K TOTAL QSM 5.0				
					LCSW					63150			
	890760								ICP NA TOTAL QSM 5.0				
					LCSW					63150			
	890759								ICP K TOTAL QSM 5.0				
					MBW					63150			
	896320								MICP WATER QSM K&Na				
					CCV					0			
	896321								MICP WATER QSM K&Na				
					CCB					0			
128867	890671		07/11/2017	1150			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		54ADW01								63150			
	896297								ICP K TOTAL QSM 5.0				
					L	890671							
	890761		07/11/2017	1150					ICP K TOTAL QSM 5.0				
		54ADW01			DUP	890671				63150			
	890762		07/11/2017	1150					ICP K TOTAL QSM 5.0				
		54ADW01			MSW	890671				63150			
	890763		07/11/2017	1150					ICP K TOTAL QSM 5.0				
		54ADW01			MSDW	890762				63150			
	896299								ICP K TOTAL QSM 5.0				
					PDSW	890671							
	896322								MICP WATER QSM K&Na				
					CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
139865 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	896323								MICP WATER QSM K&Na				
					CCB					0			
	896167								MICP WATER QSM K&Na				
					ICV					0			
	896168								MICP WATER QSM K&Na				
					ICVLL					0			
	896169								MICP WATER QSM K&Na				
					ICB					0			
	896171								MICP WATER QSM K&Na				
					ICSA					0			
	896172								MICP WATER QSM K&Na				
					ICSAB					0			
	896175								MICP WATER QSM K&Na				
					CCV					0			
	896176								MICP WATER QSM K&Na				
					CCB					0			
	890759								ICP NA TOTAL QSM 5.0				
					MBW					63150			
	896177								MICP WATER QSM K&Na				
					CCV					0			
	896178								MICP WATER QSM K&Na				
					CCB					0			
	896179								MICP WATER QSM K&Na				
					CCV					0			
	896180								MICP WATER QSM K&Na				
					CCB					0			
128867	890671		07/11/2017	1150			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		54ADW01								63150			
	896298								ICP NA TOTAL QSM 5.0				
					L	890671							
	896300								ICP NA TOTAL QSM 5.0				
					PDSW	890671							
	896182								MICP WATER QSM K&Na				
					CCV					0			
	896183								MICP WATER QSM K&Na				
					CCB					0			

37 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
139973 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	893349								MICP WATER QSM K&Na				
					ICV					0			
	893350								MICP WATER QSM K&Na				
					ICVLL					0			
	893351								MICP WATER QSM K&Na				
					ICB					0			
	893353								MICP WATER QSM K&Na				
					ICSA					0			
	893354								MICP WATER QSM K&Na				
					ICSAB					0			
	893367								MICP WATER QSM K&Na				
					CCV					0			
	893368								MICP WATER QSM K&Na				
					CCB					0			
	891861								ICP K TOTAL QSM 5.0				
					LCSW					63197			
	891861								ICP NA TOTAL QSM 5.0				
					LCSW					63197			
	891860								ICP K TOTAL QSM 5.0				
					MBW					63197			
	891860								ICP NA TOTAL QSM 5.0				
					MBW					63197			
	893369								MICP WATER QSM K&Na				
					CCV					0			
	893370								MICP WATER QSM K&Na				
					CCB					0			
128935	891494		07/13/2017	1635			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		49ADW1								63197			
128935	891494		07/13/2017	1635			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		49ADW1								63197			
	893371								ICP K TOTAL QSM 5.0				
					L	891494				0			
	893371								ICP NA TOTAL QSM 5.0				
					L	891494				0			
	891862		07/13/2017	1635					ICP K TOTAL QSM 5.0				
		49ADW1			DUP	891494				63197			
	891862		07/13/2017	1635					ICP NA TOTAL QSM 5.0				
		49ADW1			DUP	891494				63197			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
139973 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	891863		07/13/2017 1635					ICP K TOTAL QSM 5.0				
		49ADW1		MSW	891494				63197			
	891863		07/13/2017 1635					ICP NA TOTAL QSM 5.0				
		49ADW1		MSW	891494				63197			
	891864		07/13/2017 1635					ICP K TOTAL QSM 5.0				
		49ADW1		MSDW	891863				63197			
	891864		07/13/2017 1635					ICP NA TOTAL QSM 5.0				
		49ADW1		MSDW	891863				63197			
	893372							ICP K TOTAL QSM 5.0				
				PDSW	891494				0			
	893372							ICP NA TOTAL QSM 5.0				
				PDSW	891494				0			
	893373							MICP WATER QSM K&Na				
				CCV					0			
	893374							MICP WATER QSM K&Na				
				CCB					0			

27 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
139974 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	893708								MICP WATER QSM				
					ICV					0			
	893709								MICP WATER QSM				
					ICVLL					0			
	893710								MICP WATER QSM				
					ICB					0			
	893711								MICP WATER QSM				
					ICSA					0			
	893712								MICP WATER QSM				
					ICSAB					0			
	893713								MICP WATER QSM				
					ICVLL					0			
	891861								ICP TOTAL QSM 5.0				
					LCSW					63197			
	891860								ICP TOTAL QSM 5.0				
					MBW					63197			
128935	891494		07/13/2017	1635			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		49ADW1								63197			
	893714								ICP TOTAL QSM 5.0				
					L	891494				0			
	891862		07/13/2017	1635					ICP TOTAL QSM 5.0				
		49ADW1			DUP	891494				63197			
	891863		07/13/2017	1635					ICP TOTAL QSM 5.0				
		49ADW1			MSW	891494				63197			
	891864		07/13/2017	1635					ICP TOTAL QSM 5.0				
		49ADW1			MSDW	891863				63197			
	893715								ICP TOTAL QSM 5.0				
					PDSW	891494				0			
	893716								MICP WATER QSM				
					CCV1					0			
	893717								MICP WATER QSM				
					CCV2					0			
	893718								MICP WATER QSM				
					CCB					0			

17 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
140019 on 08/03/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	893502								MERCURY QSM 5.0				
					ICV					0			
	893503								MERCURY QSM 5.0				
					ICB					0			
	893504								MERCURY QSM 5.0				
					CCV					0			
	893505								MERCURY QSM 5.0				
					CCB					0			
	892810								MERCURY TOTAL QSM 5.0				
					LCSW					63229			
	893506								MERCURY QSM 5.0				
					CCV					0			
	893507								MERCURY QSM 5.0				
					CCB					0			
	892809								MERCURY TOTAL QSM 5.0				
					MBW					63229			
128867	890671		07/11/2017	1150			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		54ADW01								63229			
	892811		07/11/2017	1150					MERCURY TOTAL QSM 5.0				
		54ADW01			DUP	890671				63229			
	892812		07/11/2017	1150					MERCURY TOTAL QSM 5.0				
		54ADW01			MSW	890671				63229			
	892813		07/11/2017	1150					MERCURY TOTAL QSM 5.0				
		54ADW01			MSDW	892812				63229			
128935	891494		07/13/2017	1635			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		49ADW1								63229			
	893508								MERCURY QSM 5.0				
					CCV					0			
	893509								MERCURY QSM 5.0				
					CCB					0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 08/03/2017

Prep Batch **63,150** Date Prepped: 07/12/2017 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	890759	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50		
	890759	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50		
	890759	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50		
	890760	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50		
	890760	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50		
	890760	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50		
128867	890671			ICP K TOTAL QSM 5.0	GROUND WATER	50		50	4	
	890671			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50	4	
	890671			ICP TOTAL QSM 5.0	GROUND WATER	50		50	4	
	890761	DUP	890671	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	890761	DUP	890671	ICP TOTAL QSM 5.0	GROUND WATER	50		50		
	890762	MSW	890671	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	890762	MSW	890671	ICP TOTAL QSM 5.0	GROUND WATER	50		50		
	890763	MSDW	890762	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	890763	MSDW	890762	ICP TOTAL QSM 5.0	GROUND WATER	50		50		

Notes:_____

PREP WORKSHEET
on 08/03/2017

Prep Batch **63,197** Date Prepped: 07/17/2017 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	891860	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50		
	891860	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50		
	891860	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50		
	891861	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50		
	891861	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50		
	891861	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50		
128935	891494			ICP K TOTAL QSM 5.0	GROUND WATER	50		50	4	
	891494			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50	4	
	891494			ICP TOTAL QSM 5.0	GROUND WATER	50		50	4	
	891862	DUP	891494	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	891862	DUP	891494	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50		
	891862	DUP	891494	ICP TOTAL QSM 5.0	GROUND WATER	50		50		
	891863	MSW	891494	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	891863	MSW	891494	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50		
	891863	MSW	891494	ICP TOTAL QSM 5.0	GROUND WATER	50		50		
	891864	MSDW	891863	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	891864	MSDW	891863	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50		

PREP WORKSHEET
on 08/03/2017

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	891864	MSDW	891863	ICP TOTAL QSM 5.0	GROUND WATER	50		50		

Notes:_____

PREP WORKSHEET
on 08/03/2017

Prep Batch **63,229** Date Prepped: 07/18/2017 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	892809	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	892810	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
128867	890671			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
128935	891494			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	892811	DUP	890671	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	892812	MSW	890671	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	892813	MSDW	892812	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

FMT3,7-01

Metals Digestion Bench Sheet

Program: QSM
*Matrix: liquid

Prep Methods:
200.2= ICP/GFAA Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	63150
Prep Method:	3010
Analyst:	NAH
Date:	07/12/2017
Start Time:	12:00

Prep Analyst: NAH
Balance ID:

End Date: 07/12/2017
End Time: 20:00

Reagent:	Ref. #
Nitric Acid:	AB.643
Hydrochloric Acid:	AB.644
Hydrogen Peroxide:	

Digestion Tube Lot #: J273581-4428
Block Used: A
Cell Position for Temp. Check: d1
Initial-DigestionTemp (ºC): 93
Final-Digestion Temp (ºC): 93

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	890759	(MB)			50.0	50
	890760	(LCS)			50.0	50
	890671				50.0	50
		Comments:				50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
	890761	(DUP)			50.0	50
	890762	(MS)	Parent Sample		50.0	50
	890763	(MSD)	890671		50.0	50
Leave >>		(DUP) if applicable				50
blank		(MS)	Parent Sample			50
if N/A		(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M13171
0.5	M13088
0.5	M12988

LCS Spike Amount (ml)	Spike Ref. #
0.2	M13171
0.5	M13088
0.5	M12988

Reviewed By/Date:

FMT3,7-01

Metals Digestion Bench Sheet

Program: QSM 5
*Matrix: liquid

Prep Methods:
200.2= ICP/GFAA Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	63197
Prep Method:	3010
Analyst:	NAH
Date:	07/17/2017
Start Time:	12:00

Prep Analyst: NAH
Balance ID:
End Date: 07/17/2017
End Time: 20:00

Reagent:	Ref. #
Nitric Acid:	AB.643
Hydrochloric Acid:	AB.644
Hydrogen Peroxide:	

Digestion Tube Lot #: J273581-4428
Block Used: B
Cell Position for Temp. Check: D1
Initial-DigestionTemp (ºC): 92
Final-Digestion Temp (ºC): 92

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	891860	(MB)			50.0	50
	891861	(LCS)			50.0	50
	891494				50.0	50
		Comments:				50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
	891862	(DUP)			50.0	50
	891863	(MS)	Parent Sample		50.0	50
	891864	(MSD)	891494		50.0	50
Leave >>		(DUP) if applicable				50
blank		(MS)	Parent Sample			50
if N/A		(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M13171
0.5	M13088
0.5	M12988
0.1	M13049

LCS Spike Amount (ml)	Spike Ref. #
0.2	M13171
0.5	M13088
0.5	M12988
0.1	M13049

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M13109
ICV/LCSW ID: M13108

*Matrix: GW
Balance ID:

Prep Batch #:	63229
Prep Method:	7470A
Analyst:	LJF
Date:	07/18/2017
Start Time:	11:30

7470A= Hg Liquids
7471A= Hg Solids

End Date: 07/18/2017
End Time: 13:30
Digestion Tube Lot #: 6416053
Block Used: B
Cell Position for Temp. Check: F-4
Initial-DigestionTemp (ºC): 93.7
Final-Digestion Temp (ºC): 93.7
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M13106

Reagent:	Ref. #
HNO3:	AB.643
H2SO4:	AB.638
NaCl/Hydrox.SO4:	M13102
KMnO4:	M13198
K2S2O8:	M13181
Aqua-Regia:	

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	892809	(MB)			25.0	25
	892810	(LCS)			25.0	25
	890671				25.0	25
	891494	**Comments:**			25.0	25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
Leave >>	892811	(DUP)			25.0	25
blank	892812	(MS)	Parent Sample		25.0	25
	892813	(MSD)	890671		25.0	25
		(DUP)				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M13107

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 7-13-17	Data File: DDResults	Date of review: 7/20/17
Cal Std ID# 413218 LIMS # : 139864	Analyst: ZH	Reviewer: MDS	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No	(If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)		

QC Parameters : 6010 / 200.7 (QSM) Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ (0.995) / r > 0.998	✓		✓		
2) ICV: (90-110%) / 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%)	✓		✓		
3) ICB: < 3X IDL / <LOD / (<LOQ)	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL/LLOQ: (70-130%) / 80-120%	✓				
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓	✓	✓	✓	Ba >100 ok results >10x CB
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 63150 Dig. Meth. 3050	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Mg Cr >100 <½RL, Ca >100 ok results >10x MB
Spiked samples in batch:					
a) 890(7) matrix = GW	✓	✓	✓	✓	Invalid Ca, Mg Fail Dup invalid
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#: 6a	✓		✓		ok
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =					
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =					
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =					
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#:					

NaK072417v907

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 7/18/17, 7/24/17	Data File: NaK071817v908	Date of review: 7-25-17
Cal Std ID: M13055 LIMS #: 139865	Analyst: MDS	Reviewer:	Approved? (Yes) No

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r ≥ 0.998	✓		✓		
2) ICV: (90-110%) / 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%)			/		
3) ICB: < 3X IDL / (<LOD) / <LOQ	✓		/		
4) ICSA: < ABS LOD	✓		/		
5) ICSAB: 80-120%	✓		/		
6) MRL/LLOQ: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		/		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 63150 Dig. Meth. 3020	✓		/		
LCS - generated limits or project specific limits	✓		/		
MB - <LOD or ≤ ½ RL	✓		/		MB Na > ½ RL → Reprepped incorrectly (wrong sample) → Reprepped but Na ½ RL → Ran Na directly
Spiked samples in batch:					
a) 890671 matrix = low	✓	✓	/	/	Invalid
b) _____ matrix = _____					Dup invalid K
c) _____ matrix = _____					No DUP, MS, MSD for Na limited volume
PDS: ±15% / (20%) / 25% Sample#: a	✓		/		OK
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 7/18/17	Data File: NAK071817v905	Date of review: 7-19-17
Cal Std ID: M13055 LIMS #: 139973	Analyst: MDS	Reviewer:	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r² > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL/LLOQ: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 63197 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓				
Spiked samples in batch:			✓		
a) 891494 matrix = low	✓	✓	✓	✓	L invalid
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: 9	✓		✓		
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 7-18-17	Data File: 00Results	Date of review: 7/25/17
Cal Std ID: M13218 LIMS # : 189974	Analyst: KJ	Reviewer: MOS	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: (r ≥ 0.995) / r > 0.998	✓		✓		
2) ICV(90-110%) / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD) <LOQ	✓	✓	✓	✓	Ba > COD "B" Sample > 10x
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL/LLOQ: 70-130% / 80-120%	✓				
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID# 163197 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	As > COD "B" Ag > COD Sample < COD OK No flag
Spiked samples in batch:					
a) 891494 matrix = BW	✓	✓	✓	✓	4 invalid Al, Ca, Mg fail.
b)_____ matrix = _____					Dup invalid Al, Ca, Mg fail. TI RPD MSD "Y"
c)_____ matrix = _____					MS, MSD fail.
PDS: ±15% / 20% / 25% Sample#:_____			✓	✓	Mg, TI "M"
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER			
Analysis Date: 07/19/17	Data File: 0719/7wa		Date Review: 7-19-17	Analyte: Hg		
Cal Std ID: M13d6	LIMS #: 140019	Analyst: JF	Reviewer: JA	Approved? Yes	No	
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)						

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: (90-110%) 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / (<LOD) / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV (90-110%) / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO
Prep Batch ID# 03229 Dig. Meth. 7470A	✓		✓	
LCS - generated limits or project specific limits	✓		✓	
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓	
Spiked samples in batch:				
a) 340671 matrix = GW	✓		✓	
b)_____ matrix = _____				
c)_____ matrix = _____				
d)_____ matrix = _____				
e)_____ matrix = _____				
PDS: ±15% / 20% / 25% Sample#_____				
MSA Performed? Yes No				
Prep Batch ID#:_____ Dig. Meth._____				
LCS - generated limits or project specific limits				
MB - <LOD / <2.2X LOD / ≤ ½RL				
Spiked samples in batch:				
a)_____ matrix = _____				
b)_____ matrix = _____				
c)_____ matrix = _____				
d)_____ matrix = _____				
e)_____ matrix = _____				
PDS: ±15% / 20% / 25% Sample#_____				
MSA Performed? Yes No				
Prep Batch ID#:_____ Dig. Meth._____				
LCS - generated limits or project specific limits				
MB - <LOD / <2.2X LOD / ≤ ½RL				
Spiked samples in batch:				
a)_____ matrix = _____				
b)_____ matrix = _____				
c)_____ matrix = _____				
d)_____ matrix = _____				
e)_____ matrix = _____				
PDS: ±15% / 20% / 25% Sample#_____				
MSA Performed? Yes No				

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. STD ID	Comments	Pressure (kPa)
5/30/17	1104 / 1204	MDS	B+Si	138225	Si053017	M13143	v193	320
6/1/17	0815 / 1103	MDS	NaK	138352, 138466, 138421	NaK060117	M13055	v891	320
6/2/17	0750 / 0840	MDS	B+Si	138488	Si060217	M13143	v194	320
6/2/17	0945 / 1231	MDS	NaK	138461, 138516, 138503, 138500	NaK060217	M13055	v892	320
6/8/17	1037 / 1256	MDS	NaK	138500, 138642, 138640	NaK060817	M13055	v893	320
6/9/17	0914 / 1158	MDS	S	136420, 136435, 138755	S060917	M13151	v107	270
6/13/17	0936 / 1328	MDS	NaK	138756, 138752, 138762, 138840, 138796, 138787	NaK061317	M13055	v894	330
6/14/17	1015 / 1110	MDS	B+Si	138789	Si061417	M13143	v195	320
6/15/17	1003 / 1306	MDS	NaK	138964, 138954, 138938, 138902	NaK061517	M13055	v895	330
6/16/17	0937 / 1304	MDS	DOD	136422, 136434	DOD061617	M13017	v1828, v1830	270
6/19/17	1032 / 1142	MDS	NaK	139007	NaK061917	M13055	v896	320
6/20/17	1047 / 1246	MDS	NaK	139100, 139105	NaK062017	M13055	v897	320
6/22/17	0704 / 0816	MDS	NaK	139118	NaK062217	M13055	v898	320
6/23/17	1116 / 1255	MDS	NaK	139244, 139230	NaK062317	M13055	v899	320
6/26/17	0948 / 1206	MDS	NaK	139289, 139284, 139285	NaK062617	M13055	v900	320
6/30/17	0843 / 1014	MDS	NaK	139452, 139456	NaK063017	M13055	v901	320
7/7/17	1245 / 1409	MDS	NaK	139564, 139627	NaK070717	M13055	v902	320
7/10/17	0748 / 0907	MDS	NAK	139627	NaK070717	M13055	V903	320
7/12/17	1138 / 1600	MDS	NAK	139249, 139272, 139281, 139745	NaK071217	M13055	V904	320
7/18/17	0741 / 1342	MDS	~~MDS~~ NAK	139865, 139812, 139976, 139972, 139973, 139966, 139923, 139896, 139968, 139978	NaK071817	M13055	v905, v908	320
7/20/17	0931 / 1238	MDS	NaK	139812, 139865, 140079, 140080	NaK072017	M13055	v906	320
7/24/17	0926 / 1439	MDS	NaK	140150, 140119, 140119, 139865, 140190, 140196, 140185, 140152	NaK072417	M13055	v907	320
7/26/17	0918 / 1117	MDS	B+Si	140117, 140295	Si072617	M13143	v196	320
7/27/17	0851 / 1308	MDS	NaK	140350, 140359, 140267, 140300, 140199, 140345	NaK072717	M13055	v909	320
	/							
	/							

Checked by: _____ Verified by: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
7/5/17	1017 / 2237	[signature]	070517	DODCal u	139507 139447 139506	300	M3218	V2088	
7/6/17	1442 / 0644	[signature]	070617	DODCal u	139478 139629 139628 139632 136926 139617	300	M13218	V2091 V2090	
7/7/17	1013 / 1629	[signature]	070717	DODCal u	139474 139631 139625	300	M13218	V2093 V2092	
7/13/17	0729 / 1119	[signature]	071317	DODCal u	139769, 139773, 139751 139743, 139750, 139748, 139745 139780, 139814 139811, 139813	300	M13218	V2095	
7/17/17	1116 1305 / 2134	[signature]	071717	DODCal u	139867, 139753 139895 139864, 139866 139881 139891 139979, 139980 139967, 139965, 139867	300	M13218	V2098 V2096 V2102	
7/18/17	1121 / 2149	[signature]	071817	DODCal u	139980, 139979 139922 139997, 140012 139974, 139971, 139975, 139977	300	M13218	V2099 V2097 V2100	
7/19/17	1219 / 1836	[signature]	071917	DODCal u	140022 140046 IC	300	M13218	V2103	
7/20/17	0721 / 2230	[signature]	072017	DODCal u	139922 140075 140090 140078 140076 140077 140090	300	M13218	V2105 V2104	
7/21/17	0912 / 2144	[signature]	072417 7-24-17	DODCal u	140077 140149 140127 140047 140075 140151 140121 140076 140116 139780	300	M13218	V2108	
7/24/17	1116 / 2026	[signature]	072417	DODCal u	140185 140189 140202 140187 140195	300	M13218	V2109	
7/25/17	1220 / 0637	[signature]	072517	DODCal u	140269 140202 140195 140189 140216	300	M13218	V2111	
7-27-17	1049 / 1950	[signature]	072717	DODCal u	140349 140358 140343 140373	300	M13218	V2116	

Comments: _____

_____

Checked By / Date: _____

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: Cetac M-6000A

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
07/11/17	07:07	10:51	LSF	139711 139703, 139706, 139710	071117wa LSF	M13106	22.86	256764	SnCl2: M13205
07/12/17	06:54	08:28	LSF	139774, 139775	071217wa	M13106	22.86	256764	SnCl2: M13205
07/13/17 07/14/17 07/17/17 LSF	07:36	11:27	LSF	139877, 139870, 139872	071417wa	M13106	22.86	256764	SnCl2: M13205
07/18/17	07:03	07:40	LSF	139964	071817wa	M13106	22.86	256764	SnCl2: M13205
07/19/17	07:24	09:41	LSF	140018 140021, 140020, 140019, 140017	071917wa	M13106	22.86	256764	SnCl2: M13205
07/21/17	07:11	09:07	LSF	140114, 140115	072117wa	M13106	22.86	256764	SnCl2: M13205
07/24/17	09:23	11:12	LSF	140129, 140128, 140126	072417wa	M13106	22.86	256764	SnCl2: M13205
07/26/17	07:25	09:29	LSF	07/26/17 LSF 140271, 140272, 140273	072617wa	M13106	22.86	256764	SnCl2: M13205
07/27/17	09:27	12:26	LSF	140346, 140363, 140391, 140347	072717wa	M13106	22.86	256764	SnCl2: M13205
07/31/17	07:42	11:47	LSF	140408 140408, 140410, 140401	073117wa	M13106	22.86	256764	SnCl2: M13205
07/31/17	12:09	13:09	LSF	140414, 140415	073117wa	M13106	22.86	256764	SnCl2: M13205
08/03/17 LSF 08/04/17 LSF	11:27	12:16	LSF	MDL Water-Reena	080317wa	M13239	22.86	264704	SnCl2: M13243
08/03/17			LSF	140560 140553, 140558, 140559	080317wa	M13239		264704	SnCl2: M13243

Reviewed By/Date:_____

Type	Date/Time	Message	User name	Application	Sequence Name
	07/12/2017 15:11:57	Running 888152 (51)	MDS	Analyst	S_Sodium and Pota
	07/12/2017 15:14:43	Running 888765 (52)	MDS	Analyst	S_Sodium and Pota
	07/12/2017 15:17:27	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	07/12/2017 15:20:17	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/12/2017 15:23:04	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/12/2017 15:25:55	Plasma extinguished successfully	MDS	Analyst	
	07/12/2017 15:25:56	Plasma off	MDS	iTEVA Control Center	
	07/12/2017 15:25:57	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:14:04	Plasma On	MDS	iTEVA Control Center	
	07/18/2017 07:14:09	Plasma ignition successful	MDS	Analyst	
	07/18/2017 07:29:58	Sequence Started	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:29:58	Autosampler Run Started	MDS	Analyst	
	07/18/2017 07:30:19	Running Blank (1)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:33:17	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:36:02	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:38:47	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:40:51	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:41:38	Autosampler Run Started	MDS	Analyst	
	07/18/2017 07:41:38	Sequence Started	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:41:59	Running Blank (1)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:44:54	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:47:39	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:50:25	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:53:10	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:55:57	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 07:58:44	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:01:30	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:04:15	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:07:18	Running icv (10)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:10:03	Running ICVLL (17)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:12:49	Running icb (11)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:15:36	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:18:21	Running icsa (12)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:21:15	Running icsab (13)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:24:08	Running lcss63195 (1)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:26:51	Running mbs63195 (2)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:29:38	Running 890674 (3)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:32:19	Running 890675 (4)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:35:01	Running 890676 (5)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:37:42	Running 890677 (6)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:40:23	Running l890677 (7)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:43:07	Running dup890677 (8)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:45:49	Running mss890677 (9)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:48:31	Running msds890677 (10)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:51:13	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:54:00	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:56:47	Running pdss890677 (11)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 08:59:29	Running lcss63185 (12)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:02:14	Running mbs63185 (13)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:05:02	Running 891113 (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:07:45	Running mss891113 (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:10:26	Running msds891113 (16)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	07/18/2017 09:13:08	Running pdss891113 (17)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:15:51	Running lcsw (18)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:18:37	Running mbw (19)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:21:23	Running 891382 (20)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:24:09	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:26:56	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:29:44	Running msw891382 (21)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:32:29	Running msdw891382 (22)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:35:14	Running 891383 (23)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:38:02	Running 891384 (24)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:40:47	Running 891385 (25)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:43:32	Running 891386 (26)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:46:17	Running 891387 (27)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:49:02	Running 891388 (28)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:51:48	Running 891389 (29)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:54:32	Running 891390 (30)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 09:57:18	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:00:05	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:02:52	Running 891391 (31)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:05:37	Running 891392 (32)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:08:22	Running lcsw63145 (33)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:11:08	Running mbw63145 (34)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:13:56	Running 889875 (35)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:16:39	Running msw889875 (36)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:19:21	Running msdw889875 (37)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:22:03	Running pdsw889875 (38)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:24:45	Running lcsw63150 (39)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:27:30	Running mbw63150 (40)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:30:19	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:33:06	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:35:54	Running 890671 (41)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:38:40	Running l890671 (42)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:41:25	Running dup890671 (43)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:44:11	Running msw890671 (44)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:46:56	Running msdw890671 (45)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:49:42	Running pdsw890671 (46)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:52:28	Running lcss63144 (47)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:55:13	Running mbs63144 (48)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 10:58:01	Running 889434 (49)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:00:43	Running l889434 (50)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:03:25	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:06:11	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:09:00	Running dup889434 (51)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:11:41	Running mss889434 (52)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:14:23	Running msds889434 (53)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:17:04	Running pdss889434 (54)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:19:46	Running lcsw63198 (55)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:22:32	Running mbw63198 (56)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:25:21	Running 891097 (57)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:28:06	Running 891099 (58)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:30:50	Running 891100 (59)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:33:48	Running 891101 (60)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	07/18/2017 11:36:33	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:39:20	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:42:08	Running 891102 (61)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:44:53	Running 891103 (62)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:47:38	Running 891470 (63)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:50:24	Running 891471 (64)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:53:21	Running 891474 (65)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:56:07	Running msw891474 (66)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 11:58:56	Running msdw891474 (67)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:01:42	Running pdsw891474 (68)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:04:28	Running lcsw63196 (69)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:07:14	Running mbw63196 (70)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:10:04	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:12:52	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:15:41	Running 891207 (71)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:18:27	Running l891207 (72)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:21:13	Running dup891207 (73)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:23:59	Running msw891207 (74)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:26:57	Running msdw891207 (75)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:29:55	Running pdsw891207 (76)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:32:52	Running 891210 (77)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:35:38	Running 891514 (78)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:38:24	Running lcsw63197 (79)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:41:11	Running mbw63197 (80)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:44:01	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:46:49	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:49:40	Running 891494 (81)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:52:26	Running l891494 (82)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:55:13	Running dup891494 (83)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 12:58:00	Running msw891494 (84)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:00:46	Running msdw891494 (85)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:03:33	Running pdsw891494 (86)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:06:20	Running pdsw889875 (87)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:09:06	Running 891102 (88)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:11:53	Running 891207 (89)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:14:39	Running l891207 (90)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:17:29	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:20:17	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:23:08	Running dup891207 (91)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:25:55	Running msw891207 (92)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:28:42	Running msdw891207 (93)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:31:28	Running pdsw891207 (94)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:34:15	Running 891210 (95)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:37:00	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:39:49	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:42:37	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/18/2017 13:45:24	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	07/18/2017 15:59:01	Plasma extinguished successfully	MDS	Analyst	
	07/18/2017 15:59:02	Plasma off	MDS	iTEVA Control Center	
	07/20/2017 08:20:01	Plasma On	MDS	iTEVA Control Center	
	07/20/2017 08:20:07	Plasma ignition successful	MDS	Analyst	
	07/20/2017 09:31:35	Sequence Started	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	07/20/2017 11:54:39	Running l872870 (31)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 11:57:32	Running dup872870 (32)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:00:36	Running mss872870 (33)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:03:40	Running msds872870 (34)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:06:45	Running pdss872870 (35)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:09:51	Running 892871 (36)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:12:56	Running 892872 (37)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:16:00	Running 892873 (38)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:19:05	Running lcsw (39)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:21:52	Running mbw (40)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:24:44	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:27:32	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:30:22	Running 892057 (41)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:33:12	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:36:01	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:38:49	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/20/2017 12:41:36	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	07/20/2017 13:16:45	Plasma extinguished successfully	MDS	Analyst	
	07/20/2017 13:16:45	Plasma off	MDS	iTEVA Control Center	
	07/24/2017 09:01:36	iTEVA loaded	MDS	iTEVA Control Center	
	07/24/2017 09:01:55	Connected to instrument 20070314	MDS	iTEVA Control Center	
	07/24/2017 09:04:53	Plasma On	MDS	iTEVA Control Center	
	07/24/2017 09:04:59	Plasma ignition successful	MDS	iTEVA Control Center	
	07/24/2017 09:26:00	Autosampler Run Started	MDS	Analyst	
	07/24/2017 09:26:00	Sequence Started	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:26:21	Running Blank (1)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:29:22	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:32:11	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:34:56	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:37:42	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:40:29	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:43:18	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:46:05	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:48:51	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:51:55	Running icv (10)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:54:42	Running ICVLL (17)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 09:57:29	Running icb (11)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:00:17	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:03:03	Running icsa (12)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:05:57	Running icsab (13)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:08:50	Running lcsw63150 (1)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:11:34	Running mbw63150 (2)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:14:33	Running 890671 (3)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:17:29	Running l890671 (4)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:20:13	Running dup890671 (5)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:23:09	Running msw890671 (6)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:26:05	Running msdw890671 (7)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:29:02	Running pdsw890671 (8)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:31:58	Running lcss63281 (9)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:34:42	Running mbs63281 (10)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:37:31	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:40:19	Running ccb (15)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	07/24/2017 10:43:06	Running 892917 (11)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:46:02	Running mss892917 (12)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:48:55	Running msds892917 (13)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:51:47	Running pdss892917 (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:54:42	Running lcss63278 (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 10:57:25	Running mbs63278 (16)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:00:14	Running 894111 (17)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:03:05	Running l894111 (18)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:06:00	Running dup894111 (19)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:08:51	Running mss894111 (20)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:11:43	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:14:31	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:17:17	Running msds894111 (21)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:20:09	Running pdss894111 (22)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:23:01	Running 894112 (23)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:25:44	Running 894113 (24)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:28:25	Running 894116 (25)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:31:30	Running lcss63282 (26)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:34:13	Running mbs63282 (27)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:37:00	Running 894719 (28)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:39:46	Running pdss894719 (29)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:42:32	Running 894721 (30)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:45:17	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:48:04	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:50:51	Running lcsw (31)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:53:39	Running mbw (32)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:56:27	Running 893583 (33)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 11:59:12	Running 893587 (34)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:01:58	Running msw893587 (35)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:04:44	Running msdw893587 (36)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:07:30	Running 893588 (37)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:10:15	Running 893589 (38)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:13:01	Running 893590 (39)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:15:46	Running 893591 (40)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:18:32	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:21:20	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:24:08	Running 893592 (41)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:26:53	Running 893593 (42)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:29:39	Running 893594 (43)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:32:24	Running 893595 (44)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:35:10	Running 893596 (45)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:37:56	Running 893061 (46)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:40:41	Running msw893061 (47)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:43:28	Running msdw893061 (48)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:46:13	Running 893062 (49)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:48:59	Running lcsw63256 (50)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:51:45	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:54:33	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 12:57:20	Running mbw63256 (51)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:00:09	Running 892896 (52)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:02:54	Running msw892896 (53)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:05:40	Running msdw892896 (54)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	07/24/2017 13:08:25	Running pdsw892896 (55)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:11:11	Running 892897 (56)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:13:56	Running 892922 (57)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:16:42	Running 892925 (58)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:19:26	Running 893488 (59)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:22:12	Running lcsw63262 (60)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:24:58	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:27:46	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:30:34	Running mbw63262 (61)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:33:23	Running 892874 (62)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:36:12	Running l892874 (63)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:39:02	Running dup892874 (64)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:41:51	Running msw892874 (65)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:44:38	Running msdw892874 (66)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:47:23	Running pdsw892874 (67)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:50:12	Running 890671 (68)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:52:58	Running l890671 (69)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:55:45	Running pdss890671 (70)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 13:58:31	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 14:01:18	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 14:04:04	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 14:06:51	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 14:09:38	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	07/24/2017 14:12:22	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	07/24/2017 14:52:21	Plasma extinguished successfully	MDS	Analyst	
	07/24/2017 14:52:21	Plasma off	MDS	iTEVA Control Center	
	07/26/2017 08:57:38	Plasma On	MDS	iTEVA Control Center	
	07/26/2017 08:57:44	Plasma ignition successful	MDS	iTEVA Control Center	
	07/26/2017 09:18:31	Autosampler Run Started	MDS	Analyst	
	07/26/2017 09:18:31	Sequence Started	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:18:52	Running Blank (1)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:21:24	Running CalibStd-10 (2)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:23:55	Running CalibStd-50 (3)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:26:27	Running CalibStd-200 (4)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:28:59	Running CalibStd-1000 (5)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:31:33	Running CalibStd-2000 (6)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:34:07	Running CalibStd-10000 (7)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:36:39	Running CalibStd-500000 (8)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:39:03	Running icv (9)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:41:35	Running ICVLL (16)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:44:06	Running icb (10)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:46:37	Running mrl (15)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:49:09	Running icsa (11)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:51:36	Running icsab (12)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:54:01	Running lcsw63263 (1)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:56:34	Running mbw63263 (2)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 09:59:07	Running 893583 (3)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 10:01:38	Running msw893583 (4)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 10:04:09	Running msdw893583 (5)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 10:06:40	Running pdsw893583 (6)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 10:09:11	Running 893587 (7)	MDS	Analyst	S_Boron and Si2(v1
	07/26/2017 10:11:42	Running 893588 (8)	MDS	Analyst	S_Boron and Si2(v1

Type	Date/Time	Message	User name	Application	Sequence Name
	07/13/2017 05:15:44	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/13/2017 05:22:23	Plasma extinguished successfully	NAH	Analyst	
	07/13/2017 05:22:23	Plasma off	NAH	iTEVA Control Center	
	07/13/2017 05:22:25	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/13/2017 07:09:50	Plasma On	NAH	iTEVA Control Center	
	07/13/2017 07:09:57	Plasma ignition successful	NAH	Analyst	
	07/13/2017 07:10:43	D33534 - Debug:Wavelength check : x = 1.876, y =2.568	NAH	Analyst	
	07/13/2017 07:29:36	Autosampler Run Started	NAH	Analyst	
	07/13/2017 07:29:36	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/13/2017 07:29:57	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/13/2017 07:36:35	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	07/13/2017 07:43:13	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	07/13/2017 07:49:51	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	07/13/2017 07:56:29	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:03:07	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:09:46	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:16:21	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:22:53	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:29:27	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:35:28	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:42:09	Running CalStd12=100K (12)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:49:03	Running CalStd13=100000 (13)	NAH	Analyst	S_DOD Calibration
	07/13/2017 08:55:51	Running CalStd14=500000 (14)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:02:58	Running CalibStd15=1000k (15)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:10:10	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:16:45	Running icv (16)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:23:23	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:29:56	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:36:32	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:43:09	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:49:45	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	07/13/2017 09:52:43	The Method is already open in the workspace	NAH	Analyst	
	07/13/2017 09:55:08	Closing will close the method and all associated samples.	NAH	Analyst	
	07/13/2017 09:56:45	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:04:16	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:10:52	Running lcss63101 (2)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:16:59	Running mbs63101 (3)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:23:36	Running 889656 (4)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:30:13	Running mss889656 (5)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:36:41	Running msds889656 (6)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:43:11	Running pdss889656 (7)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:49:45	Running 889658 (8)	NAH	Analyst	S_DOD Calibration
	07/13/2017 10:56:41	Running 889661 (9)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:03:20	Running lcss63109 (10)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:09:39	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:15:37	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:21:51	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:28:28	Running mbs63109 (11)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:35:06	Running 886723 (12)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:41:20	Running l886723 (13)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:47:56	Running dup886723 (14)	NAH	Analyst	S_DOD Calibration
	07/13/2017 11:54:11	Running mss886723 (15)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/13/2017 12:00:40	Running msds886723 (16)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:06:48	Running pdss886723 (17)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:13:12	Running 886725 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:19:21	Running 886726 (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:26:01	Running 886727 (20)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:32:03	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:38:00	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:44:14	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:50:51	Running 886728 (21)	NAH	Analyst	S_DOD Calibration
	07/13/2017 12:57:56	Running 886729 (22)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:04:33	Running 886730 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:11:17	Running 886731 (24)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:18:28	Running 886732 (25)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:24:47	Running 886733 (26)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:30:56	Running 886734 (27)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:37:24	Running lcsw63095 (28)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:43:50	Running mbw63095 (29)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:50:28	Running 886703 (30)	NAH	Analyst	S_DOD Calibration
	07/13/2017 13:57:43	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:03:36	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:09:51	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:16:28	Running l886703 (31)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:23:35	Running dup886703 (32)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:30:50	Running msw886703 (33)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:37:54	Running msdw886703 (34)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:44:58	Running pdsw886703 (35)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:51:47	Running 889883 (36)	NAH	Analyst	S_DOD Calibration
	07/13/2017 14:58:49	Running 890114 (37)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:05:53	Running 890115 (38)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:12:58	Running msw890115 (39)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:19:39	Running msdw890115 (40)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:26:20	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:32:21	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:38:35	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:45:12	Running lcsw63096 94 (41)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:51:51	Running mbw63096 94 (42)	NAH	Analyst	S_DOD Calibration
	07/13/2017 15:58:27	Running 887533 (43)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:05:41	Running msw887533 (44)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:12:26	Running msdw887533 (45)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:19:11	Running pdsw887533 (46)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:25:51	Running 888151 (47)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:32:37	Running msw888151 (48)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:39:35	Running msdw888151 (49)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:46:33	Running pdsw888151 (50)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:53:11	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 16:59:15	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:05:30	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:12:07	Running 888152 (51)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:19:07	Running 888153 (52)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:25:53	Running 888516 (53)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:33:04	Running 888162 (54)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:40:03	Running msw888162 (55)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/13/2017 17:46:48	Running msdw888162 (56)	NAH	Analyst	S_DOD Calibration
	07/13/2017 17:53:33	Running pdsw888162 (57)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:00:14	Running 889690 (58)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:06:52	Running 889690 (59)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:13:29	Running 889690 (60)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:20:07	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:26:06	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:32:21	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:38:58	Running 889867 (61)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:46:04	Running msw889867 (62)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:52:43	Running msdw889867 (63)	NAH	Analyst	S_DOD Calibration
	07/13/2017 18:59:24	Running 889868 (64)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:06:28	Running 889869 (65)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:13:30	Running 890602 (66)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:20:36	Running 890604 (67)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:27:41	Running 890605 (68)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:34:45	Running 890609 (69)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:41:22	Running lcss63144 (70)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:47:44	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/13/2017 19:53:50	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:00:04	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:06:42	Running mbs63144 (71)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:13:19	Running 889434 (72)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:19:53	Running l889434 (73)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:26:39	Running dup889434 (74)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:33:12	Running mss889434 (75)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:39:39	Running msds889434 (76)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:46:16	Running pdss889434 (77)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:53:04	Running lcss63143 (78)	NAH	Analyst	S_DOD Calibration
	07/13/2017 20:59:13	Running mbs63143 (79)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:05:51	Running 888399 (80)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:12:43	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:18:50	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:25:04	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:31:42	Running mss888399 (81)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:38:16	Running msds888399 (82)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:44:51	Running pdss888399 (83)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:51:40	Running 888427 (84)	NAH	Analyst	S_DOD Calibration
	07/13/2017 21:58:16	Running 888434 (85)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:04:59	Running 888469 (86)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:11:55	Running 888823 (87)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:18:48	Running 888832 (88)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:25:19	Running 888879 (89)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:32:08	Running 888900 (90)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:38:50	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:44:56	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:51:11	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/13/2017 22:57:49	Running 888909 (91)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:04:38	Running 888926 (92)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:11:26	Running 888935 (93)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:18:28	Running 888948 (94)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:25:11	Running 888949 (95)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/13/2017 23:32:06	Running 888952 (96)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:38:49	Running 888953 (97)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:45:36	Running 890129 (98)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:52:30	Running 890152 (99)	NAH	Analyst	S_DOD Calibration
	07/13/2017 23:59:06	Running 890157 (100)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:05:48	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:11:53	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:18:08	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:24:46	Running 890207 (101)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:31:38	Running 890228 (102)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:38:29	Running LCSW63145 (103)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:45:10	Running MBW63145 (104)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:51:48	Running 889768 (105)	NAH	Analyst	S_DOD Calibration
	07/14/2017 00:58:48	Running 889778 (106)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:05:51	Running 889790 (107)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:12:57	Running 890612 (108)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:20:08	Running 890701 (109)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:27:13	Running MSW890701 (110)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:34:01	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:40:07	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:46:21	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:52:59	Running MSDW890701 (111)	NAH	Analyst	S_DOD Calibration
	07/14/2017 01:59:47	Running PDSW890701 (112)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:06:28	Running LCSW63150 (113)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:13:08	Running MBW63150 (114)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:19:48	Running 890671 (115)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:26:50	Running L890671 (116)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:33:57	Running DUP890671 (117)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:41:00	Running MSW890671 (118)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:47:43	Running MSDW890671 (119)	NAH	Analyst	S_DOD Calibration
	07/14/2017 02:54:31	Running PDSW890671 (120)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:01:09	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:07:16	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:13:29	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:20:08	Running LCSW63146 (121)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:26:48	Running MBW63146 (122)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:33:28	Running 889066 (123)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:40:22	Running 889103 (124)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:47:10	Running 889104 (125)	NAH	Analyst	S_DOD Calibration
	07/14/2017 03:54:18	Running 889105 (126)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:01:05	Running 889106 (127)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:08:02	Running MSW889106 (128)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:15:02	Running MSDW889106 (129)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:21:51	Running PDSW889106 (130)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:28:32	Running ccv1 (31)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:34:37	Running ccv2 (29)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:40:53	Running ccb (30)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:47:33	Running 889107 (131)	NAH	Analyst	S_DOD Calibration
	07/14/2017 04:54:39	Running 889108 (132)	NAH	Analyst	S_DOD Calibration
	07/14/2017 05:01:45	Running 889109 (133)	NAH	Analyst	S_DOD Calibration
	07/14/2017 05:08:41	Running 889110 (134)	NAH	Analyst	S_DOD Calibration
	07/14/2017 05:15:20	Running 886723 (135)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/18/2017 11:09:23	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:09:45	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:16:23	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:21:00	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:21:27	Autosampler Run Started	NAH	Analyst	
	07/18/2017 11:21:27	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:21:48	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:28:27	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:35:03	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:41:40	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:46:37	Closing will close the method and all associated samples.	NAH	Analyst	
	07/18/2017 11:48:19	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	07/18/2017 11:55:00	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:01:40	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:08:15	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:14:50	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:21:25	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:27:26	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:34:03	Running CalStd12=100K (12)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:40:57	Running CalStd13=100000 (13)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:47:45	Running CalStd14=500000 (14)	NAH	Analyst	S_DOD Calibration
	07/18/2017 12:54:51	Running CalibStd15=1000k (15)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:02:02	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:08:40	Running icv (16)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:15:23	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:21:59	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:28:37	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:35:15	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:41:57	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:48:56	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	07/18/2017 13:56:27	Running ICVLL Ag (1)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:03:04	Running lcsw63197 (2)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:09:50	Running mbw63197 (3)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:16:28	Running 891494 (4)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:23:25	Running l891494 (5)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:30:30	Running dup891494 (6)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:37:27	Running mswe891494 (7)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:44:04	Running msdw891494 (8)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:50:41	Running pdsw891494 (9)	NAH	Analyst	S_DOD Calibration
	07/18/2017 14:57:17	Running lcsw63196 (10)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:04:05	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:10:09	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:16:22	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:23:00	Running mbw63196 (11)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:29:38	Running 891207 (12)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:36:55	Running l891207 (13)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:44:01	Running dup89207 (14)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:51:16	Running msw891207 (15)	NAH	Analyst	S_DOD Calibration
	07/18/2017 15:57:58	Running msdw891207 (16)	NAH	Analyst	S_DOD Calibration
	07/18/2017 16:04:39	Running pdsw891207 (17)	NAH	Analyst	S_DOD Calibration
	07/18/2017 16:11:19	Running 891210 (18)	NAH	Analyst	S_DOD Calibration
	07/18/2017 16:18:26	Running 891514 (19)	NAH	Analyst	S_DOD Calibration

		Instrument:	CETAC
Standard Log #:	M13227	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/26/2017	Expiration Date:	07/26/2017
Prep:	Carefully mixed **3** parts HCl AB.644 with **1** part HNO_3 AB.645 in a hood.		

Standard Log #:	M13228	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/26/2017	Expiration Date:	07/26/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix.		

Standard ID#:	M13226	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	07/21/2017	Lot #:	170229
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M13224	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/20/2017	Expiration Date:	01/20/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13043 and **60 g** hydroxylamine sulfate M13015 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13225	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/20/2017	Expiration Date:	07/20/2017
Prep:	Carefully mixed **3** parts HCl AB.644 with **1** part HNO_3 AB.643 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13219	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	07/05/2017	Expiration Date:	05/30/2018
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13220	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	07/05/2017	Expiration Date:	05/30/2018
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13217 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13221	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	07/05/2017	Expiration Date:	05/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13190, **15 mL** Fe (10,000 mg/L) M13164, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191 and brought up to volume with milli-Q H_2O.		

Standard ID#:	M13217	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/05/2017	Lot #:	43-224CR
Expiration Date (if any):	6/30/2017	Catalog #:	XCTWI-4-500

		Instrument:	ICP 6500
Standard Log #:	M13218	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	07/05/2015	Expiration Date:	05/07/2017

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13191, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13217 and **1 mL** of Si (1000 mg/L) M13085 and 1 mL M13203 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13163.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M13166, **10 mL** of Mn (10,000 mg/L) M13167, **10 mL** of Cr (10,000 mg/L) M13165, **10 mL** Pb (10,000 mg/L) M13169, **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13135.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M13031, **10 mL** of Fe (10,000 mg/L) M13164, **10 mL** of Ca (10,000 mg/L) M13032 and **10 mL** Al (10,000 mg/L) M13034.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard ID#:	M13214	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/26/2017	Lot #:	43-194CR
Expiration Date (if any):	06/30/2018	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13215	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/27/2017	Expiration Date:	06/27/2017
Prep:	Carefully mixed **3** parts HCl AB.642 with **1** part HNO_3 AB.640 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13212	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/23/2017	Expiration Date:	06/23/2017
Prep:	Carefully mixed **3** parts HCl AB.542 with **1** part HNO_3 AB.540 in a hood.		

Standard Log #:	M13213	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	06/23/2017	Expiration Date:	06/23/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix.		

Standard Log #:	M13210	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/20/2017	Expiration Date:	12/20/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M13160 and brought up to volume.		

Standard Log #:	M13211	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/20/2017	Expiration Date:	06/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13210. Dilute to 20 L and mix.		

Standard Log #:	M13207	Instrument:	ICP
Analyst:	MDS	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	06/09/2017	Expiration Date:	04/30/2018

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13172	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13208	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	06/09/2017	Expiration Date:	04/30/2018

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13172	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13205	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/07/2017	Expiration Date:	12/07/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.642 and dissolved **100 g** Stannous chloride M13120 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13206	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/07/2017	Expiration Date:	06/07/2017
Prep:	Carefully mixed **3** parts HCl AB.642 with **1** part HNO_3 AB.640 in a hood.		

Standard ID#:	M13202	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Cerium 1000 mg/L
Date Received:	06/02/2017	Lot #:	22-46CEY
Expiration Date (if any):	05/30/2018	Catalog #:	PLCE2-2Y

Standard ID#:	M13203	Vendor:	CPI
Analyst:	NAH	Chemical:	Cerium 1000 mg/L
Date Received:	06/02/2017	Lot #:	16K087
Expiration Date (if any):	11/30/2018	Catalog #:	S4400-1000101

Standard Log #:	M13204	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/05/2017	Expiration Date:	06/05/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.641 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard ID#:	M13199	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana I soil
Date Received:	05/15/2017	Lot #:	2710a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13200	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana II soil
Date Received:	05/15/2017	Lot #:	2711a
Expiration Date (if any):		Catalog #:	

Standard Log #:	M13198	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/26/2017	Expiration Date:	11/26/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13198 and brought up to volume.		

Standard ID#:	M13193	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	05/25/2017	Lot #:	M2-MEB658424
Expiration Date (if any):	05/25/2018	Catalog #:	CTI-SPK-1

Standard ID#:	M13194	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE Alt. Source
Date Received:	05/25/2017	Lot #:	M2-MEB658423
Expiration Date (if any):	05/25/2018	Catalog #:	CTI-GFCAL-1

		Instrument:	GFAA
Standard Log #:	M13195	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/25/2017	Expiration Date:	05/25/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13196	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/25/2017	Expiration Date:	05/25/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13193 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13197	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/25/2017	Expiration Date:	05/25/2018
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13194 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13188	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/23/2017	Expiration Date:	05/23/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard Log #:	M13189	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/23/2017	Expiration Date:	05/23/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard ID#:	M13190	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	05/23/2017	Lot #:	3-84MKBX
Expiration Date (if any):	05/30/2018	Catalog #:	INT-A1

Standard ID#:	M13191	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom assurance Standard-100 ug/n
Date Received:	05/23/2017	Lot #:	43-009CR
Expiration Date (if any):	05/30/2018	Catalog #:	XCTWI-5-500

Standard ID#:	M13186	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	05/22/2017	Lot #:	166161
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13187	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	05/22/2017	Lot #:	1705408
Expiration Date (if any):	11/16/2018	Catalog #:	HP10M67-1

Standard Log #:	M13181	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/09/2017	Expiration Date:	11/09/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

Standard Log #:	M13182	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/09/2017	Expiration Date:	11/09/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M13180	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	05/08/2017	Expiration Date:	11/30/2017

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13026 and **0.001 mL** W (1000 µg/mL) M13131 into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13026 and **0.01 mL** W (1000 µg/mL) M13131 into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13026 and **0.1 mL** W (1000 µg/mL) M13131 into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13026 and **0.2 mL** W (1000 µg/mL) M13131 into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13026 and **2 mL** W (1000 µg/mL) M13131 into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13178	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/05/2017	Expiration Date:	08/11/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13130 Sn (1000 µg/mL) M13134 Sr (1000 µg/mL) M13129 Ti (1000 µg/mL) M13128 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M13179	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	05/05/2017	Expiration Date:	08/11/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13130	1000	1	09/18/2018
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M13128	1000	0.5	09/18/2018
Sr	10/30	M13129	1000	0.5	09/18/2018
Sn	20/60	M13134	1000	1	09/18/2018

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13176	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/05/2017	Expiration Date:	05/05/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.640 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13177	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/05/2017	Expiration Date:	11/30/2017
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040, **6 mL** of Fe (10,000 mg/L) M12992, **0.1 mL** of Li (1000 µg/mL) M13130, **0.1 mL** of Sn (1000 µg/mL) M13134, **0.1 mL** of Sr (1000 µg/mL) M13129, **0.1 mL** of Ti (1000 µg/mL) M13128, and **0.1 mL** of W (1000 µg/mL) M13131 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13173	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/03/2017	Expiration Date:	05/03/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard Log #:	M13174	Reagent:	TCLP 1 N HCL
Analyst:	LJF		
Prep Date:	05/03/2017	Expiration Date:	05/03/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.637 and brought up to volume.		

Standard Log #:	M13175	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/03/2017	Expiration Date:	05/03/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard ID#:	M13171	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	05/01/2017	Lot #:	42-155CR
Expiration Date (if any):	04/30/2018	Catalog #:	XSPIKE-1-250

Standard ID#:	M13172	Vendor:	NAH
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	05/01/2017	Lot #:	AL16-158SY
Expiration Date (if any):	04/30/2018	Catalog #:	PLS9-3Y

Standard ID#:	M13163	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 mg/L
Date Received:	04/24/2017	Lot #:	1106963
Expiration Date (if any):	10/19/2018	Catalog #:	4400-10M411

Standard ID#:	M13164	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	04/25/2017	Lot #:	1106960
Expiration Date (if any):	10/19/2018	Catalog #:	4400-10M261

Standard ID#:	M13165	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10,000 mg/L
Date Received:	04/25/2017	Lot #:	1106998
Expiration Date (if any):	10/19/2018	Catalog #:	s4400-10M121

Standard ID#:	M13166	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10,000 mg/L
Date Received:	04/25/2017	Lot #:	1107000
Expiration Date (if any):	10/19/2018	Catalog #:	s4400-10M141

Standard ID#:	M13167	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10,000 mg/L
Date Received:	04/25/2017	Lot #:	1107001
Expiration Date (if any):	10/19/2018	Catalog #:	S4400-10M321

Standard ID#:	M13168	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10,000 mg/L
Date Received:	04/25/2017	Lot #:	1107003
Expiration Date (if any):	10/19/2018	Catalog #:	4400-10M681

Standard ID#:	M13169	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10,000 mg/L
Date Received:	04/25/2017	Lot #:	1107081
Expiration Date (if any):	10/19/2018	Catalog #:	4400-10M281

Standard Log #:	M13160	Reagent:	10N NaOH
Analyst:	MDS		
Prep Date:	04/21/2017	Expiration Date:	04/21/2018
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W40688 and brought up to volume.		

Standard Log #:	M13161	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	04/21/2017	Expiration Date:	04/21/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard Log #:	M13162	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	04/21/2017	Expiration Date:	04/21/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13160. Dilute to 20 L and mix.		

Standard Log #:	M13159	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/20/2017	Expiration Date:	10/20/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13154	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/18/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13155	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/18/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13156	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/18/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard ID#:	M13157	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	04/18/2017	Lot #:	138905AH
Expiration Date (if any):	05/2018	Catalog #:	39043

		Instrument:	CETAC
Standard Log #:	M13158	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/18/2017	Expiration Date:	04/18/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.639 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13151	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	04/14/2017	Expiration Date:	09/16/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12872 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13152	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	04/14/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12876 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M13153	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	04/14/2017	Expiration Date:	04/14/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13053. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13148	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	04/13/2017	Expiration Date:	05/03/2018
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13035 and Na (10,000 mg/L) M13135 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13149	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/13/2017	Expiration Date:	11/30/2017
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040 , **2.5 mL** of K (10,000 mg/L) M13035 , **2.5 mL** of Na (10,000 mg/L) M13135 and **7.5 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13150	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/13/2017	Expiration Date:	05/03/2018
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13135 and **0.15 mL** K (10,000 µg/mL) M13035 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13147	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As, Tl 8 µg/L Pb 14 µg/L Sb 20 µg/L Se 0.6 µg/L Ag
Prep Date:	04/12/2017	Expiration Date:	11/11/2017

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12958	10,000
Pb	0.1	10,000	M12861	10,000
Tl	1	1000	M13124	10,000
Se	1	1000	M13082	10,000
Sb	1	1000	M13084	10,000
Ag	0.1	1000	M13083	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.8	10,000	8
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.4	10,000	14
Ag	0.6	1000	0.6

Standard Log #:	M13145	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	04/12/2017	Expiration Date:	11/11/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13083	1000	0.01
As	2	M12958	1000	0.1
Pb	2	M12861	10000	0.01
Sb	2	M13084	1000	0.1
Se	2	M13082	1000	0.1
Tl	2	M13124	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13146	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/12/2017	Expiration Date:	04/12/2017

Prep: Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.639 in a hood.

		Instrument:	ICP 6000
Standard Log #:	M13142	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/11/2017	Expiration Date:	11/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13026 and **1.0 mL** Si (1000 mg/L) M12943 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13143	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	04/11/2017	Expiration Date:	06/08/2018
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13048 and Si (1000 mg/L) M13085 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13144	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	04/11/2017	Expiration Date:	11/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13040, **0.05 mL** of B (1000 µg/mL) M13048, **0.05 mL** of Si (1000 µg/mL) M13085 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M13140	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	04/04/2017	Expiration Date:	07/02/2018
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13083 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13138	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	04/04/2017	Expiration Date:	11/11/2017
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13084 **3.2 mL** of As (1000 mg/L) M12958 **3.2 mL** of Se (1000 mg/L) M13082 **0.08 mL** of Pb (10,000 mg/L) M12861 **1.0 mL** of Tl (1000 mg/L) M13124 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13139	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	04/04/2017	Expiration Date:	11/11/2017
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13084 **1.0 mL** of As (1000 mg/L) M12958 **2.0 mL** of Se (1000 mg/L) M13082 **0.045 mL** of Pb (10,000 mg/L) M12861 **0.4 mL** of Tl (1000 mg/L) M13124 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13137	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/31/2017	Expiration Date:	03/31/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.639 in a hood.		

Standard ID#:	M13134	Vendor:	CPI International
Analyst:	MDS	Chemical:	Tin 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105287
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-1000613

Standard ID#:	M13135	Vendor:	CPI International
Analyst:	MDS	Chemical:	Sodium 10,000 mg/L
Date Received:	03/23/2017	Lot #:	1105283
Expiration Date (if any):	09/18/2018	Catalog #:	4400-10M521

		Instrument:	CETAC
Standard Log #:	M13136	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/27/2017	Expiration Date:	03/27/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13129	Vendor:	CPI International
Analyst:	MDS	Chemical:	Strontium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105291
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-1000531

Standard ID#:	M13130	Vendor:	CPI International
Analyst:	MDS	Chemical:	Lithium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105286
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-1000291

Standard ID#:	M13131	Vendor:	CPI International
Analyst:	MDS	Chemical:	Tungsten 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105285
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-1000633

Standard ID#:	M13132	Vendor:	CPI International
Analyst:	MDS	Chemical:	Cobalt 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105296
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-1000131

Standard ID#:	M13133	Vendor:	CPI International
Analyst:	MDS	Chemical:	Nickel 1000 mg/L
Date Received:	03/23/2017	Lot #:	1104980
Expiration Date (if any):	09/14/2018	Catalog #:	S4400-1000361

Standard ID#:	M13124	Vendor:	CPI International
Analyst:	MDS	Chemical:	Thallium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105132
Expiration Date (if any):	09/16/2017	Catalog #:	S4400-1000581

Standard ID#:	M13125	Vendor:	CPI International
Analyst:	MDS	Chemical:	Vanadium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105293
Expiration Date (if any):	09/18/2017	Catalog #:	S4400-1000651

Standard ID#:	M13126	Vendor:	CPI International
Analyst:	MDS	Chemical:	Beryllium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105295
Expiration Date (if any):	09/18/2017	Catalog #:	S4400-100051

Standard ID#:	M13127	Vendor:	CPI International
Analyst:	MDS	Chemical:	Cadmium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105288
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-100081

Standard ID#:	M13128	Vendor:	CPI International
Analyst:	MDS	Chemical:	Titanium 1000 mg/L
Date Received:	03/23/2017	Lot #:	1105290
Expiration Date (if any):	09/18/2018	Catalog #:	S4400-1000623

		Instrument:	CETAC
Standard Log #:	M13123	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/22/2017	Expiration Date:	03/22/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.634 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13122	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/17/2017	Expiration Date:	03/17/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13120	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/16/2017	Lot #:	G024-22
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M13121	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/16/2017	Expiration Date:	09/16/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13117	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	03/10/2017	Expiration Date:	09/10/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

Standard Log #:	M13118	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/10/2017	Expiration Date:	09/10/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13117. Dilute to 20 L and mix.		

Standard Log #:	M13119	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/10/2017	Expiration Date:	09/10/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13117. Dilute to 20 L and mix.		

Standard Log #:	M13113	Standard/Reagent:	LJF/NAH GFAA BS
Analyst:	MDS	Final Concentration:	15 µg/L & (1.5 µg/L Ag)
Prep Date:	03/07/2017	Expiration Date:	06/01/2017
Prep:	0.075 mL M12863 (GFAA ICV/Spike) into 50 mL Milli-Q H2O. LIMs #'s 838158 & 838182		

Standard Log #:	M13114	Standard/Reagent:	MDS GFAA BS
Analyst:	NAH	Final Concentration:	15 µg/L & (1.5 µg/L Ag)
Prep Date:	03/07/2017	Expiration Date:	06/01/2017
Prep:	0.075 mL M12863 (GFAA ICV/Spike) into 50 mL Milli-Q H2O. LIMs # 838187		

Standard Log #:	M13115	Standard/Reagent:	MDS/LJF BS
Analyst:	NAH	Final Concentration:	(2000 ug/L W,Si)(20,000 ug/
Prep Date:	03/07/2017	Expiration Date:	06/09/2017
Prep:	0.5mls M13026, 0.1mls M12673,M13047,M12872,M12679,M12679,M13035. LIMS# 838158,838187,838165,838186.		

Standard Log #:	M13116	Standard/Reagent:	NAH BS
Analyst:	MDS	Final Concentration:	2000 ug/L W,Si)(20,000 ug/l
Prep Date:	03/07/2017	Expiration Date:	06/09/2017
Prep:	0.5mls M13026, 0.1mls M12673,M13047,M12872,M12679,M12679,M13035. LIMS# 838181, 838182		

		Instrument:	CETAC
Standard Log #:	M13109	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	03/03/2017	Expiration Date:	07/22/2018
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13110	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	03/03/2017	Expiration Date:	02/18/2018
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M13103 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13111	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/03/2017	Expiration Date:	03/03/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.634 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13112	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	03/03/2017	Expiration Date:	09/03/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.637 and dissolved **100 g** Stannous chloride M12998 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13106	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/03/2017	Expiration Date:	07/22/2018
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13104 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13107	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/03/2017	Expiration Date:	02/2/2018
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13103 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13108	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	03/03/2017	Expiration Date:	02/28/2018
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13103 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M13103	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Hg 1000 ug/mL
Date Received:	02/28/2017	Lot #:	CL-144HGY
Expiration Date (if any):	02/28/2018	Catalog #:	CLHG4-2Y

Standard ID#:	M13104	Vendor:	CPI
Analyst:	NAH	Chemical:	Hg 1000 ug/mL
Date Received:	03/02/2017	Lot #:	17A006
Expiration Date (if any):	07/22/2018	Catalog #:	S4400-1000331

Standard ID#:	M13105	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrrium 10,000 ug/mL
Date Received:	03-02-2017	Lot #:	16l092
Expiration Date (if any):	07/24/2017	Catalog #:	4400-10M671

Standard Log #:	M13102	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/21/2017	Expiration Date:	08/21/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12877 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13099	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	02/20/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13100	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	02/20/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13101	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	02/20/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13095	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/17/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13096	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/17/2017	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13097	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/17/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13098	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/17/2017	Expiration Date:	08/17/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.637 and dissolved **100 g** Stannous chloride M12998 and brought up to volume.		

Standard Log #:	M13092	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/17/2017	Expiration Date:	08/17/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13093	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/17/2017	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13094	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/17/2017	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13089	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/14/2017	Expiration Date:	02/14/2017
Prep:	Carefully mixed **3** parts HCl AB.637 with **1** part HNO_3 AB.634 in a hood.		

Standard Log #:	M13090	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	8 µg/L As, Sb 4 µg/L Pb 10 µg/L Tl 20 µg/L Se 0.6 µg/L Ag
Prep Date:	02/13/2017	Expiration Date:	04/15/2017

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12860	10,000
Pb	0.1	10,000	M12861	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M13082	10,000
Sb	1	1000	M13084	10,000
Ag	0.1	1000	M13083	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	0.8	10,000	8
Pb	0.4	10,000	4
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	0.8	10,000	8
Ag	0.6	1000	0.6

		Instrument:	ICP 6000
Standard Log #:	M13091	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	02/13/2017	Expiration Date:	11/27/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12873 and **0.5 mL** K (1000 µg/mL) M12956 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13088	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/13/2017	Lot #:	14-192WL
Expiration Date (if any):	02/28/2018	Catalog #:	XCTWI-1-500

Standard ID#:	M13087	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/10/2017	Lot #:	41-047CR
Expiration Date (if any):	02/28/2018	Catalog #:	XSPIKE-1-250

Standard Log #:	M13086	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/08/2017	Expiration Date:	02/08/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13053. Dilute to 20 L and mix.		

Standard ID#:	M13082	Vendor:	CPI International
Analyst:	MDS	Chemical:	1000 µg/mL Selenium
Date Received:	02/08/2017	Lot #:	16I070
Expiration Date (if any):	07/02/2018	Catalog #:	S4400-1000491

Standard ID#:	M13083	Vendor:	CPI International
Analyst:	MDS	Chemical:	1000 µg/mL Silver
Date Received:	02/08/2017	Lot #:	16K036
Expiration Date (if any):	07/02/2018	Catalog #:	S4400-1000511

Standard ID#:	M13084	Vendor:	CPI International
Analyst:	MDS	Chemical:	1000 µg/mL Antimony
Date Received:	02/08/2017	Lot #:	16I118
Expiration Date (if any):	07/02/2018	Catalog #:	S4400-100023

Standard ID#:	M13085	Vendor:	CPI International
Analyst:	MDS	Chemical:	1000 µg/mL Silicon
Date Received:	02/08/2017	Lot #:	16I001
Expiration Date (if any):	07/02/2018	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M13081	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/01/2017	Expiration Date:	02/01/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13080	Vendor:	FISHER
Analyst:	LJF	Chemical:	POTASSIUM PERMANGANATE
Date Received:	01/30/2017	Lot #:	164080
Expiration Date (if any):		Catalog #:	P279-212

		Instrument:	CETAC
Standard Log #:	M13079	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/24/2017	Expiration Date:	01/24/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.634 in a hood.		

Standard Log #:	M13078	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/23/2017	Expiration Date:	07/23/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13076	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/2017	Expiration Date:	01/19/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.636 in a hood.		

Standard Log #:	M13077	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	01/20/2017	Expiration Date:	07/20/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12877 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13075	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/16/2017	Expiration Date:	01/16/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.636 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13072	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/11/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13073	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/11/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13074	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/11/2017	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13071	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/10/2017	Expiration Date:	01/10/2018
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13053. Dilute to 20 L and mix.		

Standard Log #:	M13070	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/06/2017	Expiration Date:	02/10/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M12599	1000	0.01
As	2	M12958	1000	0.1
Pb	2	M12861	10000	0.01
Sb	2	M12602	1000	0.1
Se	2	M12600	1000	0.1
Tl	2	M12668	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13067	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/06/2016	Expiration Date:	07/06/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.635 and dissolved **100 g** Stannous chloride M12998 and brought up to volume.		

Standard Log #:	M13068	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/06/2017	Expiration Date:	07/06/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13069	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	01/06/2017	Expiration Date:	07/06/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12877 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13064	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/06/2017	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13065	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/06/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13066	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/06/2017	Expiration Date:	01/06/2017
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.636 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13061	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/06/2017	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13062	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/06/2017	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13063	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/06/2017	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13060	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/30/2016	Expiration Date:	12/30/2016
Prep:	Carefully mixed **3** parts HCl AB.635 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

		Instrument:	ICP 6000
Standard Log #:	M13057	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	12/23/2016	Expiration Date:	05/30/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12876 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13058	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	12/23/2016	Expiration Date:	09/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12872 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13056	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	12/21/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **2.5 mL** of K (10,000 mg/L) M12946, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12949 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13052	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	12/20/2016	Expiration Date:	12/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M12878. Dilute to 20 L and mix.		

Standard Log #:	M13053	Reagent:	10N NaOH
Analyst:	MDS		
Prep Date:	12/20/2016	Expiration Date:	12/20/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W39893 and brought up to volume.		

Standard Log #:	M13054	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	12/20/2016	Expiration Date:	12/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M13053. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13055	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/20/2016	Expiration Date:	11/27/2017
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12873 and K (1000 µg/mL) M12956 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	CETAC
Standard Log #:	M13051	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/15/2016	Expiration Date:	12/15/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13047	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000
Date Received:	12/15/2016	Lot #:	16I001
Expiration Date (if any):	06/08/2018	Catalog #:	S4400-1000504F

Standard ID#:	M13048	Vendor:	CPI
Analyst:	NAH	Chemical:	B 1000 mg/L
Date Received:	12/15/2016	Lot #:	16H060
Expiration Date (if any):	06/08/2018	Catalog #:	S4400-100074

Standard ID#:	M13049	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	12/15/2016	Lot #:	16I124
Expiration Date (if any):	06/08/2016	Catalog #:	S4400-1000343

Standard ID#:	M13050	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	12/15/2016	Lot #:	16K094
Expiration Date (if any):	06/08/2016	Catalog #:	4400-1000521

		Instrument:	CETAC
Standard Log #:	M13046	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/13/2016	Expiration Date:	12/13/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.634 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13044	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/07/2016	Expiration Date:	12/07/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.634 in a hood.		

Standard ID#:	M13045	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	12/07/2016	Lot #:	40-062CR
Expiration Date (if any):	12/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13042	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2016	Expiration Date:	11/29/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.633 in a hood.		

Standard ID#:	M13043	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	11/29/2016	Lot #:	166218
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13040	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	11/18/2016	Lot #:	2-124MKBX
Expiration Date (if any):	11/30/2017	Catalog #:	INT-A1

Standard ID#:	M13041	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/18/2016	Lot #:	39-200CR
Expiration Date (if any):	11/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13037	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/17/2016	Expiration Date:	11/17/2017
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard Log #:	M13038	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/18/2016	Expiration Date:	05/18/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13039	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/18/2016	Expiration Date:	05/18/2017
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12629 and **60 g** hydroxylamine sulfate M12843 and brought up to volume.		

Standard ID#:	M13036	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	11/10/2016	Lot #:	138905AH
Expiration Date (if any):	05/31/2018	Catalog #:	39043

Standard ID#:	M13031	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I168
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M311

Standard ID#:	M13032	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I091
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M91

Standard ID#:	M13033	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I080
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M261

Standard ID#:	M13034	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	11/09/2016	Lot #:	16F134
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M11

Standard ID#:	M13035	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	11/09/2018	Lot #:	16I165
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10m411

		Instrument:	CETAC
Standard Log #:	M13027	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/09/2016	Expiration Date:	11/09/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard ID#:	M13028	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	11/09/2016	Lot #:	1623223
Expiration Date (if any):	05/04/2018	Catalog #:	HP10M67-1

Standard ID#:	M13029	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	11/09/2016	Lot #:	16H058
Expiration Date (if any):	05/03/2018	Catalog #:	S4400-100041

Standard ID#:	M13030	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	11/09/2016	Lot #:	16I092
Expiration Date (if any):	05/03/2018	Catalog #:	4400-10M671

Standard Log #:	M13025	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/07/2016	Expiration Date:	11/07/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.630 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard ID#:	M13026	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurrance Standard
Date Received:	11/07/2016	Lot #:	2-150MKB
Expiration Date (if any):	11/30/2017	Catalog #:	XCTIWI-5-500

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

MRL BASE STD M13023

Analyst NAH

Prep Date 11/01/2016

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	02/10/2017
Al	400	M12948	10000	2	01/29/2018
Ba	10	M12473	1000	0.5	10/16/2016
Be	4	M12667	1000	0.2	04/15/2017
Cd	5	M12674	1000	0.25	04/15/2017
Co	10	M12678	1000	0.5	04/15/2017
Cr	10	M12941	10000	0.05	01/29/2018
Cu	10	M12945	10000	0.05	01/29/2018
Mg	500	M12947	10000	2.5	01/29/2018
Mn	10	M12944	10000	0.05	01/29/2018
Mo	10	M12677	1000	0.5	04/15/2017
Ni	10	M12681	1000	0.5	04/15/2017
Pb	10	M12861	10000	0.05	11/11/2017
Sb	20	M12602	1000	1	02/10/2017
V	10	M12676	1000	0.5	04/15/2017
Zn	10	M12989	10000	0.05	04/07/2018
K	1000	M12946	10000	5	01/29/2018
Na	1000	M12679	10000	5	04/15/2017
As	20	M12958	1000	1	02/23/2018
Ca	500	M12942	10000	2.5	01/29/2018
Fe	300	M12949	10000	1.5	01/29/2018
Se	20	M12600	1000	1	02/10/2017
Tl	20	M12668	1000	1	04/15/2017
Si	100	M12943	1000	5	01/29/2018
B	20	M12957	1000	1	02/23/2018
Li	20	M12672	1000	1	04/15/2017
W	50	M12673	1000	2.5	04/15/2017
Ti	10	M12671	1000	0.5	04/15/2017
Sr	10	M12670	1000	0.5	04/15/2017
Sn	50	M12669	1000	2.5	04/15/2017
S	300	M12872	10000	1.5	11/30/2017

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	ICP 6500
Standard Log #:	M13021	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910 and **15 mL** Fe (10000 mg/L) M12992 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13022	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12977, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12957, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

		Instrument:	ICP 6500
Standard Log #:	M13018	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13019	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	11/01/2016	Expiration Date:	06/30/2017
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13020	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	11/01/2016	Expiration Date:	6/30/2017
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12910 , **15 mL** Fe (10,000 mg/L) M12992 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12964 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13017	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	11/01/2016	Expiration Date:	06/30/2017

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12964, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12882 and **1 mL** of Si (1000 mg/L) M12943.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12946.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12945, **10 mL** of Mn (10,000 mg/L) M12944, **10 mL** of Cr (10,000 mg/L) M12944, **10 mL** Pb (10,000 mg/L) M12861, **10 mL** of Zn (10,000 mg/L) M12989 and **10 mL** of Na (10,000 mg/L) M12679.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12947, **10 mL** of Fe (10,000 mg/L) M12992, **10 mL** of Ca (10,000 mg/L) M12991 and **10 mL** Al (10,000 mg/L) M12948.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard ID#:	M13015	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	10/31/2016	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13016	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/31/2016	Expiration Date:	10/31/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

Standard Log #:	M13013	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/26/2016	Expiration Date:	04/26/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M13014	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/26/2016	Expiration Date:	04/26/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12629 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13011	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12673		

		Instrument:	ICP 6000
Standard Log #:	M13012	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12673	1000	5	04/15/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13009	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	10/26/2016	Expiration Date:	06/30/2017

Prep:	Standard Conc. (ug/L)	Pipette the following:
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.001 mL** W (1000 µg/mL) M12784 into 1L = *1 µg/L*
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.01 mL** W (1000 µg/mL) M12784 into 1L = *10 µg/L*
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.1 mL** W (1000 µg/mL) M12784 into 1L = *100 µg/L*
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **0.2 mL** W (1000 µg/mL) M12784 into 200mL = *1000 µg/L*
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M12909 and **2 mL** W (1000 µg/mL) M12784 into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13010	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/26/2016	Expiration Date:	04/15/2017
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **6 mL** of Fe (10,000 mg/L) M12949, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12784 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M13006	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/25/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13007	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/25/2016	Expiration Date:	10/25/2016
Prep:	Carefully mixed **3** parts HCl AB.631 with **1** part HNO_3 AB.628 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13008	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/25/2016	Expiration Date:	04/25/2017
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.631 and dissolved **100 g** Stannous chloride M12926 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13003	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/25/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13004	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/25/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13005	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/25/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M13000	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13001	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13002	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/25/2016	Expiration Date:	06/01/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12999	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Pd Matrix Modifier
Date Received:	10/20/2016	Lot #:	1616501
Expiration Date (if any):	10/17/2017	Catalog #:	HP1900-100

Standard ID#:	M12998	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/19/2016	Lot #:	F267-16
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M12995	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/17/2016	Expiration Date:	04/15/2017
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12957 and Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12996	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/17/2016	Expiration Date:	04/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **0.05 mL** of B (1000 µg/mL) M12957, **0.05 mL** of Si (1000 µg/mL) M12675 and **3 mL** of Fe (10,000 mg/L) M12992 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12997	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/17/2016	Expiration Date:	10/17/2016
Prep:	Carefully mixed **3** parts HCl AB.629 with **1** part HNO_3 AB.628 in a hood.		

Standard ID#:	M12992	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I080
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M261

Standard ID#:	M12993	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	10/13/2016	Lot #:	16B102
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M11

Standard ID#:	M12994	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I092
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M671

Standard ID#:	M12988	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I165
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M411

Standard ID#:	M12989	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn
Date Received:	10/13/2016	Lot #:	16H186
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M411

Standard ID#:	M12990	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	1013/2016	Lot #:	16I168
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10311

Standard ID#:	M12991	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/13/2016	Lot #:	16I091
Expiration Date (if any):	04/07/2018	Catalog #:	P/N 4400-10M91

		Instrument:	CETAC
Standard Log #:	M12987	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/12/2016	Expiration Date:	10/12/2016
Prep:	Carefully mixed **3** parts HCl AB.629 with **1** part HNO_3 AB.628 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M12984	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12946 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12985	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12946 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12986	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/11/2016	Expiration Date:	10/11/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12981	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	02/12/2017
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12982	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	10/11/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12910, **2.5 mL** of K (10,000 mg/L) M12946, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12949 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12983	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	10/11/2016	Expiration Date:	02/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12607 and **0.5 mL** K (1000 µg/mL) M12608 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12979	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/10/2016	Expiration Date:	04/10/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12980	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/10/2016	Expiration Date:	10/10/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12938. Dilute to 20 L and mix.		

Standard Log #:	M12978	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/07/2016	Expiration Date:	07/31/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier MM12584 and **10 mL** Mg (10,000 mg/L) M12884 and brought up to volume.		

Standard ID#:	M12977	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09/23/2016	Lot #:	39-001CR
Expiration Date (if any):	09/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12964	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	09/13/2016	Lot #:	1-136WG
Expiration Date (if any):	09/30/2017	Catalog #:	XCTWI-5-500

Standard ID#:	M12956	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	08/31/2016	Lot #:	16E154
Expiration Date (if any):	02/23/2018	Catalog #:	P/N4400-1000411

Standard ID#:	M12957	Vendor:	CPI
Analyst:	NAH	Chemical:	B 1000 mg/L
Date Received:	08/31/2016	Lot #:	16D064
Expiration Date (if any):	02/23/2018	Catalog #:	P/N S4400-100074

Standard ID#:	M12958	Vendor:	CPI
Analyst:	NAH	Chemical:	AS 1000 mg/L
Date Received:	08/31/2016	Lot #:	16H061
Expiration Date (if any):	02/23/2018	Catalog #:	P/N S4400-100031

		Instrument:	ICP
Standard Log #:	M12954	Standard:	As Pb ICV1
Analyst:	NAH	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	08/22/2016	Expiration Date:	11/11/2017
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M12860 and **0.5 mL** Pb (10,000 mg/L) M12861 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M12951	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std Ca, Mg, & Na
Date Received:	08/11/2016	Lot #:	38-096CR
Expiration Date (if any):	08/30/2017	Catalog #:	XCTWI-1-500

Standard ID#:	M12945	Vendor:	CPI
Analyst:	NAH	Chemical:	Copper 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16C137
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M141

Standard ID#:	M12946	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16D218
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M411

Standard ID#:	M12947	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16E106
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M311

Standard ID#:	M12948	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16B102
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M11

Standard ID#:	M12949	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16F173
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M261

		Instrument:	CETAC
Standard Log #:	M12940	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/04/2016	Expiration Date:	08/04/2016
Prep:	Carefully mixed **3** parts HCl AB.623 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12941	Vendor:	CPI
Analyst:	NAH	Chemical:	Chromium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	13D123
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M121

Standard ID#:	M12942	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16E067
Expiration Date (if any):	01/29/2018	Catalog #:	4400-10M91

Standard ID#:	M12943	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	08/04/2016	Lot #:	16D134
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-1000504F

Standard ID#:	M12944	Vendor:	CPI
Analyst:	NAH	Chemical:	Manganese 10,000 ug/mL
Date Received:	08/04/2016	Lot #:	16B024
Expiration Date (if any):	01/29/2018	Catalog #:	S4400-10M321

Standard ID#:	M12938	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/27/2016	Lot #:	2-46MKB
Expiration Date (if any):	07/20/2017	Catalog #:	XSPIKE-1-250

Standard Log #:	M12934	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12933	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12876	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12932	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12883	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12931	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12883	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929B	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12928	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12876	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12927	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M12921	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12860 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12861 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12922	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/12/2016	Expiration Date:	01/12/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12920	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12860 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12861 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard ID#:	M12909	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard 23 meta
Date Received:	06/27/2016	Lot #:	2-18MKB
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-5-500

Standard ID#:	M12910	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	06/27/2016	Lot #:	12-165YPX
Expiration Date (if any):	06/30/2016	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M12906	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	06/21/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12907	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.621 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

Standard ID#:	M12908	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	Amco clear turbidity std 2.0 NTU
Date Received:	06/21/2016	Lot #:	C583585
Expiration Date (if any):	7/2017	Catalog #:	#8008

Standard ID#:	M12900	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard, 200 NTU or FNU
Date Received:	06/17/2016	Lot #:	A6036
Expiration Date (if any):	02/2018	Catalog #:	2660449

Standard ID#:	M12886	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E067
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M91

Standard ID#:	M12887	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D220
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M261

Standard ID#:	M12888	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/01/2016	Lot #:	16E033
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M671

Standard ID#:	M12882	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/08/2016	Lot #:	37-058CR
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-4-500

Standard ID#:	M12883	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D014
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M411

Standard ID#:	M12884	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E106
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M311

Standard ID#:	M12885	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16B102
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M11

Standard ID#:	M12876	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/06/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	05/30/2016	Catalog #:	PLS9-3Y

Standard ID#:	M12877	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/06/2016	Lot #:	158648
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M12878	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W38729 and brought up to volume.		

Standard Log #:	M12875	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	06/03/16	Expiration Date:	02/10/17

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12860	10,000
Pb	0.1	10,000	M12861	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

Standard ID#:	M12873	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 1000 mg/L
Date Received:	06/03/16	Lot #:	16D063
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000521

Standard ID#:	M12874	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 1000 mg/L
Date Received:	06/03/16	Lot #:	16B100
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000411

		Instrument:	ICP 6000
Standard Log #:	M12871	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	06/02/16	Expiration Date:	02/12/17
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

Standard ID#:	M12872	Vendor:	SCP Science Plasma Cal
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/02/16	Lot #:	S160222009
Expiration Date (if any):	11/2017	Catalog #:	140-060-161

Standard ID#:	M12867	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-27-2016	Lot #:	37-024CR
Expiration Date (if any):	05/20/2017	Catalog #:	XSPIKE-1-250

Standard ID#:	M12866	Vendor:	Fisher, distributer (saint-gobain, manu
Analyst:	NAH	Chemical:	Chemware Ultra pure PTFE Boiling St
Date Received:	05/23/2016	Lot #:	5608-6E001
Expiration Date (if any):		Catalog #:	0919120

Standard ID#:	M12864	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/19/2016	Lot #:	F120-15
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12865	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/20/2016	Expiration Date:	05/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12862	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	05/19/2016	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-SPK-1

Standard ID#:	M12863	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	05/19/2016	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-GFCAL-1

Standard ID#:	M12860	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 mg/L
Date Received:	05/17/2016	Lot #:	16B070
Expiration Date (if any):	11/11/2017	Catalog #:	S4400-100031

Standard ID#:	M12861	Vendor:	CPI
Analyst:	NAH	Chemical:	Lead 10,000 mg/L
Date Received:	05/17/2016	Lot #:	16D240
Expiration Date (if any):	11/11/2017	Catalog #:	4400-10M281

Standard ID#:	M12856	Vendor:	SPEX CertPrep
Analyst:	LJF	Chemical:	Hg
Date Received:	05/10/2016	Lot #:	CL8-144HGY
Expiration Date (if any):	05/30/2017	Catalog #:	CLHG4-2Y

Standard Log #:	M12857	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12858	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

Standard ID#:	M12843	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/28/16	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	ICP 6000
Standard Log #:	M12844	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/29/16	Expiration Date:	02/28/17
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **1.0 mL** Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M12845	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard ID#:	M12802	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/09/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12803	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/09/16	Expiration Date:	09/09/17
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12804	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 10,000 mg/L
Date Received:	03/09/16	Lot #:	14A276
Expiration Date (if any):	09/03/17	Catalog #:	S4400-10M31

		Instrument:	ICP 6000
Standard Log #:	M12800	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M12801	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M12787	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	02/24/2016	Lot #:	16A118
Expiration Date (if any):	08/18/2017	Catalog #:	4400-10M671

Standard ID#:	M12788	Vendor:	CPI
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	02/24/2016	Lot #:	15J139
Expiration Date (if any):	08/18/2017	Catalog #:	S4400-1000331

Standard ID#:	M12789	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	02/24/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12783	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/16/16	Expiration Date:	08/16/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12784	Vendor:	CPI
Analyst:	NAH	Chemical:	Tungsten
Date Received:	02/16/2016	Lot #:	15k204
Expiration Date (if any):	08/11/2017	Catalog #:	S4400-1000633

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

INORGANIC
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INORGANIC ANALYSIS DATA SHEET

Sample Description

071017R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889907
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 15:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071017R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889907
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139823	Analysis Date/Time	07/14/2017 16:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071017R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889908
Analytical Method:	EPA 9056A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/11/2017 18:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.0	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071317R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891506
Analytical Method:	EPA 9060A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139914	Analysis Date/Time	07/27/2017 11:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071317R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891507
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/14/2017 23:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891338
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/14/2017 00:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.2		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.24	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	43		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891337
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 18:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	3.2		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891509
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/15/2017 00:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.4		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.87		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891509
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/15/2017 00:44
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	100		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891508
Analytical Method:	EPA 9060A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139914	Analysis Date/Time	07/27/2017 11:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.54	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891335
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 18:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.1	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891336
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 22:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.8		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.62		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	29		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891324
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 16:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	14	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	4.1		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891324
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 16:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	200	M	6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891323
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 17:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	5.0		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891327
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 17:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.9	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891328
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 20:22
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.4	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.3		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	45		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891502
Analytical Method:	EPA 9060A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139914	Analysis Date/Time	07/27/2017 11:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.9	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891504
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/14/2017 23:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.82		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	8.0		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891497
Analytical Method:	EPA 9060A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139914	Analysis Date/Time	07/27/2017 10:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.52	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891498
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/14/2017 20:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.2	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	6.7		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	29		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891494
Analytical Method:	EPA 410.4	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	140215	Analysis Date/Time	07/24/2017 10:00
Analytical Prep Batch #:	63319	Prep. Date/Time:	07/24/2017 10:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	140		15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891494
Analytical Method:	EPA 9040C	Date Received:	07/14/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	140159	Analysis Date/Time	07/21/2017 12:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.73		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891329
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 17:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.4	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891330
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 21:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.31	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891331
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 18:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	3.2		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891332
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 21:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	18		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891511
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/15/2017 01:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.25	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	51		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891510
Analytical Method:	EPA 9060A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139914	Analysis Date/Time	07/27/2017 12:06
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.70	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891325
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 17:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	5.3		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891326
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 19:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	14		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	4.2		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891326
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 19:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	160		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891333
Analytical Method:	EPA 9060A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 18:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	4.0		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891334
Analytical Method:	EPA 9056A	Date Received:	07/13/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139873	Analysis Date/Time	07/13/2017 22:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	18		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891495
Analytical Method:	EPA 9060A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139914	Analysis Date/Time	07/27/2017 10:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891496
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/14/2017 19:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	8.7		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.3		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	891496
Analytical Method:	EPA 9056A	Date Received:	07/14/2017
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139920	Analysis Date/Time	07/14/2017 19:44
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	82		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890671
Analytical Method:	EPA 410.4	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	140215	Analysis Date/Time	07/24/2017 10:00
Analytical Prep Batch #:	63319	Prep. Date/Time:	07/24/2017 10:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	40	J	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890671
Analytical Method:	EPA 9040C	Date Received:	07/12/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139907	Analysis Date/Time	07/14/2017 10:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	6.98		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889905
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 15:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.71	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889905
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139823	Analysis Date/Time	07/14/2017 16:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	59		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889906
Analytical Method:	EPA 9056A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/11/2017 17:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.6		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	28		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889902
Analytical Method:	EPA 9056A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/11/2017 14:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	8.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.10	J	0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889901
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 14:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.6	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889902
Analytical Method:	EPA 9056A	Date Received:	07/11/2017
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/11/2017 14:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889901
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139823	Analysis Date/Time	07/14/2017 15:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	70		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890667
Analytical Method:	EPA 9056A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/12/2017 14:06
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.75		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	32	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890666
Analytical Method:	EPA 9060A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 15:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890666
Analytical Method:	EPA 9060A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139823	Analysis Date/Time	07/14/2017 16:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	67		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890670
Analytical Method:	EPA 9056A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/12/2017 15:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.56		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	32		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890669
Analytical Method:	EPA 9060A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 16:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.9	J	0.50	1.5	3.0	3.0

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	890669
Analytical Method:	EPA 9060A	Date Received:	07/12/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139823	Analysis Date/Time	07/14/2017 17:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	73		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889903
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139821	Analysis Date/Time	07/13/2017 14:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.2	J	0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889903
Analytical Method:	EPA 9060A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139823	Analysis Date/Time	07/14/2017 15:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	68		0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889904
Analytical Method:	EPA 9056A	Date Received:	07/11/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/11/2017 16:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.6		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.21	J	0.080	0.15	0.40	0.40

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	128820
% Solids:		Lab Sample ID:	889904
Analytical Method:	EPA 9056A	Date Received:	07/11/2017
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	139762	Analysis Date/Time	07/11/2017 16:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	62		6.5	13	25	25

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 892996

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/10/17	17:00	15.00	13.81	92	90	110
Nitrate Nitrogen	5/10/17	17:00	3.500	3.223	92	90	110
Sulfate	5/10/17	17:00	25.00	23.96	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215 Lab Sample ID: 896341

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/24/17 10:00	400.0	415.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821

Lab Sample ID: 892957

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/2/16 18:07	50.00	51.21	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891056

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/11/17	13:54	15.00	13.76	92	90	110
Nitrate Nitrogen	7/11/17	13:54	3.500	3.463	99	90	110
Sulfate	7/11/17	13:54	25.00	24.69	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891062

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/11/17	17:20	15.00	13.75	92	90	110
Nitrate Nitrogen	7/11/17	17:20	3.500	3.458	99	90	110
Sulfate	7/11/17	17:20	25.00	24.52	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891064

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/11/17	19:49	15.00	13.76	92	90	110
Nitrate Nitrogen	7/11/17	19:49	3.500	3.466	99	90	110
Sulfate	7/11/17	19:49	25.00	24.63	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891088

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/12/17	12:21	15.00	14.14	94	90	110
Nitrate Nitrogen	7/12/17	12:21	3.500	3.552	101	90	110
Sulfate	7/12/17	12:21	25.00	25.03	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891095

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/12/17	16:03	15.00	13.60	91	90	110
Nitrate Nitrogen	7/12/17	16:03	3.500	3.509	100	90	110
Sulfate	7/12/17	16:03	25.00	24.45	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873

Lab Sample ID: 891977

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/17	19:45	15.00	13.79	92	90	110
Nitrate Nitrogen	7/13/17	19:45	3.500	3.468	99	90	110
Sulfate	7/13/17	19:45	25.00	24.41	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 891979

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/17	23:29	15.00	13.77	92	90	110
Nitrate Nitrogen	7/13/17	23:29	3.500	3.453	99	90	110
Sulfate	7/13/17	23:29	25.00	24.55	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 891981

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/14/17	03:14	15.00	13.90	93	90	110
Nitrate Nitrogen	7/14/17	03:14	3.500	3.465	99	90	110
Sulfate	7/14/17	03:14	25.00	24.76	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 892012

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/17	15:41	15.00	13.94	93	90	110
Nitrate Nitrogen	7/13/17	15:41	3.500	3.469	99	90	110
Sulfate	7/13/17	15:41	25.00	24.95	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892098

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/14/17	18:29	15.00	13.73	92	90	110
Nitrate Nitrogen	7/14/17	18:29	3.500	3.404	97	90	110
Sulfate	7/14/17	18:29	25.00	24.53	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892107

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/14/17	22:33	15.00	14.05	94	90	110
Nitrate Nitrogen	7/14/17	22:33	3.500	3.510	100	90	110
Sulfate	7/14/17	22:33	25.00	25.23	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892109

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/15/17	01:40	15.00	14.21	95	90	110
Nitrate Nitrogen	7/15/17	01:40	3.500	3.533	101	90	110
Sulfate	7/15/17	01:40	25.00	25.42	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892117

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/15/17	05:25	15.00	14.20	95	90	110
Nitrate Nitrogen	7/15/17	05:25	3.500	3.509	100	90	110
Sulfate	7/15/17	05:25	25.00	25.34	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139823 Lab Sample ID: 892901

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/14/17	14:46	50.00	50.89	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139823 Lab Sample ID: 892908

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/14/17	17:45	50.00	52.92	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892948

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/13/17	10:59	50.00	51.78	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892951

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/13/17	16:43	50.00	51.05	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892962

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/13/17	18:51	50.00	51.42	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215 Lab Sample ID: 896335

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/24/17 10:00	400.0	392.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215 Lab Sample ID: 896336

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/24/17 10:00	400.0	400.0	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215 Lab Sample ID: 896337

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/24/17 10:00	400.0	384.0	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139914 Lab Sample ID: 898259

ICAL Calibration #: ICAL TOC Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/27/17	09:40	50.00	50.40	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139914 Lab Sample ID: 898265

ICAL Calibration #: ICAL TOC Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/27/17	12:17	50.00	50.77	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

3-1

ICB

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892958

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/02/2016 18:21	0.2900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215

Lab Sample ID: 896342

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/24/2017 10:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 892997

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/10/2017 17:19	0	U	1.1	2.0
Nitrate Nitrogen	05/10/2017 17:19	0	U	0.08	0.20
Sulfate	05/10/2017 17:19	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139823 Lab Sample ID: 892909

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/14/2017 18:00	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892954

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/13/2017 19:06	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892963

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/13/2017 16:57	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215

Lab Sample ID: 896338

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/24/2017 10:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215

Lab Sample ID: 896339

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/24/2017 10:00	3.000			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215 Lab Sample ID: 896340

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/24/2017 10:00	2.000			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139914

Lab Sample ID: 898266

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL TOC

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/27/2017 12:32	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891063

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/11/2017 17:38	0	U	1.1	2.0
Nitrate Nitrogen	07/11/2017 17:38	0	U	0.08	0.20
Sulfate	07/11/2017 17:38	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891065

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/11/2017 20:08	0.6482	U	1.1	2.0
Nitrate Nitrogen	07/11/2017 20:08	0	U	0.08	0.20
Sulfate	07/11/2017 20:08	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891096

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/12/2017 16:22	0	U	1.1	2.0
Nitrate Nitrogen	07/12/2017 16:22	0	U	0.08	0.20
Sulfate	07/12/2017 16:22	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891478

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/12/2017 12:39	0	U	1.1	2.0
Nitrate Nitrogen	07/12/2017 12:39	0	U	0.08	0.20
Sulfate	07/12/2017 12:39	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 891978

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2017 20:03	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2017 20:03	0	U	0.08	0.20
Sulfate	07/13/2017 20:03	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 891980

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2017 23:48	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2017 23:48	0	U	0.08	0.20
Sulfate	07/13/2017 23:48	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 891982

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/14/2017 03:33	0	U	1.1	2.0
Nitrate Nitrogen	07/14/2017 03:33	0	U	0.08	0.20
Sulfate	07/14/2017 03:33	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892108

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/14/2017 22:52	0.6509	U	1.1	2.0
Nitrate Nitrogen	07/14/2017 22:52	0	U	0.08	0.20
Sulfate	07/14/2017 22:52	0.8492	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892110

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/15/2017 01:59	0	U	1.1	2.0
Nitrate Nitrogen	07/15/2017 01:59	0	U	0.08	0.20
Sulfate	07/15/2017 01:59	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892118

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/15/2017 05:43	0.6422	U	1.1	2.0
Nitrate Nitrogen	07/15/2017 05:43	0	U	0.08	0.20
Sulfate	07/15/2017 05:43	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 892995

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/11/2017 14:12	0.6472	U	1.1	2.0
Nitrate Nitrogen	07/11/2017 14:12	0	U	0.08	0.20
Sulfate	07/11/2017 14:12	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139823 Lab Sample ID: 892910

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/14/2017 15:15	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139821 Lab Sample ID: 892950

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/13/2017 11:28	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 140215 Lab Sample ID: 895688

Analytical Prep Batch # 63319 Preparation Date/Time: 07/24/2017 10:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	07/24/2017 10:00	5.000	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139914 Lab Sample ID: 898261

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/27/2017 10:09	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139762 Lab Sample ID: 891468

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/12/2017 13:47	0	U	1.1	2.0
Nitrate Nitrogen	07/12/2017 13:47	0	U	0.08	0.20
Sulfate	07/12/2017 13:47	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139873 Lab Sample ID: 892011

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2017 16:19	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2017 16:19	0	U	0.08	0.20
Sulfate	07/13/2017 16:19	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 128820

Analytical Run #: 139920 Lab Sample ID: 892100

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/14/2017 19:07	0.6454	U	1.1	2.0
Nitrate Nitrogen	07/14/2017 19:07	0	U	0.08	0.20
Sulfate	07/14/2017 19:07	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892959	Parent Sample No.:	890666
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139821	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2017	Analysis Time: --------	16:04

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.4		1.5	J	50.0	100		TOC

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	895690	Parent Sample No.:	890671
Analytical Prep Batch #	63319	Analytical Preparation Date/Time:	07/24/2017 10:00
Analytical Run #:	140215	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/24/2017 Analysis Time: -------- 10:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	192		40	J	148	103		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	898263	Parent Sample No.:	891497
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139914	ICAL Calibration #:	ICAL TOC

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/27/2017	Analysis Time: --------	10:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.0		0.52	J	50.0	101		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	891093	Parent Sample No.:	890667
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139762	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/12/2017 Analysis Time: -------- 14:43

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.3		5.9		8.00	80		IC	*FAIL*
Nitrate Nitrogen	88-111	2.75		0.75		2.00	100		IC	
Sulfate	87-112	38.6		32		8.00	82		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	891973	Parent Sample No.:	891324
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139873	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2017	Analysis Time: --------	17:52

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	20.9		14		8.00	86		IC	*FAIL*
Nitrate Nitrogen	88-111	6.16		4.1		2.00	103		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	891974	Parent Sample No.:	891324
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139873	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2017	Analysis Time: --------	18:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Sulfate	87-112	203		200		40.0	8		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892103	Parent Sample No.:	891498
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139920	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/14/2017	Analysis Time: --------	21:18

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	11.2		3.2	J	8.00	100		IC
Sulfate	87-112	37.3		29		8.00	104		IC

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892104	Parent Sample No.:	891498
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139920	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/14/2017	Analysis Time: --------	21:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Nitrate Nitrogen	88-111	17.3		6.7		10.0	106		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892961	Parent Sample No.:	892959
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139821	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2017	Analysis Time: --------	16:17

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.2		1.5	J	50.0	99		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solids for Sample:
Concentration Units: mg/L
Sample No: 895691
Parent Sample No.: 895690
Analytical Prep Batch #: 63319
Analytical Preparation Date/Time: 07/24/2017 10:00
Analytical Run #: 140215
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/24/2017 Analysis Time: -------- 10:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	198		40	J	148	107		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solids for Sample:
Concentration Units: mg/L
Sample No: 898264
Parent Sample No.: 898263
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 139914
ICAL Calibration #: ICAL TOC

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/27/2017 Analysis Time: -------- 11:13

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	50.6		0.52	J	50.0	100		TOC

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	891094	Parent Sample No.:	891093
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139762	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/12/2017	Analysis Time: --------	15:02

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.0		5.9		8.00	76		IC	*FAIL*
Nitrate Nitrogen	88-111	2.70		0.75		2.00	98		IC	
Sulfate	87-112	38.5		32		8.00	81		IC	*FAIL*

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	891975	Parent Sample No.:	891973
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	139873	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2017	Analysis Time: --------	18:30

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	20.6		14		8.00	82		IC	*FAIL*
Nitrate Nitrogen	88-111	6.08		4.1		2.00	99		IC	

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892048	Parent Sample No.:	891974
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139873	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2017	Analysis Time: --------	18:49

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Sulfate	87-112	201		200		40.0	2		IC	*FAIL*

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892174	Parent Sample No.:	892103
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139920	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/14/2017	Analysis Time: --------	21:55

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	10.4		3.2	J	8.00	90		IC
Sulfate	87-112	36.6		29		8.00	95		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	128820
% Solids for Sample:		Concentration Units:	mg/L
Sample No	892175	Parent Sample No.:	892104
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	139920	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/14/2017 Analysis Time: -------- 22:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Nitrate Nitrogen	88-111	17.5		6.7		10.0	108		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 139907

ICAL Calibration #:

Sample #: 891823

Parent Sample #: 890671

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	07/14/2017	10:50	1	6.98		7.00		0		ELEC

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 139821

ICAL Calibration #:

Sample #: 892960

Parent Sample #: 890666

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/13/2017	15:52	20	1.5	J	1.66	J	10		TOC

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6

DUPLICATES

Sample Description

49ADW1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 140159

ICAL Calibration #:

Sample #: 895167

Parent Sample #: 891494

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	07/21/2017	12:15	1	7.73		7.78		1		ELEC

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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 63319

Analytical Run #: 140215

ICAL Calibration #:

Sample #: 895692

Parent Sample #: 890671

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	07/24/2017	10:00	20	40	J	47.0	J	16		SP

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6

DUPLICATES

Sample Description

48MW3

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 139914

ICAL Calibration #: ICAL TOC

Sample #: 898262

Parent Sample #: 891497

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	07/27/2017	10:48	20	0.52	J	0.50	U	200		TOC	*FAIL*

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 139762
ICAL Calibration #:
Sample #: 891092
Parent Sample #: 890667

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/12/2017	14:24	10	5.9		5.86		1		IC
Nitrate Nitrogen	07/12/2017	14:24	10	0.75		0.750		0		IC
Sulfate	07/12/2017	14:24	10	32		31.7		1		IC

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6

DUPLICATES

Sample Description

48MW06

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 128820

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 139873

ICAL Calibration #:

Sample #: 891971

Parent Sample #: 891324

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/13/2017	17:15	10	14		13.8		1		IC
Nitrate Nitrogen	07/13/2017	17:15	10	4.1		4.16		1		IC

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6

DUPLICATES

Sample Description

48MW06

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 139873
ICAL Calibration #:
Sample #: 891972
Parent Sample #: 891324

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	07/13/2017	17:34	10	200		195		3		IC

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6

DUPLICATES

Sample Description

48MW3

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 139920
ICAL Calibration #:
Sample #: 892101
Parent Sample #: 891498

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/14/2017	20:40	10	3.2	J	3.23	J	1		IC
Nitrate Nitrogen	07/14/2017	20:40	10	6.7		6.92		3		IC
Sulfate	07/14/2017	20:40	10	29		29.4		1		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 139821
ICAL Calibration #:
Sample #: 892961
Parent Sample #: 892959

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/13/2017	16:17	20	51.4		51.2		0		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 63319
Analytical Preparation Date/Time: 07/24/2017 10:00
Analytical Run #: 140215
ICAL Calibration #:
Sample #: 895691
Parent Sample #: 895690

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	07/24/2017	10:00	20	192		198		3		SP

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 139914
ICAL Calibration #: ICAL TOC
Sample #: 898264
Parent Sample #: 898263

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/27/2017	11:13	20	51.0		50.6		1		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 139762
ICAL Calibration #:
Sample #: 891094
Parent Sample #: 891093

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/12/2017	15:02	15	12.3		12.0		3		IC
Nitrate Nitrogen	07/12/2017	15:02	15	2.75		2.70		2		IC
Sulfate	07/12/2017	15:02	15	38.6		38.5		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW06**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 139873
ICAL Calibration #:
Sample #: 891975
Parent Sample #: 891973

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/13/2017	18:30	15	20.9		20.6		1		IC
Nitrate Nitrogen	07/13/2017	18:30	15	6.16		6.08		1		IC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW06**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 139873
ICAL Calibration #:
Sample #: 892048
Parent Sample #: 891974

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	07/13/2017 18:49	15	203		201		1		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 139920
ICAL Calibration #:
Sample #: 892174
Parent Sample #: 892103

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/14/2017	21:55	15	11.2		10.4		7		IC
Sulfate	07/14/2017	21:55	15	37.3		36.6		2		IC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 128820
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 139920
ICAL Calibration #:
Sample #: 892175
Parent Sample #: 892104

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Nitrate Nitrogen	07/14/2017	22:14	15	17.3		17.5		1		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 139823 Sample No.:#: 892903

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	07/14/2017 15:01	85-111	49.66		50.00	99		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 139821 Sample No.:#: 892949

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	07/13/2017 11:14	85-111	48.42		50.00	97		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 140215 Sample No.:#: 895689

Analytical Prep Batch #: 63319 Preparation Date/Time: 07/24/2017 10:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	07/24/2017 10:00	90-110	415.0		400.0	104		SP

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 139914 Sample No.:#: 898260

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	07/27/2017 09:54	85-111	51.15		50.00	102		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 139762 Sample No.:#: 891090

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/12/2017 13:27	87-111	14.03		15.00	94		IC
Nitrate Nitrogen	07/12/2017 13:27	88-111	3.545		3.500	101		IC
Sulfate	07/12/2017 13:27	87-112	24.78		25.00	99		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 139873 Sample No.:#: 892010

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/13/2017 16:00	87-111	14.29		15.00	95		IC
Nitrate Nitrogen	07/13/2017 16:00	88-111	3.458		3.500	99		IC
Sulfate	07/13/2017 16:00	87-112	25.95		25.00	104		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 128820

Concentration Units: mg/L

Analytical Run #: 139920 Sample No.:#: 892099

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/14/2017 18:48	87-111	14.47		15.00	96		IC
Nitrate Nitrogen	07/14/2017 18:48	88-111	3.470		3.500	99		IC
Sulfate	07/14/2017 18:48	87-112	26.15		25.00	105		IC

INORGANICS
RAW DATA
DOCUMENTS

Schedule File: C:\INSTARCH\Sequences\System 2\051017 - 2 - IC1079.SCH

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	STD 1	Calibration St	1	ic1079.met	std 1_002.dxd	1	1
2	STD 2	Calibration St	2	ic1079.met	std 2_003.dxd	1	1
3	STD 3	Calibration St	3	ic1079.met	std 3_004.dxd	1	1
4	STD 4	Calibration St	4	ic1079.met	std 4_005.dxd	1	1
5	STD 5	Calibration St	5	ic1079.met	std 5_006.dxd	1	1
6	STD 6	Calibration St	6	ic1079.met	std 6_007.dxd	1	1
7	STD 7	Calibration St	7	ic1079.met	std 7_008.dxd	1	1
8	STD 8	Calibration St	8	ic1079.met	std 8_009.dxd	1	1
9	STD 9	Calibration St	9	ic1079.met	std 9_010.dxd	1	1
10	ICV IC00939 IC0940	Sample		ic1079.met	icv ic00939 ic0940_011.dxd	1	1
11	ICB	Sample		ic1079.met	icb_012.dxd	1	1

Calibration Concentrations

Instrument:	DX-120 (2)	Cal. File:		IC1079	ICV	IC0939 IC0940		Analyst/Date: AGK 05/10/17		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0		3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

RJ 06/07/2017

Calibration Update Report

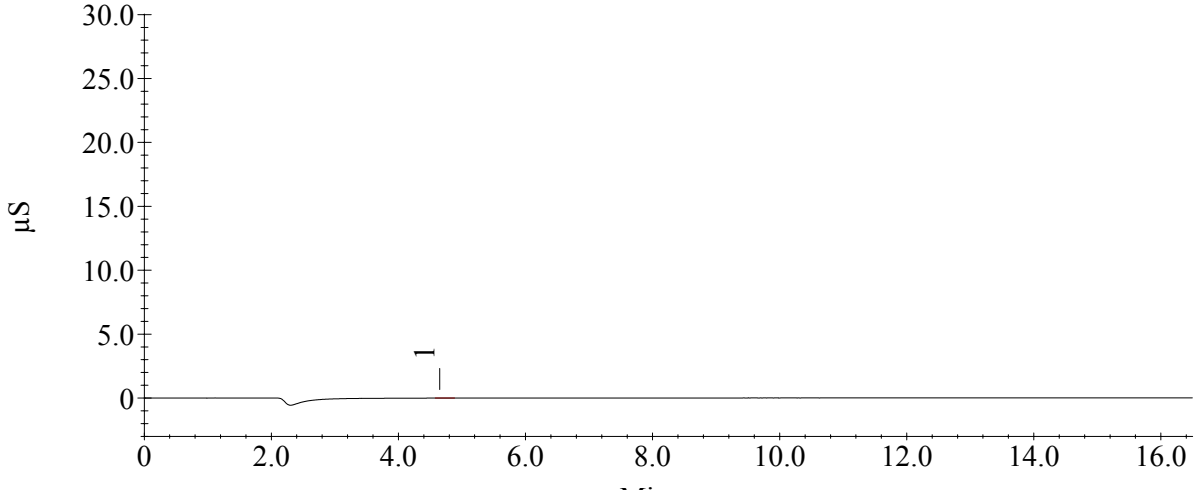
Sample Name : STD 1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 1_002.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 13:05:28
Calibration Date : 5/10/17 13:22:00
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
	Fluoride				
	Chloride				

STD 1



Calibration Update Report

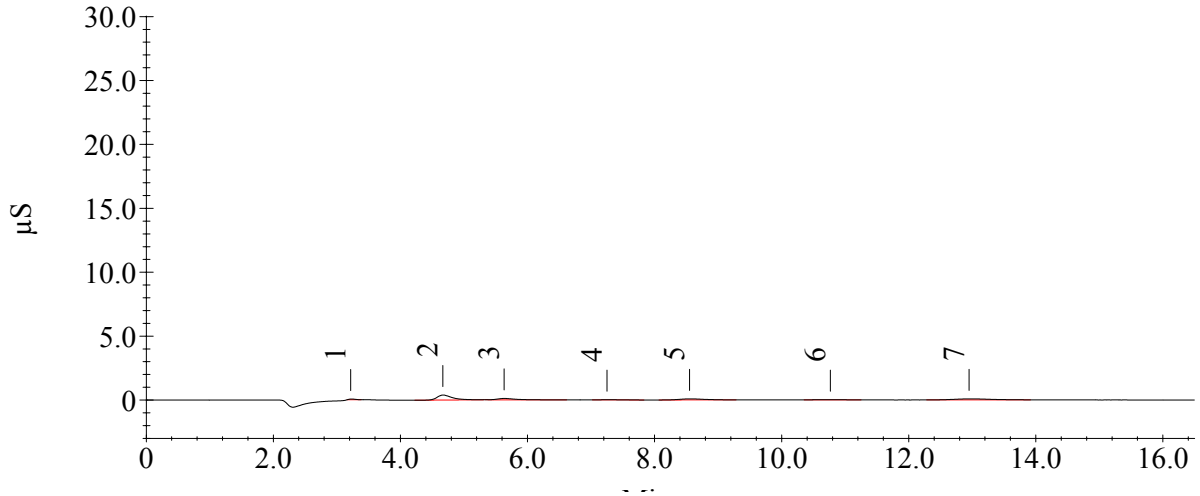
Sample Name : STD 2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 2_003.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 13:24:12
Calibration Date : 5/10/17 13:40:43
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22	17022	4255	4255
2	Chloride	4.67	64854	66086	66086
3	Nitrite	5.63	26820	21672	21672
4	Bromide	7.25	5208	3577	3577
5	Nitrate	8.55	29187	24202	24202
6	O.Phos	10.77	11207	5730	5730
7	Sulfate	12.95	45760	32970	32970

STD 2



Calibration Update Report

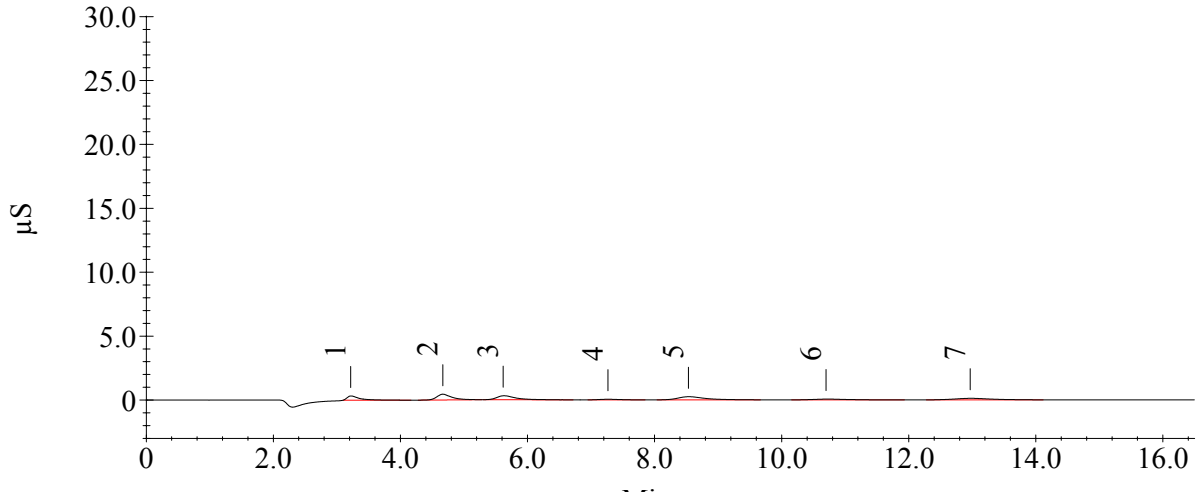
Sample Name : STD 3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 3_004.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 13:42:54
Calibration Date : 5/10/17 13:59:25
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22	52458	45827	45827
2	Chloride	4.67	109576	74622	74622
3	Nitrite	5.62	83040	66970	66970
4	Bromide	7.27	15821	10543	10543
5	Nitrate	8.53	93650	74429	74429
6	O.Phos	10.70	34030	23350	23350
7	Sulfate	12.97	76639	50791	50791

STD 3



Calibration Update Report

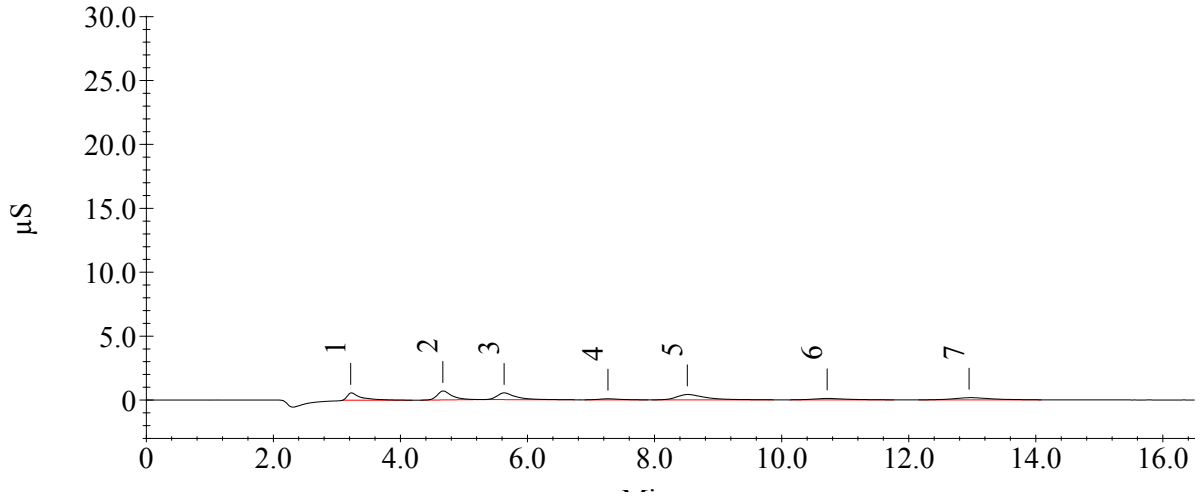
Sample Name : STD 4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 4_005.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 14:01:36
Calibration Date : 5/10/17 14:18:07
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22	91588	86758	86758
2	Chloride	4.67	129167	112572	112572
3	Nitrite	5.63	140209	109069	109069
4	Bromide	7.27	26837	19124	19124
5	Nitrate	8.52	152266	131000	131000
6	O.Phos	10.72	55828	38551	38551
7	Sulfate	12.95	90499	69930	69930

STD 4



Calibration Update Report

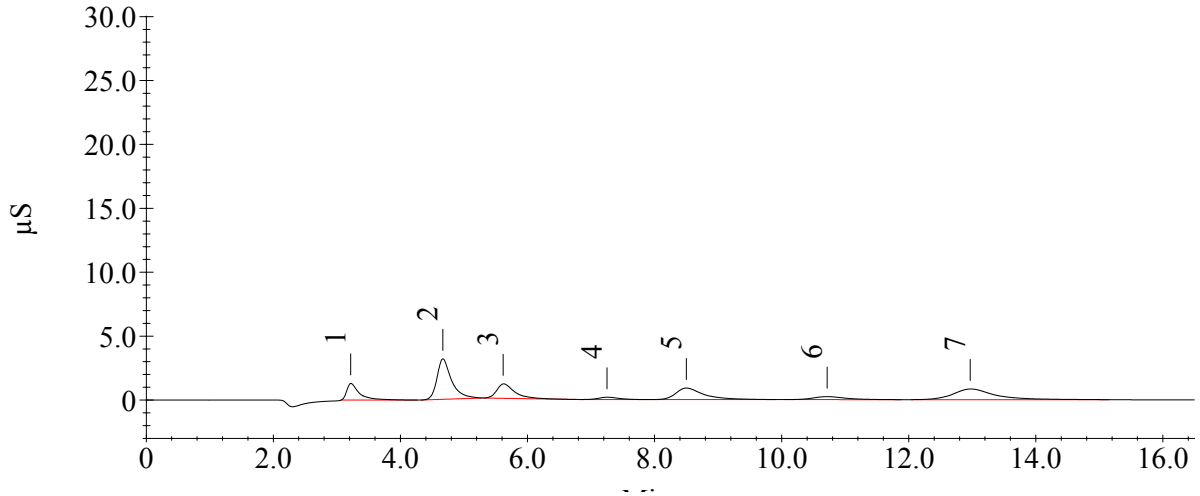
Sample Name : STD 5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 5_006.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 14:20:18
Calibration Date : 5/10/17 14:36:49
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22	181760	182784	182784
2	Chloride	4.67	693628	502040	502040
3	Nitrite	5.62	270752	222682	222682
4	Bromide	7.25	53213	40639	40639
5	Nitrate	8.50	306759	279372	279372
6	O.Phos	10.72	114396	84052	84052
7	Sulfate	12.97	484725	385145	385145

STD 5



Calibration Update Report

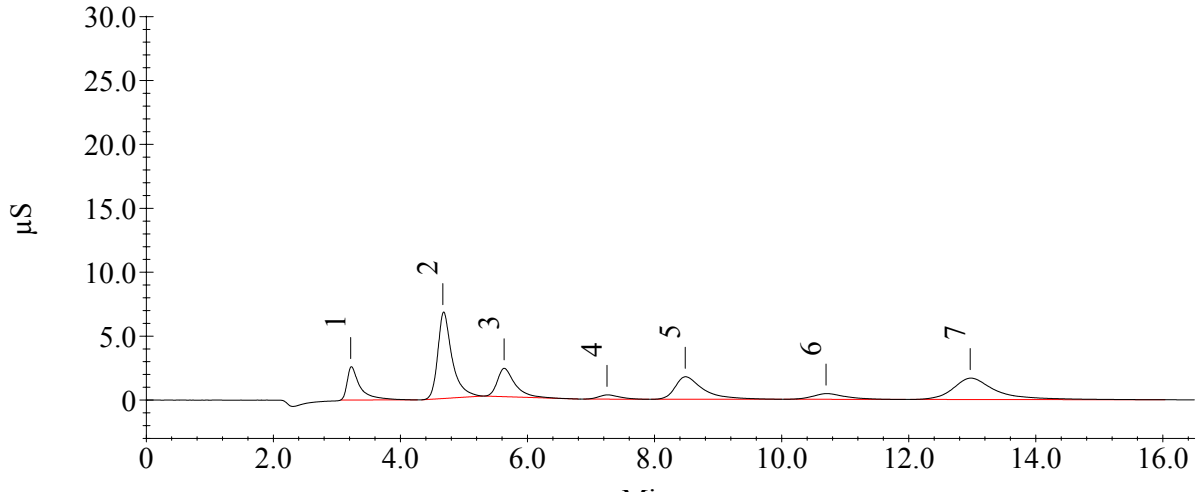
Sample Name : STD 6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 6_007.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 14:39:00
Calibration Date : 5/10/17 14:55:31
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22	377754	369611	369611
2	Chloride	4.67	1456036	1055784	1055784
3	Nitrite	5.63	550824	428664	428664
4	Bromide	7.25	106095	76243	76243
5	Nitrate	8.48	627201	540879	540879
6	O.Phos	10.70	227348	159490	159490
7	Sulfate	12.97	998475	783200	783200

STD 6



Calibration Update Report

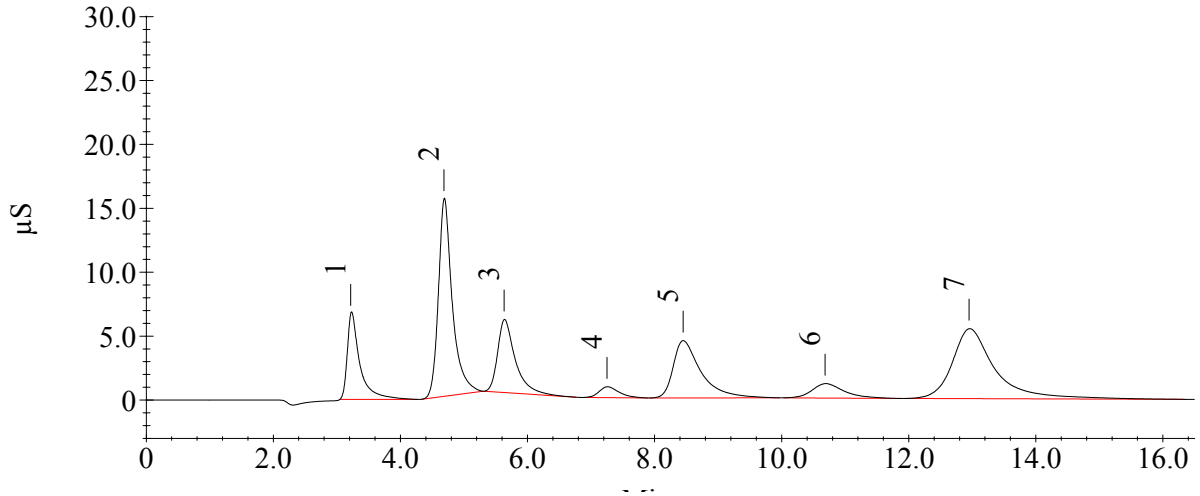
Sample Name : STD 7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 7_008.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 14:57:42
Calibration Date : 5/10/17 15:14:13
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22	1118973	936710	936710
2	Chloride	4.68	3145868	2354087	2354087
3	Nitrite	5.63	1451283	1108096	1108096
4	Bromide	7.25	269460	186962	186962
5	Nitrate	8.45	1660557	1362125	1362125
6	O.Phos	10.68	581298	395033	395033
7	Sulfate	12.95	3129943	2553673	2553673

STD 7



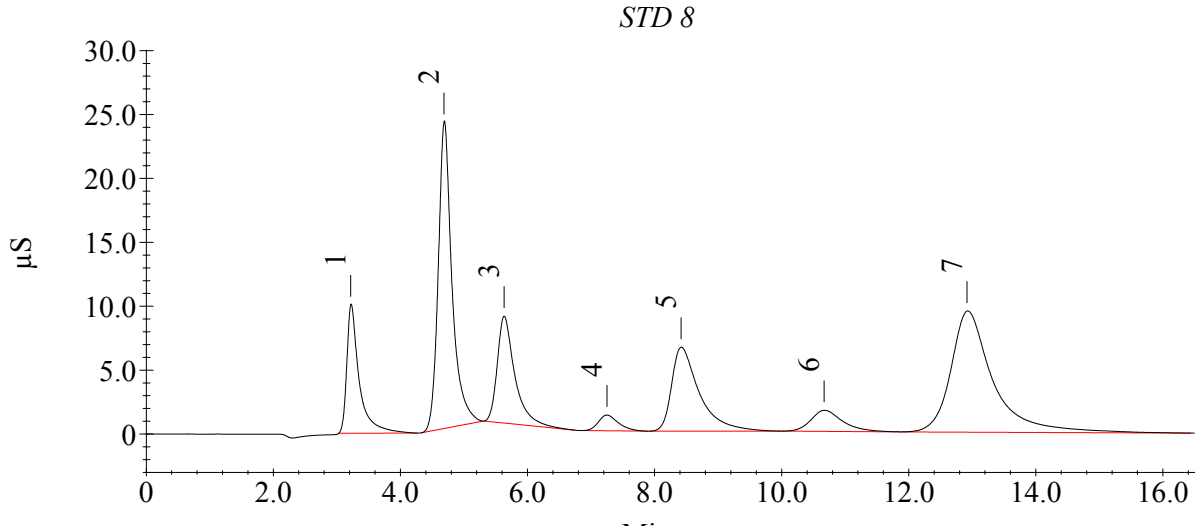
Calibration Update Report

Sample Name : STD 8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 8_009.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 15:16:25
Calibration Date : 5/10/17 15:32:56
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.22		1366351	
2	Chloride	4.68	4808572	3615754	3615754
3	Nitrite	5.63		1608816	
4	Bromide	7.25		268626	
5	Nitrate	8.42	2375135	1987559	1987559
6	O.Phos	10.67		571326	
7	Sulfate	12.92	5256293	4372072	4372072



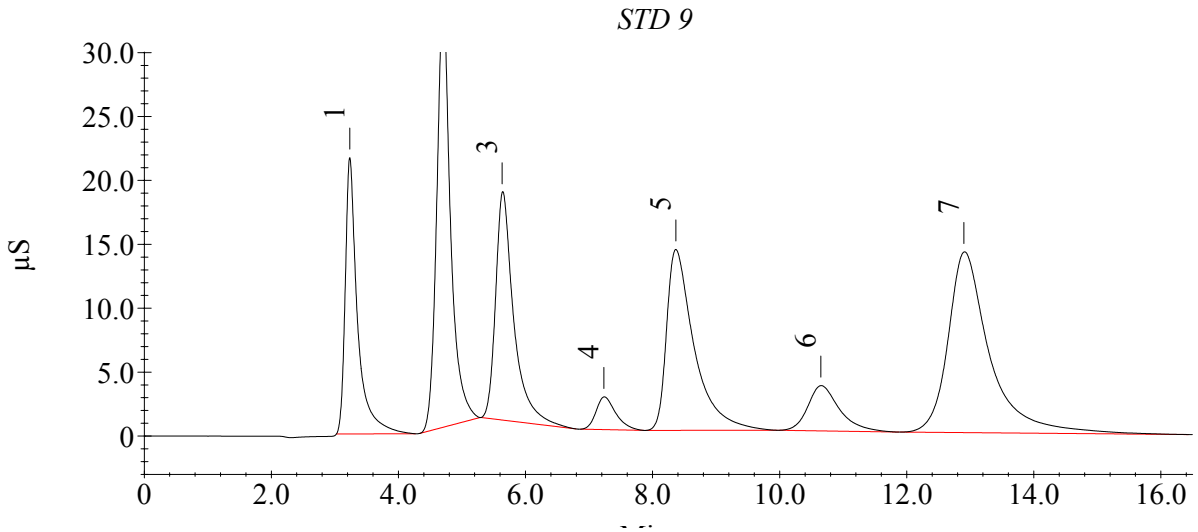
Calibration Update Report

Sample Name : STD 9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\STD 9_010.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Schedule File Name : c:\instarch\sequences\system 2\051017 - 2 - ic1079.sch
Date Time Collected : 5/10/17 15:35:07
Calibration Date : 5/10/17 15:51:38
System Operator : AGK

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.23		2898081	
2	Chloride	4.70	6659553	5058640	5058640
3	Nitrite	5.63		3537685	
4	Bromide	7.23		552579	
5	Nitrate	8.37		4274292	
6	O.Phos	10.65		1221316	
7	Sulfate	12.90	7647818	6431659	6431659



Sample Analysis Report

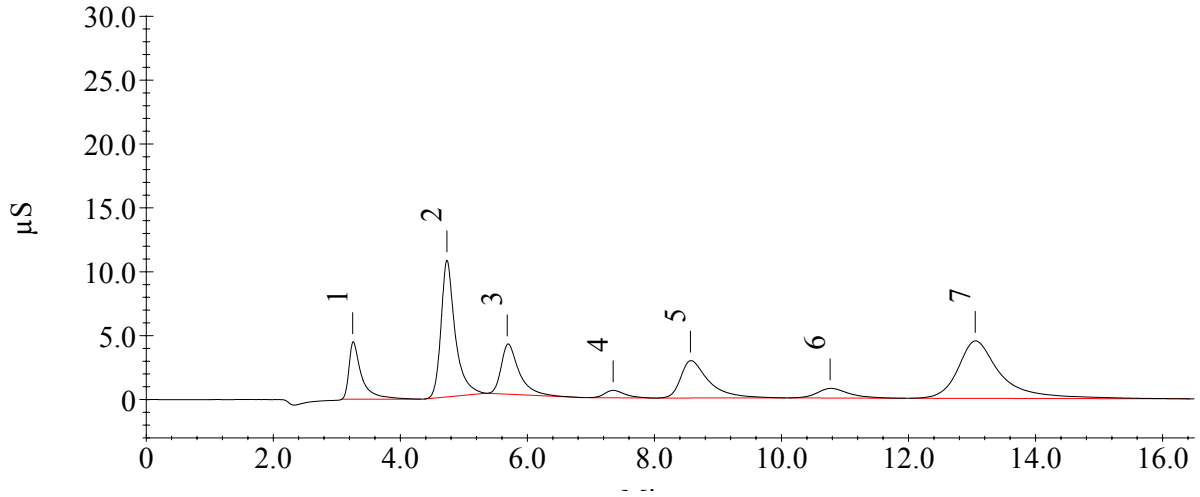
Sample Name : ICV IC00939 IC0940
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\ICV IC00939 IC0940_011.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 5/10/17 17:00:23
System Operator : AGK

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.25	3.3245	620089	44575	
2	Chloride	4.73	13.8052	1655036	106825	
3	Nitrite	5.68	3.4921	770736	38884	
4	Bromide	7.35	3.4406	129374	5796	
5	Nitrate	8.57	3.2232	896844	29217	
6	O.Phos	10.77	3.3341	264259	7552	
7	Sulfate	13.05	23.9594	2112973	44925	

ICV IC00939 IC0940



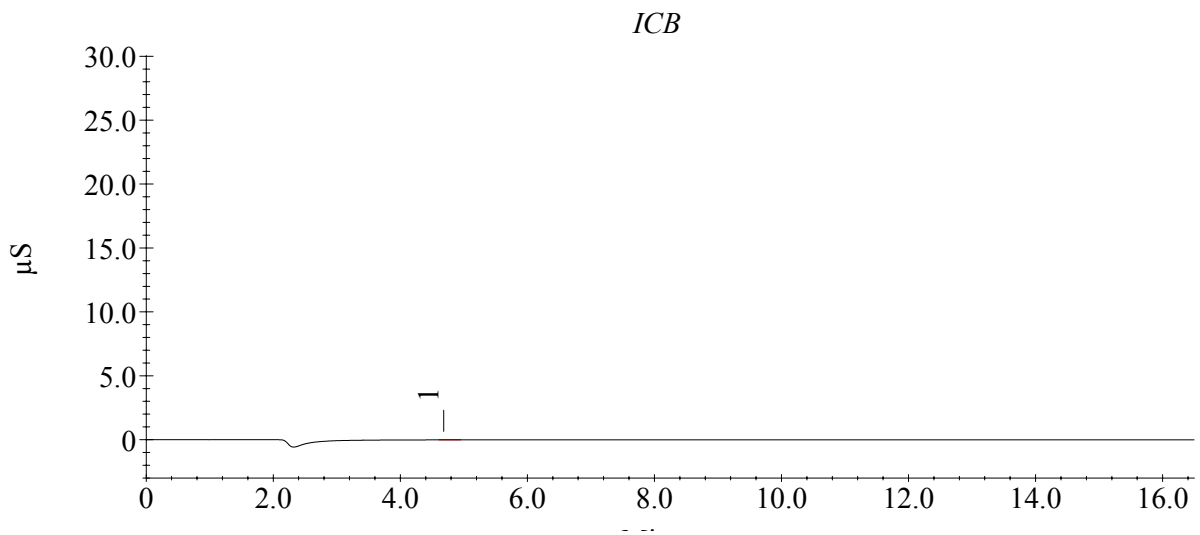
Sample Analysis Report

Sample Name : ICB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051017 - 2 - IC1079\ICB_012.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 5/10/17 17:19:06
System Operator : AGK

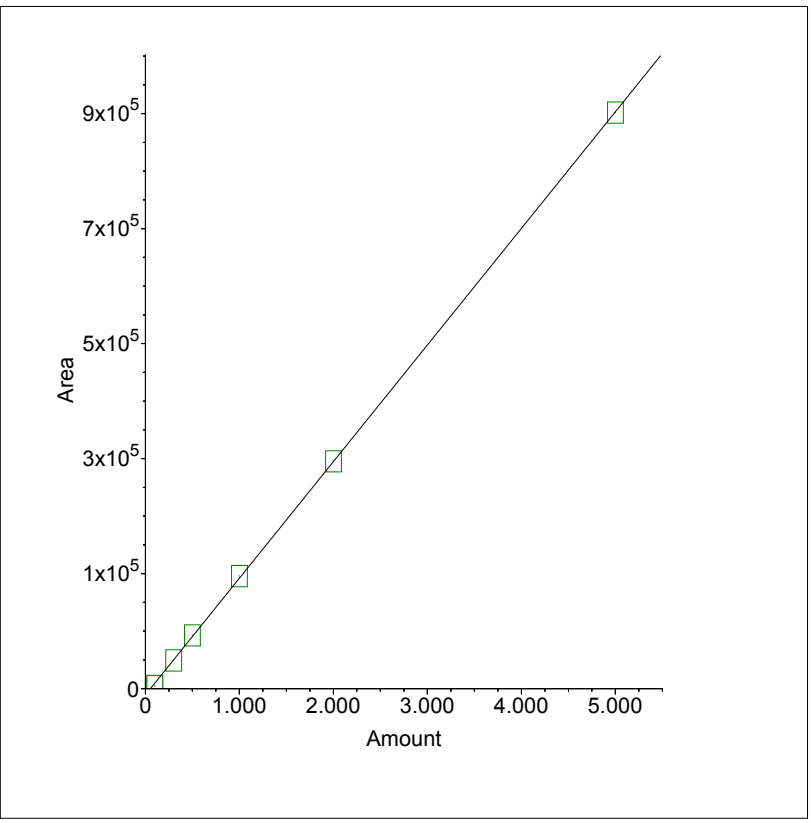
Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

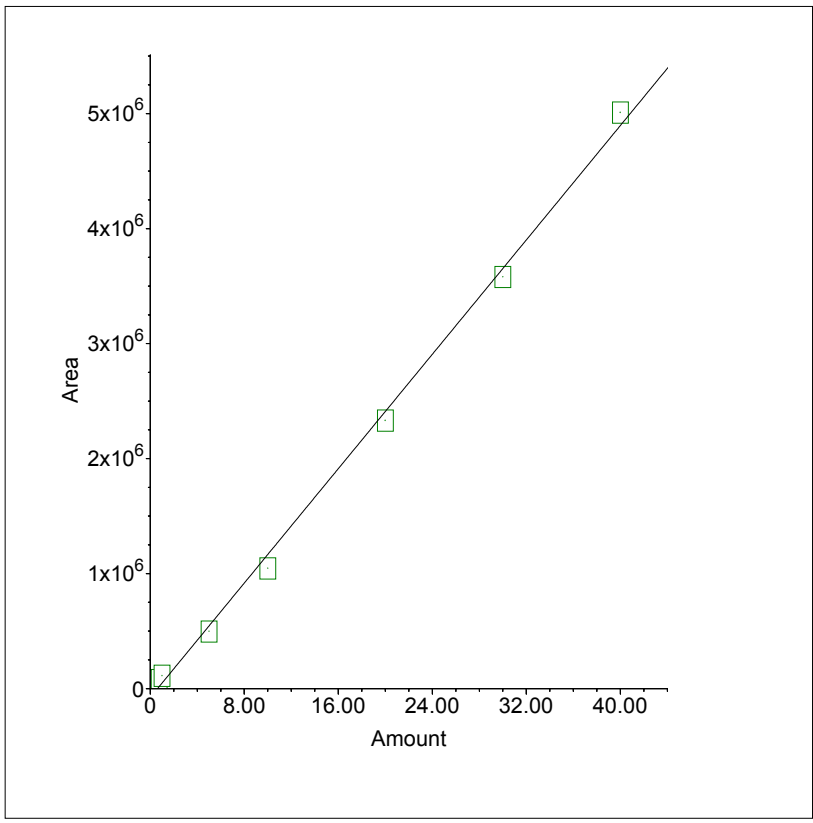


RJ 06/07/2017

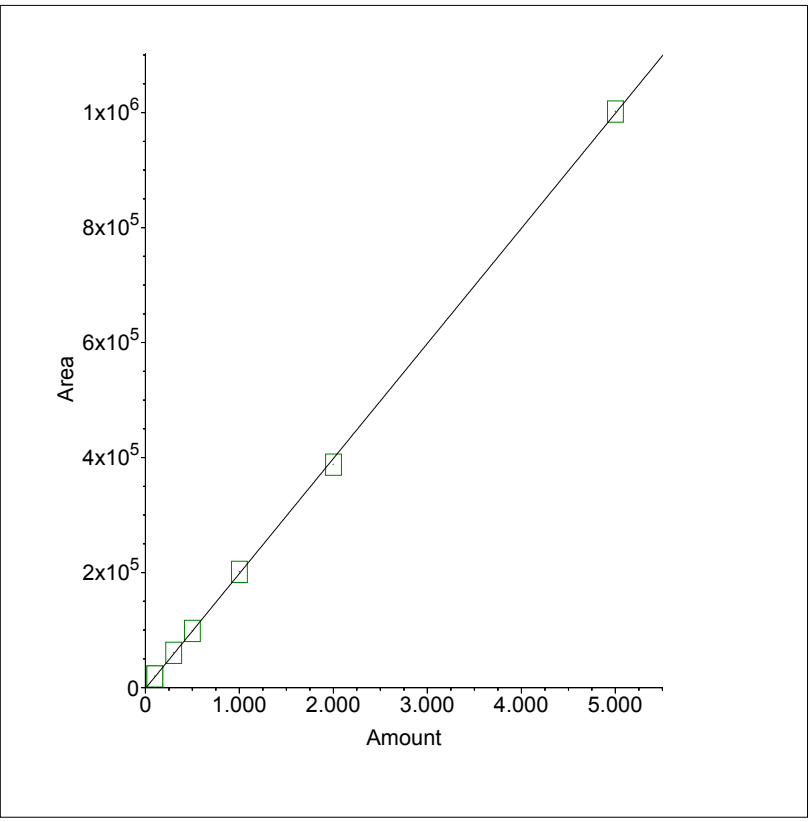
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999937
Amt=5.274e-006*Resp+0.05413



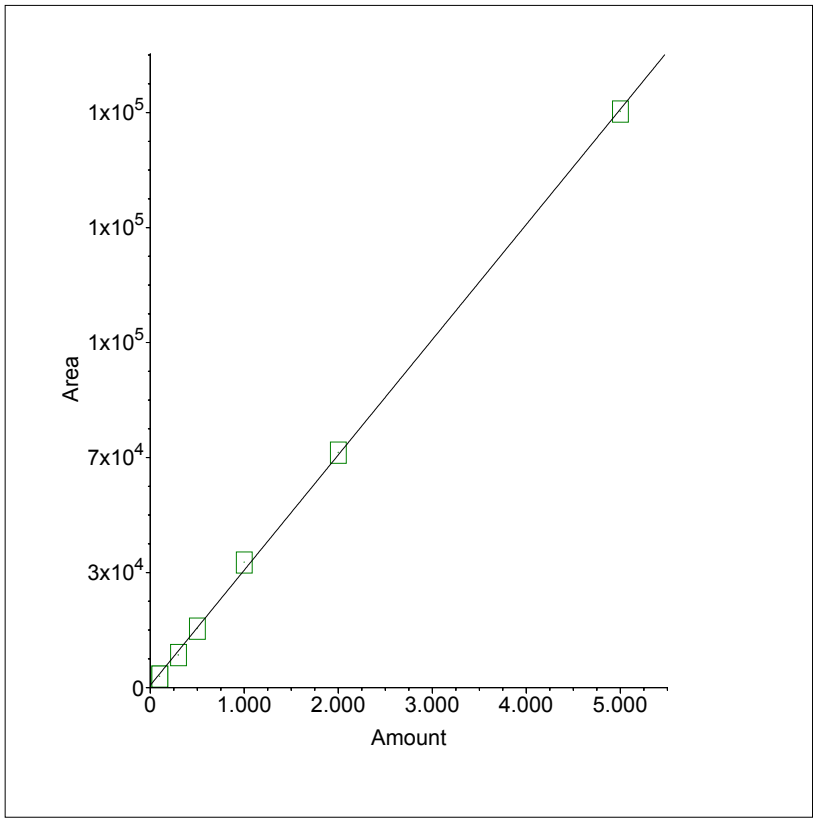
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.997764
Amt=7.965e-006*Resp+0.6221



3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999790
Amt=4.519e-006*Resp+0.009368

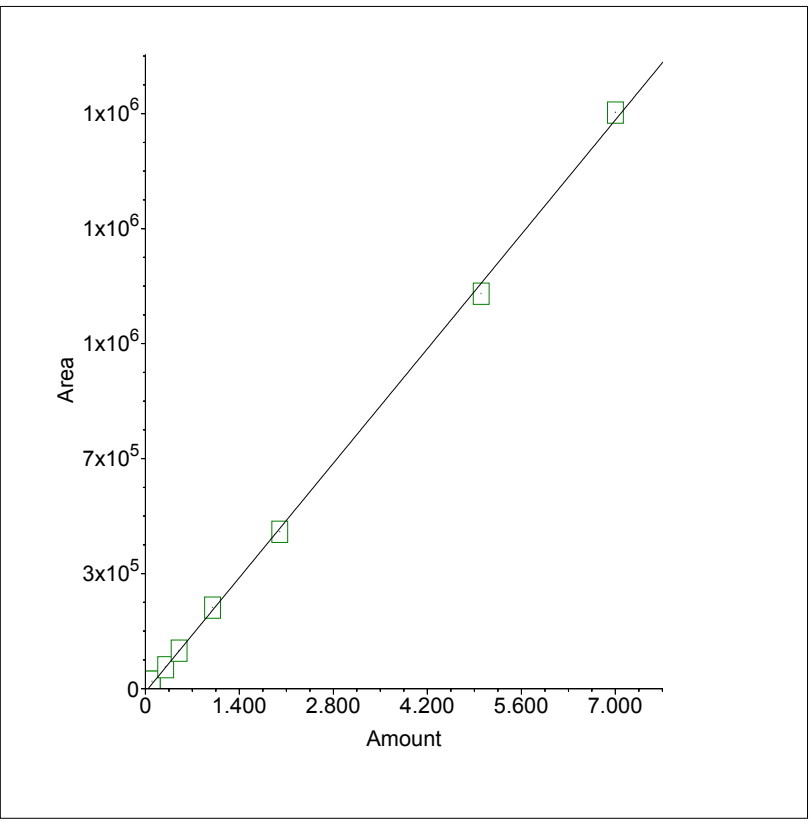


4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999572
Amt=2.674e-005*Resp+-0.019

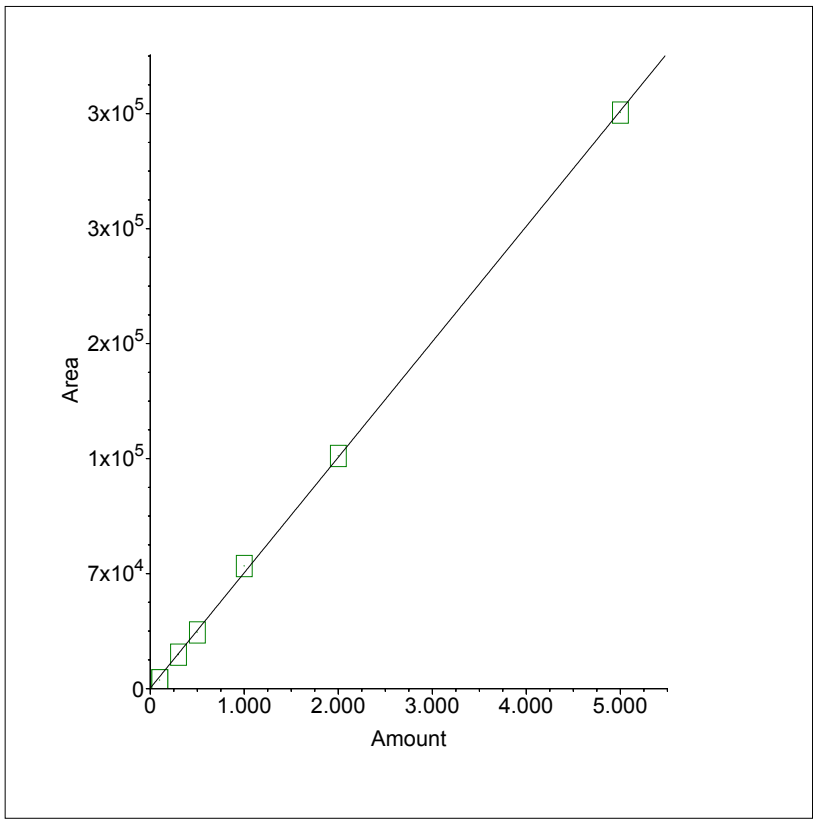


RJ06/07/2017

5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999353
Amt=3.547e-006*Resp+0.0422

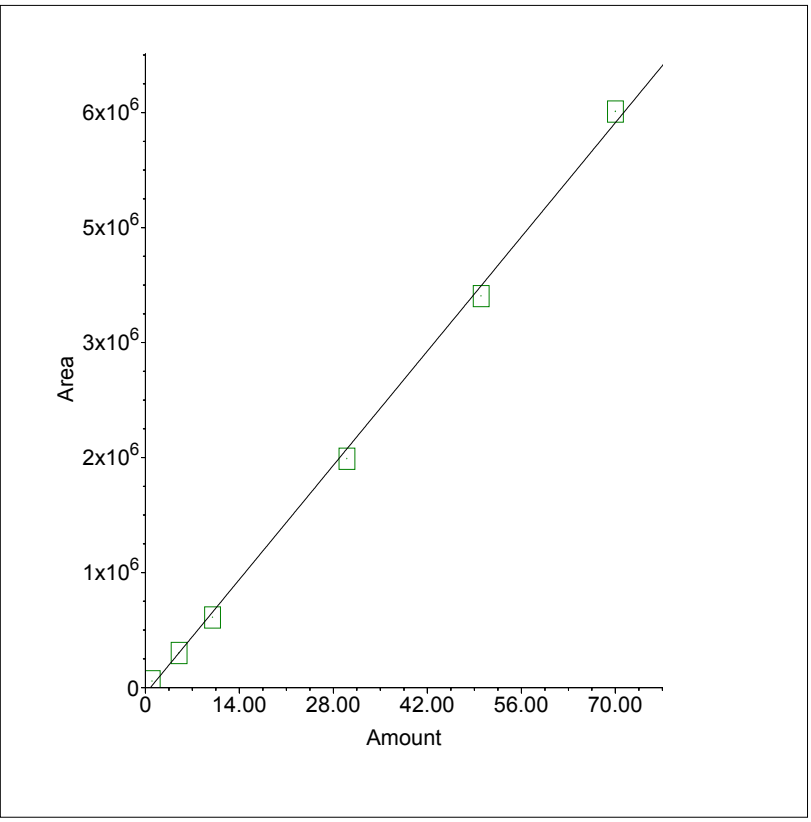


6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999708
Amt=1.263e-005*Resp+-0.003053



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998729
Amt=1.098e-005*Resp+0.7574

RJ06/07/2017



ule File: C:\INSTARCH\Sequences\System 2\071117 - 139747.sch

	Sample	Sample Type	Level	Method
12	CCV	Sample		system 2\ic1079.met
13	CCB	Sample		system 2\ic1079.met
14	889902	Sample		system 2\ic1079.met
15	889902X5	Sample		system 2\ic1079.met
16	DUP889902	Sample		system 2\ic1079.met
17	DUP889902X5	Sample		system 2\ic1079.met
18	MSW889902	Sample		system 2\ic1079.met
19	MSW889902X5	Sample		system 2\ic1079.met
20	889904	Sample		system 2\ic1079.met
21	889904X5	Sample		system 2\ic1079.met
22	889904X10	Sample		system 2\ic1079.met
23	CCV	Sample		system 2\ic1079.met
24	CCB	Sample		system 2\ic1079.met
25	889906	Sample		system 2\ic1079.met
26	889906X5	Sample		system 2\ic1079.met
27	889906X10	Sample		system 2\ic1079.met
28	889908	Sample		system 2\ic1079.met
29	889908X5	Sample		system 2\ic1079.met
30	889908X10	Sample		system 2\ic1079.met
31	CCV	Sample		system 2\ic1079.met
32	CCB	Sample		system 2\ic1079.met

Schedule File: C:\INSTARCH\Sequences\System 2\071117 - 139747.sch

Line	Sample	Sample Type	Level	Method
72	CCV	Sample		system 2\ic1079.met
73	CCB	Sample		system 2\ic1079.met
74	LCSW	Sample		system 2\ic1079.met
75	CCB	Sample		system 2\ic1079.met
76	890667	Sample		system 2\ic1079.met
77	DUP890667	Sample		system 2\ic1079.met
78	MSW890667	Sample		system 2\ic1079.met
79	MSDW890667	Sample		system 2\ic1079.met
80	890670	Sample		system 2\ic1079.met
81	CCV	Sample		system 2\ic1079.met
82	CCB	Sample		system 2\ic1079.met

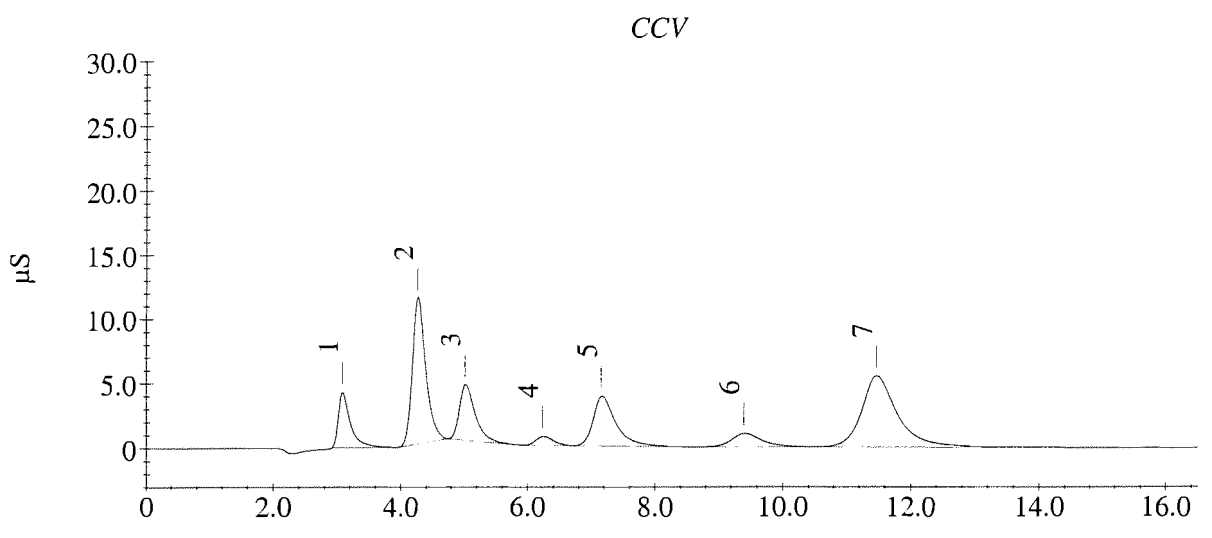
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCV_012.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 13:54:09
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	3.0540	568810	42654	
2	Chloride	4.27	13.7568	1648959	113060	
3	Nitrite	5.02	3.3910	748361	42913	
5	Nitrate	7.15	3.4625	964334	38073	
6	O.Phos	9.40	4.2930	340184	10425	
7	Sulfate	11.47	24.6885	2179372	55194	



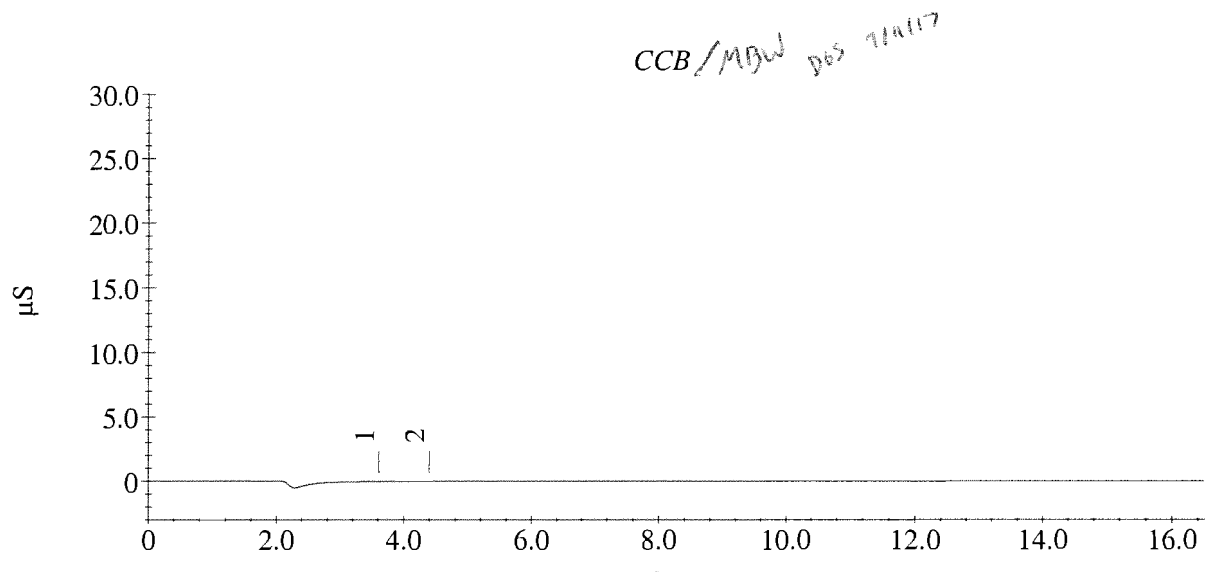
Sample Analysis Report

Sample Name : CCB / MBW
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCB_013.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 14:12:52
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.40	0.6472	3148	99	



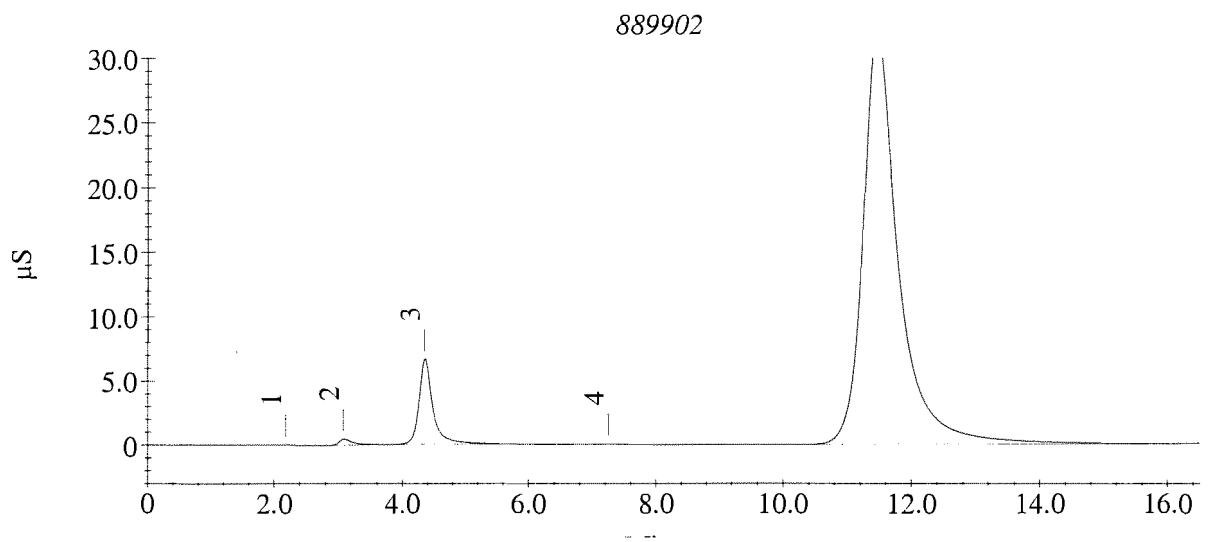
Sample Analysis Report

Sample Name : 889902
Data File Name : c:\instarch\data\system 2\071117 - 139747\889902_014.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 14:31:35
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	0.4191	69206	4632	
3	Chloride	4.35	8.9078	1040205	66000	
4	Nitrate	7.25	0.1030	17143	727	
5	Sulfate	11.43	138.1692	12513913	319412	+



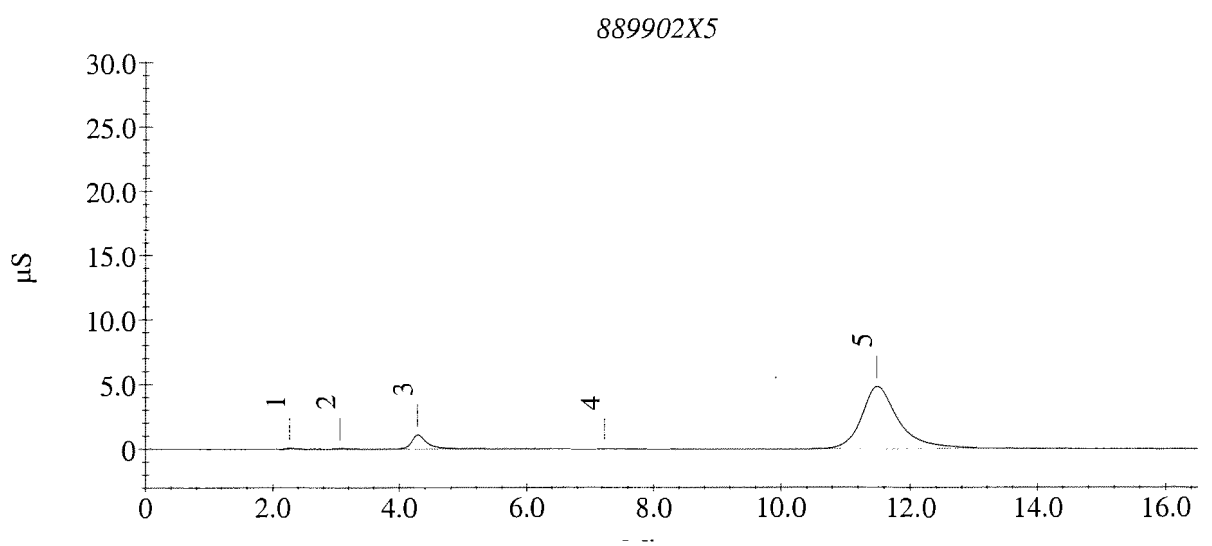
Sample Analysis Report

Sample Name : 889902X5
Data File Name : c:\instarch\data\system 2\071117 - 139747\889902X5_015.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 14:50:18
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	0.1083	10271	701	
3	Chloride	4.28	2.1674	194002	10931	
4	Nitrate	7.23	0.0526	2919	128	
5	Sulfate	11.48	21.7907	1915477	48241	



Sample Analysis Report

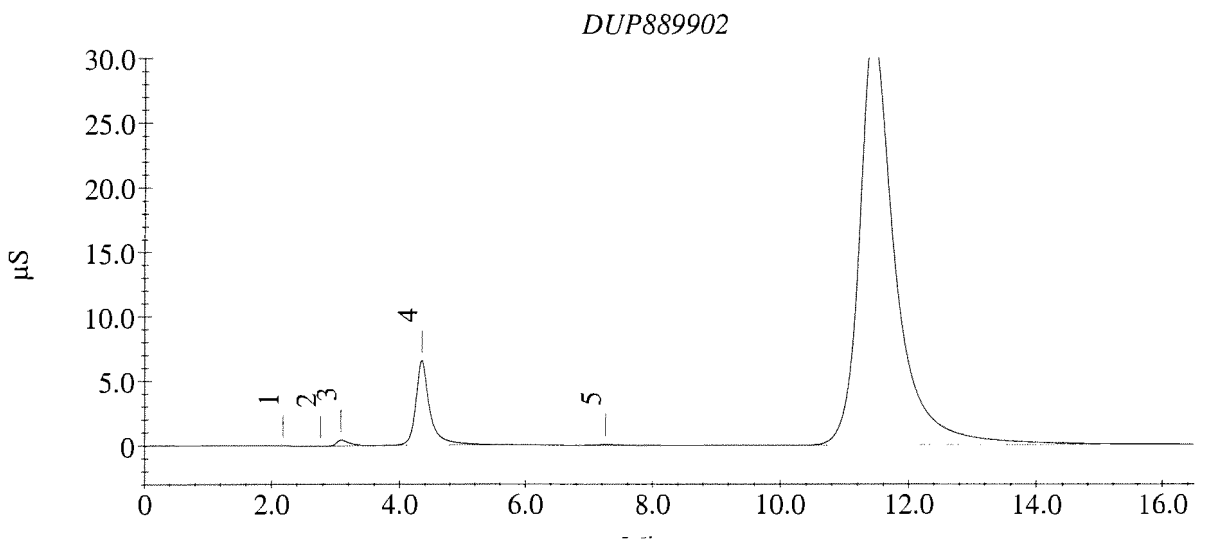
DGS 7/12/17 Not used

Sample Name : DUP889902
Data File Name : c:\instarch\data\system 2\071117 - 139747\DUP889902_016.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 15:09:01
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.08	0.4114	67737	4603	
4	Chloride	4.35	8.7833	1024578	65369	
5	Nitrate	7.25	0.1058	17922	718	
6	Sulfate	11.43	137.7698	12477542	318897	+



Not used

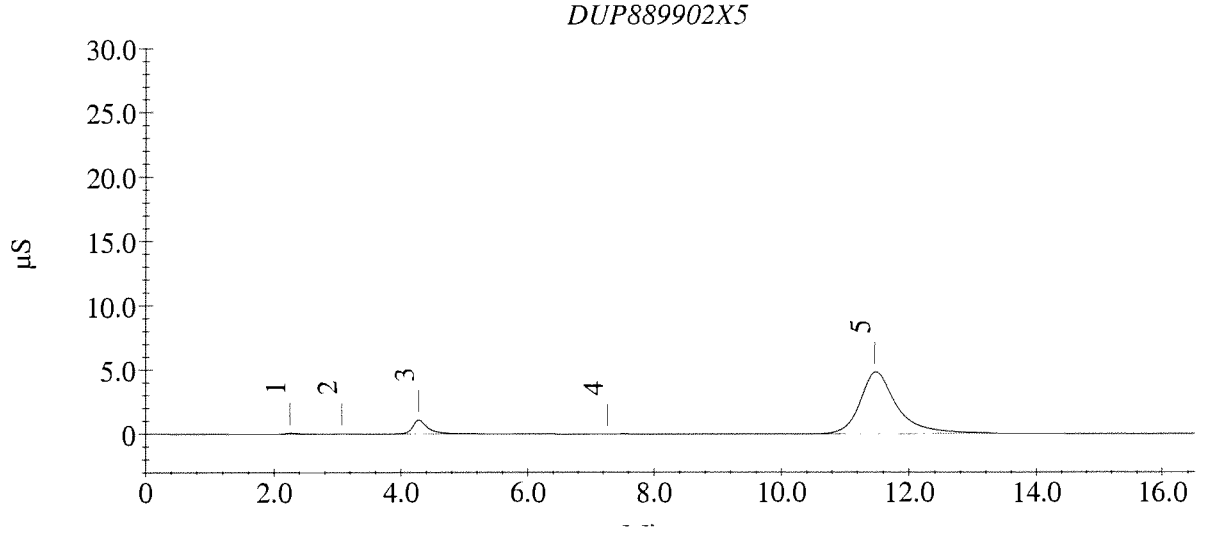
Sample Analysis Report

Sample Name : DUP889902X5
Data File Name : c:\instarch\data\system 2\071117 - 139747\DUP889902X5_017.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 15:27:45
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	0.1093	10464	720	
3	Chloride	4.28	2.1504	191865	10938	
4	Nitrate	7.27	0.0548	3562	152	
5	Sulfate	11.47	21.7123	1908332	47994	



Not used

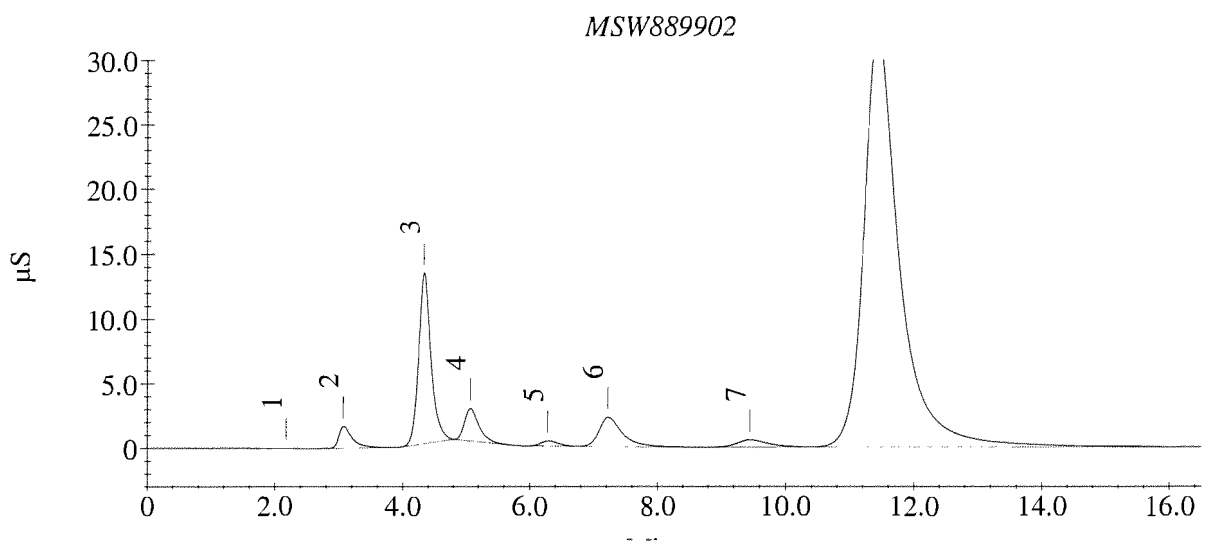
Sample Analysis Report

Sample Name : MSW889902
Data File Name : c:\instarch\data\system 2\071117 - 139747\MSW889902_018.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 15:46:28
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	1.3352	242897	16860	
3	Chloride	4.33	15.1633	1825533	131716	
4	Nitrite	5.07	1.8566	408788	25208	
6	Nitrate	7.22	2.0747	573056	22654	
7	O.Phos	9.45	2.3740	188231	5686	
8	Sulfate	11.42	138.1942	12516197	321055	+



Not Used

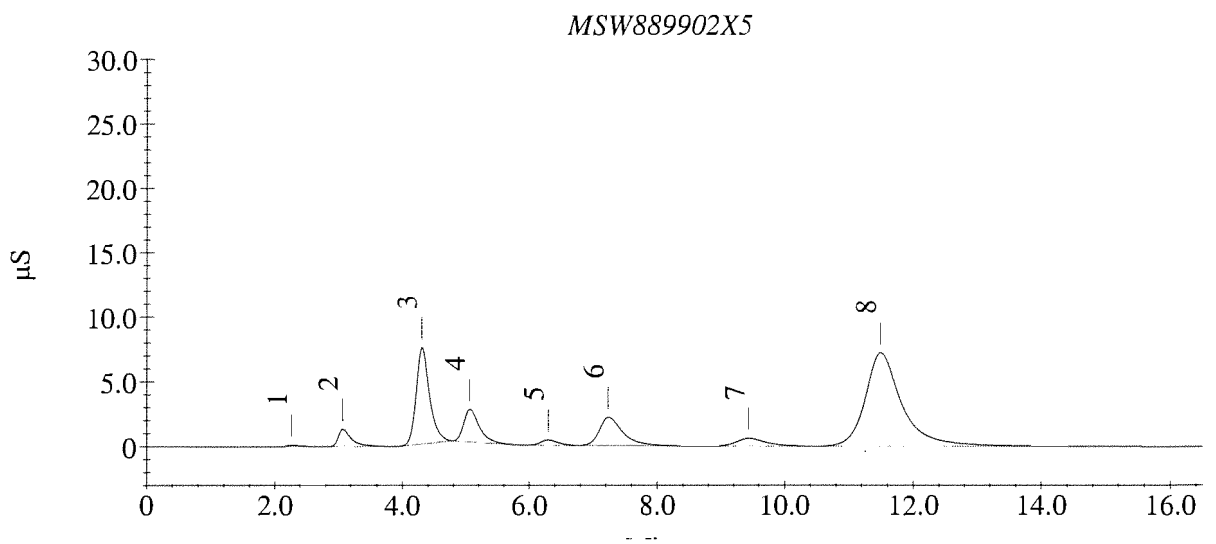
Sample Analysis Report

Sample Name : MSW889902X5
Data File Name : c:\instarch\data\system 2\071117 - 139747\MSW889902X5_019.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 16:05:11
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	1.0653	191736	13157	
3	Chloride	4.30	9.1558	1071343	74043	
4	Nitrite	5.05	1.9731	434584	25053	
5	Bromide	6.30	2.0818	78563	4154	
6	Nitrate	7.23	2.0194	557448	21805	
7	O.Phos	9.43	2.5180	199634	6082	
8	Sulfate	11.48	32.2602	2868921	71940	



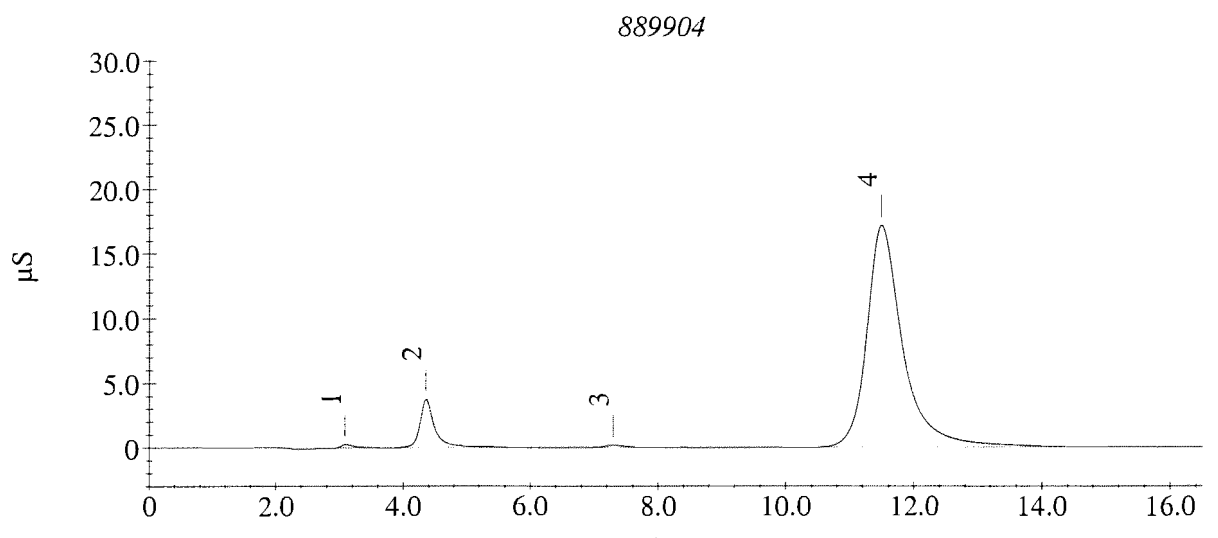
Sample Analysis Report

Sample Name : 889904
Data File Name : c:\instarch\data\system 2\071117 - 139747\889904_020.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 16:23:54
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.2300	33340	2528	
2	Chloride	4.35	5.5953	624351	37254	
3	Nitrate	7.30	0.2089	46990	1774	
4	Sulfate	11.48	74.8087	6743761	171692	+



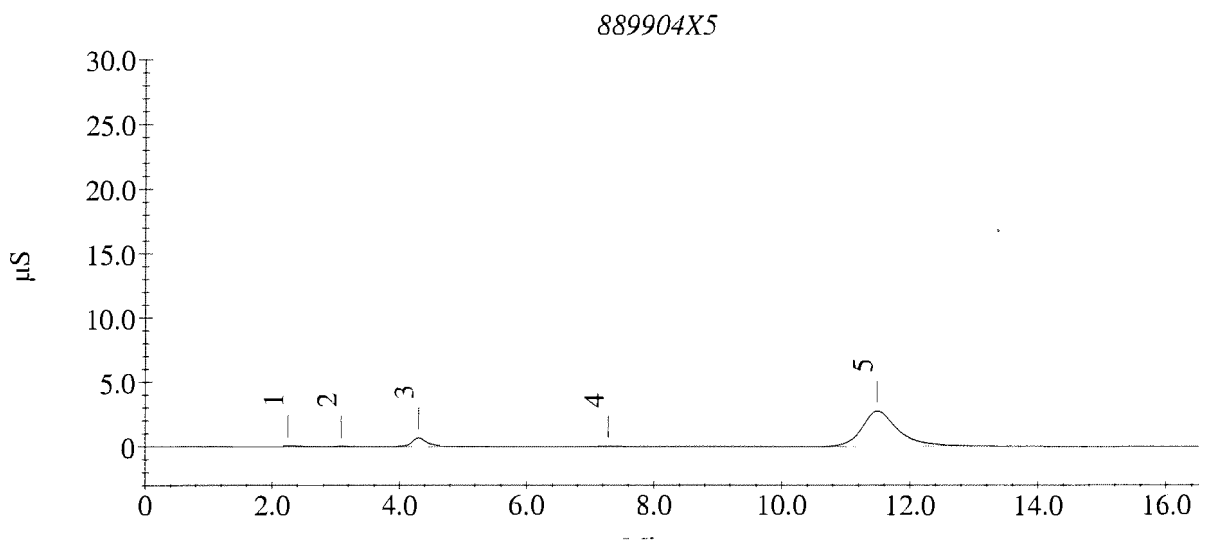
Sample Analysis Report

Sample Name : 889904X5
Data File Name : c:\instarch\data\system 2\071117 - 139747\889904X5_021.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 16:42:37
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	0.0926	7301	460	
3	Chloride	4.30	1.6080	123774	6768	
4	Nitrate	7.28	0.0707	8034	326	
5	Sulfate	11.48	12.4849	1068010	27240	



Not used

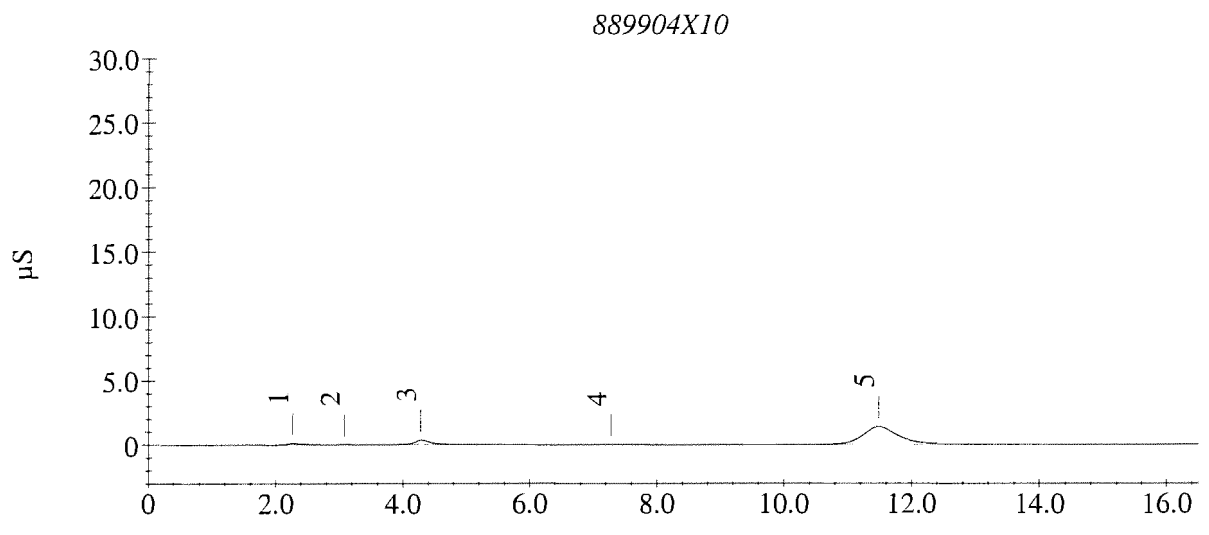
Sample Analysis Report

Sample Name : 889904X10
Data File Name : c:\instarch\data\system 2\071117 - 139747\889904X10_022.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 17:01:21
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	0.0729	3558	261	
3	Chloride	4.28	1.1548	66883	3558	
4	Nitrate	7.28	0.0567	4099	168	
5	Sulfate	11.48	6.8356	553537	13801	



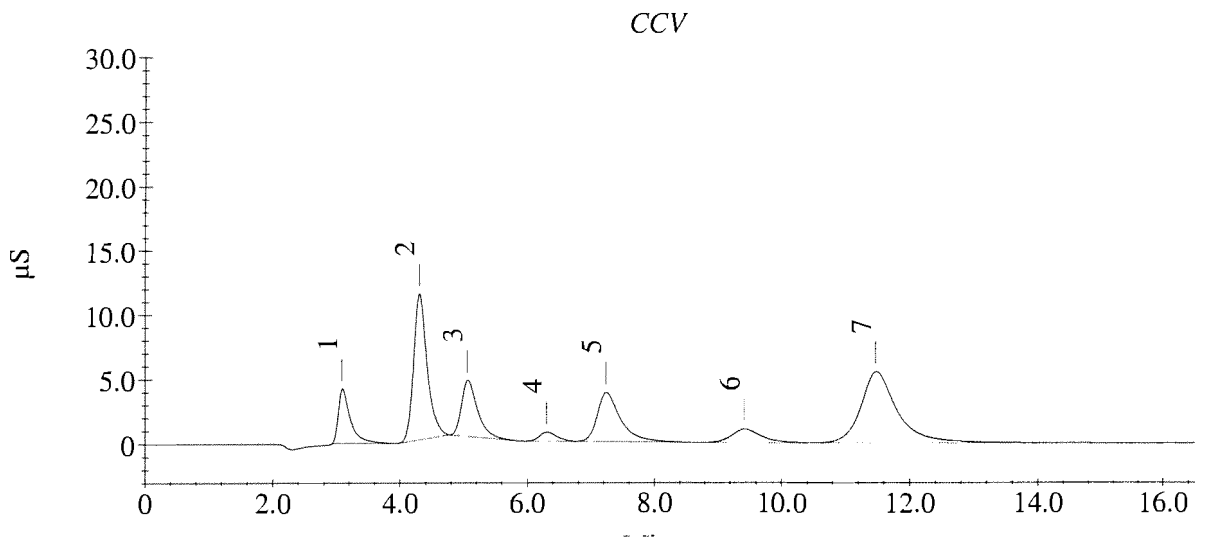
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCV_023.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 17:20:04
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	3.0408	566308	41701	
2	Chloride	4.30	13.7466	1647671	112747	
3	Nitrite	5.05	3.4392	759023	42906	
4	Bromide	6.30	3.5653	134039	7044	
5	Nitrate	7.23	3.4580	963048	37770	
6	O.Phos	9.42	4.2664	338080	10342	
7	Sulfate	11.47	24.5196	2163990	54787	



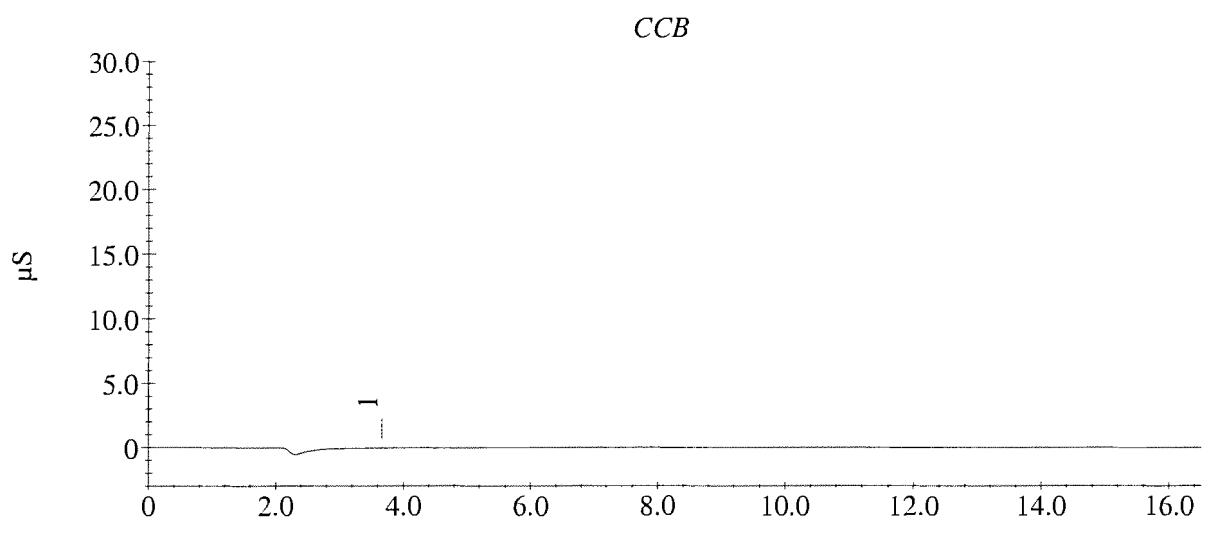
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCB_024.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 17:38:47
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



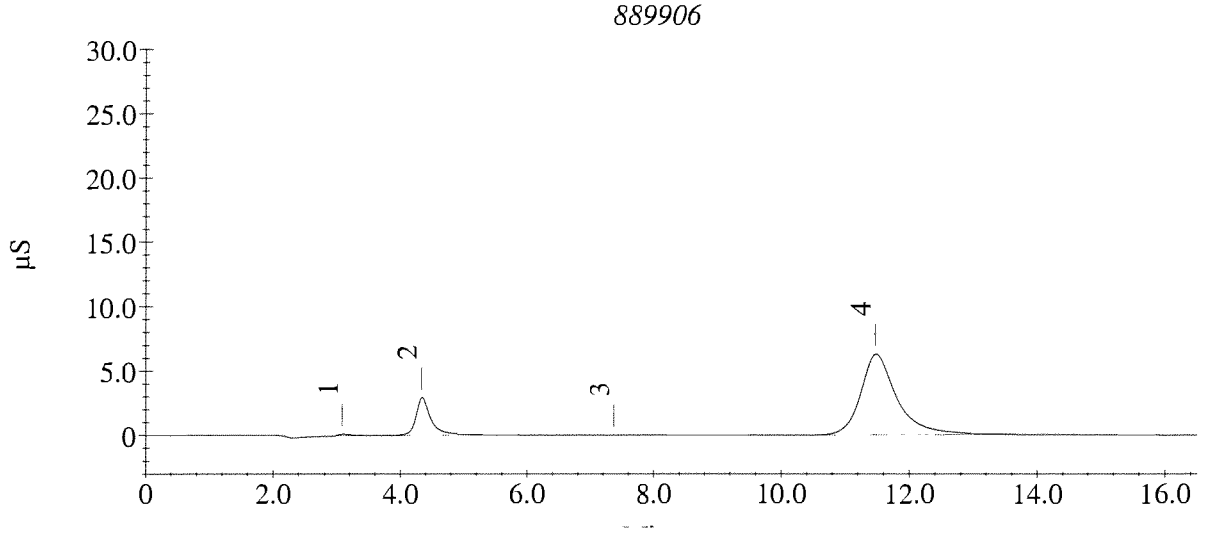
Sample Analysis Report

Sample Name : 889906
Data File Name : c:\instarch\data\system 2\071117 - 139747\889906_025.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 17:57:30
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.1284	14091	1111	
2	Chloride	4.33	4.6019	499628	29041	
3	Nitrate	7.37	0.0517	2673	137	
4	Sulfate	11.47	27.9084	2472605	62541	



Not used

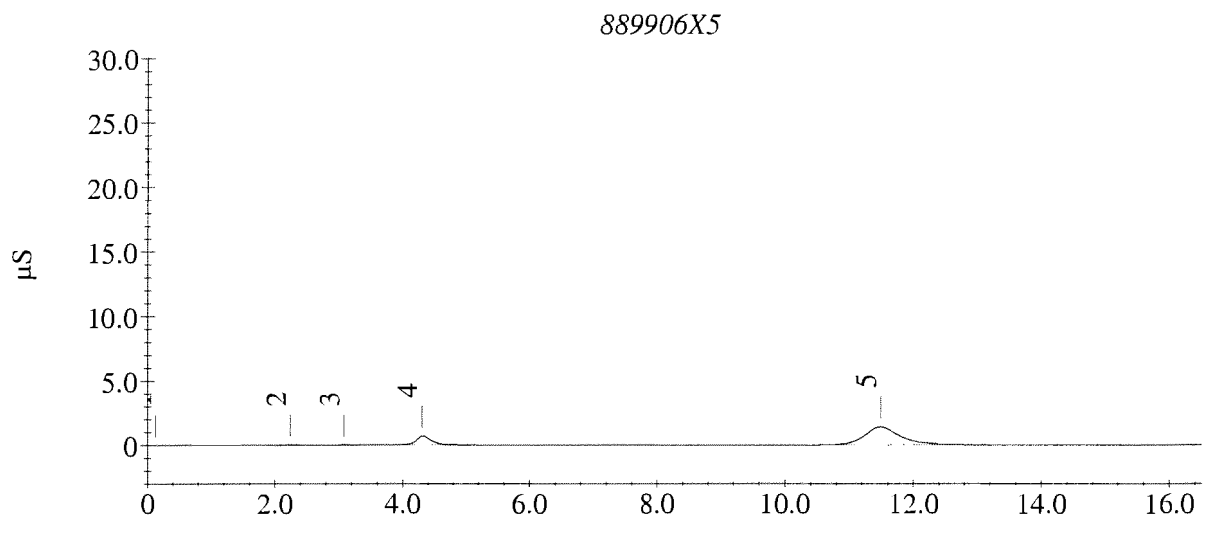
Sample Analysis Report

Sample Name : 889906X5
Data File Name : c:\instarch\data\system 2\071117 - 139747\889906X5_026.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 18:16:13
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.08	0.0791	4725	354	
4	Chloride	4.30	1.6561	129814	6905	
5	Sulfate	11.48	6.8811	557678	14027	



Not used

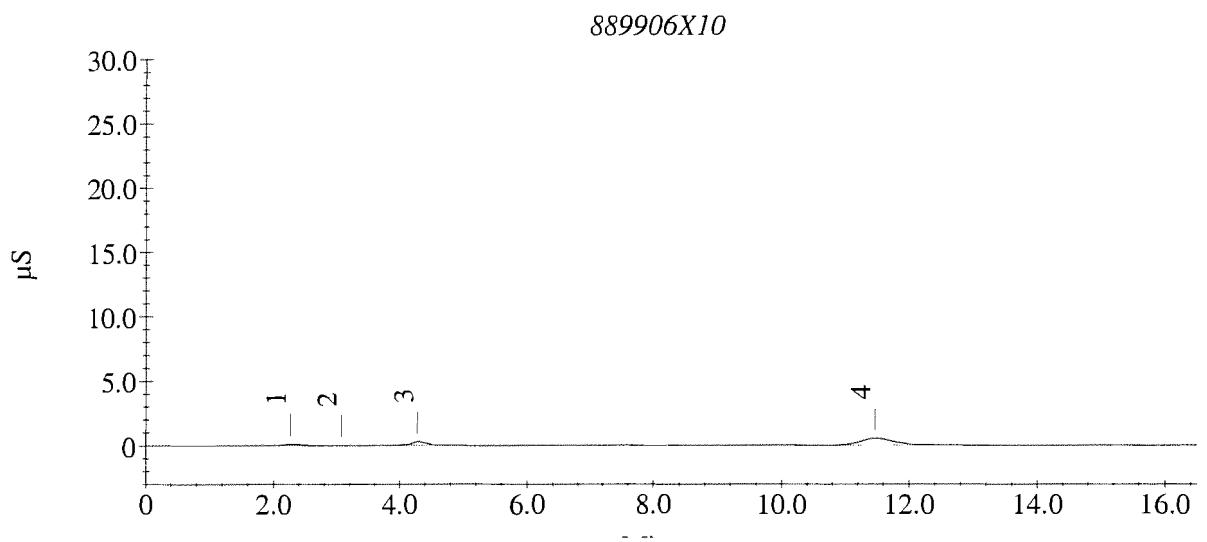
Sample Analysis Report

Sample Name : 889906X10
Data File Name : c:\instarch\data\system 2\071117 - 139747\889906X10_027.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 18:34:57
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	0.0613	1362	128	
3	Chloride	4.28	1.0704	56288	2871	
4	Sulfate	11.47	3.1085	214116	5462	



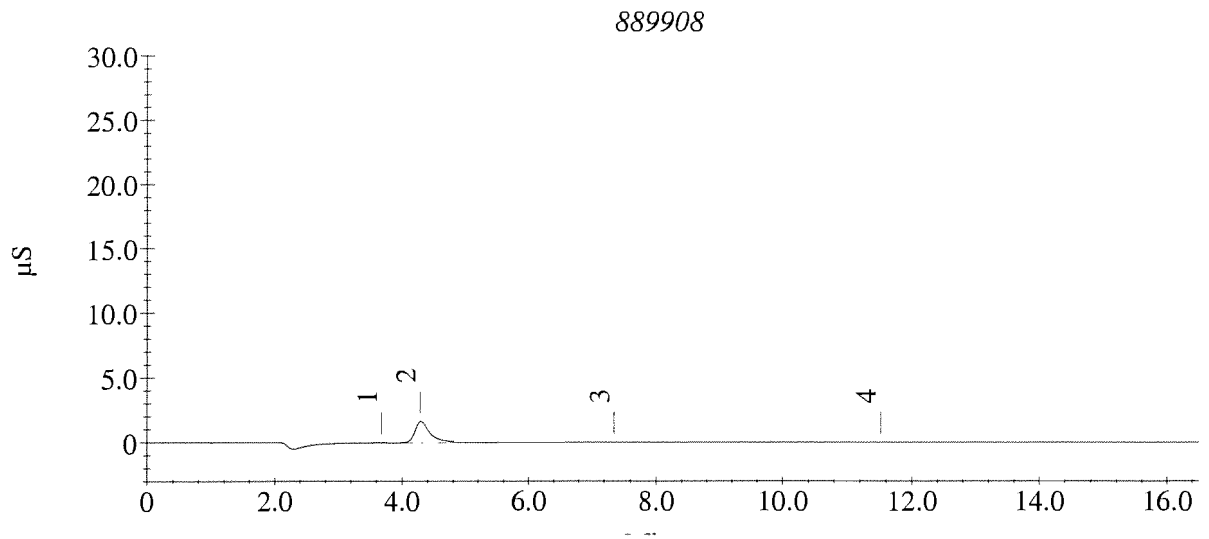
Sample Analysis Report

Sample Name : 889908
Data File Name : c:\instarch\data\system 2\071117 - 139747\889908_028.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 18:53:40
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.28	2.9579	293247	16490	
3	Nitrate	7.35	0.0476	1522	76	
4	Sulfate	11.52	0.7952	3442	124	



Not used

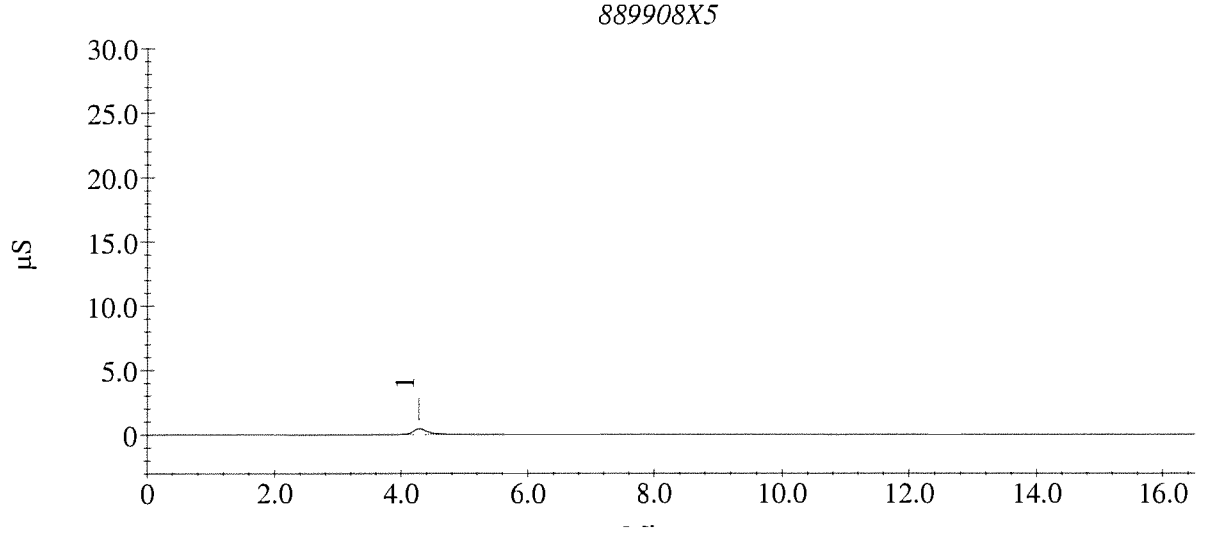
Sample Analysis Report

Sample Name : 889908X5
Data File Name : c:\instarch\data\system 2\071117 - 139747\889908X5_029.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 19:12:23
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Chloride	4.28	1.2584	79879	4526	



Sample Analysis Report

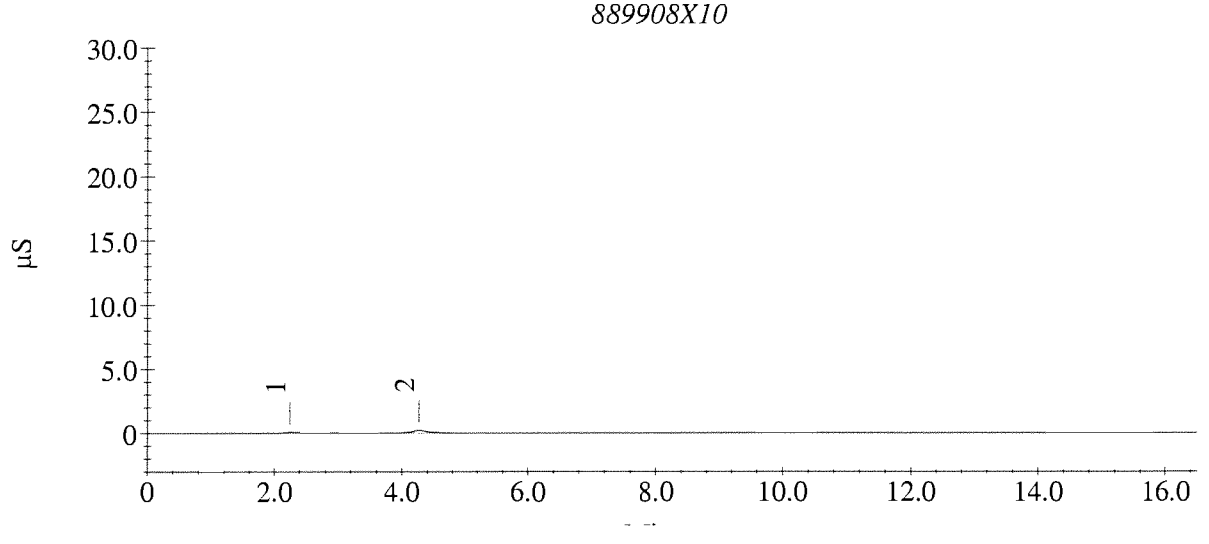
Not used

Sample Name : 889908X10
Data File Name : c:\instarch\data\system 2\071117 - 139747\889908X10_030.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 19:31:06
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.27	0.9454	40592	2028	



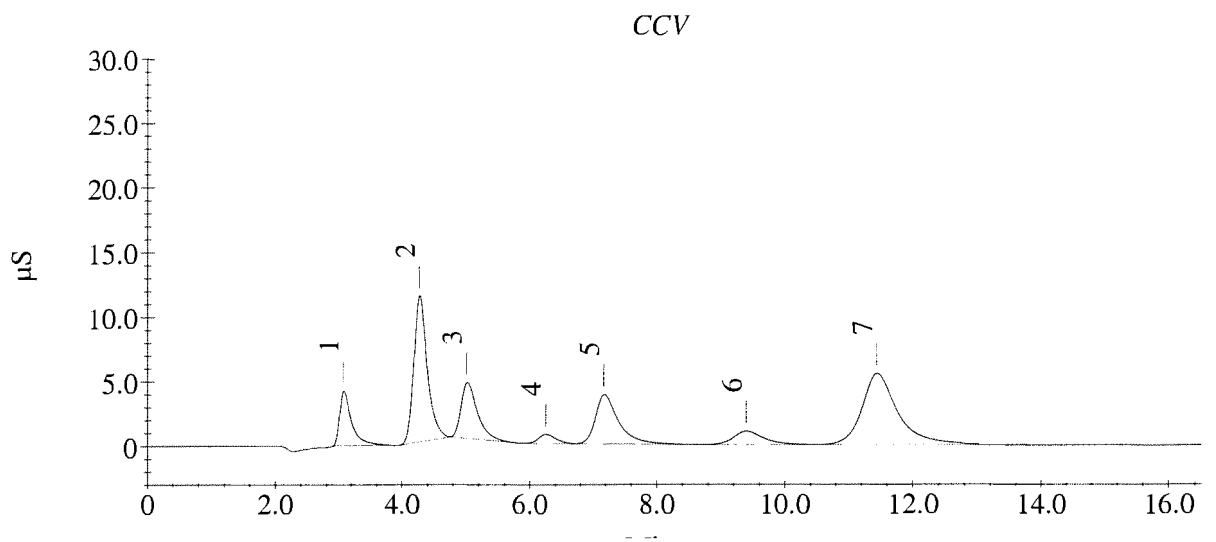
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCV_031.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 19:49:49
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.07	3.0239	563092	41711	
2	Chloride	4.27	13.7643	1649899	112625	
3	Nitrite	5.02	3.4023	750870	42786	
5	Nitrate	7.17	3.4663	965401	38014	
6	O.Phos	9.40	4.2721	338529	10402	
7	Sulfate	11.43	24.6343	2174435	55020	



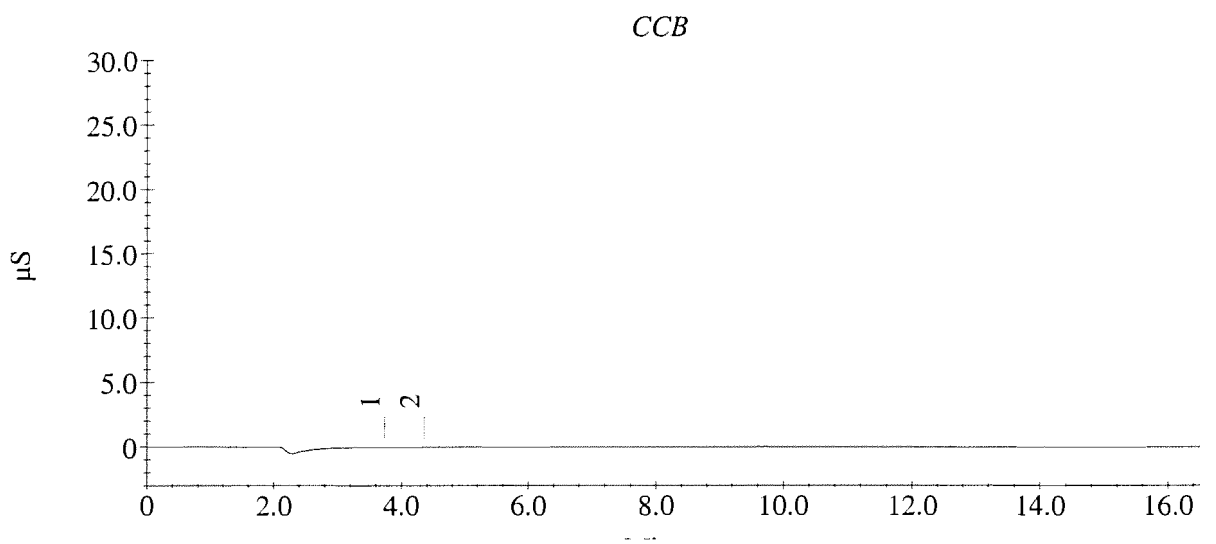
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCB_032.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/11/17 20:08:32
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.35	0.6482	3278	120	



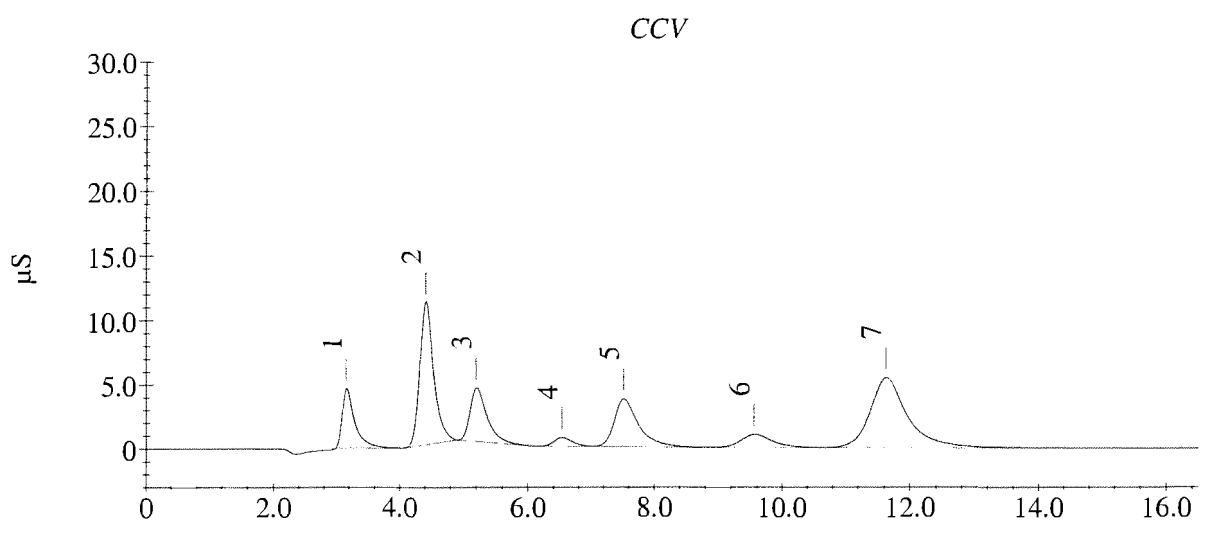
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCV_072.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 12:21:14
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	3.4564	645109	46067	
2	Chloride	4.40	14.1363	1696606	110568	
3	Nitrite	5.20	3.4960	771607	41664	
4	Bromide	6.53	3.6614	137631	6860	
5	Nitrate	7.52	3.5521	989579	37006	
6	O.Phos	9.55	4.3305	343158	10278	
7	Sulfate	11.62	25.0334	2210787	54593	



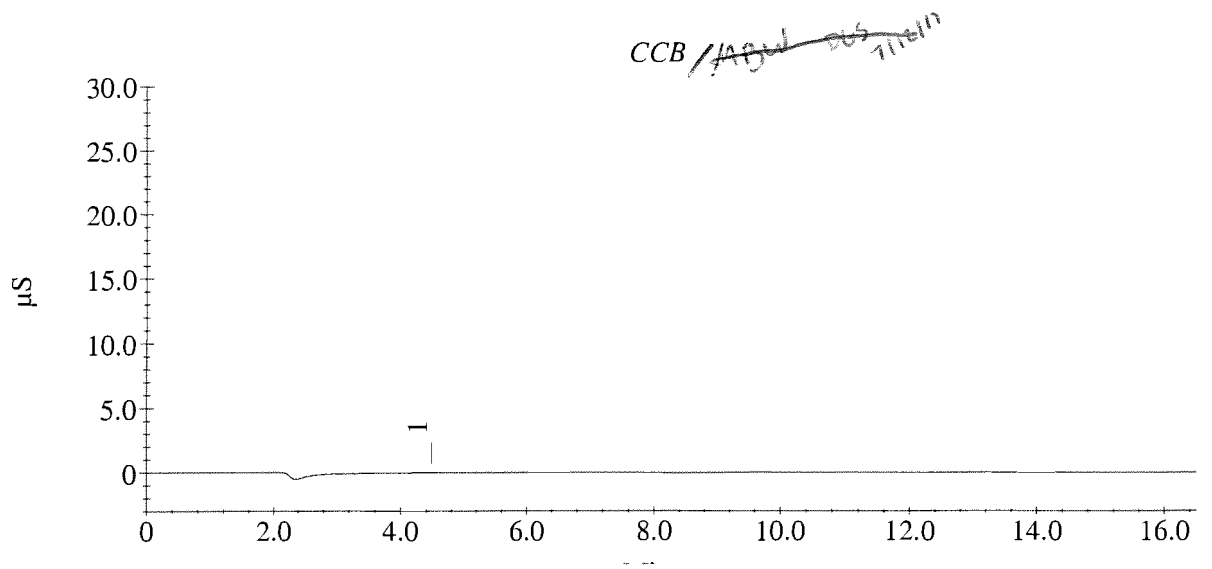
Sample Analysis Report

Sample Name : CCB ~~/AB3~~
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCB_073.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 12:39:57
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



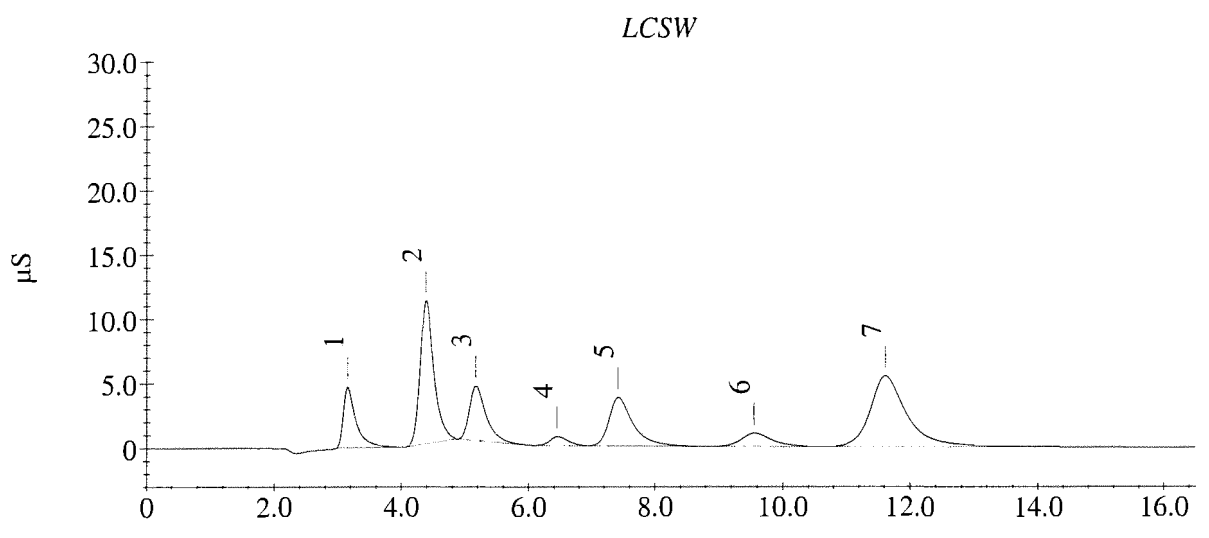
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\071117 - 139747\LCSW_074.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 13:27:45
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	3.4481	643539	46413	
2	Chloride	4.38	14.0332	1683660	110970	
3	Nitrite	5.17	3.4567	762905	41935	
4	Bromide	6.45	3.6123	135795	6868	
5	Nitrate	7.42	3.5453	987670	37440	
6	O.Phos	9.55	4.3711	346370	10384	
7	Sulfate	11.62	24.7846	2188130	54563	



Sample Analysis Report

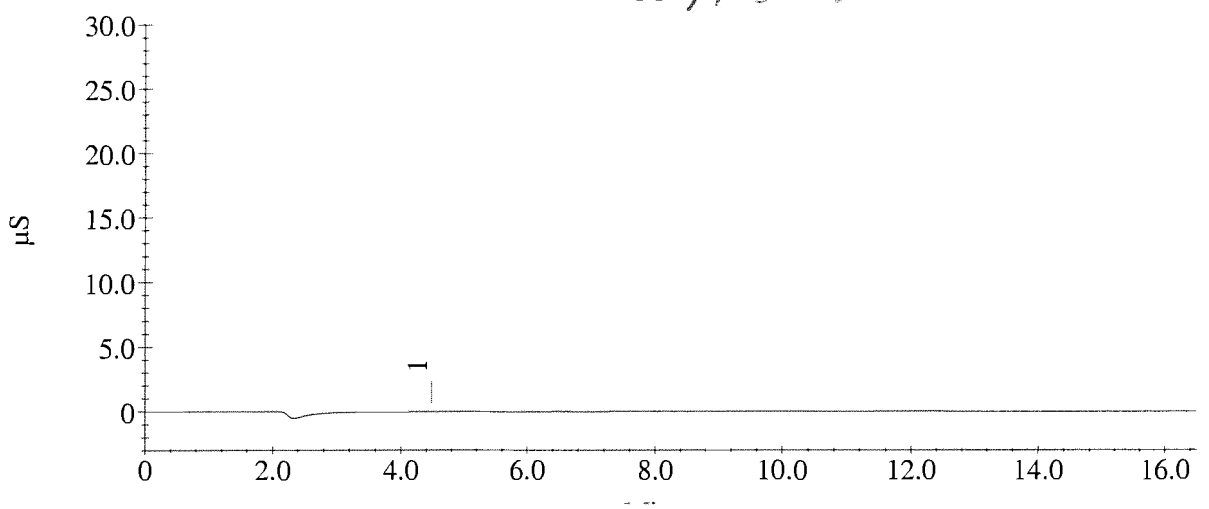
Sample Name : CCB / MDW
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCB_075.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 13:47:28
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

CCB/MDW DGS 7/12/17



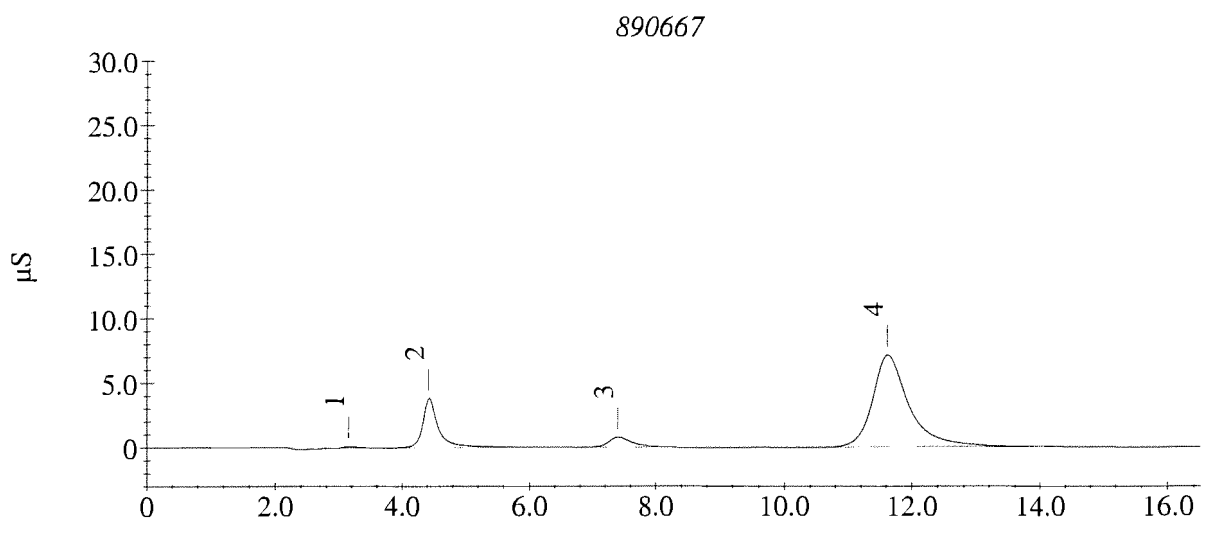
Sample Analysis Report

Sample Name : 890667
Data File Name : c:\instarch\data\system 2\071117 - 139747\890667_076.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 14:06:14
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	0.1053	9710	830	
2	Chloride	4.42	5.8583	657359	37683	
3	Nitrate	7.40	0.7526	200279	7576	
4	Sulfate	11.62	31.8684	2833242	70995	



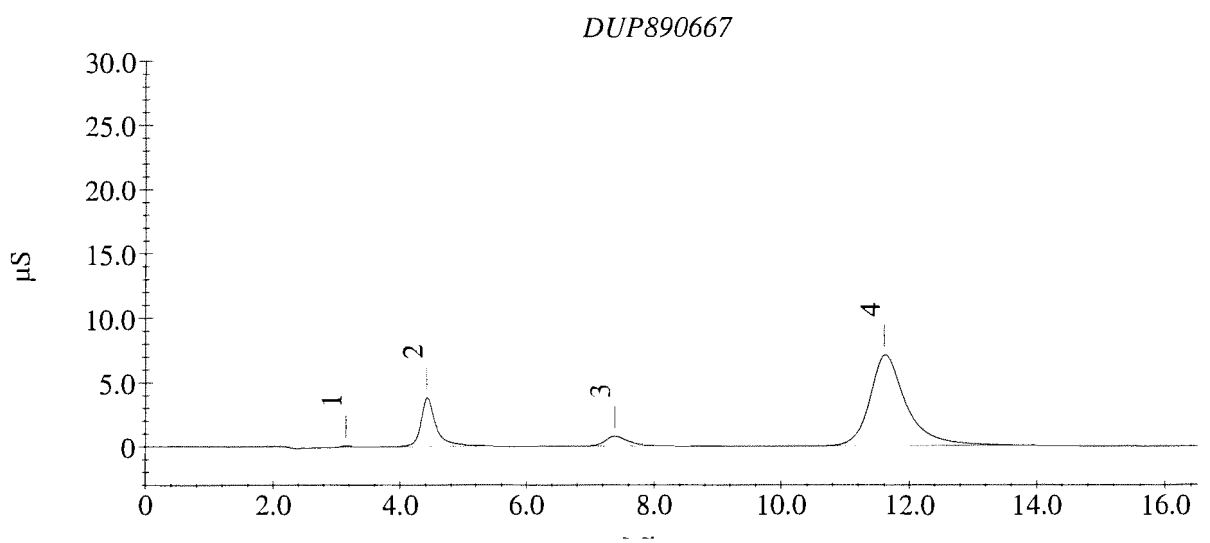
Sample Analysis Report

Sample Name : DUP890667
Data File Name : c:\instarch\data\system 2\071117 - 139747\DUP890667_077.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 14:24:57
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	0.1053	9693	820	
2	Chloride	4.42	5.8607	657668	38135	
3	Nitrate	7.38	0.7503	199641	7603	
4	Sulfate	11.60	31.6769	2815798	70748	



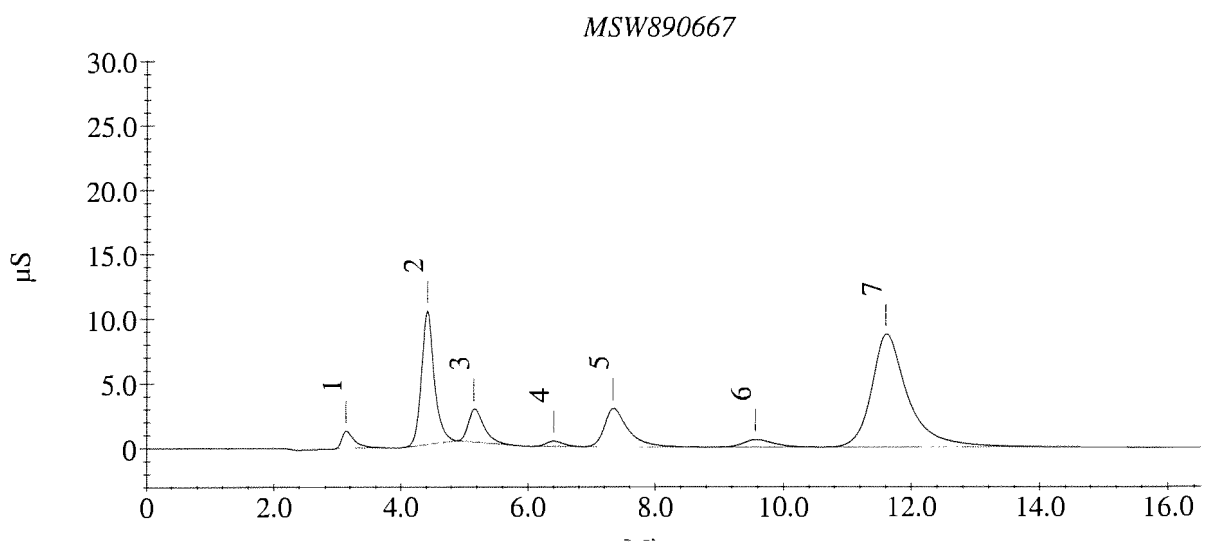
Sample Analysis Report

Sample Name : MSW890667
Data File Name : c:\instarch\data\system 2\071117 - 139747\MSW890667_078.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 14:43:40
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.13	1.0243	183949	13038	
2	Chloride	4.42	12.3225	1468889	102873	
3	Nitrite	5.15	1.9656	432929	25378	
4	Bromide	6.40	2.0921	78947	4186	
5	Nitrate	7.33	2.7466	762474	29425	
6	O.Phos	9.57	2.4119	191227	5815	
7	Sulfate	11.60	38.6094	3447131	86856	



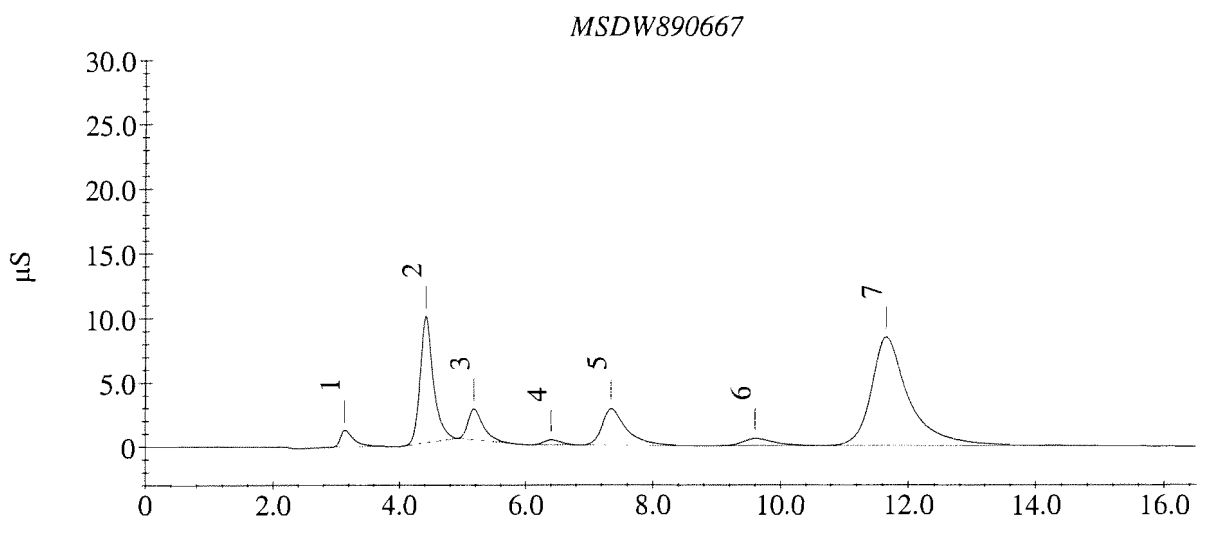
Sample Analysis Report

Sample Name : MSDW890667
Data File Name : c:\instarch\data\system 2\071117 - 139747\MSDW890667_079.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 15:02:23
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.13	1.0070	180676	12521	
2	Chloride	4.42	11.9894	1427076	98244	
3	Nitrite	5.17	1.8539	408209	24188	
4	Bromide	6.40	1.9445	73427	3945	
5	Nitrate	7.35	2.7038	750413	28360	
6	O.Phos	9.60	2.3528	186554	5625	
7	Sulfate	11.65	38.5115	3438220	84408	



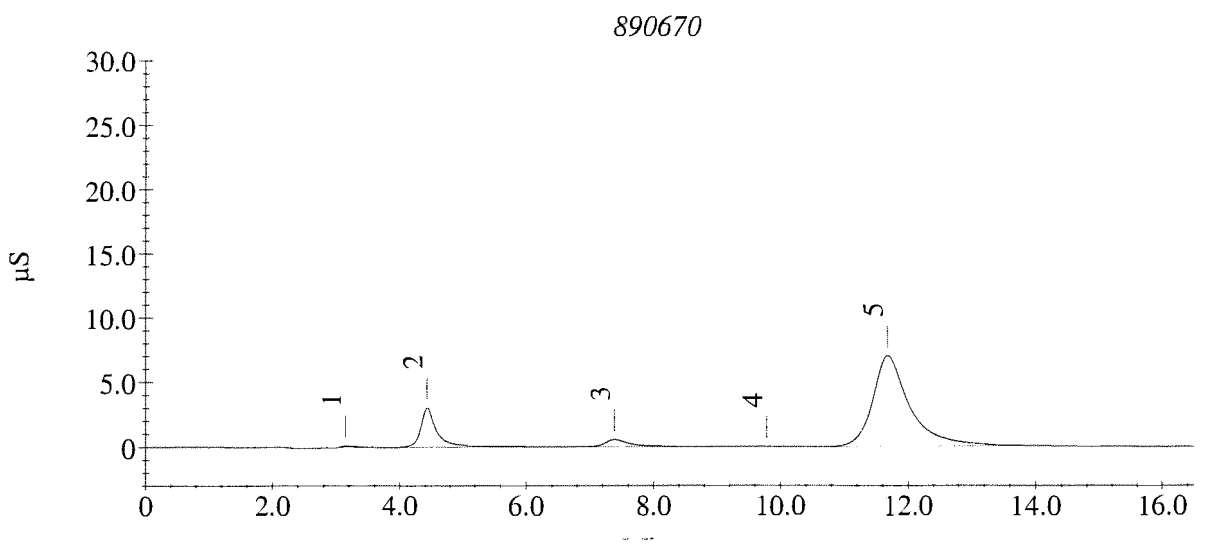
Sample Analysis Report

Sample Name : 890670
Data File Name : c:\instarch\data\system 2\071117 - 139747\890670_080.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 15:21:06
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	0.1274	13889	1036	
2	Chloride	4.43	4.9895	548299	30240	
3	Nitrate	7.38	0.5641	147145	5466	
4	O.Phos	9.78	0.0338	2920	95	
5	Sulfate	11.67	32.0442	2849251	70036	



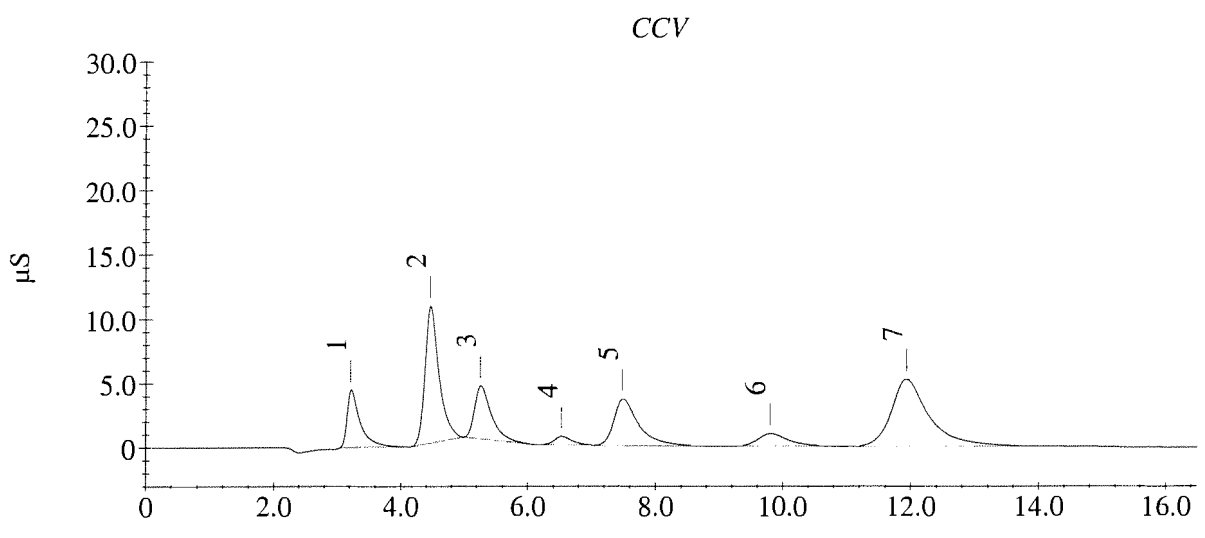
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCV_081.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 16:03:12
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.22	3.4176	637752	44121	
2	Chloride	4.47	13.5984	1629072	105991	
3	Nitrite	5.25	3.4441	760125	41101	
4	Bromide	6.53	3.3788	127066	6607	
5	Nitrate	7.48	3.5094	977556	36006	
6	O.Phos	9.80	4.1397	328044	9743	
7	Sulfate	11.93	24.4497	2157630	52185	



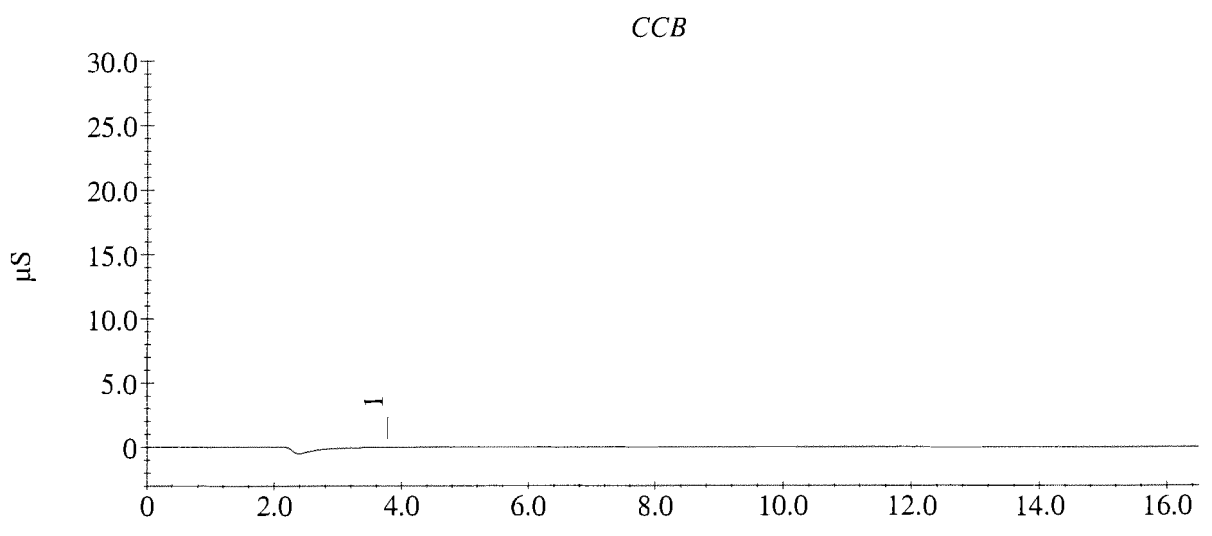
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071117 - 139747\CCB_082.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/12/17 16:22:56
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Schedule File: C:\INSTARCH\Sequences\System 2\071317 - 2.sch

Line	Sample	Sample Type	Level	Method
1	CCV	Sample		ic1079.met
2	LCSW	Sample		ic1079.met
3	MBW	Sample		ic1079.met
4	891324	Sample		ic1079.met
5	891324X5	Sample		ic1079.met
6	DUP891324	Sample		ic1079.met
7	DUP891324X5	Sample		ic1079.met
8	MSW891324	Sample		ic1079.met
9	MSW891324X5	Sample		ic1079.met
10	MSDW891324	Sample		ic1079.met
11	MSDW891324X5	Sample		ic1079.met
12	891326	Sample		ic1079.met
13	891326X5	Sample		ic1079.met
14	CCV	Sample		ic1079.met
15	CCB	Sample		ic1079.met
16	891328	Sample		ic1079.met
17	891328X5	Sample		ic1079.met
18	891330	Sample		ic1079.met
19	891330X5	Sample		ic1079.met
20	891332	Sample		ic1079.met
21	891332X5	Sample		ic1079.met
22	891334	Sample		ic1079.met
23	891334X5	Sample		ic1079.met
24	891336	Sample		ic1079.met
25	891336X5	Sample		ic1079.met
26	CCV	Sample		ic1079.met
27	CCB	Sample		ic1079.met
28	891338	Sample		ic1079.met
29	891338X5	Sample		ic1079.met
38	CCV	Sample		ic1079.met
39	CCB	Sample		ic1079.met

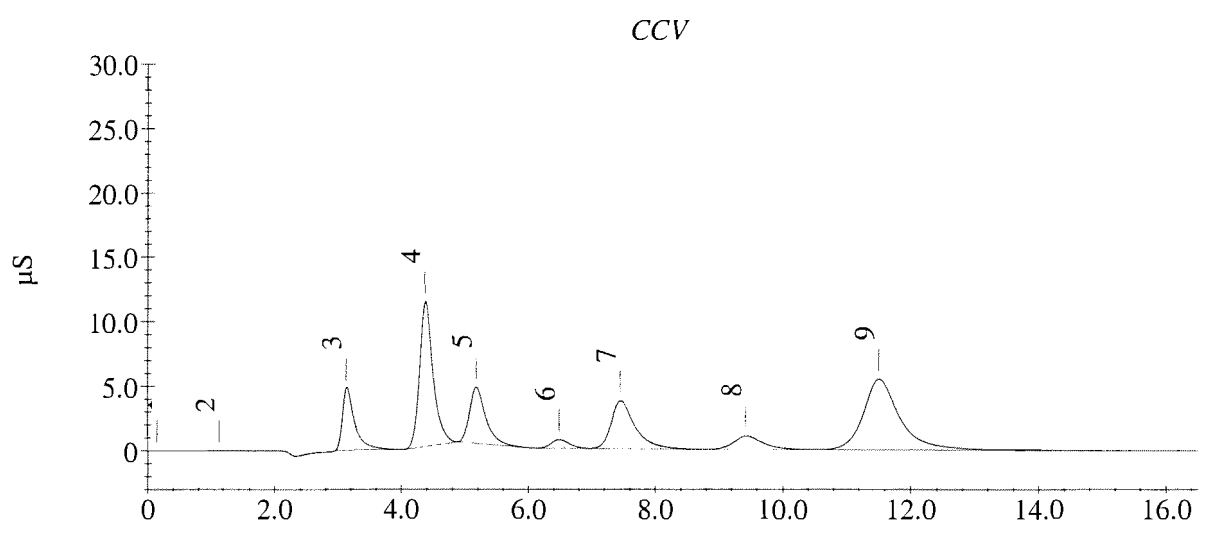
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071317 - 2\CCV_001.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 15:41:48
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.12	3.4909	651638	47802	
4	Chloride	4.37	13.9385	1671763	112260	
5	Nitrite	5.17	3.5456	782569	43690	
6	Bromide	6.48	3.5650	134027	6845	
7	Nitrate	7.45	3.4694	966274	37017	
8	O.Phos	9.42	4.2559	337250	10368	
9	Sulfate	11.50	24.9529	2203451	54767	



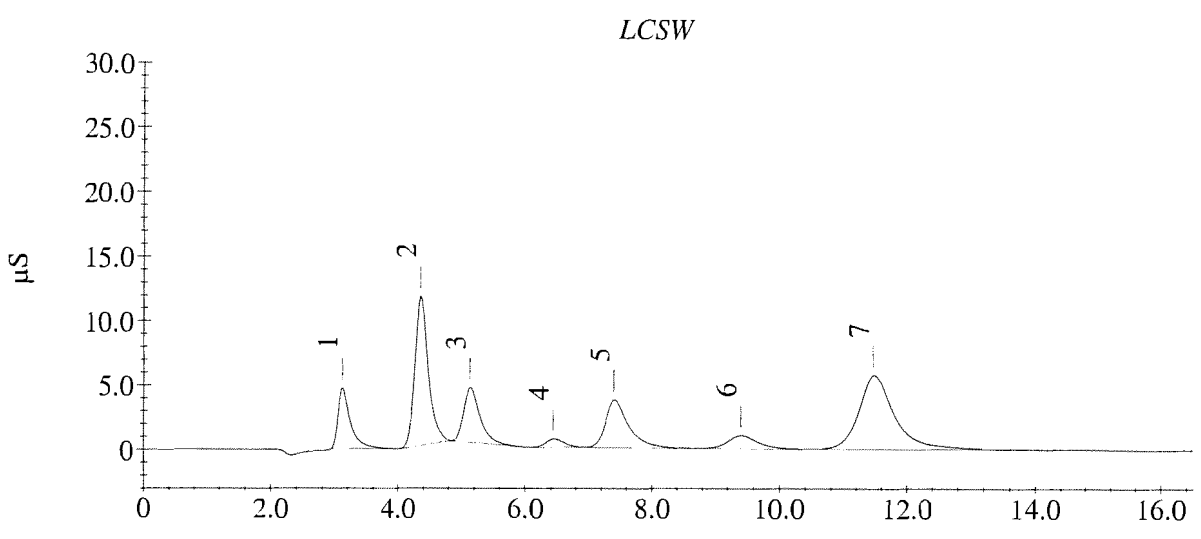
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\071317 - 2\LCSW_002.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 16:00:35
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.12	3.3937	633206	47369	
2	Chloride	4.35	14.2878	1715617	115823	
3	Nitrite	5.13	3.4280	756541	42198	
4	Bromide	6.43	3.5226	132443	6761	
5	Nitrate	7.40	3.4578	963005	36951	
6	O.Phos	9.40	4.1952	332440	10256	
7	Sulfate	11.47	25.9520	2294442	57137	



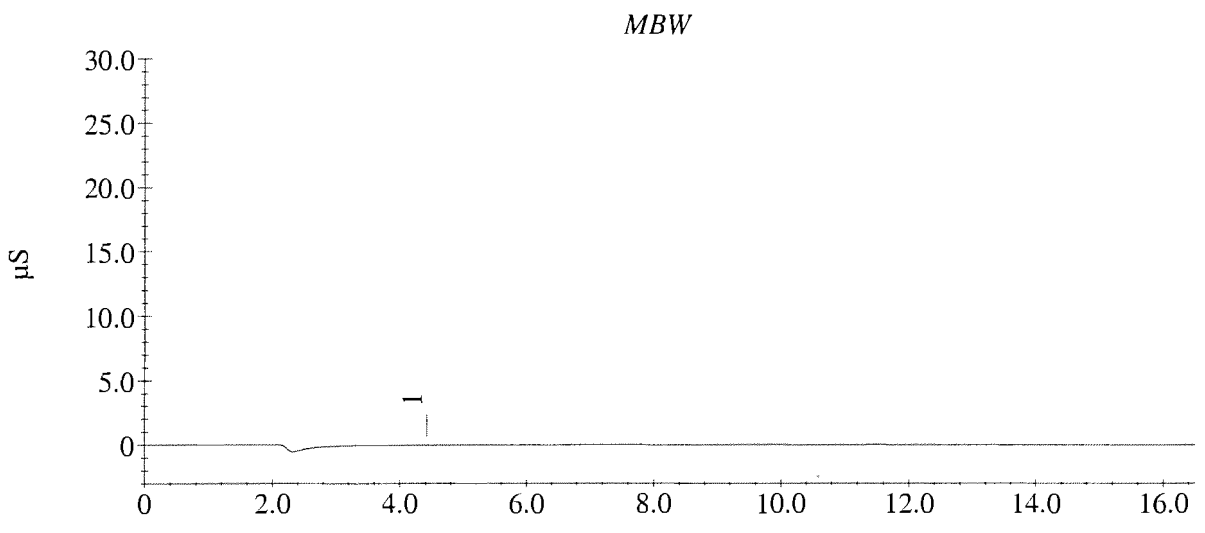
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071317 - 2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 16:19:17
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



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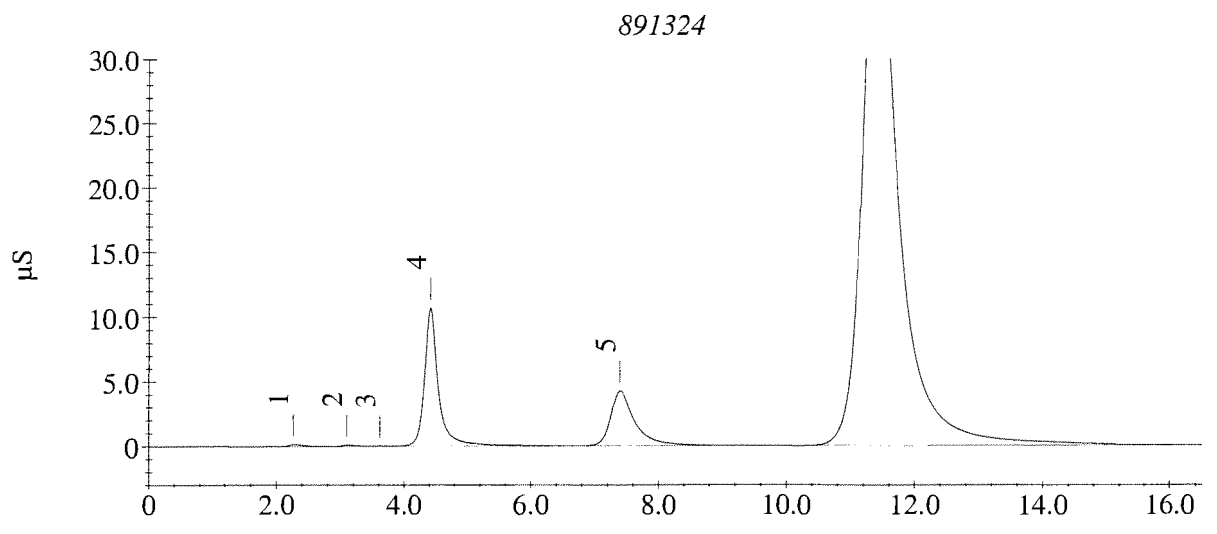
Sample Analysis Report

Sample Name : 891324
Data File Name : c:\instarch\data\system 2\071317 - 2\891324_004.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 16:37:59
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	0.1137	11290	923	
4	Chloride	4.42	13.7297	1645549	106761	
5	Nitrate	7.38	4.0741	1136766	42457	
6	Sulfate	11.38	188.7065	17116286	437759	+



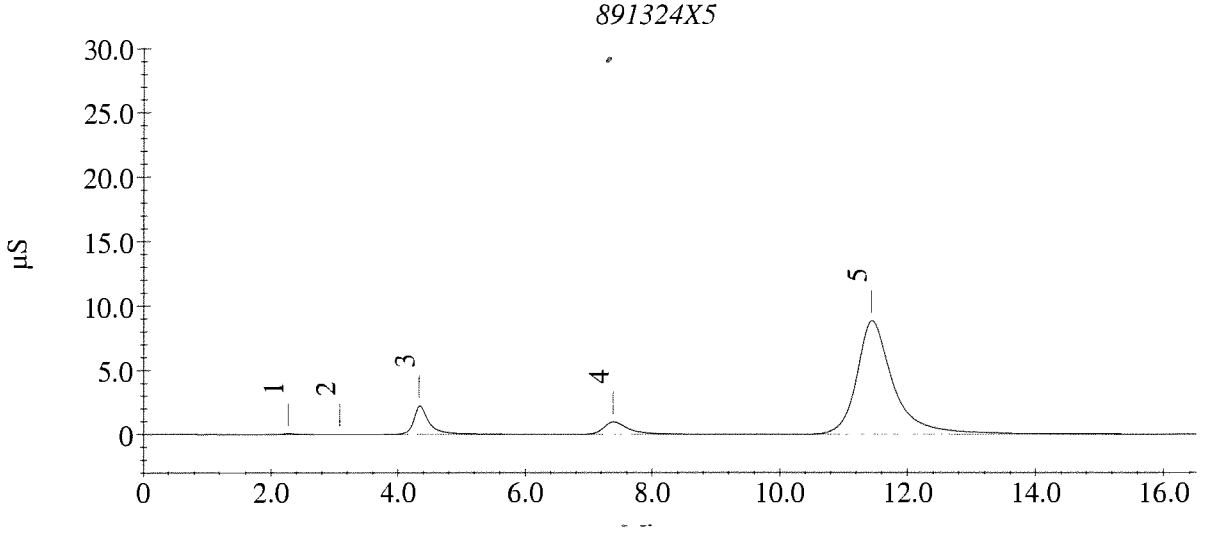
Sample Analysis Report

Sample Name : 891324X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891324X5_005.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 16:56:42
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	0.0637	1810	190	
3	Chloride	4.33	3.6566	380955	22024	
4	Nitrate	7.38	0.9539	257040	9631	
5	Sulfate	11.43	39.6016	3537489	88101	



~~Not~~ ~~used~~ RR SO_4

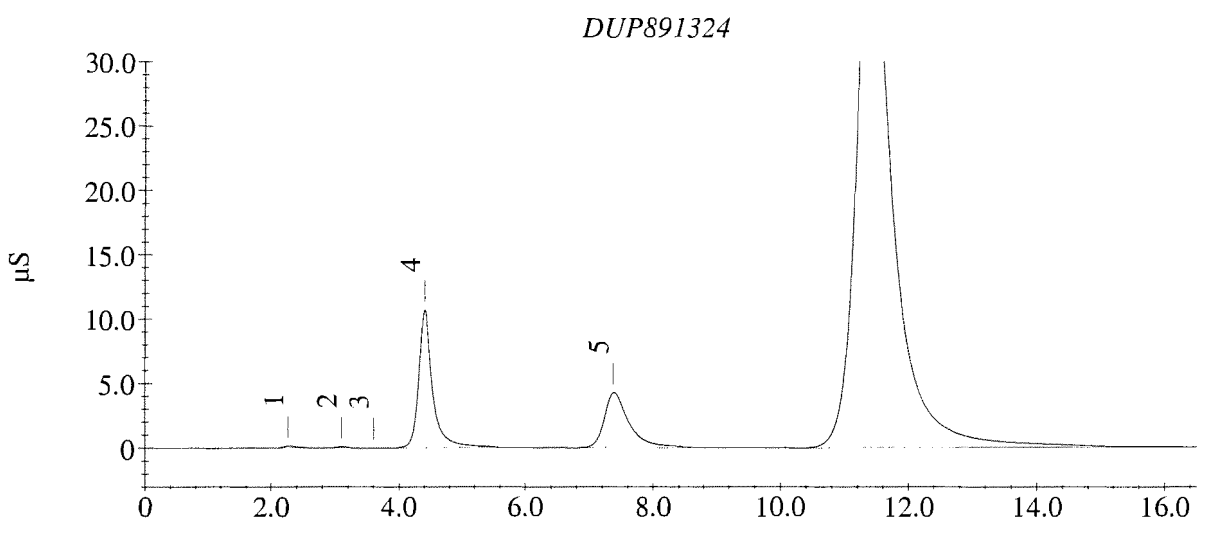
Sample Analysis Report

Sample Name : DUP891324
Data File Name : c:\instarch\data\system 2\071317 - 2\DUP891324_006.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 17:15:25
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	0.1132	11195	896	
4	Chloride	4.40	13.7563	1648896	106429	
5	Nitrate	7.37	4.1582	1160455	42383	
6	Sulfate	11.37	188.4568	17093548	436626	+



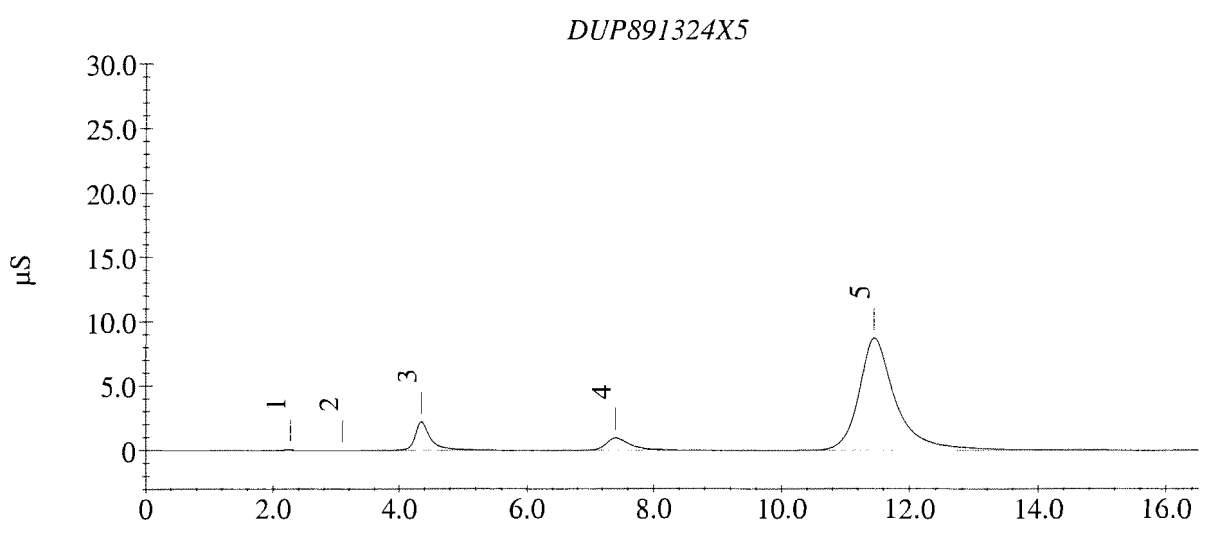
Sample Analysis Report

Sample Name : DUP891324X5
Data File Name : c:\instarch\data\system 2\071317 - 2\DUP891324X5_007.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 17:34:08
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	0.0629	1659	175	
3	Chloride	4.35	3.6206	376445	22006	
4	Nitrate	7.40	0.9423	253769	9544	
5	Sulfate	11.45	39.0454	3486836	87273	



Sample Analysis Report

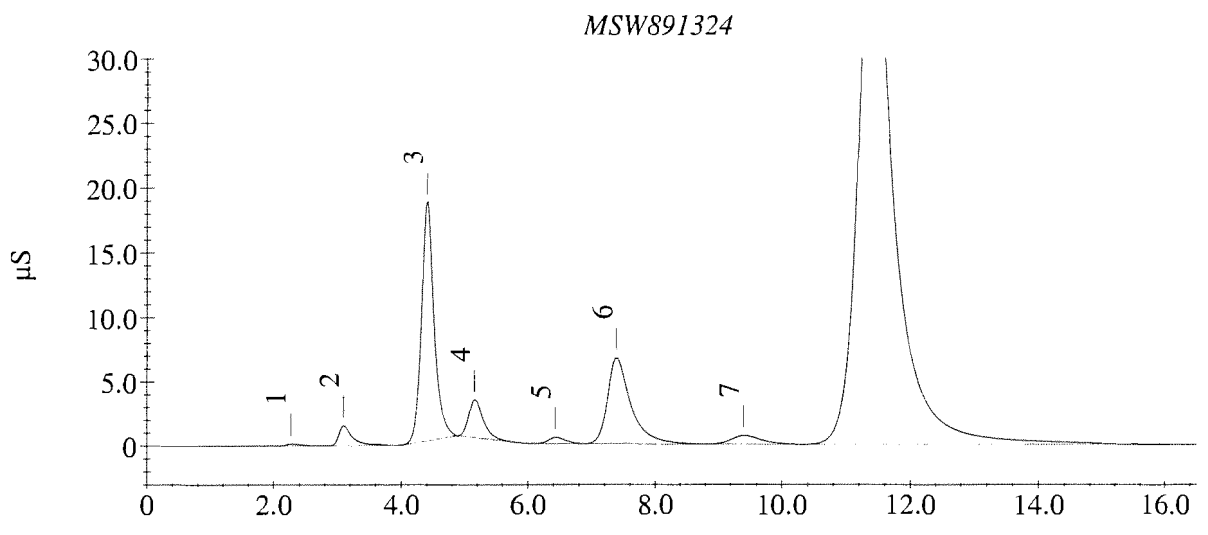
not used RR 504

Sample Name : MSW891324
Data File Name : c:\instarch\data\system 2\071317 - 2\MSW891324_008.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 17:52:51
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	1.2539	227480	15204	
3	Chloride	4.40	20.8706	2542037	184082	
4	Nitrite	5.15	2.1535	474495	29012	
5	Bromide	6.43	2.3769	89597	4817	
6	Nitrate	7.38	6.1614	1725246	66882	
7	O.Phos	9.40	2.7082	214690	6682	
8	Sulfate	11.38	185.1715	16794360	431086	+



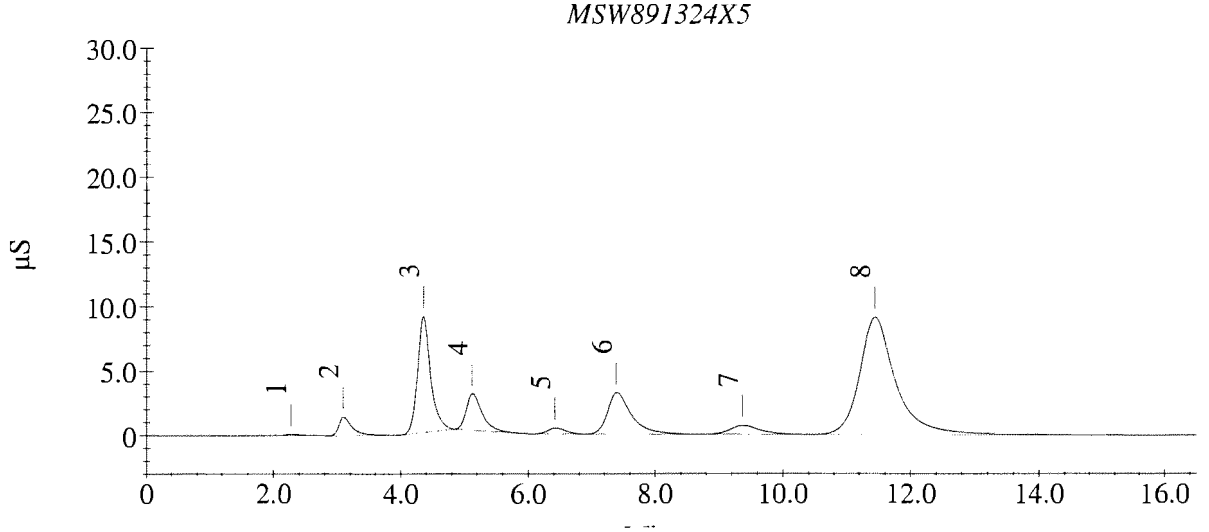
Sample Analysis Report

Sample Name : MSW891324X5
Data File Name : c:\instarch\data\system 2\071317 - 2\MSW891324X5_009.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 18:11:35
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	1.1766	212836	14340	
3	Chloride	4.35	11.0330	1307006	90010	
4	Nitrite	5.12	2.2657	499328	28140	
5	Bromide	6.42	2.3723	89424	4649	
6	Nitrate	7.38	3.0455	846748	32261	
7	O.Phos	9.37	2.8757	227955	6973	
8	Sulfate	11.43	40.6027	3628664	91338	



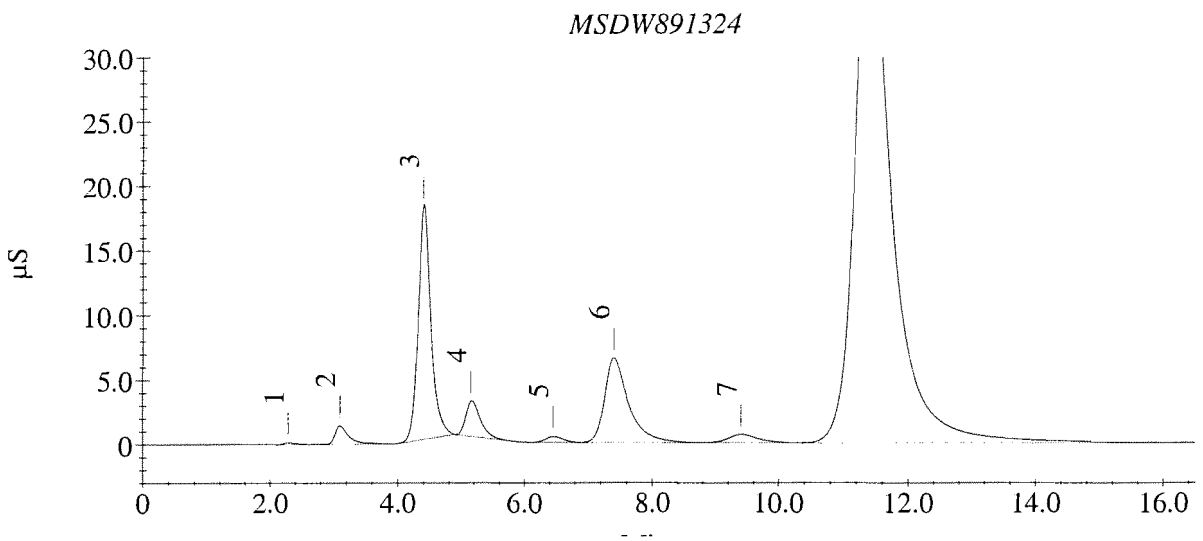
Sample Analysis Report

Sample Name : MSDW891324
Data File Name : c:\instarch\data\system 2\071317 - 2\MSDW891324_010.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 18:30:18
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	1.2038	217994	14556	
3	Chloride	4.40	20.5803	2505587	180153	
4	Nitrite	5.15	2.0417	449763	27411	
5	Bromide	6.45	2.2900	86347	4646	
6	Nitrate	7.40	6.0824	1702986	65781	
7	O.Phos	9.40	2.5873	205123	6429	
8	Sulfate	11.37	185.4713	16821659	430489	+



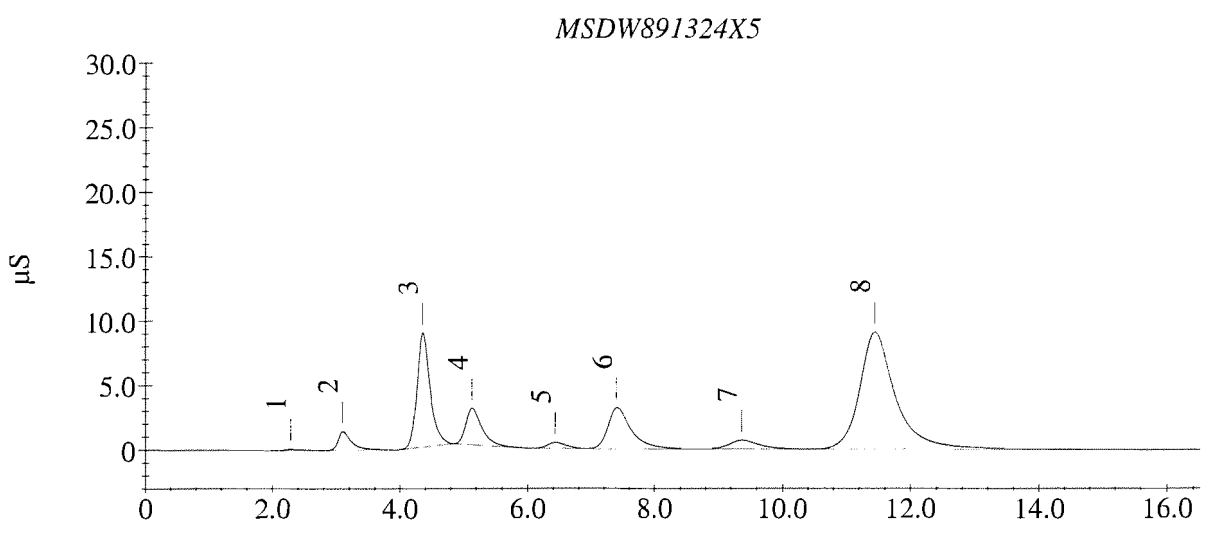
Sample Analysis Report

Sample Name : MSDW891324X5
Data File Name : c:\instarch\data\system 2\071317 - 2\MSDW891324X5_011.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 18:49:01
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	1.1731	212168	14191	
3	Chloride	4.35	10.8650	1285912	88192	
4	Nitrite	5.13	2.2584	497726	28271	
5	Bromide	6.43	2.3236	87602	4547	
6	Nitrate	7.40	2.9939	832217	31804	
7	O.Phos	9.37	2.8146	223118	6828	
8	Sulfate	11.43	40.2855	3599775	90794	



RR
SO_4

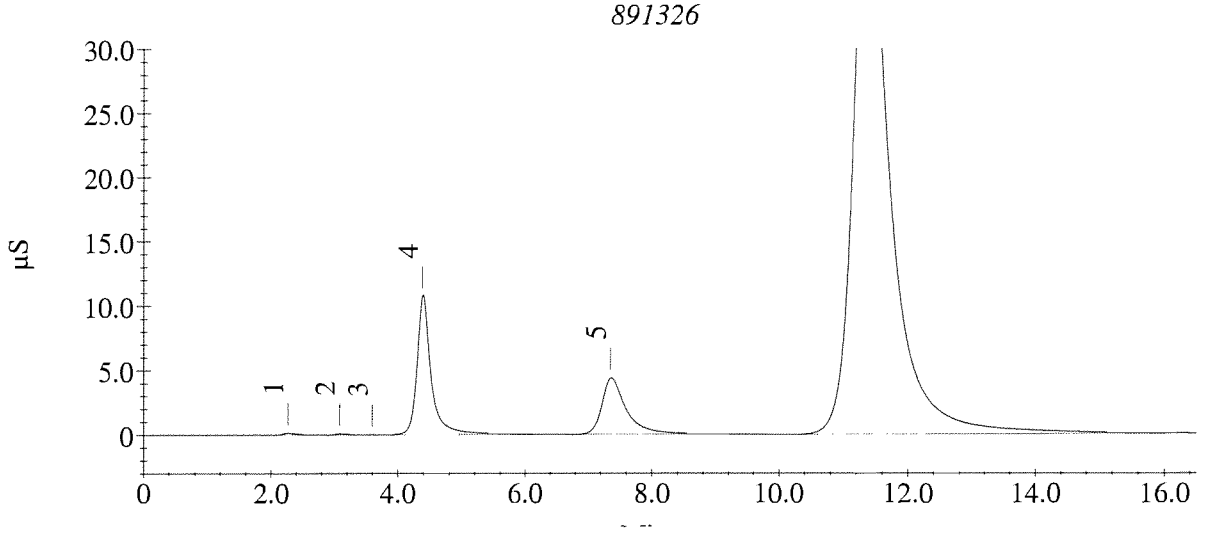
Sample Analysis Report

Sample Name : 891326
Data File Name : c:\instarch\data\system 2\071317 - 2\891326_012.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 19:07:44
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	0.1184	12189	952	
4	Chloride	4.38	13.8998	1666904	106827	
5	Nitrate	7.35	4.1867	1168496	43505	
6	Sulfate	11.35	192.5947	17470379	447188	+



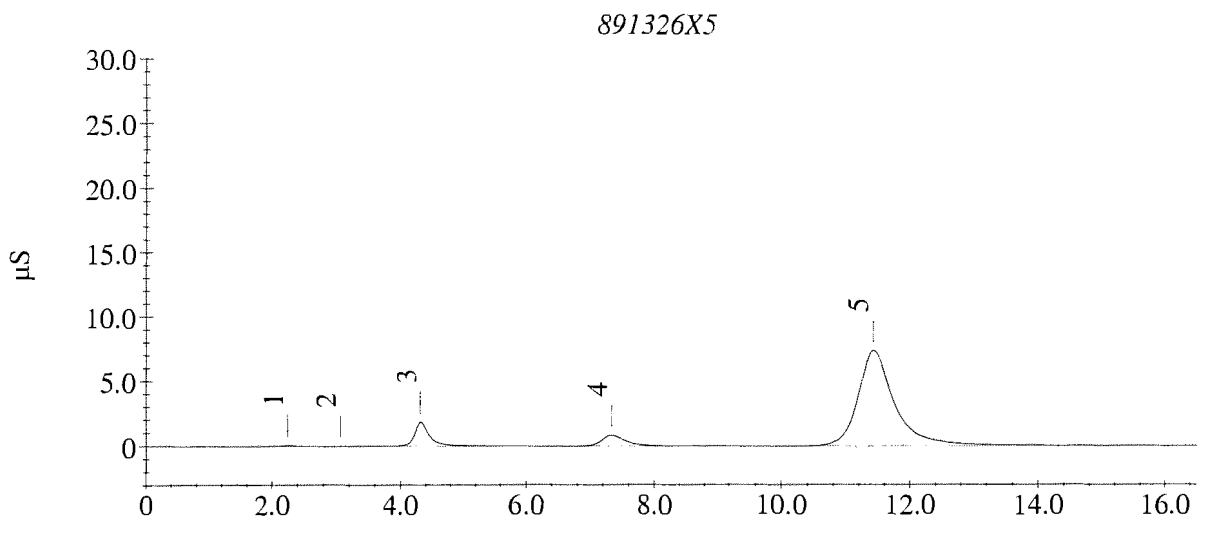
Sample Analysis Report

Sample Name : 891326X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891326X5_013.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 19:26:27
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	0.0658	2210	184	
3	Chloride	4.32	3.2304	327457	18697	
4	Nitrate	7.33	0.8309	222367	8319	
5	Sulfate	11.42	32.7644	2914839	73357	



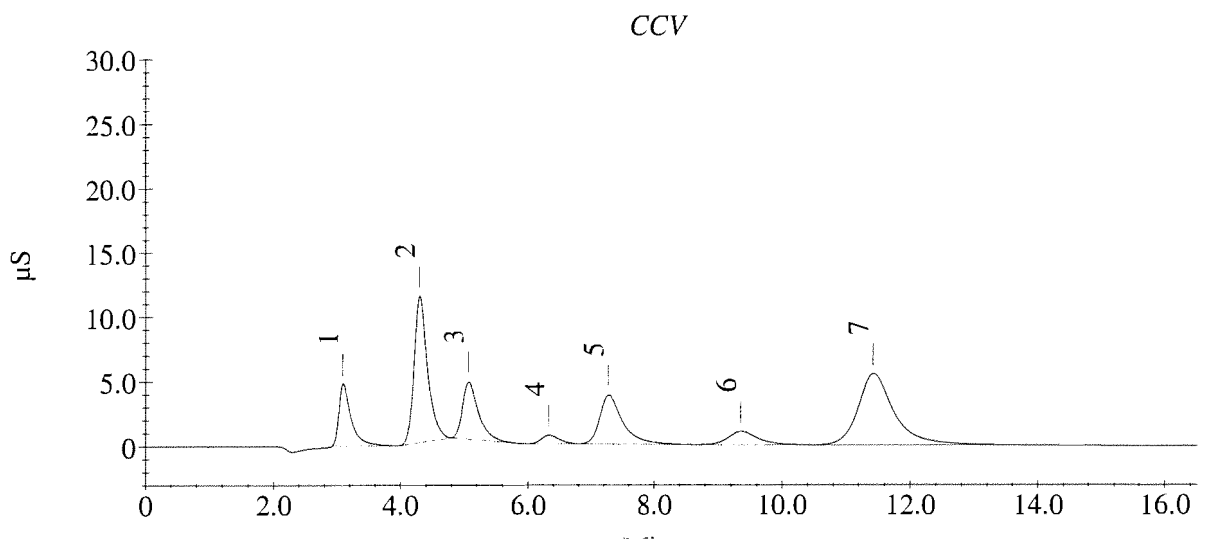
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071317 - 2\CCV_014.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 19:45:11
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	3.4231	638795	47598	
2	Chloride	4.30	13.7892	1653027	113133	
3	Nitrite	5.07	3.4966	771732	43865	
4	Bromide	6.33	3.5309	132751	6975	
5	Nitrate	7.27	3.4677	965777	37719	
6	O.Phos	9.35	4.2828	339382	10512	
7	Sulfate	11.42	24.4125	2154240	54946	



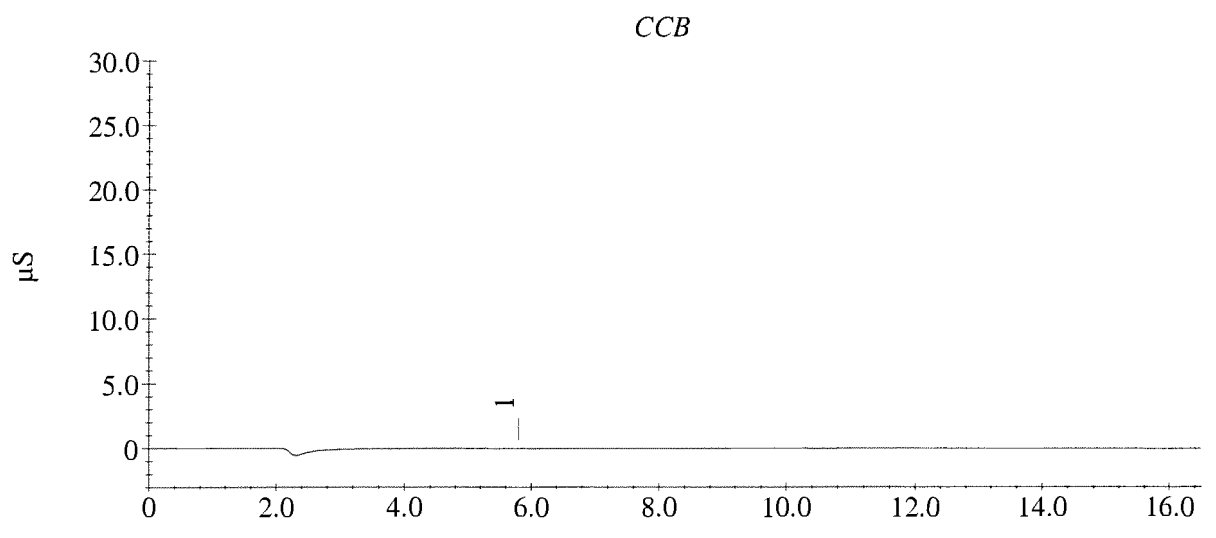
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071317 - 2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 20:03:54
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



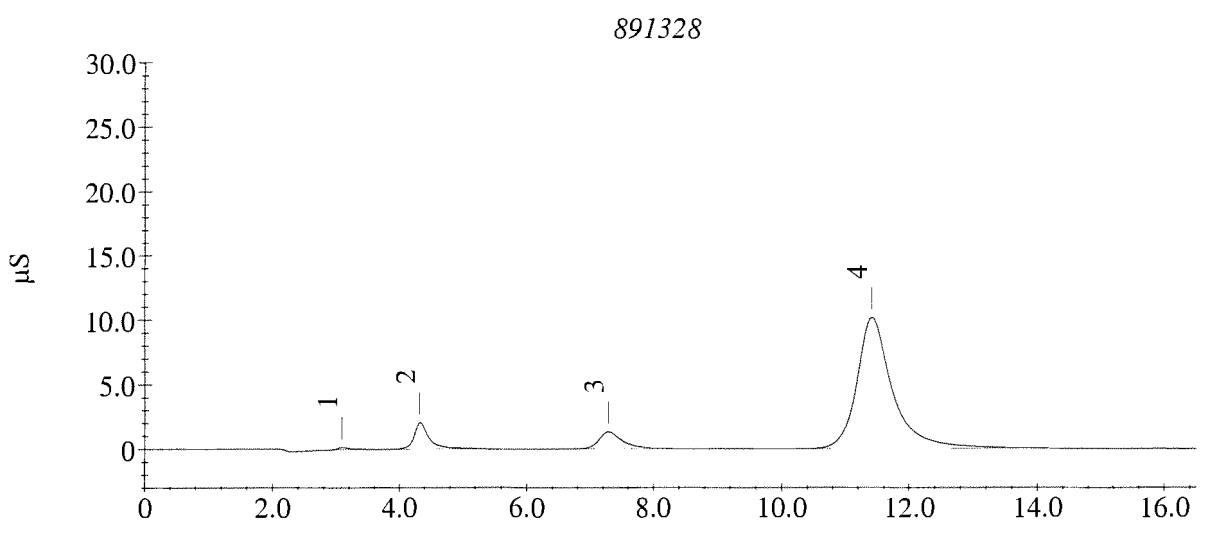
Sample Analysis Report

Sample Name : 891328
Data File Name : c:\instarch\data\system 2\071317 - 2\891328_016.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 20:22:37
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.1583	19748	1562	
2	Chloride	4.32	3.3984	348549	20312	
3	Nitrate	7.28	1.2525	341229	12985	
4	Sulfate	11.40	44.5054	3984076	101447	



NOT USED

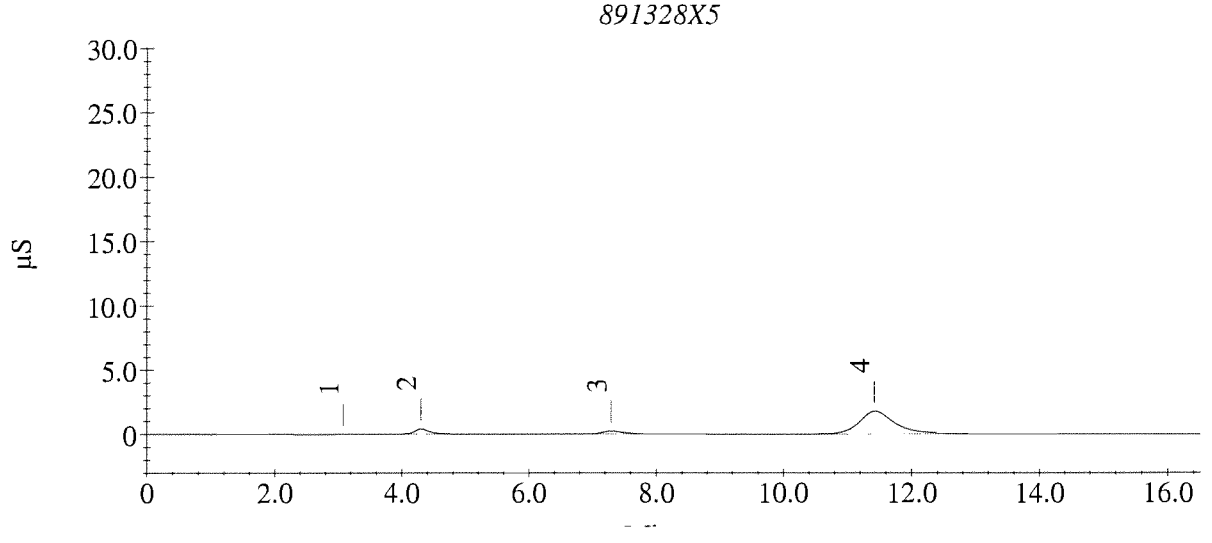
Sample Analysis Report

Sample Name : 891328X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891328X5_017.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 20:41:20
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.0618	1460	181	
2	Chloride	4.30	1.1662	68313	4099	
3	Nitrate	7.30	0.2272	52172	2326	
4	Sulfate	11.42	8.4300	698732	17748	



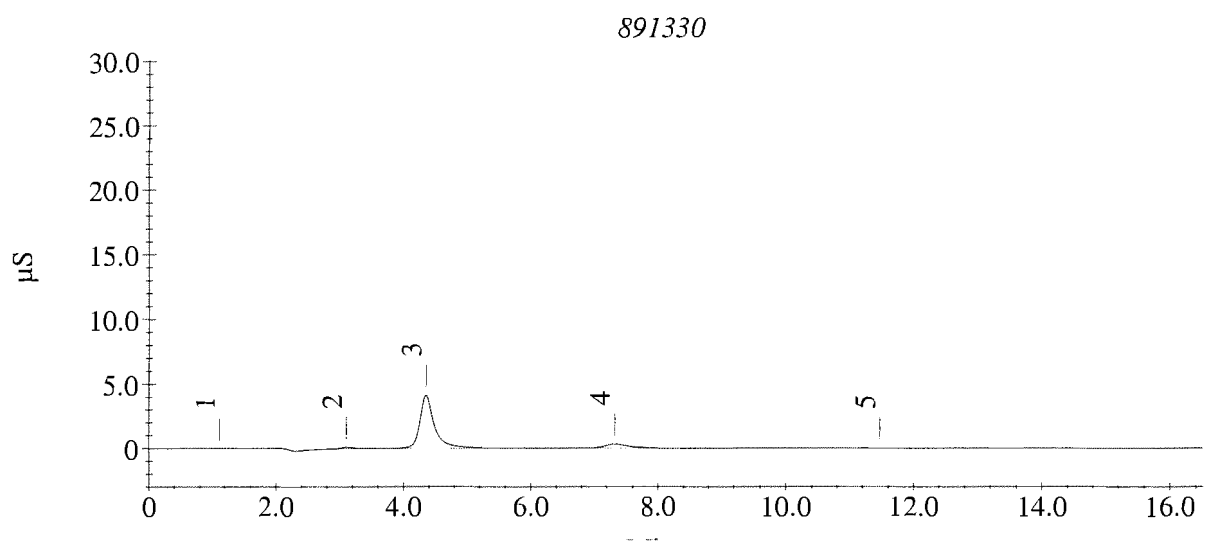
Sample Analysis Report

Sample Name : 891330
Data File Name : c:\instarch\data\system 2\071317 - 2\891330_018.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 21:00:03
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	0.1176	12026	974	
3	Chloride	4.35	6.0600	682692	41275	
4	Nitrate	7.32	0.3126	76242	3158	
5	Sulfate	11.47	0.8477	8224	348	



Not Used

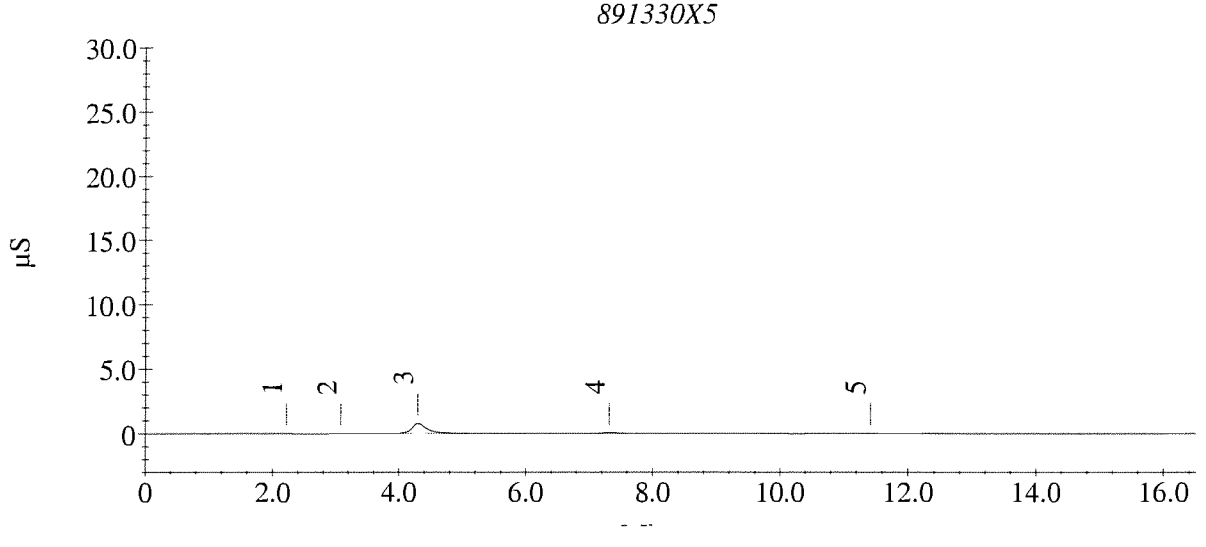
Sample Analysis Report

Sample Name : 891330X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891330X5_019.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 21:18:46
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.08	0.0664	2323	188	
3	Chloride	4.30	1.6612	130457	7734	
4	Nitrate	7.32	0.0677	7187	416	
5	Sulfate	11.42	0.7914	3092	114	



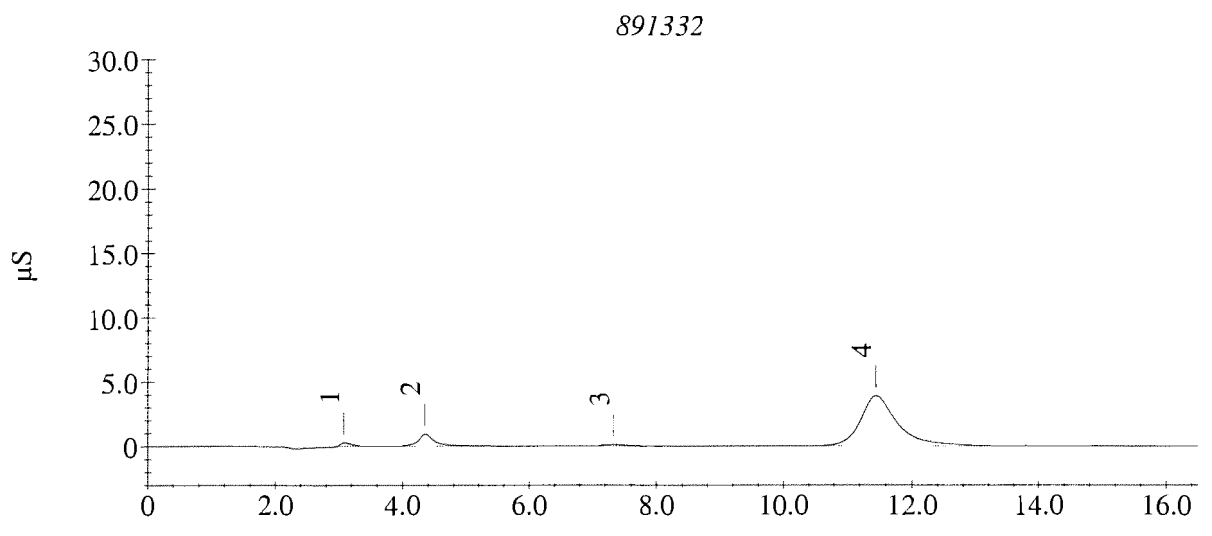
Sample Analysis Report

Sample Name : 891332
Data File Name : c:\instarch\data\system 2\071317 - 2\891332_020.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 21:37:30
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.2546	38013	2937	
2	Chloride	4.35	2.0243	176035	9377	
3	Nitrate	7.33	0.1364	26553	1230	
4	Sulfate	11.45	17.7600	1548407	38563	



Not used

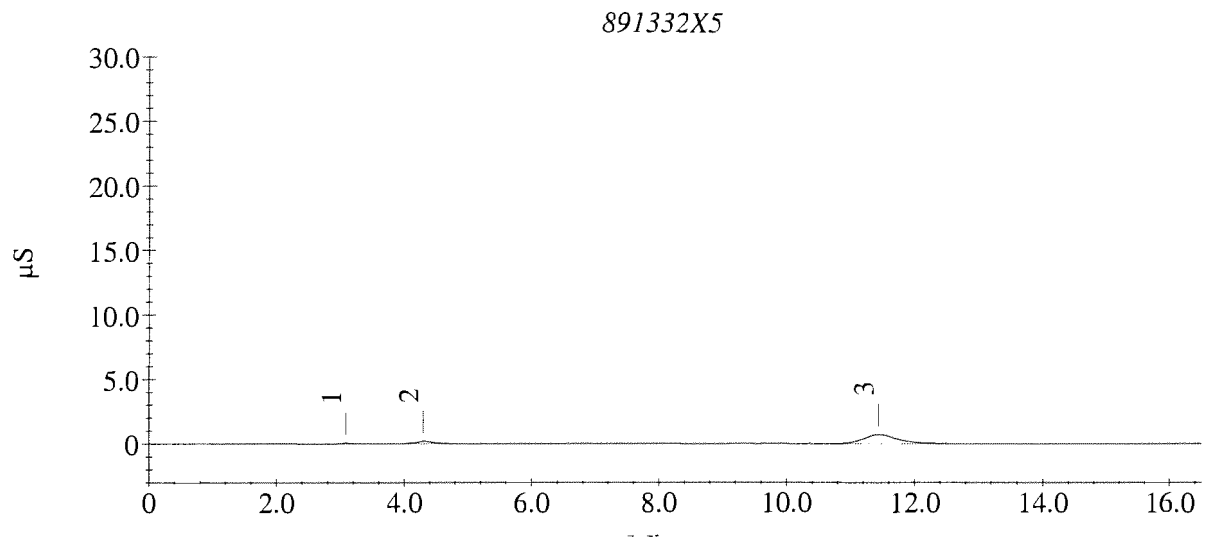
Sample Analysis Report

Sample Name : 891332X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891332X5_021.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 21:56:13
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.0745	3863	408	
2	Chloride	4.30	0.9135	36584	1923	
3	Sulfate	11.43	3.7383	271463	7172	



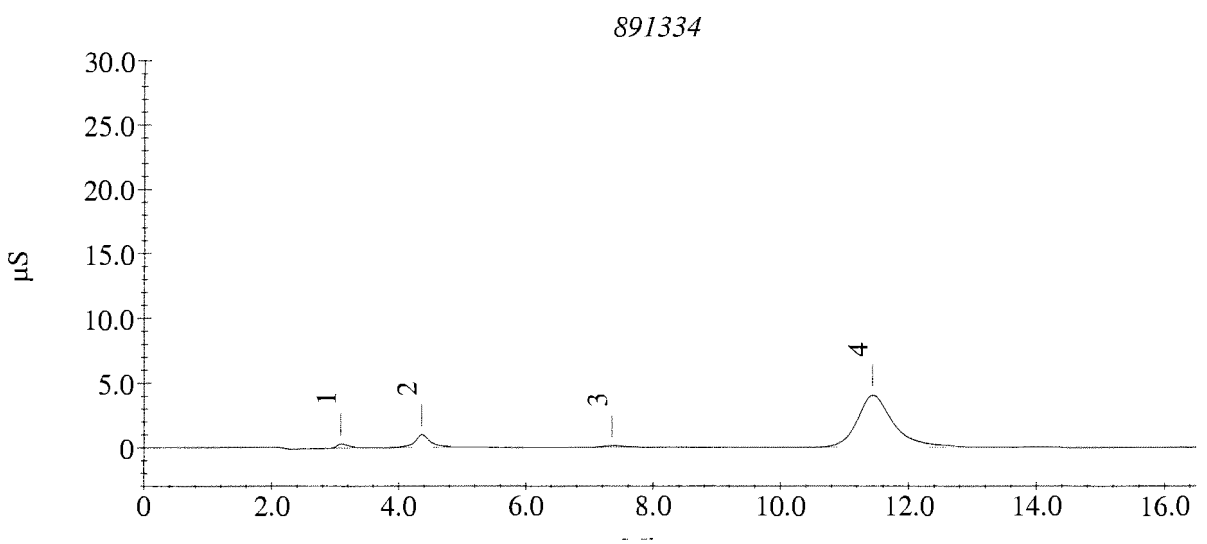
Sample Analysis Report

Sample Name : 891334
Data File Name : c:\instarch\data\system 2\071317 - 2\891334_022.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 22:14:56
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.2674	40441	3046	
2	Chloride	4.35	2.0862	183814	9951	
3	Nitrate	7.35	0.1412	27902	1294	
4	Sulfate	11.43	18.4465	1610927	40392	



NOT USED

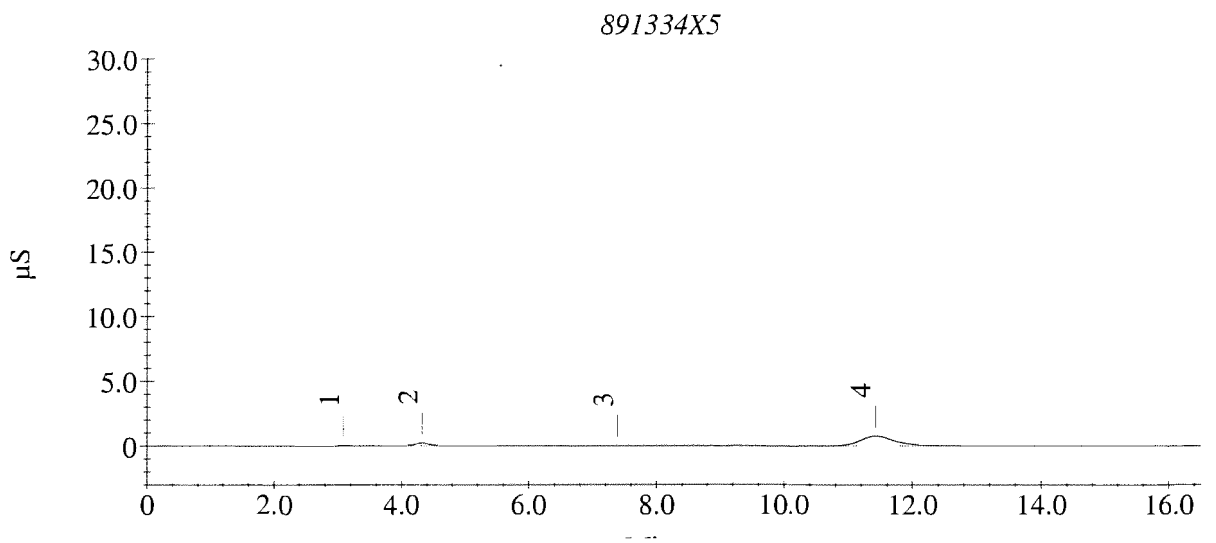
Sample Analysis Report

Sample Name : 891334X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891334X5_023.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 22:33:39
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.0756	4070	438	
2	Chloride	4.32	0.9527	41507	2228	
3	Nitrate	7.38	0.0513	2556	137	
4	Sulfate	11.42	4.0377	298732	7699	



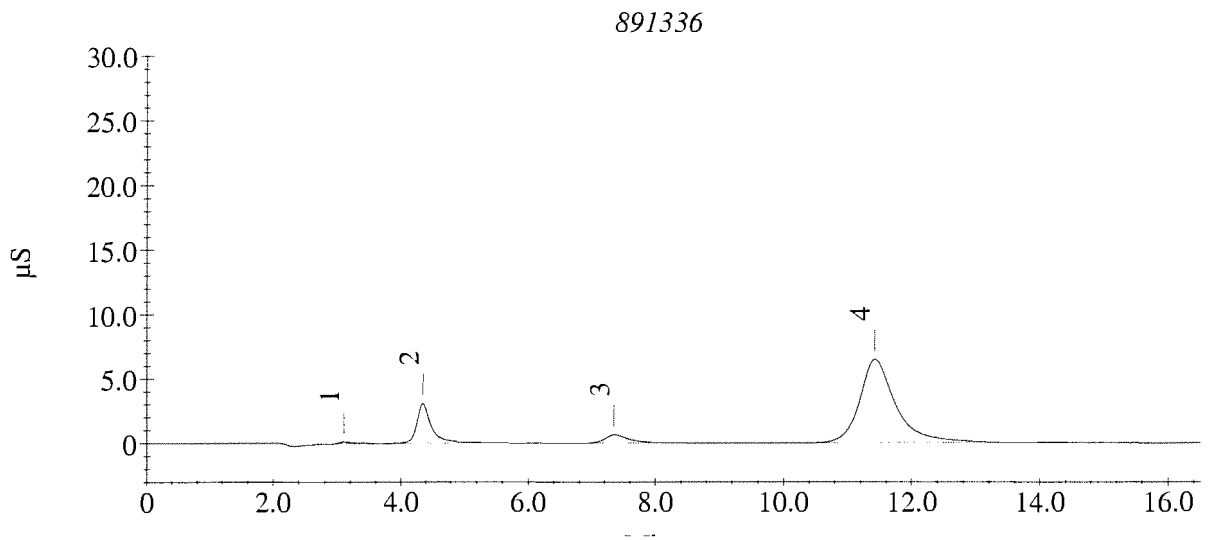
Sample Analysis Report

Sample Name : 891336
Data File Name : c:\instarch\data\system 2\071317 - 2\891336_024.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 22:52:22
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.10	0.1273	13869	1237	
2	Chloride	4.35	4.7609	519598	30758	
3	Nitrate	7.35	0.6239	164012	6269	
4	Sulfate	11.42	29.0322	2574950	64616	



Not used

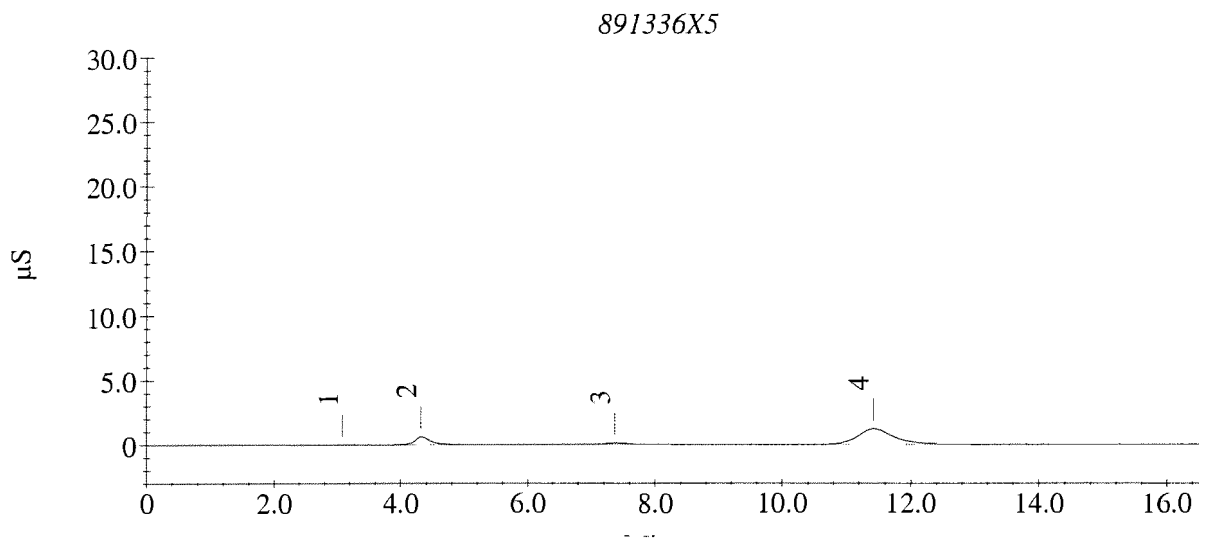
Sample Analysis Report

Sample Name : 891336X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891336X5_025.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 23:11:05
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	0.0627	1631	141	
2	Chloride	4.32	1.5129	111836	6305	
3	Nitrate	7.37	0.1368	26683	1152	
4	Sulfate	11.42	6.0205	479300	12163	



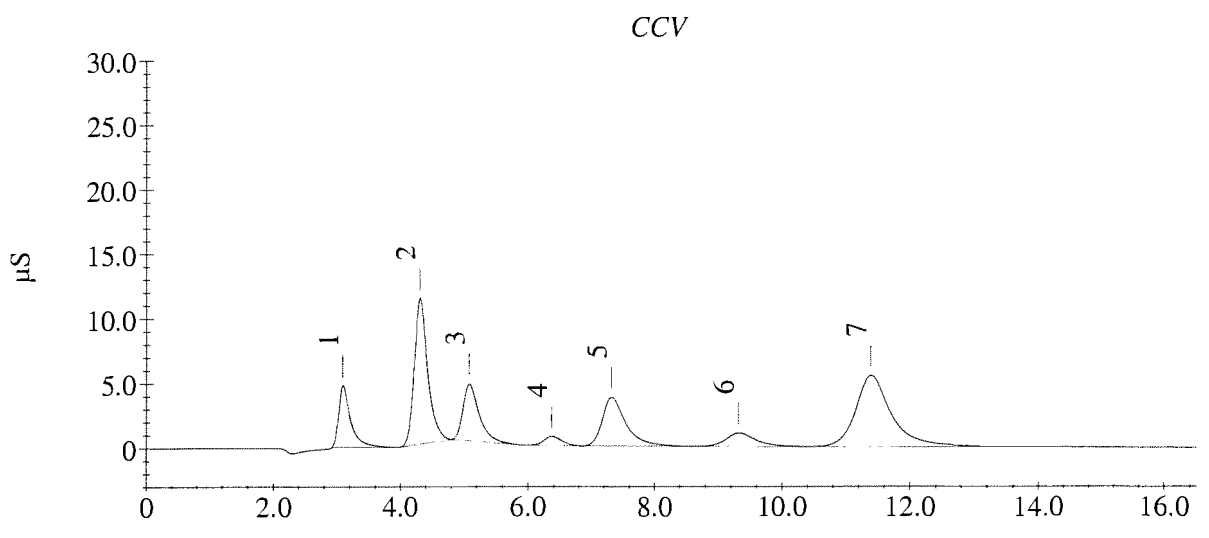
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071317 - 2\CCV_026.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 23:29:49
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	3.4148	637219	47743	
2	Chloride	4.30	13.7698	1650587	112134	
3	Nitrite	5.08	3.5191	776709	43918	
4	Bromide	6.37	3.5540	133616	6943	
5	Nitrate	7.32	3.4533	961733	37421	
6	O.Phos	9.32	4.2571	337344	10460	
7	Sulfate	11.38	24.5450	2166309	54898	



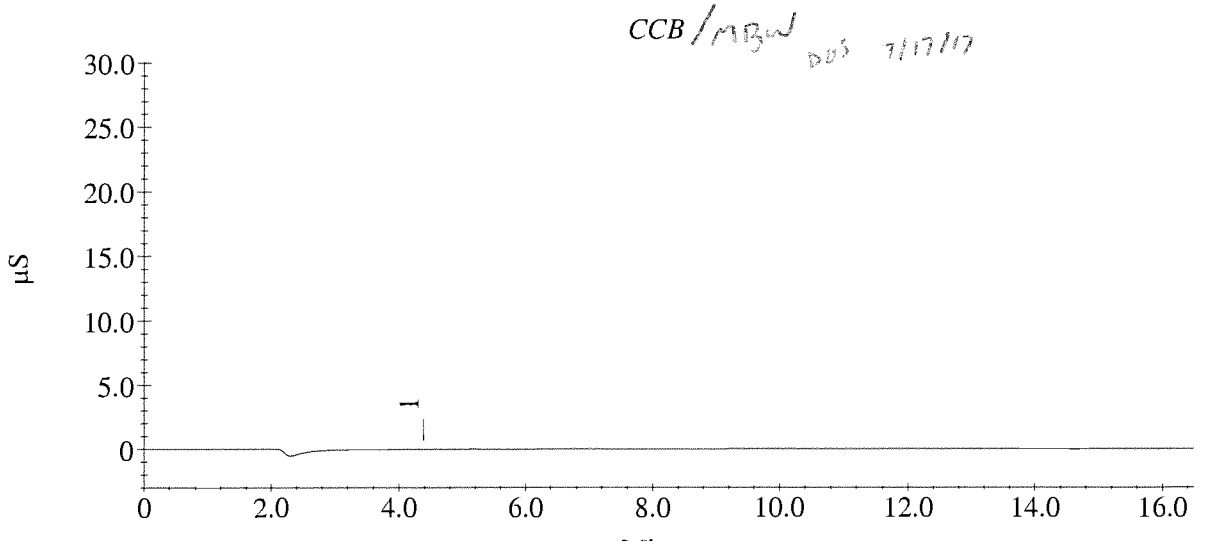
Sample Analysis Report

Sample Name : CCB /MBW
Data File Name : c:\instarch\data\system 2\071317 - 2\CCB_027.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/13/17 23:48:32
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



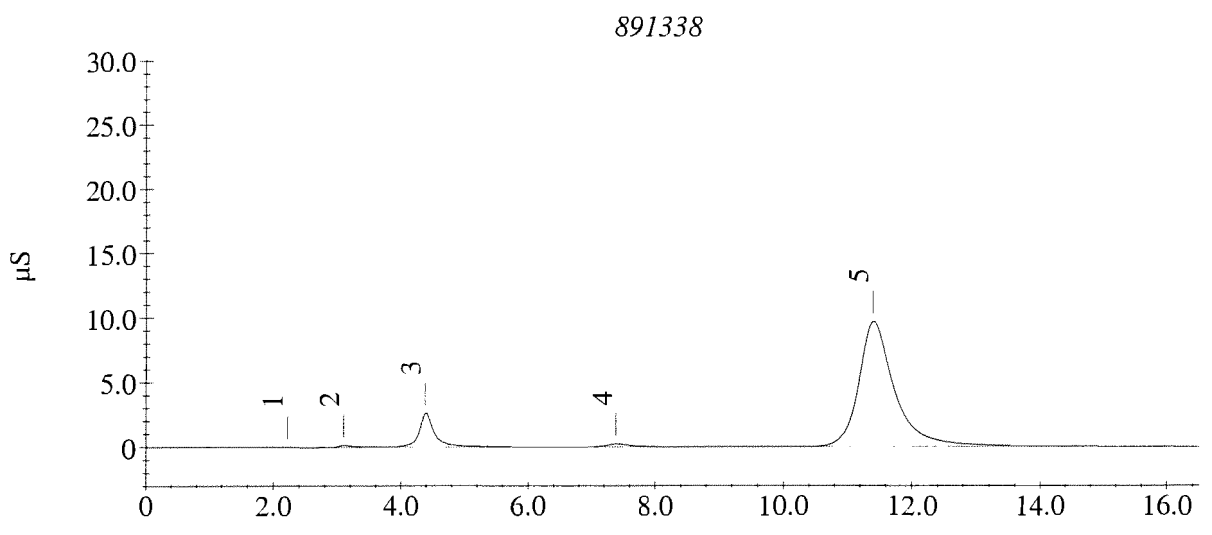
Sample Analysis Report

Sample Name : 891338
Data File Name : c:\instarch\data\system 2\071317 - 2\891338_028.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 00:07:14
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	0.1707	22101	1518	
3	Chloride	4.38	4.2132	450832	25966	
4	Nitrate	7.38	0.2398	55703	2254	
5	Sulfate	11.40	42.5908	3809712	96773	



Sample Analysis Report

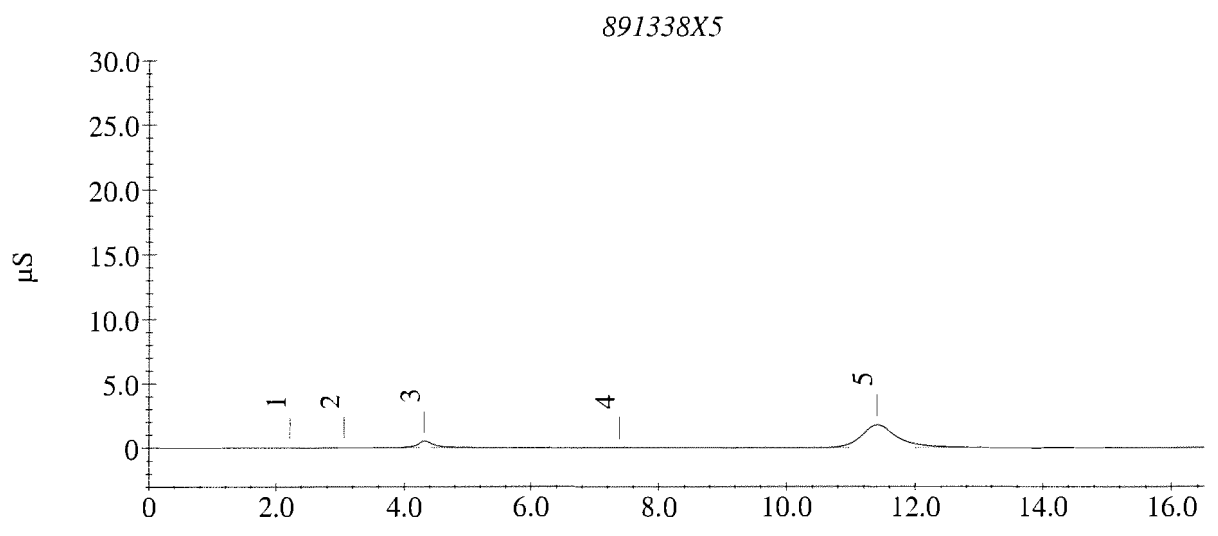
not used

Sample Name : 891338X5
Data File Name : c:\instarch\data\system 2\071317 - 2\891338X5_029.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 00:25:58
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.07	0.0729	3559	274	
3	Chloride	4.32	1.4174	99845	5168	
4	Nitrate	7.38	0.0587	4664	301	
5	Sulfate	11.40	8.2871	685720	17566	



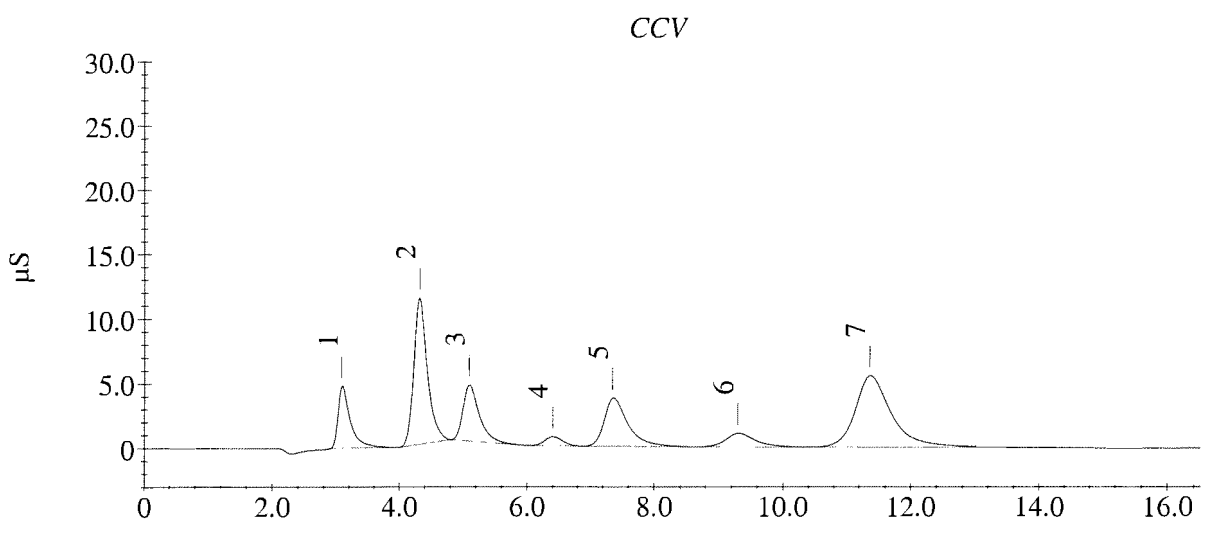
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071317 - 2\CCV_038.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 03:14:27
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.08	3.4435	642661	47494	
2	Chloride	4.32	13.8983	1666719	112963	
3	Nitrite	5.10	3.5183	776544	43507	
4	Bromide	6.40	3.5951	135154	6937	
5	Nitrate	7.35	3.4646	964921	37163	
6	O.Phos	9.30	4.2742	338702	10493	
7	Sulfate	11.37	24.7572	2185629	55109	



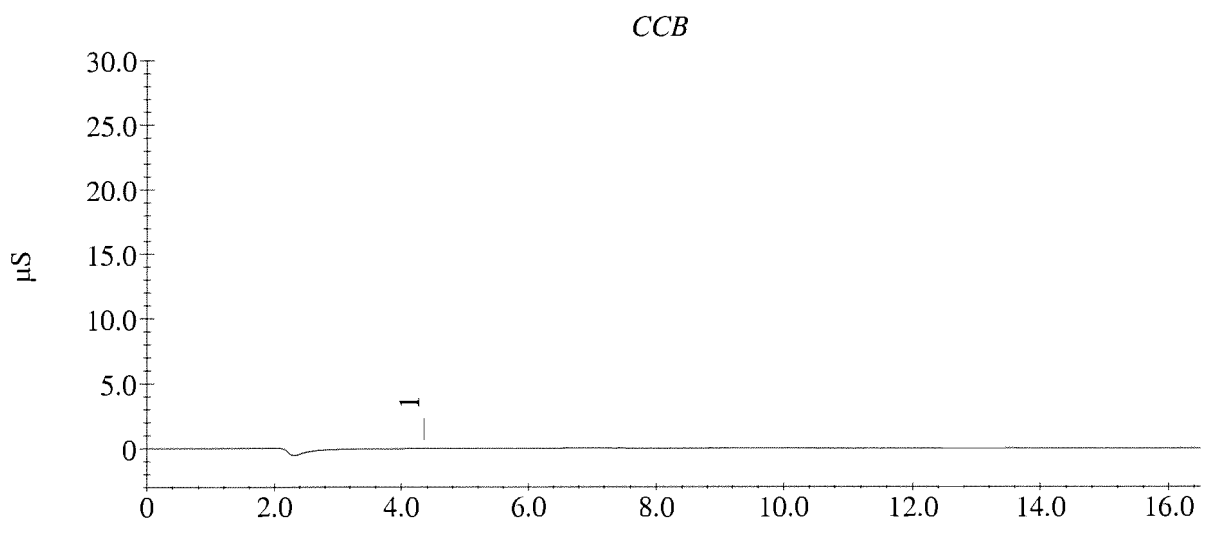
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071317 - 2\CCB_039.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 03:33:10
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Schedule File: C:\INSTARCH\Sequences\System 2\071417 - 2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight
1	CCV	Sample		ic1079.met	ccv	1	1	1
2	LCSW	Sample		ic1079.met	lcsw	1	1	1
3	MBW	Sample		ic1079.met	mbw	1	1	1
4	891496	Sample		ic1079.met	891496	1	1	1
5	891496X5	Sample		ic1079.met	891496x5	1	1	1
6	891498	Sample		ic1079.met	891498	1	1	1
7	891498X5	Sample		ic1079.met	891498x5	1	1	1
8	DUP891498	Sample		ic1079.met	dup891498	1	1	1
9	DUP891498X5	Sample		ic1079.met	dup891498x5	1	1	1
10	MSW891498	Sample		ic1079.met	msw891498	1	1	1
11	MSW891498X5	Sample		ic1079.met	msw891498x5	1	1	1
12	MSDW891498	Sample		ic1079.met	msdw891498	1	1	1
13	MSDW891498X5	Sample		ic1079.met	msdw891498x5	1	1	1
14	CCV	Sample		ic1079.met	ccv	1	1	1
15	CCB	Sample		ic1079.met	ccb	1	1	1
16	891504	Sample		ic1079.met	891504	1	1	1
17	891504X5	Sample		ic1079.met	891504x5	1	1	1
18	891507	Sample		ic1079.met	891507	1	1	1
19	891507X5	Sample		ic1079.met	891507x5	1	1	1
20	891509	Sample		ic1079.met	891509	1	1	1
21	891509X5	Sample		ic1079.met	891509x5	1	1	1
22	891511	Sample		ic1079.met	891511	1	1	1
23	891511X5	Sample		ic1079.met	891511x5	1	1	1
24	CCV	Sample		ic1079.met	ccv	1	1	1
25	CCB	Sample		ic1079.met	ccb	1	1	1
34	891603	Sample		ic1079.met	891603	1	1	1
35	891603X5	Sample		ic1079.met	891603x5	1	1	1
36	CCV	Sample		ic1079.met	ccv	1	1	1
37	CCB	Sample		ic1079.met	ccb	1	1	1

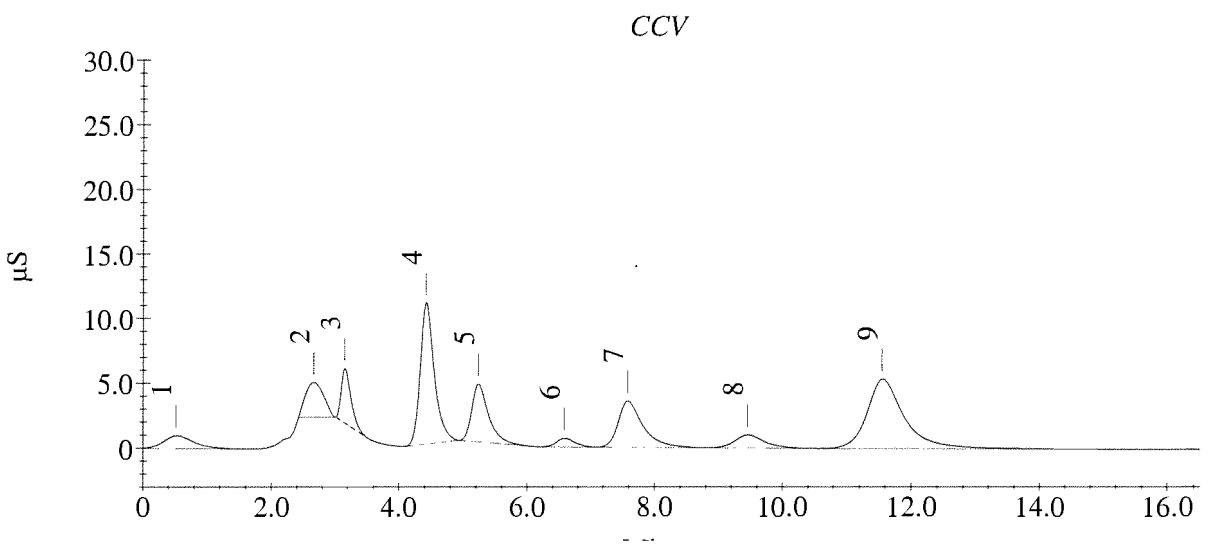
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071417 - 2\CCV_B001.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 18:29:05
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.15	2.4390	452197	41595	
4	Chloride	4.42	13.7281	1645353	108701	
5	Nitrite	5.23	3.7179	820704	44502	
6	Bromide	6.58	3.5825	134682	6687	
7	Nitrate	7.58	3.4037	947732	35577	
8	O.Phos	9.45	4.1116	325823	10050	
9	Sulfate	11.55	24.5337	2165273	53397	



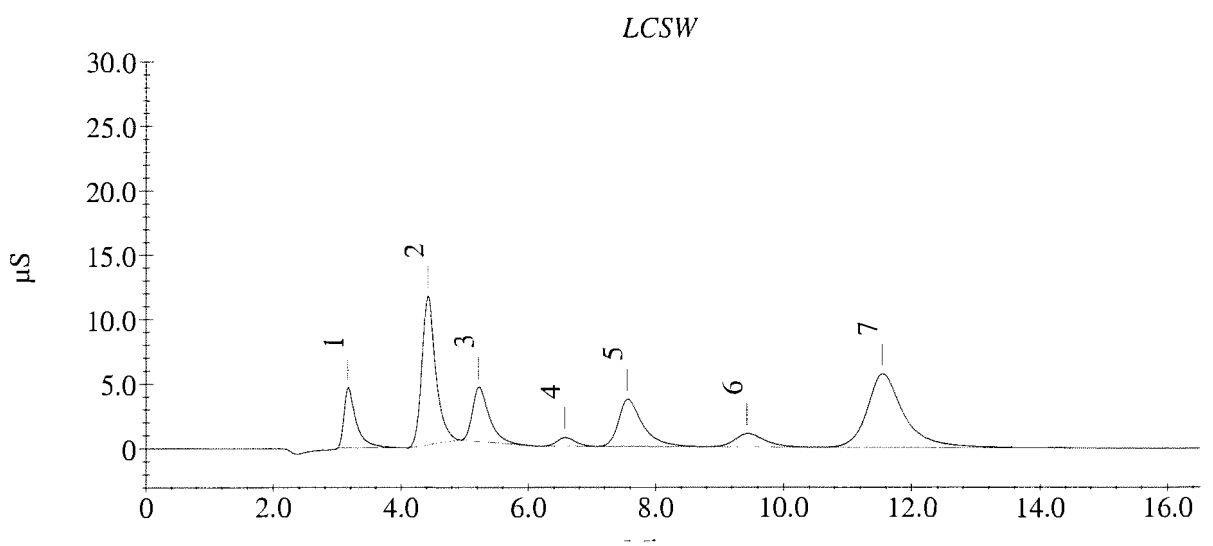
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\071417 - 2\LCSW_002.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 18:48:34
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	3.4163	637496	46197	
2	Chloride	4.42	14.4693	1738400	115018	
3	Nitrite	5.22	3.5007	772630	41941	
4	Bromide	6.57	3.6406	136854	6800	
5	Nitrate	7.55	3.4697	966360	36335	
6	O.Phos	9.43	4.1863	331738	10241	
7	Sulfate	11.53	26.1549	2312918	57089	



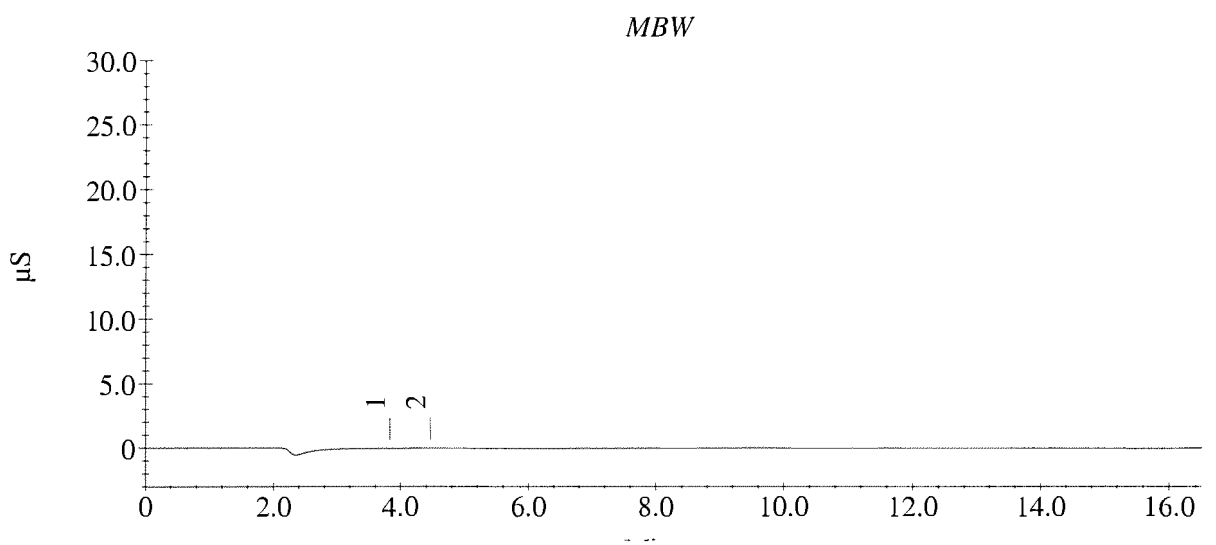
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071417 - 2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 19:07:18
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.47	0.6454	2930	115	



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SO_4

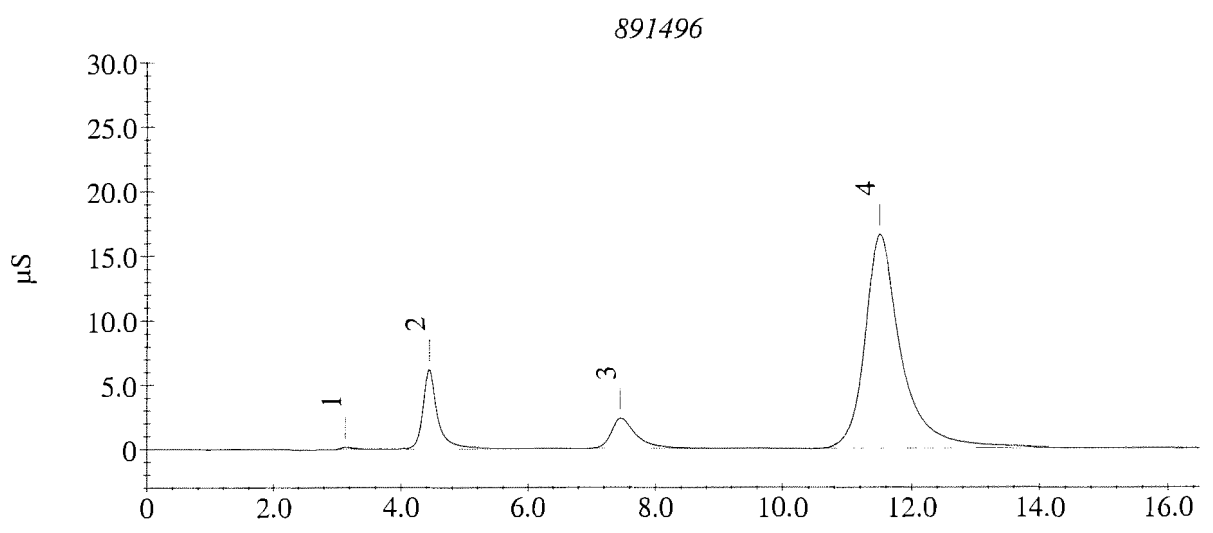
Sample Analysis Report

Sample Name : 891496
Data File Name : c:\instarch\data\system 2\071417 - 2\891496_004.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 19:26:01
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.13	0.1457	17370	1541	
2	Chloride	4.43	8.6951	1013496	61563	
3	Nitrate	7.45	2.3154	640914	23513	
4	Sulfate	11.48	72.5473	6537812	165473	+



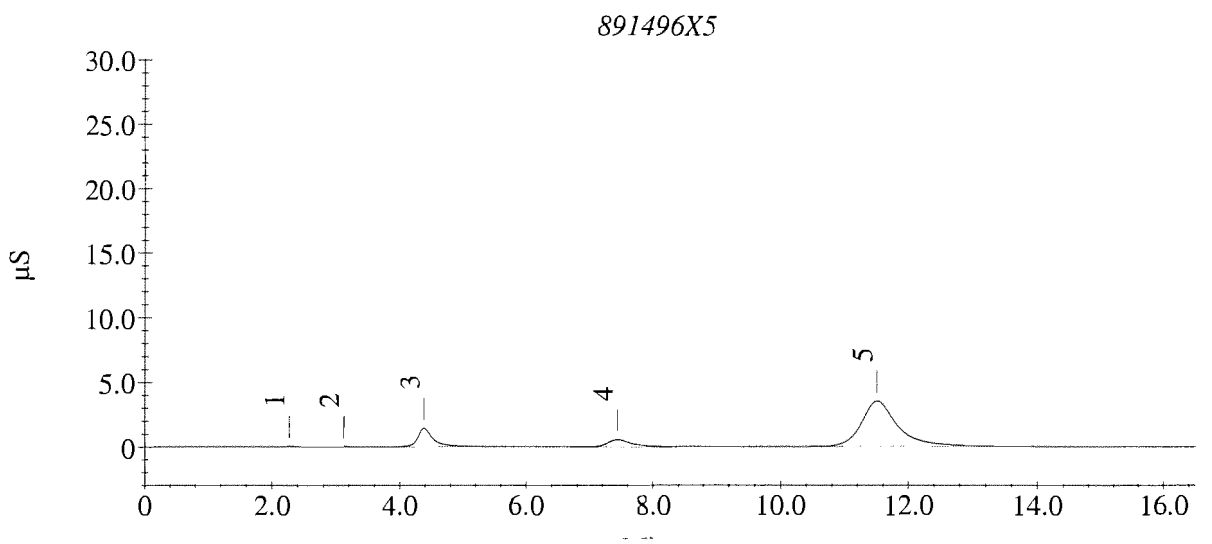
Sample Analysis Report

Sample Name : 891496X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891496X5_005.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 19:44:45
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.12	0.0803	4960	371	
3	Chloride	4.38	2.6070	249185	14325	
4	Nitrate	7.43	0.5560	144862	5531	
5	Sulfate	11.50	16.3980	1424373	35097	



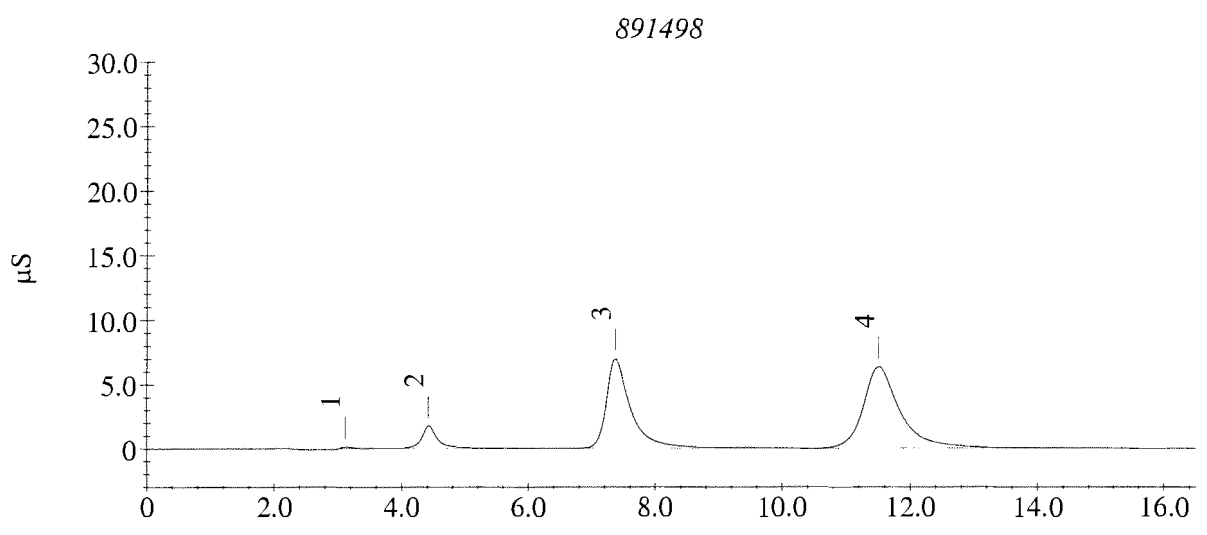
Sample Analysis Report

Sample Name : 891498
Data File Name : c:\instarch\data\system 2\071417 - 2\891498_006.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 20:03:28
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.12	0.1470	17602	1394	
2	Chloride	4.42	3.1702	319901	17517	
3	Nitrate	7.37	6.7138	1880984	69467	
4	Sulfate	11.50	28.7596	2550127	63347	



Not used.

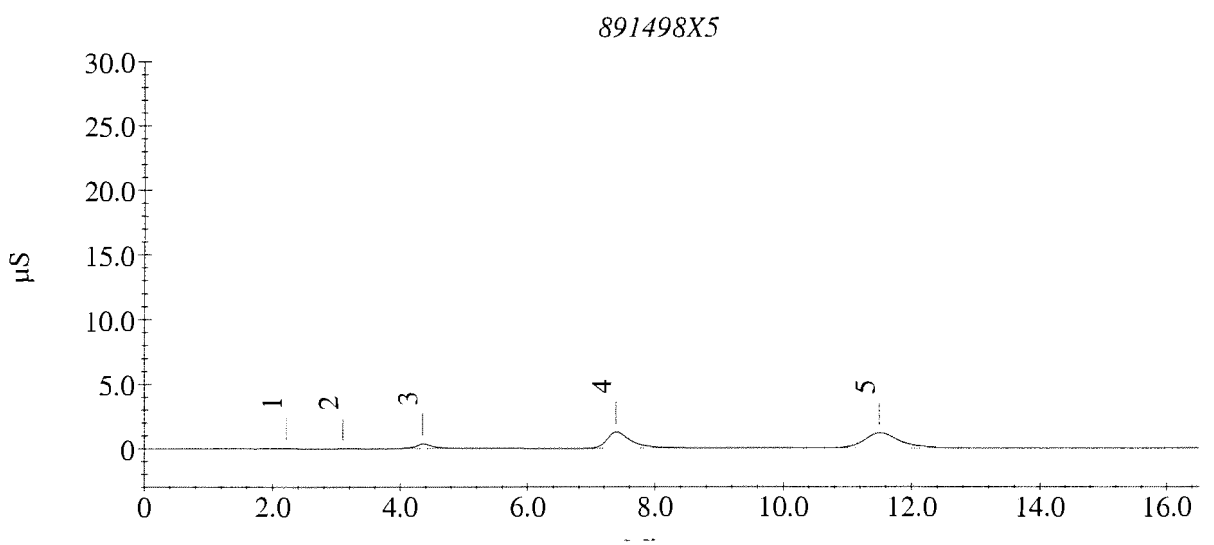
Sample Analysis Report

Sample Name : 891498X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891498X5_007.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 20:22:11
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.10	0.0712	3232	249	
3	Chloride	4.35	1.1636	67983	3600	
4	Nitrate	7.38	1.2358	336528	12623	
5	Sulfate	11.50	5.7735	456807	11707	



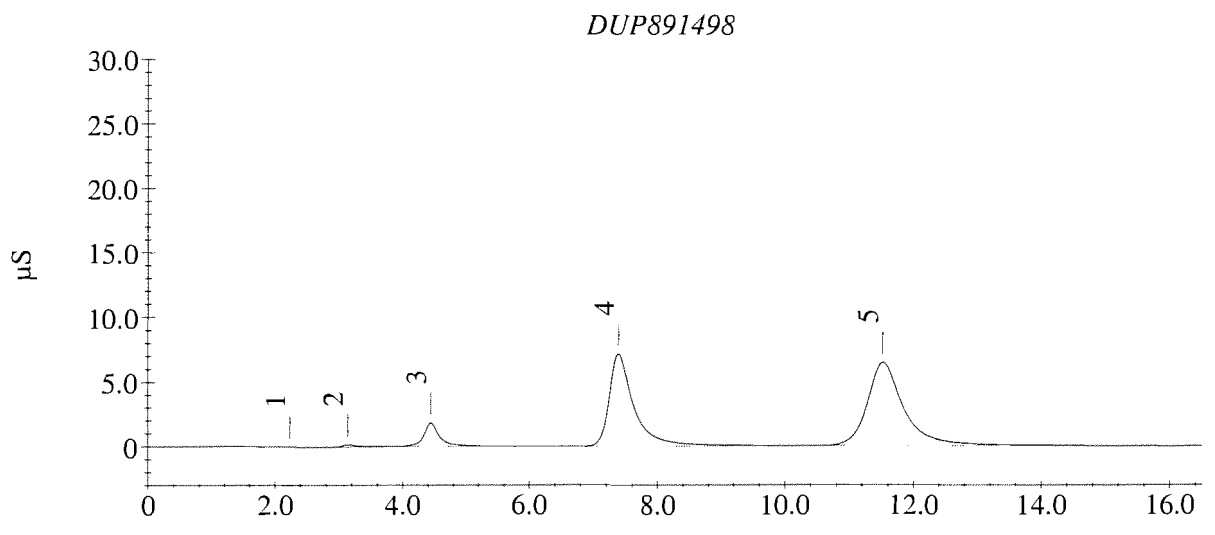
Sample Analysis Report

Sample Name : DUP891498
Data File Name : c:\instarch\data\system 2\071417 - 2\DUP891498_008.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 20:40:54
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.13	0.1951	26739	1733	
3	Chloride	4.43	3.2299	327386	18183	
4	Nitrate	7.38	6.9181	1938603	70948	
5	Sulfate	11.52	29.3938	2607878	64773	



NOT USED

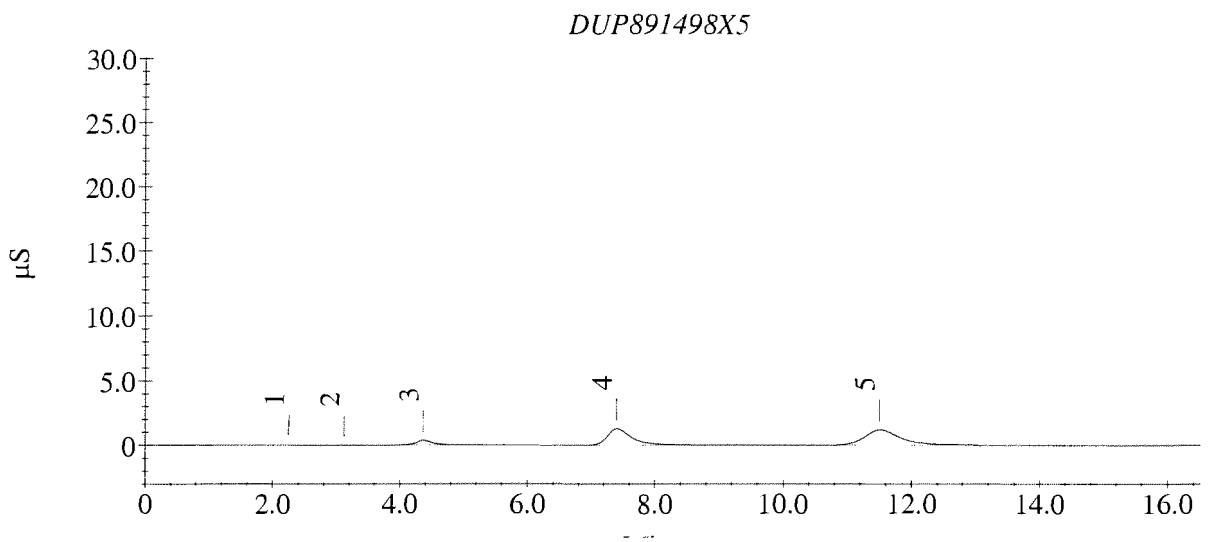
Sample Analysis Report

Sample Name : DUP891498X5
Data File Name : c:\instarch\data\system 2\071417 - 2\DUP891498X5_009.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 20:59:36
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.12	0.0733	3634	249	
3	Chloride	4.37	1.2026	72877	3754	
4	Nitrate	7.40	1.2774	348260	12849	
5	Sulfate	11.50	5.9345	471475	11916	



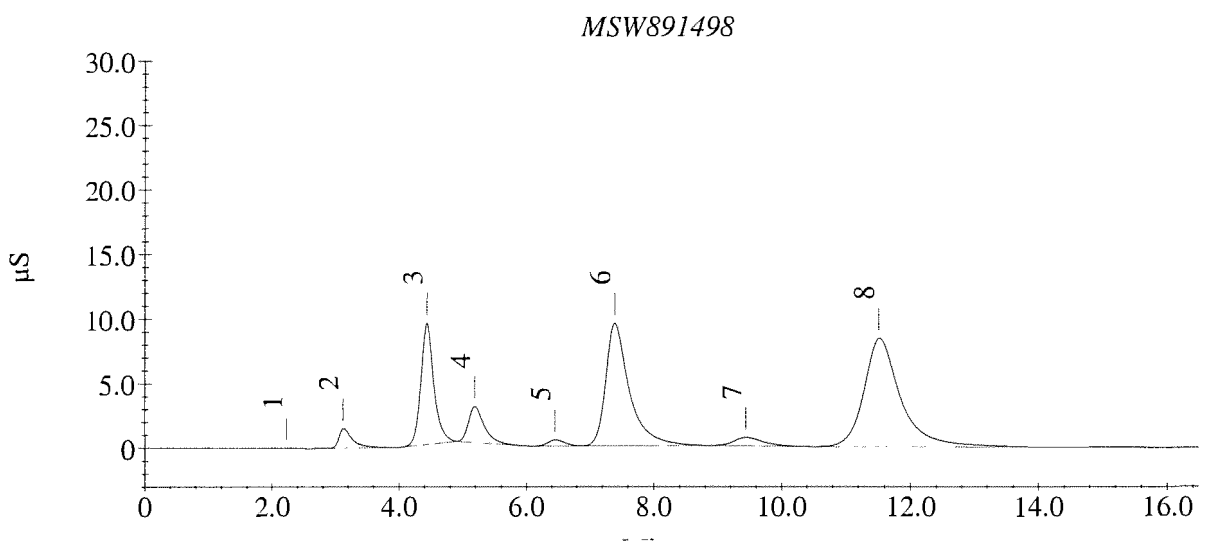
Sample Analysis Report

Sample Name : MSW891498
Data File Name : c:\instarch\data\system 2\071417 - 2\MSW891498_010.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 21:18:25
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.12	1.2293	222833	14894	
3	Chloride	4.43	11.1523	1321985	93758	
4	Nitrite	5.18	2.1739	479015	27794	
5	Bromide	6.45	2.3955	90293	4897	
6	Nitrate	7.38	8.7074	2443067	94748	+
7	O.Phos	9.43	2.6658	211337	6462	
8	Sulfate	11.50	37.3225	3329936	83694	



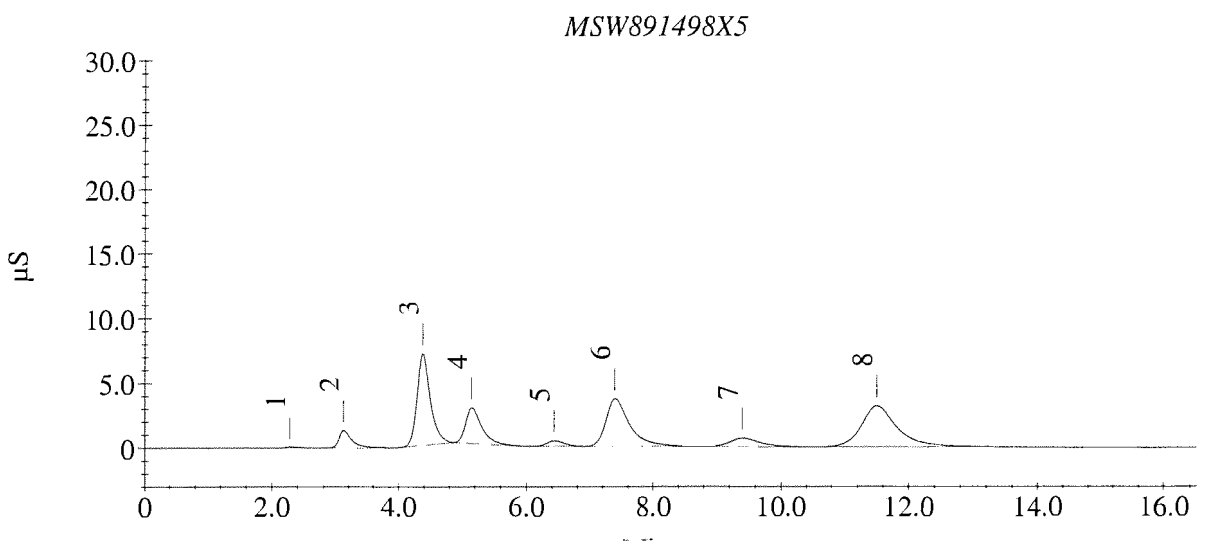
Sample Analysis Report

Sample Name : MSW891498X5
Data File Name : c:\instarch\data\system 2\071417 - 2\MSW891498X5_011.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 21:37:08
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.12	1.1358	205094	13880	
3	Chloride	4.38	8.7893	1025330	70553	
4	Nitrite	5.15	2.2224	489742	27653	
5	Bromide	6.43	2.2547	85027	4460	
6	Nitrate	7.38	3.4517	961272	36729	
7	O.Phos	9.40	2.7175	215429	6599	
8	Sulfate	11.50	14.4433	1246354	31609	



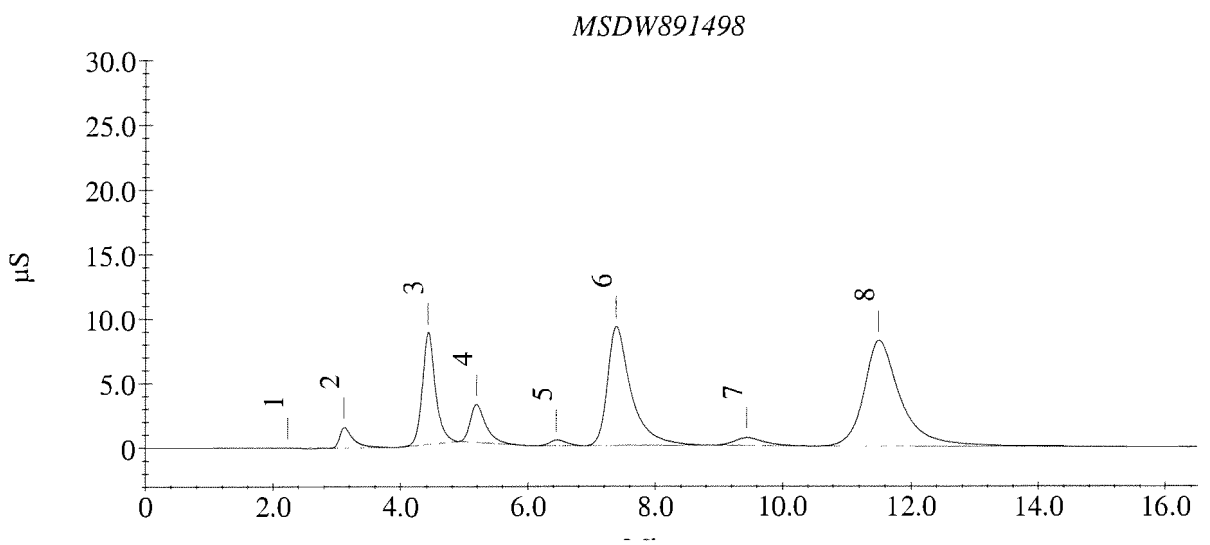
Sample Analysis Report

Sample Name : MSDW891498
Data File Name : c:\instarch\data\system 2\071417 - 2\MSDW891498_012.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 21:55:51
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.12	1.2803	232486	15712	
3	Chloride	4.42	10.4254	1230728	86269	
4	Nitrite	5.18	2.3026	507507	29325	
5	Bromide	6.45	2.1748	82038	4424	
6	Nitrate	7.38	8.5032	2385500	92172	+
7	O.Phos	9.43	2.4771	196393	6045	
8	Sulfate	11.50	36.5581	3260322	81926	



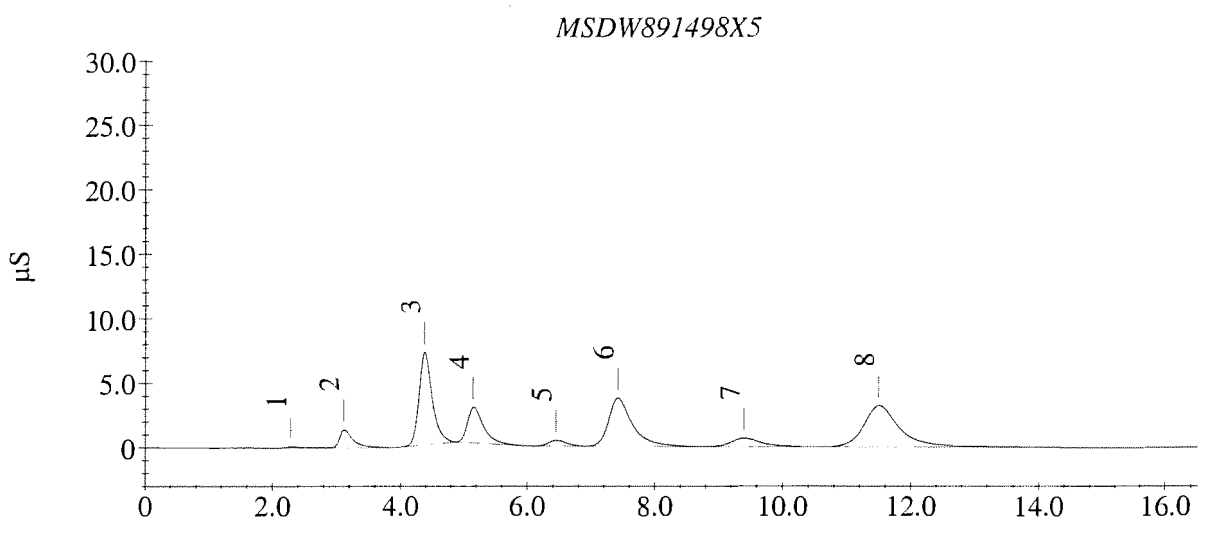
Sample Analysis Report

Sample Name : MSDW891498X5
Data File Name : c:\instarch\data\system 2\071417 - 2\MSDW891498X5_013.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 22:14:34
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.12	1.1317	204313	13863	
3	Chloride	4.38	8.9739	1048507	71937	
4	Nitrite	5.15	2.2239	490084	27428	
5	Bromide	6.45	2.3039	86869	4522	
6	Nitrate	7.42	3.4959	973732	37252	
7	O.Phos	9.40	2.7788	220280	6719	
8	Sulfate	11.50	14.8407	1282547	32078	



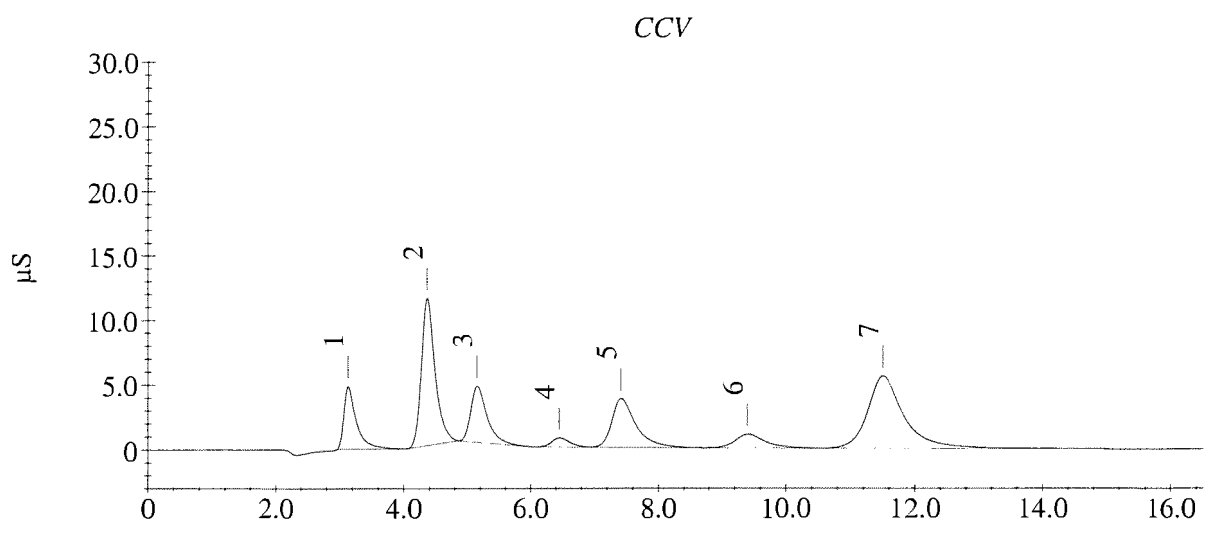
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071417 - 2\CCV_014.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 22:33:17
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.13	3.4651	646745	48105	
2	Chloride	4.37	14.0524	1686072	113410	
3	Nitrite	5.15	3.5230	777586	43129	
4	Bromide	6.45	3.6683	137889	7036	
5	Nitrate	7.42	3.5105	977848	37573	
6	O.Phos	9.40	4.3546	345068	10587	
7	Sulfate	11.50	25.2299	2228684	55566	



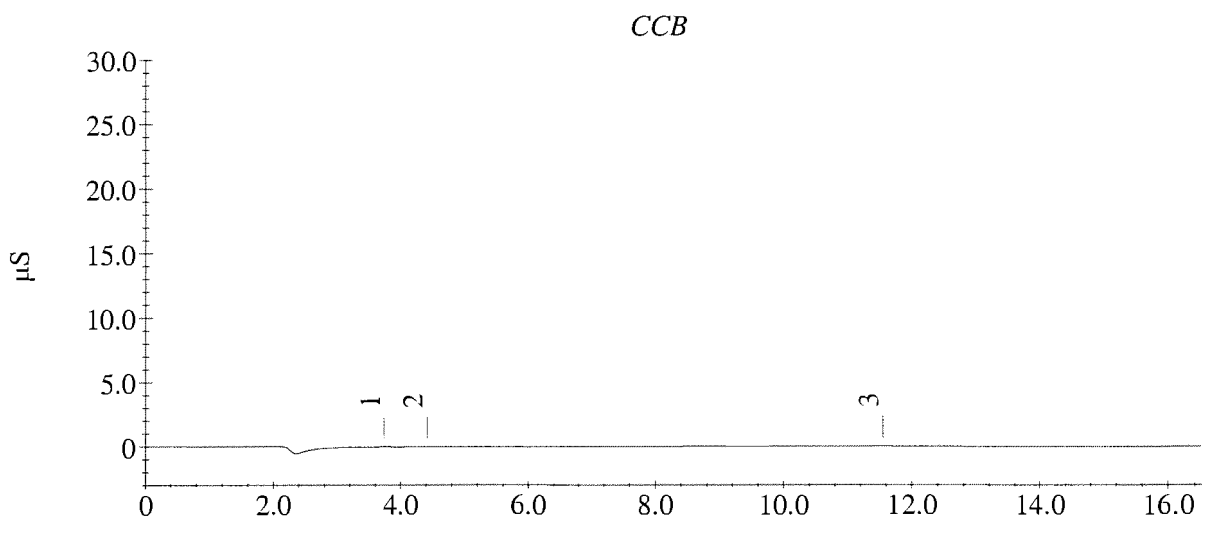
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071417 - 2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 22:52:01
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.42	0.6509	3619	137	
3	Sulfate	11.55	0.8492	8356	295	



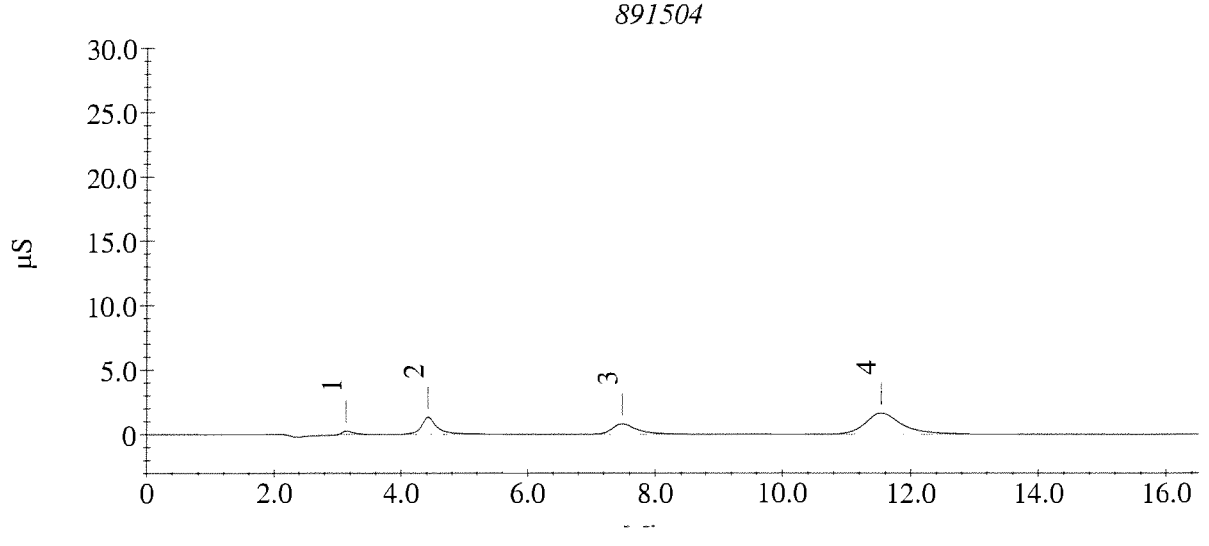
Sample Analysis Report

Sample Name : 891504
Data File Name : c:\instarch\data\system 2\071417 - 2\891504_016.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 23:10:44
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.13	0.2253	32454	2641	
2	Chloride	4.42	2.6189	250682	13414	
3	Nitrate	7.48	0.8241	220454	8057	
4	Sulfate	11.53	8.0233	661696	16336	



not used

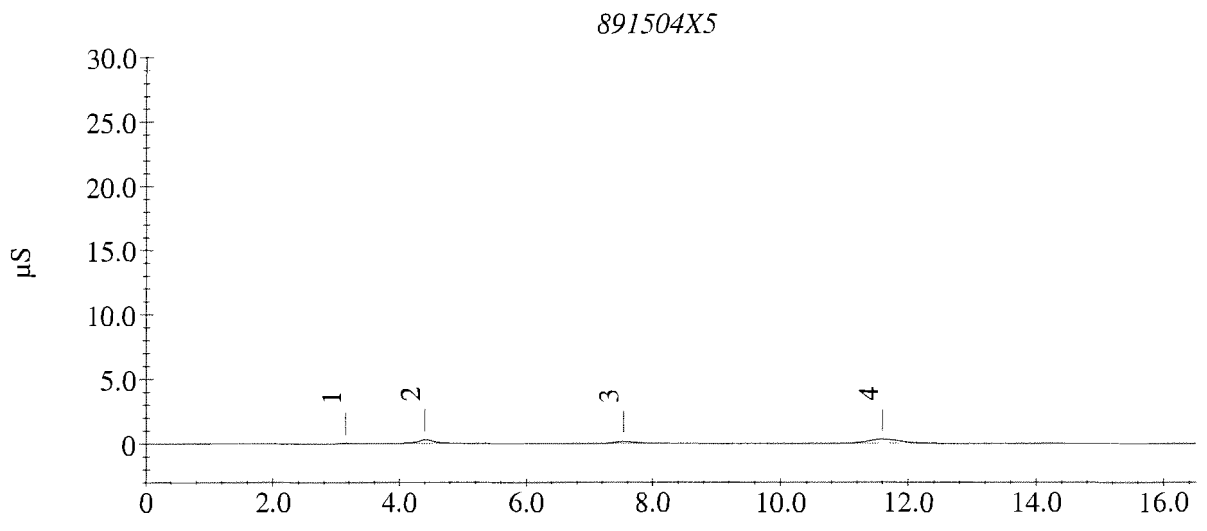
Sample Analysis Report

Sample Name : 891504X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891504X5_017.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 23:29:27
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.15	0.0792	4744	413	
2	Chloride	4.40	1.0471	53358	2840	
3	Nitrate	7.53	0.1599	33178	1416	
4	Sulfate	11.60	1.9761	110982	3096	



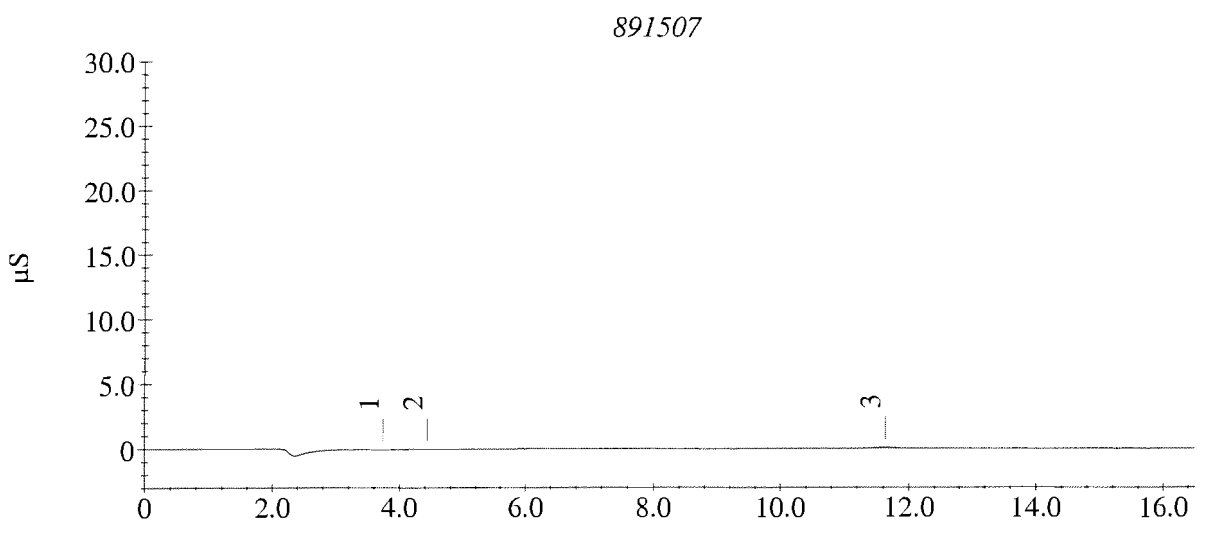
Sample Analysis Report

Sample Name : 891507
Data File Name : c:\instarch\data\system 2\071417 - 2\891507_018.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/14/17 23:48:10
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.43	0.6644	5308	288	
3	Sulfate	11.63	0.9241	15185	571	



Sample Analysis Report

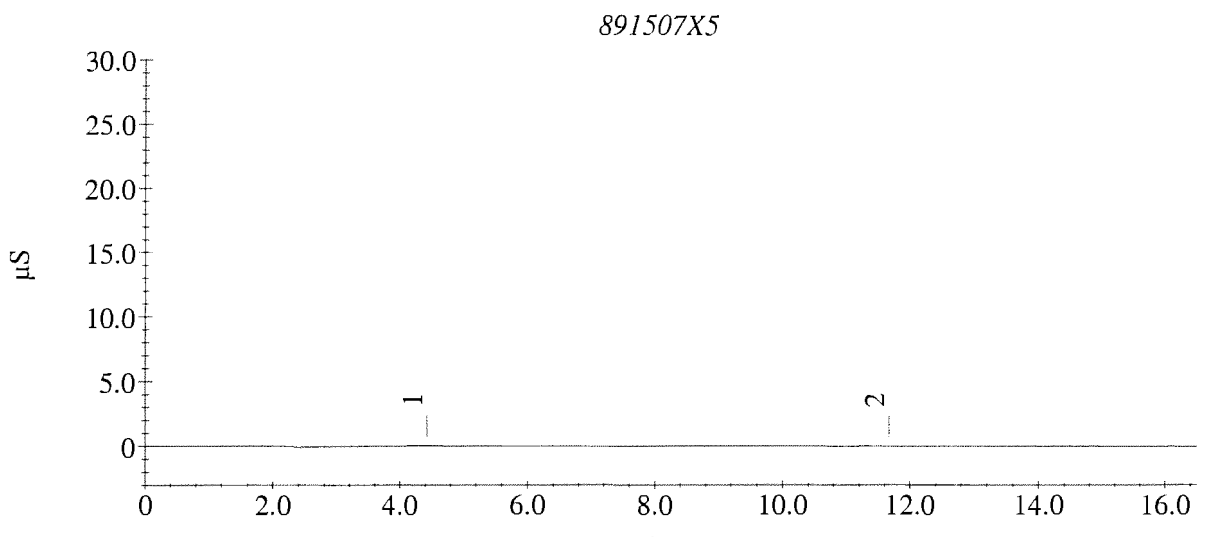
not used

Sample Name : 891507X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891507X5_019.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 00:06:53
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Chloride	4.42	0.6697	5983	328	
2	Sulfate	11.67	0.8135	5109	175	



Sample Analysis Report

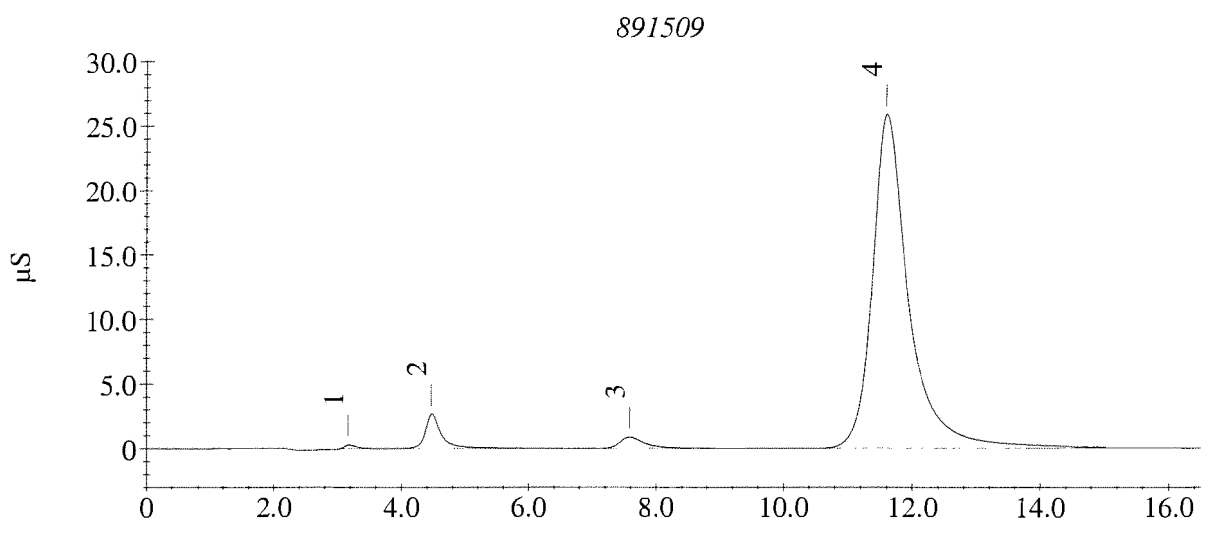
RL
SOH

Sample Name : 891509
Data File Name : c:\instarch\data\system 2\071417 - 2\891509_020.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 00:25:36
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.17	0.2588	38808	2908	
2	Chloride	4.47	4.3557	468732	26466	
3	Nitrate	7.58	0.8675	232682	8751	
4	Sulfate	11.58	113.7175	10287133	257920	+



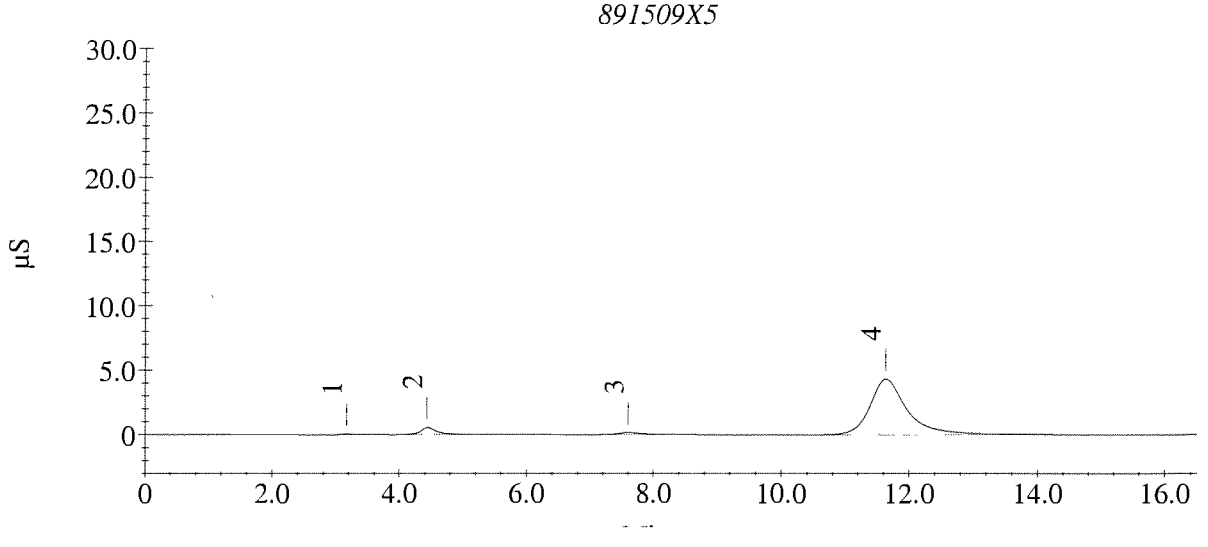
Sample Analysis Report

Sample Name : 891509X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891509X5_021.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 00:44:20
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.17	0.0816	5217	481	
2	Chloride	4.43	1.3988	97510	5428	
3	Nitrate	7.60	0.1739	37125	1568	
4	Sulfate	11.63	20.2219	1772609	42972	



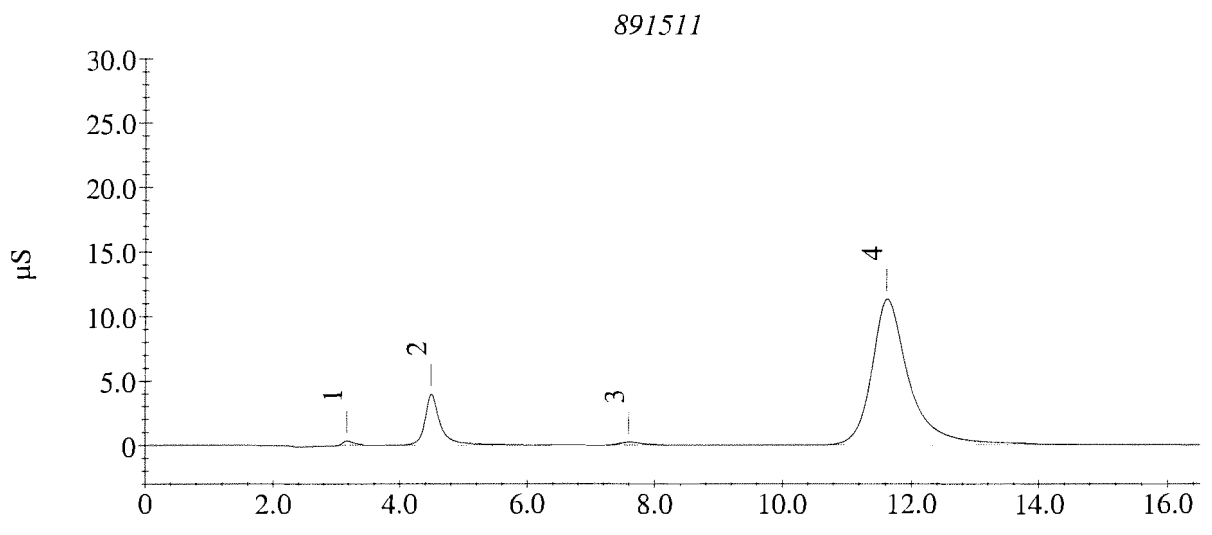
Sample Analysis Report

Sample Name : 891511
Data File Name : c:\instarch\data\system 2\071417 - 2\891511_022.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 01:03:03
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.17	0.2994	46503	3440	
2	Chloride	4.48	6.0047	675749	39401	
3	Nitrate	7.60	0.2483	58101	2385	
4	Sulfate	11.62	50.7878	4556202	113012	



Sample Analysis Report

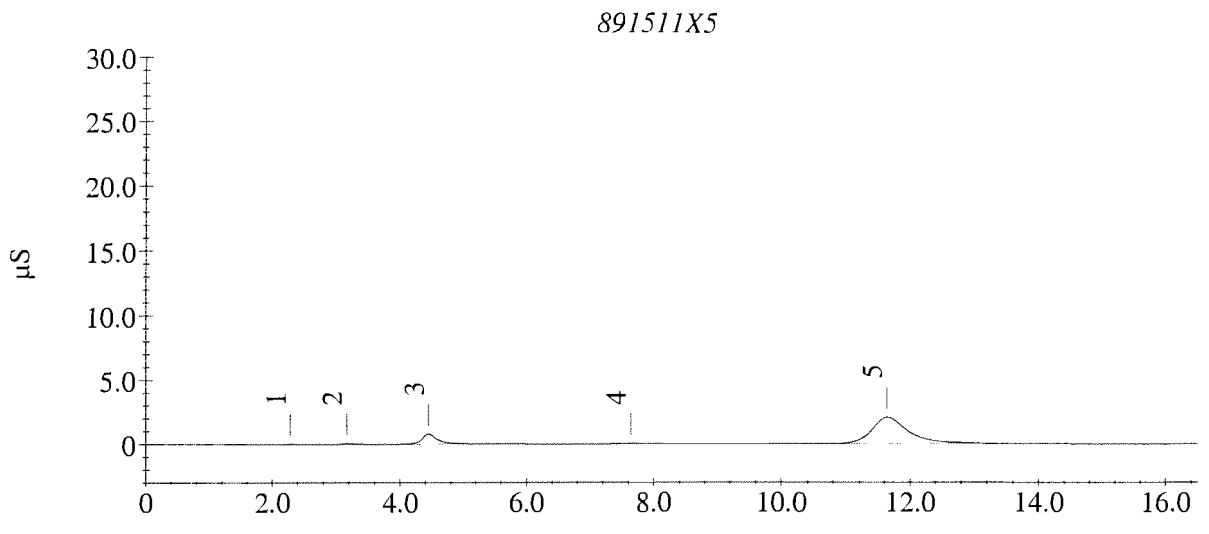
not used

Sample Name : 891511X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891511X5_023.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 01:21:45
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.17	0.1038	9417	662	
3	Chloride	4.45	1.7285	138907	7849	
4	Nitrate	7.63	0.0618	5512	299	
5	Sulfate	11.63	9.9242	834810	20635	



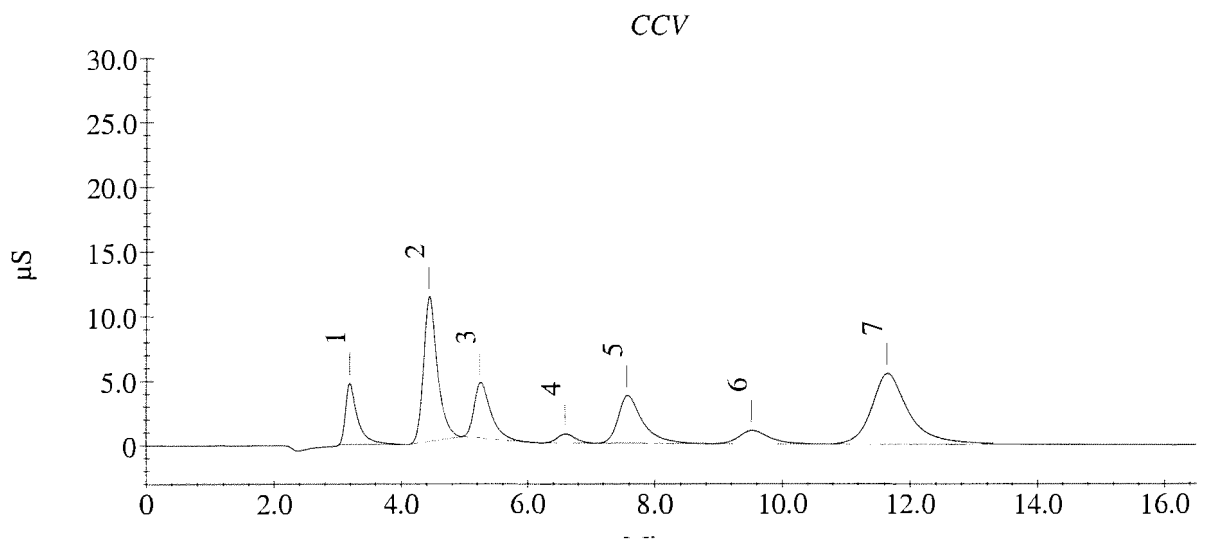
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071417 - 2\CCV_024.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 01:40:29
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.18	3.4929	652021	47692	
2	Chloride	4.43	14.2086	1705678	111979	
3	Nitrite	5.23	3.6135	797605	43056	
4	Bromide	6.58	3.6960	138925	6953	
5	Nitrate	7.57	3.5333	984287	36964	
6	O.Phos	9.52	4.2894	339905	10397	
7	Sulfate	11.63	25.4167	2245695	55028	



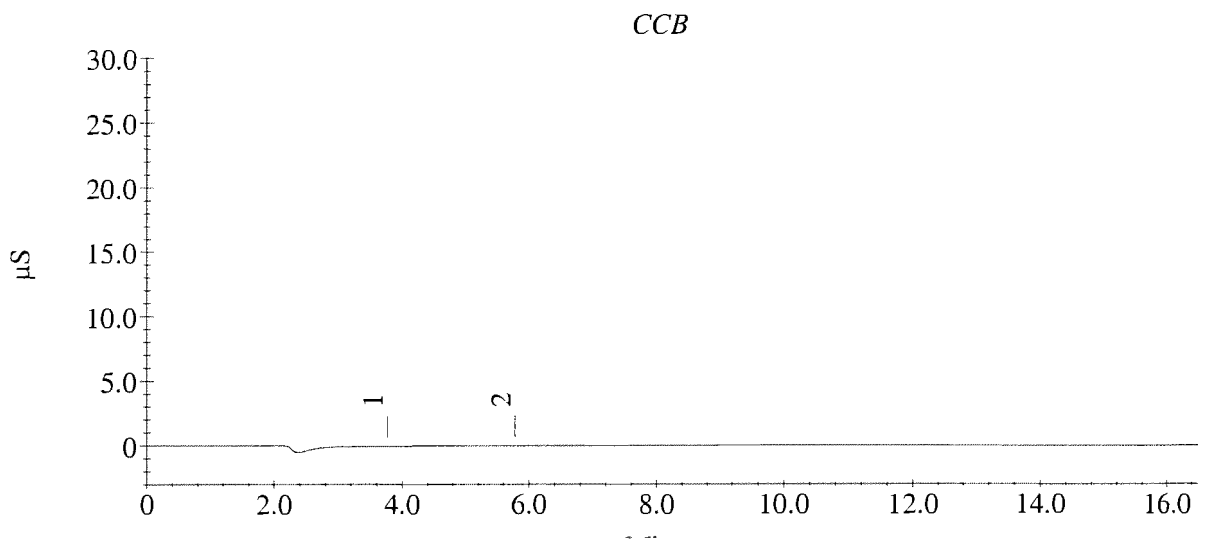
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071417 - 2\CCB_025.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 01:59:12
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



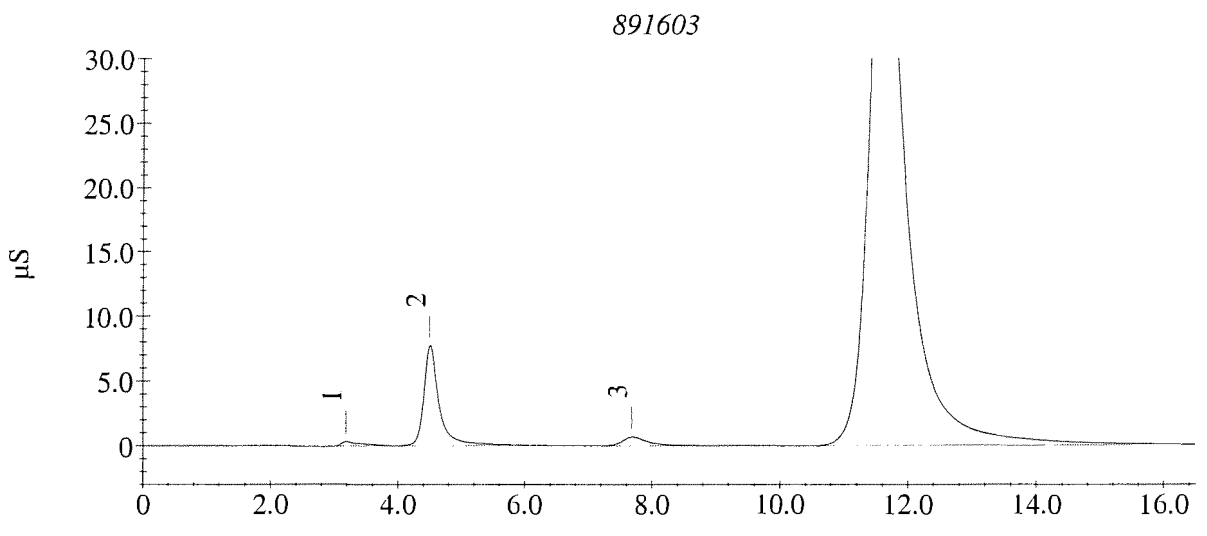
Sample Analysis Report

Sample Name : 891603
Data File Name : c:\instarch\data\system 2\071417 - 2\891603_034.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 04:47:41
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.18	0.4218	69723	3355	
2	Chloride	4.50	11.0264	1306182	76876	
3	Nitrate	7.68	0.7083	187812	6787	
4	Sulfate	11.58	206.3518	18723221	464839	+



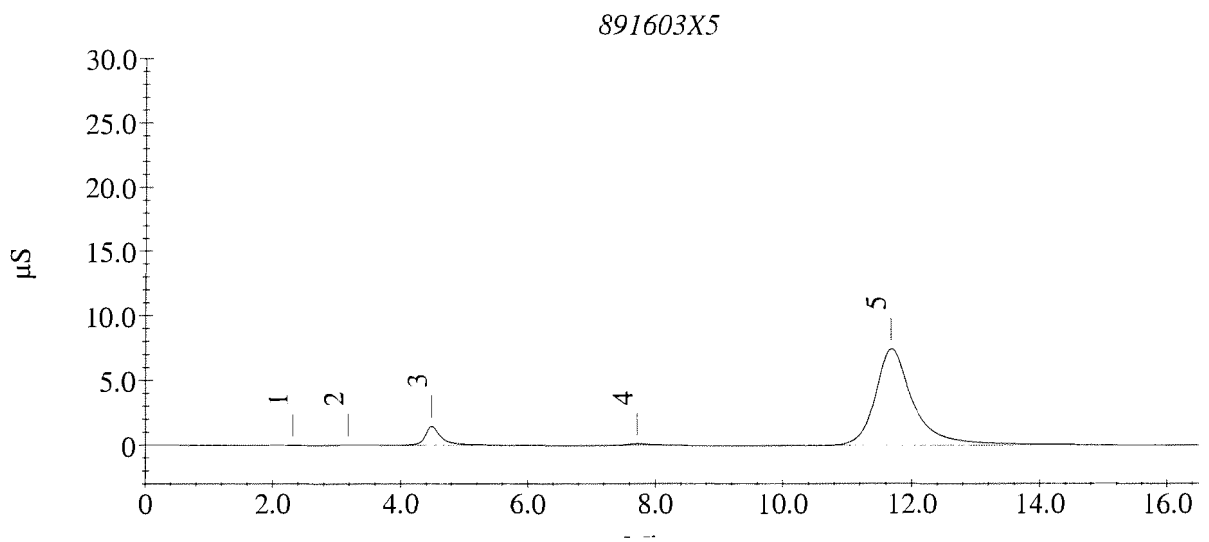
Sample Analysis Report

Sample Name : 891603X5
Data File Name : c:\instarch\data\system 2\071417 - 2\891603X5_035.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 05:06:24
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.18	0.1210	12682	695	
3	Chloride	4.48	2.7858	271644	14648	
4	Nitrate	7.72	0.1472	29613	1223	
5	Sulfate	11.67	34.5130	3074082	74646	



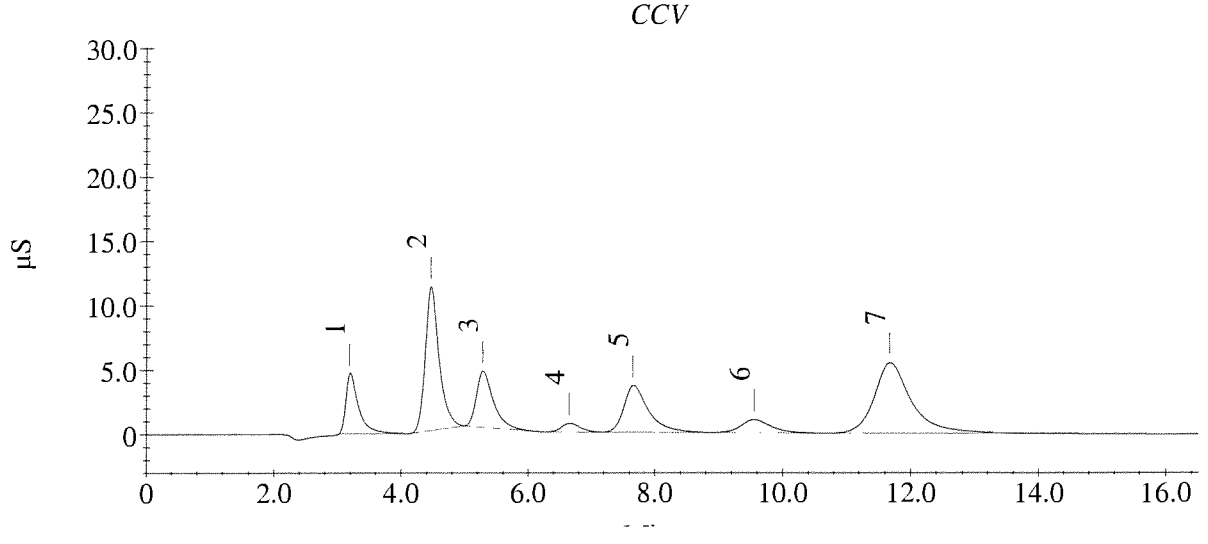
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071417 - 2\CCV_036.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 05:25:07
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.18	3.4844	650404	46237	
2	Chloride	4.47	14.1979	1704328	111298	
3	Nitrite	5.28	3.6749	811197	43640	
4	Bromide	6.65	3.6956	138912	6828	
5	Nitrate	7.65	3.5088	977362	36262	
6	O.Phos	9.55	4.2449	336379	10305	
7	Sulfate	11.67	25.3413	2238824	54586	



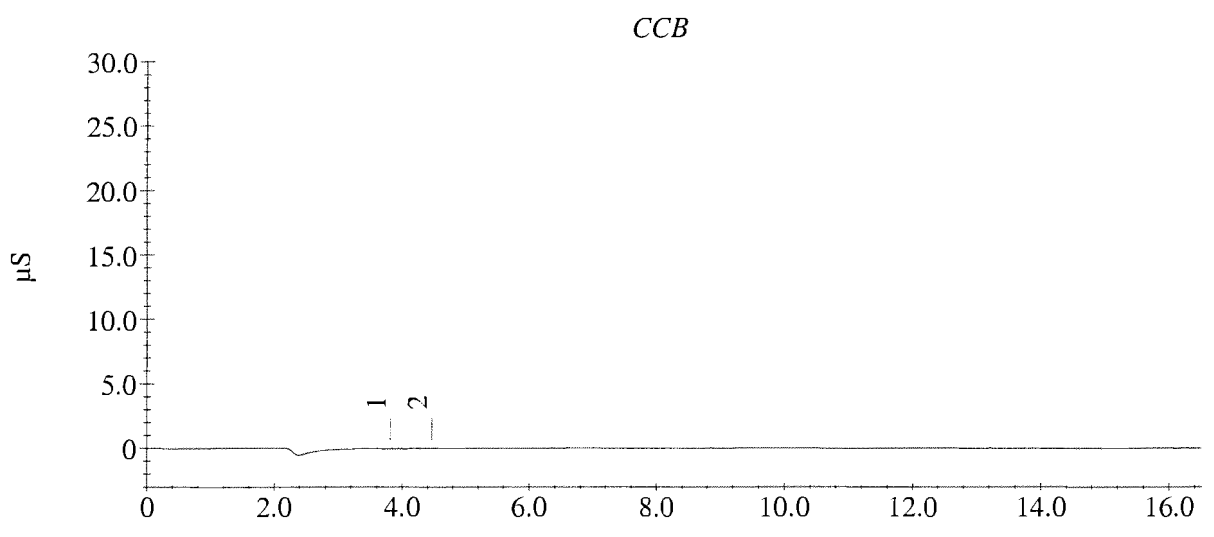
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071417 - 2\CCB_037.DXD

Method File Name : c:\instarch\methods\system 2\ic1079.met
Date Time Collected : 7/15/17 05:43:51
System Operator : DGS

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.47	0.6422	2526	132	



Chemical Oxygen Demand (COD)

Analyst: BKB **Runs:** 140,213,214 **Date:** 07/24/2017

Removed BKB 7/25/17

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
~~24~~	~~30~~	~~894285~~	~~1000~~		~~-5~~
25	31	894286	100		549
26	32	894287	10		263
27	33	894288	100		128
28	34	LCS			401
29	35	MBW			5
30	36	889690			6
31	37	891382			3
32	38	MSW 891382			165
33	39	MSDW 891382			162
1	40	**CCV**			386
3	41	**CCB**			3
34	42	891383			3
35	43	891384			12
36	44	891385			9
37	45	891386			0
38	46	891387			1
39	47	891388			0
40	48	891389			13
41	49	891390			16
42	50	891391			38
43	51	891392			45
1	52	**CCV**			392
3	53	**CCB**			0
44	54	894137			22
45	55	894177			35
46	56	894178			63

Chemical Oxygen Demand (COD)

Analyst: BKB **Runs:** 140214, 215, 216 **Date:** 07/26/2017

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
47	57	894289	50		246
48	58	894290	100		464
~~49~~	~~59~~	~~894516~~		OR	~~888~~
~~50~~	~~60~~	~~MSW 894516~~			~~950~~
~~51~~	~~61~~	~~MSDW 894516~~			~~988~~
52	62	894647			350
53	63	LCS			415
1	64	**CCV**			400
3	65	**CCB**			3
54	66	MBW			5
55	67	890671			40
56	68	MSW 890671			192
57	69	MSDW 890671			198
58	70	Dup 890671			47
59	71	891494			144
60	72	LCS			418
61	73	MBW			-2
62	74	LOQ			86
63	75	LOD			18
1	76	**CCV**			384
3	77	**CCB**			2
64					
65					
66					
67					
68					

Removed BKB 7/25/17

401.
35
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TEST 12 W41869 EXP. 1/24/18

LINEAR{32}CURVE{32}FIT{13}{10}
NOT{32}THROUGH{32}0{13}{10}
{13}{10}
{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}ENTERED{32}{32}{32}{32}CALCULATED{13
}{10}
STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32}{32}{32}CONC{3
2}{32}{32}{32}ERROR{13}{10}
{32}1{32}{32}-0.000{32}{32}{32}{32}0.000{32}{32}{32}{32}{32}{32}-8.810{32}{32}{32}-8
.810{13}{10}
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{32}4{32}{32}{32}0.028{32}{32}{32}{32}{32}50.0{32}{32}{32}{32}{32}{32}{32}{32}59.2{3
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----------{13}{10}
{13}{10}
SLOPE{32}{32}{32}{32}{32}{32}{32}{32}0.0004{13}{10}
INTERCEPT{32}{32}{32}{32}{32}0.004{13}{10}
CORR{32}COEFF{32}{32}{32}0.9998{13}{10}
----------{13}{10}
{13}{10}

ICV
415.

ICB
-6.

pH Bench Sheet

Date: 07/14/2017 Analyst: SAW

Instrument: ***Mettler Toledo Seven Easy*** LIMS#: 139907

Time: 1050 Slope (%): 96%

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	890671	GW	6.98	12.7	
2	DUP890671	GW	7.00	12.7	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

*For samples following SM 4500-H+B, the pH measurement must be bracketed by calibration buffer 7 every 10 samples.

pH Bench Sheet

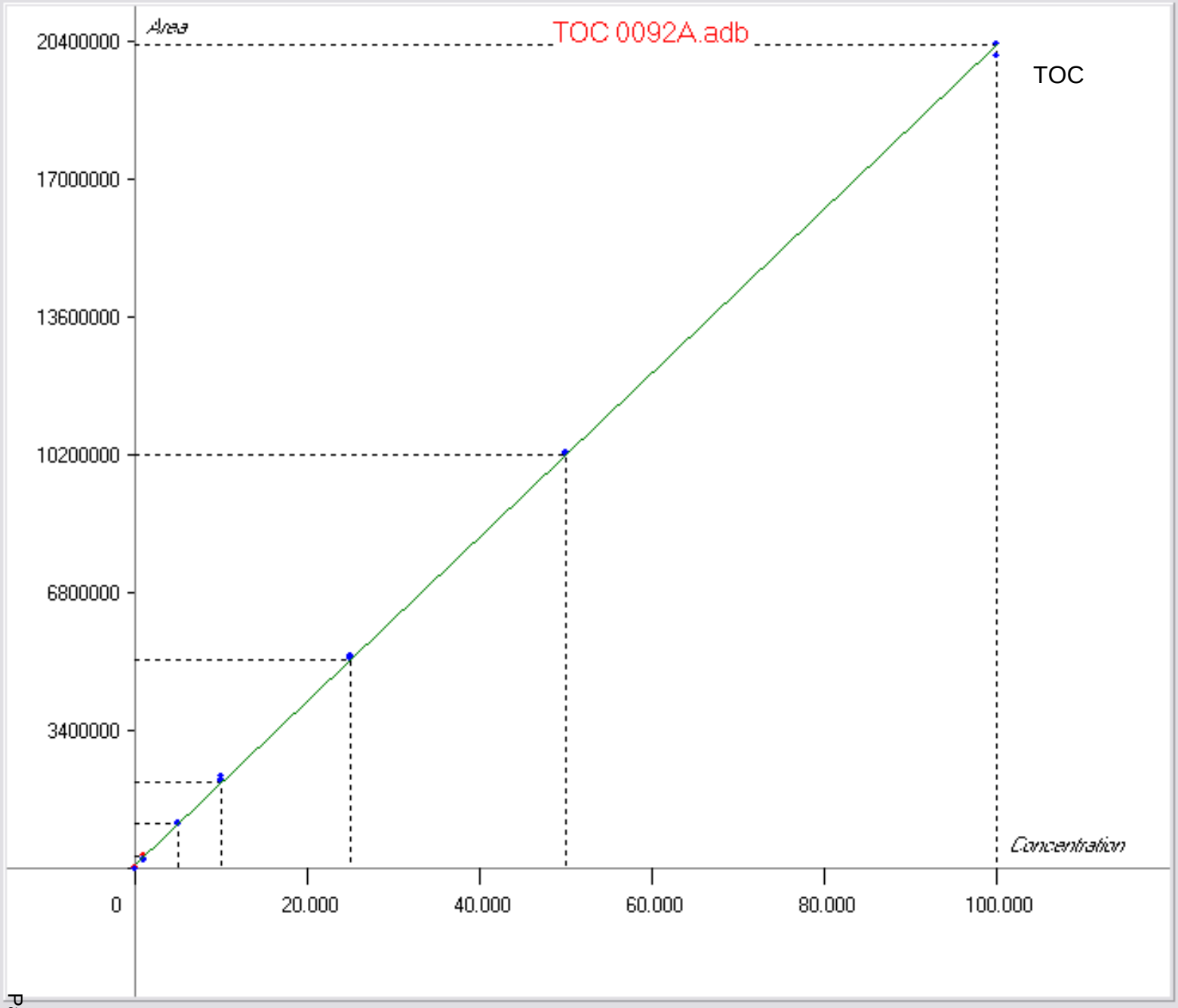
Date: 07/21/2017 Analyst: MER

Instrument: ***Mettler Toledo Seven Easy*** LIMS#: 140159

Time: 12:15 Slope (%): 96%

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	891494	GW	7.73	16.2	
2	DUP891494	GW	7.78	16.3	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

*For samples following SM 4500-H+B, the pH measurement must be bracketed by calibration buffer 7 every 10 samples.



Cursor Position

Concentration	Area
83.600 mg/l	-3060000

A2	0
A1	202300
A0	123265
Correlation	0.99991
Order	1
Volume	100 µl
Conc.	100.00
Area	20385142

☐ Confidence Intervals 95%

☐ Detection/Determination 95%

Conc.	Area	Sel.
0	67055	☐
0	6502	☑
0	15479	☑
0	13498	☑
0	10812	☑
1	355611	☐
1	256541	☑
1	249342	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

RJ05/05/2016

Analysis Name TOC 0092A.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator JJF

Date Monday, May 2, 2016
Time 15:47

Start Oven Temp. 756 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092
ICV TOC0089

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**74051**	**84.37**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 15:58:37	2.80	689752	1	761	2	-	-
2	5 2 2016 16:02:41	0.00	0	0	761	2	-	Yes
3	5 2 2016 16:06:43	ZERO !	121725	1	762	2	-	Yes
4	5 2 2016 16:09:13	0.03	129696	1	761	2	-	Yes
5	5 2 2016 16:13:04	ZERO !	44784	1	762	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**20752**	**59.27**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:16:34	ZERO !	36830	1	762	2	-	Yes
2	5 2 2016 16:17:40	ZERO !	73204	1	763	2	-	-
3	5 2 2016 16:19:56	ZERO !	23805	1	760	2	-	Yes
4	5 2 2016 16:22:45	ZERO !	9954	1	761	2	-	Yes
5	5 2 2016 16:25:39	ZERO !	12421	1	762	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S1	Standard	TC Std 0.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**11572**	**33.56**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:29:33	ZERO !	67055	1	762	2	-	-
2	5 2 2016 16:32:56	ZERO !	6502	1	761	2	-	Yes
3	5 2 2016 16:36:03	ZERO !	15479	1	761	2	-	Yes
4	5 2 2016 16:39:01	ZERO !	13498	1	761	2	-	Yes
5	5 2 2016 16:41:59	ZERO !	10812	1	761	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S2	Standard	TC Std 1.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.68**	**261045**	**4.26**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:45:43	1.15	355611	1	761	2	-	-
2	5 2 2016 16:48:46	0.66	256541	1	760	2	-	Yes
3	5 2 2016 16:51:01	0.62	249342	1	759	2	-	Yes
4	5 2 2016 16:53:17	0.69	262751	1	758	2	-	Yes
5	5 2 2016 16:55:31	0.75	275546	1	758	2	-	Yes

5 S3 Standard TC Std. 5.00 mg/l 1 x

	TC	5.05	1145745	1.97		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:58:52	5.18	1171891	1	759	2	-	Yes
2	5 2 2016 17:02:02	4.95	1125467	1	758	2	-	Yes
3	5 2 2016 17:04:49	4.97	1128514	1	758	2	-	Yes
4	5 2 2016 17:07:40	5.11	1157109	1	758	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	10.47	2240681	2.39		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:11:19	10.86	2320542	1	758	2	-	Yes
2	5 2 2016 17:14:55	10.31	2208918	1	758	2	-	Yes
3	5 2 2016 17:17:46	10.38	2223049	1	757	2	-	Yes
4	5 2 2016 17:20:40	10.32	2210215	1	757	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	25.34	5250145	0.93		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:24:28	25.63	5308682	1	757	2	-	Yes
2	5 2 2016 17:28:13	25.23	5227580	1	757	2	-	Yes
3	5 2 2016 17:31:18	25.43	5267780	1	757	2	-	Yes
4	5 2 2016 17:34:22	25.08	5196538	1	757	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	50.28	10294470	0.15		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:38:19	50.21	10279869	1	756	2	-	Yes
2	5 2 2016 17:42:17	50.36	10310763	1	756	2	-	Yes
3	5 2 2016 17:45:32	50.22	10281823	1	756	2	-	Yes
4	5 2 2016 17:48:42	50.33	10305425	1	756	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	99.73	20298418	0.77		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:52:45	100.02	20357592	1	756	2	-	Yes
2	5 2 2016 17:56:37	98.58	20066104	1	756	2	-	Yes
3	5 2 2016 17:59:45	100.16	20385142	1	755	2	-	Yes
4	5 2 2016 18:02:41	100.16	20384837	1	755	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	51.21	10483878	0.72		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:07:08	51.67	10575523	1	755	2	-	Yes
2	5 2 2016 18:10:58	50.76	10392416	1	755	2	-	Yes
3	5 2 2016 18:14:12	51.17	10474795	1	755	2	-	Yes
4	5 2 2016 18:17:32	51.26	10492781	1	754	2	-	Yes

11 S9 Unknown ICB 1 x

	TC	0.29	182348	2.43		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:21:43	0.70	264811	1	755	2	-	-
2	5 2 2016 18:24:53	0.32	187637	1	753	2	-	Yes
3	5 2 2016 18:27:13	0.26	176792	1	753	2	-	Yes
4	5 2 2016 18:29:34	0.29	182491	1	753	2	-	Yes
5	5 2 2016 18:31:58	0.29	182473	1	753	2	-	Yes

Analysis Name 071317 - 139821 139822.adb

Template Name 071317 - 139821 139822.tdb
Method Name N / A
Operator AGK

Date Thursday, July 13, 2017
Time 10:35

Start Oven Temp. 758 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A
INSTRUMENT = TOCW
CCV TOC00186 LCSW TOC0187 SPIKE TOC0086

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**51.78**	**10597810**	**0.32**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 10:59:33	51.55	10550986	1	757	2	-	Yes
2	7 13 2017 11:03:36	51.87	10616452	1	757	2	-	Yes
3	7 13 2017 11:06:51	51.93	10628489	1	756	2	-	Yes
4	7 13 2017 11:10:10	51.77	10595314	1	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**48.42**	**9918437**	**0.42**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 11:14:16	48.20	9874431	1	756	2	-	Yes
2	7 13 2017 11:18:14	48.32	9899249	1	756	2	-	Yes
3	7 13 2017 11:21:23	48.67	9970059	1	756	2	-	Yes
4	7 13 2017 11:24:37	48.48	9930009	1	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S7	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 11:28:40	0	0	0	755	2	-	Yes
2	7 13 2017 11:33:17	0	0	0	755	2	-	Yes
3	7 13 2017 11:37:19	0	0	0	754	2	-	Yes
4	7 13 2017 11:41:20	0	0	0	754	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	2	Unknown	889690	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 11:46:14	0	0	0	754	2	-	Yes
2	7 13 2017 11:50:51	0	0	0	754	2	-	Yes
3	7 13 2017 11:54:52	0.02	127126	1	754	2	-	-
4	7 13 2017 11:57:28	0	0	0	753	2	-	Yes
5	7 13 2017 12:01:29	0	0	0	754	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	3	Unknown	889867	1 x

		TC	**0.90**	**305147**	**4.93**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 12:06:21	0.83	291749	1	753	2	-	Yes
	2	7 13 2017 12:09:33	0.85	294436	1	753	2	-	Yes
	3	7 13 2017 12:12:03	0.92	310333	1	752	2	-	Yes
	4	7 13 2017 12:14:37	0.99	324070	1	752	2	-	Yes

6	4	Unknown	DUP889867	1 x

		TC	**0.93**	**312166**	**1.28**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 12:17:59	0.95	314792	1	753	2	-	Yes
	2	7 13 2017 12:21:14	0.94	312790	1	752	2	-	Yes
	3	7 13 2017 12:23:44	0.95	314745	1	752	2	-	Yes
	4	7 13 2017 12:26:12	0.90	306340	1	752	2	-	Yes

7	5	Unknown	MSW889867	1 x

		TC	**50.29**	**10297473**	**0.99**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 12:29:35	49.77	10191676	1	753	2	-	Yes
	2	7 13 2017 12:33:18	50.83	10406397	1	753	2	-	Yes
	3	7 13 2017 12:36:30	49.97	10232038	1	752	2	-	Yes
	4	7 13 2017 12:39:41	50.60	10359782	1	752	2	-	Yes

8	6	Unknown	MSDW889867	1 x

		TC	**50.08**	**10254515**	**1.14**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 12:43:48	49.78	10194388	1	752	2	-	Yes
	2	7 13 2017 12:47:37	50.80	10401093	1	752	2	-	Yes
	3	7 13 2017 12:50:40	49.48	10133234	1	752	2	-	Yes
	4	7 13 2017 12:53:43	50.25	10289346	1	752	2	-	Yes

9	7	Unknown	889868	1 x

		TC	**10.17**	**2180374**	**1.49**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 12:57:50	9.99	2143500	1	752	2	-	Yes
	2	7 13 2017 13:01:17	10.10	2165817	1	752	2	-	Yes
	3	7 13 2017 13:04:00	10.35	2217363	1	752	2	-	Yes
	4	7 13 2017 13:06:51	10.24	2194818	1	752	2	-	Yes

10	8	Unknown	889869	1 x

		TC	**2.72**	**673850**	**0.43**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 13:10:28	2.71	670661	1	752	2	-	Yes
	2	7 13 2017 13:13:46	2.71	672315	1	752	2	-	Yes
	3	7 13 2017 13:16:22	2.74	677211	1	751	2	-	Yes
	4	7 13 2017 13:19:00	2.73	675214	1	752	2	-	Yes

11	9	Unknown	890602	1 x

		TC	**1.00**	**325198**	**2.14**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 13:22:27	1.05	335212	1	752	2	-	Yes
	2	7 13 2017 13:25:34	0.99	323297	1	751	2	-	Yes
	3	7 13 2017 13:28:03	0.99	323183	1	752	2	-	Yes
	4	7 13 2017 13:30:29	0.97	319102	1	752	2	-	Yes

12	10	Unknown	890604	1 x

		TC	**1.47**	**419463**	**2.31**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 13:33:45	1.40	405685	1	752	2	-	Yes
	2	7 13 2017 13:36:55	1.47	420122	1	751	2	-	Yes
	3	7 13 2017 13:39:28	1.49	424567	1	751	2	-	Yes
	4	7 13 2017 13:42:04	1.50	427478	1	752	2	-	Yes

13	11	Unknown	890605	1 x

		TC	**1.58**	**444105**	**5.98**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 13:45:29	1.50	425968	1	752	2	-	Yes
	2	7 13 2017 13:48:35	1.77	481793	1	752	2	-	Yes
	3	7 13 2017 13:51:05	1.49	424878	1	751	2	-	Yes
	4	7 13 2017 13:53:37	1.58	443784	1	752	2	-	Yes

14	S1	Unknown	CCV		1 x

		TC	**50.33**	**10304787**	**1.12**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 13:56:56	49.52	10140831	1	752	2	-	Yes
	2	7 13 2017 14:00:46	50.70	10378947	1	752	2	-	Yes
	3	7 13 2017 14:03:55	50.35	10308702	1	751	2	-	Yes
	4	7 13 2017 14:07:03	50.75	10390669	1	752	2	-	Yes

15	S7	Unknown	CCB		1 x

		TC	**0.00**	**0**	**0.00**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 14:11:00	0	0	0	752	2	-	Yes
	2	7 13 2017 14:15:38	0	0	0	752	2	-	Yes
	3	7 13 2017 14:19:39	0	0	0	752	2	-	Yes
	4	7 13 2017 14:23:40	0	0	0	752	2	-	Yes

16	12	Unknown	890609		1 x

		TC	**0.00**	**0**	**0.00**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 14:28:33	0	0	0	752	2	-	Yes
	2	7 13 2017 14:33:10	0	0	0	751	2	-	Yes
	3	7 13 2017 14:37:11	0	0	0	752	2	-	Yes
	4	7 13 2017 14:41:12	0	0	0	752	2	-	Yes

17	13	Unknown	889901		1 x

		TC	**2.62**	**653959**	**1.29**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 14:46:04	2.68	664786	1	752	2	-	Yes
	2	7 13 2017 14:49:25	2.63	655884	1	752	2	-	Yes
	3	7 13 2017 14:52:07	2.60	649845	1	751	2	-	Yes
	4	7 13 2017 14:54:42	2.58	645322	1	751	2	-	Yes

18	14	Unknown	889903		1 x

		TC	**2.20**	**568916**	**8.55**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 14:58:07	2.56	640457	1	752	2	-	Yes
	2	7 13 2017 15:01:28	2.04	536277	1	751	2	-	Yes
	3	7 13 2017 15:04:00	2.06	540807	1	752	2	-	Yes
	4	7 13 2017 15:06:31	2.15	558125	1	751	2	-	Yes

19	15	Unknown	889905		1 x

		TC	**0.71**	**267882**	**3.24**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 15:10:03	0.70	264398	1	752	2	-	Yes
	2	7 13 2017 15:13:12	0.71	267777	1	751	2	-	Yes
	3	7 13 2017 15:15:34	0.77	279859	1	751	2	-	Yes
	4	7 13 2017 15:17:58	0.67	259494	1	751	2	-	Yes

20	16	Unknown	889907		1 x

		TC	**0.00**	**0**	**0.00**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 15:21:14	0	0	0	751	2	-	Yes
	2	7 13 2017 15:25:51	0	0	0	752	2	-	Yes
	3	7 13 2017 15:29:52	0	0	0	751	2	-	Yes
	4	7 13 2017 15:33:54	ZERO !	64612	1	751	2	-	-
	5	7 13 2017 15:36:09	0	0	0	751	2	-	Yes

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21 17 Unknown 890666 1 x

TC **1.46** **418637** **1.53** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 15:41:02	1.49	423810	1	752	2	-	Yes
2	7 13 2017 15:44:12	1.43	412237	1	752	2	-	Yes
3	7 13 2017 15:46:39	1.44	413990	1	751	2	-	Yes
4	7 13 2017 15:49:07	1.49	424513	1	751	2	-	Yes

22 18 Unknown DUP890666 1 x

TC **1.66** **458626** **3.33** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 15:52:29	1.60	447689	1	751	2	-	Yes
2	7 13 2017 15:55:42	1.75	477253	1	751	2	-	Yes
3	7 13 2017 15:58:16	1.69	464874	1	751	2	-	Yes
4	7 13 2017 16:00:49	1.59	444691	1	752	2	-	Yes

23 19 Unknown MSW890666 1 x

TC **51.38** **10517964** **1.52** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 16:04:10	50.81	10402847	1	752	2	-	Yes
2	7 13 2017 16:07:53	52.15	10674142	1	752	2	-	Yes
3	7 13 2017 16:10:59	51.96	10635171	1	751	2	-	Yes
4	7 13 2017 16:14:01	50.60	10359698	1	751	2	-	Yes

24 20 Unknown MSDW890666 1 x

TC **51.15** **10470395** **2.07** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 16:17:53	49.63	10162391	1	751	2	-	Yes
2	7 13 2017 16:21:38	52.13	10669056	1	752	2	-	Yes
3	7 13 2017 16:24:41	51.40	10521473	1	751	2	-	Yes
4	7 13 2017 16:27:47	51.44	10528662	1	752	2	-	Yes

25 21 Unknown 890669 1 x

TC **1.94** **514506** **8.48** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 16:31:45	1.74	474484	1	751	2	-	Yes
2	7 13 2017 16:34:56	2.13	554888	1	751	2	-	Yes
3	7 13 2017 16:37:26	2.11	549516	1	752	2	-	Yes
4	7 13 2017 16:40:00	1.76	479136	1	752	2	-	Yes

26 S1 Unknown CCV 1 x

TC **51.05** **10449993** **1.68** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 16:43:26	49.79	10195825	1	751	2	-	Yes
2	7 13 2017 16:47:20	51.66	10574000	1	752	2	-	Yes
3	7 13 2017 16:50:34	51.16	10472609	1	752	2	-	Yes
4	7 13 2017 16:53:47	51.58	10557541	1	752	2	-	Yes

27 S7 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 16:57:56	0	0	0	752	2	-	Yes
2	7 13 2017 17:02:34	0	0	0	752	2	-	Yes
3	7 13 2017 17:06:35	0	0	0	751	2	-	Yes
4	7 13 2017 17:10:37	0	0	0	752	2	-	Yes

28 22 Unknown 891323 1 x

TC **5.03** **1140160** **0.53** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 13 2017 17:15:31	4.99	1133298	1	751	2	-	Yes
2	7 13 2017 17:18:55	5.01	1136971	1	751	2	-	Yes
3	7 13 2017 17:21:37	5.05	1145859	1	752	2	-	Yes
4	7 13 2017 17:24:16	5.05	1144512	1	751	2	-	Yes

29	23	Unknown	891325					1 x	
		TC	**5.30**	**1195738**		**1.46**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 17:27:52	5.24	1182561	1	752	2	-	Yes
	2	7 13 2017 17:31:17	5.33	1201523	1	751	2	-	Yes
	3	7 13 2017 17:33:56	5.41	1217850	1	751	2	-	Yes
	4	7 13 2017 17:36:35	5.23	1181019	1	751	2	-	Yes
30	24	Unknown	891327					1 x	
		TC	**1.89**	**505444**		**1.68**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 17:40:10	1.92	511418	1	752	2	-	Yes
	2	7 13 2017 17:43:24	1.93	514013	1	752	2	-	Yes
	3	7 13 2017 17:45:57	1.86	499147	1	751	2	-	Yes
	4	7 13 2017 17:48:27	1.85	497199	1	752	2	-	Yes
31	25	Unknown	891329					1 x	
		TC	**2.39**	**607279**		**0.90**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 17:51:50	2.42	613501	1	752	2	-	Yes
	2	7 13 2017 17:55:04	2.36	601208	1	752	2	-	Yes
	3	7 13 2017 17:57:35	2.38	604517	1	752	2	-	Yes
	4	7 13 2017 18:00:07	2.41	609893	1	752	2	-	Yes
32	26	Unknown	891331					1 x	
		TC	**3.19**	**768901**		**2.64**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 18:03:34	3.34	798024	1	752	2	-	Yes
	2	7 13 2017 18:06:51	3.18	767340	1	751	2	-	Yes
	3	7 13 2017 18:09:33	3.11	753072	1	752	2	-	Yes
	4	7 13 2017 18:12:04	3.13	757170	1	751	2	-	Yes
33	27	Unknown	891333					1 x	
		TC	**3.98**	**928701**		**1.13**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 18:15:27	4.05	942700	1	752	2	-	Yes
	2	7 13 2017 18:18:46	3.94	919492	1	751	2	-	Yes
	3	7 13 2017 18:21:24	3.95	922040	1	752	2	-	Yes
	4	7 13 2017 18:24:02	3.99	930574	1	751	2	-	Yes
34	28	Unknown	891335					1 x	
		TC	**2.06**	**538855**		**1.52**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 18:27:35	2.10	547319	1	752	2	-	Yes
	2	7 13 2017 18:30:47	2.08	544300	1	752	2	-	Yes
	3	7 13 2017 18:33:21	2.03	533411	1	752	2	-	Yes
	4	7 13 2017 18:35:54	2.01	530393	1	752	2	-	Yes
35	29	Unknown	891337					1 x	
		TC	**3.18**	**765916**		**0.99**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 18:39:16	3.19	768777	1	752	2	-	Yes
	2	7 13 2017 18:42:34	3.12	755024	1	751	2	-	Yes
	3	7 13 2017 18:45:08	3.18	767294	1	751	2	-	Yes
	4	7 13 2017 18:47:45	3.21	772569	1	751	2	-	Yes
36	S2	Unknown	CCV					1 x	
		TC	**51.42**	**10524614**		**0.77**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 13 2017 18:51:15	50.93	10426584	1	752	2	-	Yes
	2	7 13 2017 18:55:18	51.57	10554887	1	751	2	-	Yes

3	7 13 2017 18:58:44	51.29	10499408	1	752	2	-	Yes
4	7 13 2017 19:02:04	51.88	10617578	1	752	2	-	Yes

37	S8	Unknown	CCB				1 x		
		TC	**0.00**	**0**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 13 2017 19:06:16	0	0	0	752	2	-	Yes
2		7 13 2017 19:10:54	0	0	0	753	2	-	Yes
3		7 13 2017 19:14:55	0	0	0	752	2	-	Yes
4		7 13 2017 19:18:56	0	0	0	753	2	-	Yes

Analysis Name 071417 - 139823 TICS.adb

Template Name 071417 - 139823 TICS.tdb
Method Name N / A
Operator AGK

Date Friday, July 14, 2017
Time 14:31

Start Oven Temp. 743 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A
INSTRUMENT = TOCW
CCV TOC0186 LCS TOC0187 SPIKE TOC0086

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order 1 | Position S1 | Type Unknown | Identification CCV | Dilution Factor 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**50.89**	**10417708**	**0.86**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 14:46:51	51.00	10440418	1	753	2	-	Yes
2	7 14 2017 14:50:47	50.25	10289391	1	755	2	-	Yes
3	7 14 2017 14:54:03	51.00	10440632	1	755	2	-	Yes
4	7 14 2017 14:57:17	51.30	10500394	1	756	2	-	Yes

---

2 | S5 | Unknown | LCSW | 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**49.66**	**10169958**	**0.81**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 15:01:21	49.39	10114488	1	757	2	-	Yes
2	7 14 2017 15:05:20	49.33	10102099	1	758	2	-	Yes
3	7 14 2017 15:08:37	49.71	10180455	1	757	2	-	Yes
4	7 14 2017 15:11:55	50.22	10282793	1	758	2	-	Yes

---

3 | S7 | Unknown | MBW | 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 15:15:58	0	0	0	758	2	-	Yes
2	7 14 2017 15:20:36	0	0	0	759	2	-	Yes
3	7 14 2017 15:24:37	0	0	0	758	2	-	Yes
4	7 14 2017 15:28:40	0	0	0	758	2	-	Yes

---

4 | 2 | Unknown | 889901 | 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**72.85**	**14860478**	**0.51**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 15:33:34	73.10	14910898	1	758	2	-	Yes
2	7 14 2017 15:37:41	73.23	14936767	1	758	2	-	Yes
3	7 14 2017 15:41:09	72.64	14817721	1	758	2	-	Yes
4	7 14 2017 15:44:28	72.43	14776526	1	757	2	-	Yes

---

5 | 3 | Unknown | 889903 | 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**70.49**	**14383776**	**0.32**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 15:48:35	70.24	14332727	1	758	2	-	Yes
2	7 14 2017 15:52:33	70.63	14411839	1	758	2	-	Yes
3	7 14 2017 15:56:10	70.37	14359670	1	758	2	-	Yes
4	7 14 2017 15:59:31	70.72	14430871	1	758	2	-	Yes

---

6 4 Unknown 889905 1 x

TC **59.45** **12149702** **0.21** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 16:03:36	59.55	12169397	1	758	2	-	Yes
2	7 14 2017 16:07:32	59.55	12169450	1	757	2	-	Yes
3	7 14 2017 16:10:41	59.28	12115827	1	757	2	-	Yes
4	7 14 2017 16:13:56	59.42	12144134	1	756	2	-	Yes

---

7 5 Unknown 889907 1 x

TC **0.23** **169343** **8.63** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 16:18:03	0.13	149224	1	756	2	-	Yes
2	7 14 2017 16:21:06	0.22	167852	1	755	2	-	Yes
3	7 14 2017 16:23:37	0.28	179577	1	755	2	-	Yes
4	7 14 2017 16:26:12	0.28	180722	1	755	2	-	Yes

---

8 6 Unknown 890666 1 x

TC **68.42** **13964450** **0.46** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 16:29:34	68.80	14040650	1	755	2	-	Yes
2	7 14 2017 16:33:39	68.53	13987257	1	756	2	-	Yes
3	7 14 2017 16:36:53	68.05	13890345	1	756	2	-	Yes
4	7 14 2017 16:40:09	68.30	13939548	1	755	2	-	Yes

---

9 7 Unknown DUP890666 1 x

TC **68.08** **13895421** **0.23** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 16:44:18	68.04	13887067	1	755	2	-	Yes
2	7 14 2017 16:48:09	68.08	13895956	1	755	2	-	Yes
3	7 14 2017 16:51:19	67.90	13860399	1	754	2	-	Yes
4	7 14 2017 16:54:38	68.29	13938263	1	754	2	-	Yes

---

10 8 Unknown MSW890666 1 x

TC **112.25** **22831635** **0.84** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 16:58:54	111.27	22633818	1	754	2	-	Yes
2	7 14 2017 17:02:58	111.79	22739132	1	755	2	-	Yes
3	7 14 2017 17:06:43	113.48	23080896	1	754	2	-	Yes
4	7 14 2017 17:10:16	112.45	22872697	1	754	2	-	Yes

---

11 9 Unknown MSDW890666 1 x

TC **110.58** **22493951** **0.74** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 17:14:53	111.07	22591670	1	754	2	-	Yes
2	7 14 2017 17:19:07	111.42	22662685	1	754	2	-	Yes
3	7 14 2017 17:22:37	109.60	22295182	1	753	2	-	Yes
4	7 14 2017 17:26:14	110.25	22426270	1	753	2	-	Yes

---

12 10 Unknown 890669 1 x

TC **74.83** **15261761** **0.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2017 17:30:44	74.92	15279497	1	753	2	-	Yes
2	7 14 2017 17:34:45	74.60	15215772	1	753	2	-	Yes
3	7 14 2017 17:38:06	74.70	15235309	1	752	2	-	Yes
4	7 14 2017 17:41:22	75.10	15316467	1	751	2	-	Yes

---

13 S1 Unknown CCV 1 x

TC **52.92** **10828666** **0.44** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1		7 14 2017 17:45:36	53.04	10854155	1	751	2	-	Yes
2		7 14 2017 17:49:31	52.87	10818493	1	752	2	-	Yes
3		7 14 2017 17:53:00	53.15	10876101	1	752	2	-	Yes
4		7 14 2017 17:56:19	52.61	10765915	1	752	2	-	Yes

14	S7	Unknown	CCB				1 x		
		TC	**0.00**	**0**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 14 2017 18:00:34	0	0	0	752	2	-	Yes
2		7 14 2017 18:05:10	ZERO !	104873	1	752	2	-	-
3		7 14 2017 18:07:47	0	0	0	751	2	-	Yes
4		7 14 2017 18:11:49	0	0	0	752	2	-	Yes
5		7 14 2017 18:15:50	0	0	0	752	2	-	Yes

Analysis Name 072617 - 140322.adb

Template Name 072617 - 140322.tdb
Method Name N / A
Operator AGK

Date Thursday, July 27, 2017
Time 9:10

Start Oven Temp. 771 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A LCSWTOC0189 INSTRUMENT TOCW SPIKE TOC0086 CCV TOC0188

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %

SampleTime 240 s

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order 1 | Position 1 | Type Unknown | Identification BLANK | Dilution Factor 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 27 2017 9:20:48	0.08	139412	1	774	2	-	-
2	7 27 2017 9:23:57	0	0	0	775	2	-	Yes
3	7 27 2017 9:27:57	0	0	0	774	2	-	Yes
4	7 27 2017 9:31:59	0	0	0	773	2	-	Yes
5	7 27 2017 9:36:00	0	0	0	773	2	-	Yes

---

2 | S1 | Unknown | CCV | 1 x

TC	50.40	10318461	1.24	100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 27 2017 9:40:51	49.58	10153691	1	771	2	-	Yes
2	7 27 2017 9:44:41	50.73	10384993	1	770	2	-	Yes
3	7 27 2017 9:47:49	50.25	10288361	1	769	2	-	Yes
4	7 27 2017 9:50:59	51.03	10446799	1	768	2	-	Yes

---

3 | S4 | Unknown | LCSW | 1 x

TC	51.15	10469950	0.69	100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 27 2017 9:54:56	51.01	10442820	1	768	2	-	Yes
2	7 27 2017 9:58:59	51.66	10574632	1	767	2	-	Yes
3	7 27 2017 10:02:07	50.85	10410126	1	766	2	-	Yes
4	7 27 2017 10:05:18	51.06	10452224	1	765	2	-	Yes

---

4 | S7 | Unknown | MBW | 1 x

TC	ZERO !	64190	87.84	100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 27 2017 10:09:18	0.07	137510	1	765	2	-	Yes
2	7 27 2017 10:12:24	ZERO !	60173	1	763	2	-	Yes
3	7 27 2017 10:14:45	0	0	0	763	2	-	Yes
4	7 27 2017 10:18:46	ZERO !	59080	1	763	2	-	Yes
5	7 27 2017 10:21:02	0	0	0	761	2	-	-

5	2	Unknown	891495					1 x	
		TC	**0.09**	**140639**		**5.09**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 10:25:55	0.07	136646	1	761	2	-	Yes
	2	7 27 2017 10:29:05	0.07	137441	1	760	2	-	Yes
	3	7 27 2017 10:31:25	0.07	137107	1	760	2	-	Yes
	4	7 27 2017 10:33:44	0.14	151363	1	759	2	-	Yes
6	3	Unknown	891497					1 x	
		TC	**0.52**	**228750**		**6.52**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 10:37:09	0.49	222043	1	759	2	-	Yes
	2	7 27 2017 10:40:15	0.43	211062	1	758	2	-	Yes
	3	7 27 2017 10:42:39	0.57	238601	1	758	2	-	Yes
	4	7 27 2017 10:45:06	0.59	243296	1	757	2	-	Yes
7	4	Unknown	DUP891497					1 x	
		TC	**0.44**	**212786**		**4.76**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 10:48:23	0.51	226557	1	757	2	-	Yes
	2	7 27 2017 10:51:26	0.45	214037	1	756	2	-	Yes
	3	7 27 2017 10:53:54	0.40	203987	1	756	2	-	Yes
	4	7 27 2017 10:56:20	0.41	206566	1	756	2	-	Yes
8	5	Unknown	MSW891497					1 x	
		TC	**51.00**	**10439288**		**1.38**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 10:59:30	51.40	10521703	1	756	2	-	Yes
	2	7 27 2017 11:03:22	50.55	10348526	1	755	2	-	Yes
	3	7 27 2017 11:06:28	50.26	10290147	1	755	2	-	Yes
	4	7 27 2017 11:09:31	51.77	10596777	1	755	2	-	Yes
9	6	Unknown	MSDW891497					1 x	
		TC	**50.61**	**10361379**		**0.89**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 11:13:33	50.19	10276907	1	755	2	-	Yes
	2	7 27 2017 11:17:23	51.04	10447659	1	755	2	-	Yes
	3	7 27 2017 11:20:31	50.97	10433591	1	755	2	-	Yes
	4	7 27 2017 11:23:37	50.24	10287359	1	754	2	-	Yes
10	7	Unknown	891502					1 x	
		TC	**1.92**	**510551**		**5.68**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 11:27:31	2.10	547540	1	754	2	-	Yes
	2	7 27 2017 11:30:51	1.90	507059	1	754	2	-	Yes
	3	7 27 2017 11:33:30	1.75	476759	1	754	2	-	Yes
	4	7 27 2017 11:36:10	1.92	510848	1	753	2	-	Yes
11	8	Unknown	891506					1 x	
		TC	**ZERO !**	**149685**		**19.65**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 11:39:42	ZERO !	119903	1	754	2	-	Yes
	2	7 27 2017 11:42:43	0.33	190217	1	753	2	-	Yes
	3	7 27 2017 11:45:35	0.11	146415	1	753	2	-	Yes
	4	7 27 2017 11:47:59	0.09	142207	1	753	2	-	Yes
	5	7 27 2017 11:50:18	0	0	0	753	2	-	-
12	9	Unknown	891508					1 x	
		TC	**0.54**	**232382**		**3.29**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 11:55:10	0.49	221736	1	753	2	-	Yes
	2	7 27 2017 11:58:19	0.56	235725	1	752	2	-	Yes
	3	7 27 2017 12:00:43	0.57	239506	1	753	2	-	Yes
	4	7 27 2017 12:03:13	0.54	232563	1	753	2	-	Yes

13	10	Unknown	891510				1 x		
		TC	**0.70**	**263785**		**5.19**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 12:06:37	0.62	248616	1	753	2	-	Yes
	2	7 27 2017 12:09:45	0.66	255861	1	752	2	-	Yes
	3	7 27 2017 12:12:08	0.75	273986	1	752	2	-	Yes
	4	7 27 2017 12:14:33	0.76	276678	1	752	2	-	Yes

14	S1	Unknown	CCV				1 x		
		TC	**50.77**	**10394517**		**1.08**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 12:17:48	50.91	10421468	1	753	2	-	Yes
	2	7 27 2017 12:21:41	50.09	10256659	1	752	2	-	Yes
	3	7 27 2017 12:24:48	51.43	10527412	1	752	2	-	Yes
	4	7 27 2017 12:28:01	50.66	10372529	1	752	2	-	Yes

15	S7	Unknown	CCB				1 x		
		TC	**ZERO !**	**90809**		**15.58**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 27 2017 12:32:04	ZERO !	90250	1	752	2	-	Yes
	2	7 27 2017 12:35:16	ZERO !	109565	1	752	2	-	Yes
	3	7 27 2017 12:37:39	ZERO !	88162	1	752	2	-	Yes
	4	7 27 2017 12:39:58	0	0	0	752	2	-	-
	5	7 27 2017 12:44:00	ZERO !	75262	1	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
139762 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892996							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			ICV							
		Chloride			ICV							
		Sulfate			ICV							
	892997							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			ICB							
		Chloride			ICB							
		Sulfate			ICB							
	891056							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	892995							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB							
		Chloride			CCB							
		Sulfate			CCB							
128820	889902		07/10/2017	1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139762 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128820	889902		07/10/2017 1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
128820	889904		07/10/2017 1125		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
128820	889904		07/10/2017 1125		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	891062						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	891063						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139762 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128820	889906		07/10/2017	1340		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128820	889908		07/10/2017	1440		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	891064							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	891065							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
	891088							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139762 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	891478							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB							
		Chloride			CCB							
		Sulfate			CCB							
	891090							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	891468							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW							
		Chloride			MBW							
		Sulfate			MBW							
128867	890667		07/11/2017	0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	891092		07/11/2017	0910				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	890667			0			
		Chloride			DUP	890667			0			
		Sulfate			DUP	890667			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139762 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	891093		07/11/2017	0910					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	890667				0			
		Chloride			MSW	890667				0			
		Sulfate			MSW	890667				0			
	891094		07/11/2017	0910					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	891093				0			
		Chloride			MSDW	891093				0			
		Sulfate			MSDW	891093				0			
128867	890670		07/11/2017	1120			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	891095								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	891096								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 139762	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
07/11/2017	AKG/DGS	RLD	07/19/2017	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits		No		No	If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
139873 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892012							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV							
		Chloride			CCV							
		Sulfate			CCV							
	892010							WANIONS IC QSM 5.0				
		Chloride			LCSW							
		Nitrate Nitrogen			LCSW							
		Sulfate			LCSW							
	892011							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW							
		Chloride			MBW							
		Sulfate			MBW							
128923	891324		07/12/2017	0840		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128923	891324		07/12/2017	0840		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***								
		Nitrate Nitrogen		***RERUN***								
		Sulfate		***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139873 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	891971		07/12/2017	0840					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	891324				0			
		Chloride			DUP	891324				0			
	891972		07/12/2017	0840					ANIONS IC QSM 5.0				
		Sulfate			DUP	891324				0			
	891973		07/12/2017	0840					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	891324				0			
		Chloride			MSW	891324				0			
	891974		07/12/2017	0840					ANIONS IC QSM 5.0				
		Sulfate			MSW	891324				0			
	891975		07/12/2017	0840					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	891973				0			
		Chloride			MSDW	891973				0			
	892048		07/12/2017	0840					ANIONS IC QSM 5.0				
		Sulfate			MSDW	891974							
128923	891326		07/12/2017	0845			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139873 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128923	891326		07/12/2017	0845		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Sulfate	***RERUN***									
	891977							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	891978							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
128923	891328		07/12/2017	1030		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128923	891330		07/12/2017	1220		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139873 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128923	891332		07/12/2017 1400		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
128923	891334		07/12/2017 1405		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
128923	891336		07/12/2017 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	891979						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	891980						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139873 on 07/20/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128923	891338		07/12/2017 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	891981						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	891982						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 139873	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
07/13/2017	AKG/DGS	RLD	07/19/2017	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits		No		No	If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
139920 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892098							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	892099							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	892100							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
128935	891496		07/13/2017	0935		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128935	891496		07/13/2017	0935		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***								
		Nitrate Nitrogen		***RERUN***								
		Sulfate		***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139920 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128935	891498		07/13/2017	1115		BERING SEA ENVIRONMENTAL		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*								
		Nitrate Nitrogen			*								
		Sulfate			*								
	892101		07/13/2017	1115					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	891498				0			
		Chloride			DUP	891498				0			
		Sulfate			DUP	891498				0			
	892103		07/13/2017	1115					ANIONS IC QSM 5.0				
		Chloride			MSW	891498				0			
		Sulfate			MSW	891498				0			
	892104		07/13/2017	1115					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	891498				0			
	892174		07/13/2017	1115					ANIONS IC QSM 5.0				
		Chloride			MSDW	892103							
		Sulfate			MSDW	892103							
	892175		07/13/2017	1115					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	892104							
	892107								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139920 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892108							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
128935	891504		07/13/2017	1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128935	891507		07/13/2017	1310		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128935	891509		07/13/2017	1520		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
128935	891509		07/13/2017	1520		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***								
		Nitrate Nitrogen		***RERUN***								
		Sulfate		***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139920 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128935	891511		07/13/2017	1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	892109							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	892110							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
	891596		07/13/2017	0800						GW	**4**	
		Nitrate Nitrogen			*							
		Sulfate			*							
	891596		07/13/2017	0800						GW	**4**	
		Nitrate Nitrogen	***RERUN***		*							
		Sulfate	***RERUN***		*							
	892111		07/13/2017	0800				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	891596			0			
	892112		07/13/2017	0800				ANIONS IC QSM 5.0				
		Sulfate			DUP	891596			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139920 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892113		07/13/2017 0800				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW 891596				0			
	892114		07/13/2017 0800				ANIONS IC QSM 5.0				
		Sulfate		MSW 891596				0			
	892115		07/13/2017 0800				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 892113				0			
	892215		07/13/2017 0800				ANIONS IC QSM 5.0				
		Sulfate		MSDW 892114							
	891603		07/13/2017 0900						GW	**4**	
		Nitrate Nitrogen									
		Sulfate									
	891603		07/13/2017 0900						GW	**4**	
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	892117						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	892118						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
139920 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 139920	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
07/14/2017	AKG/DGS	RLD	07/19/2017	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments
05/11/17	9:35	05/12/17	12:52	AGK	137508 137509 137755	IC1079	051117-2	IC1080 IC1081	18.52	1358	0.95	ELUENT IC1075
05/12/47	13:12	05/15/17	12:45	AGK	137728 137851	IC1079	051217-2	IC1080 IC1081	18.53	1364	0.95	ELUENT IC1075
05/19/17	11:04	05/19/17	16:47	RLD	138109	IC1079	051917-2	IC1080 IC1081	18.965	1349	0.99	ELUENT IC1075
05/20/17	17:26	05/20/17		RLD	138130	IC1079	052017-2	IC1080 IC1081	19.056	1344	0.99	ELUENT IC1075
05/23/17	10:25	05/24/17	12:05	AGK	138172 138173	IC1079	052317-2	IC1080 IC1081	19.222	1298	0.98	ELUENT IC1075
06/02/17	14:42	06/06/17	10:33	AGK	1.3851E+11	IC1079	060217-2	IC 1096 IC1095	18.92	1453	0.98	ELUENT IC1088
06/06/17	11:33	06/07/17	01:22	AGK	138629	IC1079	060717 -136648 136649	IC 1096 IC1095	19.29	1395	0.99	ELUENT IC1088
06/07/17	10:05	06/07/17	21:56	AGK	136649 136648	IC1079	060717 -136648 136649	IC 1096 IC1095	19.29	1395	0.99	ELUENT IC1088
06/09/17	11:34	06/09/17	22:38	DGS	138747 138748	IC1079	060917 - 138747 138748	IC 1096 IC1095				
06/12/17	15:59	06/13/17	00:07	DGS	138759	IC1079	061217 - 138759	IC 1096 IC1095				
06/13/17	10:01			DGS	138758	IC1079	061317 - 138758	IC 1096 IC1095	19.61	1317	0.97	ELUENT IC1106
06/15/17	9:20	06/16/17	05:19	DGS	138957 138959 138983 138986	IC1079	061517 -	IC 1096 IC1095	19.02	1420	0.96	ELUENT IC1106
06/20/17	12:15	06/21/17	12:40	DGS	139098 139099 139129	IC1079	062017 -	IC1096 IC1095	19.28	1443	0.96	ELUENT IC1106
06/21/17	13:02	06/22/17	13:59	DGS	139156 139157 139166	IC1079	062117 - 2	IC1117 IC1118	19.01	1402	0.96	ELUENT IC1106
06/23/17	14:44	06/26/17	10:25	DGS	139219 139220	IC1079	062317 - 2	IC1117 IC1118	18.76	1439	0.96	ELUENT IC1121
06/27/17	14:18	06/29/17	11:49	DGS	139308 139358	IC1079	062717 - 2	IC1117 IC1118	18.62	1355	0.97	ELUENT IC1123
06/29/17				DGS	139465	IC1079	062917 - 2	IC1117 IC1118	18.84	1392	0.97	ELUENT IC1123
06/30/17	12:57	07/03/17	10:50	DGS	139433 139480 139434	IC1079	063017 - 2	IC1117 IC1118	18.76	1388	0.97	ELUENT IC1123
07/03/17	12:17	07/03/17	22:50	DGS	139543	IC1079	070317 - 139543	IC1117 IC1118	18.97	1374	0.97	ELUENT IC1123
07/06/17	11:13	07/07/17	17:44	DGS	139607 139608	IC1079	070617 - 2	IC1117 IC1118	19.07	1365	0.97	ELUENT 1133
07/07/17	15:14	07/07/17	17:44	DGS	139685	IC1079	070717 - 2	IC1117 IC1118	18.69	1318	0.97	ELUENT1133
07/10/17	15:43	07/10/17	19:28	DGS	139721	IC1079	071017 - 2	IC1117 IC1118	18.73	1352	0.97	ELUENT1133
07/11/17	10:28	07/13/17	01:07	DGS	139747 139762 139765 139767 139810	IC1079	071117 - 2	IC1117 IC1118	18.96	1402	0.97	ELUENT 1133
07/13/17	15:41	07/14/17	17:35	DGS	139919 139886 139885 139873 139793	IC1079	071317 - 2	IC1117 IC1118	18.83	1435	0.96	ELUENT 1133
07/14/17	18:29	07/15/17	23:12	DGS	139921 139920 139918 139898 139722	IC1079	071417 - 2	IC1117 IC1118	19.01	1477	0.96	ELUENT 1133
07/17/17	15:05	07/18/17		DGS	139990 139986 139899 139794 139792	IC1079	071717 - 2	IC1117 IC1118	19.05	1357	0.96	ELEUNT 1153
07/20/17	12:44	07/21/17		DGS	140123 140124	IC1079	072017 -	IC1117 IC1118	18.704	1351	0.96	ELUENT 1153
07/21/17	12:07	07/22/17	11:49	DGS	140618 140147 140146 140063 140167	IC1079	072117 -	IC1117 IC1118	18.905	1376	0.94	ELUENT 1153

Standard Log #:	IC1155	Standard/Reagent:	IC LL CAL 300.0
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	07/20/17	Expiration Date:	07/21/7
Prep:	Into 11 separate sample tubes pipette 0, 0.100, 0.250, 0.500, 1.00, 2.00, 3.00, 4.00, 5.00, 7.50, and 10.0 ml of working standard (IC1156). Bring each tube to 10mL of total volume using Milli-Q Di water.		

Standard Log #:	IC1156	Standard/Reagent:	IC LL WORKING STANDAR
Analyst:	AGK	Final Concentration:	1.0 mg/L NO2/NO3/PO4
Prep Date:	07/20/17	Expiration Date:	07/21/7
Prep:	Into a 100ml volumetric flask pipette 0.1 mg/L of Nitrite (IC0822), Phosphate (W40753), and Nitrate (W41690) and bring to volume with Milli-Q water.		

Standard Log #:	IC1157	Standard/Reagent:	LL 300.0 LCS/ICV
Analyst:	AGK	Final Concentration:	0.100
Prep Date:	07/20/17	Expiration Date:	07/21/7
Prep:	Into a 100 mL volumetric flask, pipette 0.01 mL of Nitrate (W41690), Nitrite (IC1149), and Phosphate (IC0987) and bring to volume with Milli-Q Water.		

Standard Log #:	IC1158	Standard/Reagent:	LL 300.0 LCS/ICV
Analyst:	AGK	Final Concentration:	0.250

Prep Date:	07/20/17	Expiration Date:	07/21/7
Prep:	Into a 100 mL volumetric flask, pipette 0.025 mL of Nitrate (W41690), Nitrite (IC1149), and Phosphate (IC0987) and bring to volume with Milli-Q Water.		

Standard Log #:	IC1159	Standard/Reagent:	LL 300.0 LCS/ICV
Analyst:	AGK	Final Concentration:	0.500
Prep Date:	07/20/17	Expiration Date:	07/21/7
Prep:	Into a 100 mL volumetric flask, pipette 0.05 mL of Nitrate (W41690), Nitrite (IC1149), and Phosphate (IC0987) and bring to volume with Milli-Q Water.		

Standard Log #:	IC1153	Standard:	IC Eluent Dionex
Analyst:	DGS	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/18/17	Expiration Date (1 Year):	07/18/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1154	Standard:	IC Suppressor Regen Metrohm
Analyst:	DGS	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	07/18/17	Expiration Date (6 months):	01/18/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1149	Standard/Reagent:	NO2 STOCK STANDARD IC
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	07/17/18	Expiration Date:	07/17/18
Prep:	Spex Certiprep Nitrite ICV/LCS stock standard Lot # 412NO2N92Y		

Standard Log #:	IC1150	Standard/Reagent:	LL 300.0 CCV
Analyst:	AGK	Final Concentration:	0.1 mg/L PO4/NO2/NO3
Prep Date:	07/17/17	Expiration Date:	07/18/17
Prep:	Into a 100 mL volumetric flask, pipette 0.01 mL of Nitrate (W41690), Nitrite (IC0822), and Phosphate (W40753) and bring to volume with Milli-Q Water.		

Standard Log #:	IC1151	Standard/Reagent:	LL 3.00 LCSW/ICV
Analyst:	AGK	Final Concentration:	0.1 mg/L PO4/NO2/NO3
Prep Date:	07/17/17	Expiration Date:	07/18/17
Prep:	Into a 100 mL volumetric flask, pipette 0.01 mL of Nitrate (W41690), Nitrite (IC1149), and Phosphate (IC0987) and bring to volume with Milli-Q Water.		

Standard Log #:	IC1152	Standard/Reagent:	METROHM ELUENT
Analyst:	AGK	Final Concentration:	

Prep Date:	07/17/17	Expiration Date:	07/17/18
Prep:	Into a 2L volumetric flask pipette 10ml of (IC1062) and bring to volume with Milli-Q water.		

Standard Log #:	IC1146	Standard/Reagent:	LL WSS PO4/NO2/NO3 ME
Analyst:	AGK	Final Concentration:	50.0 mg/L
Prep Date:	07/14/17	Expiration Date:	07/15/17
Prep:	Into a 100 ml volumetric flask pipette 5 ml Phosphate(1000mg/L) (IC) 5 mL Nitrate (1000mg/L) (IC) and 5 mL of Nitrite(1000mg/L) (IC) and fill to volume with Milli Q H2O.		

Standard Log #:	IC1147	Standard/Reagent:	LL WS PO4/NO2/NO3 METI
Analyst:	AGK	Final Concentration:	0.400 mg/L
Prep Date:	07/14/17	Expiration Date:	07/15/17
Prep:	Into a 100 mL volumetric Flask pipette 0.800 mL of Working Stock Standard (IC1146) and bring to volume with Milli-Q water.		

Standard Log #:	IC1148	Standard/Reagent:	LL ICAL NO2/PO4/NO3 Met
Analyst:	AGK	Final Concentration:	n/a
Prep Date:	07/14/17	Expiration Date:	07/15/17
Prep:	Into 9 separate sample tubes pipette 0, 0.125, 0.250, 0.500, 0.750, 1.250, 2.50, 5.0, and 10.0 ml of working standard (IC1147). Bring each tube to 10mL of total volume using Milli-Q Di water.		

Standard Log #:	IC1141	Standard:	IC CCV Mixed Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/11/17	Expiration Date (1 Month):	08/11/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W1073, Bromide IC0898, and Nitrate W41690, 15 ml 1000 mg/L Chloride IC1009, and 25 ml 1000 mg/L Sulfate IC1130 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1142	Standard:	IC CCV Nitrite Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/11/17	Expiration Date (1 Month):	08/11/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1143	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/11/17	Expiration Date (1 Month):	08/11/17
	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard		

Prep:	(175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC1144	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	DGS	Concentrations:	7.0 mg/L
Prep Date:	07/11/17	Expiration Date (1 Month):	08/11/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1145	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/11/17	Expiration Date (1 Year):	07/11/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1136	Standard:	IC Low Level o-Phos CC
Analyst:	DGS	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/10/17	Expiration Date (1 month):	08/10/17
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) W10753 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC1137	Standard:	IC Low Level LCS-ICV
Analyst:	DGS	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/10/17	Expiration Date (1 Month):	08/10/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) W10753 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1138	Standard:	IC Low Level Spike
Analyst:	DGS	Concentrations:	30 mg/L
Prep Date:	07/10/17	Expiration Date (1 Month):	08/10/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) W10753 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1139	Standard:	IC LL o-Phos Working Std.
Analyst:	DGS	Concentrations:	50mg/L Phosphate
Prep Date:	07/10/17	Expiration Date (48 hours):	07/12/17
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) W10753 and fill to volume with Milli Q H_2O.		

Standard Log #:	NOT USED	Standard:	IC LL Phosphate Cal
Analyst:	NOT USED	Concentrations:	NA
Prep Date:		Expiration Date (48 hours):	
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1140	Standard/Reagent:	LL ICAL METROHM
Analyst:	DGS	Final Concentration:	
Prep Date:	07/10/17	Expiration Date:	
Prep:	Into a 100 ml volumetric flask pipette 0.8ml LL Ophos ICal Working (50mg/L) (IC1139) and fill to volume with Milli-Q H2O.		

Standard Log #:	IC1134	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/07/17	Expiration Date (1 Year):	07/07/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1135	Standard:	IC Suppressor Regen Metrohm
Analyst:	DGS	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	07/07/17	Expiration Date (6 months):	01/07/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1131	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/03/17	Expiration Date (1 Year):	07/03/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1132	Standard:	IC Suppressor Regen Metrohm
Analyst:	DGS	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	07/03/17	Expiration Date (6 months):	01/03/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1133	Standard:	IC Eluent Dionex
Analyst:	DGS	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/03/17	Expiration Date (1 Year):	07/03/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1127	Standard:	IC Calibration Metrohm
Analyst:	DGS	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/29/17	Expiration Date (48 hours):	06/31/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) W41690, Phosphate (1000mg/L) W10753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

Standard Log #:	IC1128	Standard:	IC CCV Mixed Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/29/17	Expiration Date (1 Month):	07/29/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W10753, Bromide IC0898, and Nitrate W41690, 15 ml 1000 mg/L Chloride IC1009, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1129	Standard:	IC CCV Nitrite Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - NO_2
		Expiration Date (1	

Prep Date:	06/29/17	Month):	07/29/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1130	Standard/Reagent:	SO4 STOCK
Analyst:	DGS	Final Concentration:	1000 mg/l
Prep Date:	06/29/17	Expiration Date:	06/29/18
Prep:	ACCUSPEC SULFATE STOCK STANDARD CAS #7778-80-5 LOT# S170405001		

Standard Log #:	IC1126	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/28/17	Expiration Date (1 Year):	06/28/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1124	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/27/17	Expiration Date (1 Year):	06/27/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1125	Standard:	IC Suppressor Regen Metrohm
Analyst:	DGS	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	06/27/17	Expiration Date (6 months):	012/27/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1123	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/26/17	Expiration Date (1 Year):	06/26/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1121	Standard:	IC Eluent Dionex
Analyst:	DGS	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/23/17	Expiration Date (1 Year):	06/23/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1122	Standard:	IC Suppressor Regen Metrohn
Analyst:	DGS	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	06/23/17	Expiration Date (6 months):	12/23/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1120	Standard:	IC Calibration Metrohm
Analyst:	DGS	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/22/17	Expiration Date (48 hours):	06/24/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) W41690, Phosphate (1000mg/L) W10753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

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Standard Log #:	IC1114	Standard:	IC CCV Mixed Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/20/17	Expiration Date (1 Month):	07/20/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W10753, Bromide IC0898, and Nitrate W41690, 15 ml 1000 mg/L Chloride IC1009, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1115	Standard:	IC CCV Nitrite Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/20/17	Expiration Date (1 Month):	07/20/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1116	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/20/17	Expiration Date (1 Month):	07/20/17

Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.

Standard Log #:		Standard:	
Analyst:		Concentrations:	7.0 mg/L
Prep Date:		Expiration Date (1 Month):	
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1117	Standard:	IC Spike Mixed
Analyst:	DGS	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	06/20/17	Expiration Date (1 Month):	07/20/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate W41690, and Phosphate W10753 and 25.6 mL 1000 mg/L Chloride IC1009 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1118	Standard:	IC Spike Nitrite & Fluoride
Analyst:	DGS	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	06/20/17	Expiration Date (1 Month):	07/20/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1119	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/20/17	Expiration Date (1	06/20/18

		Year):	
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1120	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	06/20/17	Expiration Date (6 months):	12/20/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1110	Standard:	IC CCV Mixed Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/19/17	Expiration Date (1 Month):	07/19/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W0753, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC1009, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1111	Standard:	IC CCV Nitrite Std.
Analyst:	DGS	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/19/17	Expiration Date (1 Month):	07/19/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1112	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/19/17	Expiration Date (48 hours):	06/21/17

Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) W40753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.

Standard Log #:	IC1113	Standard:	IC Eluent Metrohm
Analyst:	DGS	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/19/17	Expiration Date (1 Year):	06/19/17
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1103	Standard/Reagent:	Metrohm Asupp 5 150/4
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	06/15/17	Expiration Date:	N/A
Prep:	Metrohm ASUPP 5 150/4.0 Cat No 6.1006.520 Column number - 5161215078		

Standard Log #:	IC1104	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/15/17	Expiration Date (1 Year):	06/15/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1105	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	06/15/17	Expiration Date (6 months):	12/15/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1106	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/15/17	Expiration Date (1 Year):	06/15/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1107	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/15/17	Expiration Date (48 hours):	06/17/17
	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride		

Prep:	(1000mg/L) IC0821 , Nitrite (1000mg/L) IC0822 , Bromide (1000mg/L) IC0898 , Nitrate (1000mg/L) IC0839 , Phosphate (1000mg/L) W40753 , and 10 mL each of Sulfate and Chloride (1000mg/L) IC0991 , and Chloride (1000mg/L) IC1009 .

Standard Log #:	IC1108	Standard:	IC LOD-LOQ
Analyst:	AGK	Concentrations:	
Prep Date:	06/15/17	Expiration Date (48 hours):	06/17/17

Prep:

LOD Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC1009	Phosphate	0.025	mL	W40753
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0991
Bromide	0.020	mL	IC0898				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC1009	Phosphate	0.050	mL	W40753
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0991
Bromide	0.040	mL	IC0898				

Standard Log #:	IC1109	Standard/Reagent:	ANIONS LOD/LOQ SOIL
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	06/15/17	Expiration Date:	06/17/17
Prep:	LOD: Into 5g of sand and 50 ML of Milli-Q water added: 7.5 uL of Bromide (IC0898), 100 uL of Chloride (IC1009), 5 uL of Fluoride (IC0821), 10 uL of Nitrate (IC0839), 10uL of Nitrite (IC0822), 15uL of Phosphate (W40753) and		

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Standard Log #:	IC1102	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/09/17	Expiration Date (48 hours):	06/11/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC8021, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) W40753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

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Standard Log #:	IC1099	Standard:	IC LL o-Phos Working Std.
Analyst:	AGK	Concentrations:	50mg/L Phosphate
Prep Date:	06/06/17	Expiration Date (48 hours):	06/08/17
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) W40753 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC1100	Standard:	IC LL Phosphate Cal
Analyst:	AGK	Concentrations:	NA
Prep Date:	06/06/17	Expiration Date (48 hours):	06/08/17
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC1099 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1101	Standard/Reagent:	MET LL ICAL
Analyst:	AGK	Final Concentration:	NA
Prep Date:	06/06/17	Expiration Date:	06/08/17
Prep:	Into a 100 ml volumetric flasks pipette 0.4ml LL Ophos ICal Working (50mg/L) (IC1099) and fill to volume with Milli-Q H2O.		

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Standard Log #:	IC1095	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	06/02/17	Expiration Date (1 Month):	07/02/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and 25.6 mL 1000 mg/L Chloride IC1009 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1096	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	06/02/17	Expiration Date (1 Month):	07/02/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1097	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/02/17	Expiration Date (1 Year):	006/02/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate		

	IC1062 and brought to volume with Milli-Q Di water.

Standard Log #:	IC1098	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	06/02/17	Expiration Date (6 months):	12/02/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1091	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/01/17	Expiration Date (1 Month):	07/01/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W40753, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC1009, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1092	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/01/17	Expiration Date (1 Month):	07/01/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1093	Standard:	IC LCSW/ICV MIXED
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/01/17	Expiration Date (1 Month):	07/01/17

Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC1094	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	06/01/17	Expiration Date (1 Month):	07/01/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC1088	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/26/17	Expiration Date (1 Year):	05/26/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1089	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/26/17	Expiration Date (6 months):	11/26/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1090	Standard:	AGK
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/26/17	Expiration Date (1 Year):	05/26/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

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Volatiles IC Prep Logbook
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Standard Log #:	IC1083	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/22/17	Expiration Date (1 Year):	05/22/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1084	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/22/17	Expiration Date (6 months):	11/22/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1085	Standard:	IC Low Level o-Phos CC\
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/22/17	Expiration Date (1 month):	06/22/17
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) W40753 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC1086	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/22/17	Expiration Date (1 Month):	06/22/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1087	Standard:	IC Low Level Spike
Analyst:	AGK	Concentrations:	30 mg/L
Prep Date:	05/22/17	Expiration Date (1 Month):	06/22/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) W40753 and fill to volume with Milli-Q H_2O.		

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Standard Log #:	IC1082	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/16/17	Expiration Date (1 Year):	05/16/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC1080	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05/11/17	Expiration Date (1 Month):	06/11/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and 25.6 mL 1000 mg/L Chloride IC1009 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1081	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05/11/17	Expiration Date (1 Month):	06/11/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC1075	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/10/17	Expiration Date (1 Year):	05/10/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1076	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/10/17	Expiration Date (1 Year):	05/10/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1077	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/10/17	Expiration Date (6 months):	11/10/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1078	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	05/10/17	Expiration Date (48 Hours):	05/12/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1079	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	05/10/17	Expiration Date (48 hours):	05/12/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC1078	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC1009	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0991	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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Standard Log #:	IC1070	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/01/17	Expiration Date (1 Month):	06/01/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W40753, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC1009, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1071	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/01/17	Expiration Date (1 Month):	06/01/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1072	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/01/17	Expiration Date (1 Month):	06/01/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1073	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	05/01/17	Expiration Date (1 Month):	06/01/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1074	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/01/17	Expiration Date (48 hours):	05/03/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) W40753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

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Standard Log #:	IC1066	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/27/17	Expiration Date (1 Year):	04/27/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1067	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/27/17	Expiration Date (6 months):	10/27/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1068	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/27/17	Expiration Date (1 Year):	04/27/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1069	Standard:	IC Low Level Spike
Analyst:	AGK	Concentrations:	30 mg/L
Prep Date:	04/27/17	Expiration Date (1 Month):	05/27/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) W40753 and fill to volume with Milli-Q H_2O.		

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Standard Log #:	IC1059	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/17/17	Expiration Date (48 hours):	04/19/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) W40753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

Standard Log #:	IC1060	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	AGK	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	04/17/17	Expiration Date (48 hours):	04/19/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0991 (2) IC1009		

Standard Log #:	IC1061	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/17/19	Expiration Date (6 months):	10/17/19
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and		

	brought to volume with Milli-Q Di water.

Standard Log #:	IC1062	Standard:	IC Eluent Conc. Metrohm
Analyst:	AGK	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	04/17/17	Expiration Date (1 Year):	04/17/18
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W41266 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

Standard Log #:	IC1063	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/17/17	Expiration Date (1 Year):	04/17/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC1062 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1064	Standard/Reagent:	MID LEVEL CCV
Analyst:	AGK	Final Concentration:	3.0 mg/L Cl - 5.0mg/L SO4
Prep Date:	04/17/17	Expiration Date:	05/17/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (IC1009) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (IC0991) and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC1065	Standard/Reagent:	MID LEVEL LCS
Analyst:	AGK	Final Concentration:	3.0 mg/L Cl - 5.0mg/L SO4
Prep Date:	04/17/17	Expiration Date:	05/17/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (IC1009) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (IC0991) and brought to volume with Milli-Q DI H20.		

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Standard Log #:	IC1054	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/13/17	Expiration Date (48 hours):	04/15/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) W40753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

Standard Log #:	IC1055	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/13/17	Expiration Date (6 months):	10/13/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1056	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/13/17	Expiration Date (1 Year):	04/13/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1057	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/13/17	Expiration Date (1 Year):	04/13/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1058	Standard/Reagent:	Asupp 5 analytical column
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	04/13/17	Expiration Date:	N/A
Prep:	Metrosep A Supp 5-150/4.0 Analytical Column SN=5160915132 Batch=160912		

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Standard Log #:	IC1053	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/11/17	Expiration Date (48 hours):	04/13/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) W40753, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC1009.		

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Standard Log #:	IC1049	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/10/17	Expiration Date (1 Year):	04/10/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1050	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/10/17	Expiration Date (6 months):	10/10/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1051	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	04/10/17	Expiration Date (1 Month):	05/10/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and 25.6 mL 1000 mg/L Chloride IC1009 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard ID#:	M	Vendor:	
Analyst:		Chemical:	
Date Received:		Lot #:	
Expiration Date (if any):		Catalog #:	

Standard Log #:	IC1052	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	04/10/17	Expiration Date (1 Month):	05/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC1042	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/04/17	Expiration Date (1 Year):	04/04/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1043	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/04/17	Expiration Date (6 months):	10/04/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40924 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1044	Standard:	IC Low Level o-Phos CC\
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	04/04/17	Expiration Date (1 month):	05/04/17
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC and fill to volume with Milli Q H_2O.		

Standard Log #:	IC1045	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
		Expiration Date (1	

Prep Date:	04/04/17	Month):	05/14/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1046	Standard:	IC LL LOD LOQ
Analyst:	AGK	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	04/04/17	Expiration Date (48 hours):	04/06/17
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. W40753, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC1046, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC1047	Standard:	IC LOD-LOQ2
Analyst:	AGK	Concentrations:	
Prep Date:	04/04/17	Expiration Date (48 hours):	04/06/17

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	W40753
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0991
Bromide	0.020	mL	IC0898				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	W40753
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0991
Bromide	0.050	mL	IC0898				

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Standard Log #:	IC1039	Standard/Reagent:	MET LL PO4 WORKING
Analyst:	AGK	Final Concentration:	10 mg/L
Prep Date:	04/03/17	Expiration Date:	04/05/17
Prep:	Into a 100 mL volumetric add 1 mL (W40753) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC1040	Standard/Reagent:	MET LL ICAL
Analyst:	AGK	Final Concentration:	0.4 mg/L
Prep Date:	04/03/17	Expiration Date:	04/05/17
Prep:	Into a 100 mL volumetric flask, pipetted 4ml of IC1039 and brought to volume with Milli-Q water.		

Standard Log #:	IC1041	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/03/17	Expiration Date (1 Year):	04/03/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17
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Standard Log #:	IC1035	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate W40753, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1036	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1037	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17

Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC1038	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	03/28/17	Expiration Date (1 Month):	04/28/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17
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Standard Log #:	IC1030	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/23/17	Expiration Date (1 Year):	03/23/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1031	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	03/23/17	Expiration Date (6 months):	03/23/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1032	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/23/17	Expiration Date (1 Year):	03/23/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17
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Author: AKURTH on: 23.03.2017 15:07:42
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Page Title: N/A

Standard Log #:	IC1026	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/21/17	Expiration Date (1 Year):	03/21/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1027	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	03/21/17	Expiration Date (6 months):	09/21/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1028	Standard:	IC LL MDL Study
Analyst:	AGK	Concentrations:	0.025mg/L Phosphate
Prep Date:	03/21/17	Expiration Date (48 hours):	03/2317
Prep:	Into 8 separate 100 mL volumetric flasks, pipetted 10mL of 0.25 mg/L MDL LL Working Std (1) and brought to volume with Milli-Q DI water. (1) IC1029		

Standard Log #:	IC1029	Standard:	IC MDL LL WS
Analyst:	AGK	Concentrations:	0.25 mg/L Phosphate
Prep Date:	03/21/17	Expiration Date (48 hours):	03/23/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.025 mL of 1,000 mg/L Phosphate CCV Stock Std. (1) and brought to volume with Milli-Q Di water. (1) W40753		

Standard Log #:	IC	Standard:	IC LL Phosphate Cal
Analyst:		Concentrations:	NA
Prep Date:		Expiration Date (48 hours):	
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC and fill to volume with Milli-Q H_2O.		

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LPVO3-04-IC
Volatiles IC Prep Logbook
Balances Used in Reagent Prep:
WCB01 and WCB03
Logbook Created: 02/08/17
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Author: AKURTH on: 20.03.2017 10:58:39
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Project: Unassigned
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Standard Log #:	IC1024	Standard/Reagent:	LL po4 WORKING STANDA
Analyst:	AGK	Final Concentration:	10 mg/L
Prep Date:	03/16/17	Expiration Date:	03/18/17
Prep:	Into a 100 mL volumetric add 1 mL (W40753) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC1025	Standard/Reagent:	LL PO4 ICAL
Analyst:	AGK	Final Concentration:	0.4 mg/L
Prep Date:	03/16/17	Expiration Date:	03/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 4ml of IC1024 and brought to volume with Milli-Q water.		

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Standard Log #:	IC1007	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1008	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1009	Standard/Reagent:	Chloride Stock Std.
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	03/07/17	Expiration Date:	03/07/18
Prep:	Accuspec Chloride Stock Standard Lot # S161229001 Cas # 7647-14-5		

Standard Log #:	IC1010	Standard:	IC CCV Mid Level
Analyst:	AGK	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0843 (2) IC0991		

Standard Log #:	IC1011	Standard/Reagent:	IC LCS MID LEVEL
Analyst:	AGK	Final Concentration:	3.0 mg/L CL - 5.0 mg/L SO4
Prep Date:	03/07/17	Expiration Date:	04/07/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (IC0843) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (IC0991) and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC1012	Standard:	IC Low Level o-Phos CC
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (1 month):	04/07/17

Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) W40753 and fill to volume with Milli Q H_2O.

Standard Log #:	IC1013	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1014	Standard:	IC Low Level Spike
Analyst:	AGK	Concentrations:	30 mg/L
Prep Date:	03/07/17	Expiration Date (1 Month):	04/07/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) W40753 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC1015	Standard:	IC LOD-LOQ2
Analyst:	AGK	Concentrations:	
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
	Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.		

Prep:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	W40753
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0991
Bromide	0.020	mL	IC0898				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	W40753
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0991
Bromide	0.050	mL	IC0898				

Standard Log #:	IC1016	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	03/07/17	Expiration Date (48 Hours):	03/09/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate W40753 and brought to volume with Milli-Q DI H_20.		

Standard			

Log #:	IC1017	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC1016	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0991	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC1018	Standard/Reagent:	LL PO4 CAL METROHM
Analyst:	AGK	Final Concentration:	0.4 mg/L
Prep Date:	03/07/17	Expiration Date:	03/09/17
Prep:	Into a 100mL volumetric flask, pipetted 0.04 ml of phosphate standard (W40753) and brought to volume with Milli-Q water.		

Standard Log #:	IC1019	Standard:	IC LL LOD LOQ
Analyst:	AGK	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD

Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. IC1013 , then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC1019 , then brought to volume with Milli-Q DI water.		

Standard Log #:	IC1020	Standard:	IC MDL LL WS
Analyst:	AGK	Concentrations:	0.25 mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.025 mL of 1,000 mg/L Phosphate CCV Stock Std. (1) and brought to volume with Milli-Q Di water. (1) W40753		

Standard Log #:	IC1021	Standard:	IC LL MDL Study
Analyst:	AGK	Concentrations:	0.025mg/L Phosphate
Prep Date:	03/07/17	Expiration Date (48 hours):	03/09/17
Prep:	Into 8 separate 100 mL volumetric flasks, pipetted 10mL of 0.25 mg/L MDL LL Working Std (1) and brought to volume with Milli-Q DI water.		

	(1) IC1020

Standard Log #:	IC1022	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	03/07/17	Expiration Date (6 months):	09/07/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1023	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/07/17	Expiration Date (1 Year):	03/07/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1001	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0991 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1002	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1003	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1004	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/27/17	Expiration Date (1 Month):	03/27/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC1005	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/27/17	Expiration Date (1 Year):	02/27/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC1006	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	02/27/17	Expiration Date (6 months):	06/27/17

Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.

Standard Log #:	IC1000	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	02/21/17	Expiration Date (48 hours):	02/23/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0997	Standard/Reagent:	NO2/NO3 working standard
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	02/14/17	Expiration Date:	02/16/17
Prep:	Into a 100mL volumetric flask, pipetted 5mL or Nitrite standard (IC0822) and 5mL of Nitrate standard (IC0839) and brought to volume with Milli-Q water.		

Standard Log #:	IC0998	Standard/Reagent:	NO2/NO3 CALIBRATION Cl
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	02/14/17	Expiration Date:	02/16/17
Prep:	Into 6 100mL volumetric flasks, pipetted 0.0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 ml of IC0997 and brought to volume with Milli-Q water.		

Standard Log #:	IC0999	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	02/14/17	Expiration Date (48 hours):	02/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0996	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	02/13/17	Expiration Date (48 hours):	02/15/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0991, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0994	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	02/10/17	Expiration Date (48 Hours):	02/12/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0995	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	02/10/17	Expiration Date (48 hours):	02/12/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0994	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0993	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0991	Standard/Reagent:	SULFATE STANDARD
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	02/09/17	Expiration Date:	02/09/18
Prep:	Sulfate Standard SCP Science Lot # S161205028 Cas # 7778-80-5		

Standard Log #:	IC0992	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	02/09/17	Expiration Date (6 months):	08/09/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0993	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/09/17	Expiration Date (1 Year):	02/09/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0988	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	02/06/17	Expiration Date (1 Month):	03/06/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0989	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	02/06/17	Expiration Date (1 Month):	03/06/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0990	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/06/17	Expiration Date (1 Year):	02/06/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0849 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0984	Standard:	IC Low Level o-Phos CC\
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/27/17	Expiration Date (1 month):	02/27/17
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0907 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0985	Standard:	IC Low Level LCS-ICV
Analyst:	AGK	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/27/17	Expiration Date (1 Month):	02/27/17
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0986	Standard:	IC Low Level Spike
Analyst:	AGK	Concentrations:	30 mg/L
Prep Date:	01/27/17	Expiration Date (1 Month):	02/27/17
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0987 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0987	Standard/Reagent:	PHOSPHATE ICV/LCS STD
Analyst:	AGK	Final Concentration:	1000 mg/L
Prep Date:	12/20/16	Expiration Date:	12/20/17
Prep:	Phosphate standard 1000 mg/L Spex Certiprep Lot # 3-161PO4P9-2Y Cat # AS-PO4P9-2Y ICV/LCS standard.		

Standard Log #:	IC0978	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/26/17	Expiration Date (1 Year):	01/26/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0979	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/26/17	Expiration Date (6 months):	07/26/18
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0980	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/26/17	Expiration Date (48 Hours):	01/28/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0981	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/26/17	Expiration Date (48 hours):	01/28/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0980	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0982	Standard/Reagent:	NO2/NO3 MIXED STD
Analyst:	AGK	Final Concentration:	50 mg/L NO2/NO3
Prep Date:	01/26/17	Expiration Date:	01/28/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0983	Standard/Reagent:	NO2/NO3 CALIBRATION ST

Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/26/17	Expiration Date:	01/28/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0982) and brought to volume with Milli-Q H20.		

Standard Log #:	IC0974	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0975	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0976	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17

Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0977	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	01/24/17	Expiration Date (1 Month):	02/24/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0970	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/23/17	Expiration Date (1 Year):	01/23/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0971	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/23/17	Expiration Date (6 months):	07/23/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0972	Standard:	IC LOD-LOQ2
Analyst:	AGK	Concentrations:	
Prep Date:	01/23/17	Expiration Date (48 hours):	01/25/17

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839

Prep:

Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0907
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0898				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0907
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0898				

Standard Log #:	IC0973	Standard:	IC MDL Metrohm
Analyst:	AGK	Concentrations:	0.2mg/L - NO_2, NO_3, PO_4, Br, F 5.0mg/L - SO_4, Cl
Prep Date:	01/23/17	Expiration Date (48 hours):	01/25/17
Prep:	Into 8 seperate 100 mL volumetric flasks, pipetted 0.02 mL of 1000mg/L Nitrate IC0839, Nitrite IC0822, Phosphate IC0907, Bromide IC0898, Fluoride IC0821, and 0.5 mL of 1000mg/L Sulfate IC0844, and Chloride IC0843 and bring to volume with Milli-Q DI water.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 93
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Author: akurth on: 20.01.2017 13:31:39
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0962	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/16/17	Expiration Date (1 Year):	01/16/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0963	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0964	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	AGK	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0844 (2) IC0843		

Standard Log #:	IC0965	Standard/Reagent:	Mixed NO2/NO3 STD Dione
Analyst:	AGK	Final Concentration:	50.0 mg/L
Prep Date:	01/16/17	Expiration Date:	01/18/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of Nitrite 1000 mg/L(IC0822) and 5mL of Nitrate 1000mg/L. Brought to volume with Milli-Q water.		

Standard Log #:	IC0966	Standard/Reagent:	NO2/NO3 Ical Dionex
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/16/17	Expiration Date:	01/18/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0953) and brought to volume with Milli-Q H20.		

Standard Log #:	IC0967	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/16/17	Expiration Date (48 hours):	01/18/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0968	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0968	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/16/17	Expiration Date (48 Hours):	01/18/17

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0969	Standard:	IC CCV Mid Level
Analyst:	AGK	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	01/16/17	Expiration Date (1 Month):	02/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0843 (2) IC0844		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 92
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Author: AKURTH on: 16.01.2017 10:01:35
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0958	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/13/17	Expiration Date (48 hours):	01/15/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0959	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0959	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/13/17	Expiration Date (48 Hours):	01/15/17

Prep:

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0960	Standard/Reagent:	IC Mixed Cal NO2/NO3

Analyst:	AGK	Final Concentration:	50 mg/L
Prep Date:	01/13/17	Expiration Date:	01/15/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0961	Standard/Reagent:	NO2/NO3 Calibration Dilutes
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/13/17	Expiration Date:	01/15/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0960) and brought to volume with Milli-Q H20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 91
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Author: AKURTH on: 13.01.2017 10:43:06
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0955	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/17	Expiration Date (1 Year):	01/06/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0956	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/17	Expiration Date (1 Year):	01/06/18
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0957	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	01/06/17	Expiration Date (6 months):	07/06/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
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Author: AKURTH on: 06.01.2017 09:06:42
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0950	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/05/17	Expiration Date (48 Hours):	01/07/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite N/A, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0951	Standard:	IC_Calibration_Dionex_B
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/05/17	Expiration Date (48 hours):	01/07/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0950	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0952	Standard/Reagent:	Nitrate CCV Standard

Analyst:	AGK	Final Concentration:	7.0 mg/L
Prep Date:	01/05/17	Expiration Date:	02/05/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrate CCV Stock Std. IC0839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0953	Standard/Reagent:	IC Mixed NO2/NO3 Cal Std.
Analyst:	AGK	Final Concentration:	50 mg/L- NO2, NO3
Prep Date:	01/05/17	Expiration Date:	01/07/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC09822 and Nitrate IC09839 and brought to volume with Milli-Q DI H20.		

Standard Log #:	IC0954	Standard/Reagent:	ICAL Dionex NO2/NO3
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	01/05/17	Expiration Date:	01/07/17
Prep:	Into 6 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0, and 14.0 mL of IC Mixed NO2/NO3 Cal Std. (IC0953) and brought to volume with Milli-Q H20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 88
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Author: AKURTH on: 04.01.2017 11:37:10
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0944	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/03/17	Expiration Date (1 Year):	01/03/18
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0945	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/03/17	Expiration Date (48 hours):	01/05/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0946	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	AGK	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/03/17	Expiration Date (48 Hours):	01/05/17
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0947	Standard:	IC Calibration Dionex
Analyst:	AGK	Concentrations:	N/A
Prep Date:	01/03/17	Expiration Date (48 hours):	01/05/17

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Mixed Std (50mg/L) IC0946	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC0843	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
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Author: AKURTH on: 30.12.2016 15:33:27
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0935	Standard:	IC Eluent Metrohm
Analyst:	AGK	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/30/16	Expiration Date (1 Year):	12/30/17
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0936	Standard:	IC Suppressor Regen Metrohn
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/30/16	Expiration Date (6 months):	06/30/17
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0937	Standard:	IC Spike Mixed
Analyst:	AGK	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0822, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with		

	Milli-Q DI H_20.

Standard Log #:	IC0938	Standard:	IC Spike Nitrite & Fluoride
Analyst:	AGK	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0939	Standard:	IC CCV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0940	Standard:	IC CCV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0941	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	AGK	Concentrations:	7.0 mg/L
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/16

Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0942	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	AGK	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/30/16	Expiration Date (1 Month):	01/30/17
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0943	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/30/16	Expiration Date (48 hours):	01/01/17
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 86
Page is Locked
Author: AKURTH on: 30.12.2016 08:53:01
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0933	Standard:	IC Calibration Metrohm
Analyst:	AGK	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/28/16	Expiration Date (48 hours):	12/30/16
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC08444, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0934	Standard:	IC Suppressor Regen Metrohm
Analyst:	AGK	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/27/16	Expiration Date (6 months):	05/27/16
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 85
Page is Locked
Author: AKURTH on: 28.12.2016 09:20:38
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0932	Standard:	IC Eluent Dionex
Analyst:	AGK	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/21/16	Expiration Date (1 Year):	12/21/17
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 84
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0931	Standard/Reagent:	oPhos PT
Analyst:	JJF	Final Concentration:	
Prep Date:	12/15/2016	Expiration Date:	12/17/2016
Prep:	Into a 100 mL volumetric add 0.50 mL Simple Nutrients 505 p249-505 #817807 and dilute to 100 mL with Milli-Q water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 83
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121416

Standard Log #:	IC0929	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	12/14/2016	Expiration Date (6 months):	05/14/2017
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W40271 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0930	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	12/14/2016	Expiration Date (1 Year):	12/14/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 82
Page is Locked
Author: JFAUST on: 14.12.2016 08:50:19
Page is not Witnessed
Project: Unassigned
Page Title: 121316

Standard Log #:	IC0927	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/13/2016	Expiration Date (48 hours):	12/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0928	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/13/2016	Expiration Date (1 Month):	01/13/2017
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 81
Page is Locked
Author: JFAUST on: 13.12.2016 09:30:07
Page is not Witnessed
Project: Unassigned
Page Title: 121216

Standard Log #:	IC0926	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/12/2016	Expiration Date (1 Month):	01/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 79
Page is Locked
Author: JFAUST on: 12.12.2016 14:41:54
Page is not Witnessed
Project: Unassigned
Page Title: 120616

Standard Log #:	IC0916	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0917	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/06/2016	Expiration Date (48 hours):	12/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0916	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0918	Standard/Reagent:	Metrosep A Supp 5-150/4 cc
Analyst:	JJF	Final Concentration:	
Prep Date:	12/06/2016	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 5 -150/4.0 Cat # 6.1006.520 column serial #5160515028		

Standard Log #:	IC0919	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	12/06/2016	Expiration Date (48 hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0907, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0920	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0921	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0922	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/06/2016	Expiration Date (48 Hours):	12/08/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0921 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 78
Page is Locked
Author: jfaust on: 06.12.2016 14:41:36
Page is not Witnessed
Project: Unassigned
Page Title: 120516

Standard Log #:	IC0912	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/05/2016	Expiration Date (48 Hours):	12/07/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0913	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/05/2016	Expiration Date (48 hours):	12/07/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0912	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 77
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 120216

Standard Log #:	IC0909	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/02/2016	Expiration Date (48 Hours):	12/04/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0910	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/02/2016	Expiration Date (48 hours):	12/04/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0909	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0911	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/02/2016	Expiration Date (1 Month):	01/02/2017
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0907, Bromide IC0898, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 76
Page is Locked
Author: JFAUST on: 02.12.2016 11:09:27
Page is not Witnessed
Project: Unassigned
Page Title: 112916

Standard Log #:	IC0904	Standard:	IC Column Cleaning Solution
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	11/29/2016	Expiration Date (1 Year):	11/29/2017
Prep:	Into a 500mL volumetric flask, dissolved 23.4g of Sodium Chloride W39792 in 100 mL Milli-Q water. Add 400 mL ACN 56207 and mix.		

Standard Log #:	IC0905	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0906	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0898, Nitrate IC0839, and Phosphate IC0907 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0907	Standard/Reagent:	IC Phosphate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	2/09/2016	Expiration Date:	02/09/2017
Prep:	Same as W38430 catalog #250-220-611 Lot # S151013001 Accu SPEC Phosphate as Phosphorus.		

Standard Log #:	IC0908	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	11/29/2016	Expiration Date (1 Month):	12/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 73
Page is Locked
Author: JFAUST on: 22.11.2016 15:40:54
Page is not Witnessed
Project: Unassigned
Page Title: 111816

Standard Log #:	IC0900	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	11/18/2016	Expiration Date (48 hours):	11/22/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0898				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0898				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 72
Page is Locked
Author: JFAUST on: 18.11.2016 08:59:05
Page is not Witnessed
Project: Unassigned
Page Title: 111616

Standard Log #:	IC0898	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	11/16/2016	Expiration Date:	11/16/2017
Prep:	AccuSPEC - IC Standard Bromide @ 1000 mg/L Cat #250-220-23x Lot#S160830034		

Standard Log #:	IC0899	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/16/2016	Expiration Date (48 hours):	11/18/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0898, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 71
Page is Locked
Author: JFAUST on: 18.11.2016 08:58:55
Page is not Witnessed
Project: Unassigned
Page Title: 111416

Standard Log #:	IC0896	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/14/2016	Expiration Date (1 Month):	12/14/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0897	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/14/2016	Expiration Date (1 Month):	12/14/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 70
Page is Locked
Author: JFAUST on: 18.11.2016 08:57:41
Page is not Witnessed
Project: Unassigned
Page Title: 110916

Standard Log #:	IC0893	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/09/2016	Expiration Date (1 Year):	11/09/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0894	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/09/2016	Expiration Date (1 Year):	11/09/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0895	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	11/09/2016	Expiration Date (48 hours):	11/11/2016

Prep:

LOD Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC	Phosphate	0.025	mL	IC
Nitrite	0.020	mL	IC	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC				

LOQ Check:

Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC	Phosphate	0.050	mL	IC
Nitrite	0.040	mL	IC	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC				

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 69
Page is Locked
Author: JFAUST on: 09.11.2016 14:51:39
Page is not Witnessed
Project: Unassigned
Page Title: 110816

Standard Log #:	IC0892	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/08/2016	Expiration Date (1 Month):	12/08/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0843, and 25 ml 1000 mg/L Sulfate IC0844 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 67
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 102716

Standard Log #:	IC0883	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0884	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/27/2016	Expiration Date (1 Year):	11/27/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0885	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	10/27/2016	Expiration Date (48 hours):	10/29/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0821	Nitrate	0.015	mL	IC0839
Chloride	0.200	mL	IC0843	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0822	Sulfate	0.250	mL	IC0844
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0821	Nitrate	0.040	mL	IC0839
Chloride	0.400	mL	IC0843	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0822	Sulfate	0.500	mL	IC0844
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0886	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0838, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0843 and Sulfate IC0844 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC0887	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	10/27/2016	Expiration Date (1 Month):	11/27/2016

Prep: Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 68
Page is Locked
Author: JFAUST on: 08.11.2016 08:11:56
Page is not Witnessed
Project: Unassigned
Page Title: 110216

Standard Log #:	IC0888	Standard/Reagent:	Phosphorus working std.
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	11/02/2016	Expiration Date:	11/04/2016
Prep:	Into a 100 mL volumetric add 1 mL (IC0486) Phosphate standard @1000 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0889	Standard/Reagent:	Phosphorus Calibration Std
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	11/02/2016	Expiration Date:	11/04/2016
Prep:	Into a 100 mL volumetric add 4 mL (IC0888) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0890	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/02/2016	Expiration Date (1 Month):	12/02/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 66
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 102616

Standard Log #:	IC0881	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/26/2016	Expiration Date (48 Hours):	10/28/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0882	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/26/2016	Expiration Date (48 hours):	10/28/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0881	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 64
Page is Locked
Author: JFAUST on: 25.10.2016 14:23:31
Page is not Witnessed
Project: Unassigned
Page Title: 102416

Standard Log #:	IC0873	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	10/24/2016	Expiration Date (48 hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0821, Nitrite (1000mg/L) IC0822, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0839, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0844, and Chloride (1000mg/L) IC0843.		

Standard Log #:	IC0874	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	10/24/2016	Expiration Date (48 Hours):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0822 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 61
Page is Locked
Author: JFAUST on: 18.10.2016 08:39:03
Page is not Witnessed
Project: Unassigned
Page Title: 101416

Standard Log #:	IC0863	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/14/2016	Expiration Date (48 Hours):	10/16/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0822, Fluoride IC0821, Bromide IC0597, Nitrate IC0839, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0864	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/14/2016	Expiration Date (48 hours):	10/16/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0863	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0843	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0844	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 59
Page is Locked
Author: JFAUST on: 12.10.2016 08:45:11
Page is not Witnessed
Project: Unassigned
Page Title: 101116

Standard Log #:	IC0853	Standard/Reagent:	LCS/ICV Custom Ion Std
Analyst:	JJF	Final Concentration:	
Prep Date:	10/11/2016	Expiration Date:	10/30/2017
Prep:	SPEX CertiPrep Custom Ion Standard Cat # VCTWI-3-500 Lot # 1-26PW		

Standard Log #:	IC0854	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0853 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0855	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/11/2016	Expiration Date (1 Month):	11/11/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0851	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	F.W. 105.99
Prep Date:	10/03/2016	Expiration Date:	
Prep:	500 Grams Fisher Brand Na2CO3 Lot # S263-500		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 56
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Author: JFAUST on: 12.10.2016 08:44:48
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Project: Unassigned
Page Title: 092816

Standard Log #:	IC0845	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0846	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate W38024 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

Standard Log #:	IC0847	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/28/2016	Expiration Date (1 Year):	09/28/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0846 and brought to volume with Milli-Q DI H_20.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 55
Page is Locked
Author: jfaust on: 28.09.2016 09:07:04
Page is not Witnessed
Project: Unassigned
Page Title: 092616

Standard Log #:	IC0833	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0834	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0840 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0835	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0839, and Phosphate IC and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0836	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0822 and 3.2 mL 1000 mg/L Fluoride IC0821 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0837	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	09/26/2016	Expiration Date (1 Year):	10/26/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0838	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	09/26/2016	Expiration Date (6 months):	03/26/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W39738 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0839	Standard/Reagent:	Nitrate Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/21/2016	Expiration Date:	10/21/2016
Prep:	Accu SPEC Nitrate Standard @1000 mg/L Catalog# 250-220-521. Lot # S150804004 Same as W39820		

Standard Log #:	IC0840	Standard/Reagent:	Nitrite Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	06/16/2016	Expiration Date:	06/16/2017
Prep:	Same as W39180 SPEX Certiprep Nitrite IC Std. @ 1000 mg/L Lot # 3-138NO2N-2Y CAT # AS-NO2N9-2Y		

Standard Log #:	IC0841	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC0822 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0842	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4

Prep Date:	09/26/2016	Expiration Date (1 Month):	10/26/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0839, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0843	Standard/Reagent:	IC Chloride Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	09/26/2017
Prep:	AccuSPEC - IC Standard Chloride @1000 mg/L Lot# S160712001 Cat# 250-220-37x		

Standard Log #:	IC0844	Standard/Reagent:	IC Sulfate Std.
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/26/2016	Expiration Date:	10/26/2016
Prep:	AccuSPEC - IC Standard Sulfate @ 1000 mg/L Lot# S160602024 Cat# 250-220-70x		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 51
Page is Locked
Author: JFAUST on: 07.09.2016 09:25:02
Page is not Witnessed
Project: Unassigned
Page Title: 090616

Standard Log #:	IC0820	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/06/2016	Expiration Date (1 Month):	10/06/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0821, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0821	Standard/Reagent:	Fluoride IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Fluoride IC Standard @1000 mg/L Cat # 250-220-401 Lot # S160323007		

Standard Log #:	IC0822	Standard/Reagent:	Nitrite IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/06/2016	Expiration Date:	10/06/2016
Prep:	Accu SPEC Nitrite IC Standard @1000 mg/L Catalog # 250-220-551 Lot #S160802021		

Standard Log #:	W39178	Reagent:	NO2 NO3 COLOR
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1L volumetric flask volumetrically dissolve 40g sulfanilamide W37969 and 1g N-(1-naphthyl)ethylenediamine dihydrochloride (NED) W32265 volumetrically add 100mL phosphoric acid W38600 and fill to volume with DI H_2O.		

Standard Log #:	W39179	Reagent:	NO2 NO3 BUFFER
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W36986 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W36989		

Standard ID#:	W39180	Vendor:	SPEX
Analyst:	LJS	Chemical:	N02 ICV STANDARD
Date Received:	6/6/16	Lot #:	3-138NO2N-2Y
Expiration Date (if any):	5/30/17	Catalog #:	AS-NO2N9-2Y

Standard Log #:	W39181	Standard:	NO2 NO3 ICAL
Analyst:	LJS	Concentration:	20 mg/L
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 100 mL volumetric flask pipette 2mL NO_3 ICAL/CCV stock (1000 mg/L) IC0403 and fill to volume with H_2SO_4 diluent W39177		

Standard Log #:	W39182	Standard:	NO2 NO3 ICV

Standard Log #:	IC0660	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0661	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	05/30/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IW37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0662	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0663	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 98
Page is Locked
Author: jfaust on: 18.05.2016 14:44:50
Witness: akurth on: 08.06.2016 13:52:28
Project: Unassigned
Page Title: 051116

Standard Log #:	IC0645	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0646	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0645 and brought to volume with Milli-Q DI H_20.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 94
Page is Locked
Author: JFAUST on: 06.05.2016 07:55:46
Page is not Witnessed
Project: Unassigned
Page Title: 050416b

Standard Log #:	IC0637	Standard/Reagent:	Nitrocellulose Stock Std.
Analyst:	RLD	Final Concentration:	Neat
Prep Date:	05/04/2016	Expiration Date:	04/28/2016
Prep:	Dried in vaccum desicator (04/28/2016 - 05/03/2016). Used for preparation of Nitrocellulose Spiking Std.		

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Standard Log #:	IC0629	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0630	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	05/03/2016	Expiration Date (48 hours):	05/05/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. 0629, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0630, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0631	Standard/Reagent:	Dionex AS14 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AS14 Analytical Column 4X250 mm Serial #034842 Lot#015171010 Product # 046124		

Standard Log #:	IC0632	Standard/Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AG14 Guard 4 x 50 mm Lot# 01517101 Product # 046134 Serial # 160318088		

Standard Log #:	IC0633	Standard:	IC Eluent Dionex

Analyst:	JJD	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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CT Laboratories, LLC

Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 89
Page is Locked
Author: JFAUST on: 21.04.2016 08:17:42
Witness: akurth on: 08.06.2016 13:50:31
Project: Unassigned
Page Title: 041916

Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 87
Page is Locked
Author: jfaust on: 18.04.2016 08:16:59
Witness: akurth on: 08.06.2016 13:49:56
Project: Unassigned
Page Title: 041316

~~W25134~~ IC0145

Standard Log #:	IC0603	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/13/2016	Expiration Date (1 Year):	04/13/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0604	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	04/13/2016	Expiration Date (1 Year):	04/13/2017
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W25134 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

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Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 65
Page is Locked
Author: jfaust on: 17.02.2016 16:07:38
Page is not Witnessed
Project: Unassigned
Page Title: 021516

Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 52
Page is Locked
Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
Project: Unassigned
Page Title: 011416

Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
Page is Locked
Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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CT Laboratories, LLC

W 35369 Fisher Ammonium Sulfate (A702-500)
AGK CAS 7783-20-2 LOT# 135994A
9/15/14 Opened 09/15/14

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PROJECT _____ Notebook No. _____
Continued From Page _____

W25134 CES			Sodium	Bicarbonate.	Fisher			Cat#	5233-500			Lot#						
11/23/15			164706		eyp		11/23/15											
																	Continued on Page	

Read and Understood By

Signed	Date	Signed	Date

WCOD QSM Analytical Run
140215 on 07/28/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128867	890671		07/11/2017	1150			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		54ADW01								63319			
128935	891494		07/13/2017	1635			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		49ADW1								63319			
	895688								COD QSM				
					MBW					63319			
	895689								COD QSM				
					LCSW					63319			
	895690		07/11/2017	1150					COD QSM				
		54ADW01			MSW	890671				63319			
	895691		07/11/2017	1150					COD QSM				
		54ADW01			MSDW	895690				63319			
	895692		07/11/2017	1150					COD QSM				
		54ADW01			DUP	890671				63319			
	896335								WCOD QSM				
					CCV								
	896336								WCOD QSM				
					CCV								
	896337								WCOD QSM				
					CCV								
	896338								WCOD QSM				
					CCB								
	896339								WCOD QSM				
					CCB								
	896340								WCOD QSM				
					CCB								
	896341								WCOD QSM				
					ICV								
	896342								WCOD QSM				
					ICB								

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 07/28/2017

Prep Batch **63,319** Date Prepped: 07/24/2017 Prepped By BKB

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	895688	MBW		COD QSM	LIQUID					
	895689	LCSW		COD QSM	LIQUID					
128867	890671			COD QSM	GROUND WATER				4	
128935	891494			COD QSM	GROUND WATER				4	
	895690	MSW	890671	COD QSM	GROUND WATER					
	895691	MSDW	895690	COD QSM	GROUND WATER					
	895692	DUP	890671	COD QSM	GROUND WATER					

Notes:_____

PREP WORKSHEET 2
on 07/24/2017

Prep Batch: **63319**

Date Prepped: 7/24/17

Prepped By: BKB

Date Entered: _____

CCV = #1

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	895688	MBW 54	0	COD QSM			LIQUID				
	895689	LCSW 53	0	COD QSM			LIQUID				
128867	890671	55 56 57 58		COD QSM	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	7/11/17	1150	7/24/17	4
128935	891494	59		COD QSM	BERING SEA ENVIRONMENT	49ADW1	GROUND WATER	7/13/17	1635	7/26/17	4
	895690	MSW	890671	COD QSM		54ADW01	GROUND WATER	7/11/17	1150		
	895691	MSDW	895690	COD QSM		54ADW01	GROUND WATER	7/11/17	1150		
	895692	DUP	890671	COD QSM		54ADW01	GROUND WATER	7/11/17	1150		

Control Spike/Control Spike Dup Reference Number: _____ Methanol Supplier/Lot #: _____

Notes: _____

PREP BATCH (ES): 63319 DATE/ANALYST 7/24/17 BkB TIME: 10:00

RUN(S): 140215 DATE/ANALYST: 7/24/17 BkB

CHEMICAL OXYGEN DEMAND PREP
REAGANT LOG

ICAL PREPARATION..... W 41869 /Exp 1/24/18

CCV PREPARATION..... W 41870 /Exp 10/24/17

ICV/LCS PREPARATION..... W ~~41870~~ 41871 BkB 7/24/17 /Exp 10/24/17

SILVER SULFATE ACID..... W 41062 /Exp 3/20/18

POTASSIUM DICHROMATE DIG SOLN. W 41063 /Exp 3/20/18

SPIKED SAMPLES:

SPIKING SOLUTION..... W 41872 /Exp 10/24/17

CONCENTRATION ..... 2000 mg/L

VOLUME OF SPIKE USED. ..... 0.2 mL

FINAL SAMPLE VOLUME..... 2.5 mL

FINAL SPIKE CONCENTRATION ..... 148.2 mg/L

COD DIGESTION BLOCKS

DATE: 7/24/17 TIME: 14:30

	A	B	D	E
Temperature (Max) 150°C ± 2°C	152	150	151	149

COD Data Validation Checklist

LIMS #: 140215	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
7/24/17	BKB		7/25/17	Yes .. No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	---	X		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
6. Was the LCS used before the indicated expiration date?	---	X		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		X		
8. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
9. Did the MS/ MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	X		X		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
11. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
13. Were the samples digested within hold time?	28 days	X		X		
14. Was the max temperature(s) for reactor(s) documented?	---	X		X		
15. Were reagents/standards used before expiration date?	---	X		X		
16. Are all samples on the job lists accounted for?	---	X		X		

Spec. 401 Accuracy Check / Maintenance Logbook

	*Acceptance Range: +/- 2 nm			
Date/Time	529 nm	742 nm	Analyst	Comments or Performed Maintenance:
3/28/17 1600	529	741	BKB	
4/7/17 1450	529	741	BKB	
4/17/17 1600	530	741	MER	
4/18/17 0900	530	741	MER	
4/25/17 1500	529	741	BKB	
5/2/17 1300	530	741	BKB	
5/2/17 1600	530	741	BKB	
5/16/17 1430	530	741	BKB	
5/17/17 1615	529	741	MER	
5/23/17 1440	529	741	BKB	
5/30/17 1330	529	741	BKB	
5/31/17 1100	530	741	SHN	
6/12/17 1300	6/12/17 530	741	BMB	
6/21/17 1345	530	741	BKB	
6/27/17 1300	530	741	BKB	
7/10/17 1300	530	741	BKB	
7/6/17 1200	530	741	UTS	
7/24/17 1600	530	741	BKB	
7/25/17 1445	529	741	BKB	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By:_____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

Time					Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments:
3/28/17	1600	1710 BKB 5/23/17	BKB	COD	Test 7	136128, 129, 130, 131, 132
4/7/17	1450	1545	BKB	COD	Test 7	136522, 526, 527
4/17/17	1600	1647	MER	COD	Test 07	136807, 808, 810
4/18/17	0900	0907	MER	COD	Test 07	136808 Rerun
4/25/17	1500	1600	BKB	COD	Test 7	137182, 183, 184, 185
~~4/27/17~~	~~1500~~	~~1600~~	~~BKB~~	~~COD~~	~~Test 7~~	~~LFS 5/12e/17~~
5/2/17	1300	1400	BKB	COD	Test 7	137443, 444
5/2/17	1600	1605	BKB	COD	Test 7	137443 Rerun
5/16/17	1430	1510	BKB	COD	Test 7	137943, 137945
5/17/17	1615	1657	MER	Hex Cr^{+6} Soils	Test 9	137990, 992, 996
5/23/17	1440	1501	MER + BKB	Chlor. A	—	138216
5/30/17	BKB 5/31/17 13:30	14:30	BKB	COD	Test 7	138397, 399, 401
5/30/17	1530	1545	BKB	COD	Test 7	138402
5/31/17	1100	1116	SAW	CHA	—	138442
6/12/17	13:00	1320	BKB	COD	Test 7	138818, 820
6/21/17	13:45	1430	BKB	COD	Test 7	139149, 150
6/27/17	13:00	13:40	BKB	COD	Test 7	139345, 347
7/10/17	13:00	13:30	BKB	COD	Test 7	139693, 694
7/18/17	15:00	15:45	LFS	HexChrSoil	~~Test 10~~ / Test 11	Comparison Study
7/24/17	16:00	17:15	BKB	COD	Test 12	140213, 214, 215, 216
7/25/17	14:45	15:00	BKB	COD	Test 12	140261

Reviewed By: _____

W18795 CN Std prep using W18794

2mL → 100 = 200 µg/L
2mL → 200 = 100 µg/L
0.5mL → 100 = 50 µg/L

using 100 µg/L
30mL → 100 = 30 µg/L
10mL → 50 = 20 µg/L
5mL → 50 = 10 µg/L

W18796 mwl 4-16-08 NH_3 H_2SO_4 std. Prep into a 100ml Vol pipetted 0.5ml W18676 & brought to Vol. w/ Diluent W18702

W18797 mwl 4-16-08 NH_3 H_2SO_4 CCV into a 100ml Vol. pipetted 0.25ml W18676 & brought to Vol. w/ Diluent W18702

W18798 mwl 4-16-08 NH_3 H_2SO_4 LCS into a 100ml Vol. pipetted 0.25ml W18721 & brought to Vol. w/ Diluent W18702

W18799 CES 4/16/08 Sulfide LCS- Into a 200mL vol pipetted 1mL W18630 & filled to vol w/ dI H_2O. exp 4-23-08

W18800 MWD 4-16-08 NH_3 H_2SO_4 MML BS into 50 mL pipetted 0.1 mL W18676 & brought to Vol. w/ ~~DI H_2O~~ diluent W18702 4-16-08 MWD

W18801 CES 4/16/08 Sulfide LCS- Into a 200 mL vol pipetted 1mL W18630 & filled to vol w/ dI H_2O. exp 4-23-08

W18802 mwl 4/16/08 Potassium Dichromate cat# Fisher P188-100 lot# 061057

W18803 mwl 4/16/08 Diphenylcarbazide Fisher cat # D85-25 lot# 067626

W18804 mwl 4/16/08 Zinc Acetate Dihydrate Fisher cat # Z20-500 lot# 076685

Continued on Page

Read and Understood By

MW 4/23/08
Signed Date Signed Date

PROJECT _____ Notebook No. _____

Continued From Page _____

W18817 mwl 4-18-08 — TOC St. Prep Stock Std. 1000mg/L into a 100ml Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 & brought to Vol. w/ milliQ H_2O exp 10-18-08

W18818 mwl 4-18-08 — TOC LCS/ICV Stock Std 1000mg/L into a 100ml Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16192 & brought to Vol. w/ milliQ H_2O exp 10-18-08

W18819 (A+B) KMB 4-18-08 — Baker Potassium Dichromate Cat # 3093-01 Lot # E18590 (2-bottles, A+B) Dry/Store

W18820 KMB 4-18-08 — Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl^- and 175 mg/L Cat # VCTWI-3-500 Lot # 38-81AS exp 04/2009.

W18821 KMB 4-18-08 — Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2N9-2Y Lot # 1-81NO2N-2 exp. 4-15-2009

W18822 mwl 4-18-08 — Pyridine into a 500ml Vol. dissolved 7.5g Barbituric acid W17815 pipetted 7.5ml HCl W18424 & volumetrically added 37.5ml Pyridine W17409 & brought to Vol. w/ DI H_2O exp 4-25-08

W18823 mwl 4-18-08 — Chloramines T into a 500ml Vol. dissolved 2g W17811 & brought to Vol. w/ DI H_2O exp 4-19-08

W18824 CES 4-21-08 — NH_3 LCS: Into a 200ml vol pipetted 1mL W18721 & filled to vol w/ DI H_2O.

W18825 KMB 4-21-08 — TVN Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18141 and brought to vol. w/ DI H_2O. exp 4-22-08

W18826 KMB 4-21-08 — 0.8M NaOH - Into a 1L vol. dissolved 32g NaOH W18334 and brought to vol. w/ DI H_2O. exp. 5-21-08

W18827 KMB 4-21-08 — Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18517 and brought to vol. w/ DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RM — Signed

4/23/08 — Date

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite: Into a 500mL vol. volumetrically collected 30mL W33266 & filled to vol of DI H_2O. exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W33411e + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 BMS 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP(W 33269) and brought to volume w/milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/milli-Q H_2O Exp: 07/07/14

W33272 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7, 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

1/9/14 CS
Signed Date Signed Date

W34206 MER 4/28/14 KHP Buffer (pH 3.1)
Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1± 0.05.
EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific
Cat # P243-100 Lot # 132808

W34208 AGK 04-28-14 IC ICAL Mixed Standard (50 mg/L):
Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406, Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.
EXP (48 Hours):04/30/14

W34209 AGK 04-28-14 IC ICAL
Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 GES 4/28/14 Cyanide In-Line Phosphate Buffer
Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32406~~ W33932 GES 4/28/14 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 GES 4/28/14 Sodium Salicylate-Nitroprusside Color Reagent
Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.
EXP(1 month): 5/28/14

W34212 GES 4/28/14 GES 4/28/14 Sodium Salicylate - Alfa Aesar - cat # A17056
Lot # J03Z041

W34213 GES 4/28/14 0.8M Sodium Hydroxide
Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

5/9/14 GES

Signed Date Signed Date

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 2
Page is Locked
Author: swinters on: 29.04.2016 11:45:59
Witness: mradske on: 09.05.2016 17:03:58
Project: Unassigned
Page Title: 042816

Standard Log #:	W38893	Reagent:	H2SO4/ AG SULFATE
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a new 2.5 L sulfuric acid W38896 dissolve 25g silver sulfate W38898 .		

Standard Log #:	W38894	Reagent:	DICHROMATE DIG
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W38895 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W38896 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard ID#:	W38895	Vendor:	J.T. BAKER
Analyst:	SAW	Chemical:	Mercuric Sulfate
Date Received:	1/28/15	Lot #:	0000076767
Expiration Date (if any):	NA	Catalog #:	2642-04

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16

~~Standard Log #:~~ W39424-W39449 repeated from LPWC01_06-56. W39405-W39409 appended at bottom.	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):		Lot #:	A0365830
Comments:			

LPWC01-7
Wetchem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03

Standard Log #:	W40690	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	MER	Concentration:	1,000 mg/L
Prep Date:	1/24/17	Expiration Date (3 Months):	4/24/17
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W40691	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	MER	Concentration:	2,000 mg/L
Prep Date:	1/24/17	Expiration Date (3 Months):	4/24/17
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W34207

Standard Log #:	W40692	Standard/Reagent:	COD ICAL
Analyst:	MER	Concentration:	N/A
Prep Date:	1/24/17	Expiration Date (6 months):	7/24/17
PREP			Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)			(1) W40690

Standard Log #:	W40693	Standard/Reagent:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	1/24/17	Expiration Date (3 Months):	4/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.			(1) W40690

Standard Log #:	W40694	Standard/Reagent:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	1/24/17	Expiration Date (3 Months):	4/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W40691

1

CT Laboratories, LLC

LPWC01-8
WetChem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 02/06/17

NOTEBOOK VIEW: LTN_LPWC01_8_Default, NOTEBOOK: LPWC01_8, PAGE: 9
Page is Locked
Author: mradske on: 24.02.2017 11:06:39
Page is not Witnessed
Project: Unassigned
Page Title: 022317

Standard Log #:	W40924	Chemical:	H2SO4
Analyst:	SAW	Vendor:	Millipore
Date Received:	12/13/16	Catalog #:	SX1244-5
Expiration Date (if any):	12/12/17	Lot #:	56280
Comments:			

CT Laboratories, LLC

LPWC01-8
WetChem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 02/06/17
NOTEBOOK VIEW: LTN_LPWC01_8_Default, NOTEBOOK: LPWC01_8, PAGE: 27
Page is Locked
Author: mradske on: 22.03.2017 09:47:20
Page is not Witnessed
Project: Unassigned
Page Title: 032117

Standard Log #:	W41060	Chemical:	SULFURIC ACID
Analyst:	MER	Vendor:	MILLIPORE
Date Received:	N/A	Catalog #:	SX1244-5
Expiration Date (if any):	N/A	Lot #:	53280
Comments:			

Standard Log #:	W41061	Chemical:	SILVER SULFATE
Analyst:	MER	Vendor:	ALFA AESAR
Date Received:	3/21/17	Catalog #:	11417
Expiration Date (if any):	N/A	Lot #:	25163
Comments:			

Standard Log #:	W41062	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	MER	Concentration:	N/A
Prep Date:	3/21/17	Expiration Date (1 Year):	3/21/18
PREP		Standards/Reagents Used	
		(1) W41060	

Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).	(1) W41060 (2) W41061

Standard Log #:	W41063	Standard/Reagent:	Dichromate Digestion Solution
Analyst:	MER	Concentration:	N/A
Prep Date:	3/21/17	Expiration Date (1 Year):	3/21/18
PREP			Standards/Reagents Used
Into a 2L volumetric flask, dissolved 66.6g of Mercuric sulfate (1) in about 500 mL of DI water. Volumetrically added 334 mL of Sulfuric acid (2) and dissolved 20.42g of Potassium dichromate (3) and then filled to volume with DI water.			(1) W38895 (2) W40924 (3) W18802

Standard Log #:	W41064	Standard/Reagent:	COD ICAL
Analyst:	MER/BKB	Concentration:	N/A
Prep Date:	3/21/17	Expiration Date (6 months):	9/21/17
PREP			Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)			(1) W40690

LPWC01-9
WetChem Reagent Prep Logbook
Logbook Created: 06/26/17
Balances used in reagent prep:

Standard Log #:	W41868	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	BKB	Concentration:	1,000 mg/L
Prep Date:	7/24/17	Expiration Date (3 Months):	10/24/17
PREP		Standards/Reagents Used	
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.		(1) W39424	

Standard Log #:	W41869	Standard/Reagent:	COD ICAL
Analyst:	BKB	Concentration:	N/A
Prep Date:	7/24/17	Expiration Date (6 months):	1/24/18
PREP		Standards/Reagents Used	
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)		(1) W41868	

Standard Log #:	W41870	Standard/Reagent:	COD CCV
Analyst:	BKB	Concentration:	400 mg/L
Prep Date:	7/24/17	Expiration Date (3 Months):	10/24/17
PREP		Standards/Reagents Used	
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.		(1) W41868	

Standard Log #:	W41871	Standard/Reagent:	COD LCS
Analyst:	BKB	Concentration:	400 mg/L
Prep Date:	7/24/17	Expiration Date (3 Months):	10/24/17
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W41872

Standard Log #:	W41872	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	BKB	Concentration:	2,000 mg/L
Prep Date:	7/24/17	Expiration Date (3 Months):	10/24/17
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W39424

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CT Laboratories, LLC

WFILTRATION,SAMP Analytical Run
139767 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128820	889902	54MW10	07/10/2017 1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128820	889904	54TM10	07/10/2017 1125		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128820	889906	54MW1	07/10/2017 1340		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128820	889908	071017R1	07/10/2017 1440		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128867	890667	54MW12	07/11/2017 0910	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128867	890670	54MW13	07/11/2017 1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	

6 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
139885 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128923	891324		07/12/2017	0840		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		48MW06										
128923	891326		07/12/2017	0845		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		49TM1										
128923	891328		07/12/2017	1030		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		48MW1										
128923	891330		07/12/2017	1220		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		49MW01										
128923	891332		07/12/2017	1400		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		49MW02										
128923	891334		07/12/2017	1405		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		49TM2										
128923	891336		07/12/2017	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		13MW4										
128923	891338		07/12/2017	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
		13MW2										

8 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
139985 on 07/26/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128935	891496	50MW02	07/13/2017 0935		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128935	891498	48MW3	07/13/2017 1115	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128935	891504	48MW2	07/13/2017 1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128935	891507	071317R1	07/13/2017 1310		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128935	891509	13MW3	07/13/2017 1520		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	
128935	891511	49MW04	07/13/2017 1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	**4**	

6 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WPH Analytical Run
139907 on 07/14/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128867	890671	54ADW01	07/11/2017	1150		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
	891823	54ADW01	07/11/2017	1150	DUP 890671			PH				

2 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pH Data Validation Checklist

LIMS #: 139907	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
7/14/17	SAN	VBR	7/14/17	Yes ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		X		
2. Were reagents/standards used before expiration date?	---	X		X		
3. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
4. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
5. Are all samples on the job lists accounted for?	---	X		X		
6. Were SM 4500-H+B samples bracketed by calibration buffer 7?	Every 10 samples, Differ by ≤ 0.10 pH units	X		X		

WPH Analytical Run
140159 on 07/21/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128935	891494	49ADW1	07/13/2017	1635			BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
	895167	49ADW1	07/13/2017	1635	DUP	891494			PH				

2 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pH Data Validation Checklist

LIMS #: 140159	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
7/21/17	MEK	VTS	7/24/17	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		X		
2. Were reagents/standards used before expiration date?	---	X		X		
3. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
4. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
5. Are all samples on the job lists accounted for?	---	X		X		
6. Were SM 4500-H+B samples bracketed by calibration buffer 7?	Every 10 samples, Differ by ≤ 0.10 pH units	X		X		

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #			----3 Point Calibration----					
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
6/2/17	BKD	W39691	W41124	W41196	7.02	4.00	10.06	98	19.6	
6/9/17	BKD	W39691	W41124	W41196	7.03	4.00	10.09	97	18.7	
6/13/17	BKD	W39691	W41124	W41196	7.02	4.00	10.07	97	19.3	
6/16/17	BKD	W39691	W41124	W41196	7.02	4.00	10.07	97	19.3	
6/21/17	SAW	W39691	W41124	W41196	7.02	4.00	10.07	97%	19.4	
6/23/17	SAW	W39691	W41124	W41196	7.03	4.00	10.08	97%	18.4	
6/30/17	MER	W39691	W41124	W41196	7.02	4.00	10.07	96%	19.1	
7/7/17	BKD	W39691	W41124	W41196	7.02	4.00	10.06	97%	20.3	
7/14/17	SAW	W39691	W41124	W41196	7.03	4.00	10.08	96%	18.8	
7/18/17	VTS	W39691	W41124	W41196	7.02	4.00	10.05	95%	20.7	
7/19/17	VTS	W39691	W41124	W41196	7.02	4.00	10.06	95%	20.1	
7/21/17	MER	W39691	W41124	W41196	7.03	4.00	10.08	96%	18.0	

Reviewed By:_____

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date / Initials	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
6/21/17 SAW	1215	1235	pH	139163	
6/23/17 SAW	0900	1330	pH	139255, 256	
6/30/17 MER	0835	1130	pH	139473, 474, 475, 476	
7/7/17 BKB	10:00	10:45	pH	139669, 139670	
7/14/17 SAW	1050	1430	pH	139907, 908, 909, 910	
7/18/17 WJS	1400	1430	titrator.	Comparison Study	
7/19/17 WJS	1000	1015	pH	140055	
7/21/17 MER	1100	1355	pH	140155, 156, 157, 158, 159, 160	

Page 1540

Reviewed By:_____

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 86
Page is Locked
Author: mradske on: 31.08.2016 11:14:53
Page is not Witnessed
Project: Unassigned
Page Title: 083016

Standard Log #:	W39691	Chemical:	PH BUFFER 7.00
Analyst:	LJS	Vendor:	RICCA
Date Received:	4/25/16	Catalog #:	1551-1
Expiration Date (if any):	JAN 2018	Lot #:	4602467
Comments:			

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CT Laboratories, LLC

LPWC01-8
WetChem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 02/06/17
NOTEBOOK VIEW: LTN_LPWC01_8_Default, NOTEBOOK: LPWC01_8, PAGE: 35
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 033117

Standard Log #:	W41124	Chemical:	ph 4 BUFFER
Analyst:	BKB	Vendor:	HACH
Date Received:	2/23/2017	Catalog #:	2283456
Expiration Date (if any):	02/28/2021	Lot #:	A7048
Comments:			

1

CT Laboratories, LLC

LPWC01-8
WetChem Prep Logbook
Balances used in reagent prep:
WCB01 and WCB03
Logbook Created: 02/06/17

Standard Log #:	W41196	Chemical:	PH BUFFER 10
Analyst:	BKB	Vendor:	HACH
Date Received:	2/23/2017	Catalog #:	2283656
Expiration Date (if any):	02/2018	Lot #:	A7045
Comments:			

1

CT Laboratories, LLC

WORGANIC CARBON QSM 5.0 Analytical Run
139821 on 7/18/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892957								WORGANIC CARBON QSM 5.0				
					ICV								
	892958								WORGANIC CARBON QSM 5.0				
					ICB								
	892948								WORGANIC CARBON QSM 5.0				
					CCV								
	892949								WORGANIC CARBON QSM 5.0				
					LCSW								
	892950								WORGANIC CARBON QSM 5.0				
					MBW								
128820	889901		7/10/2017	1120			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW10											
128820	889903		7/10/2017	1125			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54TM10											
128820	889905		7/10/2017	1340			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW1											
128820	889907		7/10/2017	1440			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		071017R1											
128867	890666		7/11/2017	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW12			Designated MS/MSD								
	892960		7/11/2017	0910					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	890666							
	892959		7/11/2017	0910					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	890666							
	892961		7/11/2017	0910					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	892959							
128867	890669		7/11/2017	1120			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW13											
	892951								WORGANIC CARBON QSM 5.0				
					CCV								
	892963								WORGANIC CARBON QSM 5.0				
					CCB								
128923	891323		7/12/2017	0840			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		48MW06											
128923	891325		7/12/2017	0845			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		49TM1											
128923	891327		7/12/2017	1030			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		48MW1											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
139821 on 7/18/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
128923	891329	49MW01	7/12/2017 1220		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
128923	891331	49MW02	7/12/2017 1400		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
128923	891333	49TM2	7/12/2017 1405		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
128923	891335	13MW4	7/12/2017 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
128923	891337	13MW2	7/12/2017 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
	892962			CCV			WORGANIC CARBON QSM 5.0				
	892954			CCB			WORGANIC CARBON QSM 5.0				

26 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
139821 139822	07/13/2017	AGK	RLD	07/19/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

W CARBON, INORG & ORG Analytical Run
139823 on 7/18/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	892901							W CARBON, INORG & ORG				
					CCV							
	892903							W CARBON, INORG & ORG				
					LCSW							
	892910							W CARBON, INORG & ORG				
					MBW							
128820	889901		7/10/2017	1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
		54MW10										
128820	889903		7/10/2017	1125		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
		54TM10										
128820	889905		7/10/2017	1340		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
		54MW1										
128820	889907		7/10/2017	1440		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
		071017R1										
128867	890666		7/11/2017	0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
		54MW12			Designated MS/MSD							
128867	890669		7/11/2017	1120		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
		54MW13										
	892908							W CARBON, INORG & ORG				
					CCV							
	892909							W CARBON, INORG & ORG				
					CCB							

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
139823	07/14/2017	AGK	RLD	07/19/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

WORGANIC CARBON QSM 5.0 Analytical Run
139914 on 08/04/2017

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	898259								WORGANIC CARBON QSM 5.0				
					CCV					0			
	898260								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	898261								WORGANIC CARBON QSM 5.0				
					MBW					0			
128935	891495		07/13/2017	0935			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02											
128935	891497		07/13/2017	1115			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW3			Designated MS/MSD								
	898262		07/13/2017	1115					ORGAN CARBON T QSM 5.0				
		48MW3			DUP	891497				0			
	898263		07/13/2017	1115					ORGAN CARBON T QSM 5.0				
		48MW3			MSW	891497				0			
	898264		07/13/2017	1115					ORGAN CARBON T QSM 5.0				
		48MW3			MSDW	898263				0			
128935	891502		07/13/2017	1345			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW2											
128935	891506		07/13/2017	1310			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		071317R1											
128935	891508		07/13/2017	1520			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3											
128935	891510		07/13/2017	1625			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04											
	898265								WORGANIC CARBON QSM 5.0				
					CCV					0			
	898266								WORGANIC CARBON QSM 5.0				
					CCB					0			

14 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
139914	07/27/2017	AGK	RLD	07/28/2017	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
7/12/17	14:11	7/12/17	15:00	AGK	139578 RR2	W	TOC092A	
7/13/17	10:59	7/13/17	19:06	AGK	139821, 139822	W	TOC092A	
7/14/17	14:46	7/14/17	18:00	AGK	139823	W	TOC092A	TICS
7/20/17	9:45	7/20/17	14:56	AGK	140035, 140036	W	TOC092A	
7/21/17	10:55	7/21/17	14:26	AGK	140040, 140041	S	TOC0105	
7/25/17	9:57	7/25/17	15:56	AGK	1~~4~~139915	S	TOC0105	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 100
Page is Locked
Author: AKURTH on: 6/23/2017 11:19:01 AM
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0178	Standard:	TOCW LOD Check
Analyst:	AGK	Concentration:	1.5 mg/L
Prep Date:	06/16/17	Expiration Date (1 Month):	07/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0179	Standard:	TOCW LOQ Check
Analyst:	AGK	Concentration:	3.0 mg/L
Prep Date:	06/16/17	Expiration Date (1 Month):	07/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0180	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	06/16/17	Expiration Date (1 Month):	07/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0181	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	06/16/17	Expiration Date (1 Month):	07/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

1

CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 98
Page is Locked
Author: AKURTH on: 5/22/2017 4:06:19 PM
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0174	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	05/16/17	Expiration Date (1 Month):	06/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0175	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	05/16/17	Expiration Date (1 Month):	06/16/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 97
Page is Locked
Author: AKURTH on: 5/16/2017 2:59:27 PM
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0172	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	05/03/17	Expiration Date (1 Month):	06/03/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0173	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	05/03/17	Expiration Date (1 Month):	06/03/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 95
Page is Locked
Author: akurth on: 5/2/2017 10:55:47 AM
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0168	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	04/19/17	Expiration Date (1 Month):	05/19/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0169	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	04/19/17	Expiration Date (1 Month):	05/19/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 92
Page is Locked
Author: AKURTH on: 24.03.2017 09:56:55
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC161	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	03/22/17	Expiration Date (1 Month):	04/22/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC162	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	03/22/17	Expiration Date (1 Month):	04/22/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 89
Page is Locked
Author: rdigmann on: 21.03.2017 15:48:20
Page is not Witnessed
Project: Unassigned
Page Title: 021617

Standard Log #:	TOC0154	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	02/15/2017	Expiration Date (1 Month):	03/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0155	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	02/15/2017	Expiration Date (1 Month):	03/15/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 88
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 013017

Standard Log #:	TOC0152	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	01/30/2017	Expiration Date (1 Month):	02/28/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0153	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	01/30/2017	Expiration Date (1 Month):	02/28/2017
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 87
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0150	Standard/Reagent:	TOC SOIL CCV
Analyst:	AGK	Final Concentration:	5.00 mg/L
Prep Date:	01/23/17	Expiration Date:	02/23/17
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23772) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	TOC0951	Standard/Reagent:	TOC SOIL LCS
Analyst:	AGK	Final Concentration:	5.00 mg/L
Prep Date:	01/23/17	Expiration Date:	02/23/17
Prep:	Into a 100 mL volumetric add 500.0 mg Dextrose (W23192) and dilute to 100 mL with Milli-Q water.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 86
Page is Locked
Author: AKURTH on: 23.01.2017 12:23:41
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0148	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	01/10/17	Expiration Date (1 Month):	02/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC 0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0149	Standard:	TOCW LCS Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	01/10/17	Expiration Date (1 Month):	02/10/17
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC 0086 and brought to volume with Milli-Q DI		

	H_2O.

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 85
Page is Locked
Author: AKURTH on: 11.01.2017 15:44:10
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0147	Standard/Reagent:	25% PHOSPHORIC ACID
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	12/30/16	Expiration Date:	12/30/17
Prep:	Into a 500 mL volumetric flask, partially filled with DI water, added 125 mL of phosphoric acid W35275 and brought to volume with DI water.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 84
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121616

Standard Log #:	TOC0145	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2016	Expiration Date (1 Month):	01/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0146	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2016	Expiration Date (1 Month):	01/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 81
Page is Locked
Author: jfaust on: 30.11.2016 10:29:12
Page is not Witnessed
Project: Unassigned
Page Title: 102516

Standard Log #:	TOC0139	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/25/2016	Expiration Date (1 Month):	11/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0140	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/25/2016	Expiration Date (1 Month):	11/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0141	Standard/Reagent:	PT Sample 790332
Analyst:	JJF	Final Concentration:	
Prep Date:	10/25/2016	Expiration Date:	10/27/2016
Prep:	Into two separate 100 mL volumetrics add 0,50 mL 790332 water pollution demand #578 and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 80
Page is Locked
Author: JFAUST on: 18.10.2016 08:51:48
Page is not Witnessed
Project: Unassigned
Page Title: 101716

Standard Log #:	TOC0137	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0120 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0138	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/17/2016	Expiration Date (1 Month):	11/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 78
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 092116

Standard Log #:	TOC0134	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/206
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0135	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/21/2016	Expiration Date (1 Month):	10/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 69
Page is Locked
Author: jfaust on: 28.07.2016 14:16:43
Page is not Witnessed
Project: Unassigned
Page Title: 072716

Standard Log #:	TOC0120	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/26/2016	Expiration Date:	06/30/2018
Prep:	Ultra Scientific TOC standard @ 1001 or - 5 ug/mL Lot # CP-2362		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 56
Page is Locked
Author: jfaust on: 09.05.2016 16:24:51
Page is not Witnessed
Project: Unassigned
Page Title: 050916

Standard Log #:	TOC0096	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/09/2016	Expiration Date (1 Month):	06/09/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 54
Page is Locked
Author: JFAUST on: 03.05.2016 09:35:46
Page is not Witnessed
Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 53
Page is Locked
Author: jfaust on: 02.05.2016 15:50:25
Page is not Witnessed
Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
Page is Locked
Author: jfaust on: 28.04.2016 09:46:26
Page is not Witnessed
Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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SUBCONTRACTED ANALYSIS DOCUMENTS

SGS ACCUTEST
Southeast

07/28/17

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA45722

Sampling Date: 07/10/17

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **509**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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SGS Accutest

Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA45722

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA45722-1	07/10/17	11:20	CTL	07/12/17	AQ	Ground Water	889901/54MW10
FA45722-2	07/10/17	11:25	CTL	07/12/17	AQ	Ground Water	889903/54TM10
FA45722-3	07/10/17	13:40	CTL	07/12/17	AQ	Ground Water	889905/54MW1
FA45722-4	07/10/17	14:40	CTL	07/12/17	AQ	Ground Water	889907/071017R1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA45722

Site: Radford AAP; VA **Report Date:** 7/28/2017 3:26:38

4 Sample(s) were collected on 07/10/2017 and were received at SGS Accutest Southeast (SASE) on 07/12/2017 properly preserved, at 3 Deg. C and intact. These Samples received an SASE job number of FA45722. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix AQ **Batch ID:** OP66151

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA45759-1MSD, FA45759-1MS were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Extractables by GC By Method SW846 8330B

Matrix AQ **Batch ID:** OP65961

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) FA45759-1MS, FA45759-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for DNX, m-Nitrotoluene, MNX, o-Nitrotoluene, p-Nitrotoluene, RDX are outside control limits. Probable cause is due to matrix interference. % RPD was within control limits in MS/MSD.

Matrix Spike Duplicate Recovery(s) for DNX, m-Nitrotoluene, MNX, RDX are outside control limits. Probable cause is due to matrix interference. % RPD was within control limits in MS/MSD.

FA45722-1,-2: Confirmation run.

FA45722-1,-2: All hits confirmed by reanalysis on a dissimilar column.

FA45722-1,-2 for DNX: Associated CCV outside of DoD control limits low.

FA45722-2 for 3,5-Dinitroaniline: Elevated RL due to the primary and confirmation results being greater than 40%

OP65961-MB for 3,4-Dinitrotoluene: Outside control limits.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Zhongyun Ma, Client Services (signature on file)

Summary of Hits

Job Number: FA45722
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/10/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA45722-1	**889901/54MW10**					
Perchlorate		0.20	0.20	0.10	ug/l	SW846 6850
HMX [a]		0.35	0.20	0.10	ug/l	SW846 8330B
RDX [a]		0.76	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		0.44	0.20	0.10	ug/l	SW846 8330B
FA45722-2	**889903/54TM10**					
Perchlorate		0.40	0.20	0.10	ug/l	SW846 6850
HMX [a]		1.8	0.20	0.10	ug/l	SW846 8330B
RDX [a]		5.5	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [b]		0.40 U	0.40	0.40	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		0.51	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		0.79	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		4.5	0.20	0.10	ug/l	SW846 8330B
FA45722-3	**889905/54MW1**					
No hits reported in this sample.						
FA45722-4	**889907/071017R1**					
No hits reported in this sample.						

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) All hits confirmed by reanalysis on a dissimilar column. Elevated RL due to the primary and confirmation results being greater than 40% RPD.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	889901/54MW10		
Lab Sample ID:	FA45722-1	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q37583.D	1	07/27/17 17:00	NAF	07/26/17 10:00	OP66151	SQ947
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.20	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889901/54MW10		
Lab Sample ID:	FA45722-1	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB056482.D	1	07/19/17 04:03	EM	07/14/17 09:45	OP65961	GBB1620
Run #2 [b]	GG613510.D	1	07/21/17 03:31	EM	07/14/17 09:45	OP65961	GGG2548

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.35	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.76	0.20	0.10	0.080	ug/l	
	DNX [c]	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.44	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	85%	98%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated CCV outside of DoD control limits low.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889903/54TM10		
Lab Sample ID:	FA45722-2	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q37584.D	1	07/27/17 17:06	NAF	07/26/17 10:00	OP66151	SQ947
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.40	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889903/54TM10		
Lab Sample ID:	FA45722-2	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB056483.D	1	07/19/17 04:33	EM	07/14/17 09:45	OP65961	GBB1620
Run #2 [b]	GG613511.D	1	07/21/17 04:01	EM	07/14/17 09:45	OP65961	GGG2548

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	1.8	0.20	0.10	0.080	ug/l	
121-82-4	RDX	5.5	0.20	0.10	0.080	ug/l	
	DNX [c]	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline [d]	0.40 U	0.40	0.40	0.40	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.51	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.79	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	4.5	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	86%	99%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated CCV outside of DoD control limits low.
(d) Elevated RL due to the primary and confirmation results being greater than 40% RPD.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889905/54MW1		
Lab Sample ID:	FA45722-3	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q37585.D	1	07/27/17 17:12	NAF	07/26/17 10:00	OP66151	SQ947
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889905/54MW1		
Lab Sample ID:	FA45722-3	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB056484.D	1	07/19/17 05:03	EM	07/14/17 09:45	OP65961	GBB1620
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	81%		70-136%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889907/071017R1		
Lab Sample ID:	FA45722-4	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q37586.D	1	07/27/17 17:18	NAF	07/26/17 10:00	OP66151	SQ947
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	889907/071017R1		
Lab Sample ID:	FA45722-4	**Date Sampled:**	07/10/17
Matrix:	AQ - Ground Water	**Date Received:**	07/12/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB056485.D	1	07/19/17 05:33	EM	07/14/17 09:45	OP65961	GBB1620
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	83%		70-136%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA45722

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 128820 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

Government UPS Shipping Acct ? Y N

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: ~ 2 weeks *RUSH TURNAROUND NEEDED? Y or N (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE DOD QSM 5.0 NELAP (Circle one) OTHER

Report results as EDD? N Y (Circle one and indicate type: ERIS & Excel) Data Deliverable Package LEVEL: 4

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
889901 > 1	07/10/2017 1120	GROUND WATER	54MW10	MNX/DNX/TNX **	8330B	
889901	07/10/2017 1120	GROUND WATER	54MW10	PERCHLORATE	SW6850	
889903 > 2	07/10/2017 1125	GROUND WATER	54TM10	MNX/DNX/TNX **	8330B	
889903	07/10/2017 1125	GROUND WATER	54TM10	PERCHLORATE	SW6850	
889905 > 3	07/10/2017 1340	GROUND WATER	54MW1	MNX/DNX/TNX **	8330B	
889905	07/10/2017 1340	GROUND WATER	54MW1	PERCHLORATE	SW6850	
889907 > 4	07/10/2017 1440	GROUND WATER	071017R1	MNX/DNX/TNX **	8330B	
889907	07/10/2017 1440	GROUND WATER	071017R1	PERCHLORATE	SW6850	

Relinquished by: Date/Time: 7-11-17 / 1330h

Received by: Date/Time: 07/12/17 1030 Receipt Temperature (C) 3.0

COMMENTS: ** report full-list explosives plus RDX breakdown products (MNX/DNX/TNX). Use sample description and not CT Labs ID# for reporting.

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

5.1 5

SGS Accutest Sample Receipt Summary

Job Number: FA45722 **Client:** CT LAB **Project:** RADFORD AAP

Date / Time Received: 7/12/2017 10:30:00 AM **Delivery Method:** UPS **Airbill #'s:** 1Z1A4A850141380904

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 7/12/2017 10:30:00 A Reviewer: P.H Date: 7/12/2017

QC Evaluation: DOD QSM5 Limits

Job Number: FA45722
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/10/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP66151	SW846 6850						
OP66151-BS	14797-73-0	Perchlorate	BSP	REC	100	%	84-119
OP66151-MS*	14797-73-0	Perchlorate	MS	REC	50 [a]	%	84-119
OP66151-MSD*	14797-73-0	Perchlorate	MSD	REC	50 [a]	%	84-119
OP66151-MSD*	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP65961	SW846 8330B						
OP65961-BS	2691-41-0	HMX	BSP	REC	110	%	65-135
OP65961-BS	121-82-4	RDX	BSP	REC	94	%	68-130
OP65961-BS		DNX	BSP	REC	88	%	66-119
OP65961-BS		MNX	BSP	REC	120	%	57-132
OP65961-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	96	%	71-117
OP65961-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	84	%	78-120
OP65961-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	90	%	77-127
OP65961-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	86	%	78-120
OP65961-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	92	%	79-120
OP65961-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	92	%	76-125
OP65961-BS	98-95-3	Nitrobenzene	BSP	REC	84	%	65-134
OP65961-BS	88-72-2	o-Nitrotoluene	BSP	REC	82	%	70-127
OP65961-BS	99-08-1	m-Nitrotoluene	BSP	REC	78	%	73-125
OP65961-BS	99-99-0	p-Nitrotoluene	BSP	REC	86	%	71-127
OP65961-BS	479-45-8	Tetryl	BSP	REC	82	%	64-128
OP65961-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	92	%	73-125
OP65961-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	74	%	71-123
OP65961-BS	55-63-0	Nitroglycerine	BSP	REC	122	%	74-127
OP65961-BS	78-11-5	PETN	BSP	REC	112	%	73-127
OP65961-MS*	2691-41-0	HMX	MS	REC	114	%	65-135
OP65961-MS*	121-82-4	RDX	MS	REC	147	%	68-130
OP65961-MS*		DNX	MS	REC	174	%	66-119
OP65961-MS*		MNX	MS	REC	150	%	57-132
OP65961-MS*	618-87-1	3,5-Dinitroaniline	MS	REC	96	%	71-117
OP65961-MS*	99-65-0	1,3-Dinitrobenzene	MS	REC	85	%	78-120
OP65961-MS*	606-20-2	2,6-Dinitrotoluene	MS	REC	121	%	77-127
OP65961-MS*	121-14-2	2,4-Dinitrotoluene	MS	REC	80	%	78-120
OP65961-MS*	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	95	%	79-120
OP65961-MS*	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	92	%	76-125
OP65961-MS*	98-95-3	Nitrobenzene	MS	REC	78	%	65-134
OP65961-MS*	88-72-2	o-Nitrotoluene	MS	REC	73	%	70-127
OP65961-MS*	99-08-1	m-Nitrotoluene	MS	REC	70	%	73-125
OP65961-MS*	99-99-0	p-Nitrotoluene	MS	REC	78	%	71-127
OP65961-MS*	479-45-8	Tetryl	MS	REC	74	%	64-128
OP65961-MS*	99-35-4	1,3,5-Trinitrobenzene	MS	REC	98	%	73-125

* Sample used for QC is not from job FA45722

QC Evaluation: DOD QSM5 Limits

Job Number: FA45722
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/10/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP65961-MS*	118-96-7	2,4,6-Trinitrotoluene	MS	REC	77	%	71-123
OP65961-MS*	55-63-0	Nitroglycerine	MS	REC	121	%	74-127
OP65961-MS*	78-11-5	PETN	MS	REC	101	%	73-127
OP65961-MSD*	2691-41-0	HMX	MSD	REC	132	%	65-135
OP65961-MSD*	2691-41-0	HMX	MSD	RPD	5	%	20
OP65961-MSD*	121-82-4	RDX	MSD	REC	164	%	68-130
OP65961-MSD*	121-82-4	RDX	MSD	RPD	11	%	20
OP65961-MSD*		DNX	MSD	REC	198	%	66-119
OP65961-MSD*		DNX	MSD	RPD	13	%	20
OP65961-MSD*		MNX	MSD	REC	161	%	57-132
OP65961-MSD*		MNX	MSD	RPD	7	%	20
OP65961-MSD*	618-87-1	3,5-Dinitroaniline	MSD	REC	101	%	71-117
OP65961-MSD*	618-87-1	3,5-Dinitroaniline	MSD	RPD	6	%	20
OP65961-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	REC	91	%	78-120
OP65961-MSD*	99-65-0	1,3-Dinitrobenzene	MSD	RPD	7	%	20
OP65961-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	REC	124	%	77-127
OP65961-MSD*	606-20-2	2,6-Dinitrotoluene	MSD	RPD	3	%	20
OP65961-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	REC	85	%	78-120
OP65961-MSD*	121-14-2	2,4-Dinitrotoluene	MSD	RPD	6	%	20
OP65961-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	102	%	79-120
OP65961-MSD*	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	5	%	20
OP65961-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	97	%	76-125
OP65961-MSD*	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	4	%	20
OP65961-MSD*	98-95-3	Nitrobenzene	MSD	REC	86	%	65-134
OP65961-MSD*	98-95-3	Nitrobenzene	MSD	RPD	10	%	20
OP65961-MSD*	88-72-2	o-Nitrotoluene	MSD	REC	79	%	70-127
OP65961-MSD*	88-72-2	o-Nitrotoluene	MSD	RPD	8	%	20
OP65961-MSD*	99-08-1	m-Nitrotoluene	MSD	REC	76	%	73-125
OP65961-MSD*	99-08-1	m-Nitrotoluene	MSD	RPD	9	%	20
OP65961-MSD*	99-99-0	p-Nitrotoluene	MSD	REC	85	%	71-127
OP65961-MSD*	99-99-0	p-Nitrotoluene	MSD	RPD	8	%	20
OP65961-MSD*	479-45-8	Tetryl	MSD	REC	80	%	64-128
OP65961-MSD*	479-45-8	Tetryl	MSD	RPD	8	%	20
OP65961-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	106	%	73-125
OP65961-MSD*	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	3	%	20
OP65961-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	79	%	71-123
OP65961-MSD*	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	1	%	20
OP65961-MSD*	55-63-0	Nitroglycerine	MSD	REC	114	%	74-127
OP65961-MSD*	55-63-0	Nitroglycerine	MSD	RPD	6	%	20
OP65961-MSD*	78-11-5	PETN	MSD	REC	119	%	73-127
OP65961-MSD*	78-11-5	PETN	MSD	RPD	16	%	20

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FA45722

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66151-MB	Q37581.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947

The QC reported here applies to the following samples: **Method:** SW846 6850

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66151-BS	Q37580.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947

The QC reported here applies to the following samples: **Method:** SW846 6850

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.20	100	80-120

* = Outside of Control Limits.

Raw Data: Q37588.D Q37589.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66151-MS	Q37588.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947
OP66151-MSD	Q37589.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947
FA45759-1	Q37587.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947

The QC reported here applies to the following samples: **Method:** SW846 6850

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	FA45759-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	1.1		0.2	1.2	50* [a]	0.2	1.2	50* [a]	0	80-120/15

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ947-CC946	**Injection Date:**	07/27/17
Lab File ID:	Q37577.D	**Injection Time:**	16:26
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	136535	2.95
Check Std [b]	98691	3.02
Upper Limit [c]	204803	5.02
Lower Limit [d]	68268	1.02

Lab Sample ID	IS 1 AREA	RT
OP66151-BS	114035	3.03
OP66151-MB	129758	3.02
ZZZZZZ	122826	3.03
FA45722-1	108111	2.82
FA45722-2	110288	2.83
FA45722-3	120442	2.85
FA45722-4	114365	3.03
FA45759-1	126768	2.85
OP66151-MS	122534	2.85
OP66151-MSD	121536	2.84

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ946-ICC946 Q37375.D 07/26/17 14:21. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ946-ICC946
Lab FileID: Q37375.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0726_6850_SQ946\SQ946.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2 : D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3 : D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4 : D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5 : D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6 : D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7 : D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8 : D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) C118O4	----------ISTD----------										
3) Perchlorate	1.1044	0.9560	0.9056	0.9347	0.9514	1.0328	1.1744	1.1037	1.0204	9.609	0.9927

*(value) - Average RF below (value)

6.5.1

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ946-ICV946
Lab FileID: Q37380.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0726_6850_SQ946\SQ946.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37380
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.831	-8.4	91.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37577.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37577
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.775	-11.2	88.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37578.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37578
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.228	13.9	113.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37590.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37590
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.938	-3.1	96.9

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37591.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37591
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.200	0.2	100.2

CC Criteria: +/- 30%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37583.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:00
Sample Name	:	FA45722-1
Vial	:	Vial 63
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

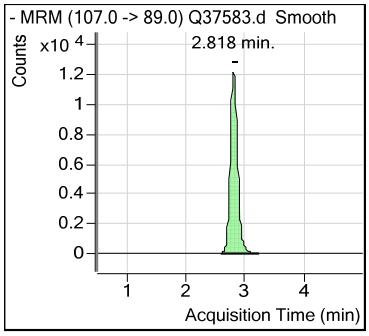
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.818	107.0 -> 89.0	108111	5.000	ng/ml	-0.406	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.813	99.0 -> 83.0	4148	0.196	ng/ml	88	2.8
		101.0 -> 85.0	1508				

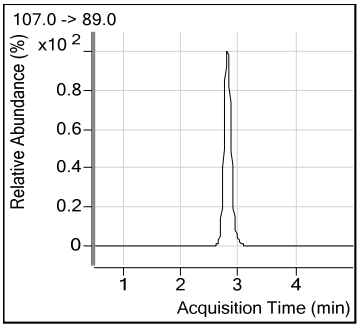
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

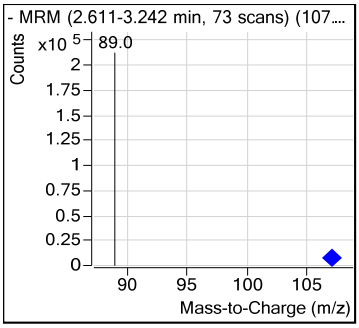
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37583.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:00
Sample Name	:	FA45722-1
Vial	:	Vial 63
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

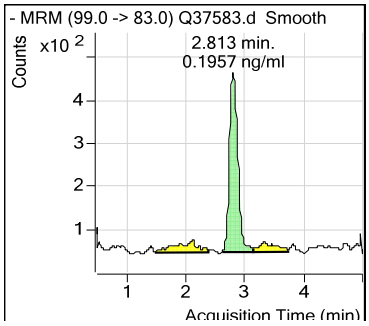
Cl18O4

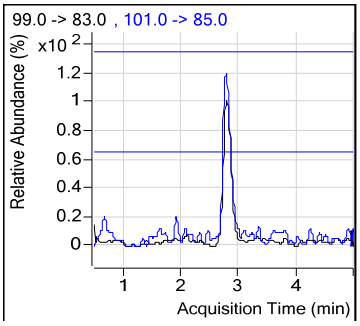


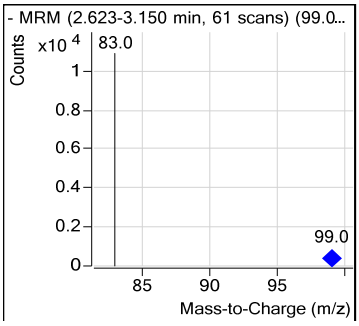




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37584.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:06
Sample Name	:	FA45722-2
Vial	:	Vial 64
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.827	107.0 -> 89.0	110288	5.000	ng/ml	-0.398	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.839	99.0 -> 83.0	8660	0.400	ng/ml	95	3.0
		101.0 -> 85.0	2847				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37584.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:06
Sample Name	:	FA45722-2
Vial	:	Vial 64
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4

Perchlorate

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37585.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:12
Sample Name	:	FA45722-3
Vial	:	Vial 65
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

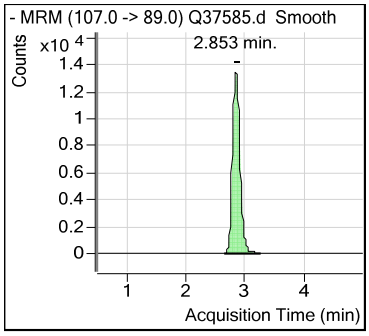
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.853	107.0 -> 89.0	120442	5.000	ng/ml	-0.372	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.476	99.0 -> 83.0	303	0.013	ng/ml	45	

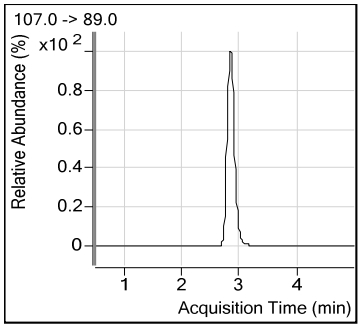
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

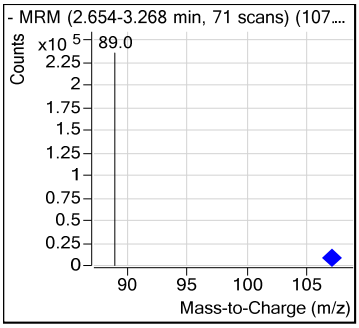
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37585.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:12
Sample Name	:	FA45722-3
Vial	:	Vial 65
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

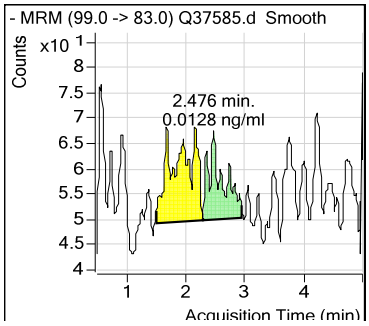
Cl18O4

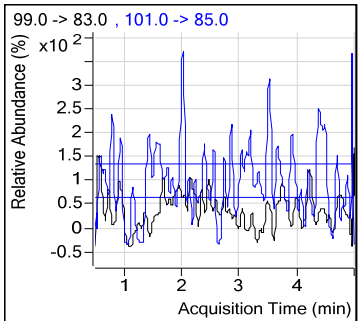


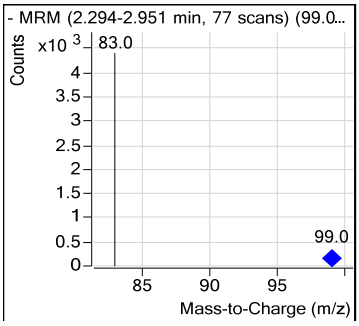




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37586.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:18
Sample Name	:	FA45722-4
Vial	:	Vial 66
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

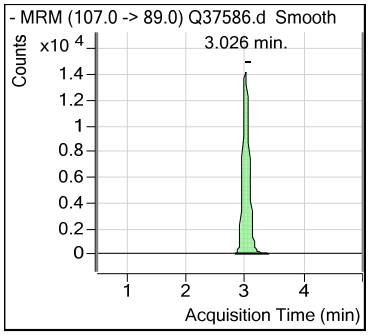
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.026	107.0 -> 89.0	114365	5.000	ng/ml	-0.199	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.003	99.0 -> 83.0	379	0.017	ng/ml	45	

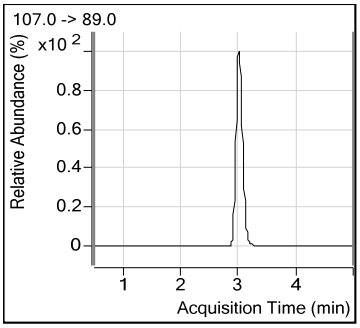
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

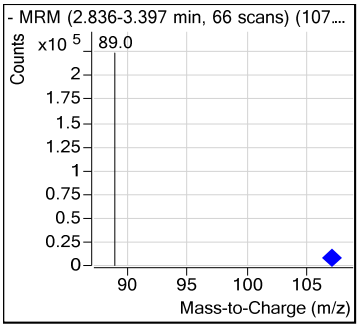
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37586.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:18
Sample Name	:	FA45722-4
Vial	:	Vial 66
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

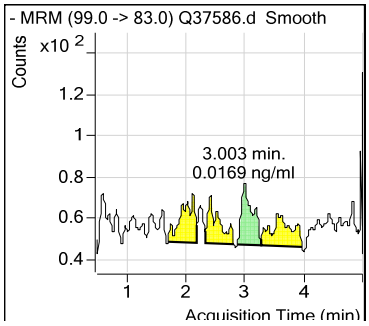
Cl18O4

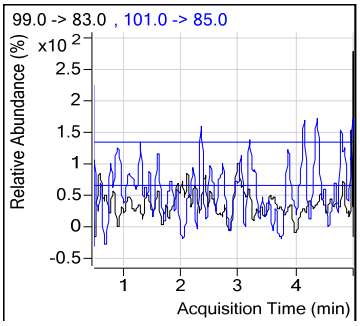


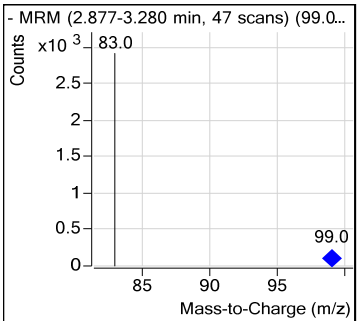




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:49
Sample Name	:	OP66151-MB
Vial	:	Vial 61
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

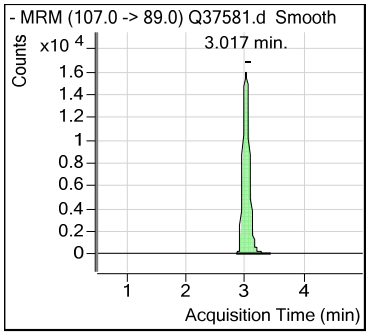
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	129758	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.865	99.0 -> 83.0	565	0.022	ng/ml	82	2.5
		101.0 -> 85.0	224				

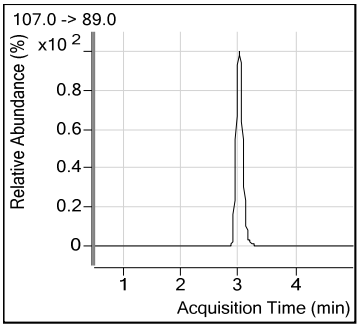
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

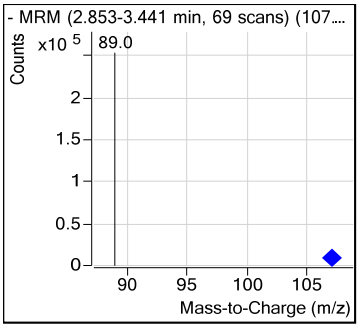
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:49
Sample Name	:	OP66151-MB
Vial	:	Vial 61
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

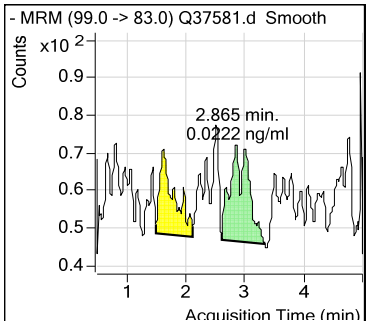
Cl18O4

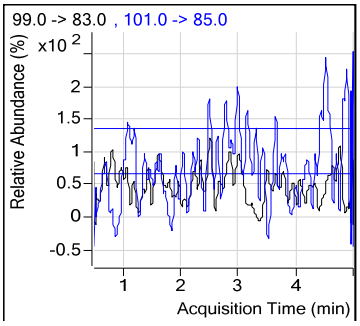


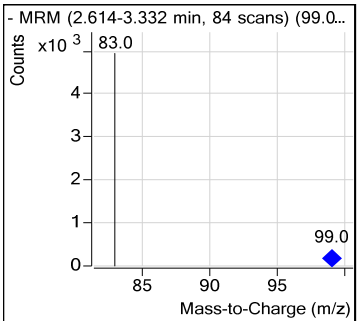




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37580.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:43
Sample Name	:	OP66151-BS
Vial	:	Vial 60
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

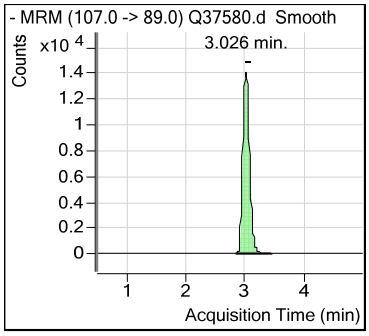
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.026	107.0 -> 89.0	114035	5.000	ng/ml	-0.199	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.012	99.0 -> 83.0	4434	0.198	ng/ml	92	2.9
		101.0 -> 85.0	1513				

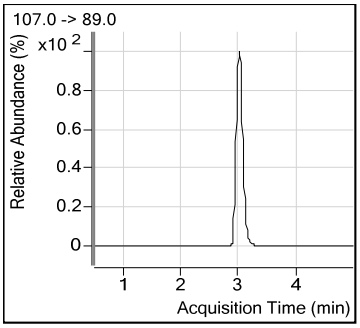
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

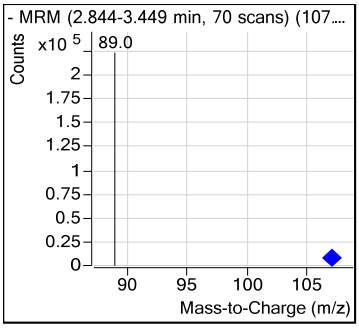
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37580.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:43
Sample Name	:	OP66151-BS
Vial	:	Vial 60
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

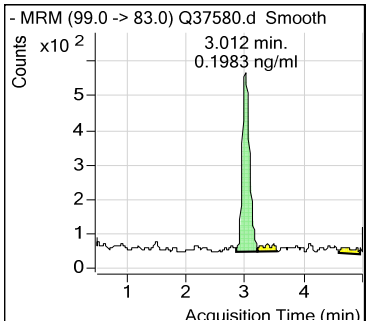
Cl18O4

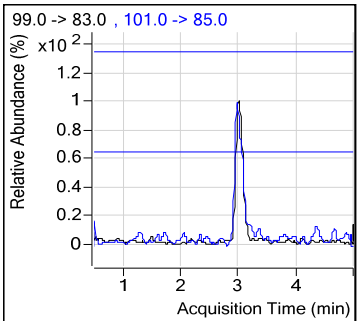


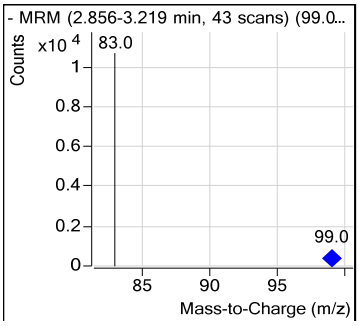




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37588.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:29
Sample Name	:	OP66151-MS
Vial	:	Vial 68
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

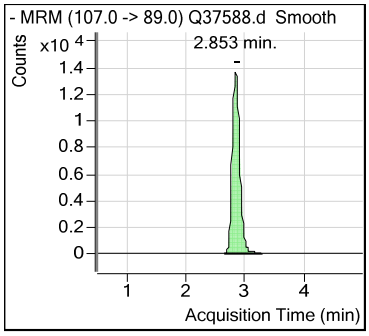
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.853	107.0 -> 89.0	122534	5.000	ng/ml	-0.372	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.848	99.0 -> 83.0	29765	1.234	ng/ml	96	3.1
		101.0 -> 85.0	9586				

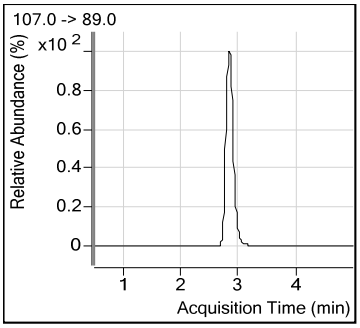
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

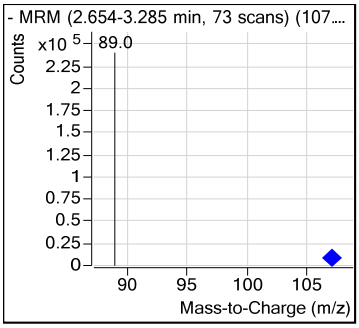
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37588.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:29
Sample Name	:	OP66151-MS
Vial	:	Vial 68
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

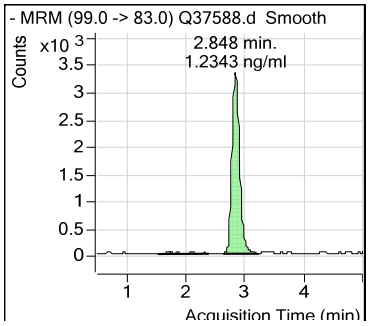
Cl18O4

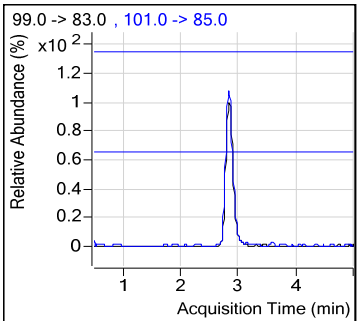


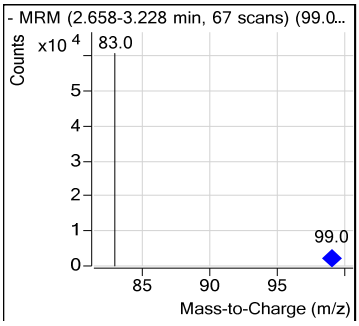




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37589.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:35
Sample Name	:	OP66151-MSD
Vial	:	Vial 69
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.844	107.0 -> 89.0	121536	5.000	ng/ml	-0.380	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.848	99.0 -> 83.0	29749	1.244	ng/ml	100	3.3
		101.0 -> 85.0	8900				

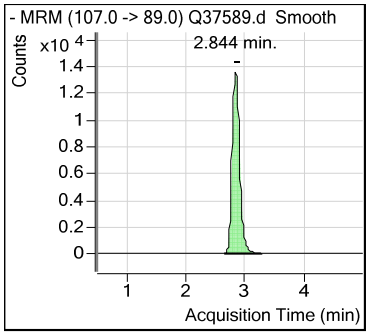
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

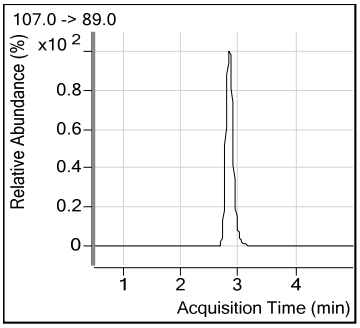
SGS ACCUTEST FA45722

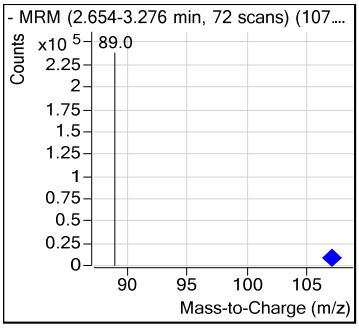
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37589.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:35
Sample Name	:	OP66151-MSD
Vial	:	Vial 69
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

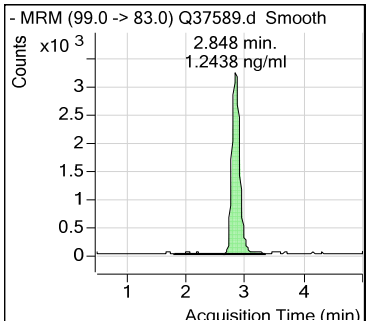
Cl18O4

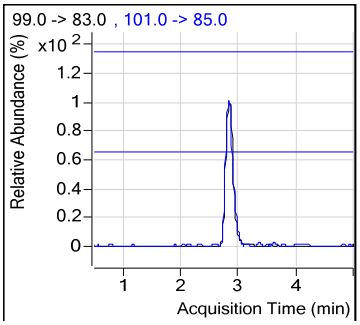


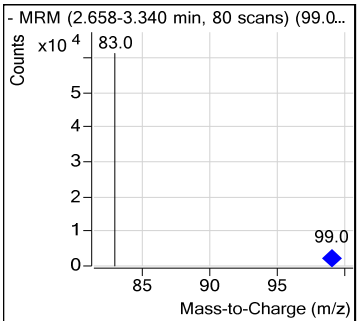




Perchlorate







SGS ACCUTEST FA45722

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37372.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:03
Sample Name	:	IC946-0.2
Vial	:	Vial 2
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

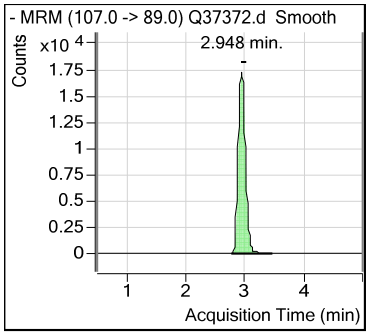
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	149769	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	6616	0.225	ng/ml	98	3.4
		101.0 -> 85.0	1922				

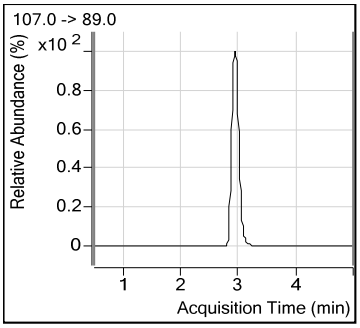
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

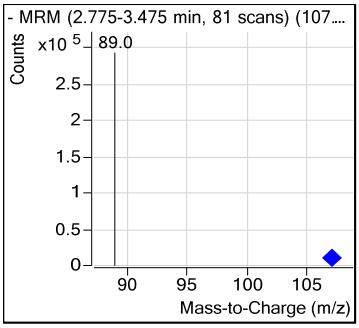
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37372.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:03
Sample Name	:	IC946-0.2
Vial	:	Vial 2
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

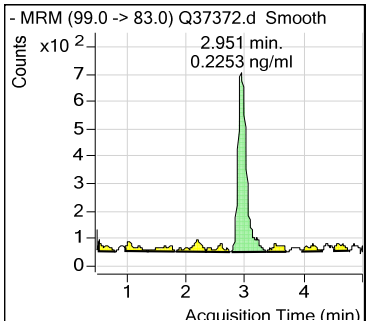
Cl18O4

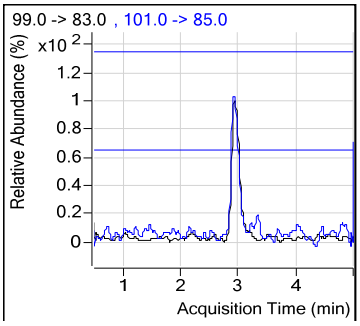


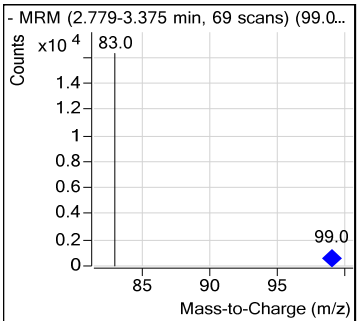




Perchlorate







Cal Report: Q37373.D

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37373.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:09
Sample Name	:	IC946-0.5
Vial	:	Vial 3
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	147948	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.960	99.0 -> 83.0	14143	0.487	ng/ml	91	2.8
		101.0 -> 85.0	4968				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.2

7

SGS ACCUTEST FA45722

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37373.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:09
Sample Name	:	IC946-0.5
Vial	:	Vial 3
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4

Perchlorate

Cal Report: Q37374.D

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37374.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:15
Sample Name	:	IC946-1.0
Vial	:	Vial 4
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	150772	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	27308	0.921	ng/ml	98	3.2
		101.0 -> 85.0	8432				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.3

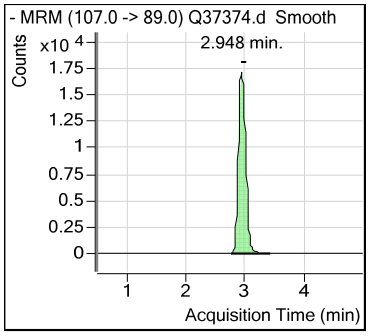
7

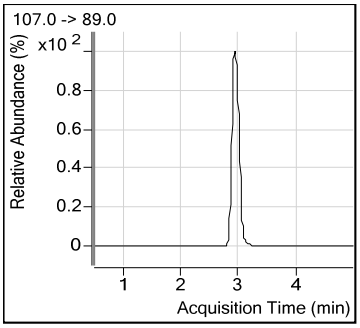
SGS ACCUTEST FA45722

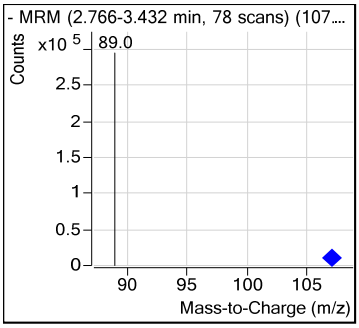
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37374.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:15
Sample Name	:	IC946-1.0
Vial	:	Vial 4
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

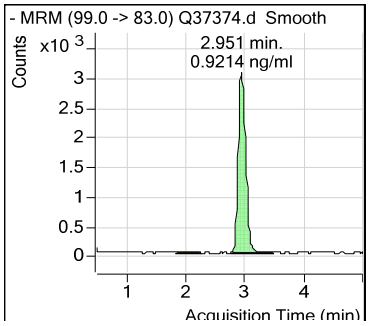
Cl18O4

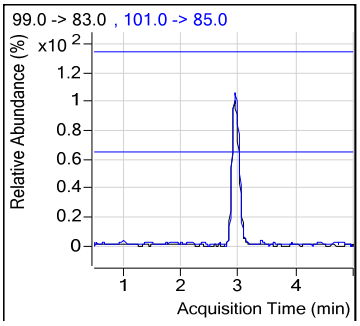


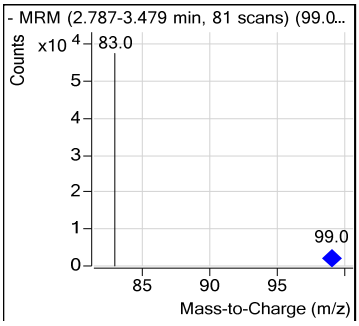




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37375.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:21
Sample Name	:	ICC946-2.0
Vial	:	Vial 5
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

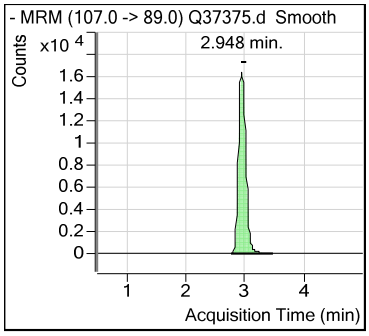
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	145542	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	54414	1.895	ng/ml	98	3.2
		101.0 -> 85.0	16961				

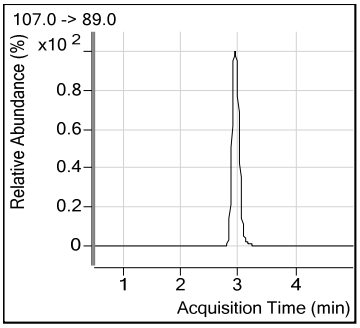
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

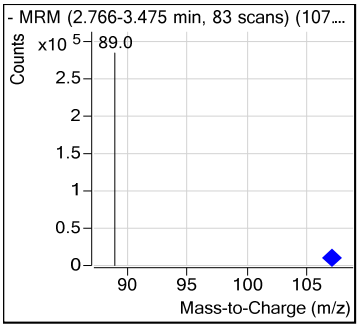
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37375.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:21
Sample Name	:	ICC946-2.0
Vial	:	Vial 5
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

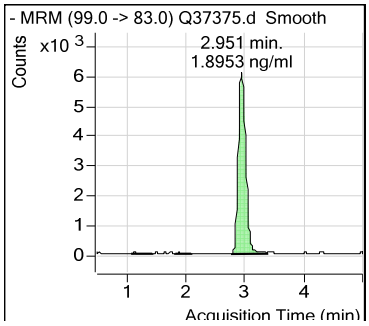
Cl18O4

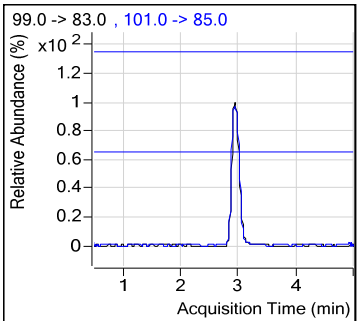


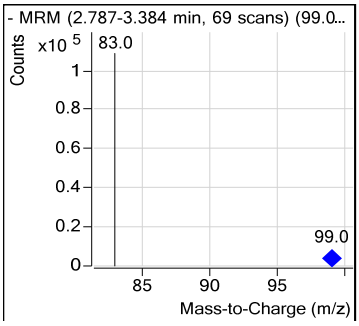




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37376.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:26
Sample Name	:	IC946-5.0
Vial	:	Vial 6
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	143187	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.960	99.0 -> 83.0	136230	4.775	ng/ml	98	3.2
		101.0 -> 85.0	42129				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.5

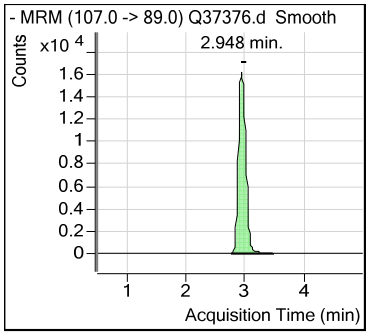
7

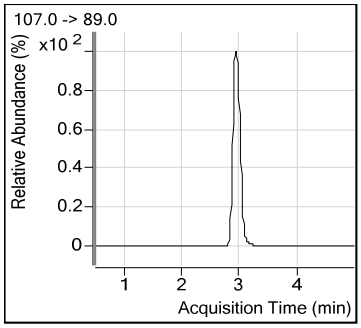
SGS ACCUTEST FA45722

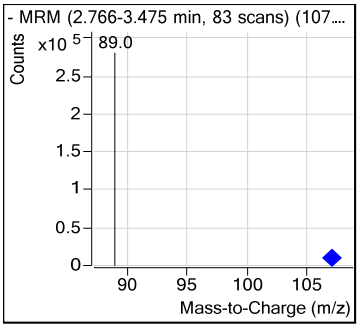
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37376.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:26
Sample Name	:	IC946-5.0
Vial	:	Vial 6
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

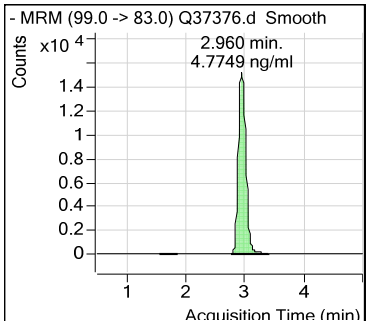
Cl18O4

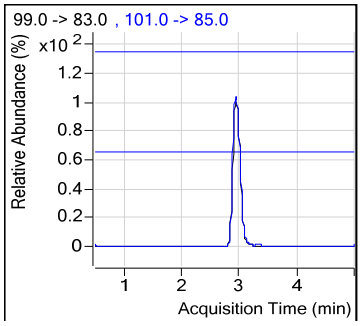


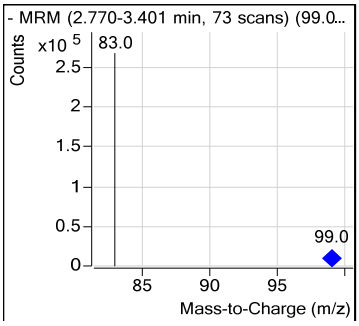




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37377.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:32
Sample Name	:	IC946-10
Vial	:	Vial 7
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.957	107.0 -> 89.0	134349	5.000	ng/ml	-0.268	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	277523	10.175	ng/ml	99	3.4
		101.0 -> 85.0	81454				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.6

7

SGS ACCUTEST FA45722

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37377.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:32
Sample Name	:	IC946-10
Vial	:	Vial 7
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4

Perchlorate

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37378.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:38
Sample Name	:	IC946-25
Vial	:	Vial 8
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	113969	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	669214	27.322	ng/ml	97	3.5
		101.0 -> 85.0	190240				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

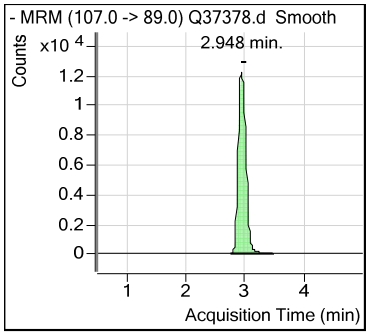
7.5.7

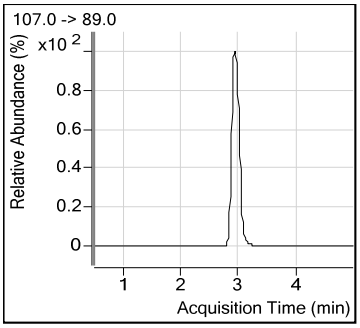
7

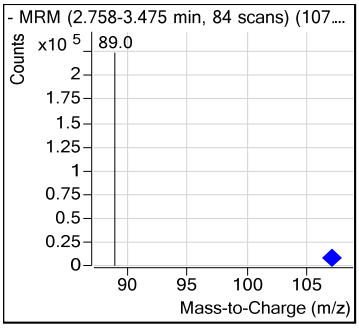
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37378.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:38
Sample Name	:	IC946-25
Vial	:	Vial 8
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

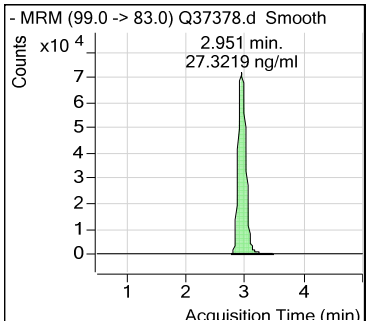
Cl18O4

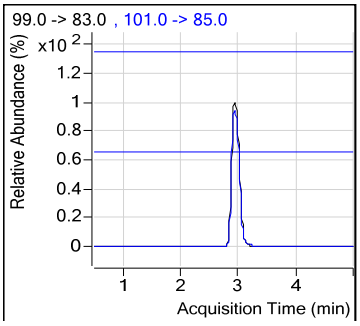


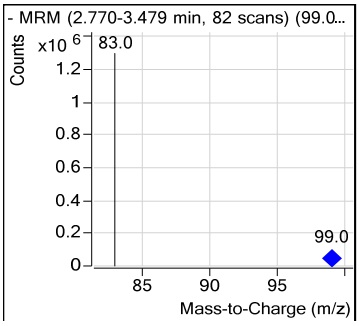




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37379.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:44
Sample Name	:	IC946-50
Vial	:	Vial 9
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	106747	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	1178124	48.119	ng/ml	97	3.5
		101.0 -> 85.0	337201				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.8

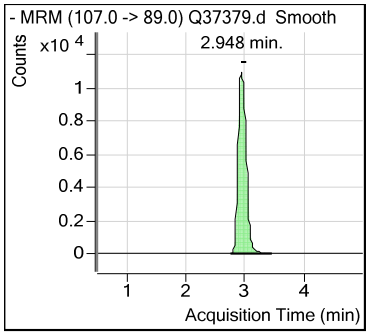
7

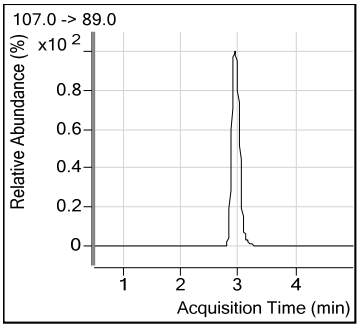
SGS ACCUTEST FA45722

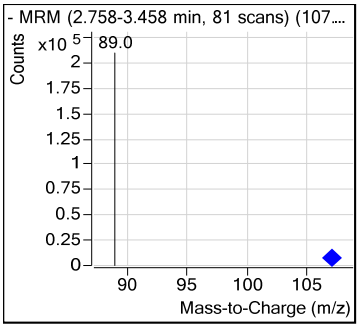
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37379.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:44
Sample Name	:	IC946-50
Vial	:	Vial 9
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

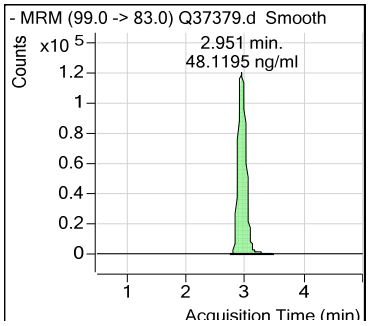
Cl18O4

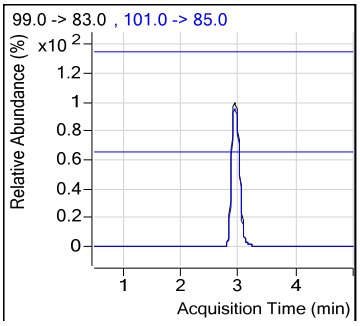


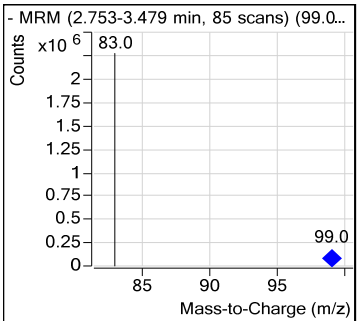




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37380.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:50
Sample Name	:	ICV946-2.0
Vial	:	Vial 10
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

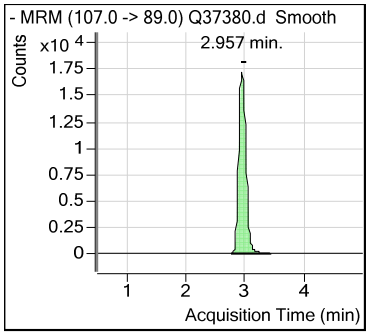
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.957	107.0 -> 89.0	149907	5.000	ng/ml	-0.268	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.960	99.0 -> 83.0	54144	1.831	ng/ml	96	3.1
		101.0 -> 85.0	17376				

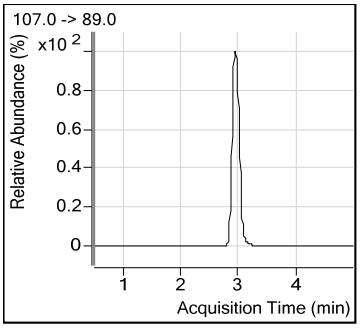
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

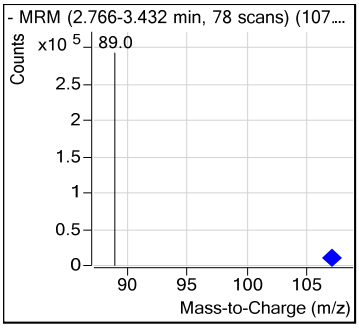
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37380.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:50
Sample Name	:	ICV946-2.0
Vial	:	Vial 10
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

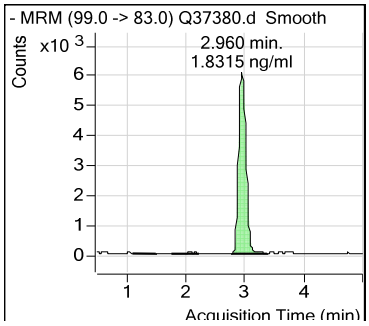
Cl18O4

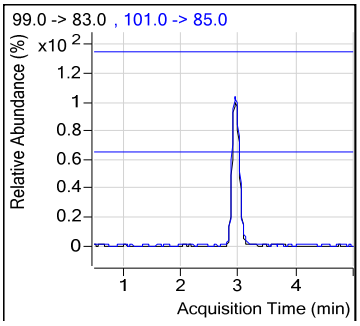


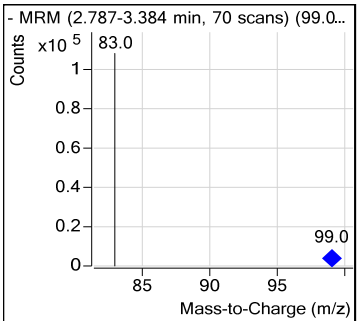




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:26
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	98691	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.012	99.0 -> 83.0	34547	1.775	ng/ml	95	3.1
		101.0 -> 85.0	11272				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.10

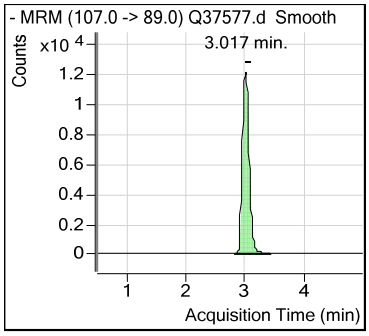
7

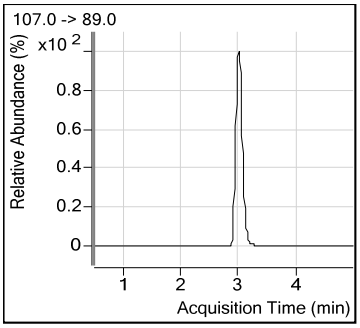
SGS ACCUTEST FA45722

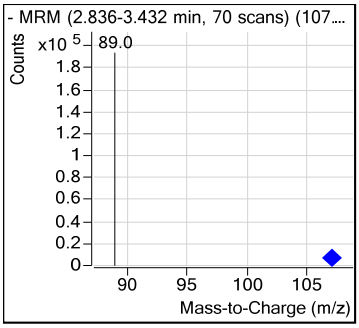
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:26
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

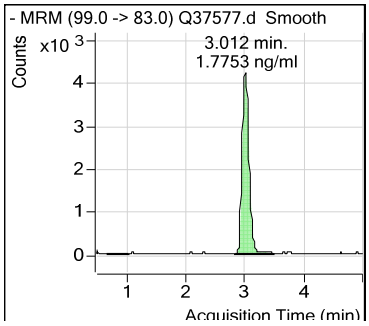
Cl18O4

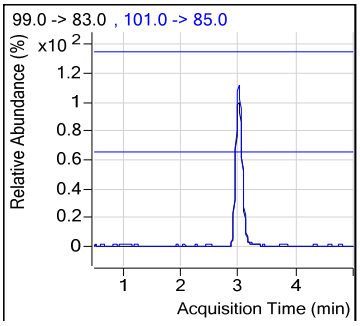


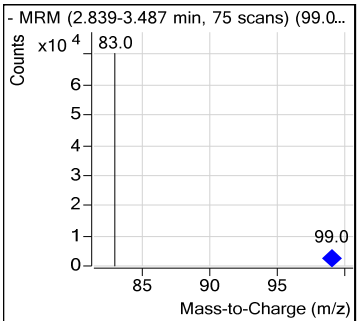




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:32
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

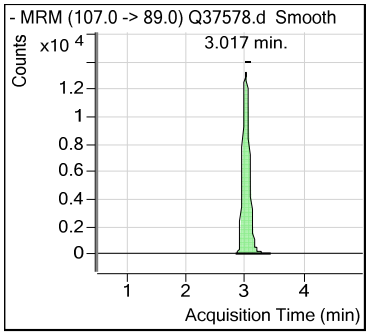
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	109737	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.021	99.0 -> 83.0	4902	0.228	ng/ml	94	3.0
		101.0 -> 85.0	1625				

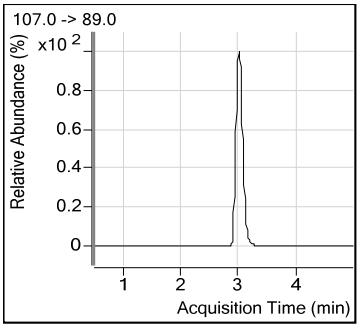
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

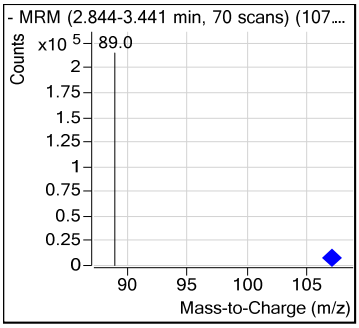
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:32
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

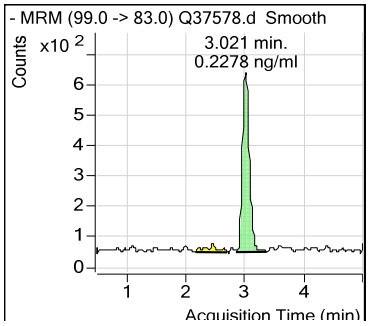
Cl18O4

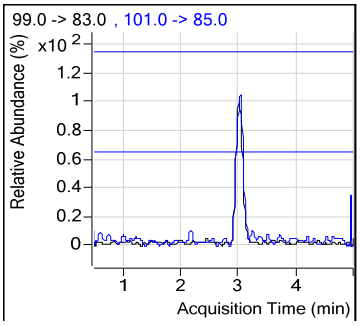


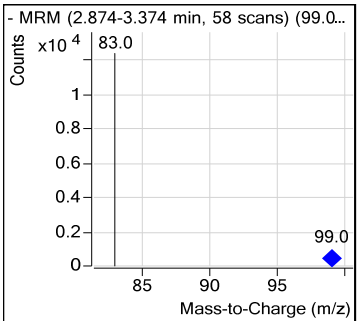




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:41
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	107866	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.021	99.0 -> 83.0	41231	1.938	ng/ml	98	3.2
		101.0 -> 85.0	12749				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:41
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4

Perchlorate

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:47
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.017	107.0 -> 89.0	112691	5.000	ng/ml		-0.207	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	3.029	99.0 -> 83.0	4430	0.200	ng/ml	#	80	2.5
		101.0 -> 85.0	1798					

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.13

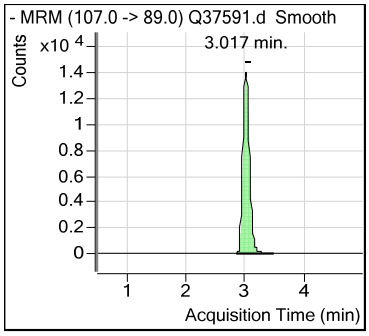
7

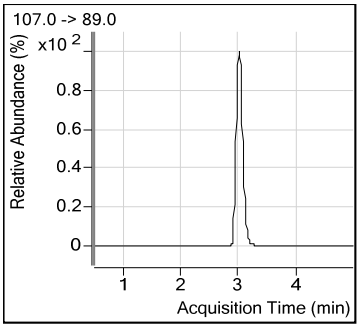
SGS ACCUTEST FA45722

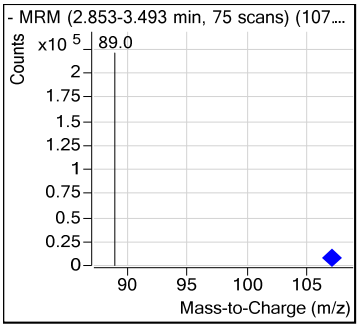
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:47
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

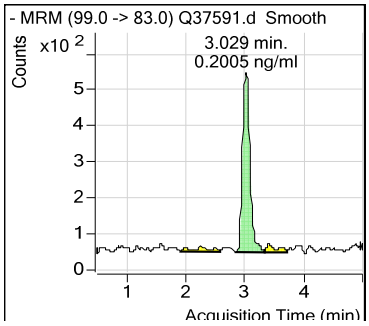
Cl18O4

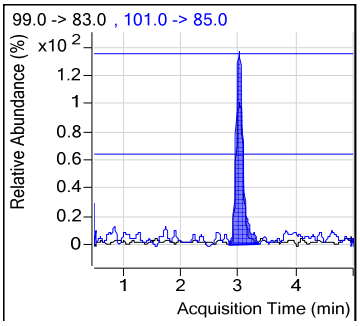


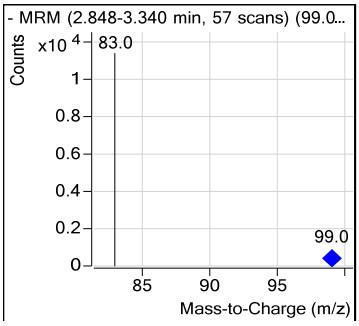




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850 & 6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MB
ELUENT A LOT #:	172620 w Acetic
ELUENT B LOT #:	171224 +
WATER LOT #:	172620
ISTD Lot #:	8631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37771	1	CCB	6850					LOW	BDL
Q 72	2	ICV946-0.2		LC857	2ml 10ml	3.4			✓
Q 73	3	-0.5			5ml 10ml	2.8			✓
Q 74	4	-1.0			10ml 10ml	3.2			✓
Q 75	5	FCC946-2.0			20ml 10ml	3.2			✓
Q 76	6	FCV946-5.0			50ml 10ml	3.2			✓
Q 77	7	-10			100ml 10ml	3.4			✓
Q 78	8	-25			25ml 10ml	3.5			✓
Q 79	9	-50			5ml 10ml	3.5			✓
Q 80	10	FCV946-2.0		LC858	200ml 10ml	3.1			Pass
Q 81	11	FCS946-0.2			100ml 10ml	3.3		>10K LOW	Pass
Q 82	15	FA45118-7		OP65967	1X	3.2		LOW	✓
Q 83	16	-8			5X	3.6			✓
Q 84	17	-9			10X	3.5			✓
Q 85	18	-10			5X	3.5			✓
Q 86	19	-11			1X	3.5			✓
Q 87	20	72				3.0			✓
Q 88	21	-13				3.3			✓
Q 89	22	-14				3.0			✓
Q 90	23	-15				3.5			✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	R Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MS	
ELUENT A LOT #:	172620	MeOH
ELUENT B LOT #:	171224	H
WATER LOT #:	172620	
ISTD Lot #:	6631	

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 373491	24	FA45118-16	6850	OP65967	20x	3.0		LOW	* Run 40X
Q 92	5	CC946-2.0		LC857	200ul 10ml	3.3			Poss
Q 93	2	-0.2		"	20ul 10ml	3.0			Poss
Q 94	1	CCB							BDL
Q 95	27	FA45118-17		OP65967	5x	3.5			✓
Q 96	26	-18			1x	3.5			✓
Q 97	27	-19			"	3.1			✓
Q 98	28	-21		"	"	3.0			✓
Q 99	29	OP65968-BS		OP65968	1x	3.7			✓
Q 400	30	-MB				—			BDL
Q 01	31	FA45118-20				3.1			✓
Q 02	32	OP65968-MS				3.1			✓
Q 03	33	-MSD				2.8			✓
Q 04	34	FA45118-22				3.6			✓
Q 05	5	CC946-2.0		LC967	20ul 10ml	3.3			Poss
Q 06	2	-0.2		"	20ul 10ml	3.1			Poss
Q 07	1	CCB							BDL
Q 08	35	FA45118-23		OP65968	1x	3.3			✓
Q 09	36	-24		"	"	2.3			✓
Q 10	37	-25		"	"	3.3			* Run 50X

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MS
ELUENT A LOT #:	172161
ELUENT B LOT #:	171824
WATER LOT #:	172161
ISTD Lot #:	0631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37411	38	FALS118-26	6850	OP65966	1X	3.4		LOW	X Run 10X
Q 12	39	-27				3.5			✓
Q 13	40	-28				3.3			✓
Q 14	41	-29				3.3			✓
Q 15	42	-30				3.0			✓
Q 16	43	-31				2.4			✓
Q 17	44	-32		↓	↓	3.5			✓
Q 18	5	CCQ46-2.0		LCB57	20uL 10ml	3.3			PASS
Q 19	2	-0.2		↓	20uL 10ml	2.9			PASS
Q 20	1	CCB							BOL
Q 21	45	FALS118-33		0065966	1X	RR			✓ RR 1X1 CC
Q 22	46	-34							X Run 10X
Q 23	47	-35							X Run 10X
Q 24	48	-36							X Run 5X
Q 25	49	-37							✓ RA(1) CC
Q 26	50	-39							✓
Q 27	51	-40							✓
Q 28	52	-41		↓	↓				✓
Q 29	5	CCQ46-2.0		LCB57	20uL 10ml				LOW
Q 30	2	-0.2	↓	↓	20uL 10ml	↓		↓	PASS

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	R prime
AMOUNT INJECTED:	5 ul
INSTRUMENT: LCMS1-Q	
HEAD PRESSURE:	1150

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	NAJ
ELUENT A LOT #:	172161
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	B631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37431	1	CCB	6850			RR		110%	BDL
Q 32	53	OP65964-BS		OP65964	1x				RR 1x RR ccL
Q 33	54	-MB							
Q 34	55	FA45118-38							
Q 35	56	OP65964-MS							
Q 36	57	-MSD							
Q 37	58	FA45118-42							2x
Q 38	59	-43							RR 1x
Q 39	60	-44							
Q 40	61	FA45191-1							100x
Q 41	62	-2							500x
Q 42	5	CC946-2.0		LCB57	2x10ml				POOR
Q 43	2	-0.2			20x10ml		PS		high
Q 44	1	CCB							hit
Q 45	63	FA45191-3		OP65969	1x				XRR20x
Q 46	64	-4							RR 1x
Q 47	65	-5							
Q 48	66	-6							
Q 49	67	-8							
Q 50	68	-9	X						

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	WAS
ELUENT A LOT #:	172161
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	0631

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	37471	83	OP65970-MS02	6850	OP65970	1X	RR		LOW	RR 1X
Q	72	5	CC946-2.0		LCB57	20ml 10ml				PASS
Q	73	2	-0.2		1	20ml 10ml				PASS
Q	74	1	CCB							.00695
Q	75	84	FA45141-1B		OP65970	1X				✓ RR 1X CC low
Q	76	85	-19							RR 50X
Q	77	86	-20							RR 500X
Q	78	87	-21							RR 50X
Q	79	88	-22							RR 50 X
Q	80	89	-23							RR ~~500~~ 50X WA 7/27
Q	81	90	-24							RR 1X C.O
Q	82	91	-25							RR 1X ; CC low
Q	83	92	-26							1
Q	84	93	-27		1	1				1
Q	85	5	CC 946-2.0		LCB57	20ml 10ml				low
Q	86	2	-0.2		1	20ml 10ml				PASS
Q	87	1	CCB WA 07/27							.00748
Q	88	94	OP~~66~~65151-BS		OP65151	1X				RR CC low
Q	89	95	OP65151-MS		1	1	1		1	1 1
Q	90	96	FA45722-1	1	1	1	1		1	1 1

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K Prism
AMOUNT INJECTED:	5 ul
INSTRUMENT: LCMS1-Q	
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MS
ELUENT A LOT #:	172161
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	68831

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	37491	87	FA45722-2	6850	OP68151	1X	RR		LOW	RR CC low
Q	92	98	-3							
Q	93	99	-4							
Q	94	100	FA45754-1							
Q	95	11	OP68151-MS							
Q	96	12	-MSD							
Q	97	13	FA45754-2							
Q	98	14	FA40227-79		"	"				
Q	99	5	CC946-2.0		LCB17	200X conc				LOW
Q	500	2	ECC946-0.2		"	20X conc				PASS
Q	01	1	CCB							BDL
Q										
Q										
Q										
Q										
Q										
Q										
Q								MS 07-27-17		
Q										
Q										

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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Analyst's Signature: MS

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	115

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0126 SQ446
CALIB. DATE:	07-26-17
RUN BATCH: SQ	447

ANALYST:	NAS
ELUENT A LOT #:	172620 w Acetic
ELUENT B LOT #:	171224
WATER LOT #:	172620
ISTD Lot #:	0631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37502	1	CCB	6850					LOW	BDL
Q 03	2	CC946-2.0		LC657	2uL 10ml	3.3			Pass
Q 04	3	-0.2			20uL 10ml	2.5			Pass
Q 05	4	ICS946-0.2		LC658		3.1		Timelink	Pass
Q 06	5	FA45118-16		OP65467	40x	3.5		LOW	✓
Q 07	6	-25		OP65468	50x	3.5			Run 100x
Q 08	7	-26			10x	3.5			Run 20x
Q 09	8	-34			10x	3.5			✓
Q 10	9	-35			20x	3.5			✓
Q 11	10	-36			10x	3.4			✓
Q 12	11	-33			1x	3.4			✓
Q 13	12	-37				3.5			Run 2x
Q 14	13	-39				2.9			✓
Q 15	14	-40				3.1			✓
Q 16	2	CC946-2.0		LC657	2uL 10ml	3.0			Pass
Q 17	3	-0.2			20uL 10ml	2.9			Pass
Q 18	1	CCB							BDL
Q 19	15	FA45118-41		OP65468	1x	2.4			✓
Q 20	16	-25			100x	3.5			✓
Q 21	17	-26			20x	3.6			✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	Kprime
AMOUNT INJECTED:	5 ul
INSTRUMENT: LCMS1-Q	
HEAD PRESSURE:	115

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 50-946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	NAS
ELUENT A LOT #:	172620 w/ Acetic
ELUENT B LOT #:	171224 ↓
WATER LOT #:	172620
ISTD Lot #:	8031

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37532	18	OP65464-BS	6850	OP65964	1x	2.6		LINK	✓
Q 33	19	MB				—			BDL
Q 34	20	FA45118-3B				3.3			✓
Q 35	21	OP65-464-MS				3.0			✓
Q 36	22	-MSD				3.1			✓
Q 37	23	FA45118-42			2x	3.5			✓
Q 38	24	-43			1x	3.2			✓
Q 39	2.	CL 946-1.0		LCB57	200x 10ml	3.2			Pass
Q 30	3	-0.2		1	20x 10ml	3.3			Pass
Q 31	1	CCB							BDL
Q 32	25	FA45118-44		OP65964	1x	3.4			✓
Q 33	26	FA45141-1			100x	3.4			Rpm 500x
Q 34	27	-2			500x	3.4			✓
Q 35	28	-3			20x	3.5			✓
Q 36	29	-4			1x	2.5			✓
Q 37	30	-5				3.3			✓
Q 38	31	-6				3.2			✓
Q 39	32	-8				2.7			✓
Q 40	33	-9				3.3			✓
Q 41	34	-10			100x	3.5			✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	K prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 e446
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	NAS
ELUENT A LOT #:	172161 w Aq 1.x
ELUENT B LOT #:	171224 +
WATER LOT #:	172161
ISTD Lot #:	6031

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37542	2	CC946-2.0	6850	LC847	2000 10ml	3.3		LIW	Pass
Q 43	3	-0.2		↓	200 10ml	2.9			Pass
Q 44	1	CCB		—	—	—			BAL
Q 45	35	FA45141-11		OP65469	50X	3.5			✓
Q 46	36	-12			20X	3.6			✓
Q 47	37	-13			20X	3.6			✓
Q 48	38	-14			1X	3.5			✓
Q 49	39	-15			2X	3.5			✓
Q 50	40	-16		↓	1X	3.0			✓
Q 51	41	FA45118-37		OP65466	2X	3.5			✓
Q 52	26	FA45141-1		OP65469	50X	3.5			✓
Q 53	2	CC946-2.0		LC847	2000 10ml	3.1			Pass
Q 54	3	-0.2		↓	200 10ml	2.8			Pass
Q 55	1	CCB		—	—	—			BAL
Q 56	42	OP65470-BS		OP65470	1X	2.7			✓
Q 57	43	-MS		↓	↓	—			BAL
Q 58	44	FA45141-7				3.0			✓
Q 59	45	OP65470-MS				3.4			✓
Q 60	46	-MSD				3.3			✓
Q 61	47	FA45141-17	↓	↓	↓	3.5		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	K prime
AMOUNT INJECTED:	5 ul
INSTRUMENT: LCMS1-Q	
HEAD PRESSURE:	112

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	MAJ
ELUENT A LOT #:	172161 w Acetic
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	8631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37562	48	OP65970-MSL	6850	OP65970	1X	3.5		Live	✓
Q 63	49	-MSDL				3.5			✓
Q 64	50	FA45191-18				2.8			✓
Q 65	51	-19			50X	3.5			✓
Q 66	2	CCQ46-2.0		LL857	200uL 10ml	2.9			Pass
Q 67	3	-0.2			20uL 10ml	2.7			Pass
Q 68	1	CCB							BAL
Q 69	52	FA45191-20		OP65970	500X	3.2			✓
Q 70	53	-21			50X	3.5			✓
Q 71	54	-22				3.5			~~Run 100~~ ✓ MJ 7/28/17
Q 72	55	-23				3.5			XRun 100X
Q 73	56	-24			1X	3.1			✓
Q 74	57	-25				3.3			✓
Q 75	58	-26				3.5			✓
Q 76	59	-27				3.4			✓
Q 77	2	CCQ46-2.0		LL857	200uL 10ml	3.1			Pass
Q 78	3	-0.2			20uL 10ml	3.0			Pass
Q 79	1	CCB							BAL
Q 80	60	OP66151-BS		OP66151	1X	2.9			✓
Q 81	61	-MS				—			BAL

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	x prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	NAS
ELUENT A LOT #:	172161 w Acetic
ELUENT B LOT #:	171224 ↓
WATER LOT #:	172161
ISTD Lot #:	8631

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	37582	62	FA40227-7A	6850	OP66151	1x	3.0		LOW	✓
Q	83	63	FA45722-1				2.8			✓
Q	84	64	-2				3.0			✓
Q	85	65	-3				—			BDL
Q	86	66	-4				—			BDL
Q	87	67	FA45759-1				3.2			✓
Q	88	68	OP66151-MS				3.1			✓
Q	89	69	-MSD		↓	↓	3.3			✓
Q	90	2	CC946-2.0		LL657	2mL (5ml)	3.2			Pass
Q	91	3	-0.2		↓	2mL (5ml)	2.5			Pass
Q	92	1	CCB							BDL
Q	93	70	FA45759-2		OP66151	1x	3.2			✓
Q	94	71	FA45191-23		OP65970	100x	3.5			✓
Q	95	2	CC946-2.0		LL657	2mL (5ml)	3.2			Pass
Q	96	3	CC946-0.2		↓	2mL (5ml)	3.1			Pass
Q	97	1	CCB	↓					↓	BDL
Q										
Q										
Q								NAS 07-28-17		
Q										

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 07-26-17 1000 {mm/dd/yy 24:00}

Date/Time Finished: 07-26-17 1400 {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP66151 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 66151- MB	1	10					10 ml	
OP - BS	1	10				20ul	10	
FA45722-1	1	10					10	
-2	1	10					10	
-3	1	10					10	
-4	1	10					10	
FA45759-1	1	10					10	MS/MSD
-2	1	10					10	
FA40227-79	1	10					10	
OP66151- MS	1	10				20ul	10	FA45759-1
- MSD	1	10				20ul	10	-1
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LL8576 Conc: 100/10 Exp. Date: 12-04-17 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

CH2CL2 Lot # — Hexane Lot # — Na2SO4 Lot# —

Acetonitrile Lot # — Methanol Lot # — Acetone Lot# —

~~Syringe Filter~~ Lot# 1057191 pH Paper # — Reagent # —

Wwal filter

Copper Lot # — If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: Date: 07-26-17

Accepted By: Date: 07-26-17

NF 02/16 extwater 020116.xls

7.7.1

7

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-MB	BB056497.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	85%	70-136%

Method Blank Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-MB	GG613509.D	1	07/21/17	EM	07/14/17	OP65961	GGG2548

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	61%* [a]	70-136%

(a) Outside control limits.

Blank Spike Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-BS	BB056480.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.5	110	77-144
121-82-4	RDX	5	4.7	94	77-125
	DNX	5	4.4	88	66-127
	MNX	5	6.0	120	71-137
	TNX	5	4.4	88	60-126
618-87-1	3,5-Dinitroaniline	5	4.8	96	77-115
99-65-0	1,3-Dinitrobenzene	5	4.2	84	79-122
606-20-2	2,6-Dinitrotoluene	5	4.5	90	81-131
121-14-2	2,4-Dinitrotoluene	5	4.3	86	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	4.6	92	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.6	92	79-119
98-95-3	Nitrobenzene	5	4.2	84	78-130
88-72-2	o-Nitrotoluene	5	4.1	82	76-131
99-08-1	m-Nitrotoluene	5	3.9	78	78-122
99-99-0	p-Nitrotoluene	5	4.3	86	79-124
479-45-8	Tetryl	5	4.1	82	65-124
99-35-4	1,3,5-Trinitrobenzene	5	4.6	92	79-128
118-96-7	2,4,6-Trinitrotoluene	5	3.7	74	72-112
55-63-0	Nitroglycerine	25	30.6	122	69-123
78-11-5	PETN	25	28.1	112	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	89%	70-136%

* = Outside of Control Limits.

Raw Data: BB056487.D BB056488.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-MS	BB056487.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620
OP65961-MSD	BB056488.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620
FA45759-1 [a]	BB056486.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620
FA45759-1 [b]	GG613513.D	1	07/21/17	EM	07/14/17	OP65961	GGG2548

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45722-1, FA45722-2, FA45722-3, FA45722-4

CAS No.	Compound	FA45759-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	21.8 [c]		10.9	34.2	114	10.9	36.1	132	5	77-144/21
121-82-4	RDX	0.20 U		10.9	16.0	147*	10.9	17.8	164*	11	77-125/19
	DNX	0.20 U		10.9	18.9	174*	10.9	21.5	198*	13	66-127/25
	MNX	0.20 U		10.9	16.3	150*	10.9	17.5	161*	7	71-137/20
	TNX	0.20 U		10.9	8.2	75	10.9	9.6	88	16	60-126/18
618-87-1	3,5-Dinitroaniline	0.20 U		10.9	10.4	96	10.9	11.0	101	6	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		10.9	9.2	85	10.9	9.9	91	7	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		10.9	13.1	121	10.9	13.5	124	3	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		10.9	8.7	80	10.9	9.2	85	6	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4		10.9	14.7	95	10.9	15.5	102	5	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	1.8		10.9	13.1	92	10.9	13.6	97	4	79-119/20
98-95-3	Nitrobenzene	0.20 U		10.9	8.5	78	10.9	9.4	86	10	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		10.9	7.9	73*	10.9	8.6	79	8	76-131/20
99-08-1	m-Nitrotoluene	0.20 U		10.9	7.6	70*	10.9	8.3	76*	9	78-122/18
99-99-0	p-Nitrotoluene	0.20 U		10.9	8.5	78*	10.9	9.2	85	8	79-124/18
479-45-8	Tetryl	0.20 U		10.9	8.0	74	10.9	8.7	80	8	65-124/20
99-35-4	1,3,5-Trinitrobenzene	13.3		10.9	24.0	98	10.9	24.8	106	3	79-128/16
118-96-7	2,4,6-Trinitrotoluene	8.7		10.9	17.1	77	10.9	17.3	79	1	72-112/16
55-63-0	Nitroglycerine	2.0 U		54.3	66.0	121	54.3	62.0	114	6	69-123/18
78-11-5	PETN	2.0 U		54.3	54.8	101	54.3	64.6	119	16	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA45759-1	FA45759-1	Limits
610-39-9	3,4-Dinitrotoluene	90%	92%	91%	101%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run #3.

* = Outside of Control Limits.

8.3.1

8

Semivolatile Surrogate Recovery Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA45722-1	GG613510.D	98
FA45722-1	BB056482.D	85
FA45722-2	GG613511.D	99
FA45722-2	BB056483.D	86
FA45722-3	BB056484.D	81
FA45722-4	BB056485.D	83
OP65961-BS	BB056480.D	89
OP65961-MB	BB056497.D	85
OP65961-MB	GG613509.D	61* [b]
OP65961-MS	BB056487.D	90
OP65961-MSD	BB056488.D	92

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1
(b) Outside control limits.

GC Surrogate Retention Time Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1620-CC1615	**Injection Date:**	07/19/17
Lab File ID:	BB056478.D	**Injection Time:**	02:03
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT
Check Std	10.44

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP65961-BS	BB056480.D	07/19/17	03:03	10.42
FA45722-1	BB056482.D	07/19/17	04:03	10.42
FA45722-2	BB056483.D	07/19/17	04:33	10.43
FA45722-3	BB056484.D	07/19/17	05:03	10.41
FA45722-4	BB056485.D	07/19/17	05:33	10.42
FA45759-1	BB056486.D	07/19/17	06:03	10.40
OP65961-MS	BB056487.D	07/19/17	06:33	10.39
OP65961-MSD	BB056488.D	07/19/17	07:03	10.40
ZZZZZZ	BB056489.D	07/19/17	07:33	10.42

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1620-CC1615	**Injection Date:**	07/19/17
Lab File ID:	BB056490.D	**Injection Time:**	08:03
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.42

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP65992-BS	BB056492.D	07/19/17	09:03	10.43
OP65992-MB	BB056493.D	07/19/17	09:33	10.45
ZZZZZZ	BB056494.D	07/19/17	10:03	10.45
ZZZZZZ	BB056495.D	07/19/17	10:33	10.45
FA45863-3	BB056496.D	07/19/17	11:03	10.45
OP65961-MB	BB056497.D	07/19/17	11:33	10.46
FA45759-1	BB056498.D	07/19/17	12:03	10.27
OP65992-MS	BB056500.D	07/19/17	13:03	10.45
OP65992-MSD	BB056501.D	07/19/17	13:33	10.45

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2548-CC2548	**Injection Date:**	07/21/17
Lab File ID:	GG613507.D	**Injection Time:**	02:03
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	14.39	14.39

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP65961-MB	GG613509.D	07/21/17	03:02		14.38
FA45722-1	GG613510.D	07/21/17	03:31		14.41
FA45722-2	GG613511.D	07/21/17	04:01		14.45
FA45759-1	GG613513.D	07/21/17	05:00		14.41
FA45759-1	GG613514.D	07/21/17	05:29		14.42
ZZZZZZ	GG613515.D	07/21/17	05:58		14.43
GGG2548-ECC2548	GG613517.D	07/21/17	06:57	14.41	14.41

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICC1615
Lab FileID: BB055900.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration

Calibration Files
20 =BB055896.D 50 =BB055897.D 100 =BB055898.D 200 =BB055899.D
500 =BB055900.D 1000=BB055901.D 2000=BB055902.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	3.279	2.922	3.197	3.113	3.106	2.997	3.115	3.104	E3	3.81
2)	HMX	1.870	1.590	1.685	1.731	1.743	1.696	1.799	1.731	E3	5.13
3)	DNX	3.487	2.688	3.090	2.802	2.775	2.672	2.812	2.904	E3	10.04
4)	MNX	2.155	2.114	2.300	2.248	2.297	2.220	2.328	2.237	E3	3.57
5)	RDX	1.945	2.040	2.224	2.060	2.004	1.936	2.037	2.035	E3	4.72
6)	1,3,5-Trinitroben	4.322	3.949	4.370	4.265	4.290	4.168	4.433	4.257	E3	3.74
7)	1,3-Dinitrobenzen	5.652	5.231	5.658	5.653	5.725	5.488	5.732	5.591	E3	3.18
8)	3,5-Dinitroanilin	5.356	4.121	3.984	3.916	3.806	3.769	3.973	4.132	E3	13.36
9)	Nitrobenzene	3.567	3.209	3.556	3.465	3.400	3.305	3.479	3.426	E3	3.83
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	2.754	2.905	3.187	3.196	3.181	3.148	3.354	3.104	E3	6.55
12)	2,4,6-Trinitrotol	3.929	3.663	3.976	3.633	3.834	3.749	4.004	3.827	E3	3.91
13)	2-Amino-4,6-Dinit	3.585	3.407	4.057	4.033	3.798	3.622	3.747	3.750	E3	6.33
14)	4-Amino-2,6-Dinit	2.808	1.878	2.408	2.575	2.629	2.532	2.672	2.500	E3	12.04
15)S	3,4-Dinitrotoluen	2.756	2.648	3.036	2.569	2.395	2.245	2.373	2.575	E3	10.43
16)	2,4-Dinitrotoluen	5.583	4.995	5.223	5.139	5.176	4.940	5.184	5.177	E3	4.00
17)	2,6-Dinitrotoluen	2.666	3.169	3.475	3.237	3.113	2.899	3.062	3.089	E3	8.30
18)	o-Nitrotoluene	2.329	2.130	2.364	2.368	2.341	2.321	2.448	2.329	E3	4.18
19)	p-Nitrotoluene	2.920	3.398	3.613	3.634	3.665	3.616	3.835	3.526	E3	8.39
20)	m-Nitrotoluene	3.700	3.335	3.728	3.614	3.560	3.532	3.746	3.602	E3	4.00
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	5.255	4.392	4.997	4.790	4.742	4.653	4.713	4.792	E3	5.68
2)	HMX	4.587	4.022	4.670	4.779	4.773	4.719	4.919	4.638	E3	6.27
3)	DNX	6.564	4.988	6.014	4.678	4.426	4.320	4.465	5.065	E3	17.34

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 4343.12099 *A + 0.05686 *A^2

4)	MNX	3.252	2.961	3.427	3.441	3.520	3.411	3.594	3.372	E3	6.22
5)	RDX	3.523	2.927	3.175	3.191	3.170	3.073	3.247	3.186	E3	5.69
6)	1,3,5-Trinitroben	7.955	7.294	8.424	8.187	8.326	8.119	8.583	8.127	E3	5.18
7)	1,3-Dinitrobenzen	3.222	3.288	3.692	3.726	3.847	3.711	3.885	3.624	E3	7.25
8)	3,5-Dinitroanilin	7.476	5.929	6.559	6.462	6.399	6.204	6.609	6.520	E3	7.39
9)	Nitrobenzene	3.777	2.914	3.095	3.234	3.249	3.171	3.363	3.258	E3	8.25
10)	Nitroglycerin	1.141	0.755	0.964	1.079	1.166	1.134	1.219	1.065	E3	14.88
11)	Tetryl	4.880	3.264	4.449	5.642	5.457	5.238	5.665	4.942	E3	17.38

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995
Response Ratio = 0.00000 + 5048.60216 *A + 0.30336 *A^2

12)	2,4,6-Trinitrotol	5.134	3.209	2.927	4.090	4.584	4.518	4.793	4.179	E3	19.74

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 4279.24649 *A + 0.25689 *A^2

13)	2-Amino-4,6-Dinit	5.218	3.261	3.166	5.702	5.587	5.405	5.711	4.864	E3	23.46

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993

Initial Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICC1615
Lab FileID: BB055900.D

```
              Response Ratio = 0.00000 + 5238.58400 *A + 0.23378 *A^2

14)  4-Amino-2,6-Dinit 3.771 4.541 3.851 4.787 5.150 5.051 5.387 4.648 E3  13.60
15)S 3,4-Dinitrotoluen 2.714 2.907 3.582 3.990 4.073 3.909 4.207 3.626 E3  16.32
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 3770.55183 *A + 0.21482 *A^2

16)  2,4-Dinitrotoluen 3.387 2.492 3.011 3.105 3.330 3.231 3.393 3.136 E3  10.15
17)  2,6-Dinitrotoluen 3.172 3.251 3.766 3.863 3.936 3.756 3.974 3.674 E3   8.89
18)  o-Nitrotoluene    1.408 2.546 2.952 2.989 3.134 3.209 3.478 2.817 E3  24.24
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  1.0000
              Response Ratio = 0.00000 + 2961.15996 *A + 0.25816 *A^2

19)  p-Nitrotoluene    1.748 1.284 1.654 2.316 2.772 2.849 3.176 2.257 E3  31.51
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 2507.99716 *A + 0.33506 *A^2

20)  m-Nitrotoluene    2.578 3.873 4.744 4.064 4.080 4.062 4.439 3.977 E3  17.16
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 3825.54667 *A + 0.30368 *A^2

21)  PETN              1.311 1.152 1.492 1.459 1.470 1.467 1.532 1.412 E3   9.45
--------------------------------------------------------------------------------
(#) = Out of Range

          8330B_0629PLUS.M        Fri Jun 30 11:05:30 2017
```

8.6.1

8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055903.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	567.860	-13.6	114	0.01	1.08- 1.68
2	HMX	500.000	517.269	-3.5	103	0.00	1.22- 1.82
3	DNX		----------NA----------				
4	MNX	500.000	503.327	-0.7	98	0.00	2.07- 2.67
5	RDX	500.000	451.491	9.7	92	0.00	2.60- 3.40
6	1,3,5-Trinitrobenzene	500.000	492.951	1.4	98	-0.02	4.41- 5.21
7	1,3-Dinitrobenzene	500.000	433.291	13.3	85	-0.02	5.66- 6.46
8	3,5-Dinitroaniline	500.000	496.099	0.8	108	-0.02	6.01- 6.81
9	Nitrobenzene	500.000	457.106	8.6	92	0.00	7.25- 8.05
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotol	500.000	462.625	7.5	91	-0.04	9.76-10.56
14	4-Amino-2,6-Dinitrotol	500.000	512.324	-2.5	97	-0.06	10.24-11.04
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	444.758	11.0	89	-0.06	11.34-12.14
17	2,6-Dinitrotoluene	500.000	464.050	7.2	92	-0.06	11.79-12.59
18	o-Nitrotoluene	500.000	478.675	4.3	95	-0.03	14.92-15.80
19	p-Nitrotoluene	500.000	482.087	3.6	93	-0.03	15.39-16.39
20	m-Nitrotoluene	500.000	457.830	8.4	93	-0.02	16.28-17.28
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	562.032	-12.4	114	0.01	1.08- 1.68
2	HMX	500.000	522.036	-4.4	101	0.00	1.22- 1.82
	---------- Amount	Calc.	%Drift	----------			
3	DNX		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
4	MNX	500.000	512.468	-2.5	98	0.00	2.07- 2.67
5	RDX	500.000	455.632	8.9	92	0.00	2.60- 3.40
6	1,3,5-Trinitrobenzene	500.000	494.111	1.2	96	-0.02	4.41- 5.21
7	1,3-Dinitrobenzene	500.000	454.636	9.1	86	-0.02	5.66- 6.46
8	3,5-Dinitroaniline	500.000	524.075	-4.8	107	-0.02	6.01- 6.81
9	Nitrobenzene	500.000	457.148	8.6	92	0.00	7.25- 8.05
10	Nitroglycerin	2500.000	3521.650	-40.9#	129	-0.06	8.62- 9.62
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl		----------NA----------				

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055903.D

		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotol	500.000	485.687	2.9	93	-0.04	9.76-10.56
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	500.000	542.627	-8.5	98	-0.06	10.24-11.04
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	500.000	484.860	3.0	91	-0.06	11.34-12.14
17	2,6-Dinitrotoluene	500.000	505.030	-1.0	94	-0.06	11.79-12.59
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	500.000	474.523	5.1	93	-0.03	14.80-15.80
19	p-Nitrotoluene	500.000	476.720	4.7	92	-0.03	15.39-16.39
20	m-Nitrotoluene	500.000	464.102	7.2	90	-0.02	16.29-17.29
		Amount	Calc.	%Drift			
21	PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055900.D 8330B_0629PLUS.M Fri Jun 30 11:04:29 2017

8.6.2

8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055904.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1B.ch Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1A.ch
Acq On    : 29-Jun-2017, 20:57:02                    Operator: evitam
Sample    : icv1615-500                              Inst    : G1315B
Misc      : op65687,gbb1615,1050,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	565.799	-13.2	110	0.00	9.00- 9.80
12	2,4,6-Trinitrotoluene	500.000	513.861	-2.8	103	0.00	9.47-10.27
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
3	DNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
4	MNX		----------NA----------				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	500.000	537.370	-7.5	103	0.00	8.99- 9.79

8.6.3

8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055904.D

12	2,4,6-Trinitrotoluene	500.000	545.334	-9.1	105	0.00	9.47-10.27
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
15 S	3,4-Dinitrotoluene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
21	PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055900.D 8330B_0629PLUS.M Fri Jun 30 11:07:16 2017

8.6.3

8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055930.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1A.ch
Acq On : 30-Jun-2017, 09:59:41 Operator: evitam
Sample : icv1615-100 Inst : G1315B
Misc : op65689,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area% Dev(min)	RT Window
1		TNX		NA			
2		HMX		NA			
3		DNX		NA			
4		MNX		NA			
5		RDX		NA			
6		1,3,5-Trinitrobenzene		NA			
7		1,3-Dinitrobenzene		NA			
8		3,5-Dinitroaniline		NA			
9		Nitrobenzene		NA			
10		Nitroglycerin		NA			
11		Tetryl		NA			
12		2,4,6-Trinitrotoluene		NA			
13		2-Amino-4,6-Dinitrotoluen		NA			
14		4-Amino-2,6-Dinitrotoluen		NA			
15	S	3,4-Dinitrotoluene		NA			
16		2,4-Dinitrotoluene		NA			
17		2,6-Dinitrotoluene		NA			
18		o-Nitrotoluene		NA			
19		p-Nitrotoluene		NA			
20		m-Nitrotoluene		NA			
21		PETN		NA			

***** Signal #2 *****

1		TNX		NA			
2		HMX		NA			
		Amount	Calc.	%Drift			
3		DNX		NA			
		Amount	Calc.	%Drift			
4		MNX		NA			
5		RDX		NA			
6		1,3,5-Trinitrobenzene		NA			
7		1,3-Dinitrobenzene		NA			
8		3,5-Dinitroaniline		NA			
9		Nitrobenzene		NA			
10		Nitroglycerin		NA			
		Amount	Calc.	%Drift			
11		Tetryl		NA			

8.6.4

8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055930.D

12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
21	PETN	500.000	531.993	-6.4	101	-0.03	18.16-19.36

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055898.D 8330B_0629PLUS.M Fri Jun 30 11:05:16 2017

8.6.4

8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056478.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On    : 19-Jul-2017, 02:03:44                    Operator: evitam
Sample    : cc1615-1000                              Inst    : G1315B
Misc      : op65781,gbb1620,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	918.463	8.2	95	0.00	1.05- 1.65
2	HMX	1000.000	1003.785	-0.4	102	0.00	1.17- 1.77
3	DNX	1000.000	822.801	17.7#	89	0.00	1.42- 2.02
4	MNX	1000.000	863.732	13.6	87	-0.01	1.98- 2.58
5	RDX	1000.000	966.230	3.4	102	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	982.458	1.8	100	-0.03	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	975.767	2.4	99	-0.03	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1043.142	-4.3	114	-0.04	5.74- 6.54
9	Nitrobenzene	1000.000	974.461	2.6	101	-0.03	7.03- 7.83
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	934.730	6.5	92	-0.07	8.53- 9.33
12	2,4,6-Trinitrotoluene	1000.000	941.486	5.9	96	-0.07	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1011.366	-1.1	105	-0.09	9.28-10.08
14	4-Amino-2,6-Dinitrotol	1000.000	1000.249	-0.0	99	-0.08	9.75-10.55
15 S	3,4-Dinitrotoluene	1000.000	918.186	8.2	105	-0.08	10.12-10.92
16	2,4-Dinitrotoluene	1000.000	952.571	4.7	100	-0.08	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	985.305	1.5	105	-0.09	11.27-12.07
18	o-Nitrotoluene	1000.000	972.950	2.7	98	-0.06	14.50-15.37
19	p-Nitrotoluene	1000.000	1047.743	-4.8	102	-0.06	14.92-15.92
20	m-Nitrotoluene	1000.000	982.807	1.7	100	-0.06	15.88-16.88
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	898.668	10.1	93	0.00	1.05- 1.65
2	HMX	1000.000	1017.051	-1.7	100	0.00	1.17- 1.77
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	884.176	11.6	90	0.00	1.42- 2.02
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	882.261	11.8	87	-0.01	1.98- 2.58
5	RDX	1000.000	983.231	1.7	102	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	999.054	0.1	100	-0.03	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1012.780	-1.3	99	-0.03	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1097.749	-9.8	115	-0.04	5.74- 6.54
9	Nitrobenzene	1000.000	994.087	0.6	102	-0.03	7.03- 7.83
10	Nitroglycerin	5000.000	4538.595	9.2	85	-0.04	8.24- 9.24
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	1140.982	-14.1	118	-0.11	8.51- 9.31

8.6.5

8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056478.D

		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	1000.000	950.675	4.9	95	-0.07	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1029.840	-3.0	104	-0.09	9.28-10.08
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1075.416	-7.5	99	-0.09	9.75-10.55
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	1000.000	1019.173	-1.9	104	-0.08	10.12-10.92
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	957.343	4.3	93	-0.08	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1007.745	-0.8	99	-0.08	11.27-12.07
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	988.221	1.2	99	-0.06	14.38-15.38
19	p-Nitrotoluene	1000.000	1104.306	-10.4	112	-0.06	14.92-15.92
20	m-Nitrotoluene	1000.000	964.538	3.5	98	-0.05	15.88-16.88
		Amount	Calc.	%Drift			
21	PETN	5000.000	4749.528	5.0	91	-0.06	17.77-18.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055901.D 8330B_0629PLUS.M Wed Jul 19 10:42:15 2017

8.6.5

8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056490.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	965.107	3.5	100	0.00	1.05- 1.65
2	HMX	1000.000	1063.152	-6.3	108	0.00	1.17- 1.77
3	DNX	1000.000	869.559	13.0	94	0.00	1.42- 2.02
4	MNX	1000.000	916.682	8.3	92	-0.01	1.98- 2.58
5	RDX	1000.000	1018.378	-1.8	107	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	1068.306	-6.8	109	-0.04	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1034.749	-3.5	105	-0.04	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1085.288	-8.5	119	-0.05	5.74- 6.54
9	Nitrobenzene	1000.000	1030.560	-3.1	107	-0.03	7.03- 7.83
10	Nitroglycerin	----------NA----------					
11	Tetryl	1000.000	1070.406	-7.0	106	-0.09	8.53- 9.33
12	2,4,6-Trinitrotoluene	1000.000	991.803	0.8	101	-0.09	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1083.289	-8.3	112	-0.11	9.28-10.08
14	4-Amino-2,6-Dinitrotol	1000.000	1047.204	-4.7	103	-0.10	9.75-10.55
15 S	3,4-Dinitrotoluene	1000.000	979.233	2.1	112	-0.10	10.12-10.92
16	2,4-Dinitrotoluene	1000.000	1000.466	-0.0	105	-0.10	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1044.824	-4.5	111	-0.11	11.27-12.07
18	o-Nitrotoluene	1000.000	1039.525	-4.0	104	-0.07	14.50-15.37
19	p-Nitrotoluene	1000.000	1131.257	-13.1	110	-0.07	14.92-15.92
20	m-Nitrotoluene	1000.000	1055.582	-5.6	108	-0.07	15.88-16.88
21	PETN	----------NA----------					

***** Signal #2 *****

1	TNX	1000.000	945.693	5.4	97	0.00	1.05- 1.65
2	HMX	1000.000	1082.146	-8.2	106	0.00	1.17- 1.77
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	929.886	7.0	95	0.00	1.42- 2.02
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	930.442	7.0	92	-0.01	1.98- 2.58
5	RDX	1000.000	1038.302	-3.8	108	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	1078.372	-7.8	108	-0.04	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1072.695	-7.3	105	-0.04	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1133.740	-13.4	119	-0.05	5.74- 6.54
9	Nitrobenzene	1000.000	1103.489	-10.3	113	-0.03	7.03- 7.83
10	Nitroglycerin	5000.000	4638.034	7.2	87	-0.07	8.24- 9.24
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	1262.839	-26.3#	131	-0.11	8.51- 9.31

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Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056490.D

		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	1000.000	1012.232	-1.2	102	-0.09	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1095.008	-9.5	111	-0.10	9.28-10.08
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1129.582	-13.0	104	-0.10	9.75-10.55
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	1000.000	1100.838	-10.1	113	-0.10	10.12-10.92
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	1013.861	-1.4	98	-0.10	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1082.585	-8.3	106	-0.11	11.27-12.07
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	1048.488	-4.8	106	-0.07	14.38-15.38
19	p-Nitrotoluene	1000.000	1188.714	-18.9#	121	-0.07	14.92-15.92
20	m-Nitrotoluene	1000.000	1047.791	-4.8	107	-0.06	15.88-16.88
		Amount	Calc.	%Drift			
21	PETN	5000.000	4843.232	3.1	93	-0.06	17.77-18.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055901.D 8330B_0629PLUS.M Wed Jul 19 10:42:16 2017

8.6.6

8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056502.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	1000.000	961.051	3.9	100	0.00	1.05- 1.65
2		HMX	1000.000	1065.685	-6.6	109	0.00	1.17- 1.77
3		DNX	1000.000	866.020	13.4	94	0.00	1.42- 2.02
4		MNX	1000.000	912.949	8.7	92	-0.01	1.98- 2.58
5		RDX	1000.000	1024.878	-2.5	108	-0.02	2.48- 3.28
6		1,3,5-Trinitrobenzene	1000.000	1055.218	-5.5	108	-0.03	4.17- 4.97
7		1,3-Dinitrobenzene	1000.000	1018.911	-1.9	104	-0.03	5.42- 6.22
8		3,5-Dinitroaniline	1000.000	1102.094	-10.2	121	-0.04	5.74- 6.54
9		Nitrobenzene	1000.000	1038.966	-3.9	108	-0.02	7.03- 7.83
10		Nitroglycerin	----------NA----------					
11		Tetryl	1000.000	1056.208	-5.6	104	-0.07	8.53- 9.33
12		2,4,6-Trinitrotoluene	1000.000	980.085	2.0	100	-0.07	8.97- 9.77
13		2-Amino-4,6-Dinitrotol	1000.000	1081.757	-8.2	112	-0.09	9.28-10.08
14		4-Amino-2,6-Dinitrotol	1000.000	1057.513	-5.8	104	-0.08	9.75-10.55
15	S	3,4-Dinitrotoluene	1000.000	984.381	1.6	113	-0.07	10.12-10.92
16		2,4-Dinitrotoluene	1000.000	984.780	1.5	103	-0.07	10.79-11.59
17		2,6-Dinitrotoluene	1000.000	1076.621	-7.7	115	-0.08	11.27-12.07
18		o-Nitrotoluene	1000.000	1019.030	-1.9	102	-0.03	14.50-15.37
19		p-Nitrotoluene	1000.000	1135.127	-13.5	111	-0.04	14.92-15.92
20		m-Nitrotoluene	1000.000	1050.665	-5.1	107	-0.03	15.88-16.88
21		PETN	----------NA----------					

***** Signal #2 *****

1		TNX	1000.000	939.713	6.0	97	0.00	1.05- 1.65
2		HMX	1000.000	1085.188	-8.5	107	0.00	1.17- 1.77
		----------	Amount	Calc.	%Drift	----------		
3		DNX	1000.000	927.139	7.3	94	0.00	1.42- 2.02
		----------	Amount	Calc.	%Drift	----------		
4		MNX	1000.000	929.632	7.0	92	-0.01	1.98- 2.58
5		RDX	1000.000	1034.971	-3.5	107	-0.02	2.48- 3.28
6		1,3,5-Trinitrobenzene	1000.000	1072.291	-7.2	107	-0.03	4.17- 4.97
7		1,3-Dinitrobenzene	1000.000	1047.538	-4.8	102	-0.03	5.42- 6.22
8		3,5-Dinitroaniline	1000.000	1135.306	-13.5	119	-0.04	5.74- 6.54
9		Nitrobenzene	1000.000	1087.127	-8.7	112	-0.02	7.03- 7.83
10		Nitroglycerin	5000.000	4293.641	14.1	81	-0.05	8.24- 9.24
		----------	Amount	Calc.	%Drift	----------		
11		Tetryl	1000.000	1296.809	-29.7#	135	-0.09	8.51- 9.31

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Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056502.D

		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	1000.000	1000.352	-0.0	100	-0.07	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1093.067	-9.3	111	-0.09	9.28-10.08
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1127.863	-12.8	104	-0.08	9.75-10.55
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	1000.000	1106.597	-10.7	113	-0.07	10.12-10.92
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	996.067	0.4	97	-0.07	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1096.613	-9.7	107	-0.07	11.27-12.07
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	1041.545	-4.2	105	-0.04	14.38-15.38
19	p-Nitrotoluene	1000.000	1182.488	-18.2#	121	-0.04	14.92-15.92
20	m-Nitrotoluene	1000.000	1036.084	-3.6	106	-0.03	15.88-16.88
		Amount	Calc.	%Drift			
21	PETN	5000.000	4781.210	4.4	92	-0.04	17.77-18.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055901.D 8330B_0629PLUS.M Thu Jul 20 09:42:05 2017

8.9.7

8

Initial Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICC2548
Lab FileID: GG613492.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration

Calibration Files
20 =GG613488.D 50 =GG613489.D 100 =GG613490.D 200 =GG613491.D
500 =GG613492.D 1000=GG613493.D 2000=GG613494.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	7.770	8.739	8.197	8.423	8.026	8.007	8.120	8.183	E3	3.85
2)	HMX	3.404	4.014	3.724	3.519	3.817	3.726	3.709	3.702	E3	5.33
3)	DNX	7.296	7.088	6.550	6.922	6.431	6.385	6.485	6.737	E3	5.37
4)	MNX	4.098	5.268	5.014	4.924	4.691	4.801	4.927	4.818	E3	7.57
5)	1,3,5-Trinitroben	1.032	1.129	1.095	1.069	1.010	1.034	1.061	1.061	E4	3.86
6)	RDX	4.539	5.361	5.106	4.984	4.711	4.849	4.985	4.934	E3	5.43
7)	1,3-Dinitrobenzen	1.437	1.528	1.495	1.451	1.379	1.412	1.448	1.450	E4	3.42
8)	Nitrobenzene	9.476	9.633	9.617	9.402	8.974	9.283	9.428	9.402	E3	2.39
9)	2,4,6-Trinitrotol	1.068	1.083	1.031	1.012	0.961	0.983	1.010	1.021	E4	4.28
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	7.208	8.461	8.242	7.838	7.567	7.596	7.926	7.834	E3	5.44
12)S	3,4-Dinitrotoluen	5.215	6.136	5.677	5.709	5.430	5.542	5.627	5.620	E3	5.05
13)	2,6-Dinitrotoluen	6.758	7.493	7.119	6.988	6.655	6.820	7.021	6.979	E3	3.99
14)	2,4-Dinitrotoluen	1.298	1.420	1.344	1.336	1.268	1.299	1.337	1.329	E4	3.67
15)	o-Nitrotoluene	5.919	6.188	6.212	5.951	5.621	5.873	5.962	5.961	E3	3.35
16)	3,5-Dinitroanilin	1.452	2.814	1.091	1.094	1.013	1.035	1.063	1.366	E4	48.00
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983										
	Response Ratio = 0.00000 + 10234.05535 *A + 0.19025 *A^2										
17)	p-Nitrotoluene	1.287	1.273	1.260	1.224	1.158	1.192	1.222	1.231	E4	3.75
18)	4-Amino-2,6-Dinit	1.287	1.273	1.260	1.224	1.158	1.192	1.222	1.231	E4	3.75
19)	m-Nitrotoluene	6.714	6.379	6.800	6.512	6.185	6.468	6.590	6.521	E3	3.17
20)	2-Amino-4,6-Dinit	8.702	9.679	9.840	9.568	9.232	9.449	9.768	9.463	E3	4.15
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	7.823	8.826	8.081	8.423	8.026	8.007	8.120	8.187	E3	4.08
2)	HMX	3.434	3.902	3.803	3.498	3.817	3.726	3.709	3.698	E3	4.65
3)	DNX	7.461	7.443	6.694	6.922	6.431	6.385	6.485	6.831	E3	6.75
4)	MNX	4.098	5.268	5.014	4.924	4.691	4.801	4.927	4.818	E3	7.57
5)	1,3,5-Trinitroben	1.032	1.152	1.095	1.069	1.010	1.033	1.060	1.064	E4	4.48
6)	RDX	4.539	5.361	5.106	4.984	4.689	4.814	4.962	4.922	E3	5.53
7)	1,3-Dinitrobenzen	1.289	1.084	1.211	1.136	1.029	1.200	1.138	1.155	E4	7.47
8)	Nitrobenzene	0.963	0.898	1.000	0.994	0.838	0.970	0.930	0.942	E4	6.15
9)	2,4,6-Trinitrotol	2.560	1.321	1.318	1.319	1.275	1.378	1.369	1.506	E4	30.98
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996										
	Response Ratio = 0.00000 + 13325.73707 *A + 0.19230 *A^2										
10)	Nitroglycerin	3.186	2.950	3.164	3.122	3.025	3.266	3.281	3.142	E3	3.86
11)	Tetryl	0.972	1.250	1.287	1.306	1.228	1.380	1.416	1.263	E4	11.46
12)S	3,4-Dinitrotoluen	1.413	1.158	1.066	1.150	1.045	1.108	1.113	1.150	E4	10.67
13)	2,6-Dinitrotoluen	1.051	0.968	1.181	1.050	0.987	1.026	1.048	1.044	E4	6.57
14)	2,4-Dinitrotoluen	1.550	1.055	1.032	1.118	0.938	0.925	0.969	1.084	E4	19.99
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995										
	Response Ratio = 0.00000 + 9213.78486 *A + 0.22647 *A^2										

Initial Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICC2548
Lab FileID: GG613492.D

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15)  o-Nitrotoluene    1.577 0.963 1.133 0.930 0.837 0.903 0.897 1.034 E4  24.83
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 8868.54623 *A + 0.05194 *A^2

16)  3,5-Dinitroanilin 2.470 4.692 1.868 1.774 1.654 1.694 1.766 2.274 E4  48.44
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9982
              Response Ratio = 0.00000 + 16561.77992 *A + 0.53692 *A^2

17)  p-Nitrotoluene    3.753 2.214 2.394 2.271 2.112 2.193 2.272 2.458 E4  23.48
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 21165.69699 *A + 0.77248 *A^2

18)  4-Amino-2,6-Dinit 3.753 2.214 2.394 2.271 2.112 2.193 2.272 2.458 E4  23.48
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 21165.69699 *A + 0.77248 *A^2

19)  m-Nitrotoluene    0.952 0.823 0.966 0.975 0.976 1.080 1.122 0.985 E4   9.79
20)  2-Amino-4,6-Dinit 0.749 0.989 0.964 1.142 1.244 1.289 1.369 1.106 E4  19.67
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 11923.89265 *A + 0.88660 *A^2

21)  PETN              2.296 3.039 3.313 3.117 3.256 3.258 3.428 3.101 E3  12.16
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_0720M.M        Mon Jul 24 14:00:32 2017
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8.6.8

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Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613495.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	572.129	-14.4	117	0.01	4.43- 5.43
2	HMX	500.000	500.919	-0.2	97	0.01	4.80- 5.80
3	DNX	500.000	570.600	-14.1	120	0.02	4.99- 5.99
4	MNX	500.000	792.128	-58.4#	163	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	500.000	443.702	11.3	93	0.00	7.03- 8.03
6	RDX	500.000	456.122	8.8	96	0.01	7.37- 8.37
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene	500.000	446.131	10.8	93	0.00	10.60-11.60
9	2,4,6-Trinitrotoluene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	494.690	1.1	104	0.00	14.42-15.42
14	2,4-Dinitrotoluene	500.000	439.623	12.1	92	0.00	15.13-16.13
15	o-Nitrotoluene	500.000	456.724	8.7	97	-0.02	16.86-17.86
	----------	Amount	Calc.	%Drift	----------		
16	3,5-Dinitroaniline	500.000	490.305	1.9	100	0.00	16.11-17.11
	----------	Amount	Calc.	%Drift	----------		
17	p-Nitrotoluene	500.000	446.097	10.8	95	-0.02	17.94-18.94
18	4-Amino-2,6-Dinitrotol	500.000	446.097	10.8	95	-0.02	17.94-18.94
19	m-Nitrotoluene	500.000	442.932	11.4	93	-0.02	19.31-20.31
20	2-Amino-4,6-Dinitrotol	500.000	455.997	8.8	93	-0.02	20.02-21.02
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	568.675	-13.7	116	0.01	4.43- 5.43
2	HMX	500.000	501.376	-0.3	97	0.01	4.80- 5.80
3	DNX	500.000	562.695	-12.5	120	0.02	4.99- 5.99
4	MNX	500.000	792.128	-58.4#	163	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	500.000	442.225	11.6	93	0.00	7.03- 8.03
6	RDX	500.000	454.946	9.0	96	0.01	7.37- 8.37
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene	500.000	525.992	-5.2	118	0.00	10.60-11.60
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613495.D

10		Nitroglycerin	2500.000	3169.633	-26.8#	132	0.00	12.15-13.15
11		Tetryl		----------NA----------				
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene	500.000	519.165	-3.8	110	0.00	14.42-15.42
		---------- Amount	Calc.	%Drift	----------			
14		2,4-Dinitrotoluene	500.000	452.304	9.5	90	0.00	15.13-16.13
15		o-Nitrotoluene	500.000	464.796	7.0	99	-0.01	16.86-17.86
16		3,5-Dinitroaniline	500.000	485.240	3.0	99	0.00	16.11-17.11
17		p-Nitrotoluene	500.000	478.056	4.4	97	-0.02	17.94-18.94
18		4-Amino-2,6-Dinitrotol	500.000	478.056	4.4	97	-0.02	17.94-18.94
		---------- Amount	Calc.	%Drift	----------			
19		m-Nitrotoluene	500.000	495.386	0.9	100	-0.02	19.31-20.31
		---------- Amount	Calc.	%Drift	----------			
20		2-Amino-4,6-Dinitrotol	500.000	470.213	6.0	93	-0.01	20.02-21.02
		---------- Amount	Calc.	%Drift	----------			
21		PETN	2500.000	3441.118	-37.6#	131	-0.02	21.81-22.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 14:00:15 2017

8.6.9

8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613496.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene	500.000	486.623	2.7	102	0.01	9.54-10.54
8	Nitrobenzene		----------NA----------				
9	2,4,6-Trinitrotoluene	500.000	402.882	19.4#	86	0.00	11.40-12.40
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	466.977	6.6	97	0.00	12.70-13.70
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene		----------NA----------				
14	2,4-Dinitrotoluene		----------NA----------				
15	o-Nitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
16	3,5-Dinitroaniline		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
17	p-Nitrotoluene		----------NA----------				
18	4-Amino-2,6-Dinitrotoluen		----------NA----------				
19	m-Nitrotoluene		----------NA----------				
20	2-Amino-4,6-Dinitrotoluen		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene	500.000	486.910	2.6	109	0.01	9.54-10.54
8	Nitrobenzene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	500.000	462.689	7.5	97	0.00	11.40-12.40
	----------	Amount	Calc.	%Drift	----------		

8.6.10
8

Initial Calibration Verification

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613496.D

10		Nitroglycerin			----------NA----------			
11		Tetryl	500.000	542.143	-8.4	111	0.00	12.70-13.70
12	S	3,4-Dinitrotoluene			----------NA----------			
13		2,6-Dinitrotoluene			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
14		2,4-Dinitrotoluene			----------NA----------			
15		o-Nitrotoluene			----------NA----------			
16		3,5-Dinitroaniline			----------NA----------			
17		p-Nitrotoluene			----------NA----------			
18		4-Amino-2,6-Dinitrotoluen			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
19		m-Nitrotoluene			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
20		2-Amino-4,6-Dinitrotoluen			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
21		PETN			----------NA----------			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 14:00:16 2017

8.6.10

8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-CC2548
Lab FileID: GG613507.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	993.692	0.6	102	0.00	4.43- 5.43
2	HMX	1000.000	1017.719	-1.8	101	0.00	4.80- 5.80
3	DNX	1000.000	960.782	3.9	101	0.00	4.99- 5.99
4	MNX	1000.000	1014.561	-1.5	102	0.01	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	991.520	0.8	102	0.00	7.03- 8.03
6	RDX	1000.000	1003.180	-0.3	102	0.01	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	987.791	1.2	101	-0.01	9.54-10.54
8	Nitrobenzene	1000.000	1003.023	-0.3	102	-0.02	10.60-11.60
9	2,4,6-Trinitrotoluene	1000.000	980.614	1.9	102	-0.04	11.40-12.40
10	Nitroglycerin	----------NA----------					
11	Tetryl	1000.000	998.013	0.2	103	-0.05	12.70-13.70
12 S	3,4-Dinitrotoluene	1000.000	994.421	0.6	101	-0.05	13.94-14.94
13	2,6-Dinitrotoluene	1000.000	991.543	0.8	101	-0.05	14.42-15.42
14	2,4-Dinitrotoluene	1000.000	991.871	0.8	101	-0.04	15.13-16.13
15	o-Nitrotoluene	1000.000	1000.329	-0.0	102	-0.06	16.86-17.86
	----------	Amount	Calc.	%Drift			----------
16	3,5-Dinitroaniline	1000.000	1014.474	-1.4	102	-0.02	16.11-17.11
	----------	Amount	Calc.	%Drift			----------
17	p-Nitrotoluene	1000.000	986.418	1.4	102	-0.04	17.94-18.94
18	4-Amino-2,6-Dinitrotol	1000.000	986.418	1.4	102	-0.04	17.94-18.94
19	m-Nitrotoluene	1000.000	1008.444	-0.8	102	-0.05	19.31-20.31
20	2-Amino-4,6-Dinitrotol	1000.000	1017.353	-1.7	102	-0.01	20.02-21.02
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	993.247	0.7	102	0.00	4.43- 5.43
2	HMX	1000.000	1018.648	-1.9	101	0.00	4.80- 5.80
3	DNX	1000.000	947.472	5.3	101	0.00	4.99- 5.99
4	MNX	1000.000	1014.561	-1.5	102	0.01	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	988.117	1.2	102	0.00	7.03- 8.03
6	RDX	1000.000	998.840	0.1	102	0.01	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	1066.143	-6.6	103	-0.01	9.54-10.54
8	Nitrobenzene	1000.000	1083.042	-8.3	105	-0.02	10.60-11.60
	----------	Amount	Calc.	%Drift			----------
9	2,4,6-Trinitrotoluene	1000.000	1065.356	-6.5	105	-0.04	11.40-12.40
	----------	Amount	Calc.	%Drift			----------

8.6.11
8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-CC2548
Lab FileID: GG613507.D

10	Nitroglycerin	5000.000	5367.562	-7.4	103	-0.05	12.15-13.15
11	Tetryl	1000.000	1139.938	-14.0	104	-0.05	12.70-13.70
12 S	3,4-Dinitrotoluene	1000.000	993.093	0.7	103	-0.05	13.94-14.94
13	2,6-Dinitrotoluene	1000.000	1002.902	-0.3	102	-0.05	14.42-15.42
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	1013.548	-1.4	103	-0.04	15.13-16.13
15	o-Nitrotoluene	1000.000	1024.799	-2.5	101	-0.06	16.86-17.86
16	3,5-Dinitroaniline	1000.000	1034.394	-3.4	105	-0.02	16.11-17.11
17	p-Nitrotoluene	1000.000	1028.420	-2.8	103	-0.04	17.94-18.94
18	4-Amino-2,6-Dinitrotol	1000.000	1028.420	-2.8	103	-0.04	17.94-18.94
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	1000.000	1141.128	-14.1	104	-0.05	19.31-20.31
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	1022.855	-2.3	102	-0.01	20.02-21.02
		Amount	Calc.	%Drift			
21	PETN	5000.000	5334.844	-6.7	102	-0.06	21.81-22.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 13:59:42 2017

8.6.11

8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ECC2548
Lab FileID: GG613517.D

Evaluate Continuing Calibration Report

```
Signal #1 : G:\DATA\0720RPB3\GG613517.D\dad1B.ch         Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613517.D\dad1A.ch
Acq On    : 21-Jul-2017, 06:57:52                    Operator: evitam
Sample    : eCC2548-1000                             Inst    : G1315B
Misc      : Op65961,Ggg2548,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	982.189	1.8	100	0.02	4.43- 5.43
2	HMX	1000.000	1006.837	-0.7	100	0.01	4.80- 5.80
3	DNX	1000.000	949.493	5.1	100	0.02	4.99- 5.99
4	MNX	1000.000	1005.548	-0.6	101	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	986.101	1.4	101	0.00	7.03- 8.03
6	RDX	1000.000	998.439	0.2	102	0.02	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	985.943	1.4	101	0.00	9.54-10.54
8	Nitrobenzene	1000.000	998.830	0.1	101	0.00	10.60-11.60
9	2,4,6-Trinitrotoluene	1000.000	975.114	2.5	101	-0.01	11.40-12.40
10	Nitroglycerin	----------	NA	----------			
11	Tetryl	1000.000	993.581	0.6	102	-0.03	12.70-13.70
12 S	3,4-Dinitrotoluene	1000.000	988.288	1.2	100	-0.03	13.94-14.94
13	2,6-Dinitrotoluene	1000.000	990.779	0.9	101	-0.03	14.42-15.42
14	2,4-Dinitrotoluene	1000.000	990.484	1.0	101	-0.03	15.13-16.13
15	o-Nitrotoluene	1000.000	997.078	0.3	101	-0.06	16.86-17.86
	----------	Amount	Calc.	%Drift			----------
16	3,5-Dinitroaniline	1000.000	1009.633	-1.0	102	-0.03	16.11-17.11
	----------	Amount	Calc.	%Drift			----------
17	p-Nitrotoluene	1000.000	980.287	2.0	101	-0.06	17.94-18.94
18	4-Amino-2,6-Dinitrotol	1000.000	980.287	2.0	101	-0.06	17.94-18.94
19	m-Nitrotoluene	1000.000	1002.534	-0.3	101	-0.06	19.31-20.31
20	2-Amino-4,6-Dinitrotol	1000.000	1014.546	-1.5	102	-0.05	20.02-21.02
21	PETN	5000.000	0.000	100.0#	0	-0.11	21.86-22.86
*****	Signal #2 *****						
1	TNX	1000.000	981.749	1.8	100	0.02	4.43- 5.43
2	HMX	1000.000	1007.756	-0.8	100	0.01	4.80- 5.80
3	DNX	1000.000	936.339	6.4	100	0.02	4.99- 5.99
4	MNX	1000.000	1005.548	-0.6	101	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	982.454	1.8	101	0.00	7.03- 8.03
6	RDX	1000.000	991.826	0.8	101	0.02	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	1022.849	-2.3	98	0.00	9.54-10.54
8	Nitrobenzene	1000.000	1071.616	-7.2	104	0.00	10.60-11.60
	----------	Amount	Calc.	%Drift			----------
9	2,4,6-Trinitrotoluene	1000.000	1052.978	-5.3	103	-0.01	11.40-12.40
	----------	Amount	Calc.	%Drift			----------

8.6.12
8

Continuing Calibration Summary

Job Number: FA45722
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ECC2548
Lab FileID: GG613517.D

10		Nitroglycerin	5000.000	5350.433	-7.0	103	-0.02	12.15-13.15
11		Tetryl	1000.000	1148.469	-14.8	105	-0.03	12.70-13.70
12	S	3,4-Dinitrotoluene	1000.000	971.581	2.8	101	-0.03	13.94-14.94
13		2,6-Dinitrotoluene	1000.000	987.090	1.3	100	-0.03	14.42-15.42
			Amount	Calc.	%Drift			
14		2,4-Dinitrotoluene	1000.000	1006.159	-0.6	103	-0.03	15.13-16.13
15		o-Nitrotoluene	1000.000	1038.332	-3.8	103	-0.06	16.86-17.86
16		3,5-Dinitroaniline	1000.000	1040.687	-4.1	105	-0.03	16.11-17.11
17		p-Nitrotoluene	1000.000	1017.740	-1.8	102	-0.06	17.94-18.94
18		4-Amino-2,6-Dinitrotol	1000.000	1017.740	-1.8	102	-0.06	17.94-18.94
			Amount	Calc.	%Drift			
19		m-Nitrotoluene	1000.000	1115.314	-11.5	102	-0.06	19.31-20.31
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	1019.608	-2.0	101	-0.05	20.02-21.02
			Amount	Calc.	%Drift			
21		PETN	5000.000	5321.416	-6.4	101	-0.07	21.81-22.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 13:59:43 2017

8.6.12

8

GC Semi-volatiles

Raw Data

Sample Results: BB056482.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:30 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.42	10.42	1097913	1979720	426.403	510.217
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.28%	102.04%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.45	1.46	61253	127892	35.395m	27.573m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.85	2.85	155127	226890	76.224	71.206
6)	1,3,5-Trinitrobe	4.62	4.61	63417	74283	14.898m	9.140m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.27	9.29	168735	174895	44.092m	40.771m
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056482.D 8330B_0720PLUS.M Mon Jul 24 12:16:22 2017

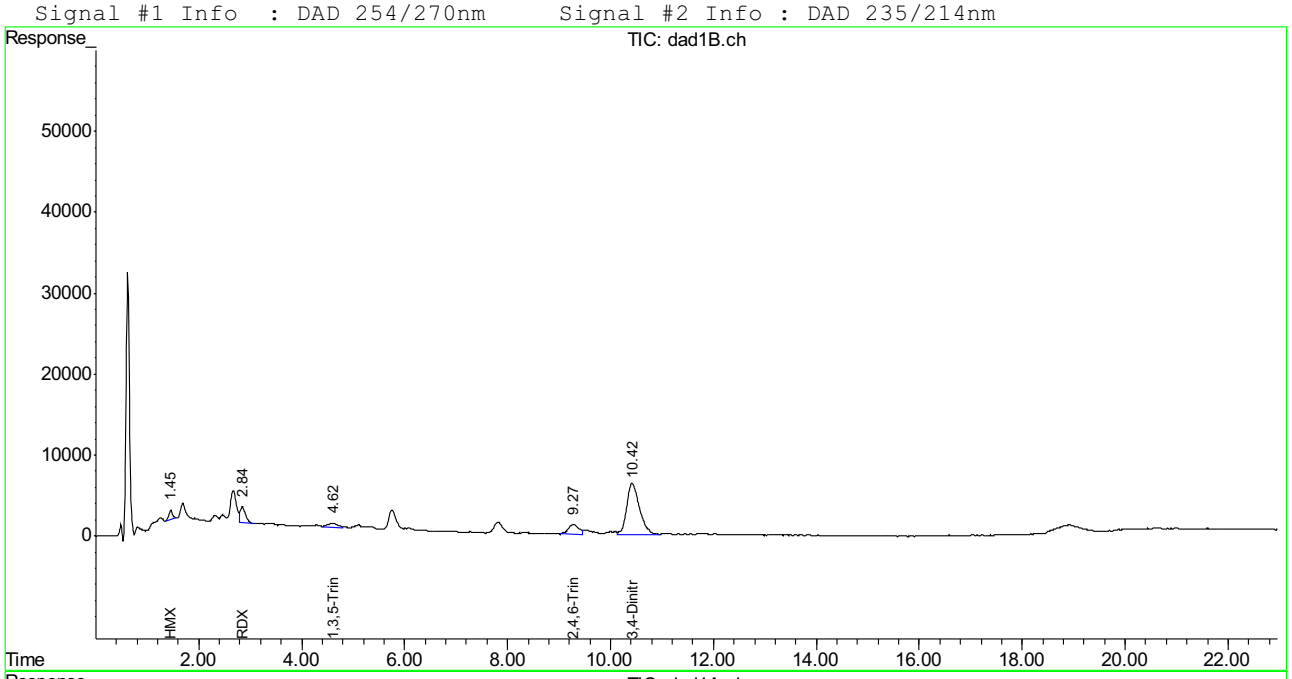
SGS ACCUTEST FA45722

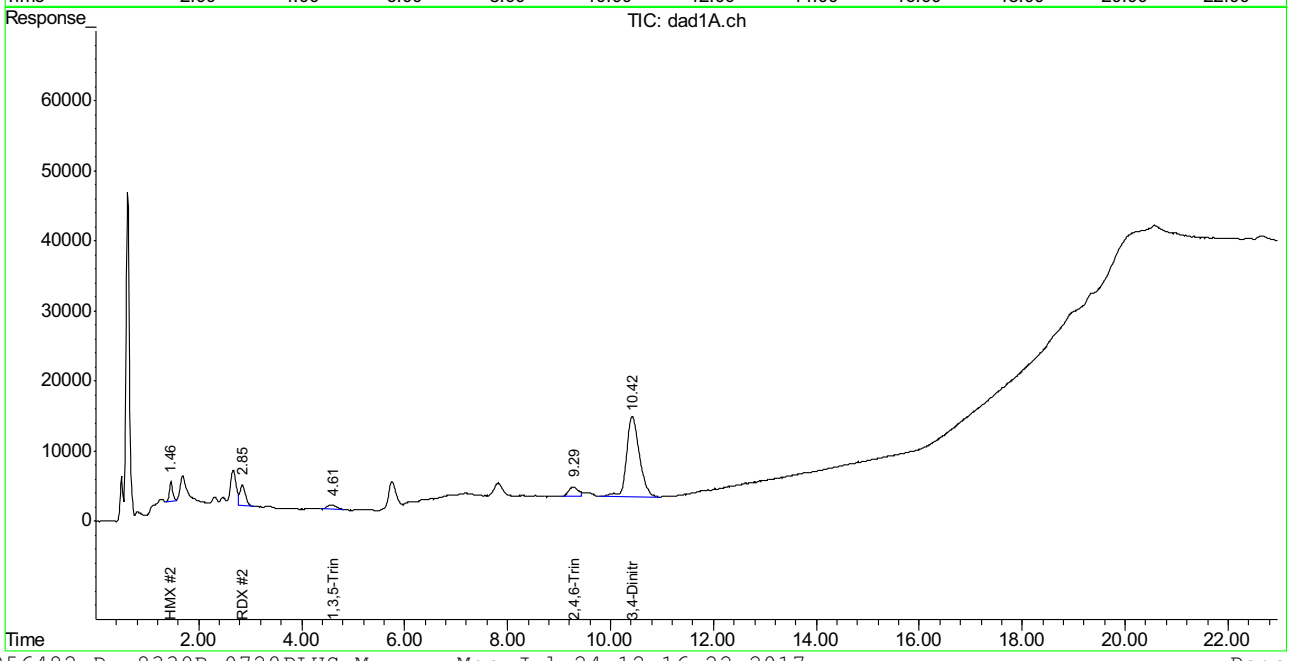
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 24 12:15 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA45722-1
Lab FileID: BB056482.D
Injection Time: 07/19/17 04:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:16 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

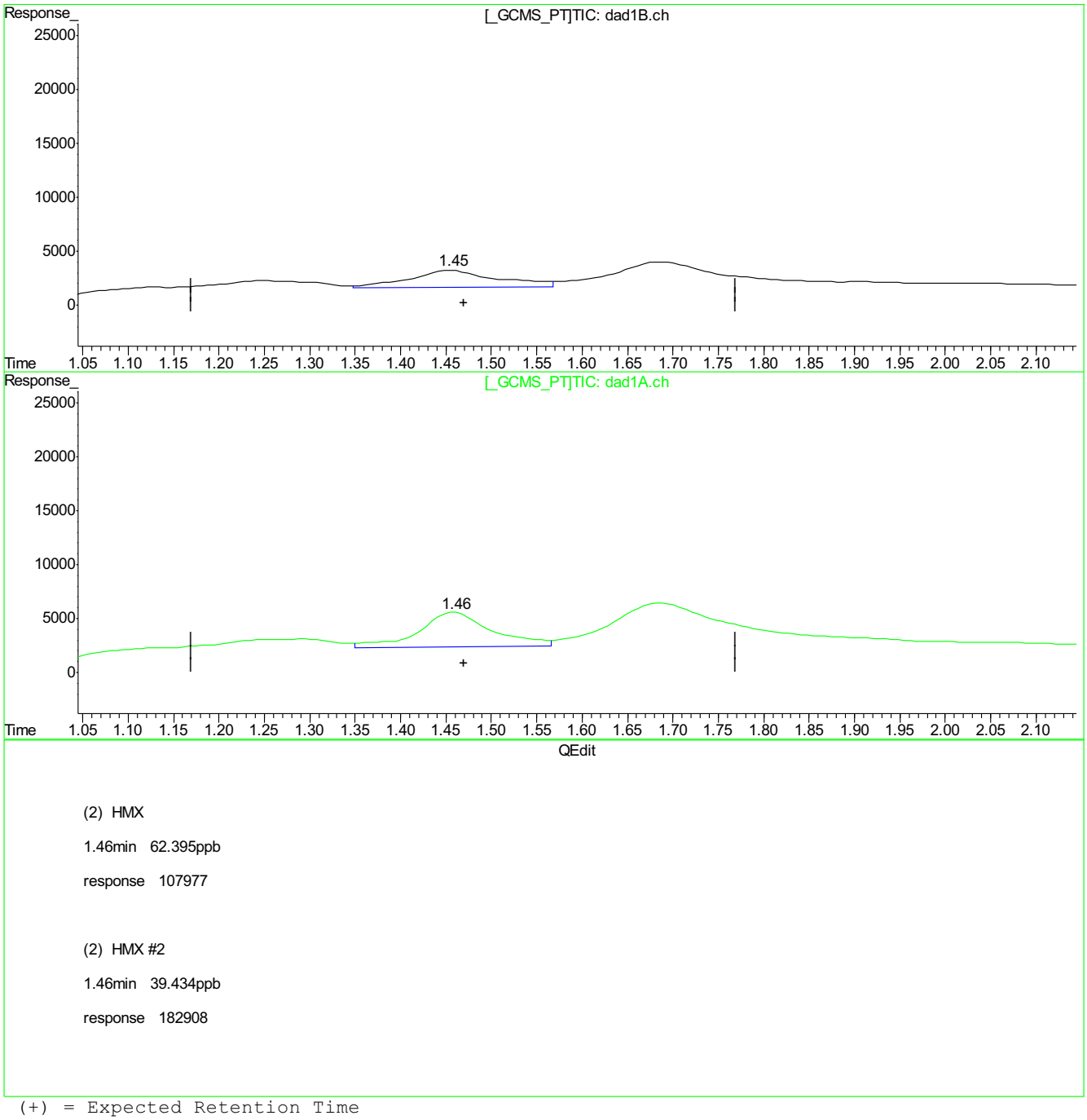
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.45	Poorly defined baseline
HMX	2691-41-0	2	1.46	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	2	4.61	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.62	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	1	9.27	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.29	Poorly defined baseline

Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(2) HMX

1.46min 62.395ppb

response 107977

(2) HMX #2

1.46min 39.434ppb

response 182908

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:18:58 2017

9.1.1.2

9

BB056482.D edits: HMX

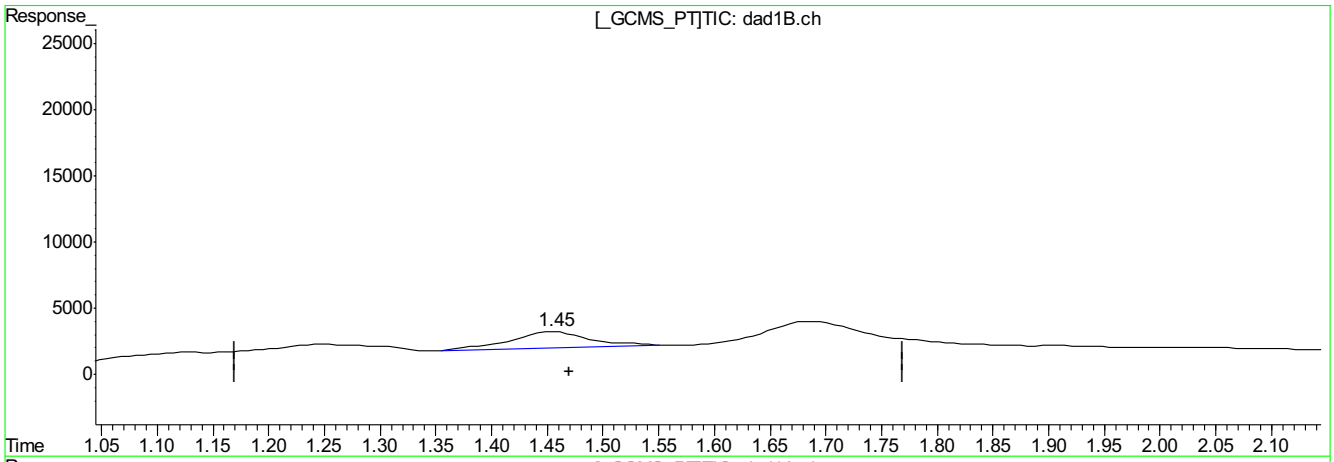
SGS ACCUTEST FA45722

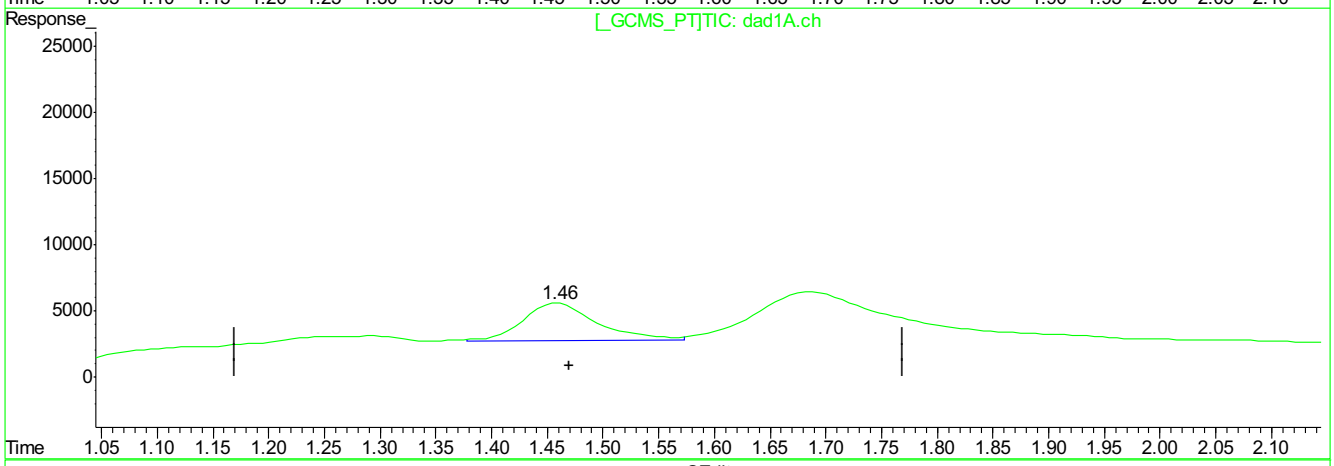
Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.45min 35.395ppb m

response 61253

(2) HMX #2

1.46min 27.573ppb m

response 127892

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:19:24 2017

9.1.1.3

9

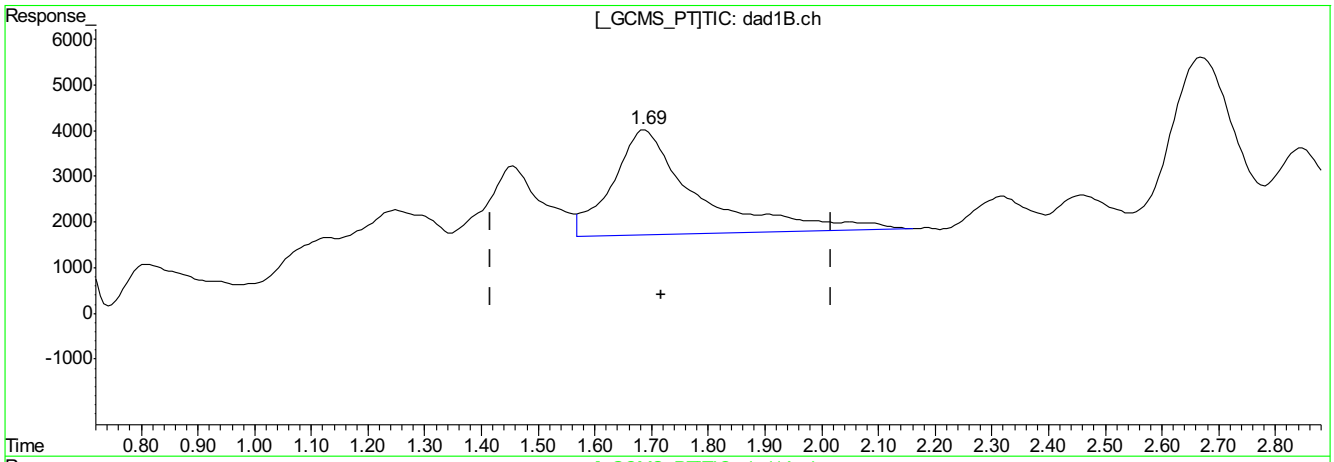
BB056482.D edits: HMX

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(3) DNX

1.69min 82.428ppb

response 239331

(3) DNX #2

1.69min 91.801ppb

response 399181

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:19:31 2017

9.1.1.4

9

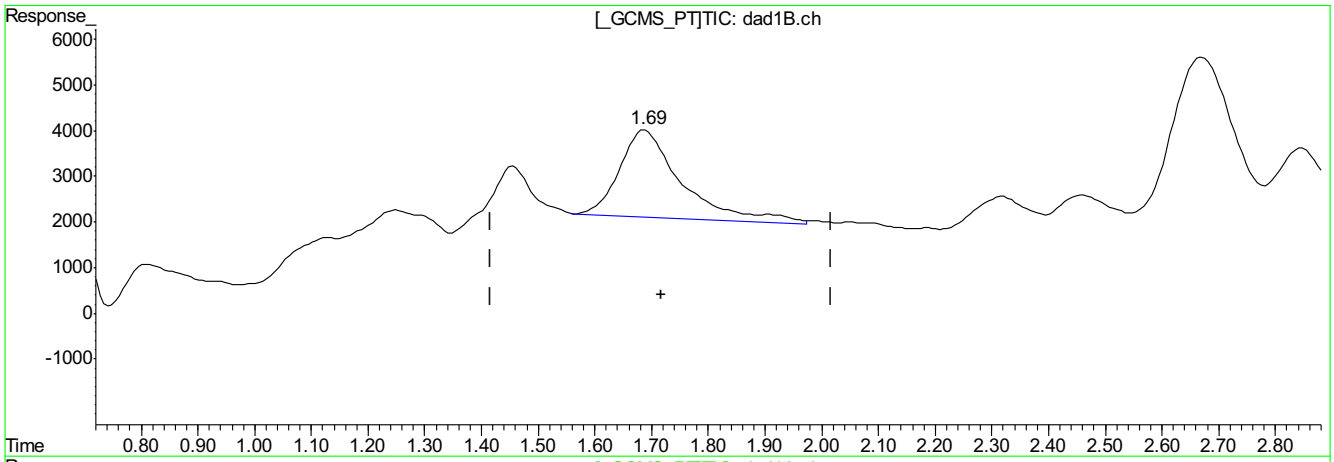
BB056482.D edits: DNX

Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(3) DNX

1.69min 50.144ppb m

response 145594

(3) DNX #2

1.68min 62.484ppb m

response 271596

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:19:43 2017

9.1.1.5

9

BB056482.D edits: DNX

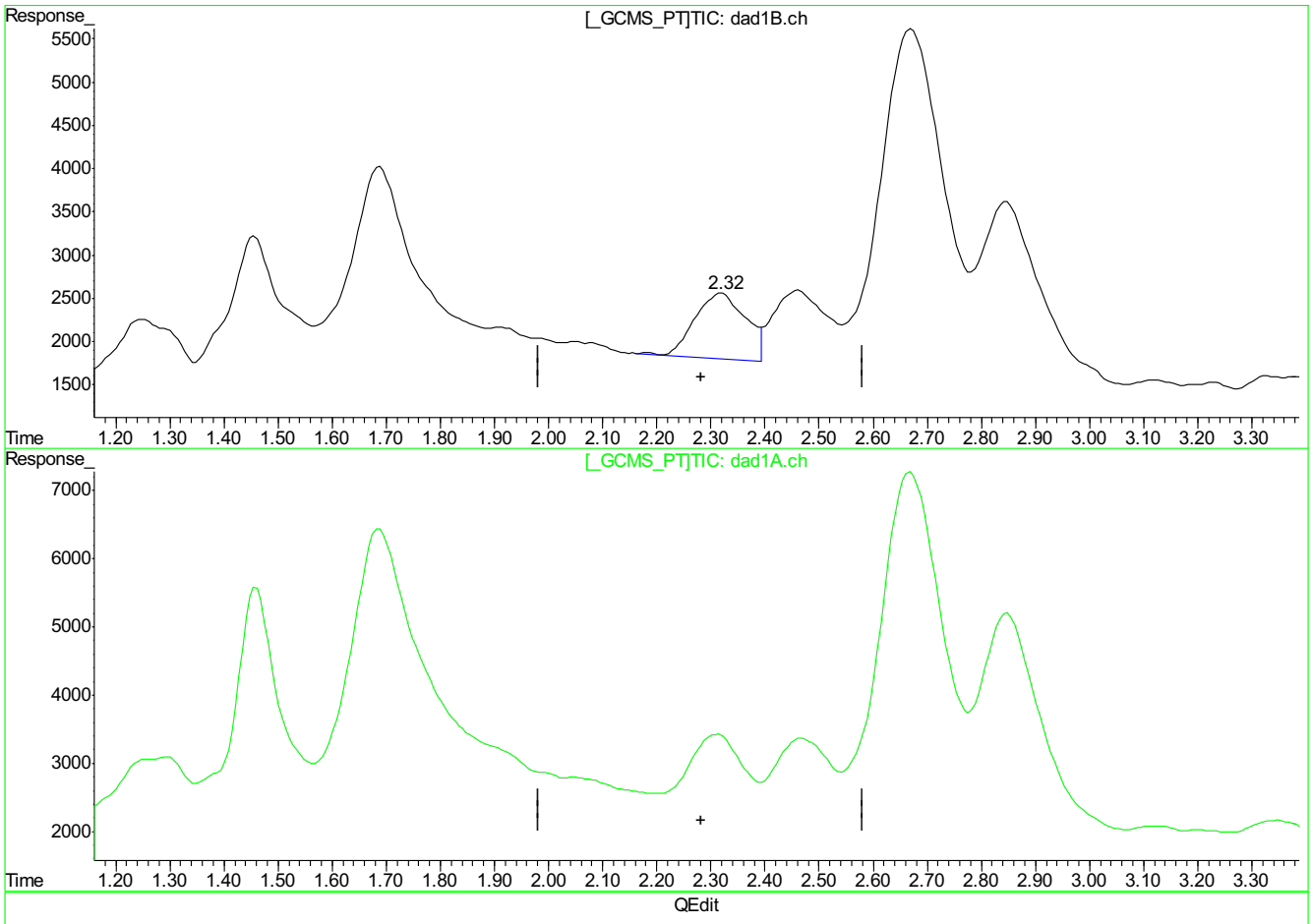
SGS ACCUTEST FA45722

Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(4) MNX

2.32min 21.918ppb

response 49037

(4) MNX #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:19:52 2017

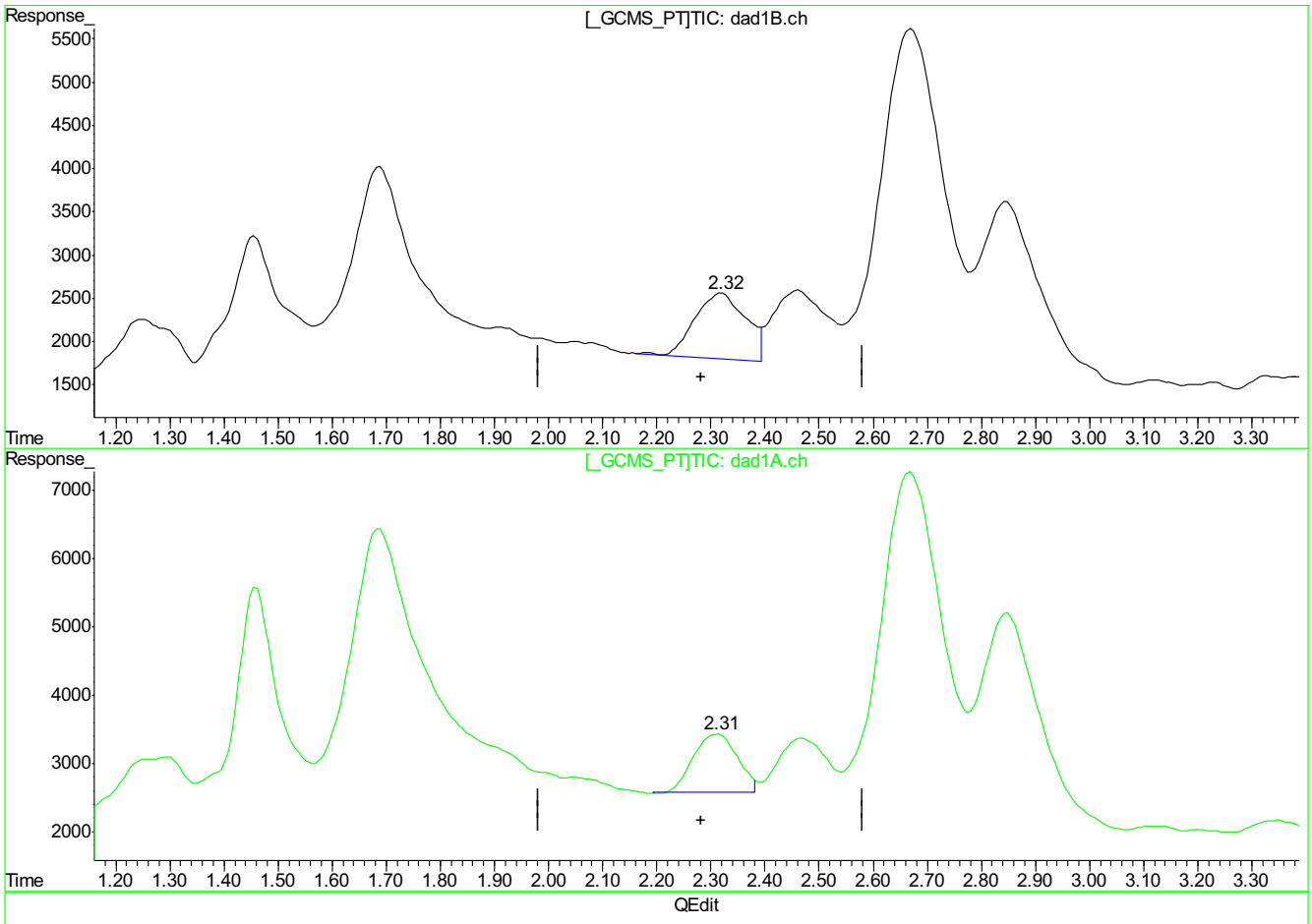
BB056482.D edits: MNX

Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(4) MNX

2.32min 21.918ppb

response 49037

(4) MNX #2

2.31min 14.045ppb m

response 47361

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:19:56 2017

9.1.1.7

9

BB056482.D edits: MNX

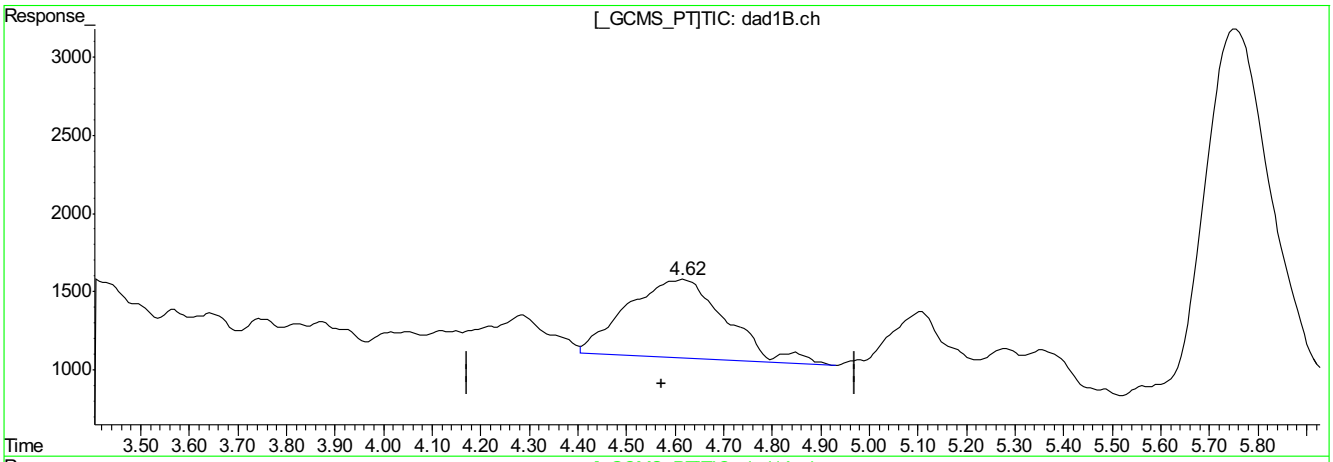
SGS ACCUTEST FA45722

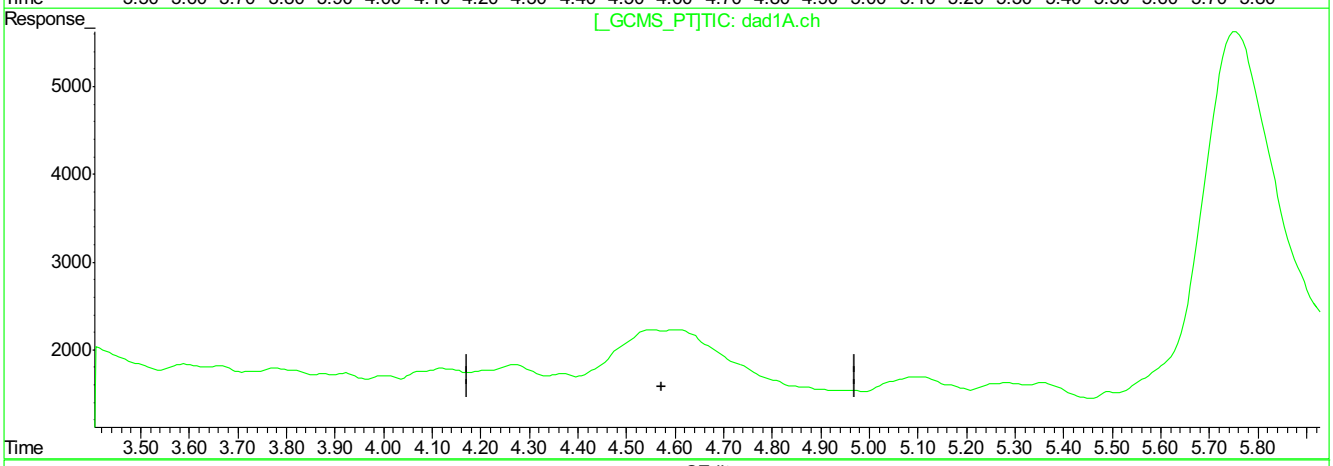
Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.62min 16.822ppb

response 71608

(6) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:20:07 2017

9.1.1.8

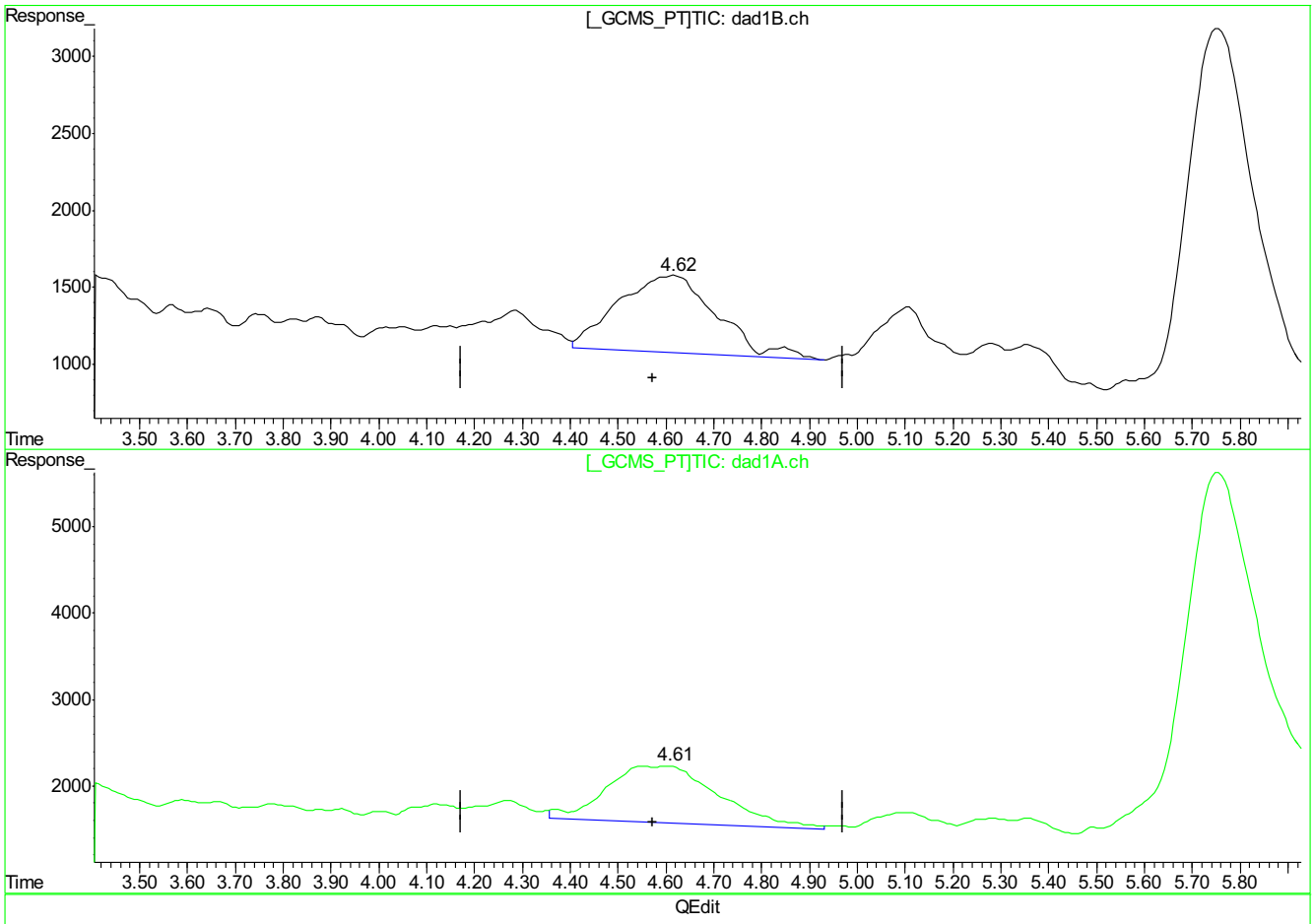
9

BB056482.D edits: 1,3,5-Trinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.62min 16.822ppb

response 71608

(6) 1,3,5-Trinitrobenzene #2

4.61min 13.024ppb m

response 105841

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:20:11 2017

9.1.1.9

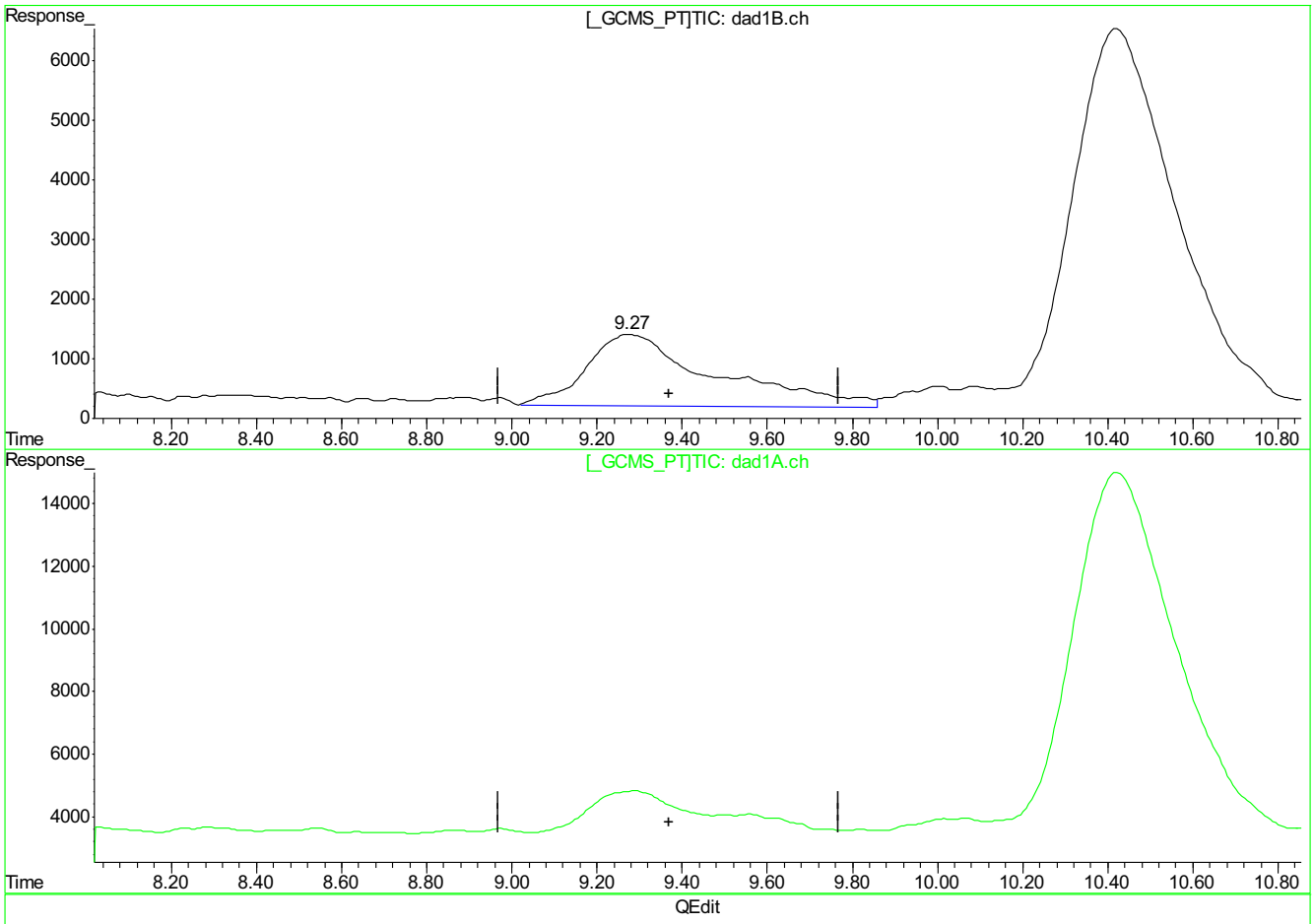
9

Sample Results: BB056482.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.28min 64.898ppb

response 248357

(12) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:20:37 2017

9.1.1.10

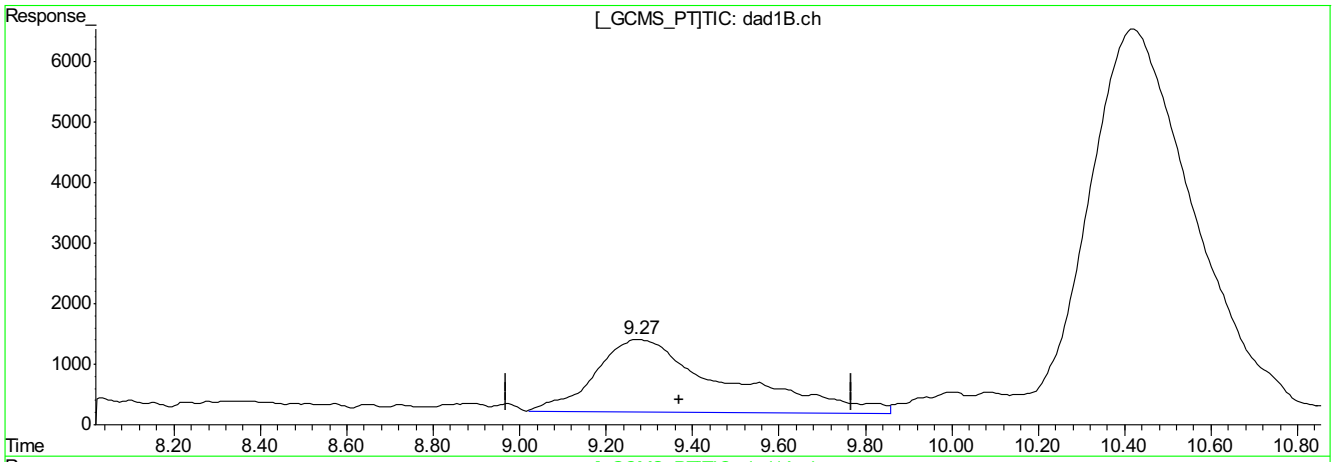
9

BB056482.D edits: 2,4,6-Trinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056482.D\dad1A.ch
Acq On : 19-Jul-2017, 04:03:44 Operator: evitam
Sample : fa45722-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.28min 64.898ppb

response 248357

(12) 2,4,6-Trinitrotoluene #2

9.29min 71.996ppb m

response 309420

(+) = Expected Retention Time
BB056482.D 8330B_0629PLUS.M Wed Jul 19 10:20:47 2017

9.1.1.11

Sample Results: GG613510.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:09 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12)	S 3,4-Dinitrotolue	14.41	14.41	2743749	5114446	488.254	444.608m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		97.65%	88.92%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.32	5.32	151590	138744	40.950m	37.514m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.54	7.54	51451	51451	4.847	4.834
6)	RDX	7.89	7.89	324256	324256	65.724	65.877
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	11.89	11.89	396106	498952	38.796	37.423m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

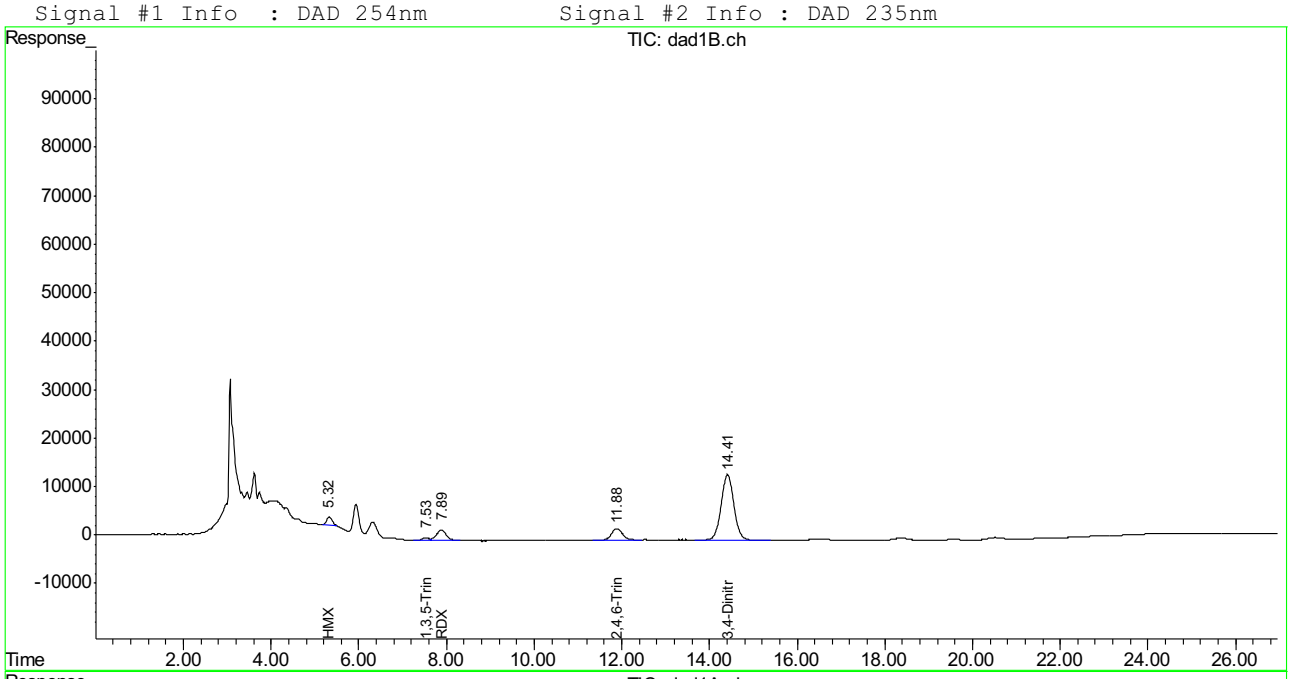
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 13:56:49 2017 Page 1

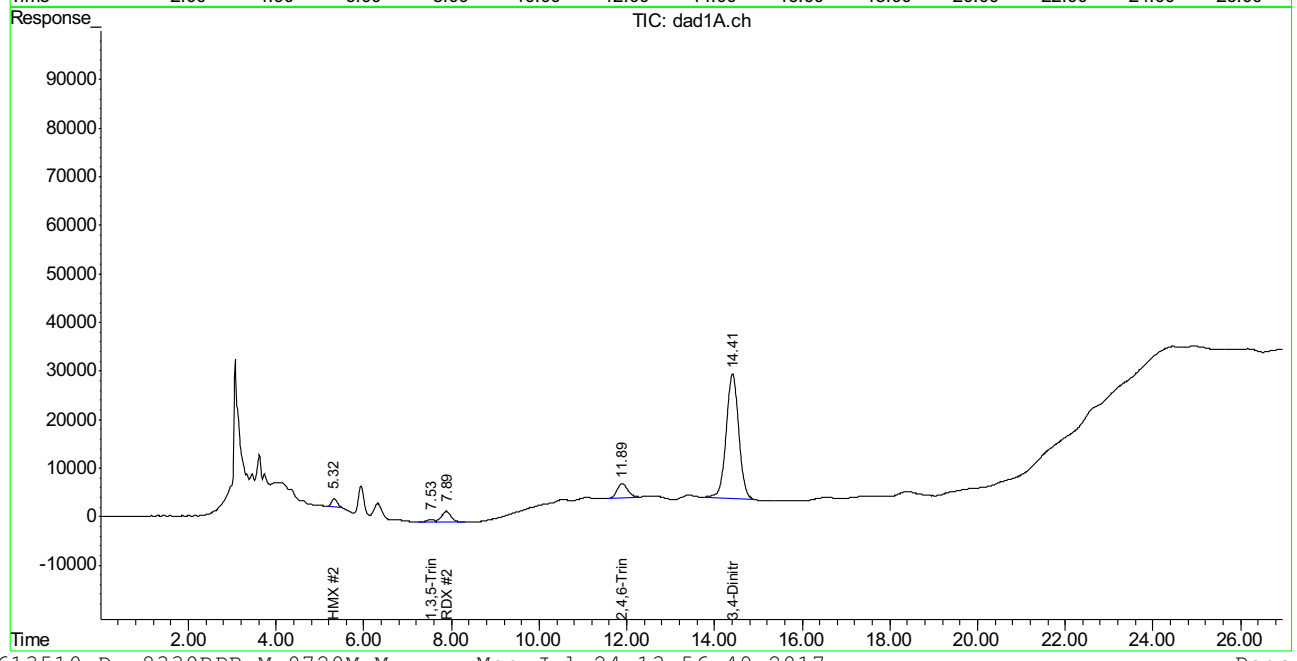
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 12:17 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





GG613510.D 8330RPB.M_0720M.M Mon Jul 24 13:56:49 2017 Page 2

Manual Integration Approval Summary

Sample Number: FA45722-1
Lab FileID: GG613510.D
Injection Time: 07/21/17 03:31
Method: SW846 8330B
Analyst approved: 07/24/17 14:16 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

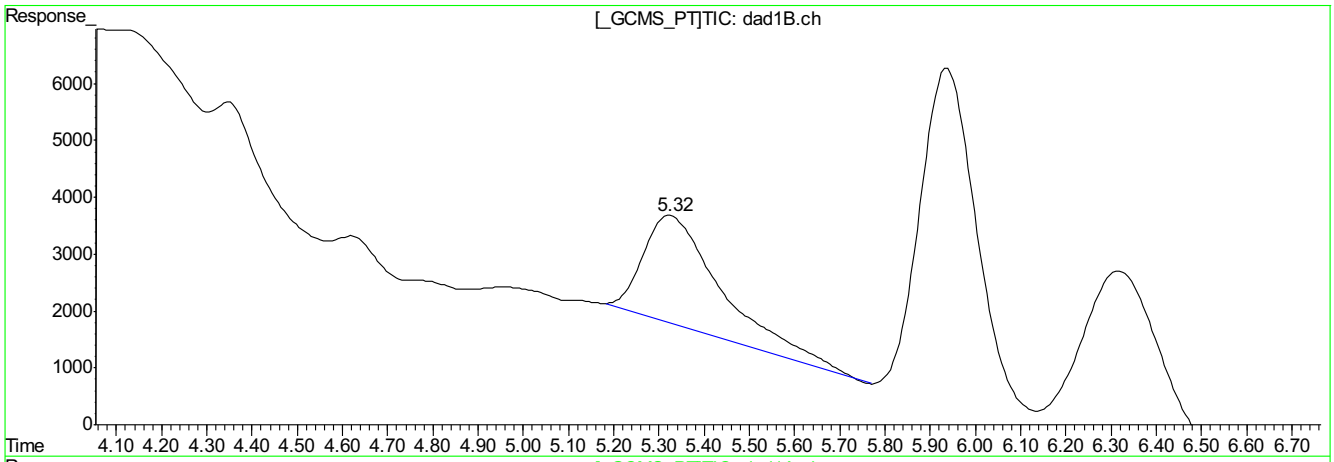
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.32	Poorly defined baseline
HMX	2691-41-0	2	5.32	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.89	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.41	Poorly defined baseline

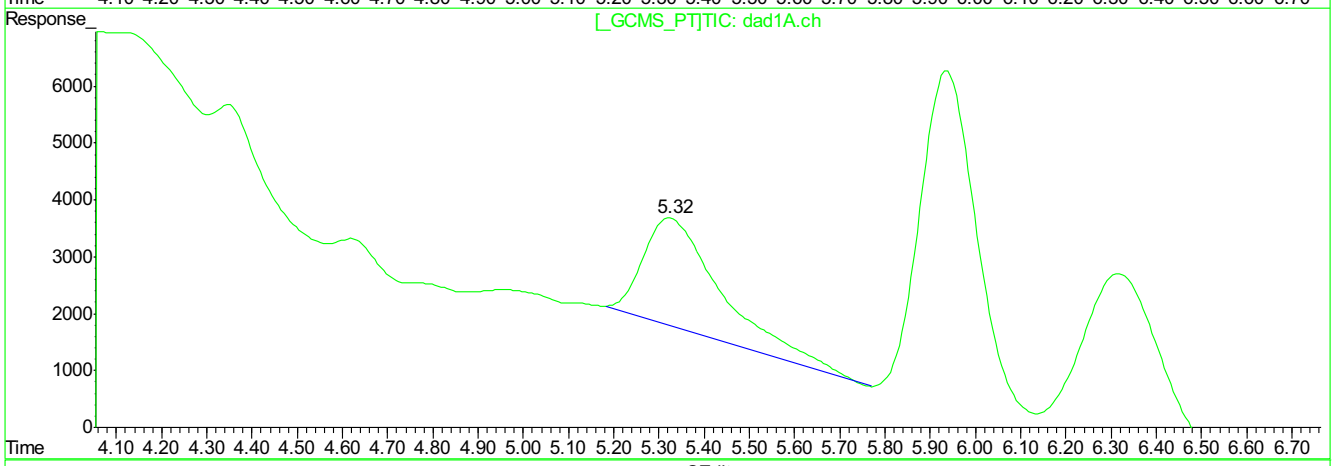
Sample Results: GG613510.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 62.624ppb

response 231821

(2) HMX #2

5.32min 62.681ppb

response 231821

(+) = Expected Retention Time
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 12:10:06 2017

9.1.2.2

9

GG613510.D edits: HMX

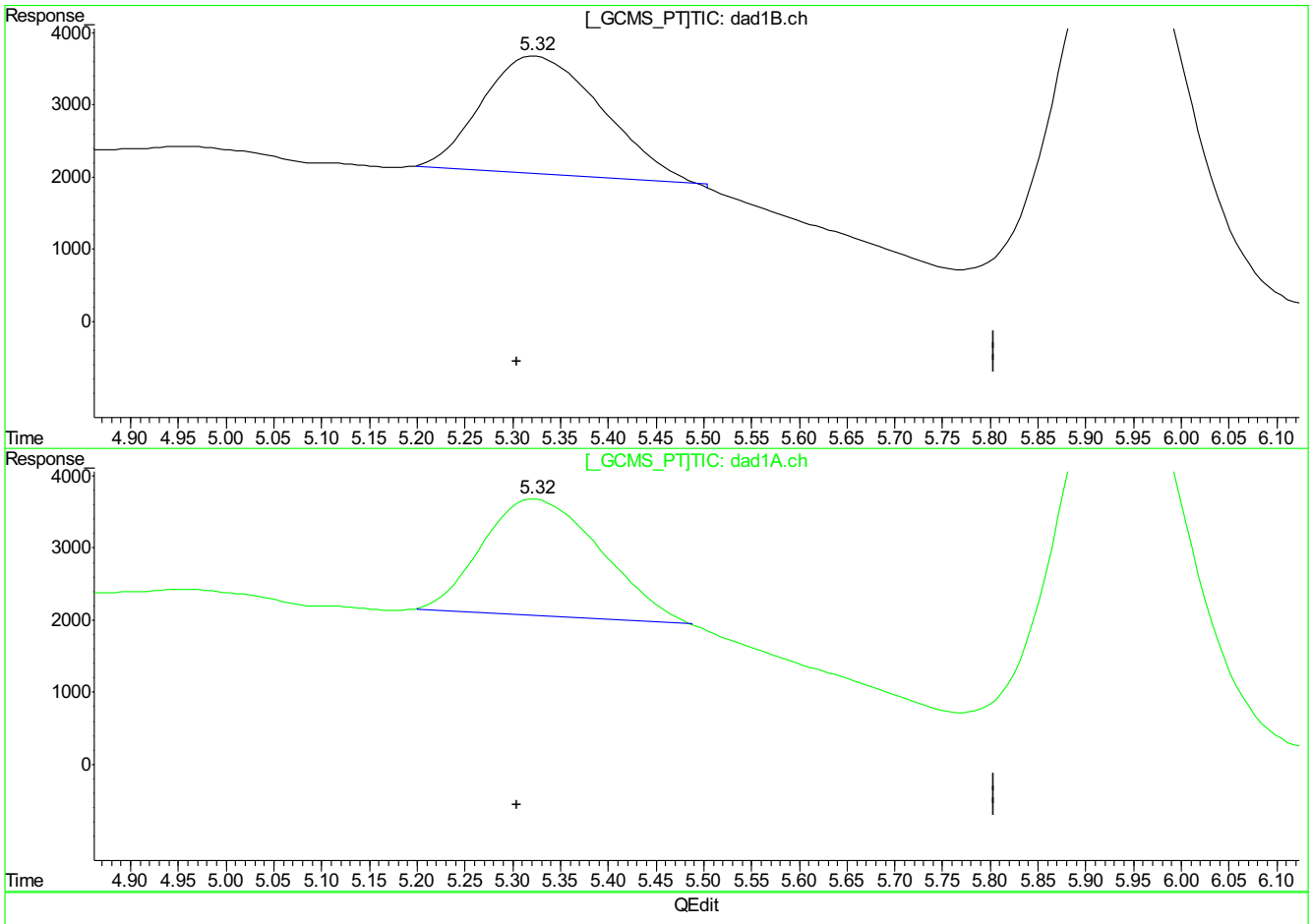
SGS ACCUTEST FA45722

Sample Results: GG613510.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



QEdit

(2) HMX

5.32min 38.613ppb m

response 142940

(2) HMX #2

5.32min 37.710ppb m

response 139468

(+) = Expected Retention Time
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 12:10:17 2017

9.1.2.3

9

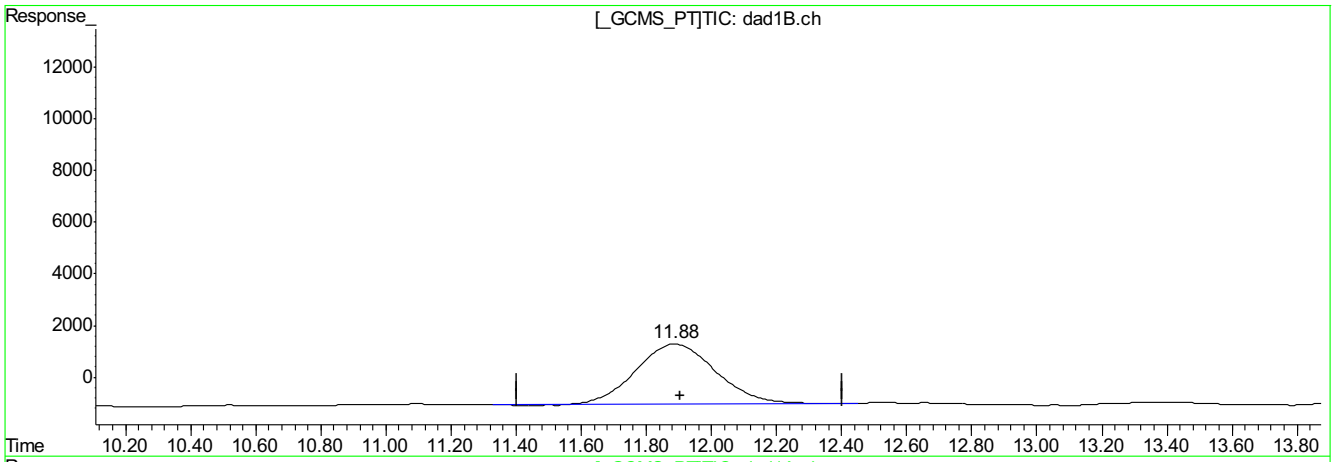
SGS ACCUTEST FA45722

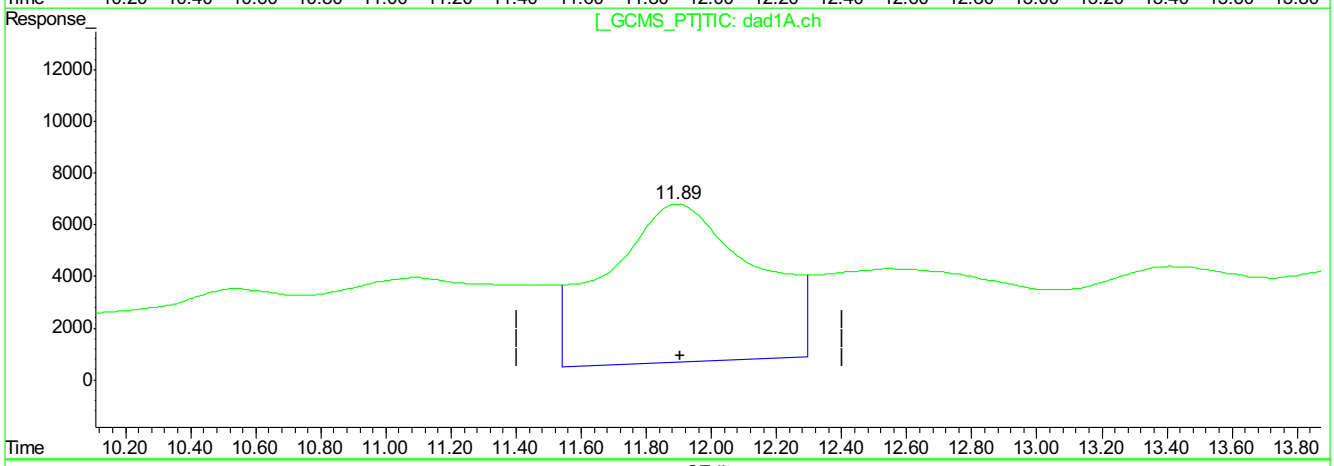
Sample Results: **GG613510.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.89min 38.796ppb

response 396106

(9) 2,4,6-Trinitrotoluene #2

11.90min 145.037ppb

response 1936772

(+) = Expected Retention Time
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 12:17:37 2017

9.1.2.4

9

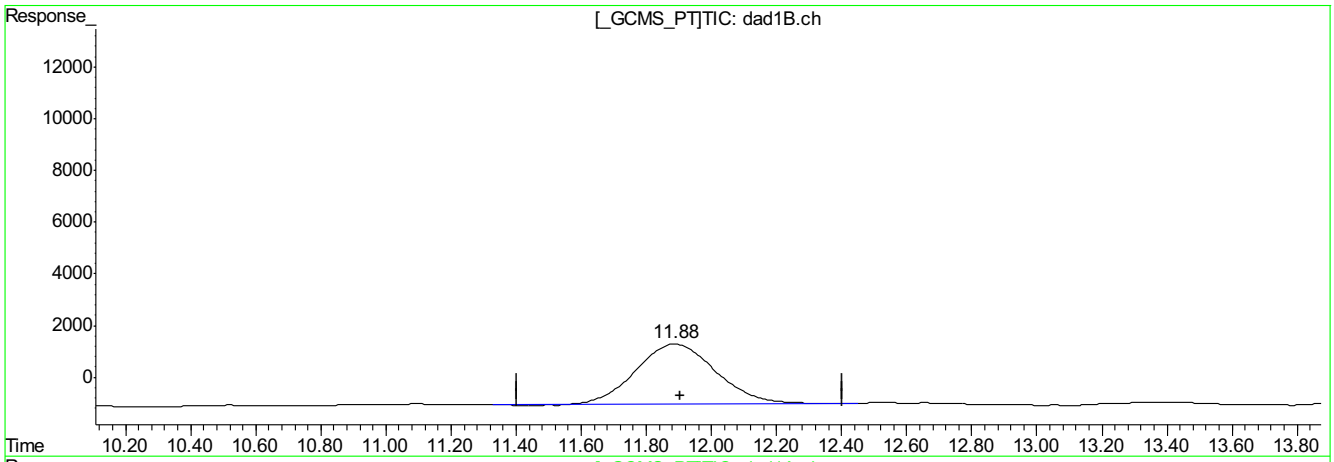
SGS ACCUTEST FA45722

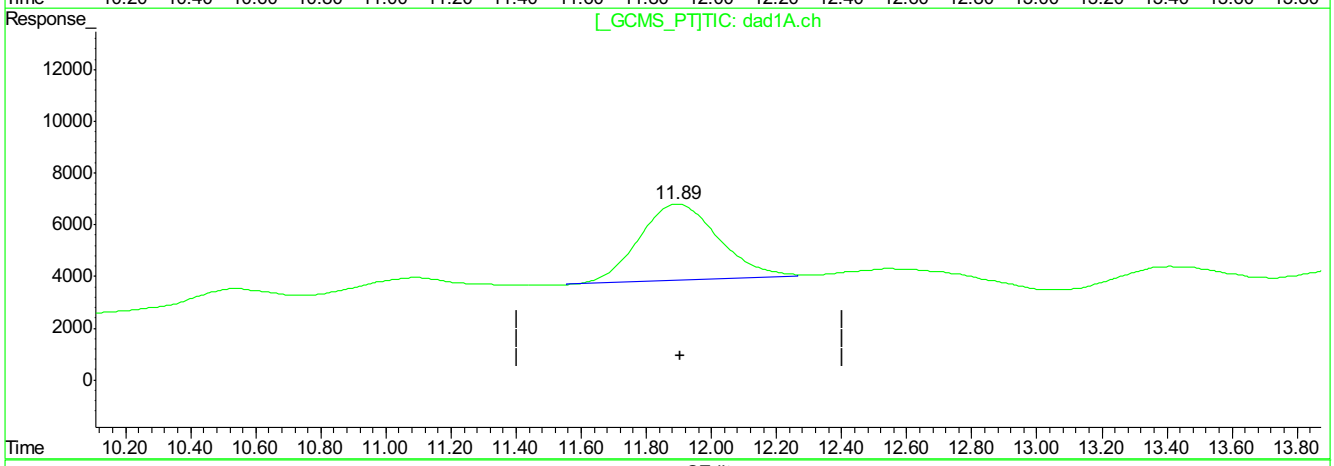
Sample Results: **GG613510.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.89min 38.796ppb

response 396106

(9) 2,4,6-Trinitrotoluene #2

11.89min 37.423ppb m

response 498952

(+) = Expected Retention Time
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 12:17:41 2017

9.1.2.5

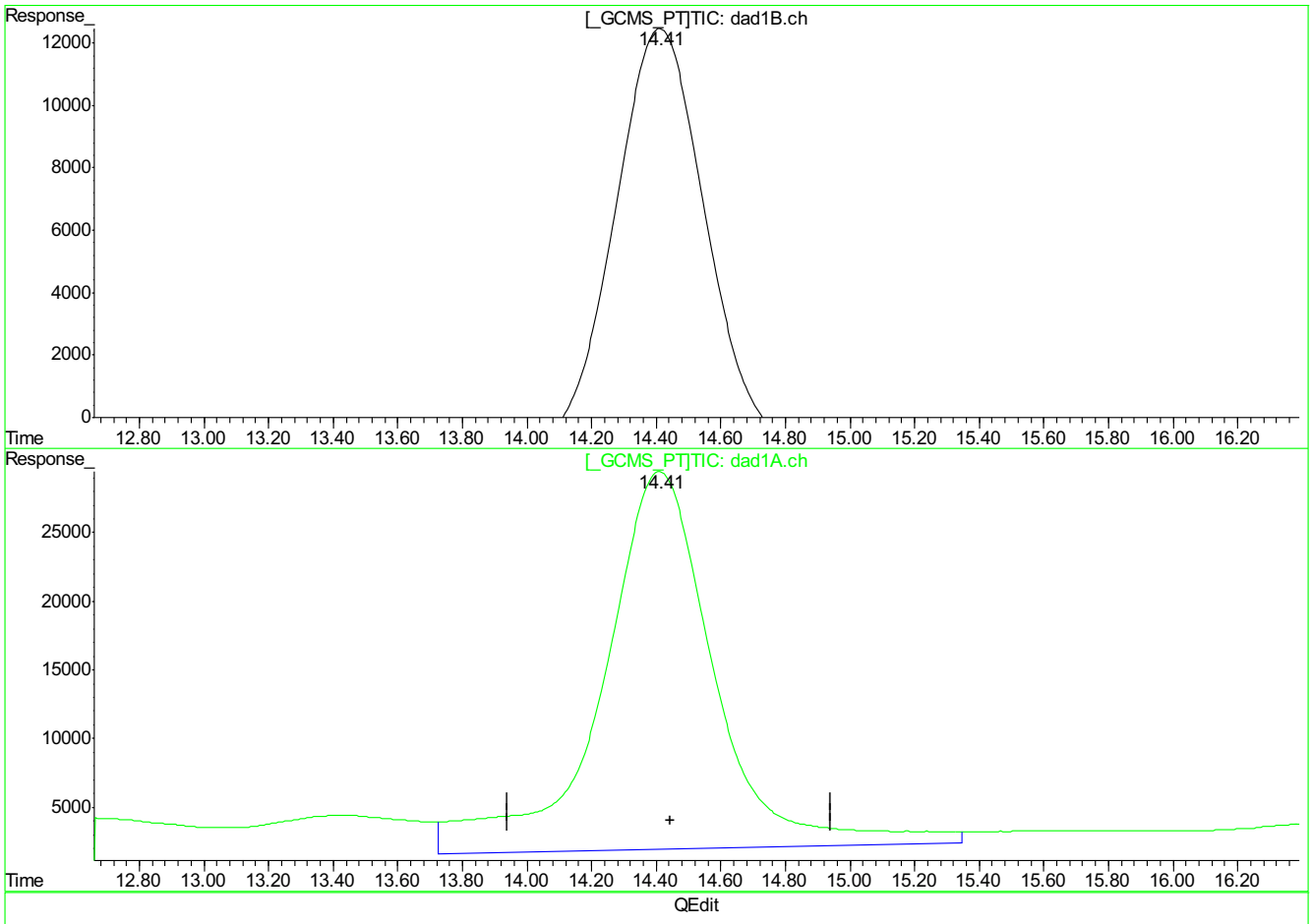
9

Sample Results: GG613510.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.41min 488.254ppb

response 2743749

(12) 3,4-Dinitrotoluene #2 (S)

14.41min 582.359ppb

response 6699039

(+) = Expected Retention Time
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 12:17:47 2017

9.1.2.6

9

GG613510.D edits: 3,4-Dinitrotoluene

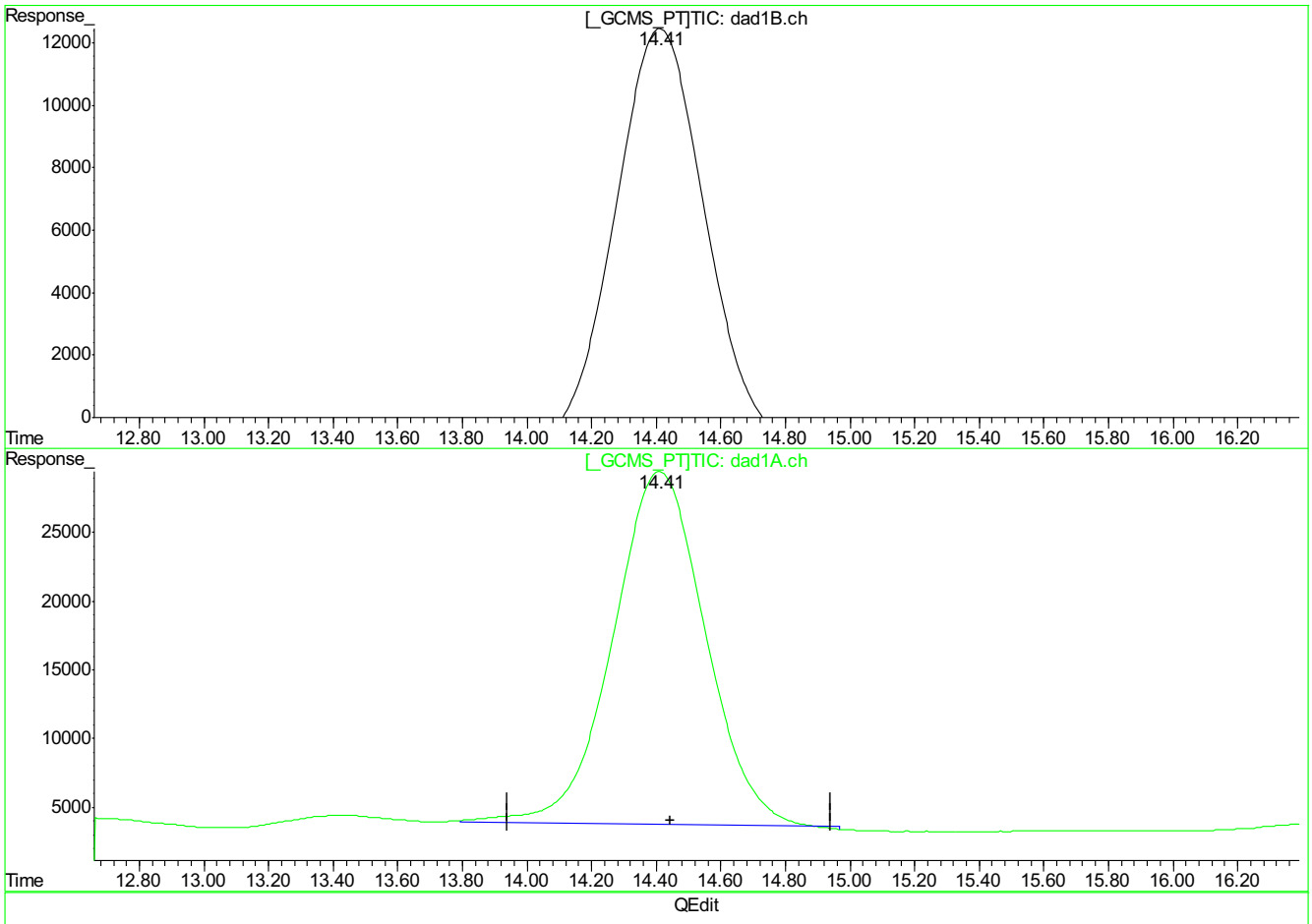
SGS ACCUTEST FA45722

Sample Results: **GG613510.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613510.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0720RPB3\GG613510.D\dad1A.ch
Acq On : 21-Jul-2017, 03:31:37 Operator: evitam
Sample : fa45722-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.41min 488.254ppb

response 2743749

(12) 3,4-Dinitrotoluene #2 (S)

14.41min 444.608ppb m

response 5114446

(+) = Expected Retention Time
GG613510.D 8330RPB.M_0720M.M Mon Jul 24 12:17:50 2017

GG613510.D edits: 3,4-Dinitrotoluene

Sample Results: BB056483.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:31 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.43	10.43	1105585	2027888	429.382	522.282
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.88%	104.46%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	305355	764652	176.451m	164.856m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.85	2.85	1111872	1540106	546.336	483.337
6)	1,3,5-Trinitrobe	4.53	4.53	334176	630013	78.504	77.522
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.07	6.09	51590	90682	12.485m	13.909
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.28	9.28	1732946	2153040	452.837	488.793
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	10.04	10.03	126437	220444	50.565	47.426m
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

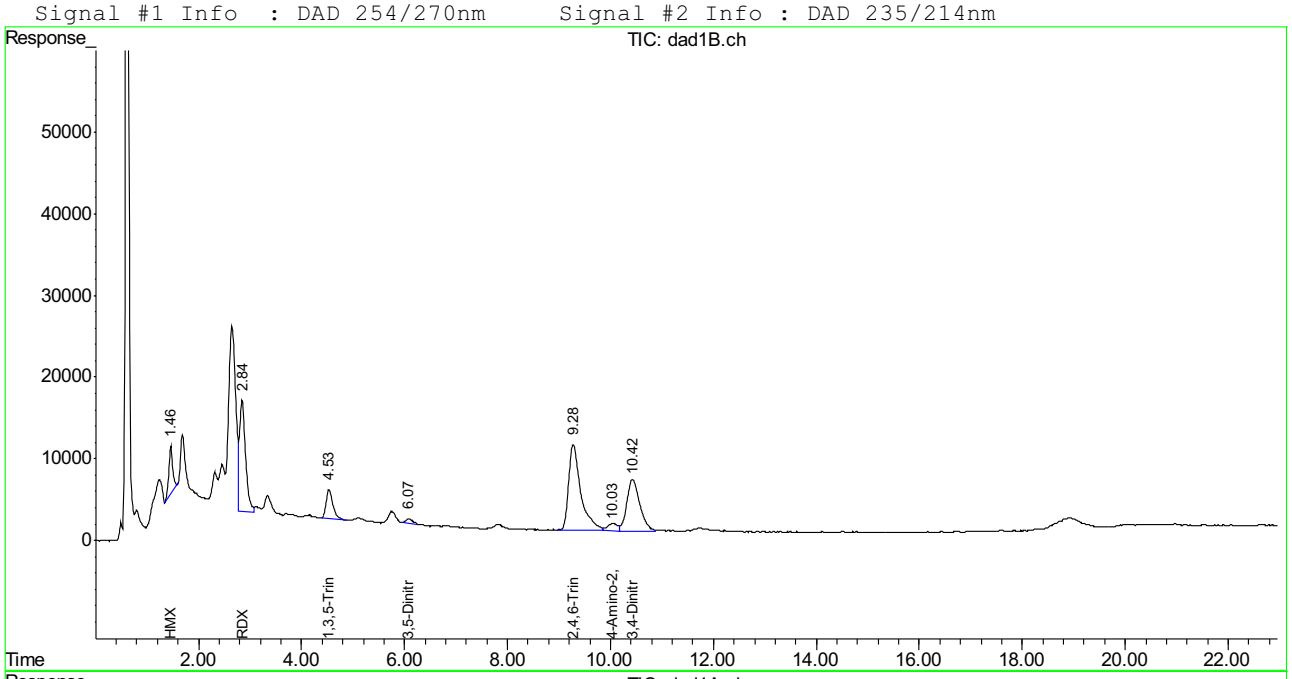
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056483.D 8330B_0720PLUS.M Mon Jul 24 12:26:18 2017 Page 1

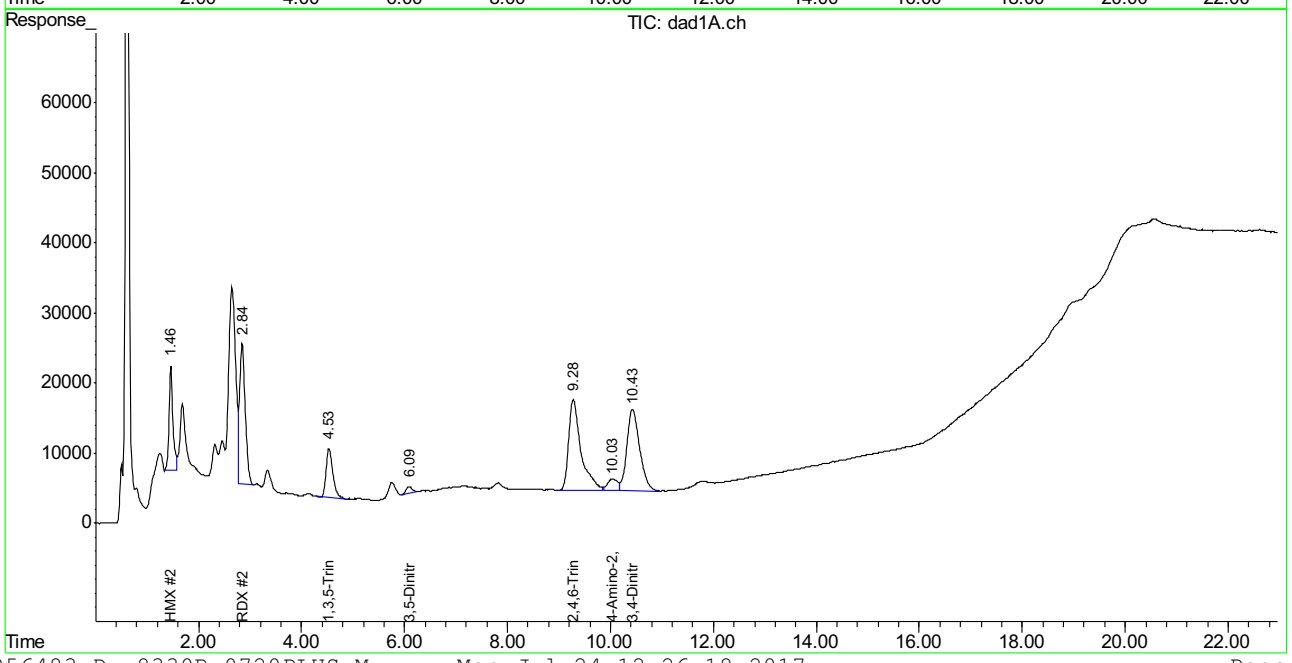
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 24 12:25 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





BB056483.D 8330B_0720PLUS.M Mon Jul 24 12:26:18 2017 Page 2

Manual Integration Approval Summary

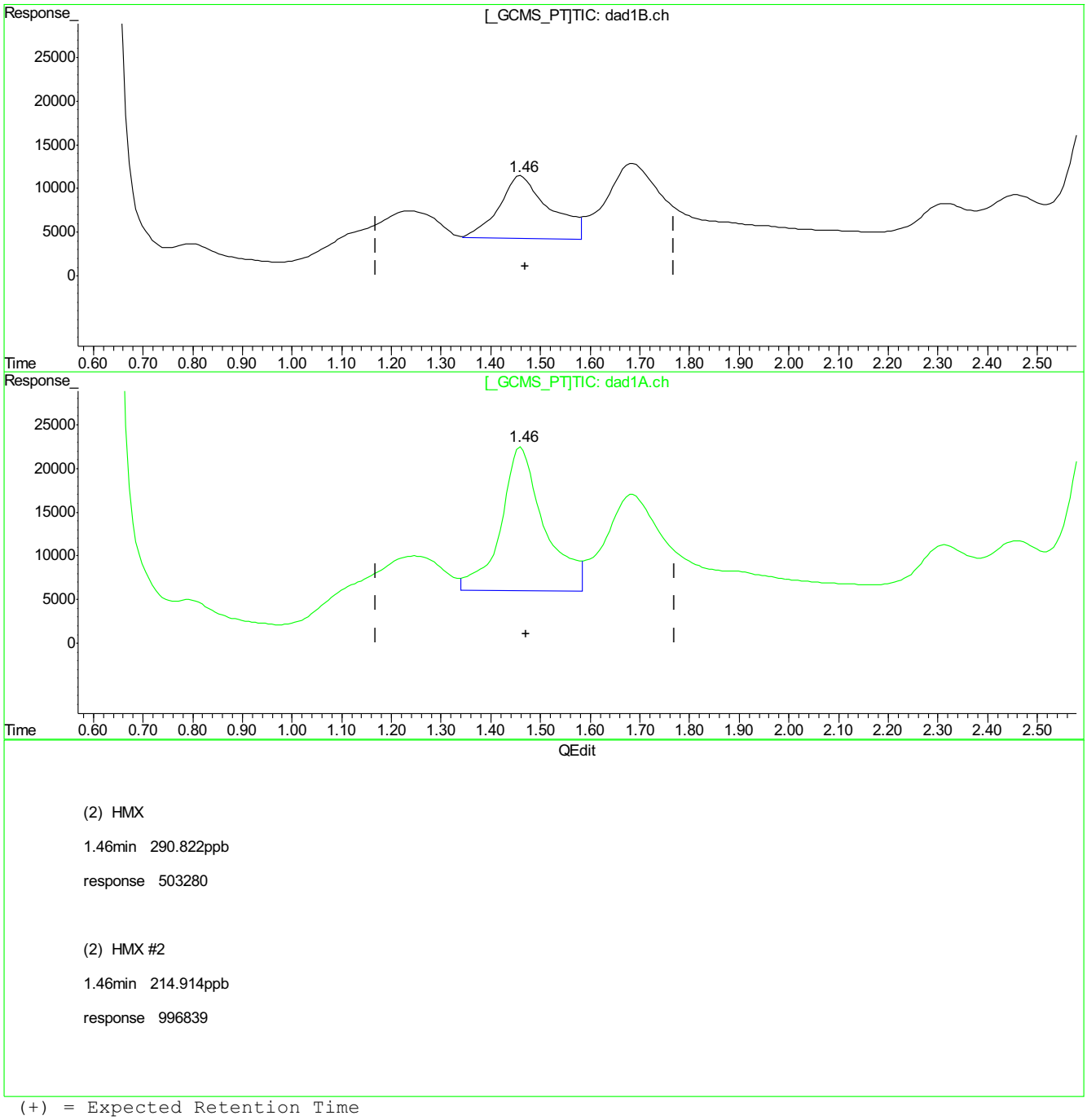
Sample Number: FA45722-2
Lab FileID: BB056483.D
Injection Time: 07/19/17 04:33
Method: SW846 8330B
Analyst approved: 07/24/17 14:17 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.46	Poorly defined baseline
HMX	2691-41-0	2	1.46	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	6.07	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.03	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(2) HMX

1.46min 290.822ppb

response 503280

(2) HMX #2

1.46min 214.914ppb

response 996839

(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:22:01 2017

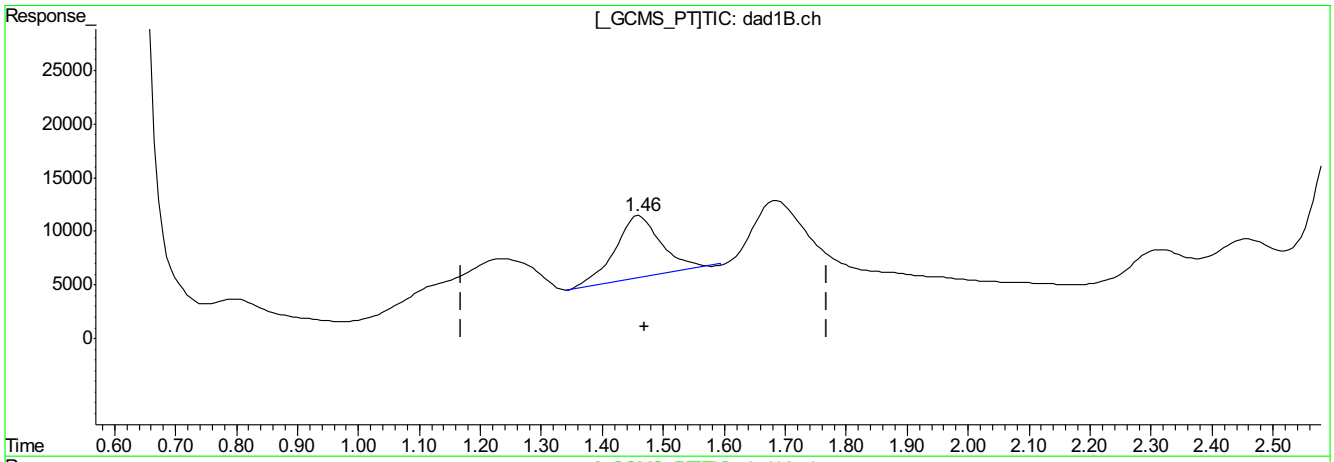
9.1.3.2
9

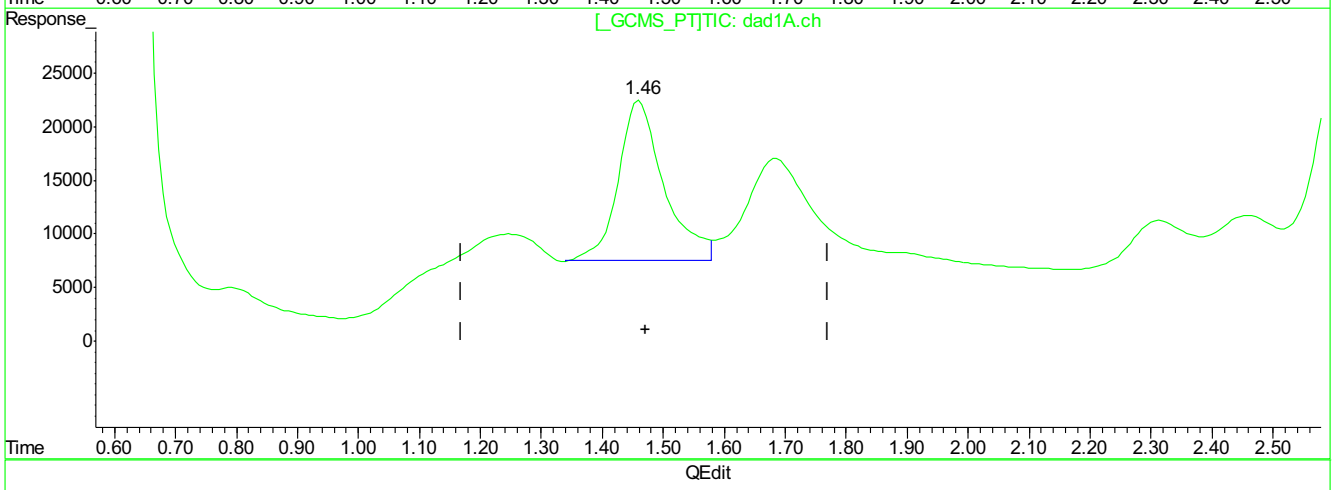
BB056483.D edits: HMX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.46min 176.451ppb m

response 305355

(2) HMX #2

1.46min 164.856ppb m

response 764652

(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:22:16 2017

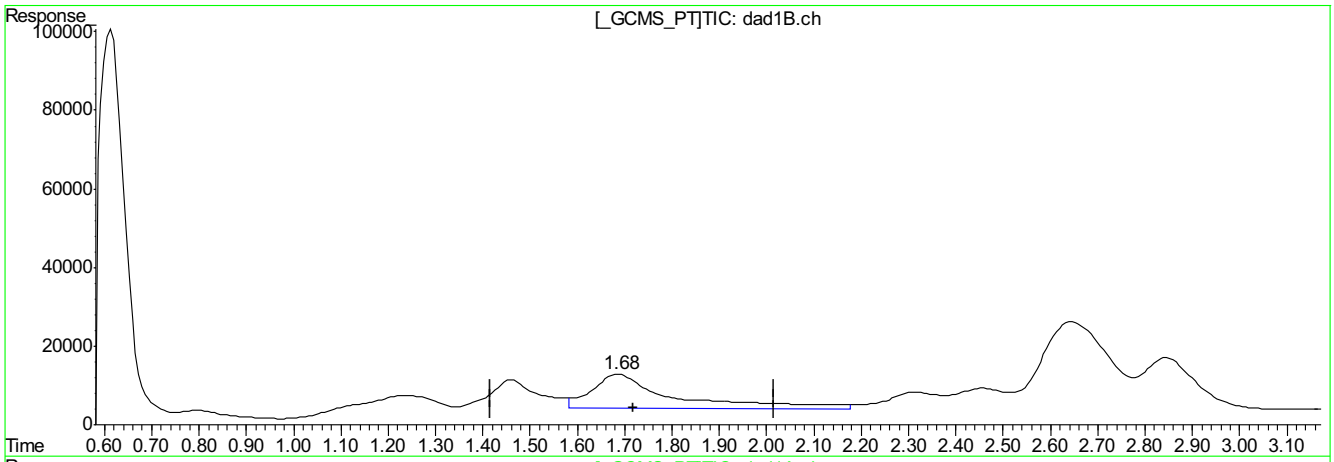
9.1.3.3
9

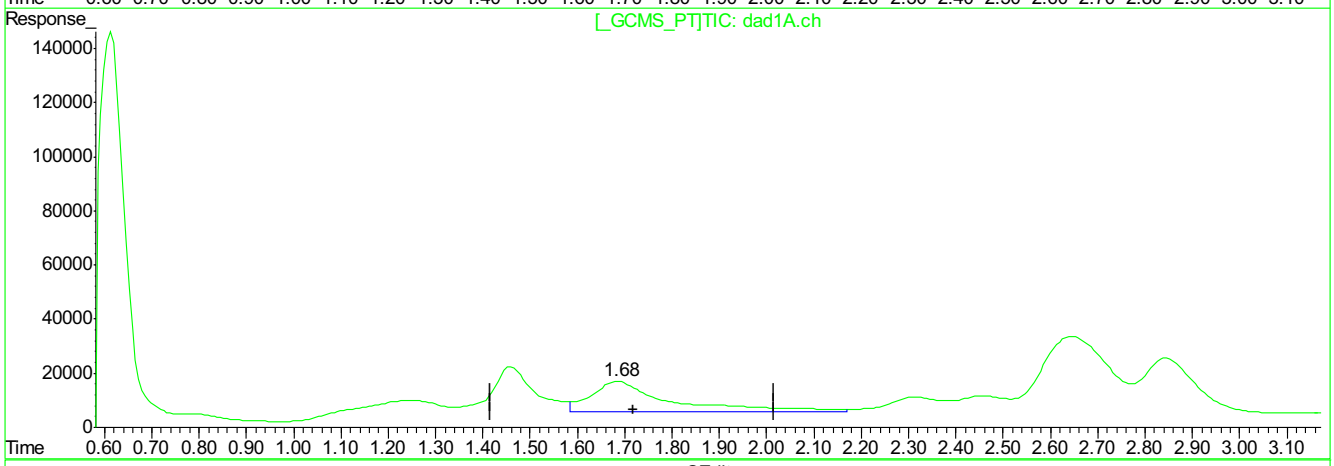
Sample Results: BB056483.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On    : 19-Jul-2017, 04:33:42                    Operator: evitam
Sample    : fa45722-2                                Inst    : G1315B
Misc      : op65781,gbb1620,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
```





QEdit

(3) DNX

1.69min 369.572ppb

response 1073062

(3) DNX #2

1.69min 292.376ppb

response 1274685

(+) = Expected Retention Time

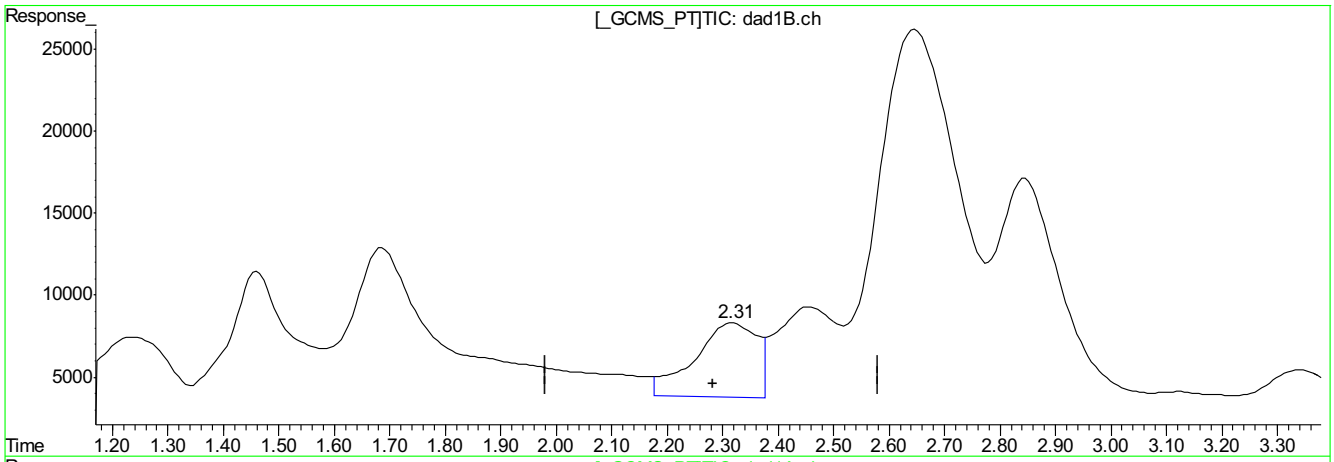
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:22:38 2017

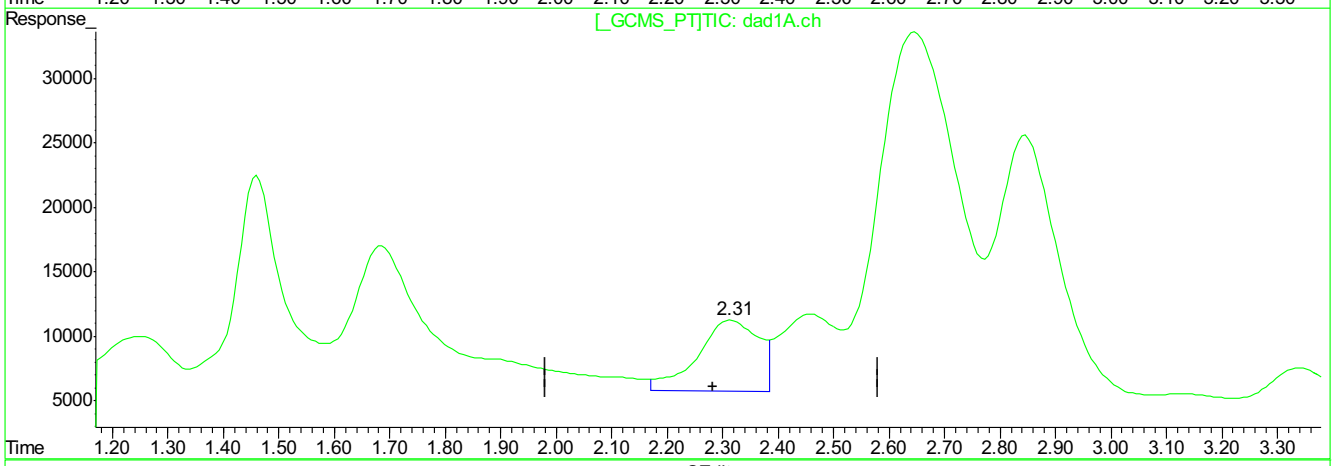
BB056483.D edits: DNX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.32min 157.573ppb

response 352539

(4) MNX #2

2.32min 125.184ppb

response 422128

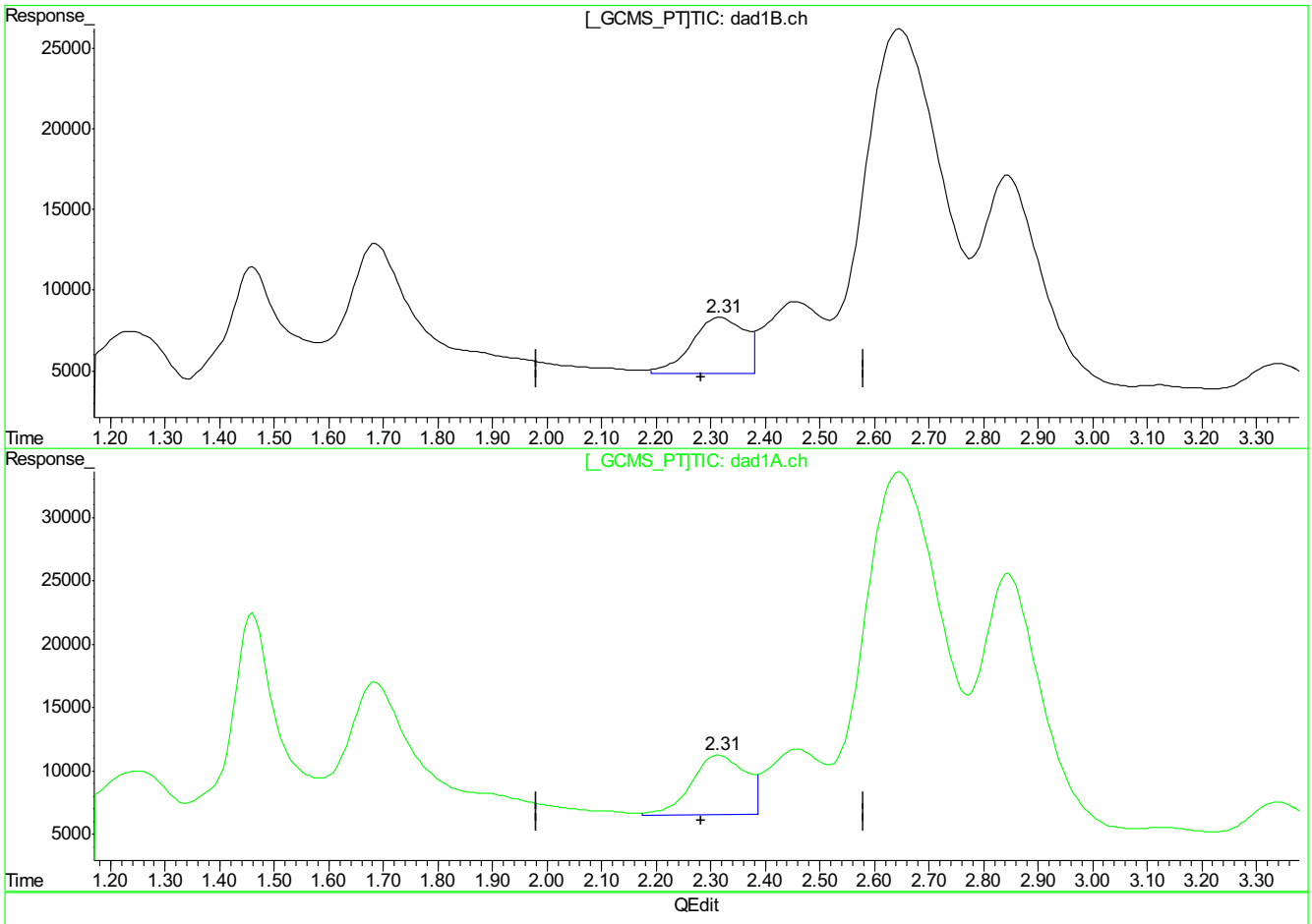
(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:23:15 2017

9.1.3.5
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(4) MNX

2.31min 108.577ppb m

response 242919

(4) MNX #2

2.31min 97.837ppb m

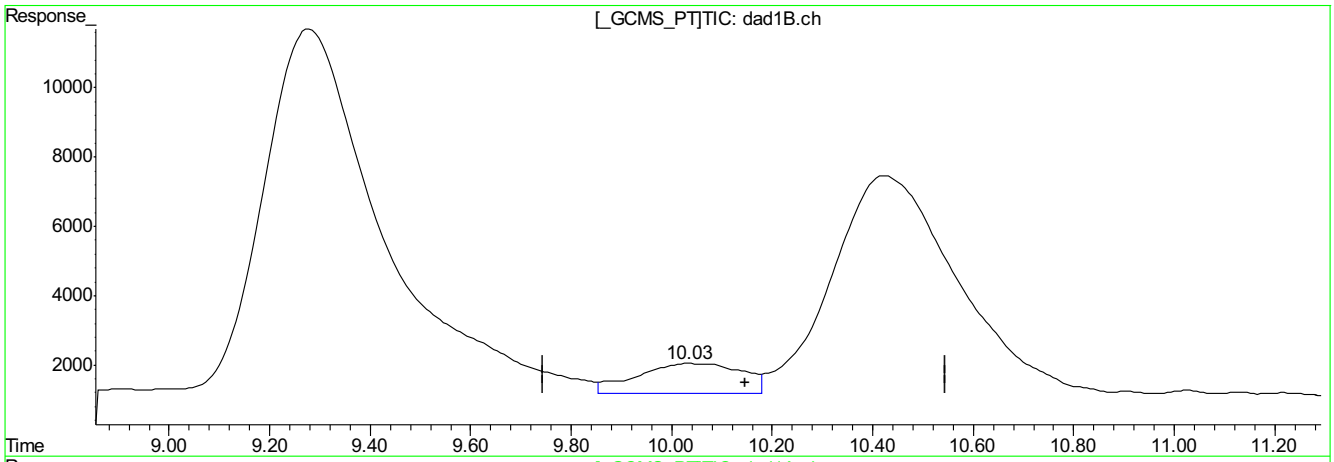
response 329911

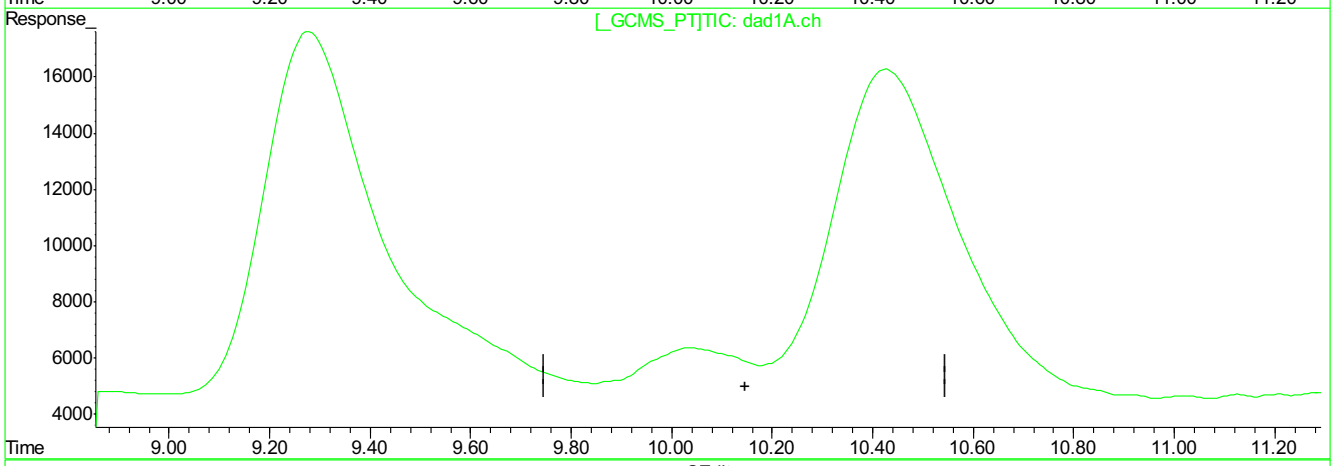
(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:23:22 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

10.04min 50.565ppb

response 126437

(14) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:24:23 2017

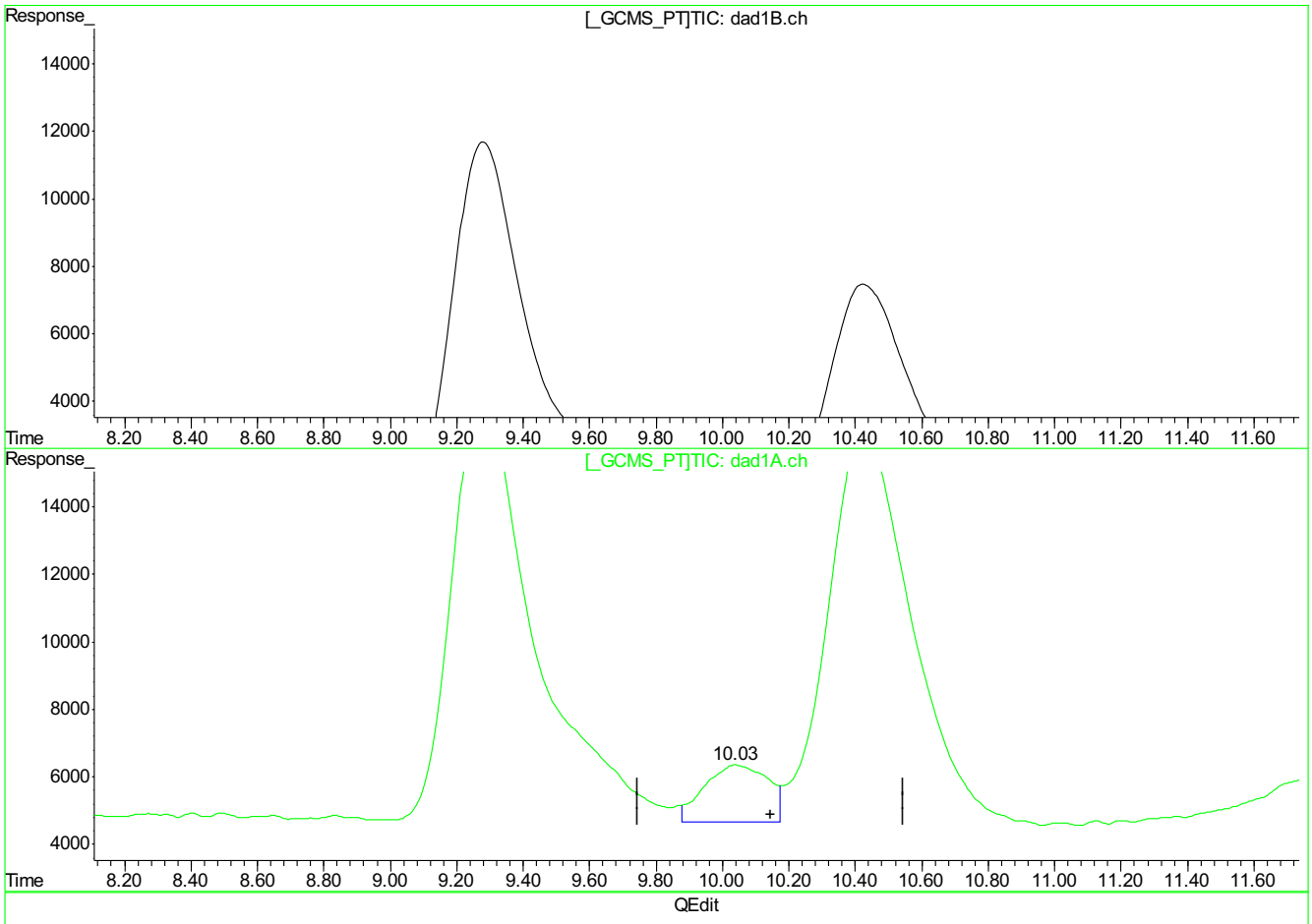
9.1.3.7
9

Sample Results: BB056483.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.04min 50.565ppb

response 126437

(14) 4-Amino-2,6-Dinitrotoluene #2

10.03min 47.426ppb m

response 220444

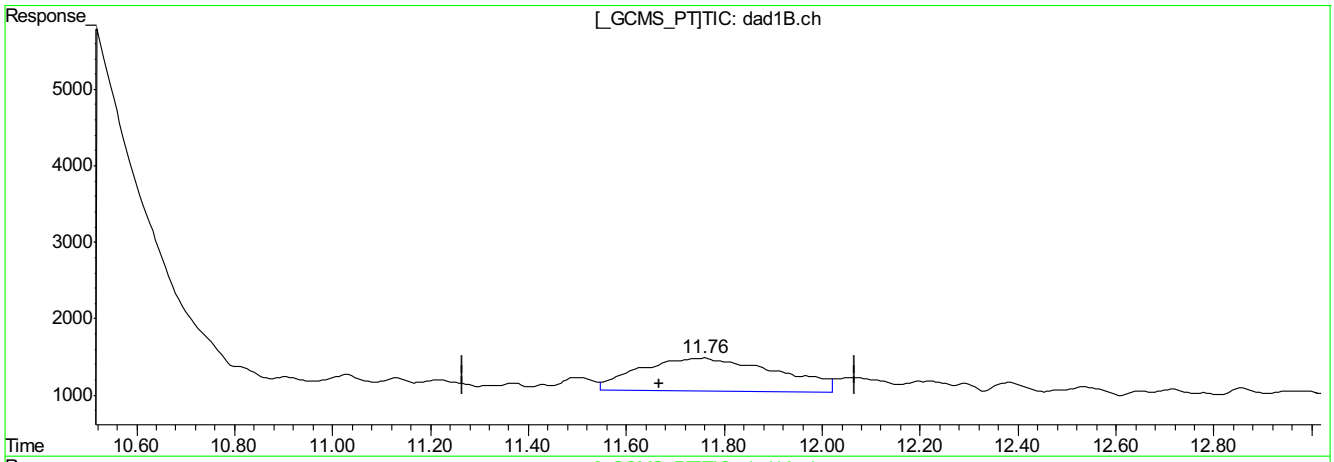
(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:24:39 2017

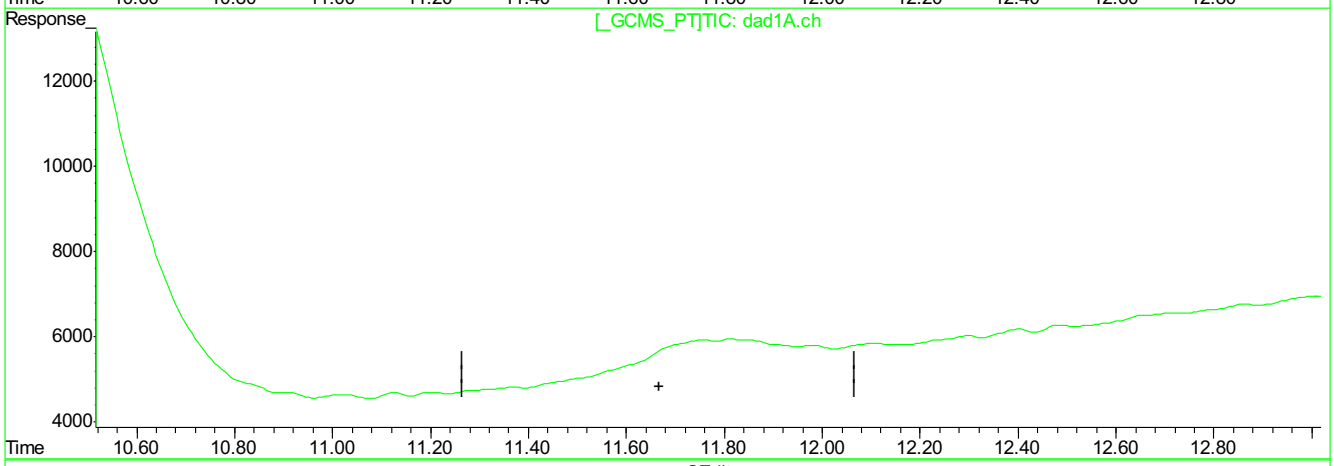
BB056483.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(17) 2,6-Dinitrotoluene

11.75min 27.159ppb

response 83887

(17) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:24:54 2017

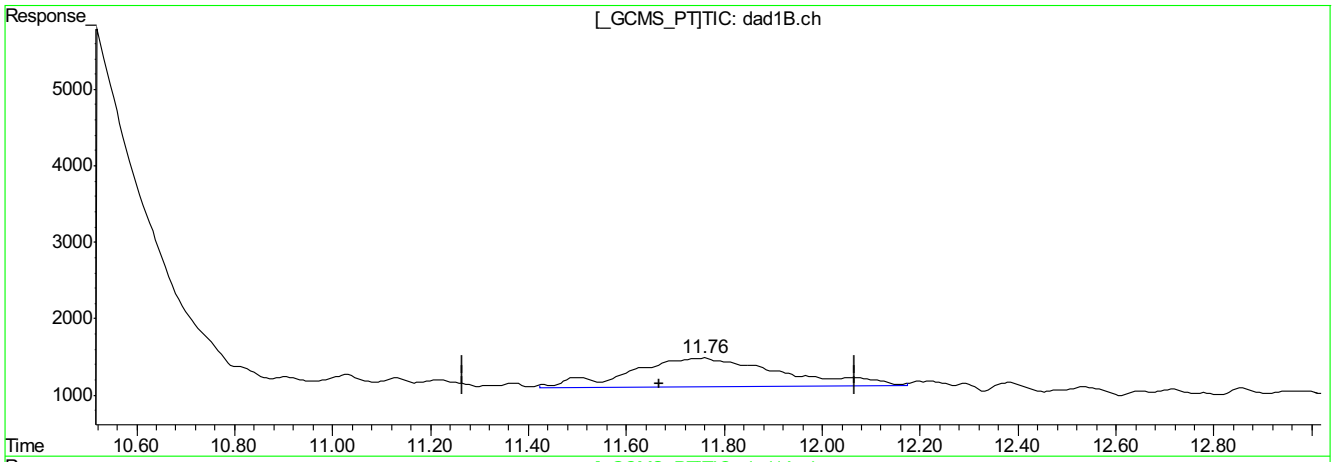
9.1.3.9

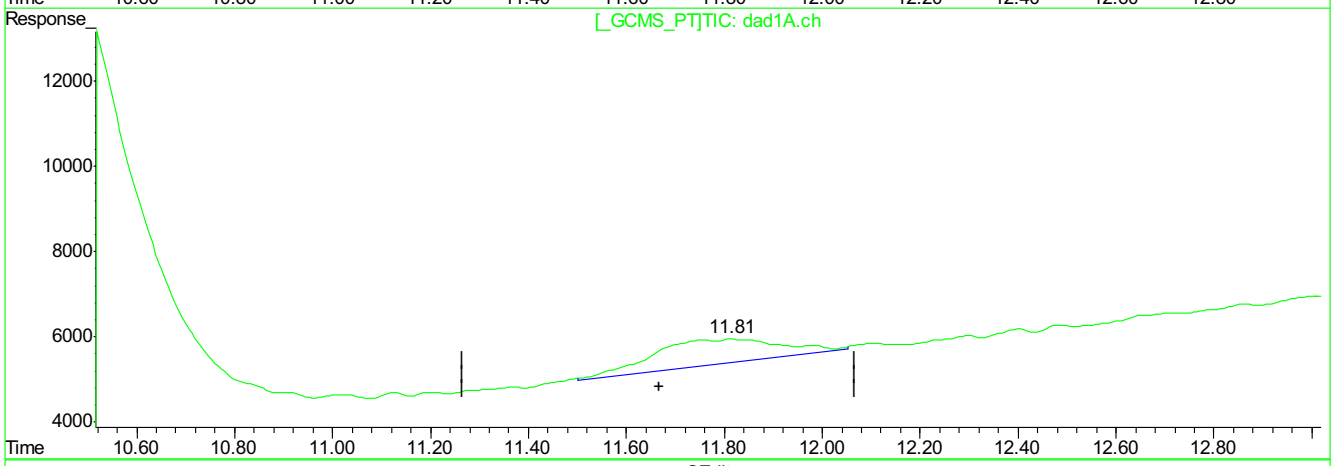
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056483.D\dad1A.ch
Acq On : 19-Jul-2017, 04:33:42 Operator: evitam
Sample : fa45722-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(17) 2,6-Dinitrotoluene

11.76min 25.817ppb m

response 79742

(17) 2,6-Dinitrotoluene #2

11.81min 28.812ppb m

response 105856

(+) = Expected Retention Time
BB056483.D 8330B_0629PLUS.M Wed Jul 19 10:25:08 2017

9.1.3.10

9

Sample Results: GG613511.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613511.D\dad1B.ch Vial: 15
Signal #2 : G:\DATA\0720RPB3\GG613511.D\dad1A.ch
Acq On : 21-Jul-2017, 04:01:05 Operator: evitam
Sample : fa45722-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:11 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.45	14.45	2783845	5551401	495.390	482.593
	Spiked Amount 500.000	Range 70 - 136		Recovery =		99.08%	96.52%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.31	5.31	574827	591910	155.282m	160.043m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.54	7.54	775433	776944	73.051	72.993
6)	RDX	7.91	7.91	2082881	2090935	422.182	424.801
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	11.90	11.90	3841298	5950919	376.233	443.732
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	16.58	16.64	411923	778975	40.220	46.963
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	18.45	18.45	405478	821194	32.949	38.744
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

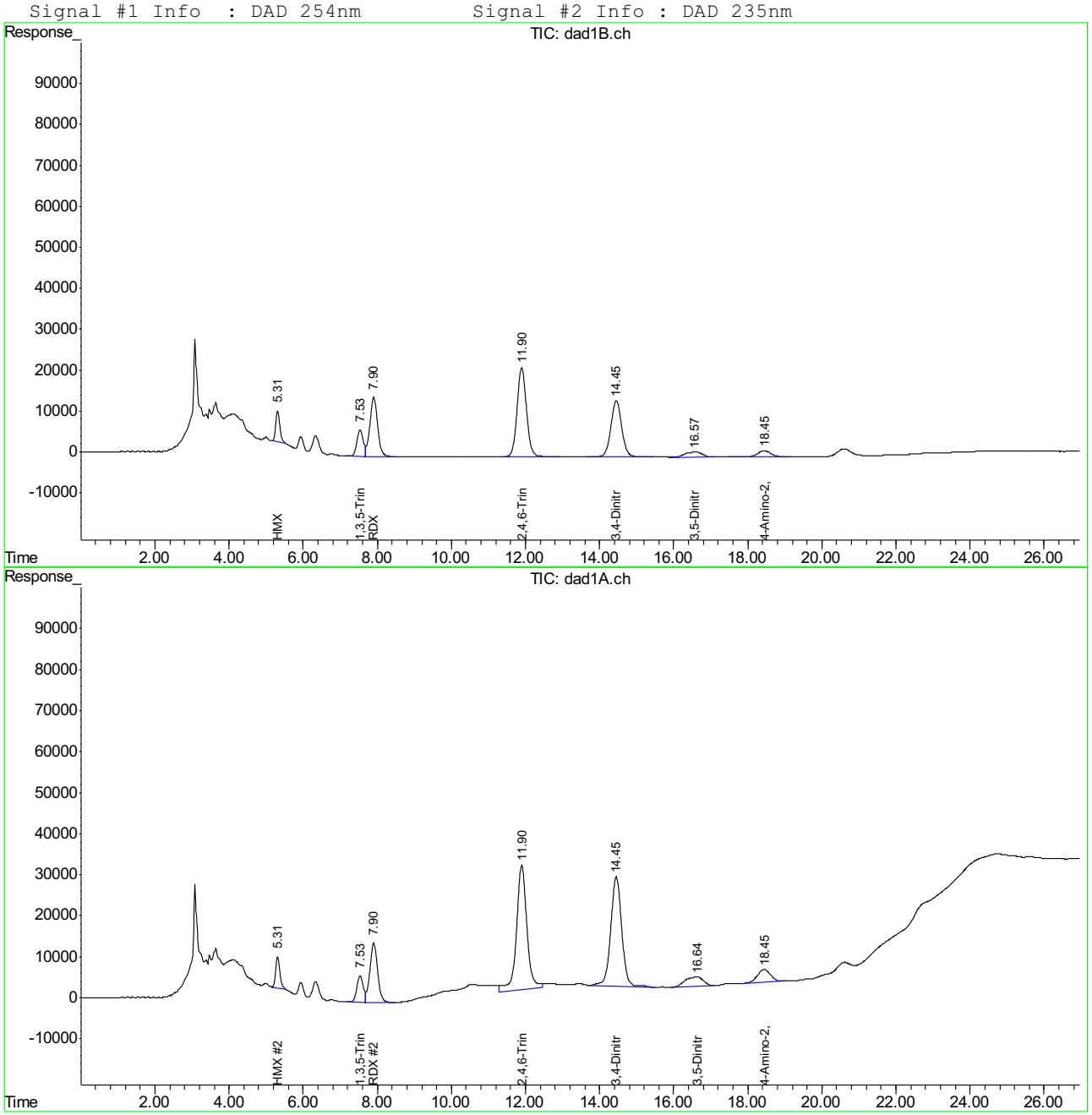
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613511.D 8330RPB.M_0720M.M Mon Jul 24 13:56:50 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613511.D\dad1B.ch Vial: 15
Signal #2 : G:\DATA\0720RPB3\GG613511.D\dad1A.ch
Acq On : 21-Jul-2017, 04:01:05 Operator: evitam
Sample : fa45722-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 12:22 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



Manual Integration Approval Summary

Sample Number: FA45722-2
Lab FileID: GG613511.D
Injection Time: 07/21/17 04:01
Method: SW846 8330B
Analyst approved: 07/24/17 14:17 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

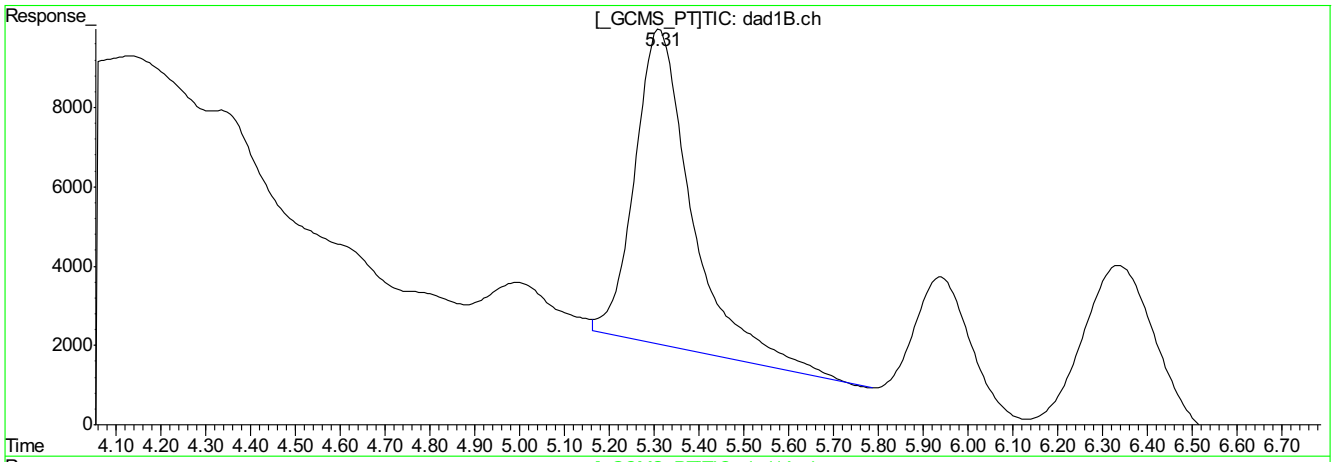
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.31	Poorly defined baseline
HMX	2691-41-0	2	5.31	Poorly defined baseline

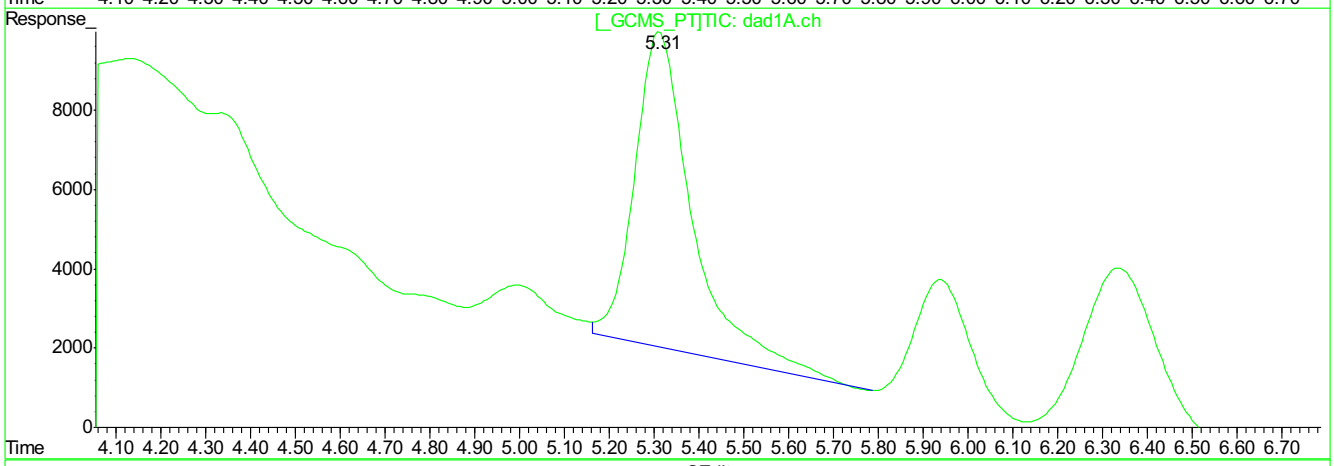
Sample Results: GG613511.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613511.D\dad1B.ch Vial: 15
Signal #2 : G:\DATA\0720RPB3\GG613511.D\dad1A.ch
Acq On : 21-Jul-2017, 04:01:05 Operator: evitam
Sample : fa45722-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.31min 192.590ppb

response 712935

(2) HMX #2

5.31min 192.766ppb

response 712935

(+) = Expected Retention Time
GG613511.D 8330RPB.M_0720M.M Mon Jul 24 12:21:46 2017

9.1.4.2

9

GG613511.D edits: HMX

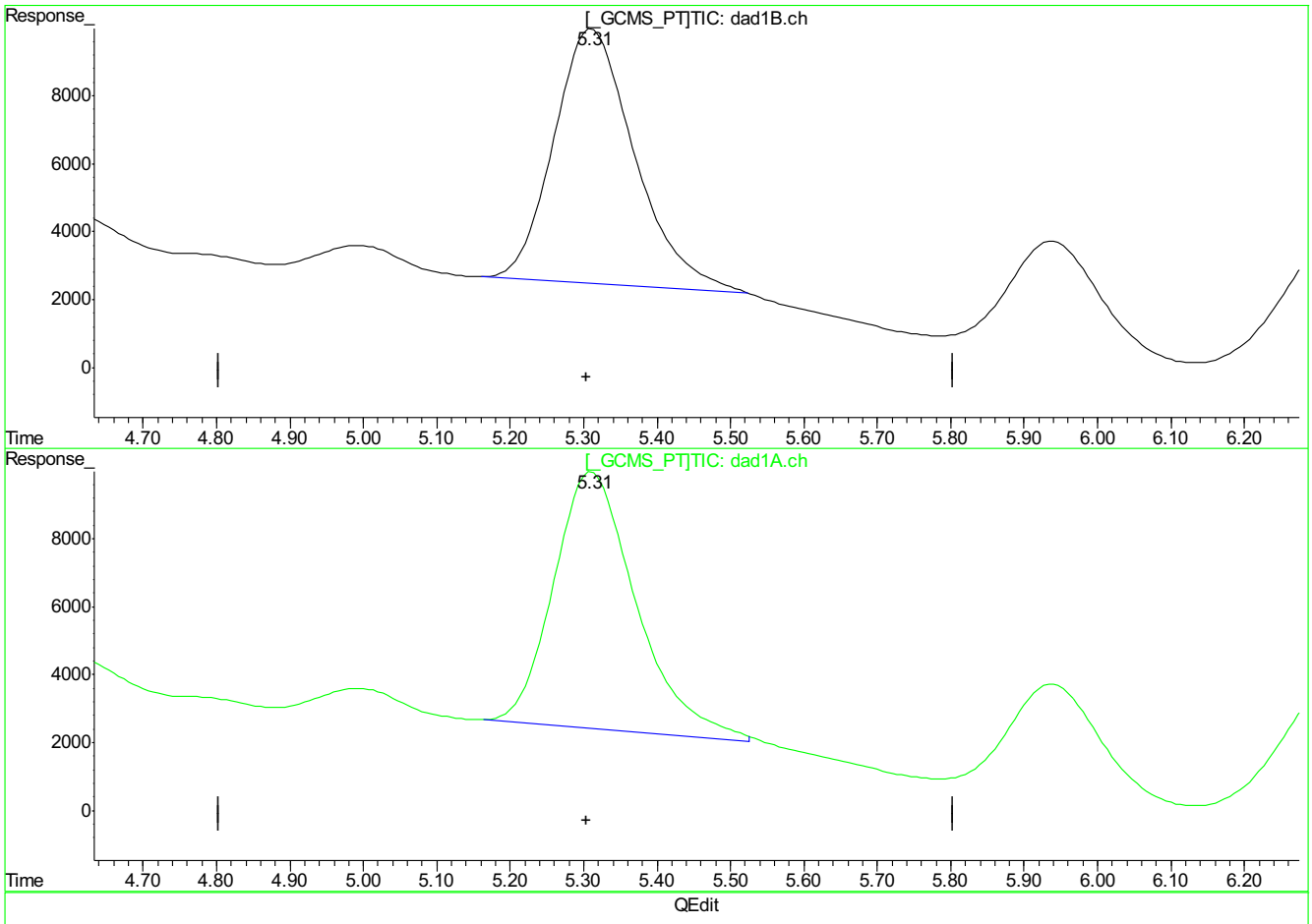
SGS ACCUTEST FA45722

Sample Results: GG613511.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613511.D\dad1B.ch Vial: 15
Signal #2 : G:\DATA\0720RPB3\GG613511.D\dad1A.ch
Acq On : 21-Jul-2017, 04:01:05 Operator: evitam
Sample : fa45722-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(2) HMX

5.31min 155.282ppb m

response 574827

(2) HMX #2

5.31min 160.043ppb m

response 591910

(+) = Expected Retention Time
GG613511.D 8330RPB.M_0720M.M Mon Jul 24 12:22:00 2017

9.1.4.3

9

GG613511.D edits: HMX

SGS ACCUTEST FA45722

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056484.D\dad1B.ch Vial: 40
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056484.D\dad1A.ch
Acq On : 19-Jul-2017, 05:03:43 Operator: evitam
Sample : fa45722-3 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:32 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.41	10.41	1044137	1862864	405.518	480.881
	Spiked Amount 500.000	Range 70 - 136		Recovery =		81.10%	96.18%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

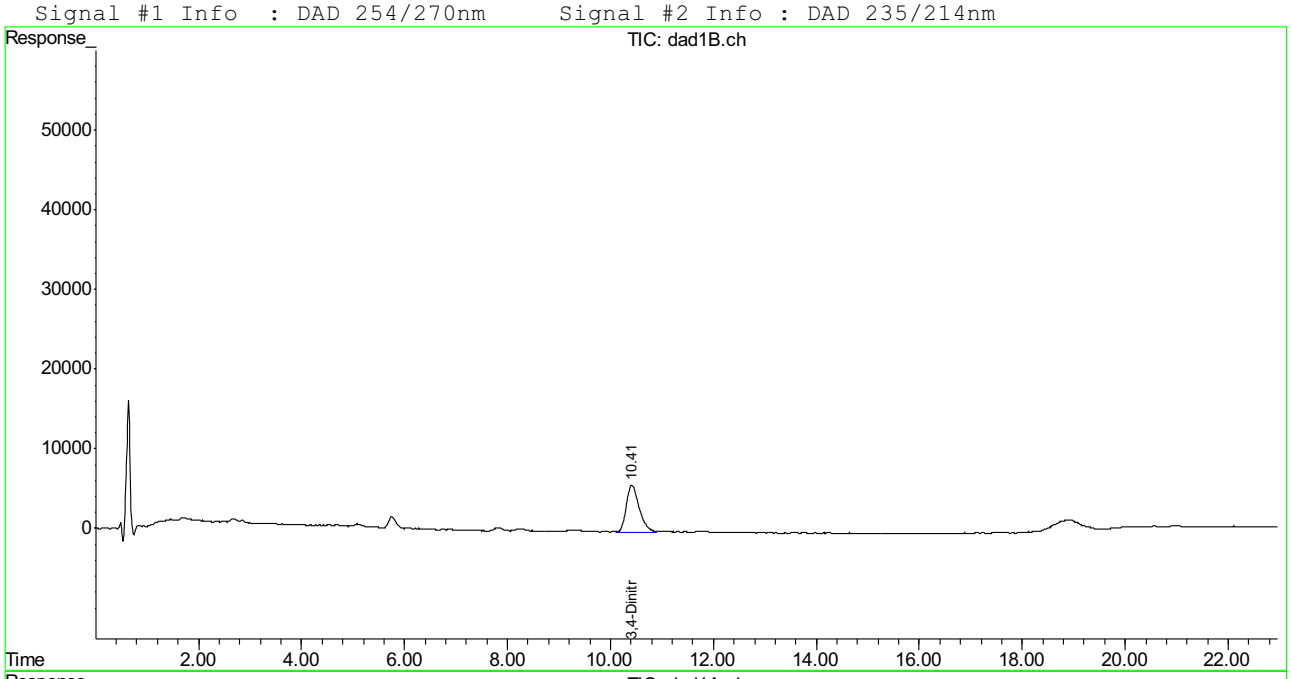
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056484.D 8330B_0720PLUS.M Mon Jul 24 14:18:21 2017 Page 1

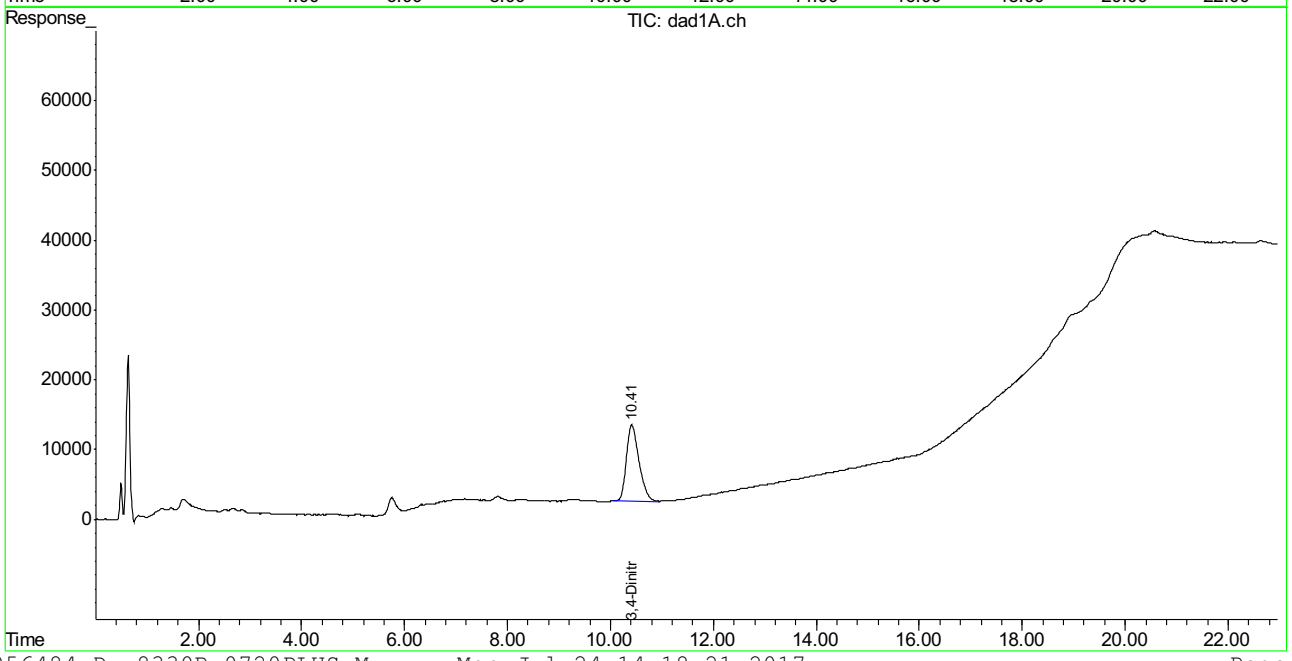
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056484.D\dad1B.ch Vial: 40
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056484.D\dad1A.ch
Acq On : 19-Jul-2017, 05:03:43 Operator: evitam
Sample : fa45722-3 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 24 12:39 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056485.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056485.D\dad1A.ch
Acq On : 19-Jul-2017, 05:33:42 Operator: evitam
Sample : fa45722-4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:33 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	10.42	10.42	1068870	1812354	415.123	468.173
Spiked Amount 500.000	Range 70 - 136		Recovery =		83.02%	93.63%
Target Compounds						
1) TNX	0.00	0.00	0	0	N.D.	N.D.
2) HMX	0.00	0.00	0	0	N.D. d	N.D. d
3) DNX	0.00	0.00	0	0	N.D. d	N.D. d
4) MNX	0.00	0.00	0	0	N.D. d	N.D. d
5) RDX	0.00	0.00	0	0	N.D. d	N.D. d
6) 1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7) 1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8) 3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9) Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10) Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11) Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12) 2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13) 2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14) 4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16) 2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17) 2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18) o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19) p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20) m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21) PETN	0.00	0.00	0	0	N.D. d	N.D. d

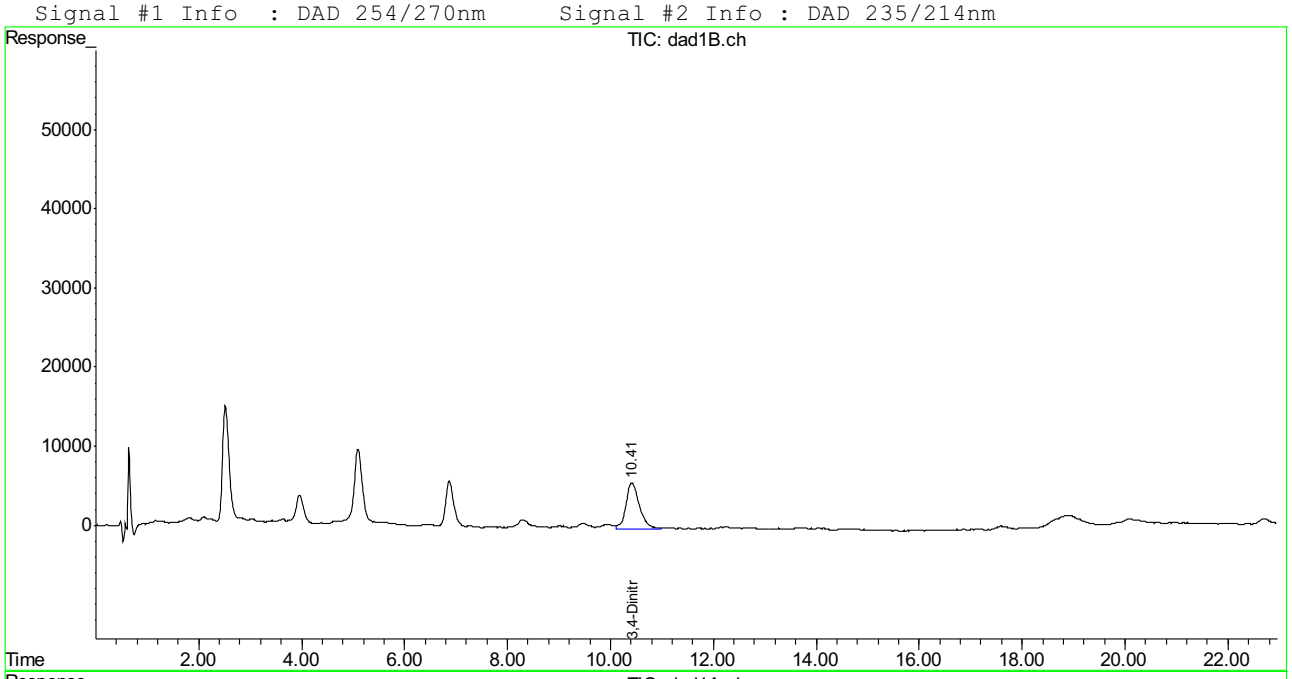
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056485.D 8330B_0629PLUS.M Wed Jul 19 11:01:55 2017

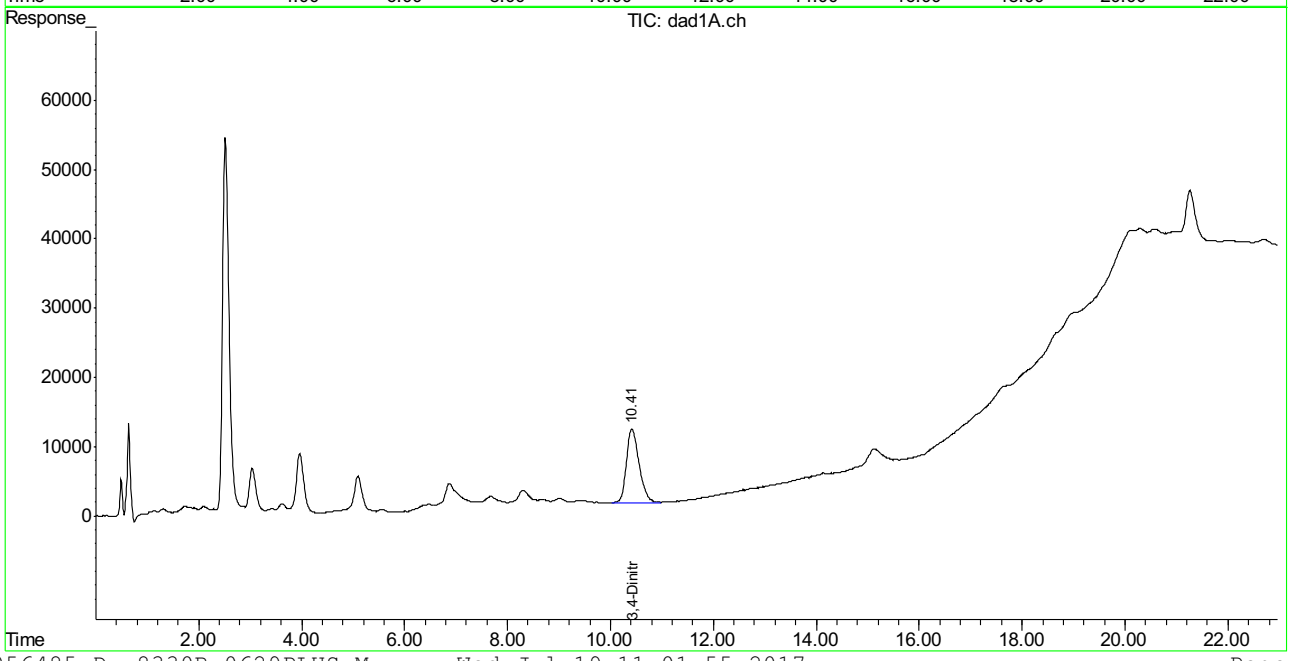
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056485.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056485.D\dad1A.ch
Acq On : 19-Jul-2017, 05:33:42 Operator: evitam
Sample : fa45722-4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:27 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1A.ch
Acq On : 19-Jul-2017, 11:33:34 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 08:50:01 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.46	10.46	1098760	1932245	426.732	498.310
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.35%	99.66%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056497.D 8330B_0629PLUS.M Thu Jul 20 09:41:23 2017 Page 1

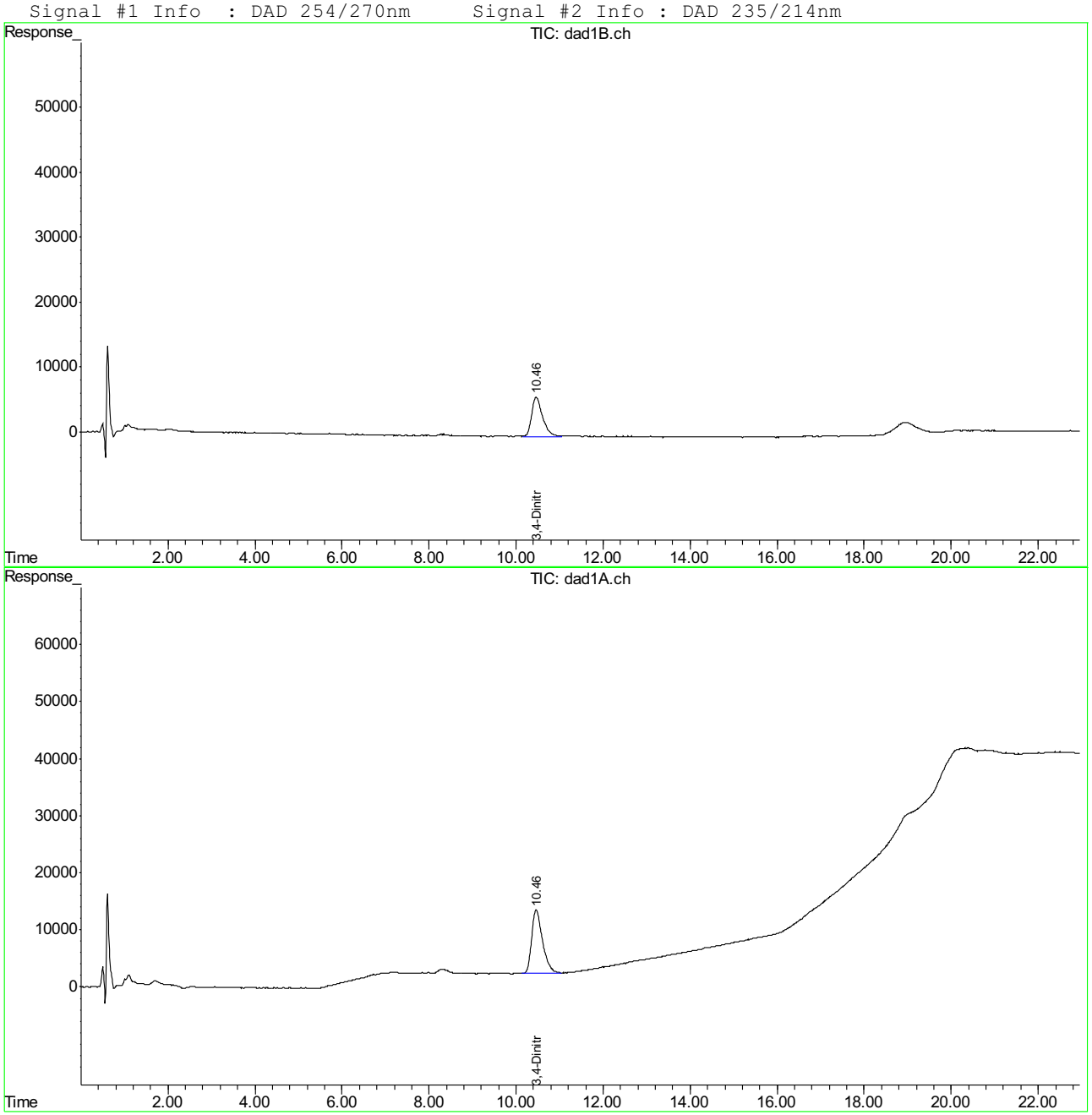
SGS ACCUTEST FA45722

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1A.ch
Acq On : 19-Jul-2017, 11:33:34 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:58 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613509.D\dad1B.ch Vial: 13
Signal #2 : G:\DATA\0720RPB3\GG613509.D\dad1A.ch
Acq On : 21-Jul-2017, 03:02:10 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:08 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.38	14.38	1707583	3203592	303.867	278.494
	Spiked Amount 500.000	Range 70 - 136		Recovery =		60.77%#	55.70%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

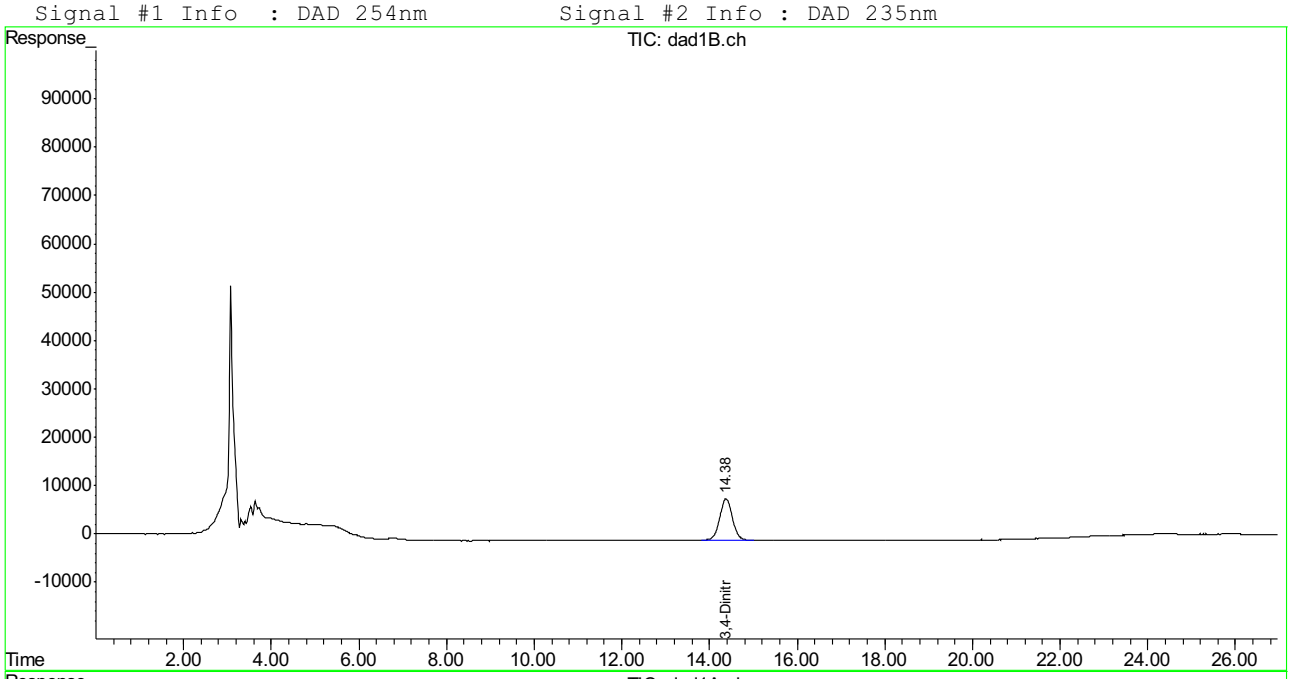
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613509.D 8330RPB.M_0720M.M Mon Jul 24 13:56:48 2017 Page 1

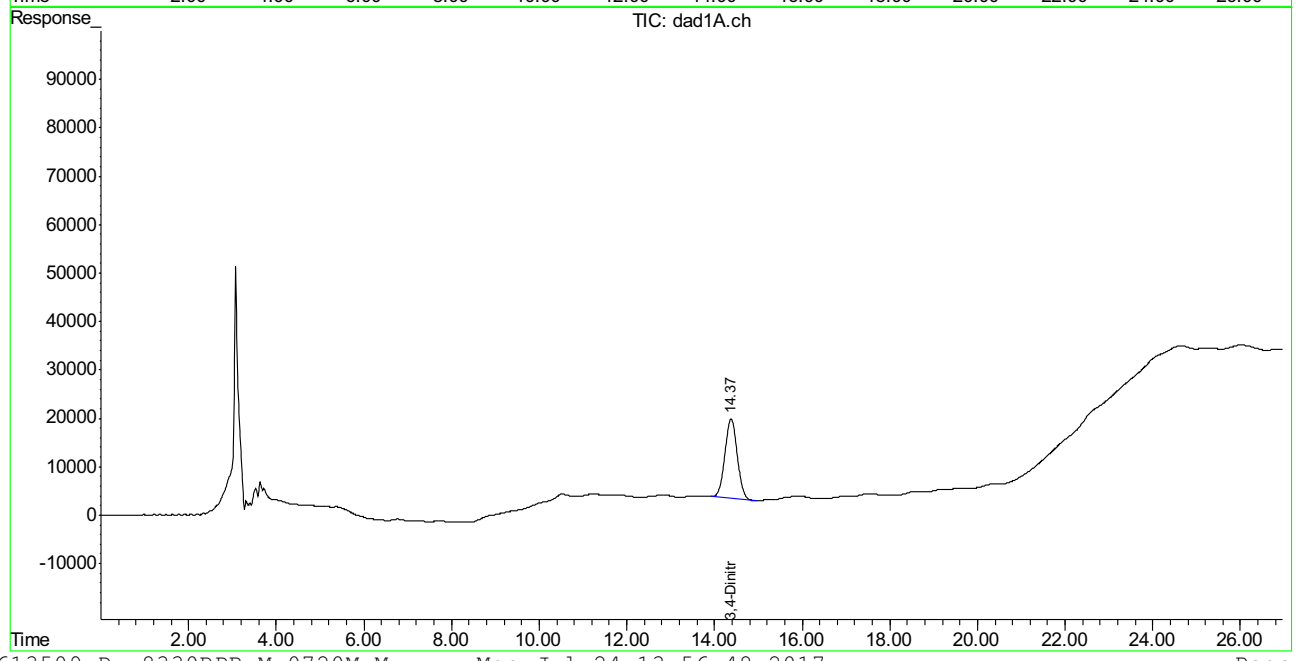
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613509.D\dad1B.ch Vial: 13
Signal #2 : G:\DATA\0720RPB3\GG613509.D\dad1A.ch
Acq On : 21-Jul-2017, 03:02:10 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 12:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





QC Report: BB056480.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/19/17 21:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:28 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.42	10.42	1149300	1936203	446.360	499.303
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.27%	99.86%
	Target Compounds						
1)	TNX	1.35	1.35	1360747	2056102	438.371	429.092
2)	HMX	1.46	1.46	954362	2484169	551.481	535.577
3)	DNX	1.71	1.71	1278505	2156861	440.328	493.428
4)	MNX	2.27	2.27	1344494	2065259	600.942	612.462
5)	RDX	2.85	2.85	956643	1494347	470.062	468.977
6)	1,3,5-Trinitrobe	4.53	4.53	1969229	3794531	462.609	466.911
7)	1,3-Dinitrobenze	5.78	5.78	2356263	1594880	421.415	440.040
8)	3,5-Dinitroanili	6.08	6.08	1972139	3312592	477.266	508.085
9)	Nitrobenzene	7.40	7.40	1433457	1407472	418.453m	432.056m
10)	Nitroglycerin	0.00	8.66	0	3255239	N.D. d	3056.117m
11)	Tetryl	8.83	8.78	1272926	2017157	410.147	390.390m
12)	2,4,6-Trinitroto	9.28	9.28	1424344	1728988	372.196	394.689
13)	2-Amino-4,6-Dini	9.58	9.58	1735732	2596820	462.896	485.204
14)	4-Amino-2,6-Dini	10.04	10.04	1154827	2271787	461.846	488.748
16)	2,4-Dinitrotolue	11.09	11.09	2214185	1295122	427.678	413.019
17)	2,6-Dinitrotolue	11.56	11.57	1389134	1665751	449.736	453.383
18)	o-Nitrotoluene	14.81	14.81	953801	1278498	409.614	416.623m
19)	p-Nitrotoluene	15.35	15.36	1509818	1255875	428.188	471.099
20)	m-Nitrotoluene	16.32	16.32	1404157	1542443	389.811	391.056m
21)	PETN	0.00	18.31	0	3962979	N.D. d	2806.746m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056480.D 8330B_0629PLUS.M Wed Jul 19 11:33:47 2017 Page 1

9.3.1
9

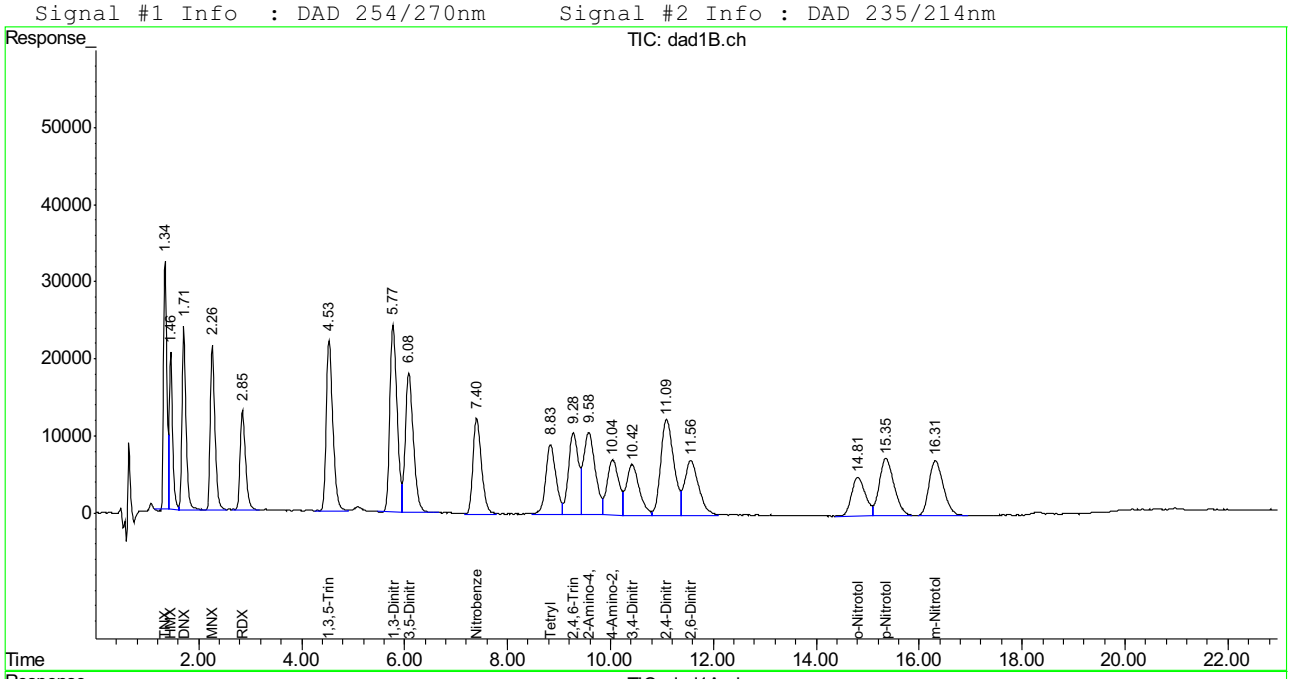
SGS ACCUTEST FA45722

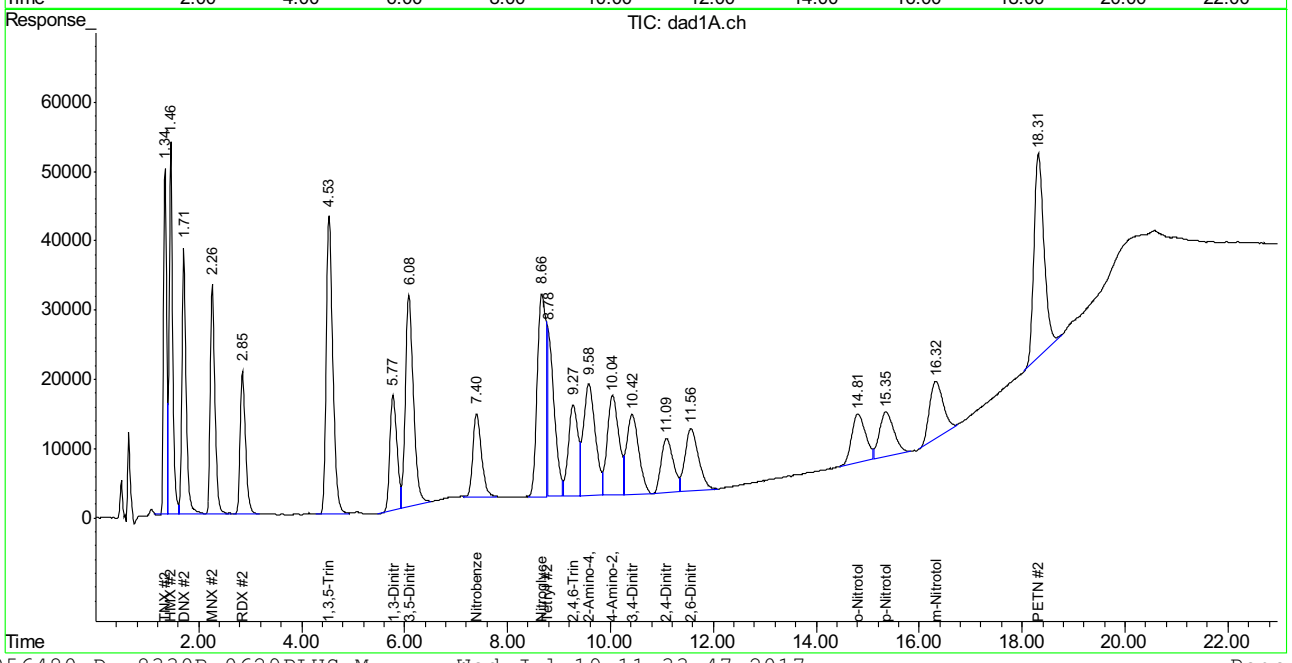
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 11:33 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: OP65961-BS
Lab FileID: BB056480.D
Injection Time: 07/19/17 03:03
Method: SW846 8330B
Analyst approved: 07/19/17 11:34 Evita Martinez
Supervisor approved: 07/19/17 21:27 Mike Eger

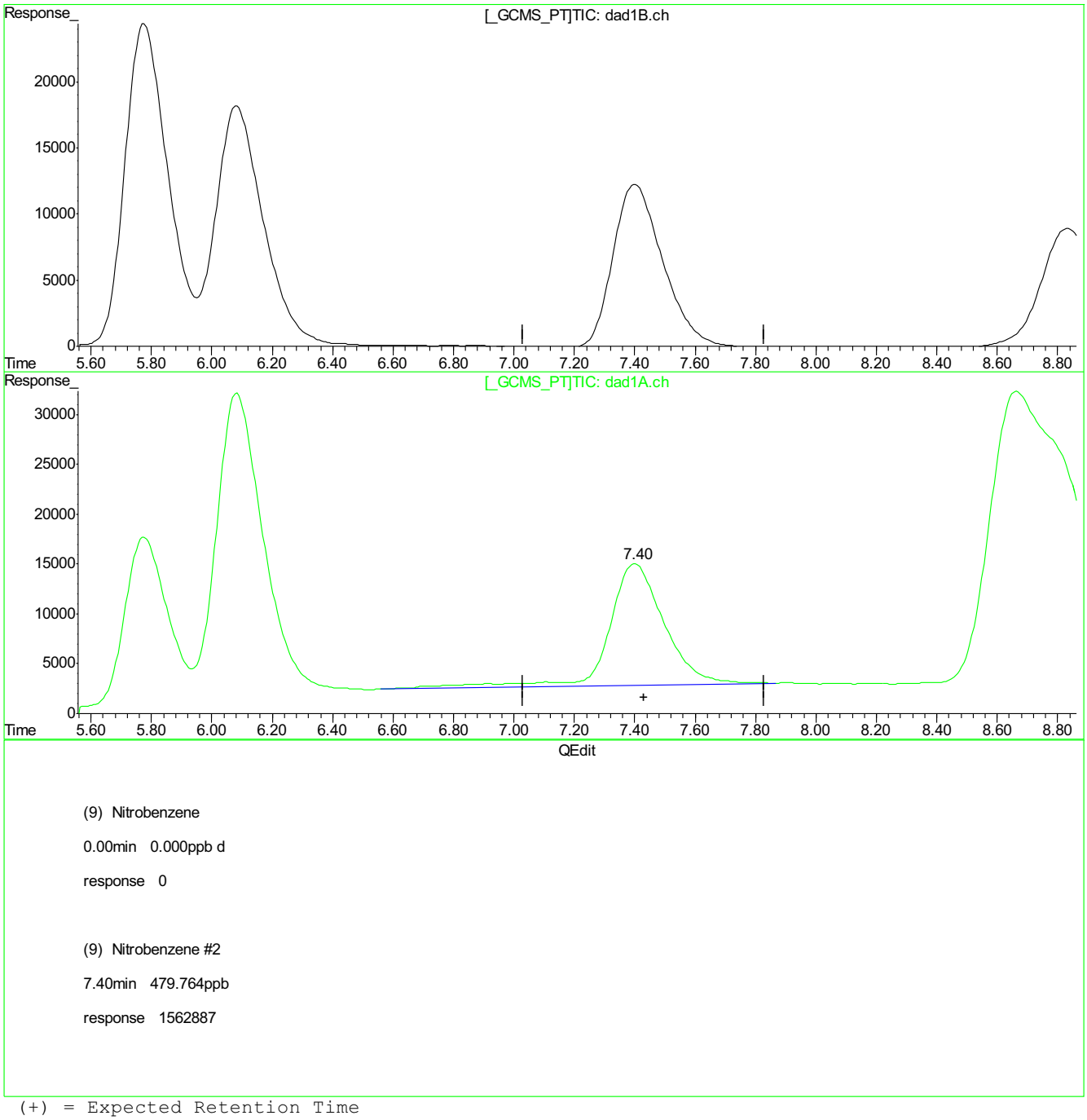
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	1	7.40	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.40	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.66	Poorly defined baseline
Tetryl	479-45-8	2	8.78	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.81	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.32	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

0.00min 0.000ppb d

response 0

(9) Nitrobenzene #2

7.40min 479.764ppb

response 1562887

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:16:46 2017

9.3.1.2

9

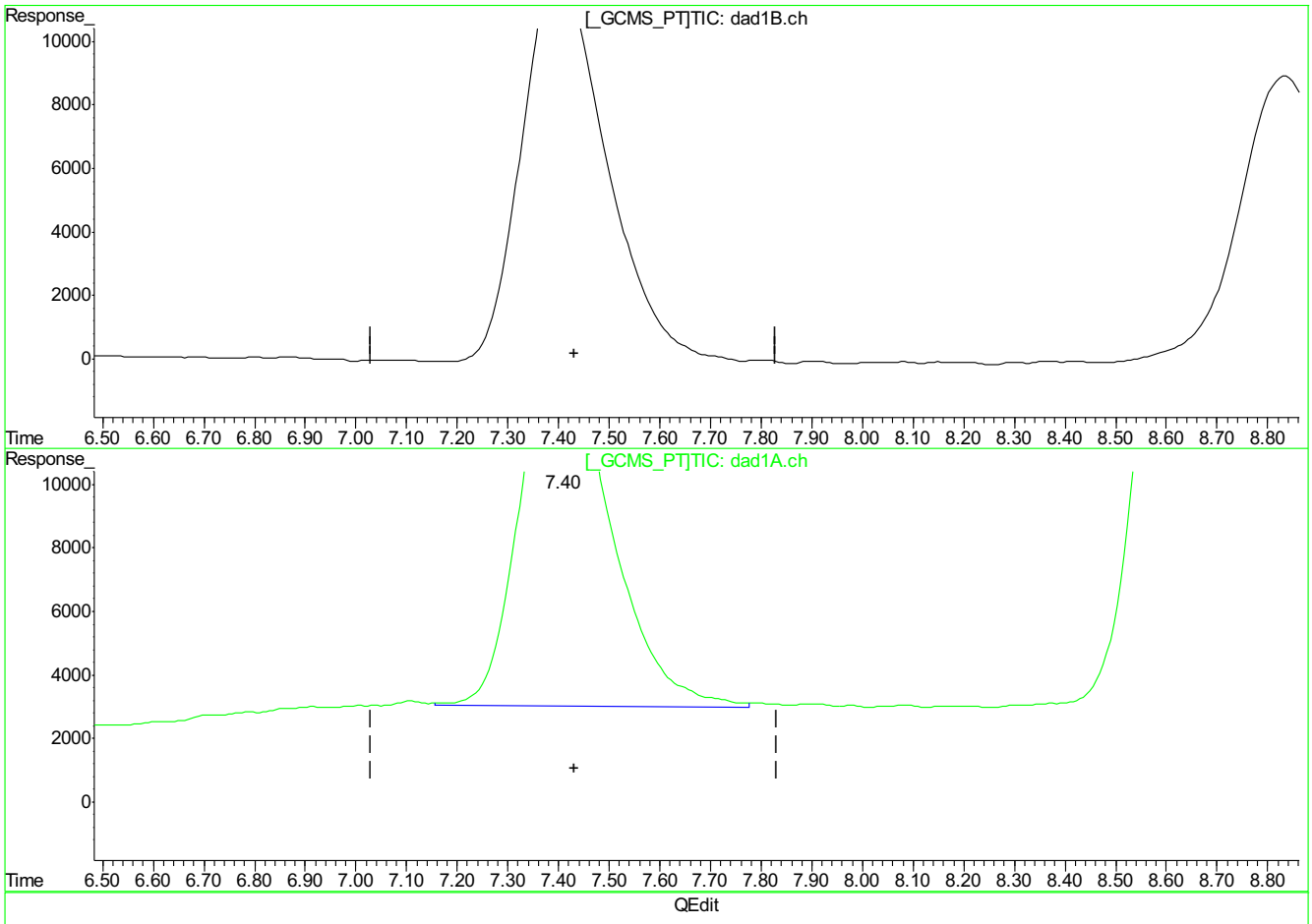
BB056480.D edits: Nitrobenzene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

0.00min 0.000ppb d

response 0

(9) Nitrobenzene #2

7.40min 432.056ppb m

response 1407472

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:16:53 2017

9.3.1.3

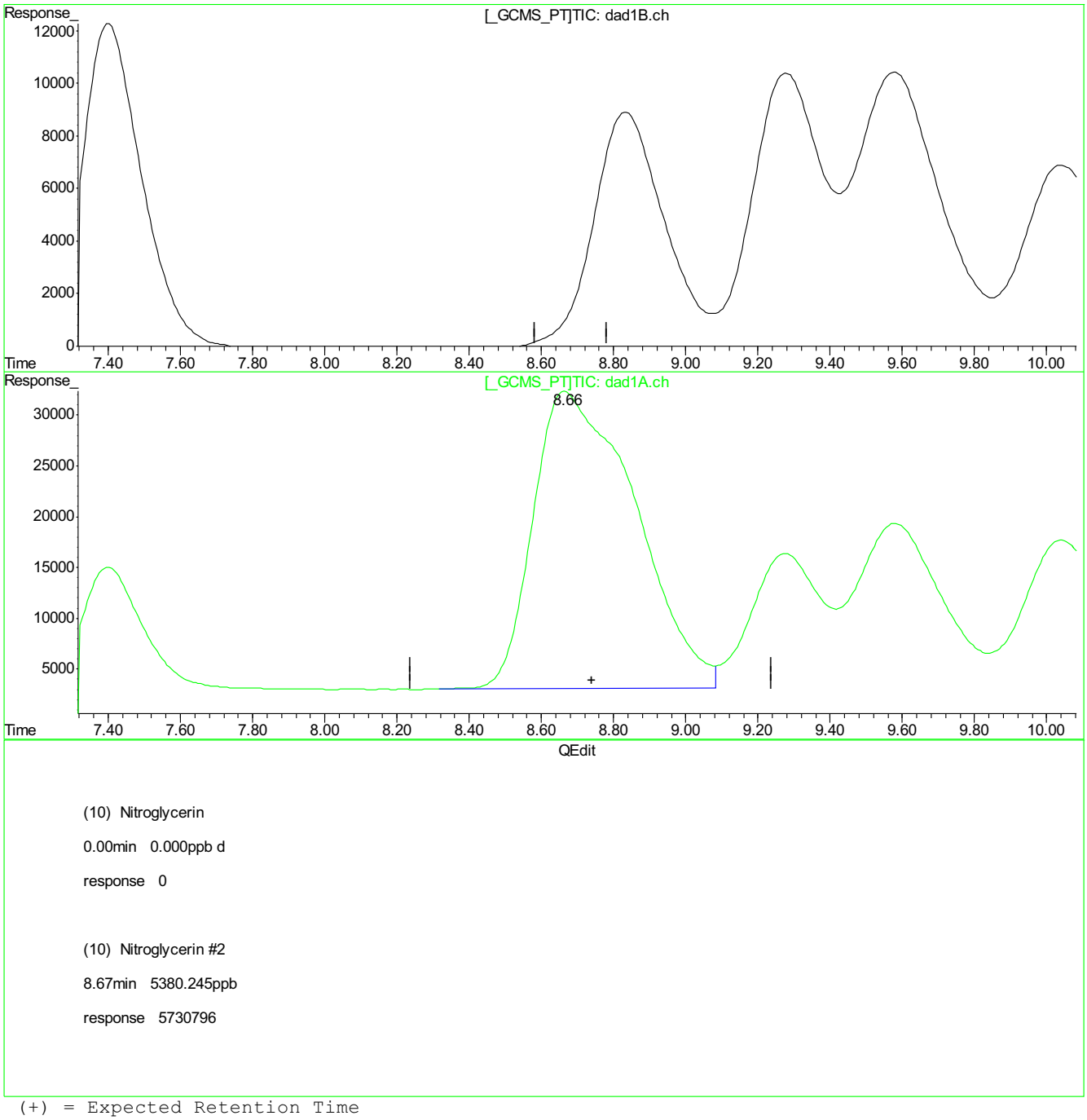
9

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.67min 5380.245ppb

response 5730796

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:03 2017

9.3.1.4

9

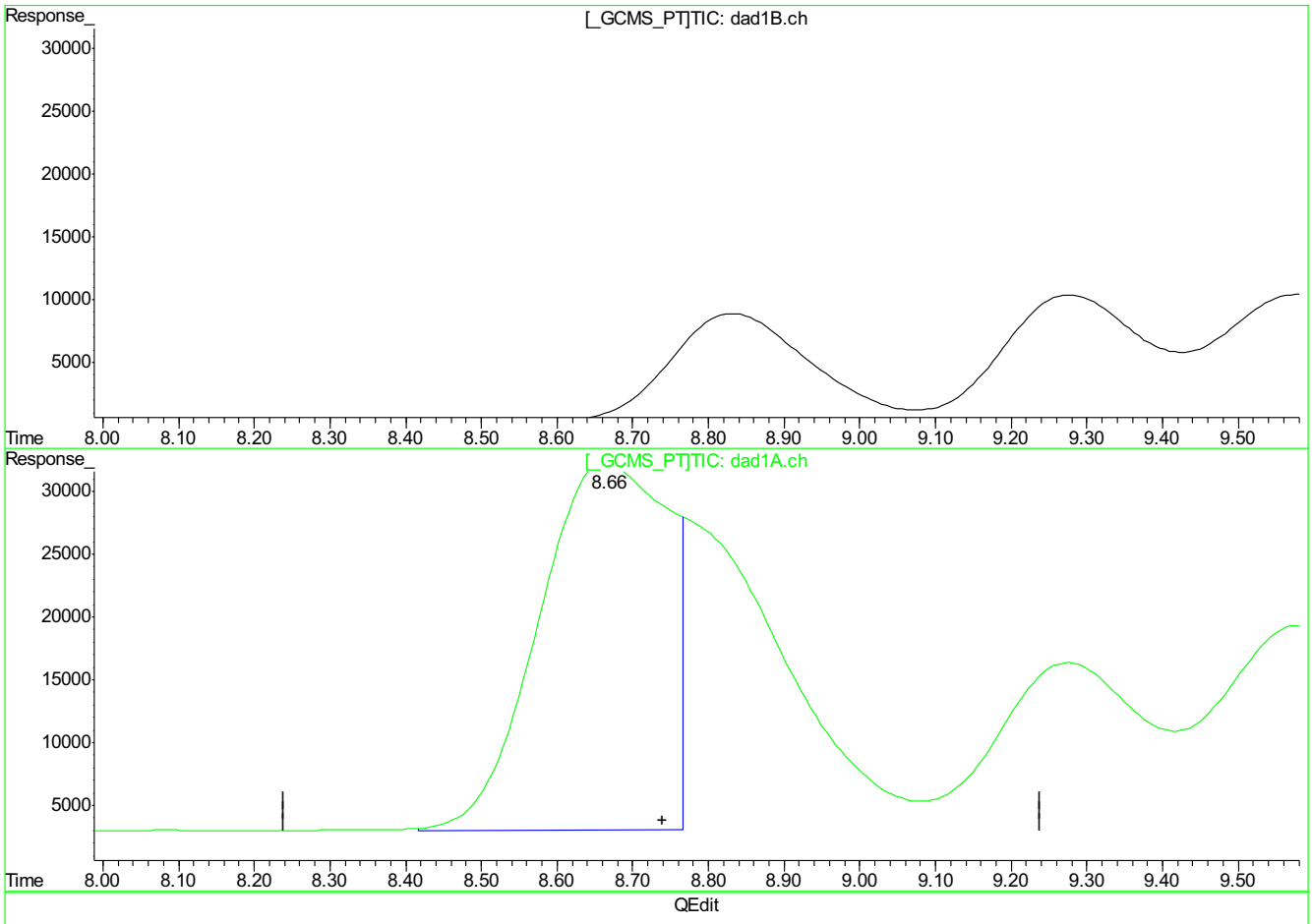
BB056480.D edits: Nitroglycerin

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.66min 3212.167ppb m

response 3421457

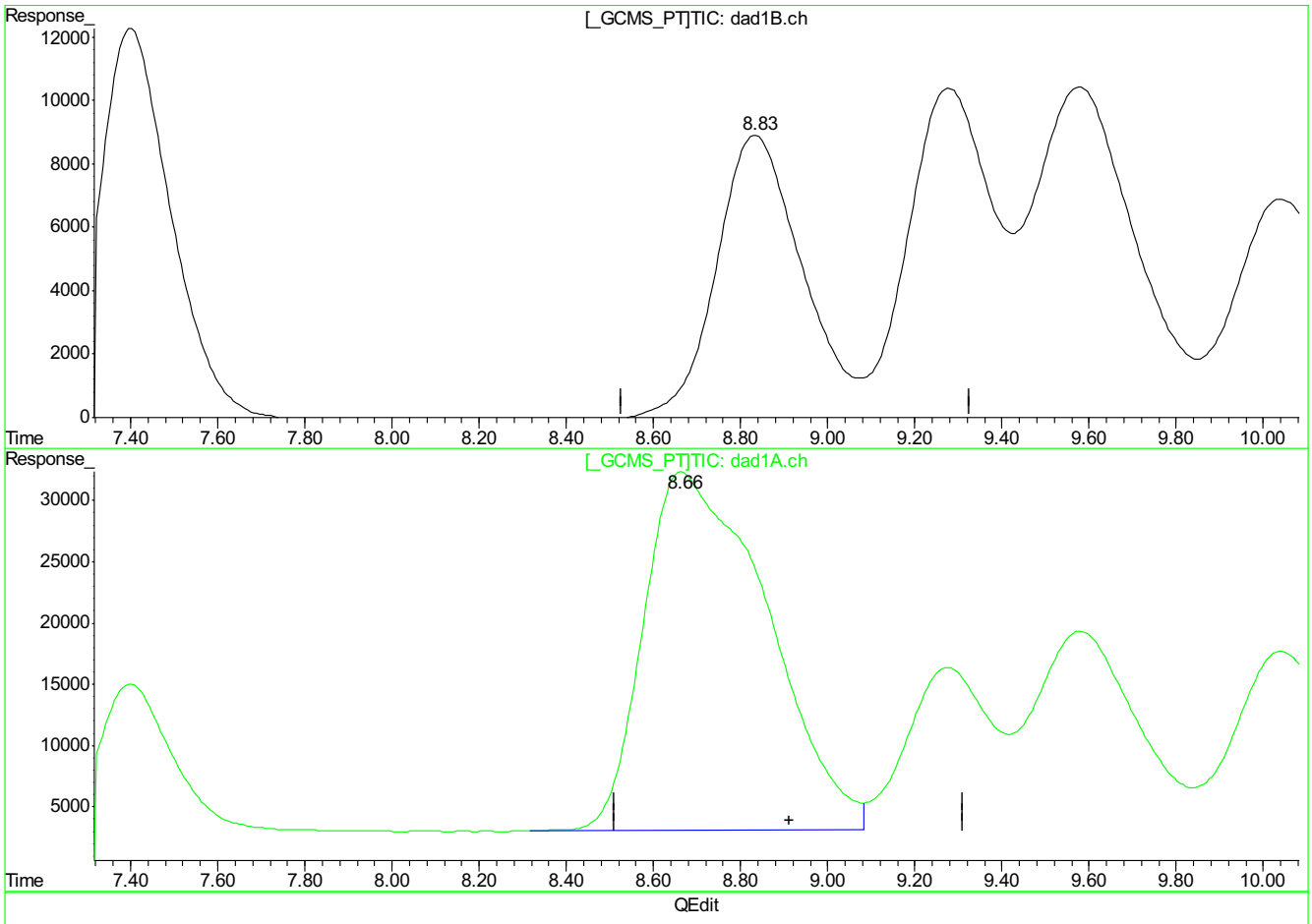
(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:09 2017

9.3.1.5
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.83min 410.147ppb

response 1272926

(11) Tetryl #2

8.67min 1066.748ppb

response 5730796

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:11 2017

9.3.1.6

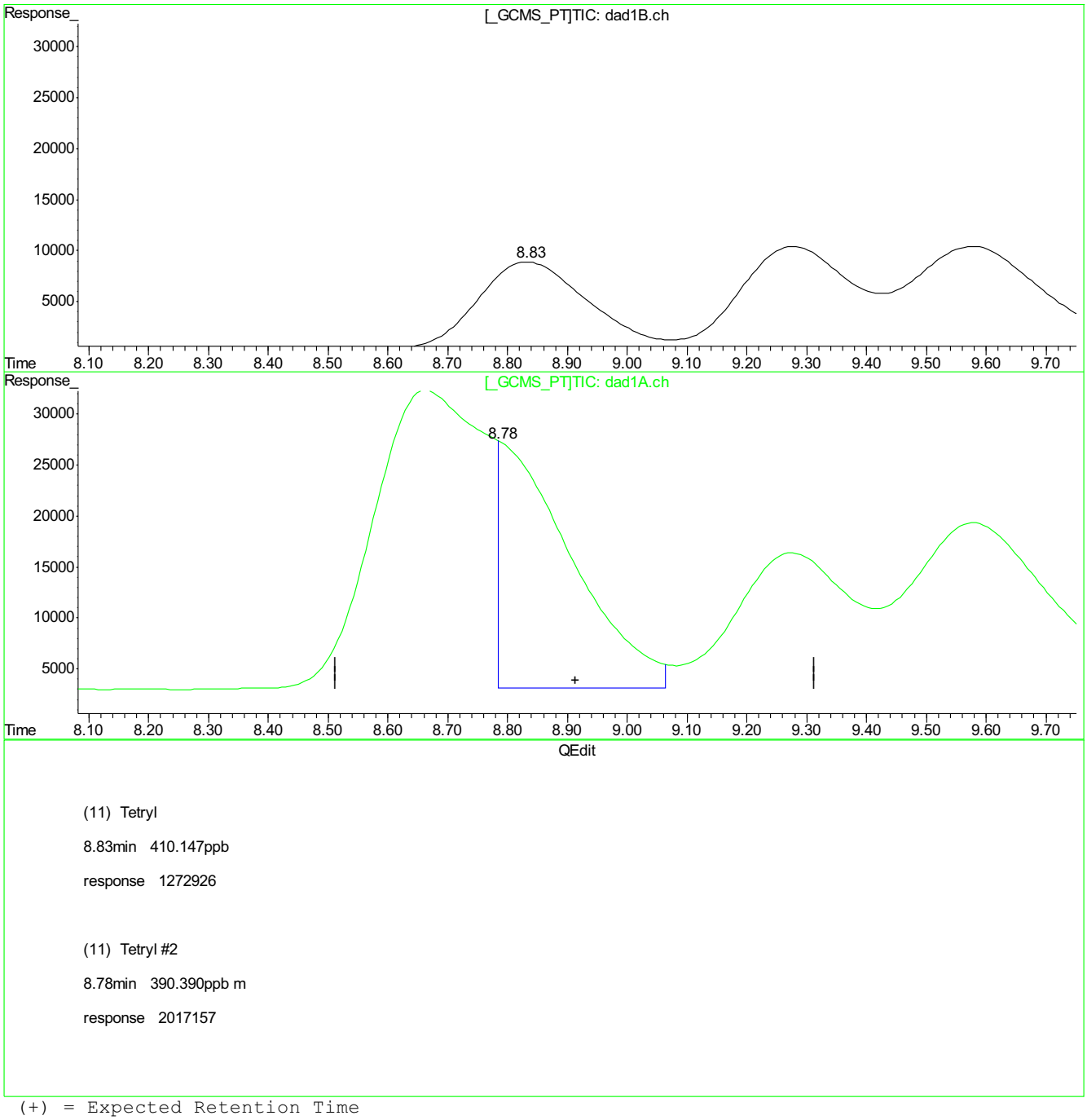
9

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.83min 410.147ppb

response 1272926

(11) Tetryl #2

8.78min 390.390ppb m

response 2017157

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:23 2017

9.3.1.7

9

BB056480.D edits: Tetryl

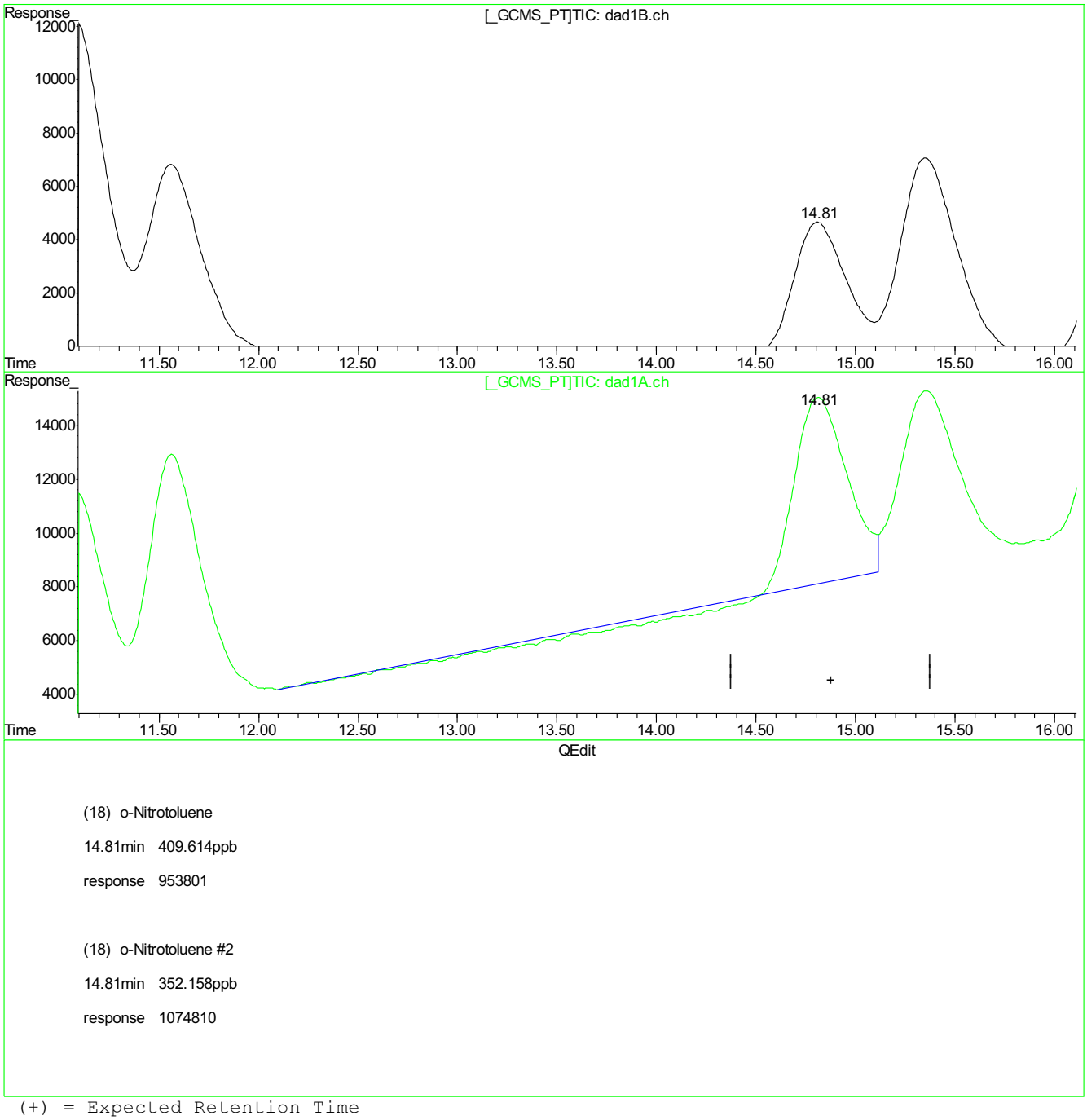
SGS ACCUTEST FA45722

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 409.614ppb

response 953801

(18) o-Nitrotoluene #2

14.81min 352.158ppb

response 1074810

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:46 2017

9.3.1.8

9

BB056480.D edits: o-Nitrotoluene

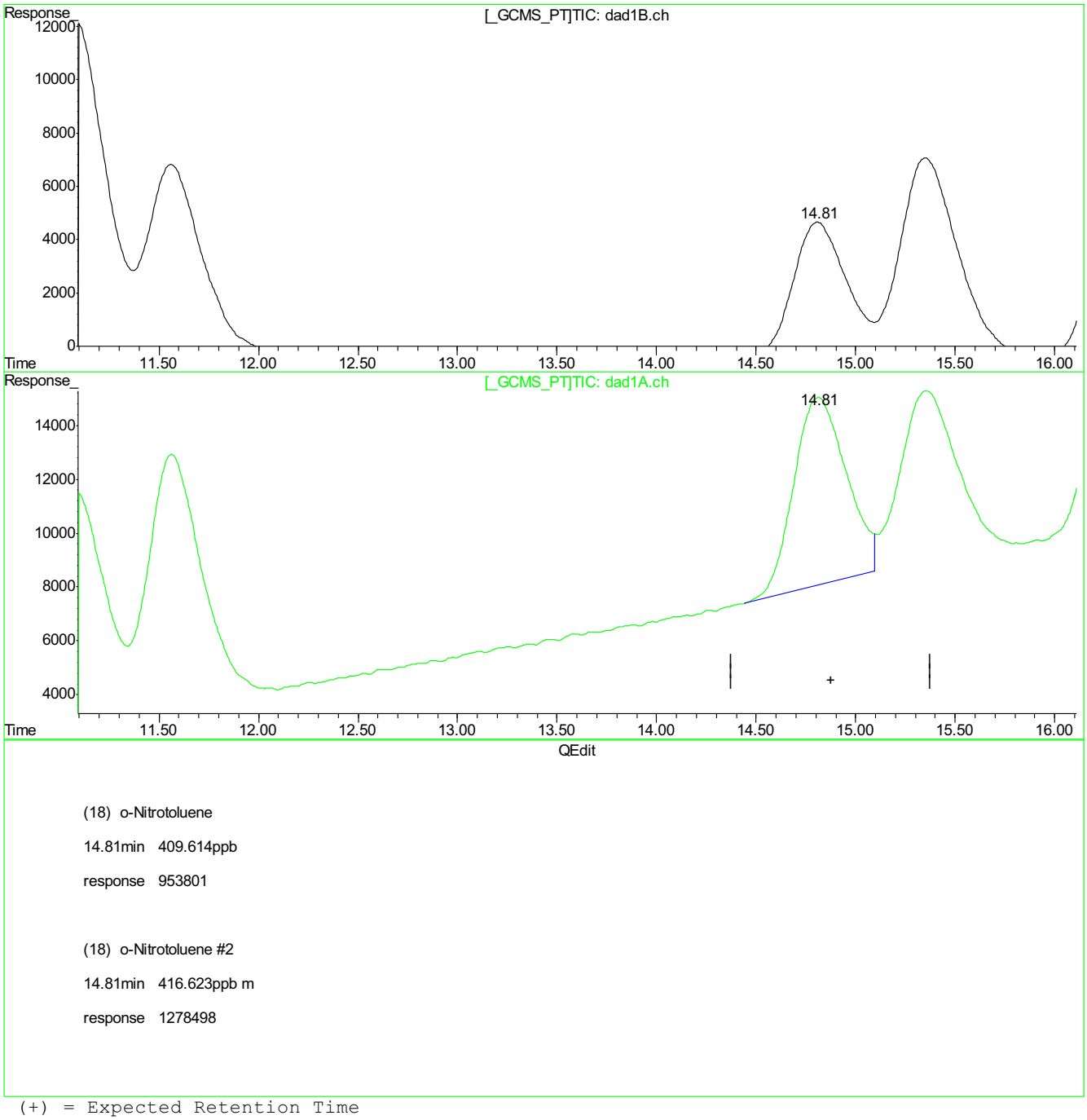
SGS ACCUTEST FA45722

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 409.614ppb

response 953801

(18) o-Nitrotoluene #2

14.81min 416.623ppb m

response 1278498

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:49 2017

9.3.1.9

9

BB056480.D edits: o-Nitrotoluene

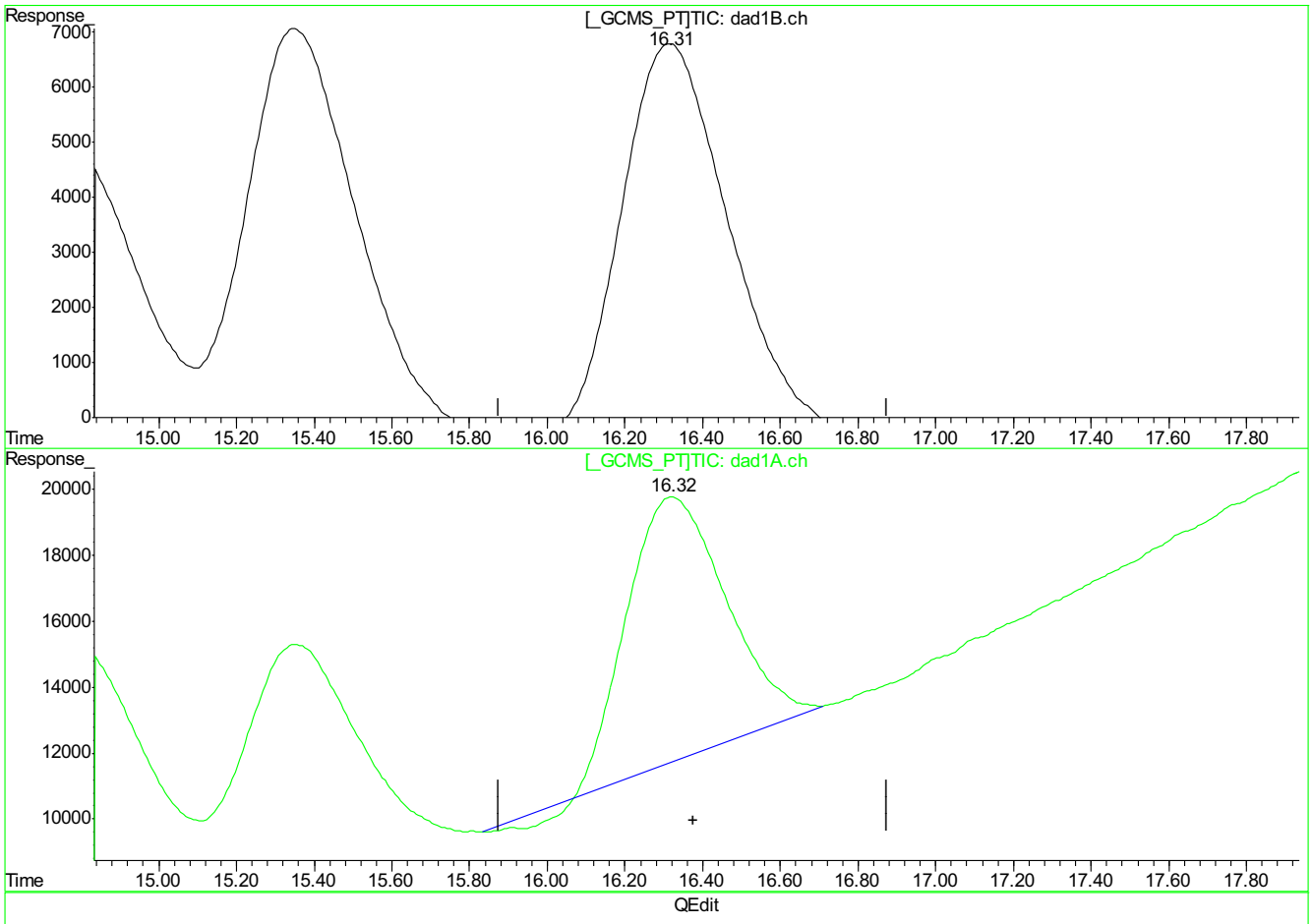
SGS ACCUTEST FA45722

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.32min 389.811ppb

response 1404157

(20) m-Nitrotoluene #2

16.32min 353.243ppb

response 1389239

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:52 2017

9.3.1.10

9

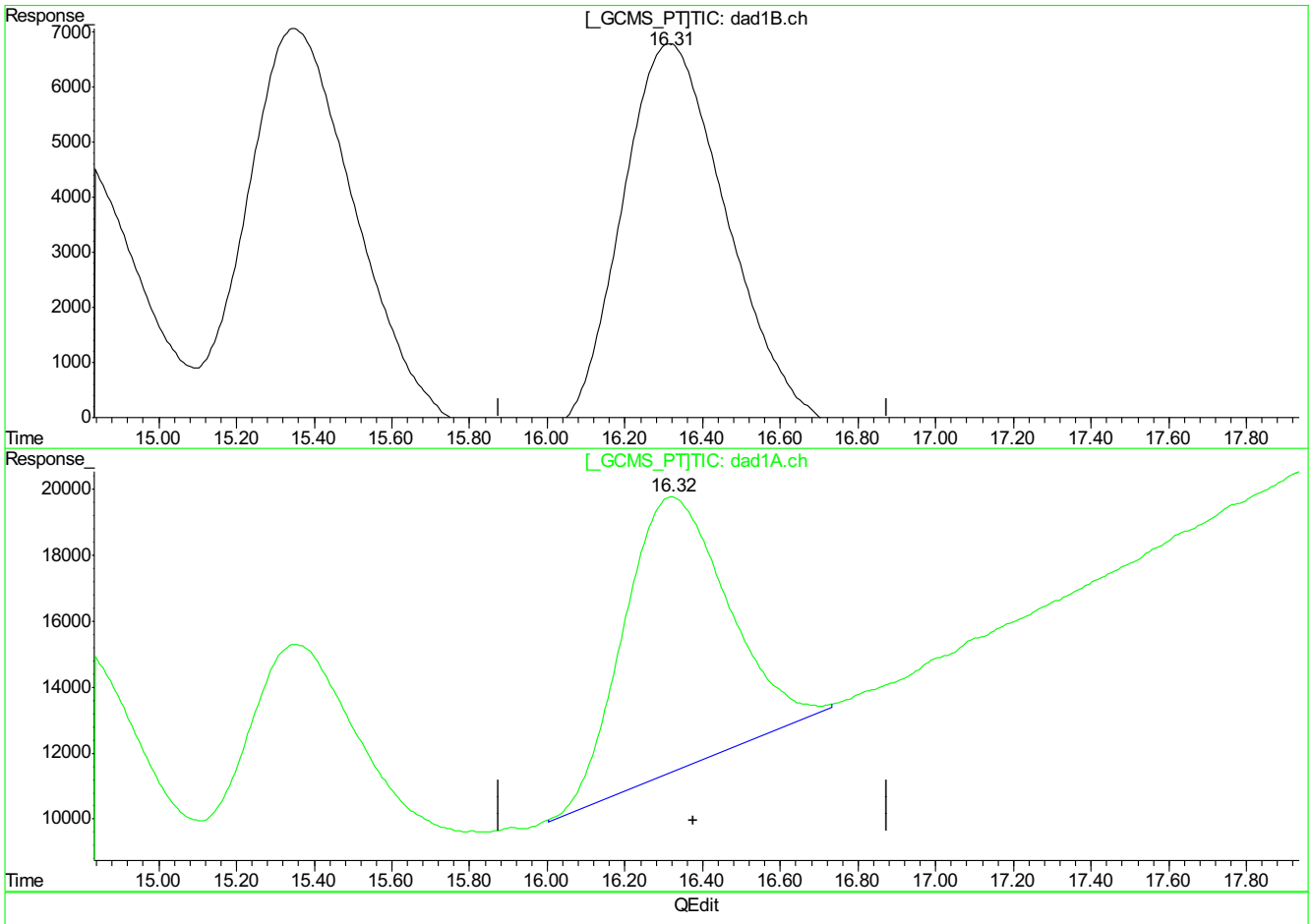
BB056480.D edits: m-Nitrotoluene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.32min 389.811ppb

response 1404157

(20) m-Nitrotoluene #2

16.32min 391.056ppb m

response 1542443

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:55 2017

9.3.1.11

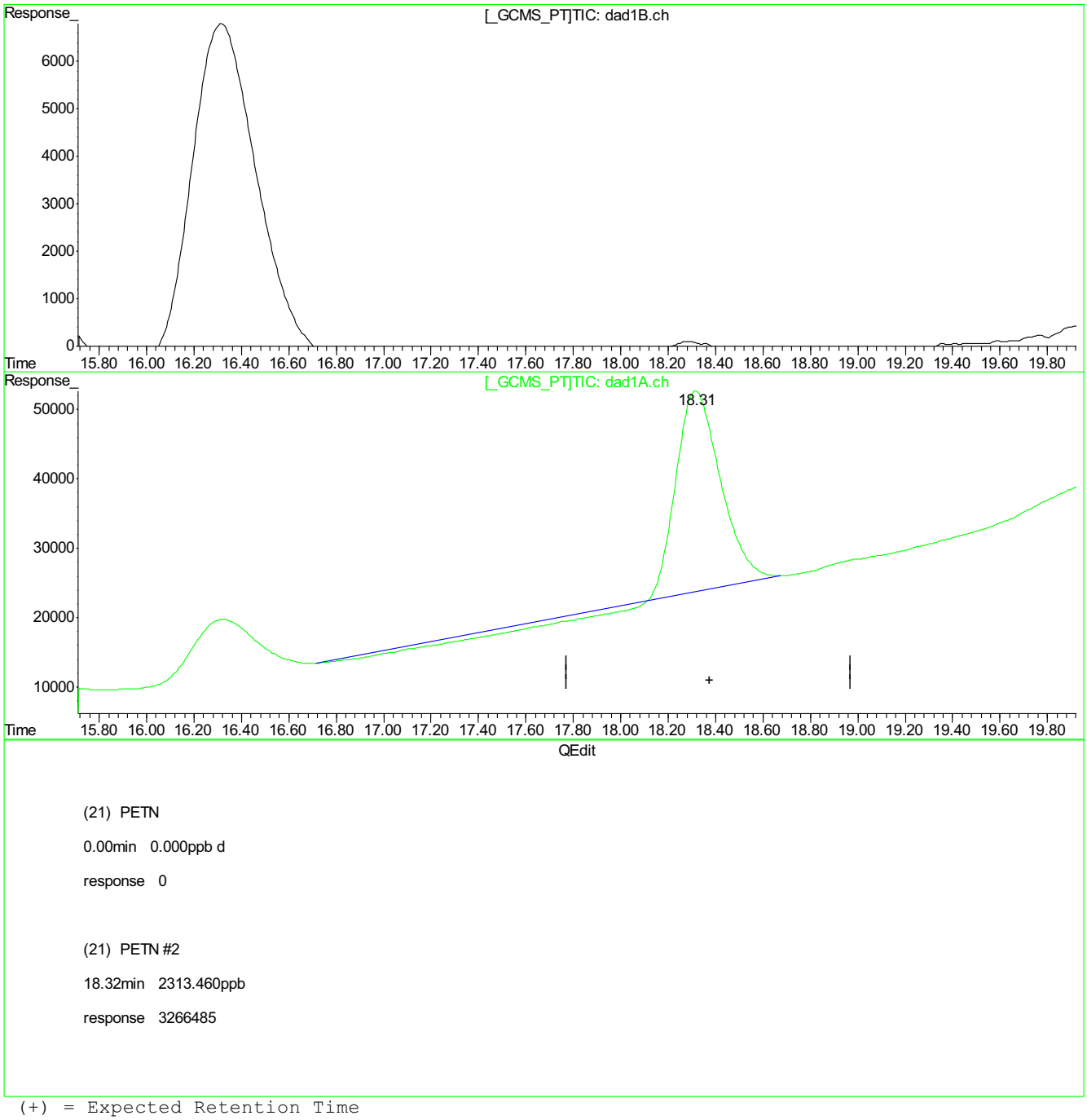
9

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.32min 2313.460ppb

response 3266485

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:57 2017

9.3.1.12

9

BB056480.D edits: PETN

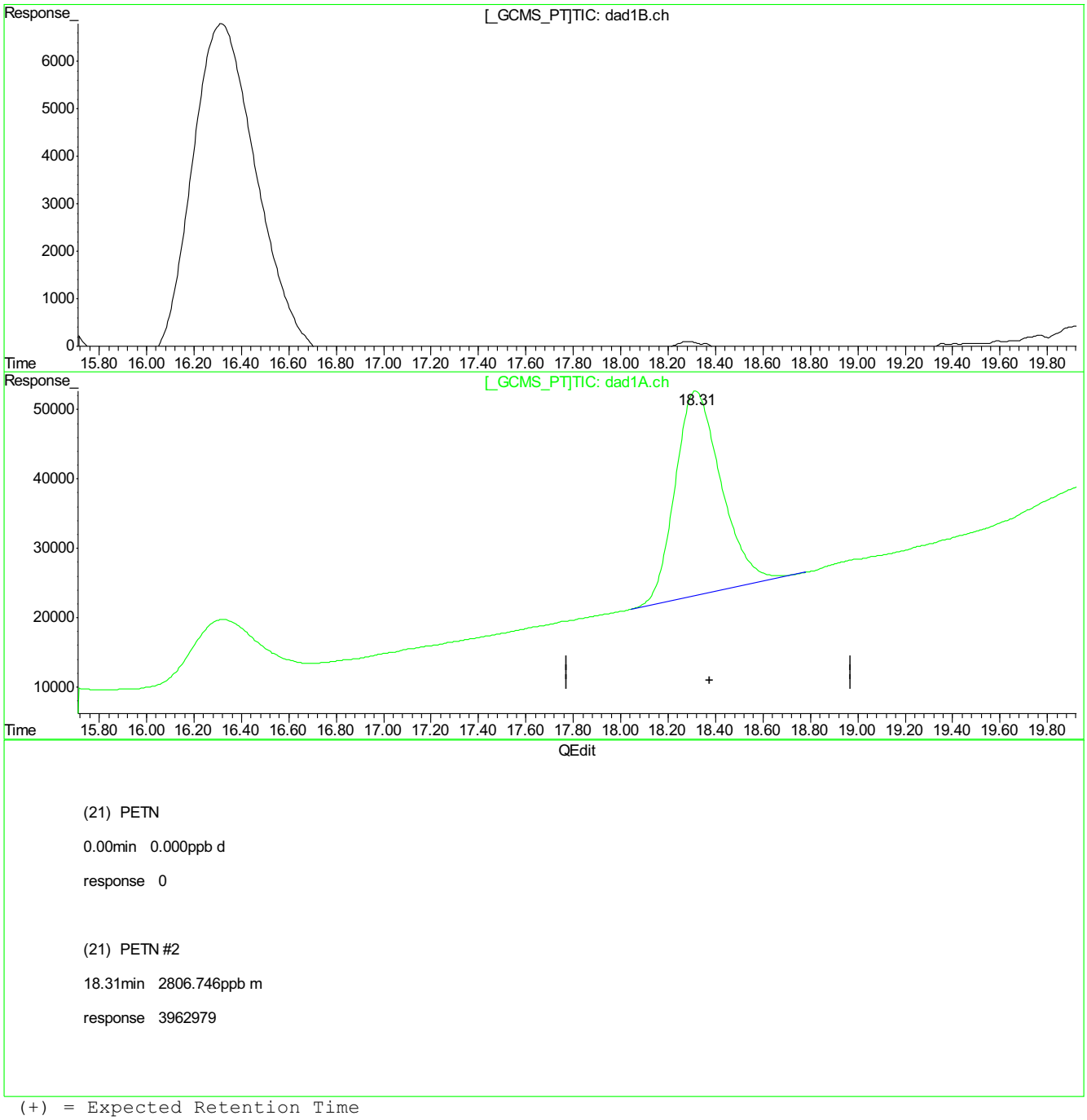
SGS ACCUTEST FA45722

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 2806.746ppb m

response 3962979

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:18:00 2017

BB056480.D edits: PETN

SGS ACCUTEST FA45722

9.3.1.13 9

QC Report: BB056487.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:35 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.39	10.39	1153691	1936385	448.065	499.349
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.61%	99.87%
	Target Compounds						
1)	TNX	1.35	1.35	1176227	1986445	378.927	414.556
2)	HMX	1.46	1.46	2725554	6884480	1574.972	1484.265
3)	DNX	1.70	1.70	2696392	3826696	928.661	871.158
4)	MNX	2.27	2.27	1677832	2648448	749.932	785.409
5)	RDX	2.84	2.84	1501005	2163431	737.543	678.958
6)	1,3,5-Trinitrobe	4.52	4.52	4704226	9179141	1105.111	1129.479
7)	1,3-Dinitrobenze	5.77	5.77	2374731	1661886	424.718	458.527
8)	3,5-Dinitroanili	6.07	6.08	1971762	3278017	477.175	502.782
9)	Nitrobenzene	7.40	7.39	1342028	1256971	391.763	385.856
10)	Nitroglycerin	0.00	8.64	0	3234148	N.D. d	3036.317m
11)	Tetryl	8.82	8.77	1142824	1728761	368.227	335.654m
12)	2,4,6-Trinitroto	9.26	9.26	3001673	3626495	784.369	808.245
13)	2-Amino-4,6-Dini	9.55	9.56	2539861	3837640	677.347	710.071
14)	4-Amino-2,6-Dini	10.02	10.02	1501062	3004314	600.314	646.343
16)	2,4-Dinitrotolue	11.07	11.07	2072838	1143257	400.377	364.589
17)	2,6-Dinitrotolue	11.56	11.62	1865162	2402532	603.852	653.919
18)	o-Nitrotoluene	14.80	14.80	847089	1113631	363.785	364.497m
19)	p-Nitrotoluene	15.34	15.34	1383073	1179519	392.243	443.970
20)	m-Nitrotoluene	16.30	16.31	1261699	1347845	350.263	342.989m
21)	PETN	0.00	18.31	0	3562239	N.D. d	2522.925m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056487.D 8330B_0629PLUS.M Wed Jul 19 11:01:57 2017 Page 1

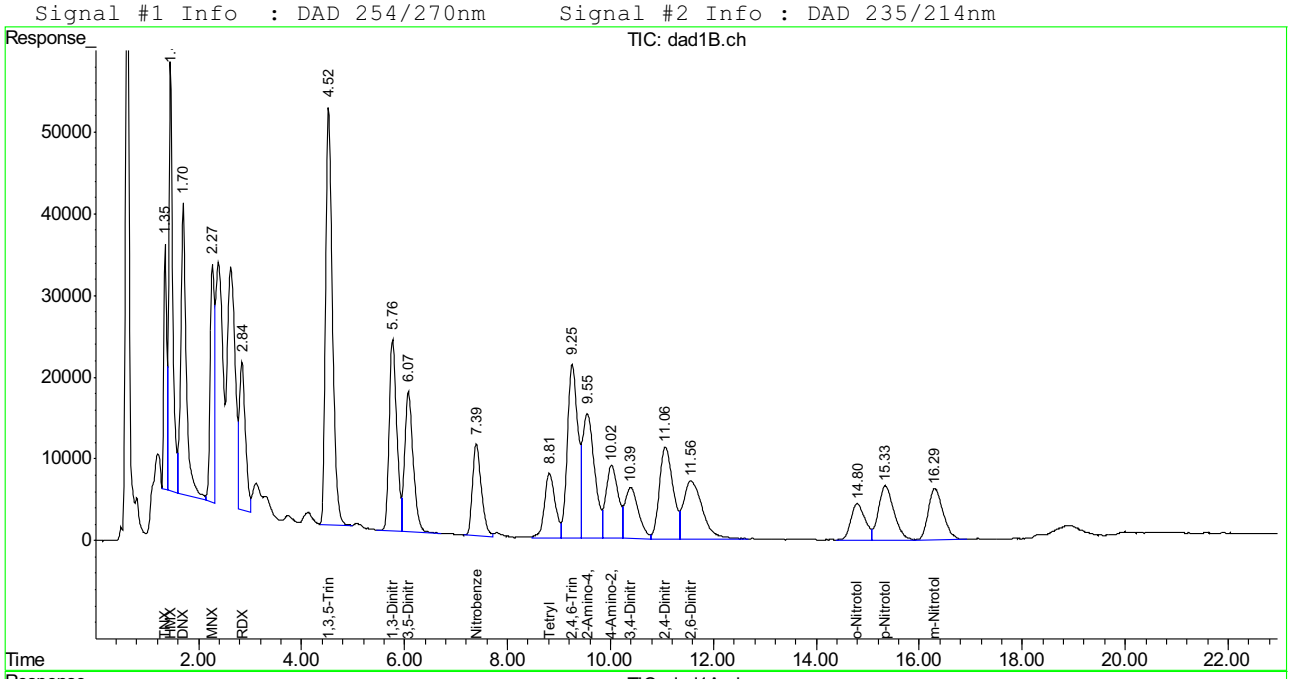
SGS ACCUTEST FA45722

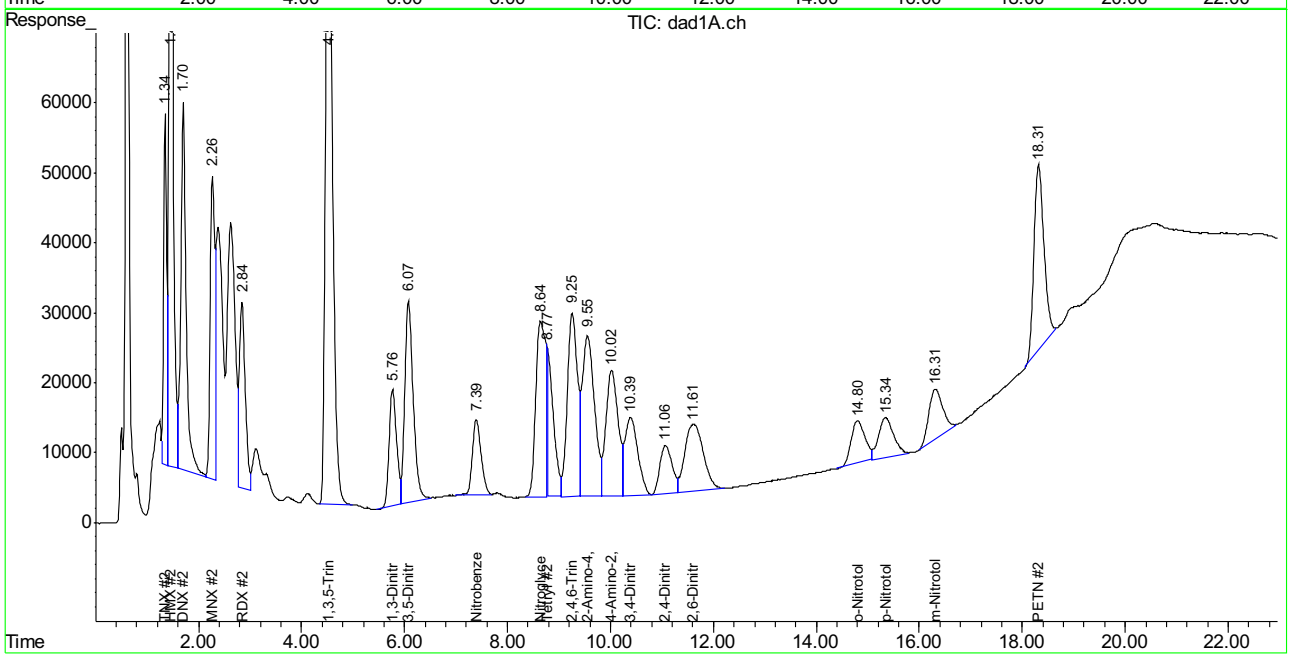
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

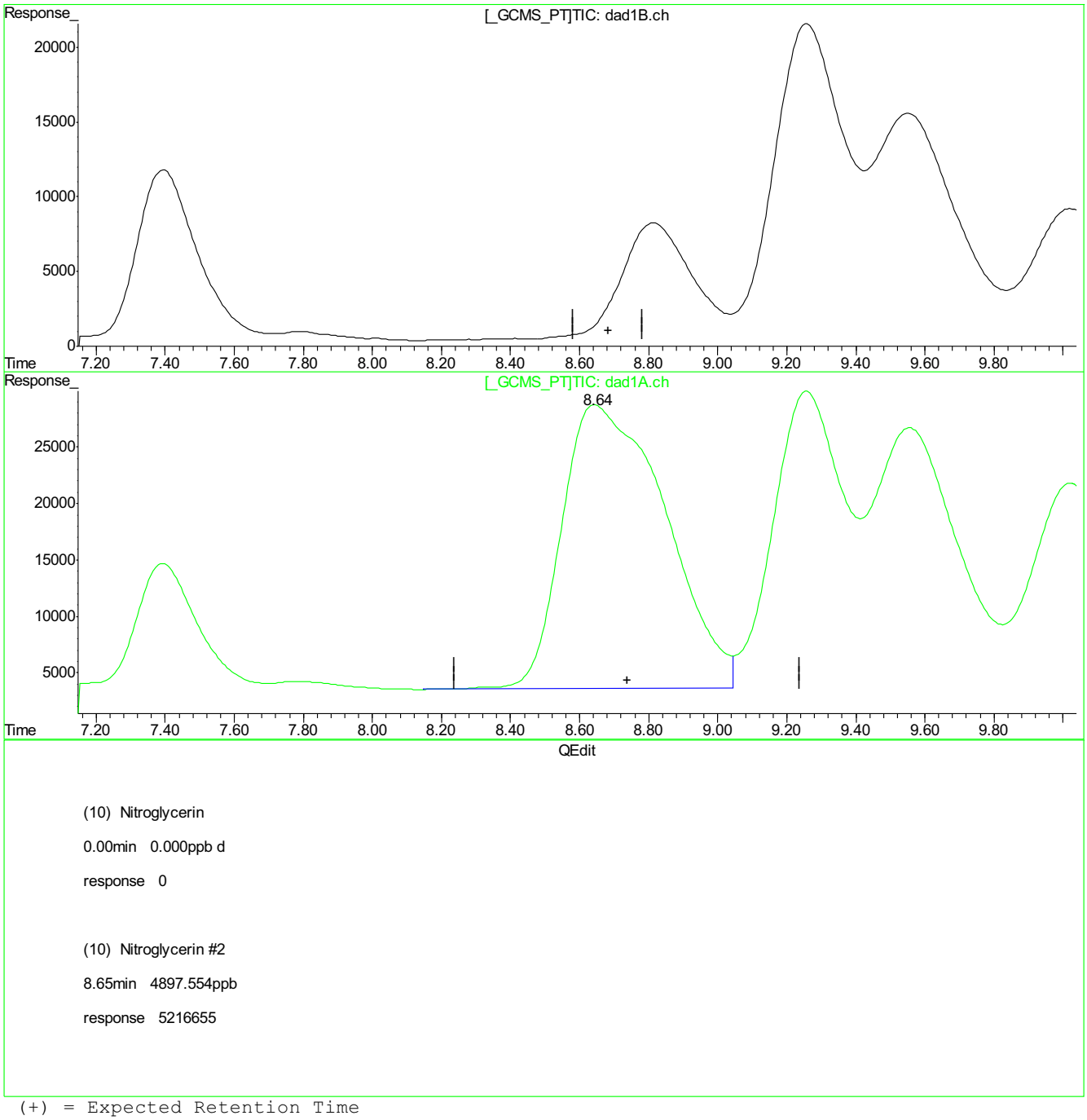
Sample Number: OP65961-MS
Lab FileID: BB056487.D
Injection Time: 07/19/17 06:33
Method: SW846 8330B
Analyst approved: 07/24/17 14:23 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.64	Poorly defined baseline
Tetryl	479-45-8	2	8.77	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.80	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.31	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.65min 4897.554ppb

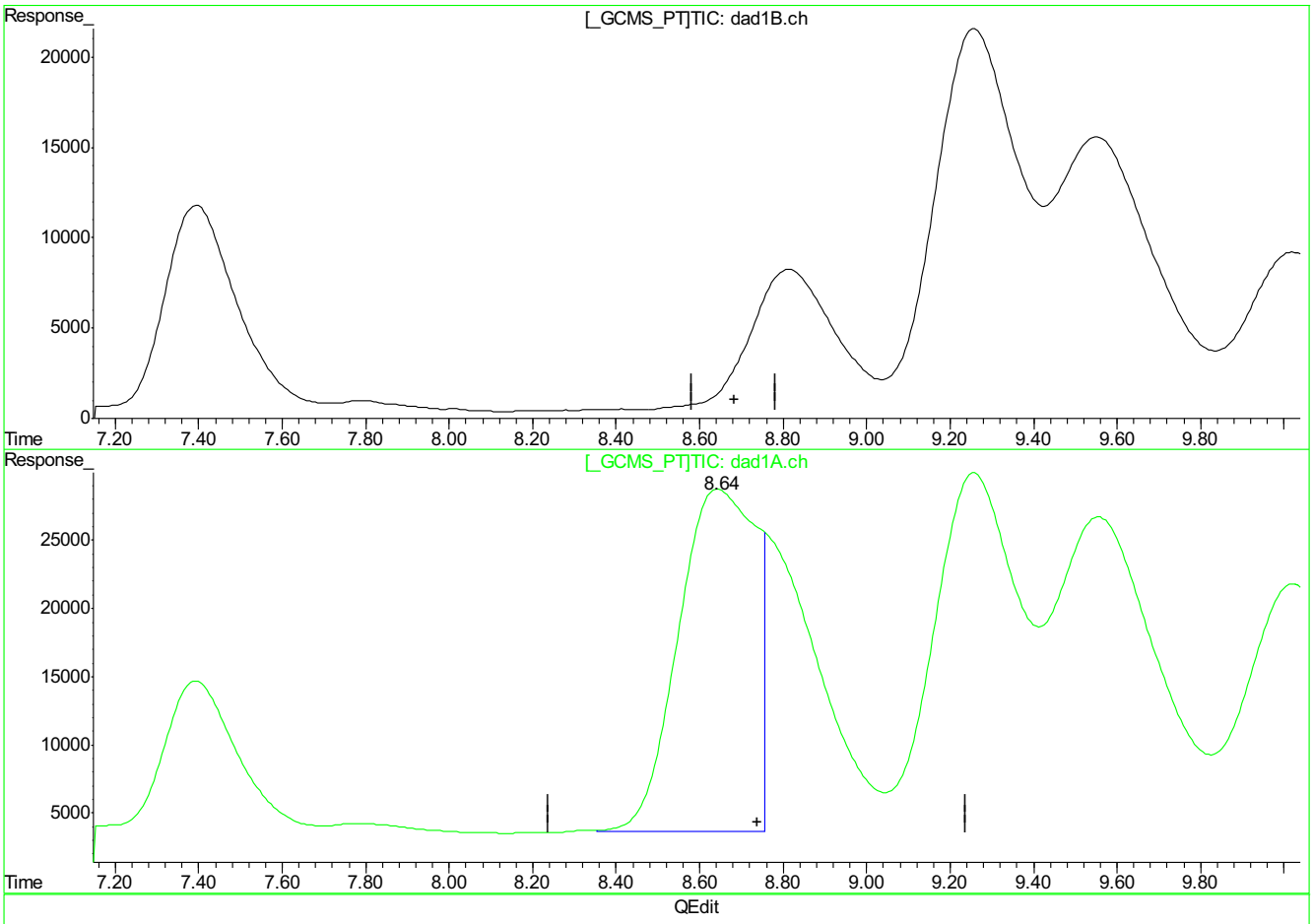
response 5216655

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.64min 3036.317ppb m

response 3234148

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:32 2017

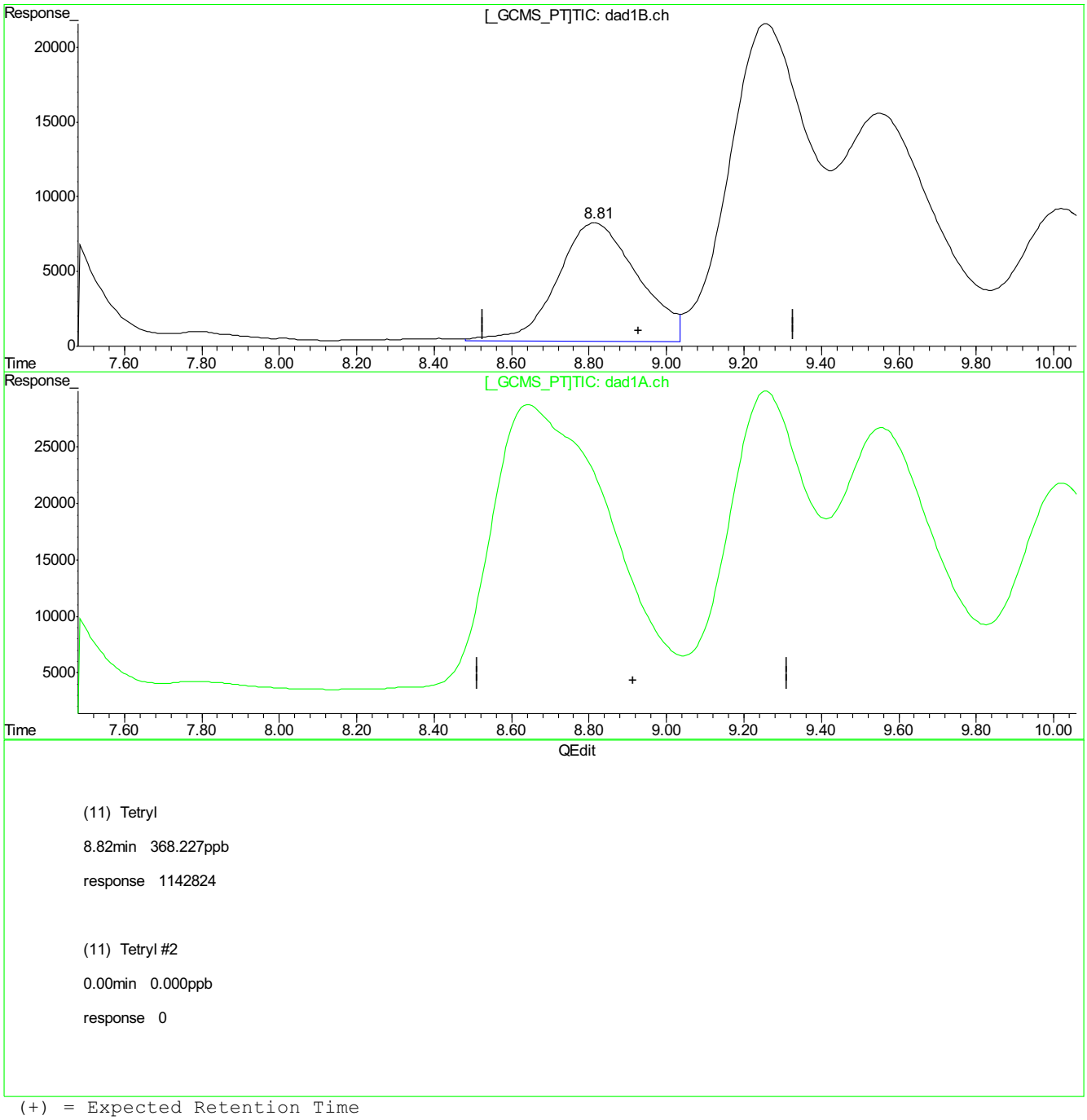
9.4.1.3
9

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 368.227ppb

response 1142824

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:34 2017

9.4.1.4

9

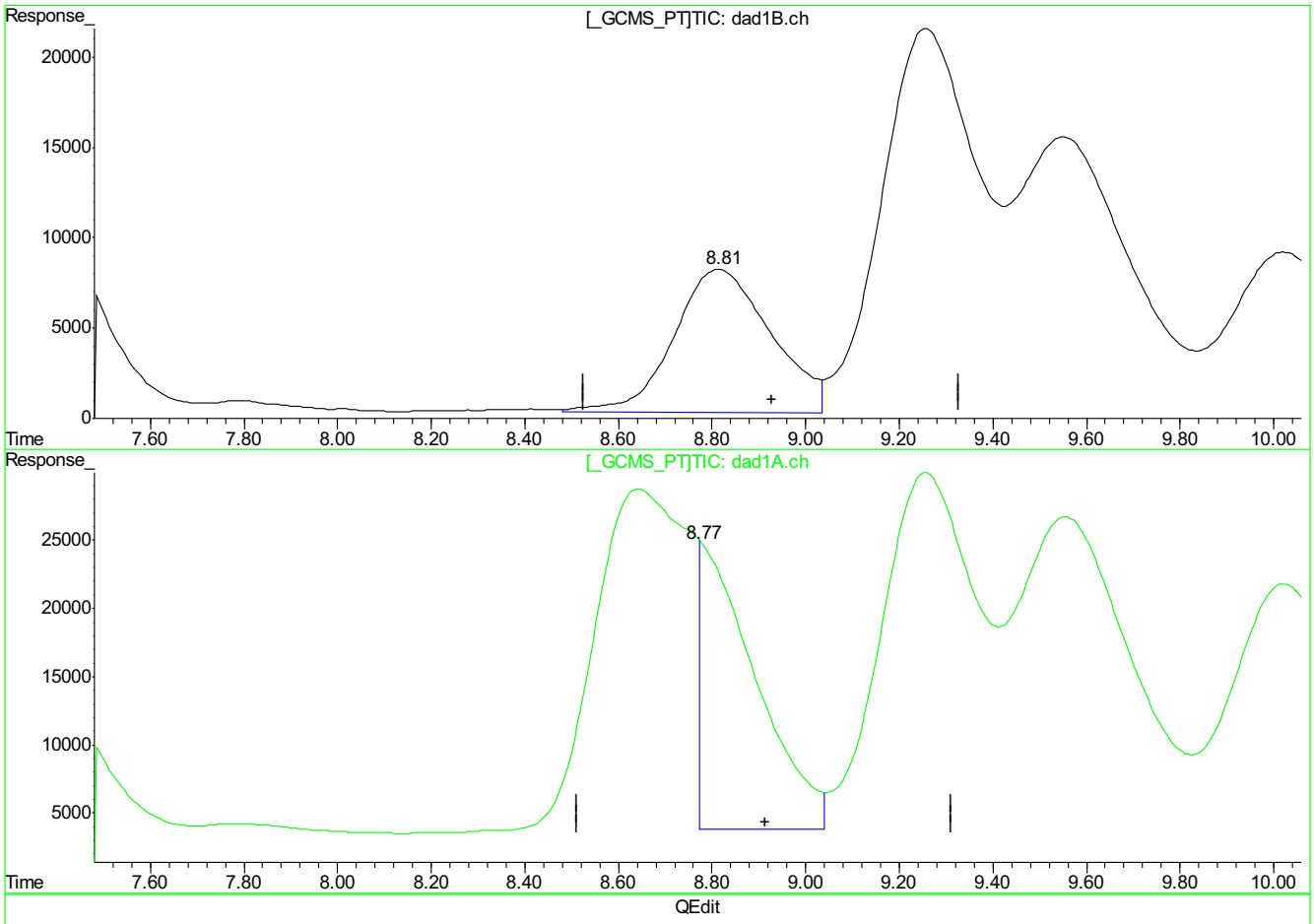
BB056487.D edits: Tetryl

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 368.227ppb

response 1142824

(11) Tetryl #2

8.77min 335.654ppb m

response 1728761

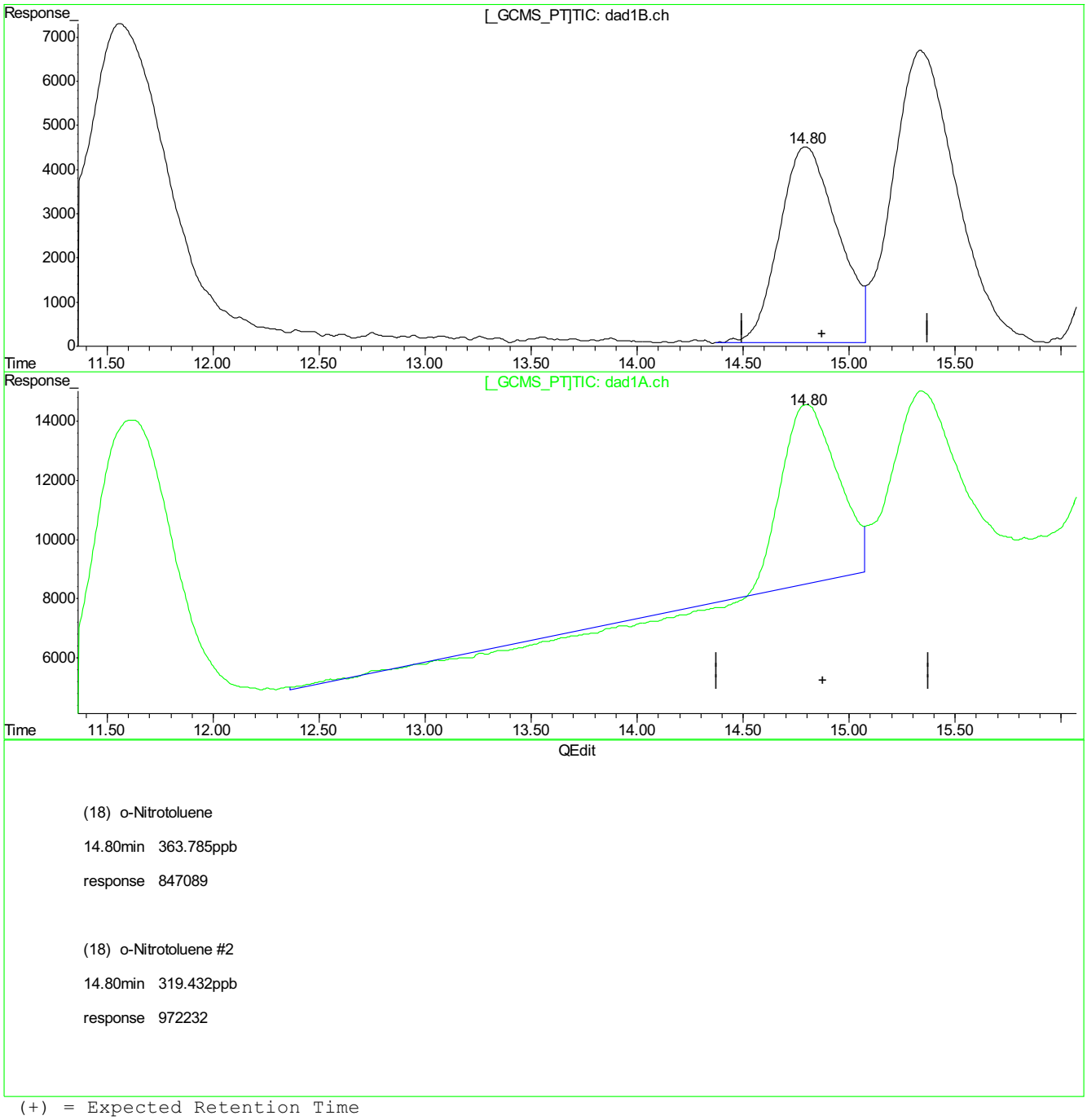
(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:57 2017

9.4.1.5
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 363.785ppb

response 847089

(18) o-Nitrotoluene #2

14.80min 319.432ppb

response 972232

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:02 2017

9.4.1.6

9

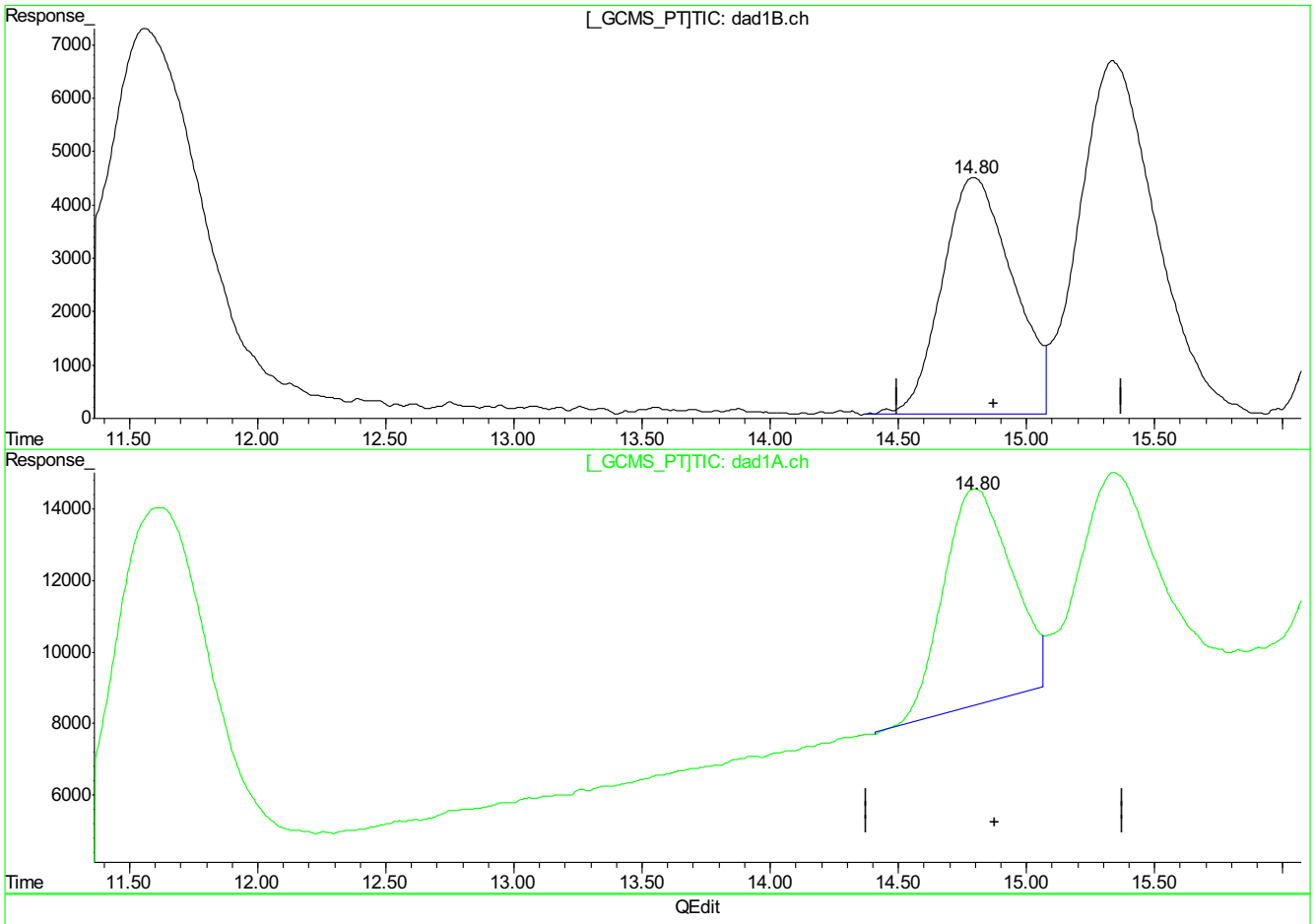
BB056487.D edits: o-Nitrotoluene

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 363.785ppb

response 847089

(18) o-Nitrotoluene #2

14.80min 364.497ppb m

response 1113631

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:05 2017

9.4.1.7

9

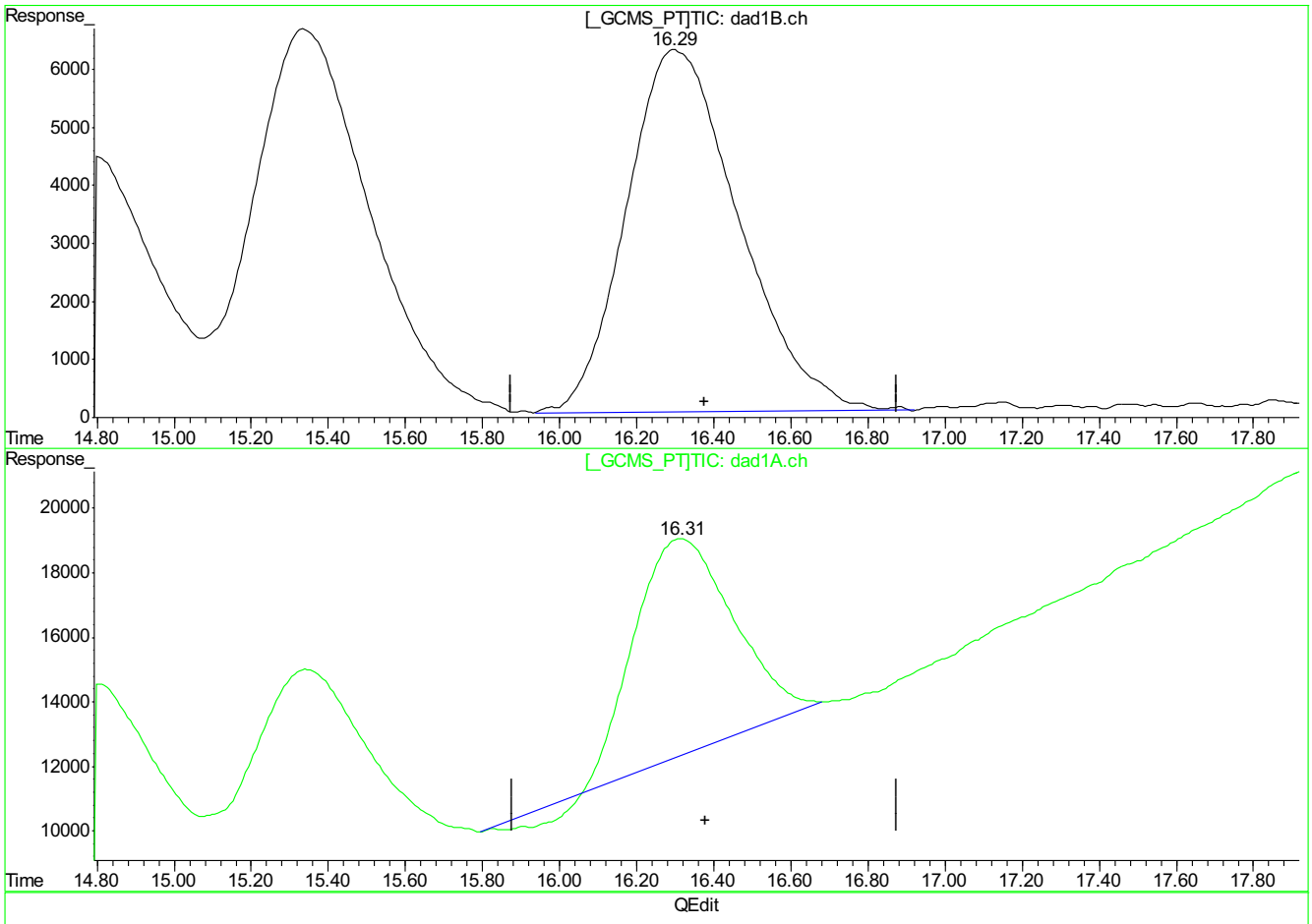
BB056487.D edits: o-Nitrotoluene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.30min 350.263ppb

response 1261699

(20) m-Nitrotoluene #2

16.32min 294.287ppb

response 1152109

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:08 2017

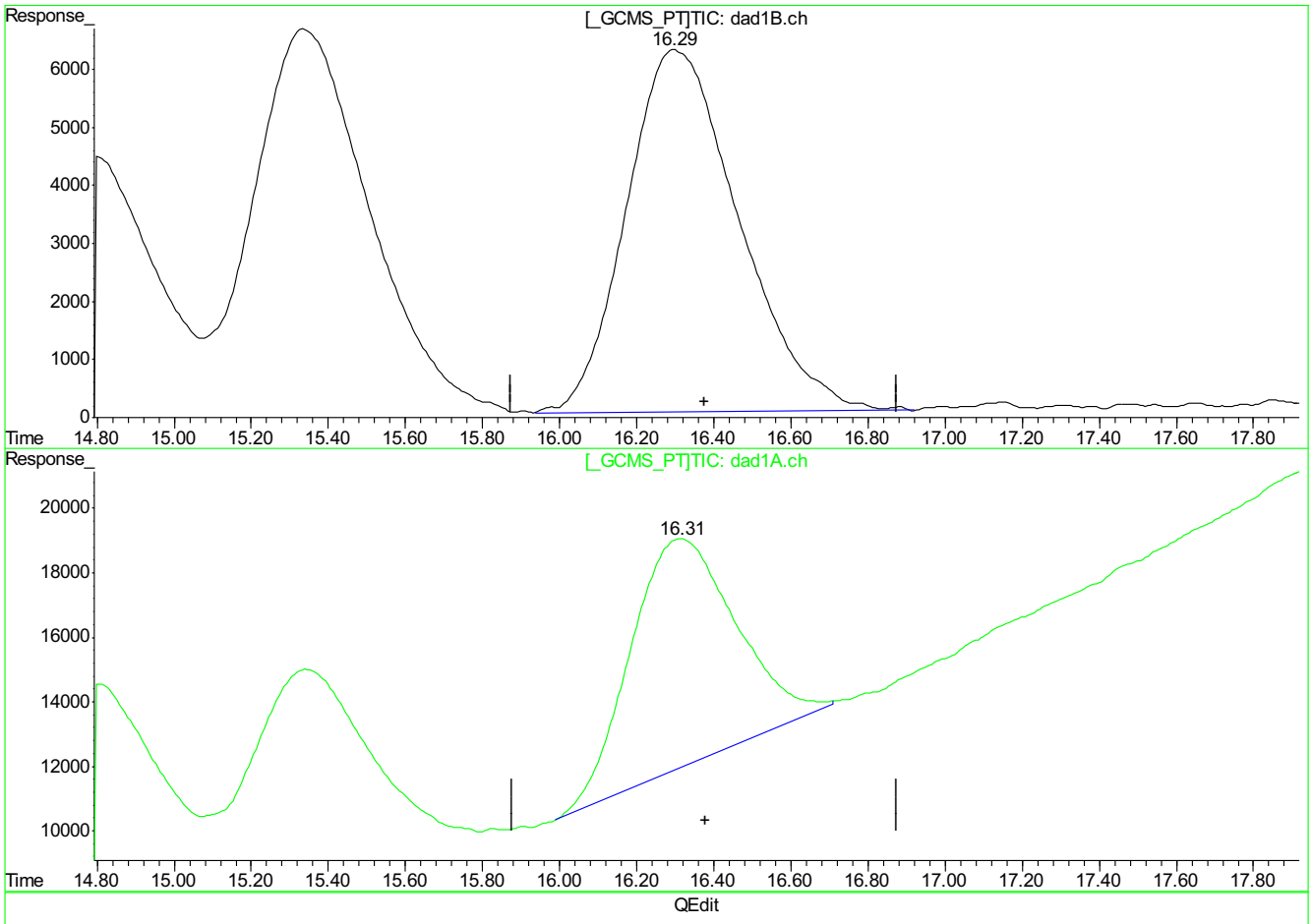
9.4.1.8 9

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.30min 350.263ppb

response 1261699

(20) m-Nitrotoluene #2

16.31min 342.989ppb m

response 1347845

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:11 2017

9.4.1.9

9

BB056487.D edits: m-Nitrotoluene

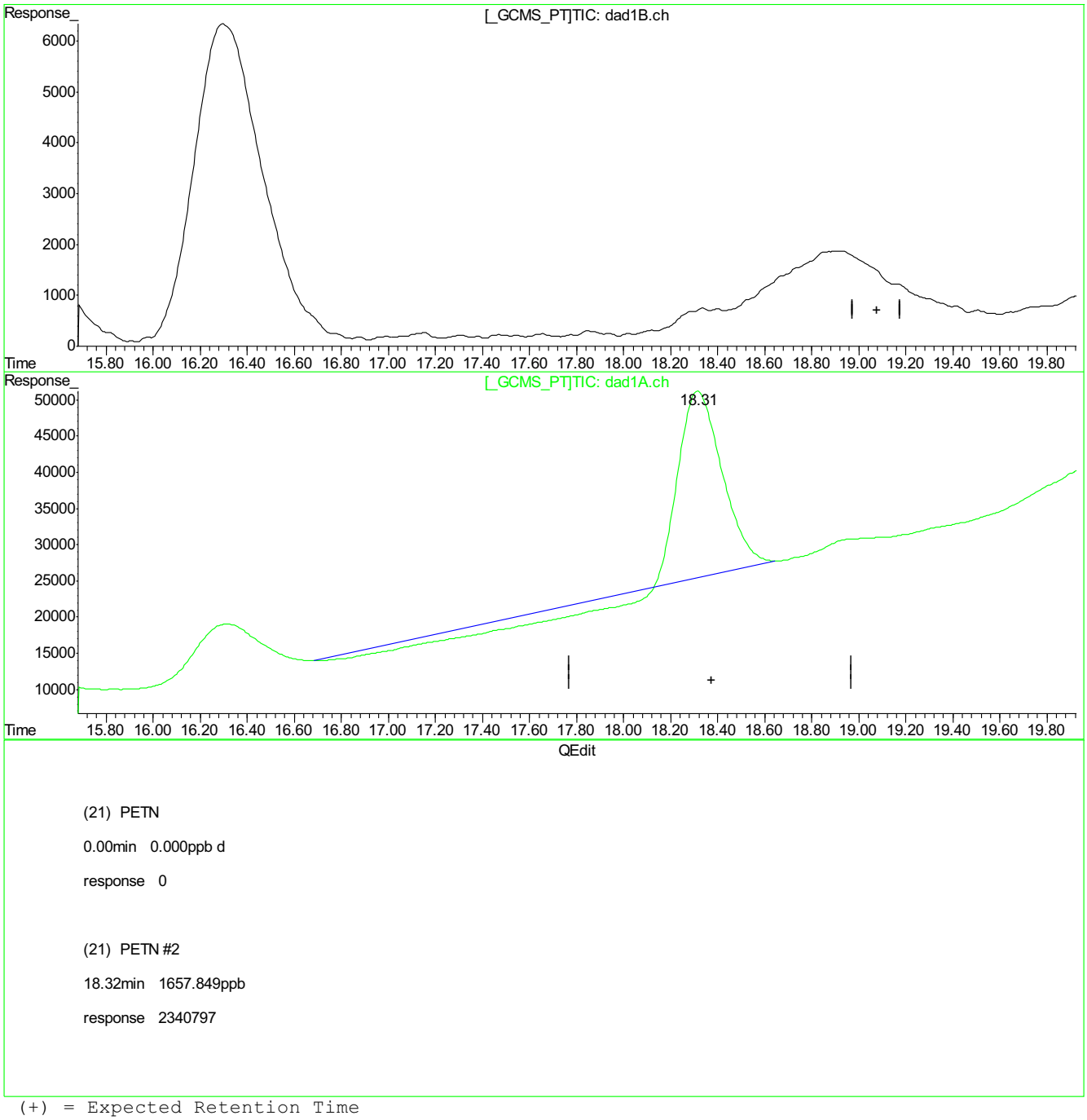
SGS ACCUTEST FA45722

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:14 2017

9.4.1.10

9

BB056487.D edits: PETN

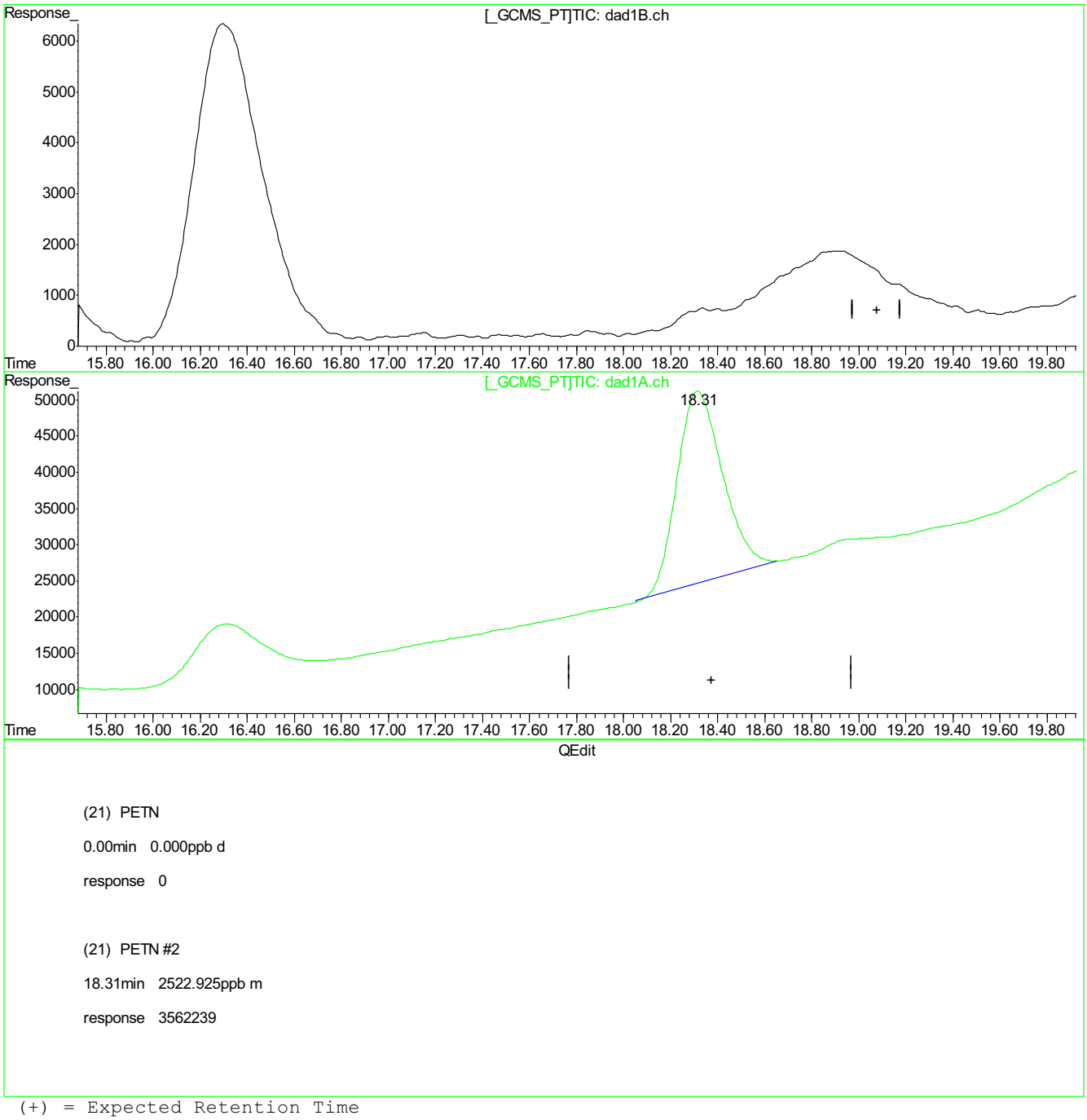
SGS ACCUTEST FA45722

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 2522.925ppb m

response 3562239

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:20 2017

9.4.1.11

9

BB056487.D edits: PETN

SGS ACCUTEST FA45722

QC Report: BB056488.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33:36 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.40	10.40	1181299	2008492	458.788	517.426
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.76%	103.49%
	Target Compounds						
1)	TNX	1.35	1.35	1365125	2272342	439.782	474.220
2)	HMX	1.46	1.46	2873350	7170765	1660.376	1545.987
3)	DNX	1.70	1.71	3005610	4348606	1035.159	988.471
4)	MNX	2.27	2.27	1799792	2862239	804.444	848.809
5)	RDX	2.85	2.84	1662280	2391252	816.788	750.456
6)	1,3,5-Trinitrobe	4.53	4.53	4851374	9470405	1139.678	1165.318
7)	1,3-Dinitrobenze	5.77	5.77	2539873	1774618	454.253	489.631
8)	3,5-Dinitroanili	6.07	6.08	2084722	3480724	504.512	533.873
9)	Nitrobenzene	7.39	7.39	1473646	1343967	430.185	412.562
10)	Nitroglycerin	0.00	8.65	0	3036672	N.D. d	2850.920m
11)	Tetryl	8.82	8.75	1242108	2215523	400.218	427.840m
12)	2,4,6-Trinitroto	9.26	9.26	3040365	3706847	794.479	825.345
13)	2-Amino-4,6-Dini	9.55	9.56	2679154	4027512	714.494	744.107
14)	4-Amino-2,6-Dini	10.02	10.02	1569362	3138944	627.629	675.307
16)	2,4-Dinitrotolue	11.07	11.07	2191660	1238355	423.328	394.916
17)	2,6-Dinitrotolue	11.56	11.60	1911254	2519999	618.774	685.891
18)	o-Nitrotoluene	14.80	14.79	922336	1266093	396.101	412.716m
19)	p-Nitrotoluene	15.35	15.35	1489042	1260164	422.296	472.617
20)	m-Nitrotoluene	16.31	16.31	1372109	1482157	380.914	376.202m
21)	PETN	0.00	18.31	0	4195246	N.D. d	2971.247m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056488.D 8330B_0629PLUS.M Wed Jul 19 11:01:58 2017 Page 1

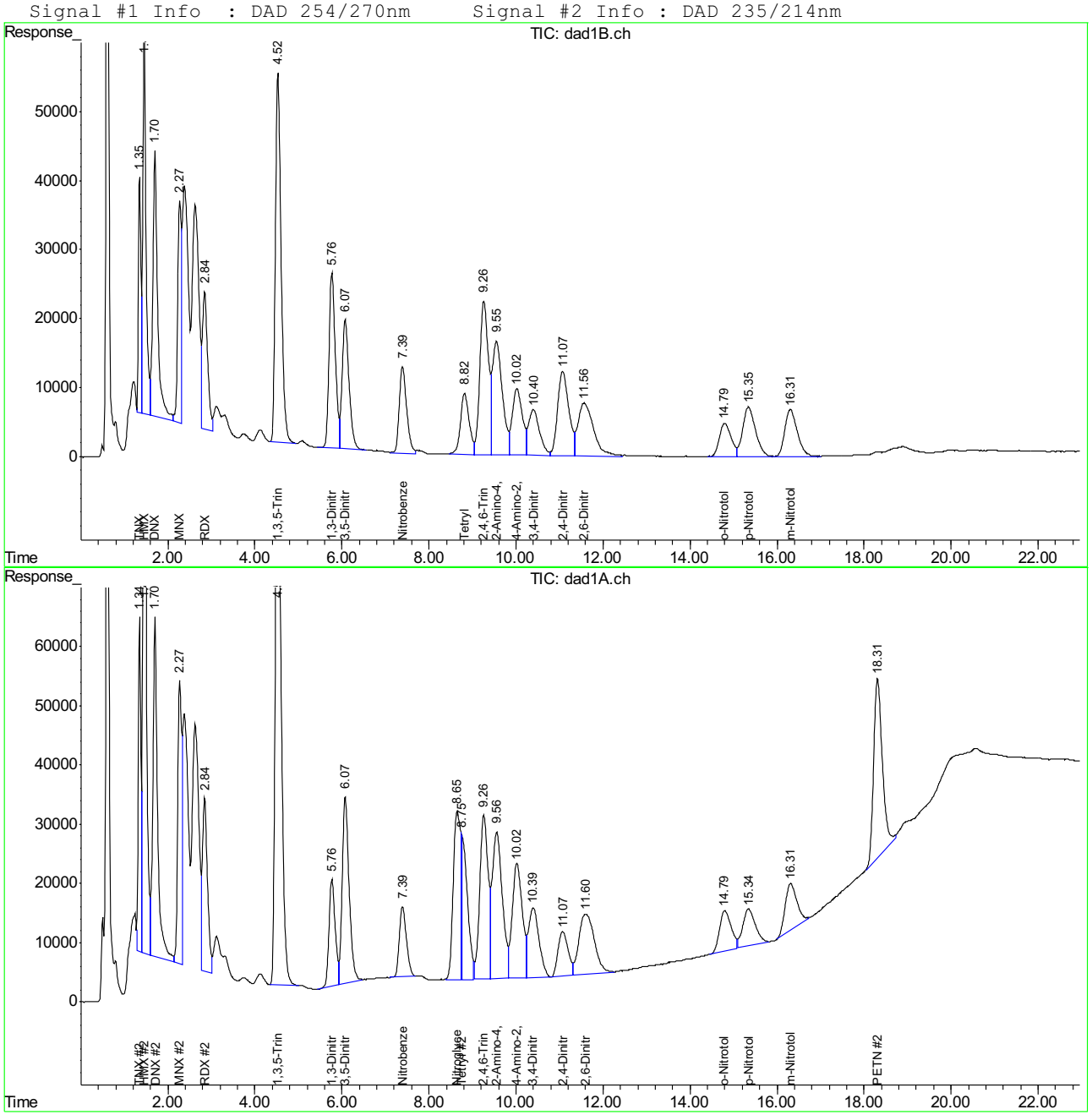
9.4.2
6

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: OP65961-MSD
Lab FileID: BB056488.D
Injection Time: 07/19/17 07:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:23 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

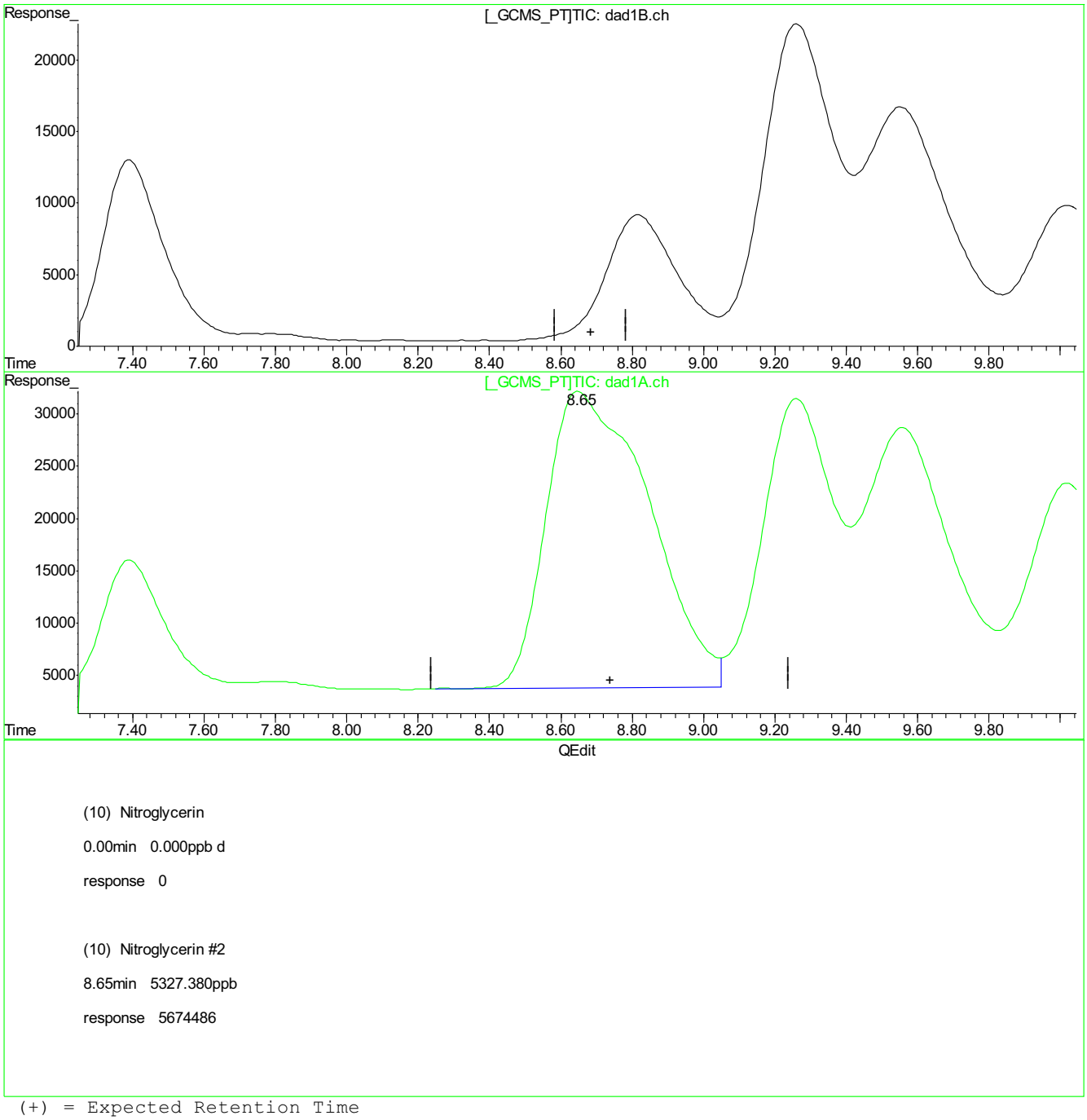
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.65	Poorly defined baseline
Tetryl	479-45-8	2	8.75	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.79	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.31	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:33:48 2017

BB056488.D edits: Nitroglycerin

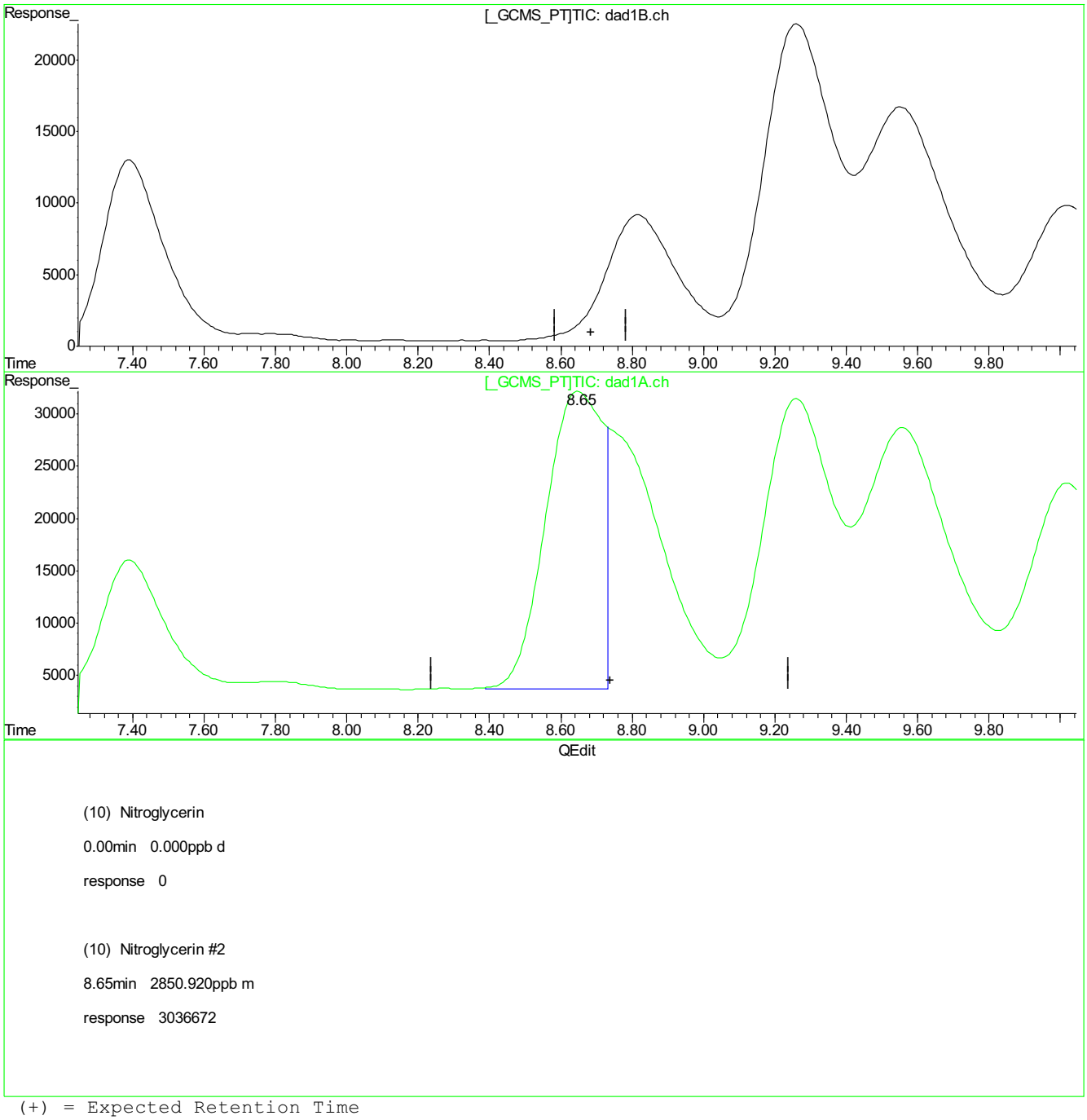
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.65min 2850.920ppb m

response 3036672

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:33:52 2017

BB056488.D edits: Nitroglycerin

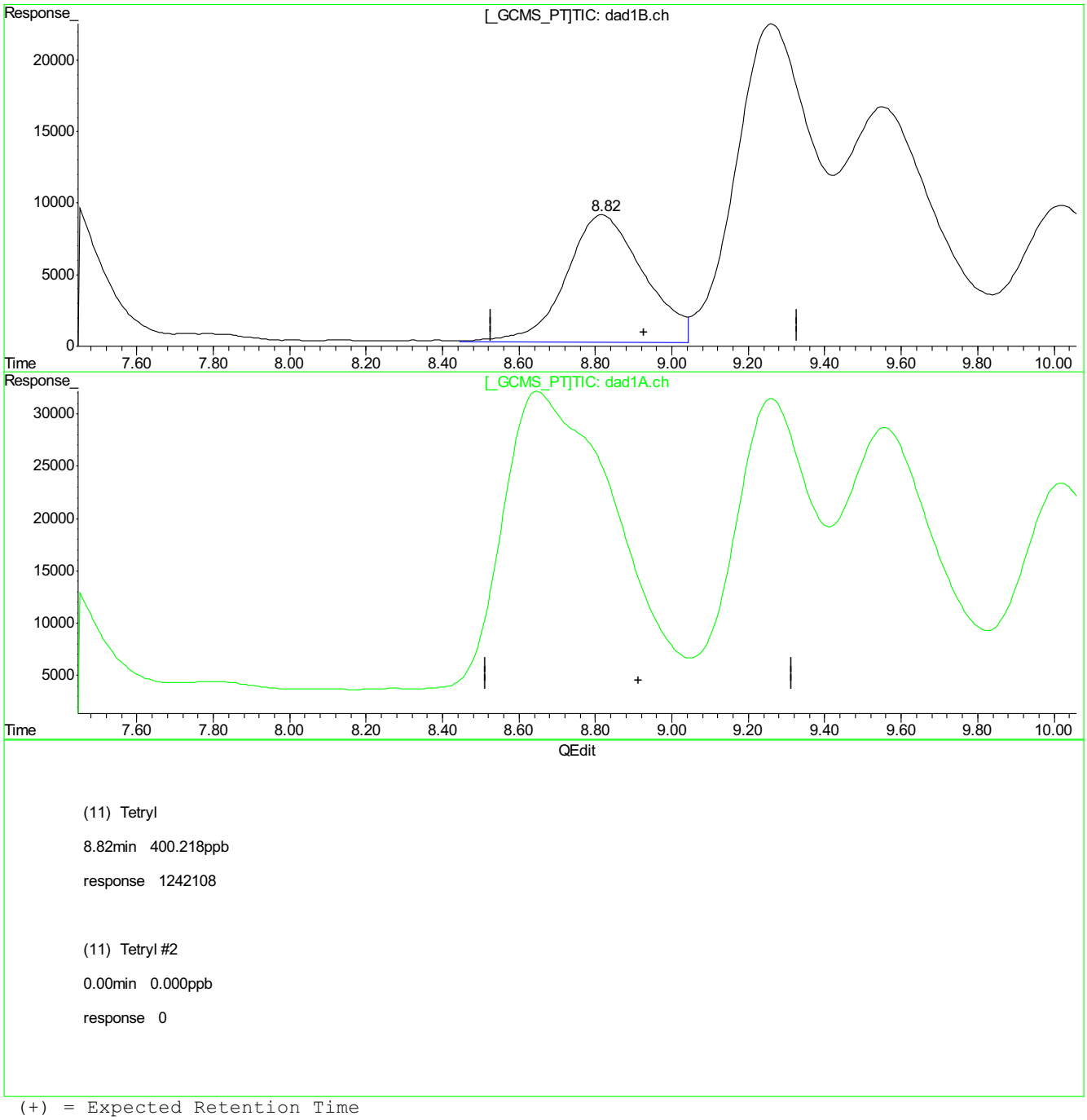
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 400.218ppb

response 1242108

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:33:55 2017

9.4.2.4

9

BB056488.D edits: Tetryl

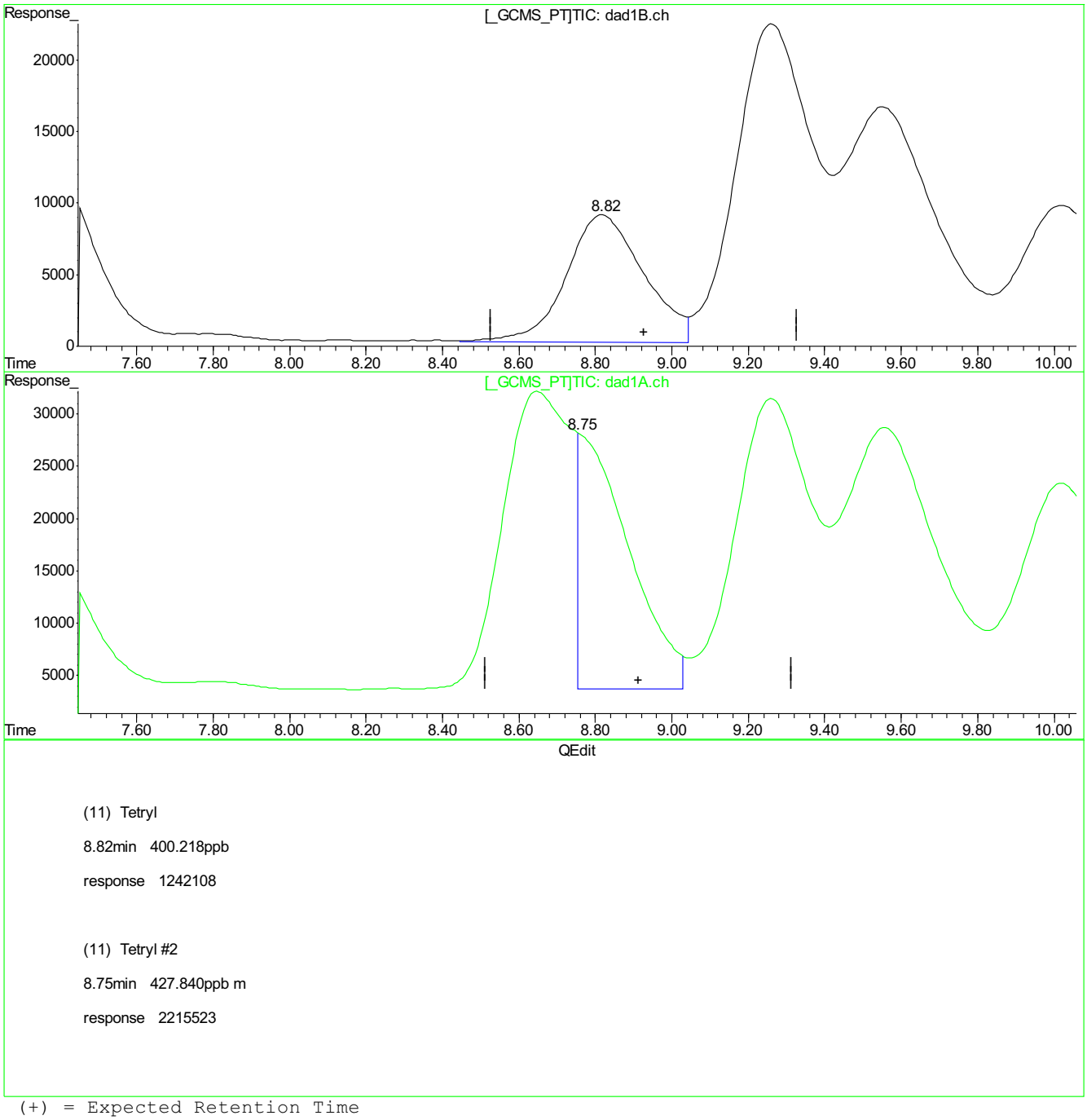
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 400.218ppb

response 1242108

(11) Tetryl #2

8.75min 427.840ppb m

response 2215523

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:08 2017

9.4.2.5

9

BB056488.D edits: Tetryl

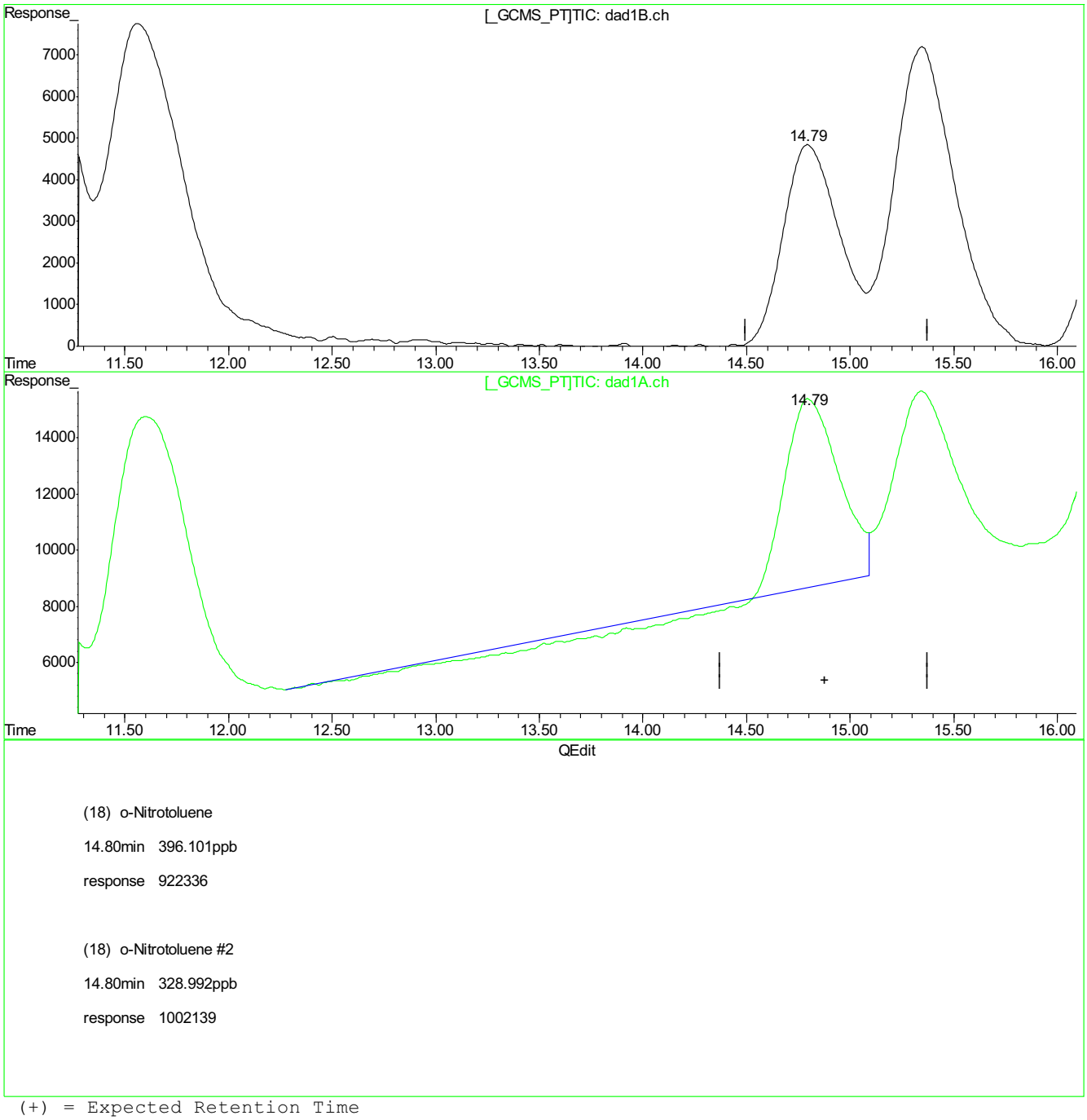
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 396.101ppb

response 922336

(18) o-Nitrotoluene #2

14.80min 328.992ppb

response 1002139

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:13 2017

9.4.2.6

9

BB056488.D edits: o-Nitrotoluene

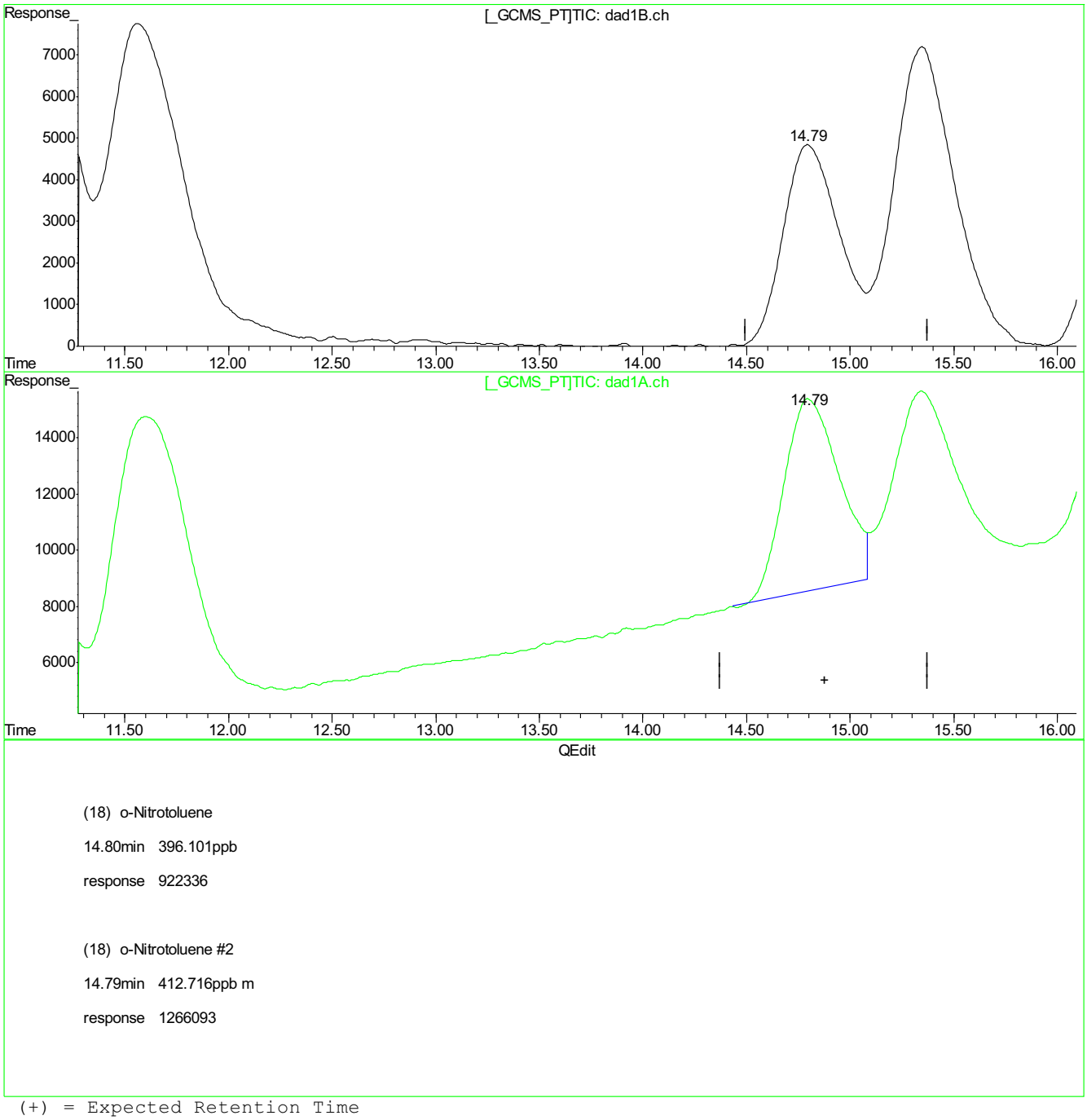
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 396.101ppb

response 922336

(18) o-Nitrotoluene #2

14.79min 412.716ppb m

response 1266093

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:16 2017

9.4.2.7

9

BB056488.D edits: o-Nitrotoluene

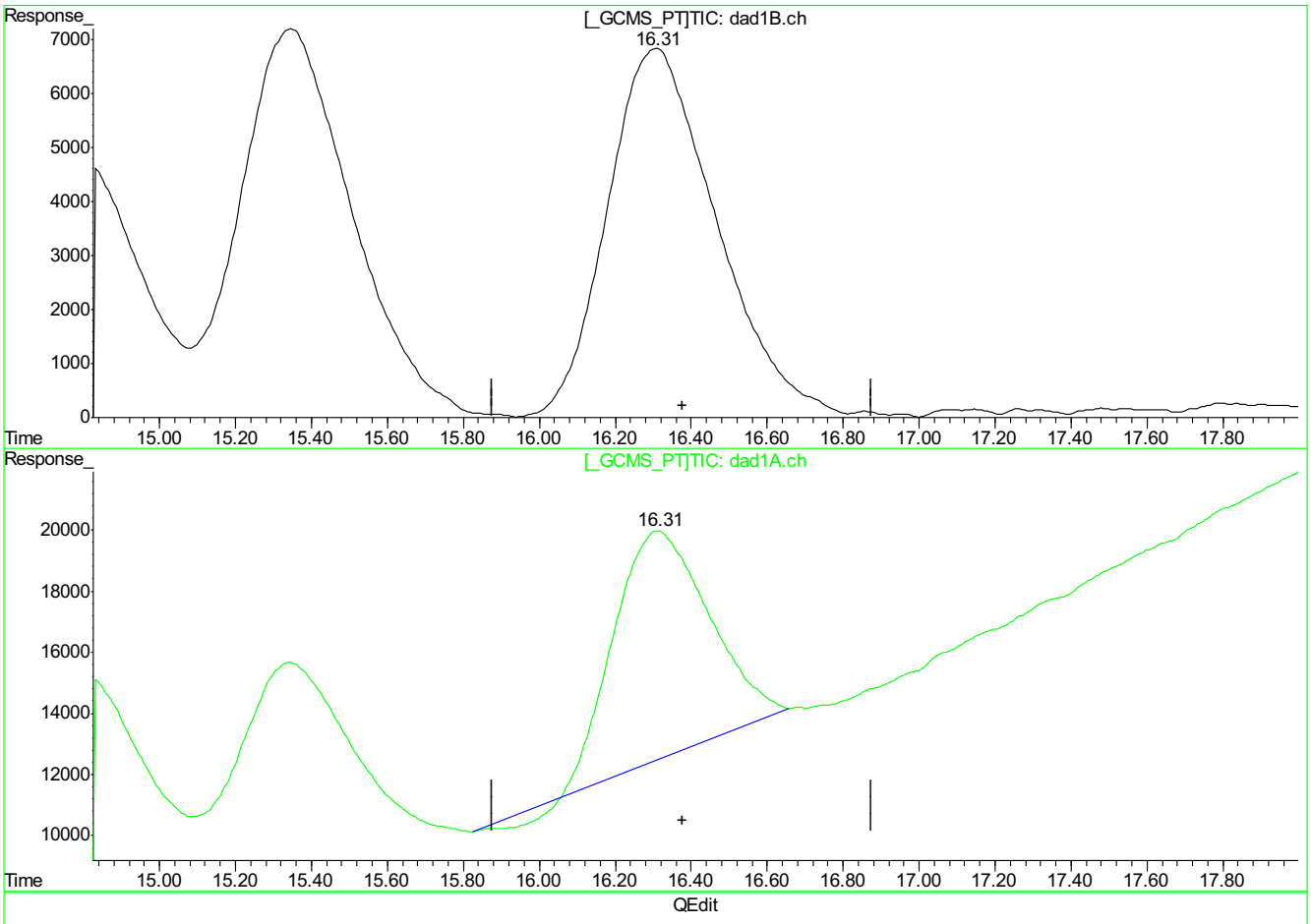
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.31min 380.914ppb

response 1372109

(20) m-Nitrotoluene #2

16.31min 323.071ppb

response 1267619

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:19 2017

9.4.2.8

9

BB056488.D edits: m-Nitrotoluene

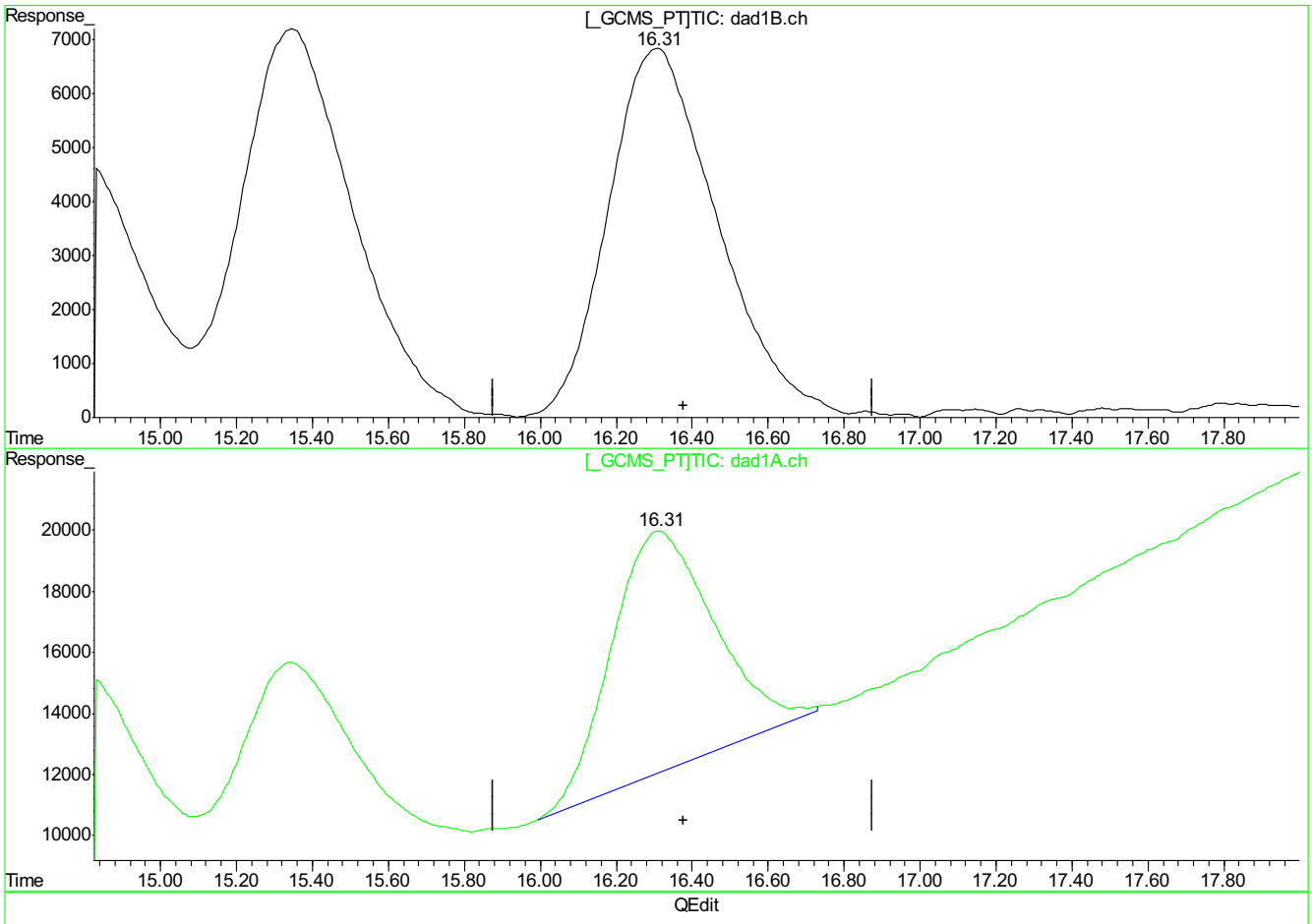
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.31min 380.914ppb

response 1372109

(20) m-Nitrotoluene #2

16.31min 376.202ppb m

response 1482157

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:22 2017

9.4.2.9

9

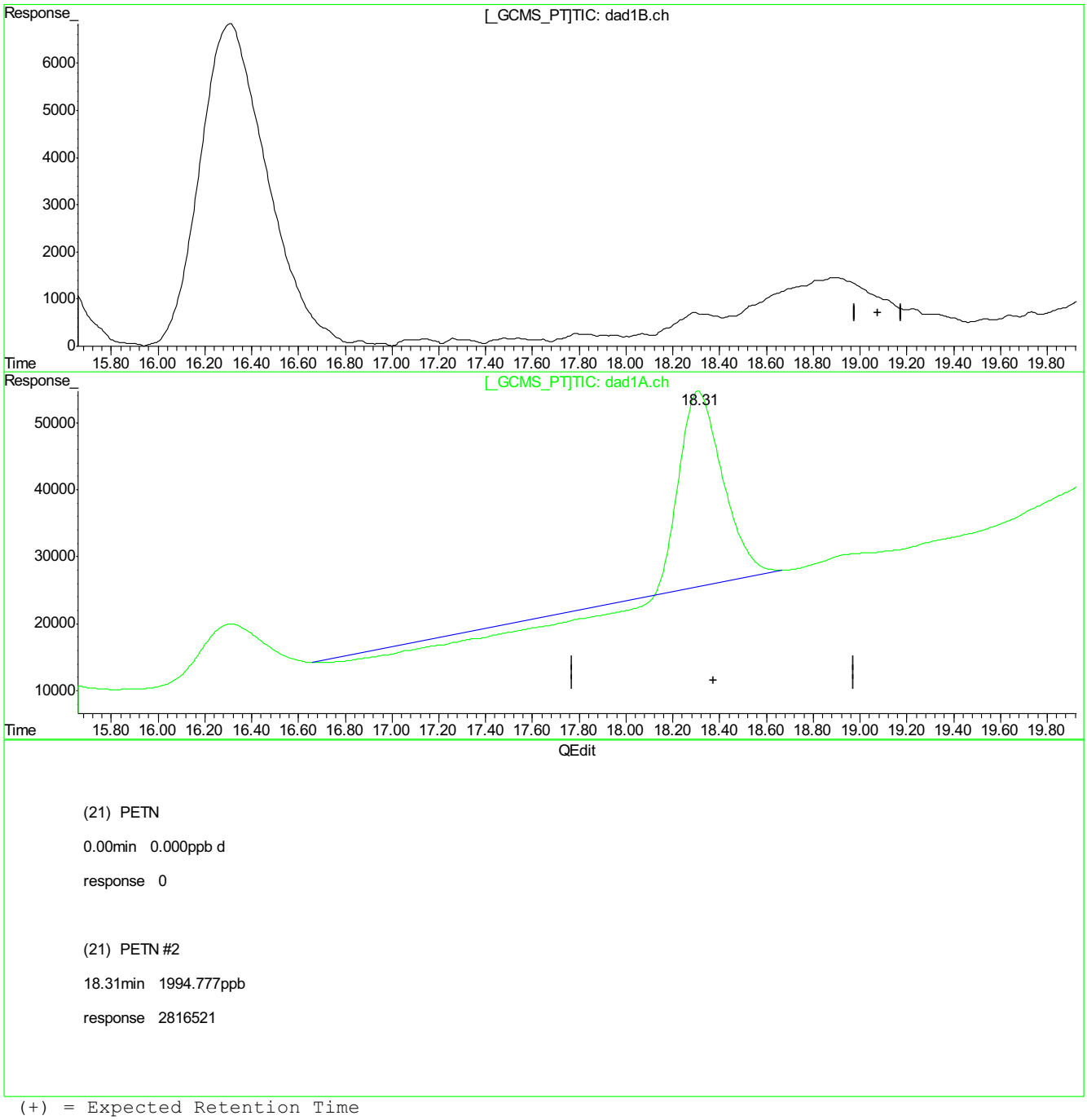
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 1994.777ppb

response 2816521

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:24 2017

9.4.2.10

9

BB056488.D edits: PETN

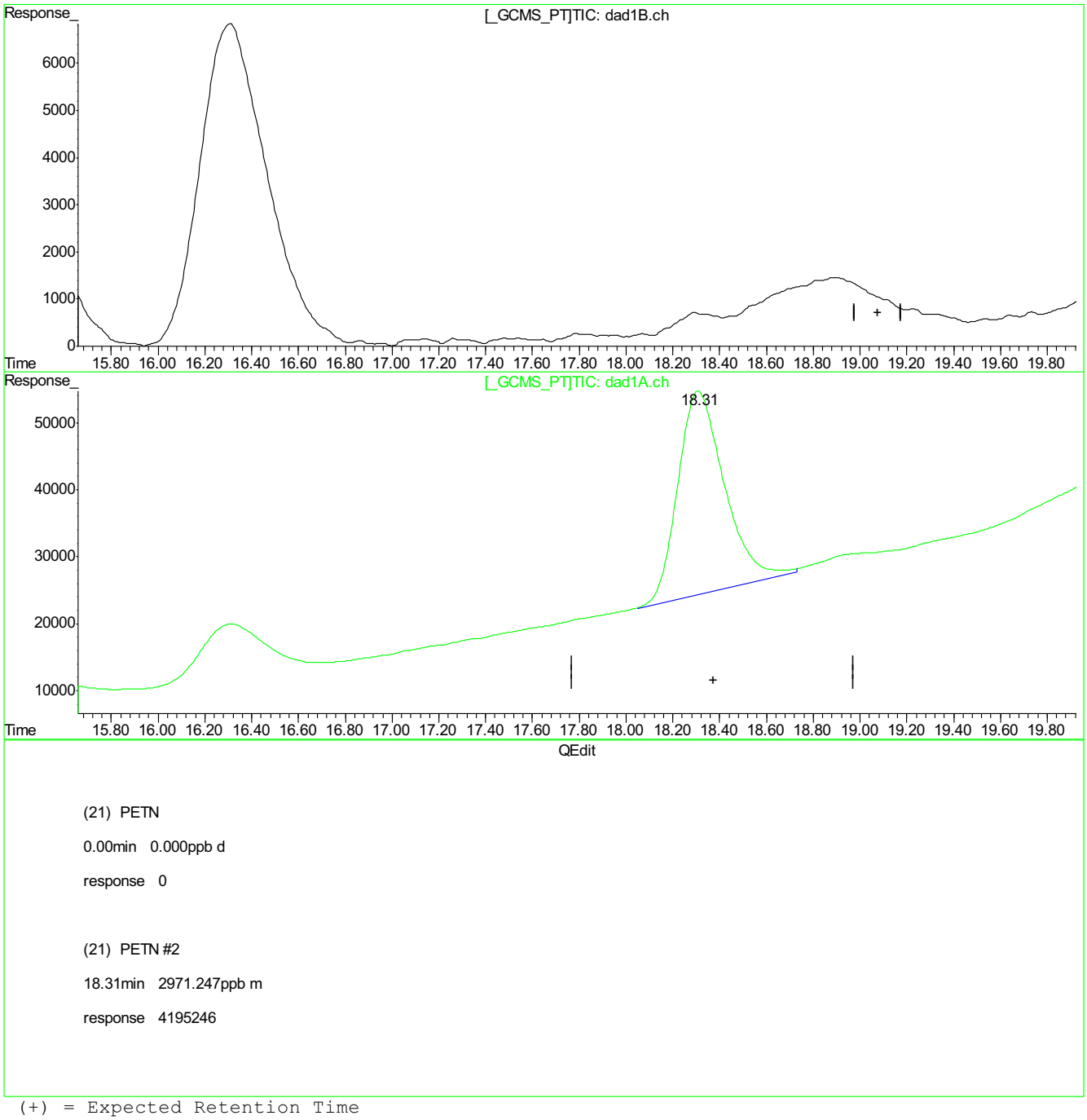
SGS ACCUTEST FA45722

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 2971.247ppb m

response 4195246

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:28 2017

9.4.2.11

9

BB056488.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055896.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:14:10 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.31	11.37	55119	54283	22.682m	14.115m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		4.54%#	2.82%#
	Target Compounds						
1)	TNX	1.42	1.42	65590	105101	19.901	20.415
2)	HMX	1.56	1.56	37395	91735	19.246m	17.893m
3)	DNX	1.83	1.83	69735	131288	23.698	27.661
4)	MNX	2.45	2.45	43094	65032	18.084	17.600m
5)	RDX	3.09	3.10	38891	70454	17.527	20.664m
6)	1,3,5-Trinitrobe	4.91	4.91	86442	159099	19.405	19.080
7)	1,3-Dinitrobenze	6.20	6.20	113043	64442	18.516	15.841
8)	3,5-Dinitroanili	6.61	6.61	107118	149526	25.822	21.964
9)	Nitrobenzene	7.82	7.81	71332	75531	19.639	22.791m
10)	Nitroglycerin	0.00	9.27	0	114052	N.D. d	88.870m
11)	Tetryl	9.65	9.67	55086	97608	19.899m	24.693m
12)	2,4,6-Trinitroto	10.07	10.09	78571	102680	17.466m	21.317m
13)	2-Amino-4,6-Dini	10.49	10.49	71691	104355	17.987m	20.994m
14)	4-Amino-2,6-Dini	11.00	11.02	56166	75411	20.121m	14.410m
16)	2,4-Dinitrotolue	12.01	12.01	111666	67744	19.371m	21.127m
17)	2,6-Dinitrotolue	12.48	12.53	53312	63443	16.215m	16.083m
18)	o-Nitrotoluene	15.64	15.48	46570	28159	18.490m	8.098m#
19)	p-Nitrotoluene	16.23	16.02	58408	34955	15.050	13.534m
20)	m-Nitrotoluene	17.08	17.09	74002	51560	19.618	12.090m
21)	PETN	0.00	18.92	0	131121	N.D. d	92.811m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055896.D 8330B_0629PLUS.M Fri Jun 30 11:02:16 2017 Page 1

9.5.1
9

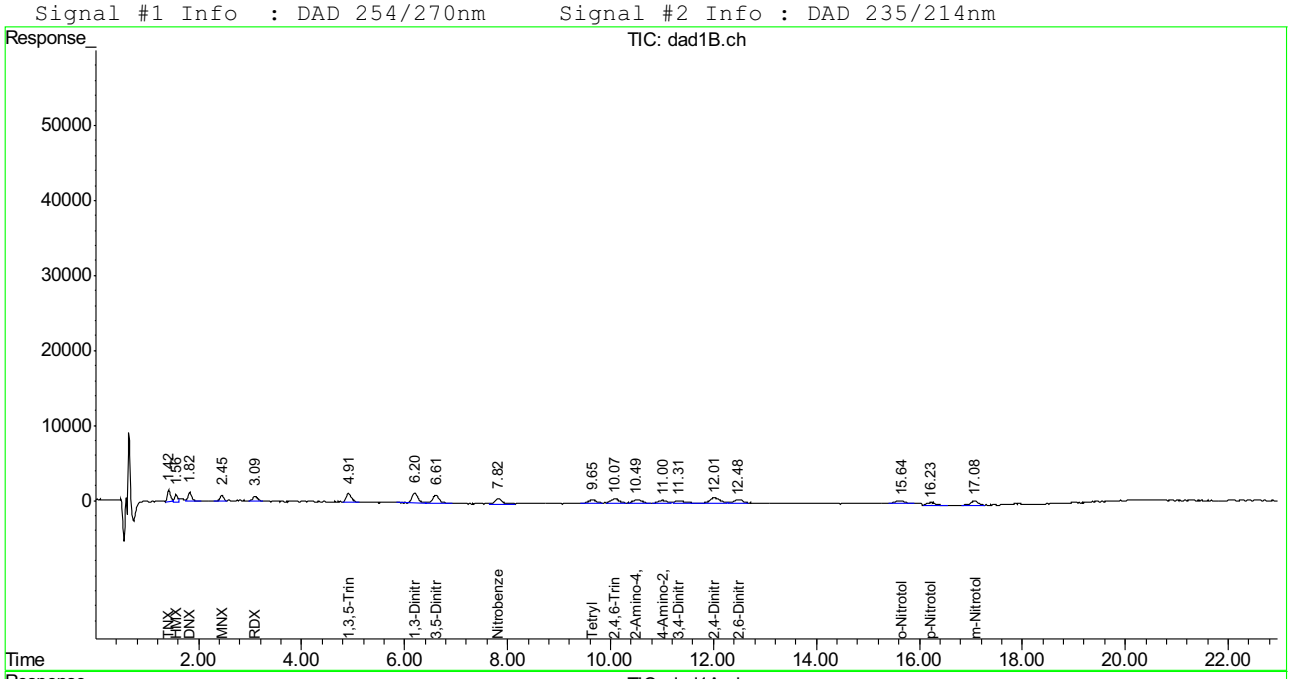
SGS ACCUTEST FA45722

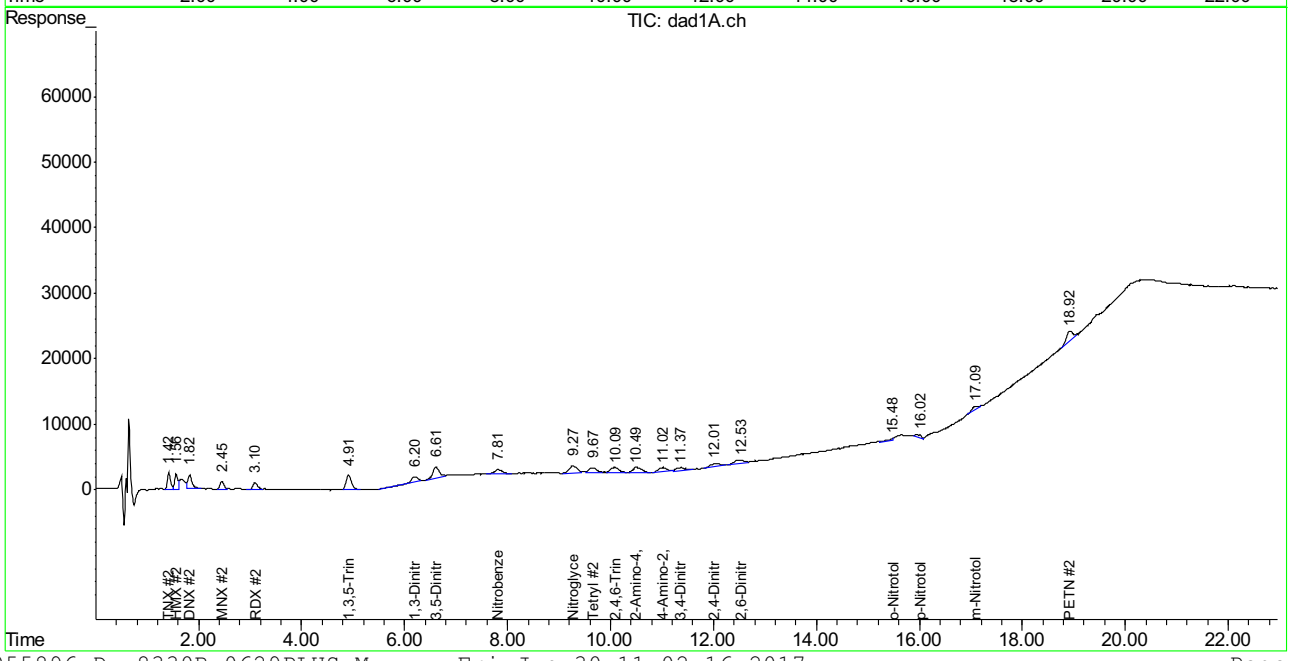
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055896.D
Injection Time: 06/29/17 16:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

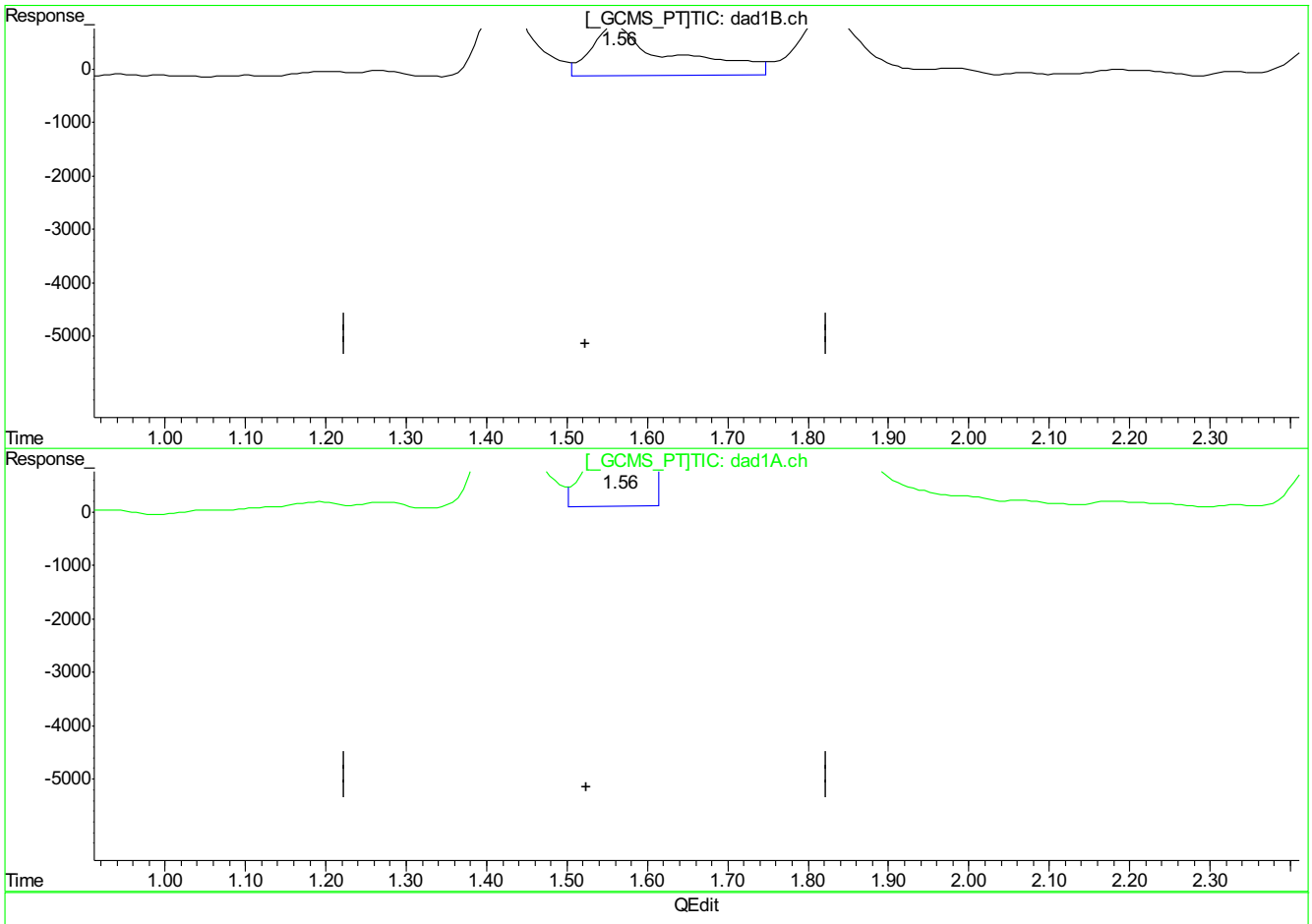
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.56	Poorly defined baseline
HMX	2691-41-0	2	1.56	Poorly defined baseline
MNX		2	2.45	Poorly defined baseline
RDX	121-82-4	2	3.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.81	Poorly defined baseline
Nitroglycerine	55-63-0	2	9.27	Poorly defined baseline
Tetryl	479-45-8	1	9.65	Poorly defined baseline
Tetryl	479-45-8	2	9.67	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	1	10.07	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	10.09	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	10.49	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.49	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.00	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.02	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	11.31	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.37	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	1	12.01	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	12.01	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	1	12.48	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	12.53	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.48	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	15.64	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	16.02	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	17.09	Poorly defined baseline
PETN	78-11-5	2	18.92	Poorly defined baseline

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(2) HMX

1.56min 33.191ppb

response 64491

(2) HMX #2

1.56min 19.404ppb

response 99483

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:19 2017

9.5.1.2

9

BB055896.D edits: HMX

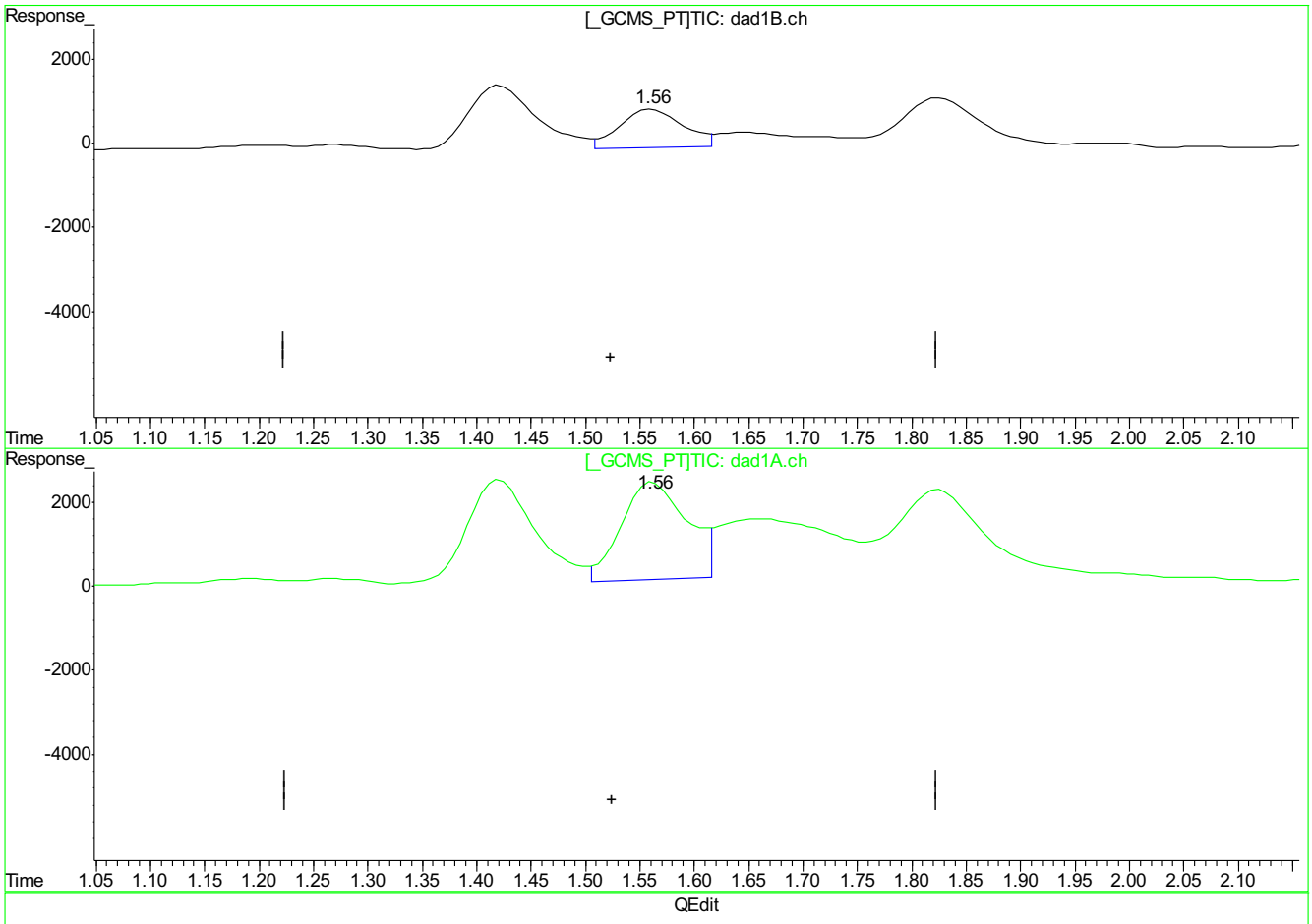
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(2) HMX

1.56min 18.850ppb m

response 36626

(2) HMX #2

1.56min 18.819ppb m

response 96480

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:43 2017

9.5.1.3

9

BB055896.D edits: HMX

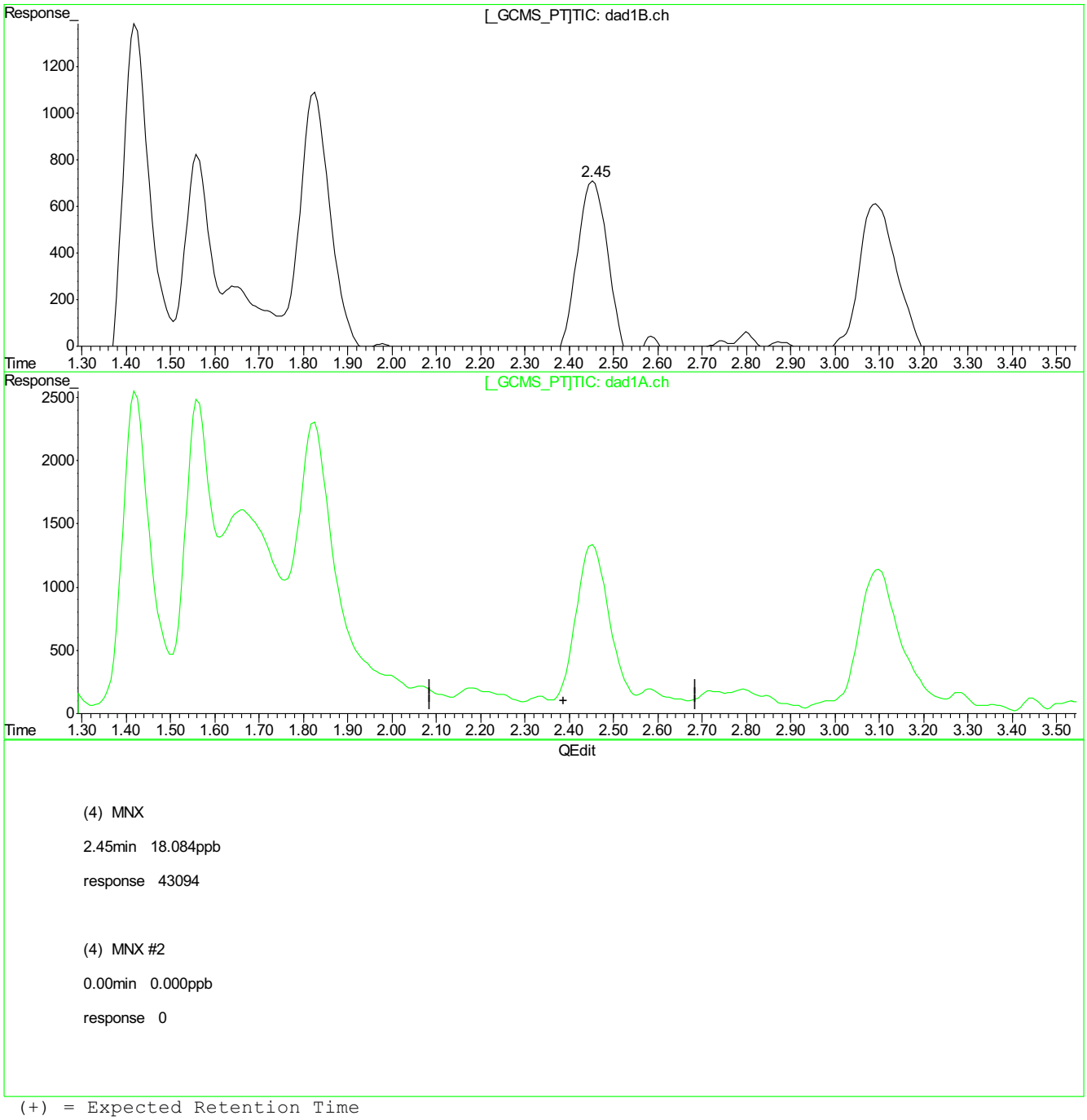
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(4) MNX

2.45min 18.084ppb

response 43094

(4) MNX #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:50 2017

9.5.1.4

9

BB055896.D edits: MNX

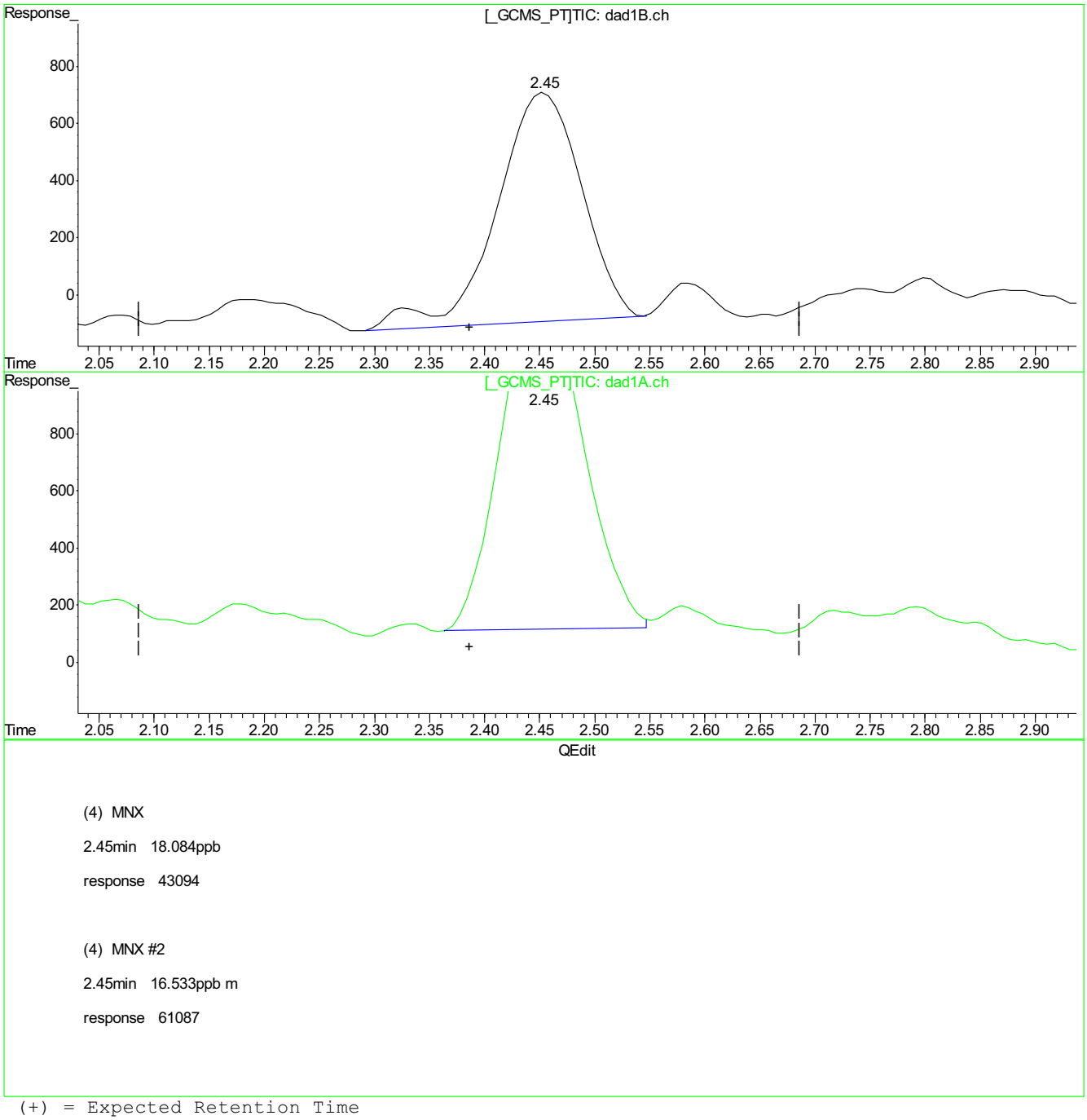
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(4) MNX

2.45min 18.084ppb

response 43094

(4) MNX #2

2.45min 16.533ppb m

response 61087

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:55 2017

9.5.1.5

9

BB055896.D edits: MNX

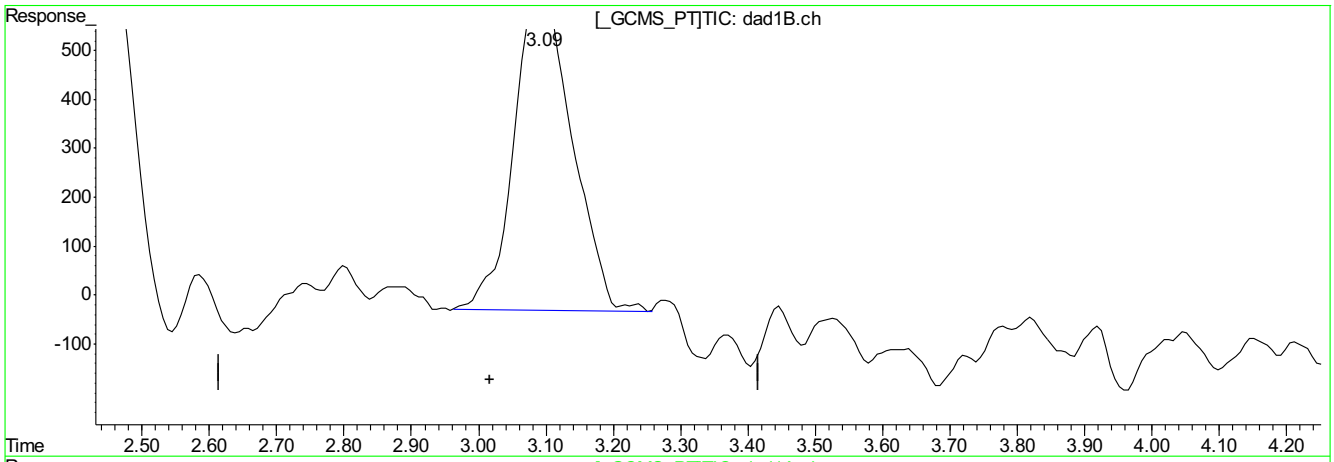
SGS ACCUTEST FA45722

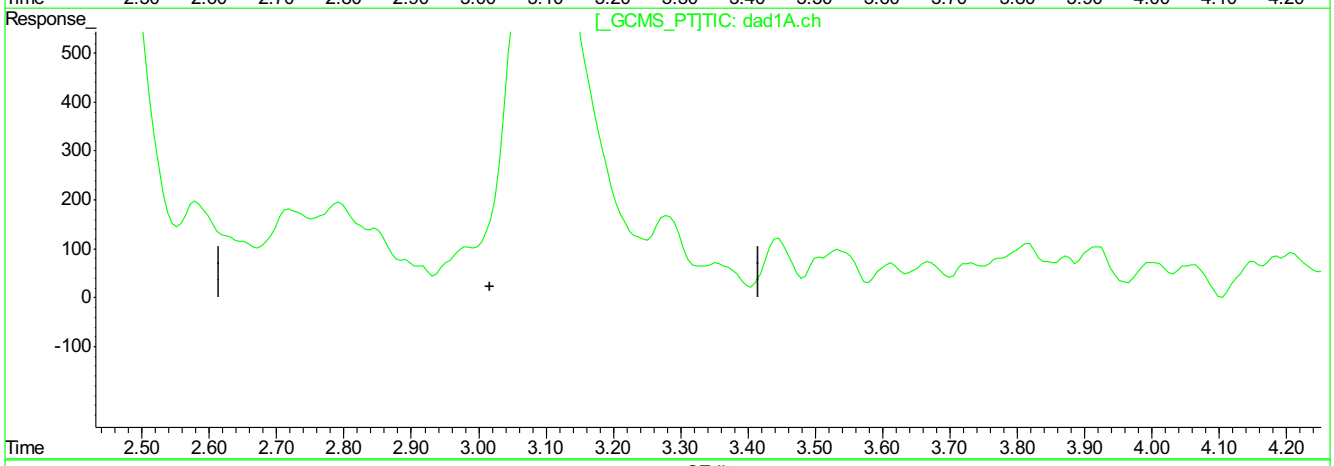
Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.09min 17.527ppb

response 38891

(5) RDX #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:58 2017

9.5.1.6

9

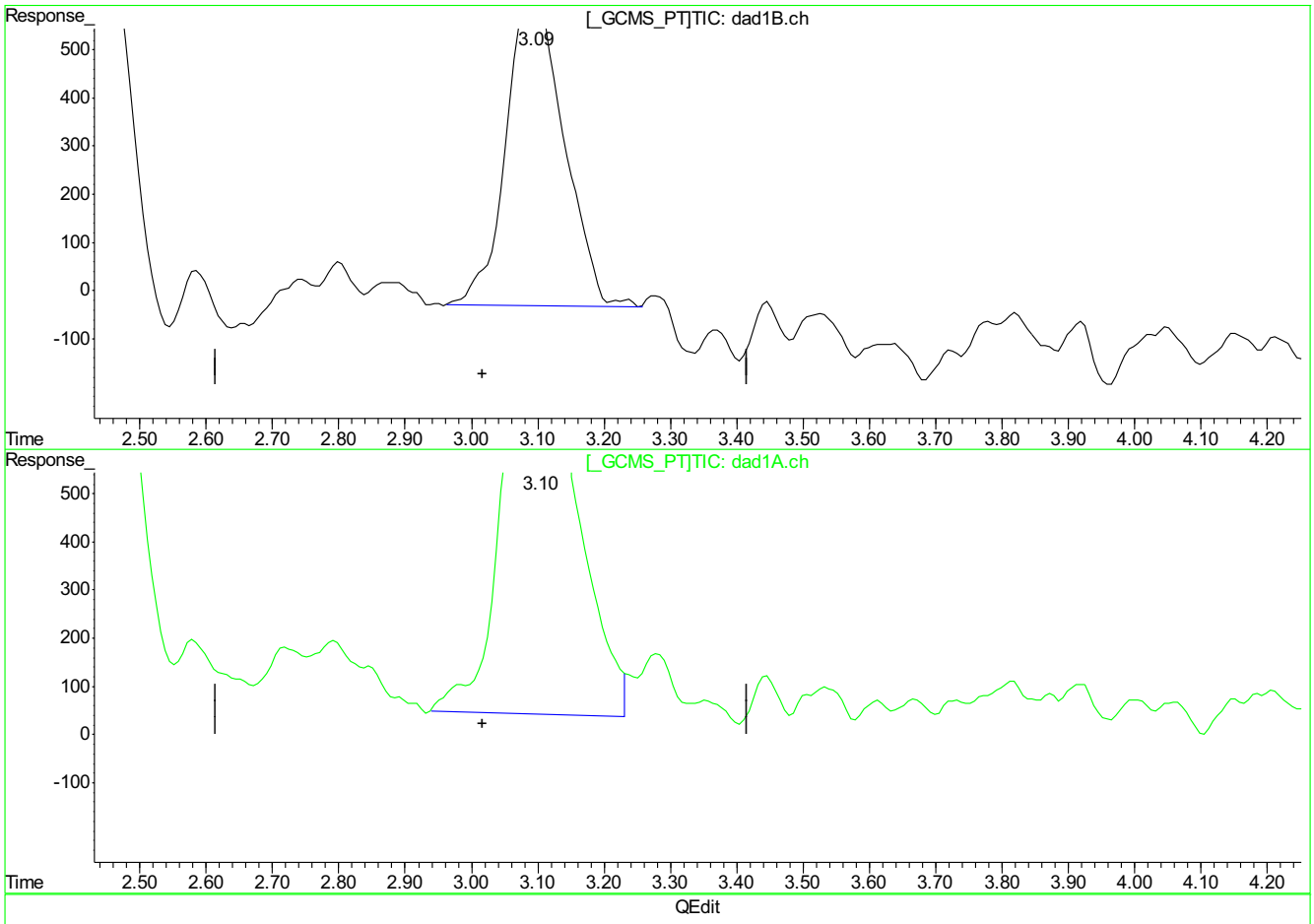
BB055896.D edits: RDX

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(5) RDX

3.09min 17.527ppb

response 38891

(5) RDX #2

3.10min 21.211ppb m

response 72317

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:08:00 2017

9.5.1.7

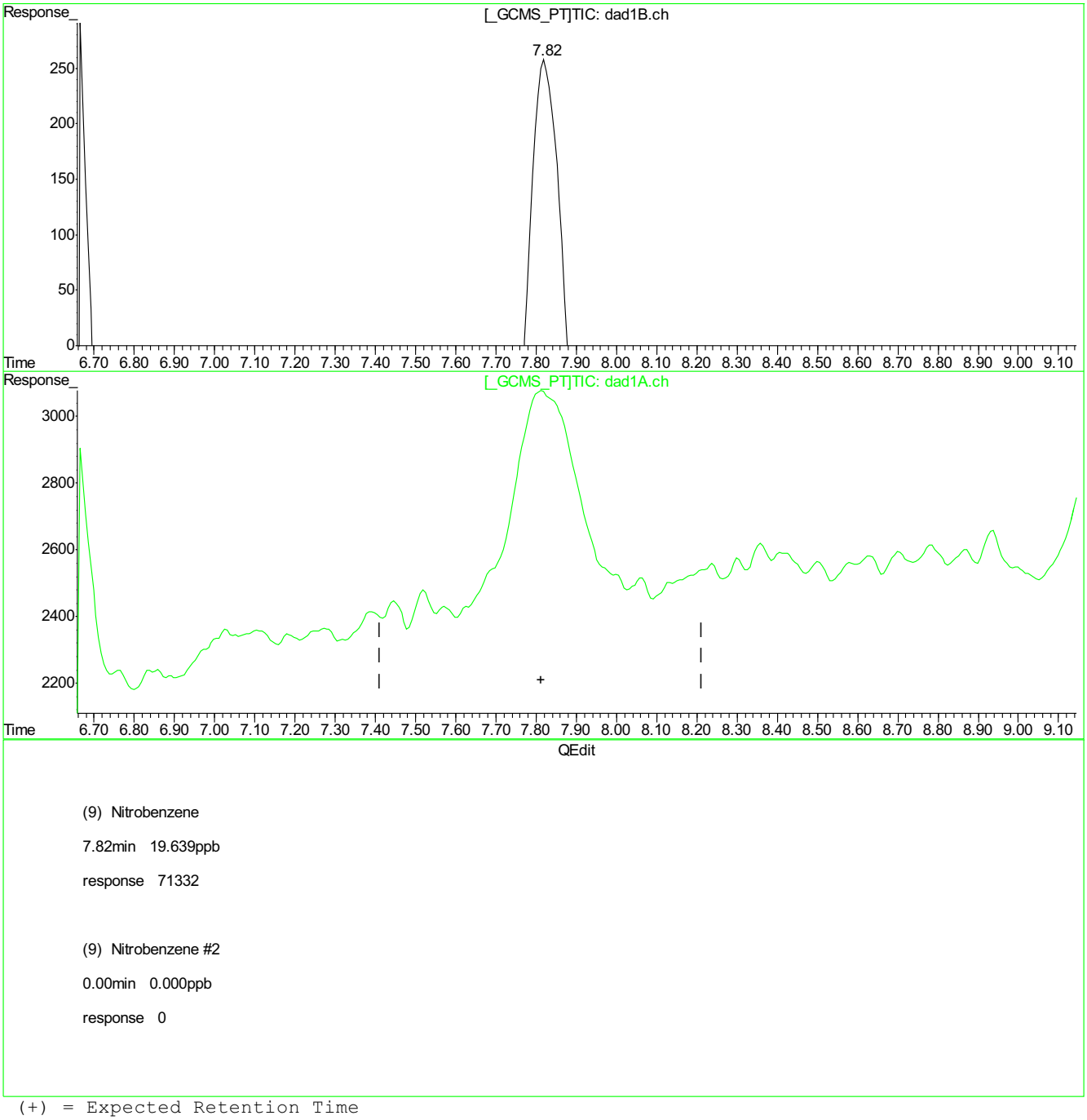
9

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.82min 19.639ppb

response 71332

(9) Nitrobenzene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:14:49 2017

9.5.1.8

9

BB055896.D edits: Nitrobenzene

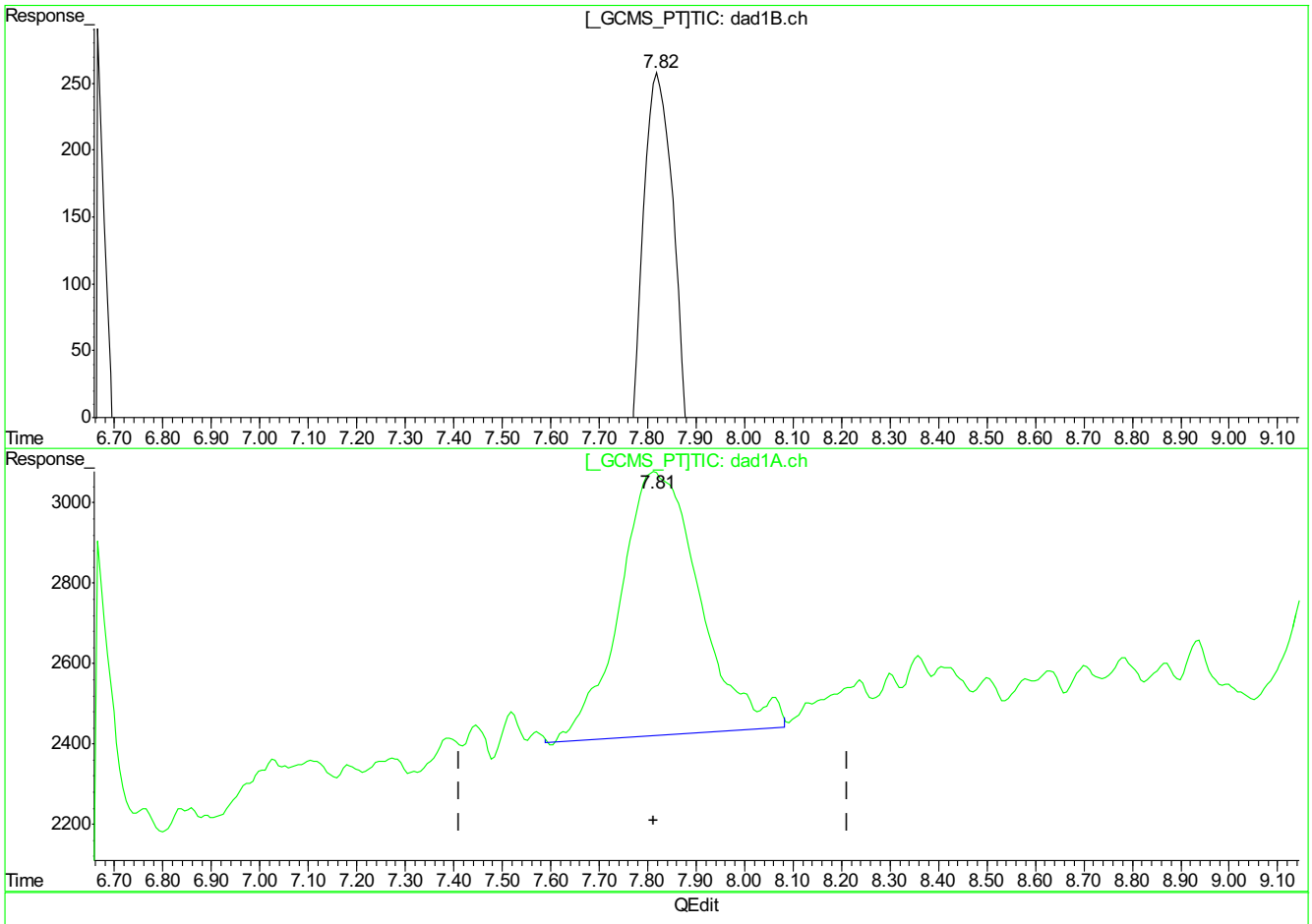
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.82min 19.639ppb

response 71332

(9) Nitrobenzene #2

7.81min 22.791ppb m

response 75531

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:14:54 2017

9.5.1.9

9

BB055896.D edits: Nitrobenzene

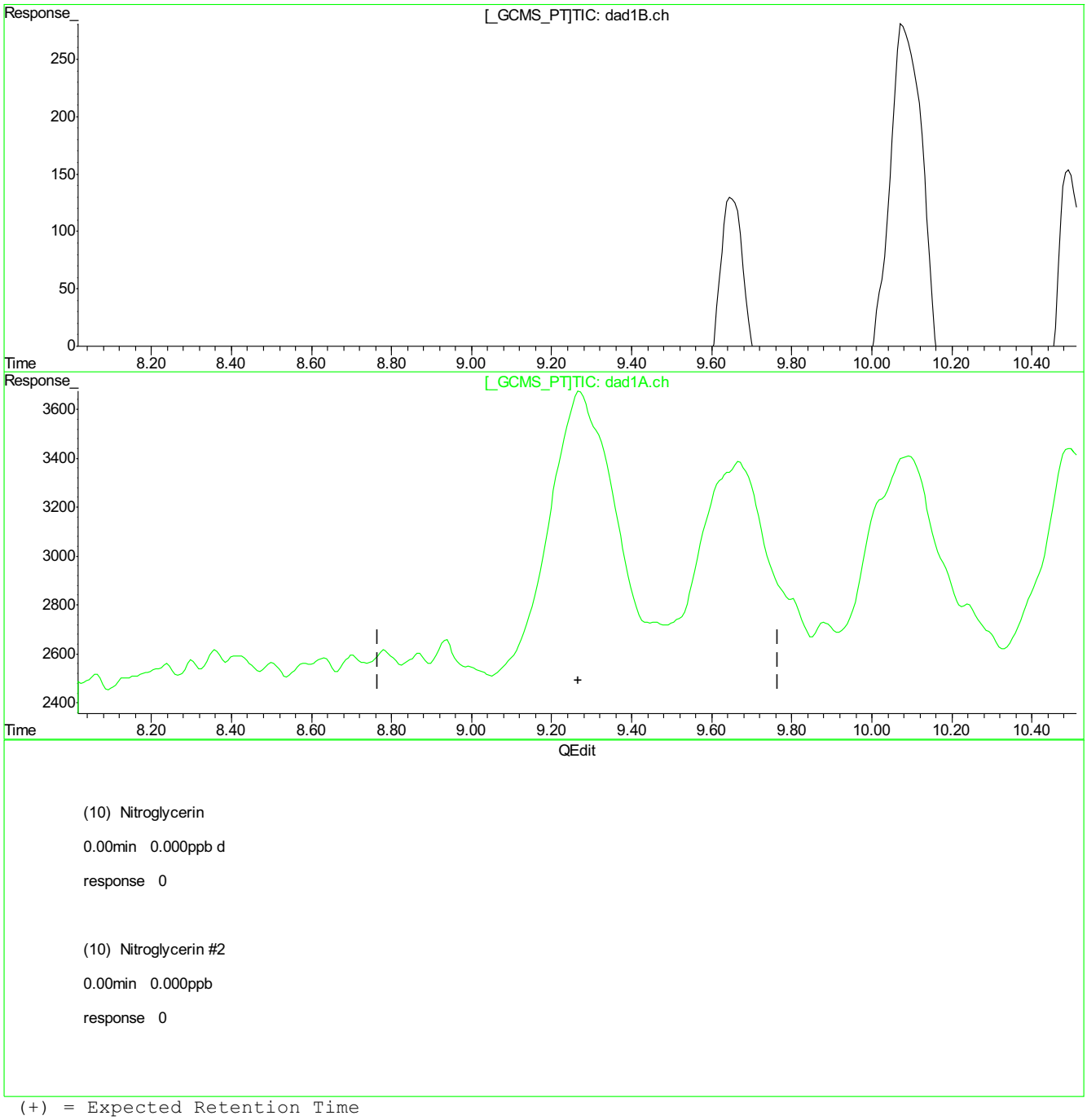
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:14:57 2017

9.5.1.10

9

BB055896.D edits: Nitroglycerin

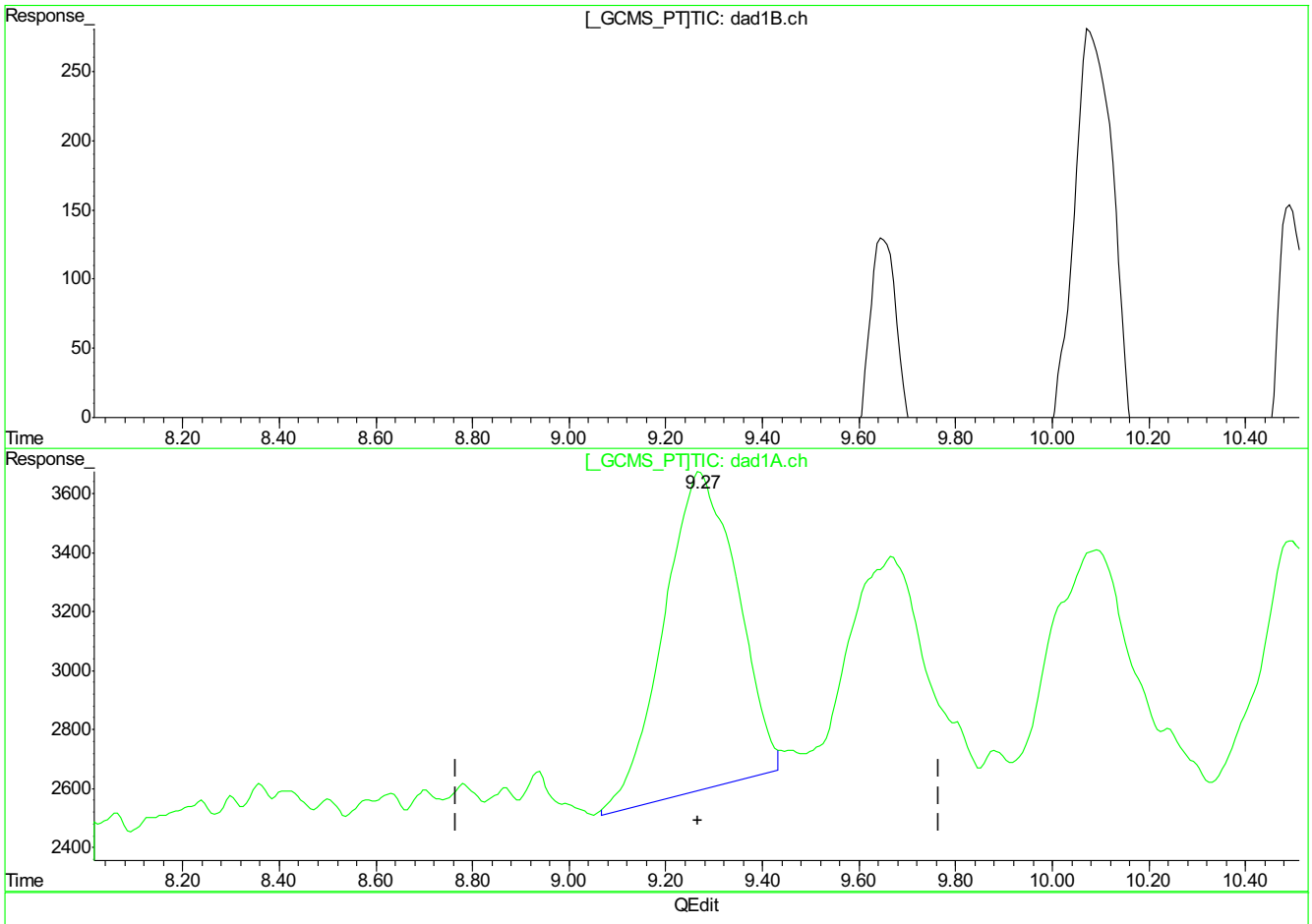
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

9.27min 88.870ppb m

response 114052

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:01 2017

9.5.1.11

9

BB055896.D edits: Nitroglycerin

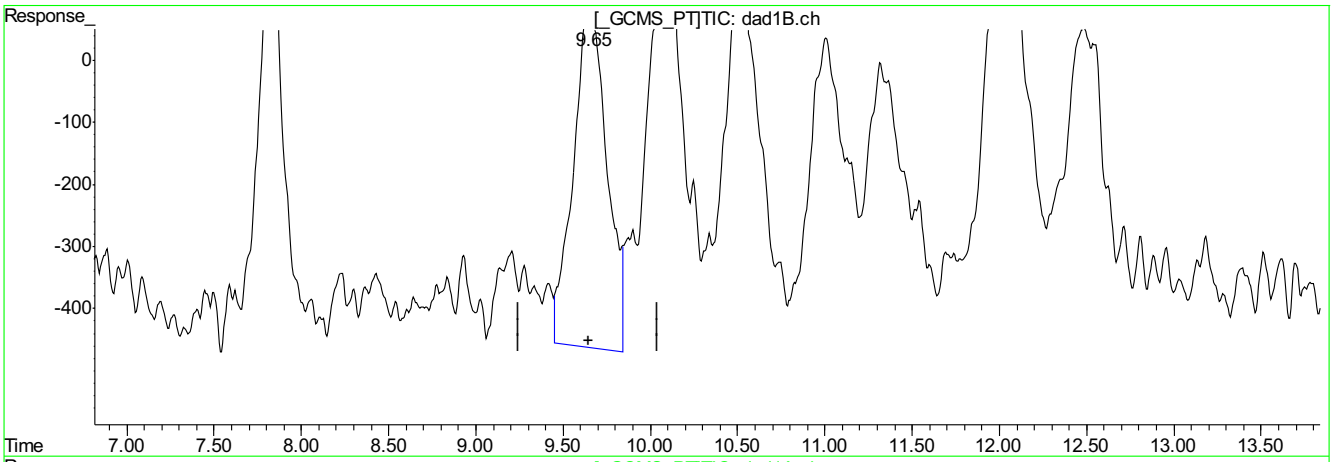
SGS ACCUTEST FA45722

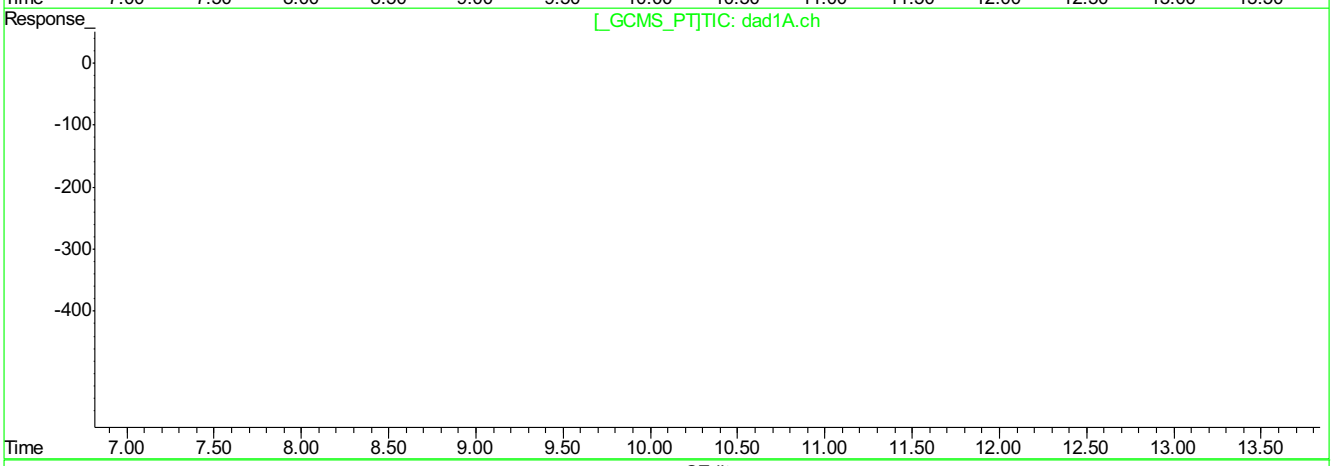
Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

9.65min 26.819ppb

response 74241

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:10 2017

9.5.1.12

9

BB055896.D edits: Tetryl

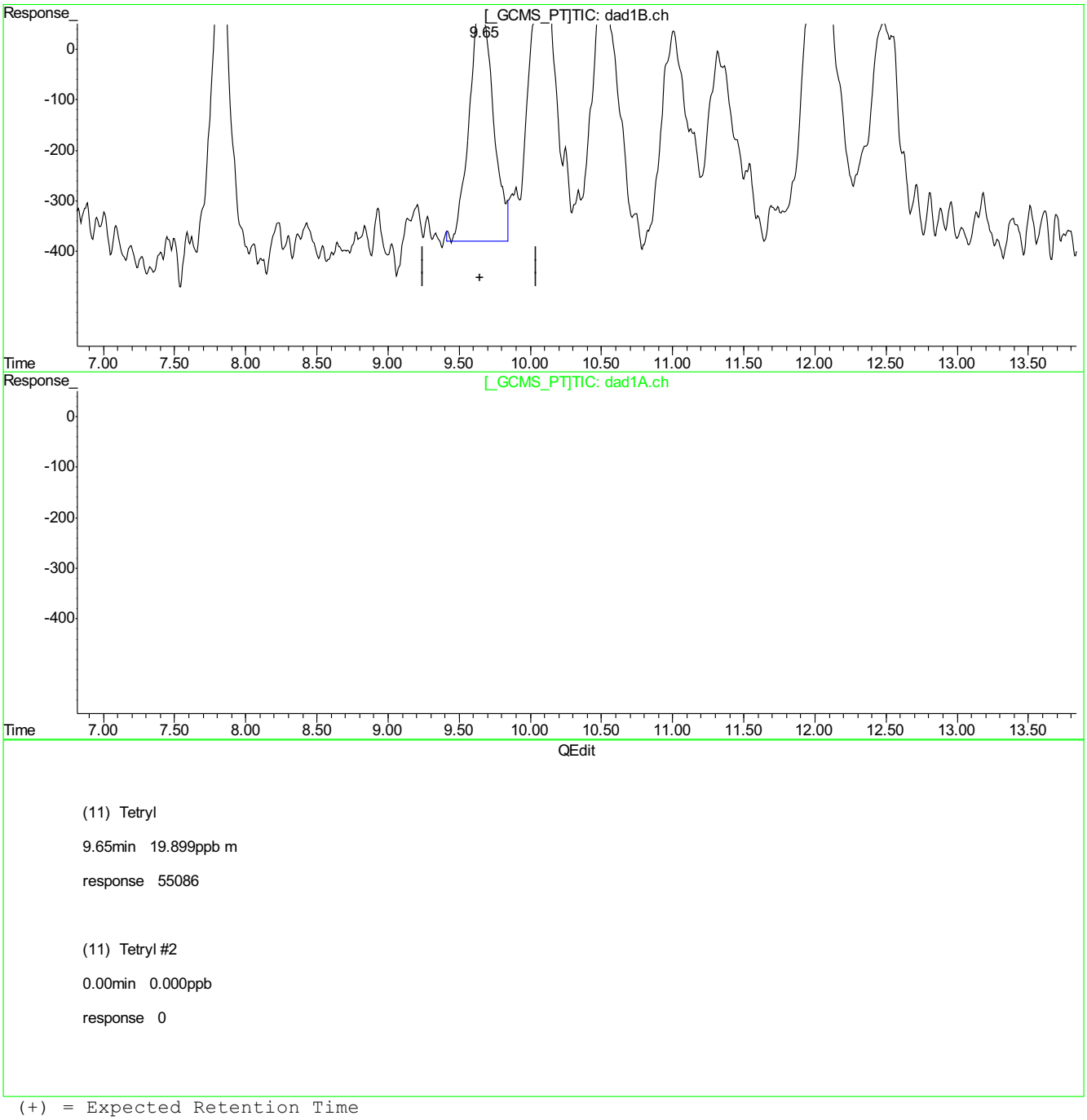
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:14 2017

9.5.1.13

9

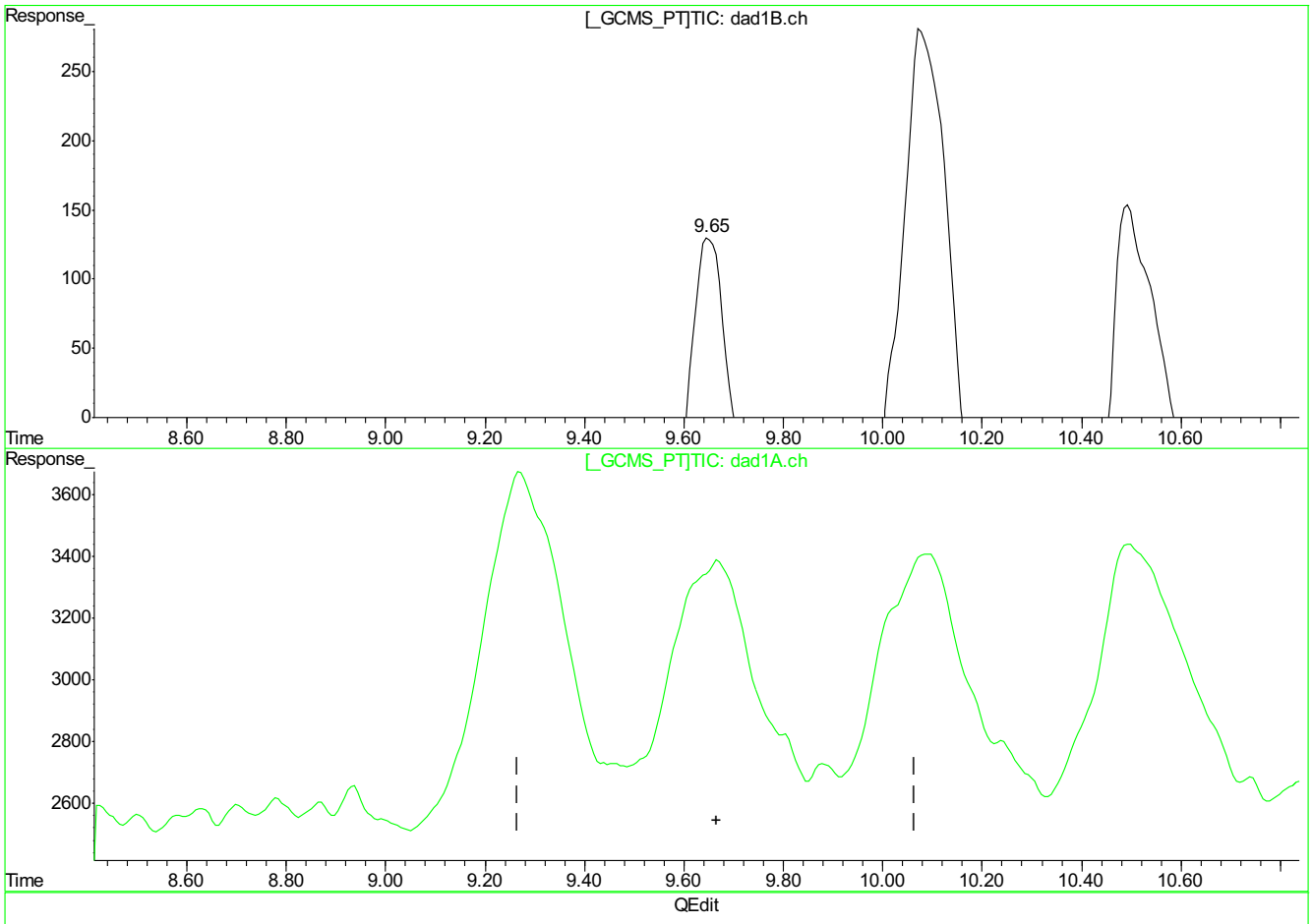
BB055896.D edits: Tetryl

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.65min 19.899ppb m

response 55086

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:19 2017

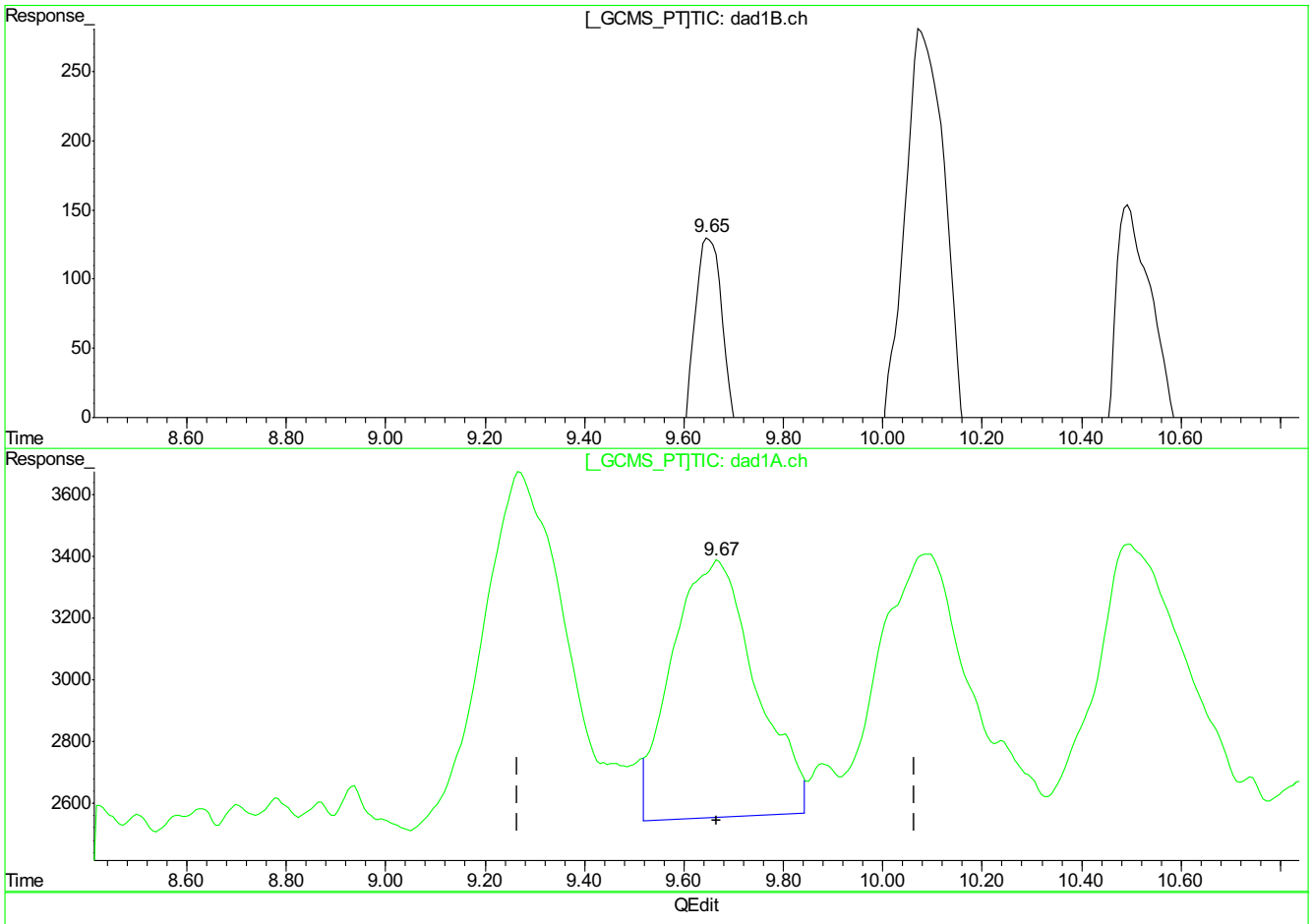
9.5.1.14
9

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.65min 19.899ppb m

response 55086

(11) Tetryl #2

9.67min 24.693ppb m

response 97608

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:28 2017

9.5.1.15

9

BB055896.D edits: Tetryl

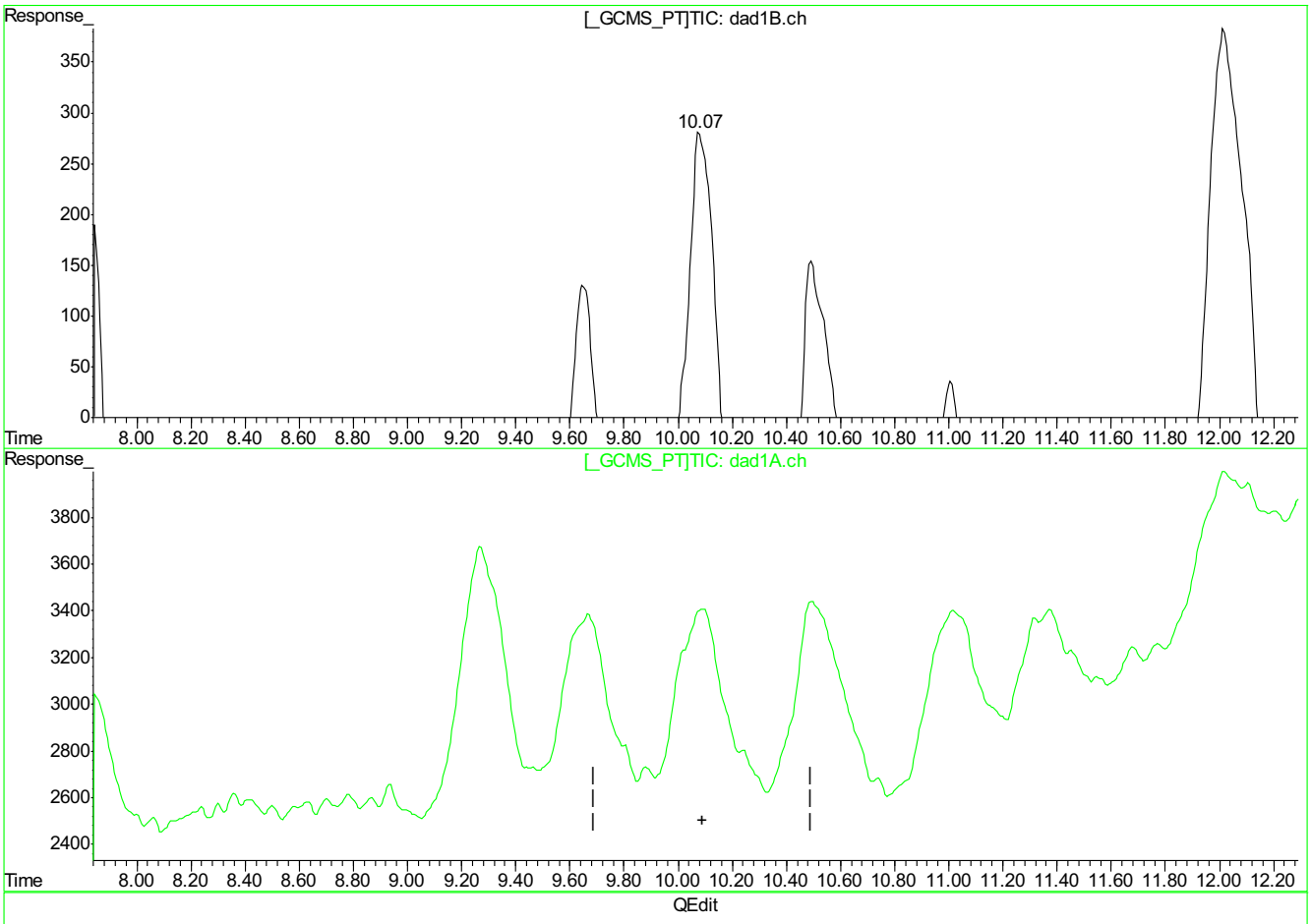
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

10.08min 23.954ppb

response 107757

(12) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:32 2017

9.5.1.16

9

BB055896.D edits: 2,4,6-Trinitrotoluene

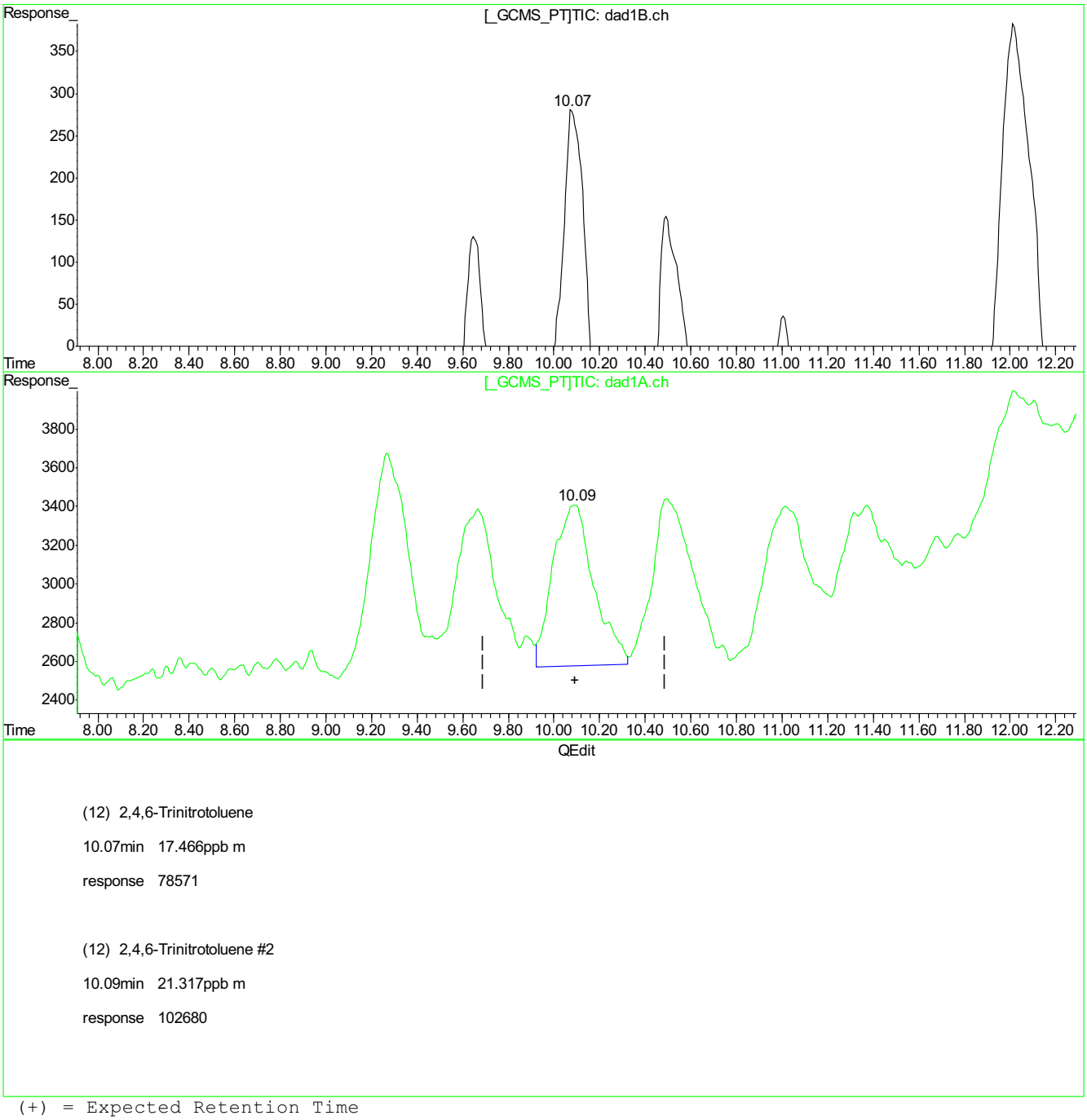
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

10.07min 17.466ppb m

response 78571

(12) 2,4,6-Trinitrotoluene #2

10.09min 21.317ppb m

response 102680

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:01 2017

9.5.1.17

9

BB055896.D edits: 2,4,6-Trinitrotoluene

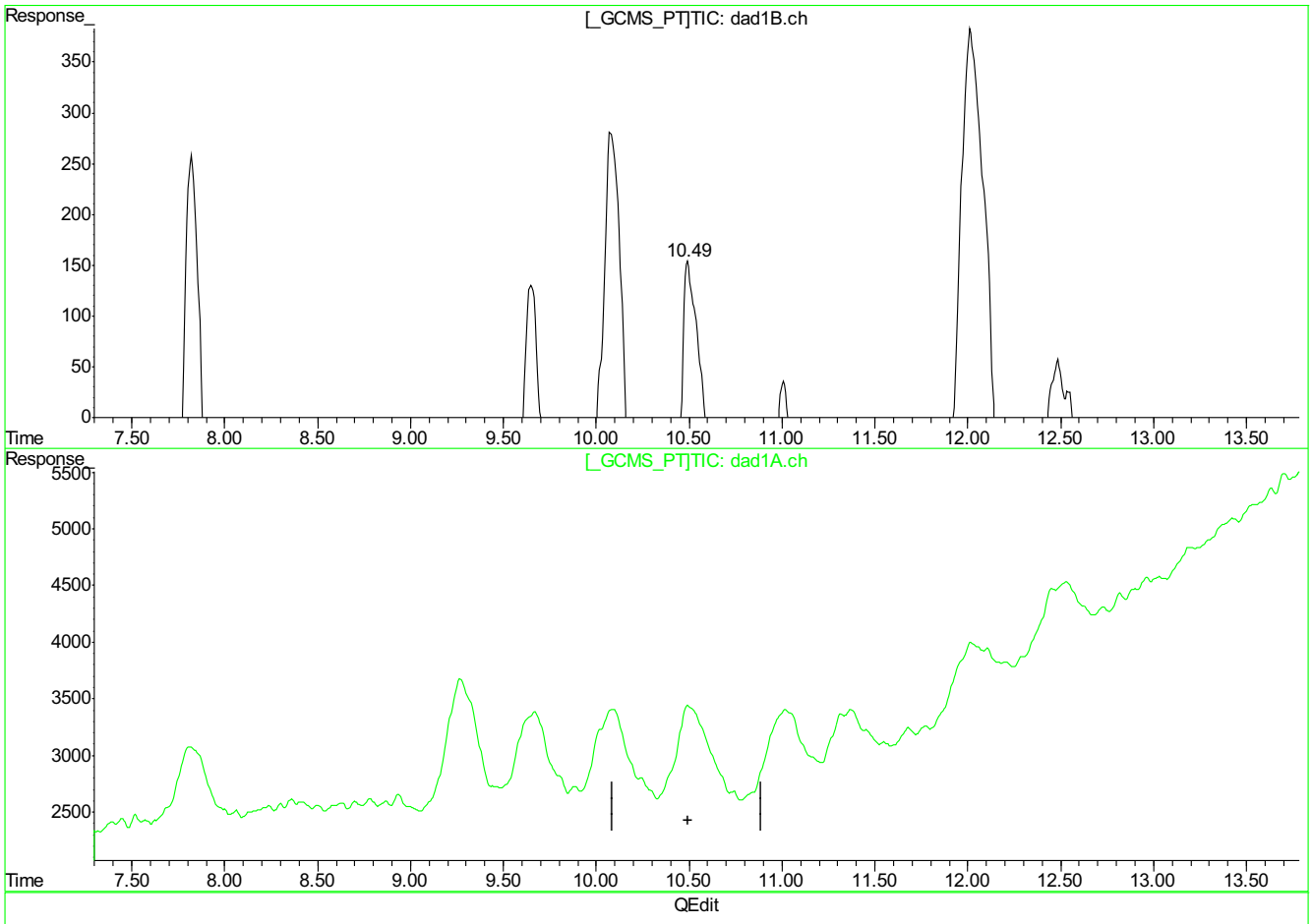
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.49min 25.673ppb

response 102322

(13) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:17 2017

9.5.1.18

9

BB055896.D edits: 2-Amino-4,6-Dinitrotoluene

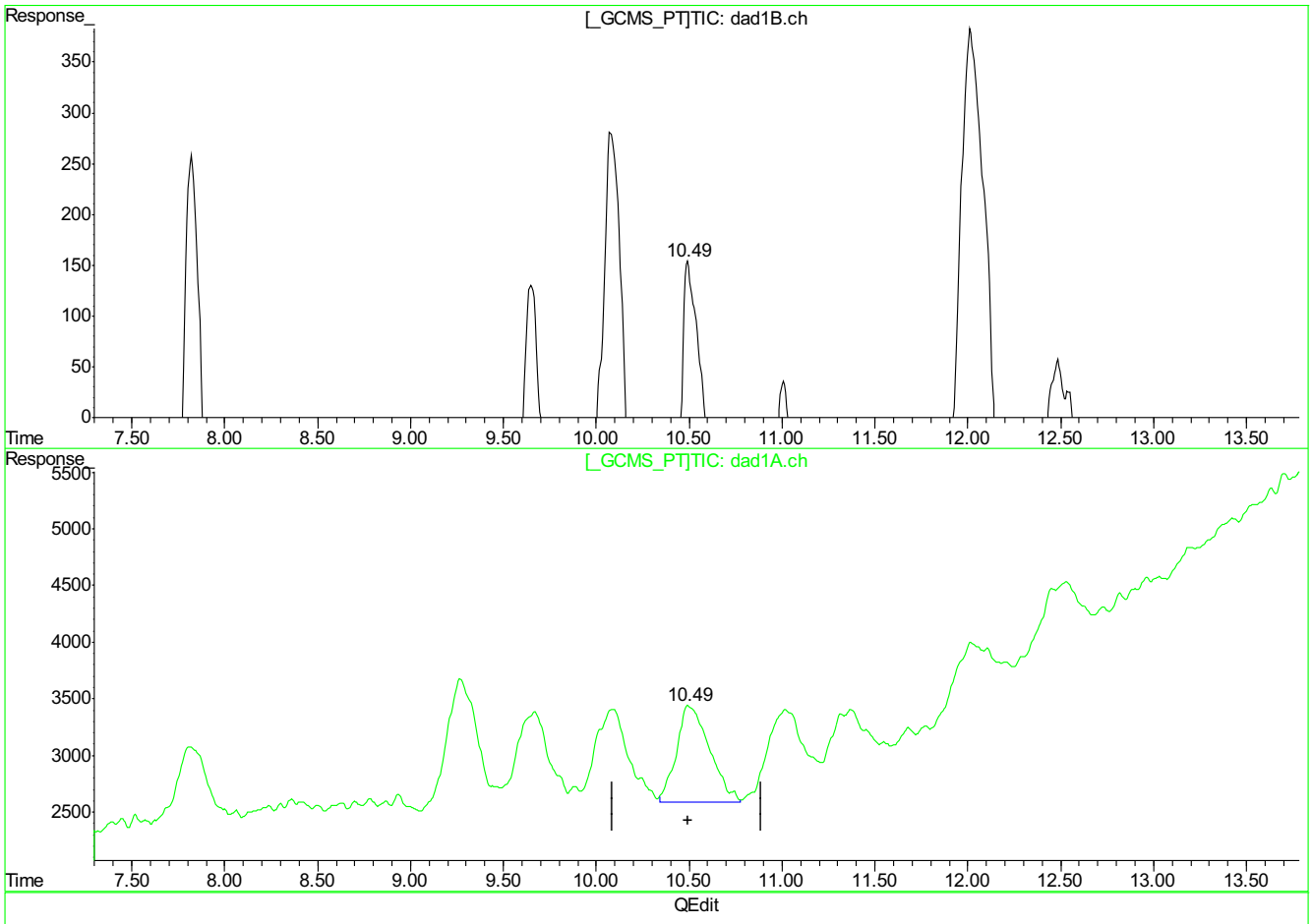
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.49min 25.673ppb

response 102322

(13) 2-Amino-4,6-Dinitrotoluene #2

10.49min 20.994ppb m

response 104355

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:23 2017

9.5.1.19

9

BB055896.D edits: 2-Amino-4,6-Dinitrotoluene

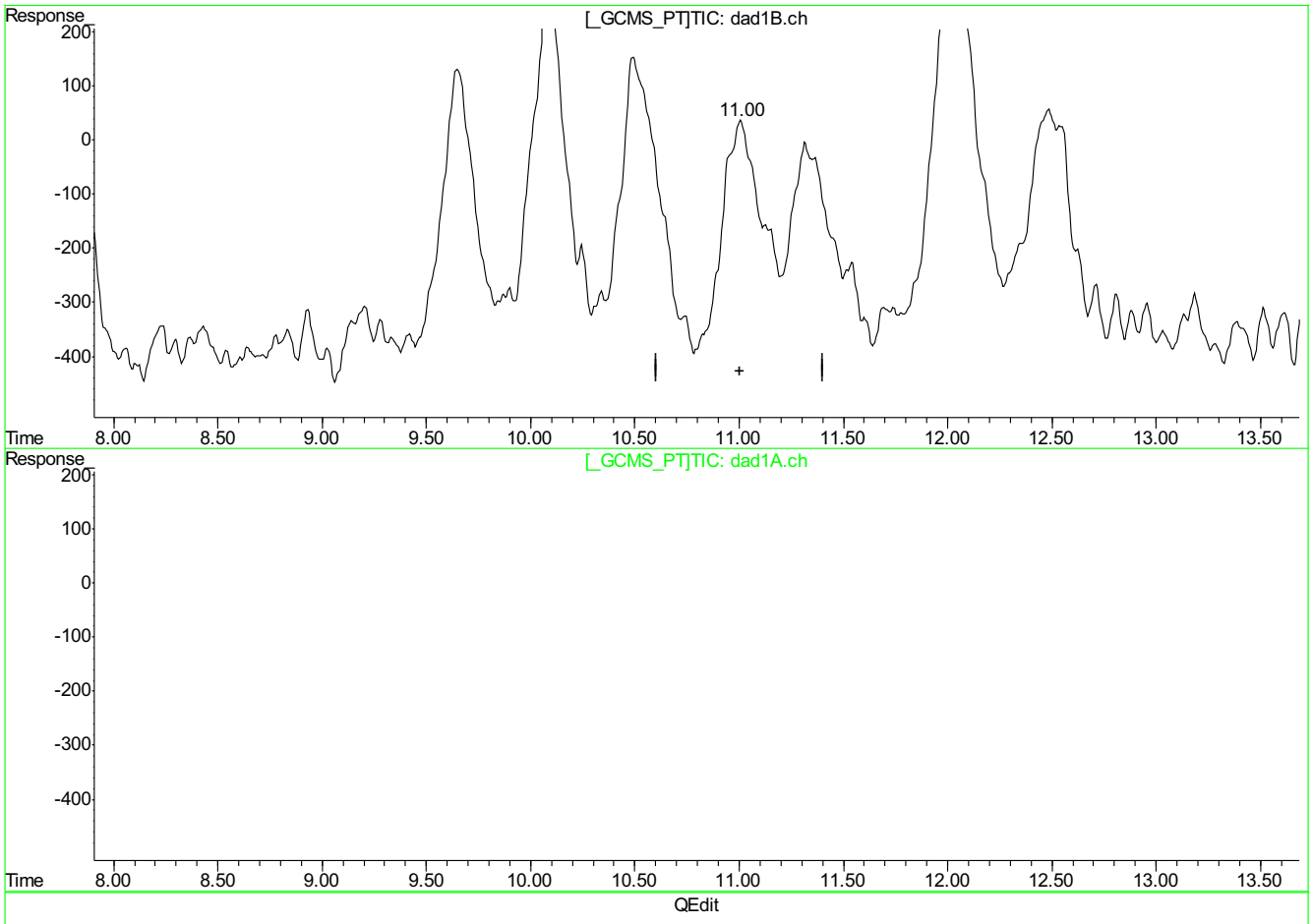
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

11.01min 30.857ppb

response 86134

(14) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:39 2017

9.5.1.20

9

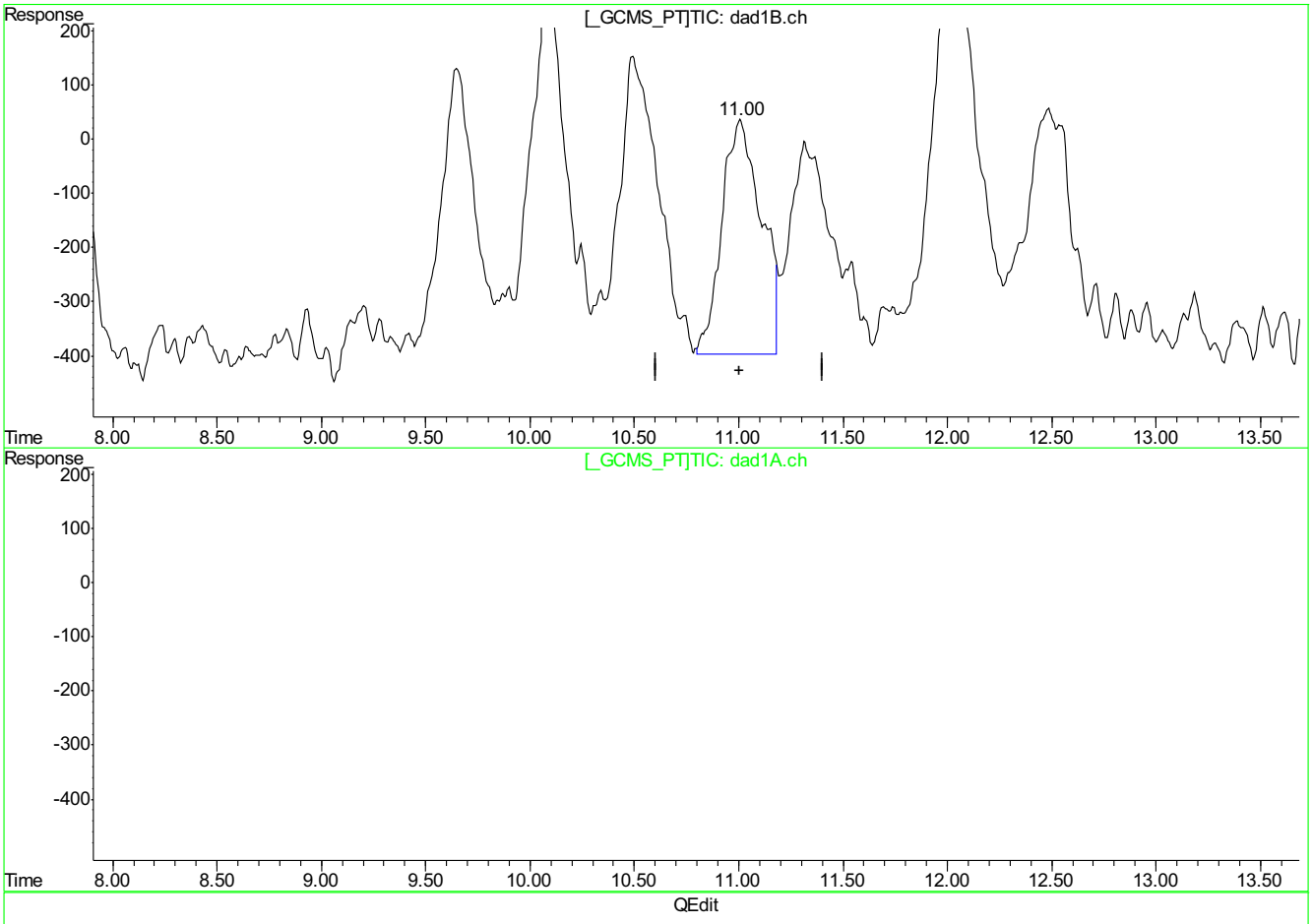
BB055896.D edits: 4-Amino-2,6-Dinitrotoluene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

11.00min 20.121ppb m

response 56166

(14) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:42 2017

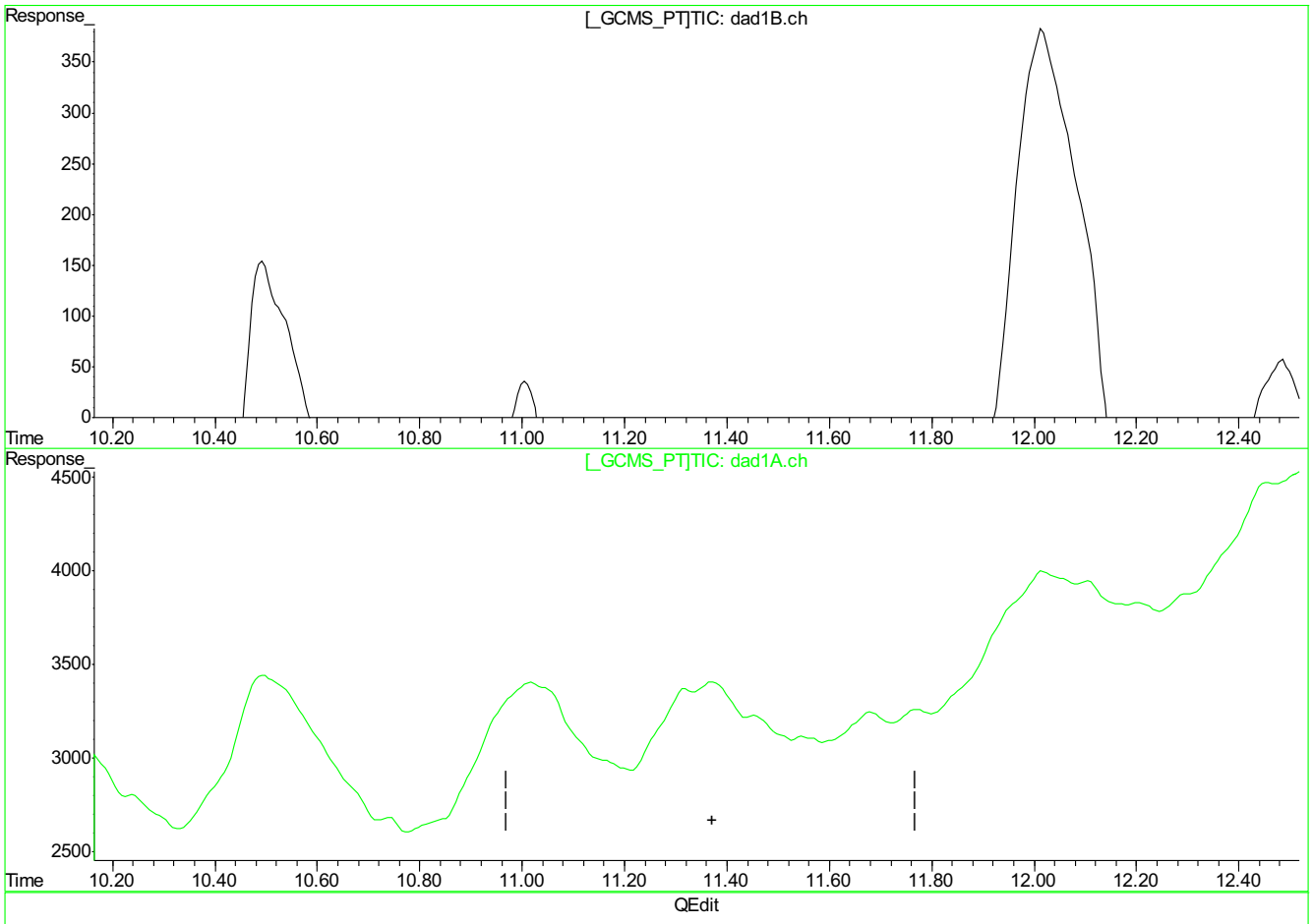
9.5.1.21
9

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

11.32min 29.254ppb

response 71090

(15) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:51 2017

9.5.1.22

9

BB055896.D edits: 3,4-Dinitrotoluene

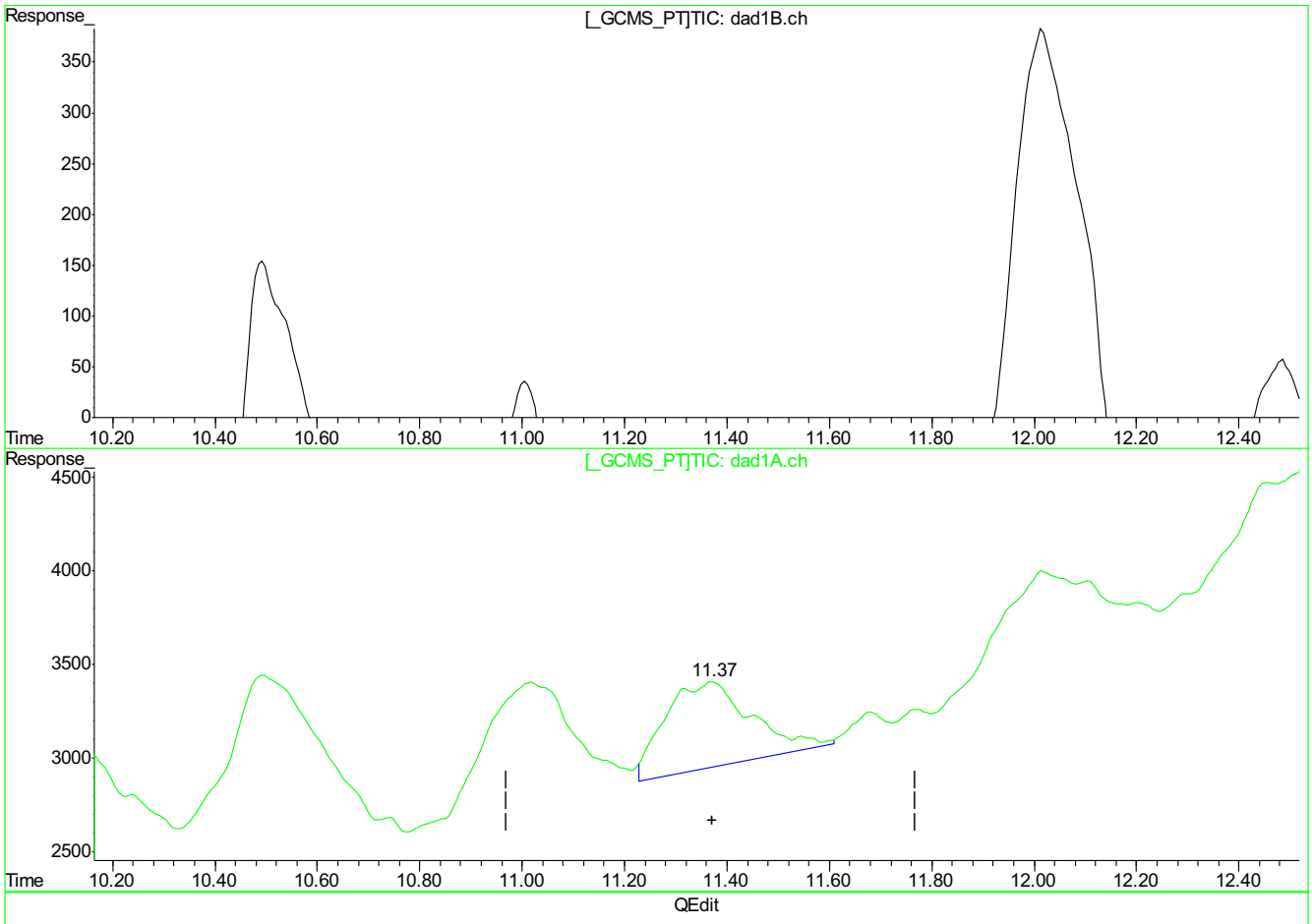
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

11.32min 29.254ppb

response 71090

(15) 3,4-Dinitrotoluene #2 (S)

11.37min 14.115ppb m

response 54283

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:59 2017

9.5.1.23

9

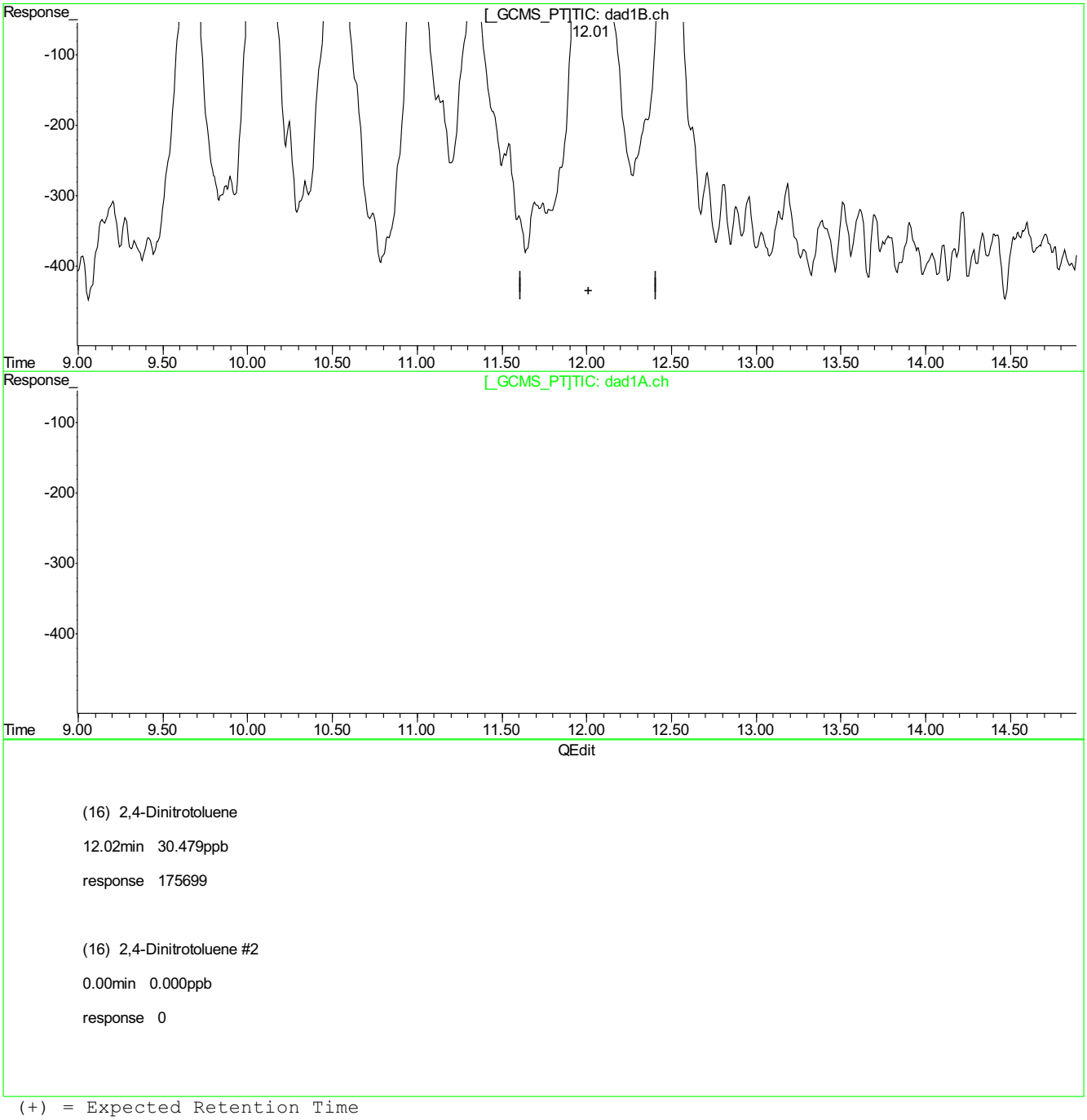
BB055896.D edits: 3,4-Dinitrotoluene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.02min 30.479ppb

response 175699

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:19 2017

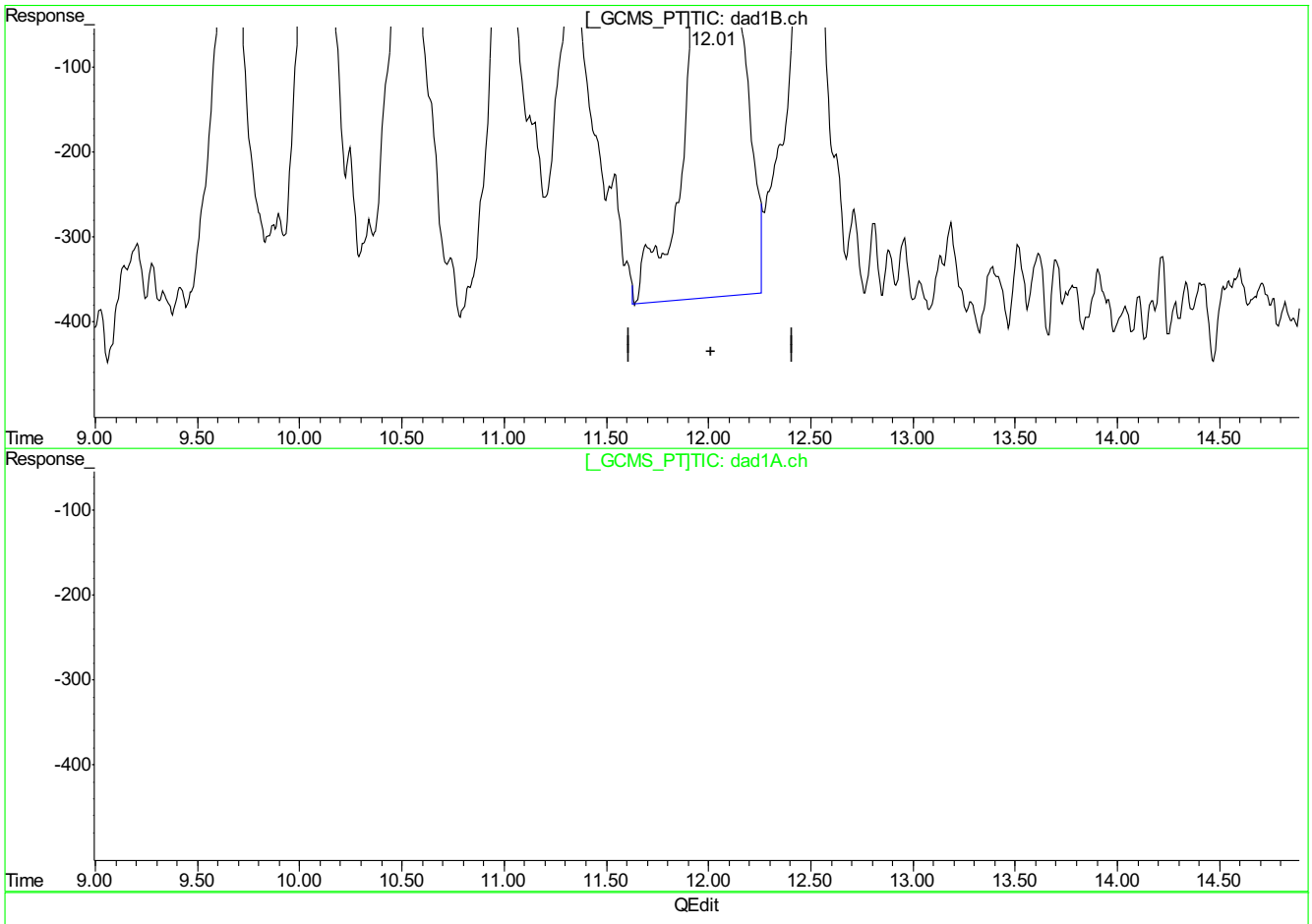
9.5.1.24
9

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



QEdit

(16) 2,4-Dinitrotoluene

12.01min 19.371ppb m

response 111666

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:23 2017

9.5.1.25

9

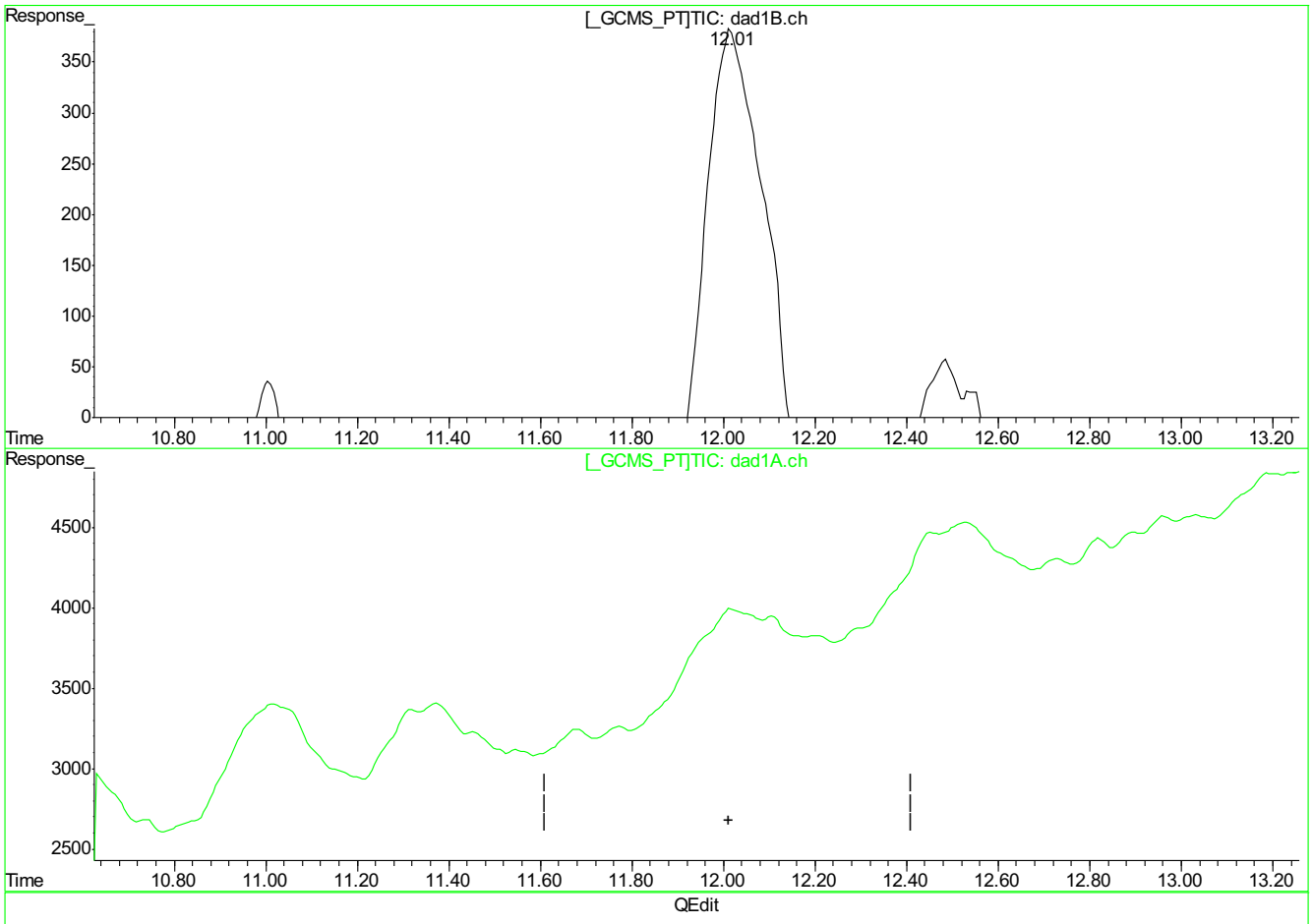
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.01min 19.371ppb m

response 111666

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:27 2017

9.5.1.26

9

BB055896.D edits: 2,4-Dinitrotoluene

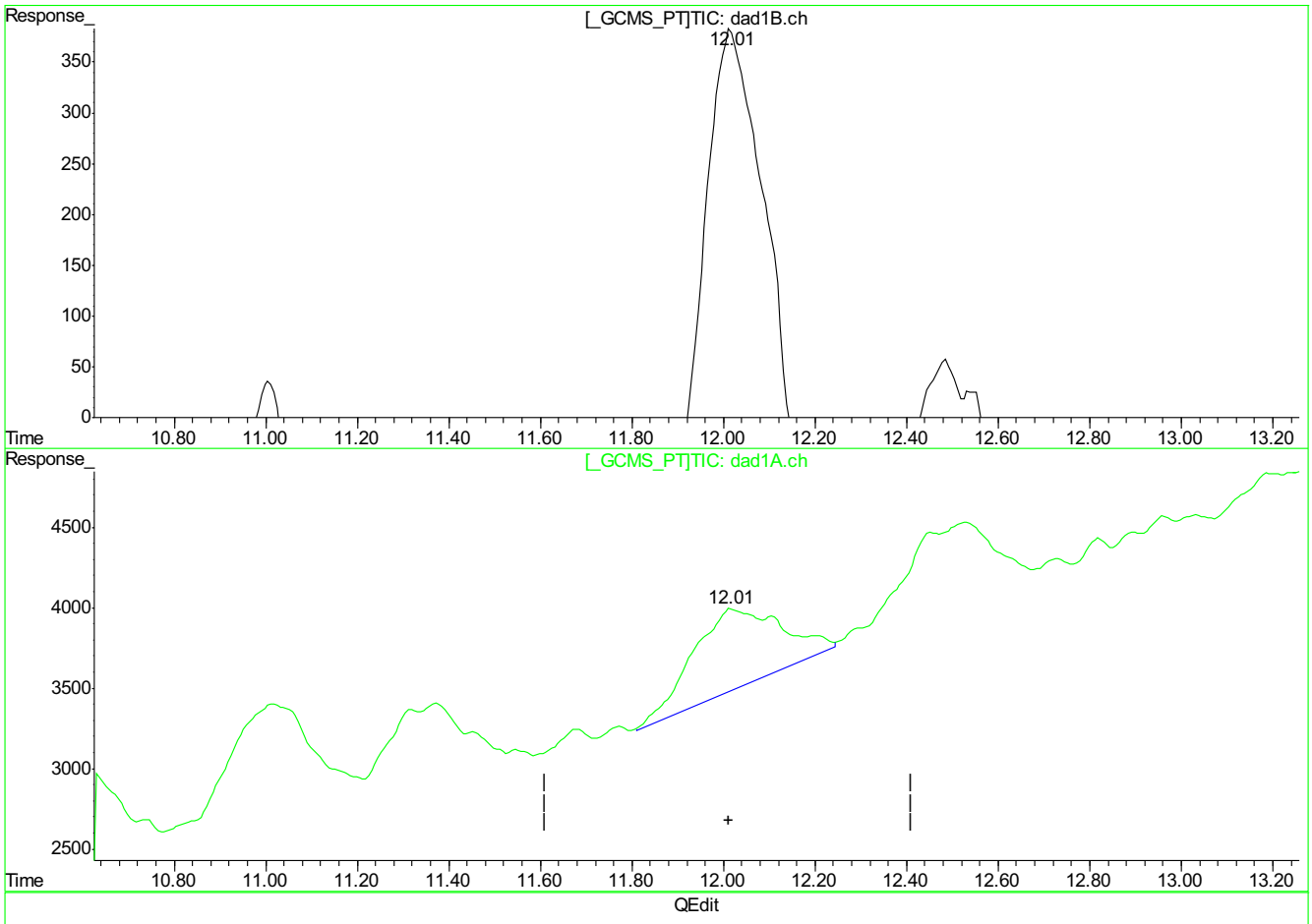
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.01min 19.371ppb m

response 111666

(16) 2,4-Dinitrotoluene #2

12.01min 21.127ppb m

response 67744

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:30 2017

9.5.1.27

9

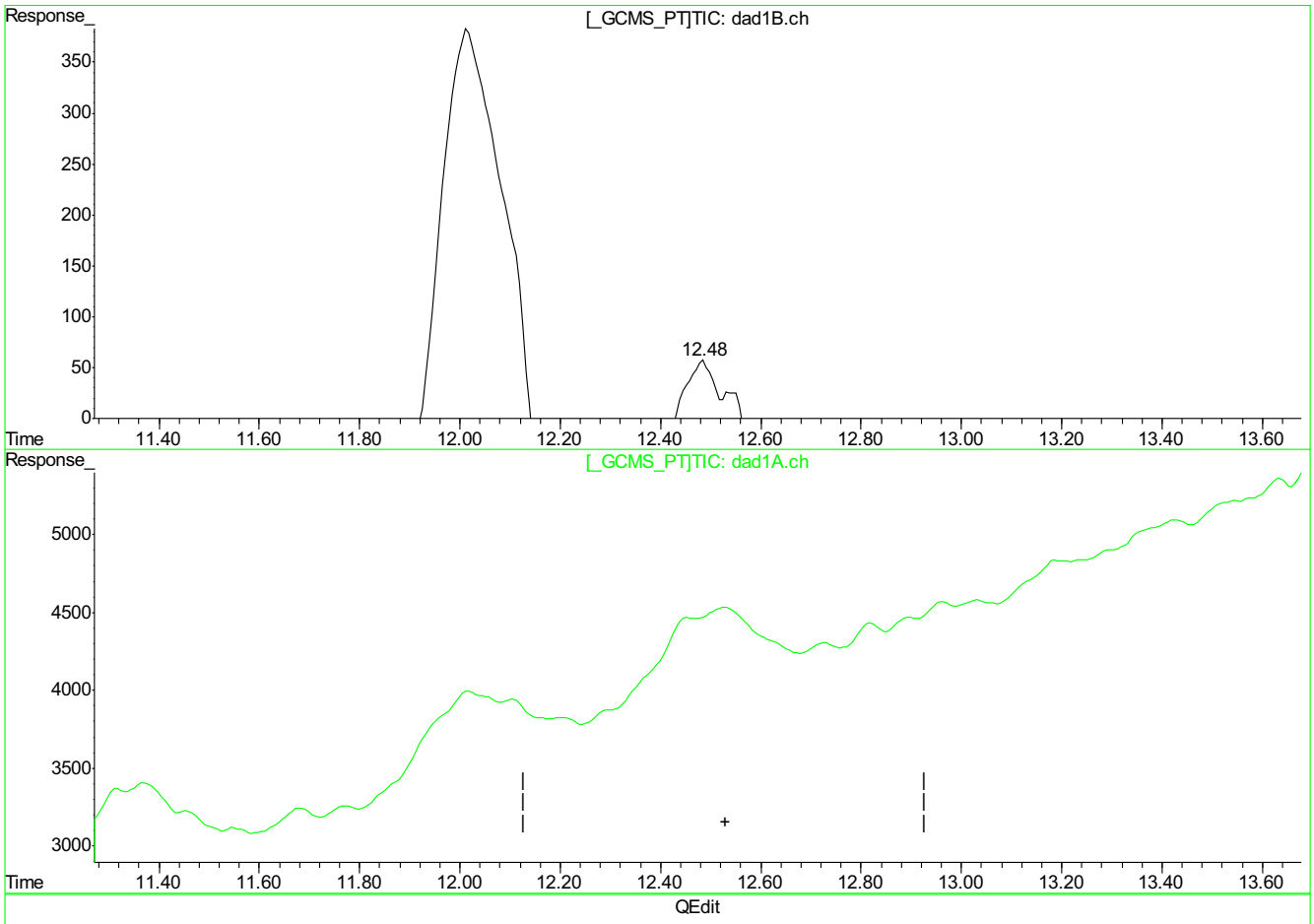
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.48min 16.215ppb m

response 53312

(17) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:40 2017

9.5.1.28

9

BB055896.D edits: 2,6-Dinitrotoluene

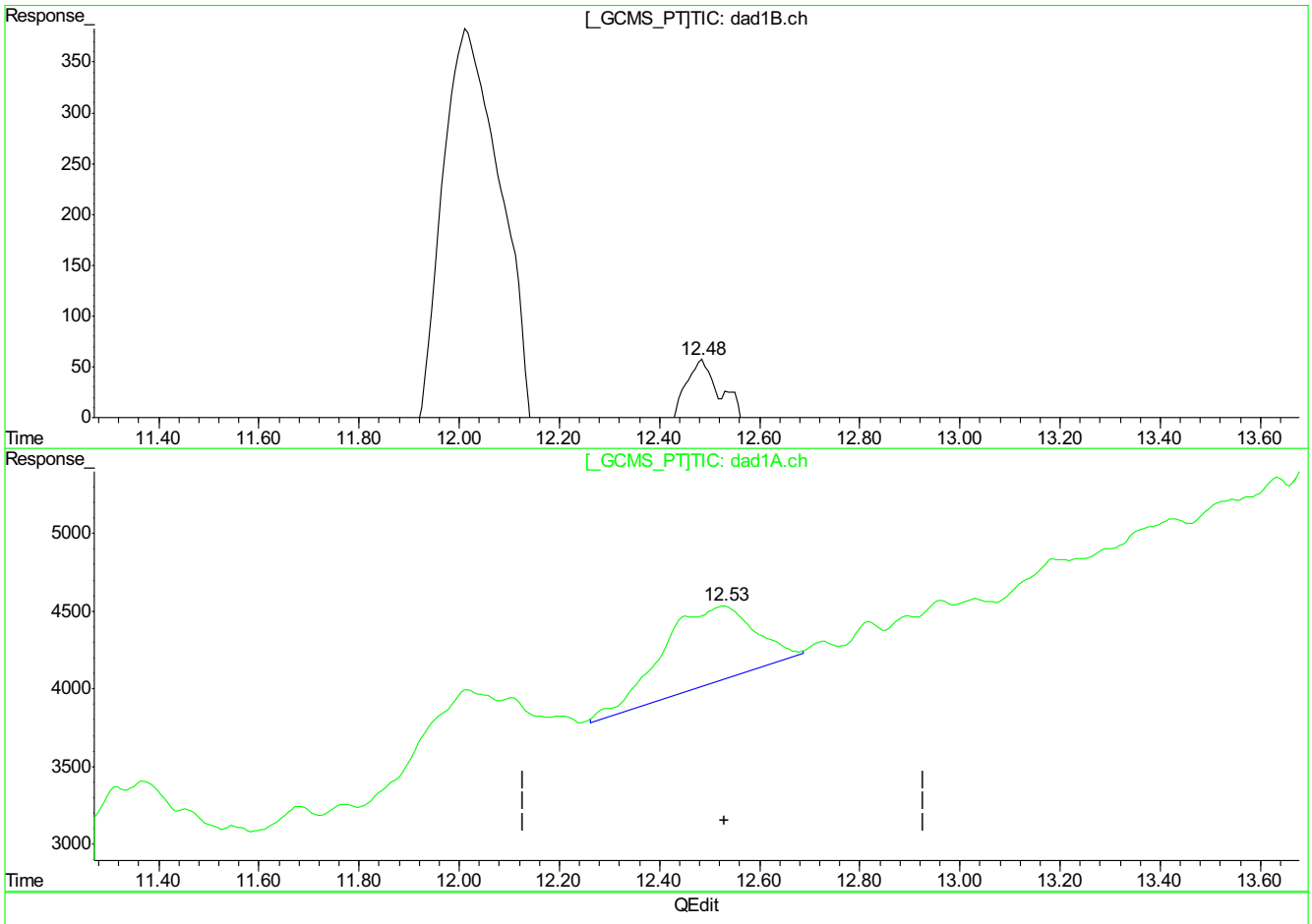
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.48min 16.215ppb m

response 53312

(17) 2,6-Dinitrotoluene #2

12.53min 16.083ppb m

response 63443

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:43 2017

9.5.1.29

9

BB055896.D edits: 2,6-Dinitrotoluene

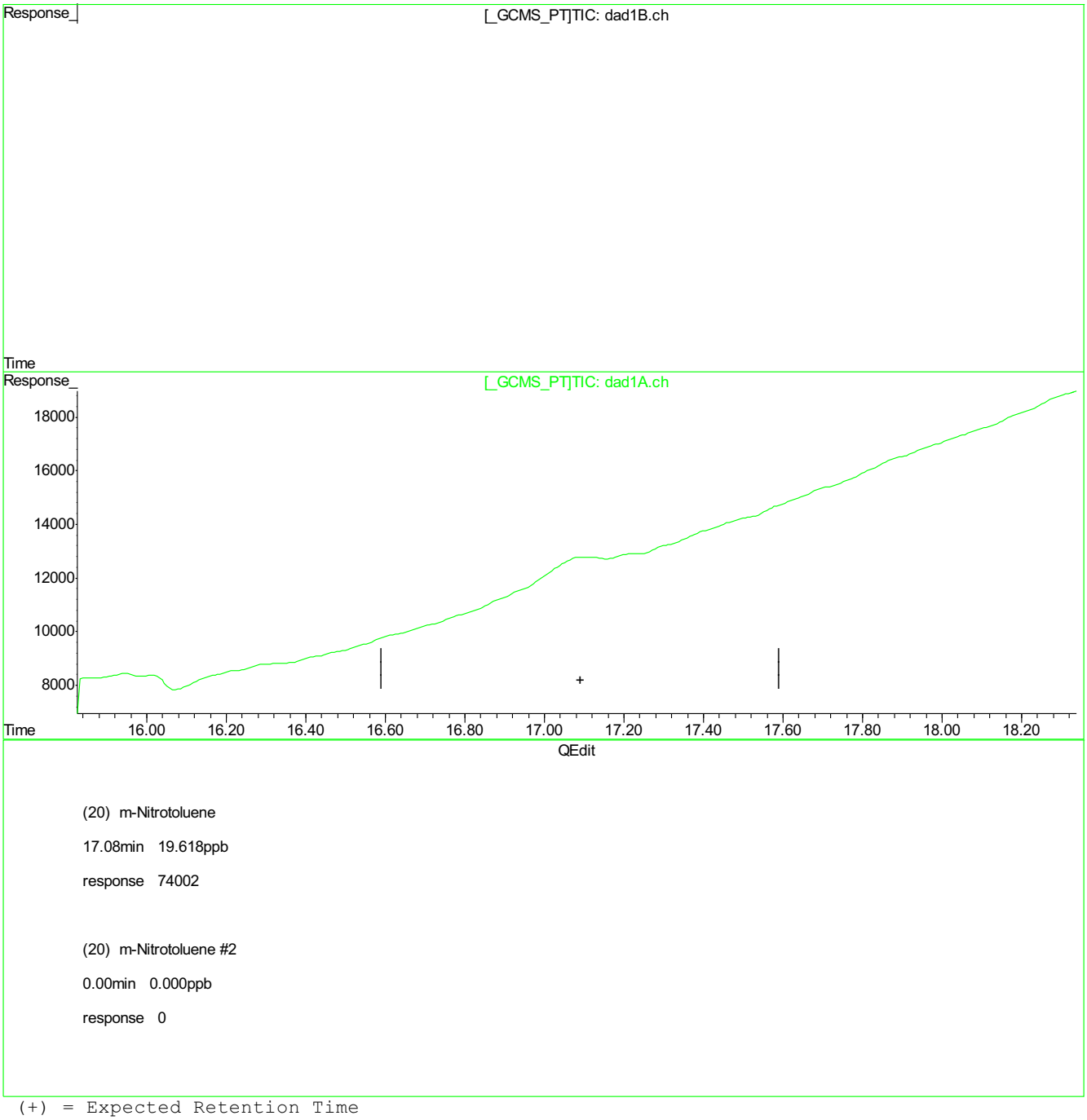
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.08min 19.618ppb

response 74002

(20) m-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:32 2017

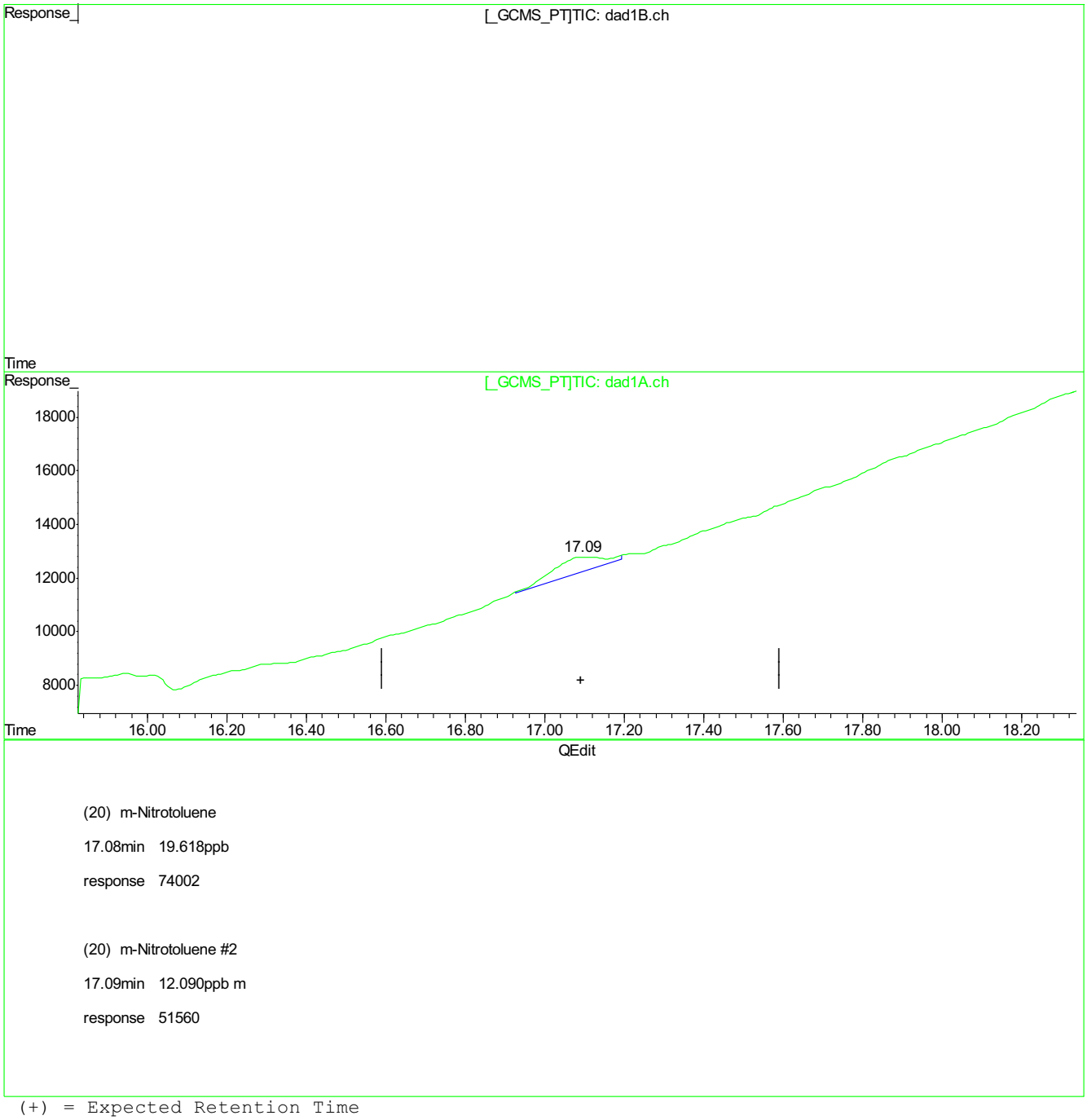
BB055896.D edits: m-Nitrotoluene

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.08min 19.618ppb

response 74002

(20) m-Nitrotoluene #2

17.09min 12.090ppb m

response 51560

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:35 2017

BB055896.D edits: m-Nitrotoluene

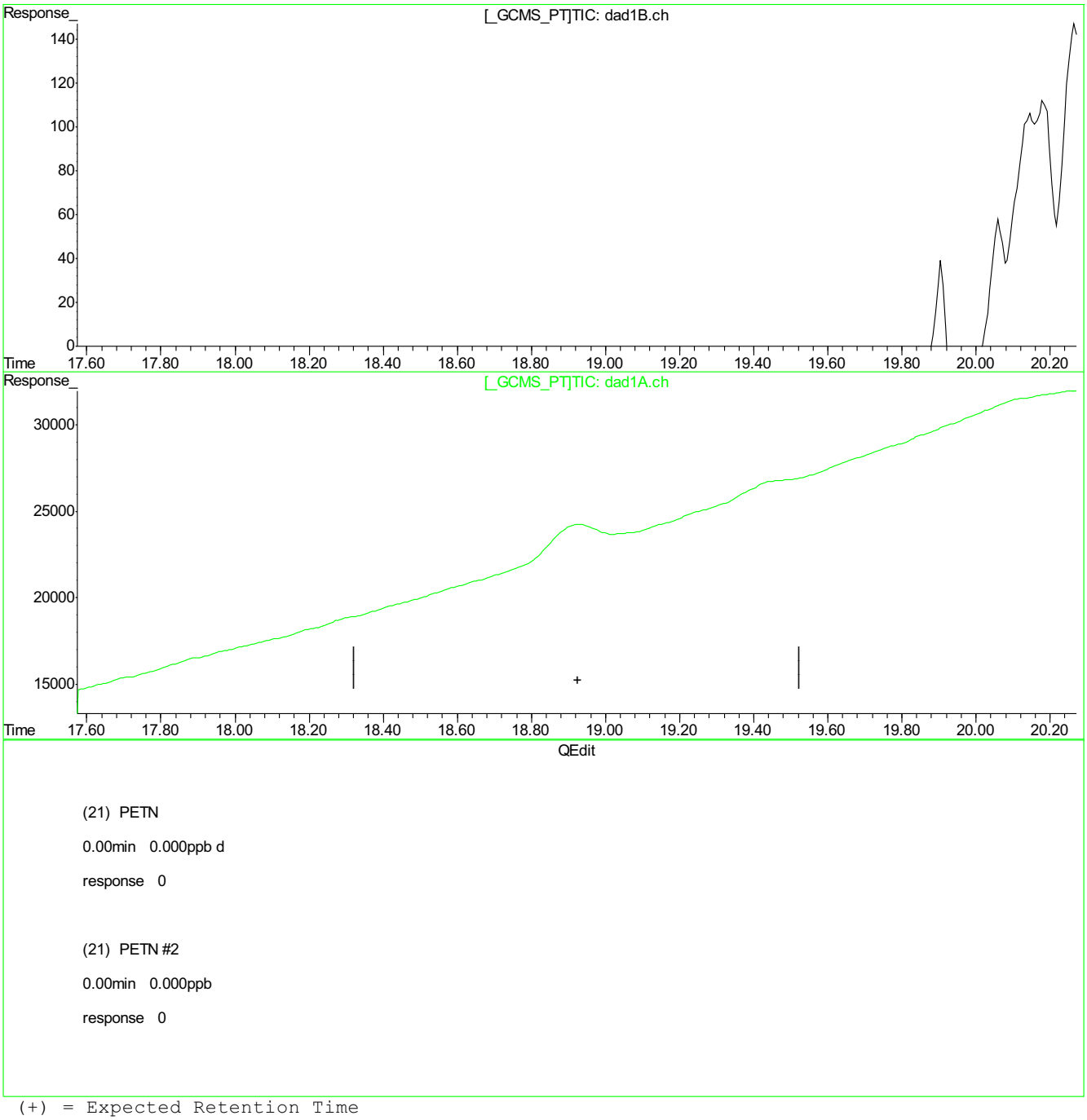
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:40 2017

9.5.1.32

9

BB055896.D edits: PETN

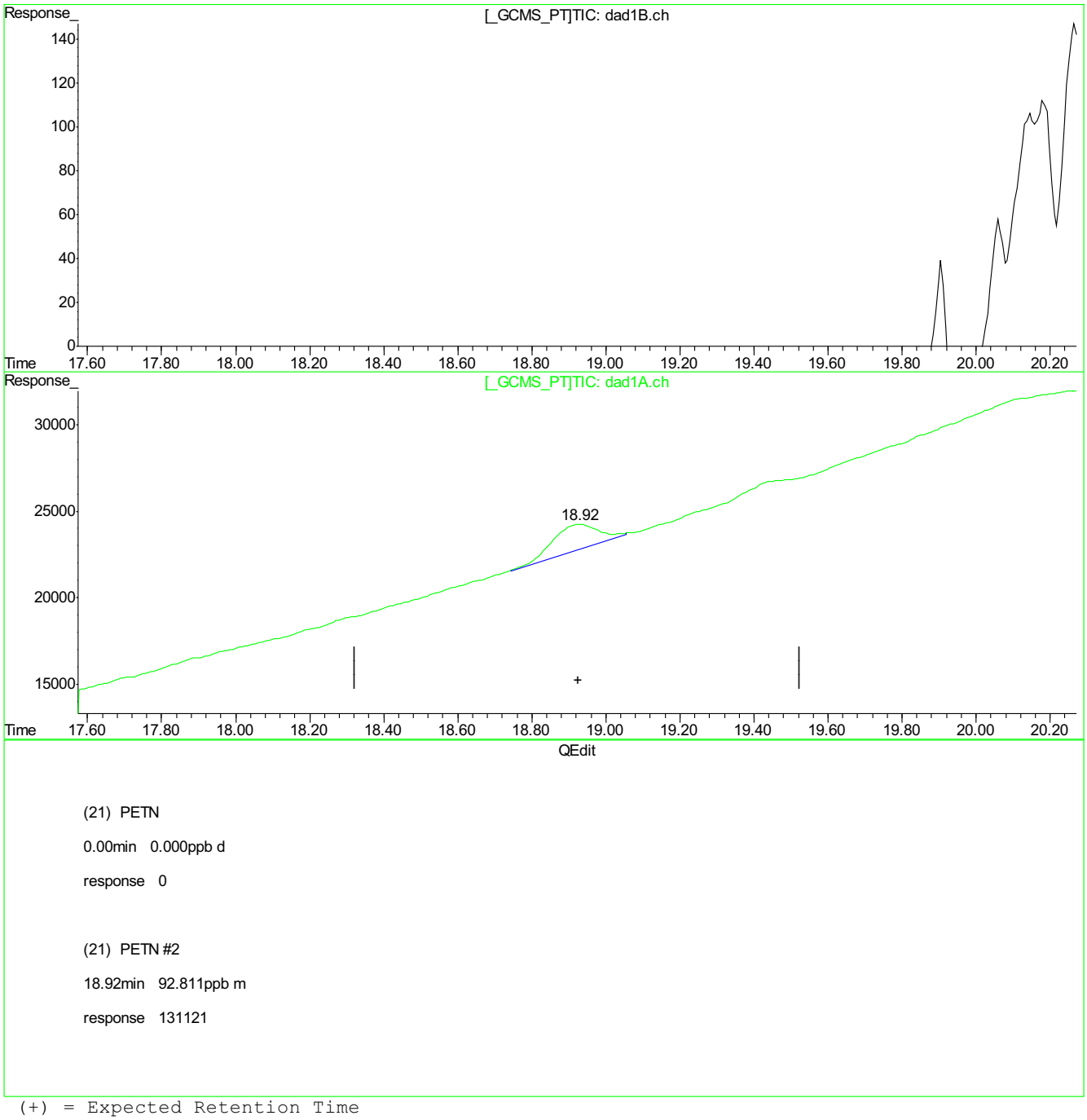
SGS ACCUTEST FA45722

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.92min 92.811ppb m

response 131121

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:43 2017

9.5.1.33

9

BB055896.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055897.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:19:06 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.16	11.16f	132410	145338	54.725	37.741m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		10.95%#	7.55%#
	Target Compounds						
1)	TNX	1.40	1.40	146118	219593	43.466	41.965
2)	HMX	1.53	1.53	79514	201085	41.872	39.247
3)	DNX	1.80	1.80	134378	249387	43.793	49.670
4)	MNX	2.41	2.41	105691	148041	44.254	40.556
5)	RDX	3.04	3.04	102016	146367	47.326	42.765
6)	1,3,5-Trinitrobe	4.83	4.83	197443	364693	45.070	43.331
7)	1,3-Dinitrobenze	6.11	6.12	261556	164403	43.412	40.971m
8)	3,5-Dinitroanili	6.51	6.51	206064	296451	49.121	43.869
9)	Nitrobenzene	7.76	7.76	160444	145710	44.580	42.559m
10)	Nitroglycerin	0.00	9.10	0	188751	N.D. d	142.686
11)	Tetryl	9.51	9.49	145252	163203	52.998	39.516m
12)	2,4,6-Trinitroto	9.92	9.92	183173	160448	42.079	32.134m
13)	2-Amino-4,6-Dini	10.33	10.32	170367	163052	43.878	31.462m
14)	4-Amino-2,6-Dini	10.85	0.00	93899	0	32.725m	N.D. #
16)	2,4-Dinitrotolue	11.85	11.89	249739	124601	44.352	37.443m
17)	2,6-Dinitrotolue	12.29	12.37	158440	162562	49.432	41.211m
18)	o-Nitrotoluene	15.53	15.54	106488	127323	43.116	40.658
19)	p-Nitrotoluene	16.10	16.10	169893	64190	45.155	26.064m#
20)	m-Nitrotoluene	17.01	17.06	166731	193627	43.914	48.508m
21)	PETN	0.00	18.91	0	288118	N.D. d	198.630m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055897.D 8330B_0629PLUS.M Fri Jun 30 11:02:17 2017 Page 1

9.5.2
6

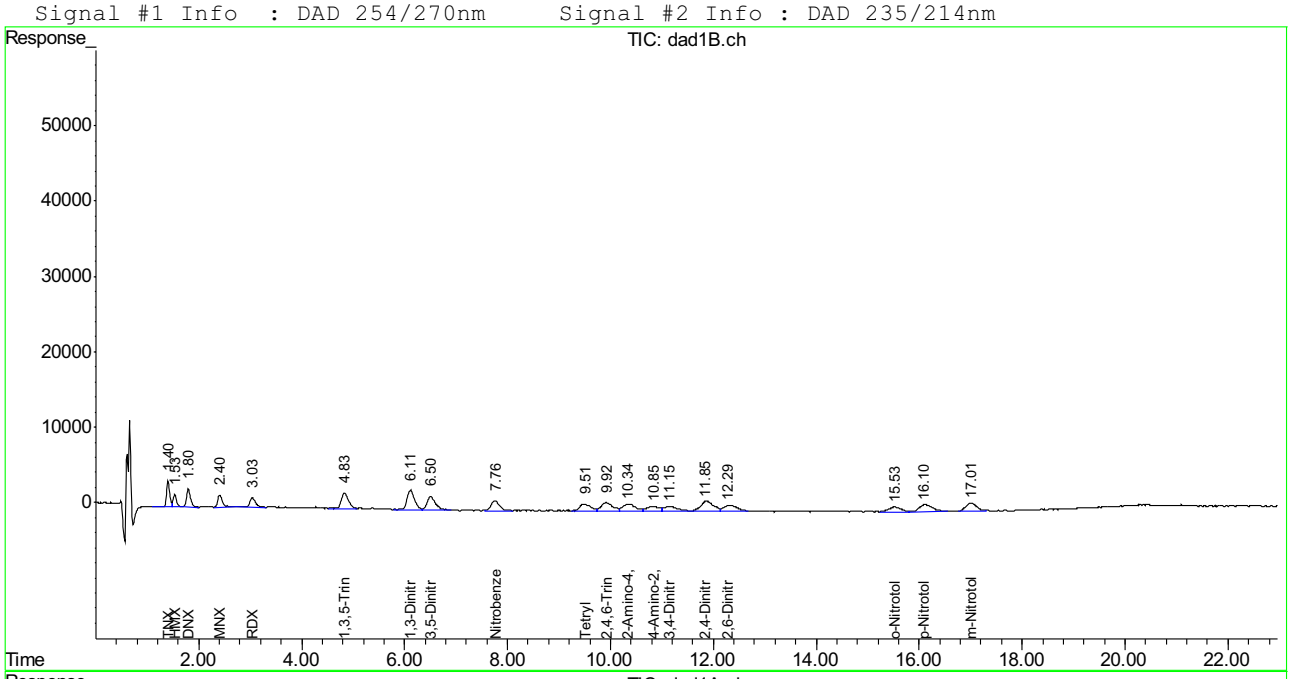
Cal Report: BB055897.D

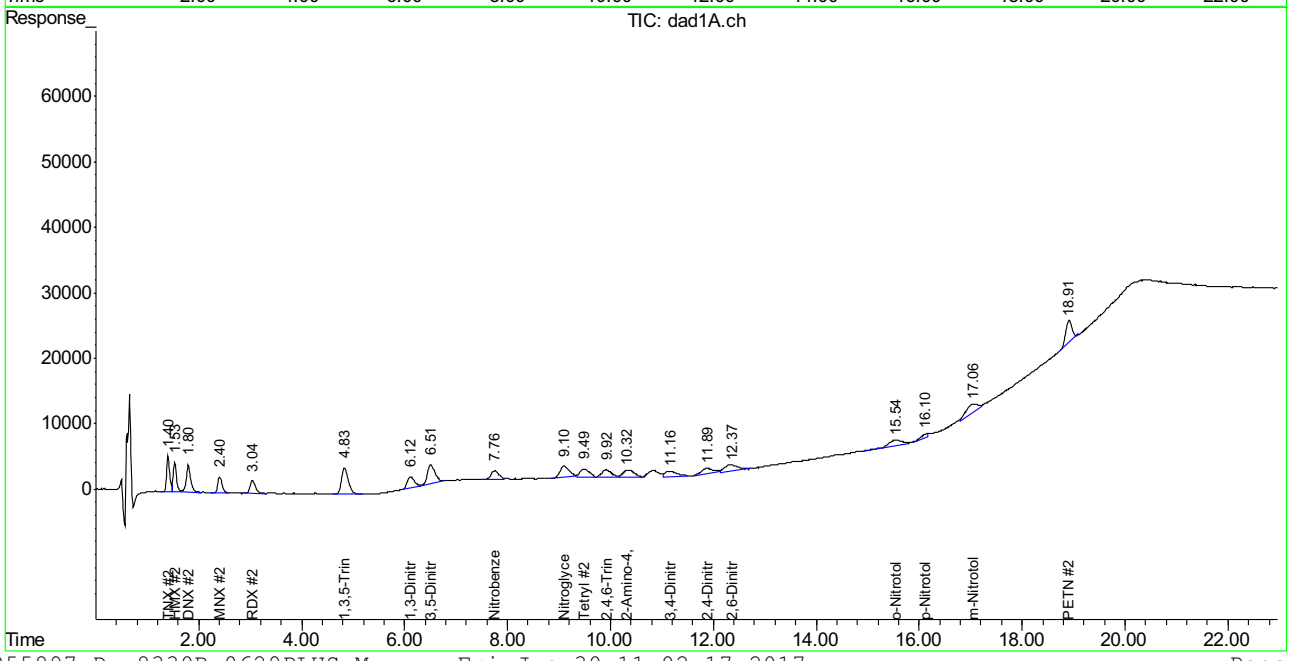
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:24 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





9.5.2
6

SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055897.D
Injection Time: 06/29/17 17:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

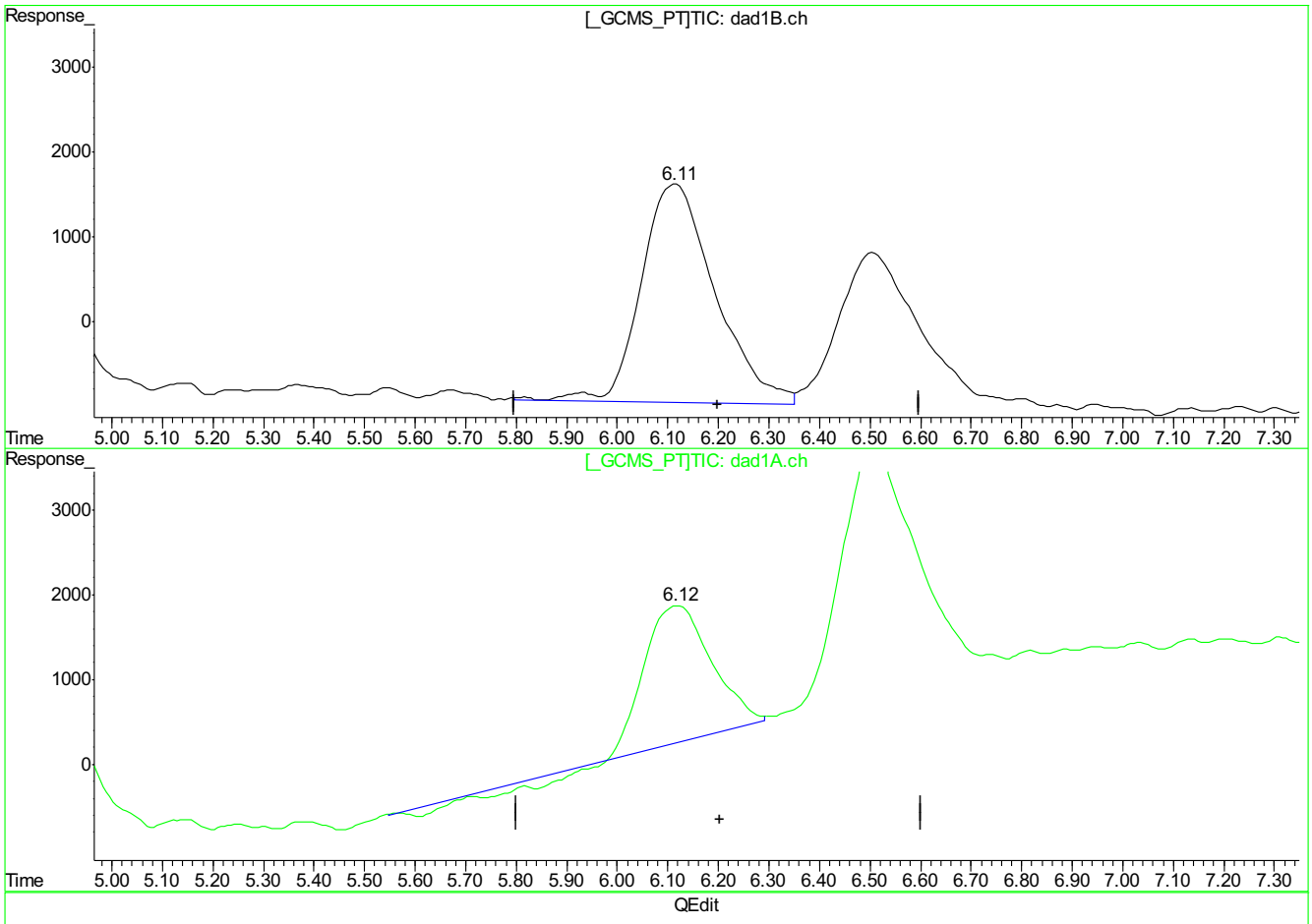
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.12	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.76	Poorly defined baseline
Tetryl	479-45-8	2	9.49	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.92	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.32	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	10.85	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.16	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	11.89	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	12.37	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	16.10	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	17.06	Poorly defined baseline
PETN	78-11-5	2	18.91	Poorly defined baseline

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.11min 43.412ppb

response 261556

(7) 1,3-Dinitrobenzene #2

6.12min 32.946ppb

response 132199

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:27 2017

9.5.2.2

9

BB055897.D edits: 1,3-Dinitrobenzene

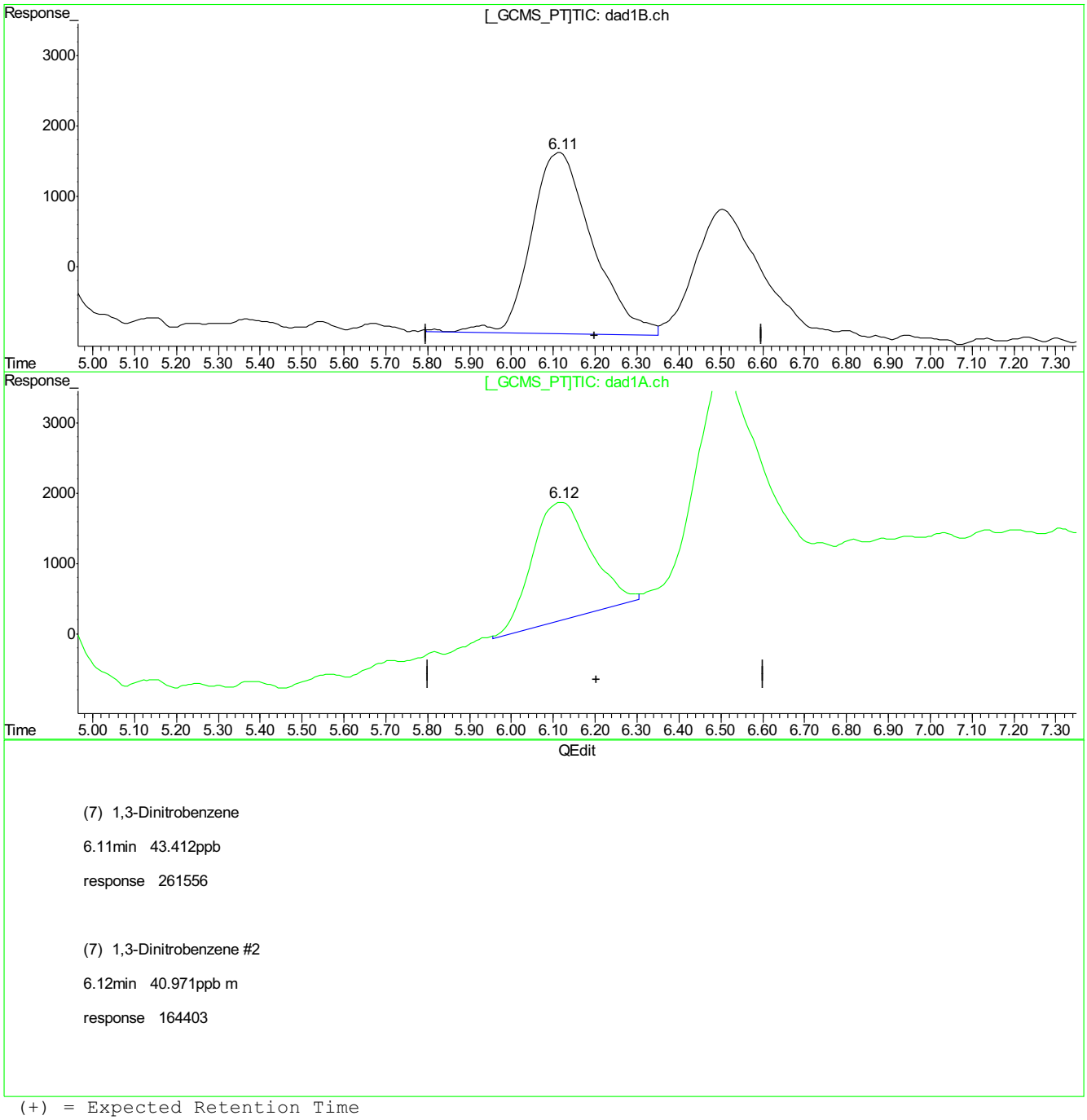
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.11min 43.412ppb

response 261556

(7) 1,3-Dinitrobenzene #2

6.12min 40.971ppb m

response 164403

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:30 2017

9.5.2.3

9

BB055897.D edits: 1,3-Dinitrobenzene

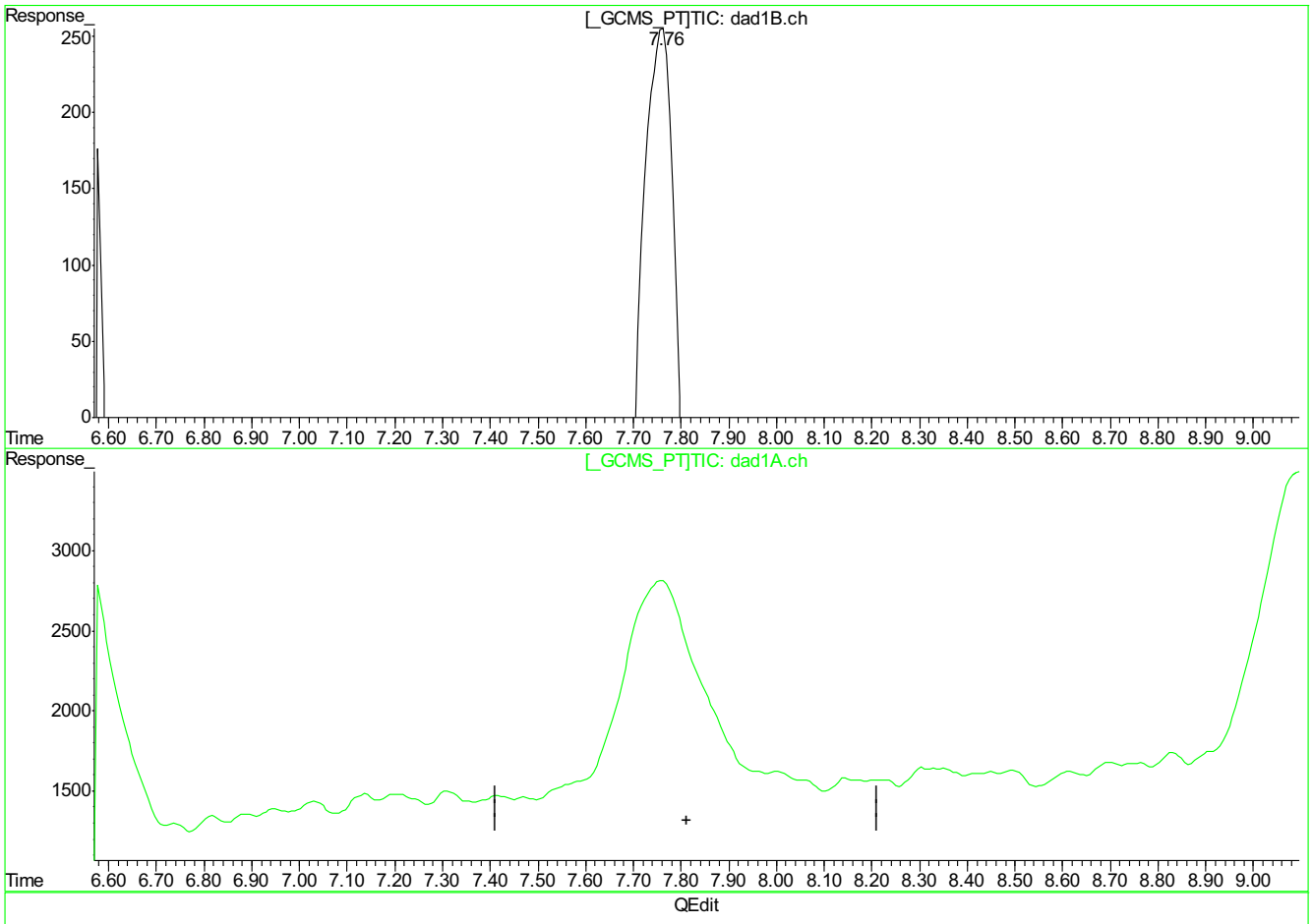
SGS ACCUTEST FA45722

Cal Report: **BB055897.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.76min 44.580ppb

response 160444

(9) Nitrobenzene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:34 2017

9.5.2.4

9

BB055897.D edits: Nitrobenzene

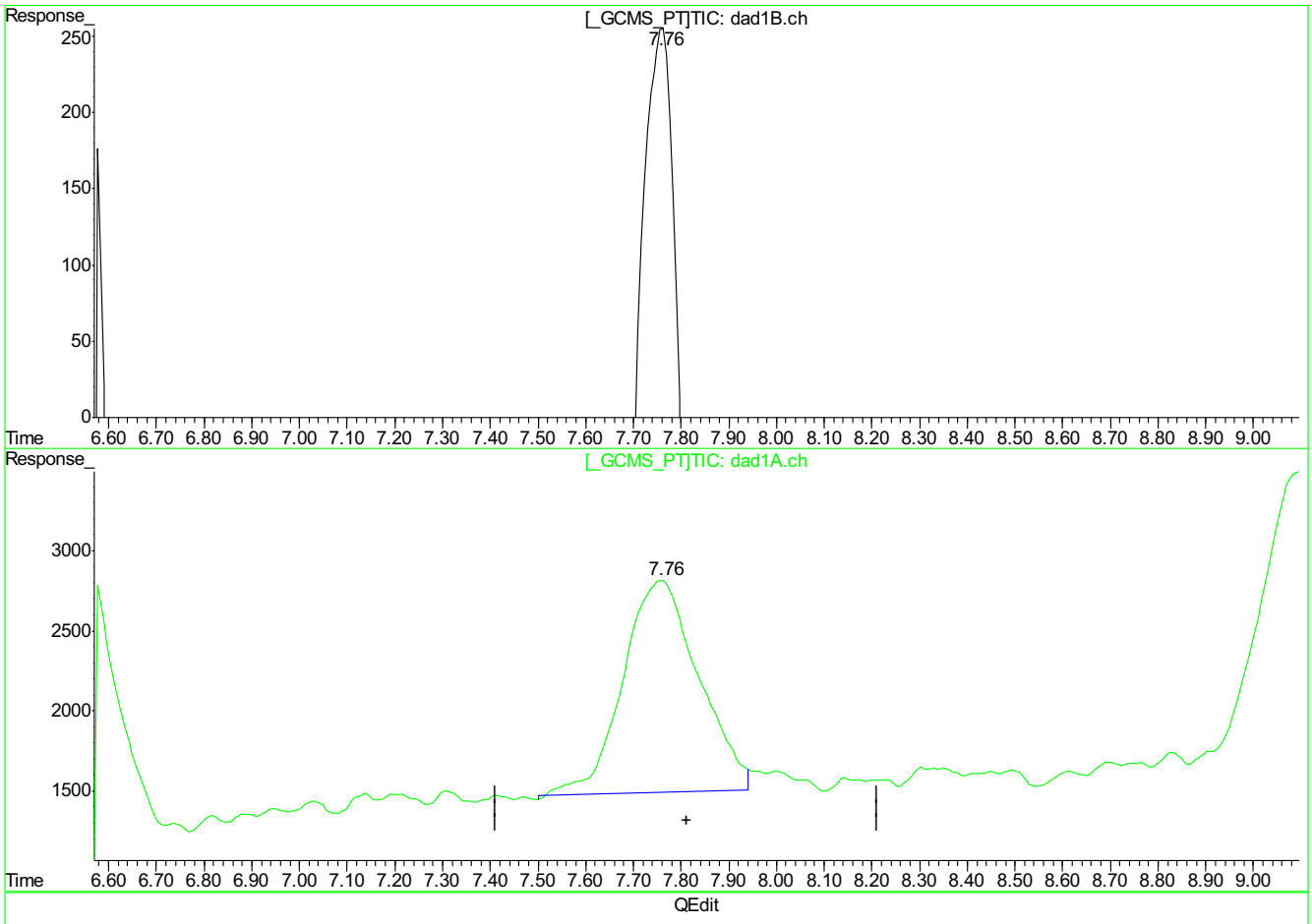
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.76min 44.580ppb

response 160444

(9) Nitrobenzene #2

7.76min 42.559ppb m

response 145710

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:37 2017

9.5.2.5

9

BB055897.D edits: Nitrobenzene

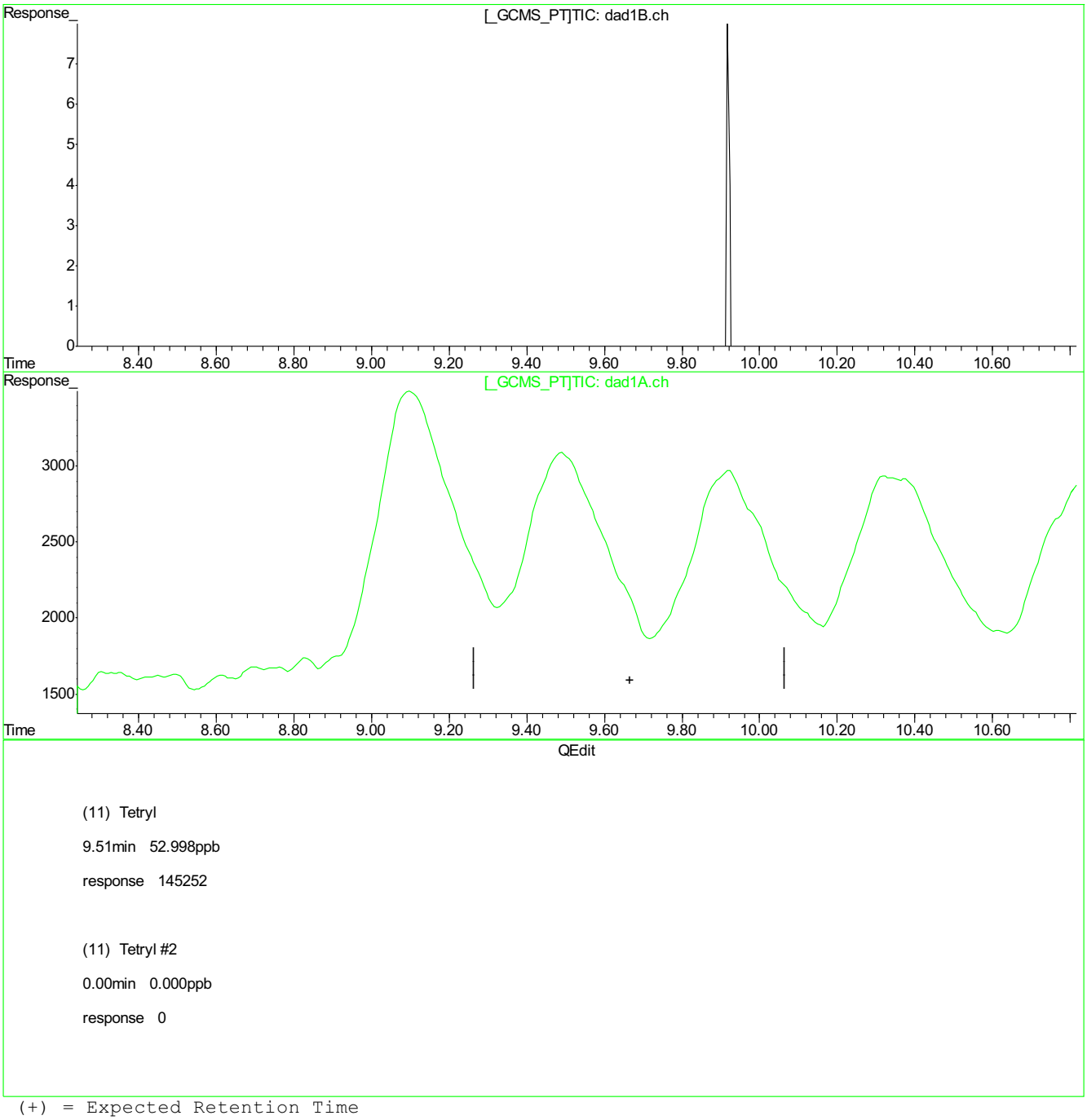
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.51min 52.998ppb

response 145252

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:27 2017

9.5.2.6

9

BB055897.D edits: Tetryl

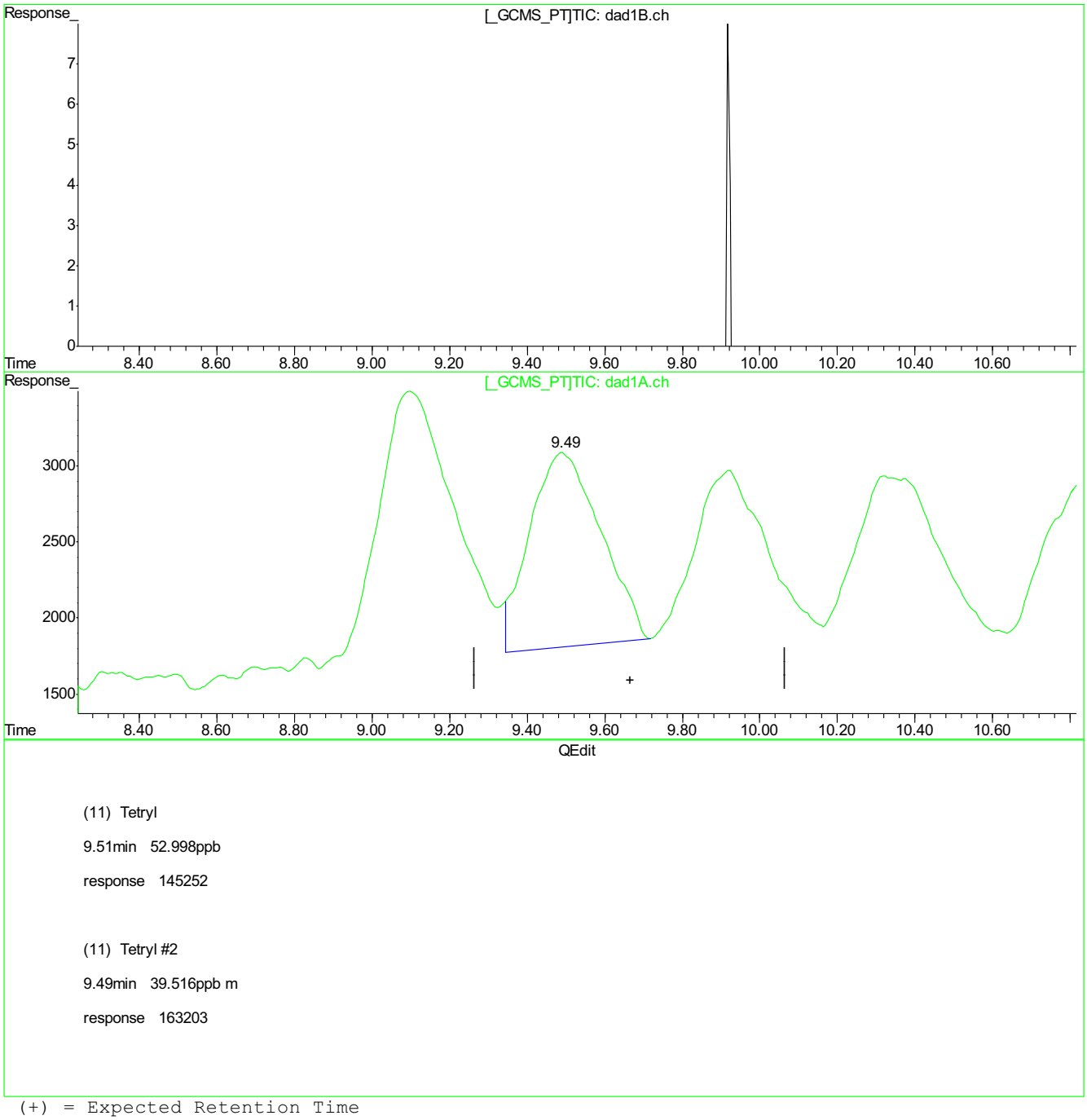
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.51min 52.998ppb

response 145252

(11) Tetryl #2

9.49min 39.516ppb m

response 163203

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:33 2017

9.5.2.7

9

BB055897.D edits: Tetryl

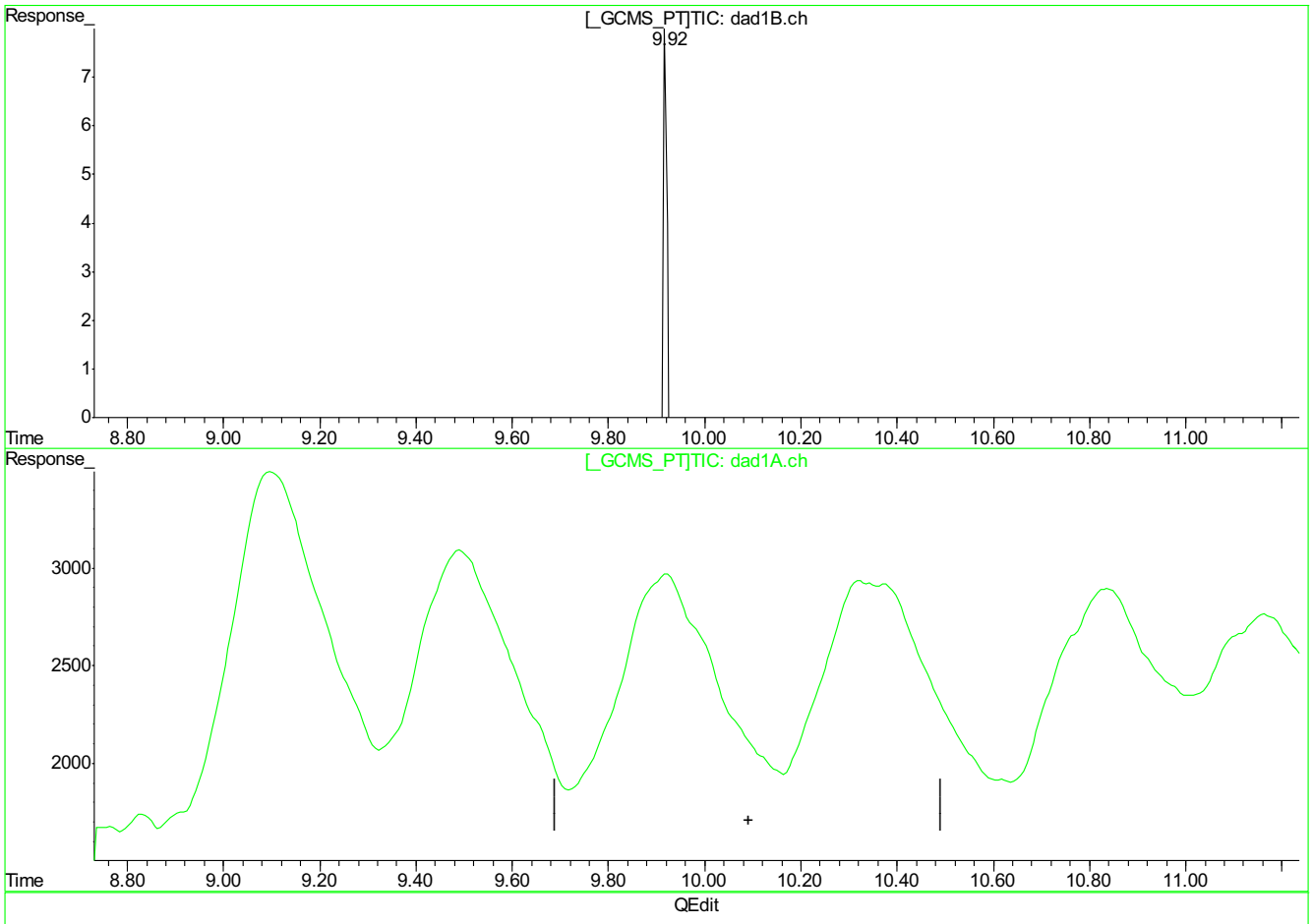
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.92min 42.079ppb

response 183173

(12) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:39 2017

9.5.2.8

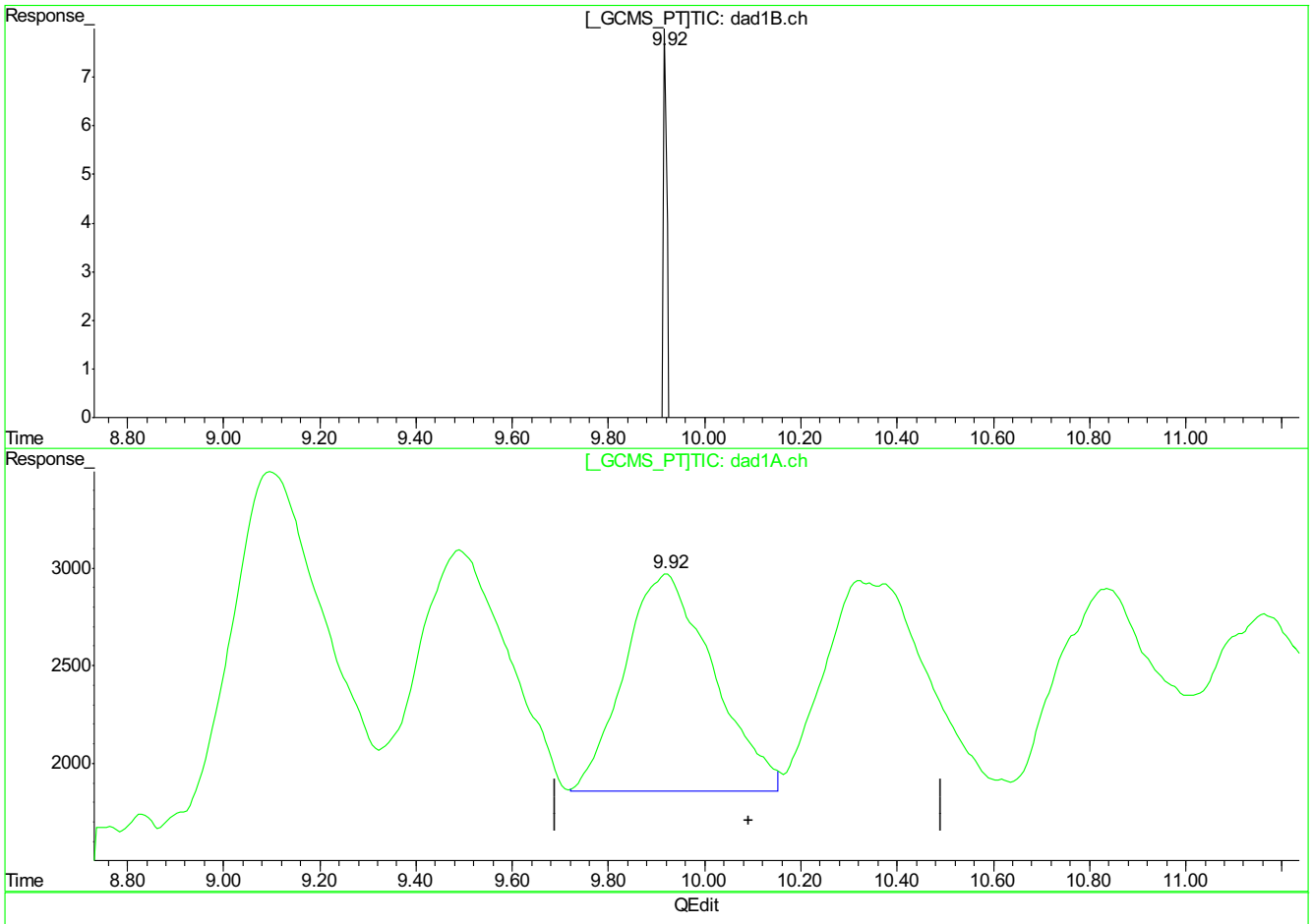
9

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.92min 42.079ppb

response 183173

(12) 2,4,6-Trinitrotoluene #2

9.92min 28.500ppb m

response 142302

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:42 2017

9.5.2.9

9

BB055897.D edits: 2,4,6-Trinitrotoluene

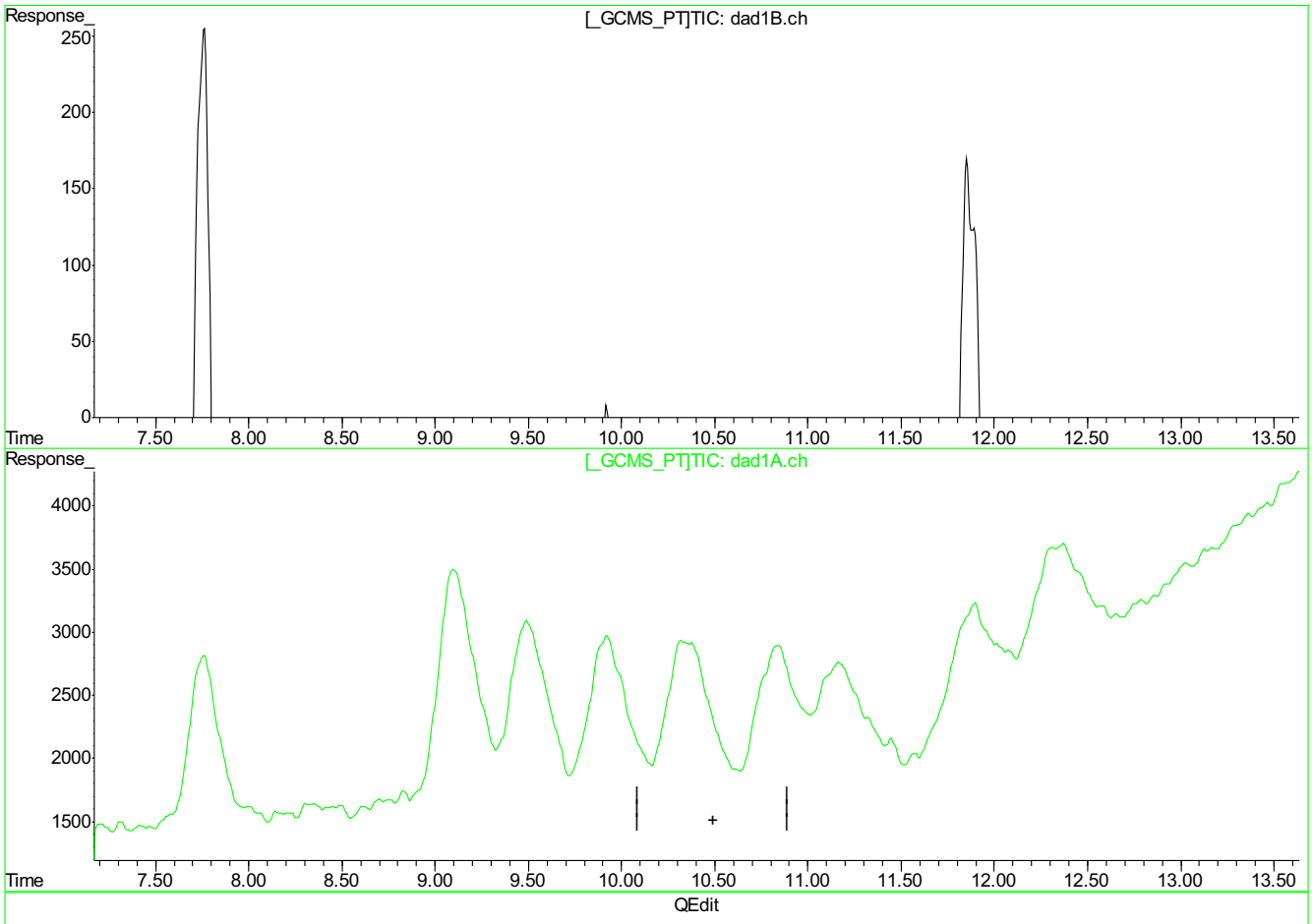
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.33min 43.878ppb

response 170367

(13) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:55 2017

9.5.2.10

9

BB055897.D edits: 2-Amino-4,6-Dinitrotoluene

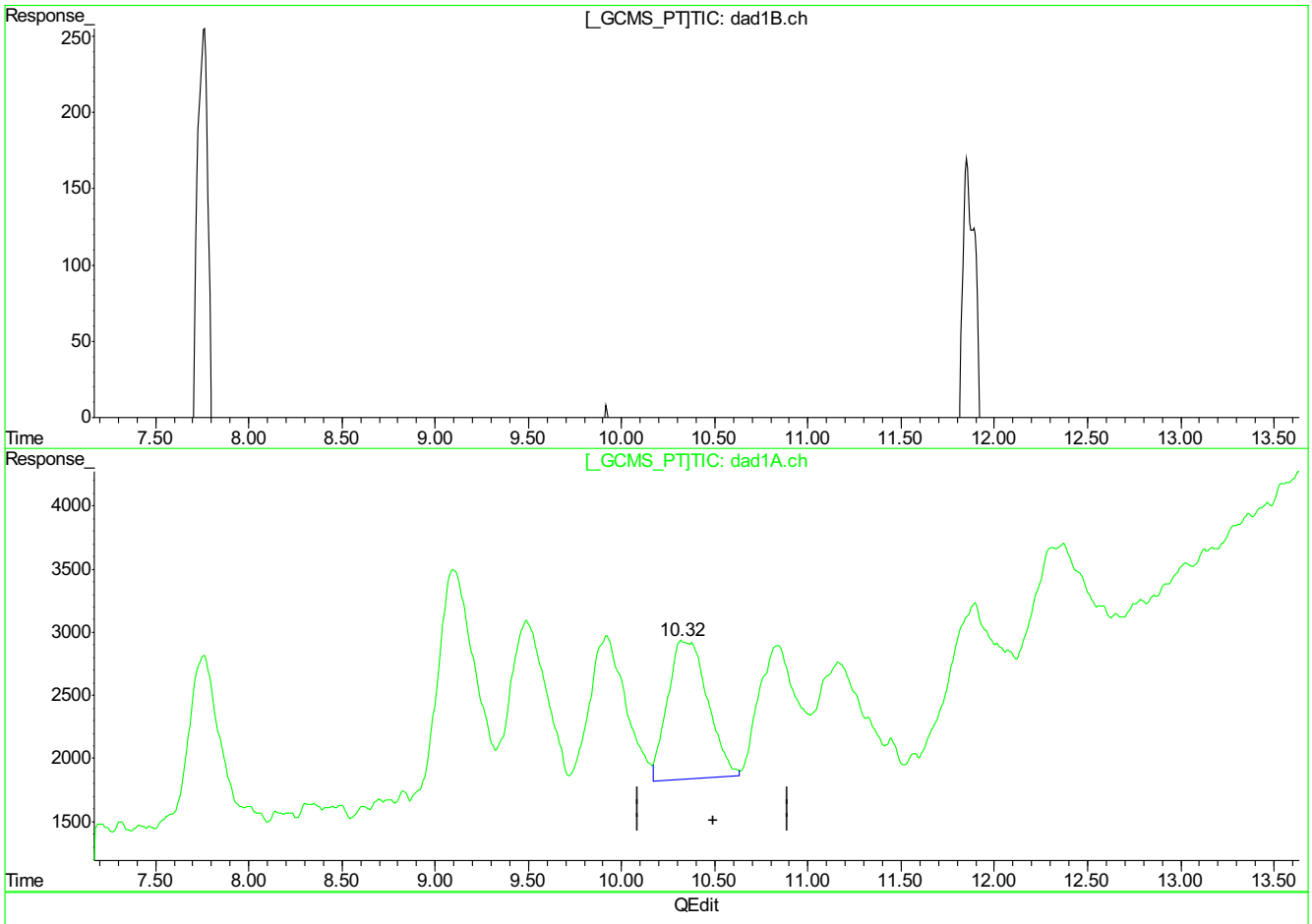
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:27:19                    Operator: evitam
Sample    : ic1615-50                                Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:19 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration
```



(13) 2-Amino-4,6-Dinitrotoluene

10.33min 43.878ppb

response 170367

(13) 2-Amino-4,6-Dinitrotoluene #2

10.32min 31.462ppb m

response 163052

(+) = Expected Retention Time

BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:22:08 2017

9.5.2.11

9

BB055897.D edits: 2-Amino-4,6-Dinitrotoluene

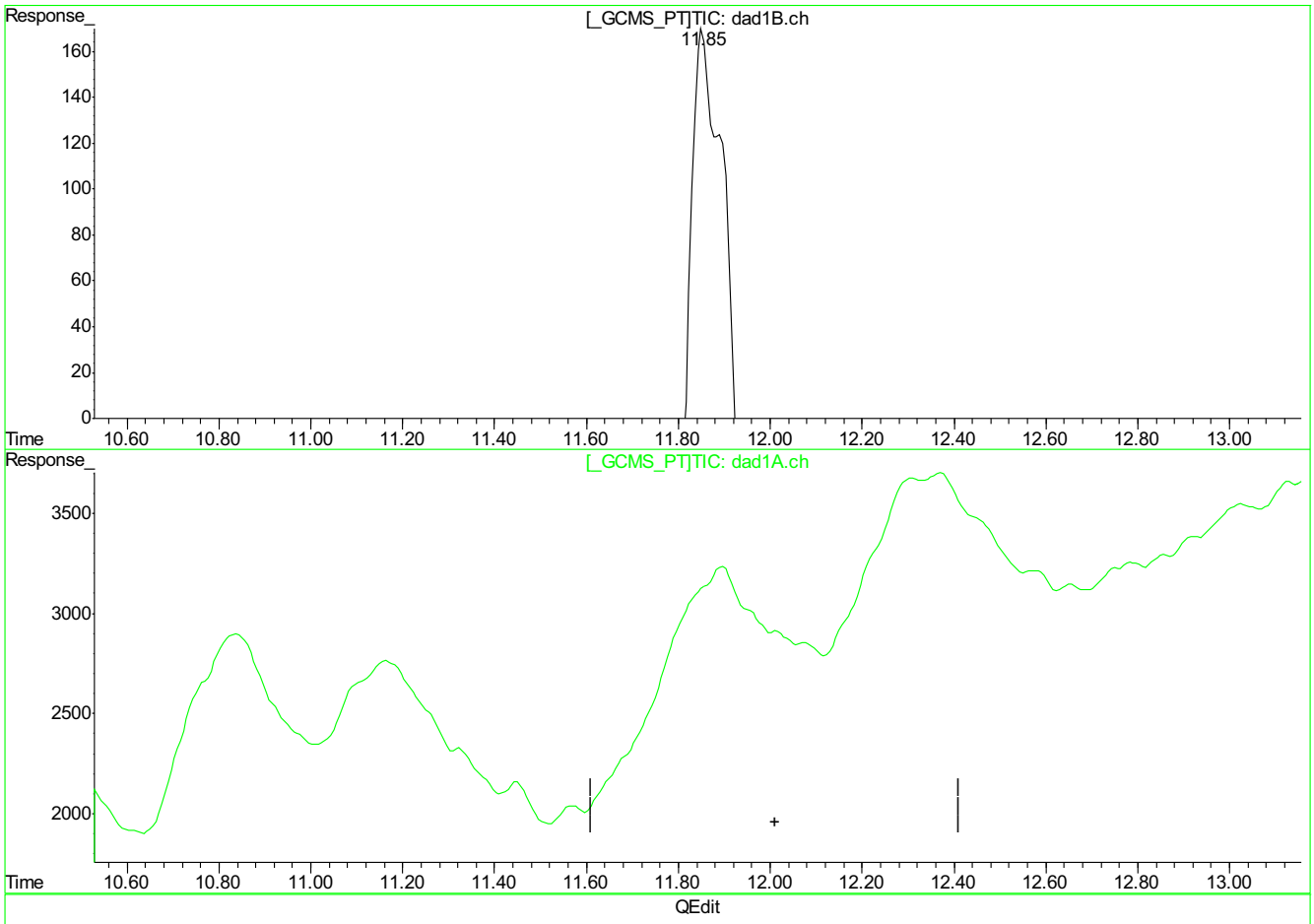
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

11.85min 44.352ppb

response 249739

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:08 2017

9.5.2.12

9

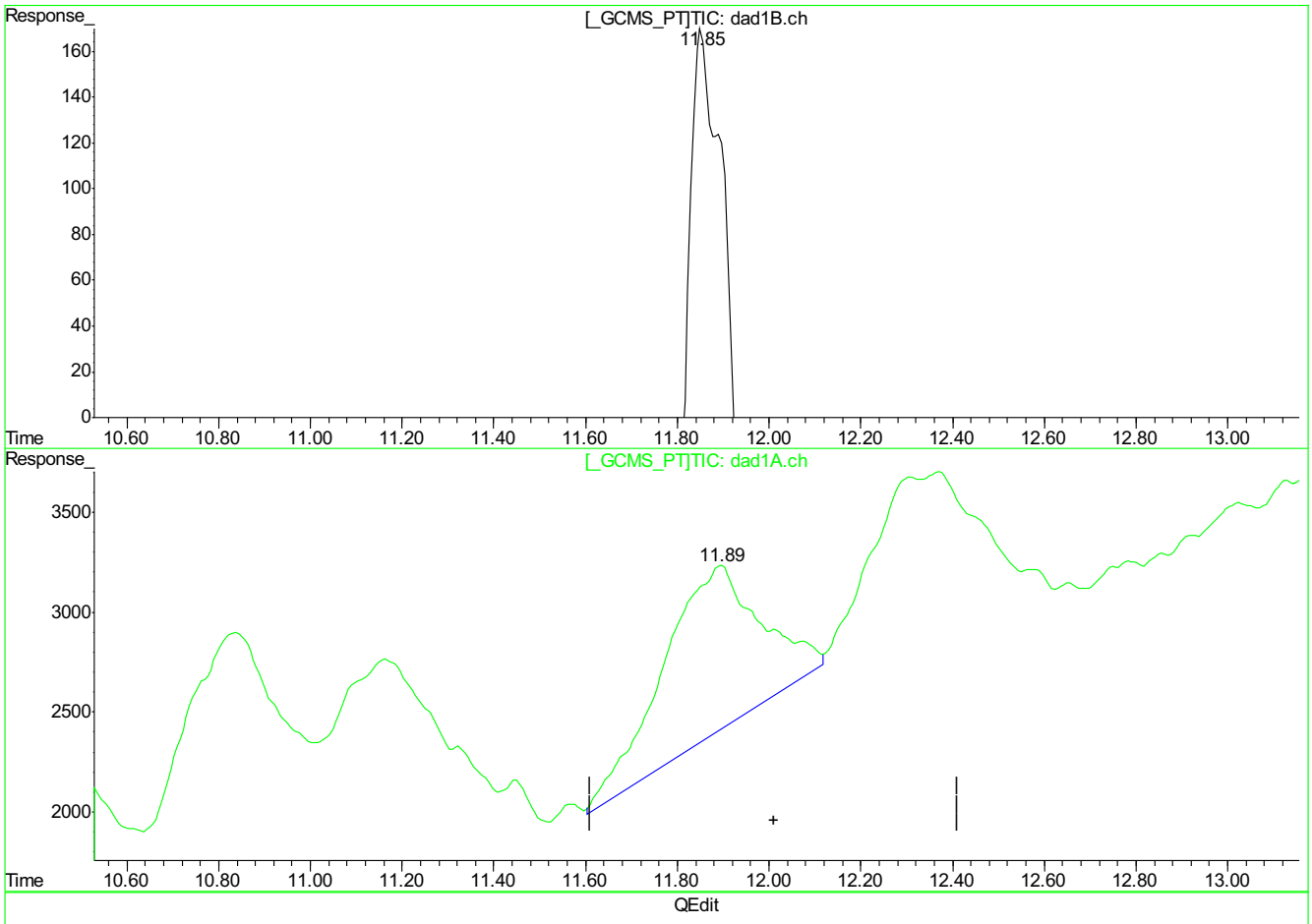
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

11.85min 44.352ppb

response 249739

(16) 2,4-Dinitrotoluene #2

11.89min 37.443ppb m

response 124601

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:11 2017

9.5.2.13

9

BB055897.D edits: 2,4-Dinitrotoluene

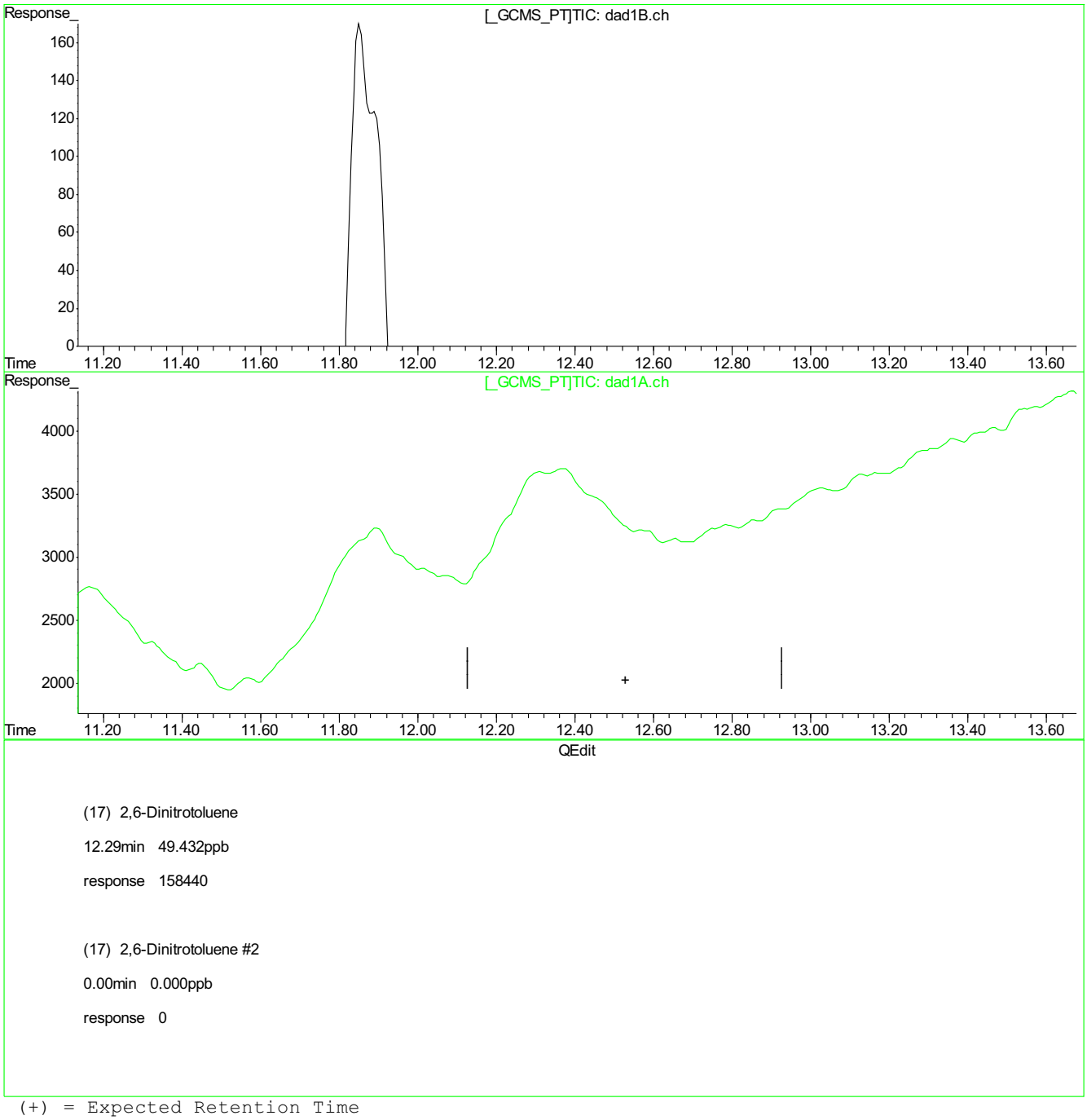
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:16 2017

9.5.2.14
9

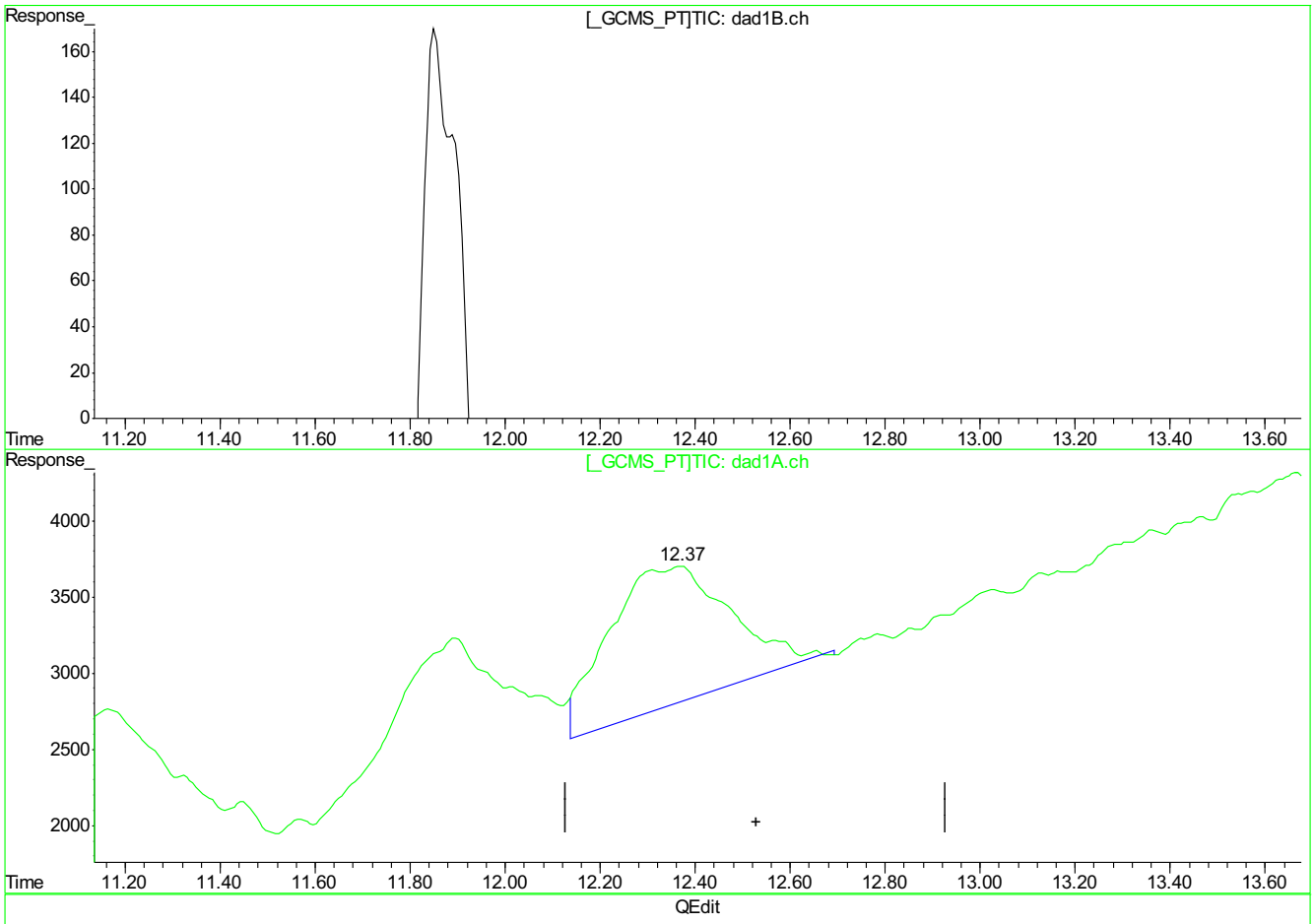
BB055897.D edits: 2,6-Dinitrotoluene

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.29min 49.432ppb

response 158440

(17) 2,6-Dinitrotoluene #2

12.37min 41.211ppb m

response 162562

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:26 2017

9.5.2.15

9

BB055897.D edits: 2,6-Dinitrotoluene

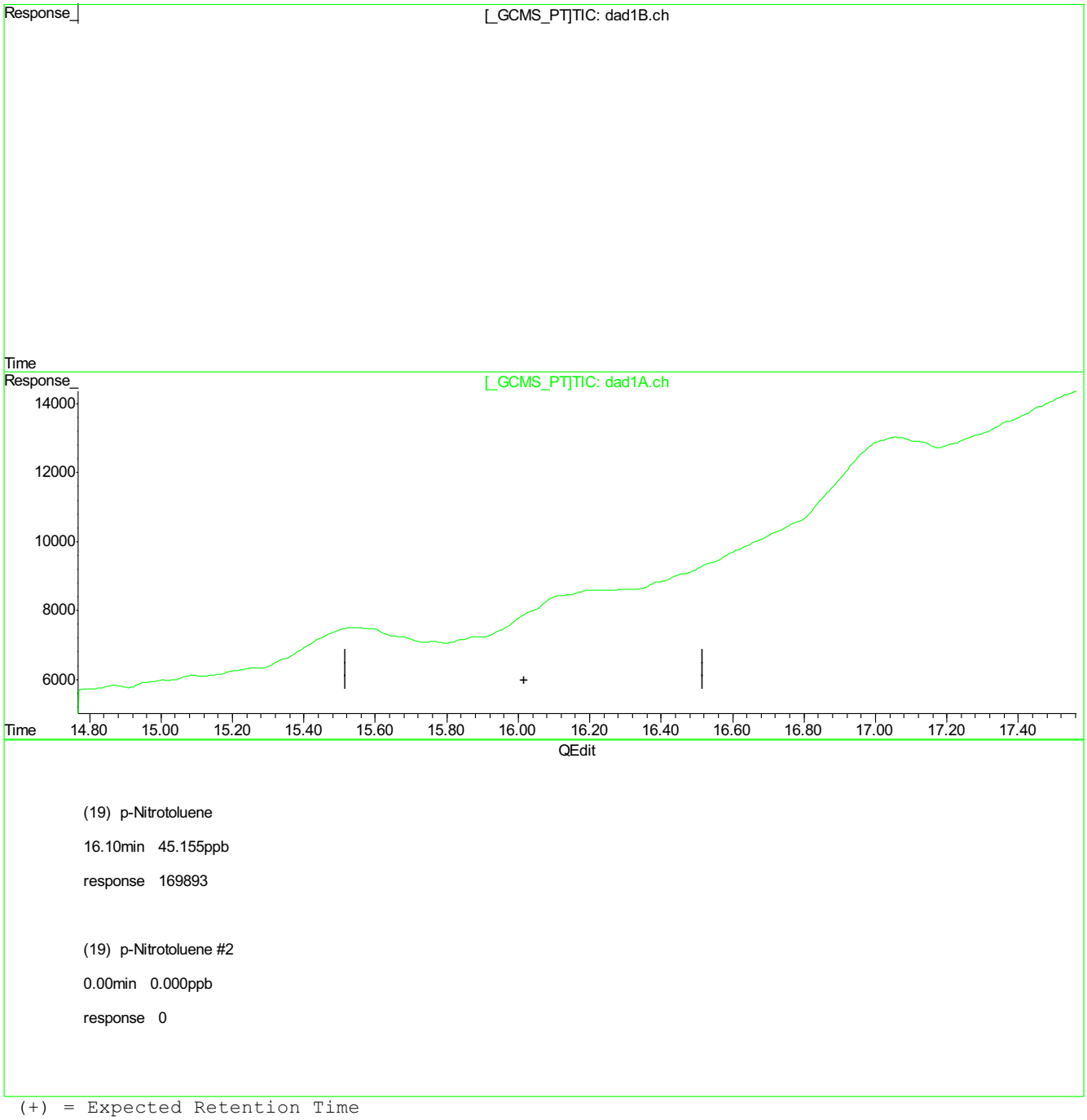
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.10min 45.155ppb

response 169893

(19) p-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:34 2017

9.5.2.16

9

BB055897.D edits: p-Nitrotoluene

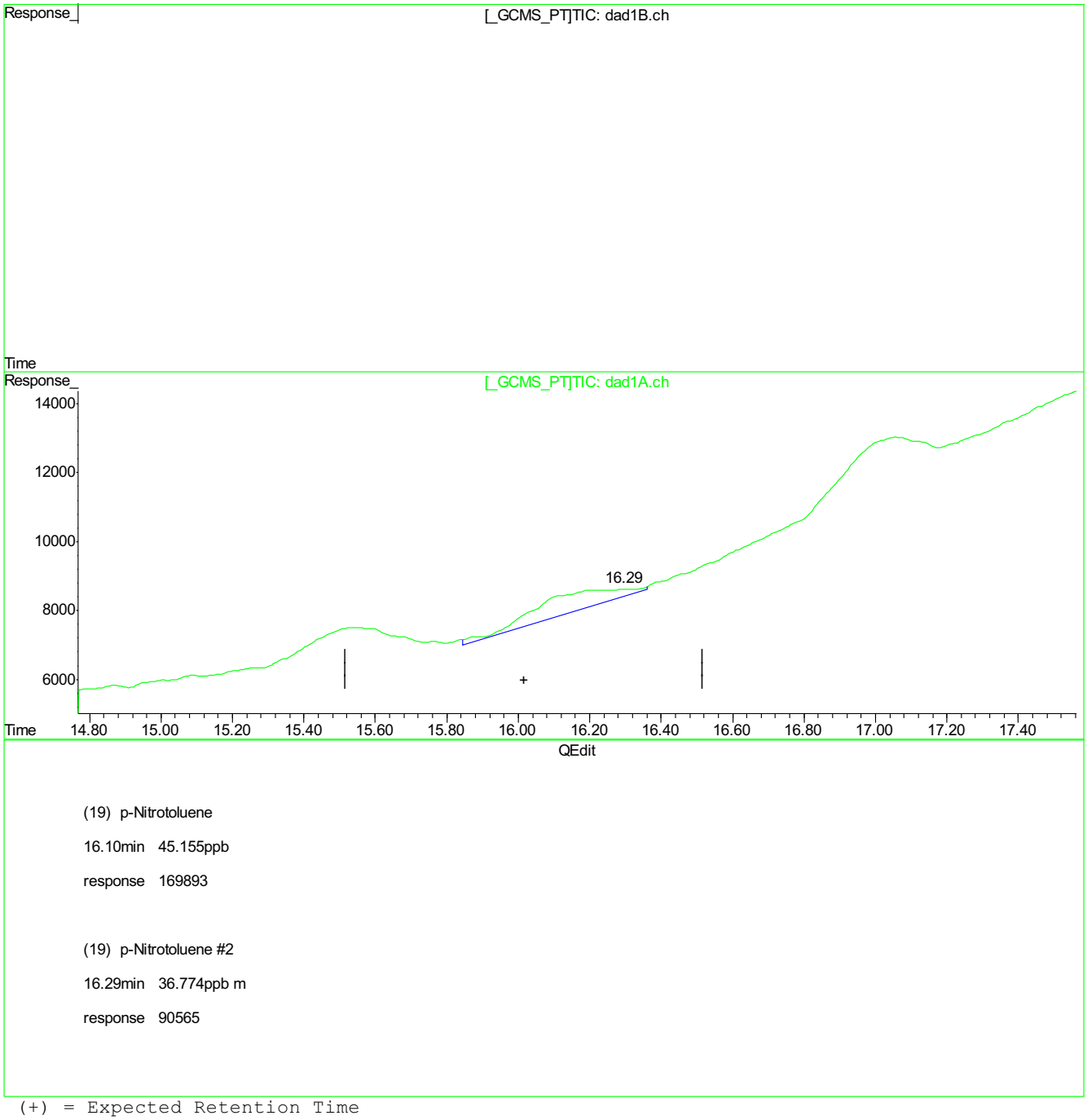
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.10min 45.155ppb

response 169893

(19) p-Nitrotoluene #2

16.29min 36.774ppb m

response 90565

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:38 2017

9.5.2.17

9

BB055897.D edits: p-Nitrotoluene

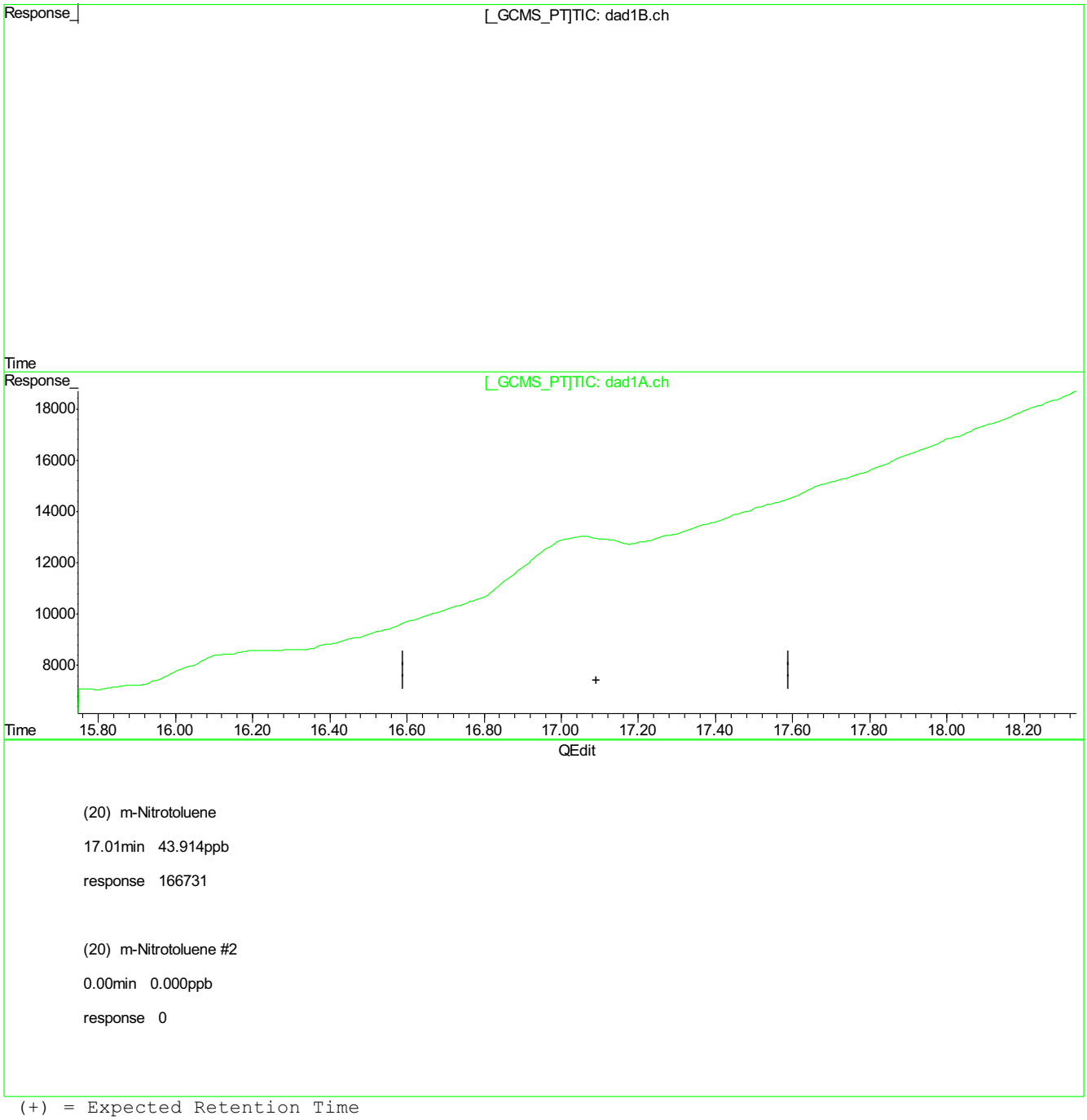
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.01min 43.914ppb

response 166731

(20) m-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:47 2017

9.5.2.18

9

BB055897.D edits: m-Nitrotoluene

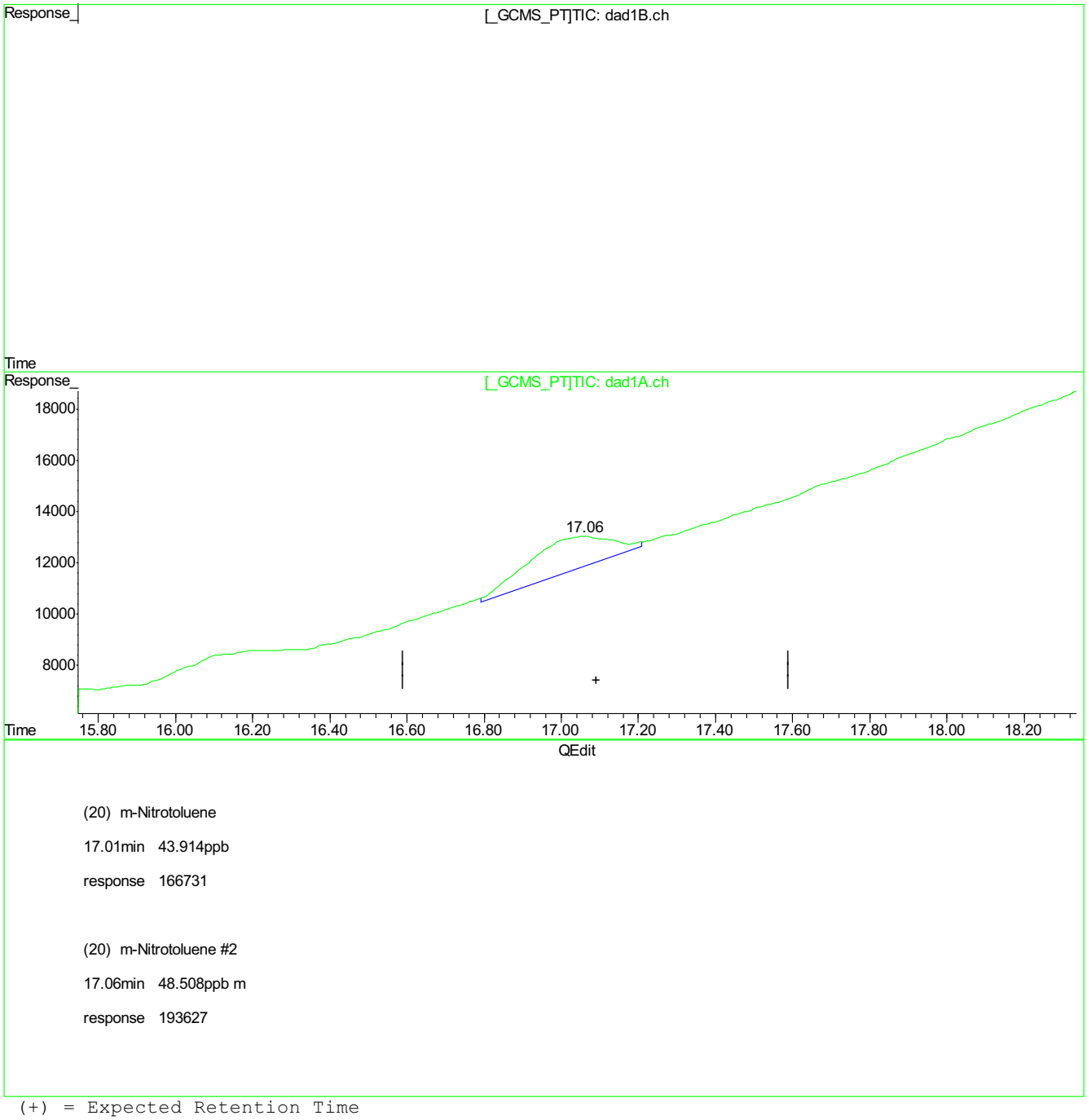
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.01min 43.914ppb

response 166731

(20) m-Nitrotoluene #2

17.06min 48.508ppb m

response 193627

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:51 2017

9.5.2.19

9

BB055897.D edits: m-Nitrotoluene

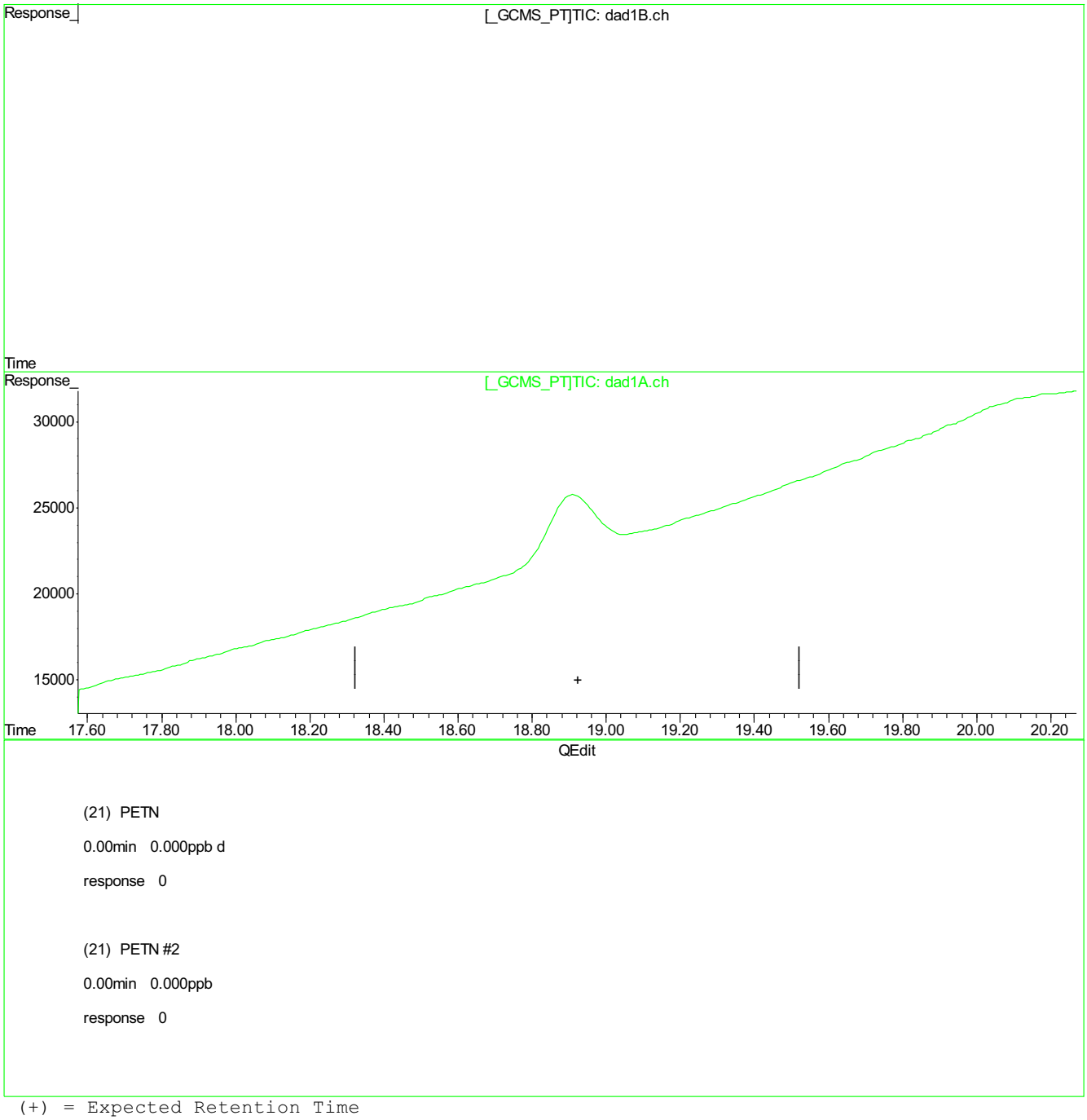
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:55 2017

9.5.2.20

9

BB055897.D edits: PETN

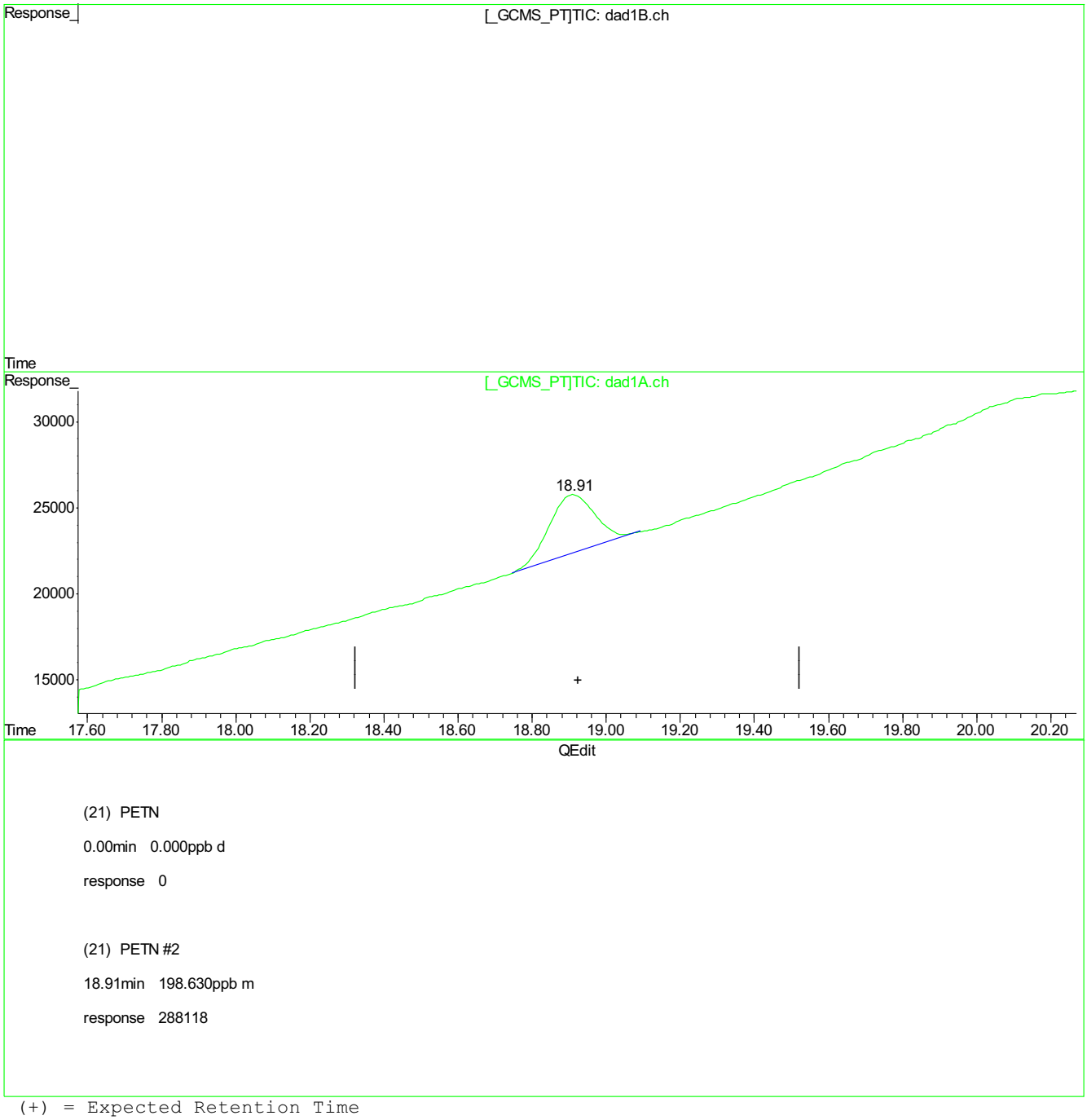
SGS ACCUTEST FA45722

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.91min 198.630ppb m

response 288118

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:24:00 2017

9.5.2.21

9

BB055897.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055898.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:55 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.99	10.98	303642	358192	124.952	92.783m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		24.99%#	18.56%#
	Target Compounds						
1)	TNX	1.41	1.41	319656	499710	96.990	97.065
2)	HMX	1.54	1.54	168471	467019	86.707	91.116
3)	DNX	1.81	1.81	308975	601432	104.998	126.716
4)	MNX	2.42	2.42	229984	342686	96.510	92.745
5)	RDX	3.07	3.07	222397	317477	100.230	93.117
6)	1,3,5-Trinitrobe	4.85	4.85	436966	842372	98.092	101.024
7)	1,3-Dinitrobenze	6.11	6.10	565754	369228	92.666	90.764m
8)	3,5-Dinitroanili	6.49	6.49	398376	655907	96.034	96.345
9)	Nitrobenzene	7.72	7.71	355564	309481	97.895	93.385
10)	Nitroglycerin	0.00	9.04	0	481919	N.D. d	375.515
11)	Tetryl	9.39	9.36	318674	444947	115.118	112.565
12)	2,4,6-Trinitroto	9.81	9.81	397641	292677	88.393	60.762
13)	2-Amino-4,6-Dini	10.17	10.17	405691	316571	101.789	63.688
14)	4-Amino-2,6-Dini	10.63	10.63	240788	385068	86.260	73.359m
16)	2,4-Dinitrotolue	11.70	11.71	522271	301145	90.600	93.916
17)	2,6-Dinitrotolue	12.15	12.16	347517	376619	105.699	95.473
18)	o-Nitrotoluene	15.30	15.30	236436	295219	93.872	84.905m
19)	p-Nitrotoluene	15.88	15.90	361349	165363	93.105	64.023
20)	m-Nitrotoluene	16.81	16.85	372812	474374	98.831	111.231m
21)	PETN	0.00	18.78	0	746021	N.D. d	528.051m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055898.D 8330B_0629PLUS.M Fri Jun 30 11:02:18 2017 Page 1

9.5.3
9

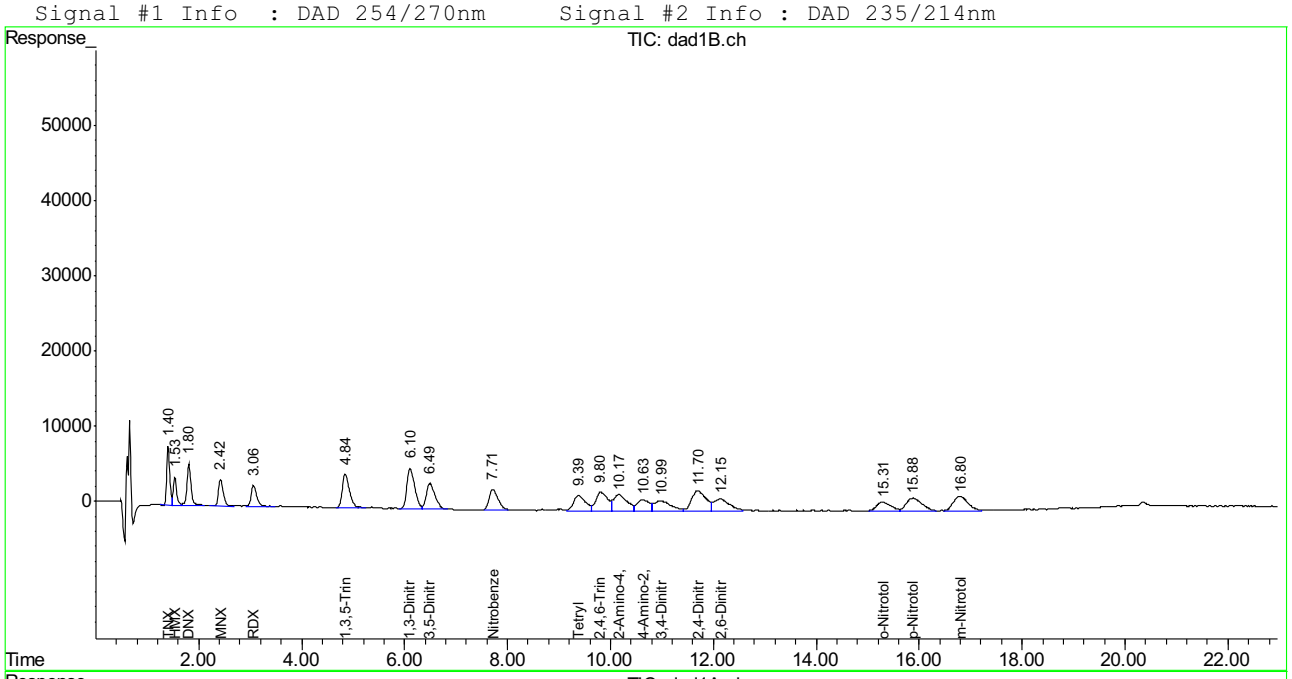
SGS ACCUTEST FA45722

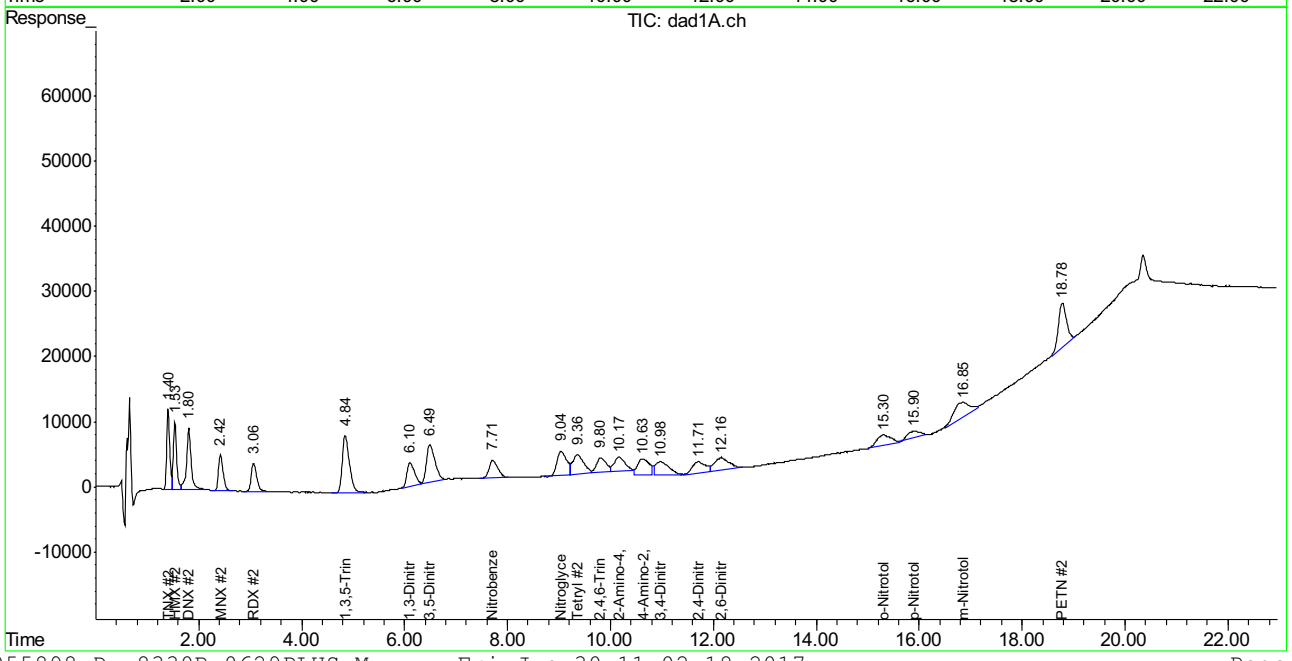
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:27 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055898.D
Injection Time: 06/29/17 17:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

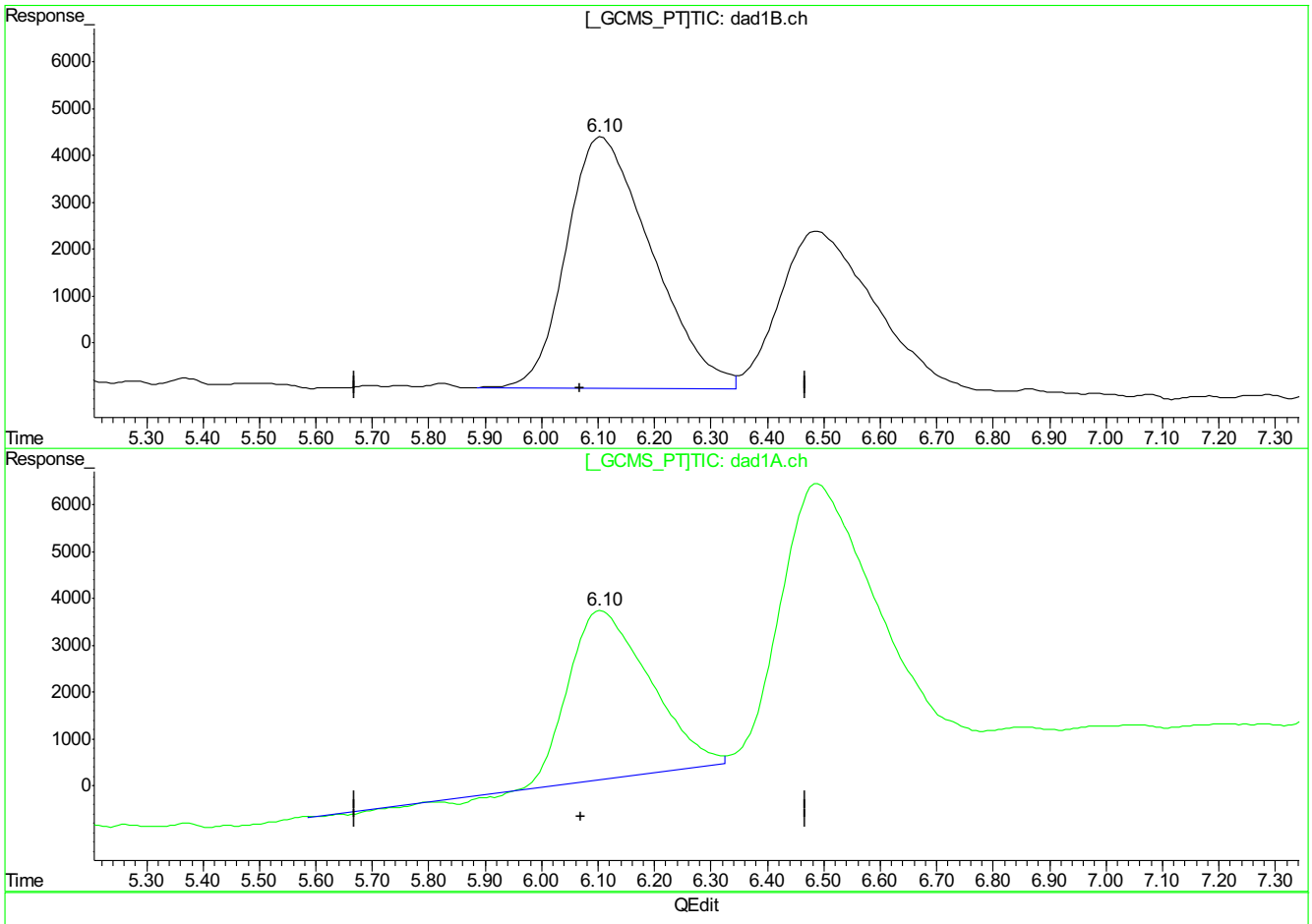
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.10	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.63	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.98	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.30	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.85	Poorly defined baseline
PETN	78-11-5	2	18.78	Poorly defined baseline

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:57:17                    Operator: evitam
Sample    : ic1615-100                               Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

6.11min 92.666ppb

response 565754

(7) 1,3-Dinitrobenzene #2

6.11min 86.511ppb

response 351927

(+) = Expected Retention Time

BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:25:13 2017

9.5.3.2

9

BB055898.D edits: 1,3-Dinitrobenzene

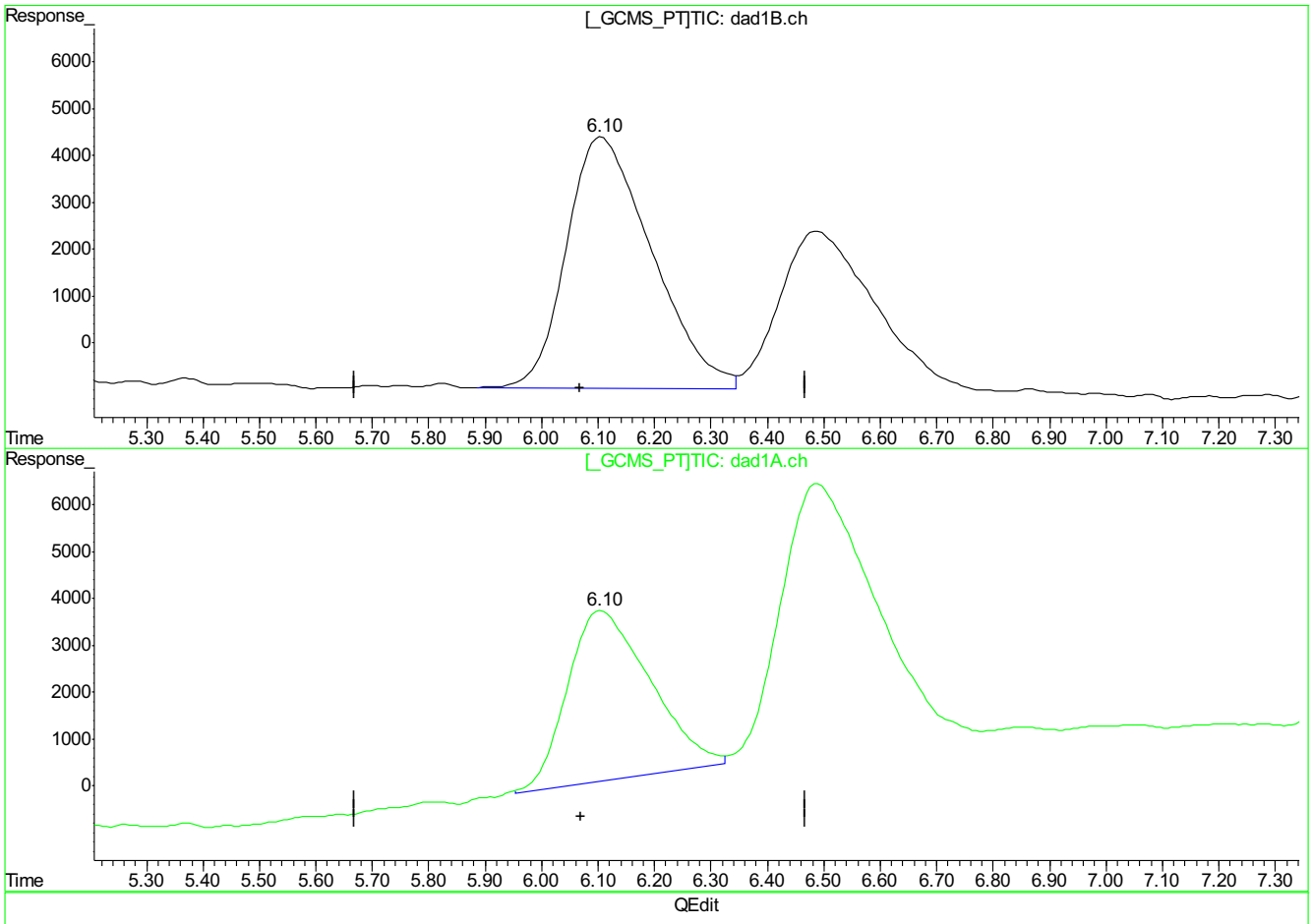
SGS ACCUTEST FA45722

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:57:17                    Operator: evitam
Sample    : ic1615-100                               Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

6.11min 92.666ppb

response 565754

(7) 1,3-Dinitrobenzene #2

6.10min 90.764ppb m

response 369228

(+) = Expected Retention Time

BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:25:16 2017

9.5.3.3

9

BB055898.D edits: 1,3-Dinitrobenzene

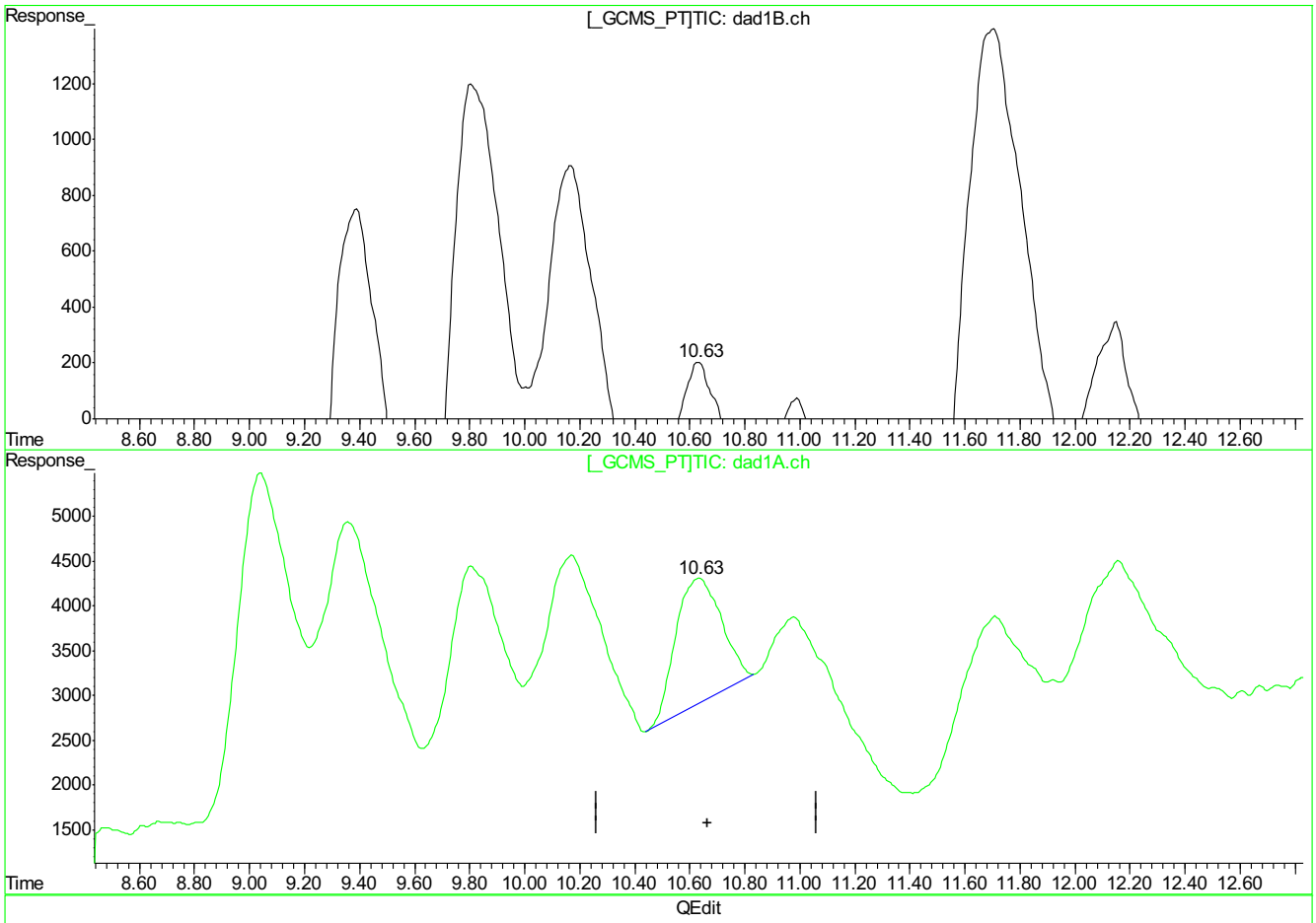
SGS ACCUTEST FA45722

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:57:17                    Operator: evitam
Sample    : ic1615-100                               Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration
```



(14) 4-Amino-2,6-Dinitrotoluene

10.63min 86.260ppb

response 240788

(14) 4-Amino-2,6-Dinitrotoluene #2

10.63min 30.639ppb

response 160473

(+) = Expected Retention Time

BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:25:52 2017

9.5.3.4

9

BB055898.D edits: 4-Amino-2,6-Dinitrotoluene

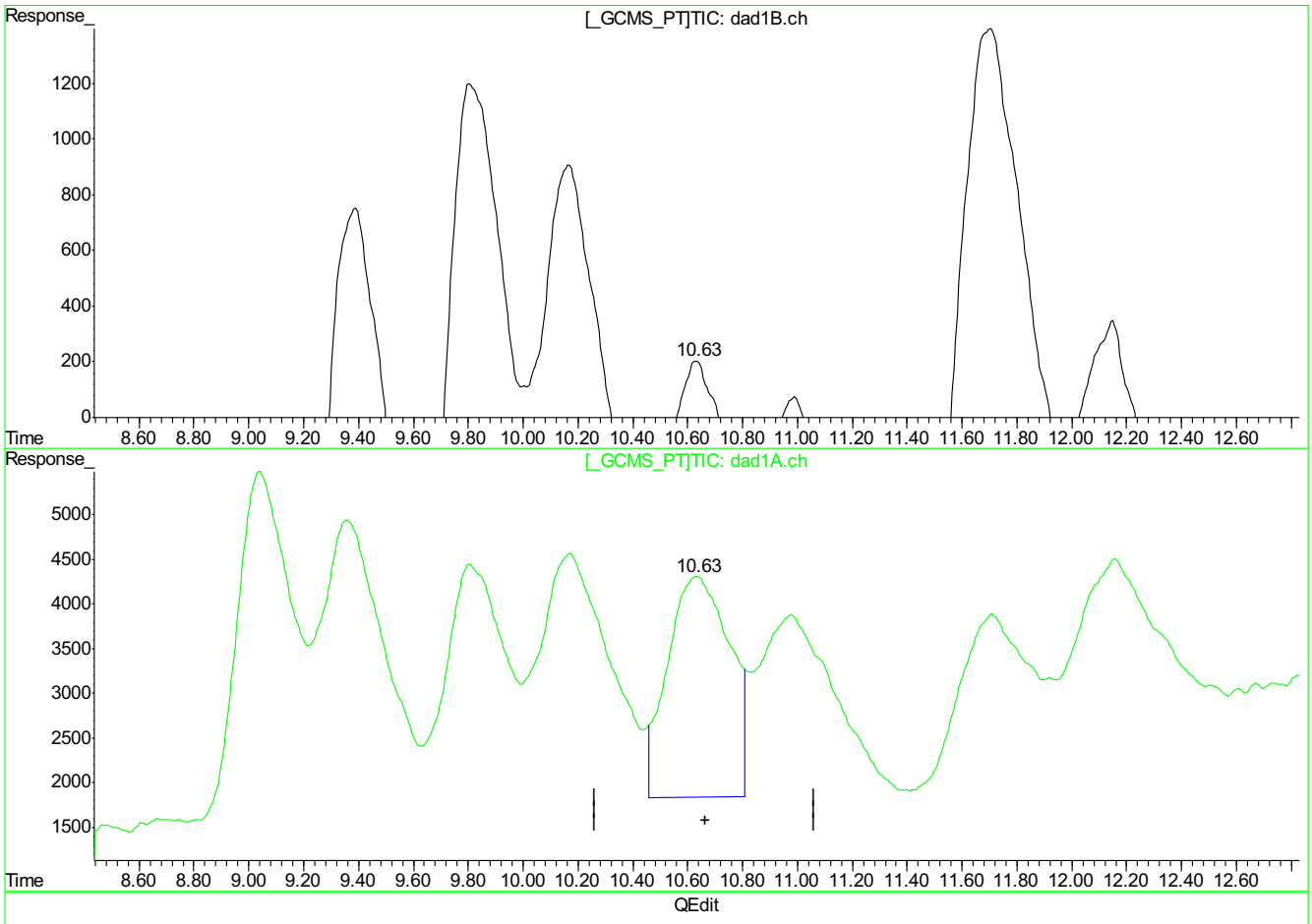
SGS ACCUTEST FA45722

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.63min 86.260ppb

response 240788

(14) 4-Amino-2,6-Dinitrotoluene #2

10.63min 73.359ppb m

response 385068

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:04 2017

9.5.3.5

9

BB055898.D edits: 4-Amino-2,6-Dinitrotoluene

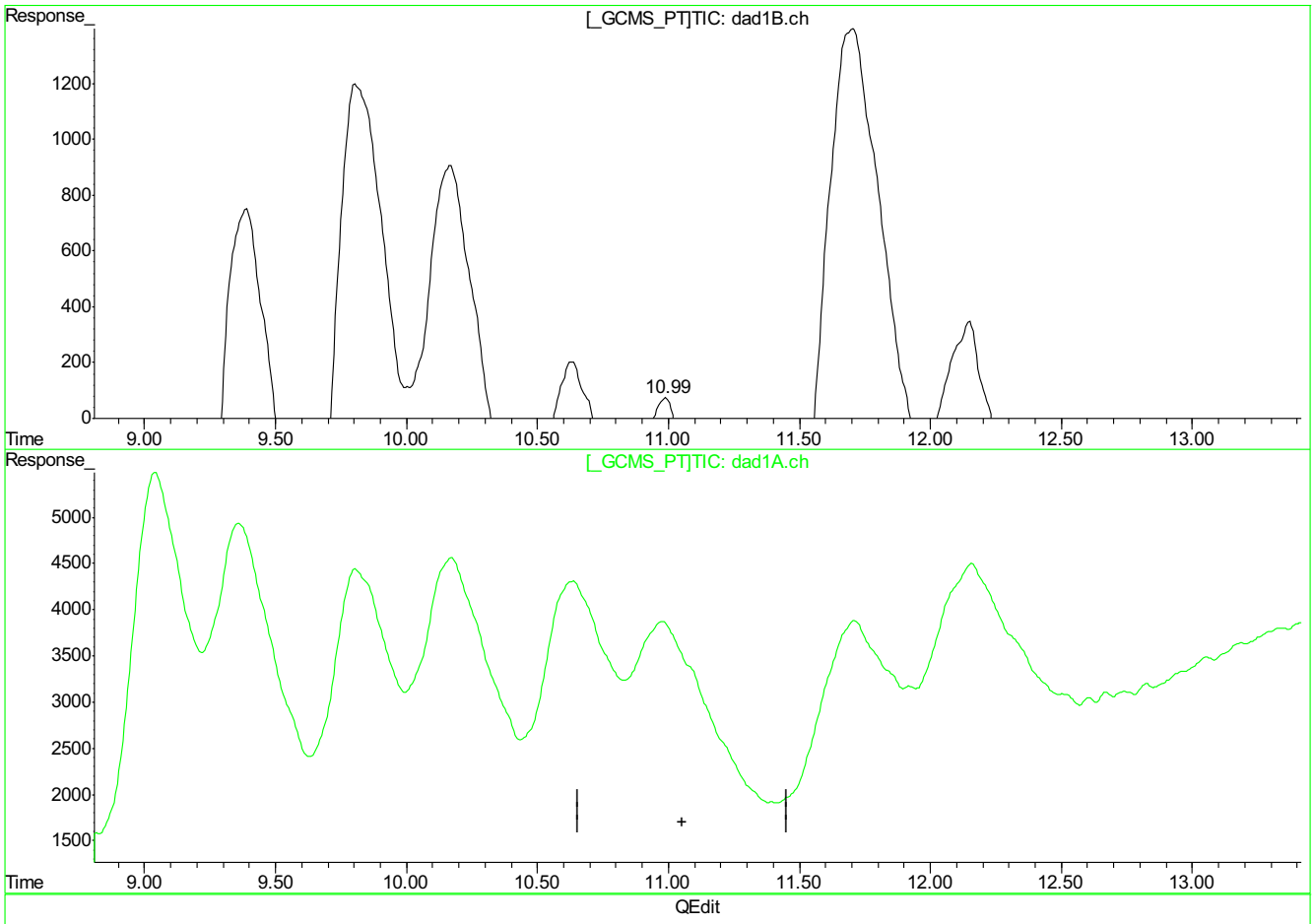
SGS ACCUTEST FA45722

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.99min 124.952ppb

response 303642

(15) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:08 2017

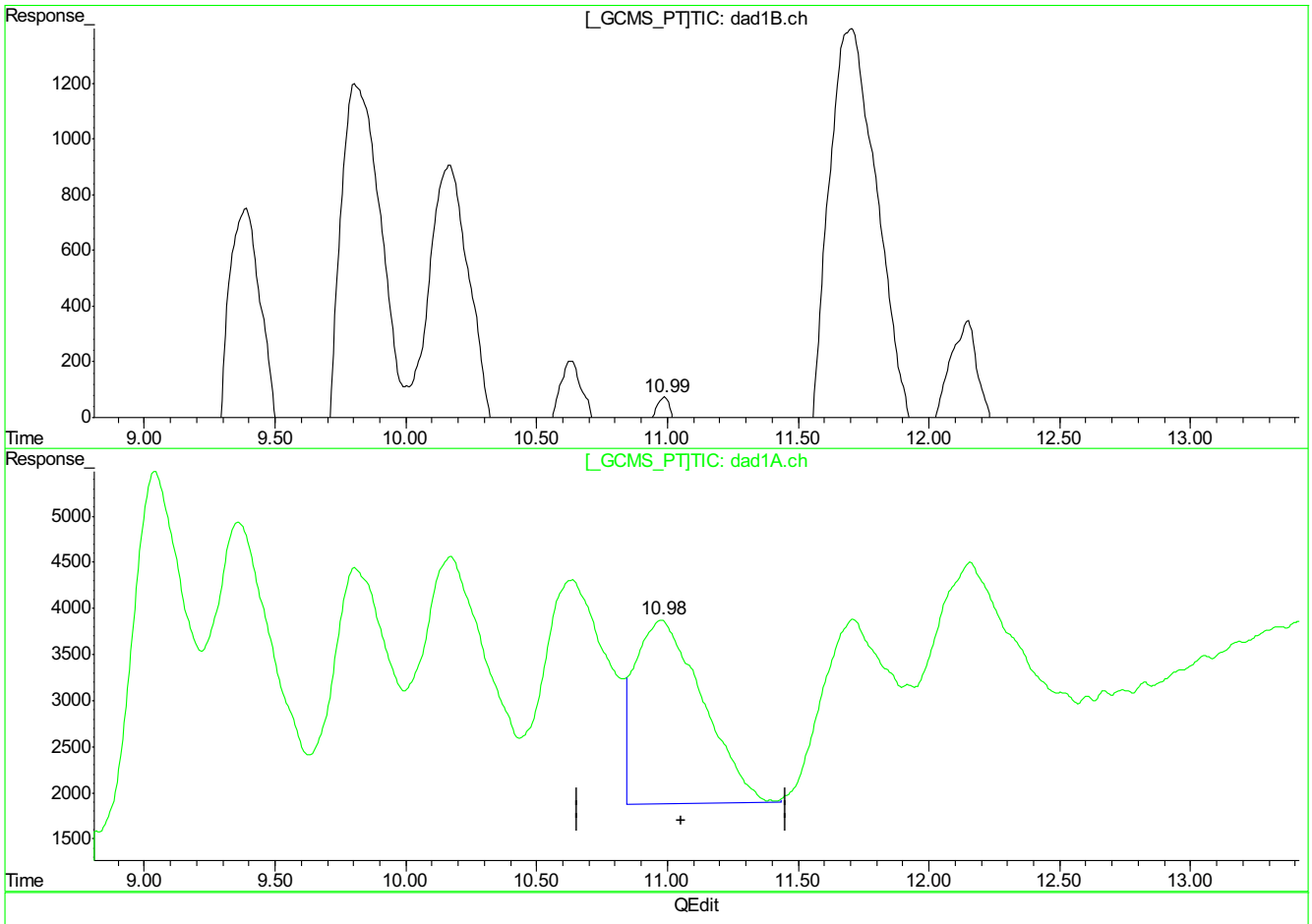
BB055898.D edits: 3,4-Dinitrotoluene

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.99min 124.952ppb

response 303642

(15) 3,4-Dinitrotoluene #2 (S)

10.98min 92.783ppb m

response 358192

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:32 2017

9.5.3.7

9

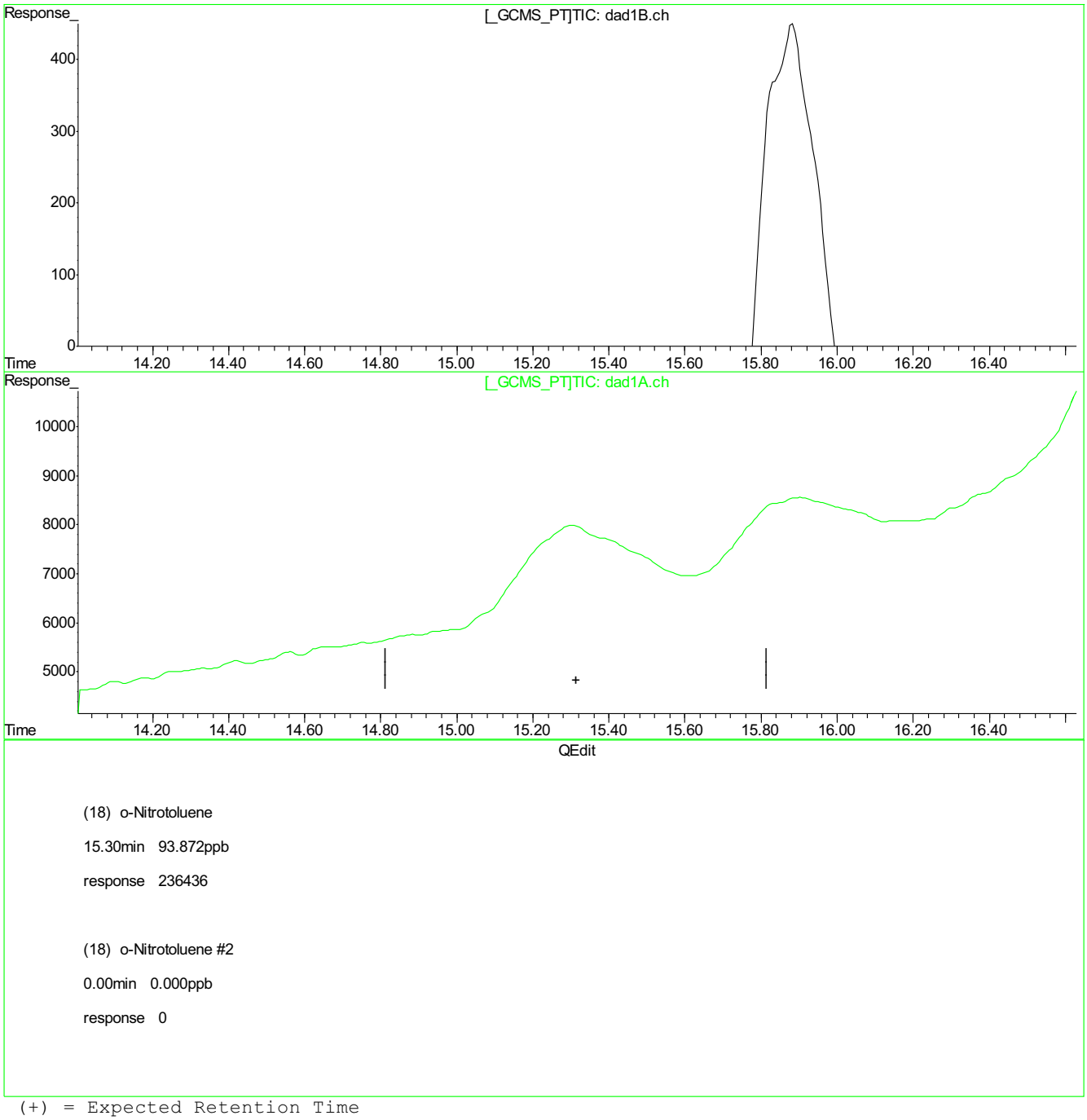
SGS ACCUTEST FA45722

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 93.872ppb

response 236436

(18) o-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:46 2017

9.5.3.8

6

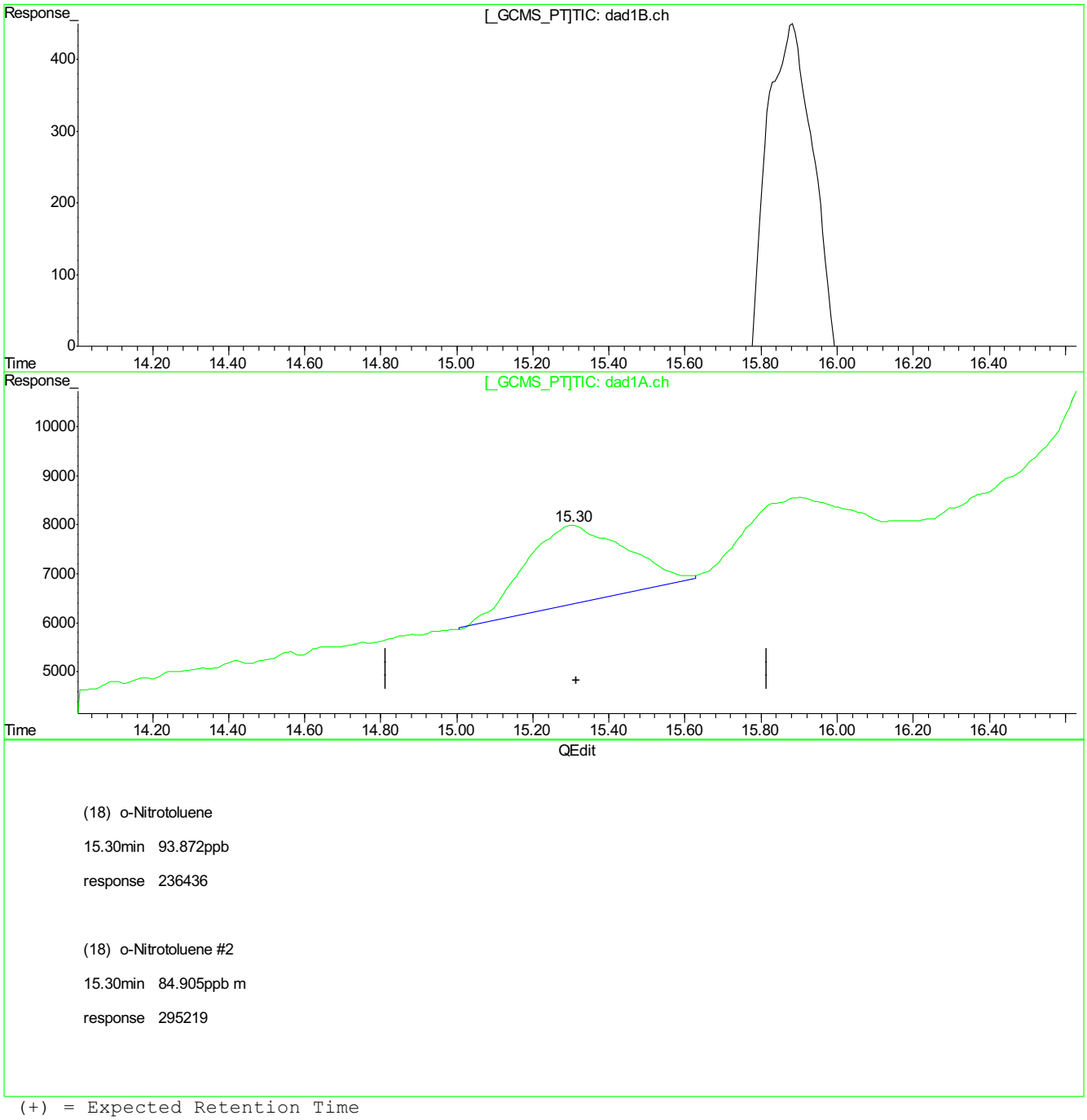
BB055898.D edits: o-Nitrotoluene

Cal Report: BB055898.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 93.872ppb

response 236436

(18) o-Nitrotoluene #2

15.30min 84.905ppb m

response 295219

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:51 2017

9.5.3.9

9

BB055898.D edits: o-Nitrotoluene

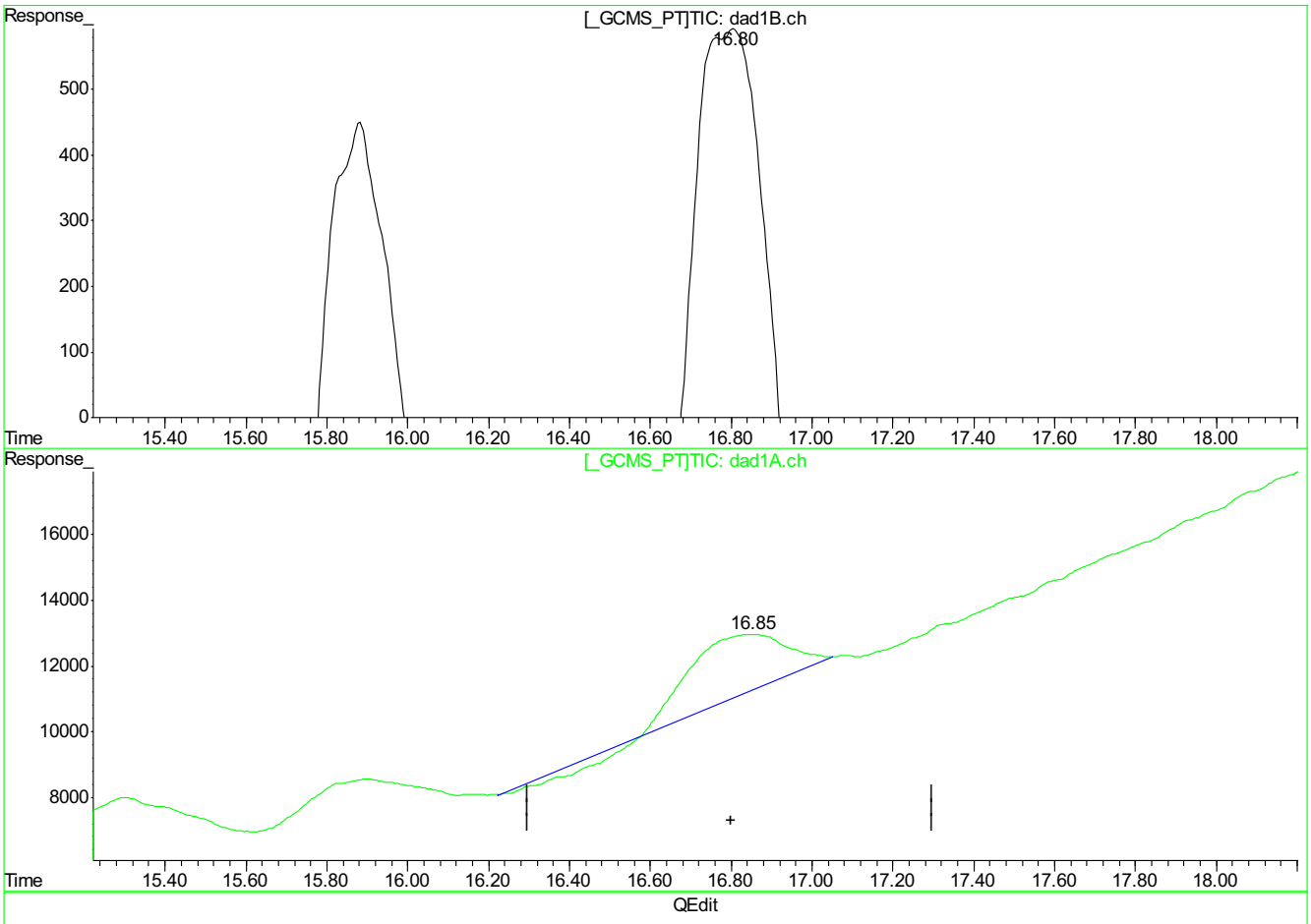
SGS ACCUTEST FA45722

Cal Report: BB055898.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



QEdit

(20) m-Nitrotoluene

16.81min 98.831ppb

response 372812

(20) m-Nitrotoluene #2

16.85min 63.080ppb

response 269021

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:56 2017

9.5.3.10

9

BB055898.D edits: m-Nitrotoluene

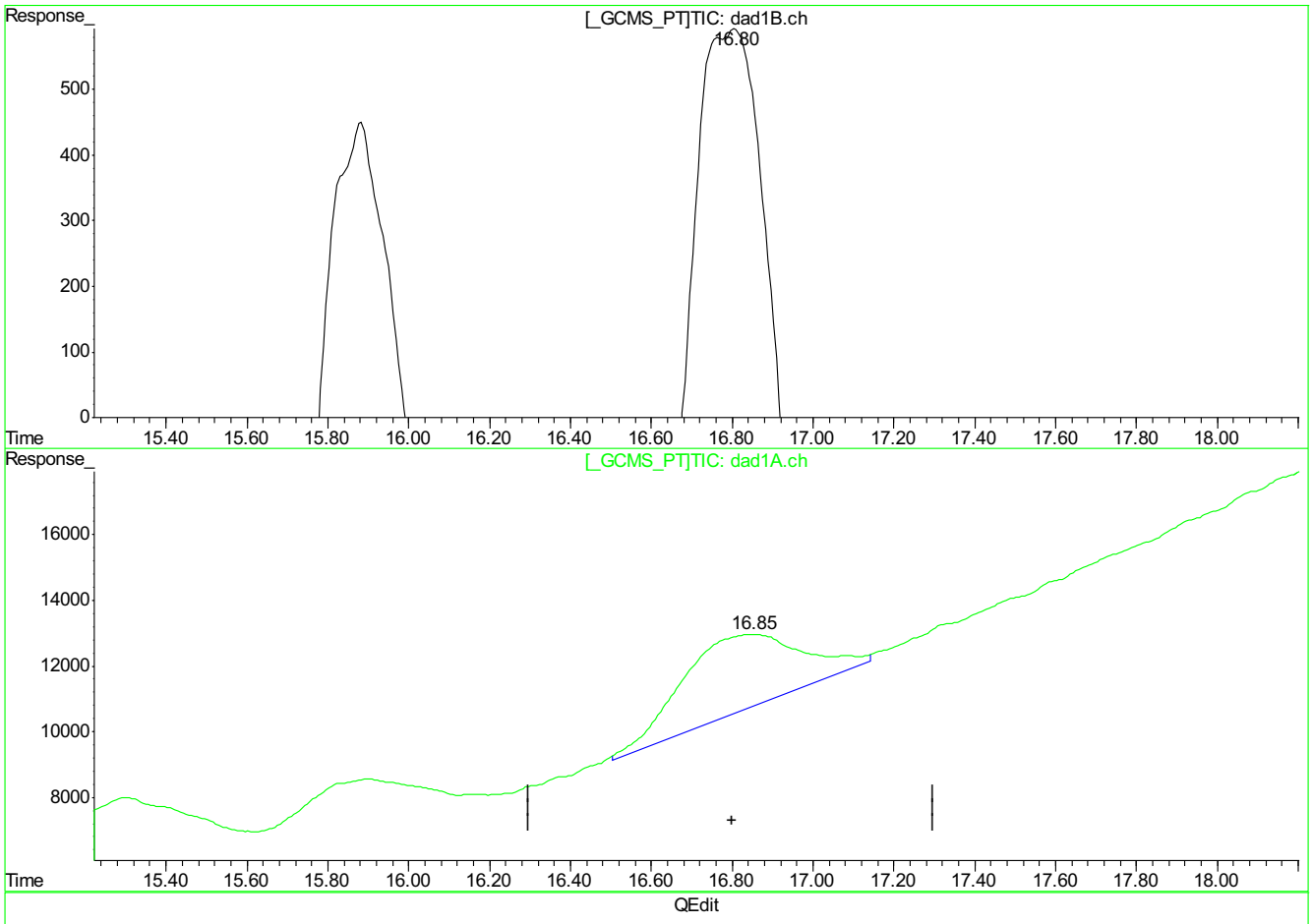
SGS ACCUTEST FA45722

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.81min 98.831ppb

response 372812

(20) m-Nitrotoluene #2

16.85min 111.231ppb m

response 474374

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:27:00 2017

9.5.3.11

9

BB055898.D edits: m-Nitrotoluene

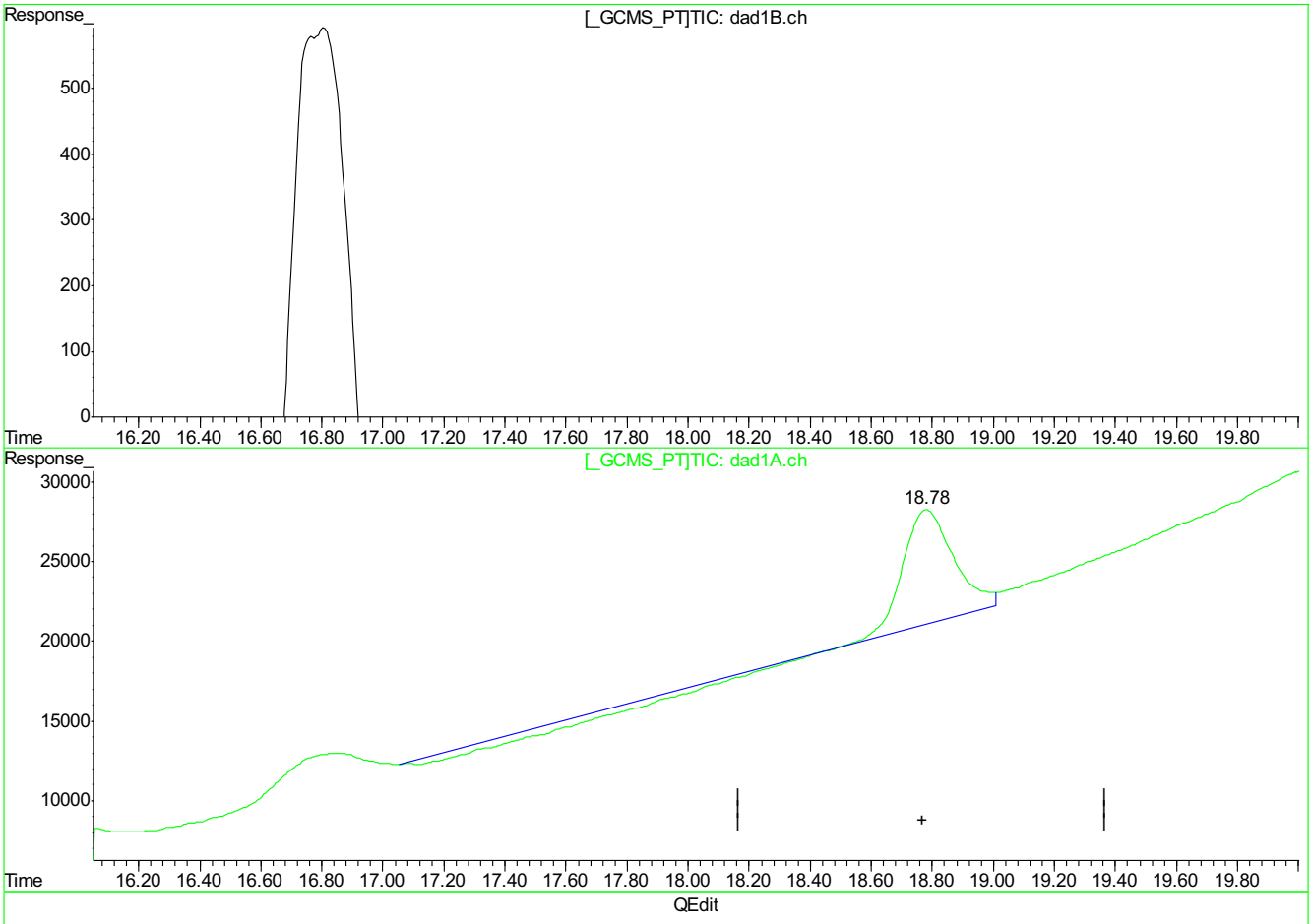
SGS ACCUTEST FA45722

Cal Report: BB055898.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.78min 403.766ppb

response 570434

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:27:02 2017

9.5.3.12

9

BB055898.D edits: PETN

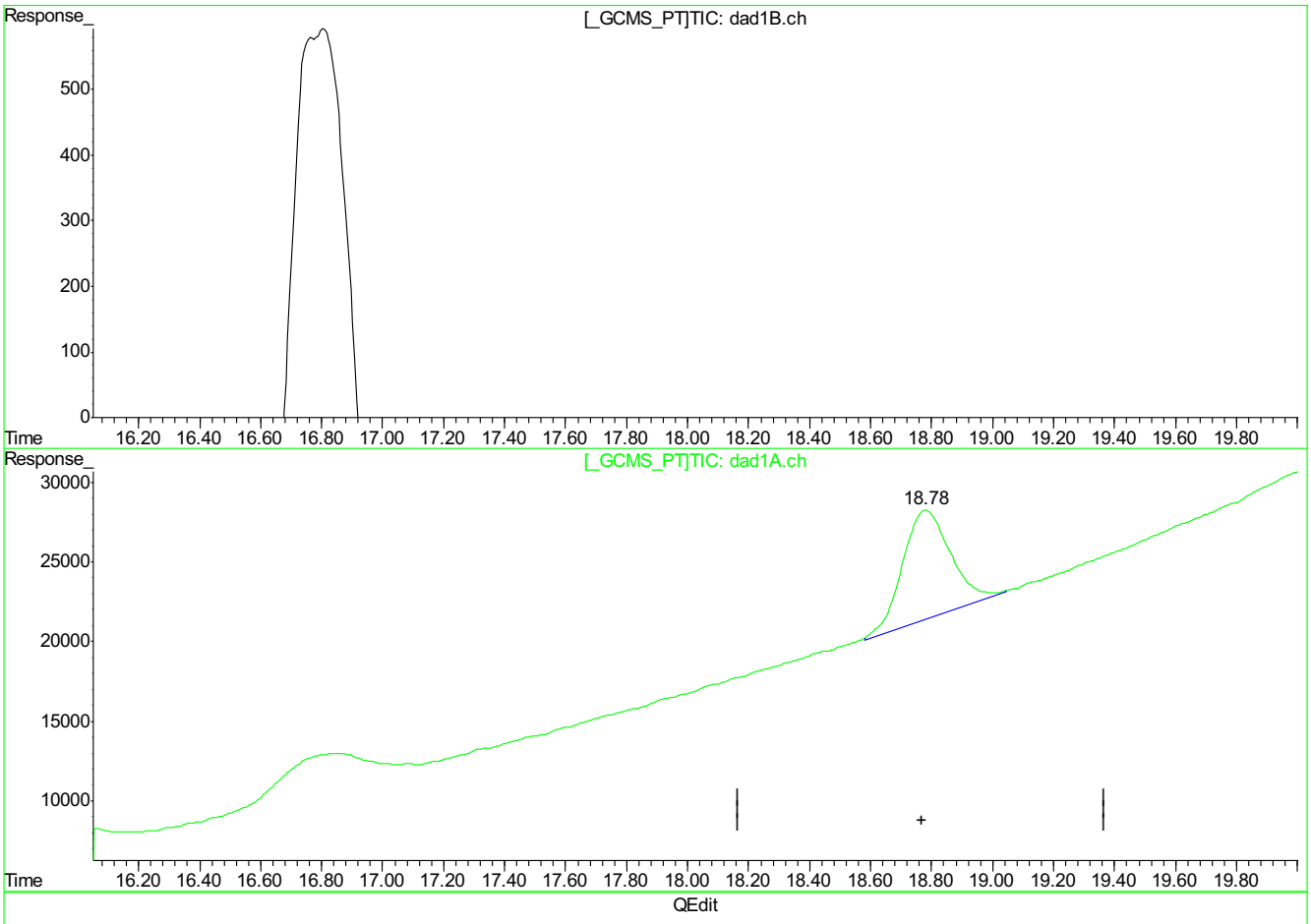
SGS ACCUTEST FA45722

Cal Report: BB055898.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.78min 528.051ppb m

response 746021

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:27:05 2017

9.5.3.13

9

BB055898.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055899.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:56 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.91	10.90	513888	797945	211.471	205.558
	Spiked Amount 500.000	Range 69 - 134		Recovery =		42.29%#	41.11%#
	Target Compounds						
1)	TNX	1.39	1.39	622570	957998	188.901	186.084
2)	HMX	1.51	1.51	346143	955700	178.149	186.522
3)	DNX	1.77	1.77	560440	935552	190.452	197.113
4)	MNX	2.36	2.36	449580	688154	188.660	186.244
5)	RDX	2.97	2.97	412081	638101	185.717	187.157
6)	1,3,5-Trinitrobe	4.76	4.76	853061	1637459	191.499	196.376
7)	1,3-Dinitrobenze	6.01	6.01	1130670	745185	185.194	183.182
8)	3,5-Dinitroanili	6.35	6.35	783175	1292315	188.796	189.826
9)	Nitrobenzene	7.62	7.62	692969	646769	190.791	195.161
10)	Nitroglycerin	0.00	8.99	0	1078821	N.D. d	840.624m
11)	Tetryl	9.27	9.26	639146	1128313	230.885	285.446
12)	2,4,6-Trinitroto	9.74	9.74	726665	818010	161.533	169.825
13)	2-Amino-4,6-Dini	10.03	10.04	806528	1140417	202.360	229.431
14)	4-Amino-2,6-Dini	10.51	10.51	515093	957443	184.527	181.391
16)	2,4-Dinitrotolue	11.62	11.62	1027841	620955	178.302	193.652
17)	2,6-Dinitrotolue	12.06	12.07	647489	772626	196.937	195.861
18)	o-Nitrotoluene	15.24	15.24	473646	597774	188.051	171.919m
19)	p-Nitrotoluene	15.82	15.83	726775	463178	187.261	179.328
20)	m-Nitrotoluene	16.75	16.75	722793	812854	191.609	190.598m
21)	PETN	0.00	18.76	0	1458795	N.D. d	1032.569m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055899.D 8330B_0629PLUS.M Fri Jun 30 11:02:19 2017 Page 1

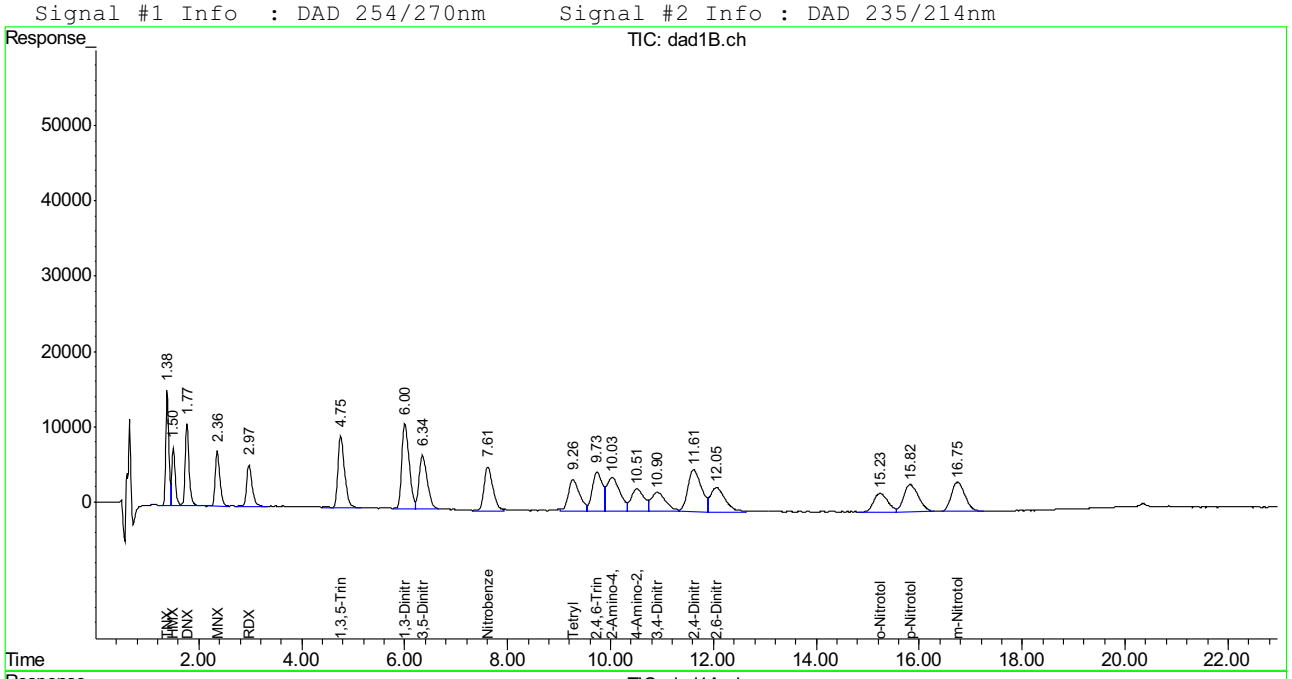
SGS ACCUTEST FA45722

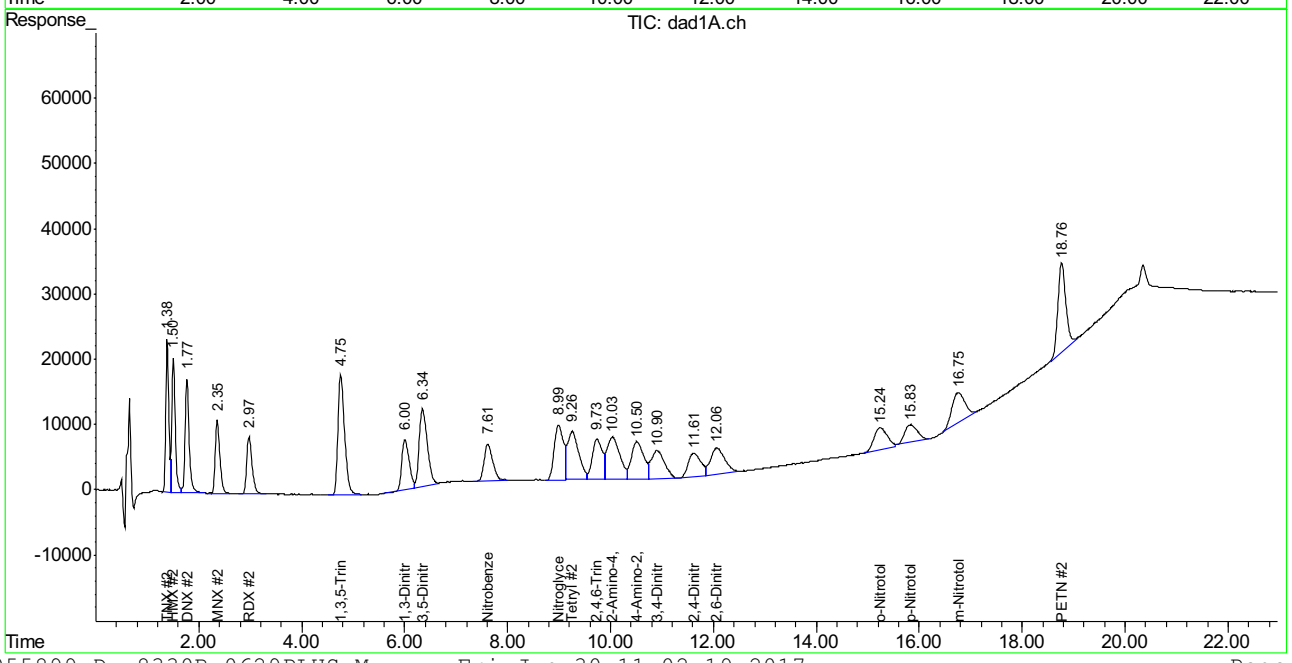
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055899.D
Injection Time: 06/29/17 18:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

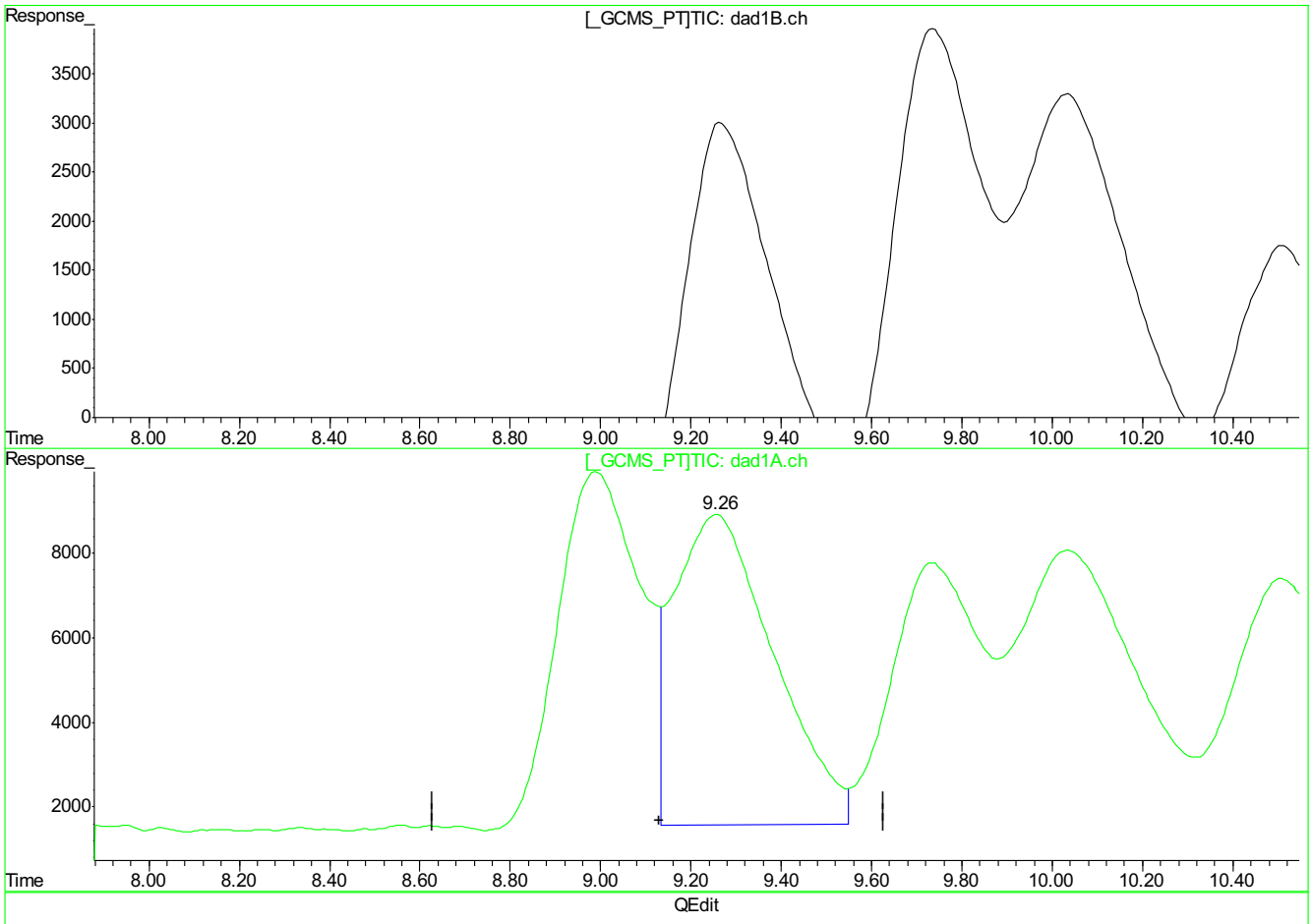
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.99	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.24	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.75	Poorly defined baseline
PETN	78-11-5	2	18.76	Poorly defined baseline

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

9.26min 879.188ppb

response 1128313

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:05 2017

9.5.4.2

9

BB055899.D edits: Nitroglycerin

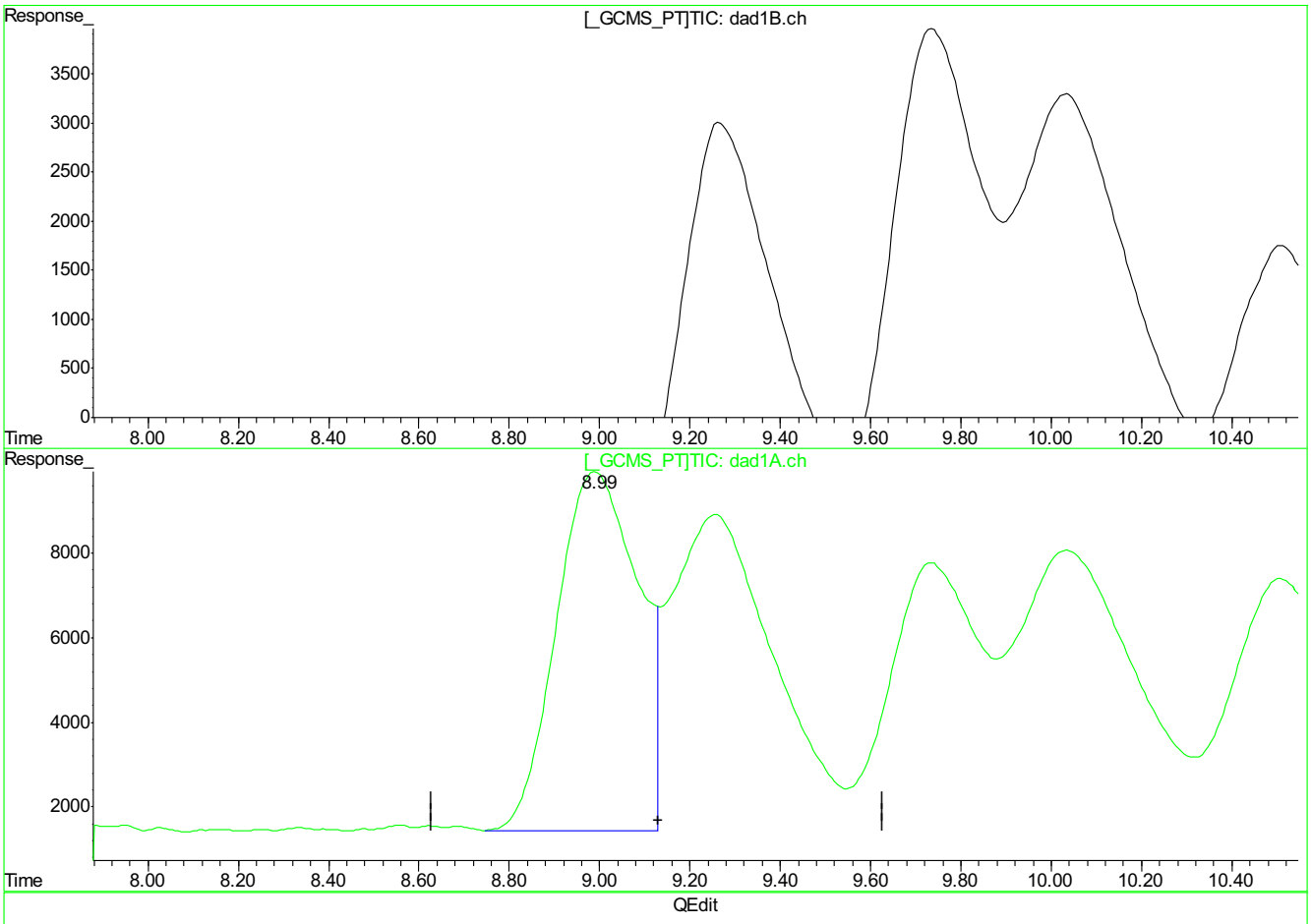
SGS ACCUTEST FA45722

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.99min 840.624ppb m

response 1078821

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:11 2017

9.5.4.3

9

BB055899.D edits: Nitroglycerin

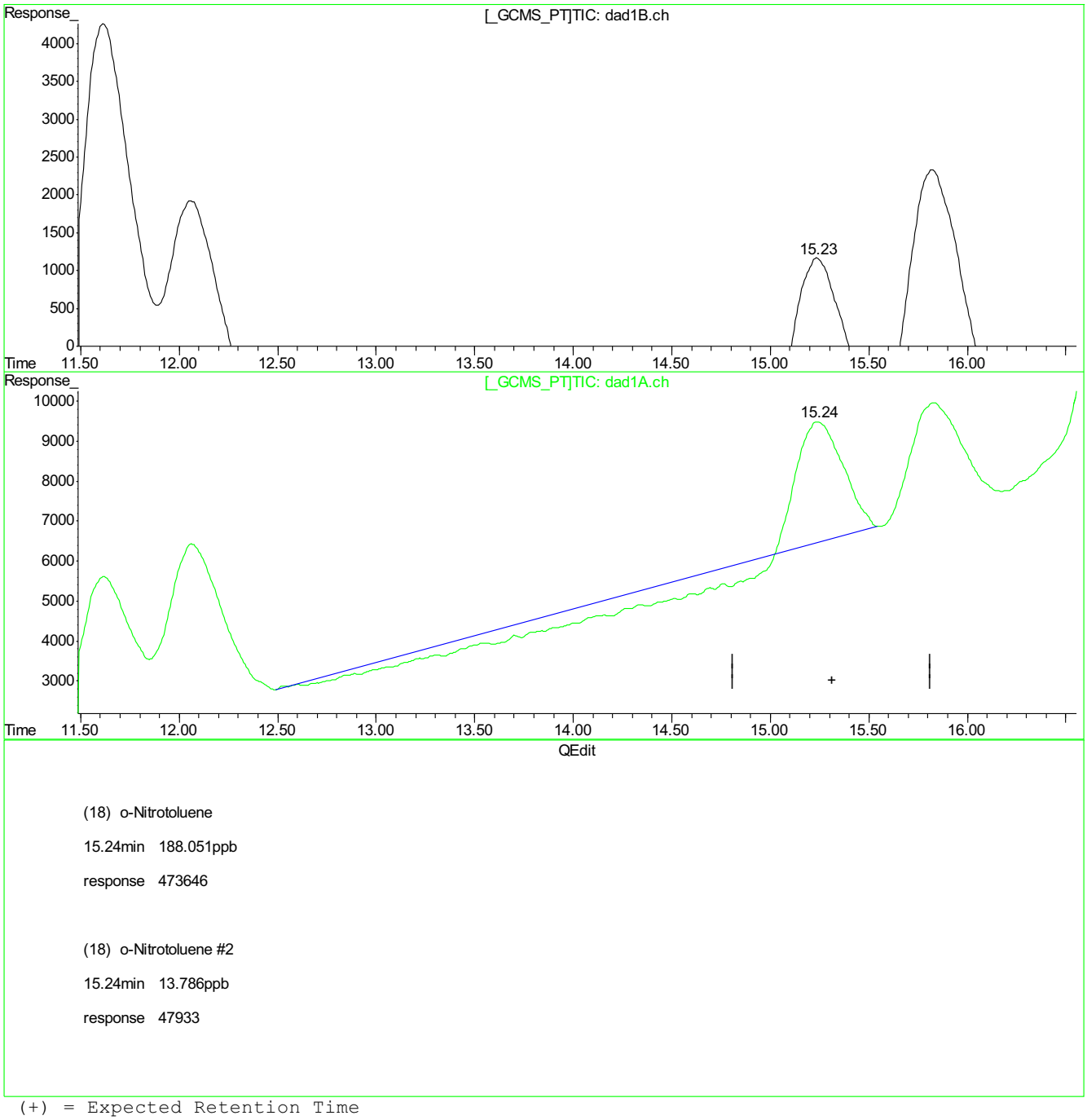
SGS ACCUTEST FA45722

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.24min 188.051ppb

response 473646

(18) o-Nitrotoluene #2

15.24min 13.786ppb

response 47933

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:33 2017

9.5.4.4

9

BB055899.D edits: o-Nitrotoluene

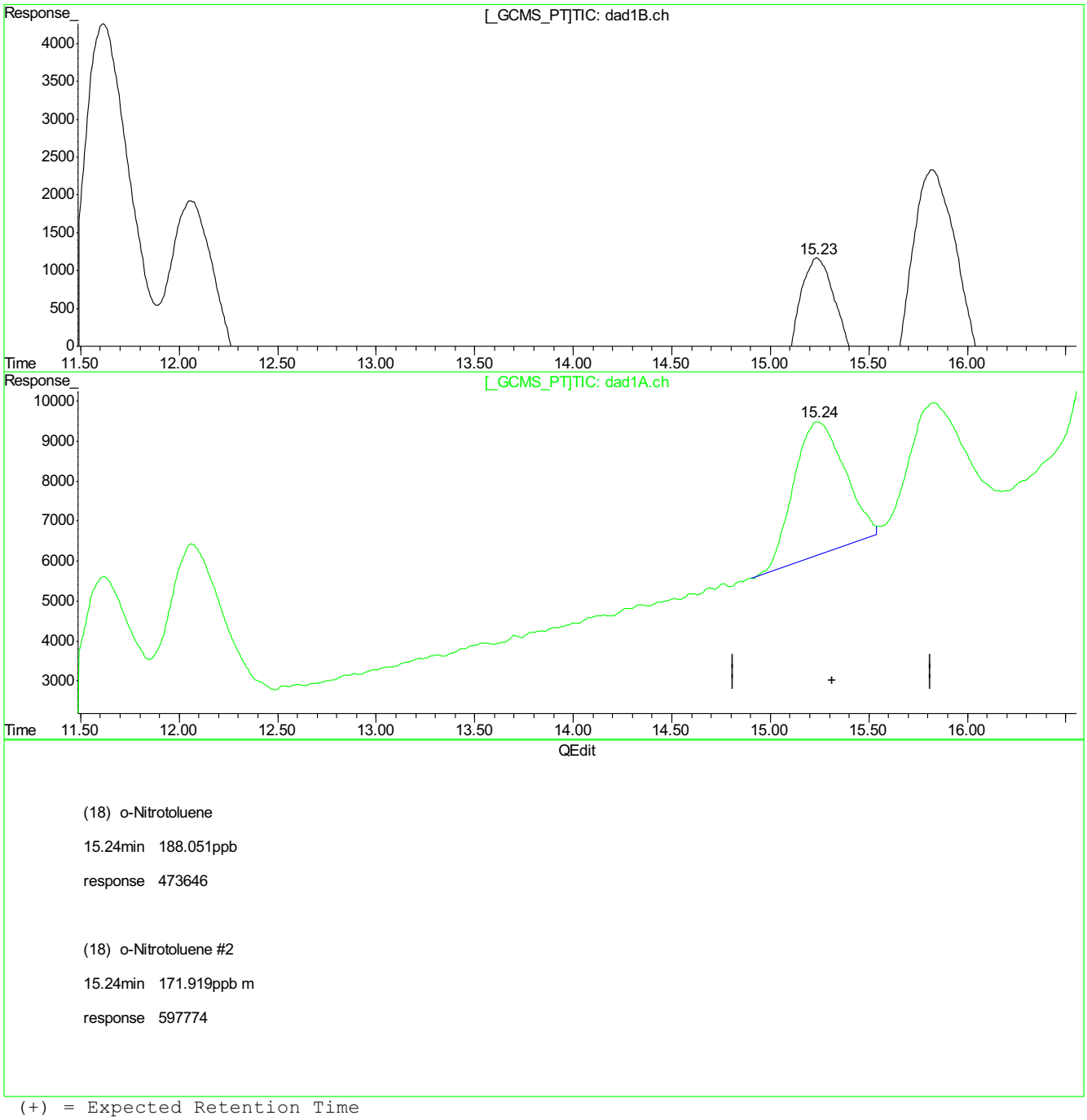
SGS ACCUTEST FA45722

Cal Report: **BB055899.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.24min 188.051ppb

response 473646

(18) o-Nitrotoluene #2

15.24min 171.919ppb m

response 597774

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:37 2017

9.5.4.5

9

BB055899.D edits: o-Nitrotoluene

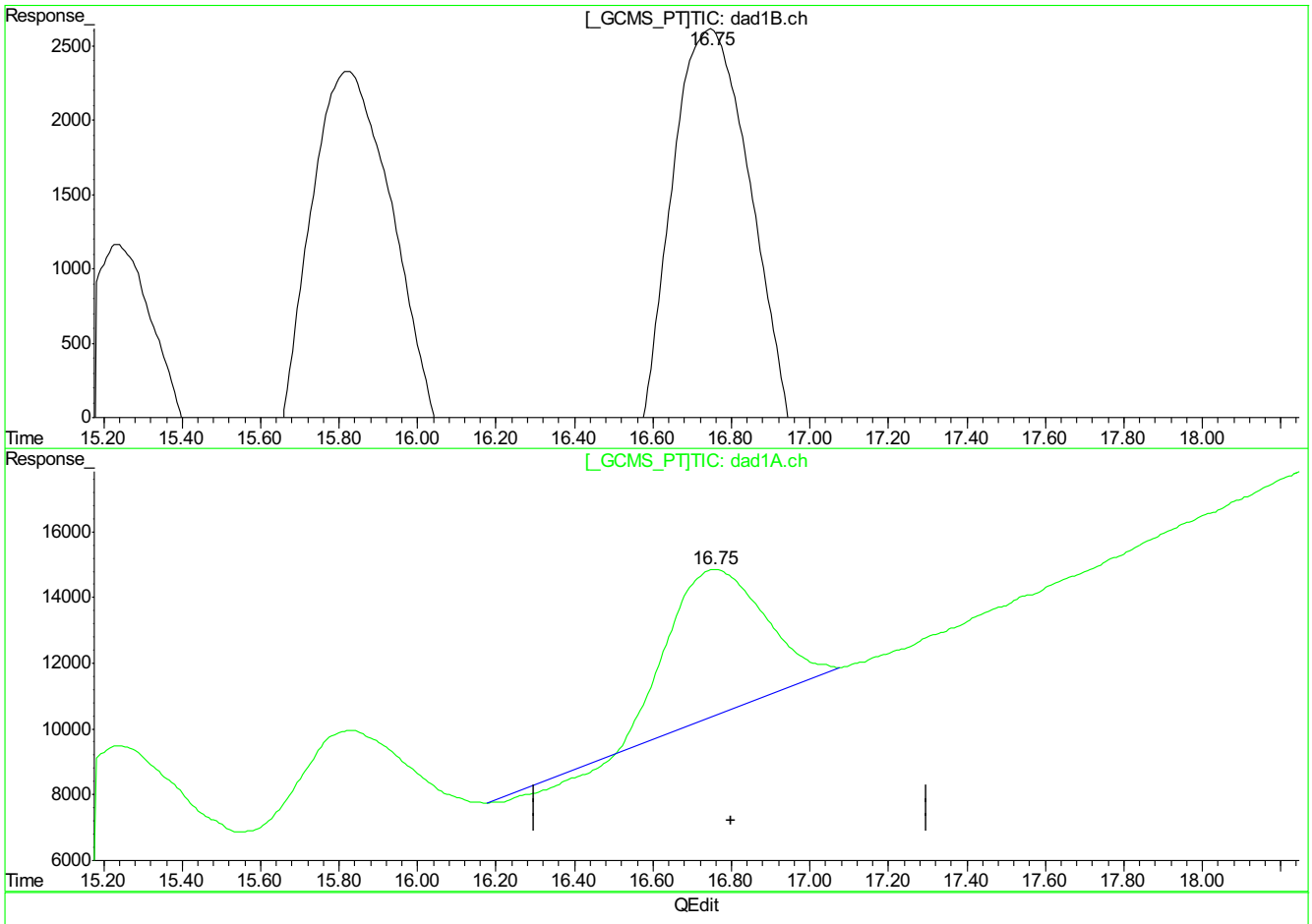
SGS ACCUTEST FA45722

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.75min 191.609ppb

response 722793

(20) m-Nitrotoluene #2

16.76min 168.531ppb

response 718742

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:42 2017

9.5.4.6

9

BB055899.D edits: m-Nitrotoluene

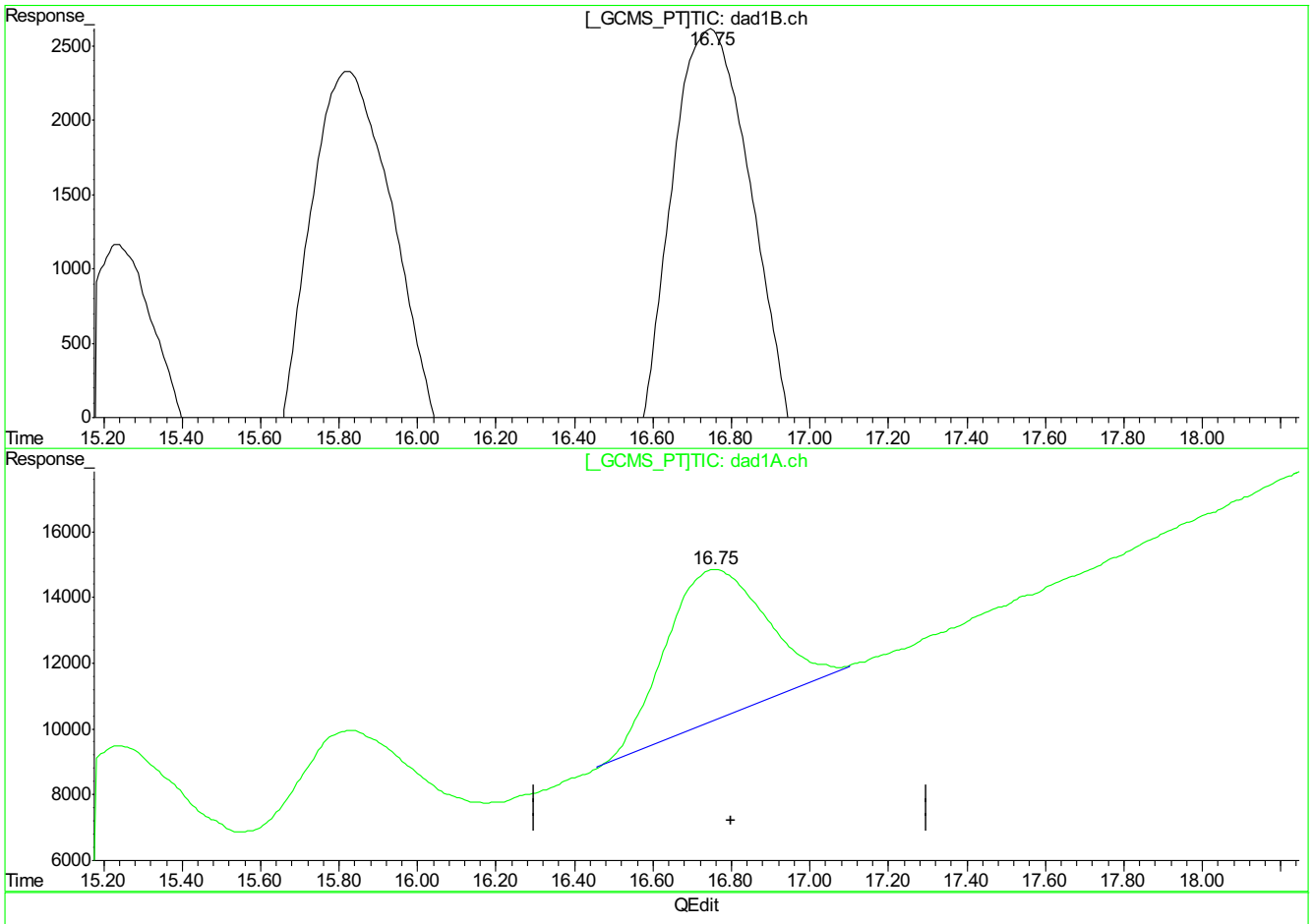
SGS ACCUTEST FA45722

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.75min 191.609ppb

response 722793

(20) m-Nitrotoluene #2

16.75min 190.598ppb m

response 812854

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:46 2017

9.5.4.7

9

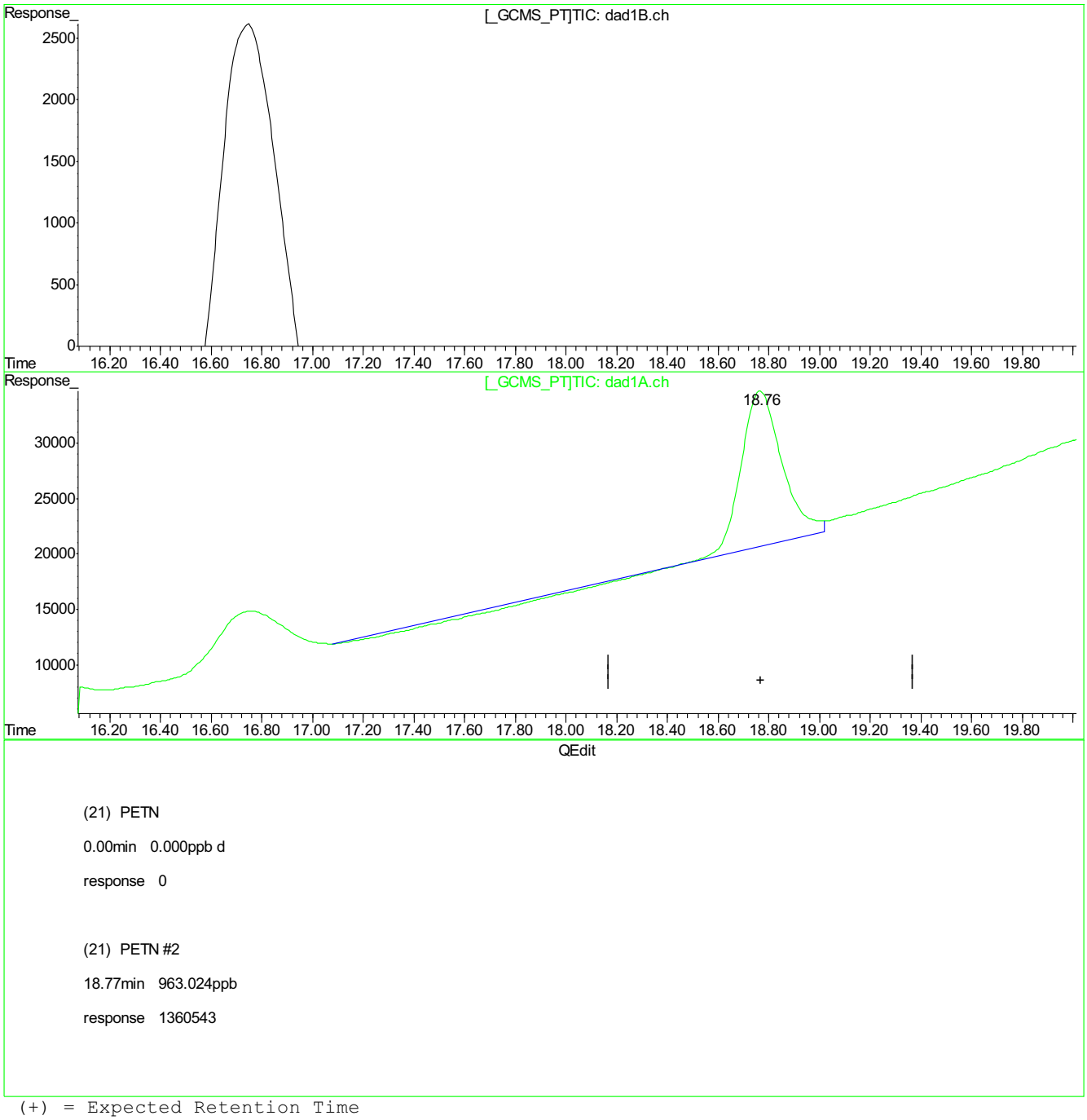
SGS ACCUTEST FA45722

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 963.024ppb

response 1360543

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:50 2017

9.5.4.8

9

BB055899.D edits: PETN

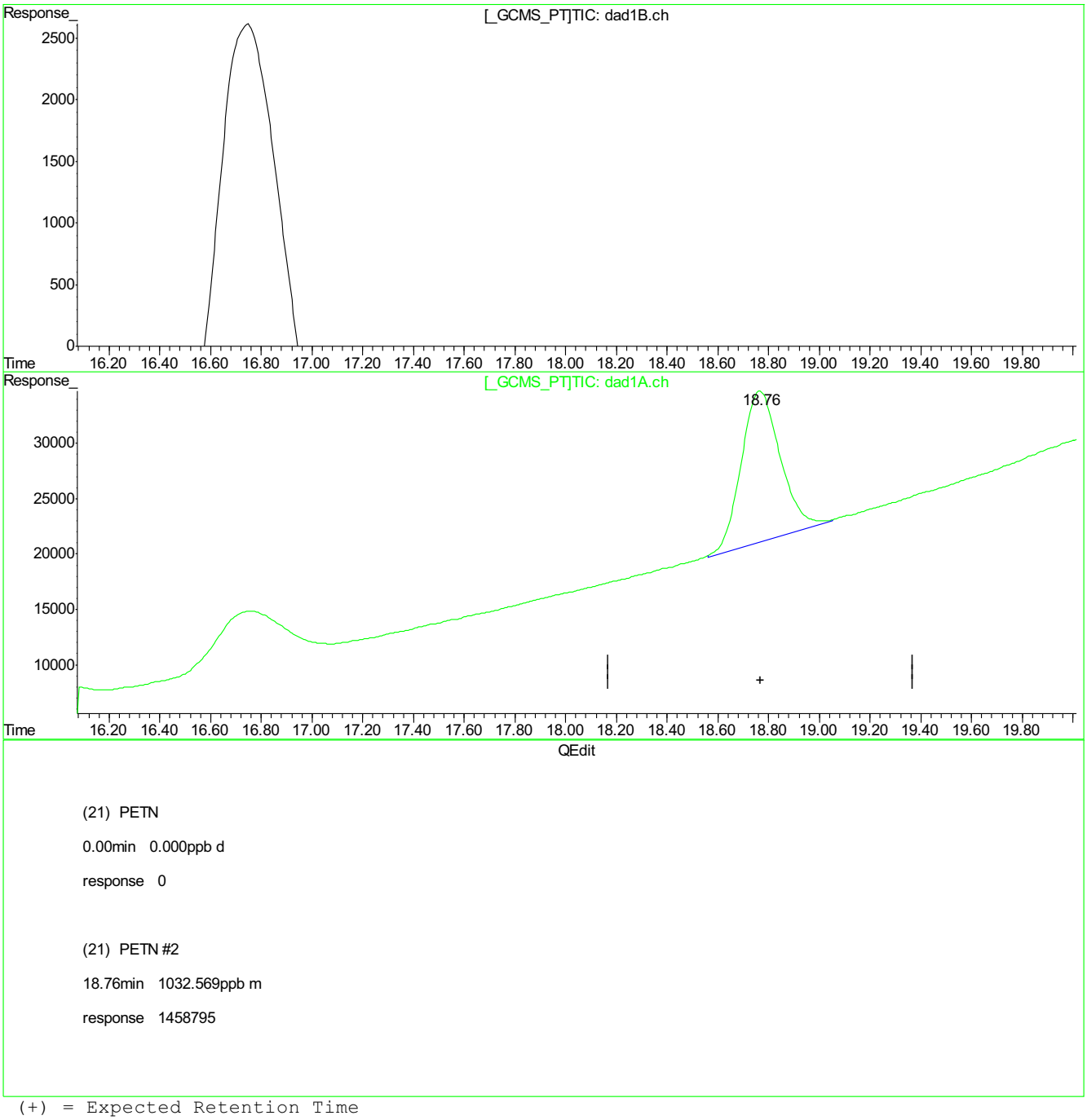
SGS ACCUTEST FA45722

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.76min 1032.569ppb m

response 1458795

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:53 2017

9.5.4.9

9

BB055899.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055900.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:57 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.99	10.99	1197434	2036372	492.758	516.767
Spiked Amount	500.000	Range	69 - 134	Recovery	=	98.55%	103.35%
	Target Compounds						
1)	TNX	1.39	1.39	1552796	2370812	471.150	460.513
2)	HMX	1.52	1.52	871635	2386637	448.604	466.263
3)	DNX	1.78	1.78	1387279	2212990	471.433	466.257
4)	MNX	2.38	2.38	1148733	1760143	482.051	476.370
5)	RDX	3.00	3.00	1001973	1584812	451.570	464.831
6)	1,3,5-Trinitrobe	4.80	4.80	2145126	4162971	481.547	499.255
7)	1,3-Dinitrobenze	6.05	6.05	2862270	1923294	468.816	472.787
8)	3,5-Dinitroanili	6.40	6.40	1902904	3199569	458.722	469.980
9)	Nitrobenzene	7.65	7.65	1699795	1624666	467.993	490.240
10)	Nitroglycerin	0.00	9.07	0	2913807	N.D. d	2270.457
11)	Tetryl	9.35	9.35	1590515	2728385	574.558	690.240
12)	2,4,6-Trinitroto	9.82	9.82	1916845	2291924	426.102	475.819
13)	2-Amino-4,6-Dini	10.13	10.13	1899054	2793415	476.478	561.983
14)	4-Amino-2,6-Dini	10.60	10.60	1314632	2574781	470.955	480.432
16)	2,4-Dinitrotolue	11.69	11.69	2588059	1665093	448.957	519.278
17)	2,6-Dinitrotolue	12.14	12.15	1556504	1968143	473.419	498.925
18)	o-Nitrotoluene	15.28	15.28	1170334	1567114	464.656	450.701m
19)	p-Nitrotoluene	15.87	15.87	1832572	1386103	472.182	536.656
20)	m-Nitrotoluene	16.77	16.77	1779890	2039961	471.840	478.330
21)	PETN	0.00	18.76	0	3676152	N.D. d	2602.066m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055900.D 8330B_0629PLUS.M Fri Jun 30 11:02:20 2017 Page 1

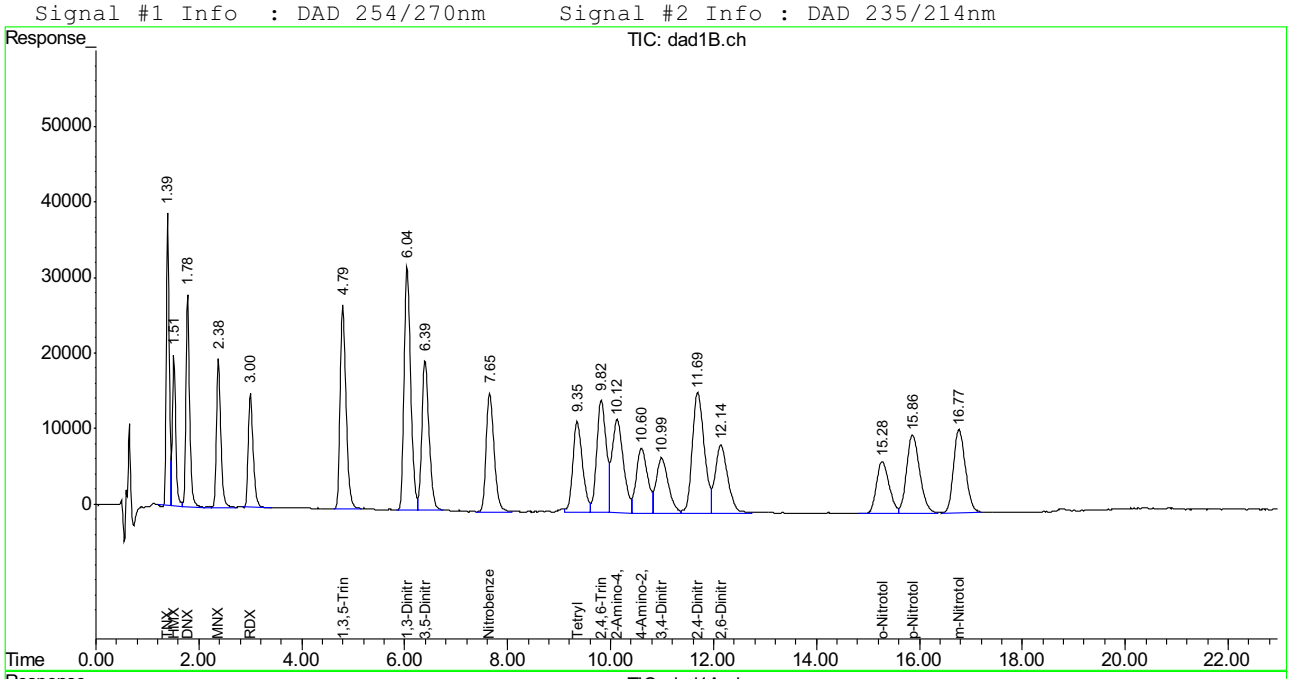
SGS ACCUTEST FA45722

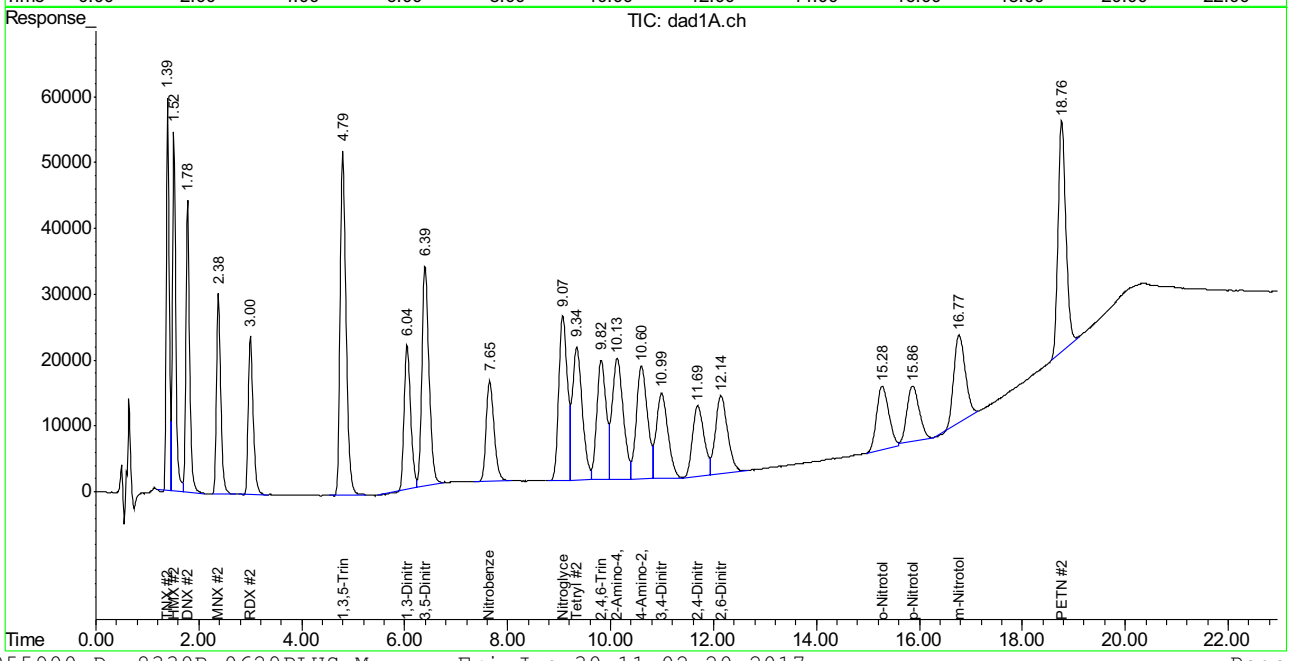
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:29 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1615-ICC1615
Lab FileID: BB055900.D
Injection Time: 06/29/17 18:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

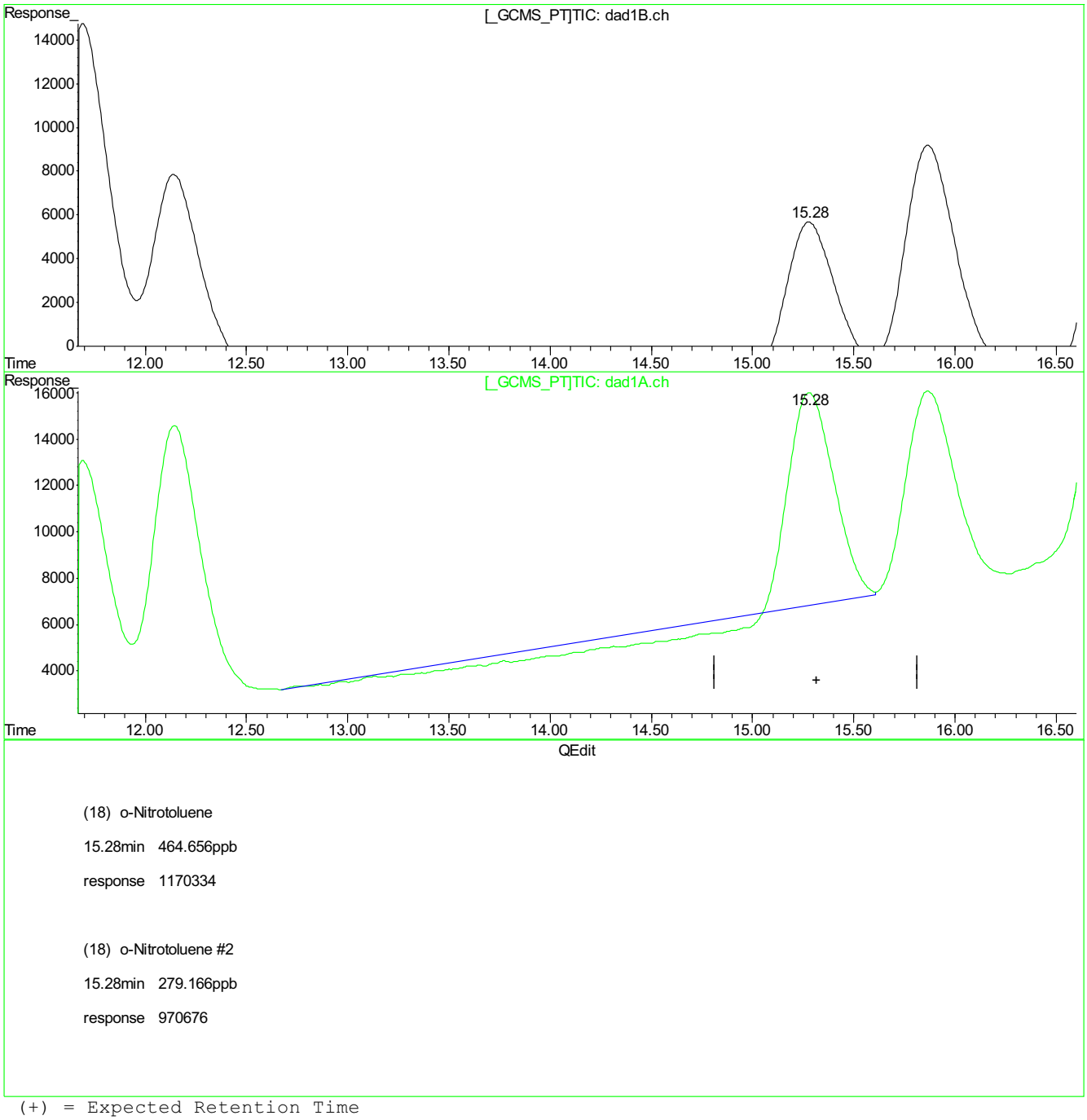
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.28	Poorly defined baseline
PETN	78-11-5	2	18.76	Poorly defined baseline

Cal Report: BB055900.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.28min 464.656ppb

response 1170334

(18) o-Nitrotoluene #2

15.28min 279.166ppb

response 970676

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:29:50 2017

9.5.5.2

9

BB055900.D edits: o-Nitrotoluene

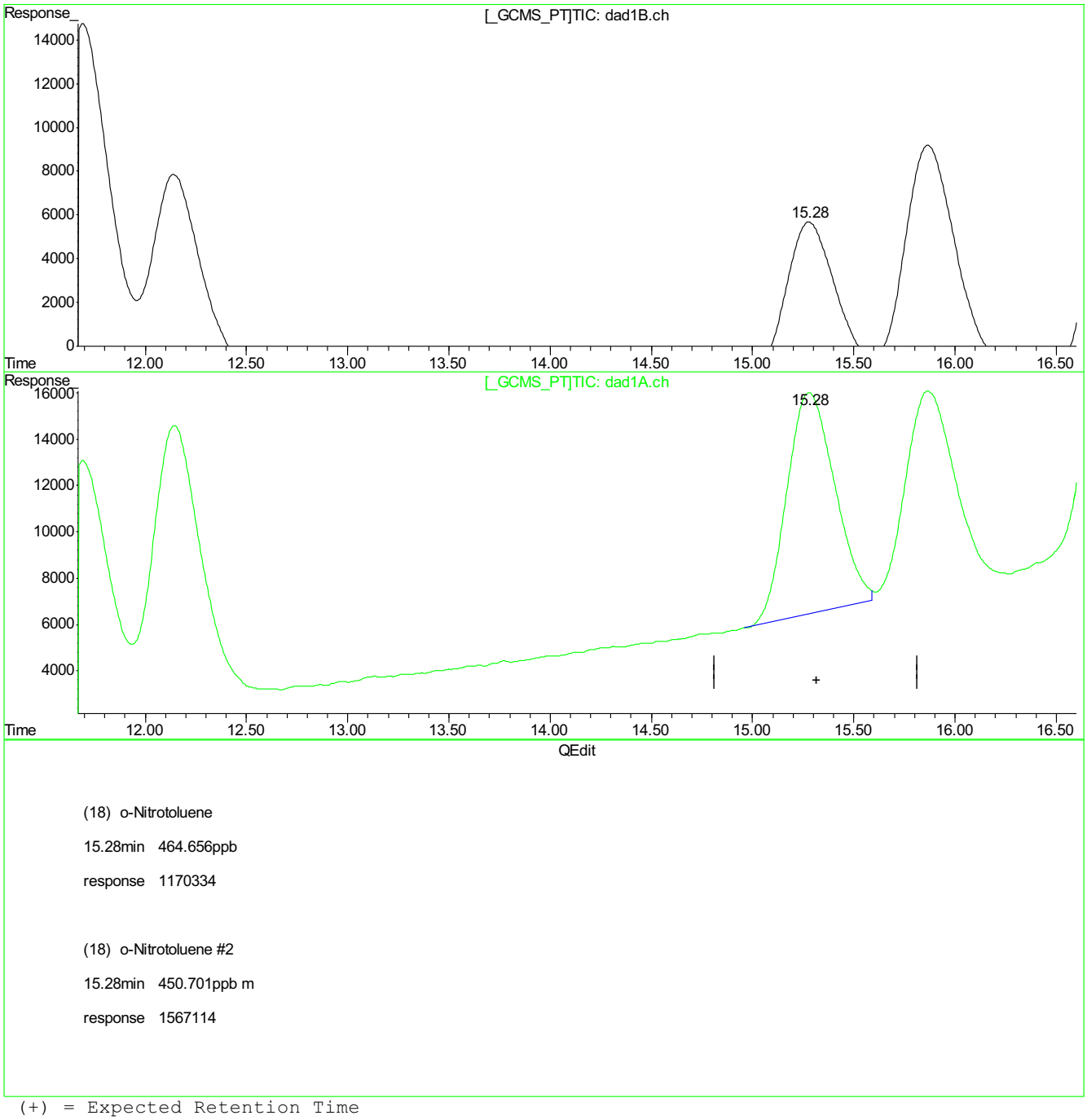
SGS ACCUTEST FA45722

Cal Report: BB055900.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.28min 464.656ppb

response 1170334

(18) o-Nitrotoluene #2

15.28min 450.701ppb m

response 1567114

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:29:53 2017

9.5.5.3

9

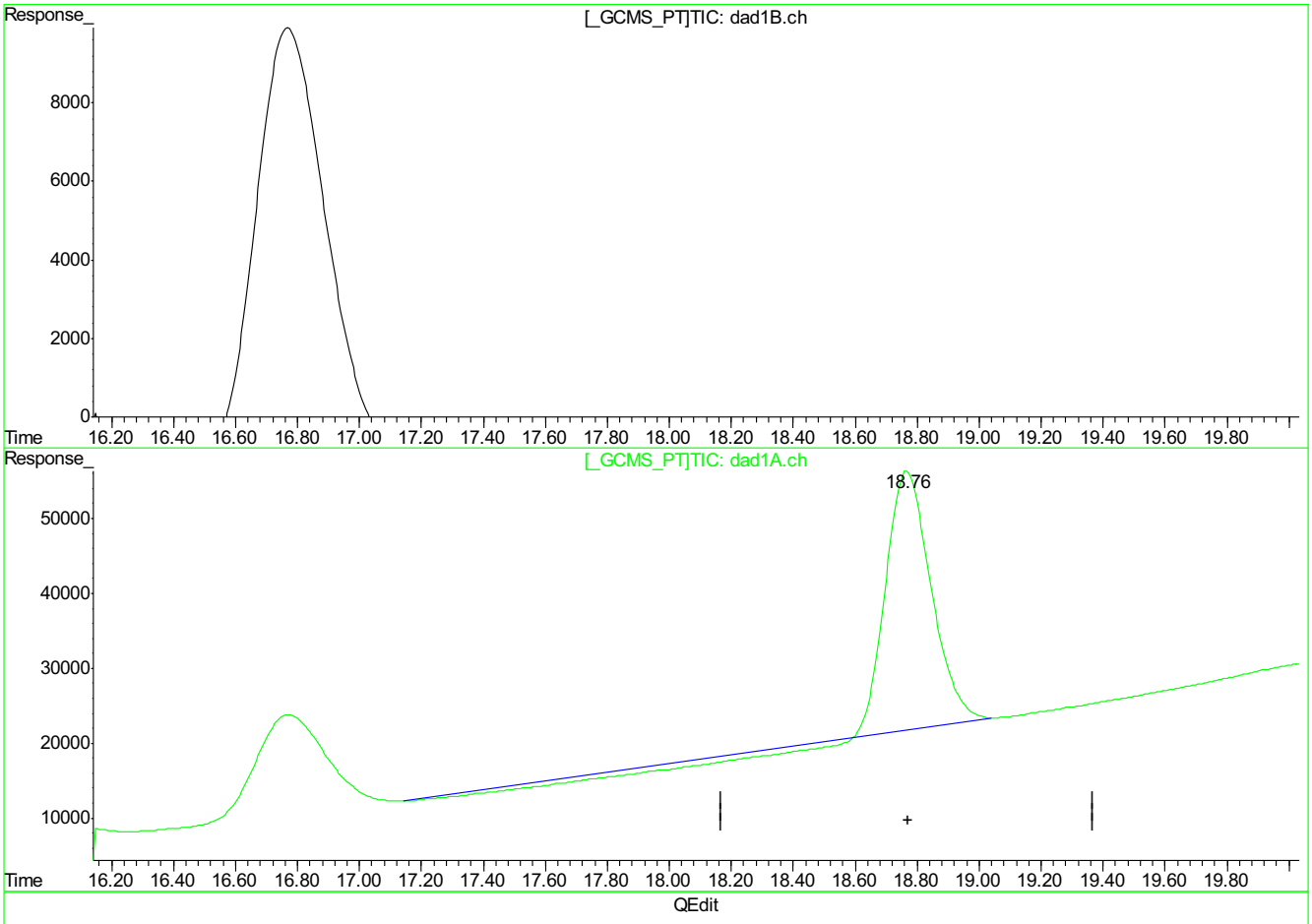
SGS ACCUTEST FA45722

Cal Report: BB055900.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 2134.569ppb

response 3015680

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:29:57 2017

9.5.5.4

9

BB055900.D edits: PETN

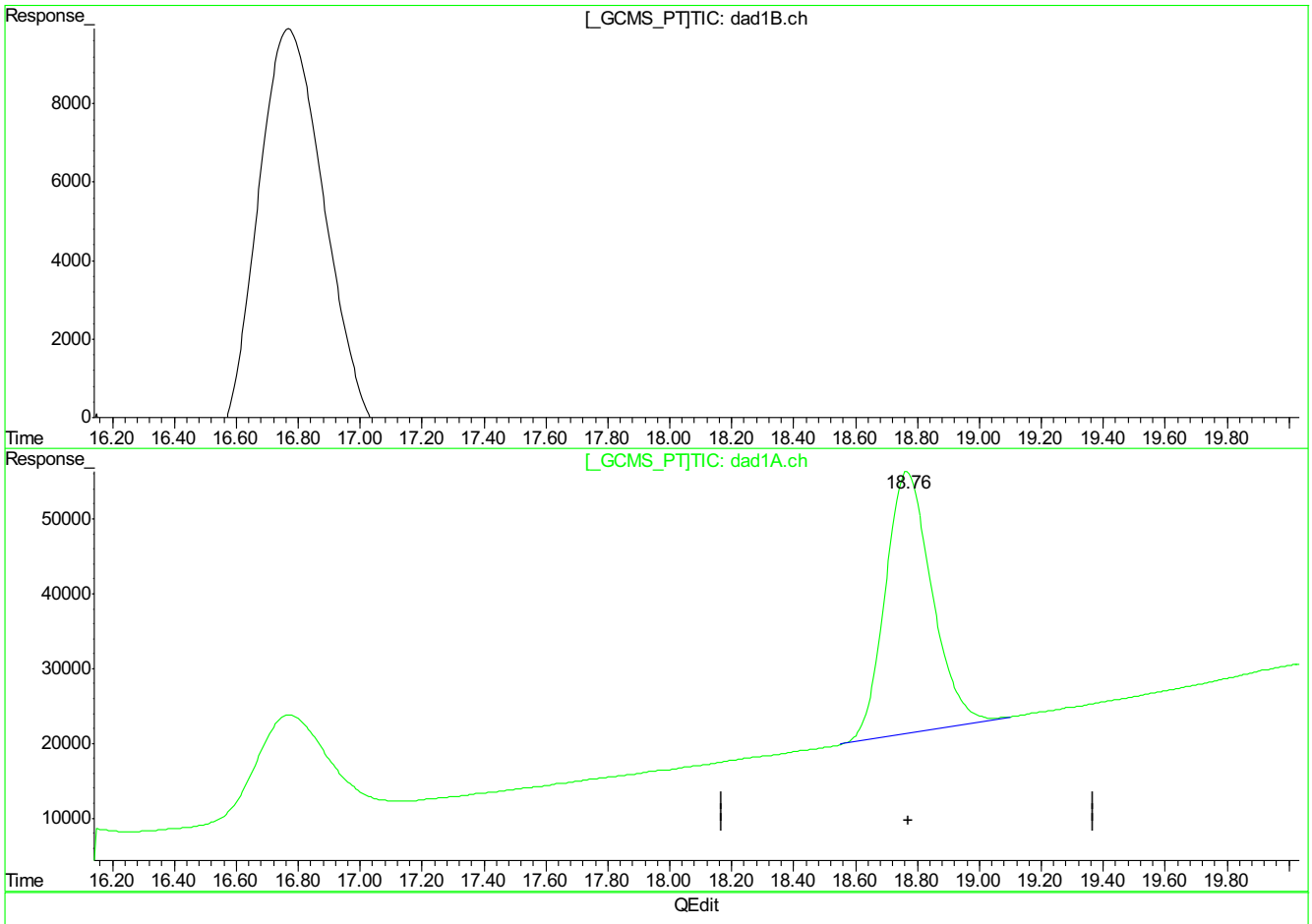
SGS ACCUTEST FA45722

Cal Report: BB055900.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.76min 2602.066ppb m

response 3676152

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:30:00 2017

9.5.5.5

6

BB055900.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055901.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:58 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.06	11.06	2245452	3908733	924.030	970.794
Spiked Amount	500.000	Range	69 - 134	Recovery	=	184.81%#	194.16%#
	Target Compounds						
1)	TNX	1.40	1.40	2996983	4653305	909.347	903.870
2)	HMX	1.53	1.53	1695965	4719124	872.862	923.463
3)	DNX	1.79	1.79	2672315	4319764	908.122	910.136
4)	MNX	2.39	2.39	2219623	3410590	931.436	923.052
5)	RDX	3.02	3.02	1935885	3073212	872.467	901.384
6)	1,3,5-Trinitrobe	4.82	4.82	4167968	8119394	935.642	973.739
7)	1,3-Dinitrobenze	6.07	6.07	5488039	3711056	898.895	912.257
8)	3,5-Dinitroanili	6.43	6.43	3769375	6203848	908.661	911.274
9)	Nitrobenzene	7.67	7.67	3304574	3171192	909.826	956.900
10)	Nitroglycerin	0.00	9.13	0	5668606	N.D. d	4417.014
11)	Tetryl	9.41	9.41	3148139	5238329	1137.234	1325.219
12)	2,4,6-Trinitroto	9.88	9.88	3749086	4518187	833.396	938.007
13)	2-Amino-4,6-Dini	10.19	10.19	3621921	5405153	908.750	1087.416
14)	4-Amino-2,6-Dini	10.67	10.67	2532413	5050849	907.214	921.886
16)	2,4-Dinitrotolue	11.76	11.76	4940226	3231440	856.992	1007.761
17)	2,6-Dinitrotolue	12.21	12.21	2899437	3755573	881.880	952.039
18)	o-Nitrotoluene	15.32	15.32	2320730	3208525	921.395	922.770m
19)	p-Nitrotoluene	15.91	15.91	3616279	2848982	931.773	1103.037
20)	m-Nitrotoluene	16.80	16.80	3532056	4061930	936.330	952.442
21)	PETN	0.00	18.77	0	7335364	N.D. d	5192.143m

9.5.6

6

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055901.D 8330B_0629PLUS.M Fri Jun 30 11:02:21 2017 Page 1

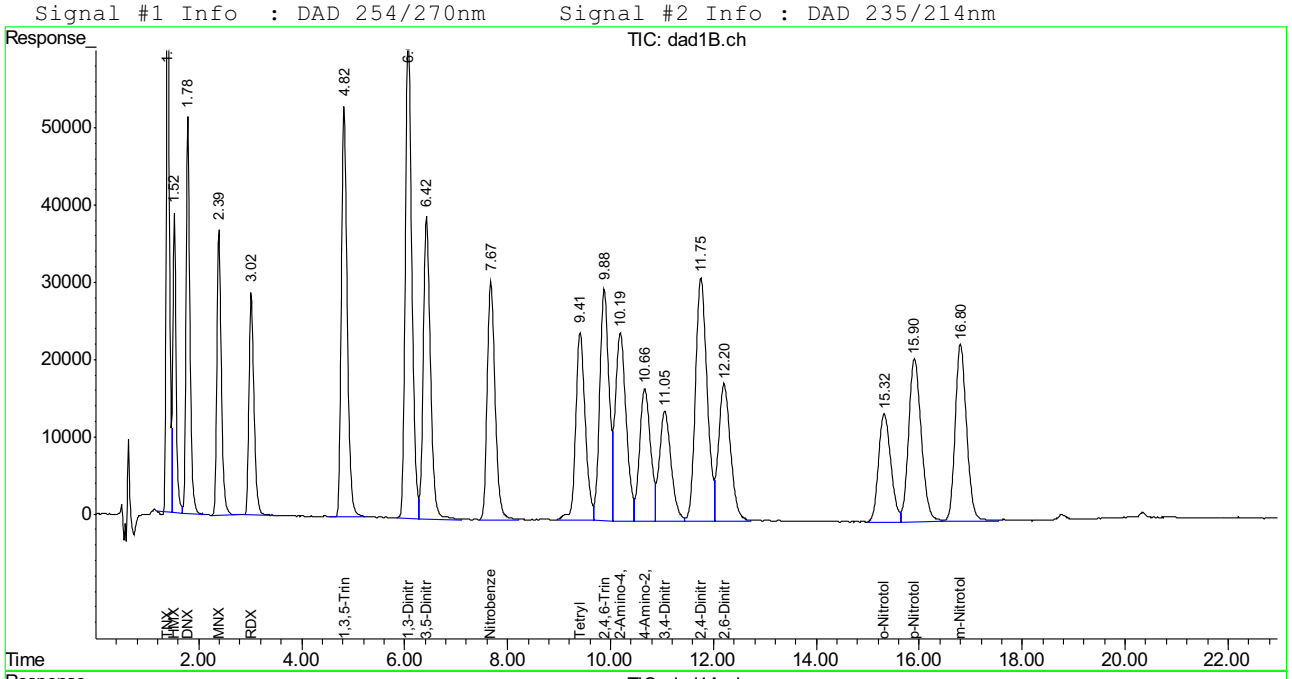
SGS ACCUTEST FA45722

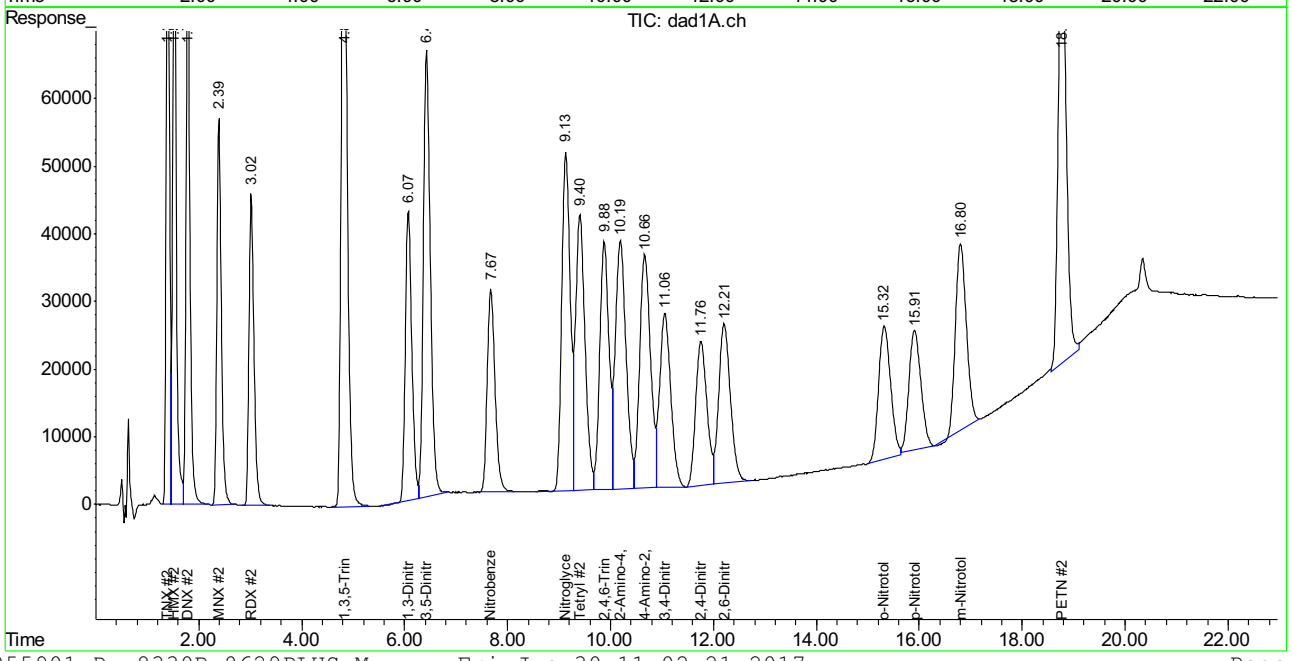
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:30 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055901.D
Injection Time: 06/29/17 19:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

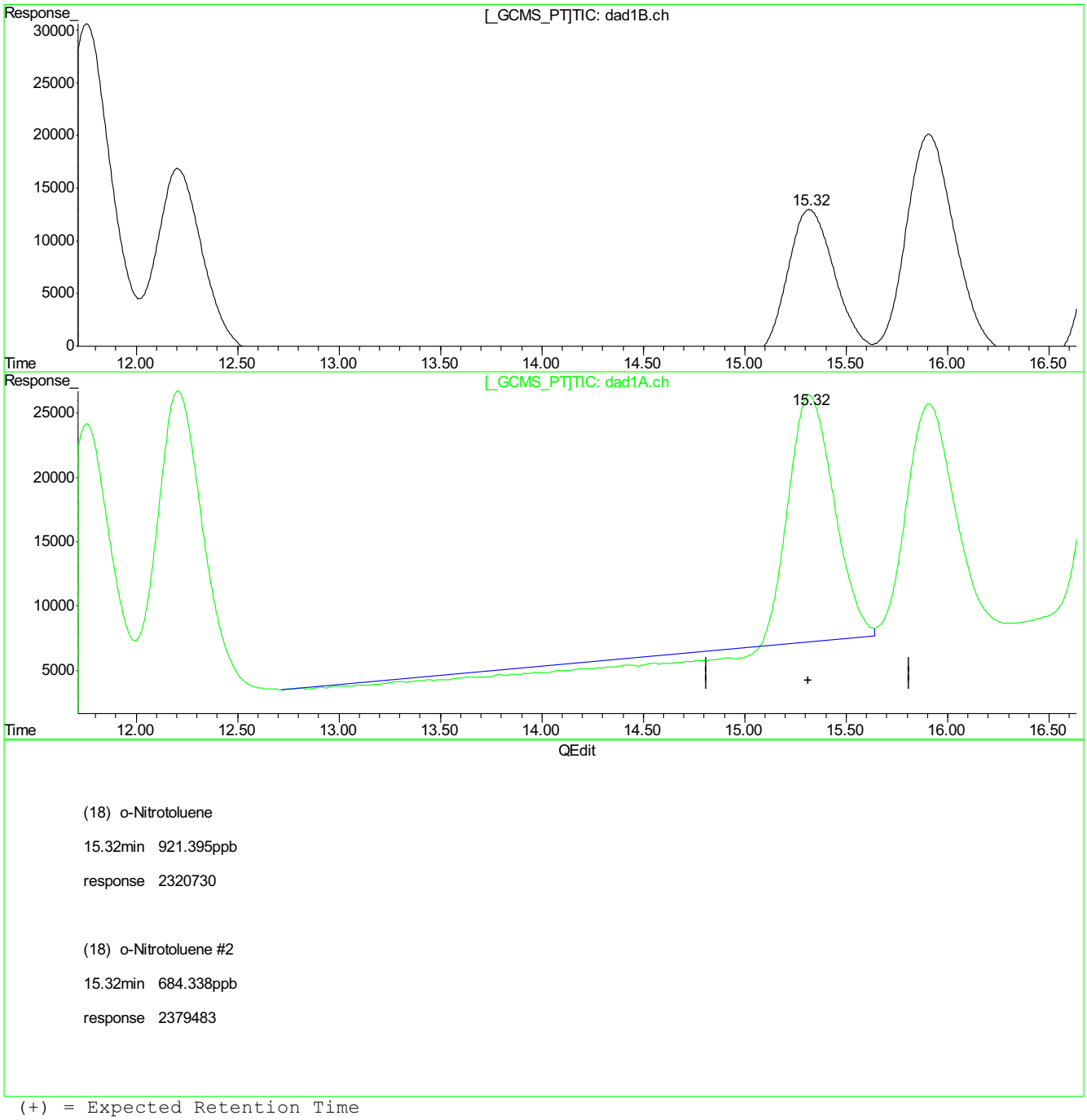
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.32	Poorly defined baseline
PETN	78-11-5	2	18.77	Poorly defined baseline

Cal Report: **BB055901.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On    : 29-Jun-2017, 19:27:11                    Operator: evitam
Sample    : ic1615-1000                              Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration
```



(18) o-Nitrotoluene

15.32min 921.395ppb

response 2320730

(18) o-Nitrotoluene #2

15.32min 684.338ppb

response 2379483

(+) = Expected Retention Time

BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:46 2017

9.5.9.2

9

BB055901.D edits: o-Nitrotoluene

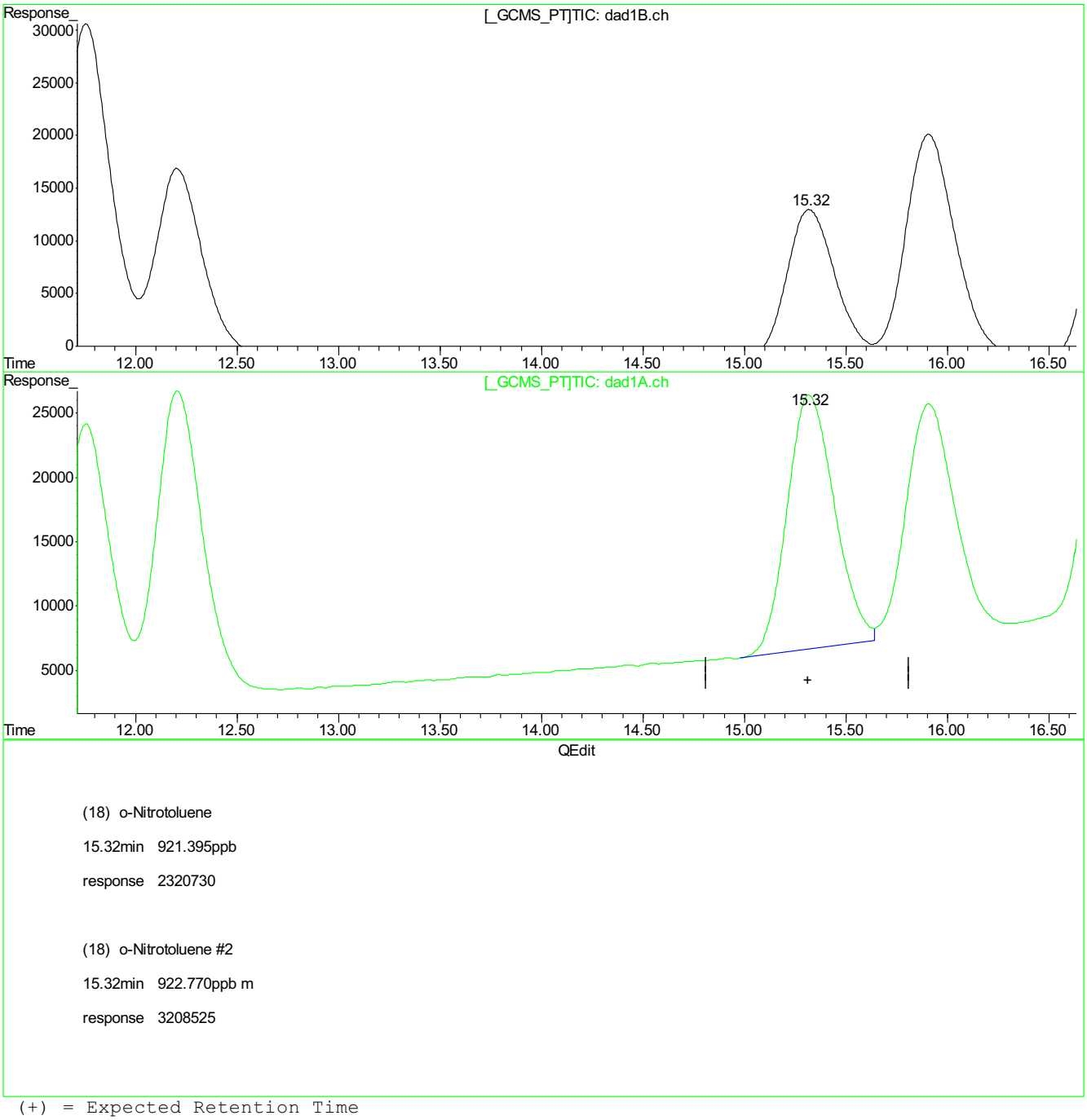
SGS ACCUTEST FA45722

Cal Report: BB055901.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.32min 921.395ppb

response 2320730

(18) o-Nitrotoluene #2

15.32min 922.770ppb m

response 3208525

(+) = Expected Retention Time
BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:49 2017

9.5.6.3

9

BB055901.D edits: o-Nitrotoluene

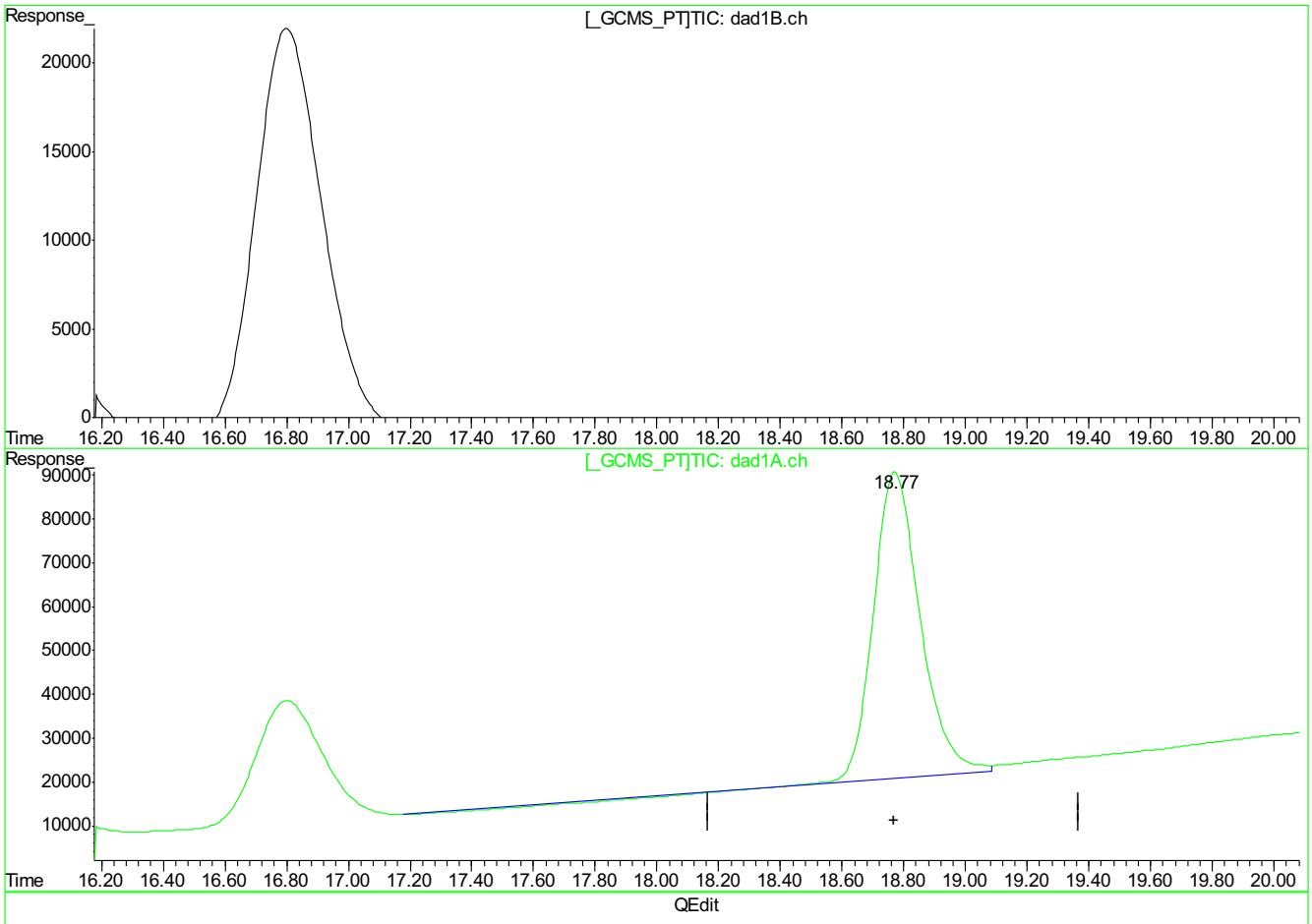
SGS ACCUTEST FA45722

Cal Report: BB055901.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 5102.479ppb

response 7208688

(+) = Expected Retention Time
BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:54 2017

9.5.9.4

6

BB055901.D edits: PETN

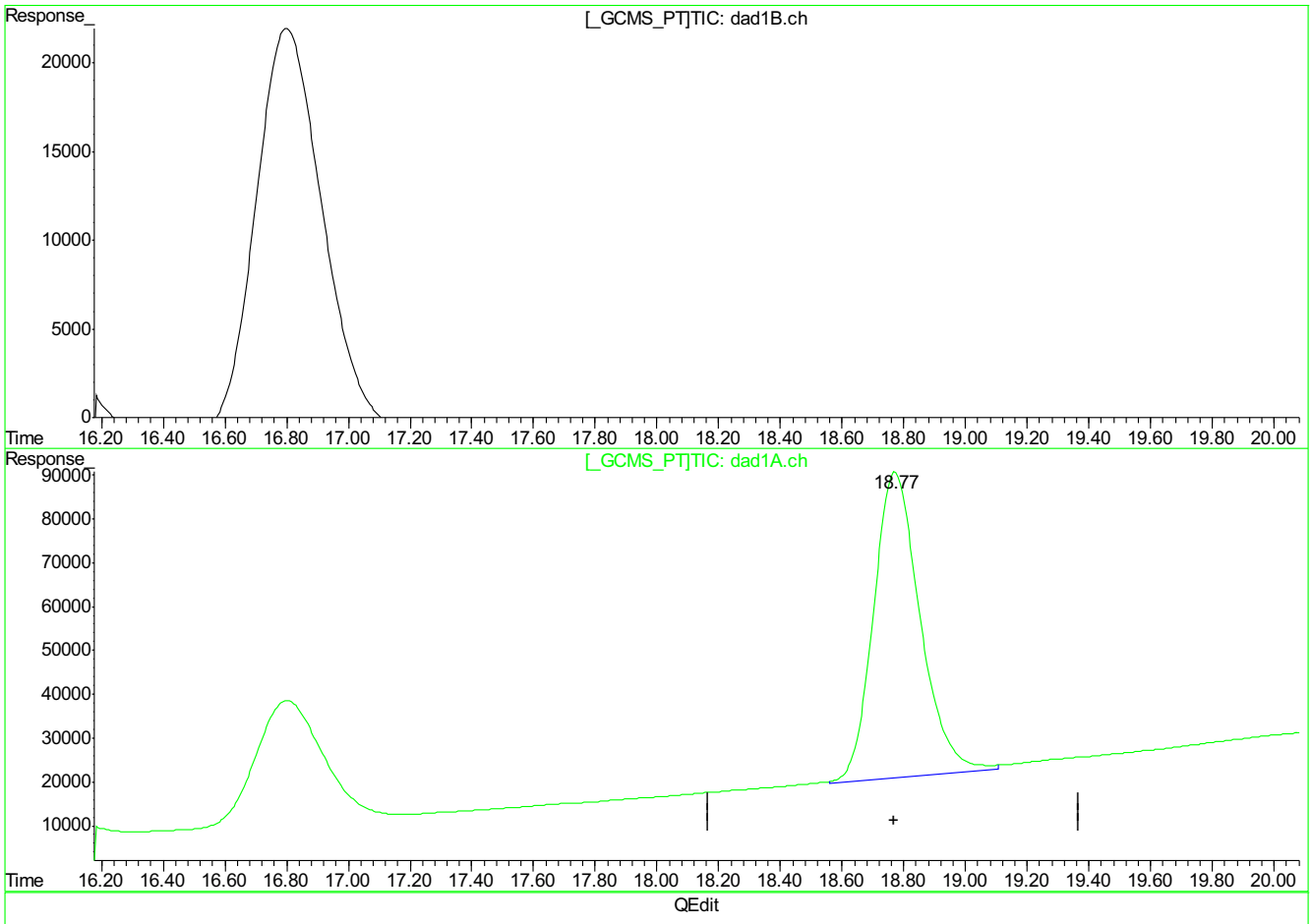
SGS ACCUTEST FA45722

Cal Report: BB055901.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 5192.143ppb m

response 7335364

(+) = Expected Retention Time
BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:57 2017

9.5.5

6

BB055901.D edits: PETN

SGS ACCUTEST FA45722

Cal Report:

BB055902.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:59 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.04	11.04	4746883	8413171	1953.399	1993.880
	Spiked Amount 500.000	Range 69 - 134		Recovery =		390.68%#	398.78%#
	Target Compounds						
1)	TNX	1.38	1.38	6229687	9426616	1890.216	1831.050
2)	HMX	1.52	1.52	3598190	9837174	1851.879	1931.999
3)	DNX	1.77	1.77	5623147	8930950	1910.891	1881.672
4)	MNX	2.37	2.37	4655708	7187041	1953.706	1945.121
5)	RDX	3.00	3.00	4073845	6493287	1836.005	1904.504
6)	1,3,5-Trinitrobe	4.81	4.81	8866759	17166010	1990.446	2058.678
7)	1,3-Dinitrobenze	6.06	6.06	11464933	7769614	1877.860	1909.937
8)	3,5-Dinitroanili	6.41	6.41	7946244	13218787	1915.555	1941.688
9)	Nitrobenzene	7.65	7.65	6958265	6726762	1915.773	2029.786
10)	Nitroglycerin	0.00	9.12	0	12186582	N.D. d	9495.862
11)	Tetryl	9.40	9.39	6708188	11330198	2423.266	2866.370
12)	2,4,6-Trinitroto	9.87	9.87	8007127	9585878	1779.930	1990.095
13)	2-Amino-4,6-Dini	10.16	10.16	7493202	11421635	1880.065	2297.821
14)	4-Amino-2,6-Dini	10.64	10.64	5343868	10774867	1914.392	1877.922
16)	2,4-Dinitrotolue	11.74	11.74	10368346	6786297	1798.621	2116.384
17)	2,6-Dinitrotolue	12.19	12.19	6123885	7947582	1862.613	2014.714
18)	o-Nitrotoluene	15.30	15.30	4895041	6956353	1943.470	2000.642m
19)	p-Nitrotoluene	15.89	15.89	7670703	6352501	1976.438	2459.491
20)	m-Nitrotoluene	16.78	16.79	7492771	8878859	1986.296	2081.916
21)	PETN	0.00	18.76	0	15315800	N.D. d	10840.883m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055902.D 8330B_0629PLUS.M Fri Jun 30 11:02:22 2017 Page 1

9.5.7

9

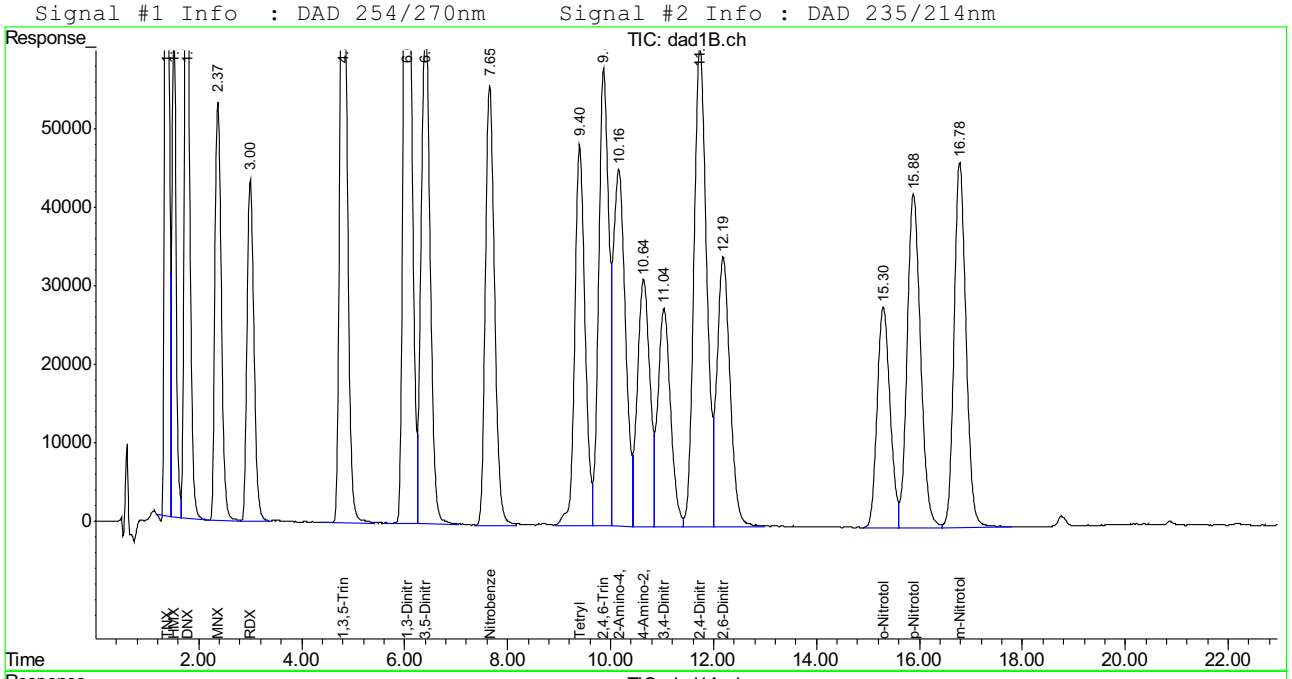
SGS ACCUTEST FA45722

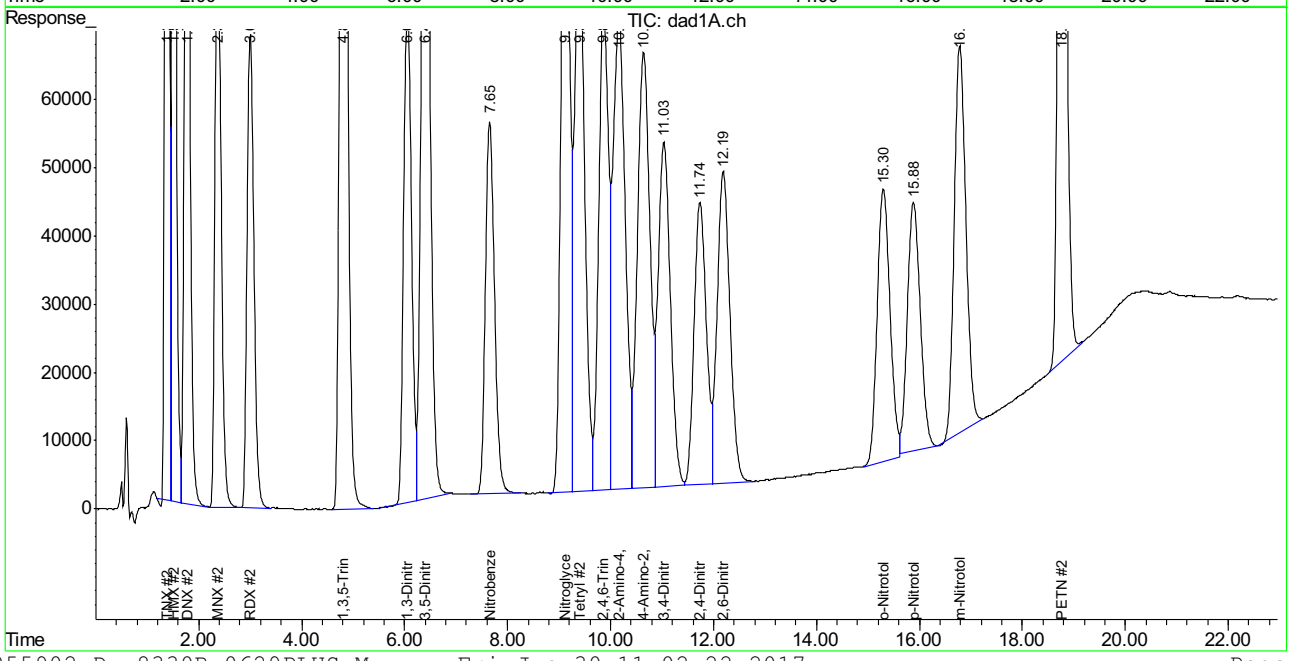
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055902.D
Injection Time: 06/29/17 19:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

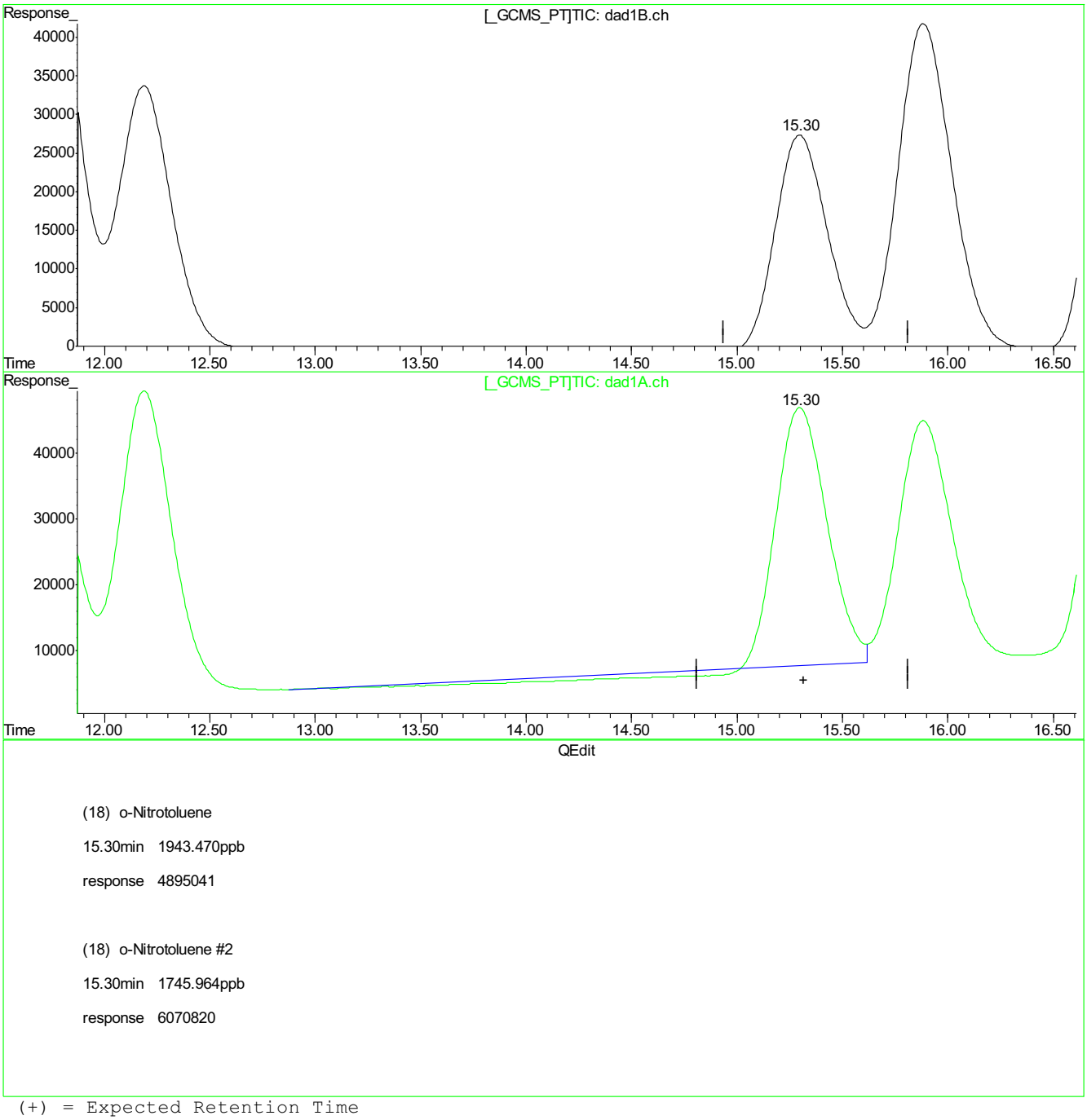
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.30	Poorly defined baseline
PETN	78-11-5	2	18.76	Poorly defined baseline

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 1943.470ppb

response 4895041

(18) o-Nitrotoluene #2

15.30min 1745.964ppb

response 6070820

(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:26 2017

9.5.7.2

9

BB055902.D edits: o-Nitrotoluene

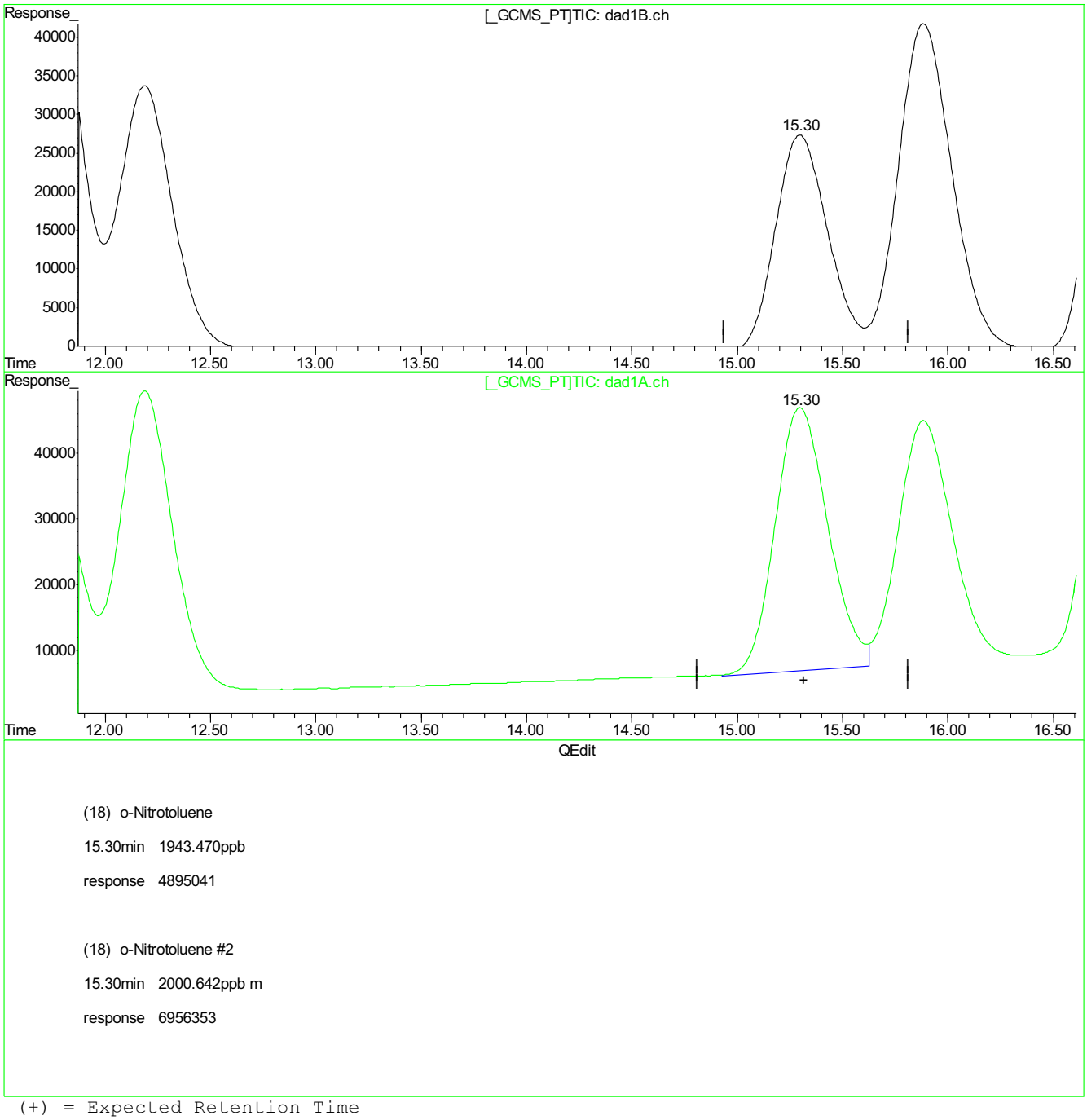
SGS ACCUTEST FA45722

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 1943.470ppb

response 4895041

(18) o-Nitrotoluene #2

15.30min 2000.642ppb m

response 6956353

(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:30 2017

9.5.7.3

9

BB055902.D edits: o-Nitrotoluene

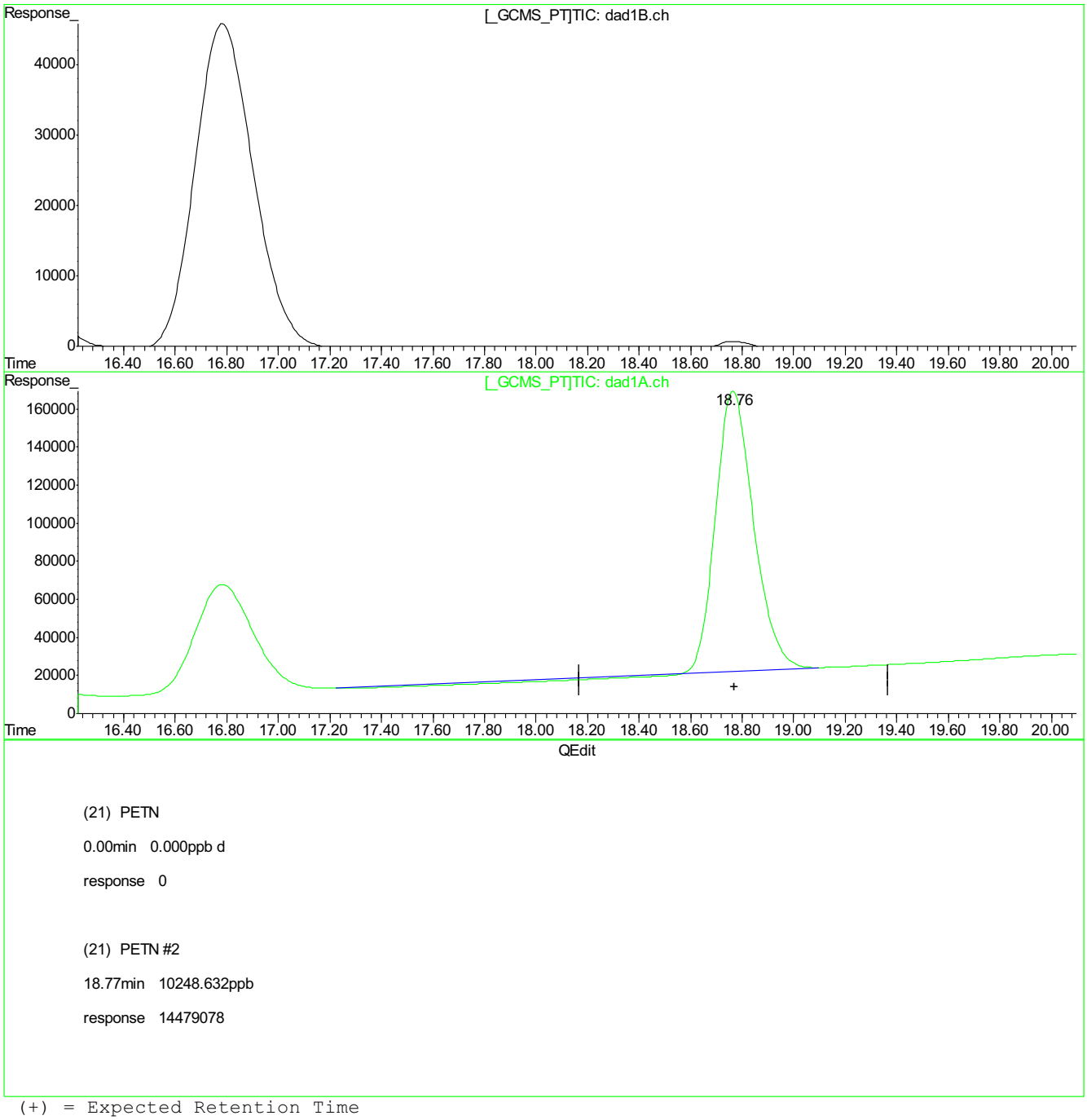
SGS ACCUTEST FA45722

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 10248.632ppb

response 14479078

(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:33 2017

9.5.7.4

9

BB055902.D edits: PETN

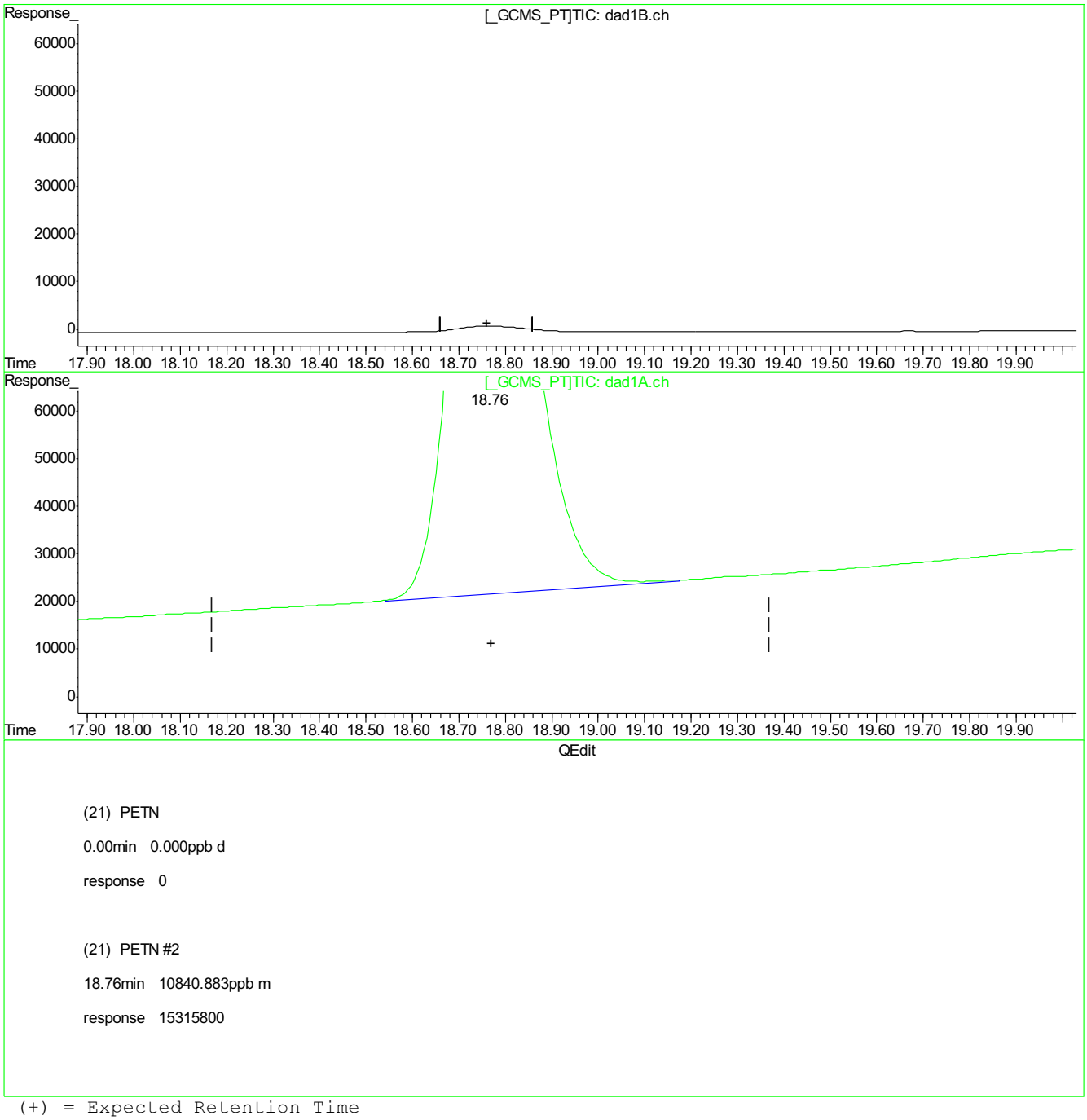
SGS ACCUTEST FA45722

Cal Report: **BB055902.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:45 2017

BB055902.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB055903.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:37:56 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.39	1.39	1762692	2693113	567.860	562.032
2)	HMX	1.52	1.52	895156	2421364	517.269	522.036
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	2.38	2.38	1126099	1728075	503.327	512.468
5)	RDX	3.00	3.00	918849	1451826	451.491	455.632
6)	1,3,5-Trinitrobe	4.79	4.79	2098390	4015580	492.951	494.111
7)	1,3-Dinitrobenze	6.04	6.04	2422666	1647783	433.291	454.636
8)	3,5-Dinitroanili	6.39	6.39	2049960	3416843	496.099	524.075
9)	Nitrobenzene	7.65	7.65	1565866	1489213	457.106	457.148
10)	Nitroglycerin	0.00	9.06	0	3751103	N.D. d	3521.650
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	10.12	10.12	1734715	2599461	462.625	485.687
14)	4-Amino-2,6-Dini	10.59	10.59	1281047	2522225	512.324	542.627
16)	2,4-Dinitrotolue	11.68	11.68	2302610	1520396	444.758	484.860
17)	2,6-Dinitrotolue	12.13	12.13	1433345	1855506	464.050	505.030
18)	o-Nitrotoluene	15.27	15.27	1114614	1463267	478.675	474.523m
19)	p-Nitrotoluene	15.86	15.86	1699869	1271760	482.087	476.720
20)	m-Nitrotoluene	16.76	16.77	1649173	1840856	457.830	464.102
21)	PETN	0.00	0.00	0	0	N.D.	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055903.D 8330B_0629PLUS.M Fri Jun 30 11:02:23 2017 Page 1

9.5.8
6

SGS ACCUTEST FA45722

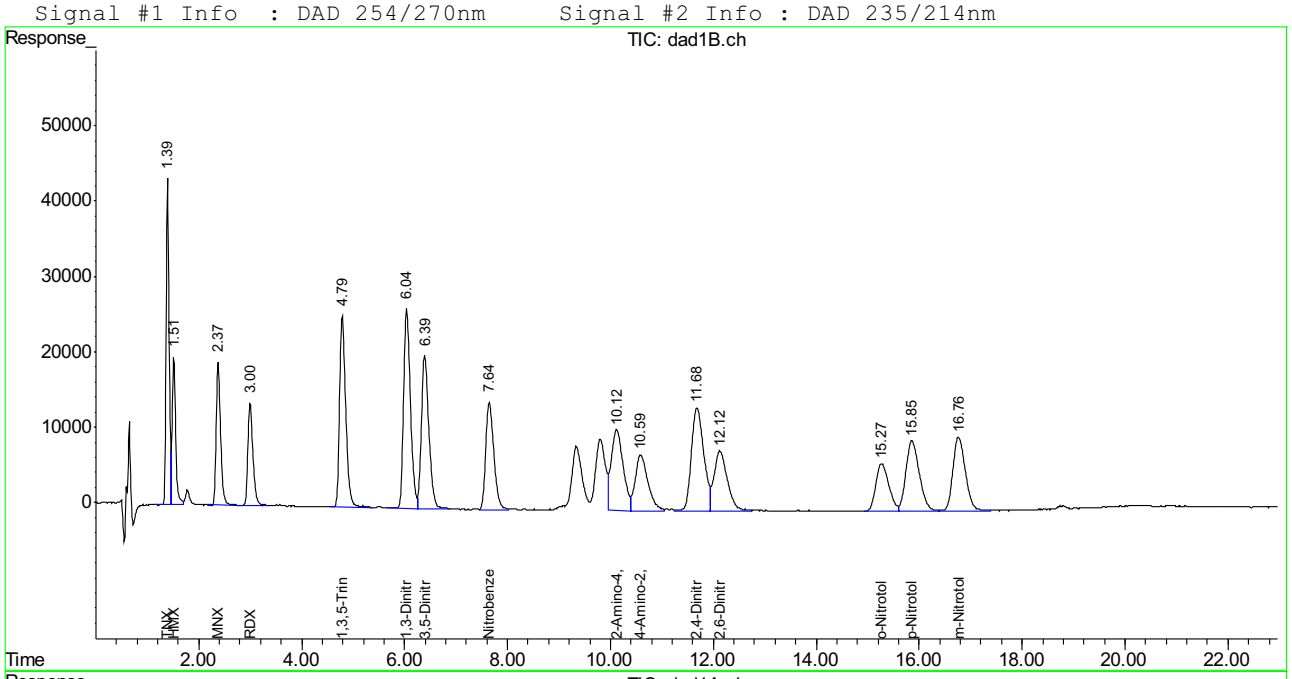
BB055903.D: GBB1615-ICV1615 Initial Calibration Verification (500) page 1 of 2

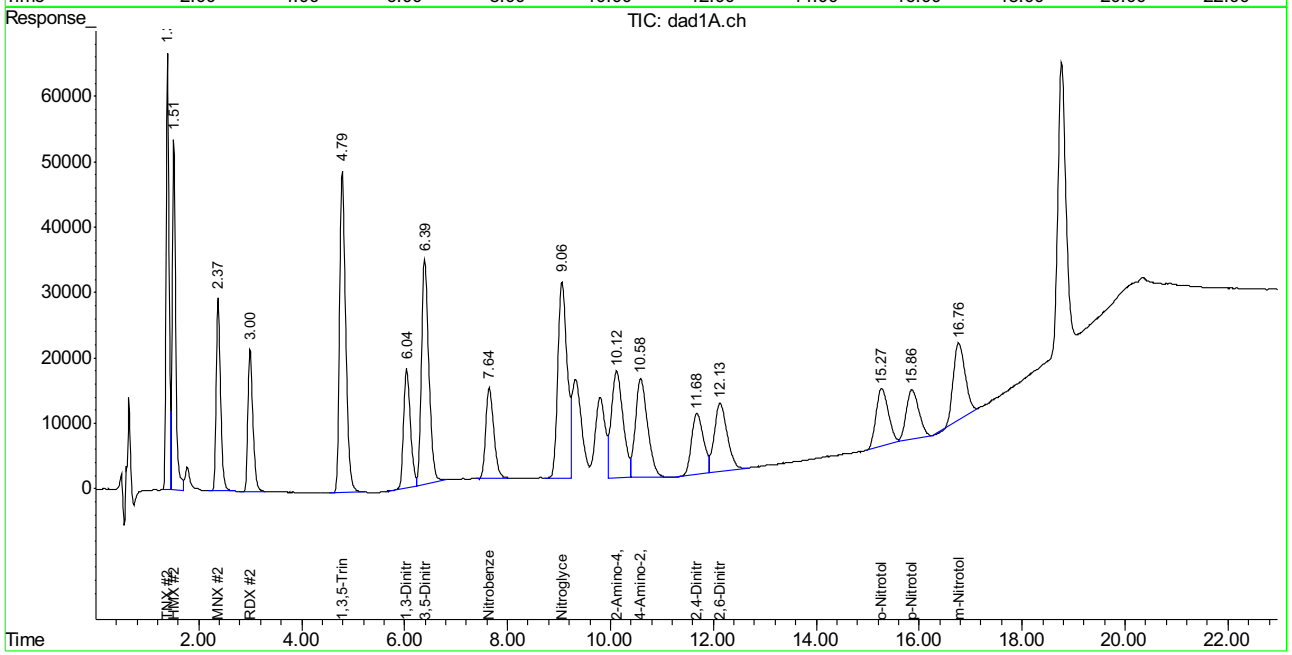
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 10:41 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-ICV1615
Lab FileID: BB055903.D
Injection Time: 06/29/17 20:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

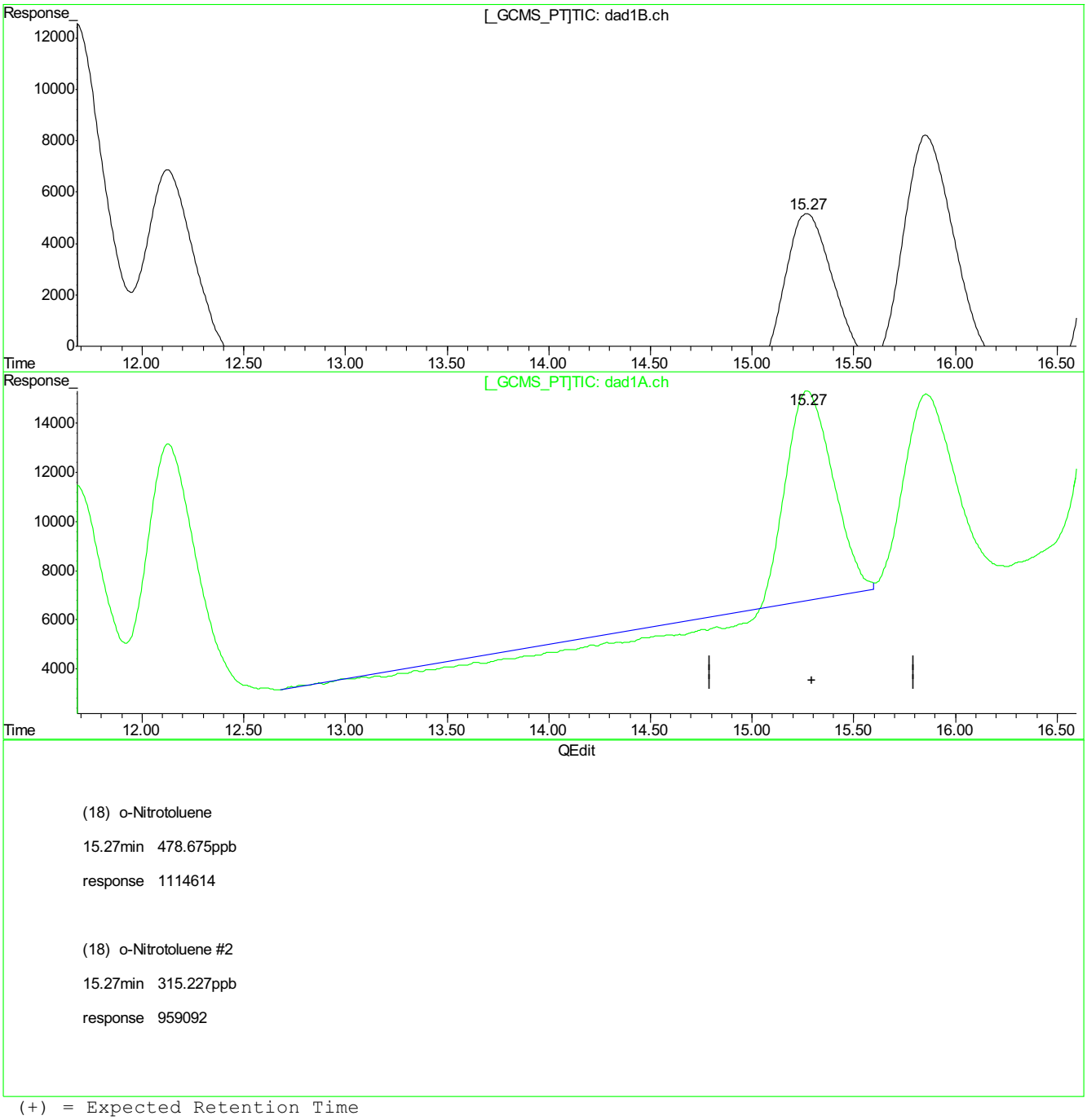
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.27	Poorly defined baseline

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.27min 478.675ppb

response 1114614

(18) o-Nitrotoluene #2

15.27min 315.227ppb

response 959092

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:31 2017

9.5.8.2

6

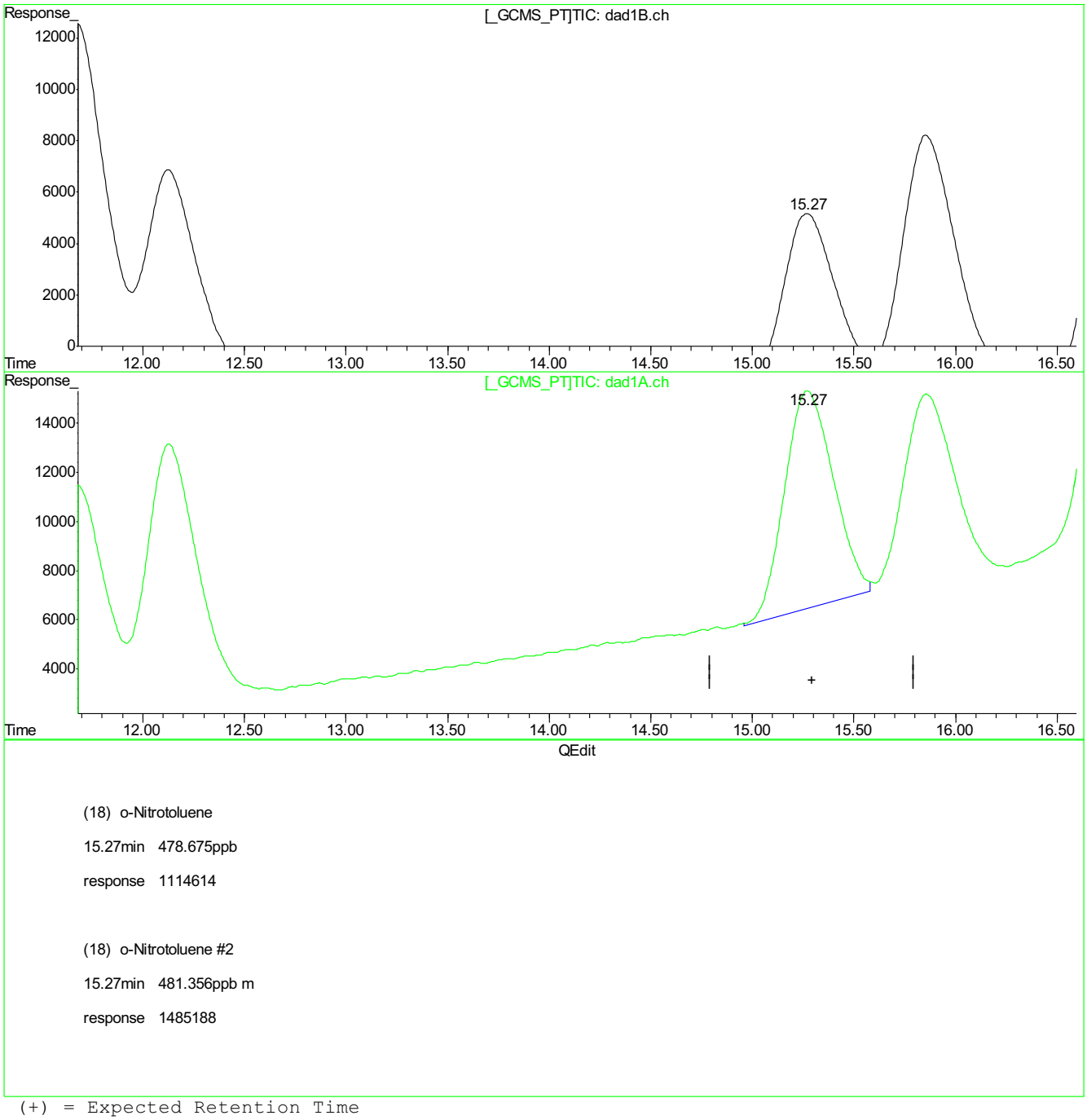
BB055903.D edits: o-Nitrotoluene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.27min 478.675ppb

response 1114614

(18) o-Nitrotoluene #2

15.27min 481.356ppb m

response 1485188

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:36 2017

9.5.8.3

9

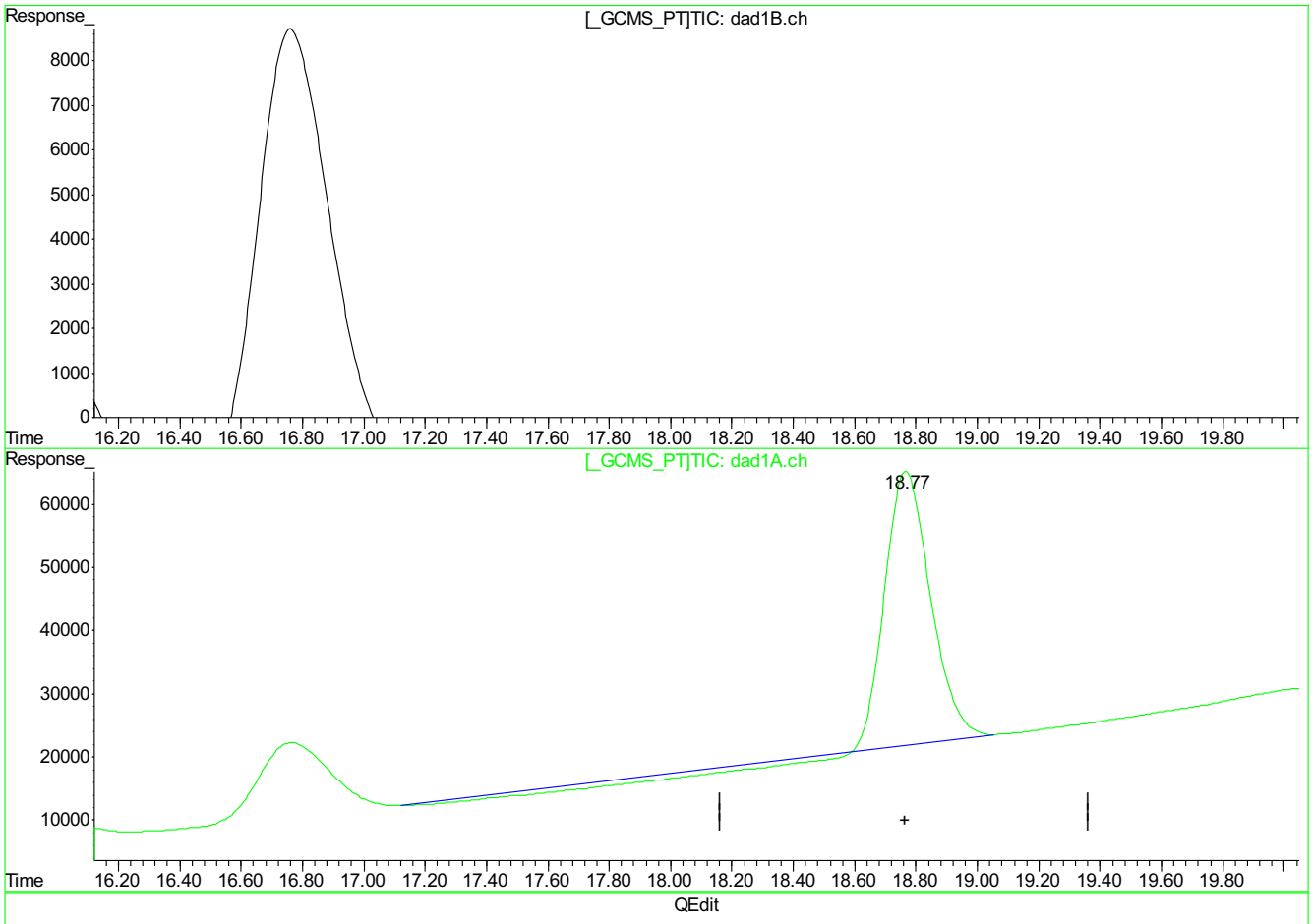
SGS ACCUTEST FA45722

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 2776.037ppb

response 3919620

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:41 2017

BB055903.D edits: PETN

SGS ACCUTEST FA45722

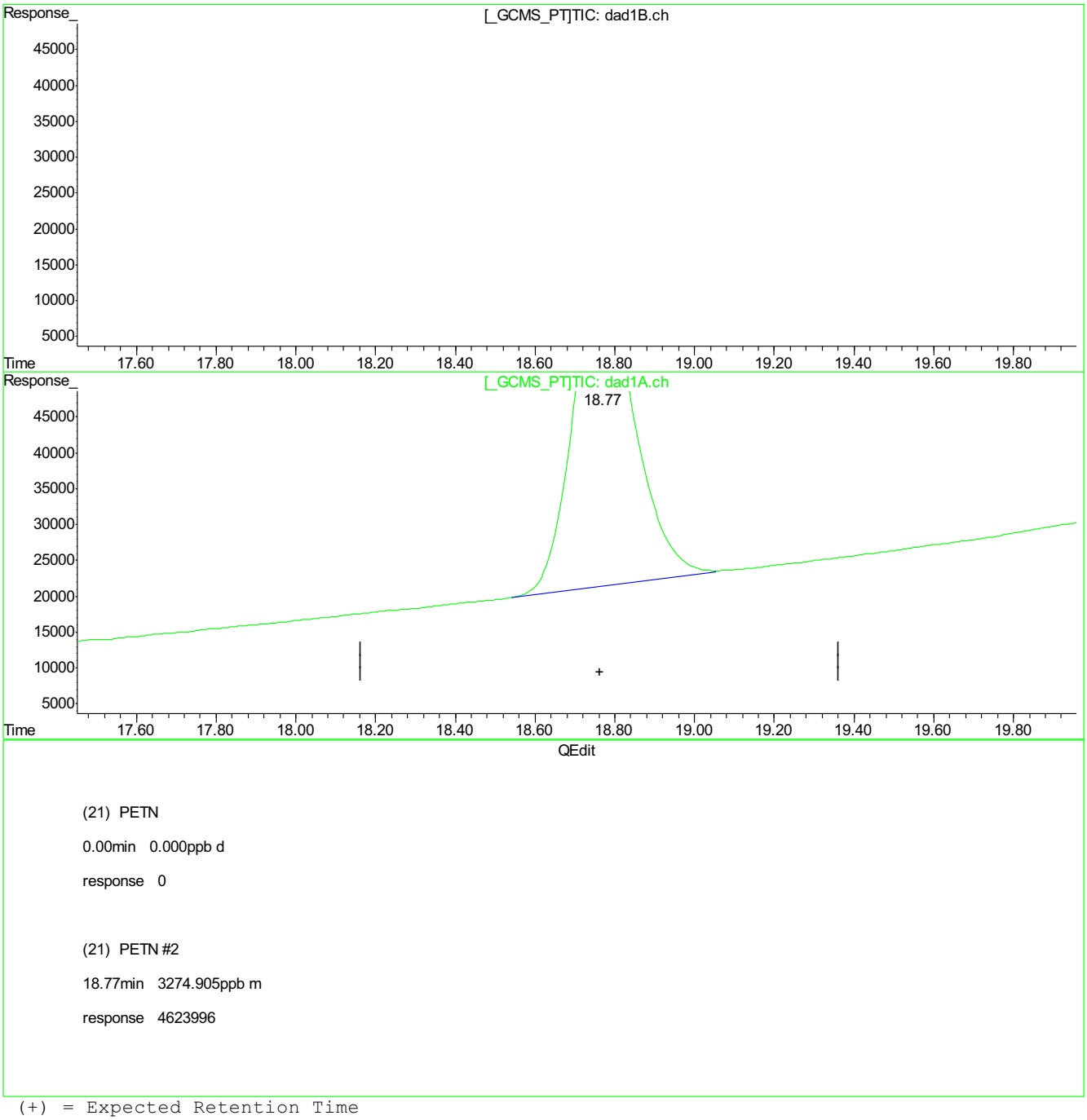
9.5.8.4
6

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 3274.905ppb m

response 4623996

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:47 2017

9.5.8.5

6

BB055903.D edits: PETN

SGS ACCUTEST FA45722

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1B.ch Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1A.ch
Acq On : 29-Jun-2017, 20:57:02 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65687,gbb1615,1050,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:37:19 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	9.40	9.40	1756004	2800569	565.799	537.370
12)	2,4,6-Trinitroto	9.87	9.87	1966476	2410013	513.861	545.334
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055904.D 8330B_0629PLUS.M Fri Jun 30 11:07:00 2017 Page 1

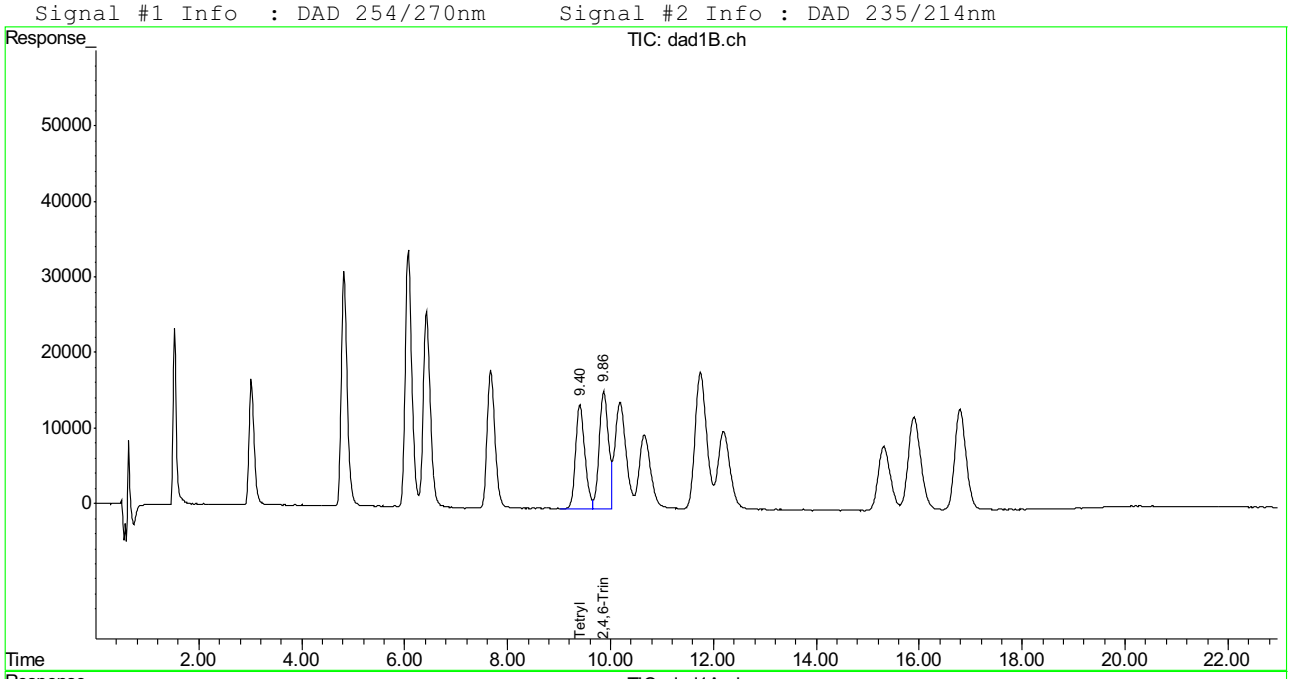
SGS ACCUTEST FA45722

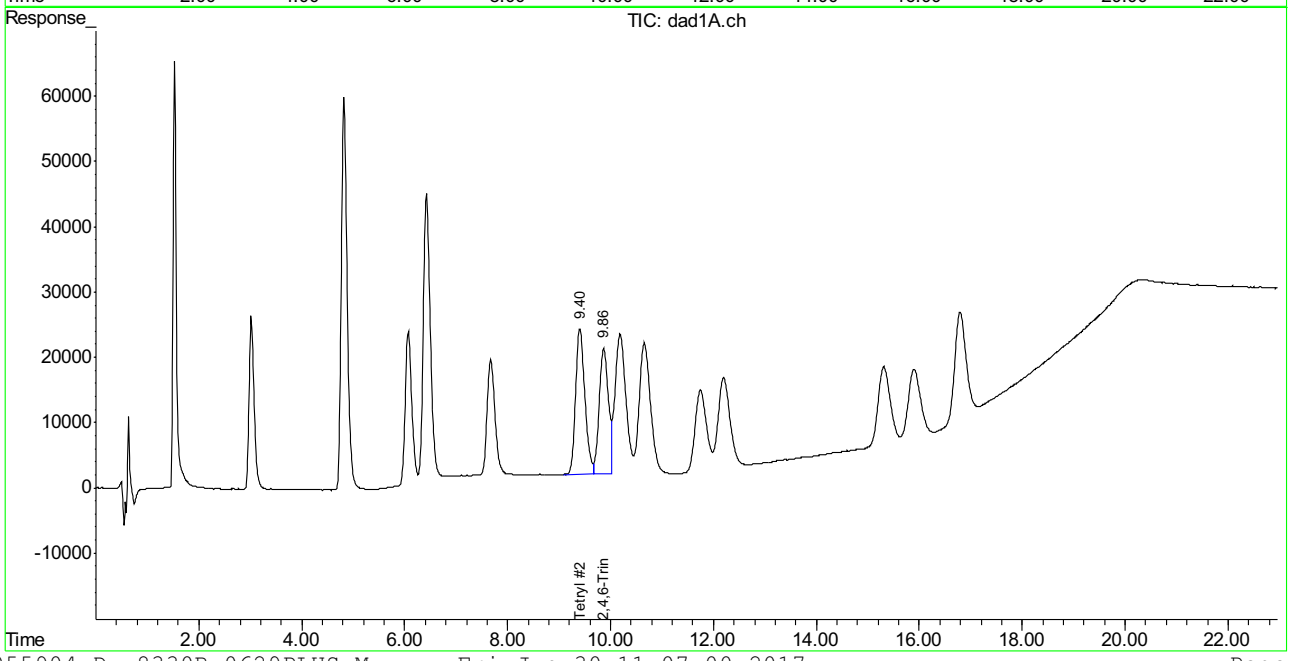
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1B.ch Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1A.ch
Acq On : 29-Jun-2017, 20:57:02 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65687,gbb1615,1050,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:37 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Cal Report: BB055930.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1A.ch
Acq On : 30-Jun-2017, 09:59:41 Operator: evitam
Sample : icv1615-100 Inst : G1315B
Misc : op65689,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 10:27:43 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	69 - 134	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	18.73	0	751146	N.D. d	531.993m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055930.D 8330B_0629PLUS.M Fri Jun 30 11:05:05 2017 Page 1

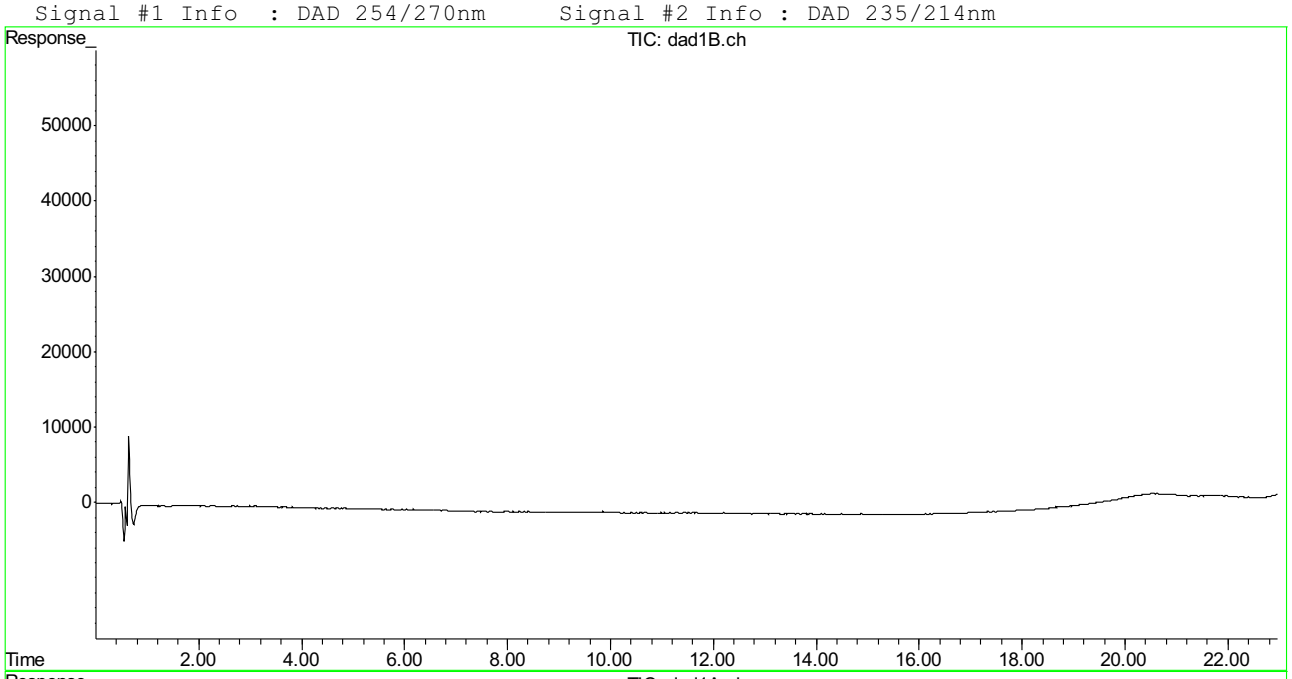
SGS ACCUTEST FA45722

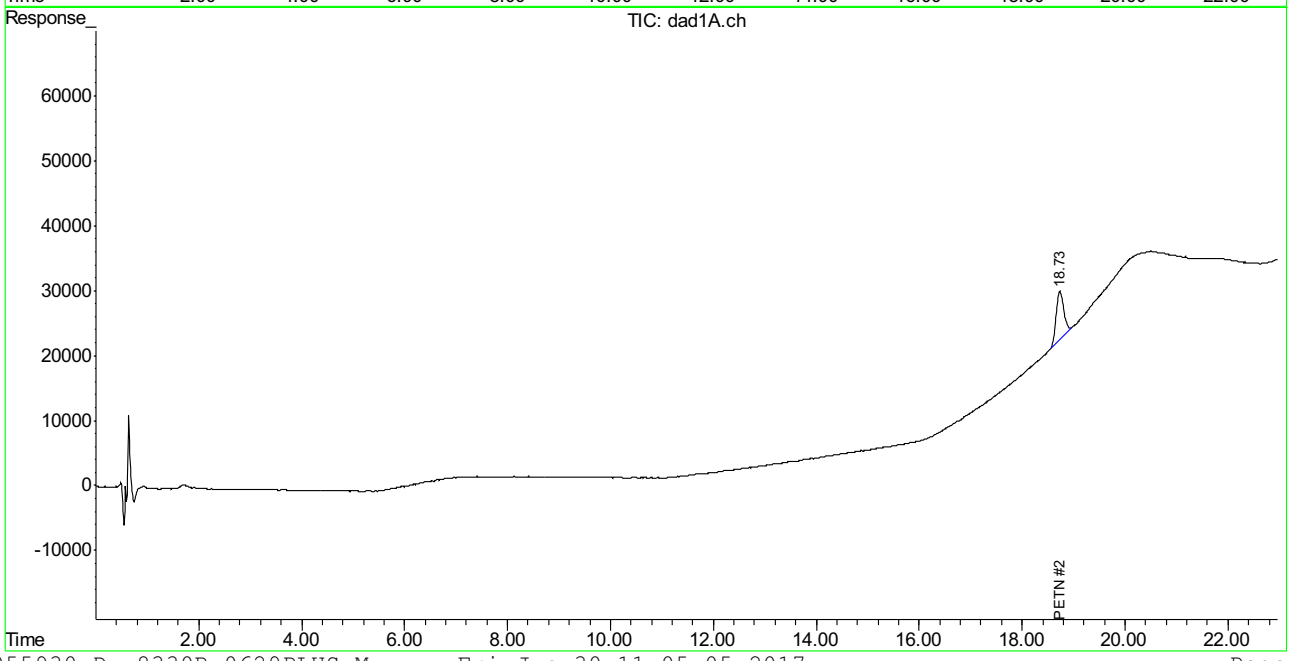
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1A.ch
Acq On : 30-Jun-2017, 09:59:41 Operator: evitam
Sample : icv1615-100 Inst : G1315B
Misc : op65689,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 11:04 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-ICV1615
Lab FileID: BB055930.D
Injection Time: 06/30/17 09:59

Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.73	Poorly defined baseline

Cal Report: BB056478.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/19/17 21:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:26 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.44	10.44	2364169	4065977	918.186	1019.173
	Spiked Amount 500.000	Range 69 - 134		Recovery =		183.64%#	203.83%#
	Target Compounds						
1)	TNX	1.34	1.34	2850998	4306186	918.463	898.668
2)	HMX	1.46	1.46	1737092	4717397	1003.785	1017.051
3)	DNX	1.71	1.71	2389024	3884536	822.801	884.176
4)	MNX	2.27	2.27	1932438	2975040	863.732	882.261
5)	RDX	2.86	2.86	1966416	3132967	966.230	983.231
6)	1,3,5-Trinitrobe	4.54	4.54	4182120	8119195	982.458	999.054
7)	1,3-Dinitrobenze	5.78	5.79	5455820	3670718	975.767	1012.780
8)	3,5-Dinitroanili	6.09	6.09	4310428	7157062	1043.142	1097.749
9)	Nitrobenzene	7.41	7.40	3338121	3238352	974.461	994.087
10)	Nitroglycerin	0.00	8.70	0	4834308	N.D. d	4538.595m
11)	Tetryl	8.86	8.81	2901010	6155294	934.730	1140.982
12)	2,4,6-Trinitroto	9.30	9.30	3602940	4300340	941.486	950.675
13)	2-Amino-4,6-Dini	9.59	9.59	3792340	5642848	1011.366	1029.840
14)	4-Amino-2,6-Dini	10.06	10.06	2501086	4998721	1000.249	1075.416
16)	2,4-Dinitrotolue	11.11	11.11	4931668	3001985	952.571	957.343
17)	2,6-Dinitrotolue	11.58	11.58	3043388	3702505	985.305	1007.745
18)	o-Nitrotoluene	14.82	14.81	2265553	3178395	972.950	988.221m
19)	p-Nitrotoluene	15.36	15.36	3694406	3178197	1047.743	1104.306
20)	m-Nitrotoluene	16.32	16.32	3540219	3972410	982.807	964.538
21)	PETN	0.00	18.32	0	6706085	N.D. d	4749.528m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:40:43 2017 Page 1

9.5.11
9

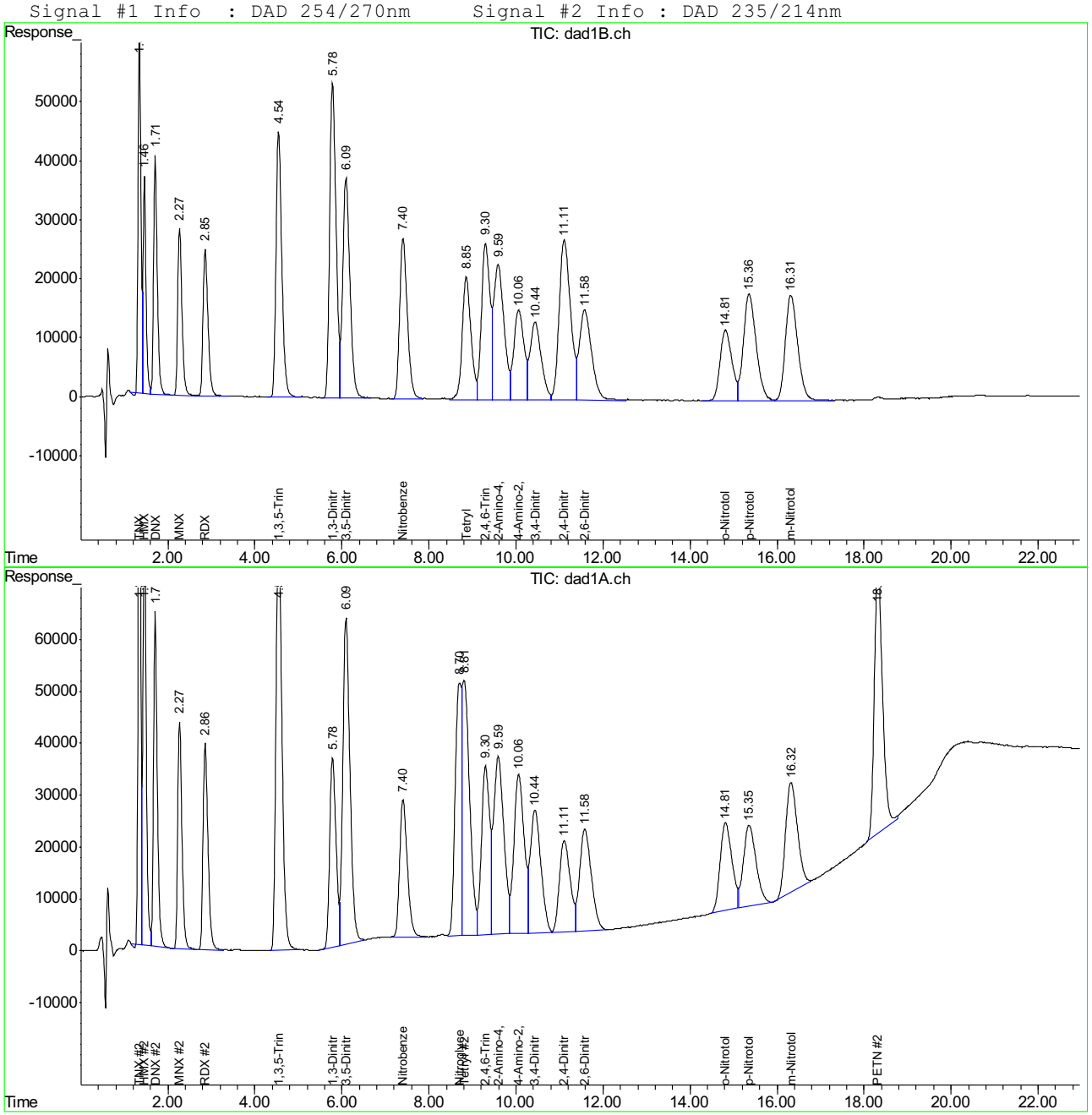
SGS ACCUTEST FA45722

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:15 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1620-CC1615
Lab FileID: BB056478.D
Injection Time: 07/19/17 02:03
Method: SW846 8330B
Analyst approved: 07/19/17 11:14 Evita Martinez
Supervisor approved: 07/19/17 21:27 Mike Eger

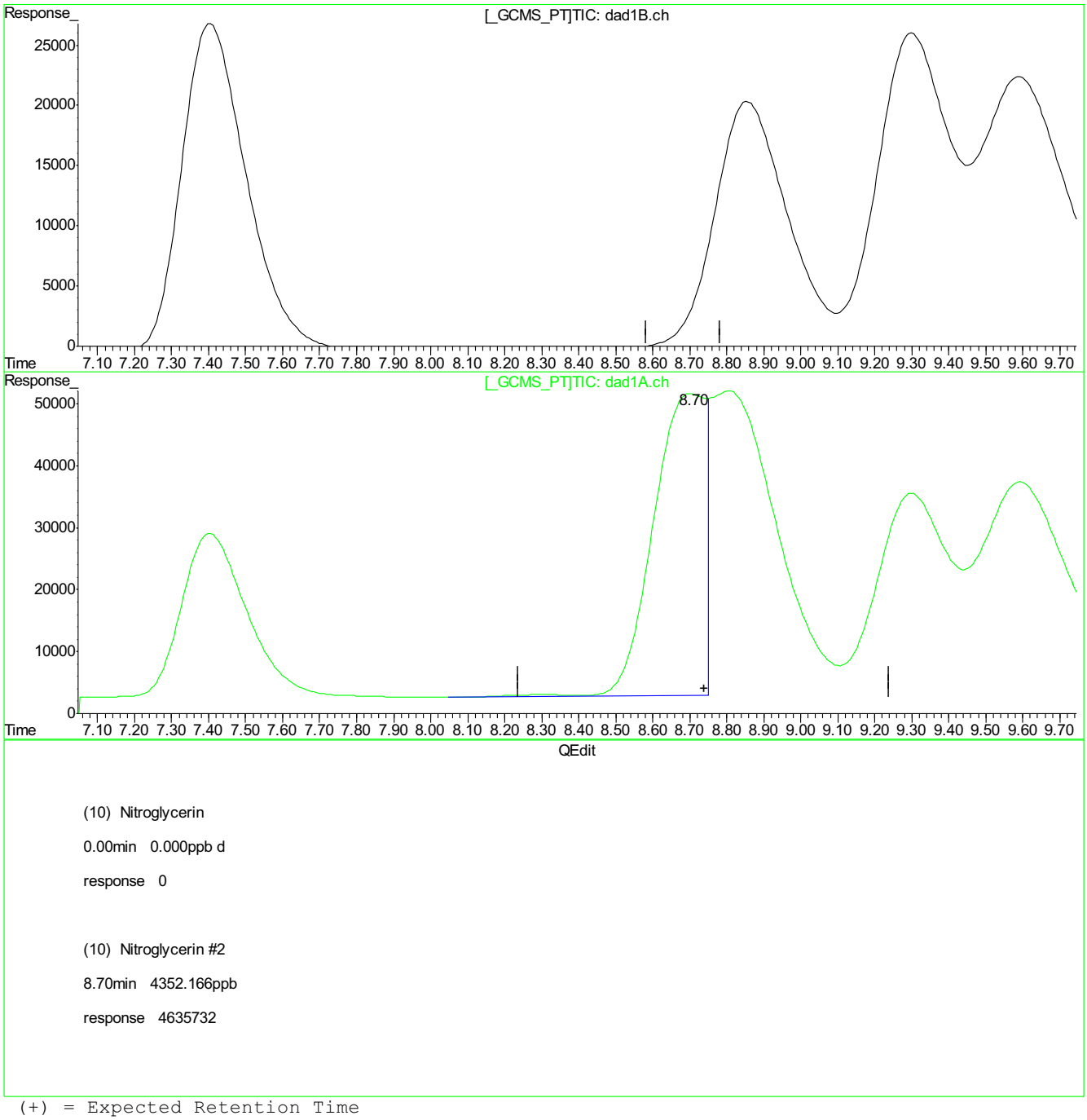
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.70	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.81	Poorly defined baseline
PETN	78-11-5	2	18.32	Poorly defined baseline

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.70min 4352.166ppb

response 4635732

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:14:26 2017

9.5.11.2

9

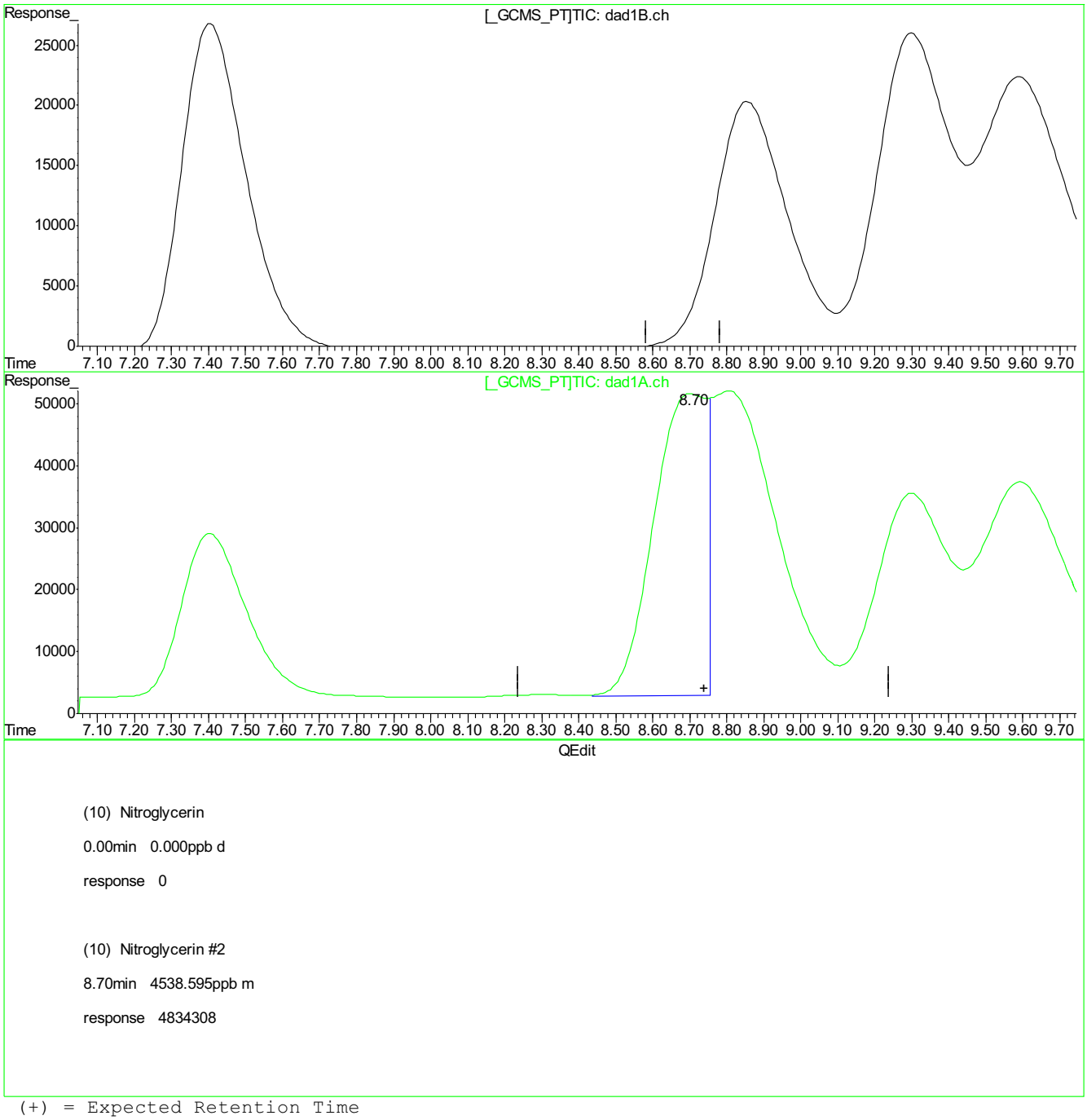
BB056478.D edits: Nitroglycerin

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.70min 4538.595ppb m

response 4834308

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:14:38 2017

9.5.11.3

9

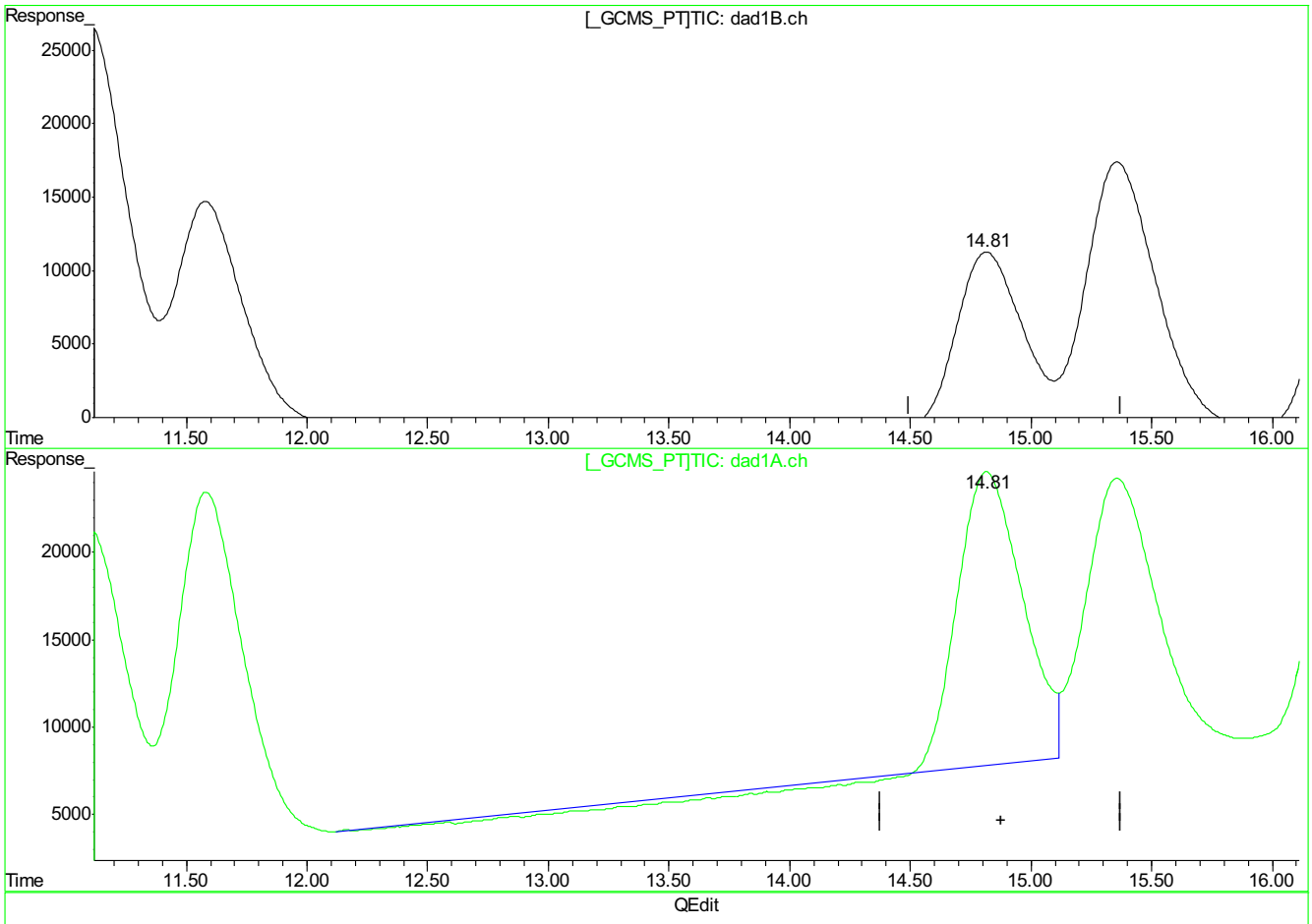
SGS ACCUTEST FA45722

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.82min 972.950ppb

response 2265553

(18) o-Nitrotoluene #2

14.82min 890.216ppb

response 2840658

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:14 2017

9.5.11.4

9

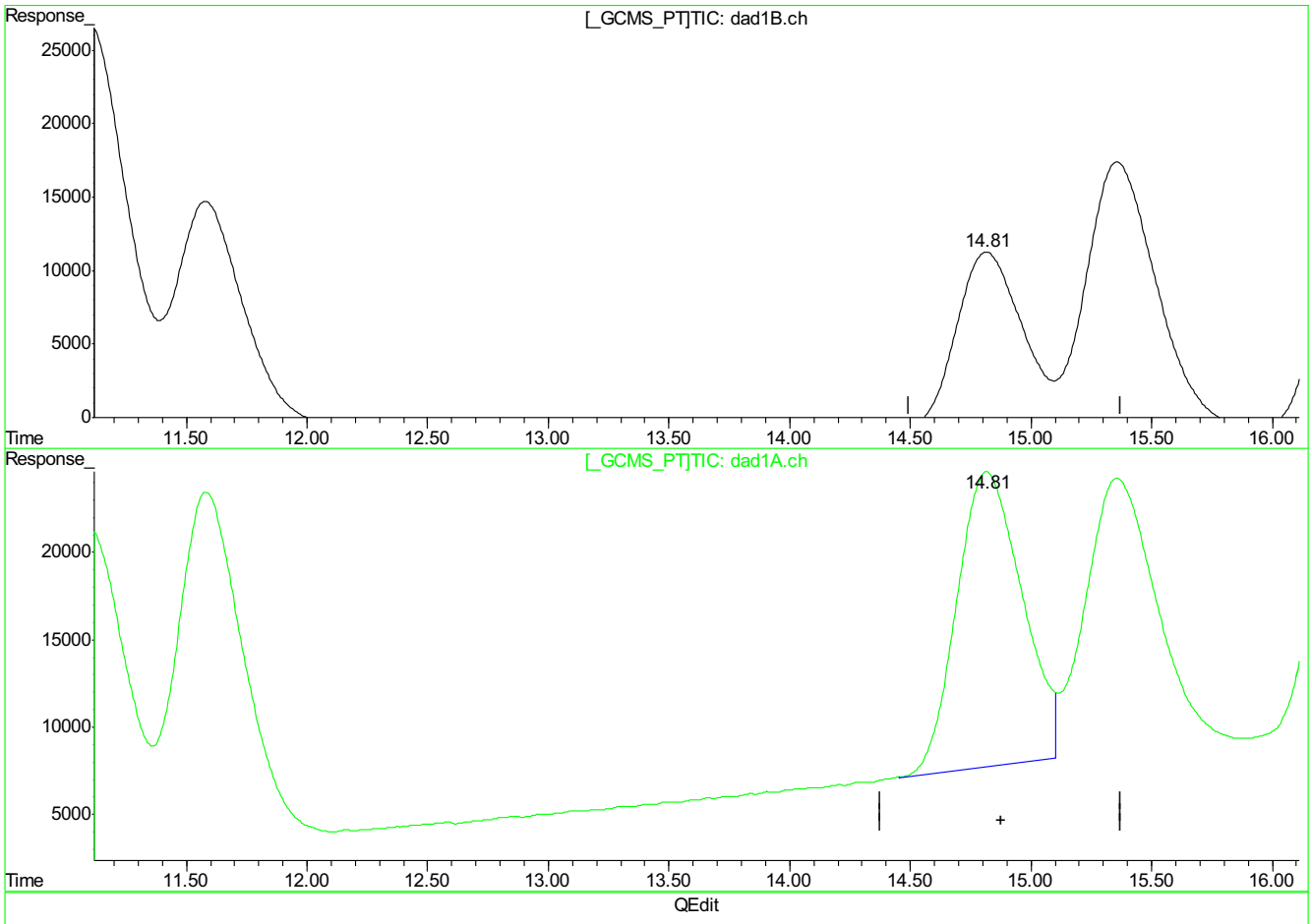
SGS ACCUTEST FA45722

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.82min 972.950ppb

response 2265553

(18) o-Nitrotoluene #2

14.81min 988.221ppb m

response 3178395

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:18 2017

9.5.11.5

9

BB056478.D edits: o-Nitrotoluene

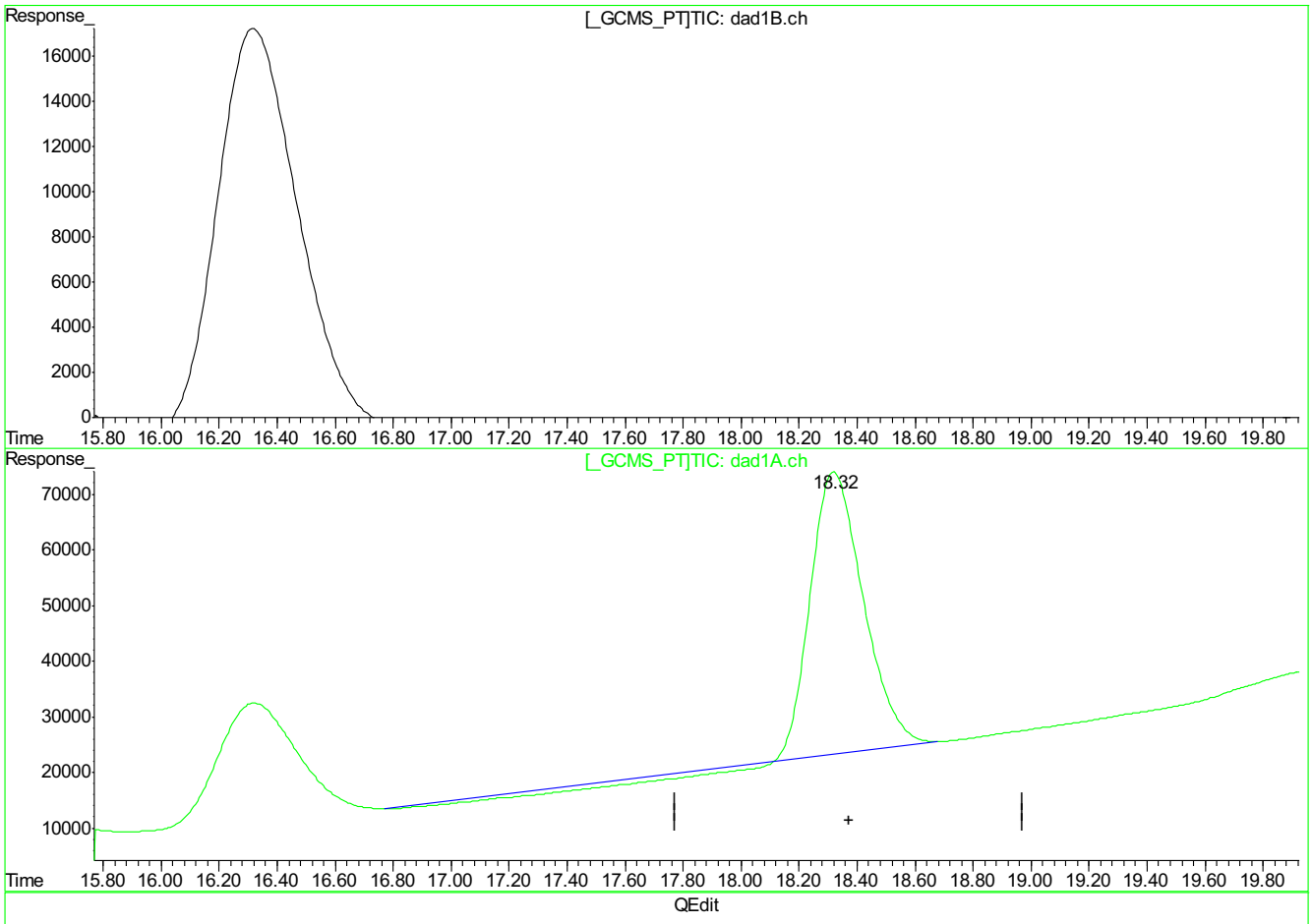
SGS ACCUTEST FA45722

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.32min 4155.119ppb

response 5866811

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:21 2017

9.5.11.6

9

BB056478.D edits: PETN

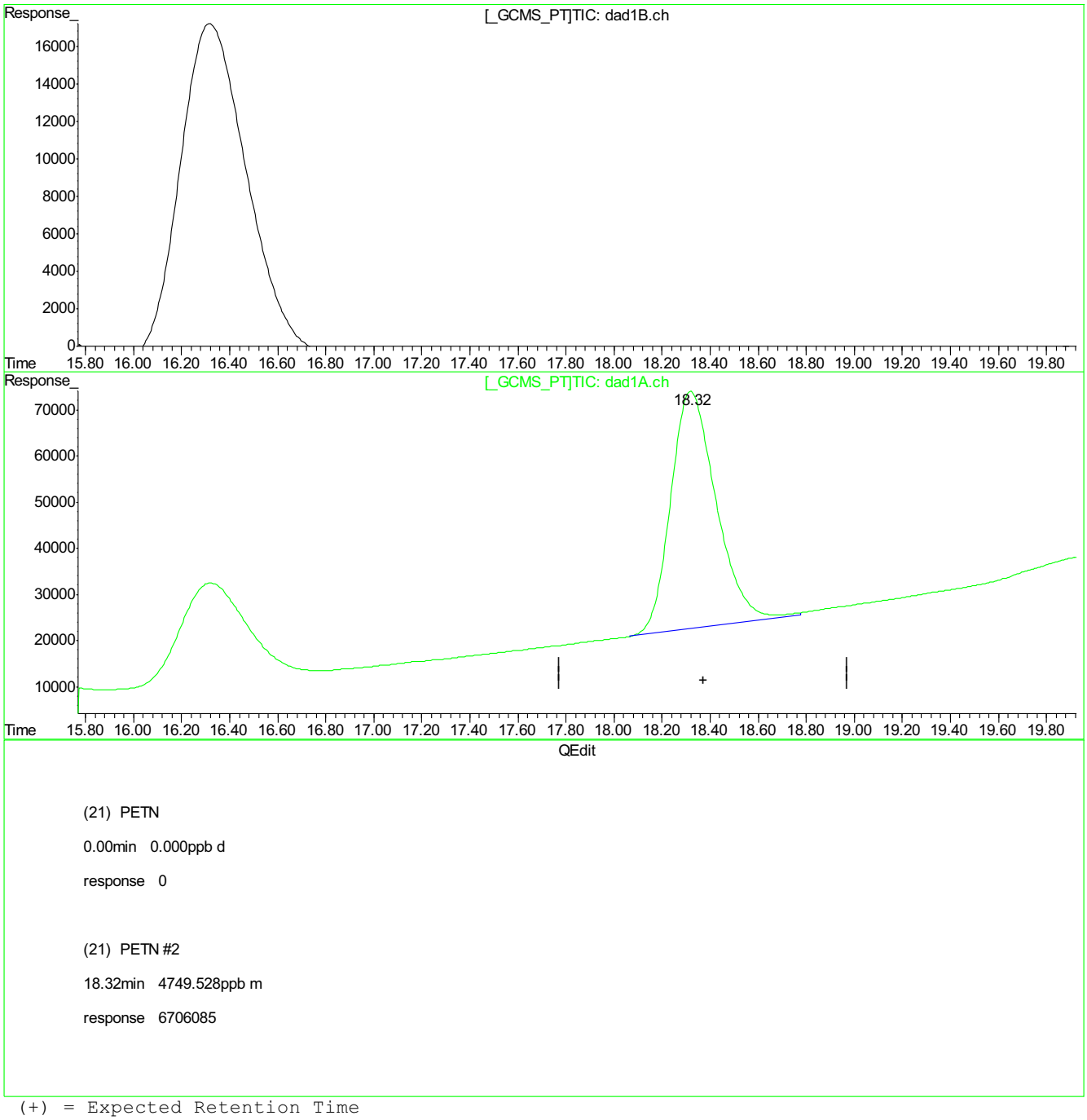
SGS ACCUTEST FA45722

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:25 2017

BB056478.D edits: PETN

Cal Report: BB056490.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/19/17 21:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 09:30:12 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.42	10.42	2521355	4411092	979.233	1100.838
	Spiked Amount 500.000	Range 70 - 136		Recovery =		195.85%#	220.17%#
	Target Compounds						
1)	TNX	1.35	1.35	2995785	4531521	965.107	945.693
2)	HMX	1.46	1.46	1839828	5019326	1063.152	1082.146
3)	DNX	1.71	1.71	2524788	4087774	869.559	929.886
4)	MNX	2.27	2.27	2050904	3137511	916.682	930.442
5)	RDX	2.86	2.86	2072546	3308443	1018.378	1038.302
6)	1,3,5-Trinitrobe	4.54	4.54	4547556	8763801	1068.306	1078.372
7)	1,3-Dinitrobenze	5.78	5.78	5785612	3887876	1034.749	1072.695
8)	3,5-Dinitroanili	6.08	6.09	4484584	7391721	1085.288	1133.740
9)	Nitrobenzene	7.40	7.40	3530296	3594742	1030.560	1103.489
10)	Nitroglycerin	0.00	8.67	0	4940226	N.D. d	4638.034m
11)	Tetryl	8.84	8.81	3322093	6092485	1070.406	1130.035m
12)	2,4,6-Trinitroto	9.28	9.28	3795497	4594800	991.803	1012.232
13)	2-Amino-4,6-Dini	9.58	9.58	4062033	6016607	1083.289	1095.008
14)	4-Amino-2,6-Dini	10.04	10.04	2618493	5250496	1047.204	1129.582
16)	2,4-Dinitrotolue	11.09	11.09	5179634	3179211	1000.466	1013.861
17)	2,6-Dinitrotolue	11.56	11.56	3227228	3977471	1044.824	1082.585
18)	o-Nitrotoluene	14.81	14.80	2420574	3388543	1039.525	1048.488m
19)	p-Nitrotoluene	15.35	15.35	3988879	3454740	1131.257	1188.714
20)	m-Nitrotoluene	16.31	16.31	3802363	4341774	1055.582	1047.791
21)	PETN	0.00	18.31	0	6838390	N.D. d	4843.232m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056490.D 8330B_0629PLUS.M Wed Jul 19 11:45:13 2017 Page 1

9.5.12
9

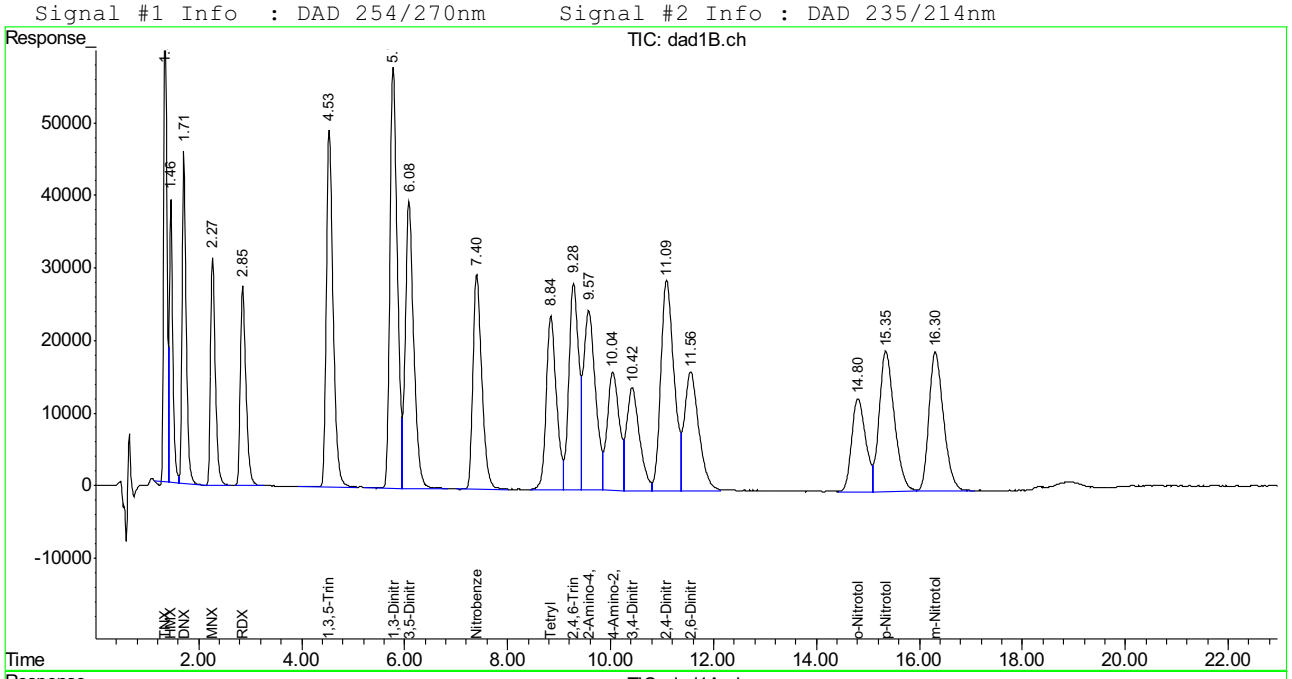
SGS ACCUTEST FA45722

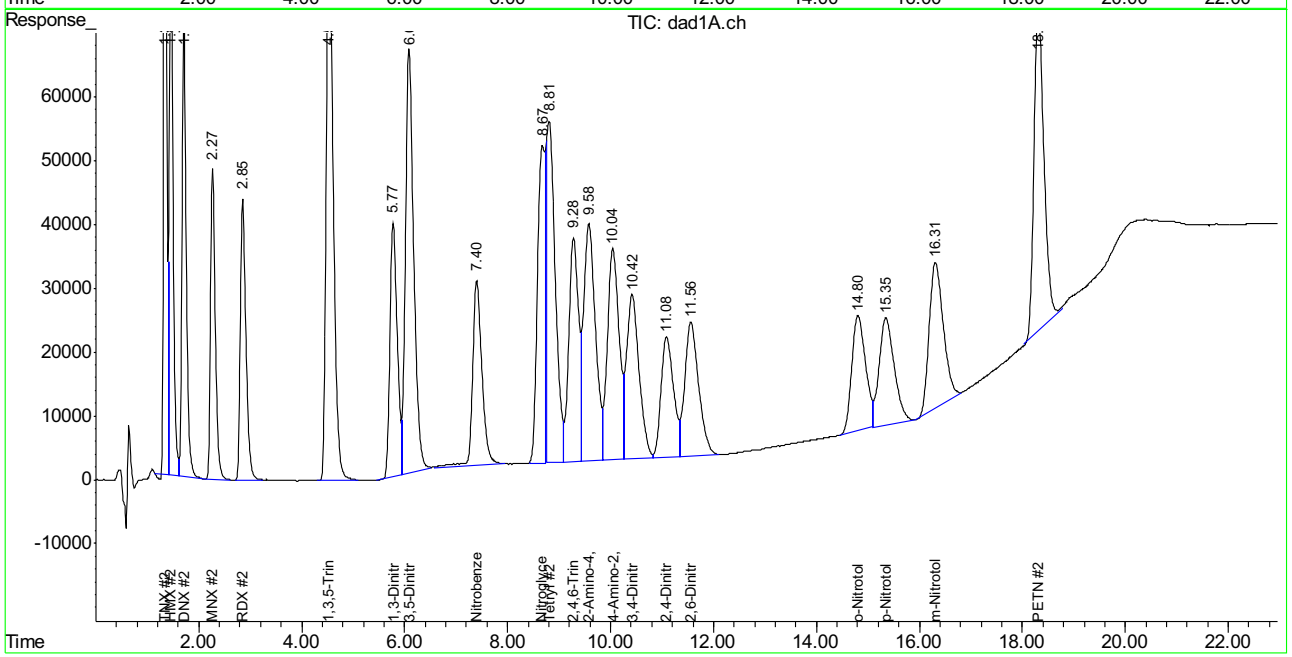
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 11:43 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1620-CC1615
Lab FileID: BB056490.D
Injection Time: 07/19/17 08:03
Method: SW846 8330B
Analyst approved: 07/19/17 11:14 Evita Martinez
Supervisor approved: 07/19/17 21:27 Mike Eger

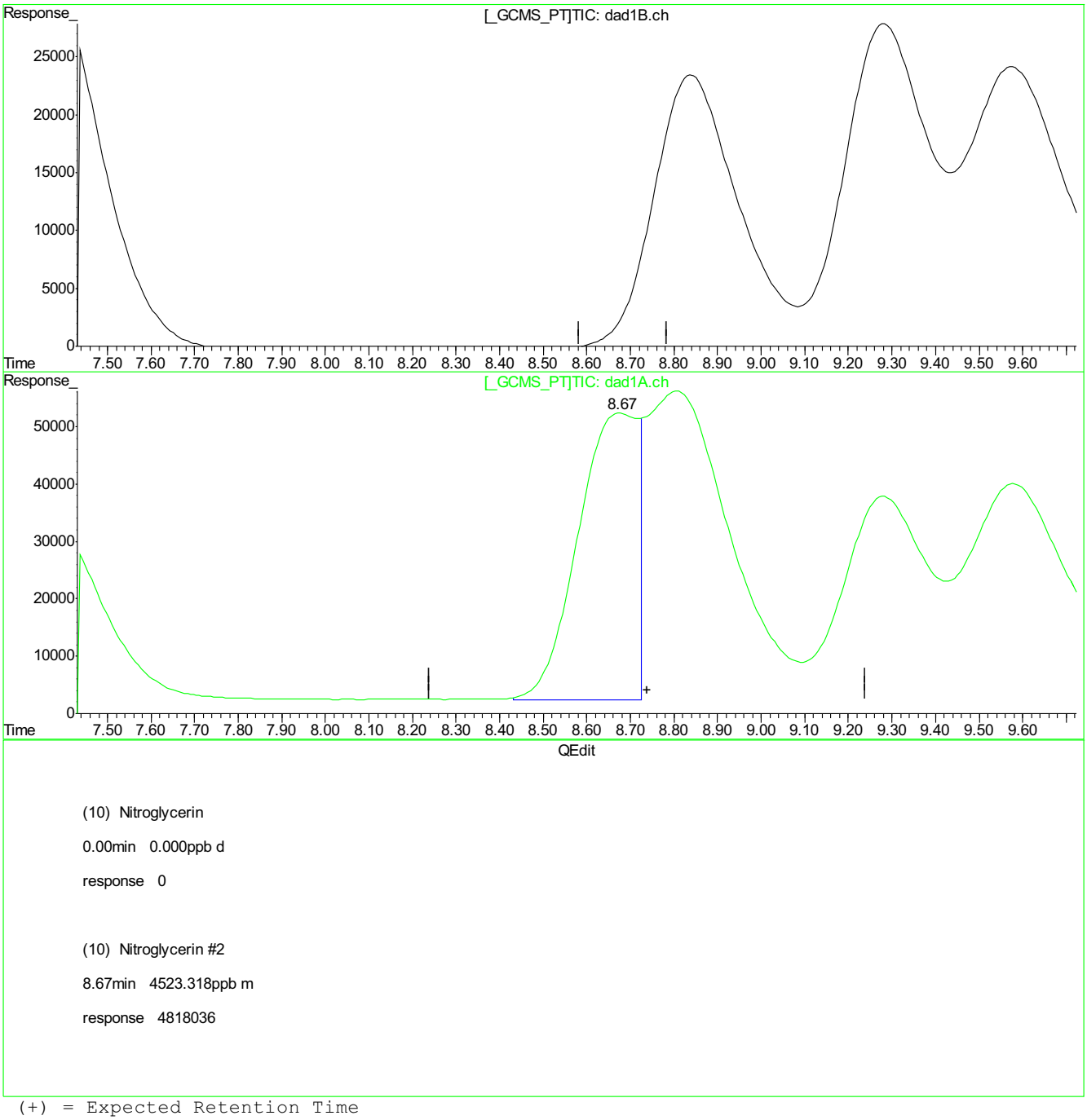
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.67	Poorly defined baseline
Tetryl	479-45-8	2	8.81	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.80	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:37:30 2017

9.5.12.2
9

BB056490.D edits: Nitroglycerin

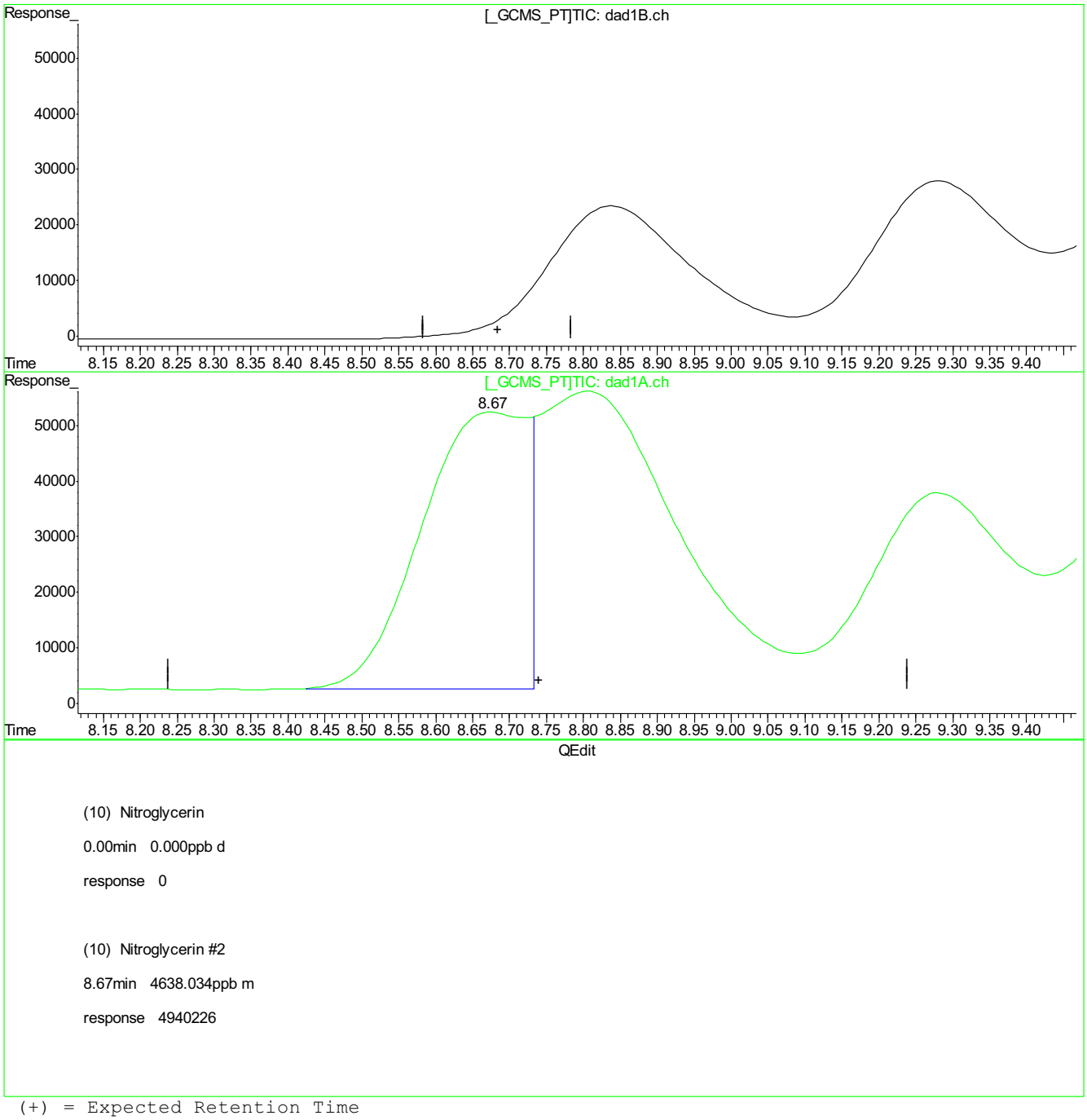
SGS ACCUTEST FA45722

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.67min 4638.034ppb m

response 4940226

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:37:45 2017

9.5.12.3

9

BB056490.D edits: Nitroglycerin

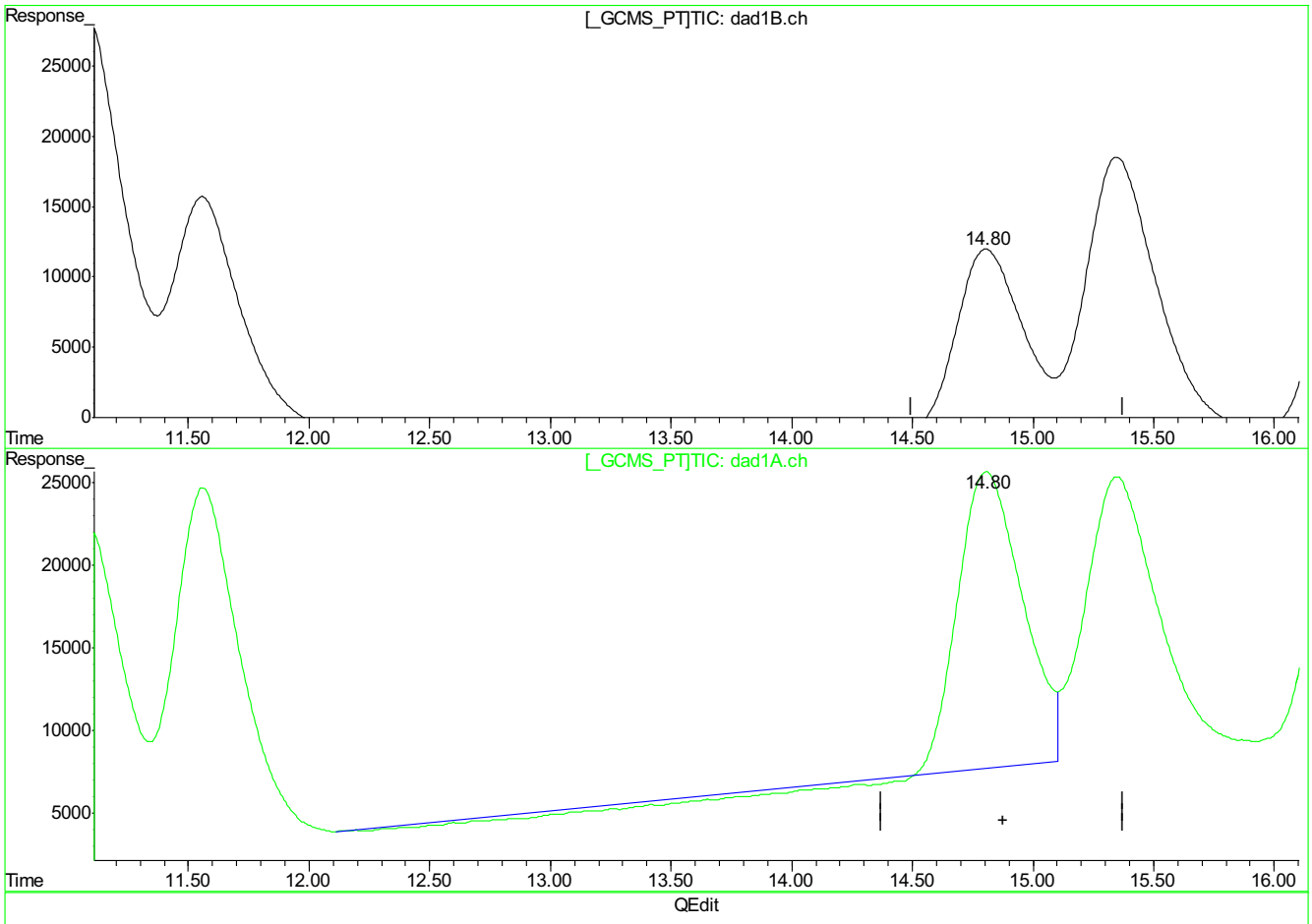
SGS ACCUTEST FA45722

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 1039.525ppb

response 2420574

(18) o-Nitrotoluene #2

14.81min 935.277ppb

response 2995326

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:29 2017

9.5.12.4

9

BB056490.D edits: o-Nitrotoluene

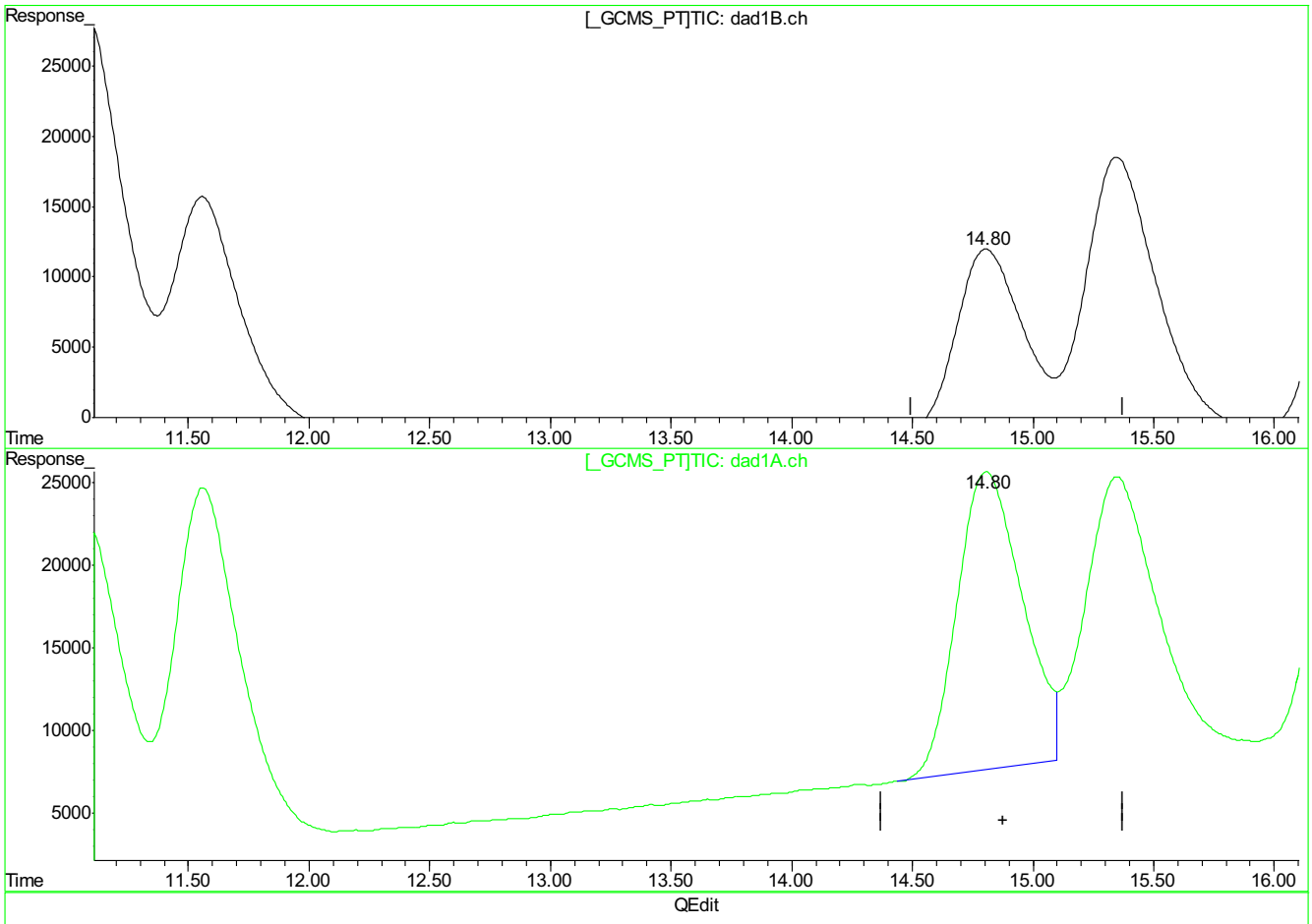
SGS ACCUTEST FA45722

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 1039.525ppb

response 2420574

(18) o-Nitrotoluene #2

14.80min 1048.488ppb m

response 3388543

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:33 2017

9.5.12.5

9

BB056490.D edits: o-Nitrotoluene

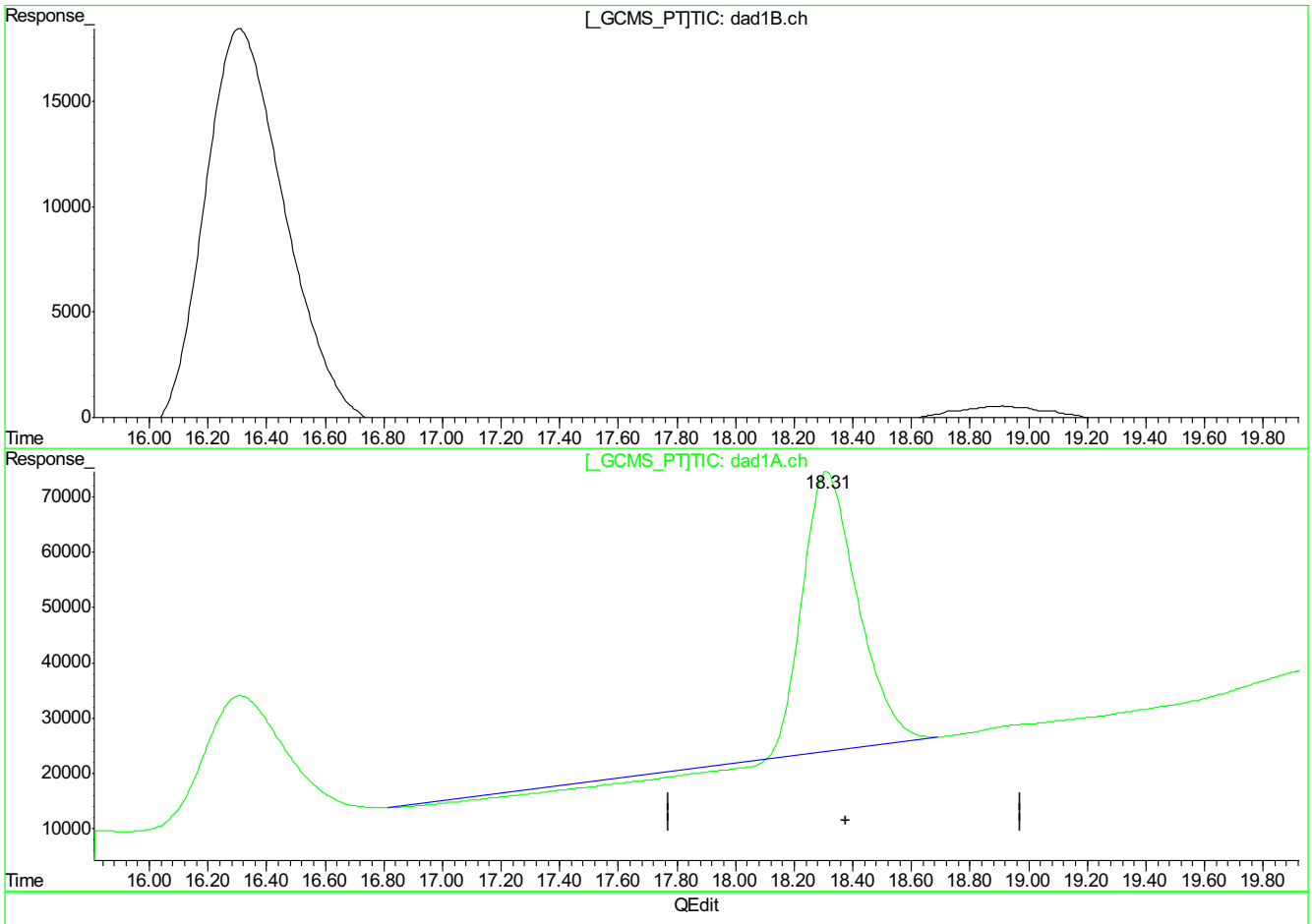
SGS ACCUTEST FA45722

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 4281.433ppb

response 6045160

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:36 2017

BB056490.D edits: PETN

SGS ACCUTEST FA45722

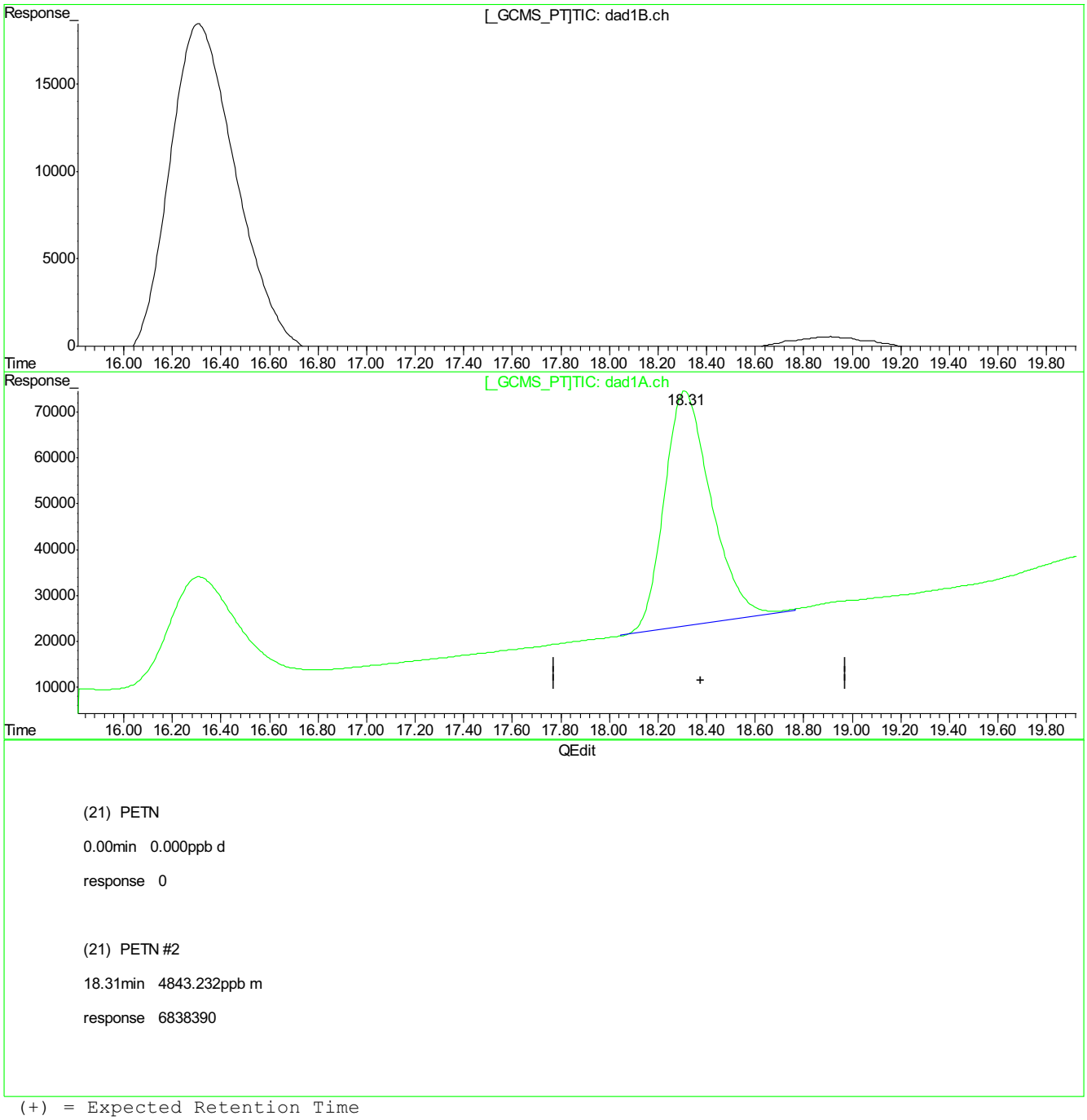
9.5.12.6
9

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 4843.232ppb m

response 6838390

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:40 2017

9.5.12.7

9

BB056490.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: BB056502.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/20/17 19:25

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 08:50:06 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.45	10.45	2534610	4435537	984.381	1106.597
	Spiked Amount 500.000	Range 70 - 136		Recovery =		196.88%#	221.32%#
	Target Compounds						
1)	TNX	1.35	1.35	2983196	4502867	961.051	939.713
2)	HMX	1.46	1.46	1844214	5033437	1065.685	1085.188
3)	DNX	1.71	1.71	2514511	4075551	866.020	927.139
4)	MNX	2.27	2.27	2042550	3134779	912.949	929.632
5)	RDX	2.86	2.86	2085774	3297829	1024.878	1034.971
6)	1,3,5-Trinitrobe	4.54	4.54	4491842	8714380	1055.218	1072.291
7)	1,3-Dinitrobenze	5.79	5.79	5697054	3796696	1018.911	1047.538
8)	3,5-Dinitroanili	6.09	6.09	4554029	7401930	1102.094	1135.306
9)	Nitrobenzene	7.41	7.41	3559092	3541441	1038.966	1087.127
10)	Nitroglycerin	0.00	8.69	0	4573394	N.D. d	4293.641
11)	Tetryl	8.86	8.83	3278027	7057242	1056.208	1296.809
12)	2,4,6-Trinitroto	9.30	9.30	3750654	4537818	980.085	1000.352
13)	2-Amino-4,6-Dini	9.59	9.59	4056288	6005450	1081.757	1093.067
14)	4-Amino-2,6-Dini	10.06	10.06	2644271	5242505	1057.513	1127.863
16)	2,4-Dinitrotolue	11.12	11.12	5098420	3123413	984.780	996.067
17)	2,6-Dinitrotolue	11.59	11.59	3325443	4029009	1076.621	1096.613
18)	o-Nitrotoluene	14.84	14.84	2372850	3364236	1019.030	1041.545m
19)	p-Nitrotoluene	15.39	15.39	4002525	3434181	1135.127	1182.488
20)	m-Nitrotoluene	16.35	16.35	3784651	4289579	1050.665	1036.084
21)	PETN	0.00	18.34	0	6750819	N.D. d	4781.210m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:41:28 2017 Page 1

9.5.13
9

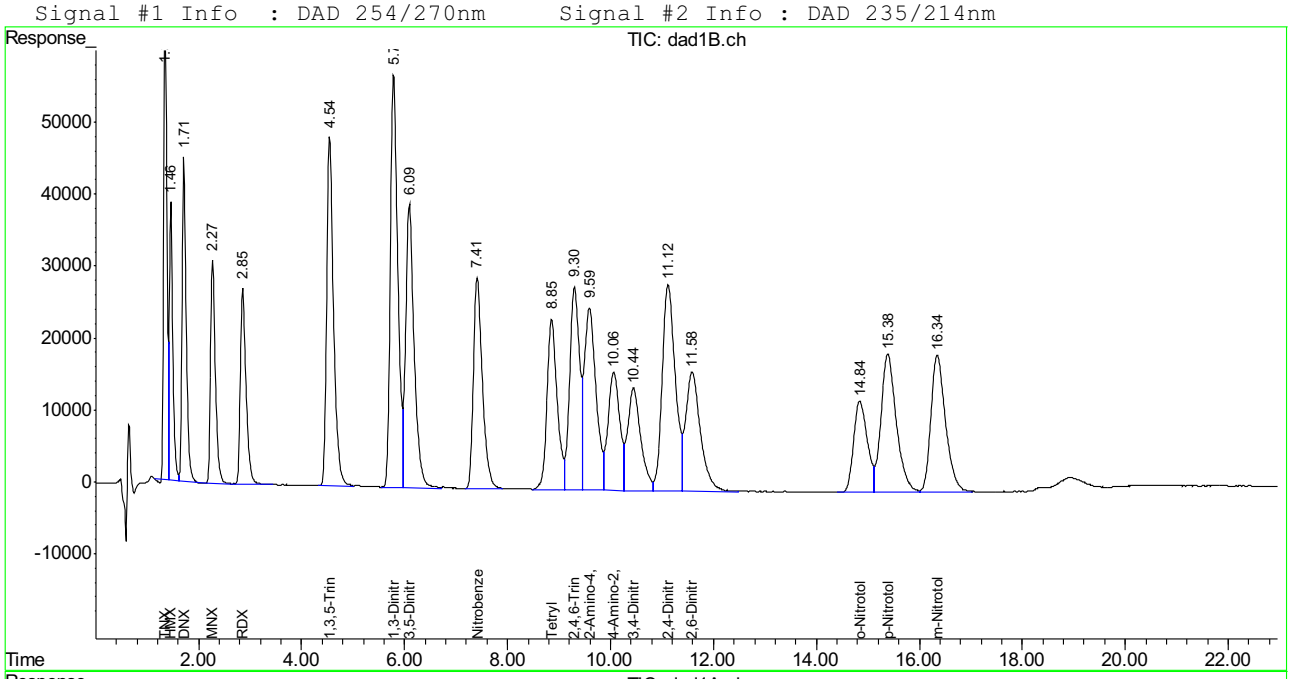
SGS ACCUTEST FA45722

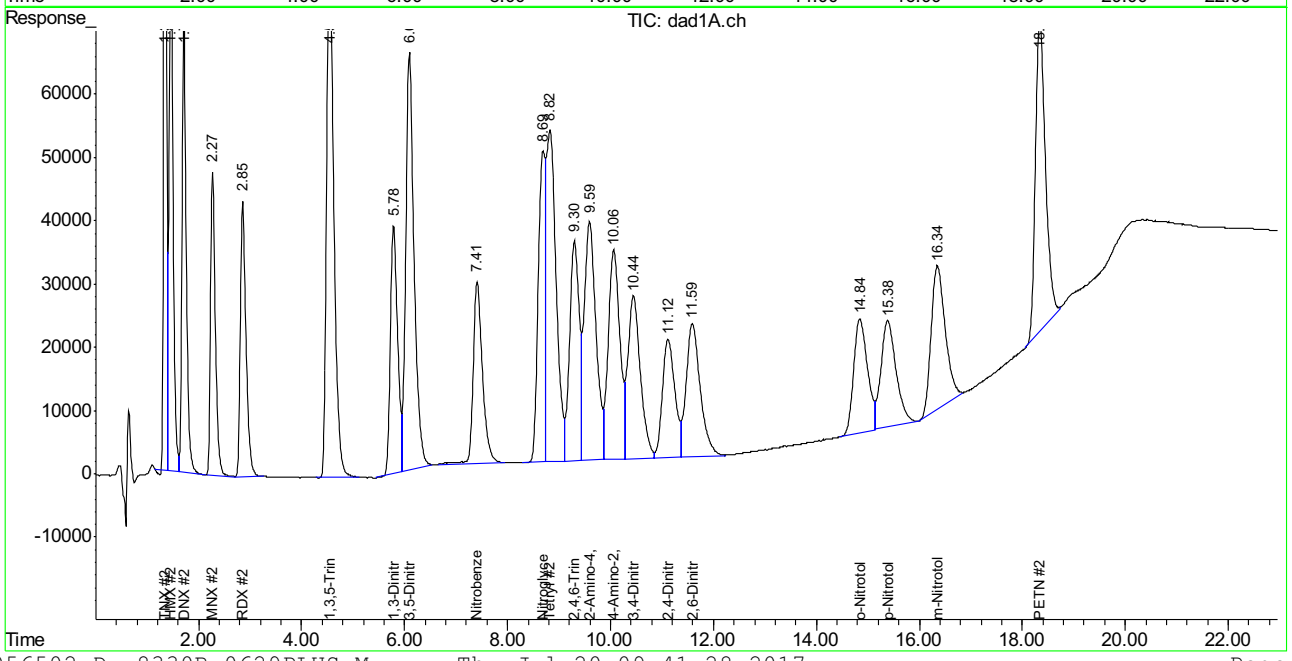
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 9:10 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GBB1620-CC1615
Lab FileID: BB056502.D
Injection Time: 07/19/17 14:03
Method: SW846 8330A
Analyst approved: 07/20/17 09:55 Evita Martinez
Supervisor approved: 07/20/17 19:25 Mike Eger

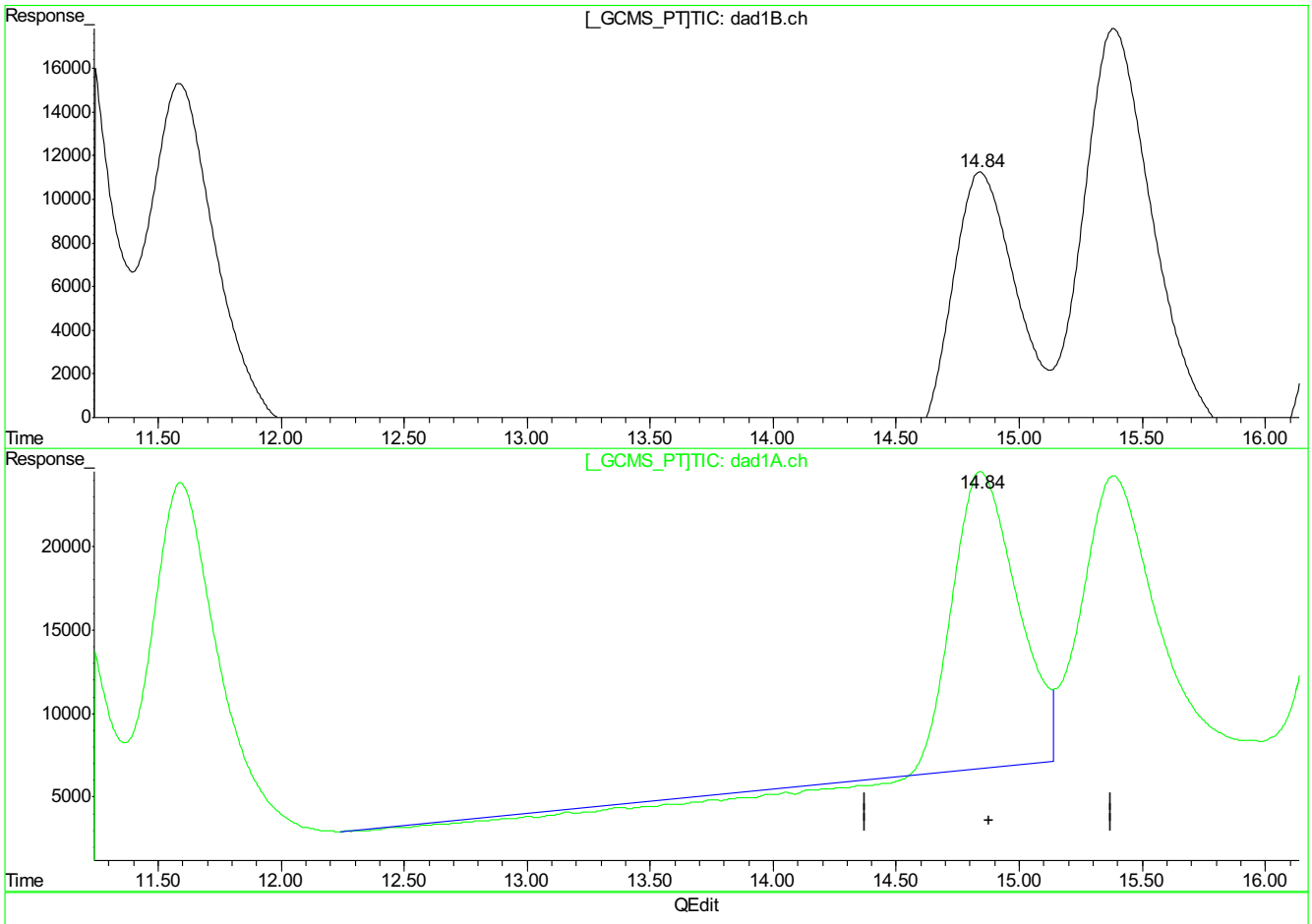
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	14.84	Poorly defined baseline
PETN	78-11-5	2	18.34	Poorly defined baseline

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.84min 1019.030ppb

response 2372850

(18) o-Nitrotoluene #2

14.85min 917.959ppb

response 2935760

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:10 2017

9.5.13.2

9

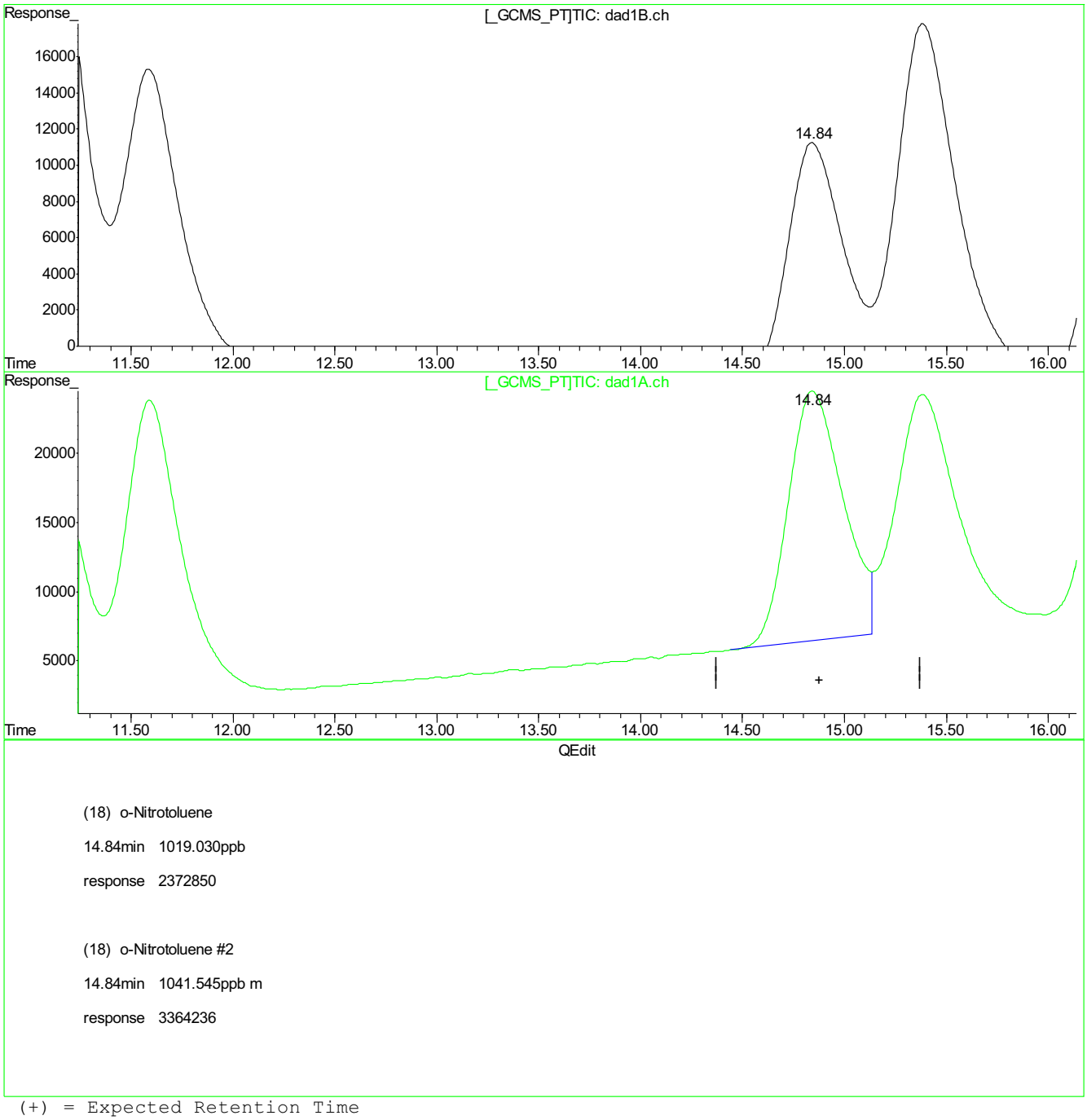
BB056502.D edits: o-Nitrotoluene

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.84min 1019.030ppb

response 2372850

(18) o-Nitrotoluene #2

14.84min 1041.545ppb m

response 3364236

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:14 2017

9.5.13.3

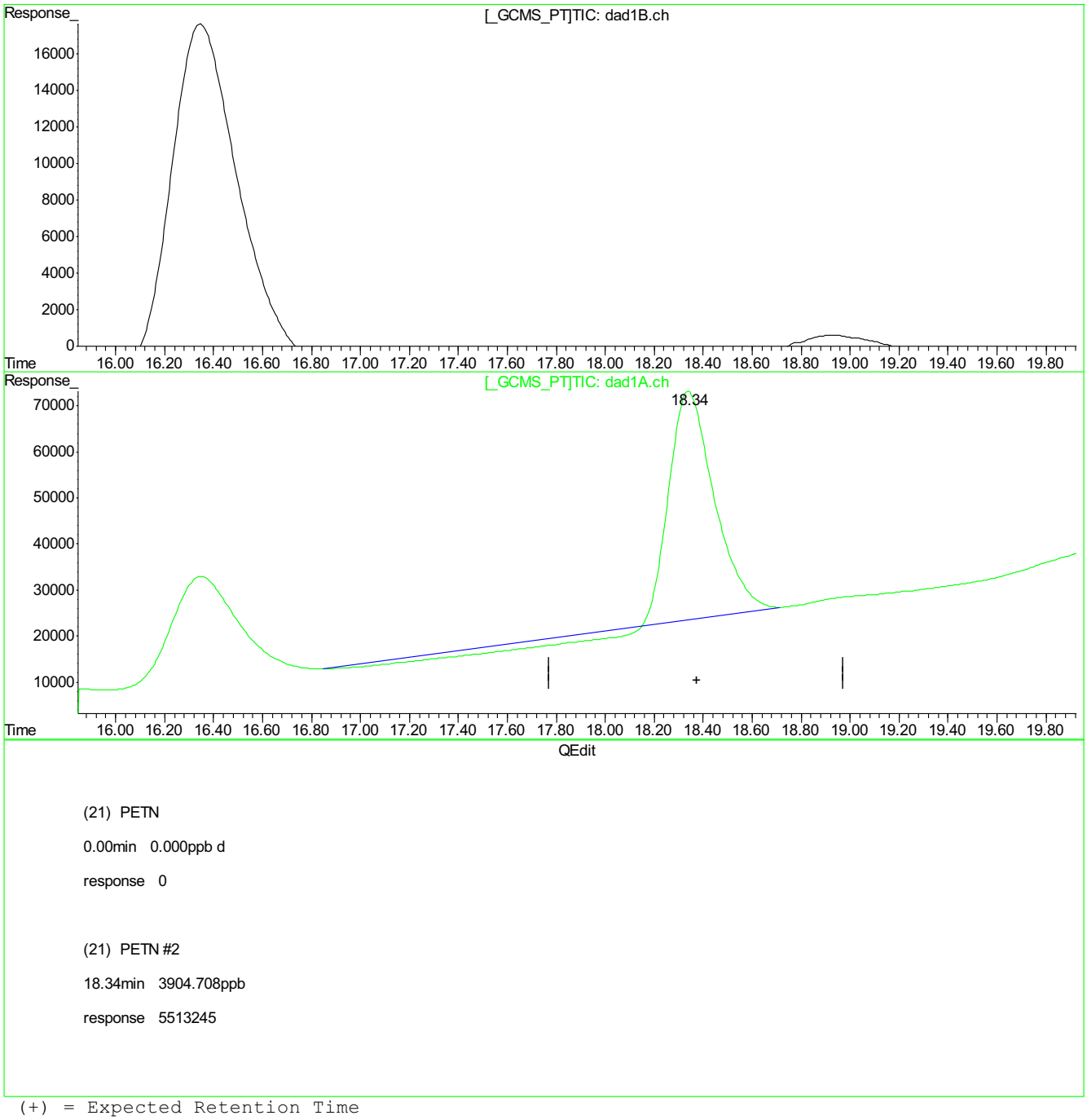
9

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.34min 3904.708ppb

response 5513245

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:17 2017

9.5.13.4

9

BB056502.D edits: PETN

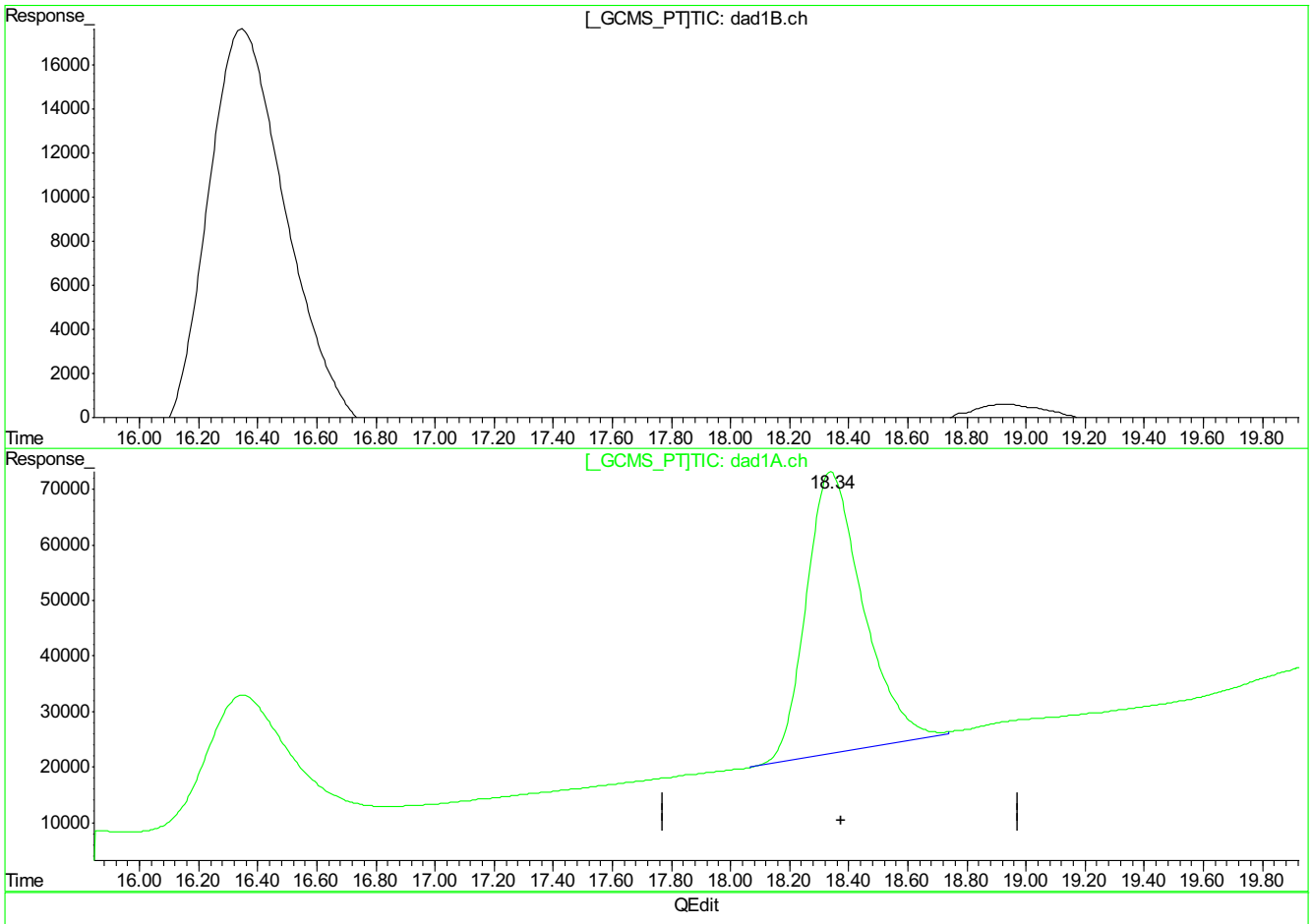
SGS ACCUTEST FA45722

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.34min 4781.210ppb m

response 6750819

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:21 2017

9.5.13.5

9

BB056502.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613488.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50:39 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.43	14.43	104300	282585	19.854	25.723
	Spiked Amount 500.000	Range 69 - 134		Recovery =		3.97%#	5.14%#
	Target Compounds						
1)	TNX	4.95	4.95	155402	156470	20.027m	20.175m
2)	HMX	5.31	5.31	68086	68676	21.721m	22.088m
3)	DNX	5.50	5.51	145919	149218	19.063m	20.145m
4)	MNX	6.51	6.51	81956	81956	17.154	17.191
5)	1,3,5-Trinitrobe	7.55	7.55	206301	206301	22.566	23.092
6)	RDX	7.88	7.88	90782	90782	21.362	21.404
7)	1,3-Dinitrobenze	10.05	10.05	287302	257753	22.397	24.216m
8)	Nitrobenzene	11.12	11.13	189522	192685	23.025	19.391m
9)	2,4,6-Trinitroto	11.90	11.89	213594	512092	23.189	39.953m#
10)	Nitroglycerin	0.00	12.65	0	318601	N.D. d	100.893m
11)	Tetryl	13.19	13.17	144159	194422	23.755	19.182m
13)	2,6-Dinitrotolue	14.89	14.90	135168	210116	22.401	23.014
14)	2,4-Dinitrotolue	15.61	15.61	259607	309956	22.133	37.358 #
15)	o-Nitrotoluene	17.32	17.32	118375	315420	23.127	41.316 #
16)	3,5-Dinitroanili	16.54	16.54	290351	493996	27.891	29.256
17)	p-Nitrotoluene	18.37	18.36	257362	750525	23.907	38.286 #
18)	4-Amino-2,6-Dini	18.37	18.36	257362	750525	23.907	38.286 #
19)	m-Nitrotoluene	19.78	19.80	134288	190349	24.956	20.903m
20)	2-Amino-4,6-Dini	20.45	20.39	174049	149792	21.516	14.374m
21)	PETN	0.00	22.32	0	229557	N.D. d	77.648m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 13:56:30 2017 Page 1

9.5.14
9

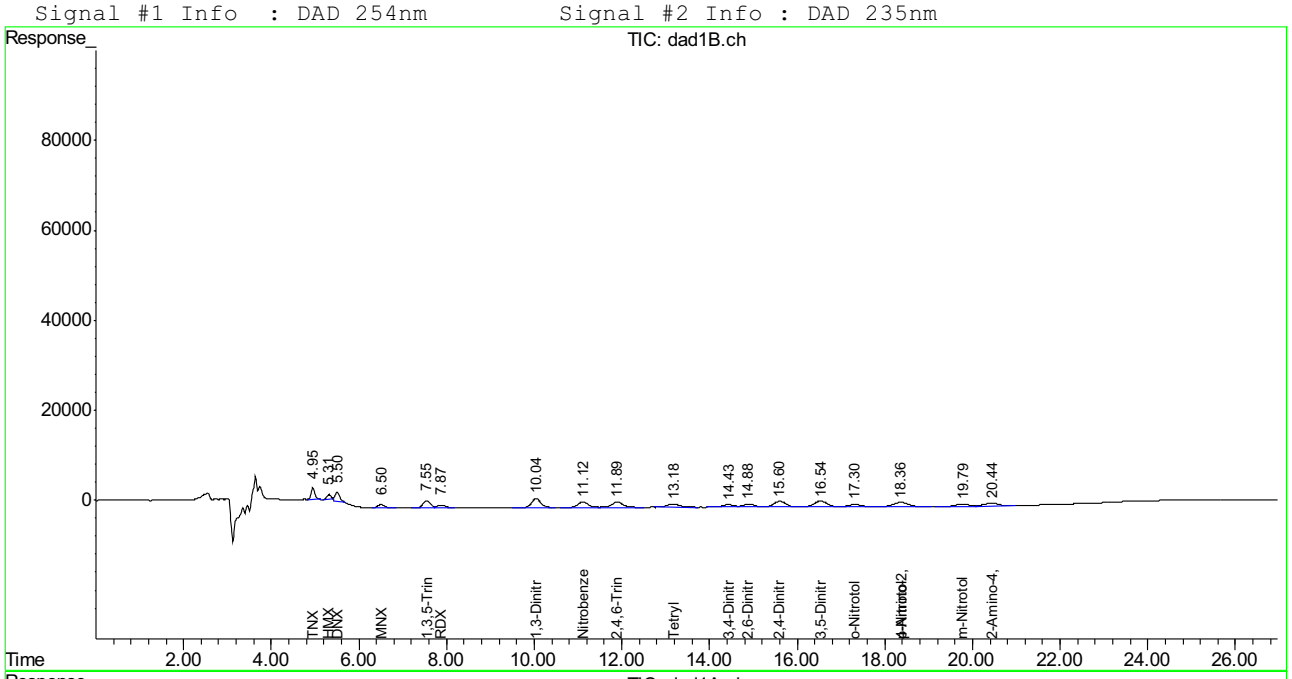
SGS ACCUTEST FA45722

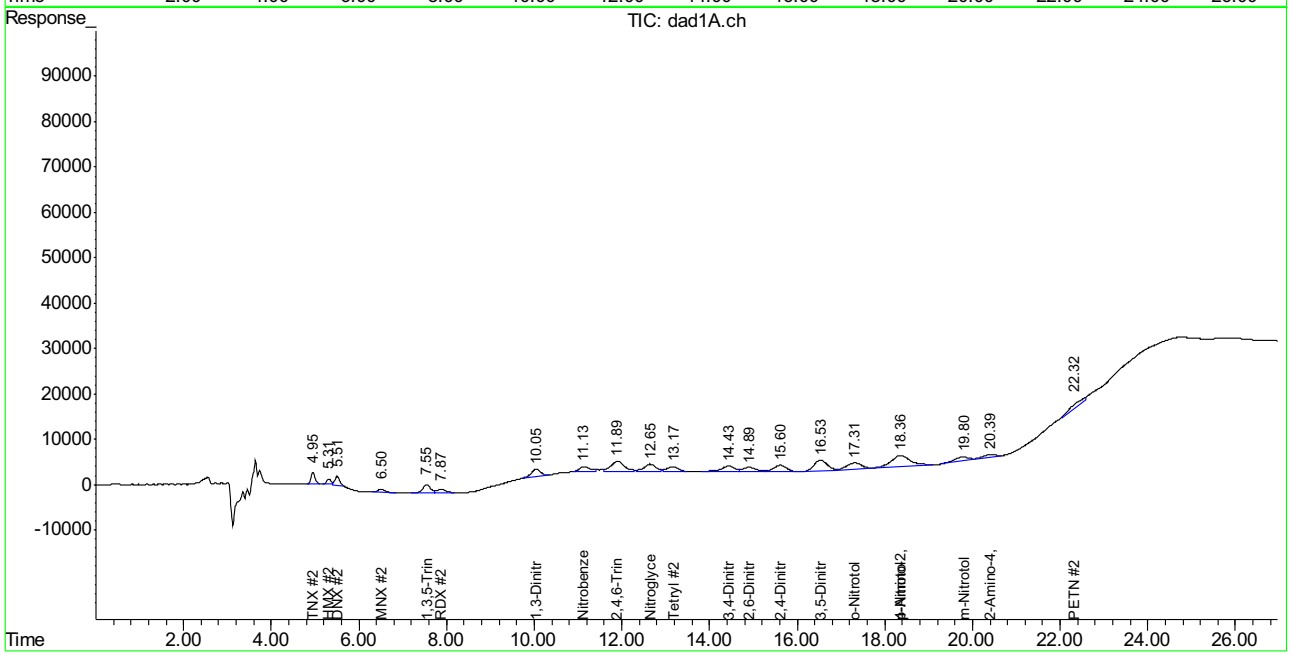
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:53 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613488.D
Injection Time: 07/20/17 16:43
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

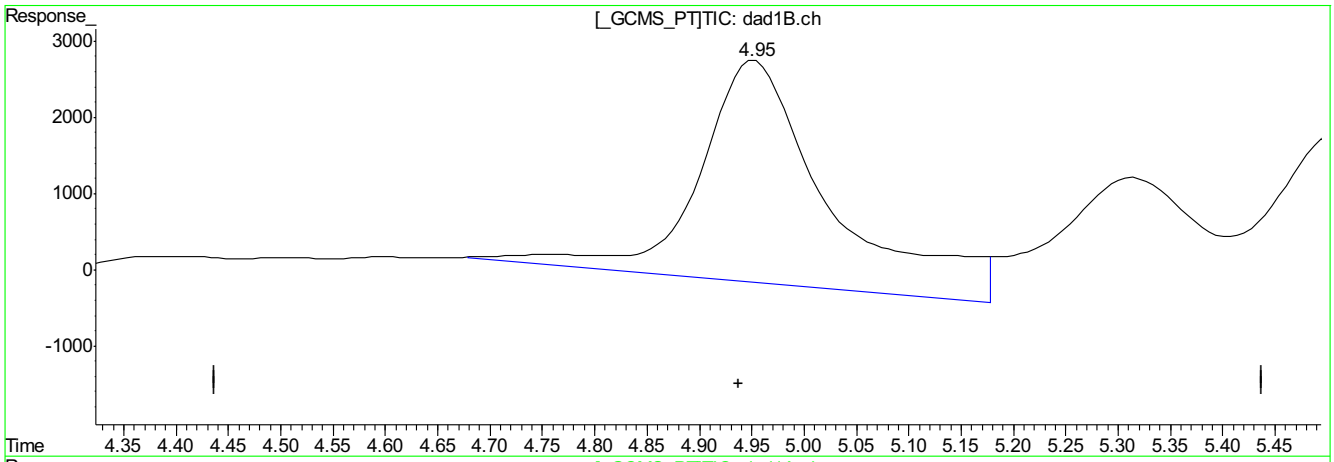
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
HMX	2691-41-0	1	5.31	Poorly defined baseline
HMX	2691-41-0	2	5.31	Poorly defined baseline
DNX		1	5.50	Poorly defined baseline
DNX		2	5.51	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.13	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.89	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.65	Poorly defined baseline
Tetryl	479-45-8	2	13.17	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	19.80	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.39	Poorly defined baseline
PETN	78-11-5	2	22.32	Poorly defined baseline

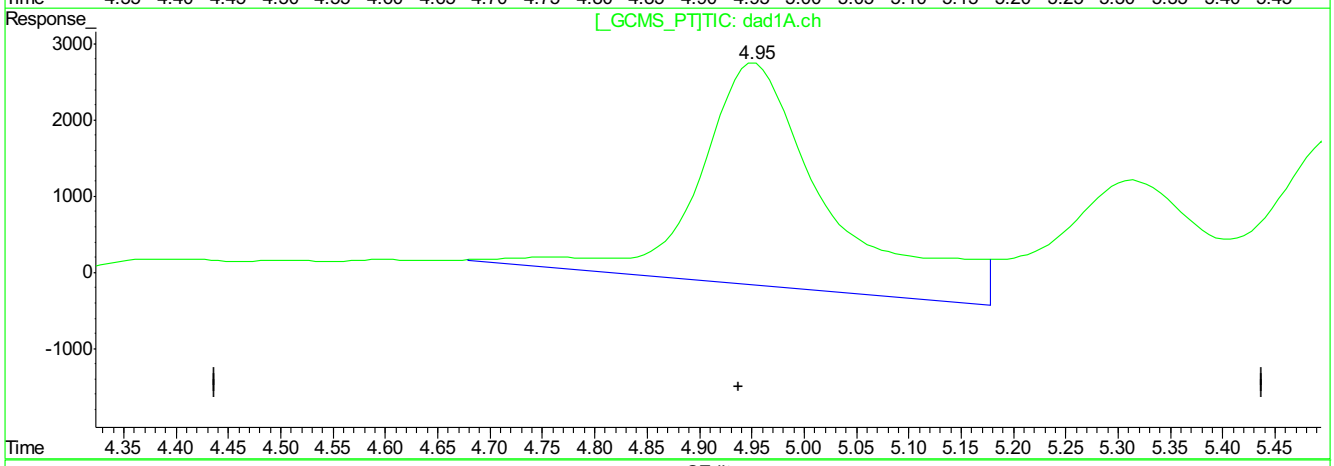
Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.95min 32.411ppb

response 251506

(1) TNX #2

4.95min 32.429ppb

response 251506

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:50:45 2017

9.5.14.2

9

GG613488.D edits: TNX

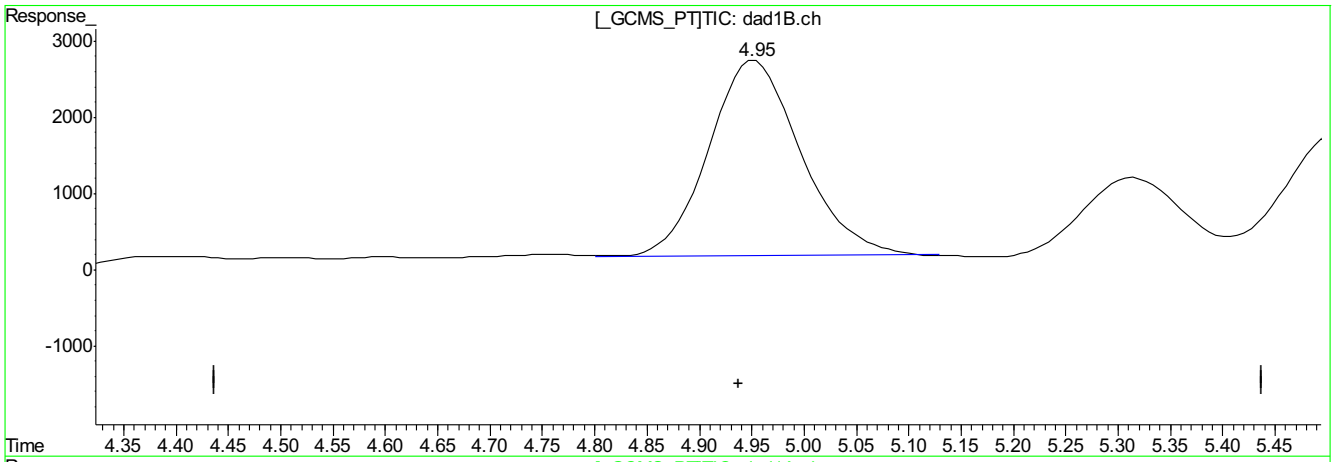
SGS ACCUTEST FA45722

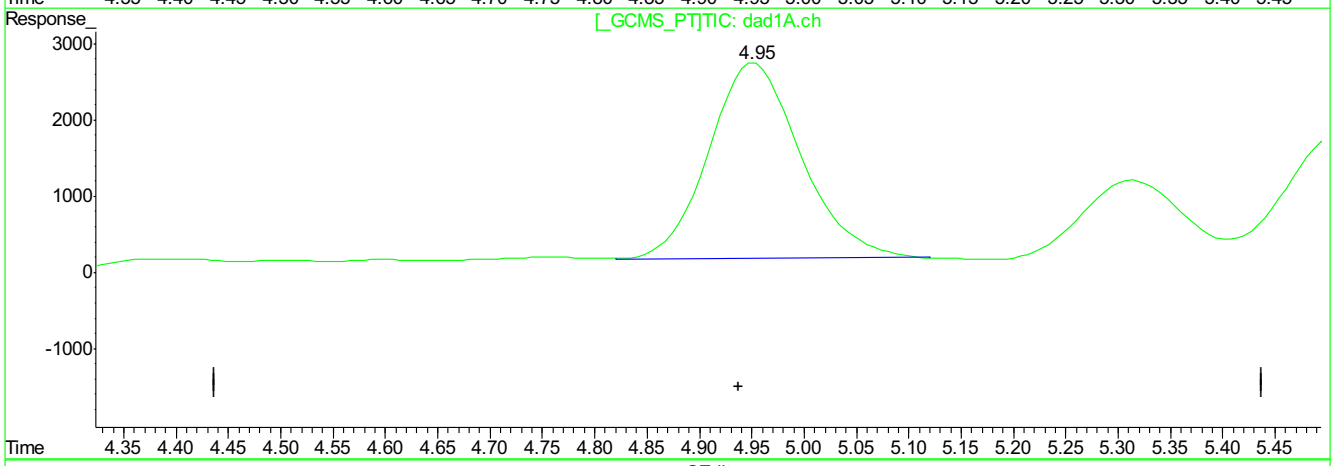
Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.95min 20.027ppb m

response 155402

(1) TNX #2

4.95min 20.175ppb m

response 156470

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:50:52 2017

9.5.14.3

9

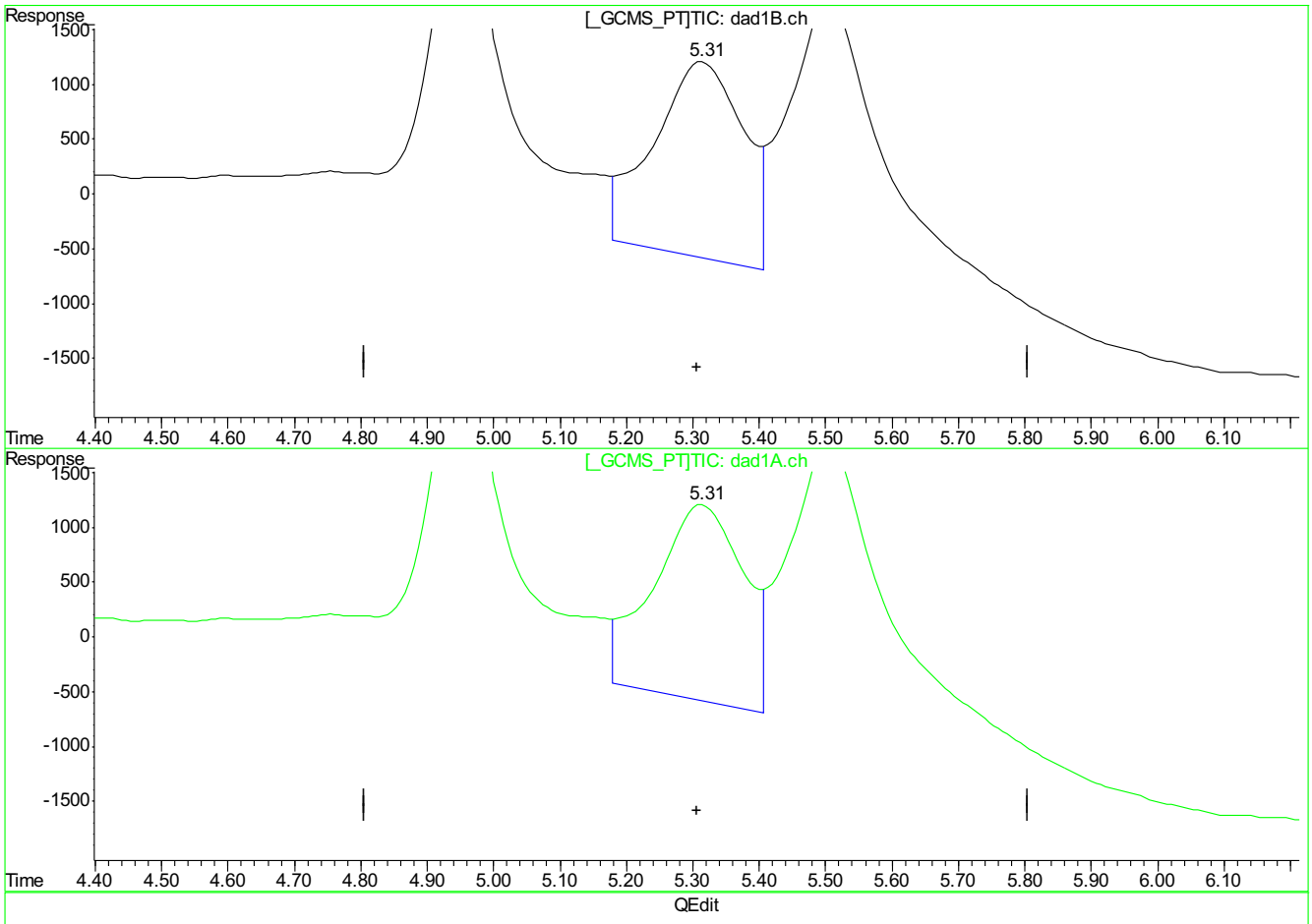
GG613488.D edits: TNX

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(2) HMX

5.32min 54.263ppb

response 170095

(2) HMX #2

5.32min 54.707ppb

response 170095

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:50:56 2017

9.5.14.4

9

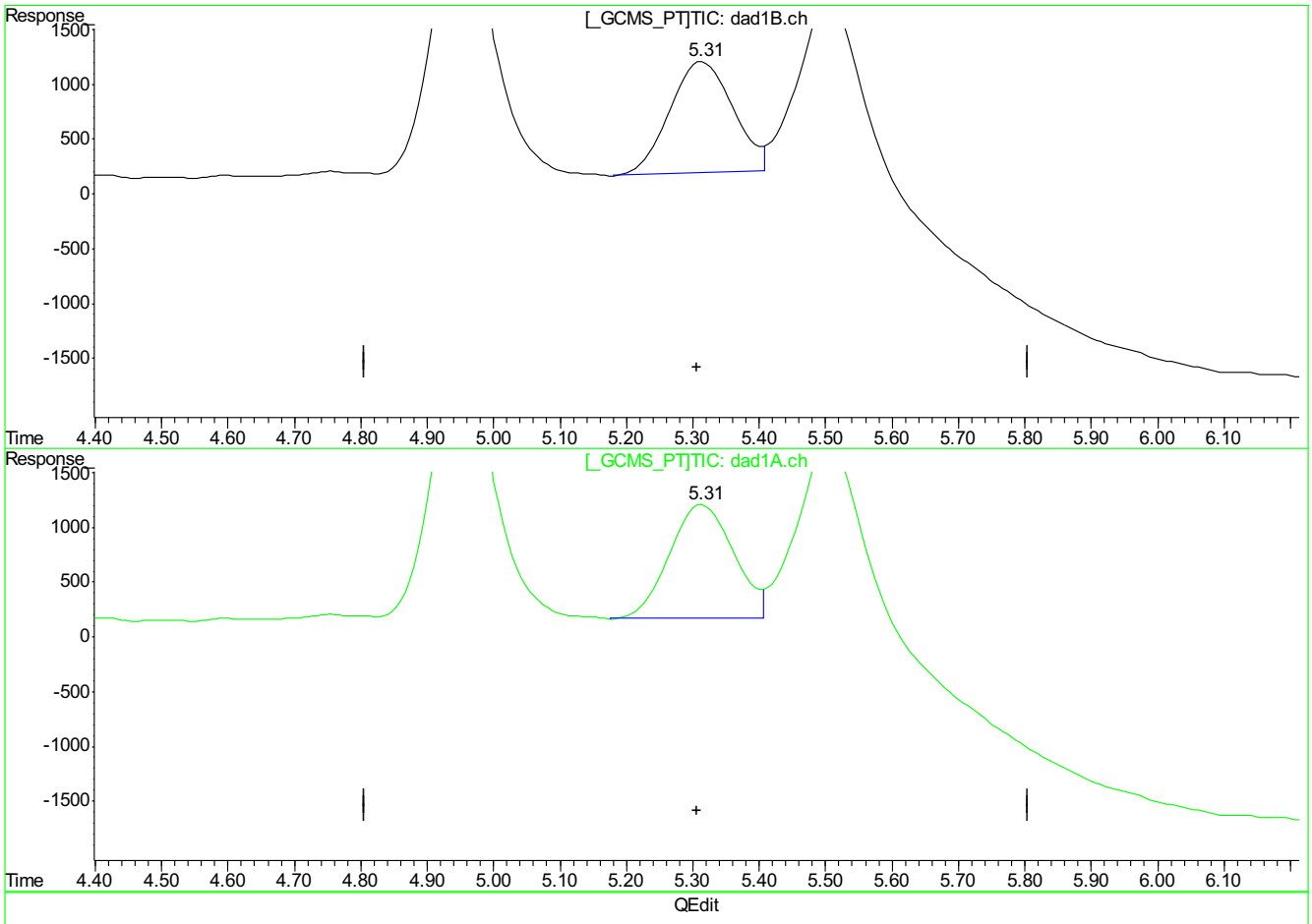
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



QEdit

(2) HMX

5.31min 21.721ppb m

response 68086

(2) HMX #2

5.31min 22.088ppb m

response 68676

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:02 2017

9.5.14.5

9

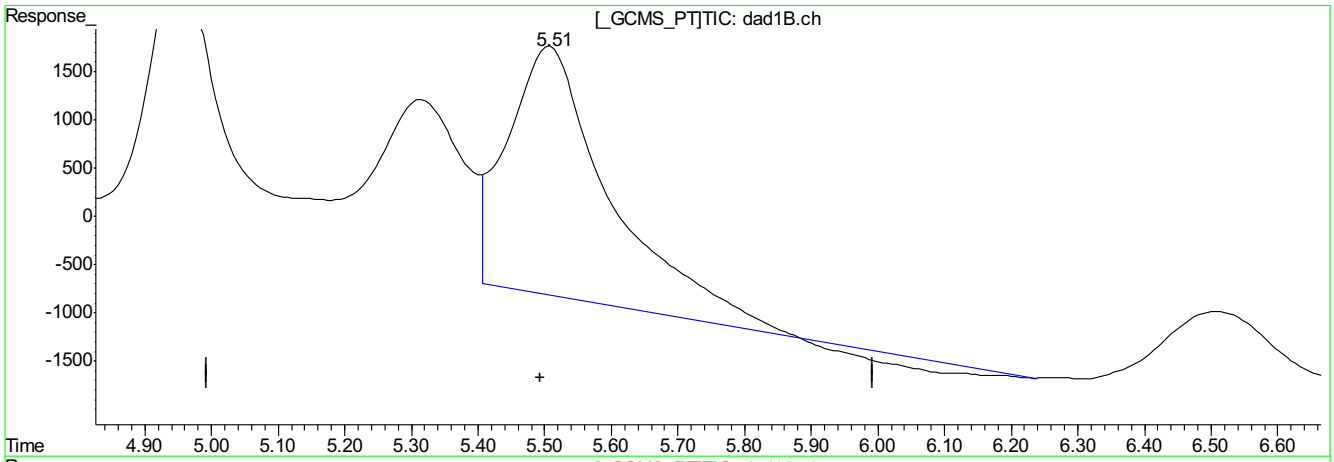
GG613488.D edits: HMX

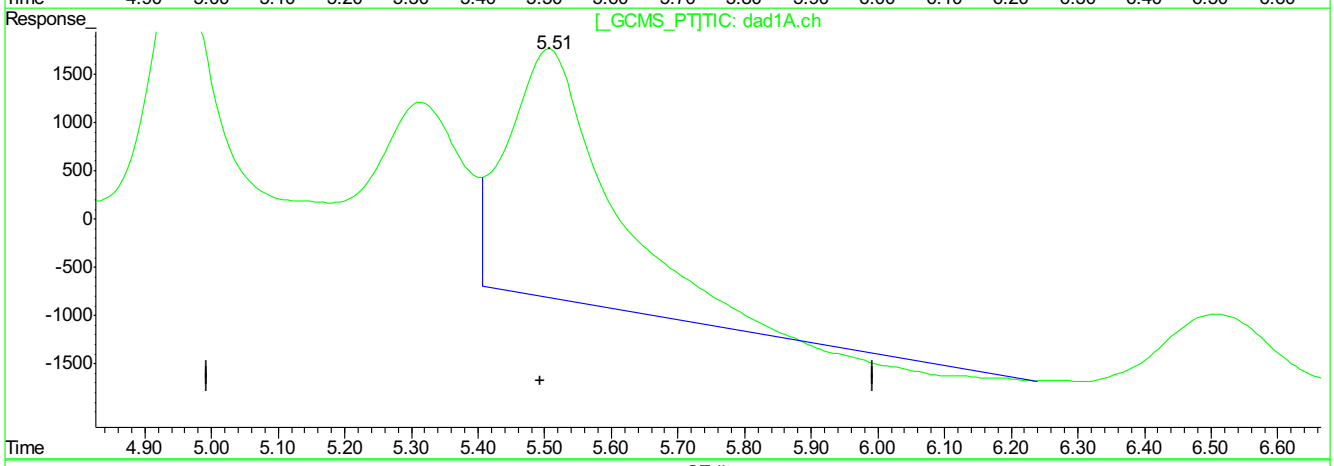
SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.51min 34.695ppb

response 265576

(3) DNX #2

5.51min 35.871ppb

response 265576

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:05 2017

9.5.14.6
9

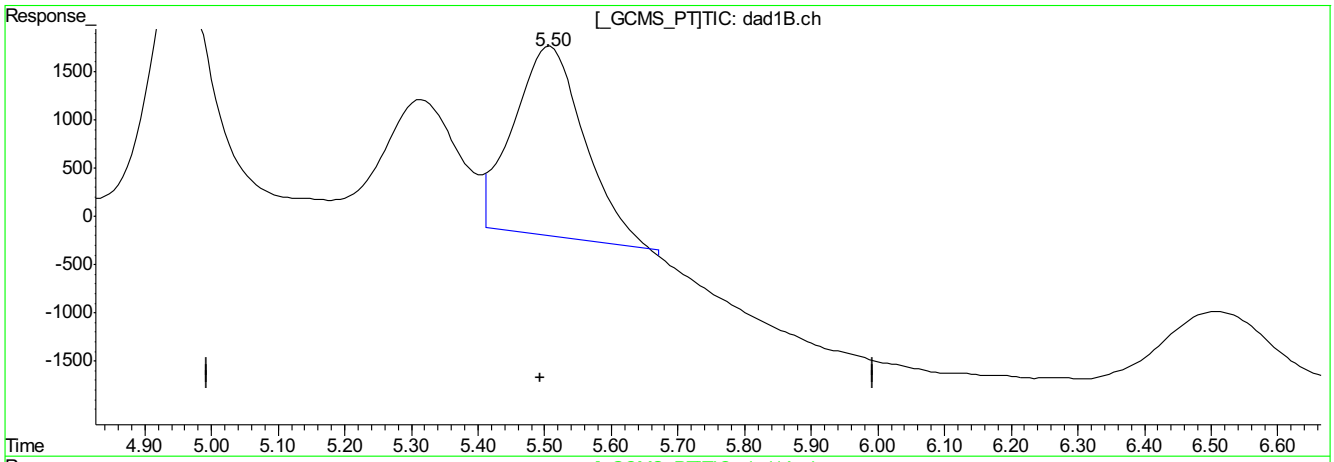
GG613488.D edits: DNX

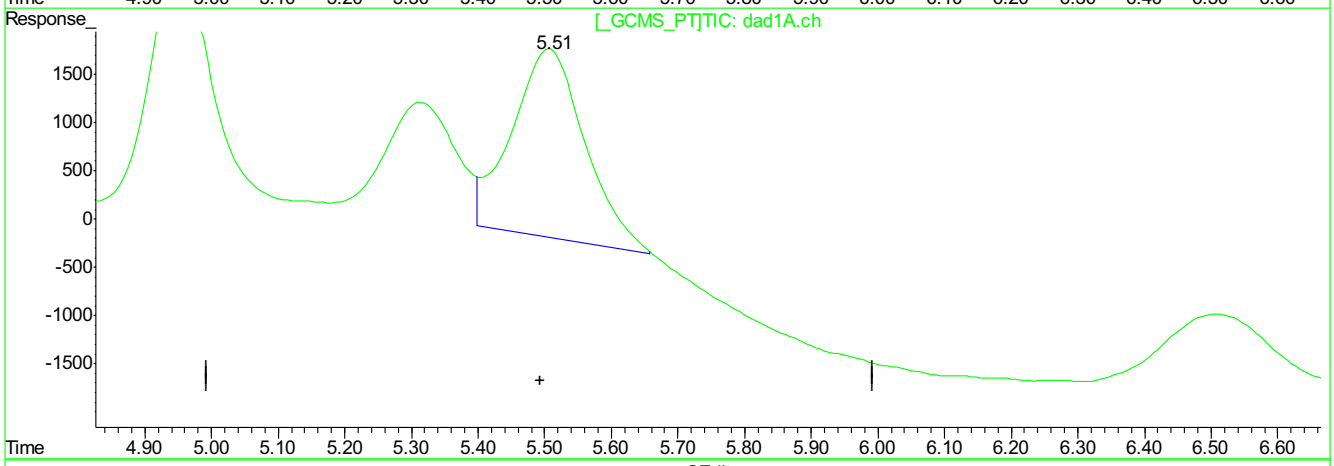
Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.50min 19.063ppb m

response 145919

(3) DNX #2

5.51min 20.145ppb m

response 149218

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:24 2017

9.5.14.7

9

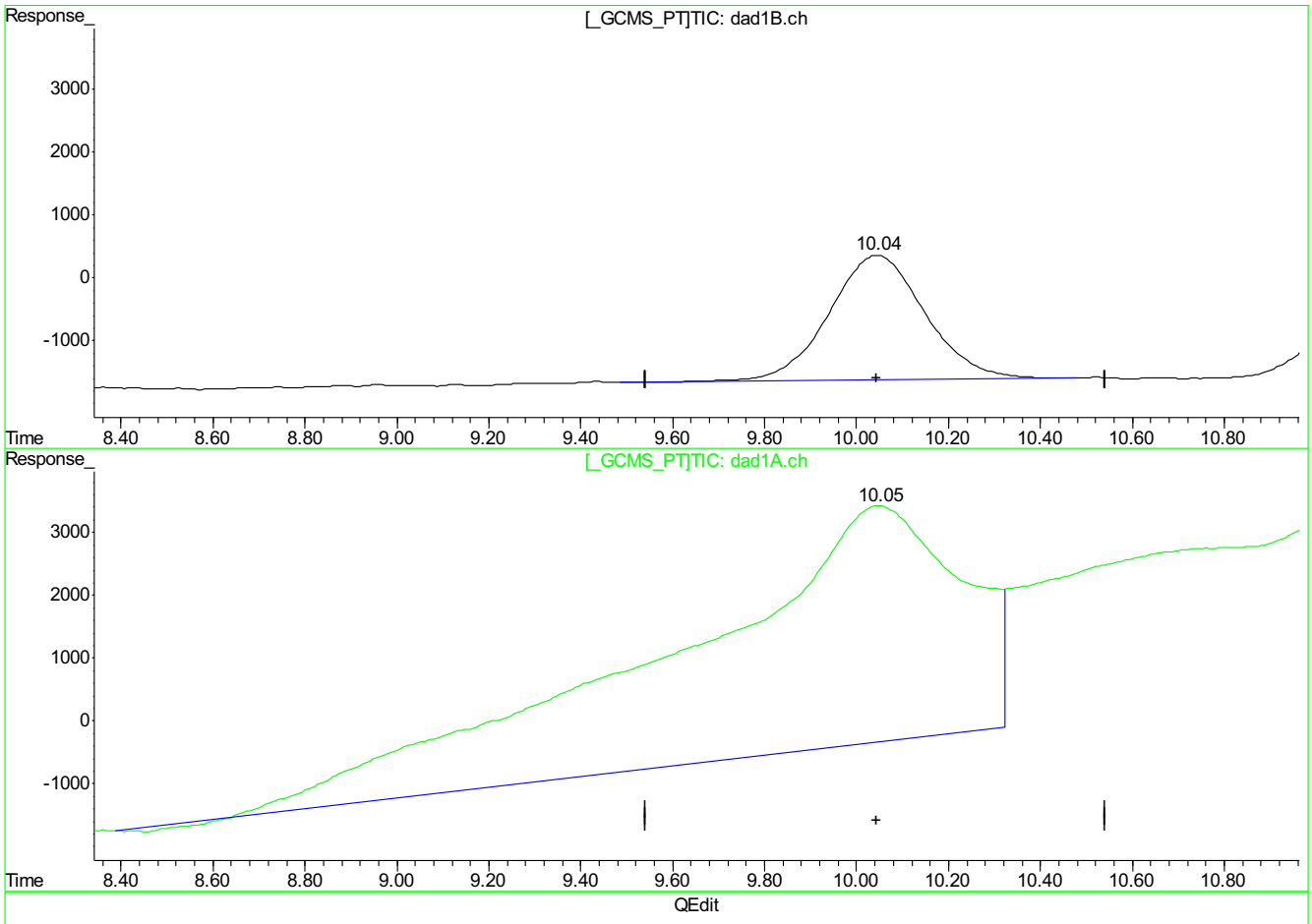
GG613488.D edits: DNX

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 22.397ppb

response 287302

(7) 1,3-Dinitrobenzene #2

10.05min 155.666ppb

response 1651405

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:39 2017

9.5.14.8

9

GG613488.D edits: 1,3-Dinitrobenzene

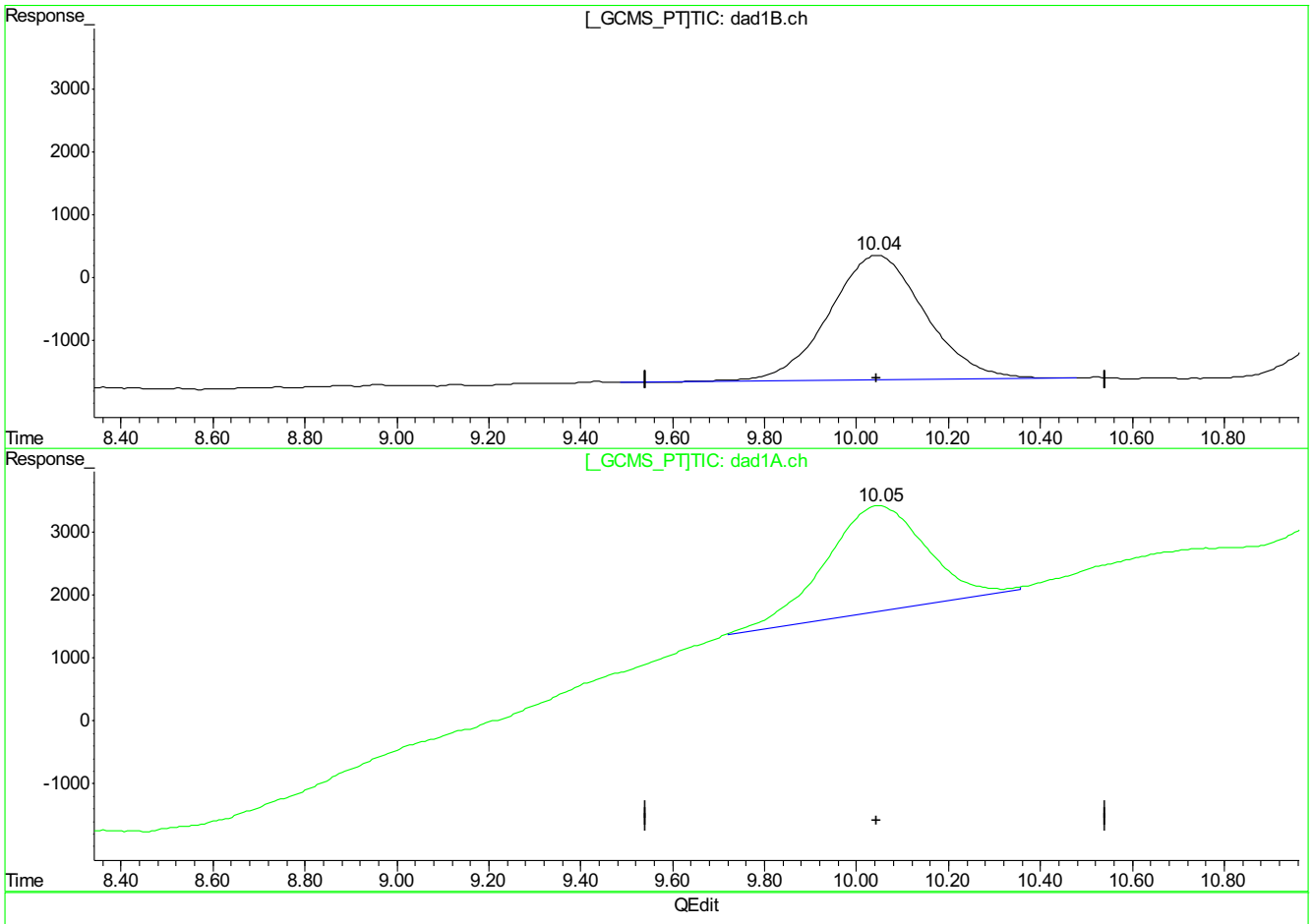
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 22.397ppb

response 287302

(7) 1,3-Dinitrobenzene #2

10.05min 24.216ppb m

response 257753

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:42 2017

9.5.14.9

9

GG613488.D edits: 1,3-Dinitrobenzene

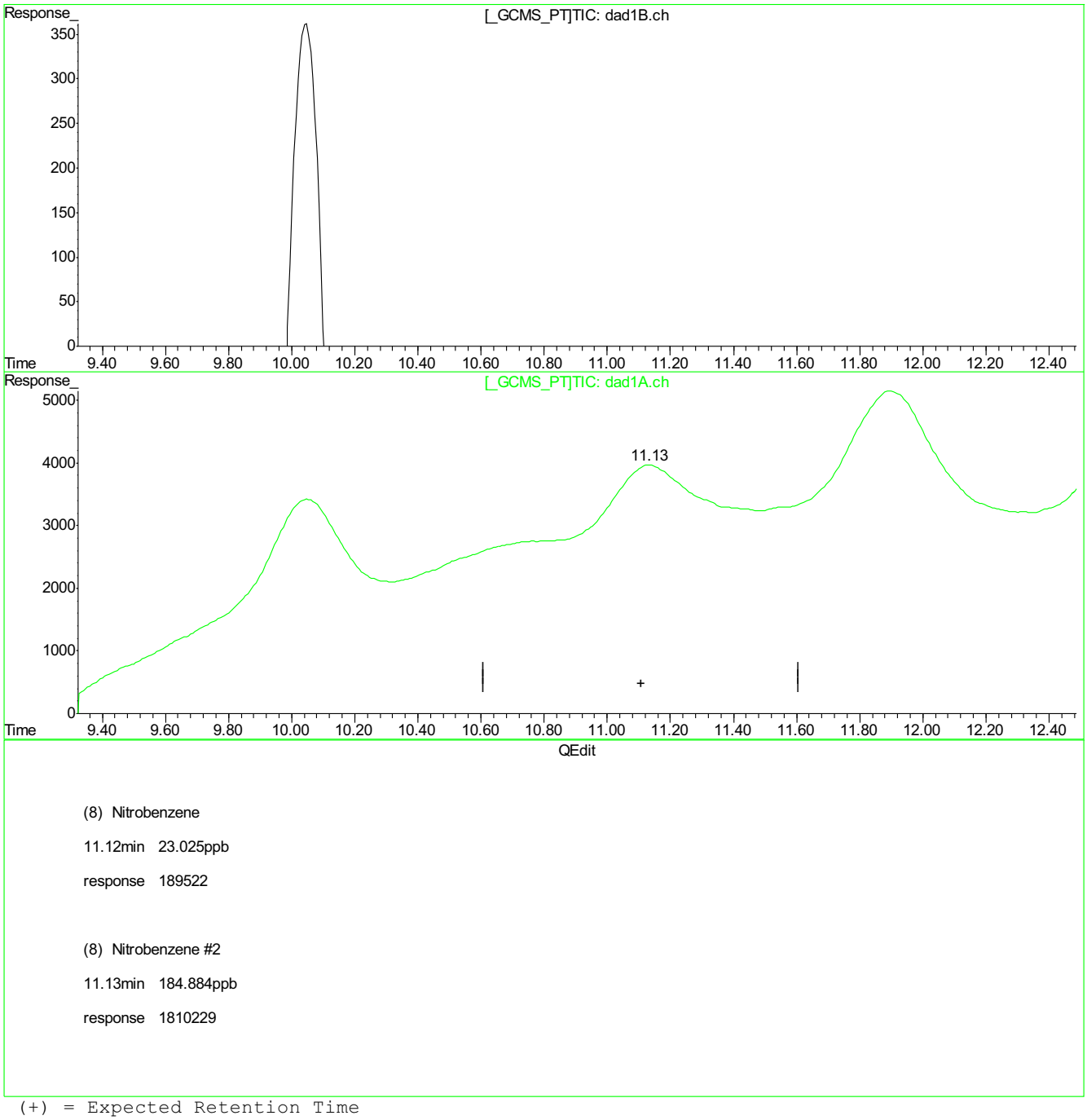
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 23.025ppb

response 189522

(8) Nitrobenzene #2

11.13min 184.884ppb

response 1810229

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:50 2017

9.5.14.10

9

GG613488.D edits: Nitrobenzene

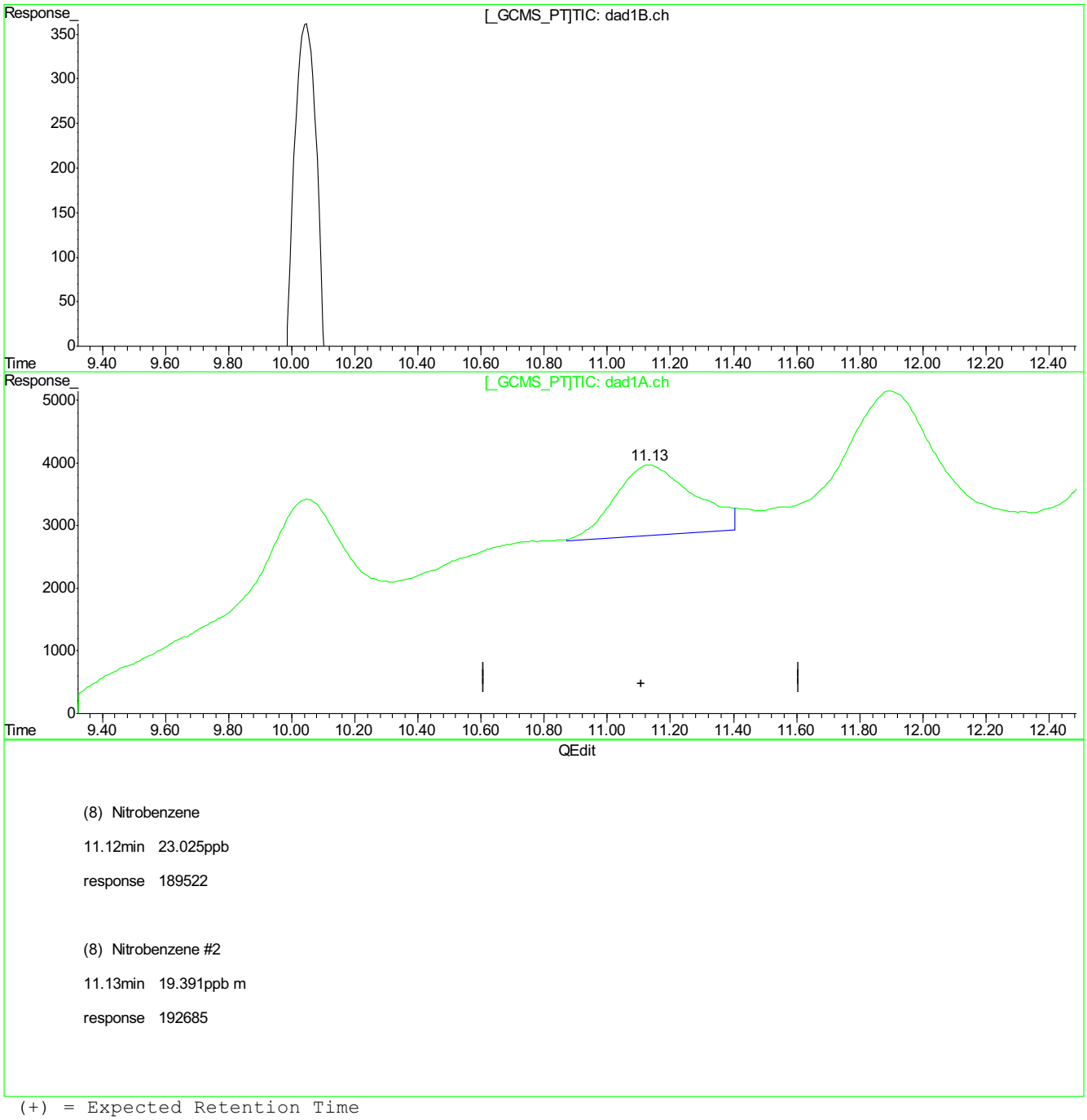
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 23.025ppb

response 189522

(8) Nitrobenzene #2

11.13min 19.391ppb m

response 192685

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:56 2017

9.5.14.11

9

GG613488.D edits: Nitrobenzene

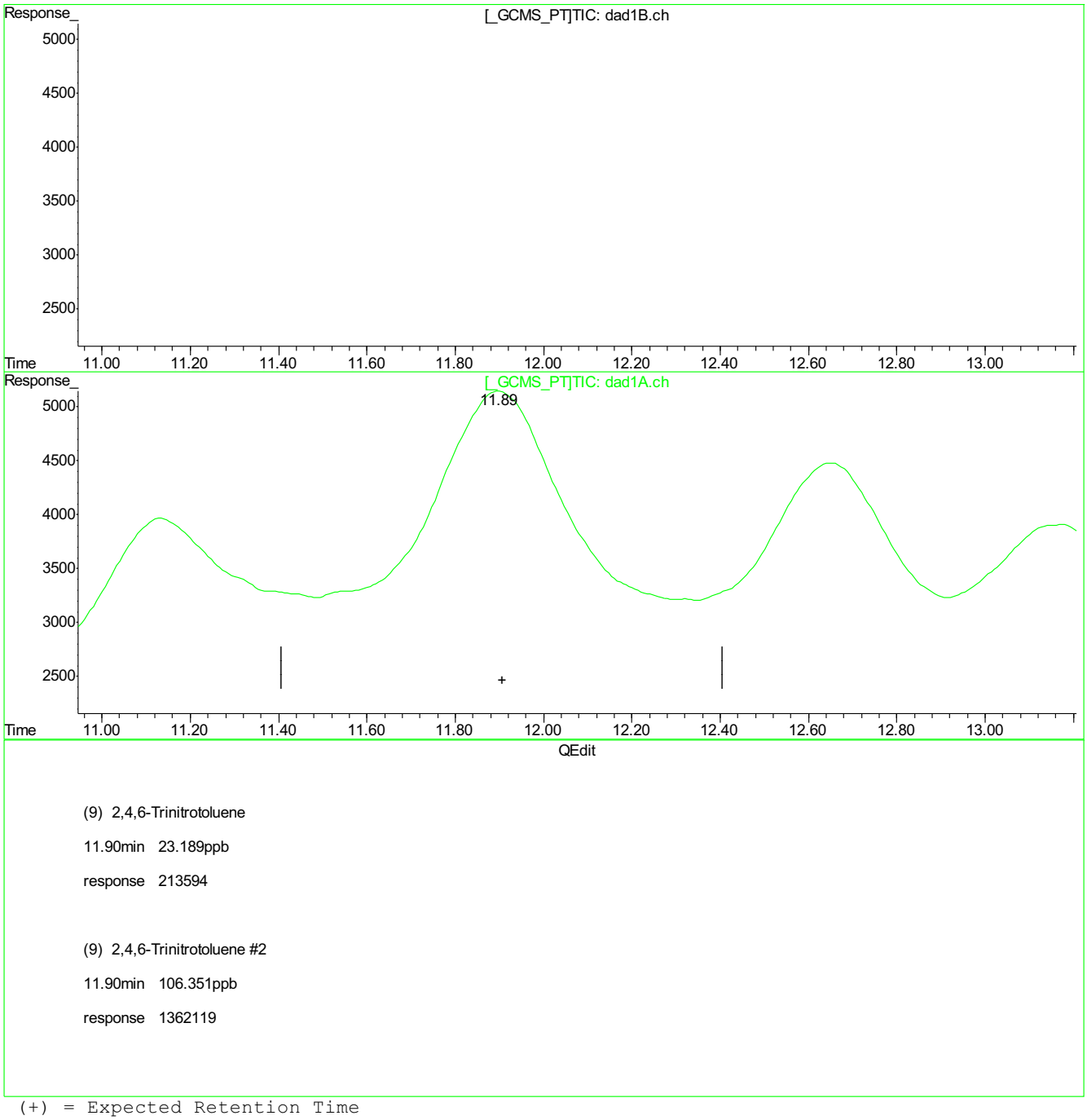
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.90min 23.189ppb

response 213594

(9) 2,4,6-Trinitrotoluene #2

11.90min 106.351ppb

response 1362119

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:00 2017

9.5.14.12

9

GG613488.D edits: 2,4,6-Trinitrotoluene

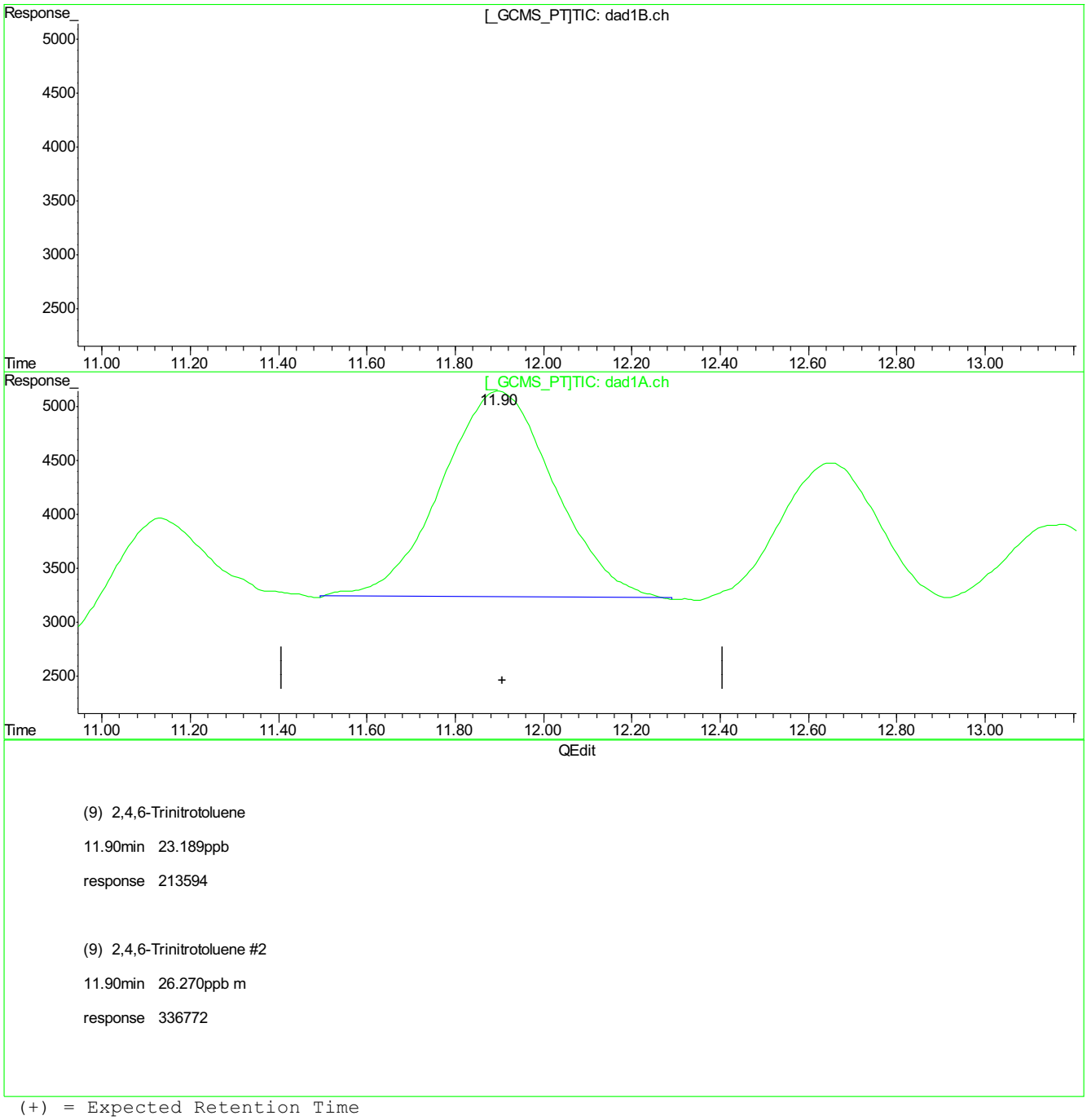
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.90min 23.189ppb

response 213594

(9) 2,4,6-Trinitrotoluene #2

11.90min 26.270ppb m

response 336772

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:04 2017

9.5.14.13

9

GG613488.D edits: 2,4,6-Trinitrotoluene

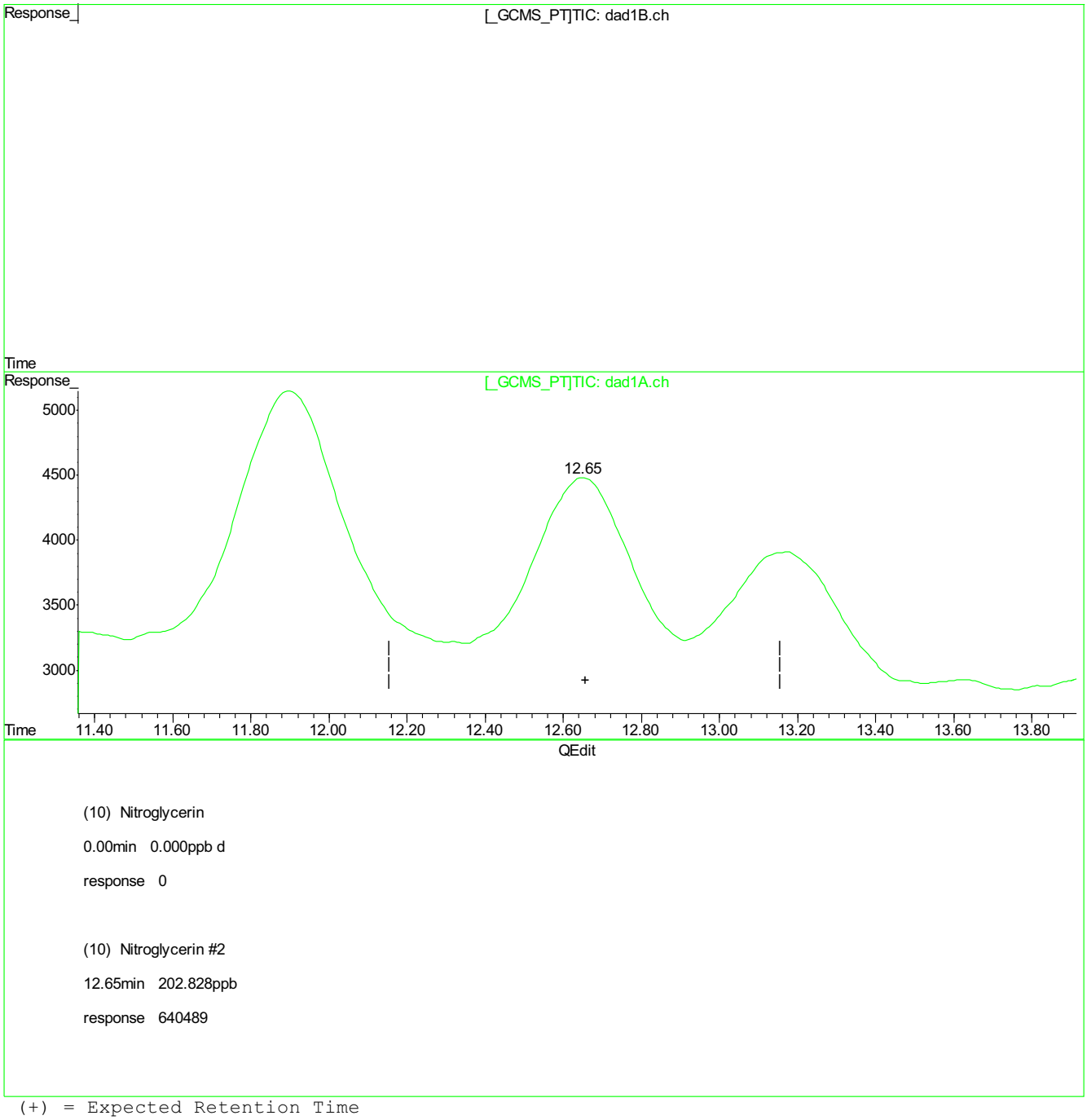
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.65min 202.828ppb

response 640489

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:08 2017

9.5.14.14

9

GG613488.D edits: Nitroglycerin

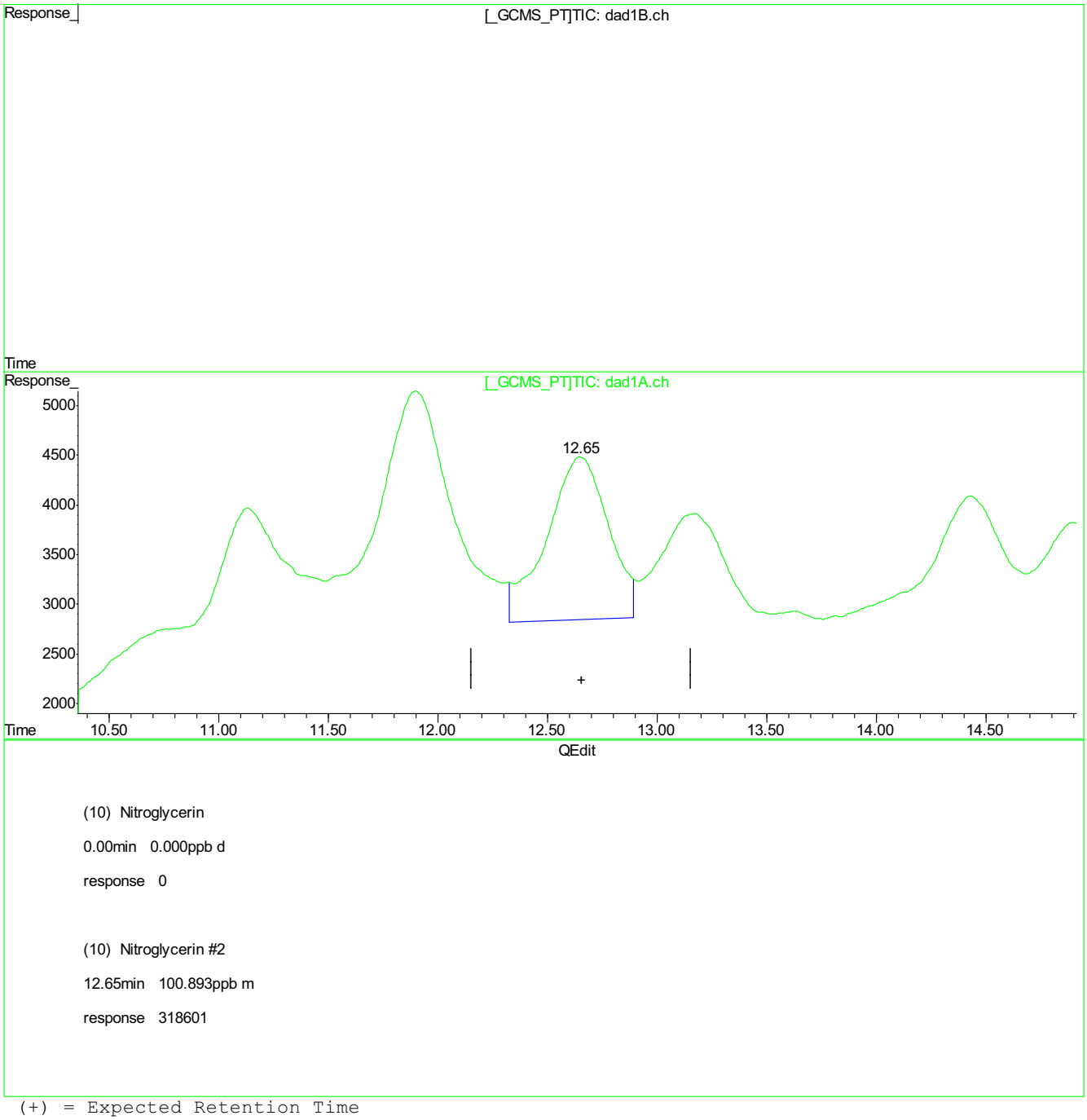
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.65min 100.893ppb m

response 318601

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:20 2017

9.5.14.15

9

GG613488.D edits: Nitroglycerin

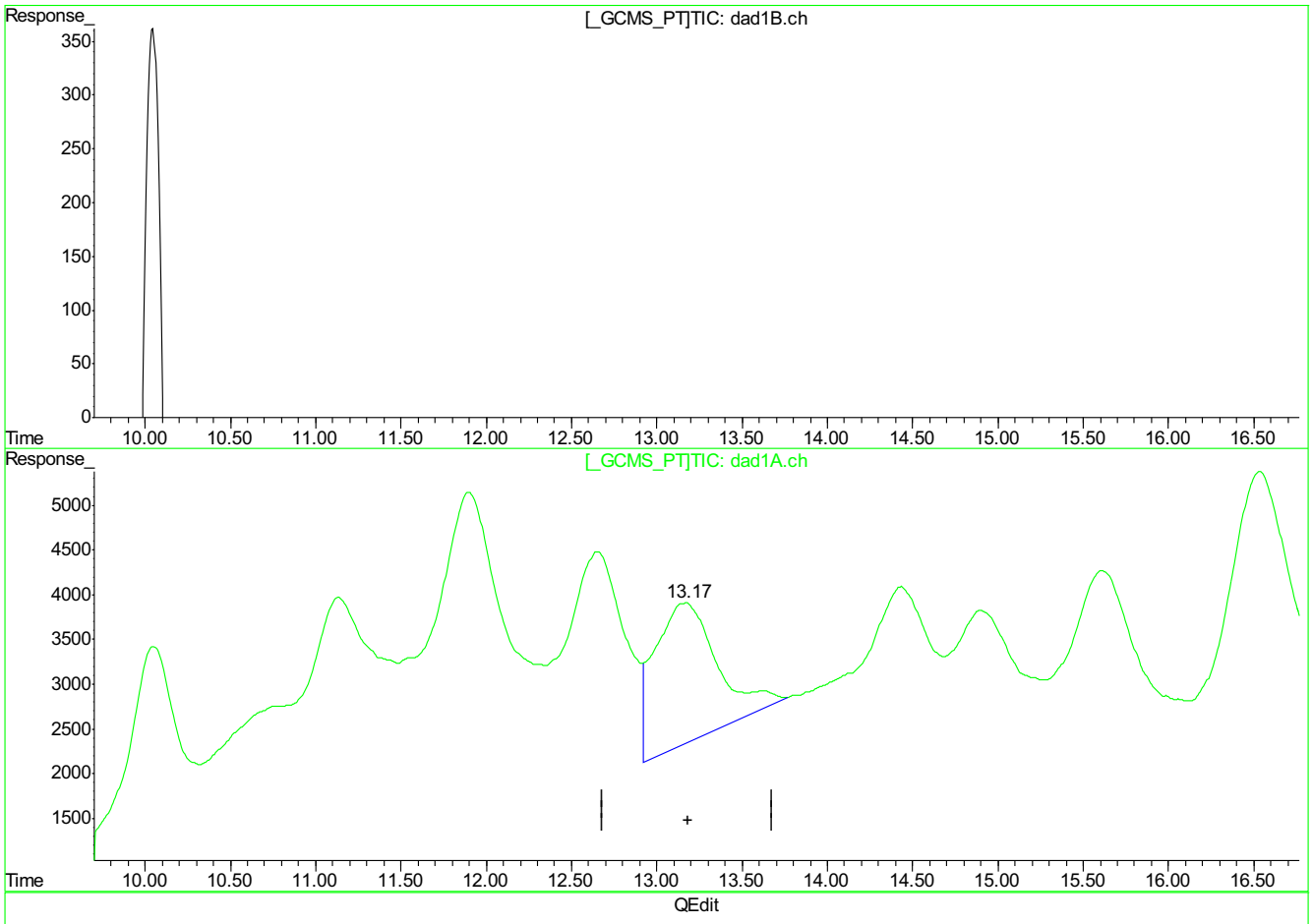
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 23.755ppb

response 144159

(11) Tetryl #2

13.17min 39.894ppb

response 404069

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:36 2017

9.5.14.16

9

GG613488.D edits: Tetryl

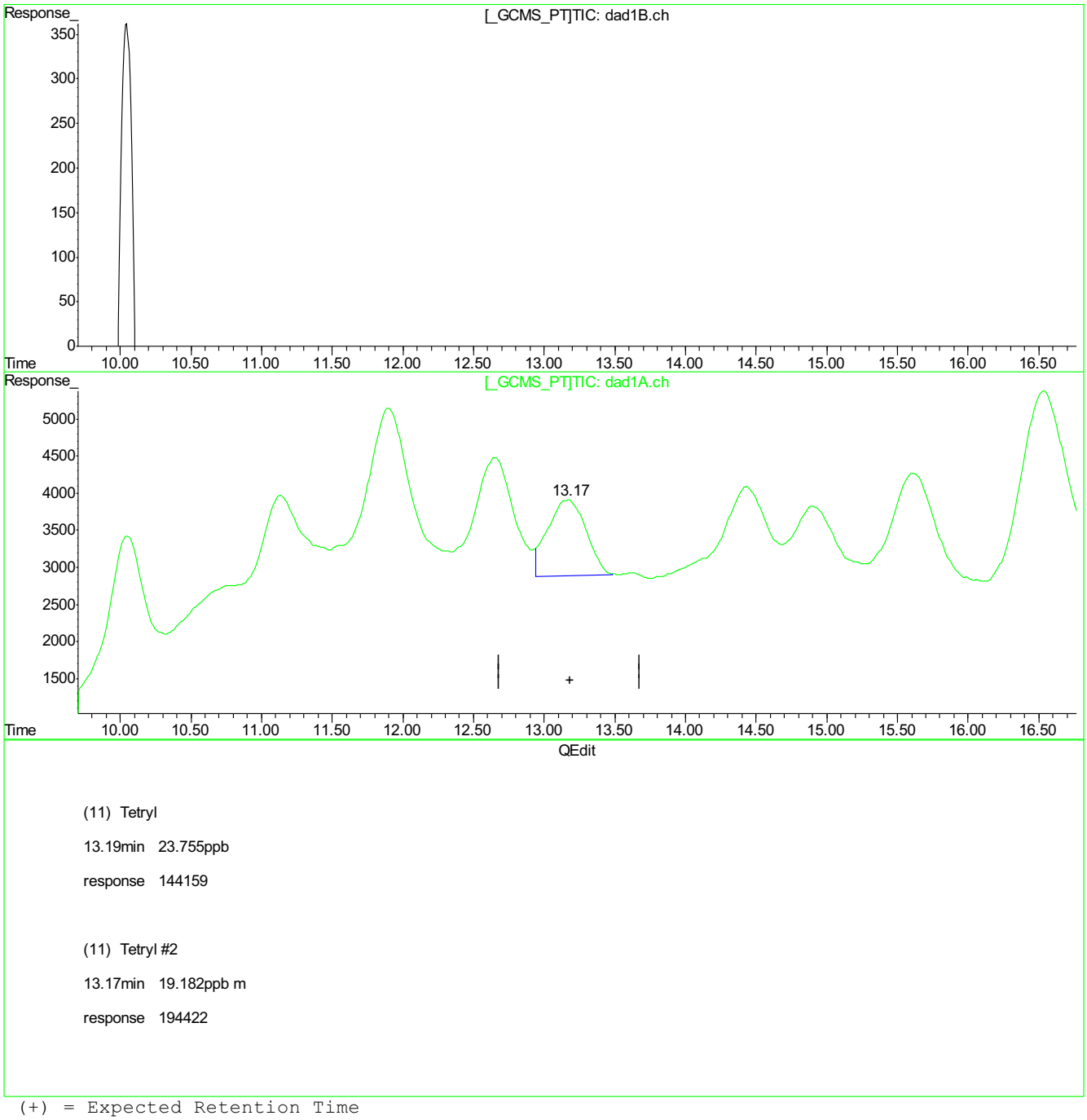
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 23.755ppb

response 144159

(11) Tetryl #2

13.17min 19.182ppb m

response 194422

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:42 2017

9.5.14.17

9

GG613488.D edits: Tetryl

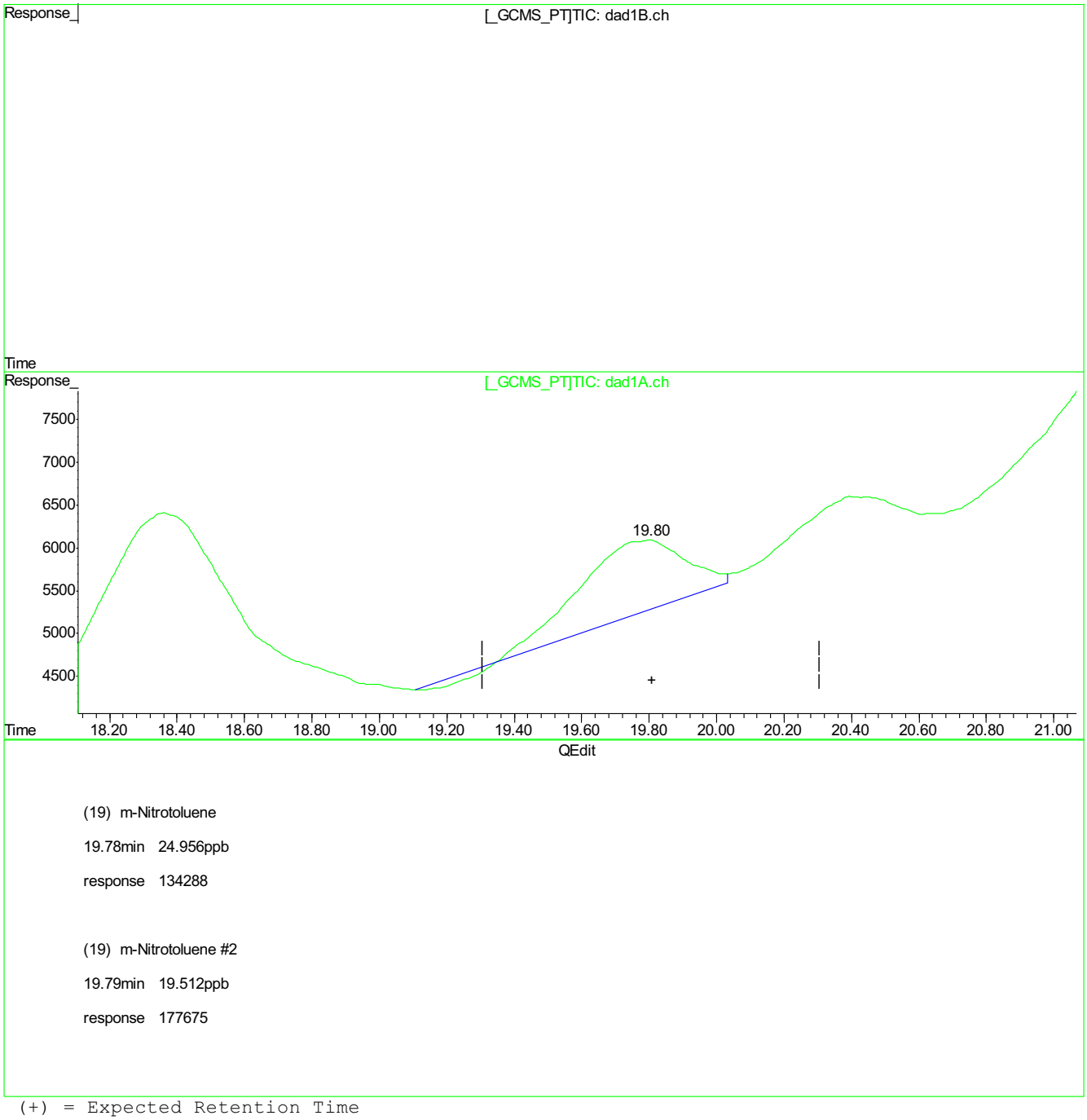
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.78min 24.956ppb

response 134288

(19) m-Nitrotoluene #2

19.79min 19.512ppb

response 177675

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:56 2017

9.5.14.18

9

GG613488.D edits: m-Nitrotoluene

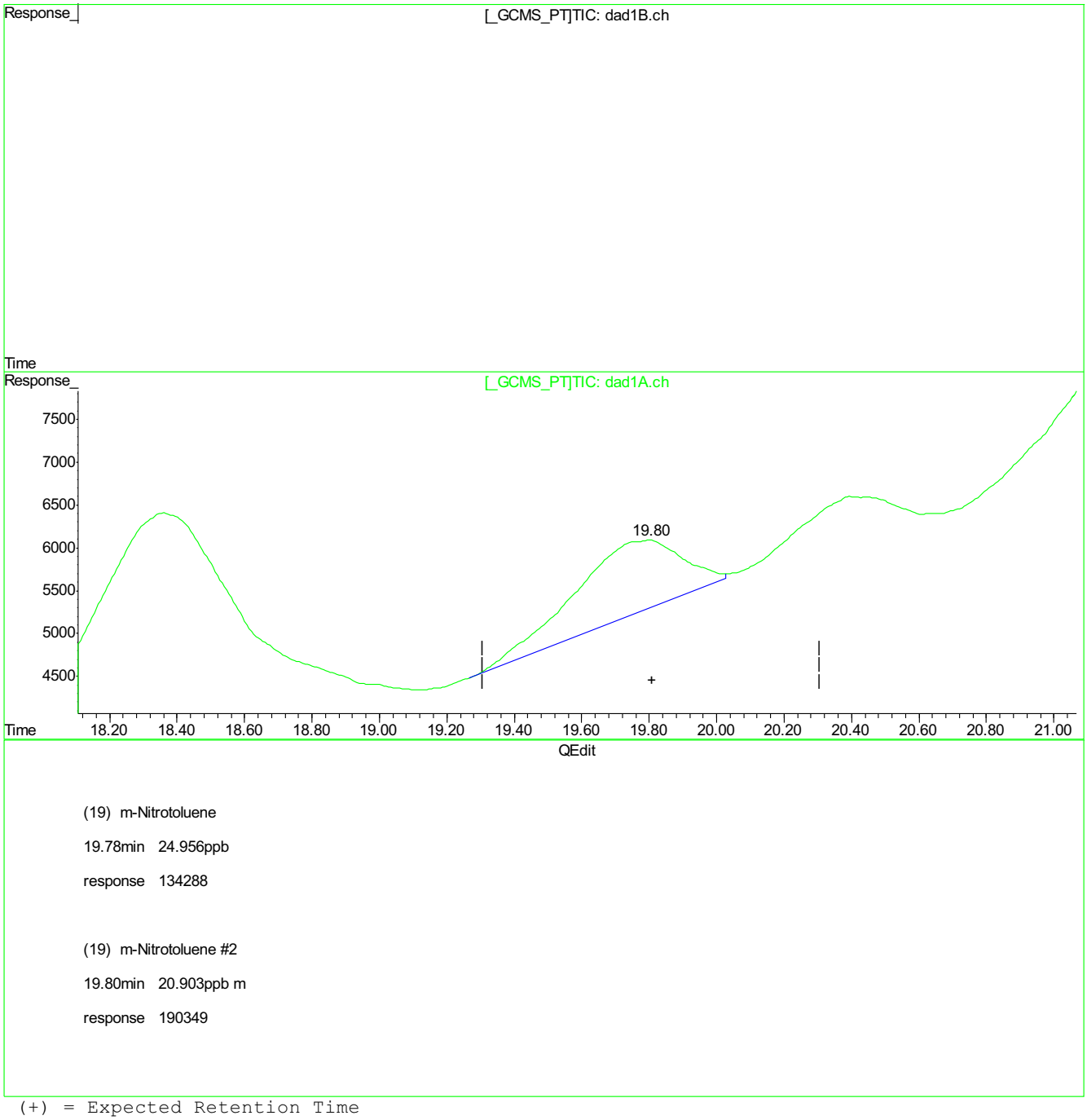
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.78min 24.956ppb

response 134288

(19) m-Nitrotoluene #2

19.80min 20.903ppb m

response 190349

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:00 2017

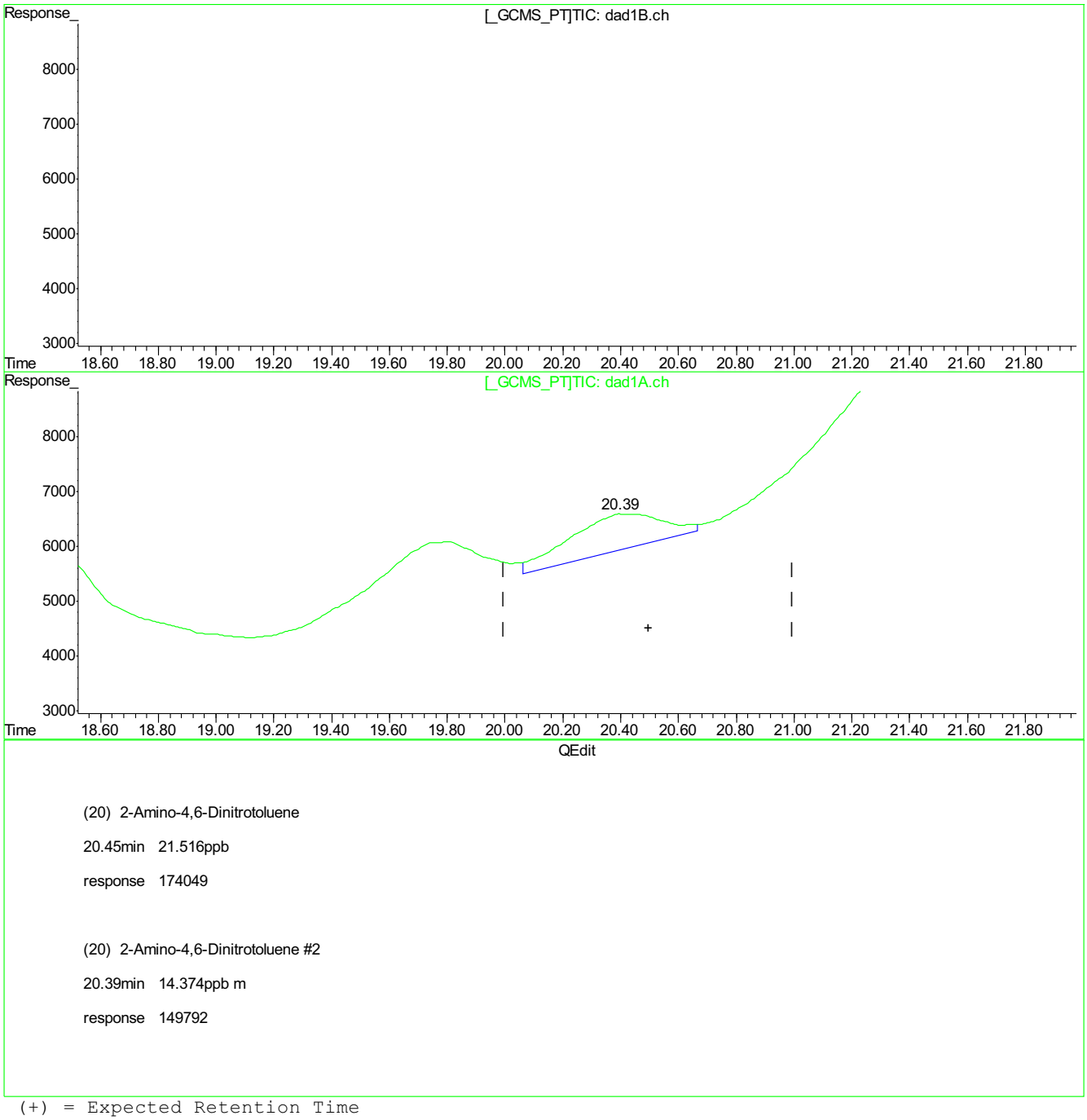
GG613488.D edits: m-Nitrotoluene

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.45min 21.516ppb

response 174049

(20) 2-Amino-4,6-Dinitrotoluene #2

20.39min 14.374ppb m

response 149792

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:10 2017

9.5.14.20

9

GG613488.D edits: 2-Amino-4,6-Dinitrotoluene

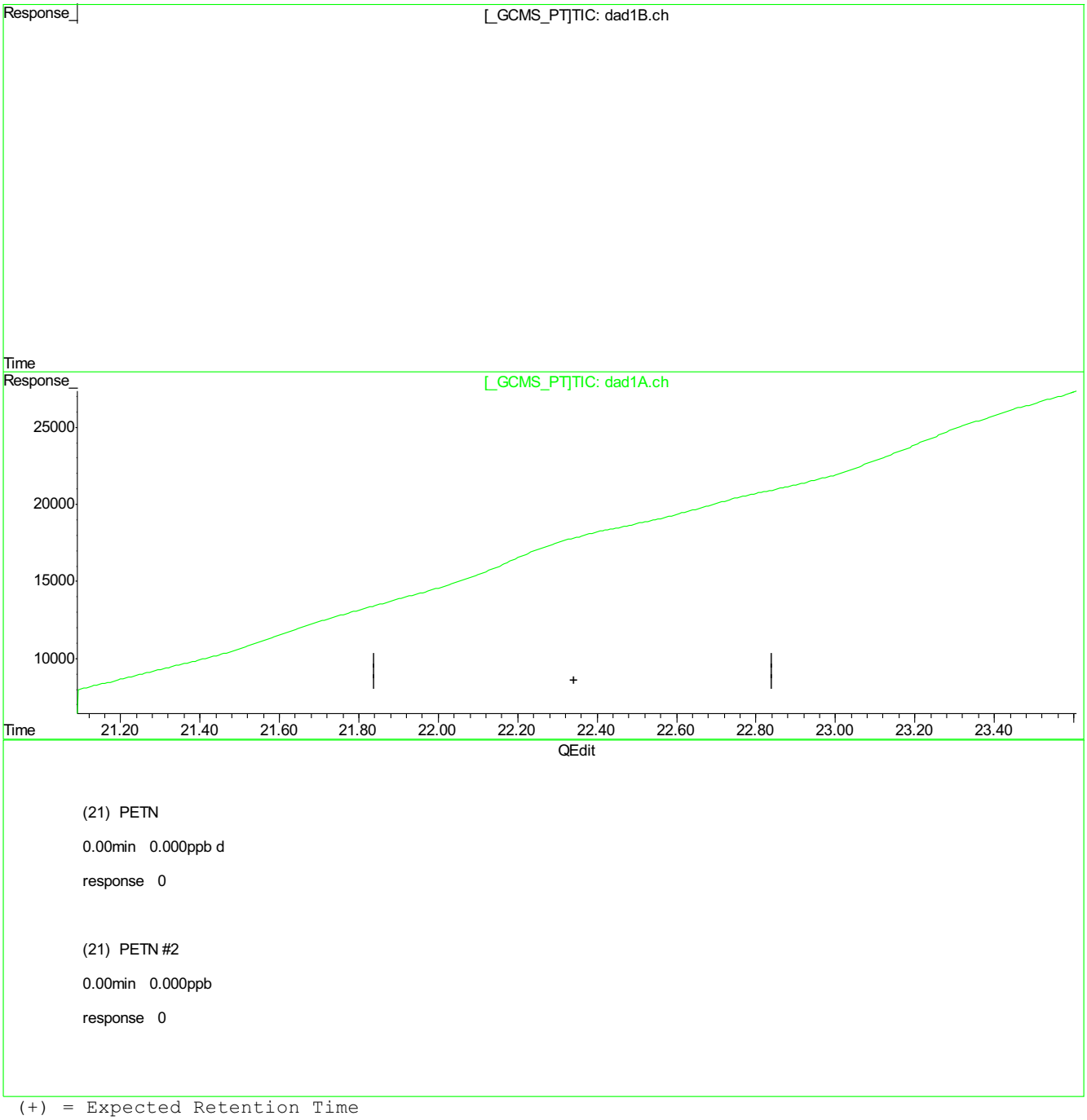
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:13 2017

9.5.14.21

9

GG613488.D edits: PETN

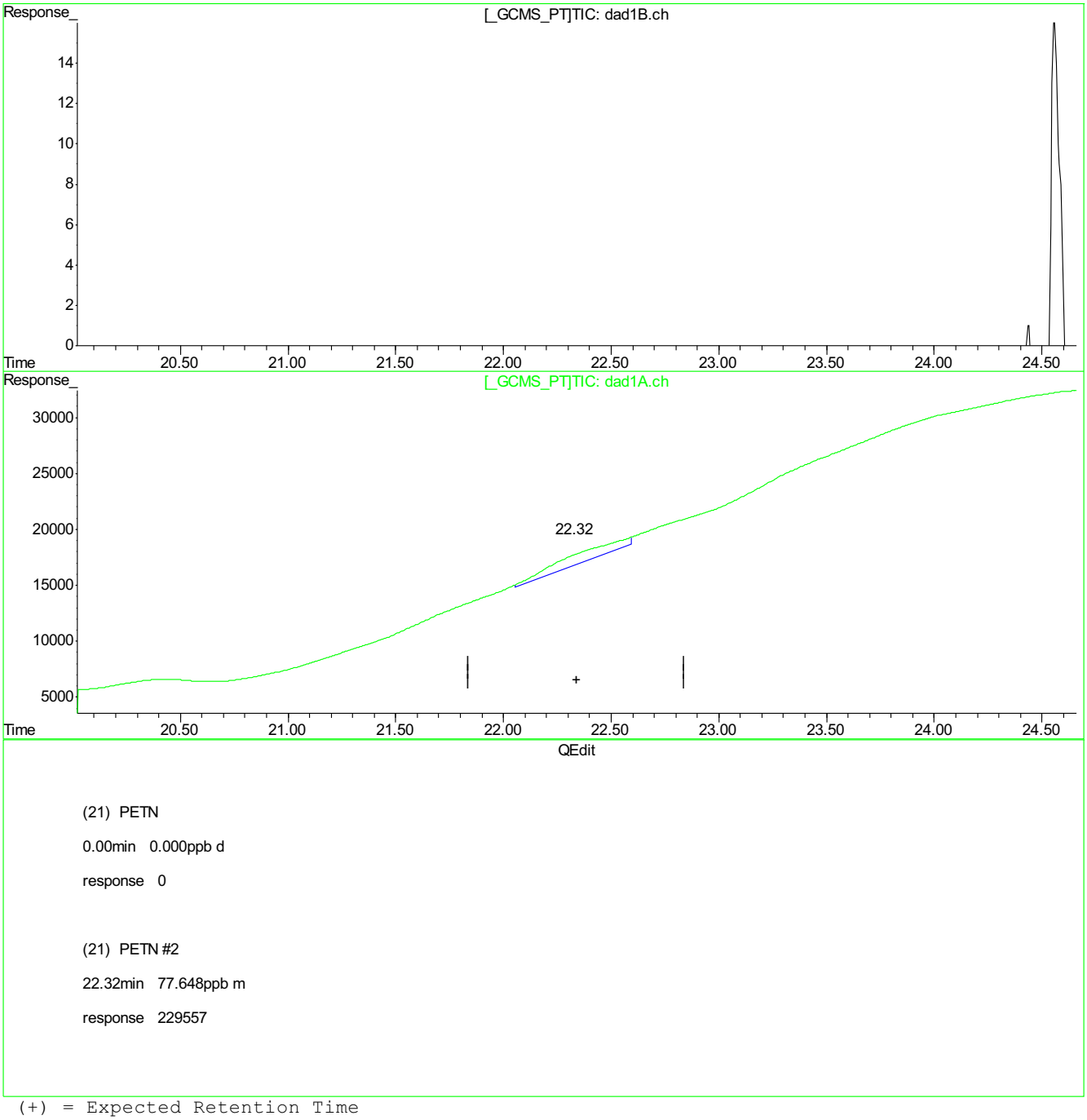
SGS ACCUTEST FA45722

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.32min 77.648ppb m

response 229557

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:53 2017

9.5.14.22

9

GG613488.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613489.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54:23 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.44	14.43	306777	578914	56.987	52.672m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		11.40%#	10.53%#
	Target Compounds						
1)	TNX	4.95	4.95	436932	441320	55.669m	56.238m
2)	HMX	5.32	5.32	200680	195096	62.521m	61.029m
3)	DNX	5.51	5.51	354419	372131	47.884m	50.306m
4)	MNX	6.52	6.52	263403	263403	54.278	54.225
5)	1,3,5-Trinitrobe	7.56	7.56	564728	575875	60.029m	61.214
6)	RDX	7.90	7.90	268054	268054	61.941	61.941
7)	1,3-Dinitrobenze	10.05	10.05	763882	541791	58.313	50.935m
8)	Nitrobenzene	11.12	11.11	481631	448850	54.996	45.255m
9)	2,4,6-Trinitroto	11.91	11.91	541383	660716	56.898	51.505m
10)	Nitroglycerin	0.00	12.66	0	737575	N.D. d	233.302m
11)	Tetryl	13.19	13.19	423066	625210	68.621	61.797m
13)	2,6-Dinitrotolue	14.92	14.91	374648	483905	59.718	52.935m
14)	2,4-Dinitrotolue	15.62	15.62	710232	527592	59.200	56.658m
15)	o-Nitrotoluene	17.34	17.35	309376	481554	58.374	62.975
16)	3,5-Dinitroanili	16.55	16.56	1406852	2346061	126.717	128.799
17)	p-Nitrotoluene	18.40	18.39	636474	1107130	57.822	56.453
18)	4-Amino-2,6-Dini	18.40	18.39	636474	1107130	57.822	56.453
19)	m-Nitrotoluene	19.79	19.78	318927	411425	56.593	45.159
20)	2-Amino-4,6-Dini	20.47	20.48	483926	494528	59.735	47.327
21)	PETN	0.00	22.36	0	759774	N.D. d	256.412m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 13:56:31 2017 Page 1

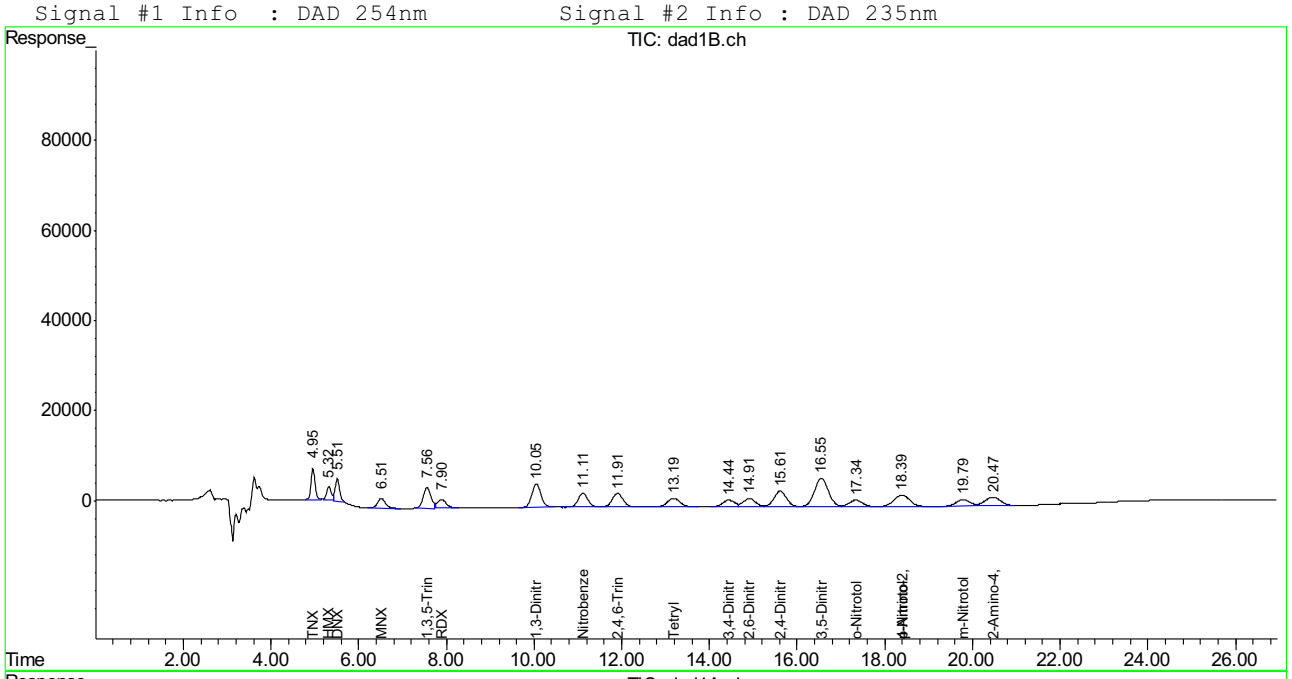
SGS ACCUTEST FA45722

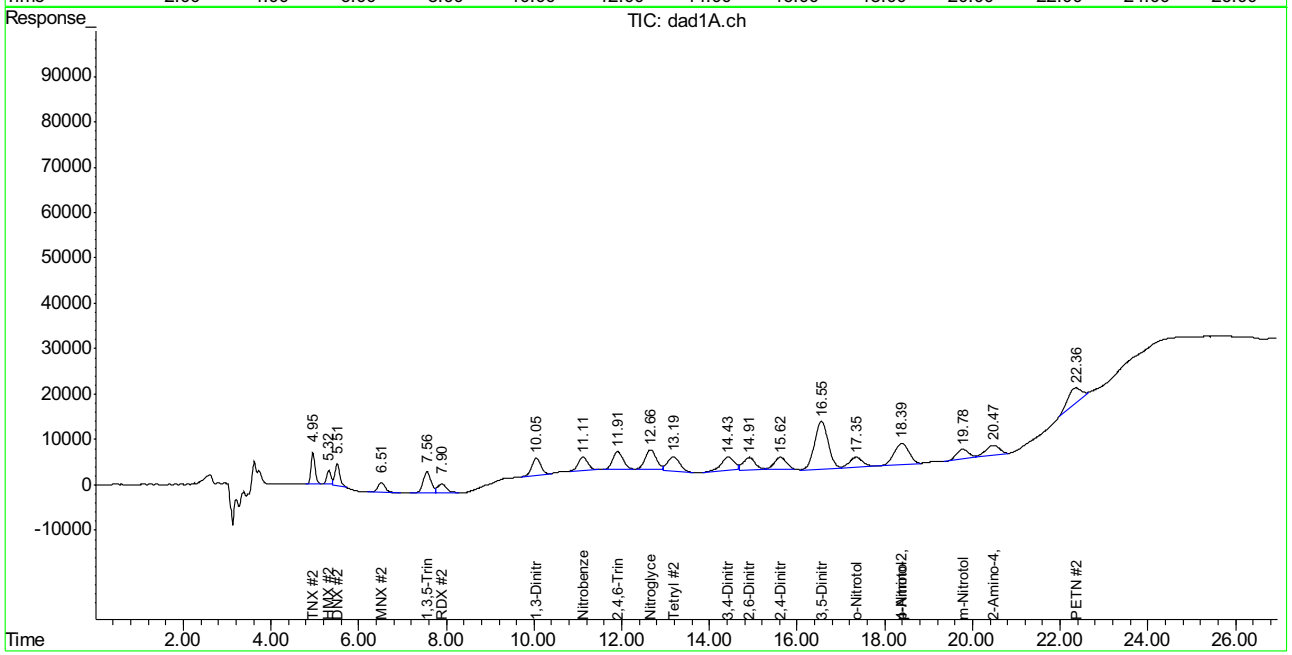
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613489.D
Injection Time: 07/20/17 17:12
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

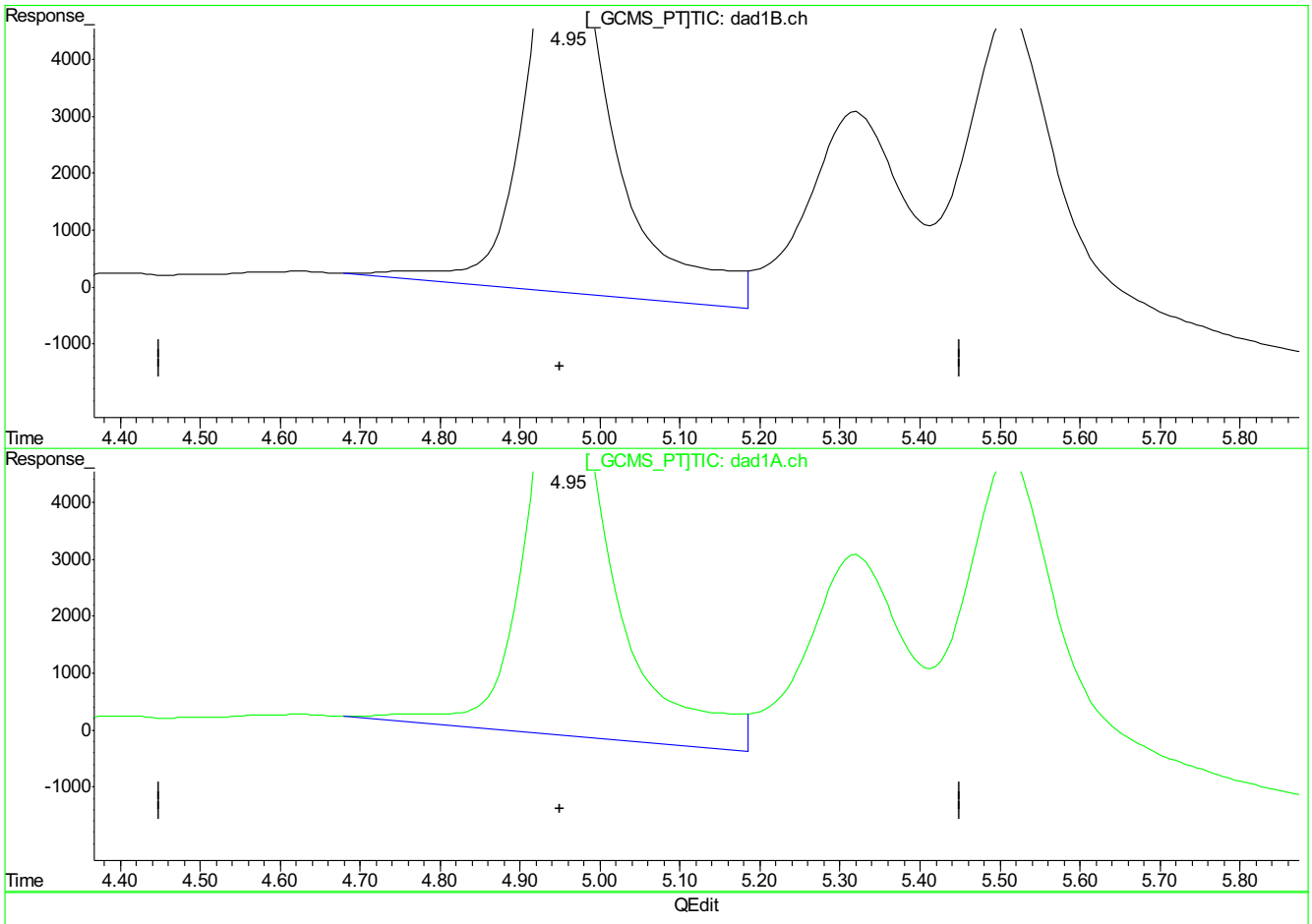
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
HMX	2691-41-0	1	5.32	Poorly defined baseline
HMX	2691-41-0	2	5.32	Poorly defined baseline
DNX		1	5.51	Poorly defined baseline
DNX		2	5.51	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	7.56	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.11	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.91	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.66	Poorly defined baseline
Tetryl	479-45-8	2	13.19	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.43	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.91	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	15.62	Poorly defined baseline
PETN	78-11-5	2	22.36	Poorly defined baseline

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(1) TNX

4.96min 67.344ppb

response 528567

(1) TNX #2

4.96min 67.356ppb

response 528567

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:29 2017

9.5.15.2

9

GG613489.D edits: TNX

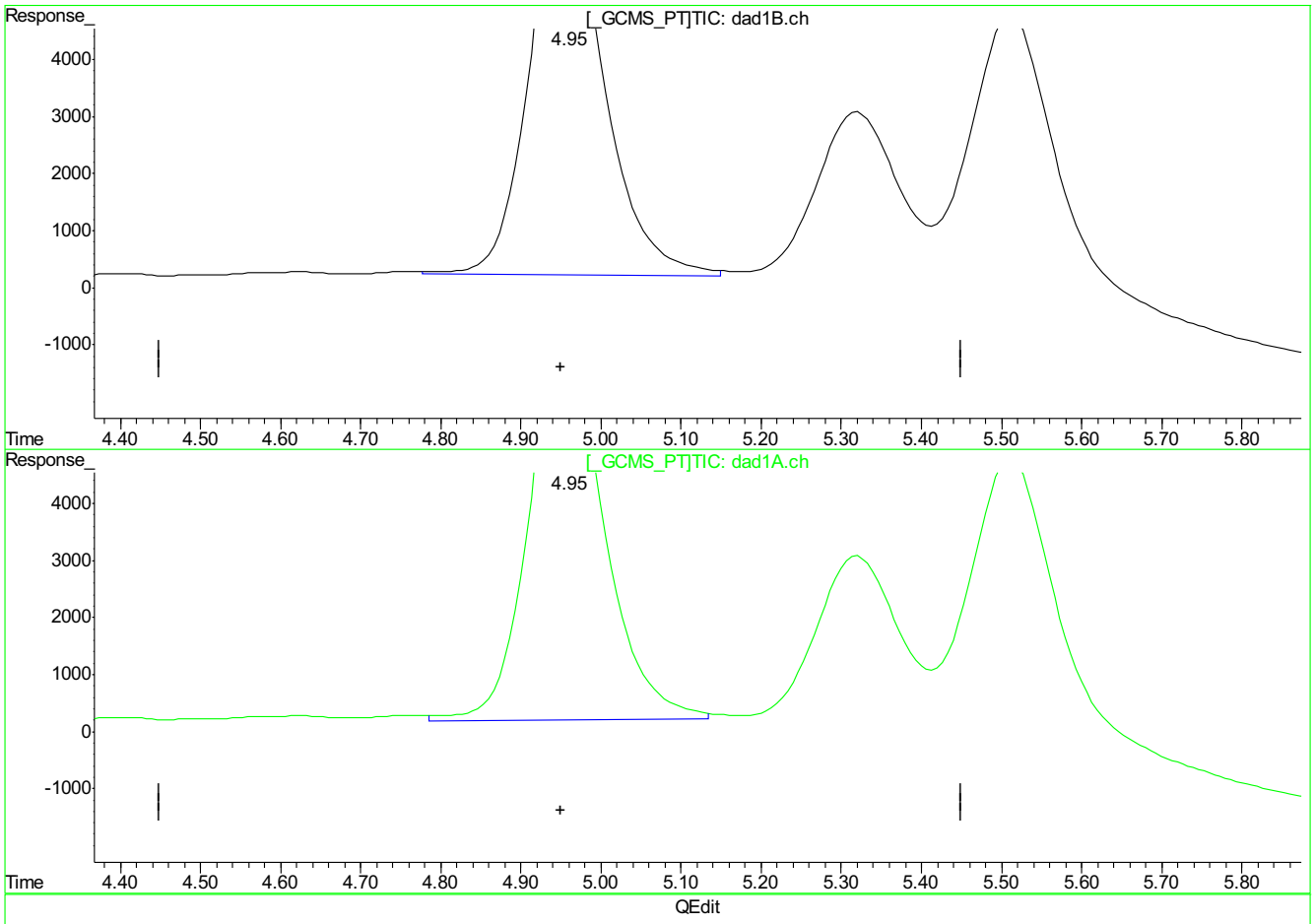
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch         Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:12:51                    Operator: evitam
Sample    : ic2548-50                                Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
```



QEdit

(1) TNX

4.95min 55.669ppb m

response 436932

(1) TNX #2

4.95min 56.238ppb m

response 441320

(+) = Expected Retention Time

GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:34 2017

9.5.15.3

9

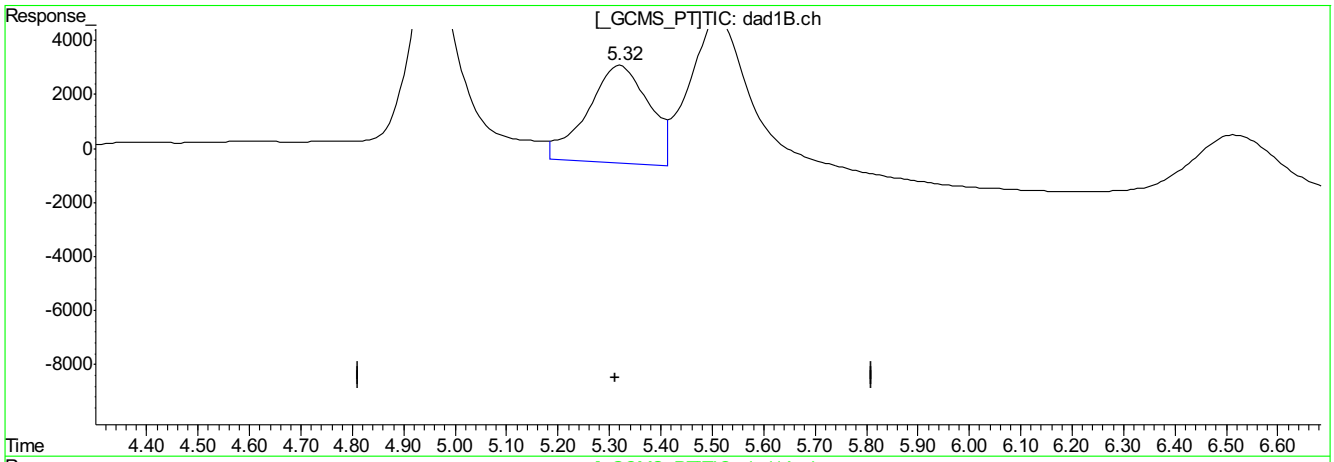
GG613489.D edits: TNX

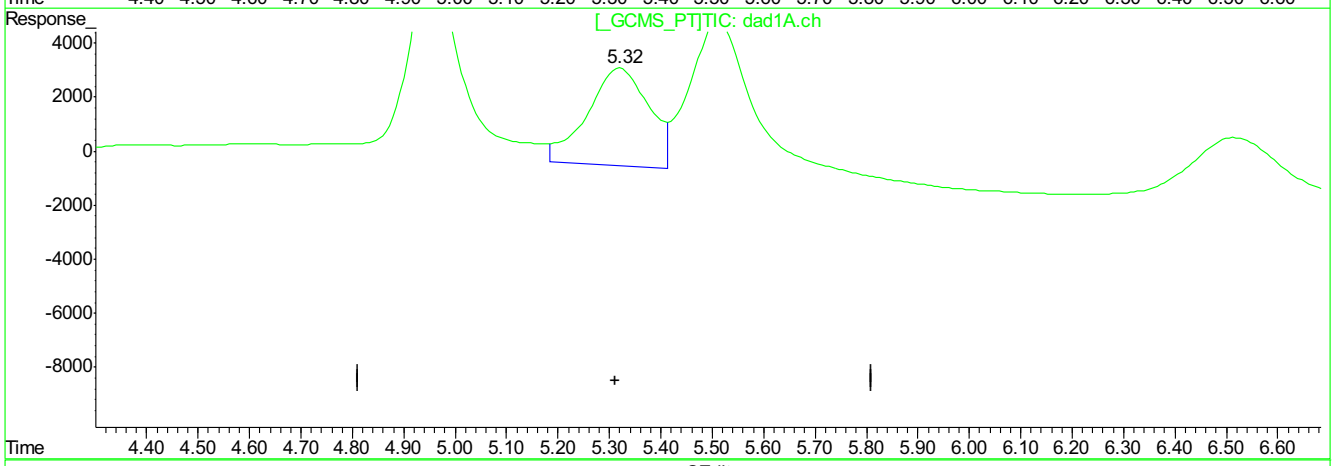
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 93.623ppb

response 300513

(2) HMX #2

5.32min 94.005ppb

response 300513

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:41 2017

9.5.15.4

9

GG613489.D edits: HMX

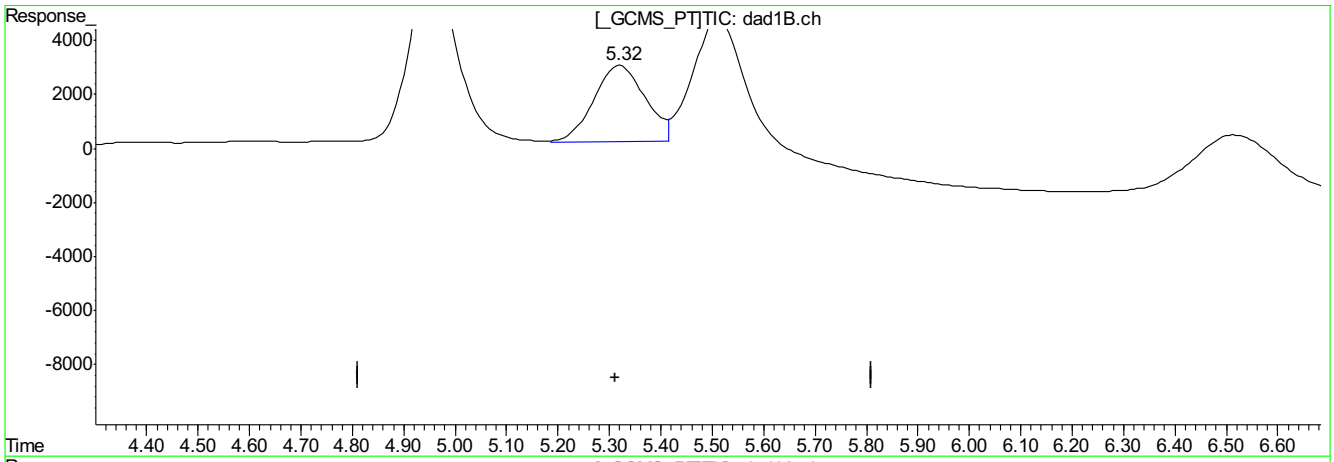
SGS ACCUTEST FA45722

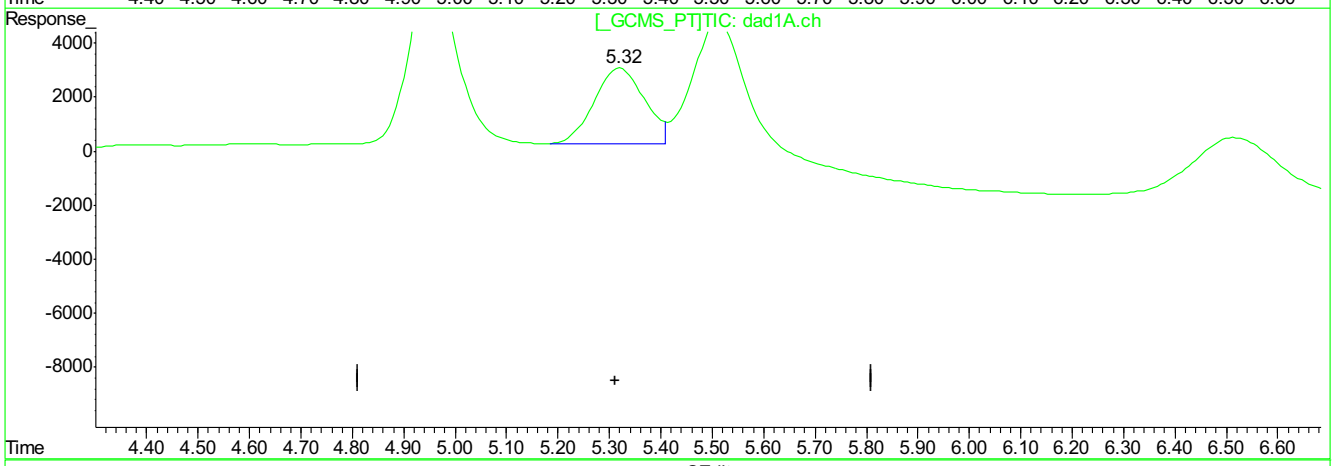
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 62.521ppb m

response 200680

(2) HMX #2

5.32min 61.029ppb m

response 195096

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:47 2017

9.5.15.5

9

GG613489.D edits: HMX

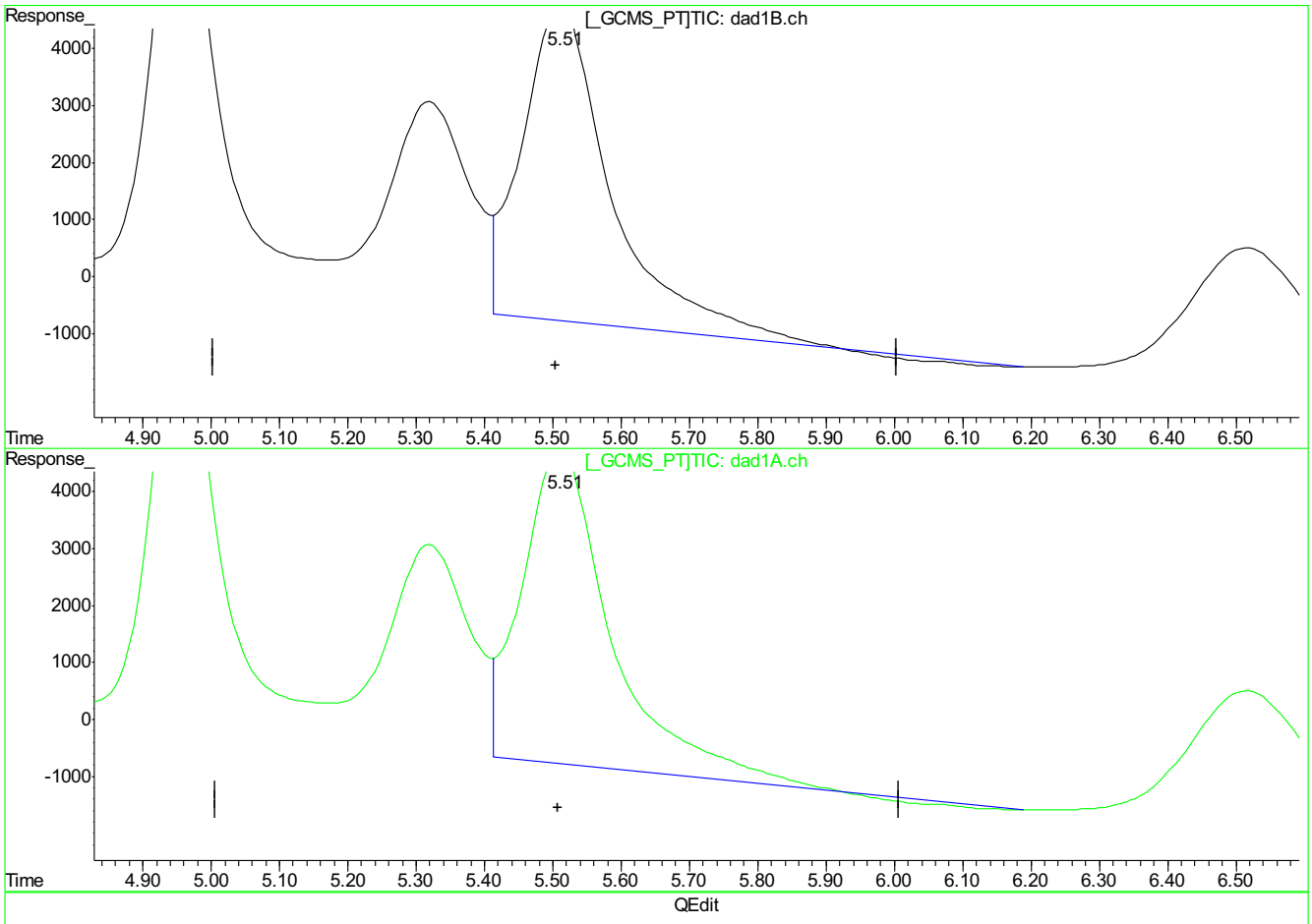
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



QEdit

(3) DNX

5.51min 67.287ppb

response 498033

(3) DNX #2

5.51min 67.361ppb

response 498033

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:51 2017

9.5.15.6

9

GG613489.D edits: DNX

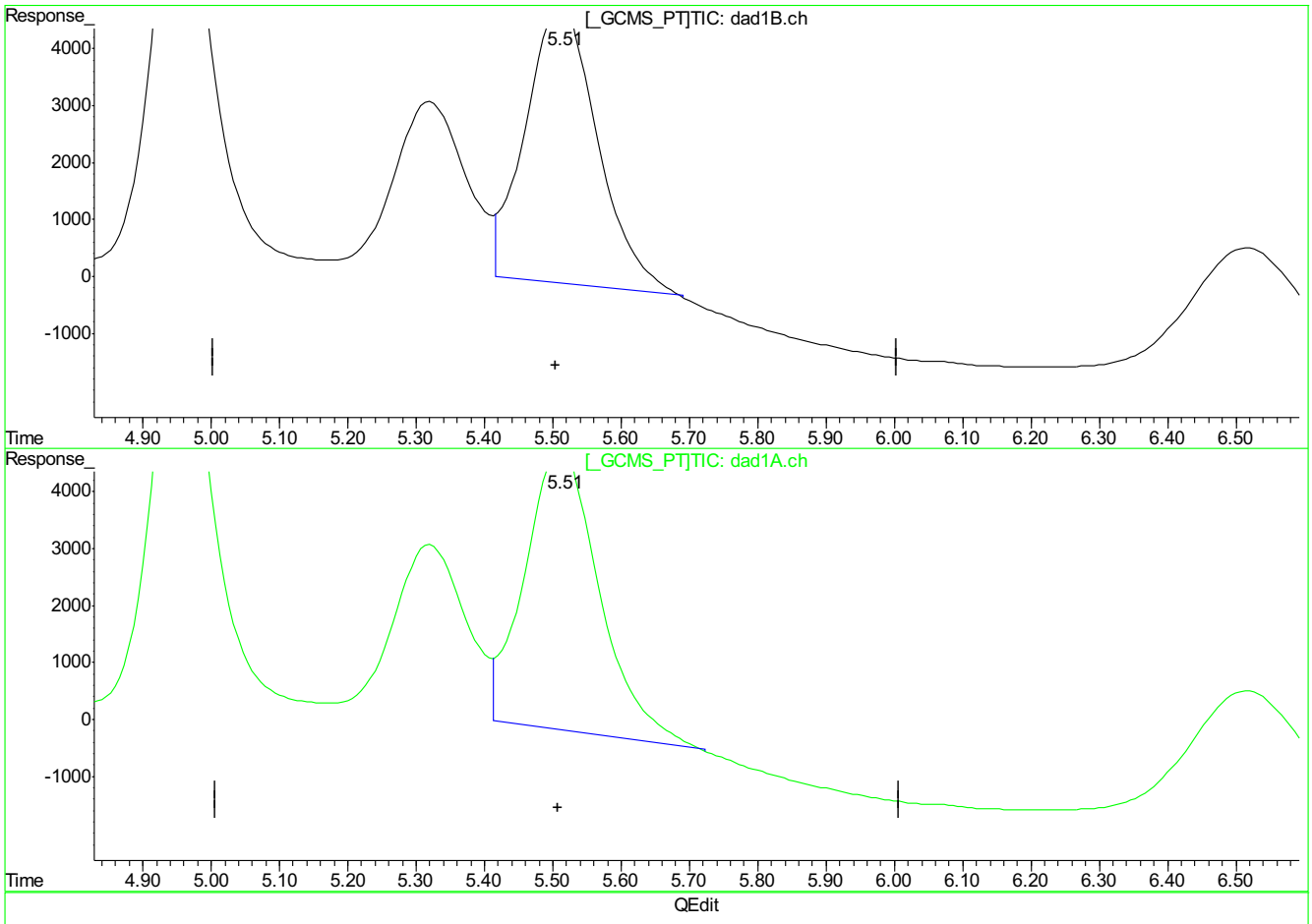
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(3) DNX

5.51min 47.884ppb m

response 354419

(3) DNX #2

5.51min 50.306ppb m

response 372131

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:05 2017

GG613489.D edits: DNX

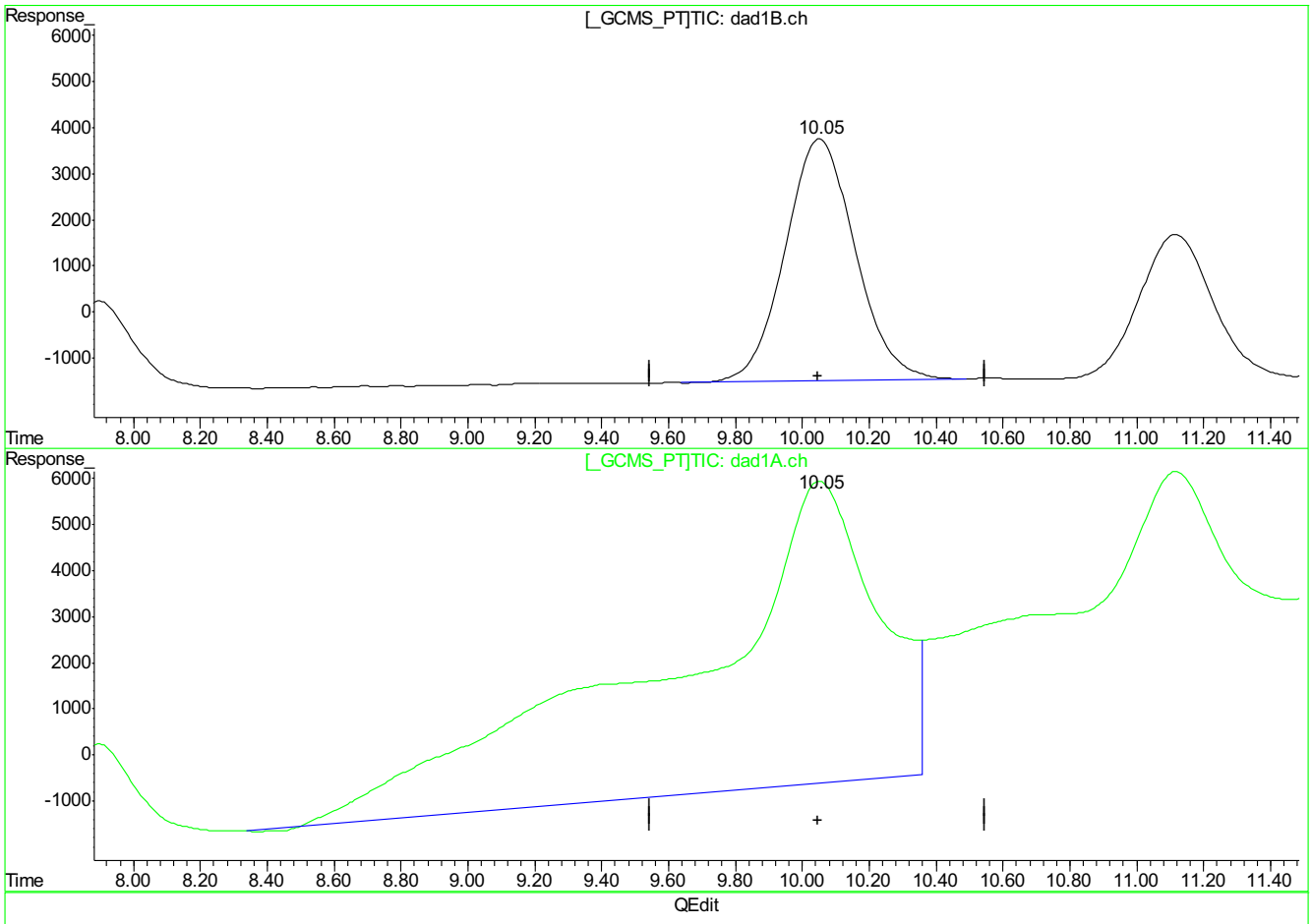
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 58.313ppb

response 763882

(7) 1,3-Dinitrobenzene #2

10.05min 264.762ppb

response 2801042

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:22 2017

9.5.15.8

9

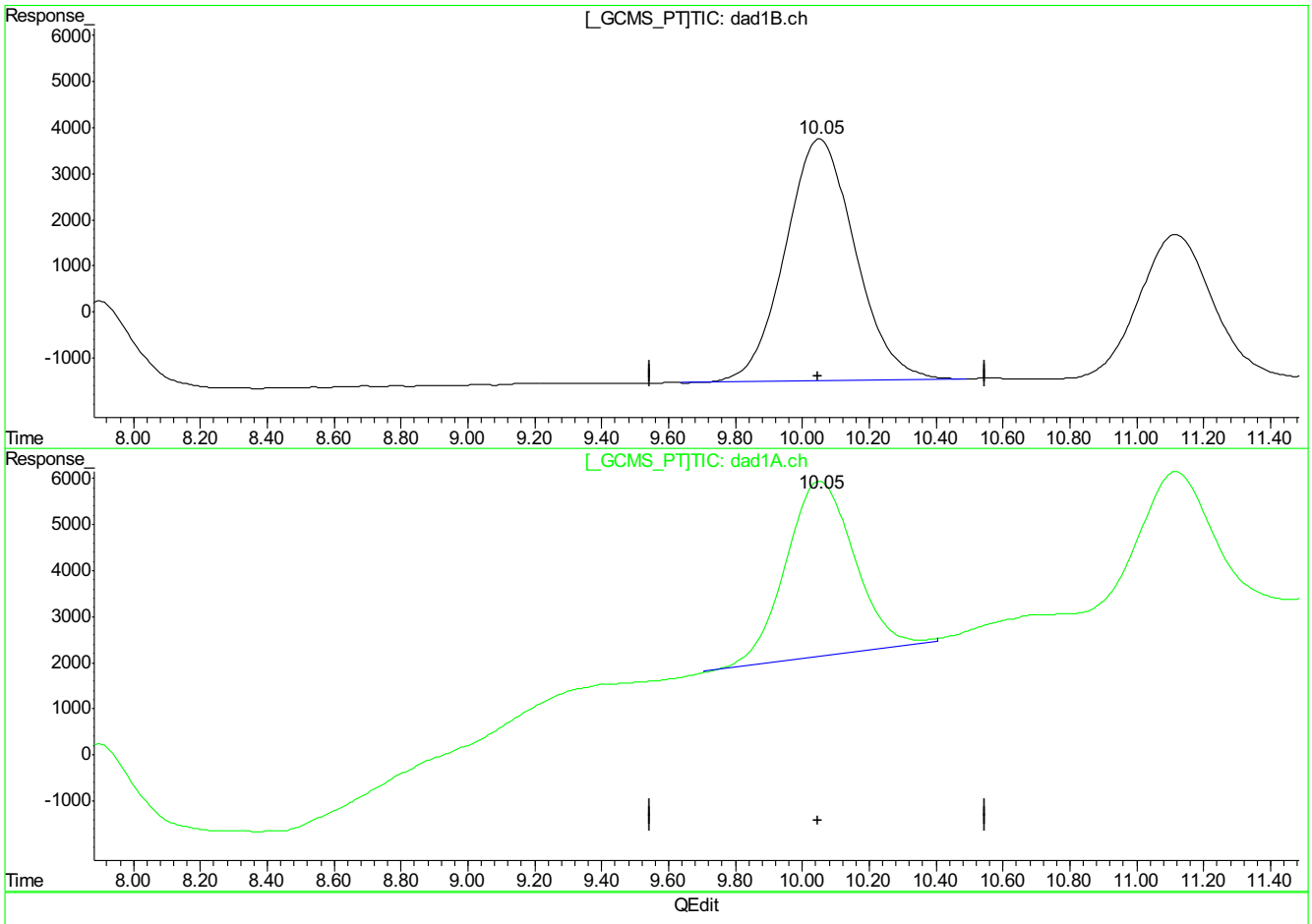
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 58.313ppb

response 763882

(7) 1,3-Dinitrobenzene #2

10.05min 50.935ppb m

response 541791

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:26 2017

9.5.15.9

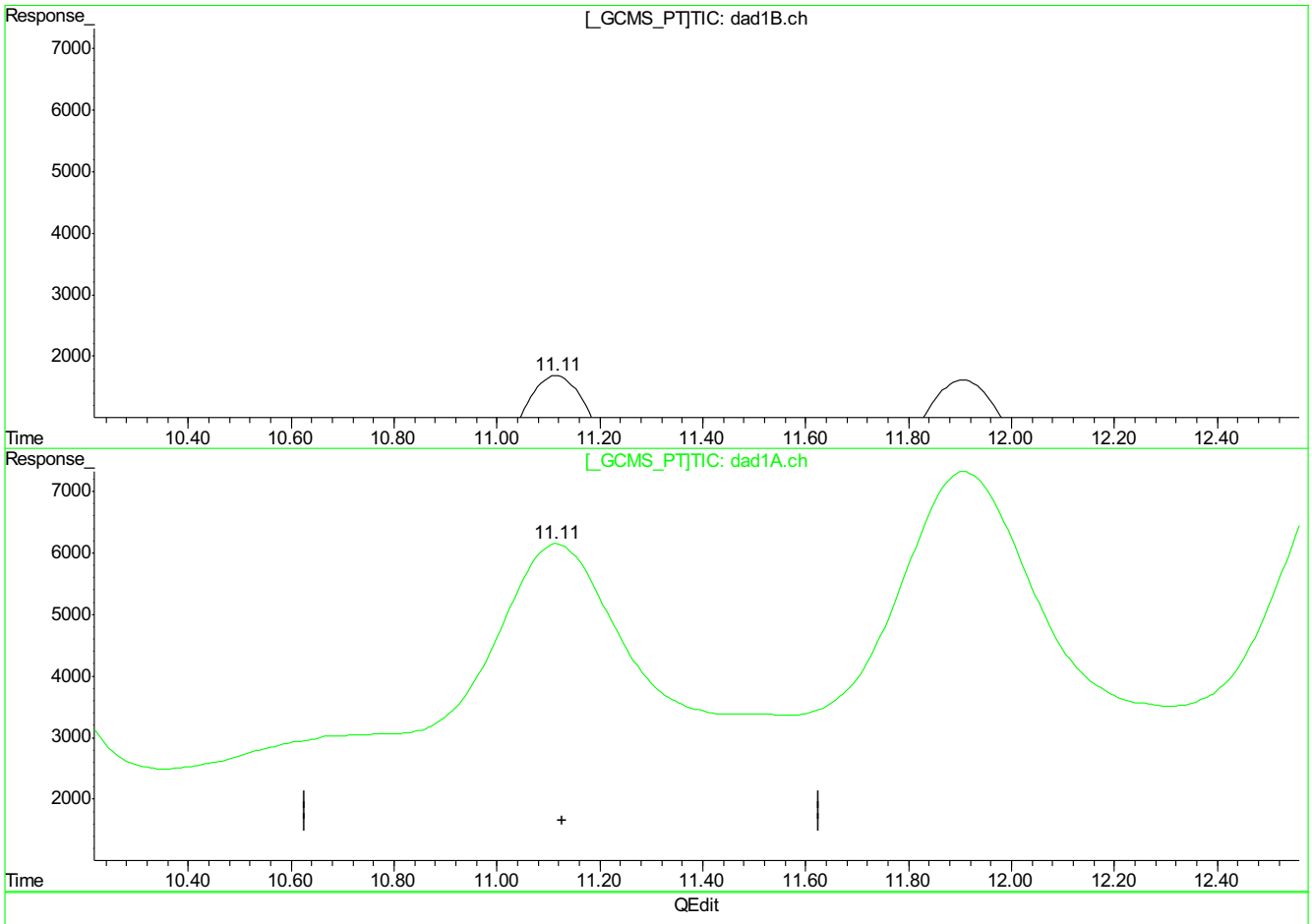
9

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 54.996ppb

response 481631

(8) Nitrobenzene #2

11.12min 279.100ppb

response 2710689

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:30 2017

GG613489.D edits: Nitrobenzene

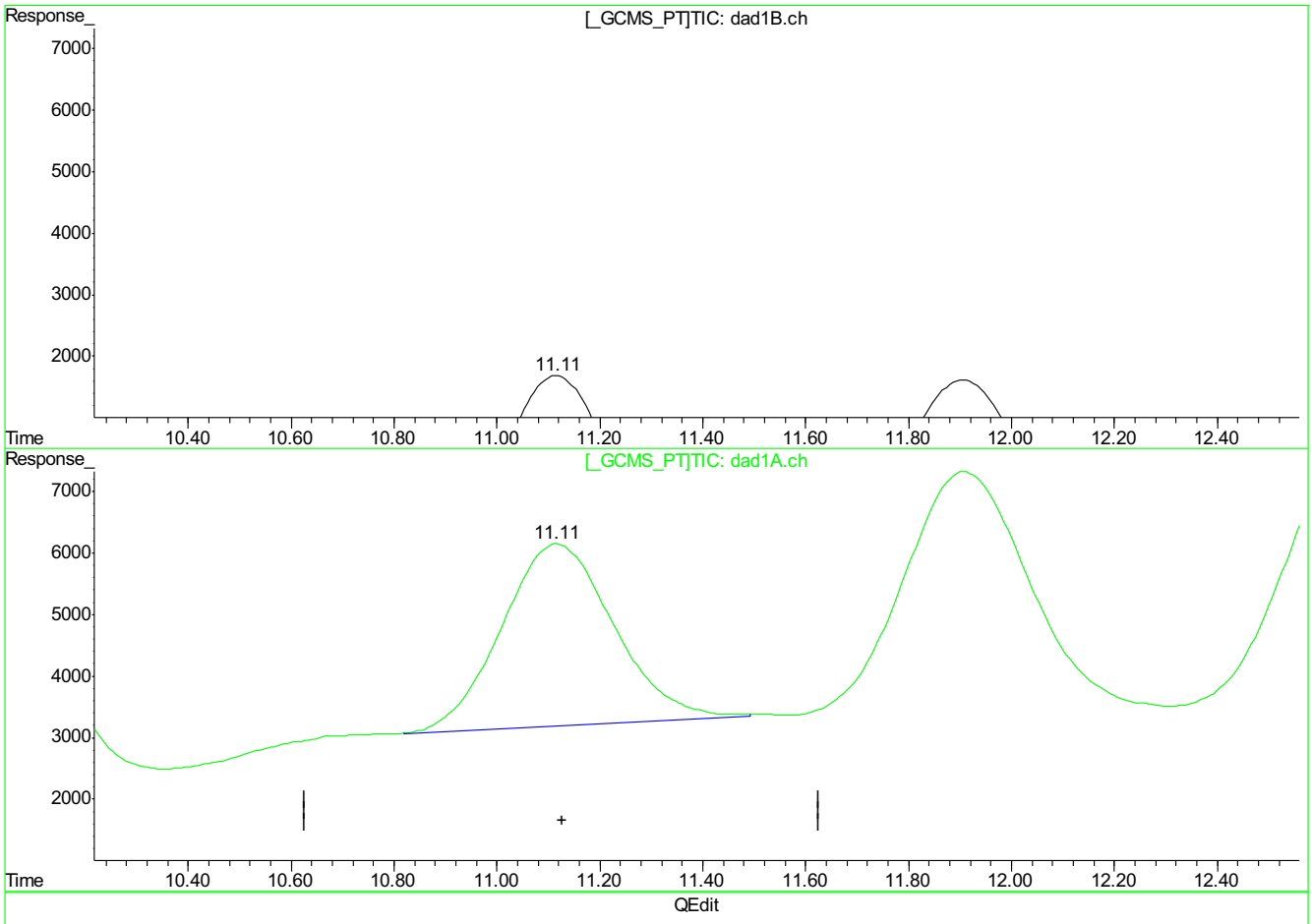
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 54.996ppb

response 481631

(8) Nitrobenzene #2

11.11min 45.255ppb m

response 448850

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:33 2017

GG613489.D edits: Nitrobenzene

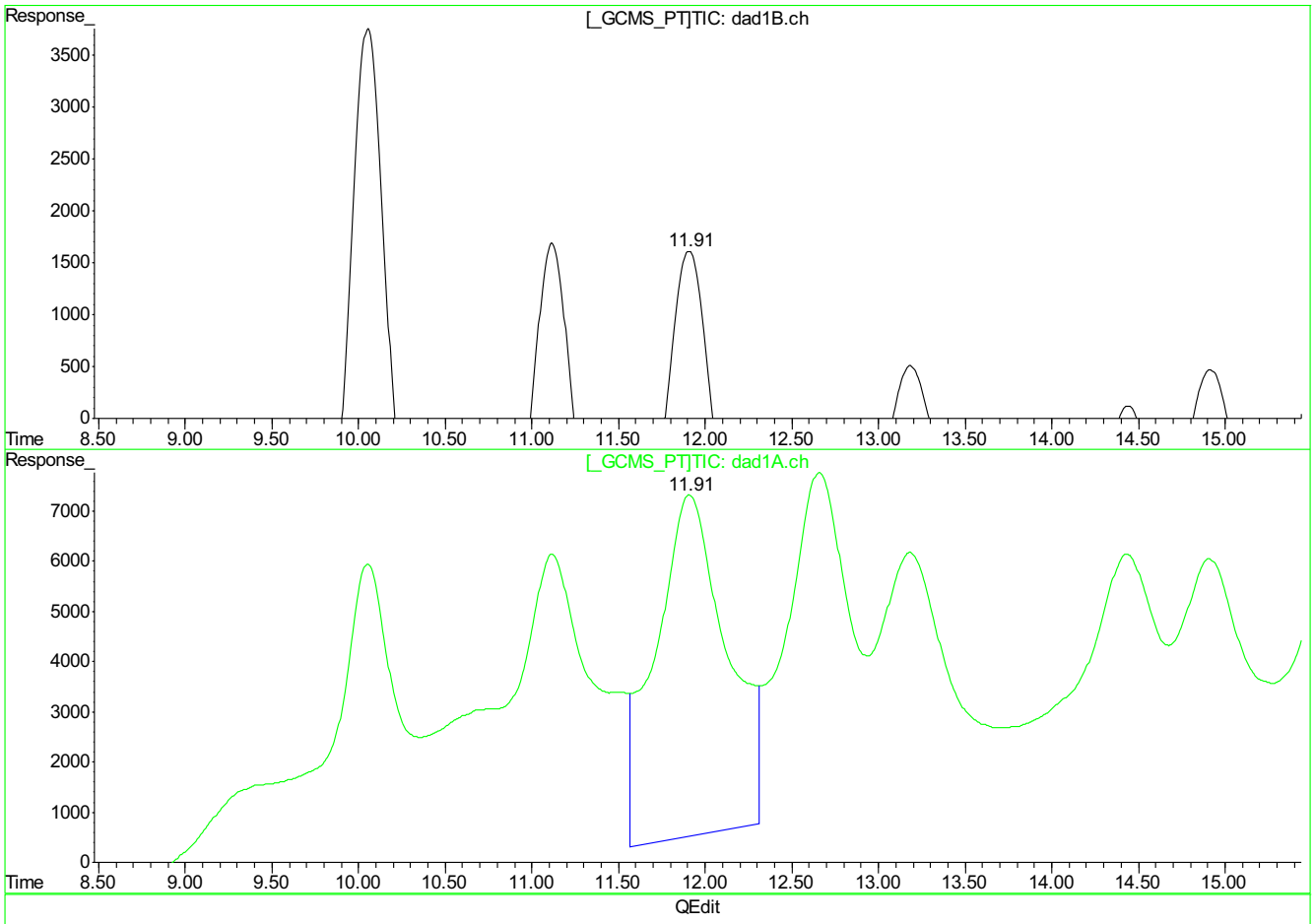
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch         Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:12:51                    Operator: evitam
Sample    : ic2548-50                                Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.91min 56.898ppb

response 541383

(9) 2,4,6-Trinitrotoluene #2

11.91min 151.541ppb

response 1941687

(+) = Expected Retention Time

GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:43 2017

9.5.15.12

9

GG613489.D edits: 2,4,6-Trinitrotoluene

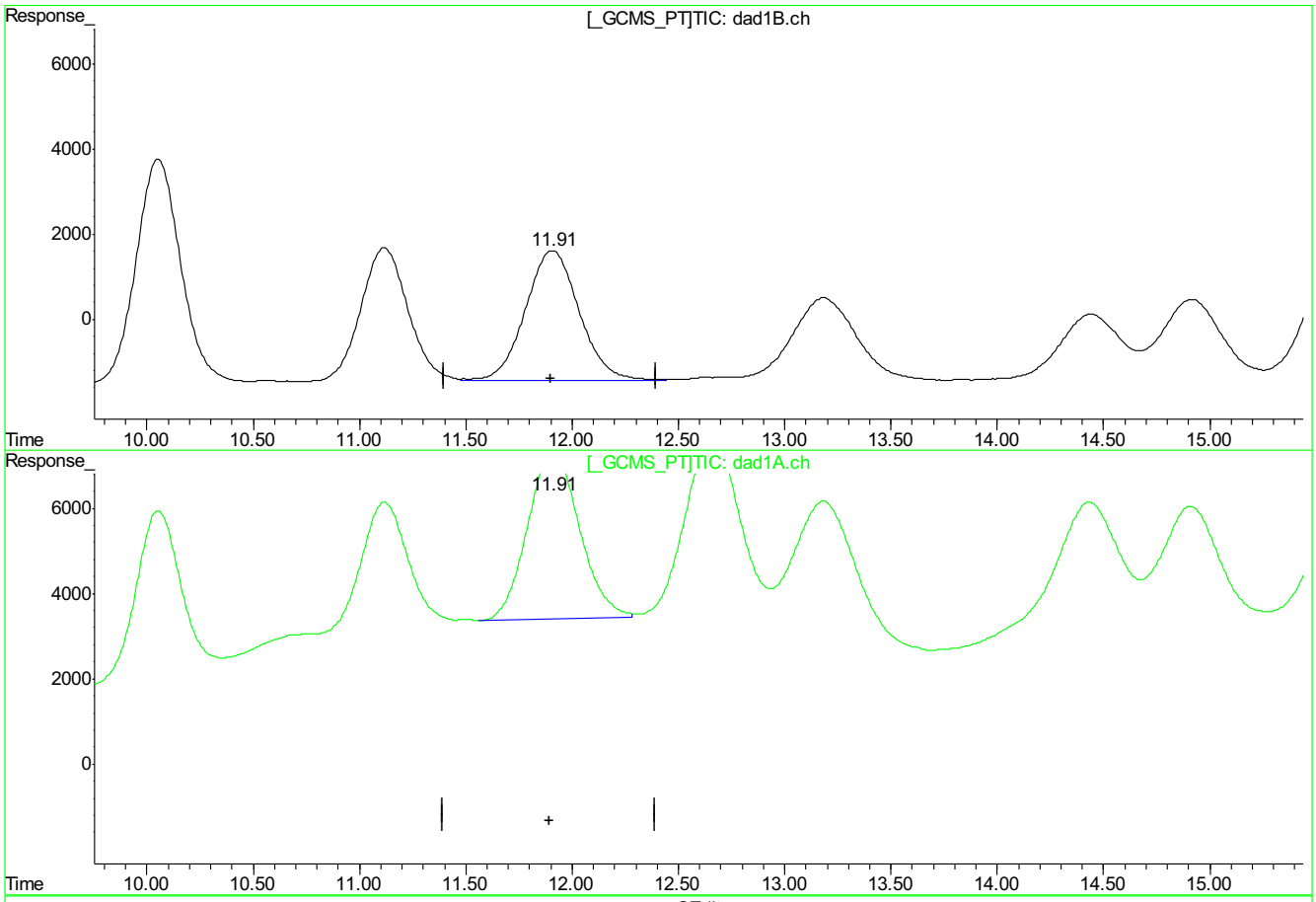
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.91min 56.898ppb

response 541383

(9) 2,4,6-Trinitrotoluene #2

11.91min 51.505ppb m

response 660716

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:04 2017

9.5.15.13

9

GG613489.D edits: 2,4,6-Trinitrotoluene

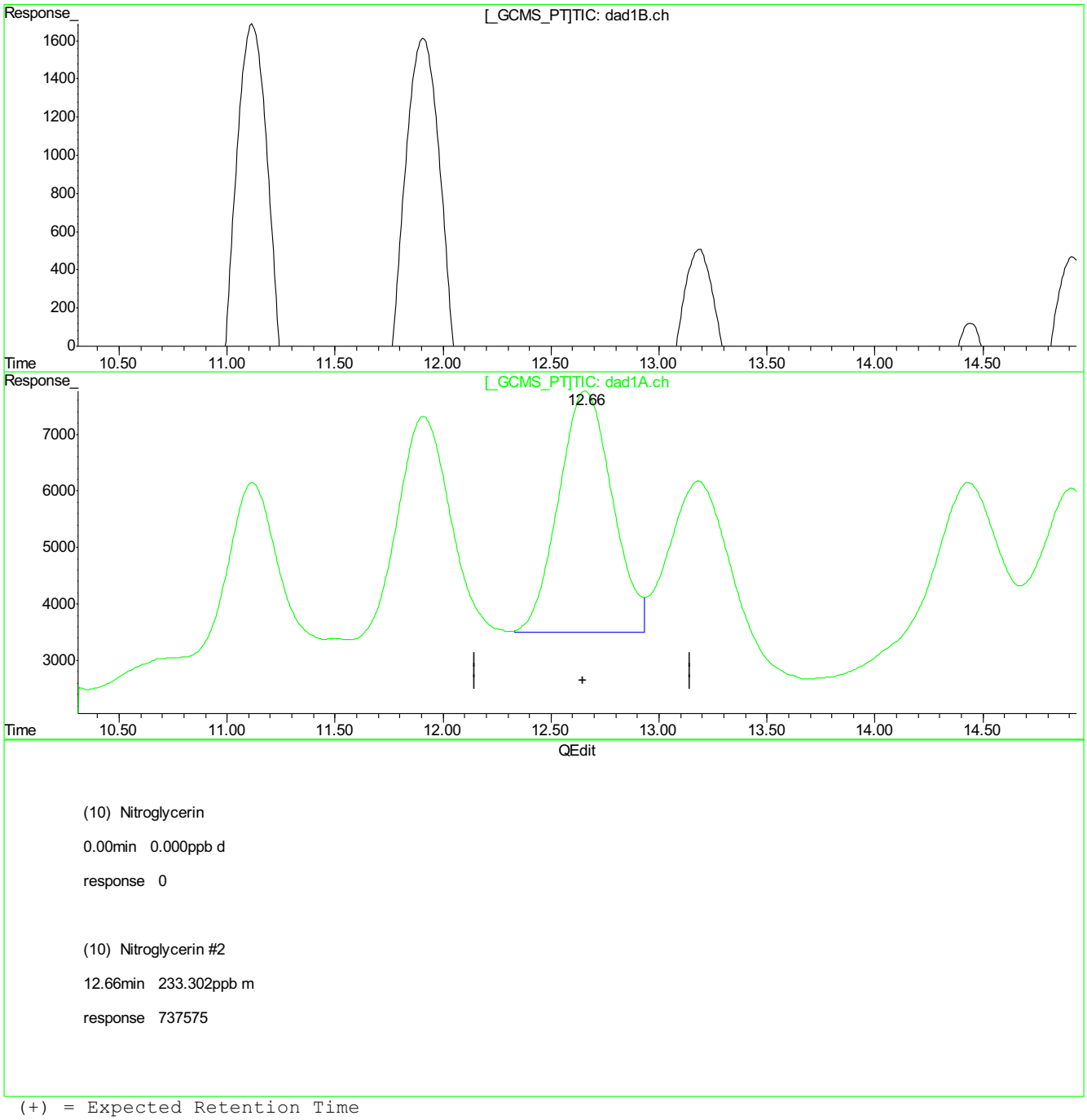
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.66min 233.302ppb m

response 737575

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:16 2017

9.5.15.14

9

GG613489.D edits: Nitroglycerin

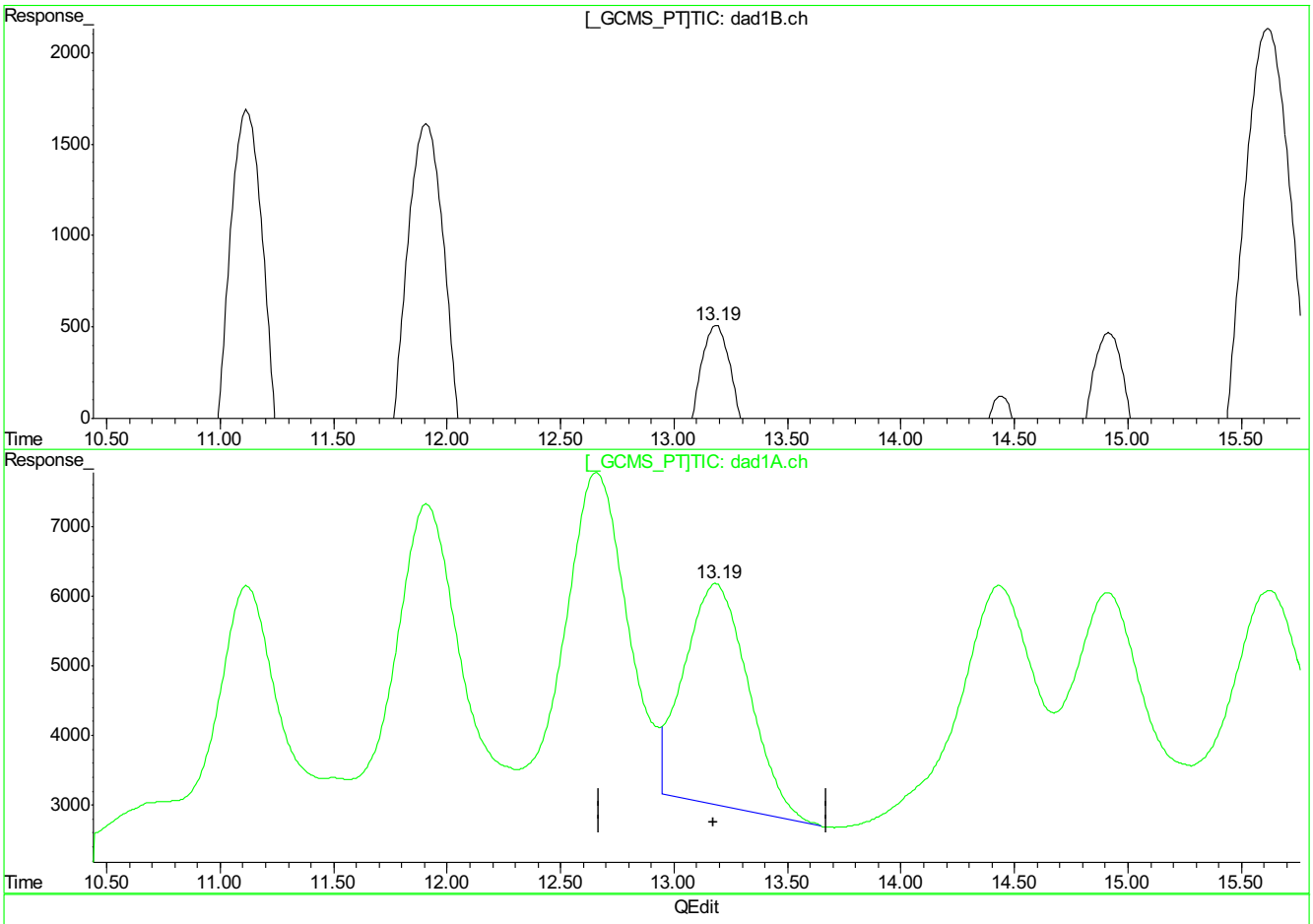
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 68.621ppb

response 423066

(11) Tetryl #2

13.19min 61.797ppb m

response 625210

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:25 2017

9.5.15.15 9

GG613489.D edits: Tetryl

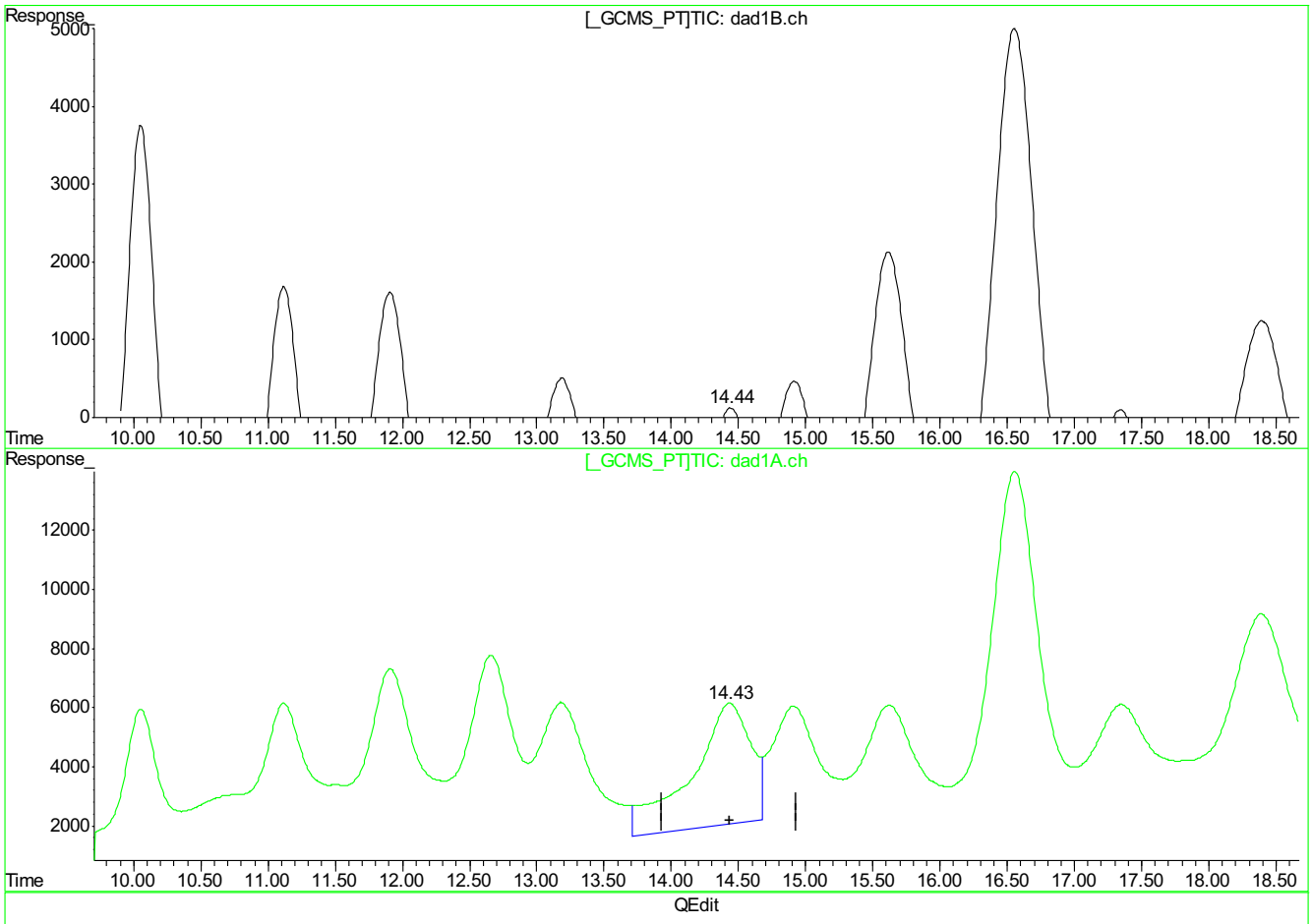
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 56.987ppb

response 306777

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 114.100ppb

response 1252979

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:36 2017

9.5.15.16

9

GG613489.D edits: 3,4-Dinitrotoluene

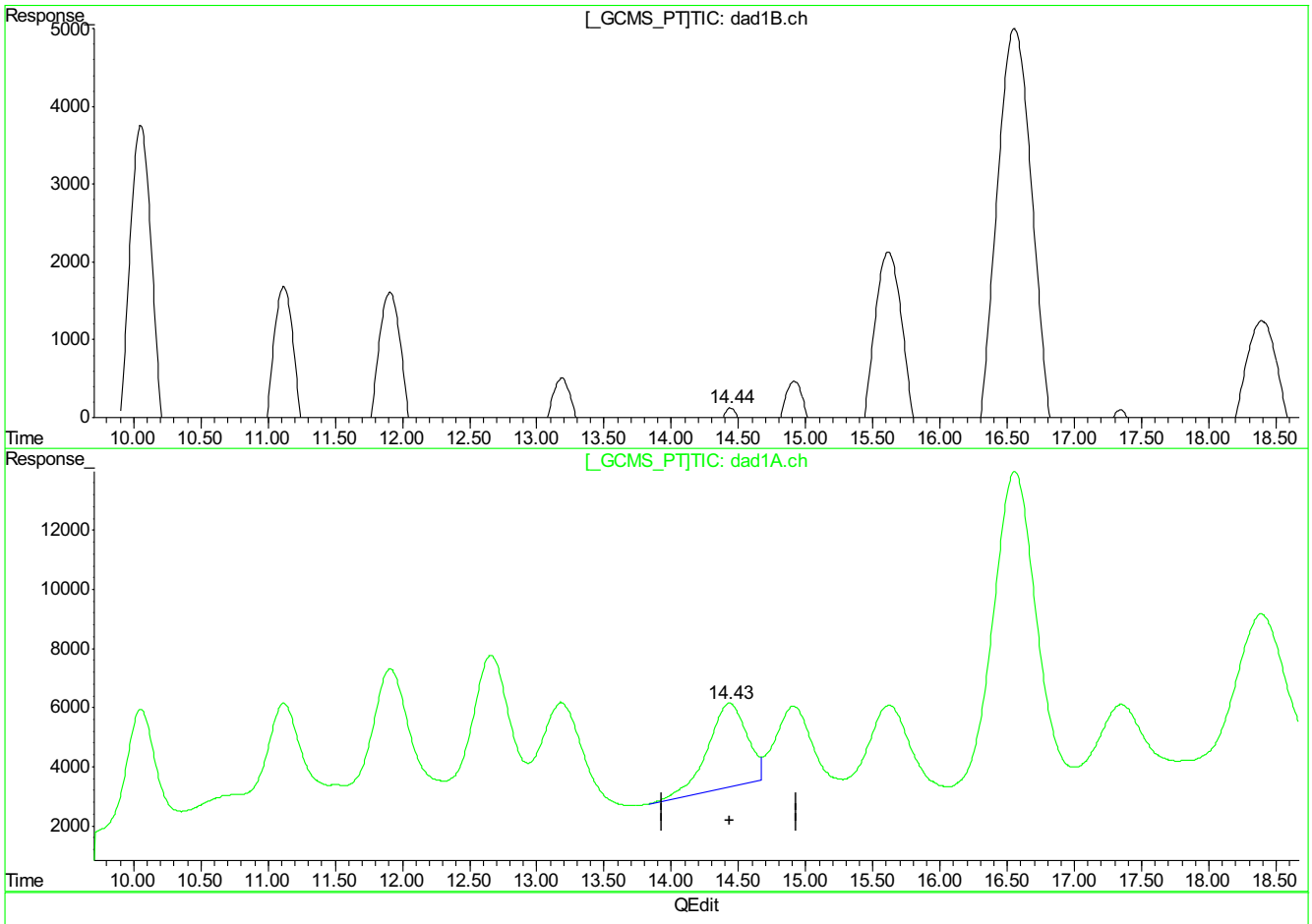
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 56.987ppb

response 306777

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 52.672ppb m

response 578914

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:41 2017

9.5.15.17

9

GG613489.D edits: 3,4-Dinitrotoluene

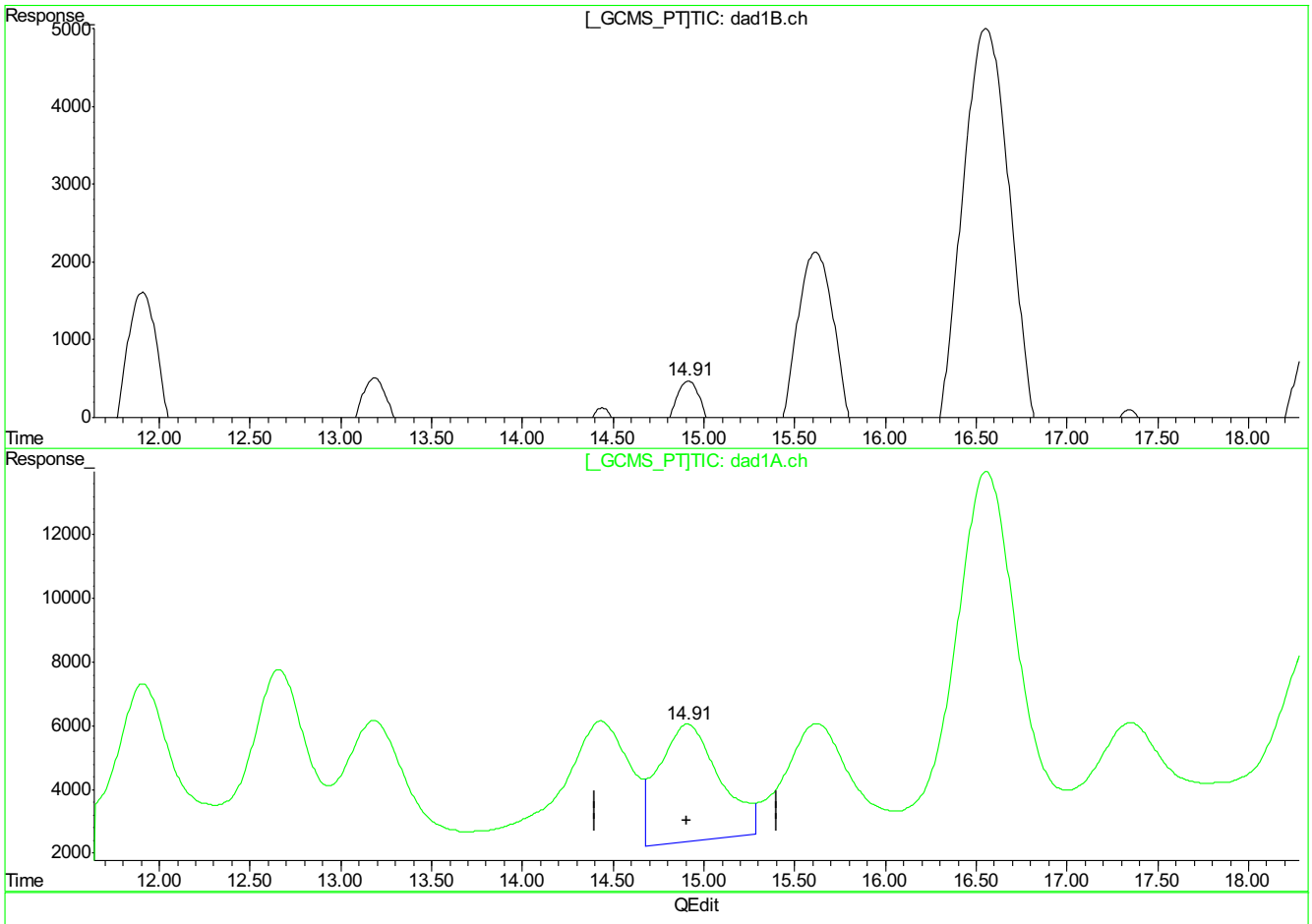
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.92min 59.718ppb

response 374648

(13) 2,6-Dinitrotoluene #2

14.91min 94.104ppb

response 860688

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:46 2017

9.5.15.18

9

GG613489.D edits: 2,6-Dinitrotoluene

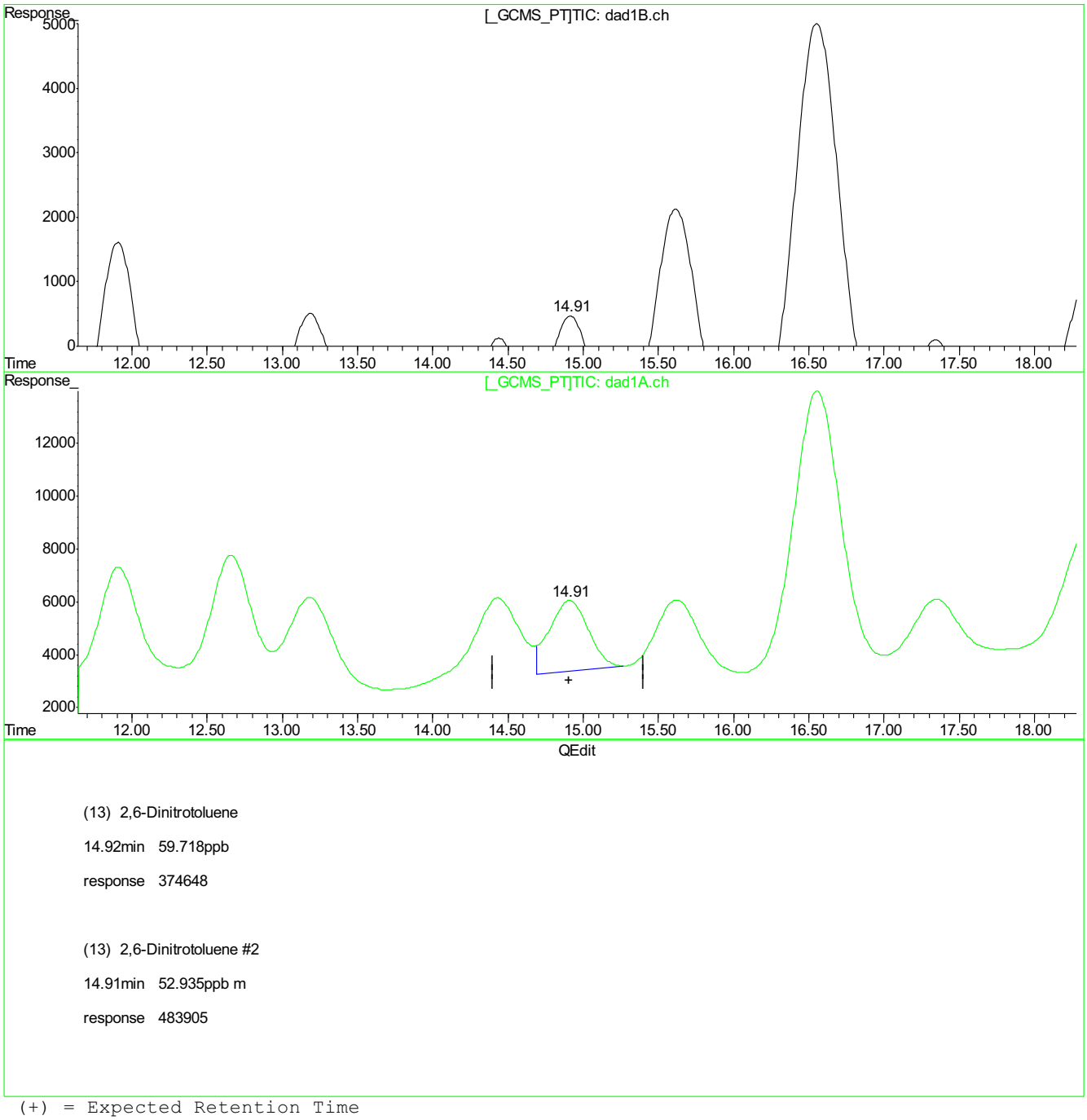
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.92min 59.718ppb

response 374648

(13) 2,6-Dinitrotoluene #2

14.91min 52.935ppb m

response 483905

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:54 2017

9.5.15.19

9

GG613489.D edits: 2,6-Dinitrotoluene

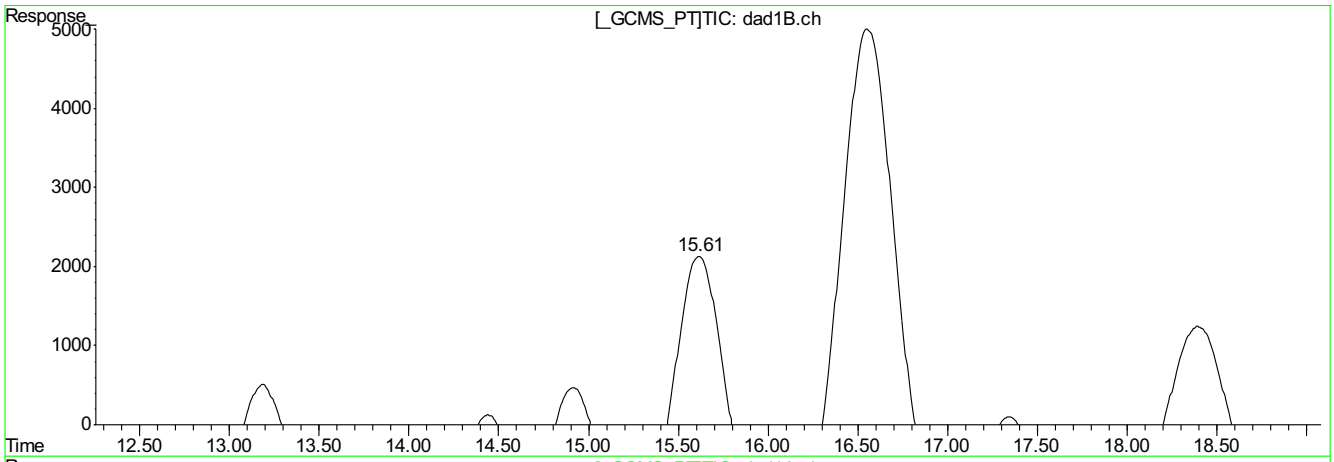
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 59.200ppb

response 710232

(14) 2,4-Dinitrotoluene #2

15.62min 84.723ppb

response 788924

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:00 2017

9.5.15.20

9

GG613489.D edits: 2,4-Dinitrotoluene

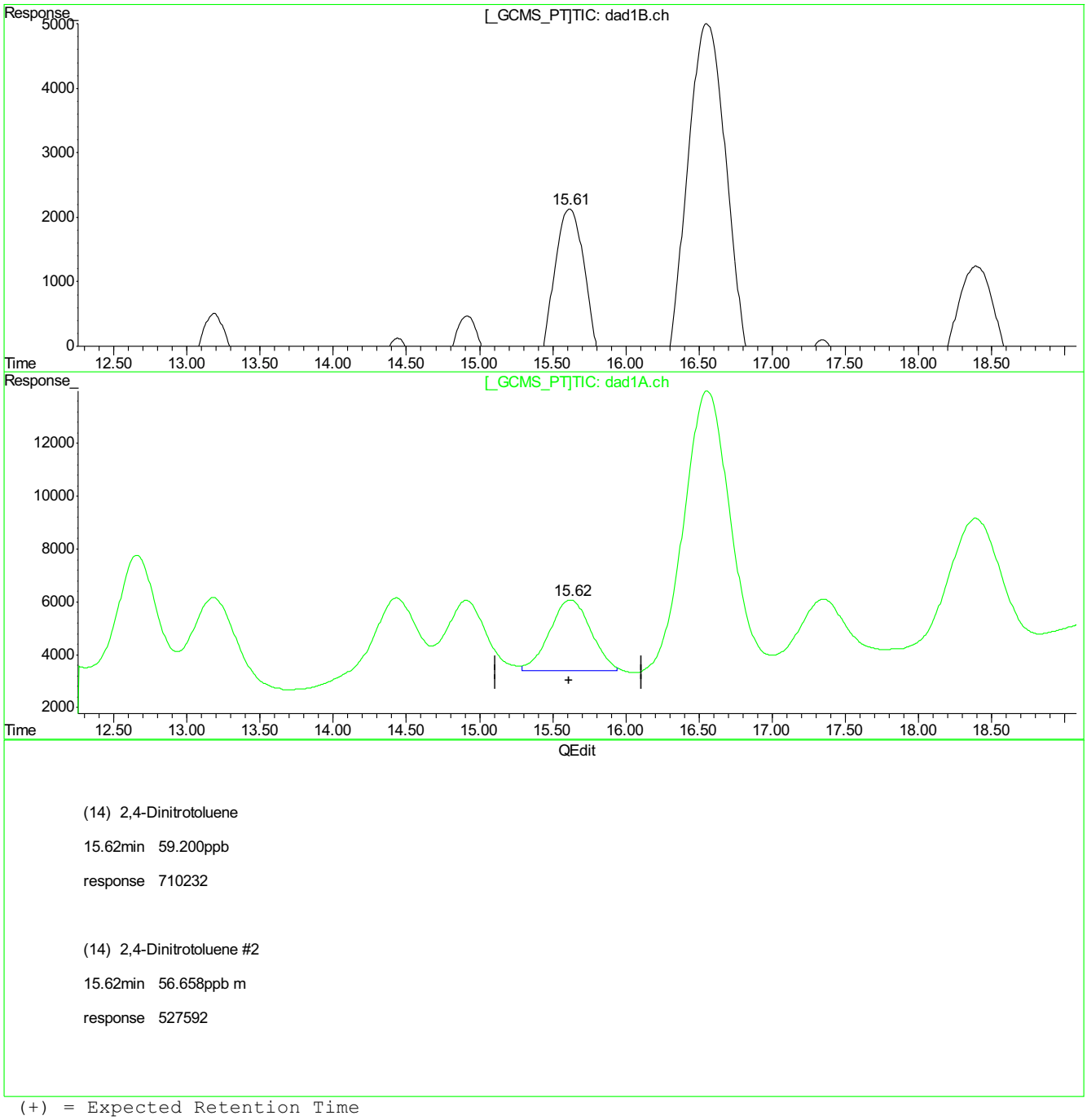
SGS ACCUTEST FA45722

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 59.200ppb

response 710232

(14) 2,4-Dinitrotoluene #2

15.62min 56.658ppb m

response 527592

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:03 2017

9.5.15.21

9

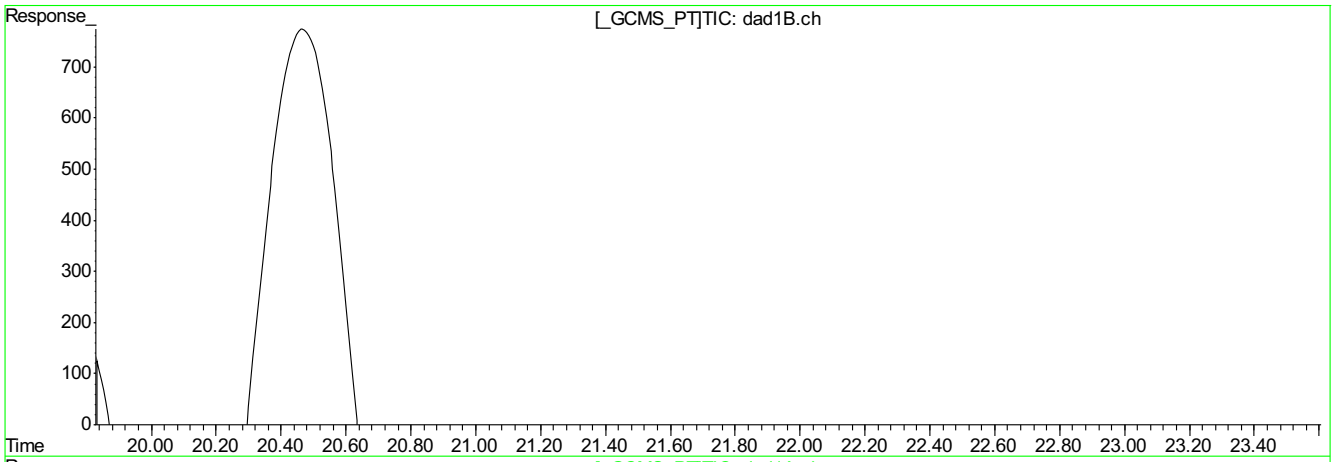
SGS ACCUTEST FA45722

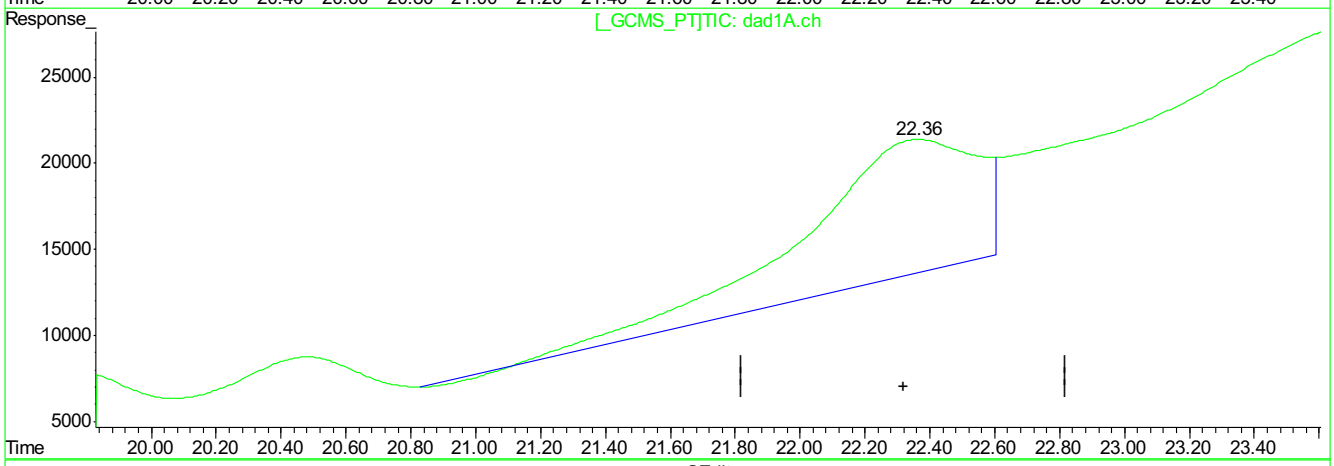
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.37min 953.271ppb

response 2852212

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:26 2017

9.5.15.22

9

GG613489.D edits: PETN

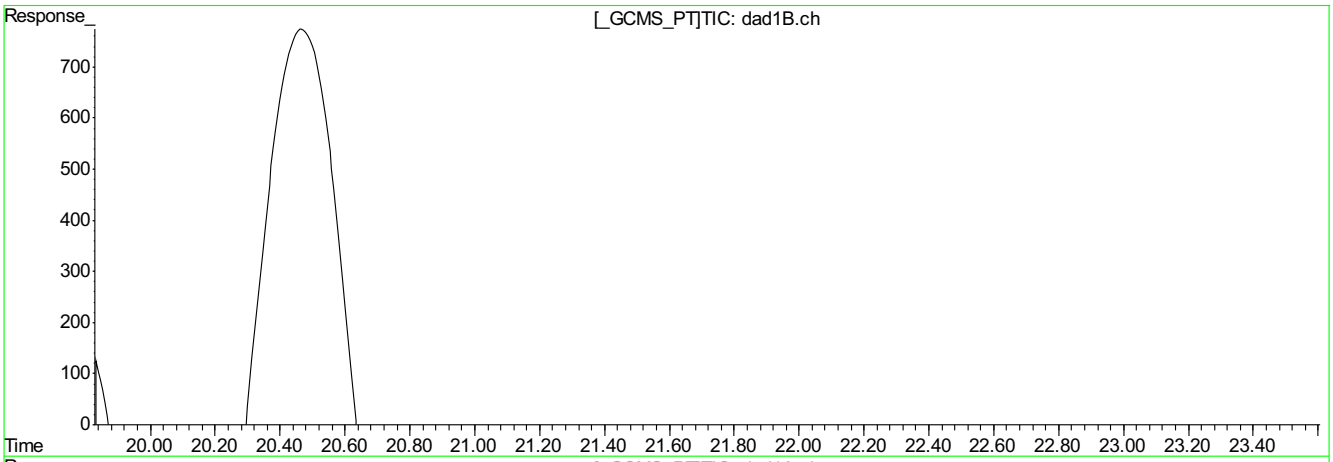
SGS ACCUTEST FA45722

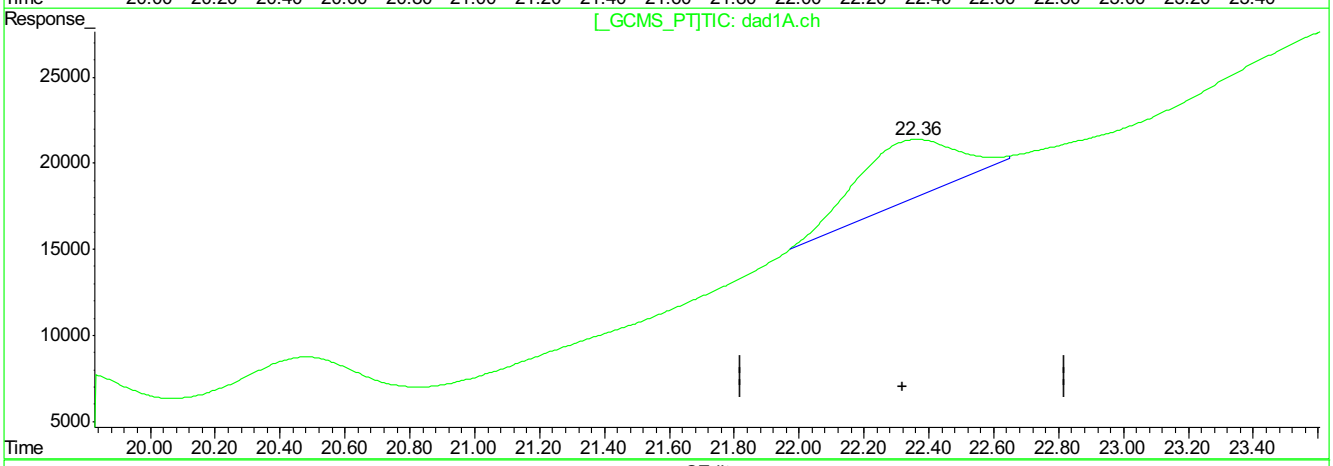
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 256.412ppb m

response 759774

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:37 2017

9.5.15.23

9

GG613489.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613490.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57:53 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.44	14.43	567700	1066335	102.714	96.922m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		20.54%#	19.38%#
	Target Compounds						
1)	TNX	4.95	4.95	819655	808113	102.383m	100.515m
2)	HMX	5.31	5.31	372392	380292	111.439m	114.054m
3)	DNX	5.50	5.50	655034	669364	89.050m	90.533m
4)	MNX	6.51	6.51	501359	501359	100.460	100.460
5)	1,3,5-Trinitrobe	7.54	7.54	1094726	1094726	112.261	111.895
6)	RDX	7.88	7.88	510618	510618	114.108	114.108
7)	1,3-Dinitrobenze	10.05	10.05	1494990	1210912	110.888	113.984m
8)	Nitrobenzene	11.11	11.11	961685	1000041	107.959	101.453m
9)	2,4,6-Trinitroto	11.91	11.91	1031081	1318282	106.883	102.844m
10)	Nitroglycerin	0.00	12.65	0	1581828	N.D. d	495.829m
11)	Tetryl	13.19	13.18	824247	1287123	128.143	127.123m
13)	2,6-Dinitrotolue	14.92	14.91	711860	1181375	109.663	128.846m
14)	2,4-Dinitrotolue	15.62	15.61	1343693	1031671	108.113	103.626m
15)	o-Nitrotoluene	17.36	17.36	621244	1133265	112.913	147.591
16)	3,5-Dinitroanili	16.58	16.58	1091251	1868035	79.745	82.449
17)	p-Nitrotoluene	18.41	18.41	1259798	2393515	111.324	122.018
18)	4-Amino-2,6-Dini	18.41	18.41	1259798	2393515	111.324	122.018
19)	m-Nitrotoluene	19.80	19.80	679988	966355	117.302	105.998m
20)	2-Amino-4,6-Dini	20.49	20.49	983982	963572	121.009	91.732
21)	PETN	0.00	22.35	0	1656309	N.D. d	555.870m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 13:56:32 2017 Page 1

9.5.16
9

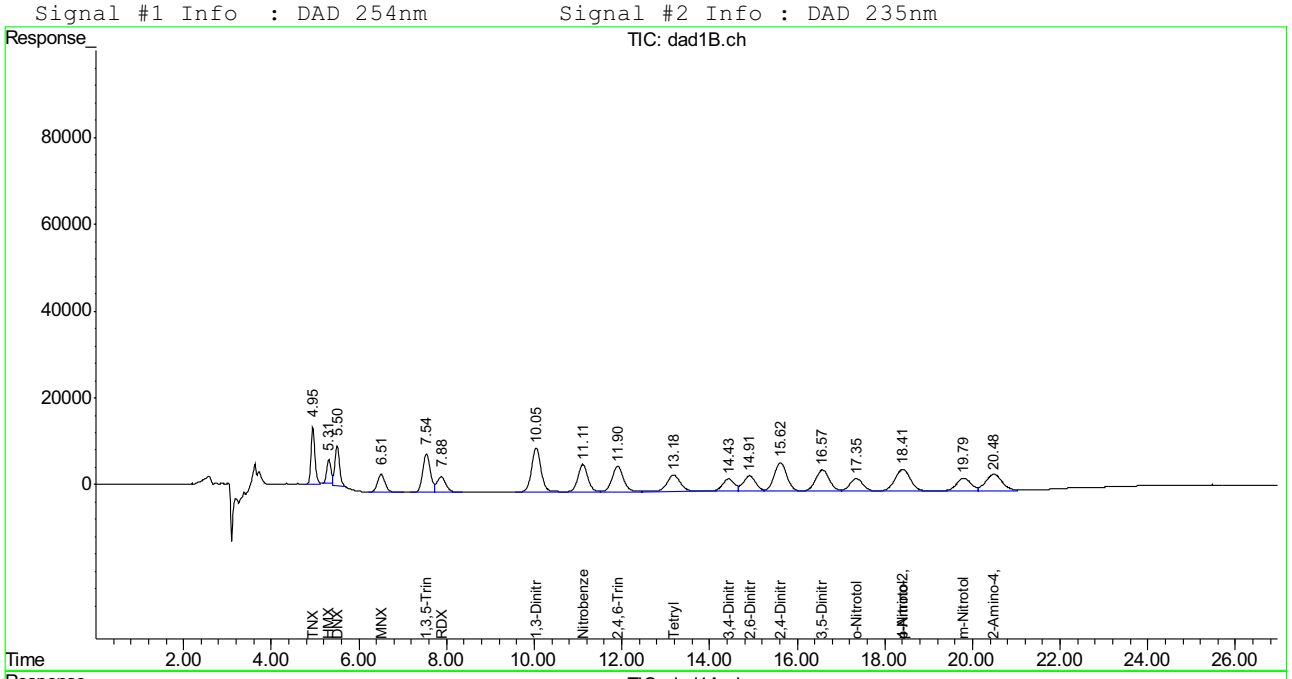
SGS ACCUTEST FA45722

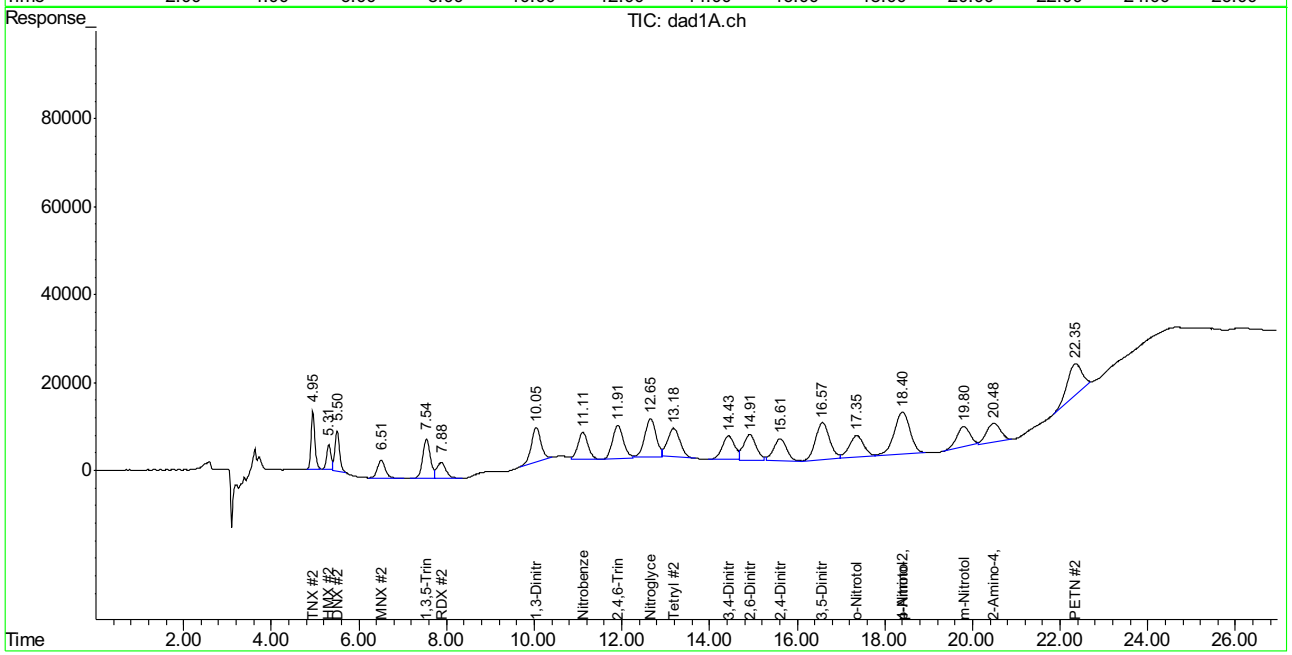
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





9.5.16
9
SGS ACCUTEST FA45722
400 of 509

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613490.D
Injection Time: 07/20/17 17:42
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

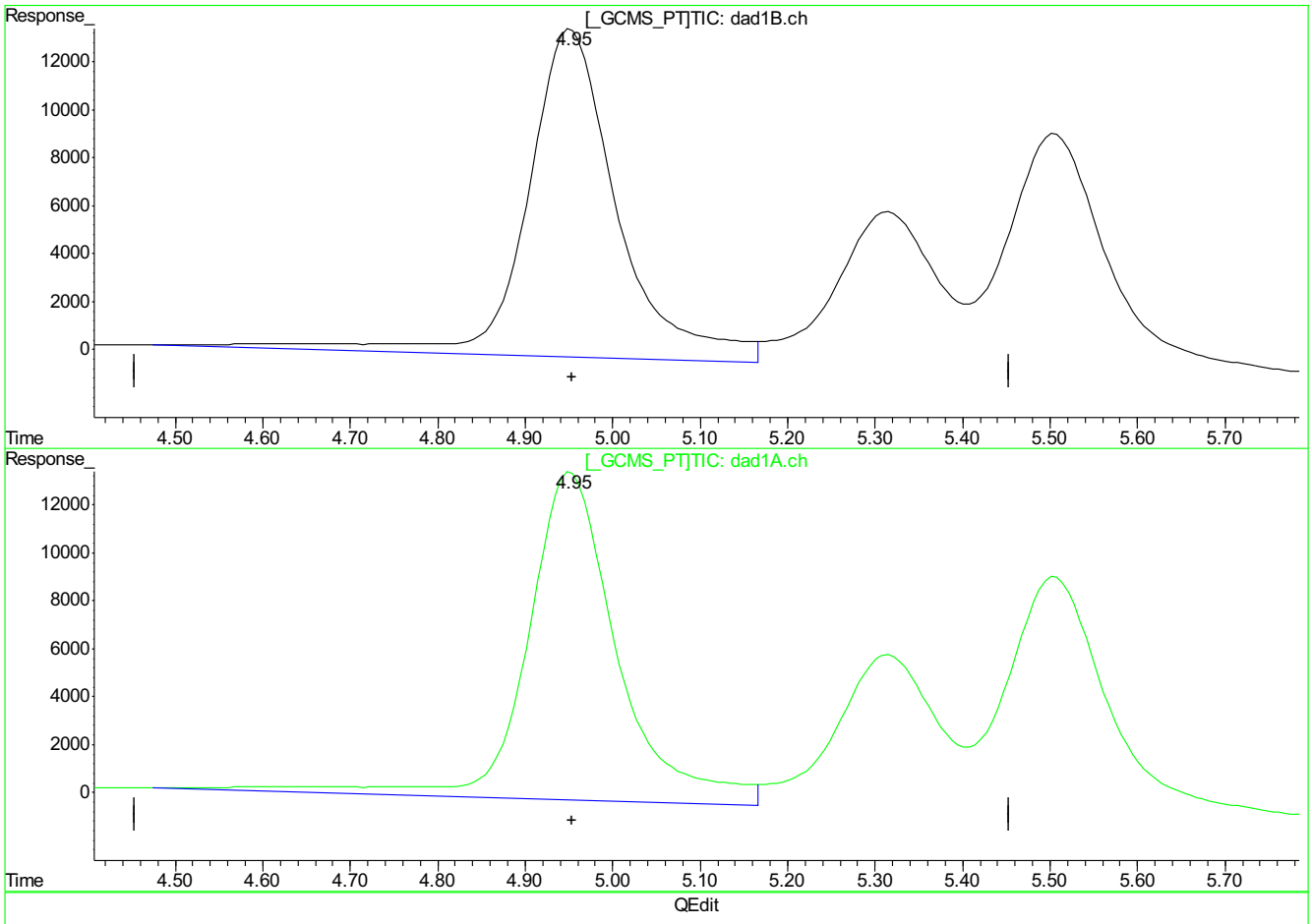
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
HMX	2691-41-0	1	5.31	Poorly defined baseline
HMX	2691-41-0	2	5.31	Poorly defined baseline
DNX		1	5.50	Poorly defined baseline
DNX		2	5.50	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.11	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.91	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.65	Poorly defined baseline
Tetryl	479-45-8	2	13.18	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.43	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.91	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	15.61	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	19.80	Poorly defined baseline
PETN	78-11-5	2	22.35	Poorly defined baseline

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(1) TNX

4.95min 123.069ppb

response 985262

(1) TNX #2

4.95min 122.550ppb

response 985262

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:03 2017

9.5.16.2

9

GG613490.D edits: TNX

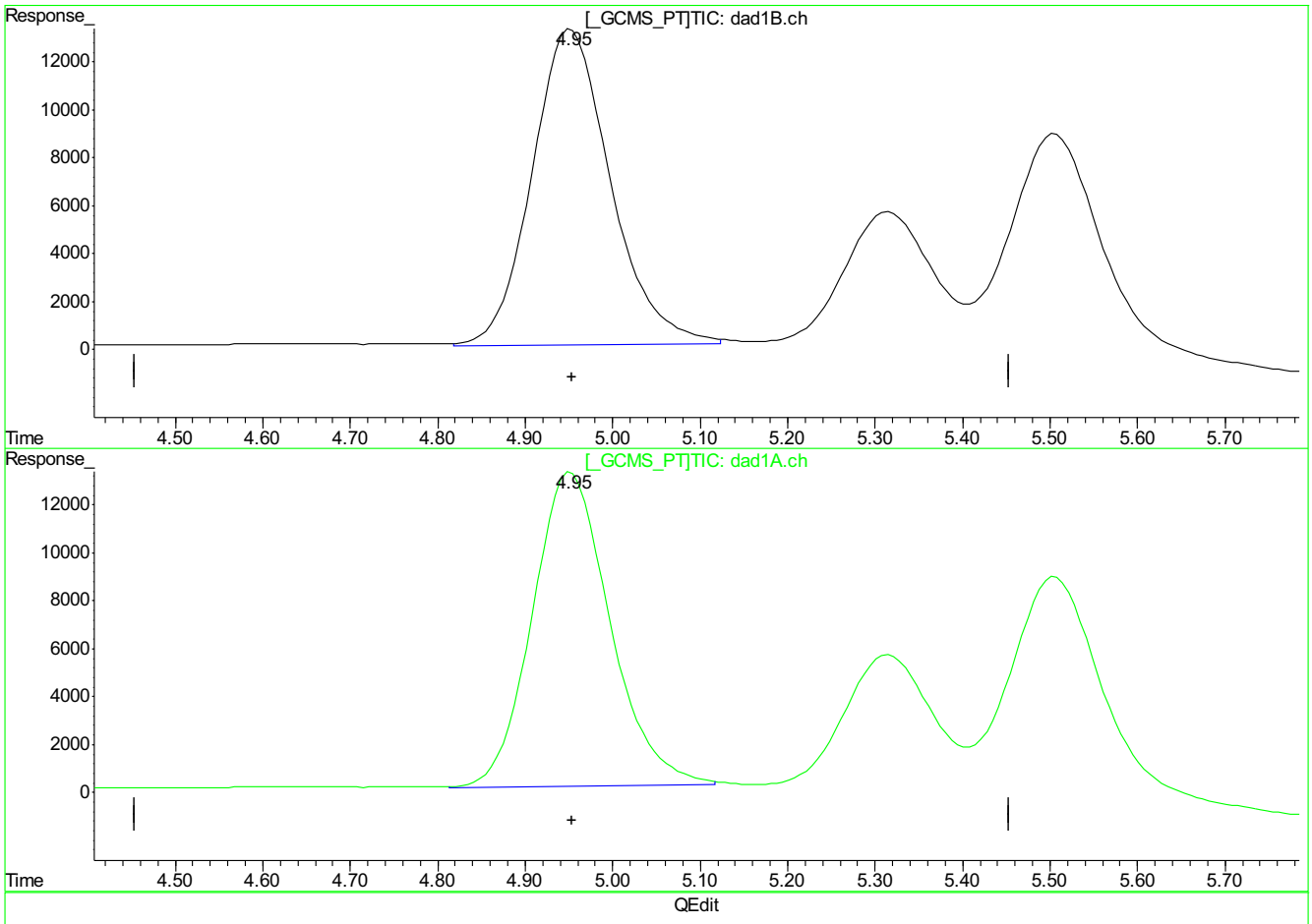
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(1) TNX

4.95min 102.383ppb m

response 819655

(1) TNX #2

4.95min 100.515ppb m

response 808113

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:07 2017

GG613490.D edits: TNX

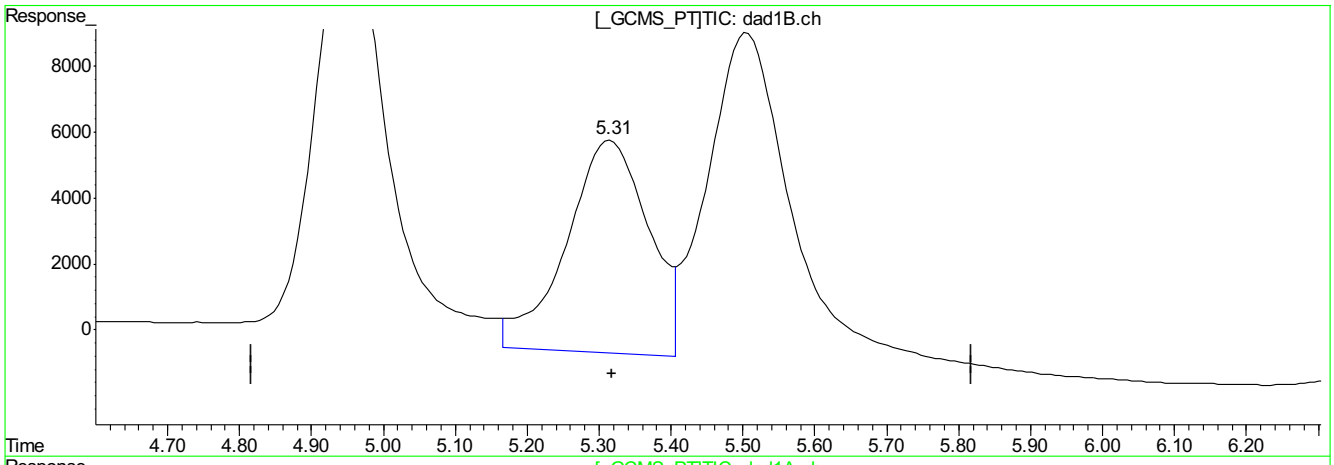
SGS ACCUTEST FA45722

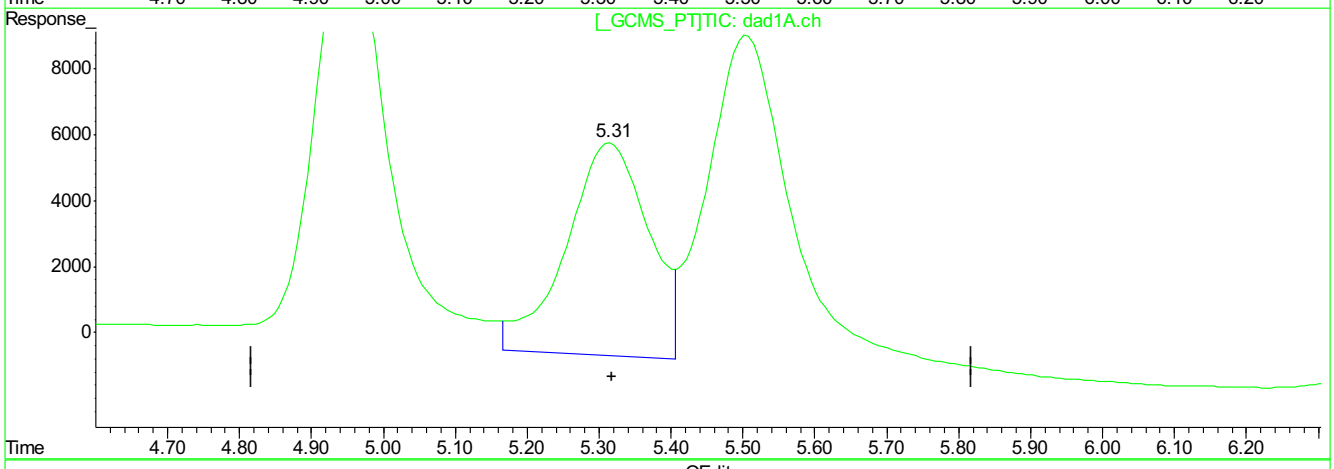
Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 153.546ppb

response 513098

(2) HMX #2

5.32min 153.884ppb

response 513098

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:10 2017

9.5.16.4

9

GG613490.D edits: HMX

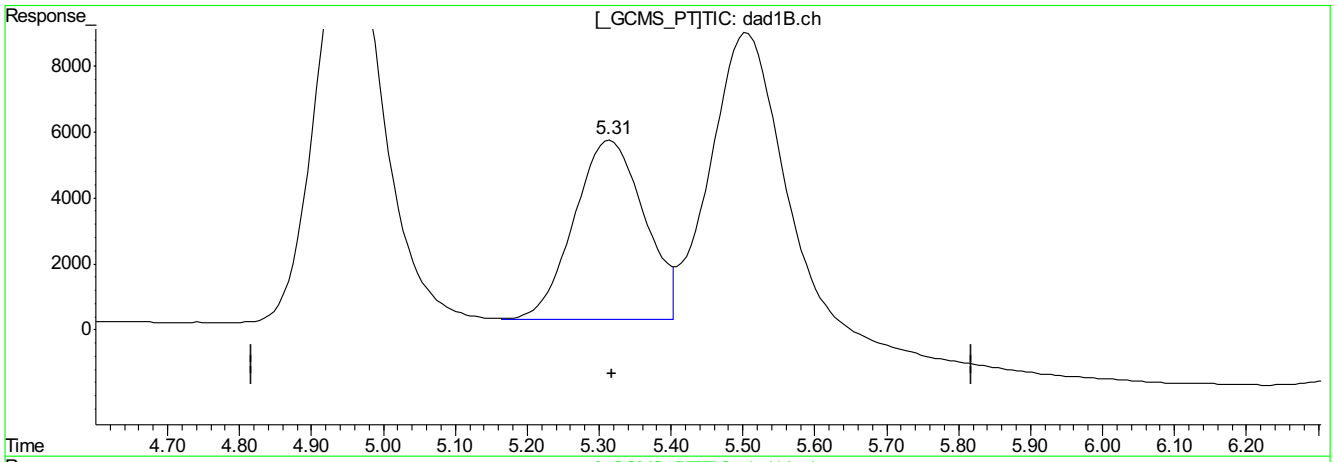
SGS ACCUTEST FA45722

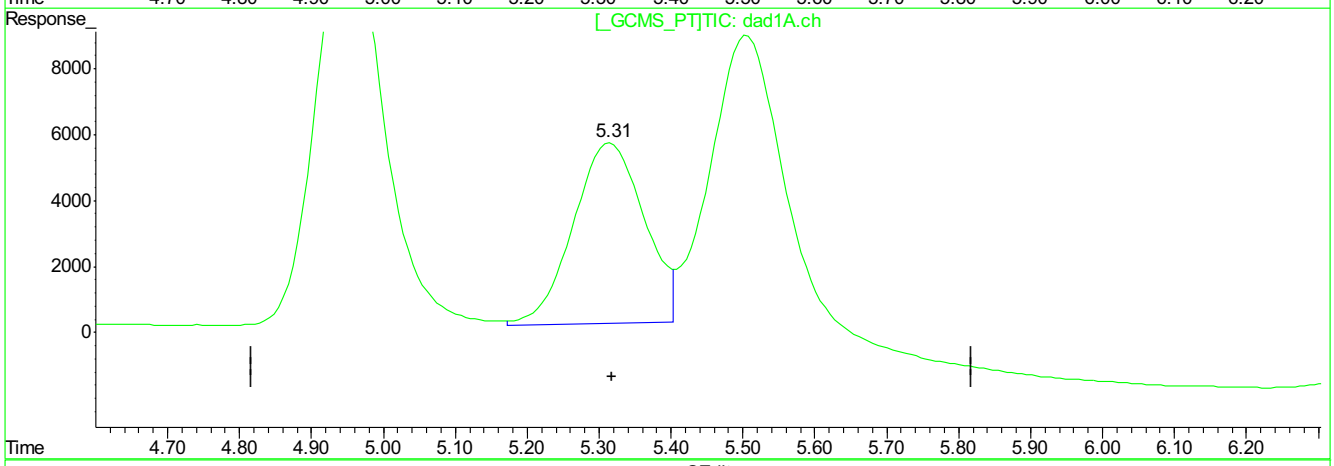
Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.31min 111.439ppb m

response 372392

(2) HMX #2

5.31min 114.054ppb m

response 380292

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:17 2017

9.5.16.5

9

GG613490.D edits: HMX

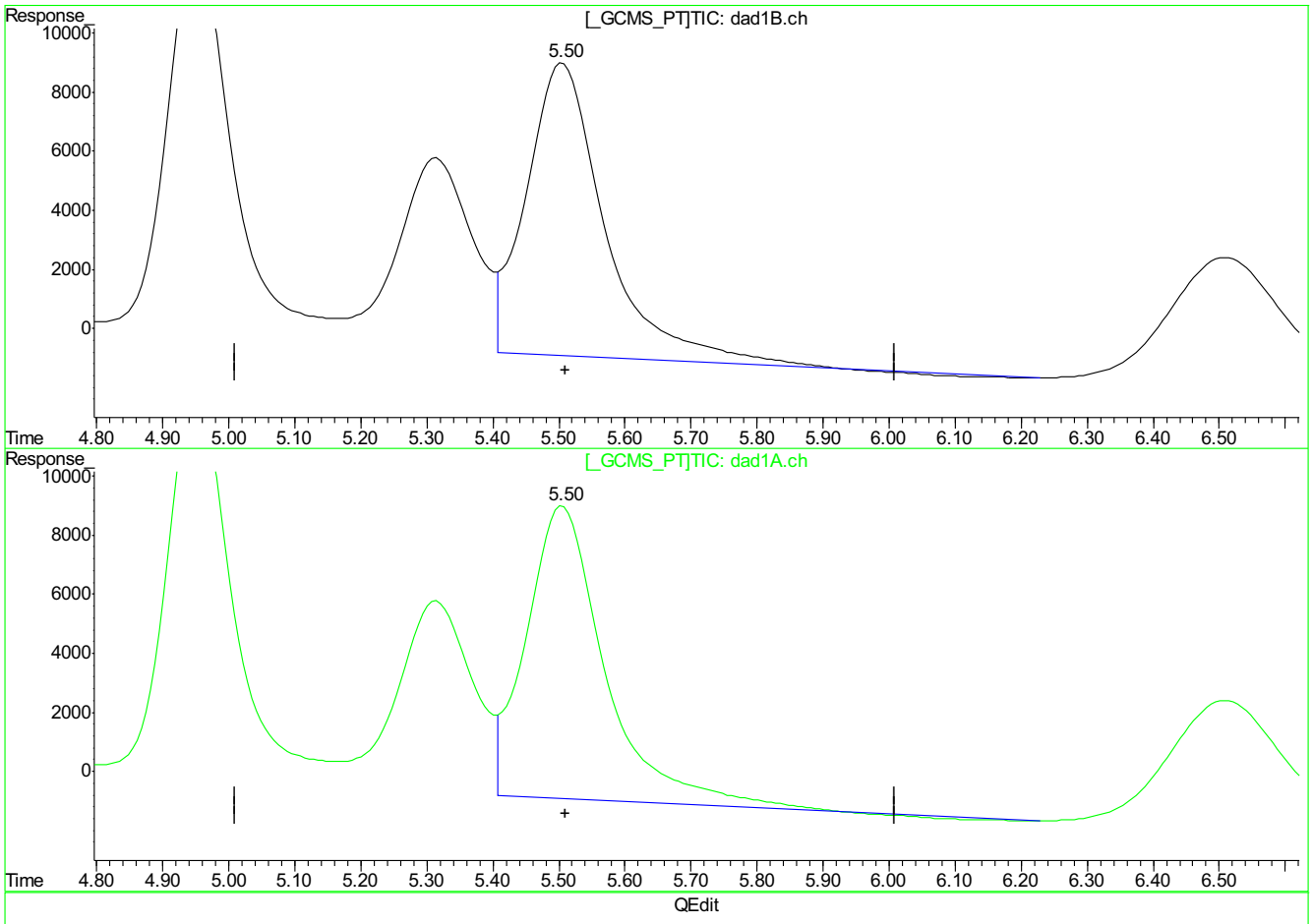
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(3) DNX

5.51min 111.197ppb

response 817945

(3) DNX #2

5.51min 110.699ppb

response 817945

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:20 2017

9.5.16.6

9

GG613490.D edits: DNX

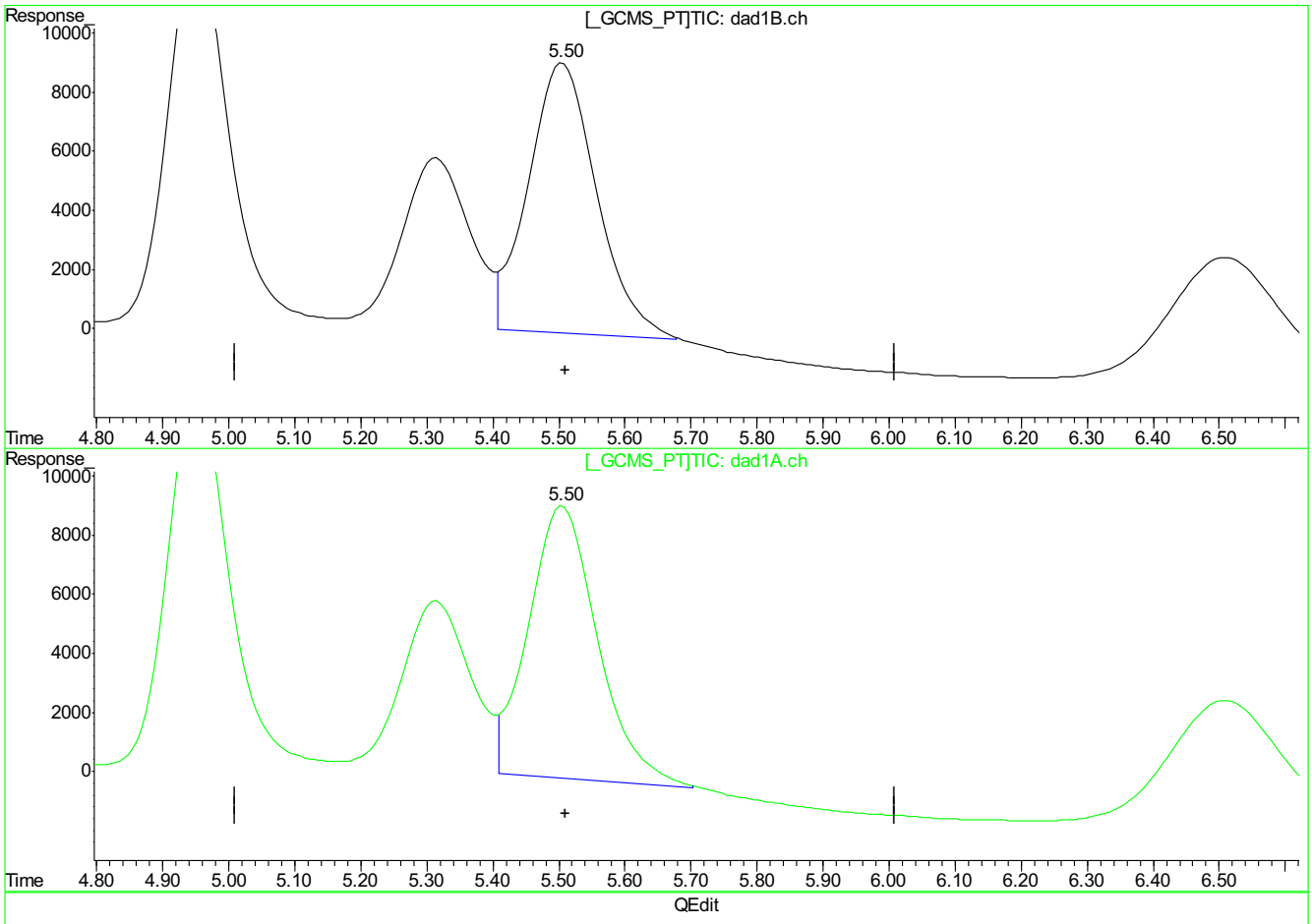
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



QEdit

(3) DNX

5.50min 89.050ppb m

response 655034

(3) DNX #2

5.50min 90.533ppb m

response 669364

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:34 2017

9.5.16.7

9

GG613490.D edits: DNX

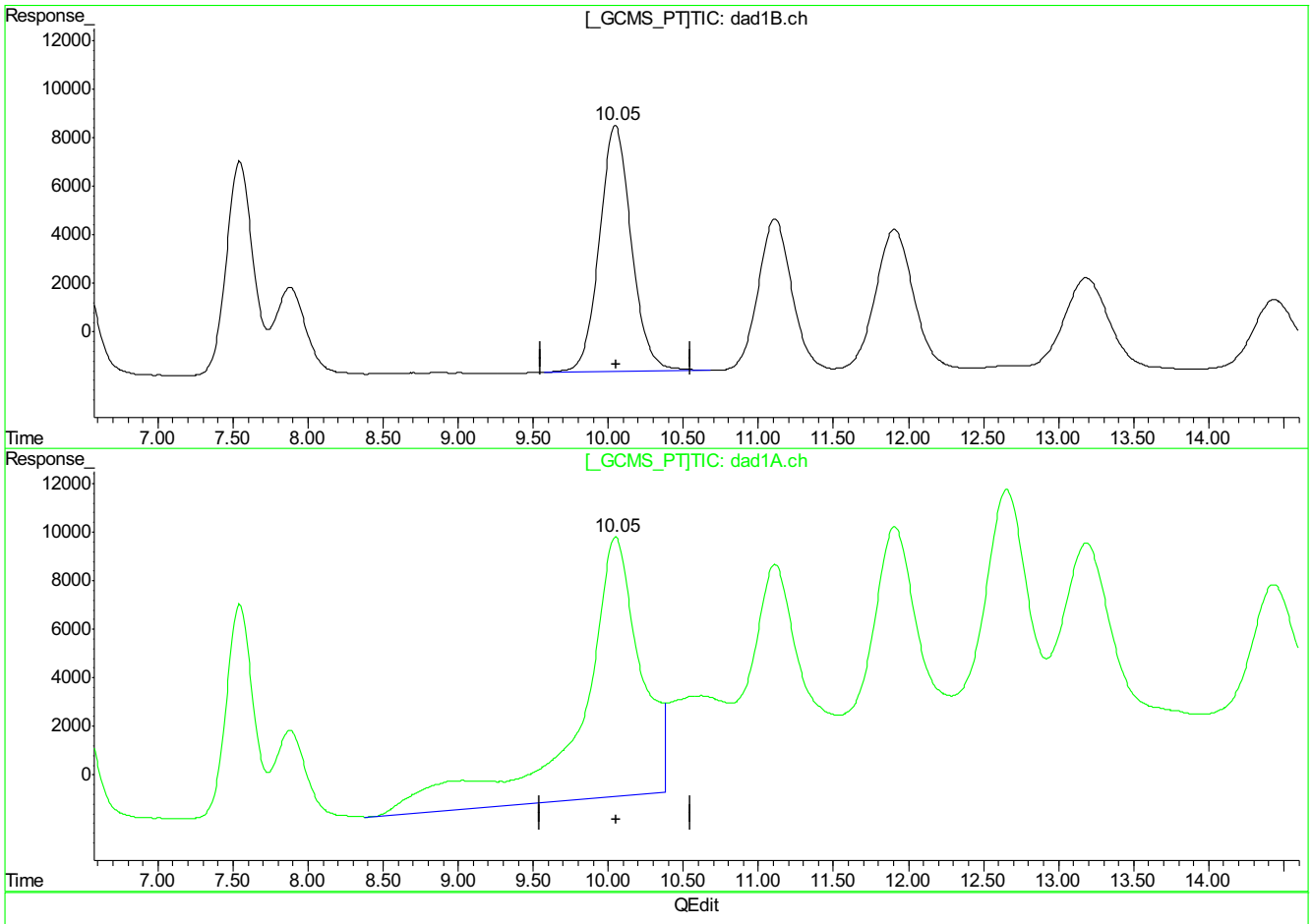
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 110.888ppb

response 1494990

(7) 1,3-Dinitrobenzene #2

10.05min 292.208ppb

response 3090196

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:48 2017

9.5.16.8

9

GG613490.D edits: 1,3-Dinitrobenzene

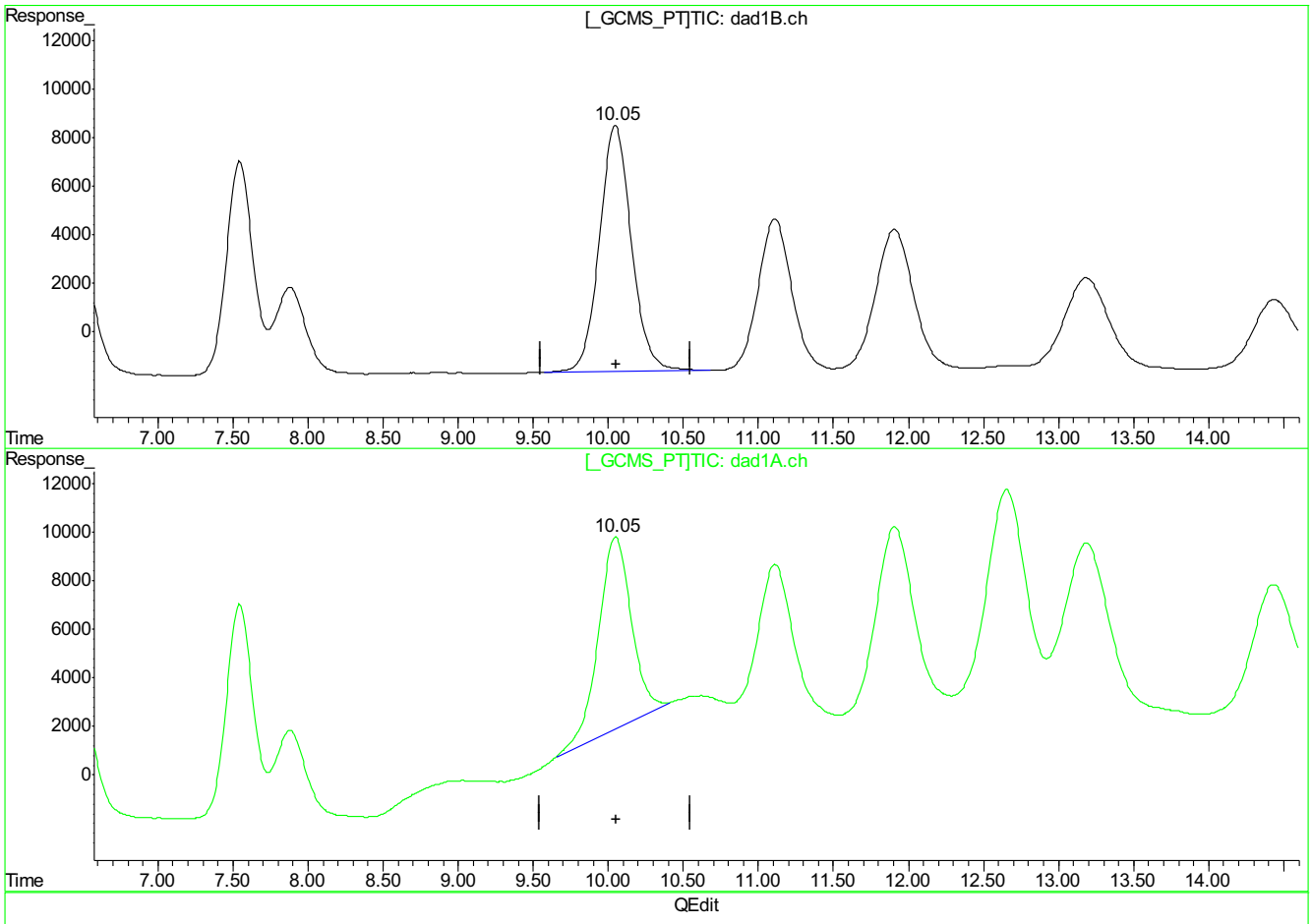
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 110.888ppb

response 1494990

(7) 1,3-Dinitrobenzene #2

10.05min 113.984ppb m

response 1210912

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:54 2017

9.5.16.9

6

GG613490.D edits: 1,3-Dinitrobenzene

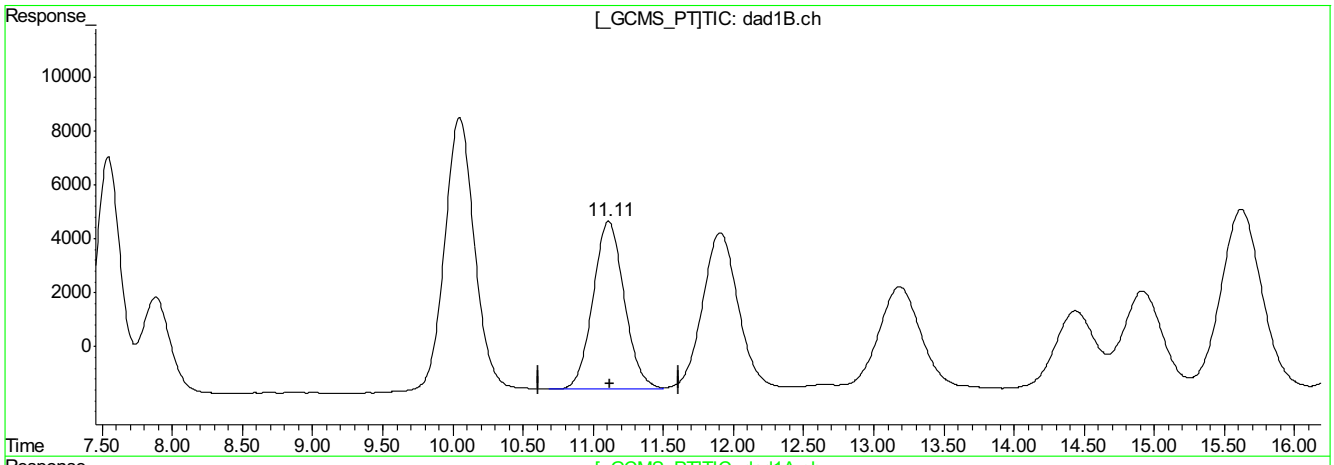
SGS ACCUTEST FA45722

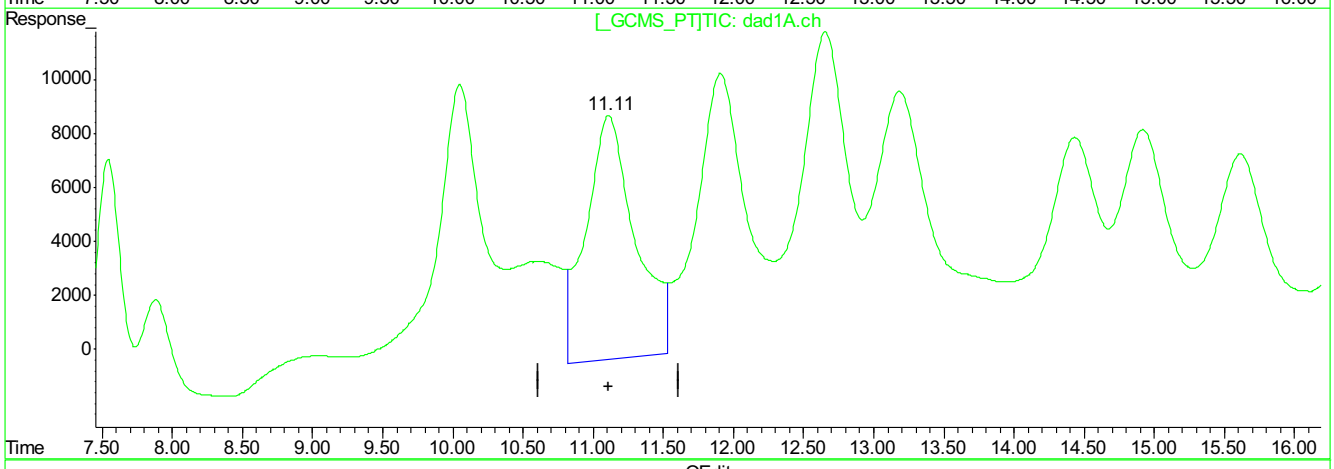
Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

11.11min 107.959ppb

response 961685

(8) Nitrobenzene #2

11.11min 227.283ppb

response 2215350

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:02 2017

9.5.16.10

9

GG613490.D edits: Nitrobenzene

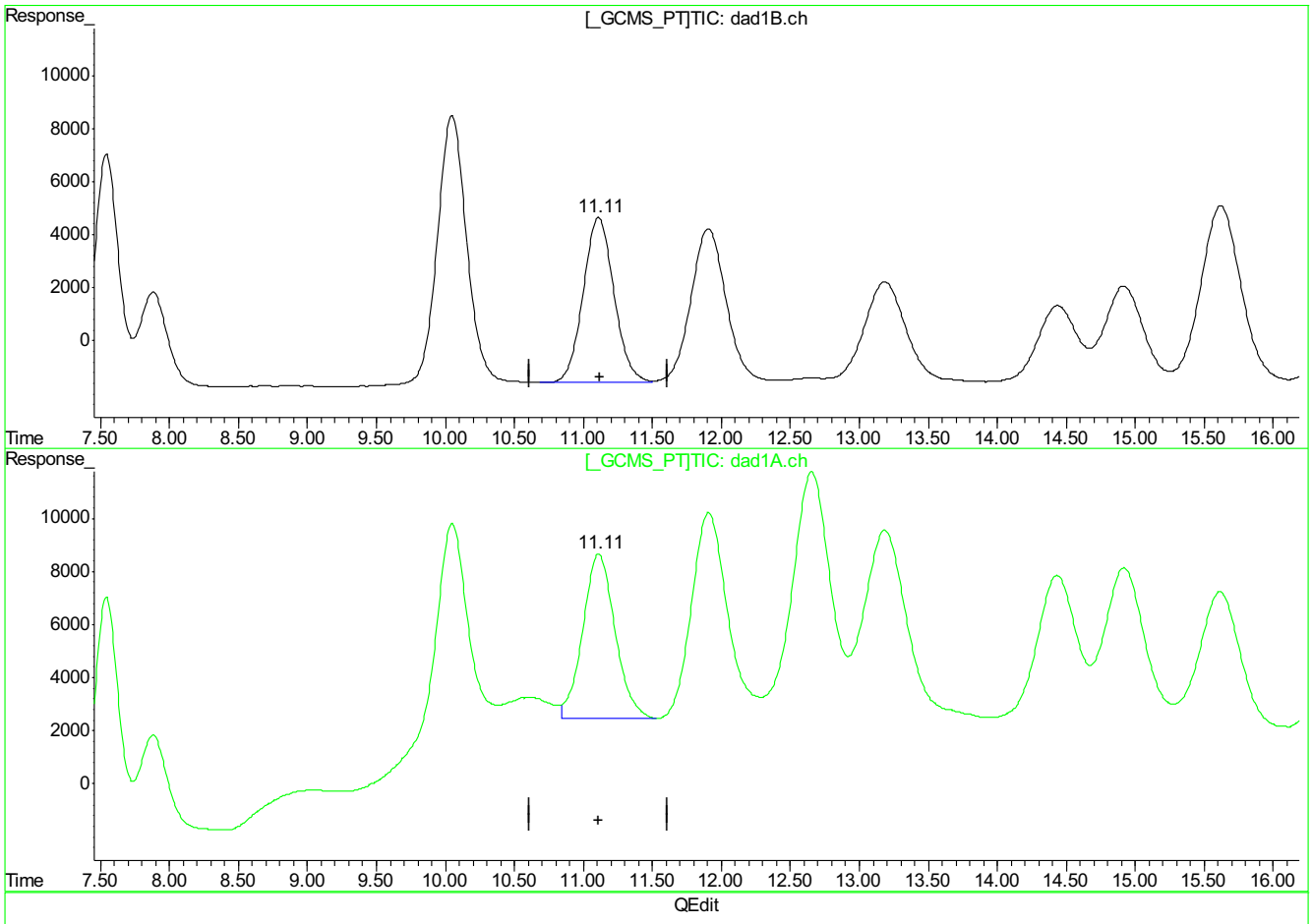
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.11min 107.959ppb

response 961685

(8) Nitrobenzene #2

11.11min 101.453ppb m

response 1000041

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:07 2017

9.5.16.11

9

GG613490.D edits: Nitrobenzene

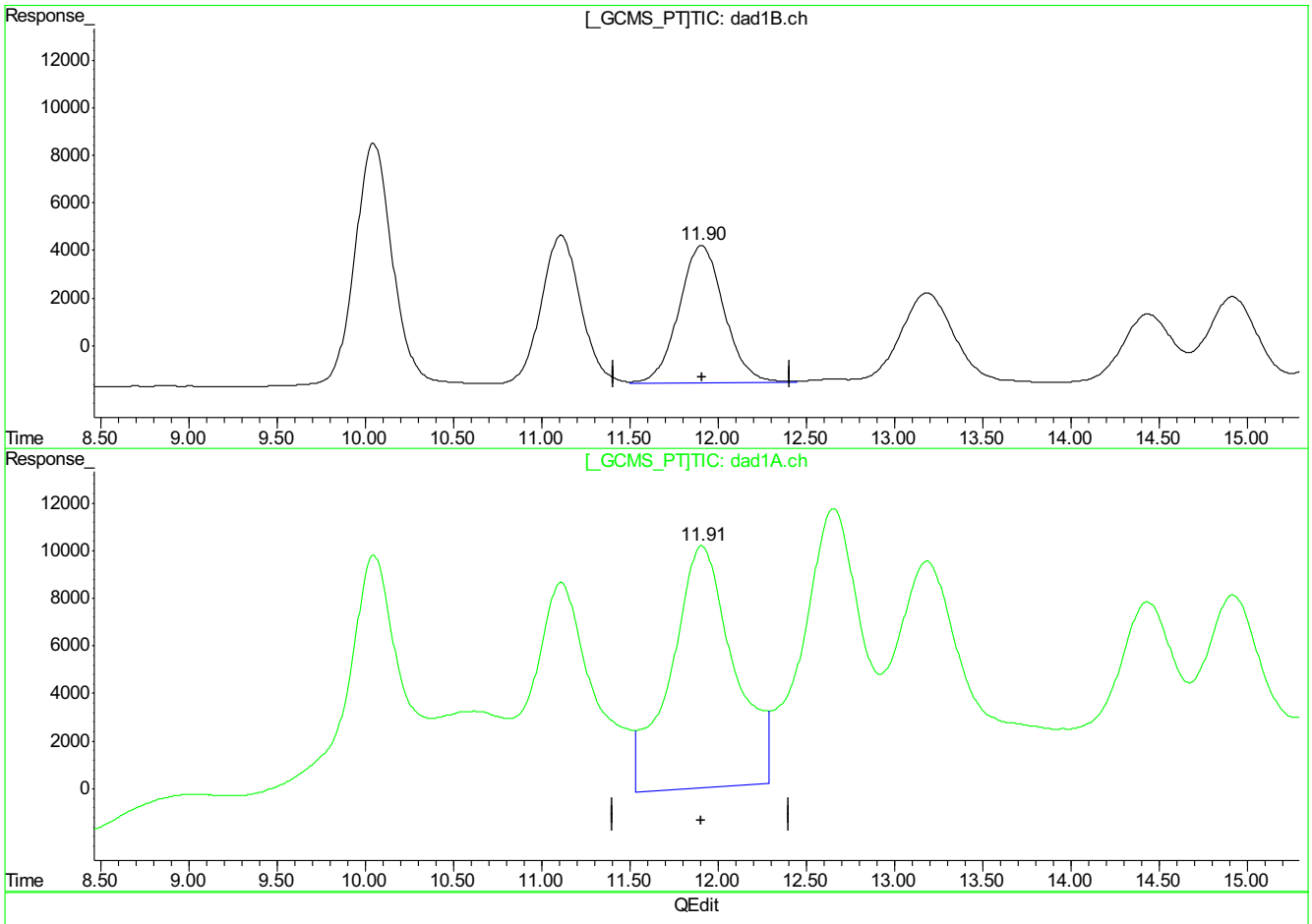
SGS ACCUTEST FA45722

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch         Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:42:18                    Operator: evitam
Sample    : ic2548-100                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.91min 106.883ppb

response 1031081

(9) 2,4,6-Trinitrotoluene #2

11.91min 196.885ppb

response 2520904

(+) = Expected Retention Time

GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:16 2017

9.5.16.12

9

GG613490.D edits: 2,4,6-Trinitrotoluene

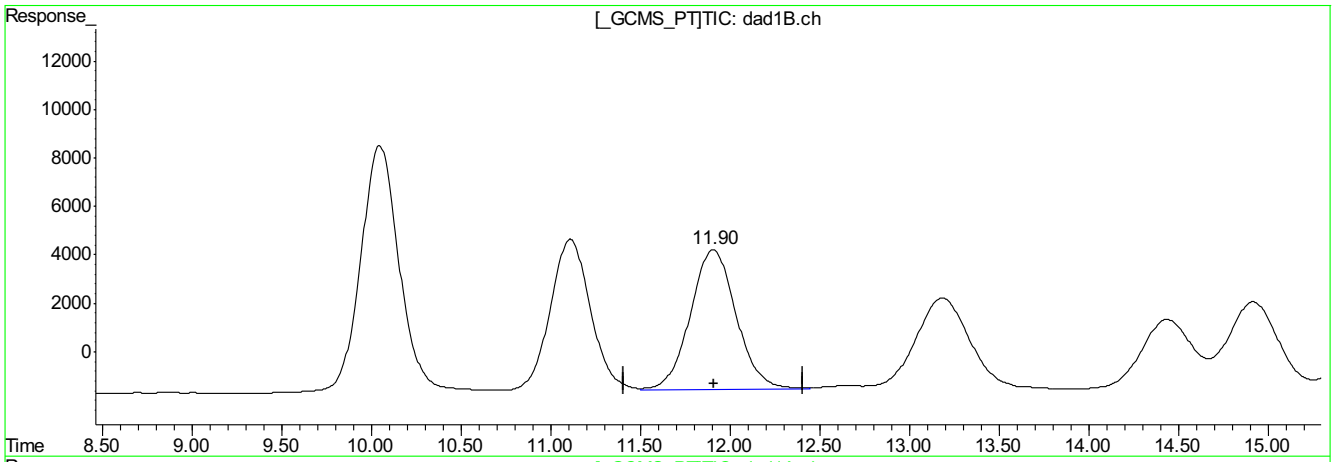
SGS ACCUTEST FA45722

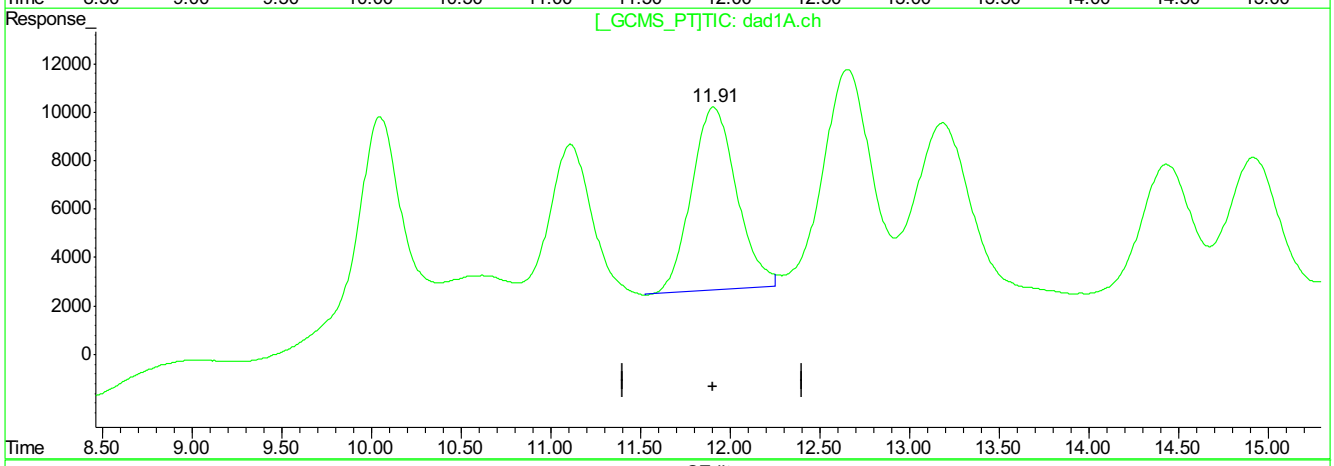
Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.91min 106.883ppb

response 1031081

(9) 2,4,6-Trinitrotoluene #2

11.91min 102.844ppb m

response 1318282

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:19 2017

9.5.16.13

9

GG613490.D edits: 2,4,6-Trinitrotoluene

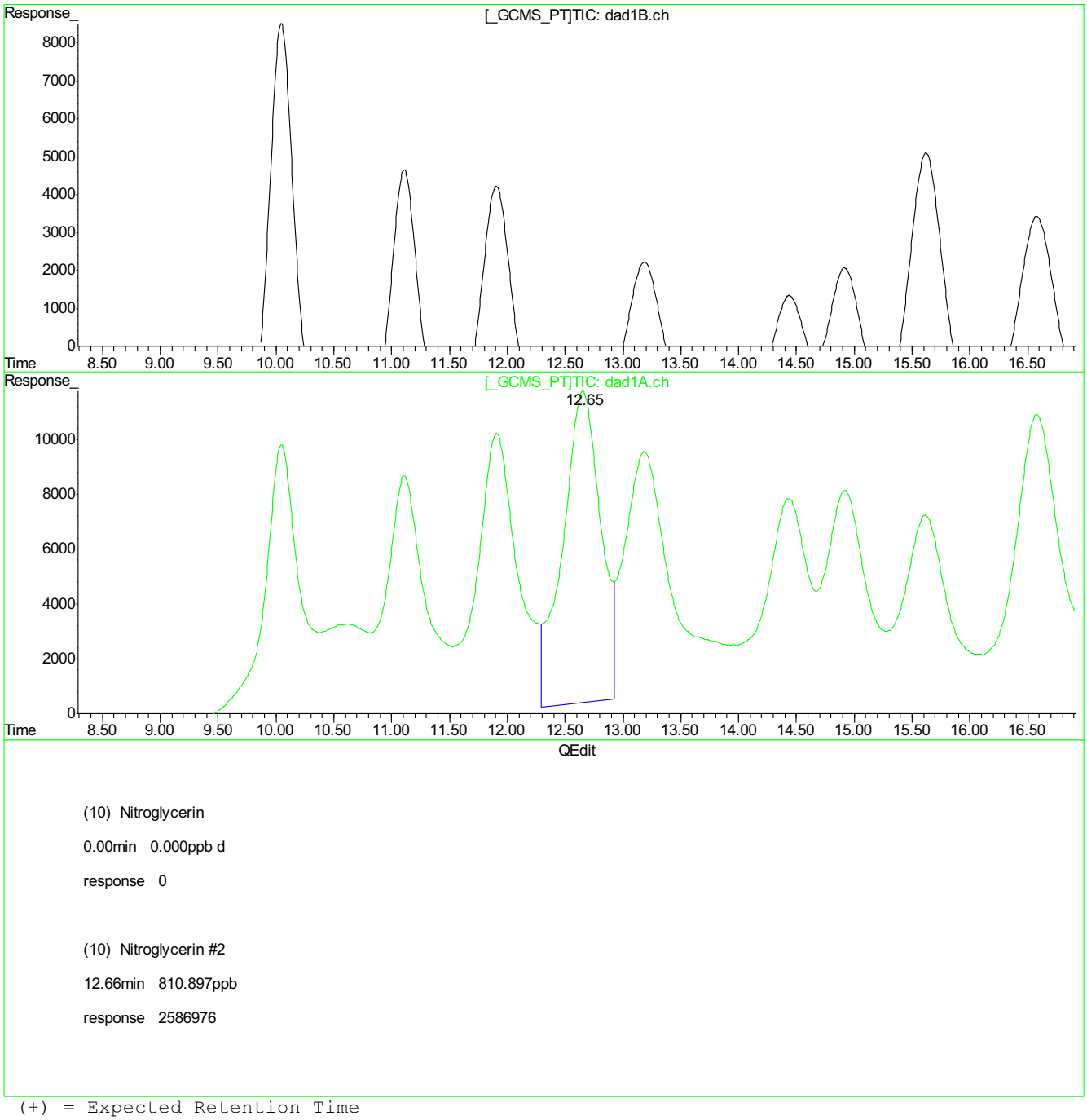
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.66min 810.897ppb

response 2586976

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:26 2017

9.5.16.14

9

GG613490.D edits: Nitroglycerin

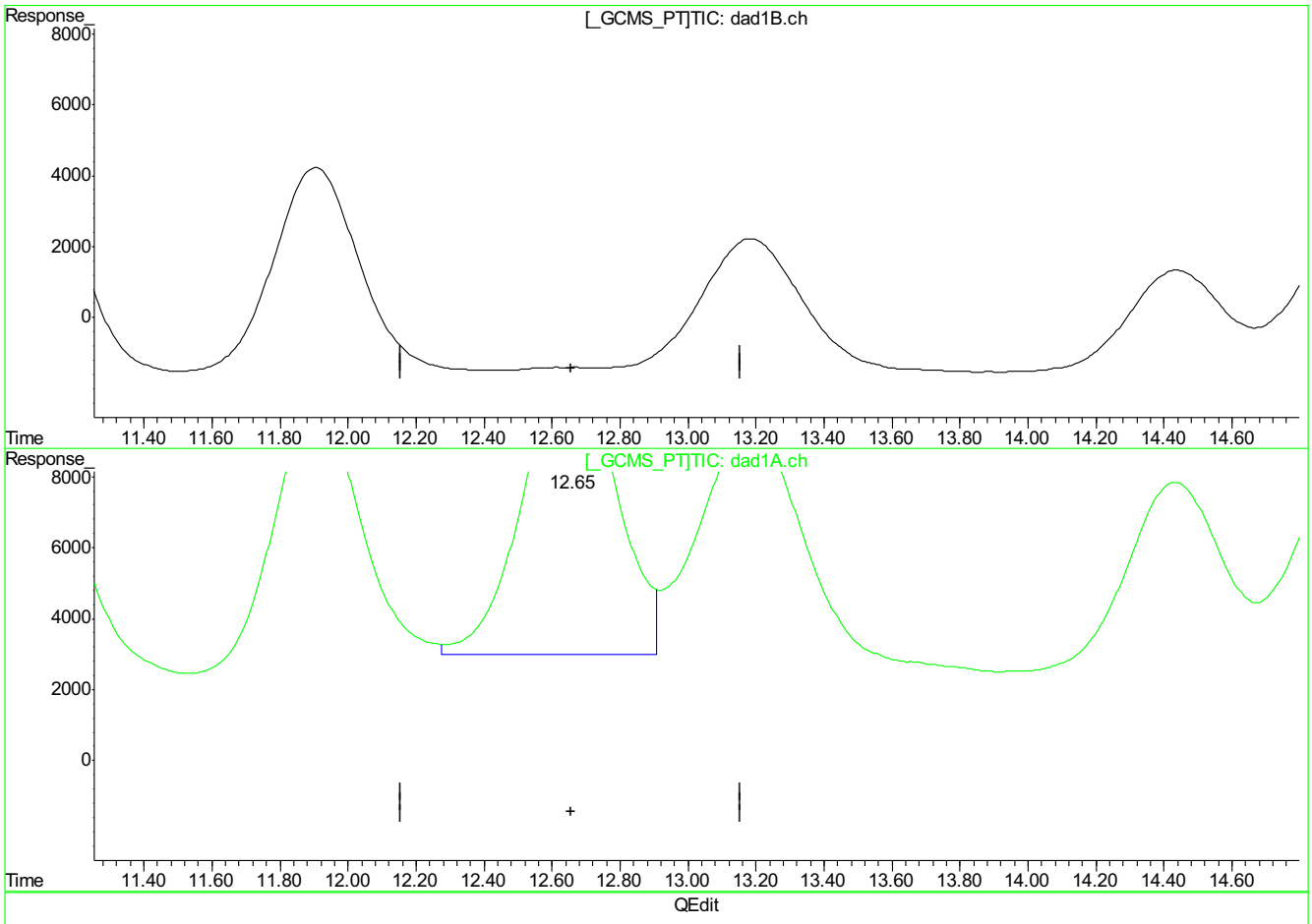
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.65min 495.829ppb m

response 1581828

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:32 2017

9.5.16.15

9

GG613490.D edits: Nitroglycerin

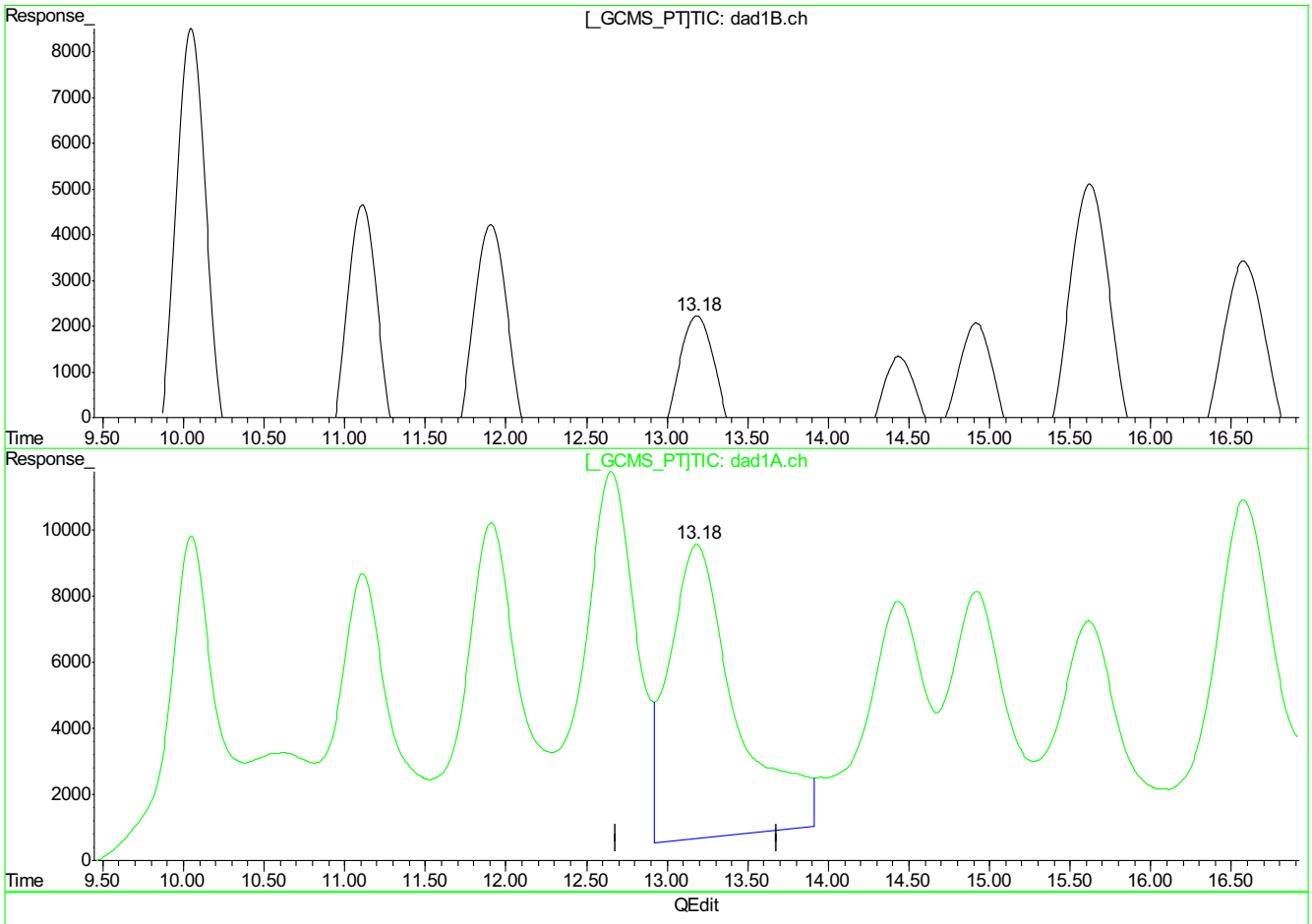
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 128.143ppb

response 824247

(11) Tetryl #2

13.19min 252.441ppb

response 2544816

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:37 2017

9.5.16.16

9

GG613490.D edits: Tetryl

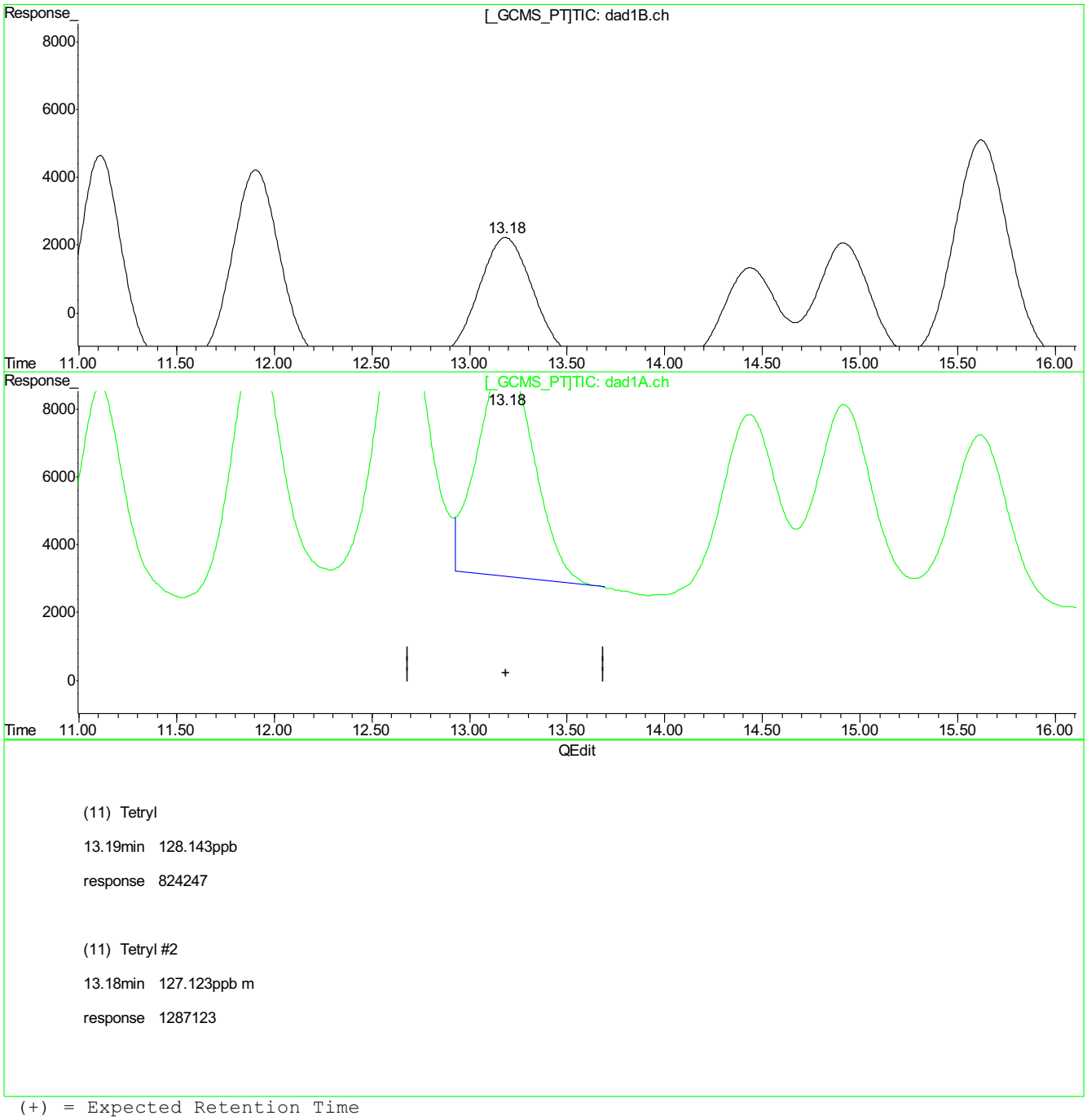
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 128.143ppb

response 824247

(11) Tetryl #2

13.18min 127.123ppb m

response 1287123

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:44 2017

9.5.16.17

9

GG613490.D edits: Tetryl

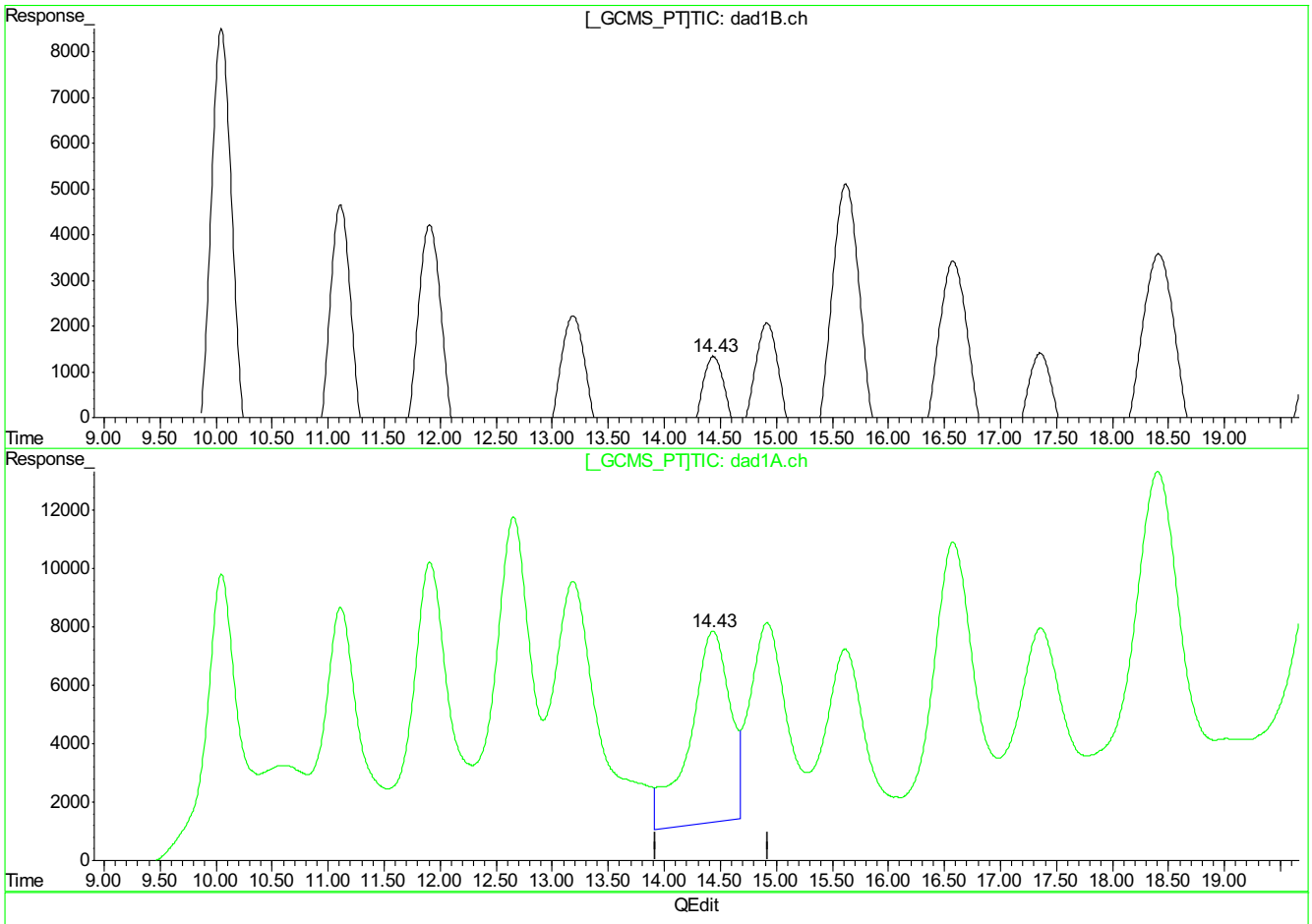
SGS ACCUTEST FA45722

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 102.714ppb

response 567700

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 147.798ppb

response 1624837

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:52 2017

9.5.16.18

9

GG613490.D edits: 3,4-Dinitrotoluene

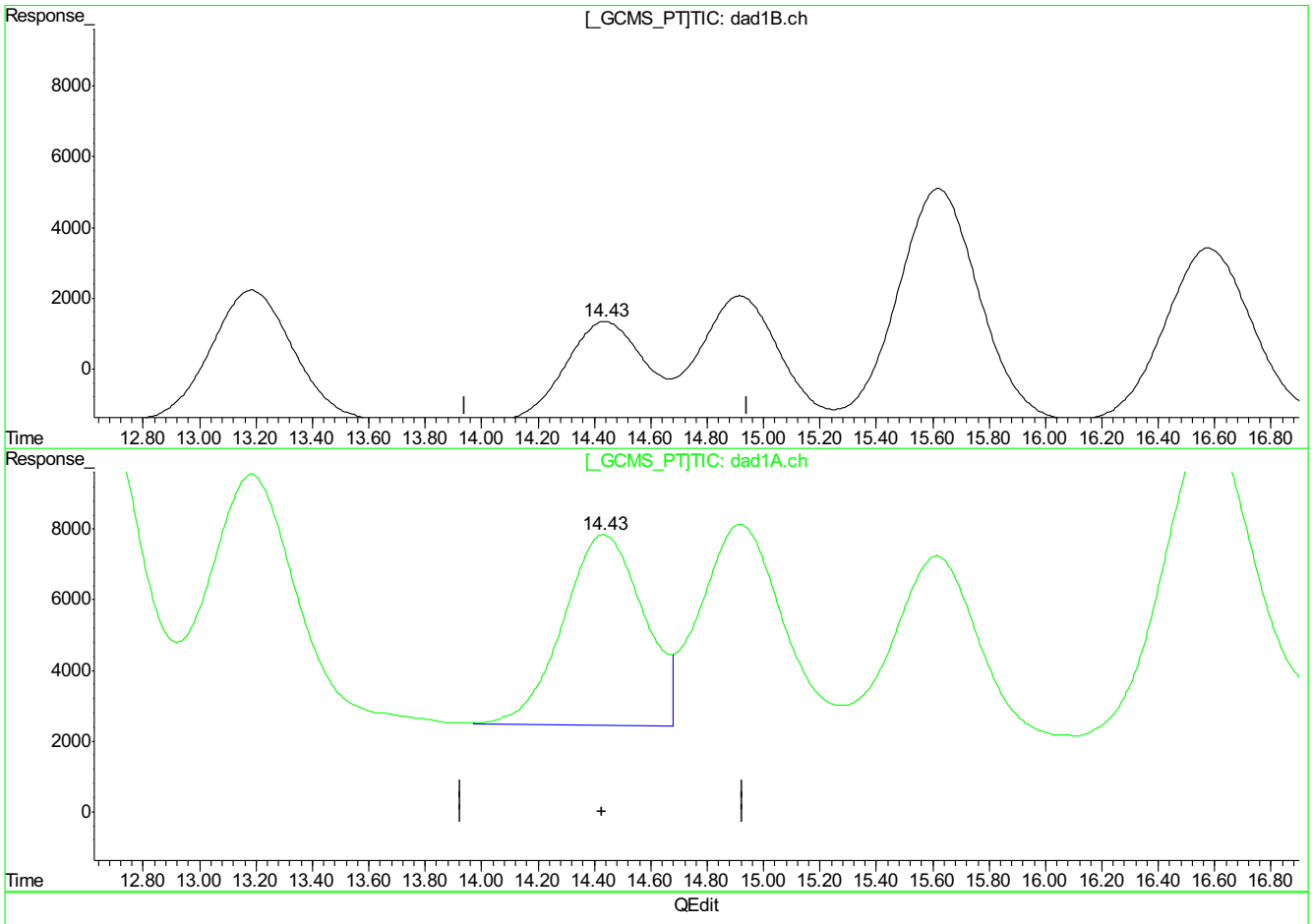
SGS ACCUTEST FA45722

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 102.714ppb

response 567700

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 96.922ppb m

response 1066335

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:59 2017

9.5.16.19

9

GG613490.D edits: 3,4-Dinitrotoluene

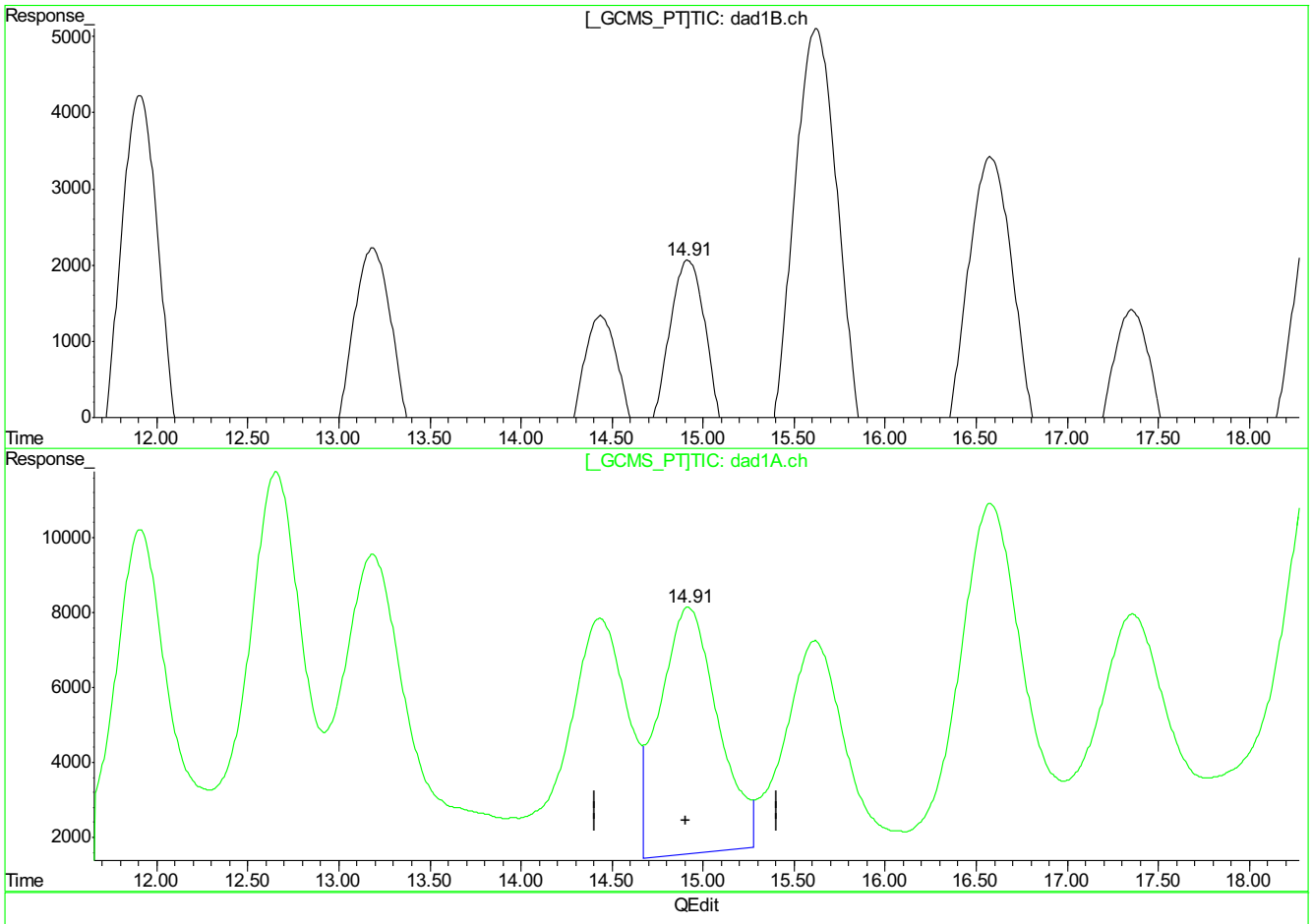
SGS ACCUTEST FA45722

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.92min 109.663ppb

response 711860

(13) 2,6-Dinitrotoluene #2

14.92min 159.437ppb

response 1462365

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:04 2017

9.5.16.20

9

GG613490.D edits: 2,6-Dinitrotoluene

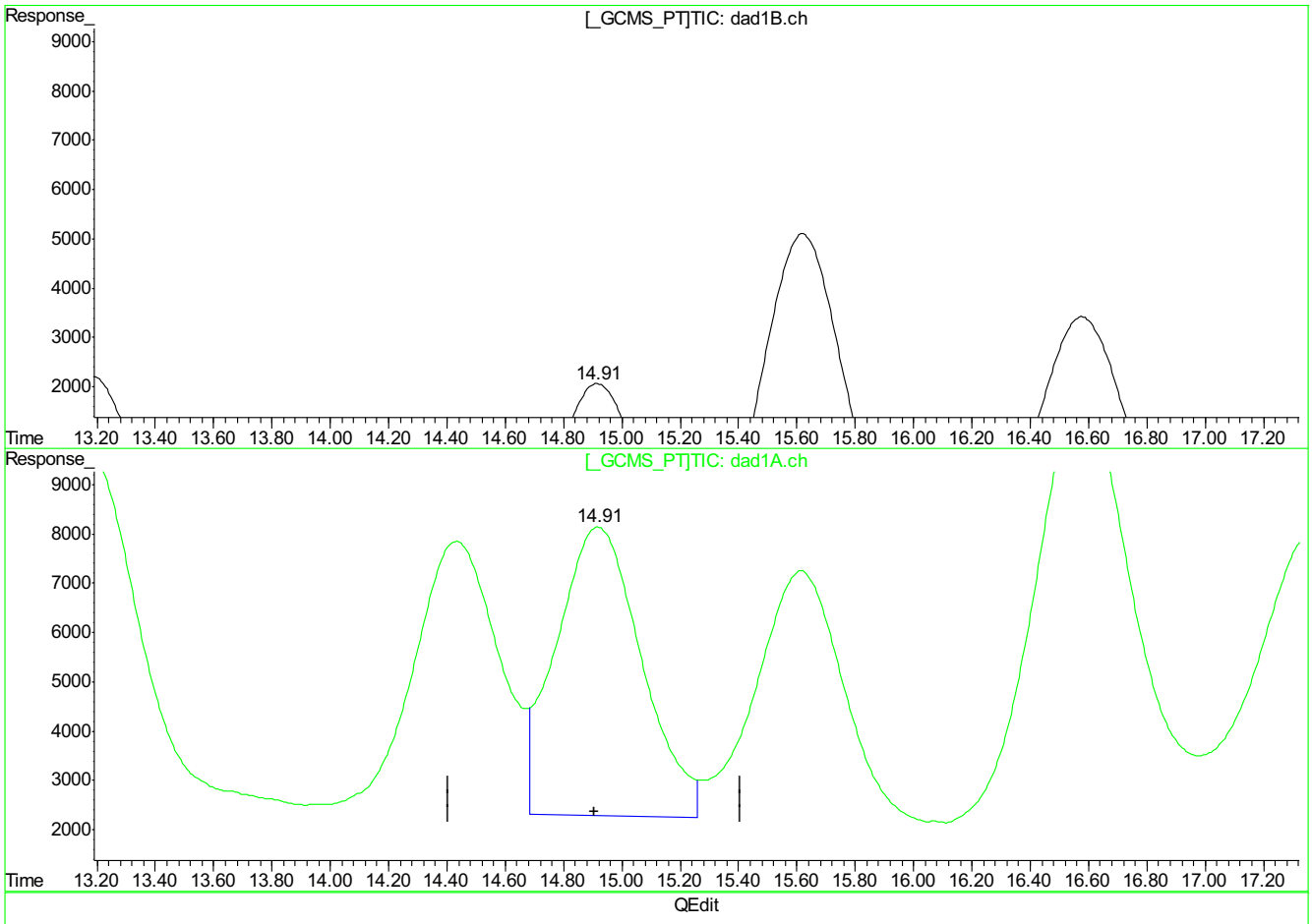
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.92min 109.663ppb

response 711860

(13) 2,6-Dinitrotoluene #2

14.91min 128.846ppb m

response 1181375

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:16 2017

9.5.16.21

9

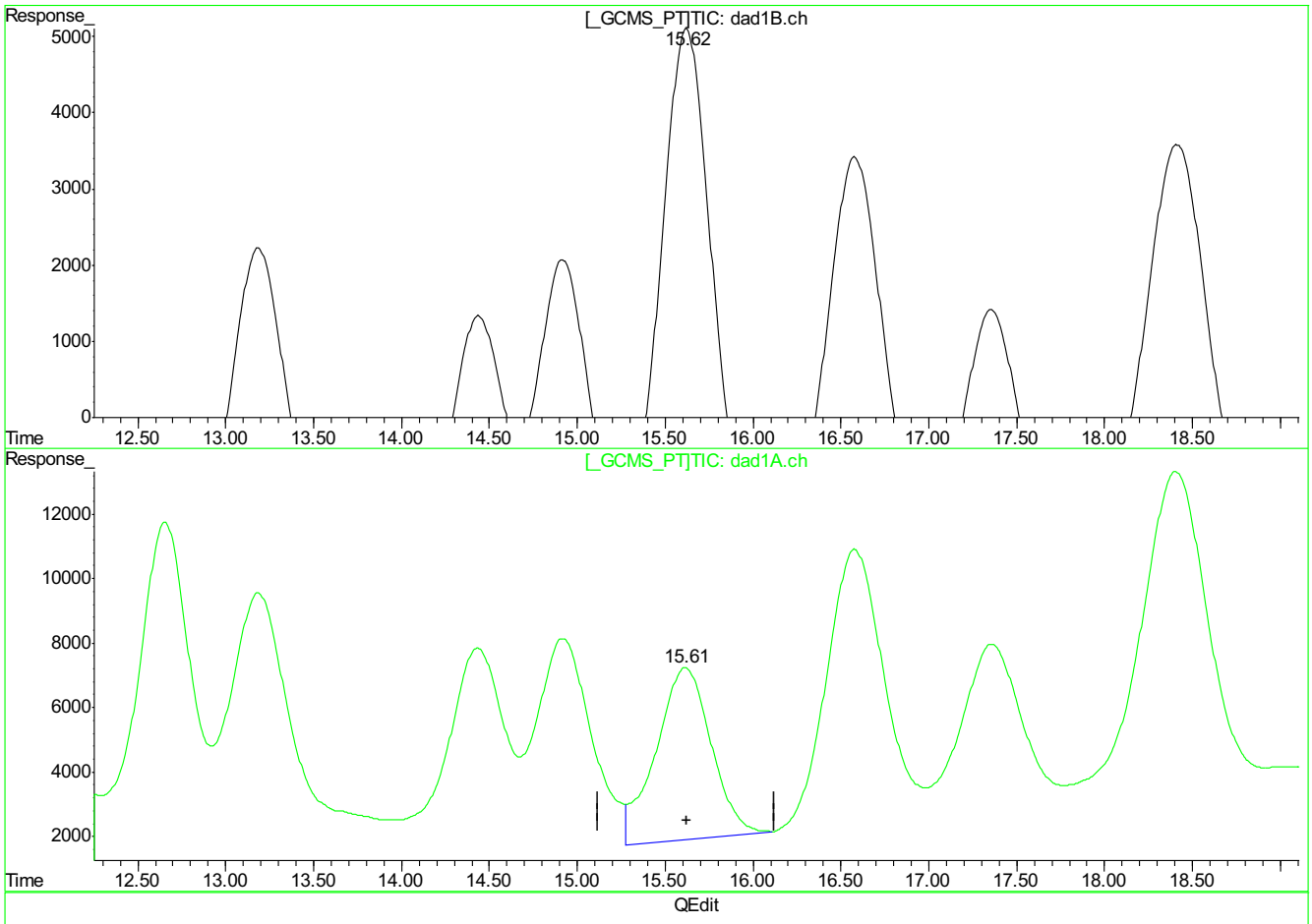
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 108.113ppb

response 1343693

(14) 2,4-Dinitrotoluene #2

15.62min 117.205ppb

response 1166857

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:21 2017

9.5.16.22

9

GG613490.D edits: 2,4-Dinitrotoluene

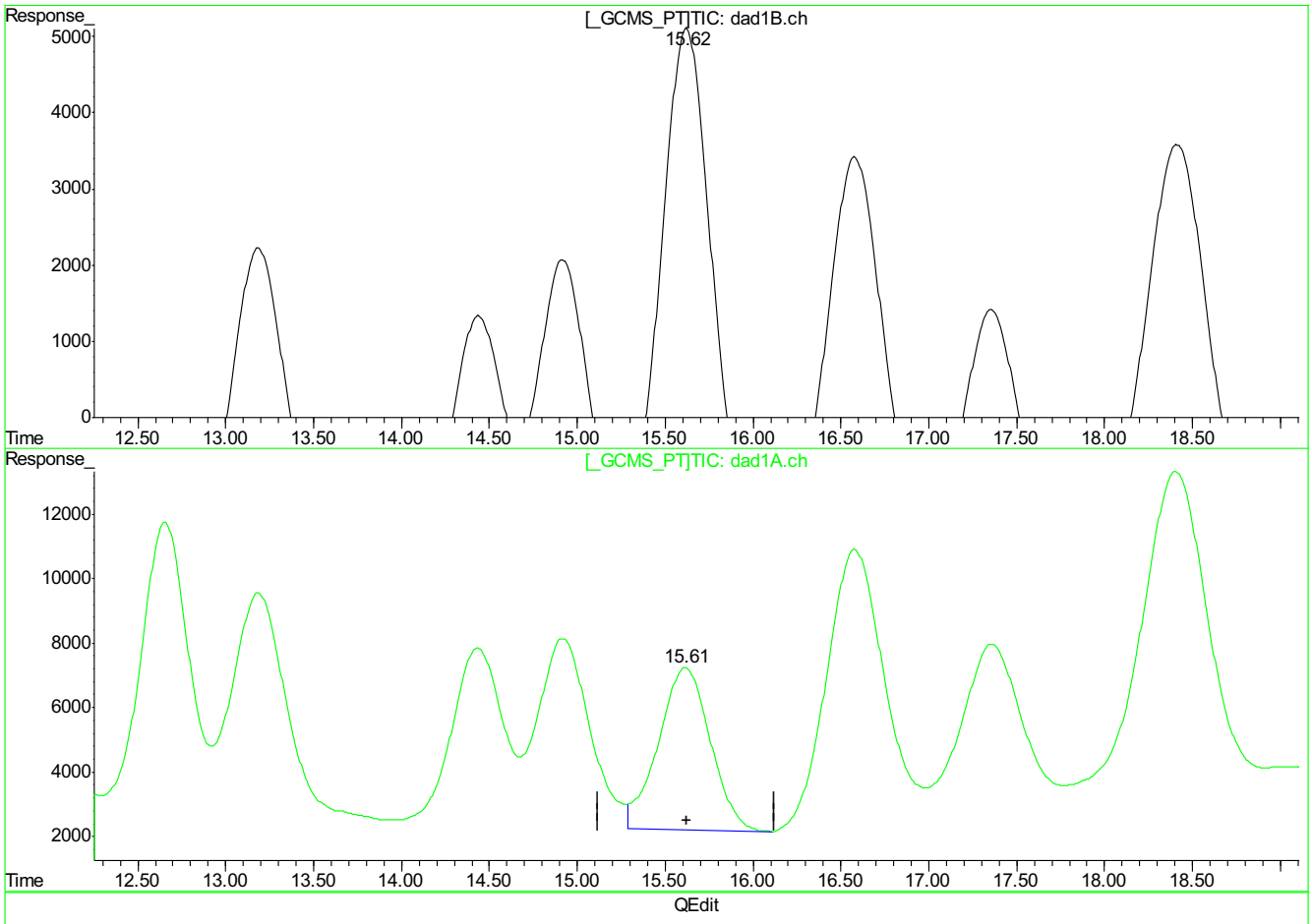
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 108.113ppb

response 1343693

(14) 2,4-Dinitrotoluene #2

15.61min 103.626ppb m

response 1031671

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:26 2017

9.5.16.23

9

GG613490.D edits: 2,4-Dinitrotoluene

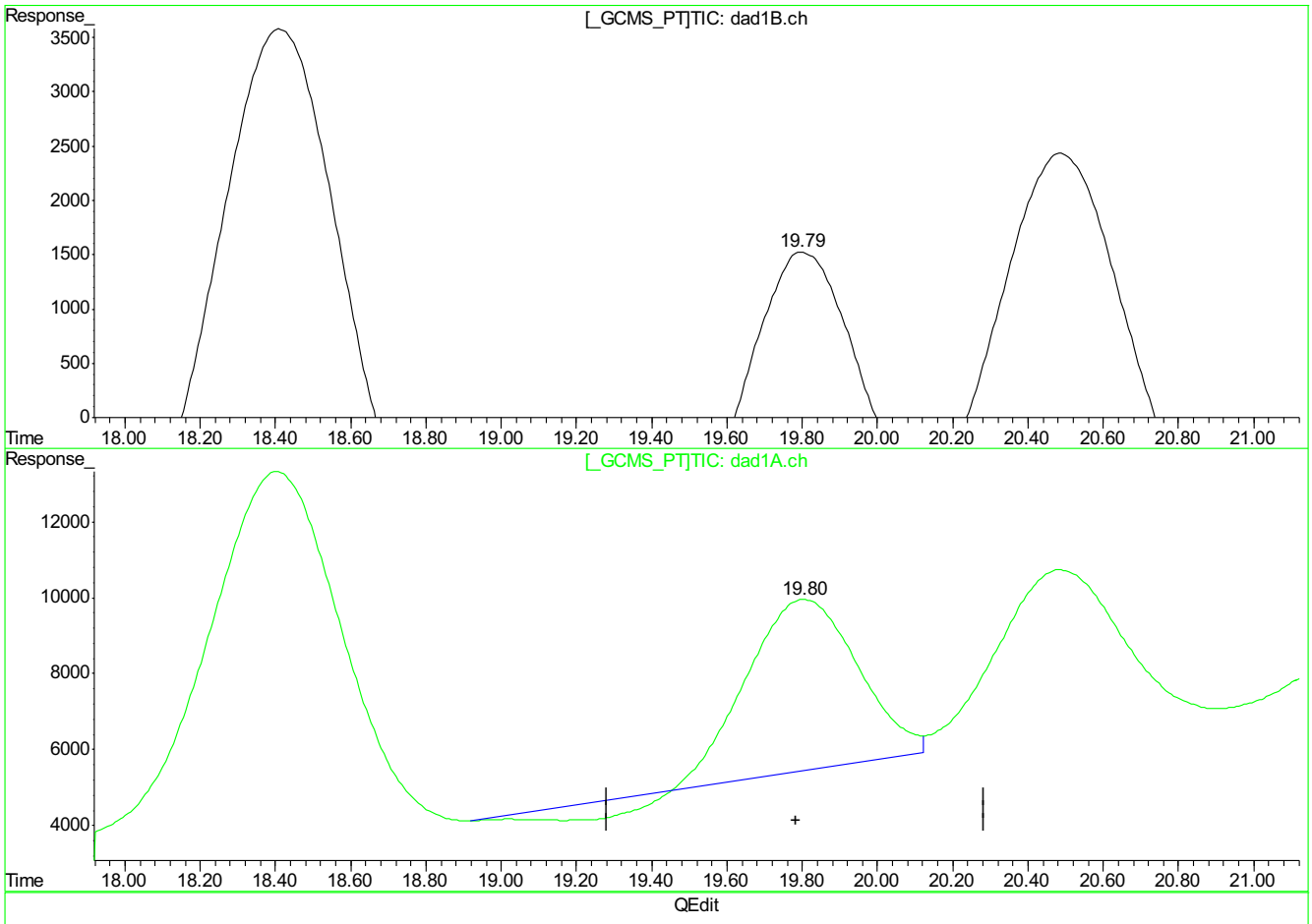
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.80min 117.302ppb

response 679988

(19) m-Nitrotoluene #2

19.81min 93.633ppb

response 853221

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:33 2017

9.5.16.24

9

GG613490.D edits: m-Nitrotoluene

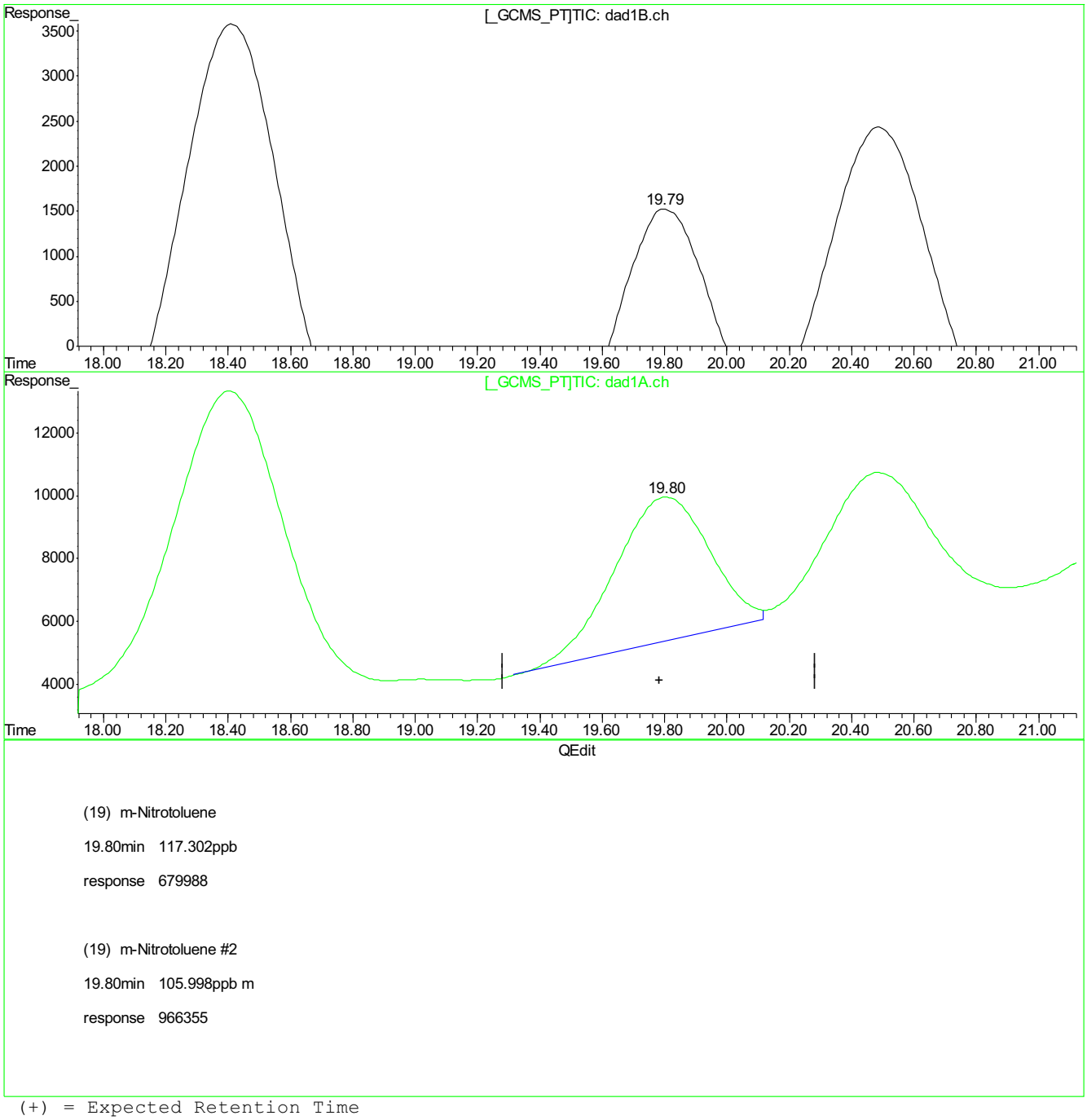
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.80min 117.302ppb

response 679988

(19) m-Nitrotoluene #2

19.80min 105.998ppb m

response 966355

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:37 2017

9.5.16.25

9

GG613490.D edits: m-Nitrotoluene

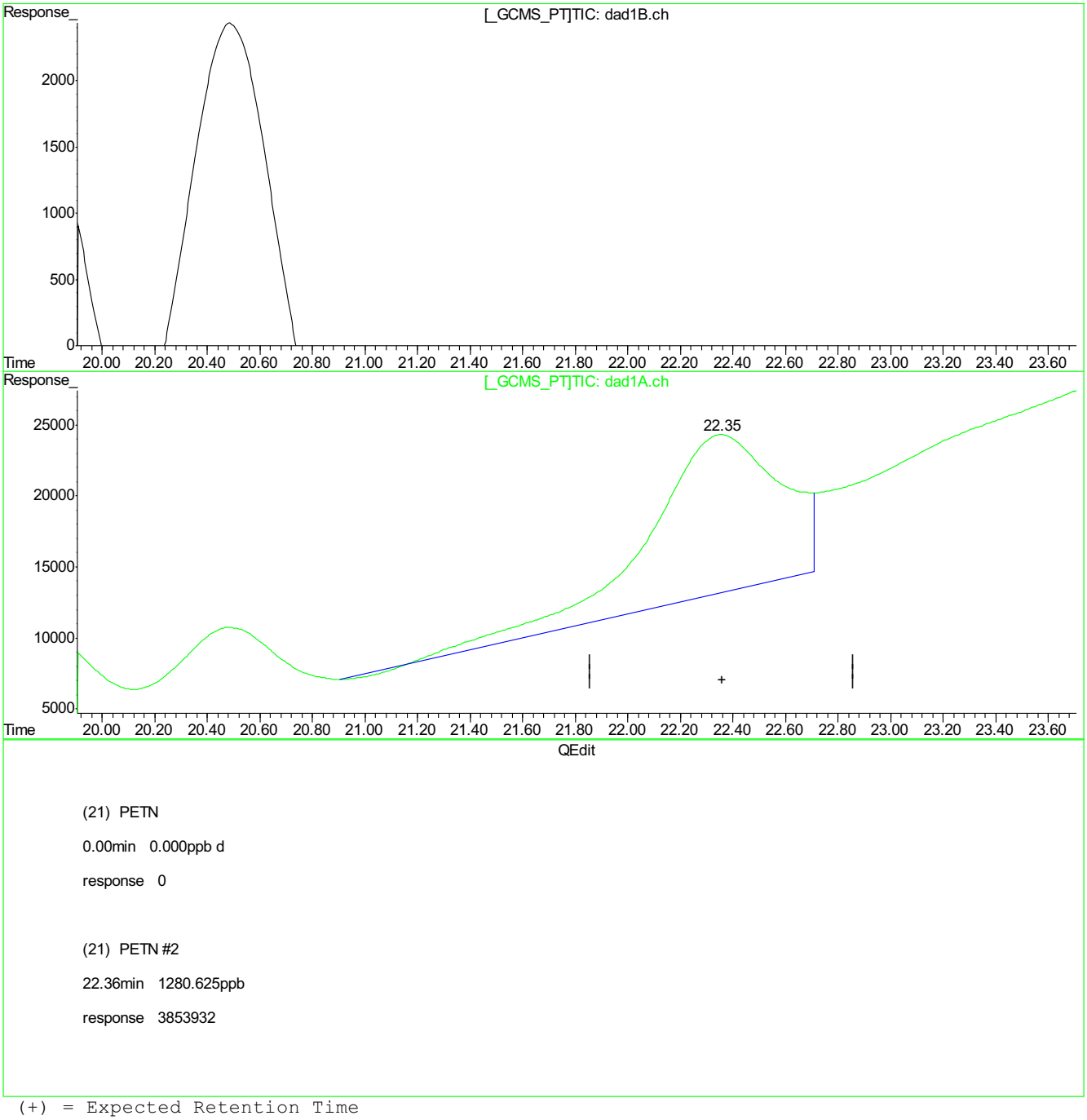
SGS ACCUTEST FA45722

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 1280.625ppb

response 3853932

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:40 2017

9.5.16.26

9

GG613490.D edits: PETN

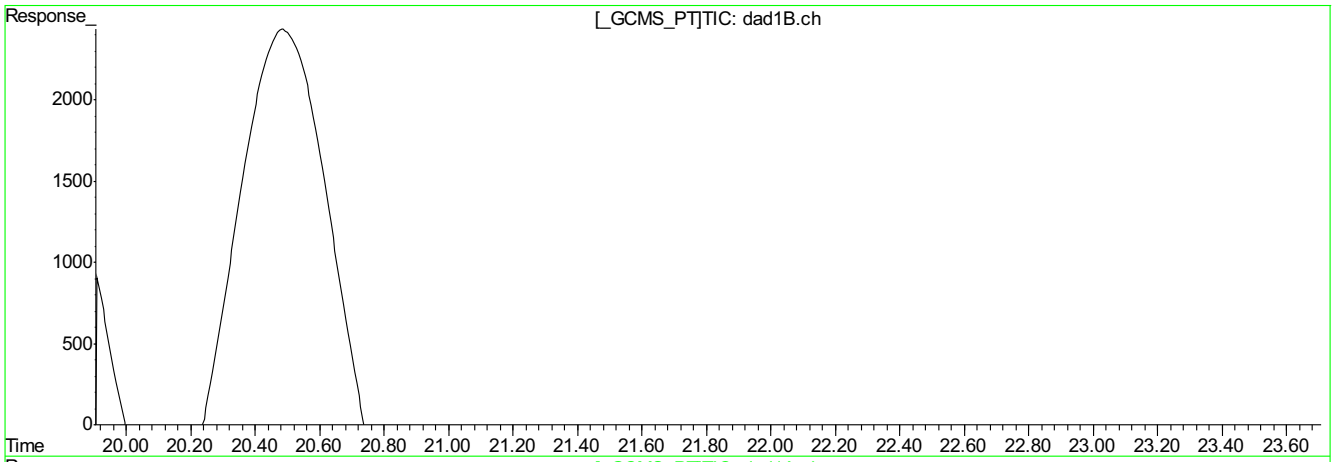
SGS ACCUTEST FA45722

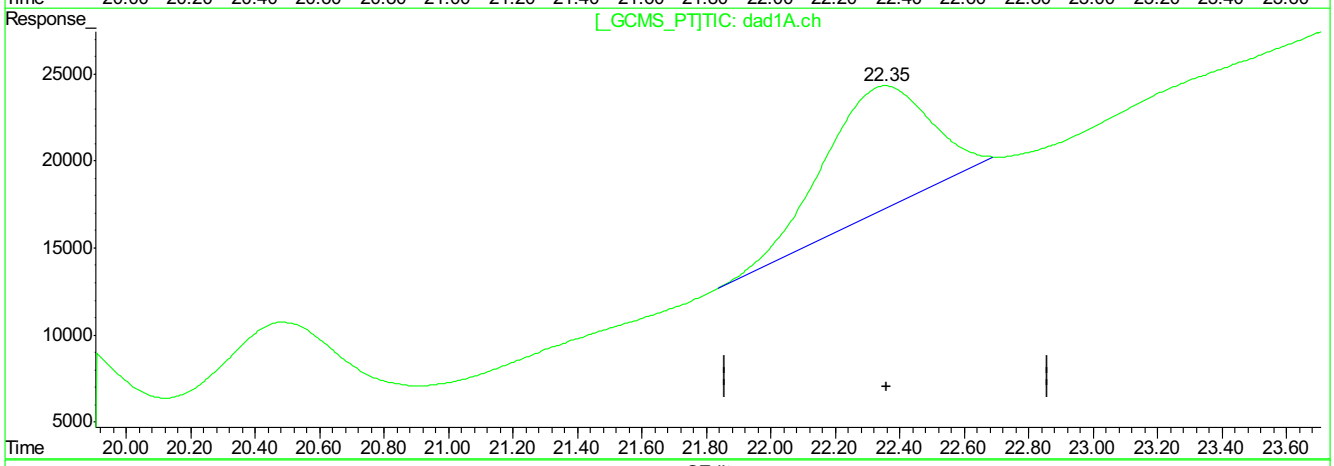
Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.35min 555.870ppb m

response 1656309

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:43 2017

9.5.16.27

9

GG613490.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613491.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00:58 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.47	14.46	1141883	2299144	206.278	209.526m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		41.26%#	41.91%#
	Target Compounds						
1)	TNX	4.96	4.96	1684647	1684647	210.146	209.854
2)	HMX	5.32	5.32	703722	699632	205.871m	203.835m
3)	DNX	5.52	5.52	1384336	1384336	194.664	188.504
4)	MNX	6.53	6.53	984843	984843	196.905	196.905
5)	1,3,5-Trinitrobe	7.56	7.56	2138750	2138750	215.121	214.434
6)	RDX	7.90	7.90	996717	996717	218.403	218.403
7)	1,3-Dinitrobenze	10.07	10.07	2902553	2272859	211.416	213.321m
8)	Nitrobenzene	11.14	11.14	1880452	1987426	208.058	203.217m
9)	2,4,6-Trinitroto	11.92	11.92	2024099	2637004	207.224	205.462m
10)	Nitroglycerin	0.00	12.67	0	3122153	N.D.	985.080m#
11)	Tetryl	13.21	13.20	1567577	2611308	233.479	257.693m
13)	2,6-Dinitrotolue	14.94	14.94	1397557	2099516	212.022	227.418m
14)	2,4-Dinitrotolue	15.64	15.64	2671865	2235253	212.012	221.255
15)	o-Nitrotoluene	17.37	17.38	1190105	1860030	211.491	239.737
16)	3,5-Dinitroanili	16.60	16.60	2188344	3548170	159.844	155.661
17)	p-Nitrotoluene	18.44	18.44	2447650	4541016	212.659	231.492
18)	4-Amino-2,6-Dini	18.44	18.44	2447650	4541016	212.659	231.492
19)	m-Nitrotoluene	19.83	19.83	1302333	1949891	217.759	213.022
20)	2-Amino-4,6-Dini	20.52	20.53	1913641	2283763	233.517	215.315
21)	PETN	0.00	22.36	0	3117487	N.D. d	1039.601m

9.5.17
9

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 13:56:33 2017 Page 1

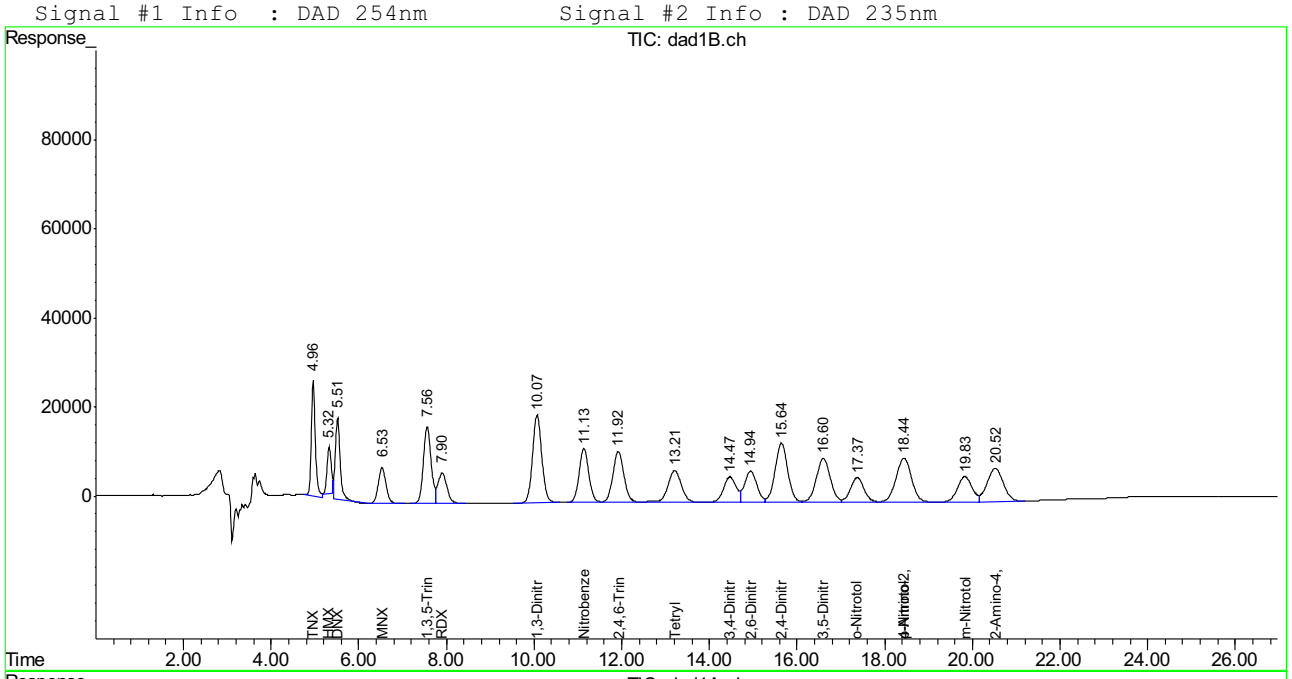
SGS ACCUTEST FA45722

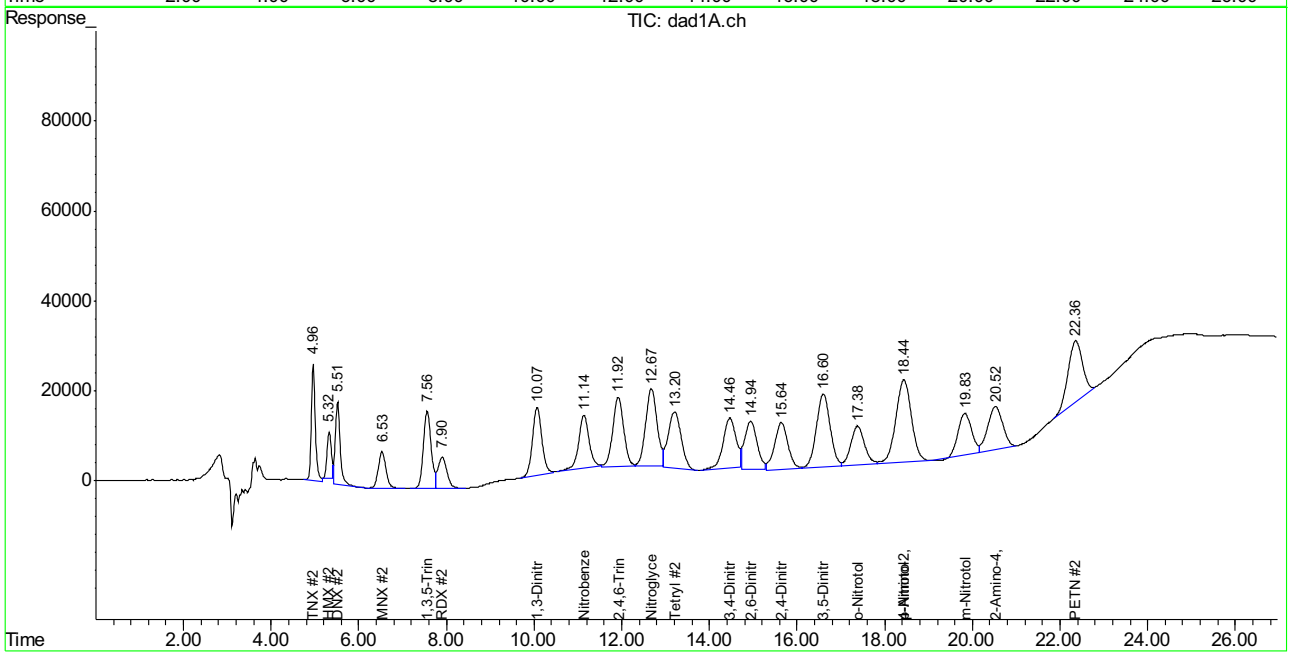
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:02 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613491.D
Injection Time: 07/20/17 18:11
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

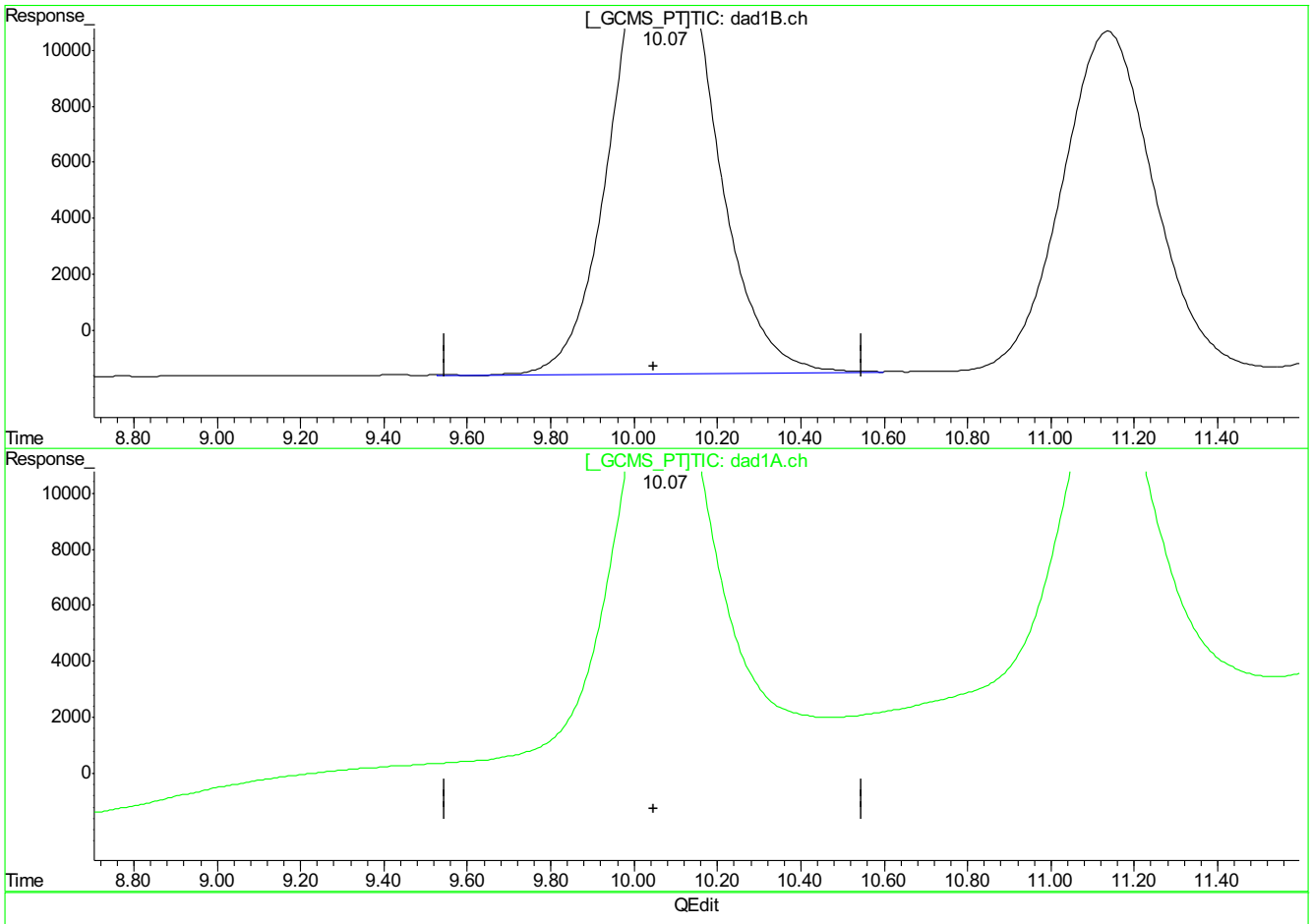
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.32	Poorly defined baseline
HMX	2691-41-0	2	5.32	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.07	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.14	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.92	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.67	Poorly defined baseline
Tetryl	479-45-8	2	13.20	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.46	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.94	Poorly defined baseline
PETN	78-11-5	2	22.36	Poorly defined baseline

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.07min 211.416ppb

response 2902553

(7) 1,3-Dinitrobenzene #2

10.07min 354.665ppb

response 3763530

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:21 2017

9.5.17.2

9

GG613491.D edits: 1,3-Dinitrobenzene

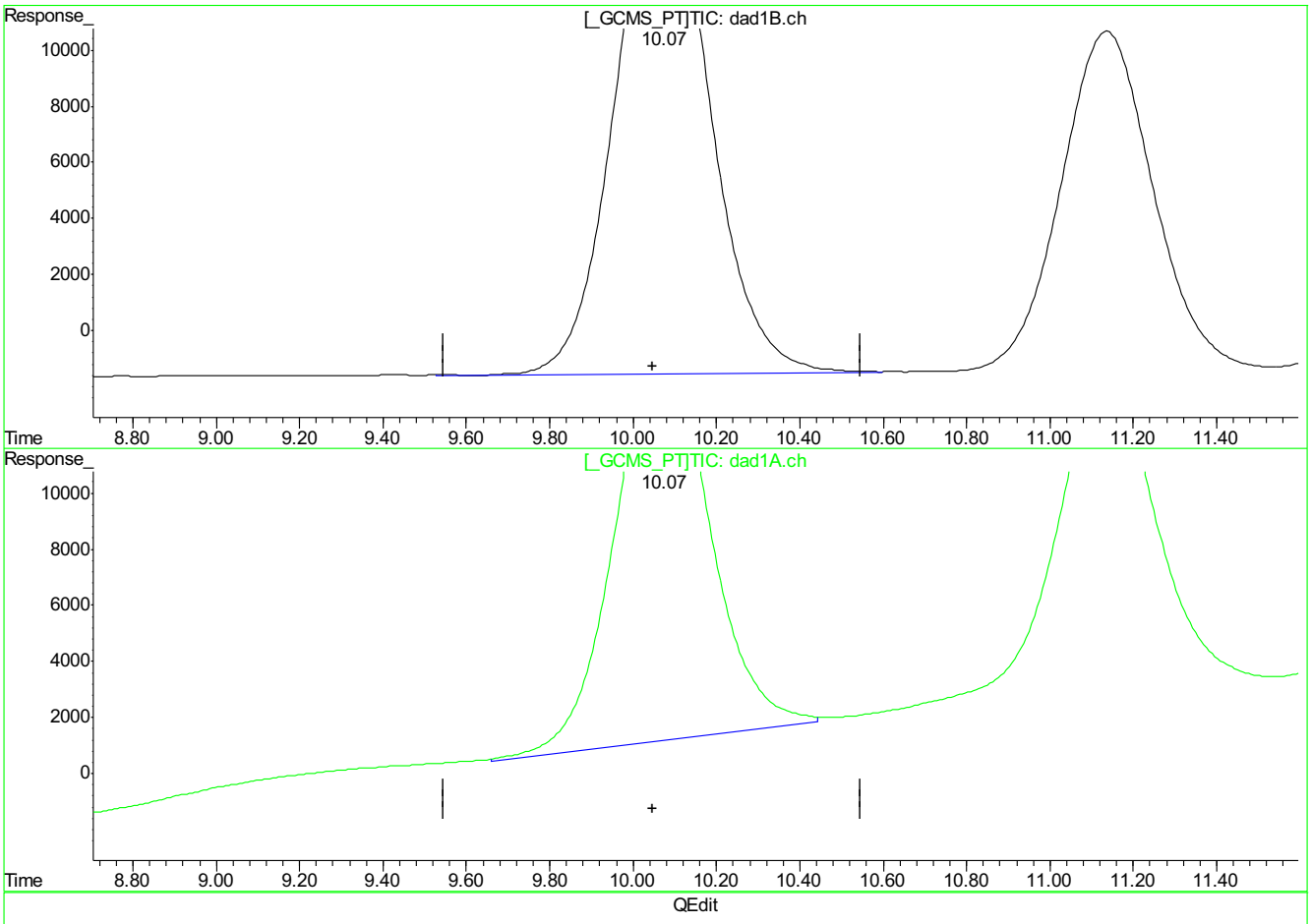
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.07min 211.416ppb

response 2902553

(7) 1,3-Dinitrobenzene #2

10.07min 213.321ppb m

response 2272859

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:26 2017

9.5.17.3

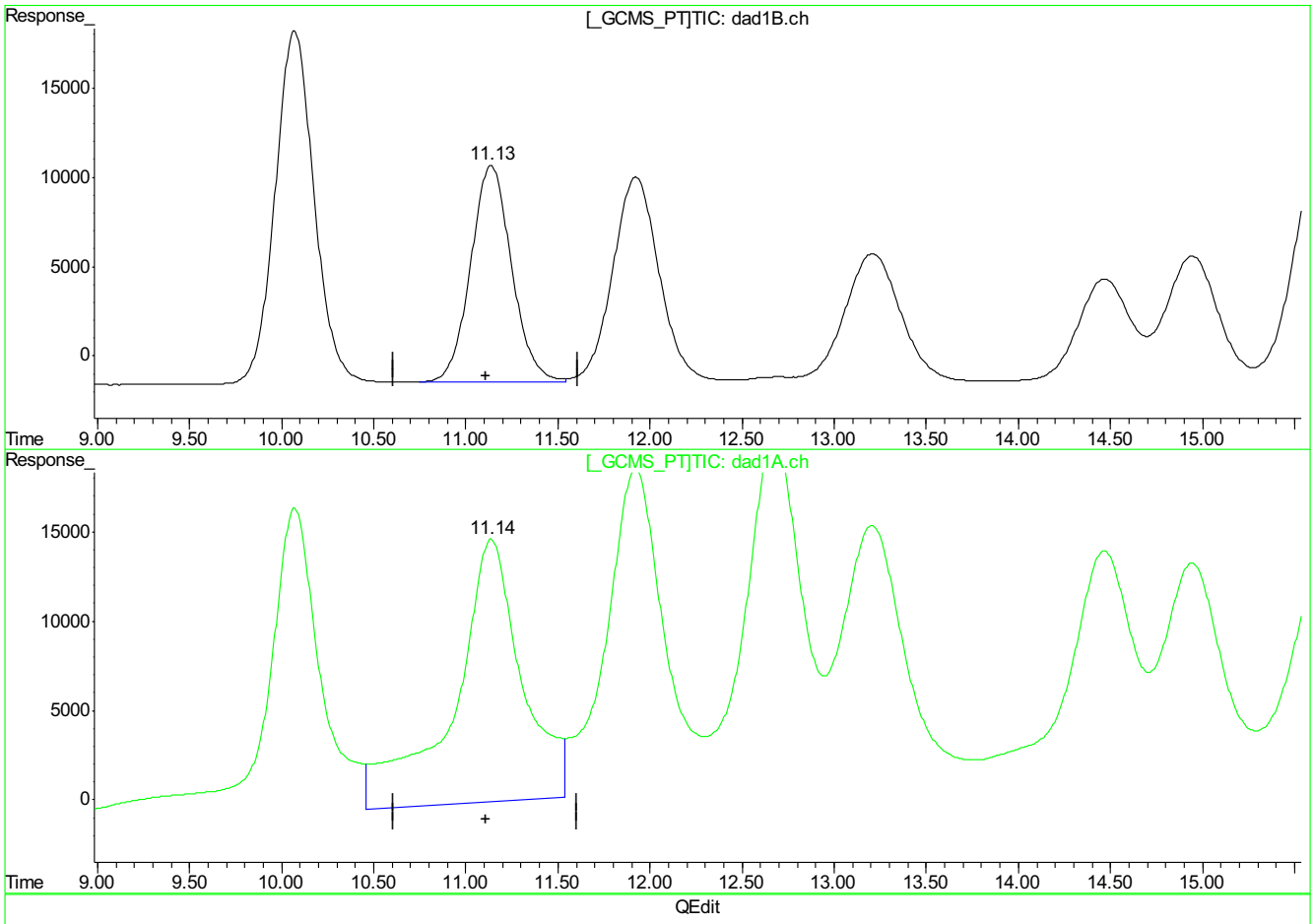
9

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.14min 208.058ppb

response 1880452

(8) Nitrobenzene #2

11.14min 393.807ppb

response 3785182

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:33 2017

9.5.17.4

9

GG613491.D edits: Nitrobenzene

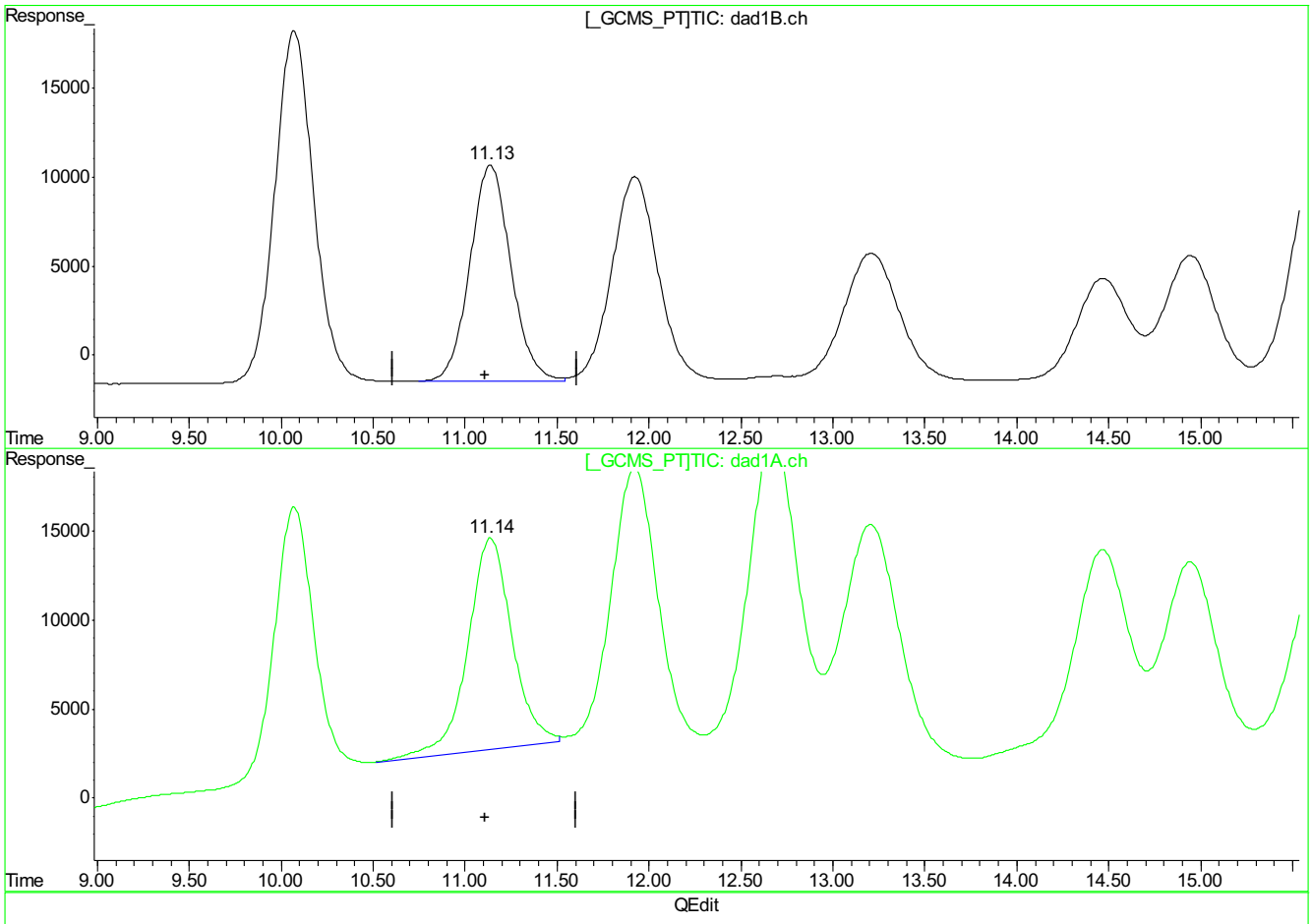
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.14min 208.058ppb

response 1880452

(8) Nitrobenzene #2

11.14min 203.217ppb m

response 1987426

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:36 2017

9.5.17.5

9

GG613491.D edits: Nitrobenzene

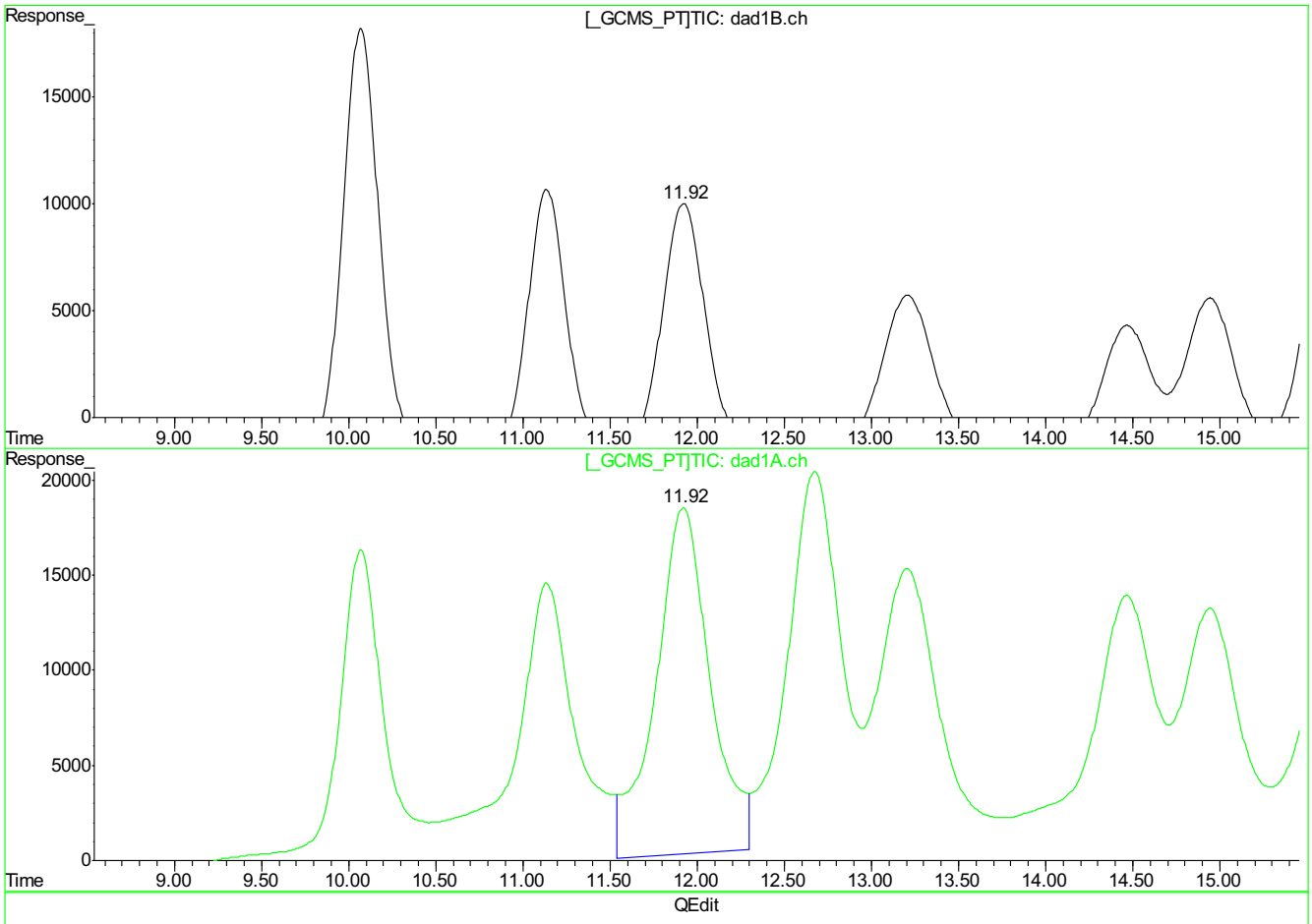
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch         Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:11:44                    Operator: evitam
Sample    : ic2548-200                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.92min 207.224ppb

response 2024099

(9) 2,4,6-Trinitrotoluene #2

11.92min 309.515ppb

response 3966963

(+) = Expected Retention Time

GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:42 2017

9.5.17.6

9

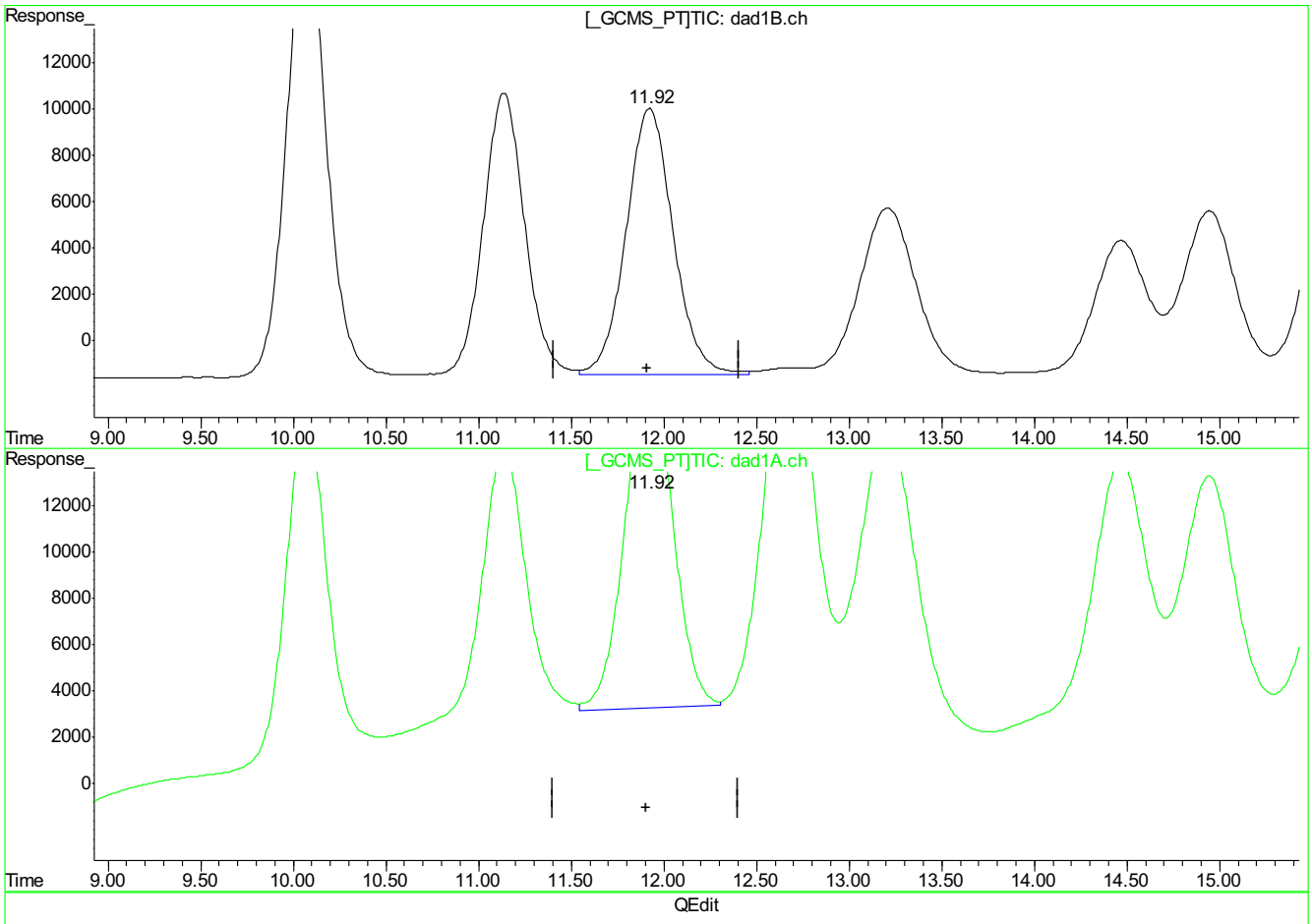
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.92min 207.224ppb

response 2024099

(9) 2,4,6-Trinitrotoluene #2

11.92min 205.462ppb m

response 2637004

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:49 2017

9.5.17.7

9

GG613491.D edits: 2,4,6-Trinitrotoluene

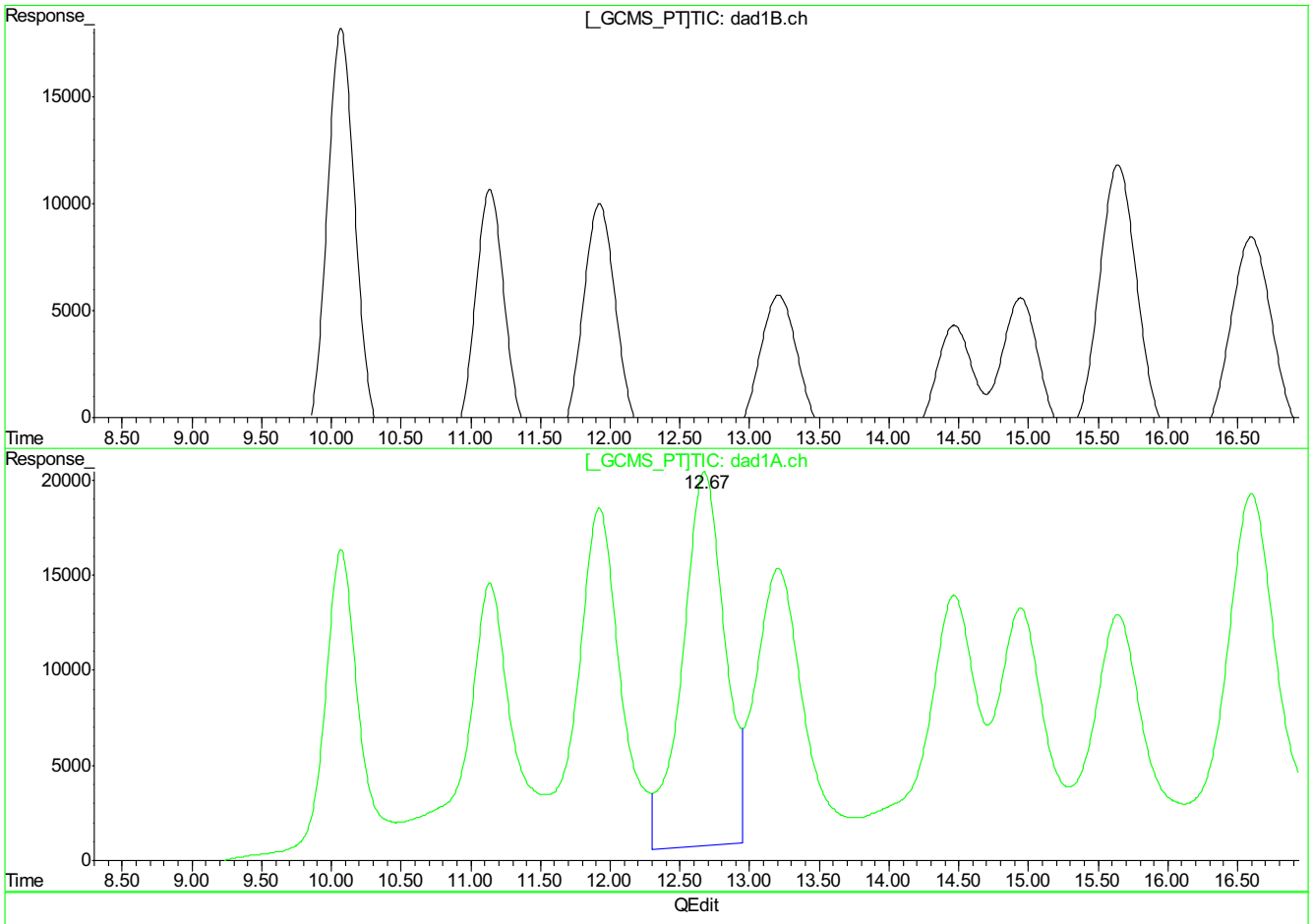
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.68min 1300.877ppb

response 4123055

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:55 2017

GG613491.D edits: Nitroglycerin

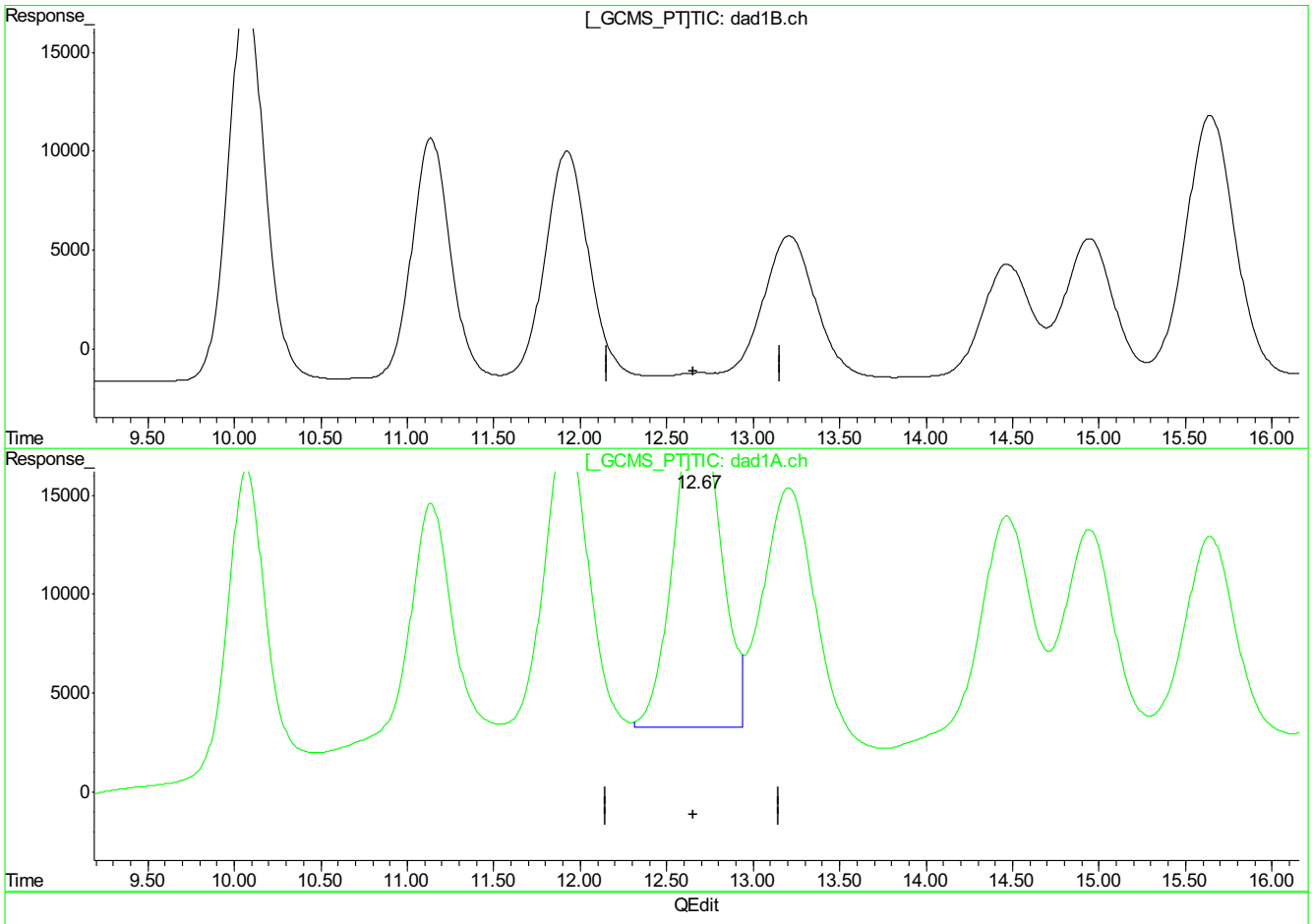
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.67min 985.080ppb m

response 3122153

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:06 2017

9.5.17.9

9

GG613491.D edits: Nitroglycerin

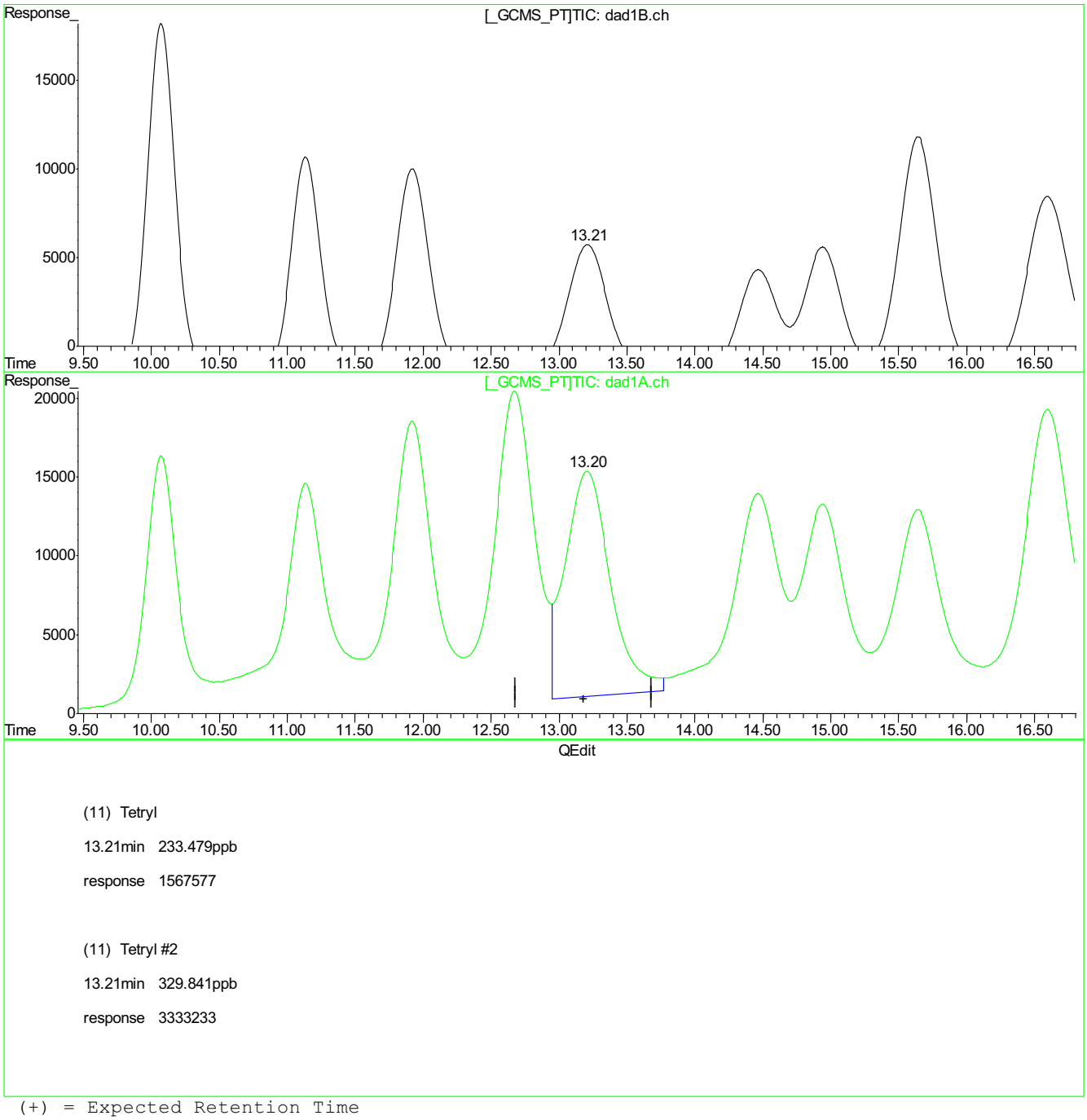
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.21min 233.479ppb

response 1567577

(11) Tetryl #2

13.21min 329.841ppb

response 3333233

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:13 2017

9.5.17.10

9

GG613491.D edits: Tetryl

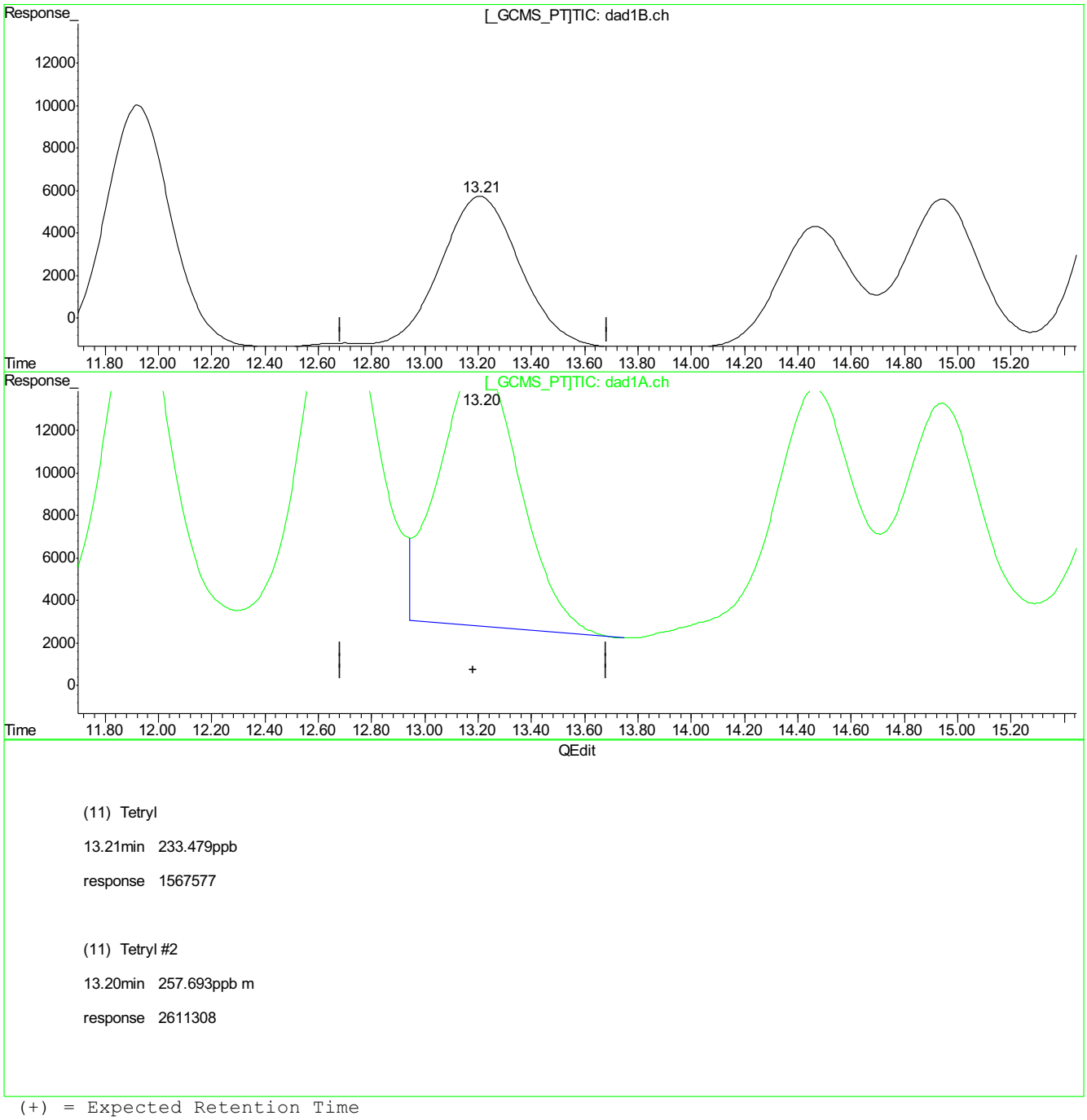
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.21min 233.479ppb

response 1567577

(11) Tetryl #2

13.20min 257.693ppb m

response 2611308

(+) = Expected Retention Time

GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:25 2017

9.5.17.11

9

GG613491.D edits: Tetryl

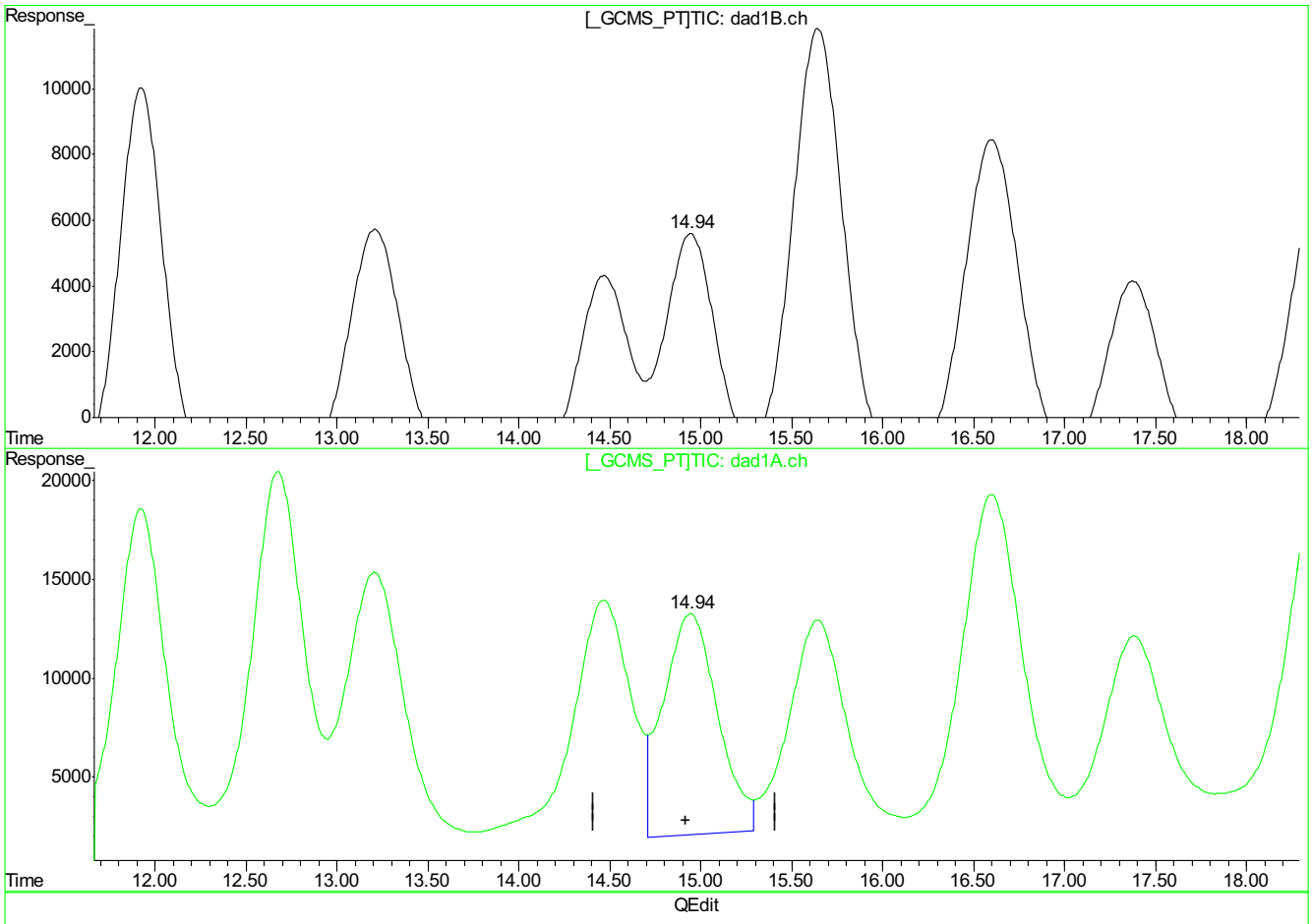
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.94min 212.022ppb

response 1397557

(13) 2,6-Dinitrotoluene #2

14.94min 251.848ppb

response 2325497

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:42 2017

9.5.17.12

9

GG613491.D edits: 2,6-Dinitrotoluene

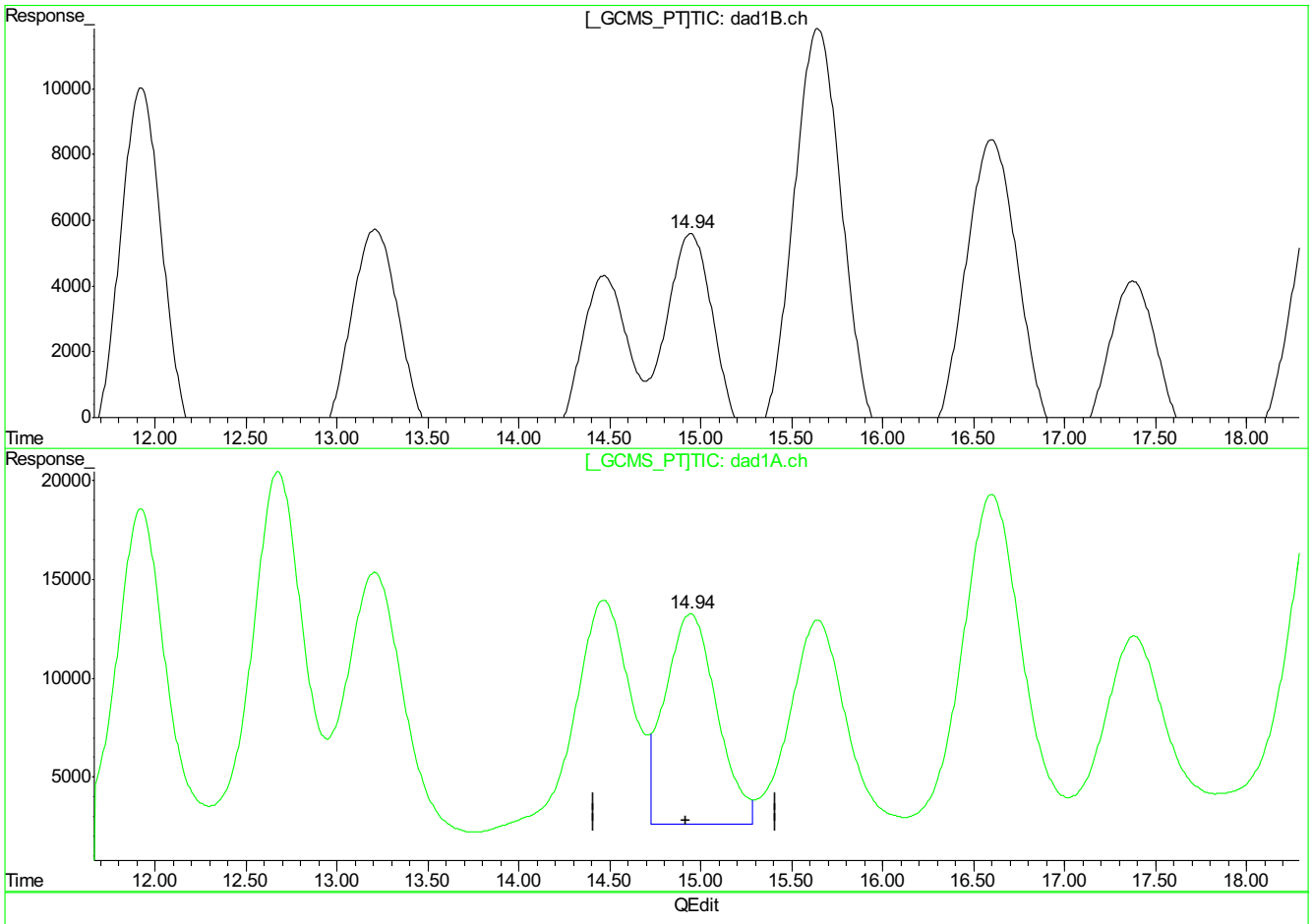
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch         Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:11:44                    Operator: evitam
Sample    : ic2548-200                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.94min 212.022ppb

response 1397557

(13) 2,6-Dinitrotoluene #2

14.94min 227.418ppb m

response 2099516

(+) = Expected Retention Time

GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:48 2017

9.5.17.13

9

GG613491.D edits: 2,6-Dinitrotoluene

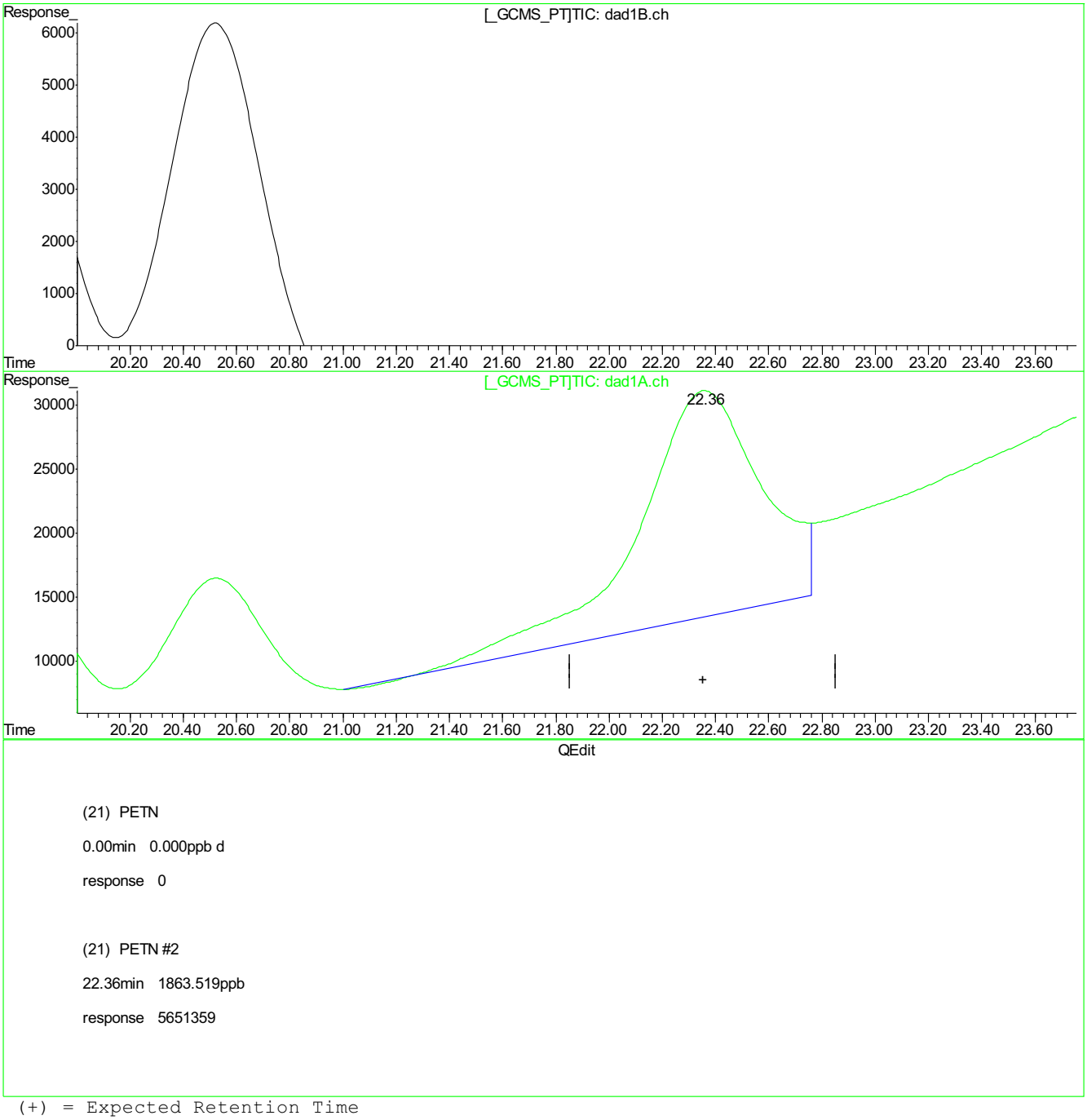
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 1863.519ppb

response 5651359

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:55 2017

9.5.17.14

9

GG613491.D edits: PETN

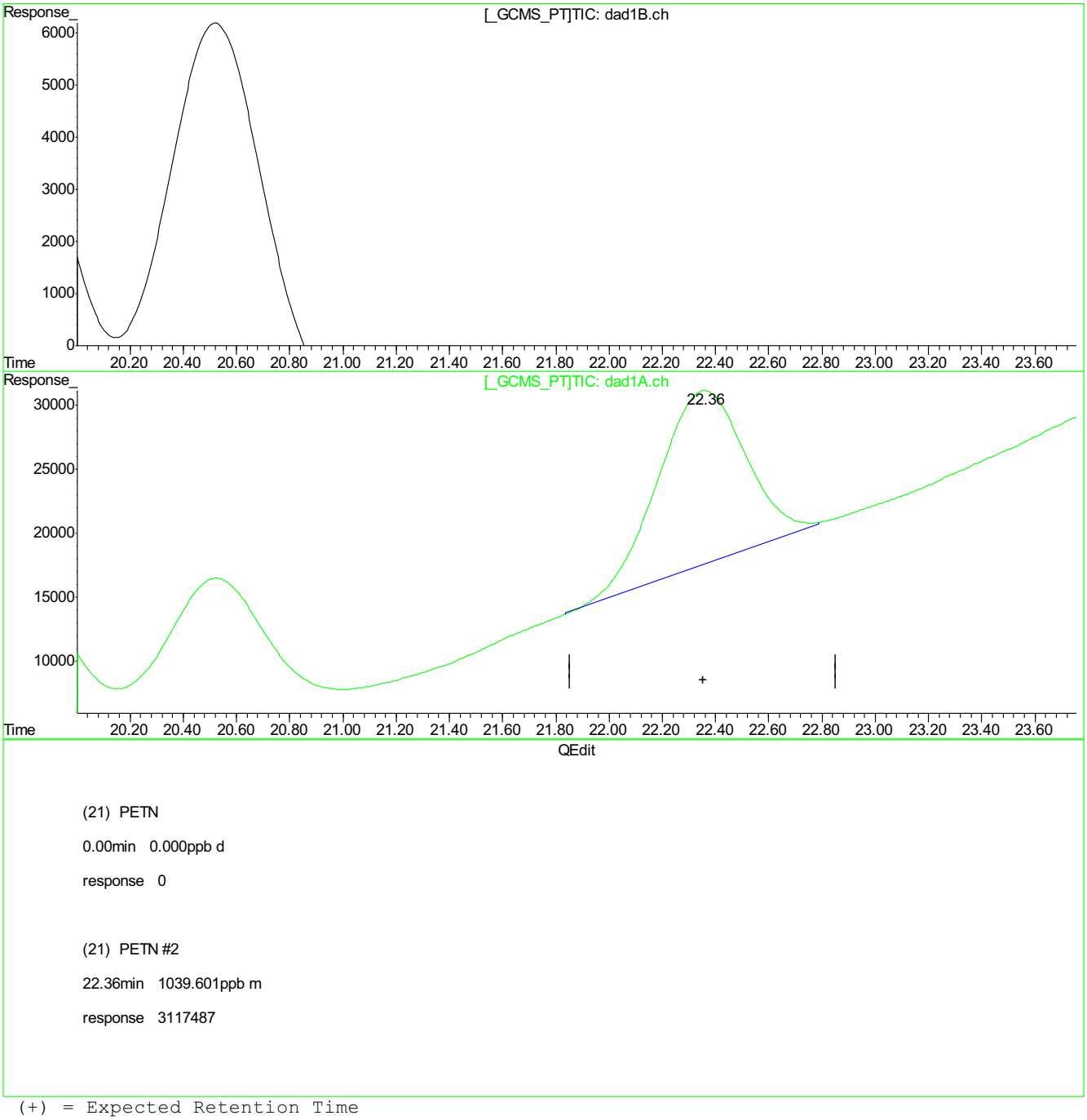
SGS ACCUTEST FA45722

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 1039.601ppb m

response 3117487

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:58 2017

9.5.17.15

9

GG613491.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613492.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03:12 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.47	14.47	2714905	5224007	484.589	475.041m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		96.92%	95.01%
	Target Compounds						
1)	TNX	4.95	4.95	4012784	4012784	494.402	494.352
2)	HMX	5.32	5.32	1908429	1908429	546.598	546.426
3)	DNX	5.51	5.51	3215725	3215725	455.592	442.000
4)	MNX	6.53	6.53	2345735	2345735	469.216	469.216
5)	1,3,5-Trinitrobe	7.56	7.56	5051683	5048845	496.928	495.098
6)	RDX	7.91	7.91	2355665	2344592	502.344	499.983
7)	1,3-Dinitrobenze	10.07	10.06	6894673	5146077	494.522	495.715m
8)	Nitrobenzene	11.13	11.13	4487156	4191786	495.817	445.261m
9)	2,4,6-Trinitroto	11.92	11.92	4802754	6372791	487.480	506.762m
10)	Nitroglycerin	0.00	12.67	0	7562009	N.D. d	2396.481m
11)	Tetryl	13.22	13.22	3783374	6140630	535.039	603.705m
13)	2,6-Dinitrotolue	14.95	14.95	3327551	4936600	494.614	525.760m
14)	2,4-Dinitrotolue	15.65	15.65	6341485	4690555	496.860	447.163
15)	o-Nitrotoluene	17.38	17.38	2810538	4182534	492.293	527.487
16)	3,5-Dinitroanili	16.62	16.62	5062734	8271322	369.039	360.794
17)	p-Nitrotoluene	18.45	18.45	5788458	10561353	493.076	531.820
18)	4-Amino-2,6-Dini	18.45	18.45	5788458	10561353	493.076	531.820
19)	m-Nitrotoluene	19.84	19.84	3092603	4880959	502.239	519.790
20)	2-Amino-4,6-Dini	20.55	20.55	4616003	6217795	552.103	563.338
21)	PETN	0.00	22.35	0	8141021	N.D. d	2626.966m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 13:56:34 2017 Page 1

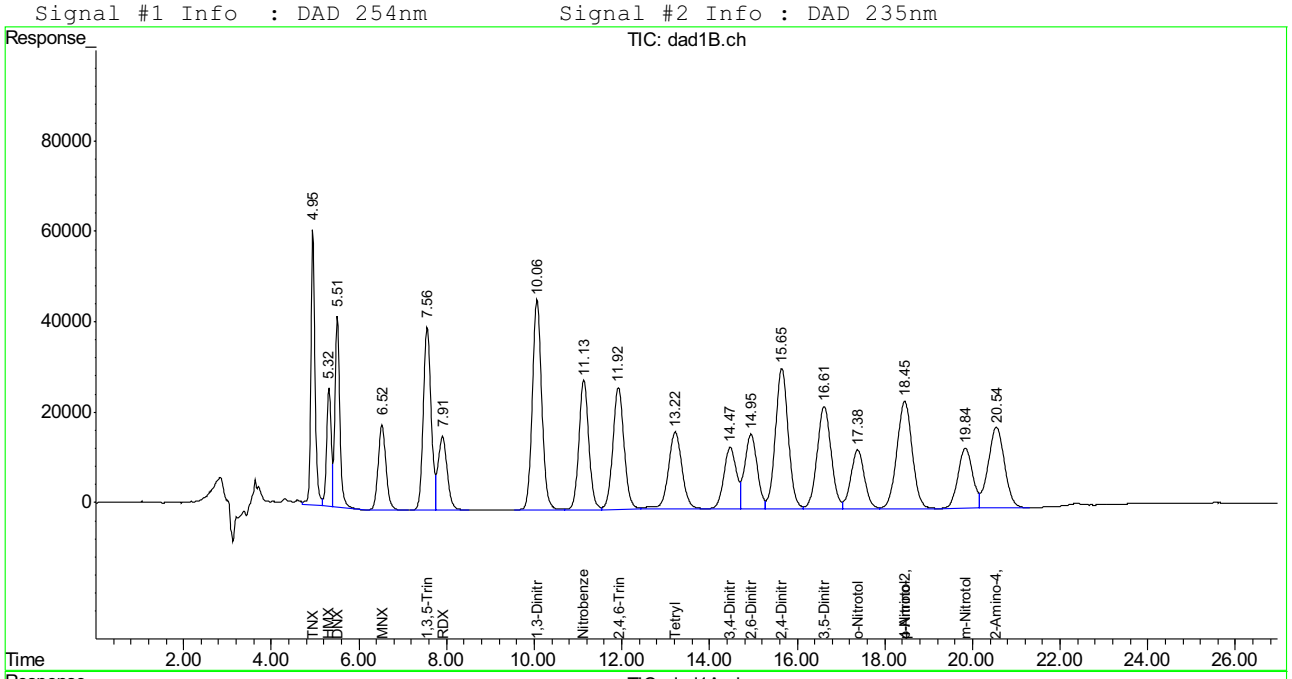
SGS ACCUTEST FA45722

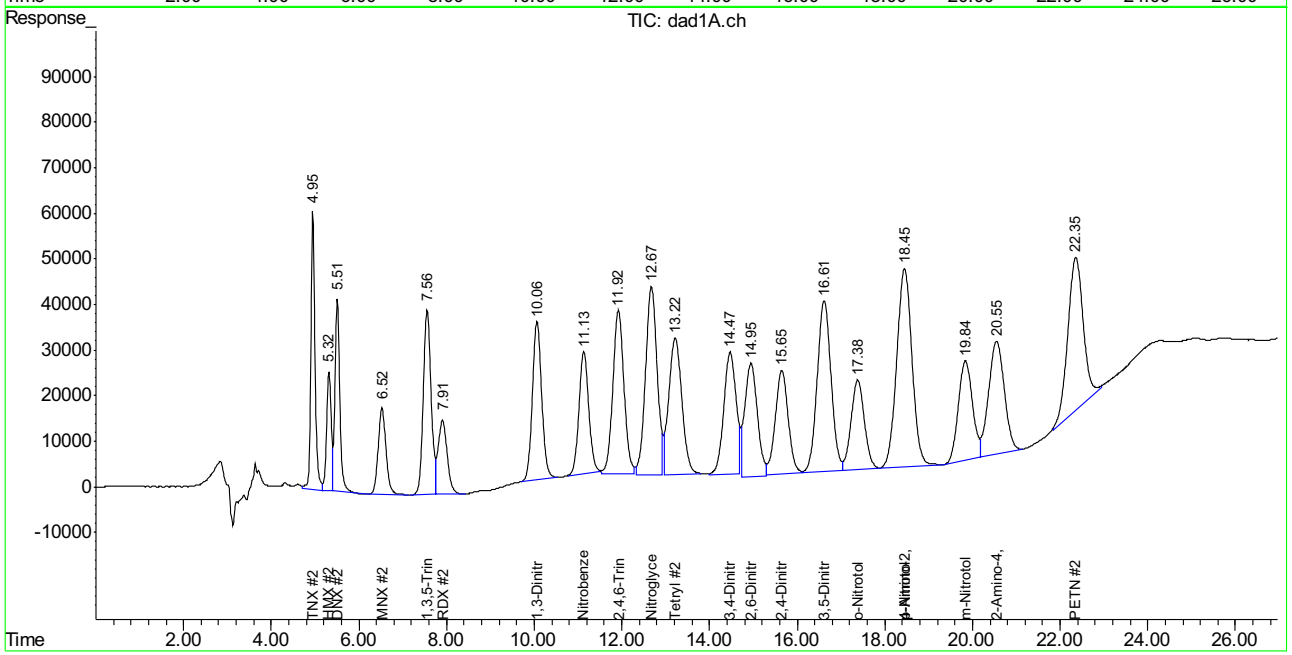
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:05 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-ICC2548
Lab FileID: GG613492.D
Injection Time: 07/20/17 18:41
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

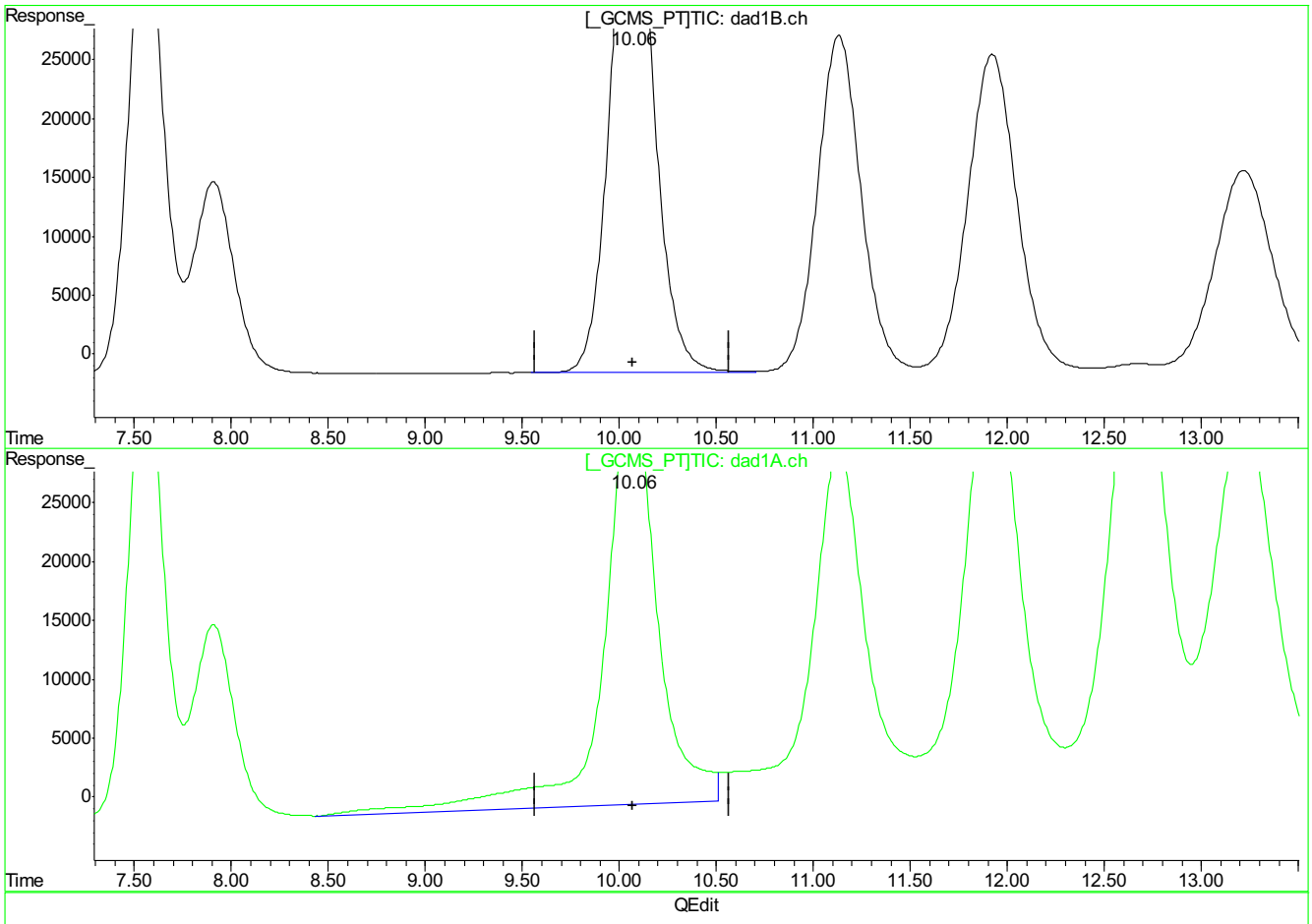
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	10.06	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.13	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.92	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.67	Poorly defined baseline
Tetryl	479-45-8	2	13.22	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.47	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.95	Poorly defined baseline
PETN	78-11-5	2	22.35	Poorly defined baseline

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



QEdit

(7) 1,3-Dinitrobenzene

10.07min 494.522ppb

response 6894673

(7) 1,3-Dinitrobenzene #2

10.07min 657.939ppb

response 6811961

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:31 2017

9.5.18.2

9

GG613492.D edits: 1,3-Dinitrobenzene

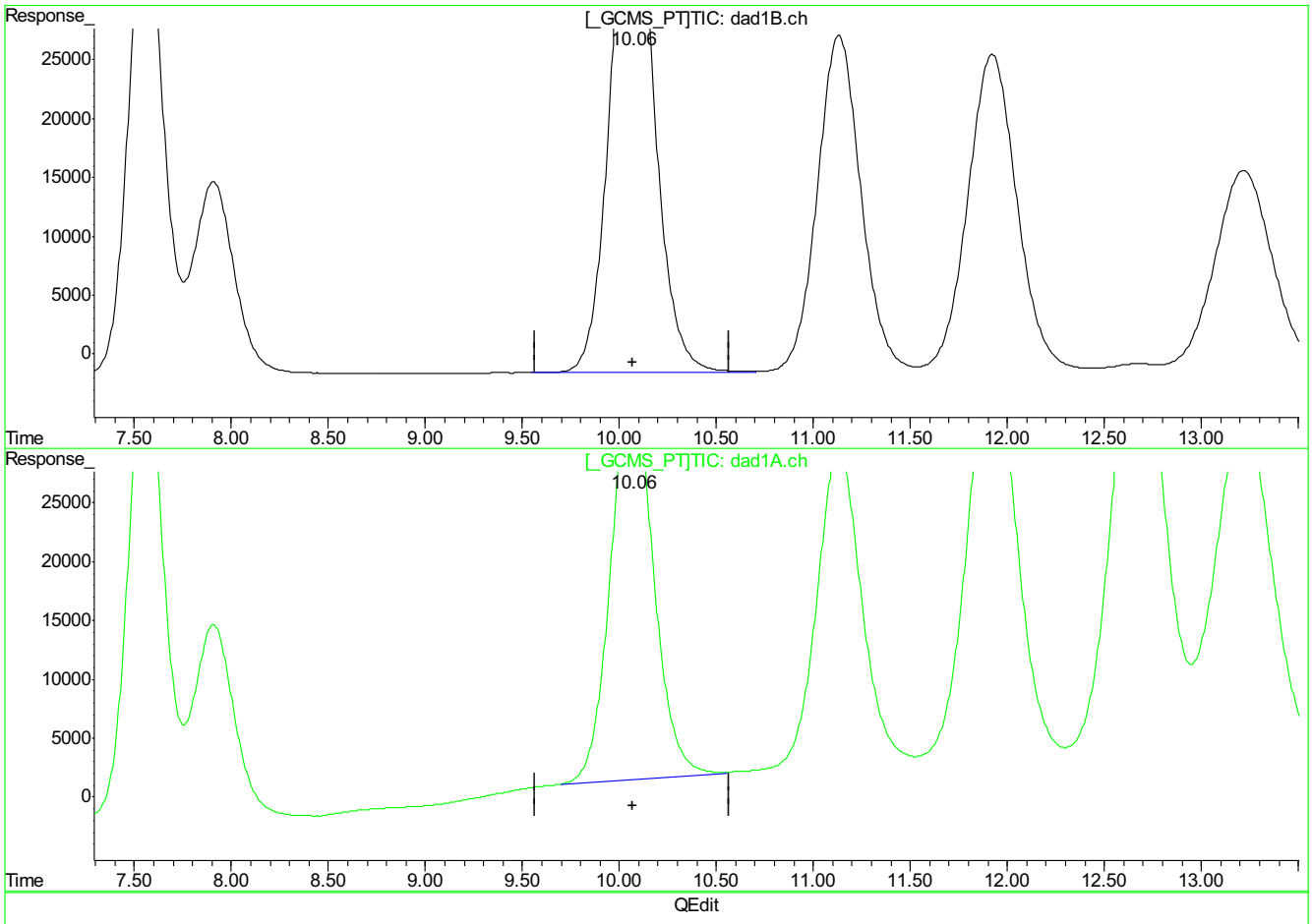
SGS ACCUTEST FA45722

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



QEdit

(7) 1,3-Dinitrobenzene

10.07min 494.522ppb

response 6894673

(7) 1,3-Dinitrobenzene #2

10.06min 495.715ppb m

response 5146077

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:34 2017

9.5.18.3

9

GG613492.D edits: 1,3-Dinitrobenzene

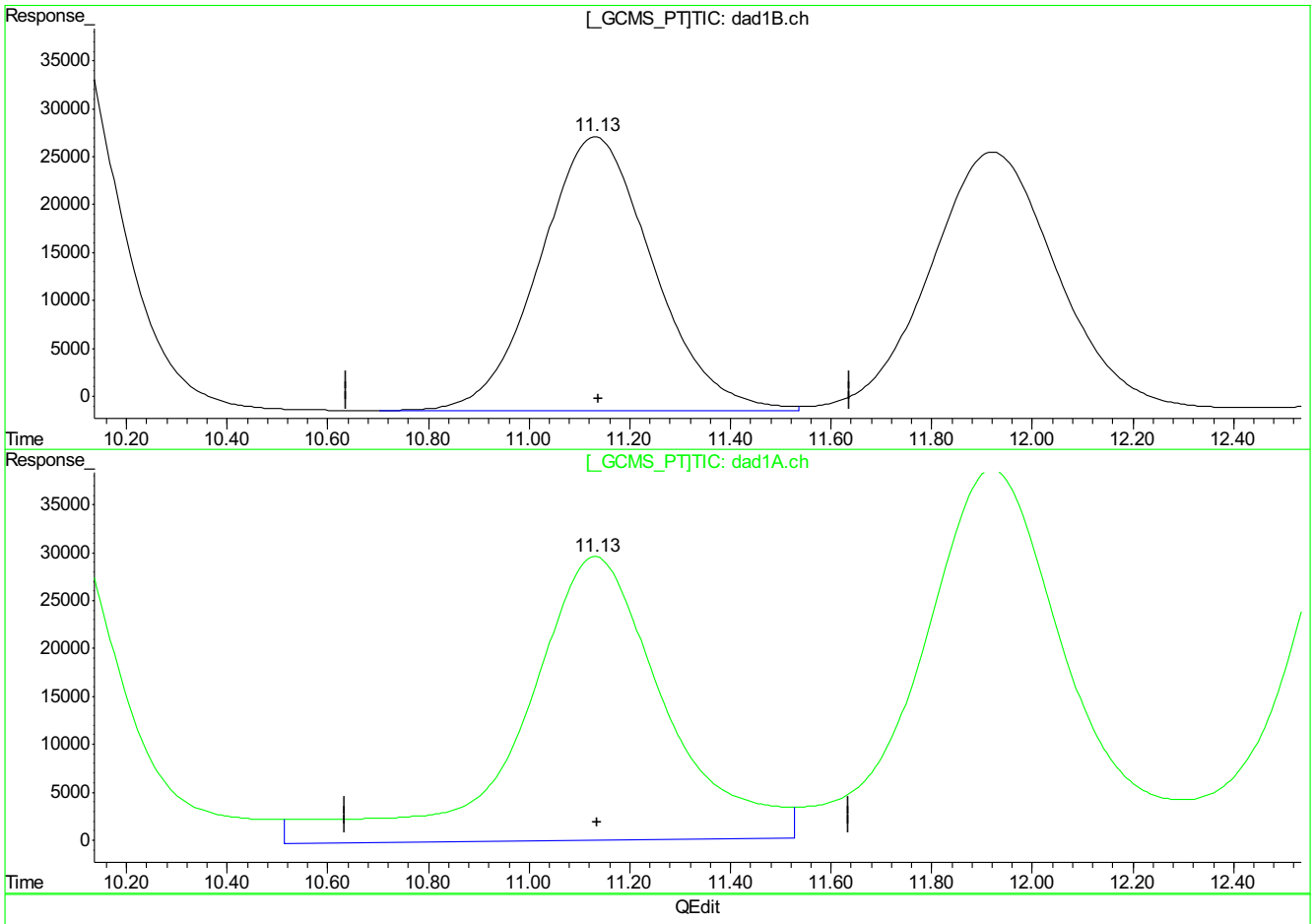
SGS ACCUTEST FA45722

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(8) Nitrobenzene

11.13min 495.817ppb

response 4487156

(8) Nitrobenzene #2

11.13min 630.690ppb

response 5846690

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:37 2017

9.5.18.4

9

GG613492.D edits: Nitrobenzene

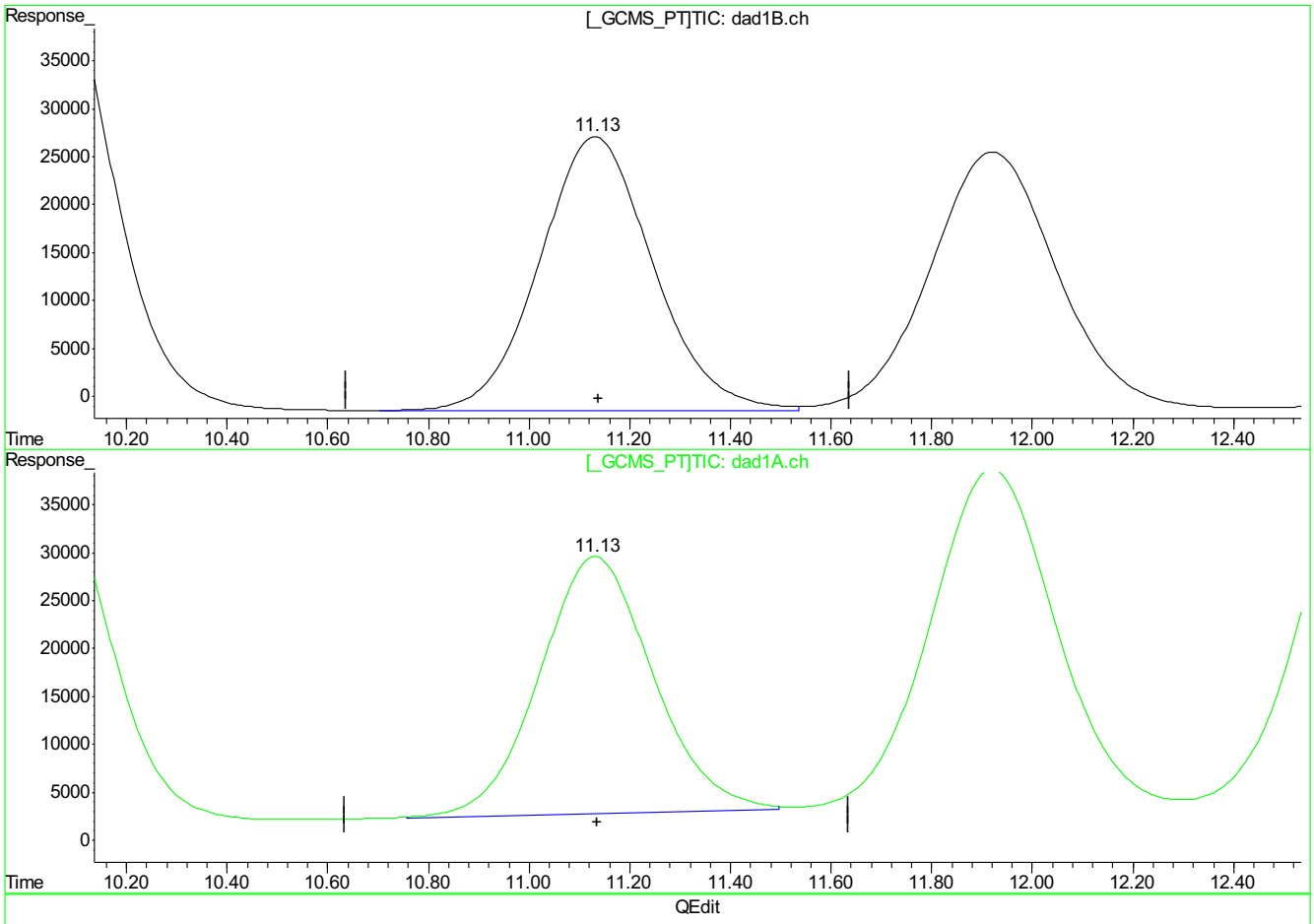
SGS ACCUTEST FA45722

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(8) Nitrobenzene

11.13min 495.817ppb

response 4487156

(8) Nitrobenzene #2

11.13min 445.261ppb m

response 4191786

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:41 2017

9.5.18.5

9

GG613492.D edits: Nitrobenzene

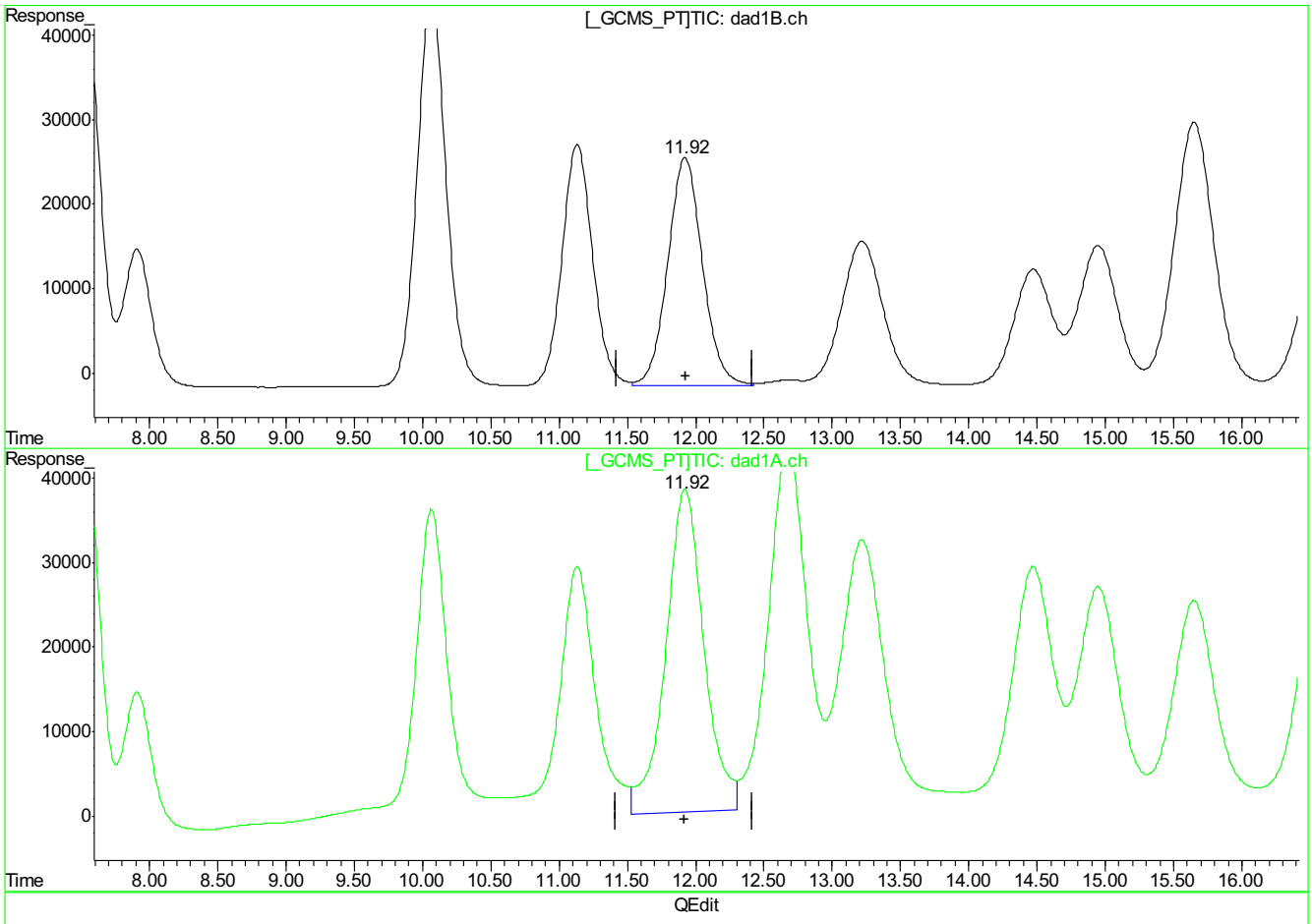
SGS ACCUTEST FA45722

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.92min 487.480ppb

response 4802754

(9) 2,4,6-Trinitrotoluene #2

11.92min 591.508ppb

response 7437494

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:49 2017

9.5.18.6

9

GG613492.D edits: 2,4,6-Trinitrotoluene

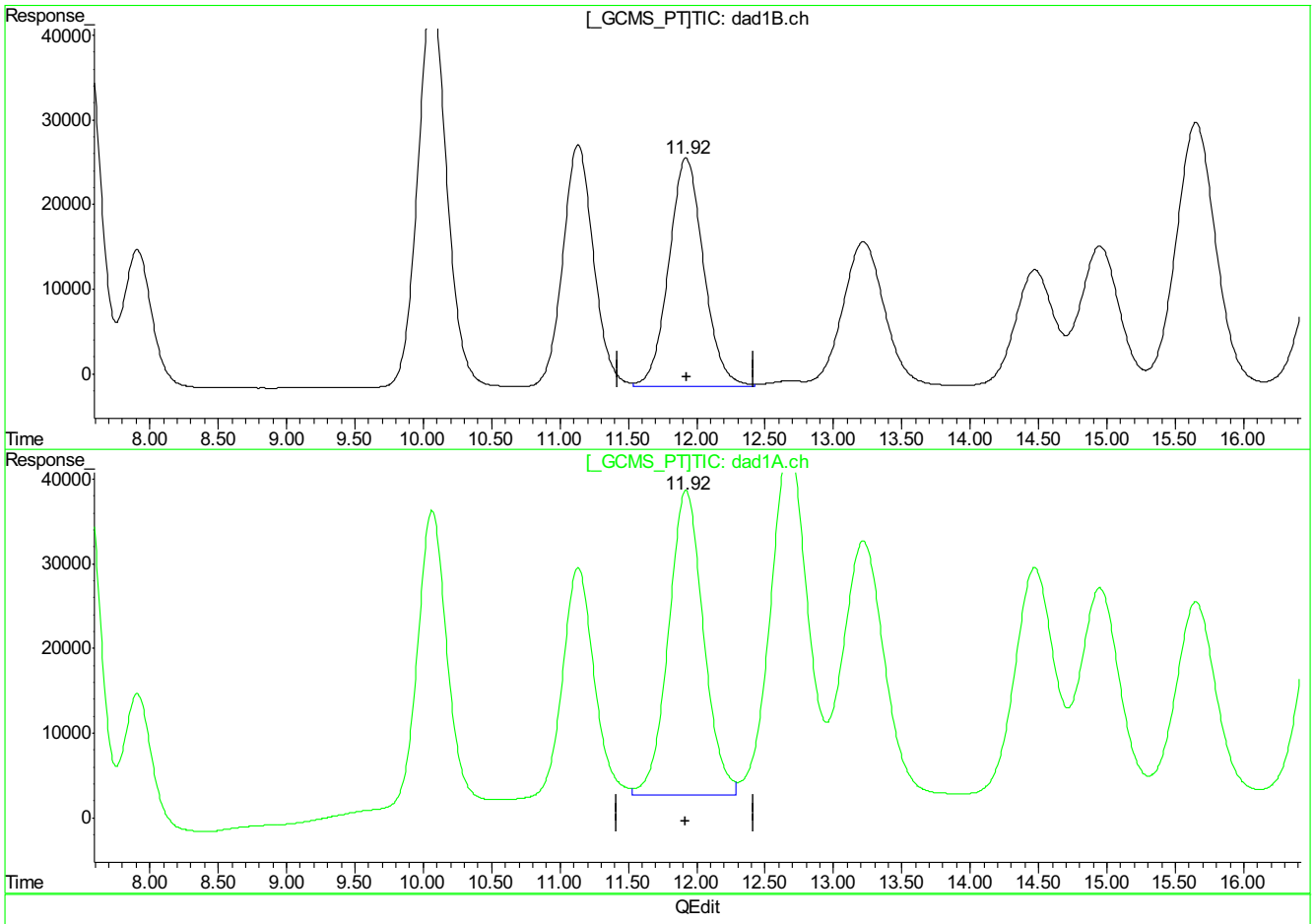
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.92min 487.480ppb

response 4802754

(9) 2,4,6-Trinitrotoluene #2

11.92min 506.762ppb m

response 6372791

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:54 2017

9.5.18.7

9

GG613492.D edits: 2,4,6-Trinitrotoluene

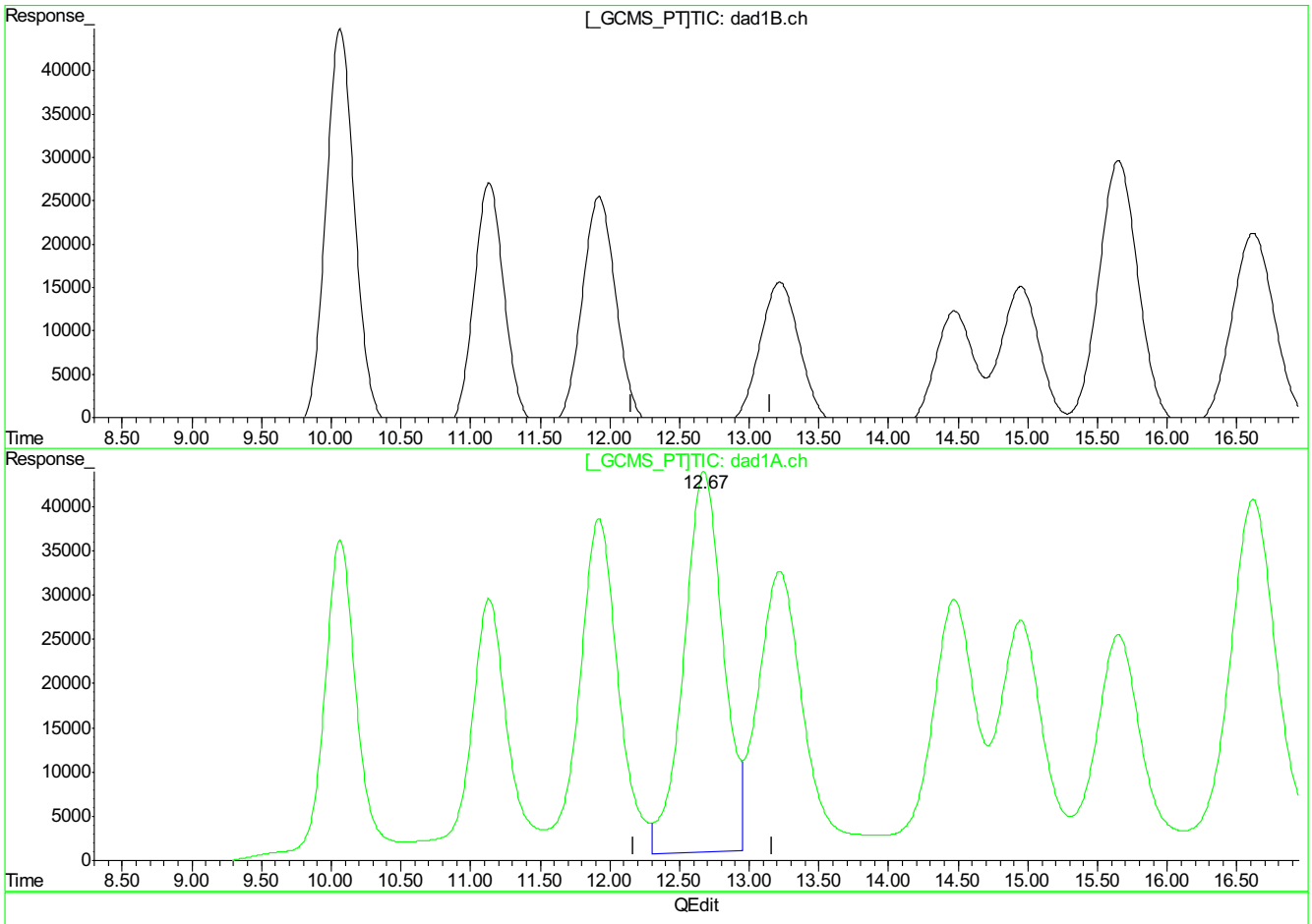
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.68min 2661.159ppb

response 8397191

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:06 2017

9.5.18.8

9

GG613492.D edits: Nitroglycerin

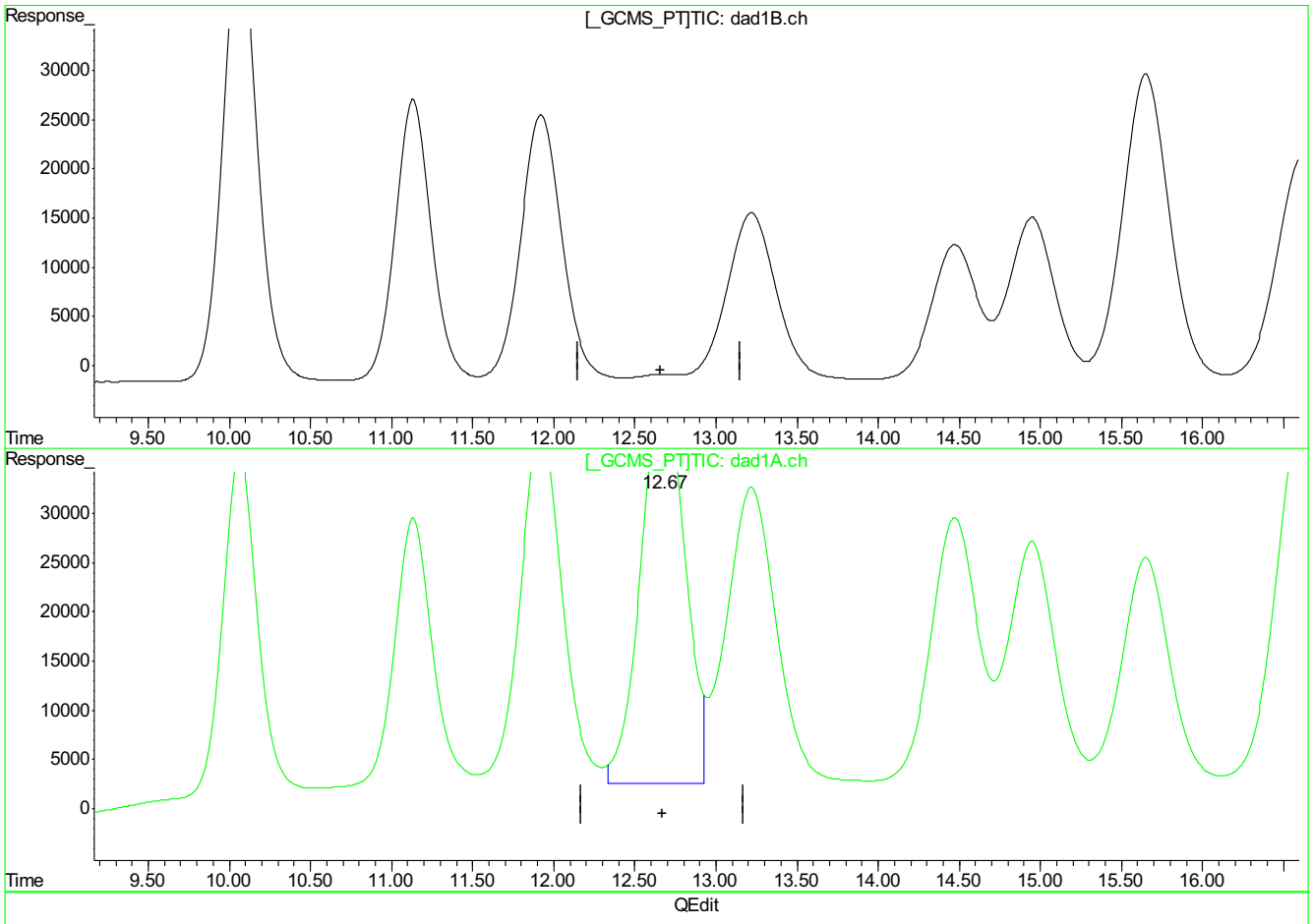
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.67min 2396.481ppb m

response 7562009

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:24 2017

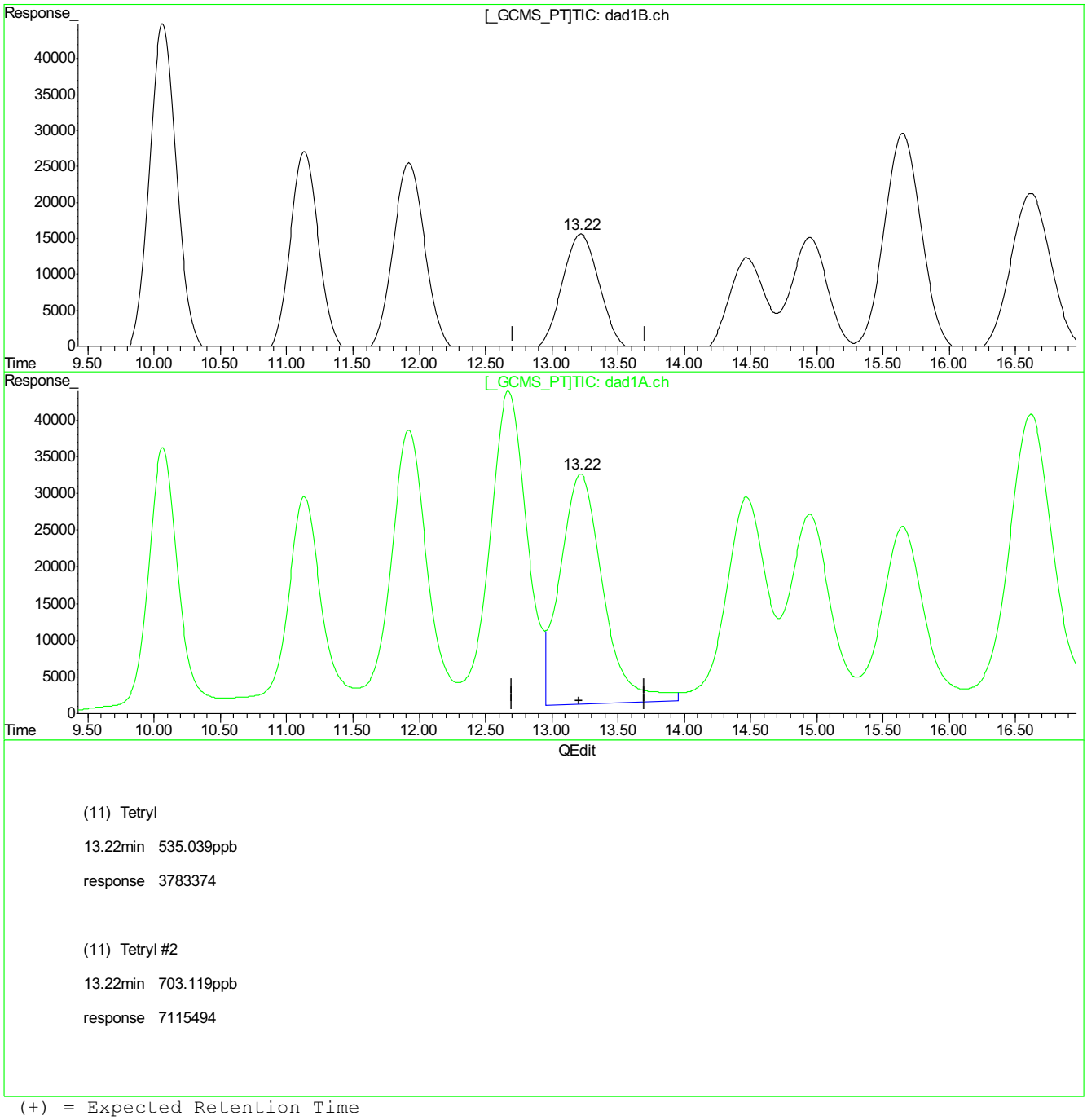
GG613492.D edits: Nitroglycerin

Cal Report: GG613492.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.22min 535.039ppb

response 3783374

(11) Tetryl #2

13.22min 703.119ppb

response 7115494

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:28 2017

9.5.18.10

9

GG613492.D edits: Tetryl

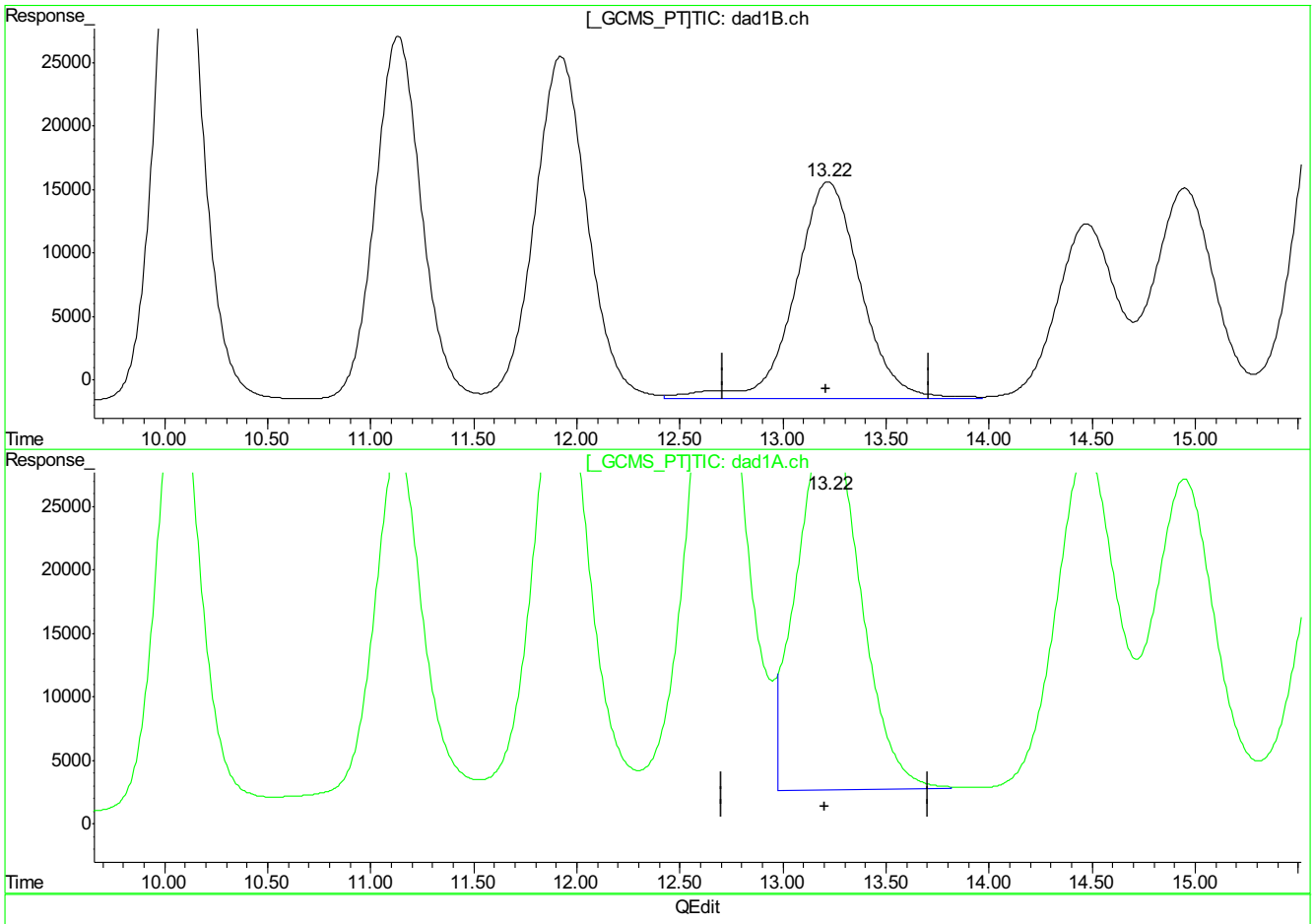
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(11) Tetryl

13.22min 535.039ppb

response 3783374

(11) Tetryl #2

13.22min 603.705ppb m

response 6140630

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:36 2017

9.5.18.11

9

GG613492.D edits: Tetryl

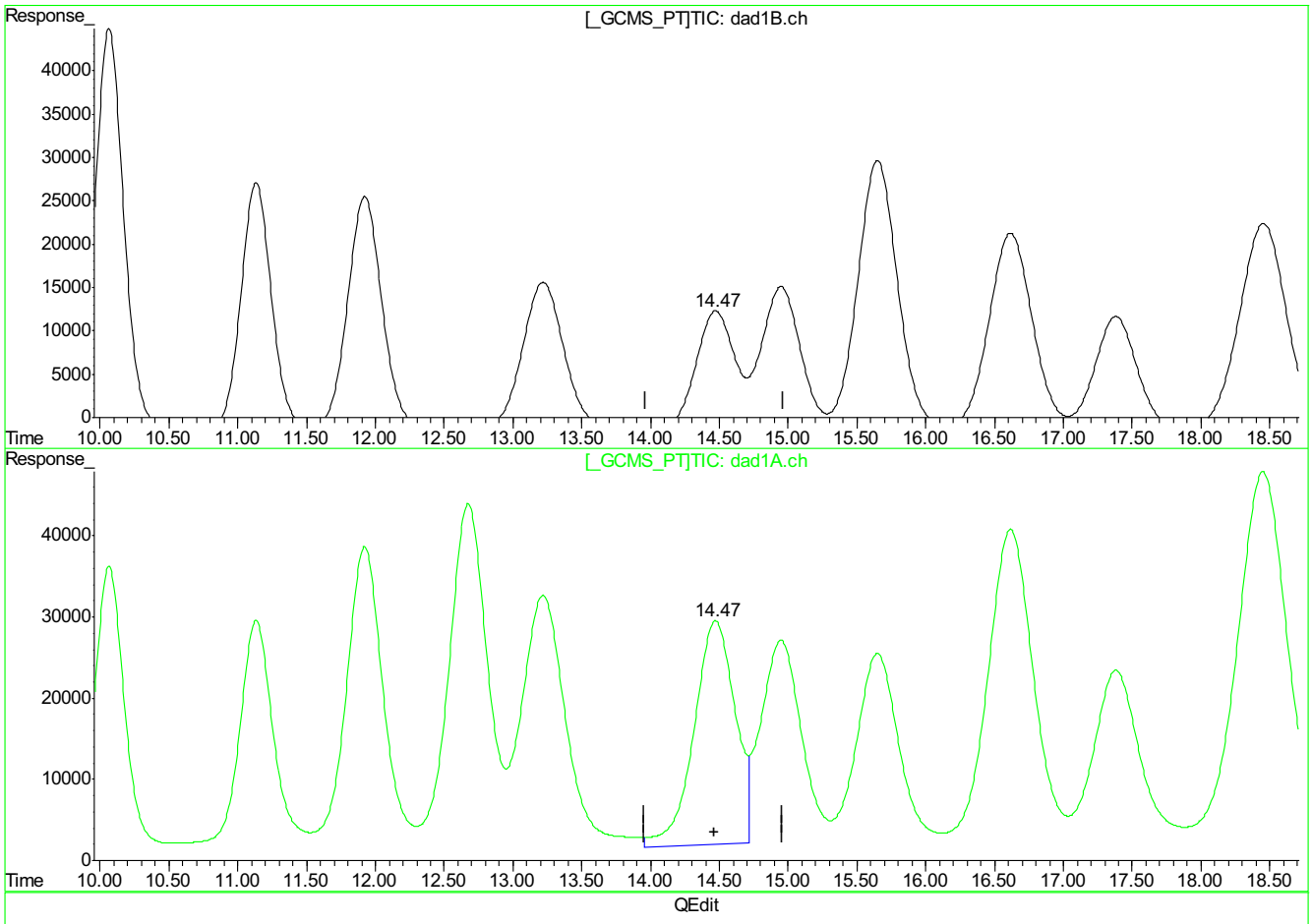
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.47min 484.589ppb

response 2714905

(12) 3,4-Dinitrotoluene #2 (S)

14.47min 521.266ppb

response 5727414

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:44 2017

9.5.18.12

9

GG613492.D edits: 3,4-Dinitrotoluene

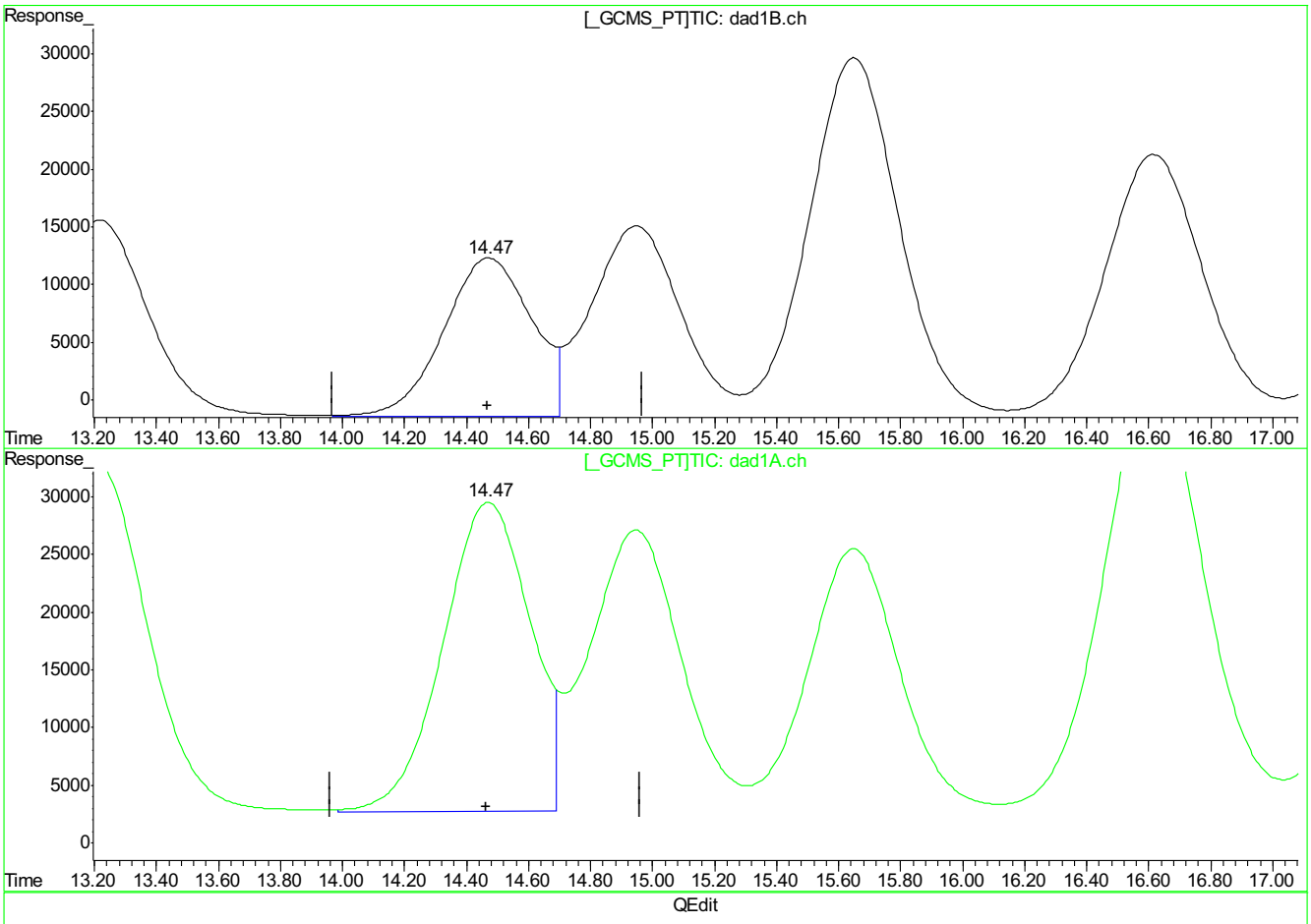
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.47min 484.589ppb

response 2714905

(12) 3,4-Dinitrotoluene #2 (S)

14.47min 475.041ppb m

response 5224007

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:52 2017

9.5.18.13

9

GG613492.D edits: 3,4-Dinitrotoluene

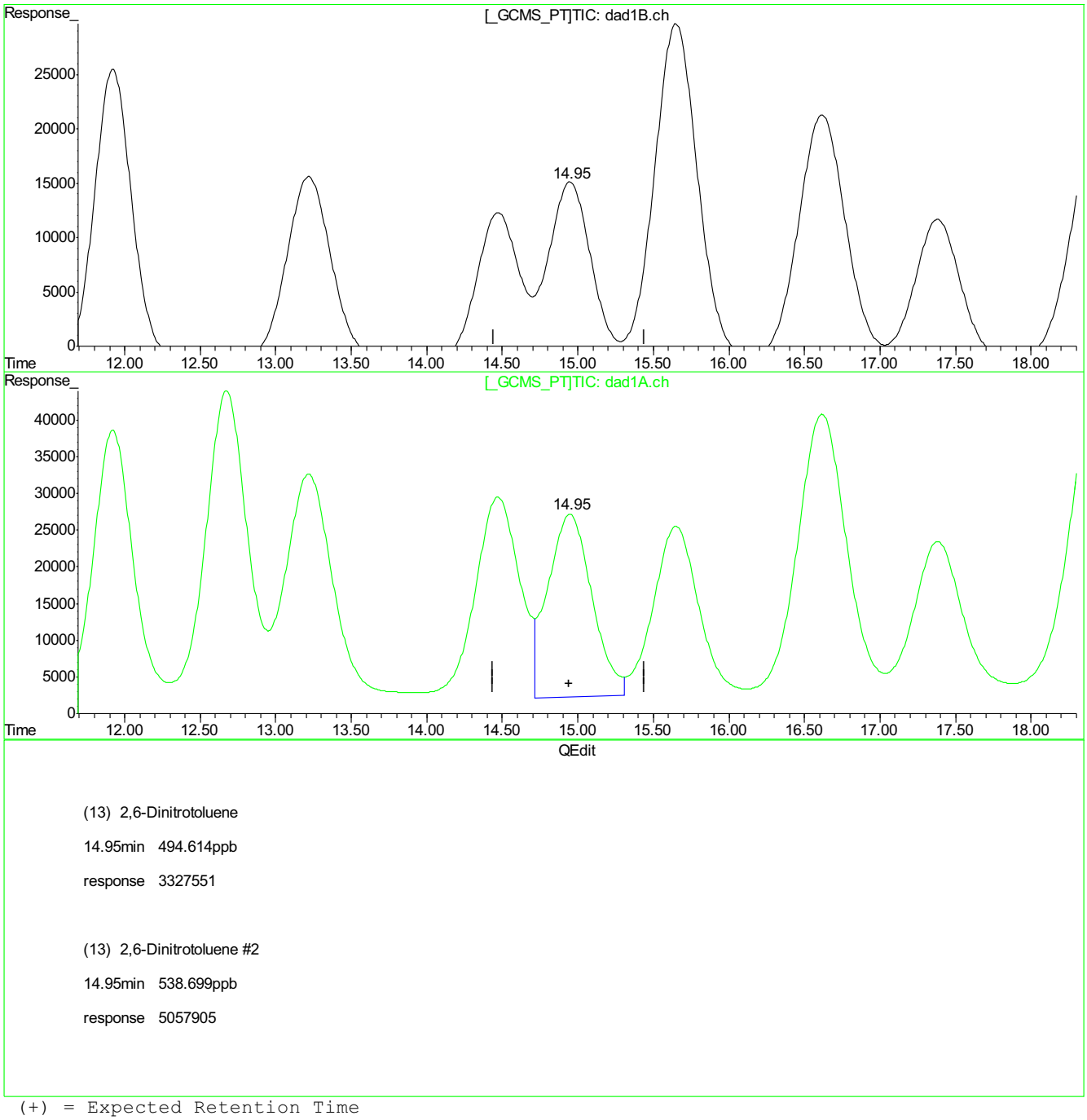
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.95min 494.614ppb

response 3327551

(13) 2,6-Dinitrotoluene #2

14.95min 538.699ppb

response 5057905

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:58 2017

9.5.18.14

9

GG613492.D edits: 2,6-Dinitrotoluene

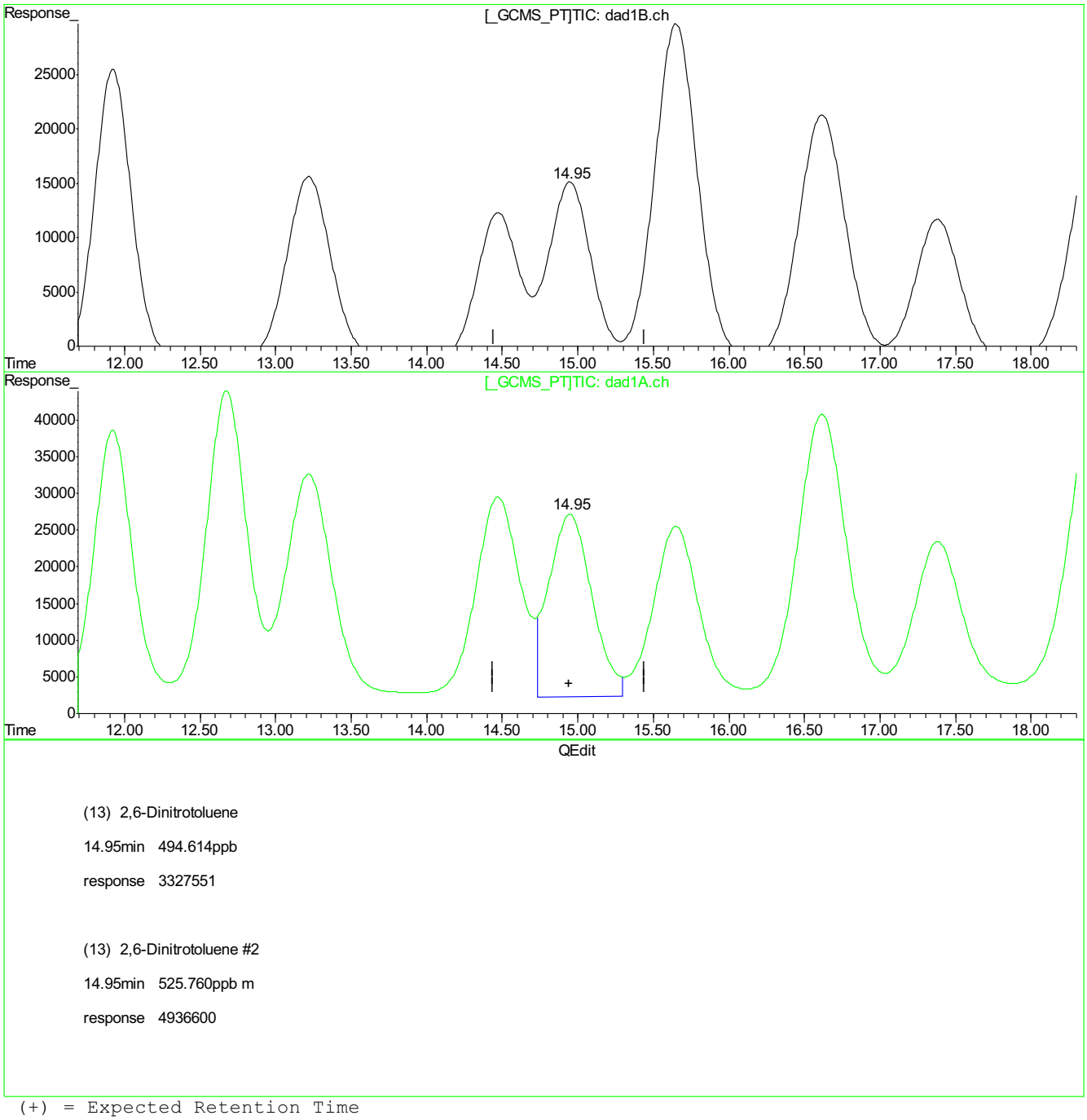
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.95min 494.614ppb

response 3327551

(13) 2,6-Dinitrotoluene #2

14.95min 525.760ppb m

response 4936600

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:05:09 2017

9.5.18.15

9

GG613492.D edits: 2,6-Dinitrotoluene

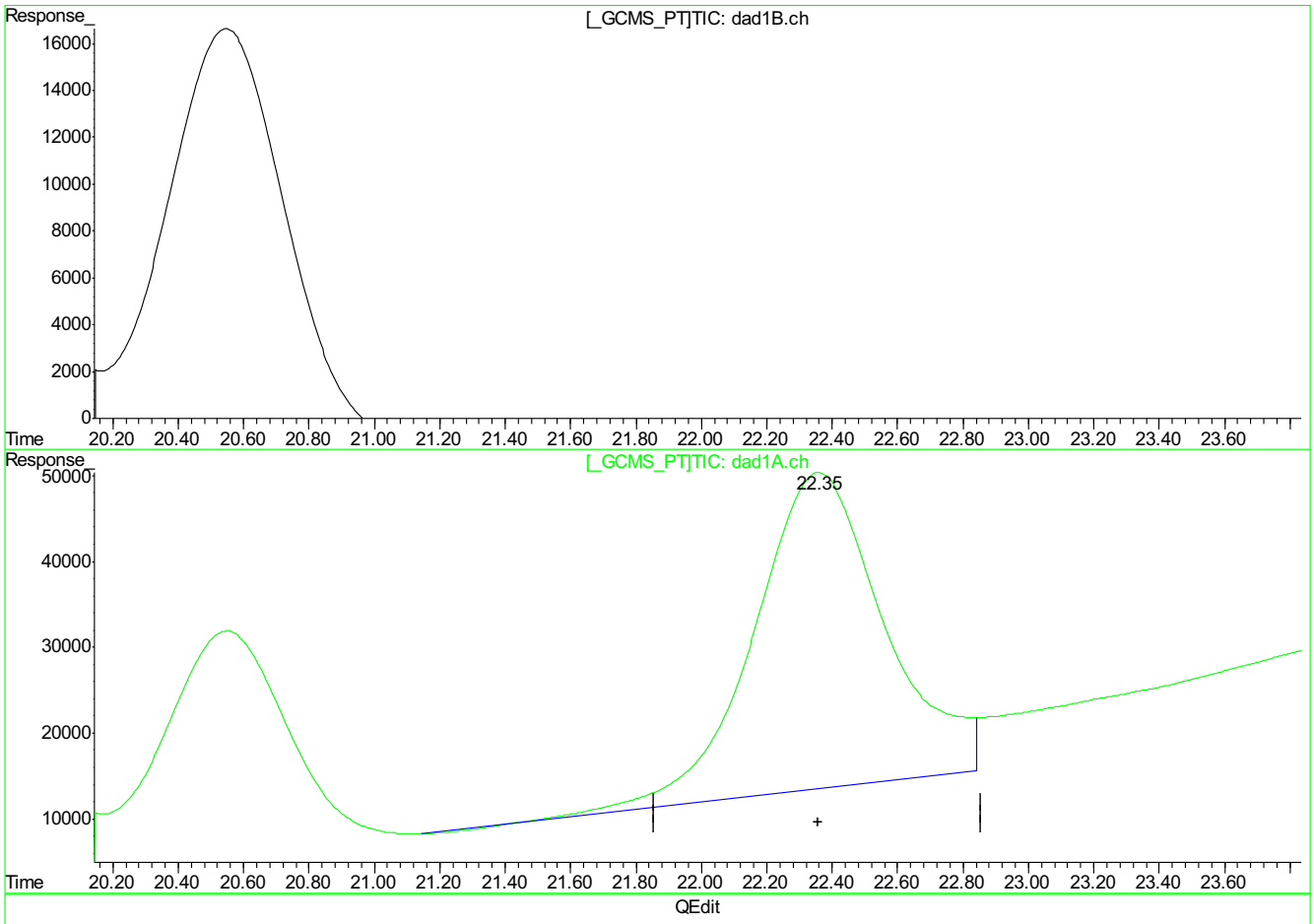
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 3252.333ppb

response 10152262

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:05:14 2017

9.5.18.16

9

GG613492.D edits: PETN

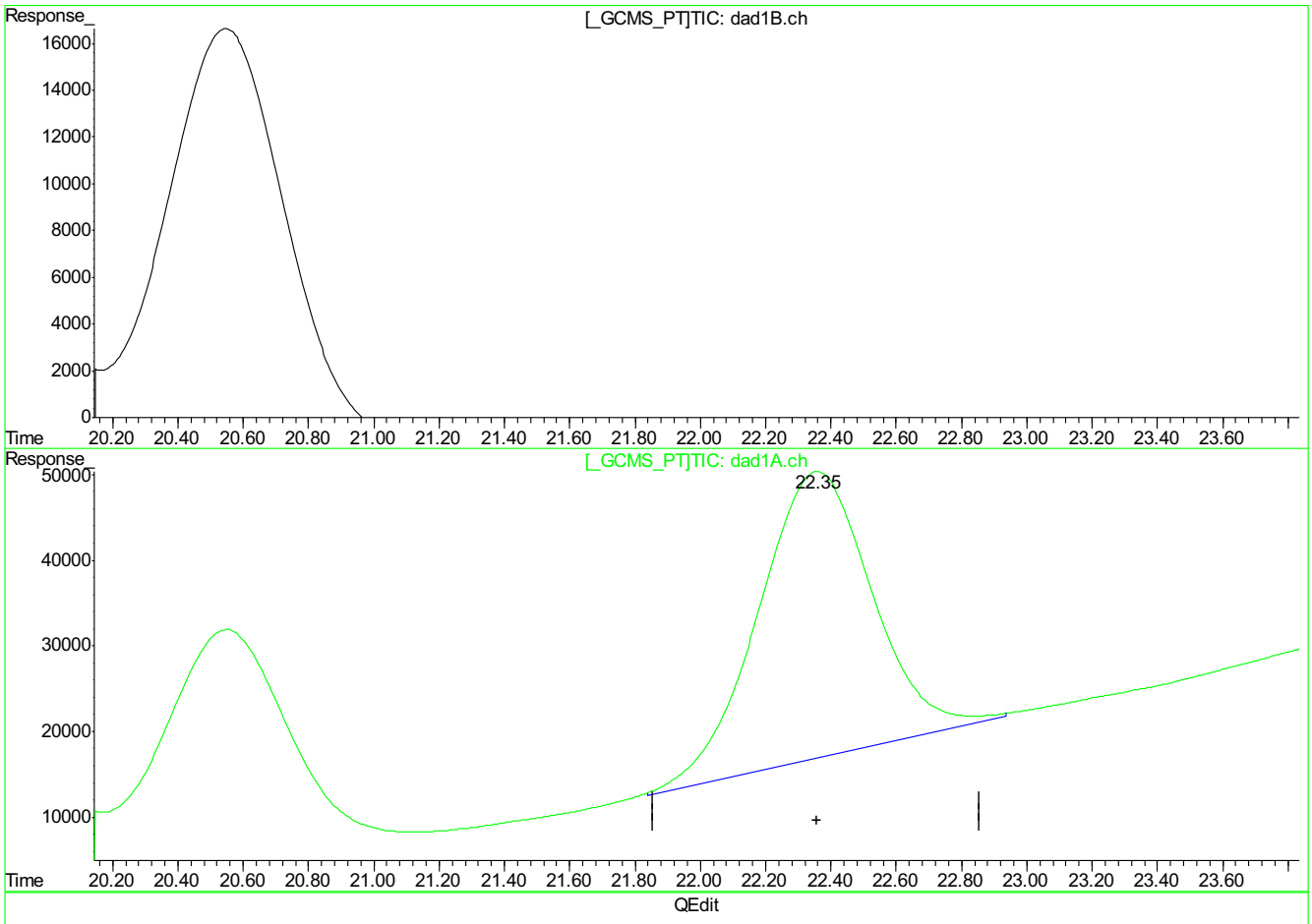
SGS ACCUTEST FA45722

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.35min 2626.966ppb m

response 8141021

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:05:18 2017

9.5.18.17

9

GG613492.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613493.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:06:42 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:34 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.46	14.46	5542313	11079167	991.227	1016.923
	Spiked Amount 500.000	Range 69 - 134		Recovery =		198.25%#	203.38%#
	Target Compounds						
1)	TNX	4.95	4.95	8007452	8007452	981.212	980.770
2)	HMX	5.32	5.32	3725935	3725935	1021.137	1022.083
3)	DNX	5.51	5.51	6385226	6385226	938.392	981.956
4)	MNX	6.52	6.52	4801154	4801154	984.110	984.110
5)	1,3,5-Trinitrobe	7.55	7.55	10341660	10333739	989.920	986.338
6)	RDX	7.90	7.90	4848516	4813651	1002.326	996.797
7)	1,3-Dinitrobenze	10.06	10.06	14120253	12001936	989.696	1067.289
8)	Nitrobenzene	11.12	11.12	9282763	9698975	1005.724	1061.195
9)	2,4,6-Trinitroto	11.91	11.91	9825904	13778497	976.802	1035.107
10)	Nitroglycerin	0.00	12.67	0	16331807	N.D. d	5196.981
11)	Tetryl	13.21	13.21	7596489	13802963	1009.959	1112.803
13)	2,6-Dinitrotolue	14.94	14.94	6820198	10264571	992.849	1021.093
14)	2,4-Dinitrotolue	15.64	15.64	12989849	9249965	993.989	866.346
15)	o-Nitrotoluene	17.38	17.38	5873258	9032818	1003.574	1035.100
16)	3,5-Dinitroanili	16.63	16.63	10349336	16935845	758.263	744.383
17)	p-Nitrotoluene	18.45	18.45	11915152	21930751	986.320	1022.443
18)	4-Amino-2,6-Dini	18.45	18.45	11915152	21930751	986.320	1022.443
19)	m-Nitrotoluene	19.82	19.82	6467712	10802306	1013.316	1045.178
20)	2-Amino-4,6-Dini	20.55	20.55	9448905	12892790	1020.987	1029.005
21)	PETN	0.00	22.33	0	16292026	N.D. d	4978.484m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 13:56:35 2017 Page 1

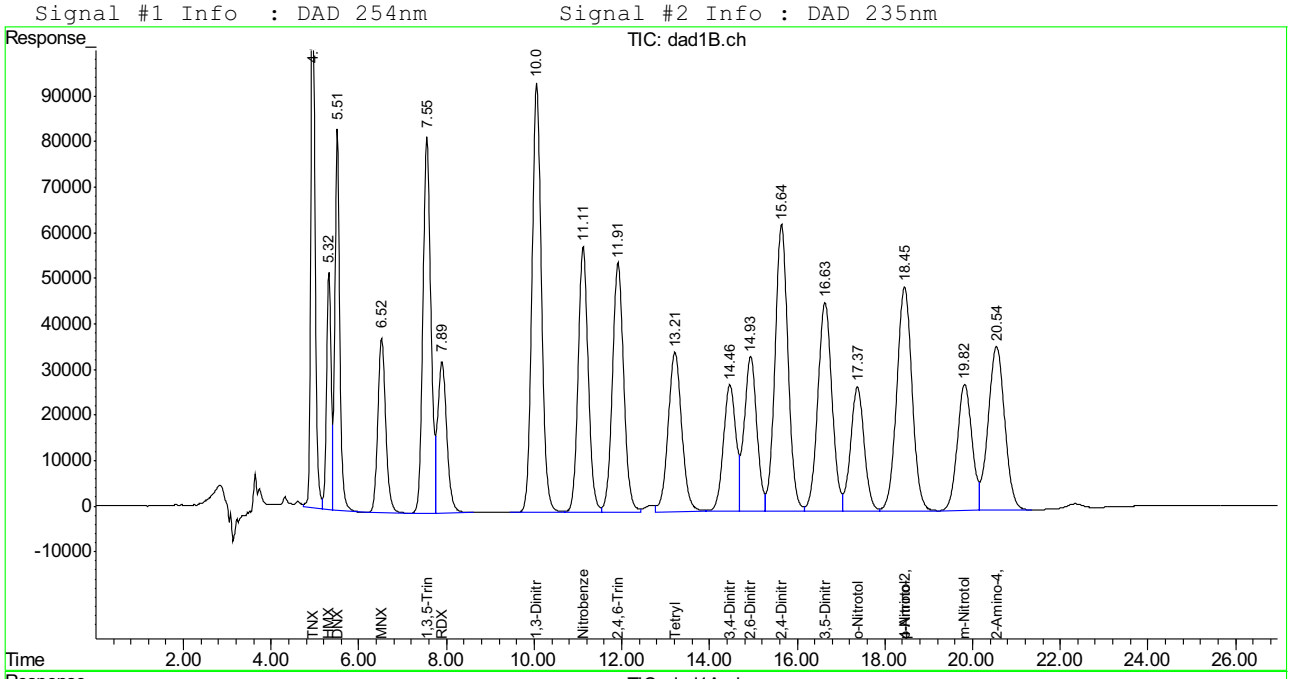
SGS ACCUTEST FA45722

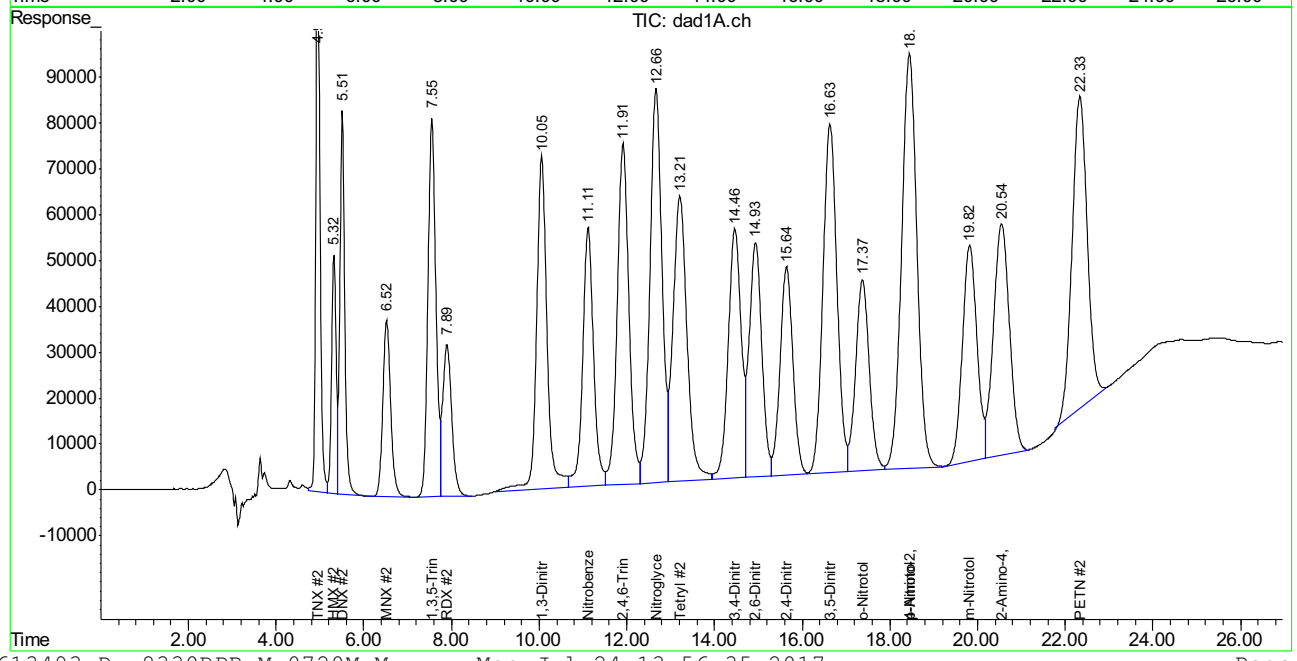
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:06 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:34 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613493.D
Injection Time: 07/20/17 19:10
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

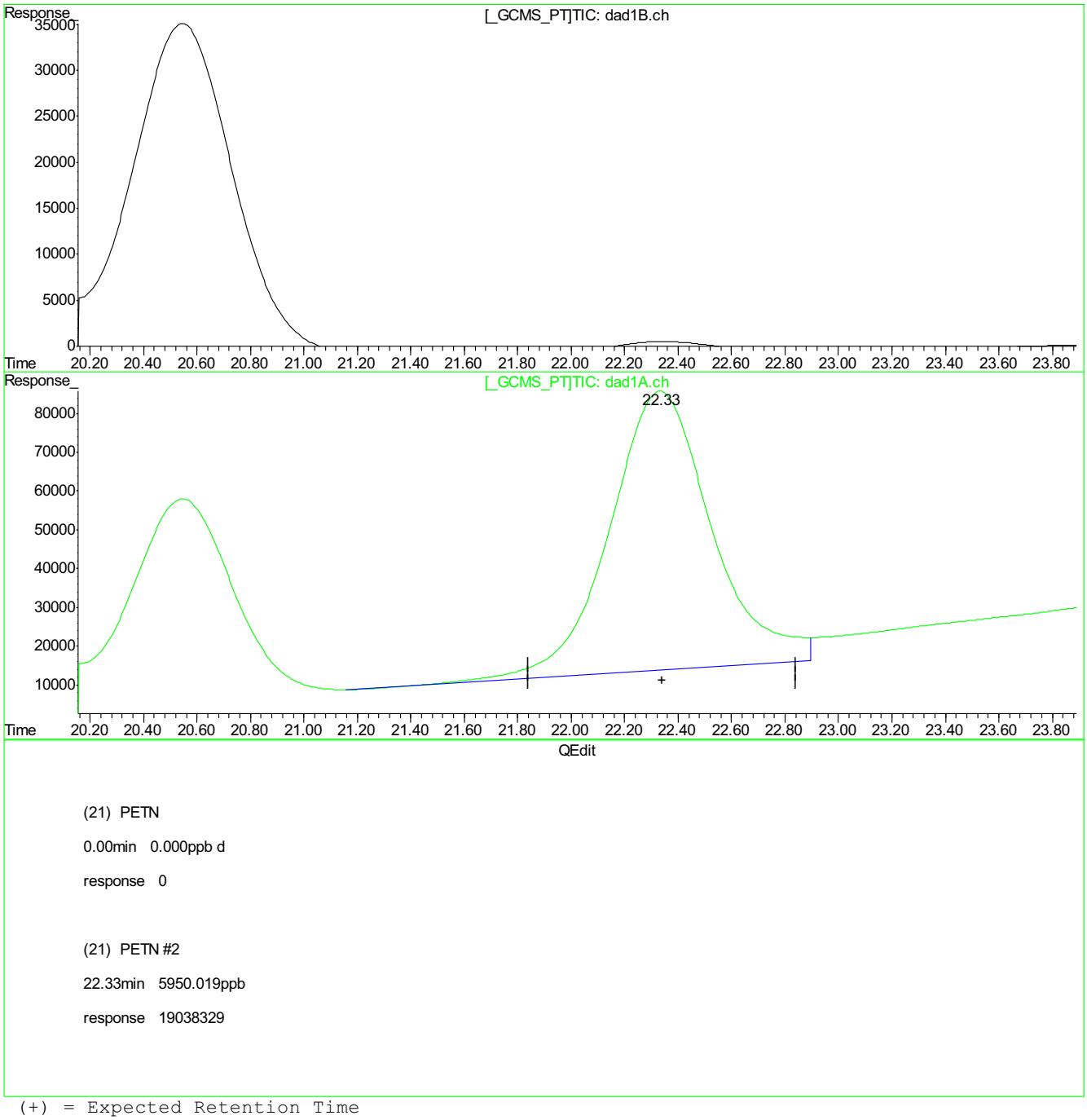
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.33	Poorly defined baseline

Cal Report: GG613493.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:30 2017 Quant Results File: 8330RPB.M_0613M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.33min 5950.019ppb

response 19038329

(+) = Expected Retention Time
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 11:05:52 2017

9.5.19.2

9

GG613493.D edits: PETN

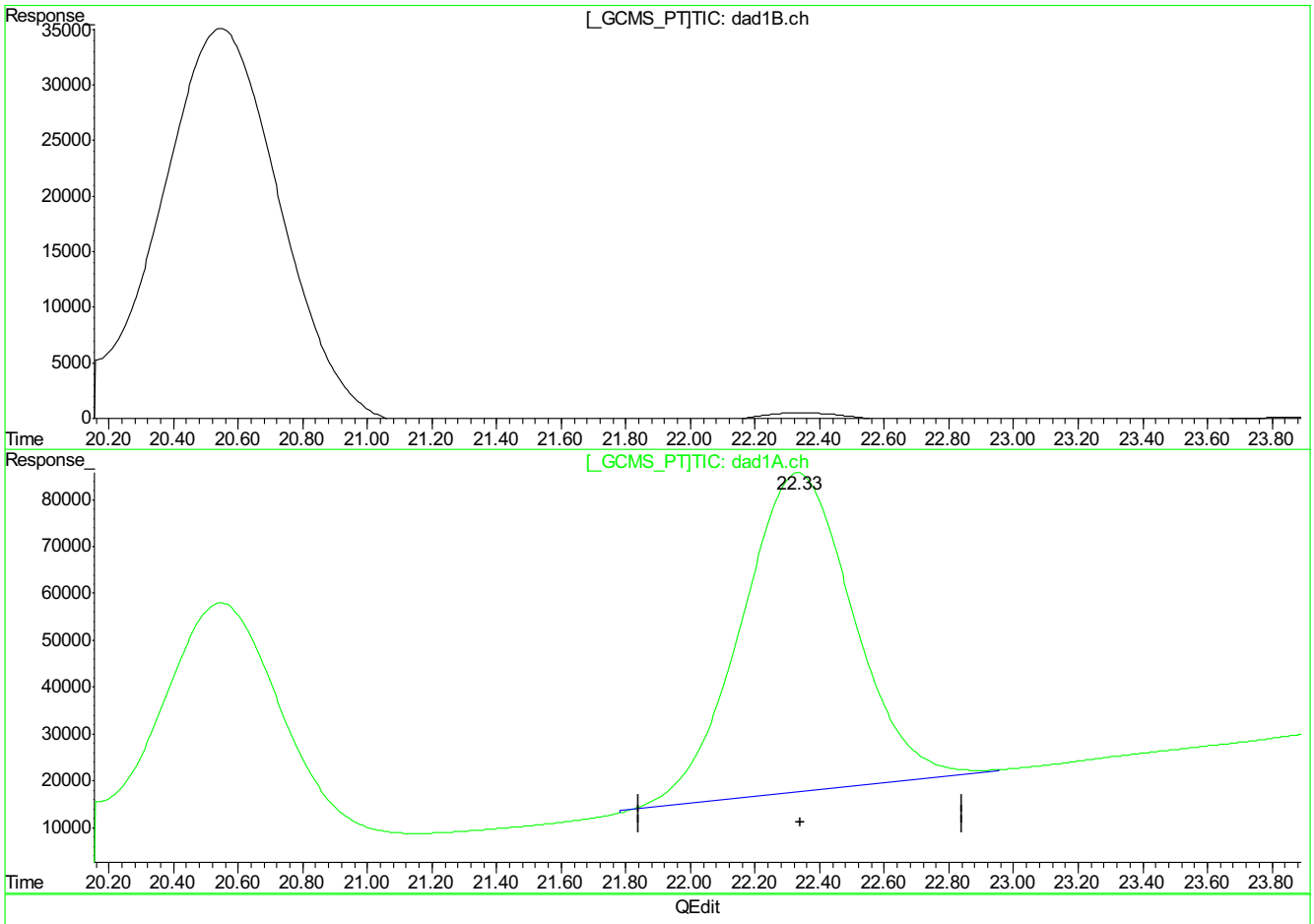
SGS ACCUTEST FA45722

Cal Report: GG613493.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:30 2017 Quant Results File: 8330RPB.M_0613M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.33min 5158.816ppb m

response 16337580

(+) = Expected Retention Time
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 11:05:56 2017

9.5.19.3

9

GG613493.D edits: PETN

SGS ACCUTEST FA45722

Cal Report:

GG613494.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.44	14.44	11254886	22258276	2012.905	2086.129
	Spiked Amount 500.000	Range 69 - 134		Recovery = 402.58%#		417.23%#	
	Target Compounds						
1)	TNX	4.93	4.93	16240761	16240761	1990.099	1989.204
2)	HMX	5.30	5.30	7418978	7418978	2033.260	2035.143
3)	DNX	5.49	5.49	12969316	12969316	1906.009	1881.313
4)	MNX	6.49	6.49	9853677	9853677	2019.745	2019.745
5)	1,3,5-Trinitrobe	7.53	7.53	21217803	21208219	2031.001	2024.289
6)	RDX	7.87	7.87	9970887	9924489	2061.266	2055.134
7)	1,3-Dinitrobenze	10.04	10.04	28956911	22754828	2029.606	2323.287
8)	Nitrobenzene	11.10	11.10	18855953	18605989	2042.914	2365.114
9)	2,4,6-Trinitroto	11.90	11.90	20198175	27377057	2007.919	2211.559
10)	Nitroglycerin	0.00	12.65	0	32814325	N.D. d	10441.920
11)	Tetryl	13.20	13.20	15852576	28320754	2107.611	BelowCal #
13)	2,6-Dinitrotolue	14.92	14.92	14042043	20954212	2044.168	2285.476
14)	2,4-Dinitrotolue	15.63	15.63	26739489	19375165	2046.118	1814.666
15)	o-Nitrotoluene	17.36	17.36	11924047	17931841	2037.483	2359.448
16)	3,5-Dinitroanili	16.61	16.61	21252148	35317313	1557.077	1552.305
17)	p-Nitrotoluene	18.44	18.44	24437008	45433065	2022.863	2372.916
18)	4-Amino-2,6-Dini	18.44	18.44	24437008	45433065	2022.863	2372.916
19)	m-Nitrotoluene	19.81	19.81	13179859	22438929	2064.928	2332.924
20)	2-Amino-4,6-Dini	20.52	20.52	19535807	27373505	2365.366	2320.809
21)	PETN	0.00	22.31	0	34276545	N.D. d	10185.488m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613494.D 8330RPB.M_0720M.M Mon Jul 24 14:02:34 2017 Page 1

9.5.20

9

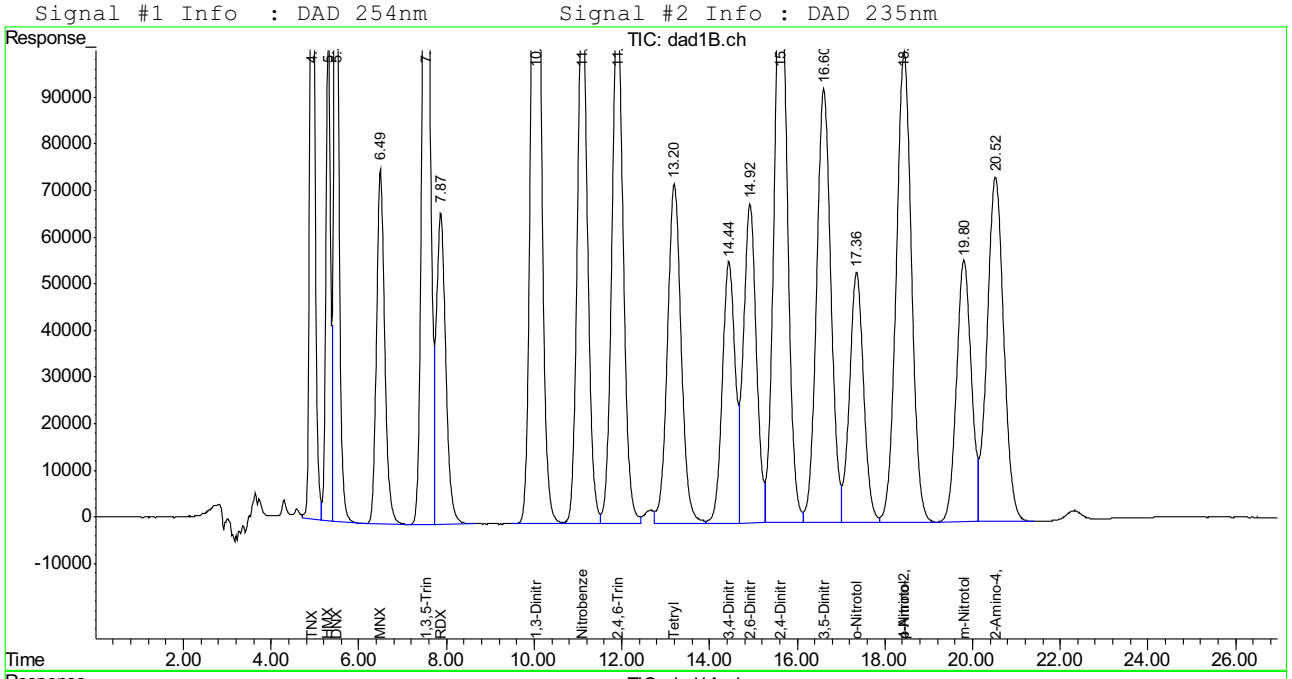
SGS ACCUTEST FA45722

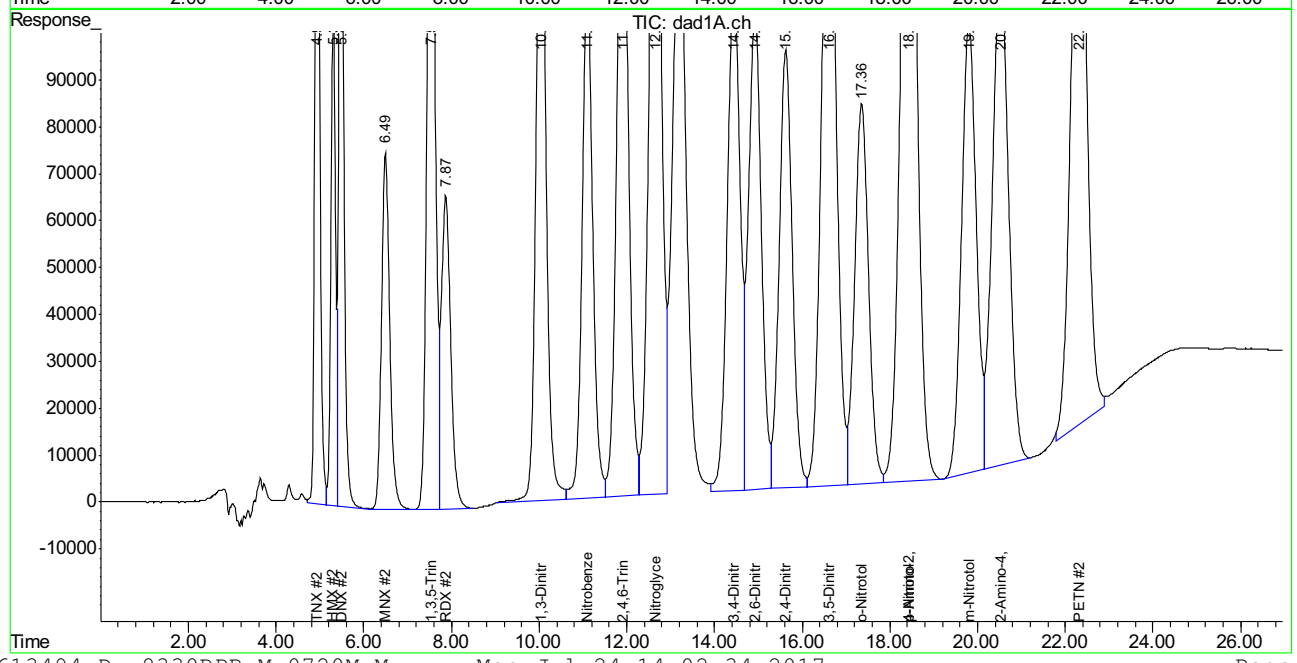
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613494.D
Injection Time: 07/20/17 19:40
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

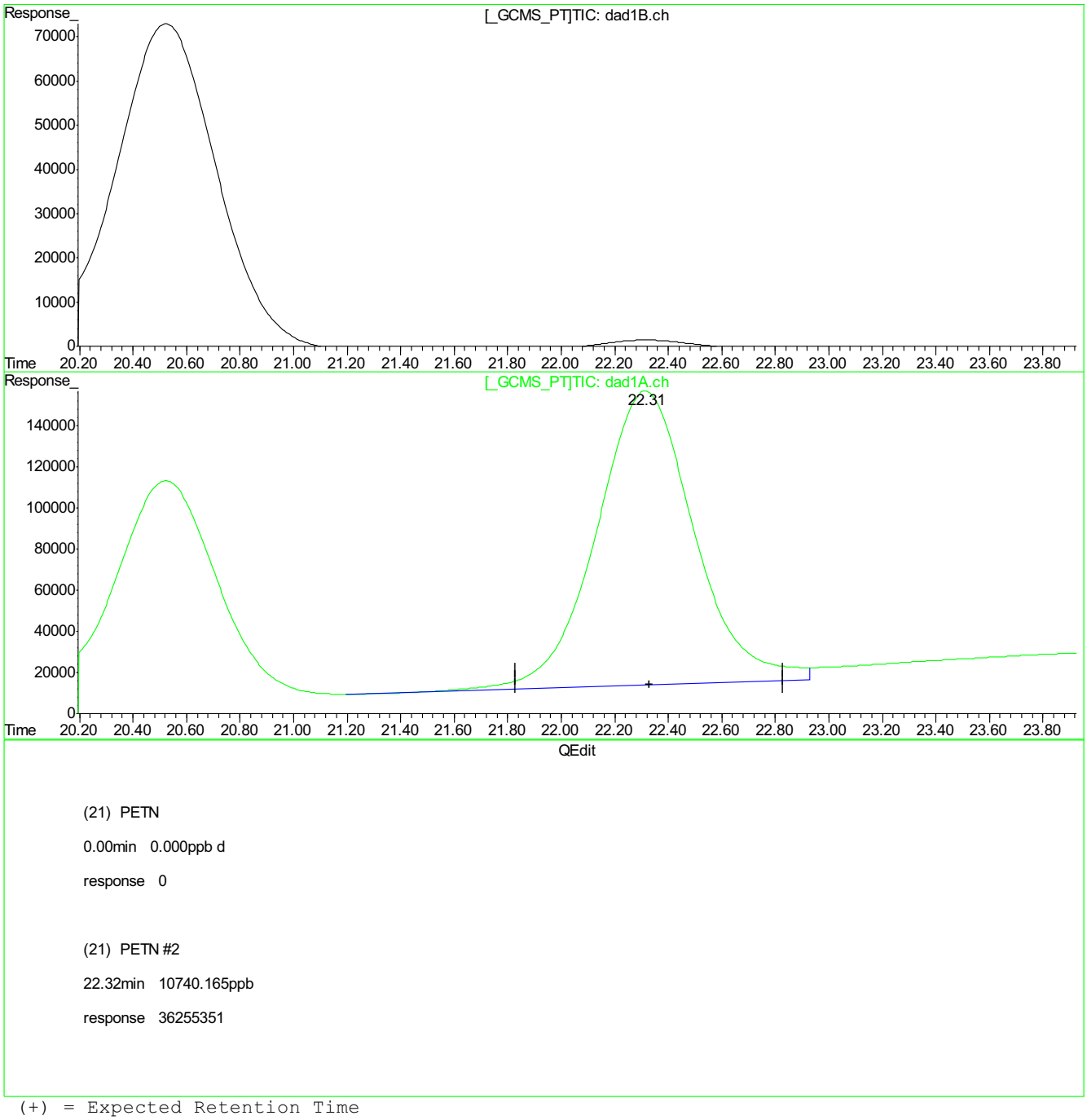
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.31	Poorly defined baseline

Cal Report: GG613494.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.32min 10740.165ppb

response 36255351

(+) = Expected Retention Time
GG613494.D 8330RPB.M_0720M.M Mon Jul 24 11:07:17 2017

9.5.20.2

9

GG613494.D edits: PETN

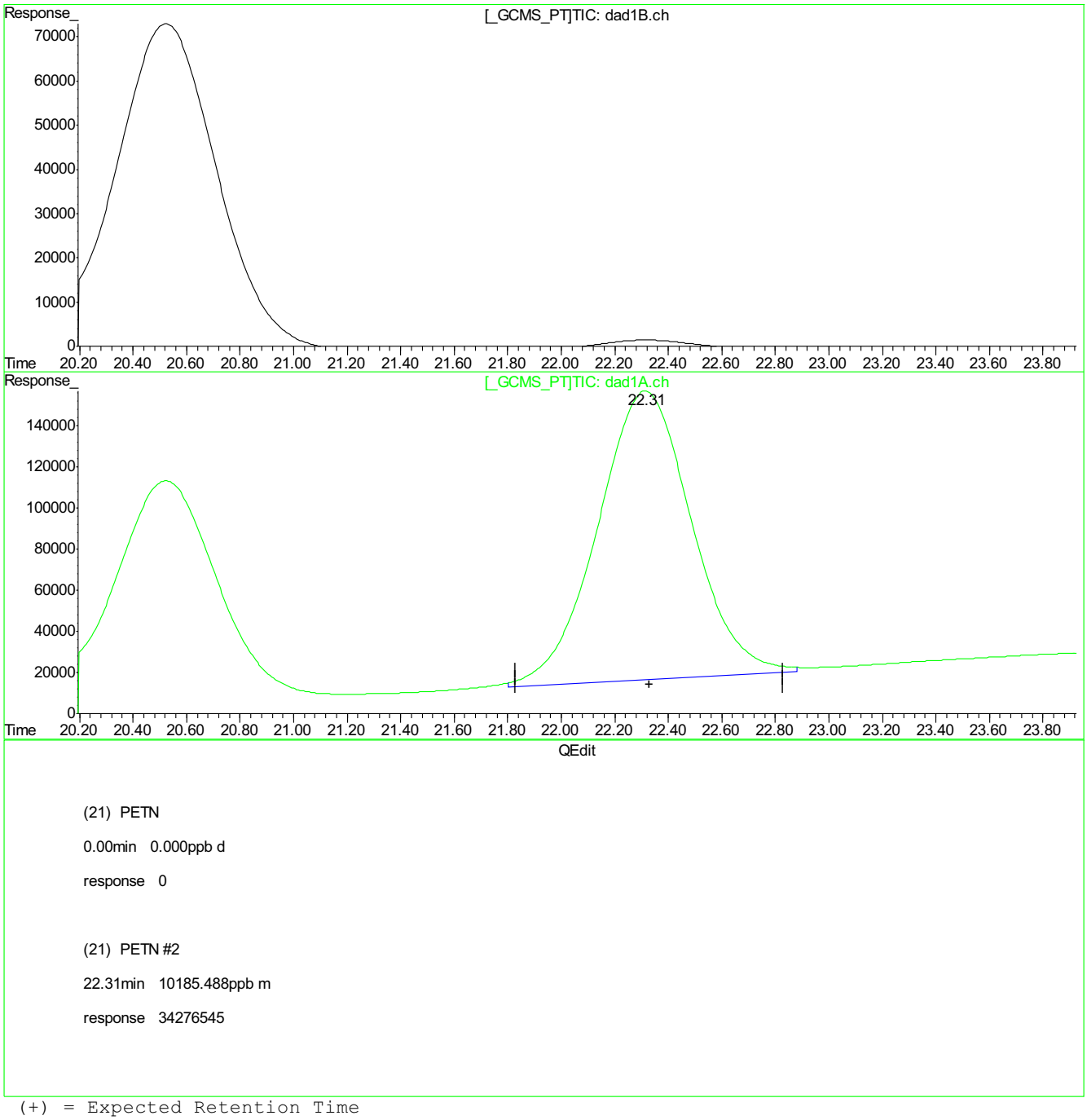
SGS ACCUTEST FA45722

Cal Report: GG613494.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.31min 10185.488ppb m

response 34276545

(+) = Expected Retention Time
GG613494.D 8330RPB.M_0720M.M Mon Jul 24 11:07:20 2017

9.5.20.3

9

GG613494.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613495.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:15:32 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.95	4.95	4681813	4655631	572.129m	568.675m
2)	HMX	5.32	5.32	1854312	1854312	500.919	501.376
3)	DNX	5.51	5.51	3844025	3844025	570.600	562.695
4)	MNX	6.51	6.51	3816150	3816150	792.128	792.128
5)	1,3,5-Trinitrobe	7.54	7.54	4709867	4707109	443.702	442.225
6)	RDX	7.88	7.88	2250325	2239312	456.122	454.946
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	11.11	11.11	4194452	4954422	446.131	525.992
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	12.65	0	9959310	N.D. d	3169.633
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	14.92	14.92	3452518	5422317	494.690	519.165
14)	2,4-Dinitrotolue	15.62	15.62	5842207	4213761	439.623	452.304
15)	o-Nitrotoluene	17.34	17.35	2722442	4133283	456.724	464.796
16)	3,5-Dinitroanili	16.60	16.60	5063545	8162863	490.305	485.240
17)	p-Nitrotoluene	18.42	18.41	5489822	10294925	446.097	478.056
18)	4-Amino-2,6-Dini	18.42	18.41	5489822	10294925	446.097	478.056
19)	m-Nitrotoluene	19.79	19.78	2888385	4879032	442.932	495.386
20)	2-Amino-4,6-Dini	20.51	20.51	4314896	5802801	455.997	470.213
21)	PETN	0.00	22.29	0	10671024	N.D. d	3441.118m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 13:56:37 2017 Page 1

9.5.21
9

SGS ACCUTEST FA45722

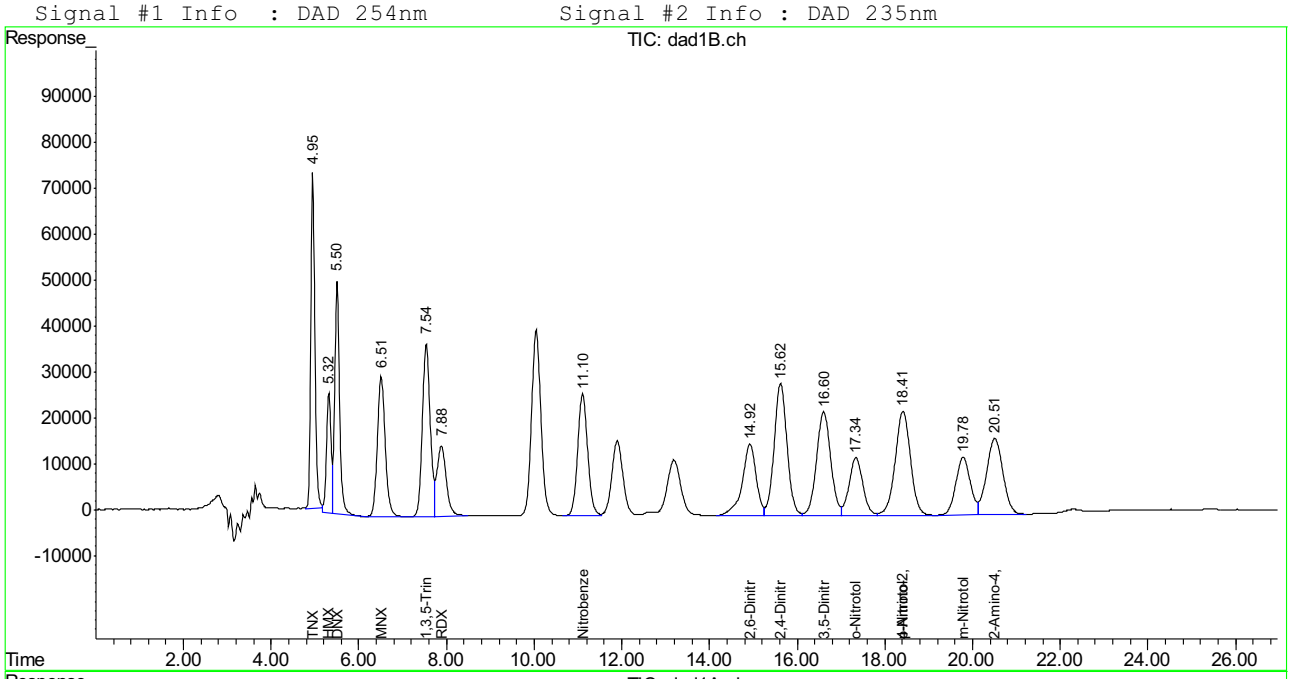
GG613495.D: GGG2548-ICV2548 Initial Calibration Verification (500) page 1 of 2

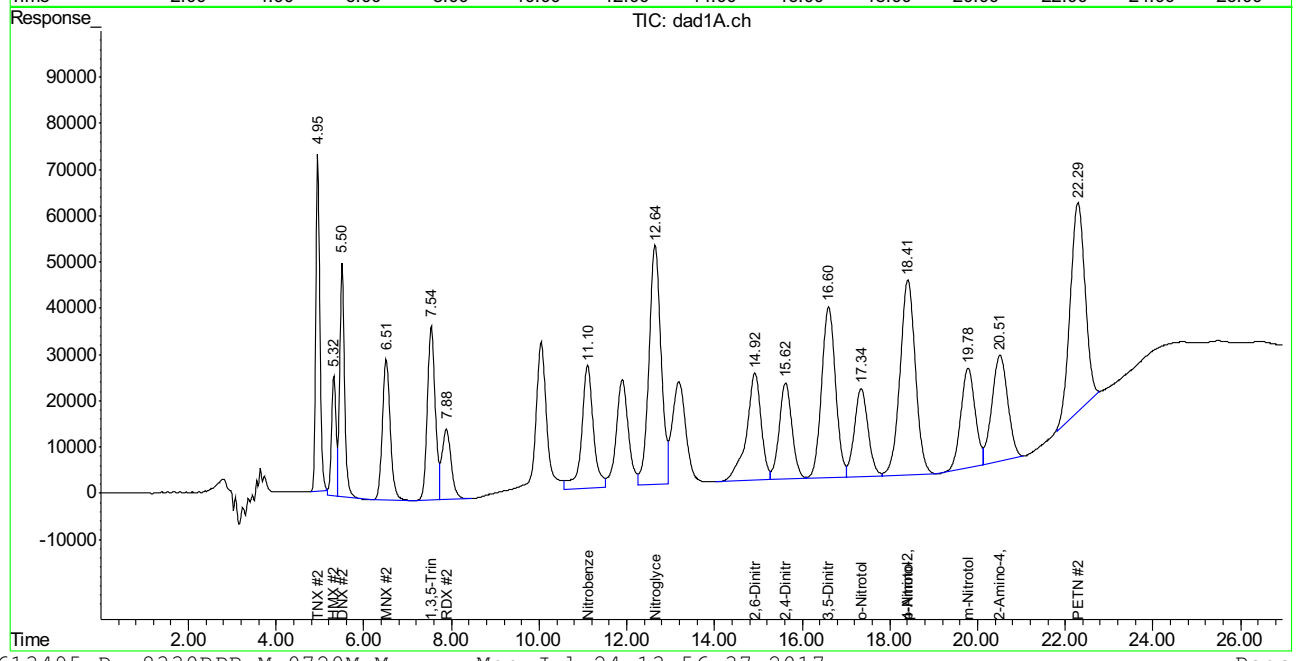
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:19 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-ICV2548 **Method:** SW846 8330B
Lab FileID: GG613495.D **Analyst approved:** 07/24/17 14:06 Evita Martinez
Injection Time: 07/20/17 20:09 **Supervisor approved:** 07/26/17 18:27 Mike Eger

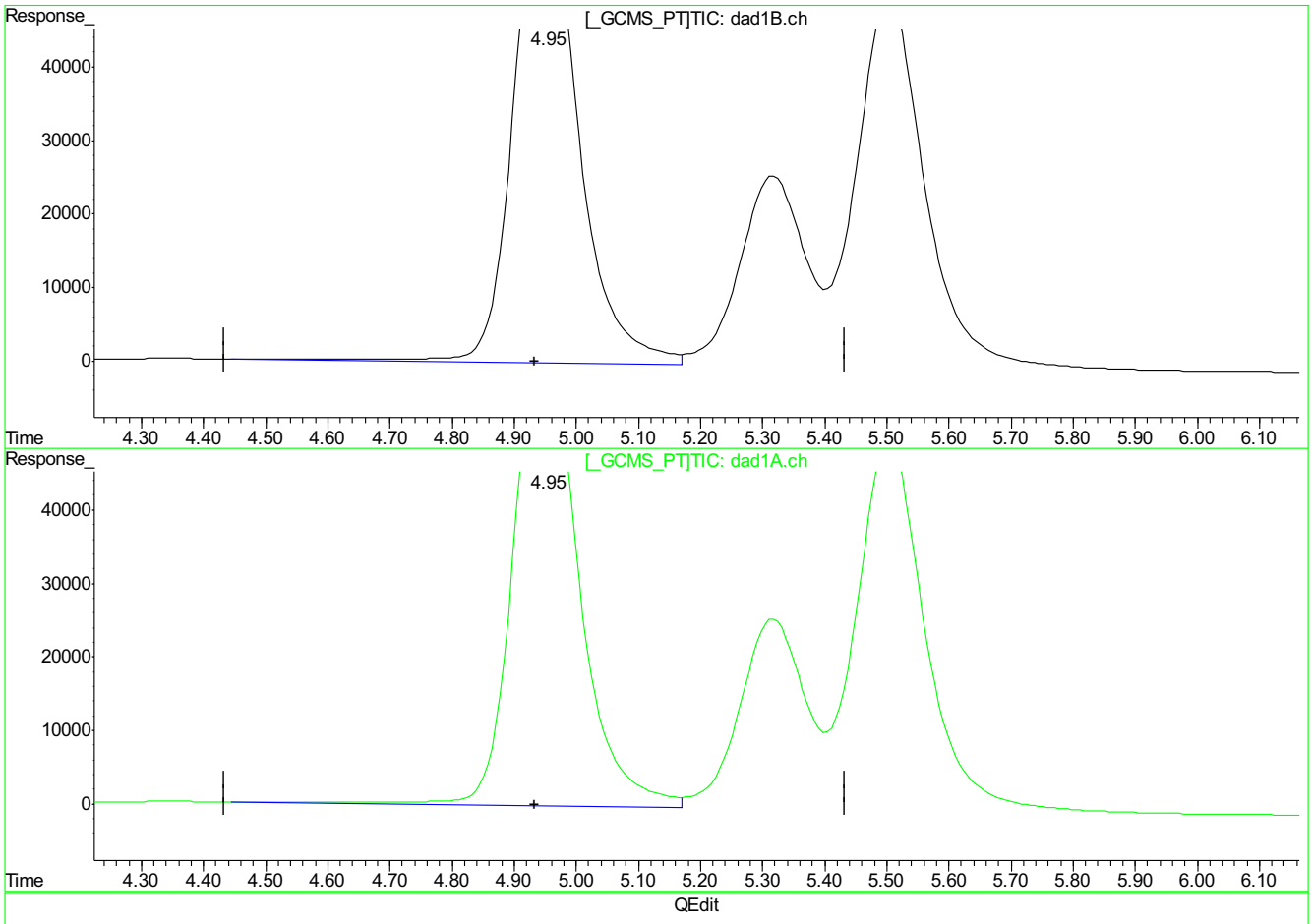
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
PETN	78-11-5	2	22.29	Poorly defined baseline

Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:09 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration



QEdit

(1) TNX

4.95min 592.800ppb

response 4850963

(1) TNX #2

4.95min 592.534ppb

response 4850963

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:10:38 2017

9.5.21.2

9

GG613495.D edits: TNX

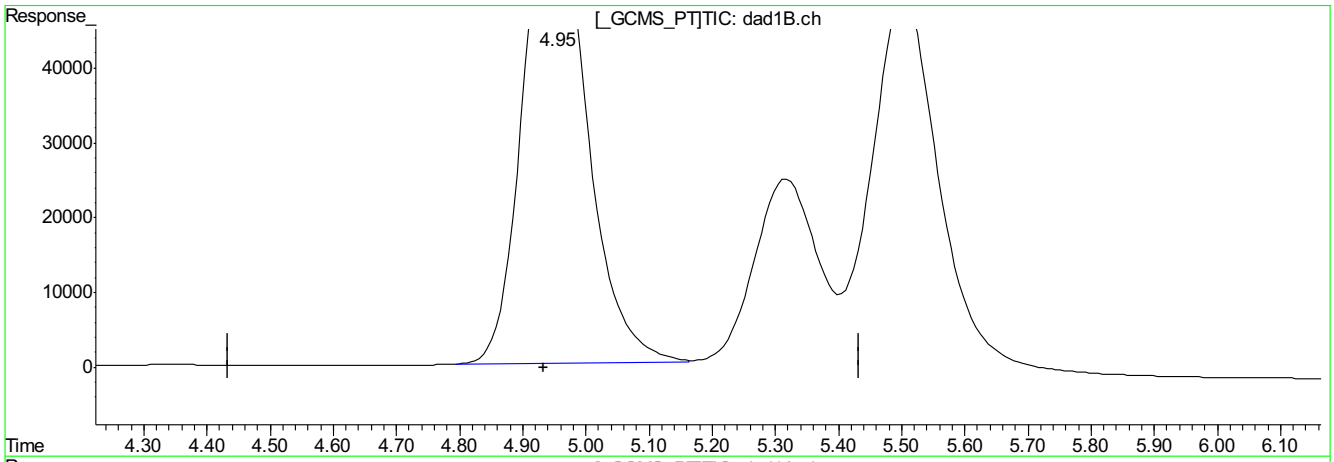
SGS ACCUTEST FA45722

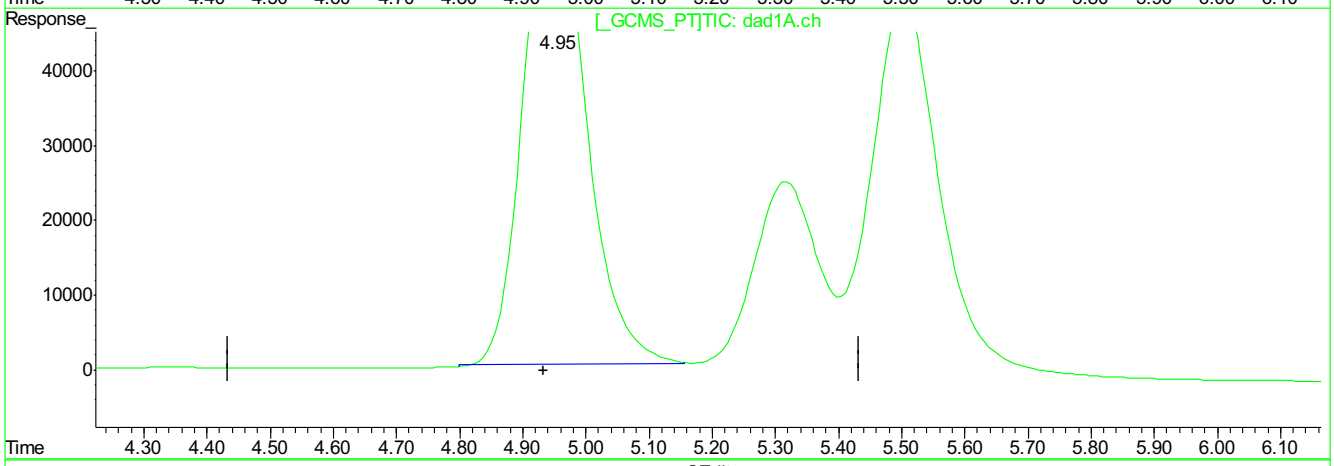
Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:09 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.95min 565.660ppb m

response 4628872

(1) TNX #2

4.95min 558.821ppb m

response 4574964

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:10:54 2017

9.5.21.3

9

GG613495.D edits: TNX

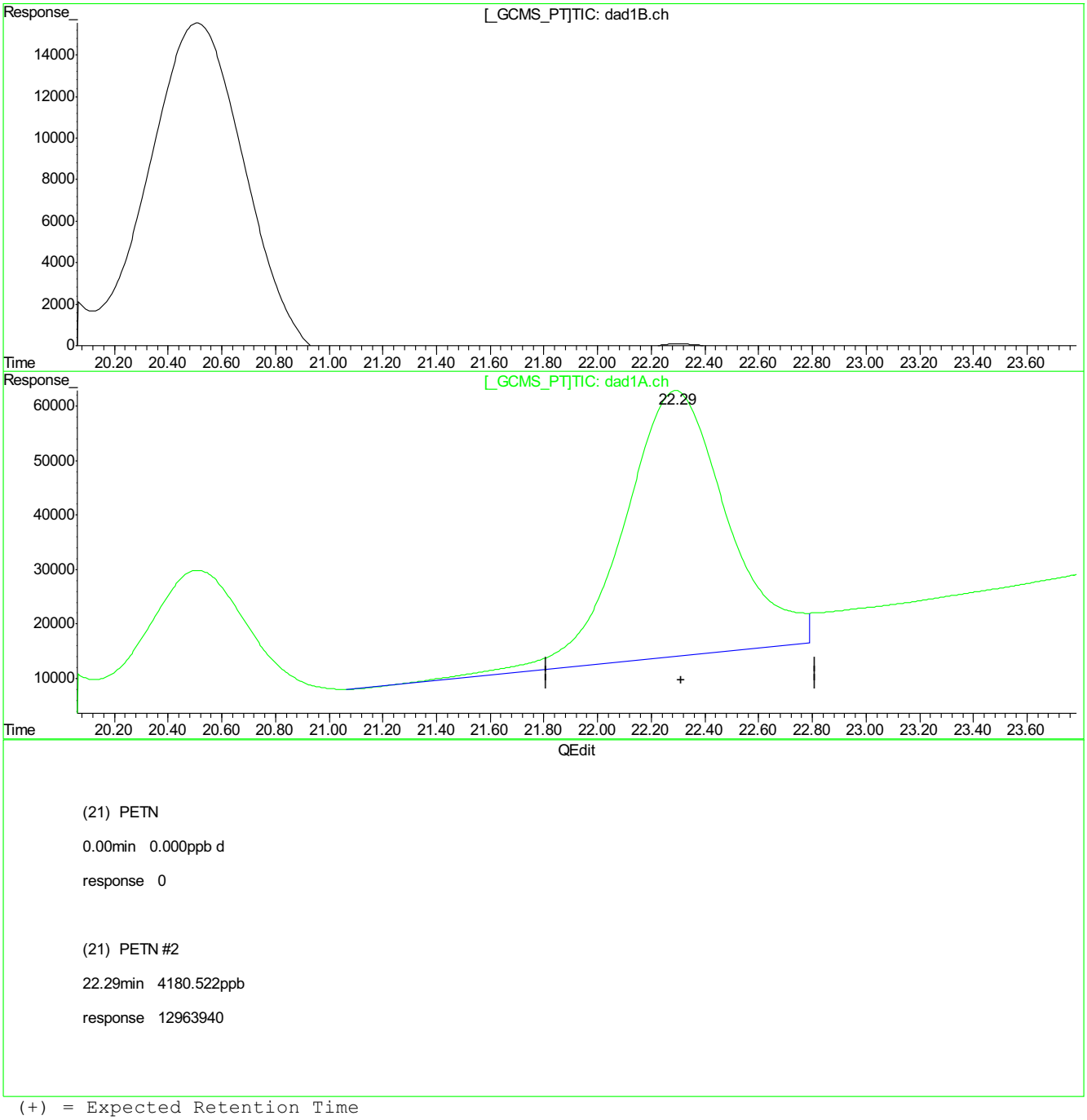
SGS ACCUTEST FA45722

Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:12 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.29min 4180.522ppb

response 12963940

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:13:22 2017

9.5.21.4

9

GG613495.D edits: PETN

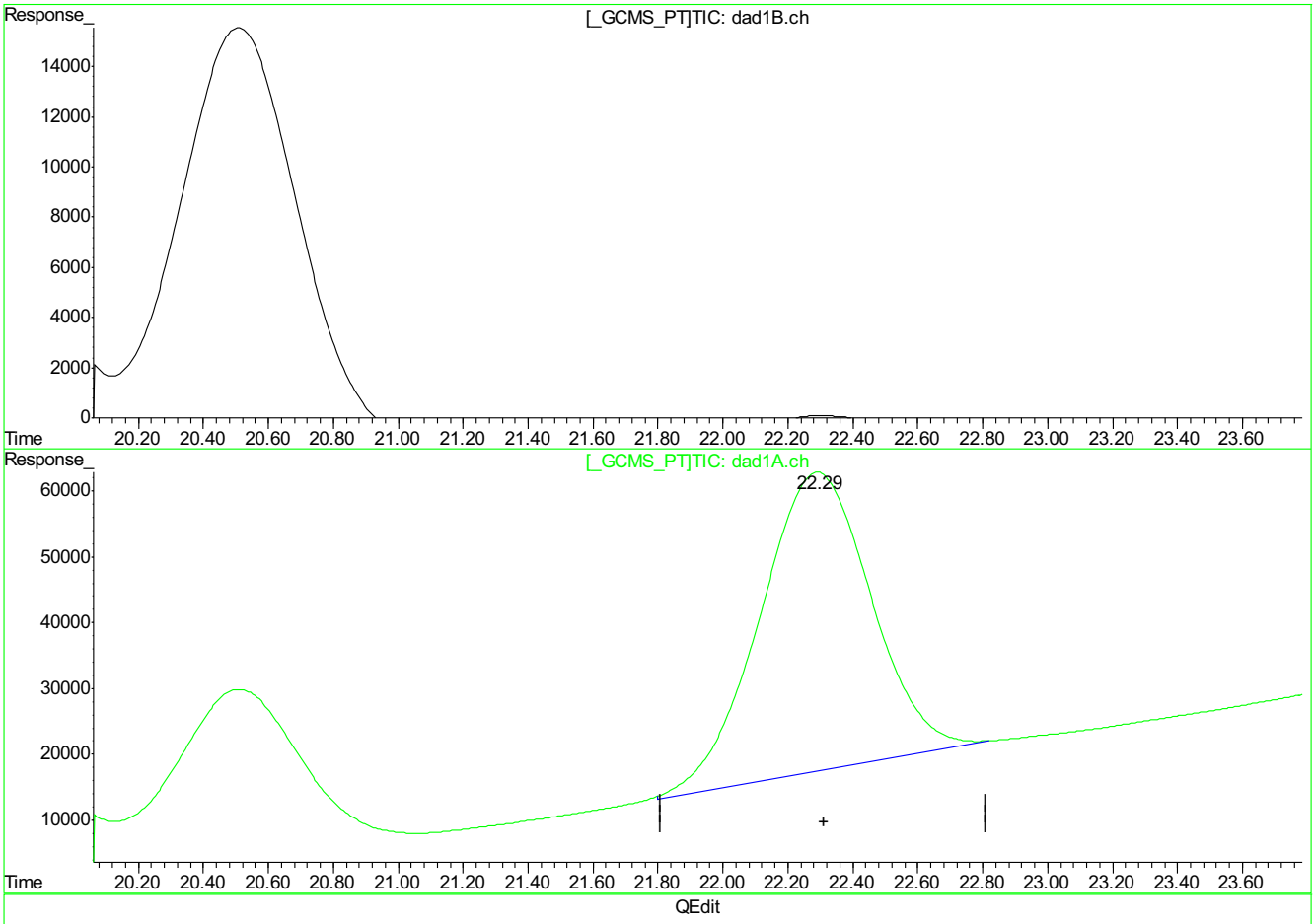
SGS ACCUTEST FA45722

Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:12 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.29min 3484.689ppb m

response 10806137

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:13:25 2017

9.5.21.5

9

GG613495.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613496.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:16:19 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	10.06	10.05	7055576	5625090	486.623	486.910m
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	11.91	11.90	4113383	6206833	402.882	462.689m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	13.21	13.20	3658378	6846307	466.977	542.143m
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

9.5.22
6

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613496.D 8330RPB.M_0720M.M Mon Jul 24 13:56:38 2017 Page 1

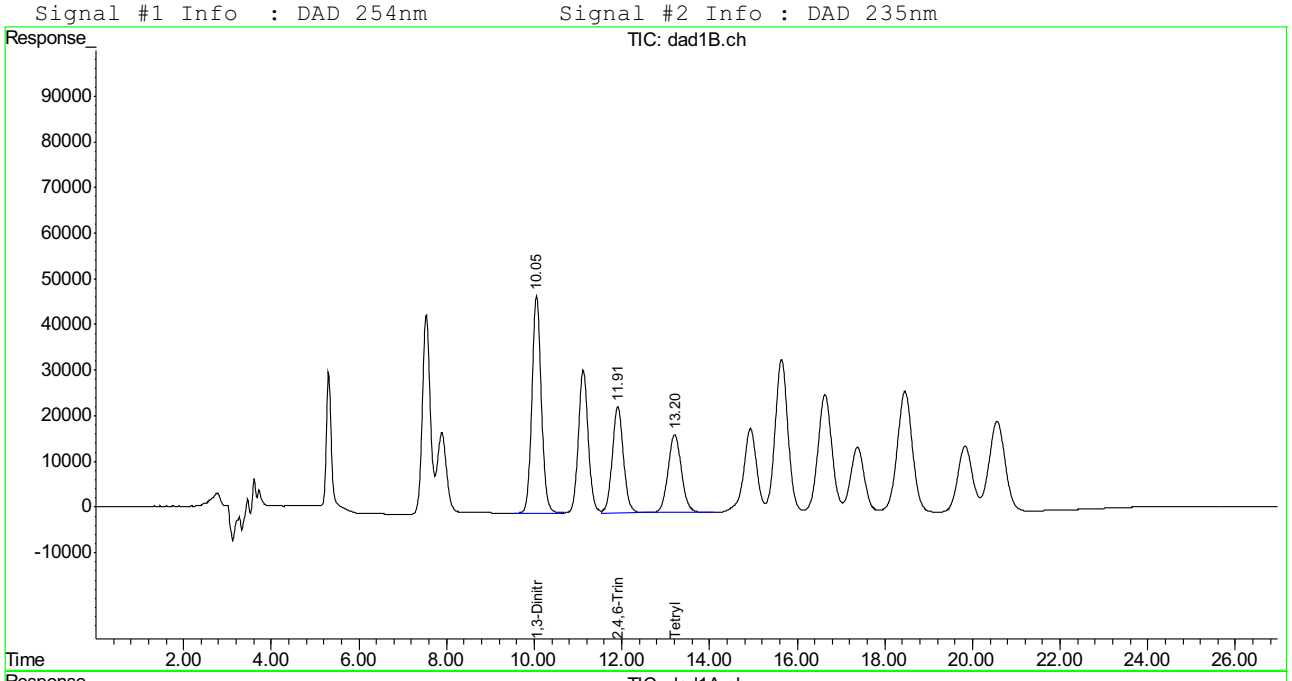
SGS ACCUTEST FA45722

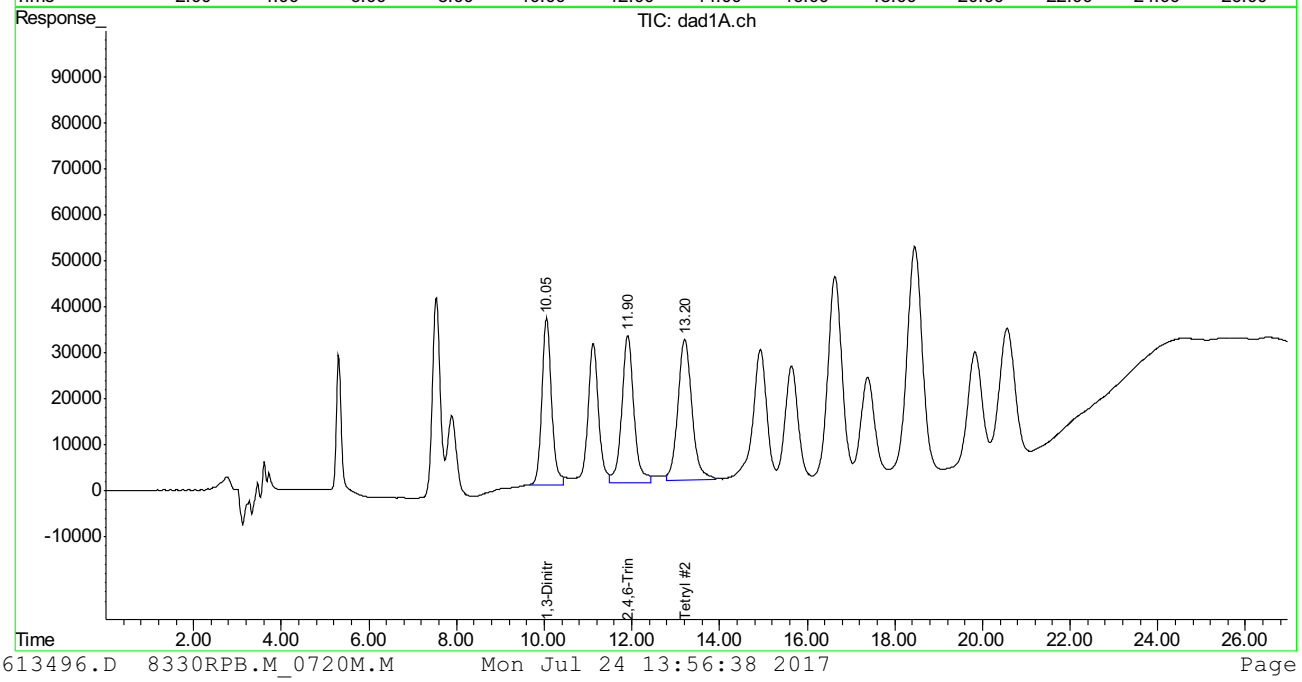
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:21 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45722

Manual Integration Approval Summary

Sample Number: GGG2548-ICV2548
Lab FileID: GG613496.D
Injection Time: 07/20/17 20:39
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

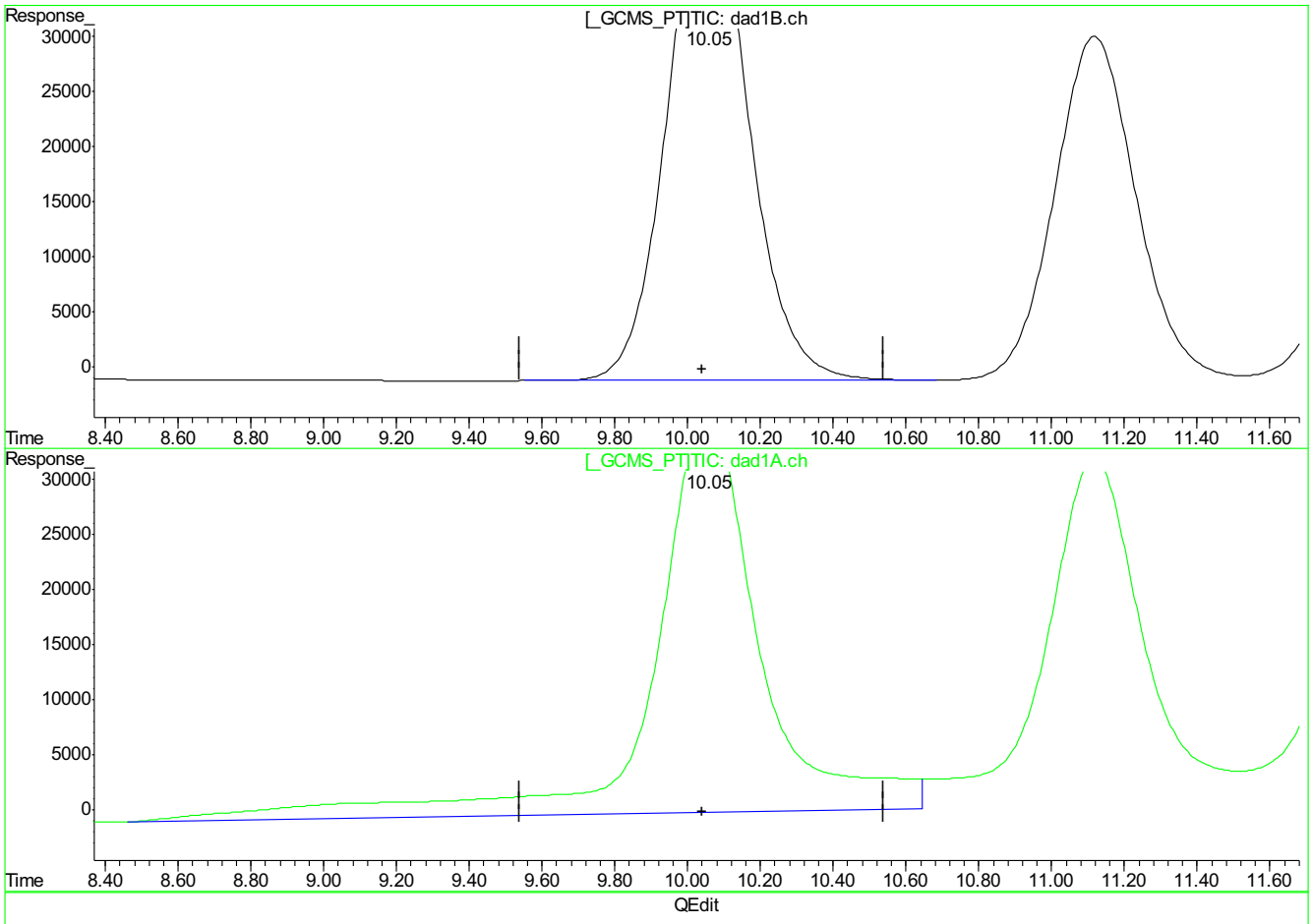
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.90	Poorly defined baseline
Tetryl	479-45-8	2	13.20	Poorly defined baseline

Cal Report: GG613496.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:16 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.06min 486.623ppb

response 7055576

(7) 1,3-Dinitrobenzene #2

10.06min 648.710ppb

response 7494303

(+) = Expected Retention Time
GG613496.D 8330RPB.M_0720M.M Mon Jul 24 11:19:44 2017

GG613496.D edits: 1,3-Dinitrobenzene

9.5.22.2

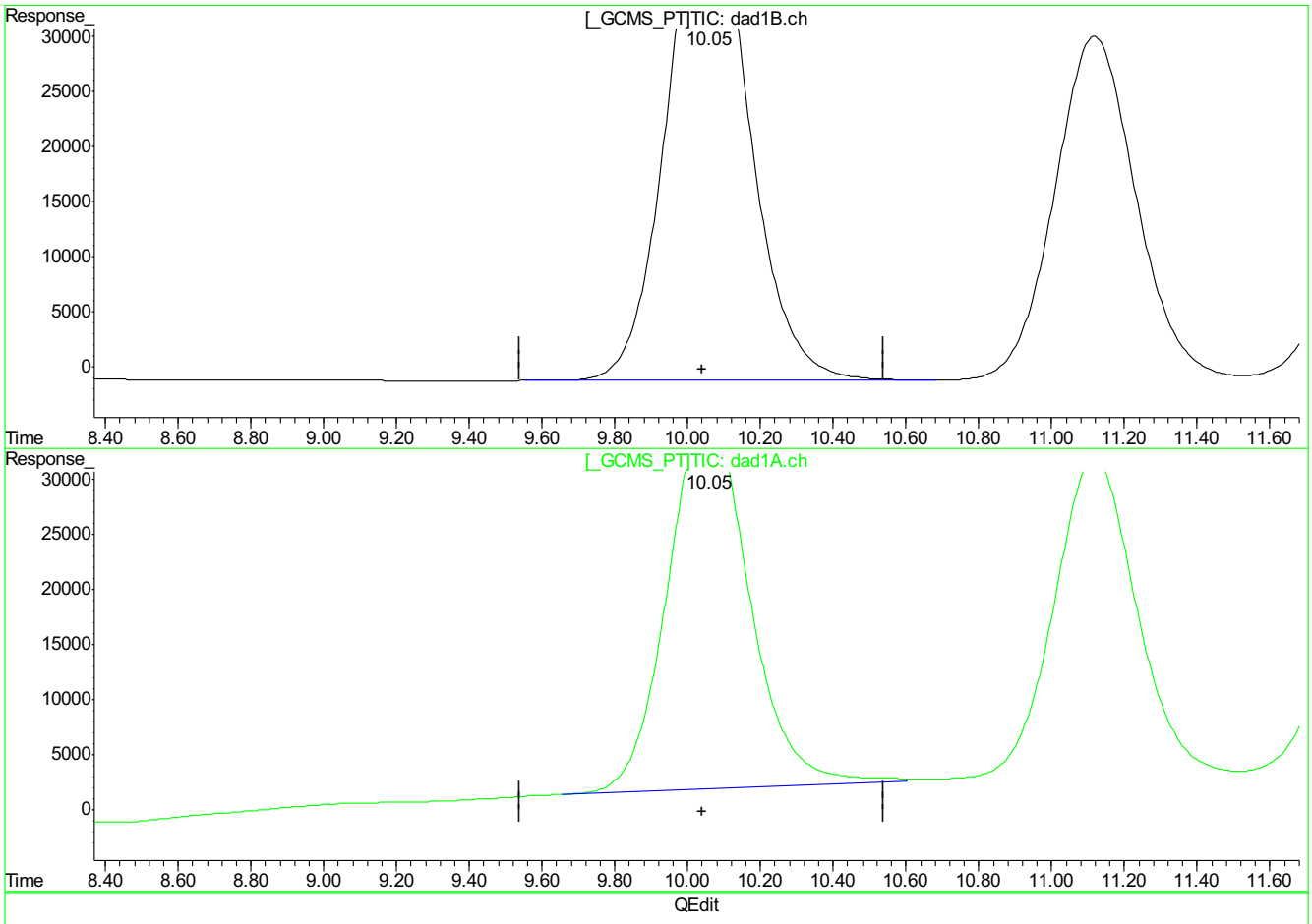
9

SGS ACCUTEST FA45722

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:16 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.06min 486.623ppb

response 7055576

(7) 1,3-Dinitrobenzene #2

10.05min 462.334ppb m

response 5341172

(+) = Expected Retention Time
GG613496.D 8330RPB.M_0720M.M Mon Jul 24 11:19:47 2017

9.5.22.3
9

Cal Report: GG613507.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:05 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.39	14.39	5588155	11423818	994.421	993.093
	Spiked Amount 500.000	Range 69 - 134		Recovery =		198.88%#	198.62%#
	Target Compounds						
1)	TNX	4.94	4.94	8131518	8131518	993.692	993.247
2)	HMX	5.31	5.31	3767412	3767412	1017.719	1018.648
3)	DNX	5.50	5.50	6472613	6472613	960.782	947.472
4)	MNX	6.51	6.51	4887741	4887741	1014.561	1014.561
5)	1,3,5-Trinitrobe	7.53	7.53	10524916	10517674	991.520	988.117
6)	RDX	7.88	7.88	4949296	4916439	1003.180	998.840
7)	1,3-Dinitrobenze	10.03	10.03	14322048	12316749	987.791	1066.143
8)	Nitrobenzene	11.09	11.09	9430262	10201376	1003.023	1083.042
9)	2,4,6-Trinitroto	11.87	11.87	10011955	14414914	980.614	1065.356
10)	Nitroglycerin	0.00	12.60	0	16865429	N.D. d	5367.562
11)	Tetryl	13.15	13.15	7818602	14395408	998.013	1139.938
13)	2,6-Dinitrotolue	14.88	14.88	6920131	10474612	991.543	1002.902
14)	2,4-Dinitrotolue	15.58	15.58	13181085	9571261	991.871	1013.548
15)	o-Nitrotoluene	17.30	17.30	5962762	9143033	1000.329	1024.799
16)	3,5-Dinitroanili	16.59	16.59	10577982	17705885	1014.474	1034.394
17)	p-Nitrotoluene	18.39	18.39	12139199	22584242	986.418	1028.420
18)	4-Amino-2,6-Dini	18.39	18.39	12139199	22584242	986.418	1028.420
19)	m-Nitrotoluene	19.76	19.76	6576117	11238910	1008.444	1141.128
20)	2-Amino-4,6-Dini	20.51	20.51	9626745	13124009	1017.353	1022.855
21)	PETN	0.00	22.25	0	16543532	N.D. d	5334.844m

9.5.23
9

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613507.D 8330RPB.M_0720M.M Mon Jul 24 13:56:47 2017 Page 1

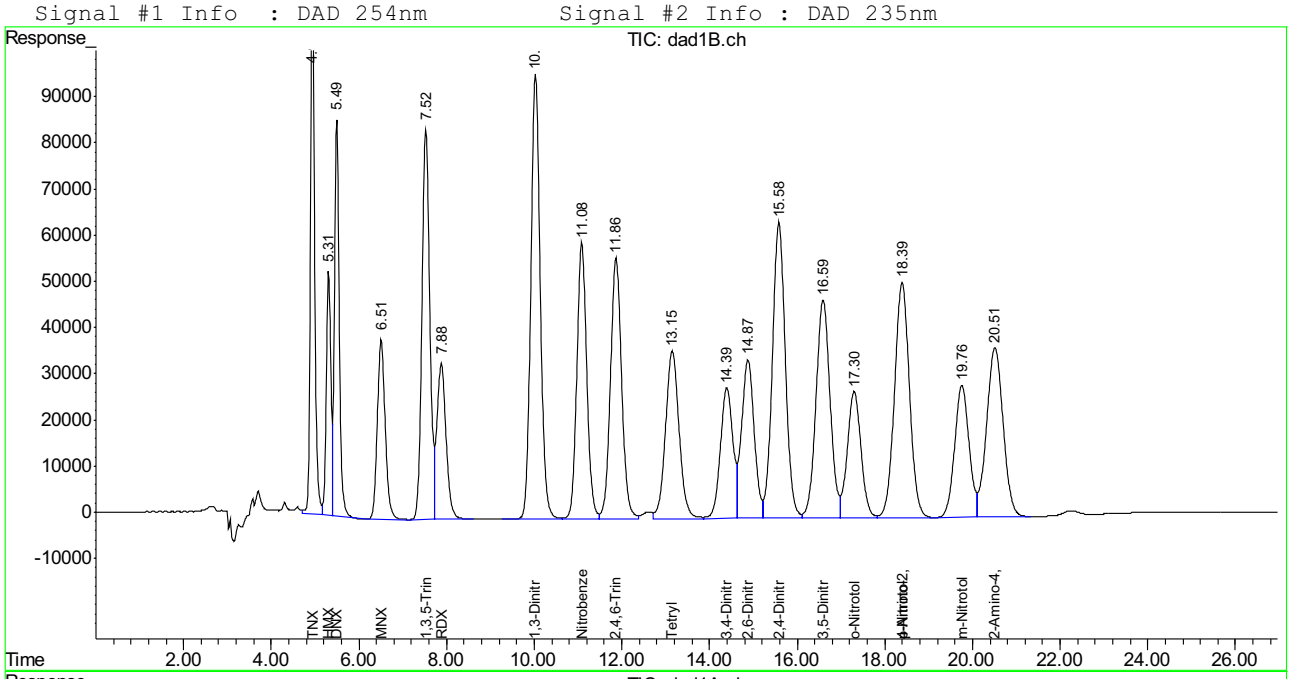
SGS ACCUTEST FA45722

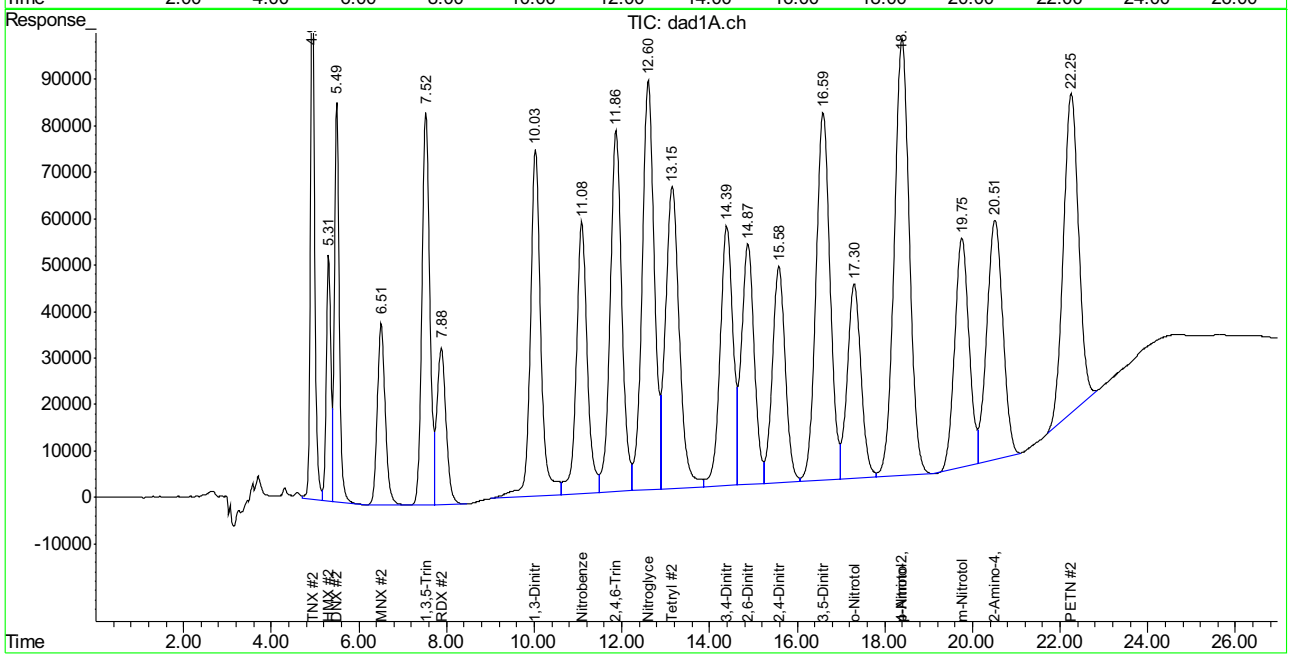
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 12:02 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-CC2548
Lab FileID: GG613507.D
Injection Time: 07/21/17 02:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

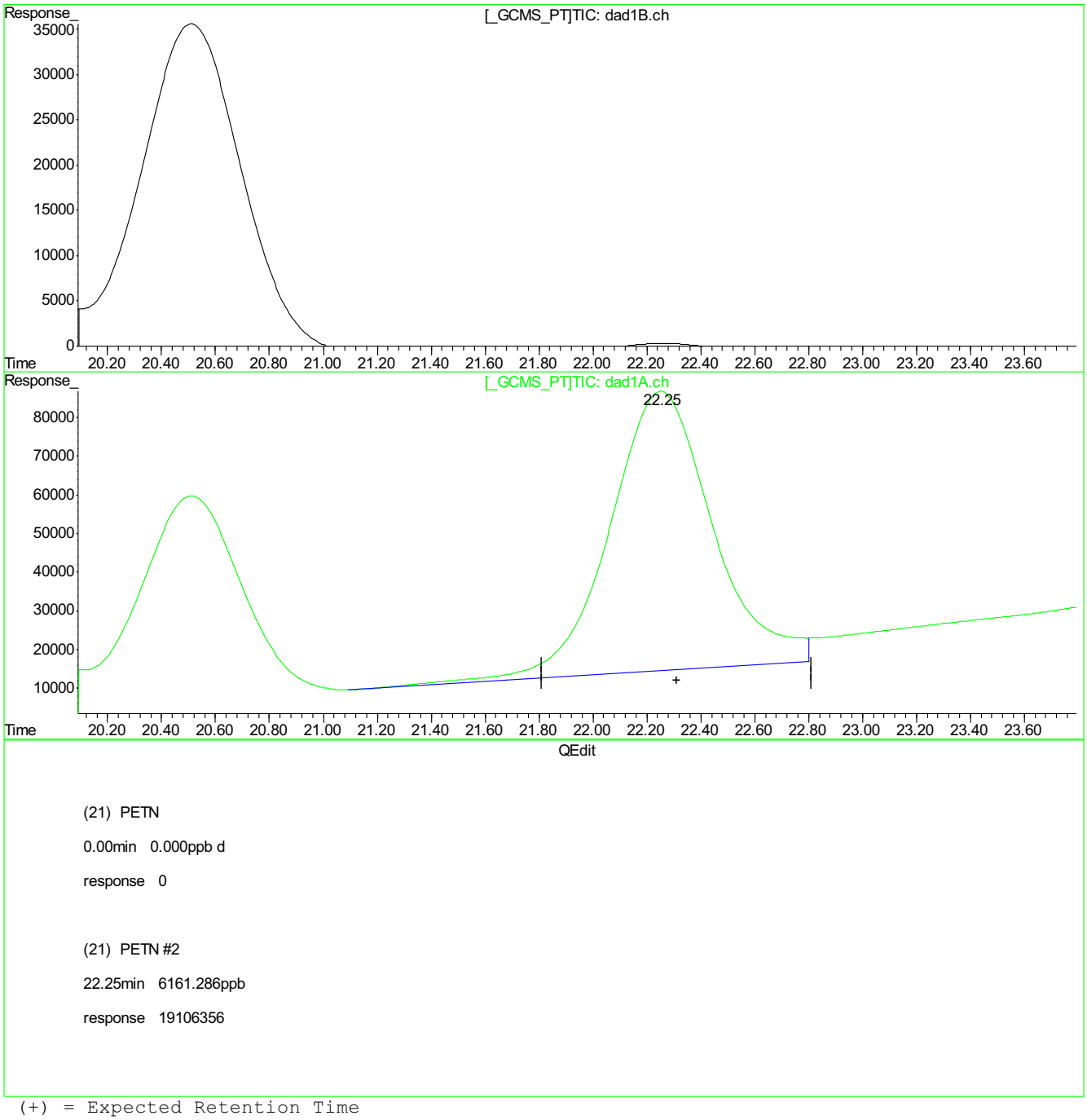
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.25	Poorly defined baseline

Cal Report: GG613507.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.25min 6161.286ppb

response 19106356

(+) = Expected Retention Time
GG613507.D 8330RPB.M_0720M.M Mon Jul 24 12:02:29 2017

9.5.23.2

9

GG613507.D edits: PETN

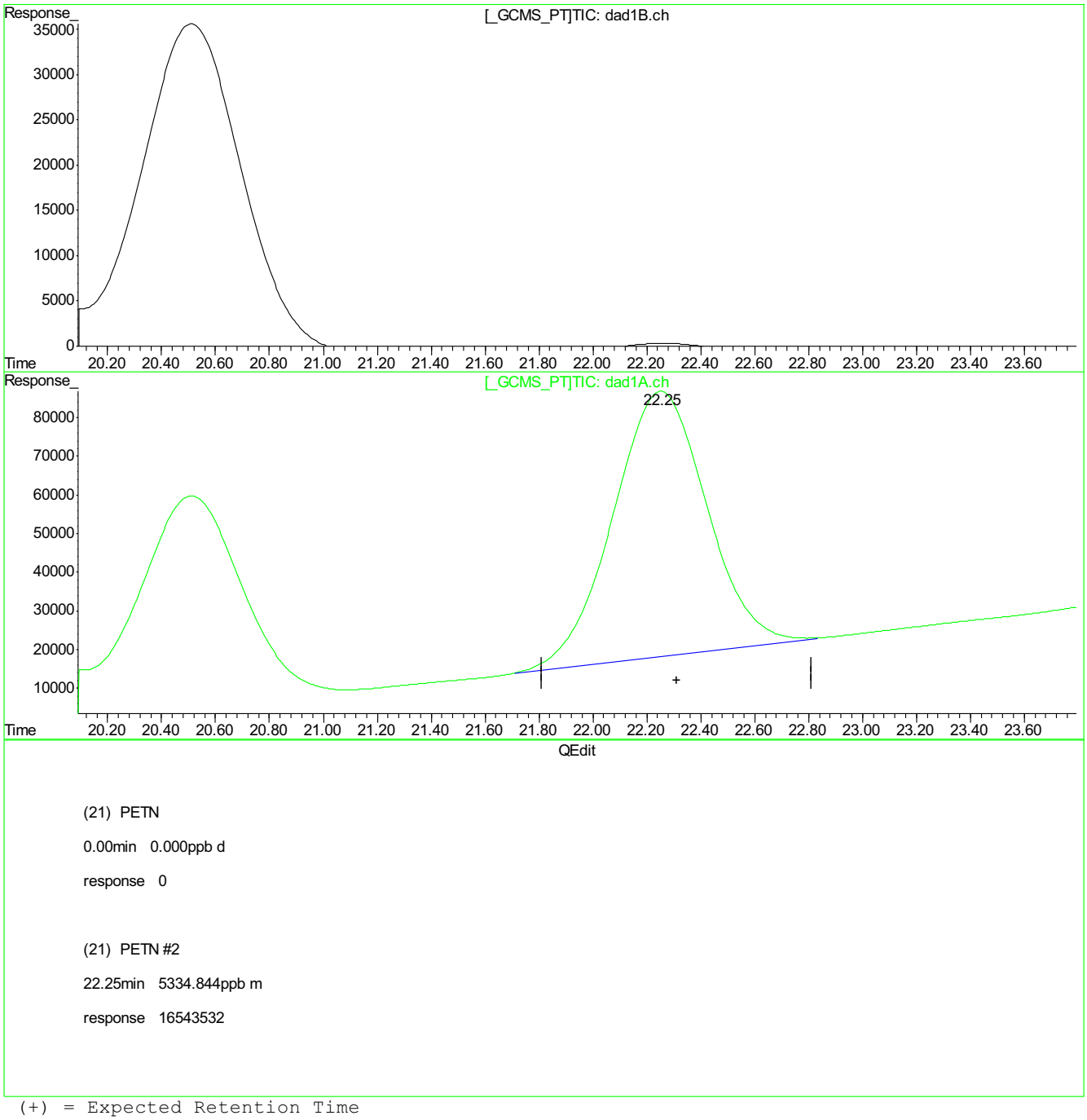
SGS ACCUTEST FA45722

Cal Report: GG613507.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.25min 5334.844ppb m

response 16543532

(+) = Expected Retention Time
GG613507.D 8330RPB.M_0720M.M Mon Jul 24 12:02:33 2017

9.5.23.3

9

GG613507.D edits: PETN

SGS ACCUTEST FA45722

Cal Report: GG613517.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613517.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613517.D\dad1A.ch
Acq On : 21-Jul-2017, 06:57:52 Operator: evitam
Sample : eCC2548-1000 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:23 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.41	14.41	5553690	11176363	988.288	971.581
	Spiked Amount 500.000	Range 70 - 136		Recovery =		197.66%#	194.32%#
	Target Compounds						
1)	TNX	4.95	4.95	8037387	8037387	982.189	981.749
2)	HMX	5.32	5.32	3727129	3727129	1006.837	1007.756
3)	DNX	5.51	5.51	6396561	6396561	949.493	936.339
4)	MNX	6.51	6.51	4844319	4844319	1005.548	1005.548
5)	1,3,5-Trinitrobe	7.54	7.54	10467399	10457390	986.101	982.454
6)	RDX	7.89	7.89	4925905	4881912	998.439	991.826
7)	1,3-Dinitrobenze	10.04	10.04	14295260	11816589	985.943	1022.849
8)	Nitrobenzene	11.10	11.10	9390837	10093756	998.830	1071.616
9)	2,4,6-Trinitroto	11.89	11.89	9955796	14244921	975.114	1052.978
10)	Nitroglycerin	0.00	12.63	0	16811606	N.D. d	5350.433
11)	Tetryl	13.17	13.16	7783880	14503139	993.581	1148.469
13)	2,6-Dinitrotolue	14.89	14.89	6914799	10309466	990.779	987.090
14)	2,4-Dinitrotolue	15.60	15.60	13162651	9499804	990.484	1006.159
15)	o-Nitrotoluene	17.30	17.30	5943384	9264498	997.078	1038.332
16)	3,5-Dinitroanili	16.58	16.58	10526572	17817133	1009.633	1040.687
17)	p-Nitrotoluene	18.38	18.37	12063750	22341301	980.287	1017.740
18)	4-Amino-2,6-Dini	18.38	18.37	12063750	22341301	980.287	1017.740
19)	m-Nitrotoluene	19.75	19.75	6537576	10984676	1002.534	1115.314
20)	2-Amino-4,6-Dini	20.48	20.48	9600181	13079402	1014.546	1019.608
21)	PETN	22.25	22.24	221876	16501890	NoCal	5321.416m#

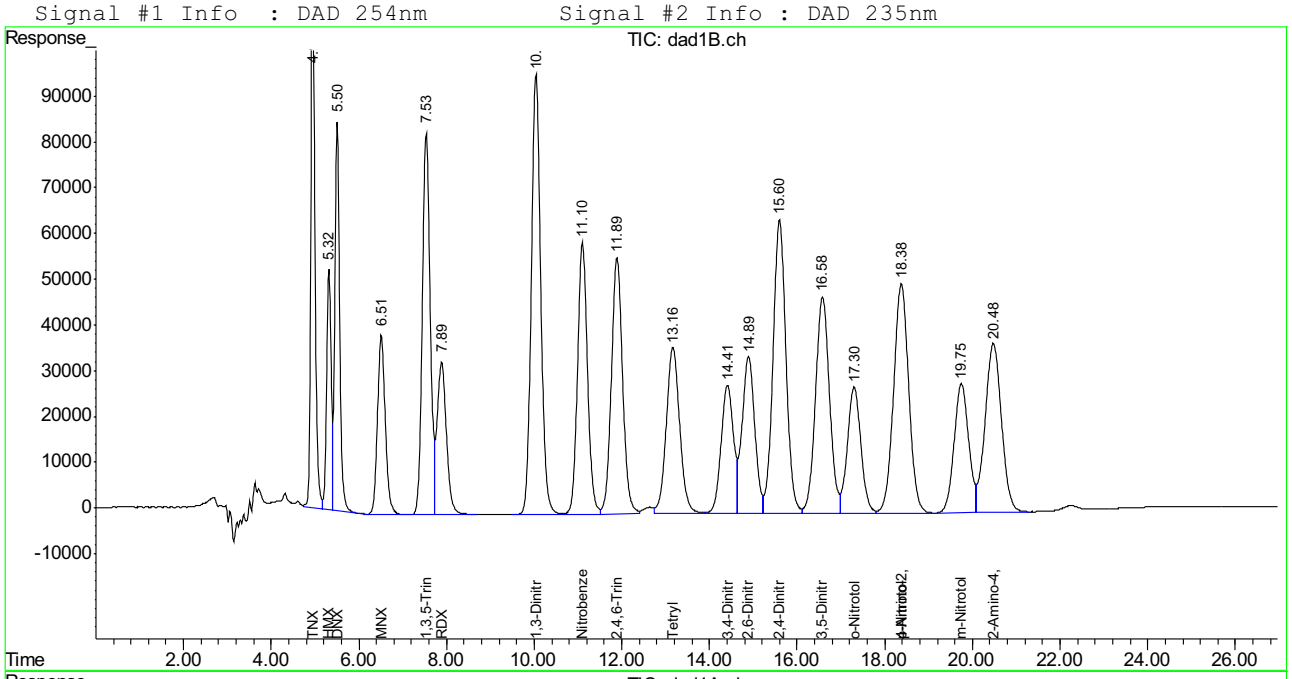
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613517.D 8330RPB.M_0720M.M Mon Jul 24 13:56:56 2017 Page 1

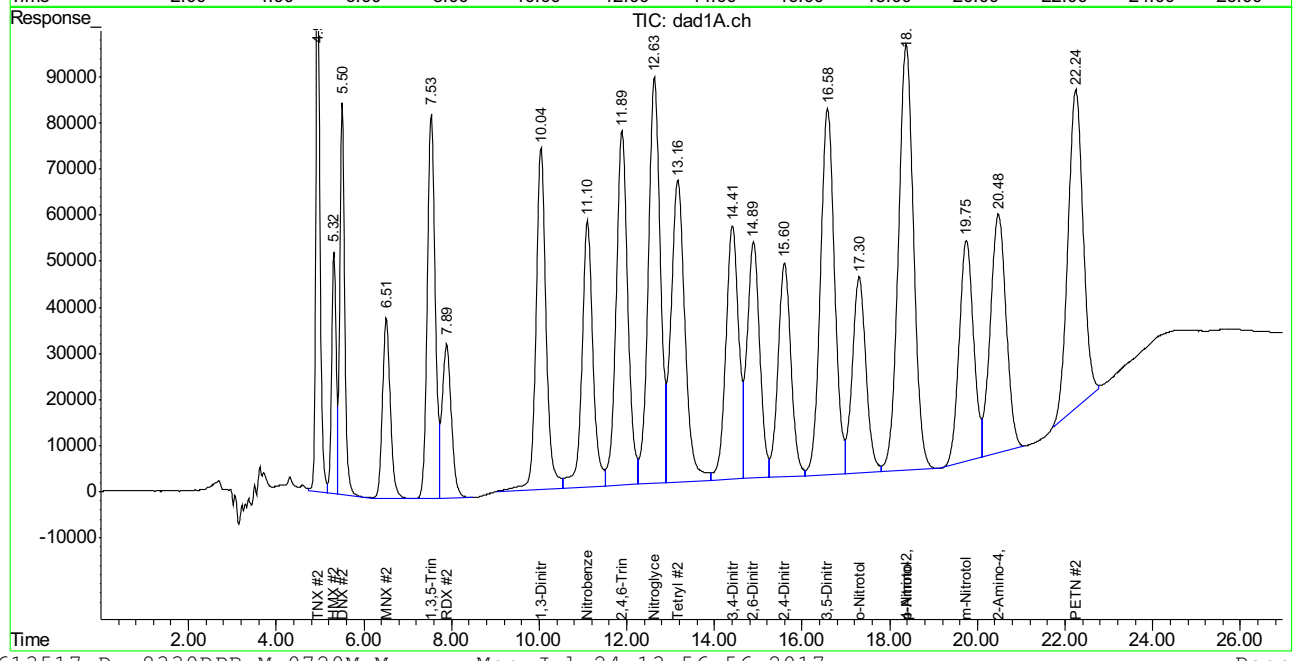
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613517.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613517.D\dad1A.ch
Acq On : 21-Jul-2017, 06:57:52 Operator: evitam
Sample : eCC2548-1000 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:55 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-ECC2548
Lab FileID: GG613517.D
Injection Time: 07/21/17 06:57
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.24	Poorly defined baseline

SGS ACCUTEST-ORLANDO

DATE:	6/29/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 ARB
ACQ. METHOD:	8330 b
PROC. METHOD:	8330 0629 qus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1615

ANALYST:	SM
ACETONITRILE LOT #:	341
MEOH LOT #:	166451
HEAD PRESSURE:	207 2

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS /RATIONALE, PEAK #	COMMENTS
BB 055885	1	CCB	8330				test only
BB 90	1	CC1612-1000		LC870	1:1		
BB 91	1	test					
BB 92	1						
BB 93	1						
BB 94	1						
BB 95	1						
BB 96	41	IC1615-20		LC870	50+50 50+450	PII	CCMC pass
BB 97	42	-50			10+390		
BB 98	43	-100			25+475		
BB 99	44	-200			50+450		
BB 100	45	-500			100+300		
BB 01	46	1CC -1000			200/300		
BB 02	47	ICV -200			1X		6/29/17
BB 03	48	ICV -500		ES725(C8)A LCS/MES911	20:25 25 10	PII	PETN pass
BB 04	49	ICV -520		ES729	40X		today 2,4,T only
BB 05	50 31	FA45216-1		0629LA	1X		R1 for PETN
BB 06	32	-1			40/400	10X	✓
BB 07	33	-3			1X		R1 for PETN
BB 08	34	-3			40/400	10X	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: S. Klein

SGS ACCUTEST-ORLANDO

DATE:	6/29/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 0619.pkl
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1615

ANALYST:	GM
ACETONITRILE LOT #:	311
MEOH LOT #:	166431
HEAD PRESSURE:	207

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 055909	35	FQ45216-5	8330	OP45867	1X		RL for PETN
BB 10	36	-5			40/1000	10X pii	✓
BB 11	37	-6			1X		✓
BB 12	2	CC1615-1000		LC870	1:1	pii	✓
BB 13	1	CCB					ND
BB 14	3	OP65689-5		OP65689	1X	pii	✓
BB 15	4	-MT				pii	✓
BB 16	5	-MB					ND
BB 17	6	FQ44369-1,re					✓
BB 18	7	OP65687 MS				pii	✓
BB 19	8	-MSD				pii	✓
BB 20	9	FQ44369-2,re					✓
BB 21	10	-3					✓
BB 22	11	-4					✓
BB 23	12	-5					✓
BB 24	13	-6					✓
BB 25	2	CC1615-1000		LC870	181	pii	1.03
BB 26	1	CCB					ND
BB 27	14	FQ44369-7,re		OP65568	1X	pii	✓
BB 28	15	-8,re					✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Dlen

SGS ACCUTEST-ORLANDO

DATE:	6/20/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 DoD
CALIB. DATE:	6/25/17
RUN BATCH: GBB	1615

ANALYST:	EHC
ACETONITRILE LOT #:	3417
MEOH LOT #:	166217
HEAD PRESSURE:	207

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 055929	16	FA44369-9ve	8330	OP65689	1X	pii	✓
BB 30	01	ICV1615-500		8620C	2000X	pii	PETN only (DOD)
BB 31	31	FA45216-1		OP65687	1X		--
BB 32	33	-3					✓
BB 33	35	-5					✓
BB 34	37	-6					✓
BB 35	17	FA44369-10 ve		OP65689	1X		✓
BB 36	18	-11 re					✓
BB 37	2	cc 1615-100		CRS10	1:1	pii	pass
BB 38	1	CCB					ND
BB 39	19	FA44 OP65689-dup		OP65689	1X		✓
BB 40	20	-dup2					✓
BB 41	51	OP65711-BS		65711	1	pii	✓
BB 42	52	-PT1				pii	✓
BB 43	53	-MB					ND
BB 44	54	FA44411-1					✓
BB 45	55	OP65711-MS					✓
BB 46	56	-MSD					✓
BB 47	57	FA44411-2					ND
BB ✓ 48	58	-3	✓				ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	6/29/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	10 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 dp29jdes
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1615

ANALYST:	EH
ACETONITRILE LOT #:	341166751
MEOH LOT #:	207
HEAD PRESSURE:	

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051945	2	CC 1615-1000	8330	LC870	500/1000	CC1615-1000 PII	ND
BB 50	1	CCB 1615		—			ND
BB 51	59	FA444411-4		65711	1		ND
BB 52	60	OP65714-Dup					ND
BB 53	61	-Dup2					
BB 54	62	FA444414-5					
BB 55	63	-6					
BB 56	64	-7					
BB 57	65	-8					
BB 58	66	FA44372-32					
BB 59	2	CC 1615 1800		LC870	500/1000	CC1615-1000	
BB 60	1	CCB 1615		—	—		ND
BB 61	67	OP65712-BS		65712	1	PII	
BB 62	68	-MB					ND
BB 63	69	FA44977-2					
BB 64	70	OP65712-MS					
BB 65	71	-MSD					
BB 66	72	FA44977-3					ND
BB 67	73	OP65712-Dup					ND
BB 68	74	-Dup2					ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	6/20/17
COLUMN TYPE:	ExtendC18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 de29plus
CALIB. DATE:	6/20/17
RUN BATCH: GBB	1615

ANALYST:	EM
ACETONITRILE LOT #:	3411
MEOH LOT #:	166457
HEAD PRESSURE:	207

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 055969	75	FAM9724A	8330	opbb712	1X		ND
BB 70	76	-5A					ND
BB 71	2	CCH616-1000		LC810	1:1	PII	PASS
BB 72	1	CCB					ND
BB 73	77	FAM9726A		opbb712	1X		ND
BB 74	78	-7A					
BB 75	79	-8A					
BB 76	80	-9A					
BB 77	81	-10A					
BB 78	2	ECCH616-1000		LC810	1:1	PII	PASS
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

MA 7/5/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	7/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EM
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	2165

EM 7/7/17

1/7/17 M

DATA FILE 0629B34	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB ~~0563~~ 7	2	test	8330	———			test only
BB 94 95	1	CCB		———			ND
BB 95 96	4 2	CCV5-1000		LC882	1:1	pii	dNX low 1er signal
BB 96 97	5 04	FA45162-22		0629B82	1X	pii	✓
BB 97 98	5 05	-23					ND
BB 98 99	5 25	-24					ND
BB 99 100	5 32	-25					ND
BB 100 01	5 33	-26					ND
BB 01 02	5 34	-27					ND
BB 02 03	5 35	0629B76-65		0629A4		pii	✓
BB 03 04	5 36	-PII				pii	✓
BB 04 05	5 37	-MB					ND
BB 05 06	LSE	FA45475-1					ND
BB 06 07	2	CCV5-1000		LC882	1:1	pii	dNX low 1er signal
BB 07 08	1	CCB		———			ND
BB 08 09	59	FA45475-2		0629B76	1X		ND
BB 09 10	60	-3					ND
BB 10 11	61	-4					ND
BB 11 12	62	-5					ND
BB 12 13	63	-6					ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	7/10/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629 D/S
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0564.M	64	FA45475-7	8330	OP45876	1X		ND
BB 15	65	-8					ND
BB 16	66	-9					ND
BB 17	67	-10					ND
BB 18	68	-11					dNX low IS signal
BB 19	2	CC 1615-1000		LC882	1:1	PII	ND
BB 20	1	CCB					ND
BB 21	69	FA45475-12		OP45876	1X		ND
BB 22	70	-13					ND
BB 23	71	-14					ND
BB 24	72	OP45876-dup					ND
BB 25	73	-dup2					ND
BB 26	74	FA45475-15					ND
BB 27	75	-16					ND
BB 28	76	-17					ND
BB 29	77	-18					ND
BB 30	78	-9					dNX low IS signal
BB 31	2	CC 1615-1000		LC882	1:1	PII	ND
BB 32	1	CCB					ND
BB 33	14	OP45876-LCS		OP45876	1X	PII	ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Harris

SGS ACCUTEST-ORLANDO

DATE:	6/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629 plus
CALIB. DATE:	6/24/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0564 M	64	FA45475-7	8330	OP45876	1X		ND
BB 15	65	-8					ND
BB 16	66	-9					ND
BB 17	67	-10					ND
BB 18	68	-11					dNx low ICV signal
BB 19	2	CC 1615-1000		LC882	1:1	PII	ND
BB 20	1	CCB					ND
BB 21	69	FA45475-12		OP45876	1X		ND
BB 22	70	-13					ND
BB 23	71	-14					ND
BB 24	72	OP45876-dup					ND
BB 25	73	-dup2					ND
BB 26	74	FA45475-15					ND
BB 4	75	-16					ND
BB 28	76	-17					ND
BB 29	77	-18					ND
BB 30	78	-9					dNx low ICV signal
BB 31	2	CC 1615-1000		LC882	1:1	PII	ND
BB 32	1	CCB					ND
BB 33	79	OP45876-MS		OP45876	1X	PII	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Harris

SGS ACCUTEST-ORLANDO

DATE:	7/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 0629 PKS
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	343
MEOH LOT #:	171002
HEAD PRESSURE:	765

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0545[illegible]	80	opls 876a.lsd	8330	opls876	1X	pii	✓
BB 35	81	F4J4975-20				EH 7/7/17	ND ✓
BB 36	82	BGnk A					ND
BB 37	83	B					ND
BB 38	84	C		↓	↓		ND
BB 39	3	opls 175.lcs		opls 175	1X	pii	✓
BB 40	4	↓ -mb					ND
BB 41	5	F4J5117-36					ND
BB 42	6	-37					ND
BB 43	2	cc 1415.cow		10882	1:1	pii	CNX low response
BB 44	1	ccb					ND
BB 45	7	F4J5117-38		opls775	1X		ND
BB 46	8	-39					ND
BB 47	9	-41		↓			ND
BB 48	10	opls 781-lcs		opls 81		pii	✓
BB 49	11	↓ -mb					ND
BB 50	12	F4J5117-40					ND
BB 51	13	opls781-ms				pii	✓
BB 52	14	↓ -msd				pii	✓
BB 53	15	F4J5117-42	↓	↓	↓		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	7/27/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 dad9 plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	5431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB056454	16	FA45117-43	8330	OP6518	1X		ND
BB SS	2	CC1615-1000		LCS82	1:1	PII	CNX low recovered
BB	1	CCB					ND
BB 56	17	FA45117-44		OP6518	1X		ND
BB 57	18	FA45162-1					✓
BB 58	19	-2					✓
BB 59	20	-3					ND
BB 60	21	-4					ND
BB 61	22	-5					ND
BB 62	23	-6					ND
BB 63	24	-7					ND
BB 64	25	OP 6518-dup					ND
BB 65	26	L dupL					ND
BB 66	2	CC 1615-1000		LCS82	1:1	PII	CNX low recovery
BB 67	1	CCB					ND
BB 68	27	FA45162-8		OP6518	1X		ND
BB 69	28	-9					ND
BB 70	29	-10				PII	✓
BB 71	30	-11				PII	✓
BB 72	31	-12				PII	✓
BB 73							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Hernandez

SGS ACCUTEST-ORLANDO

DATE:	1/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 de29plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	ERI
ACETONITRILE LOT #:	3491
MEOH LOT #:	17 1002
HEAD PRESSURE:	2105

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB056475[illegible]	32	FA 45162-13	8330	OP65781	1X		ND
BB 75	33	-14					ND
BB 76	34	-15					ND
BB 77	35	-16					ND
BB 78	2	CC1615-1000		LC882	1.1	pii	dNX low pii signal
BB 79	1	CCB					ND
BB 80	36	OP65961-BS		OP65961	1X		✓
BB 81	37	-NB					low surrog LCR for conf.
BB 82	38	FA45722-1					✓
BB 83	39	-2					✓
BB 84	40	-3					✓
BB 85	41	-4					ND
BB 86	42	FA 45759-1				pii	Re 4X
BB 87	43	OP65961-MS				pii	✓
BB 88	44	-MSD				pii	✓
BB 89	45	FA 45759-2					Re 4X
BB 90	2	CC1615-1000		LC882	1.1	pii	dnitro 4 2nd source
BB 91	1	CCB					ND
BB 92	46	OP65962-BS		OP65962	1X	pii	✓
BB 93	47	-MS					ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: J. Nieves

SGS ACCUTEST-ORLANDO

DATE:	7/17/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 2009 plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	2605

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 036494	48	FA45863-1	8330	OP65992	1X		✓
BB 95	49	-2					ND
BB 96	50	-3					ND
BB 97	37	OP65961-MB,ir		OP65961	1X		ND
BB 98	91	FA40759-1			100/40	4X pii	MLX only
BB 99	92	-2					confirmed
BB 300	51	OP65992-LCS		OP65992	1X	pii	✓
BB 01	52	MSD				pii	✓
BB 02	2	CC1615-1000		LC882	1:1	pii	2nd signal tetryl & p-nitro ✓
BB 03	1	CCB					ND
BB 04	53	FA45863-4		OP65992	1X		ND
BB 05	54	-5					ND
BB 06	55	-6					ND
BB 07	56	-7					ND
BB 08	57	-15					✓
BB 09	58	FA45862-1				pii	ND
BB 10	59	-2					✓
BB 11	60	-3				pii	ND
BB 12	261	-4					2nd signal tetryl & p-nitro ✓
BB 13	62	CC1615-1000		LC882	1:1	pii	

EH 7/19/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Hollis

SGS ACCUTEST-ORLANDO

DATE:	1/17/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629 pDB
CALIB. DATE:	12/29/16
RUN BATCH: GBB	1620

ANALYST:	EM
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 056514	1	CCB	8330	—	—		ND
BB 15	62	QA0610.BS		QA0610	1X	PII	✓
BB 16	63	↓ MB		↓	↓		ND
BB 17	64	FA44571-3[illegible]		↓	↓		ND
BB 18	2	CCC 1615.1000		LC582	1:1	PII	2nd signal in the low retry a prime ↑
BB 19	2	test	↓	—	—		testonly
BB ~~20~~							
BB 21							
BB 22							
BB 23				NA Que		1/9/17	
BB 2							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Mains

SGS ACCUTEST-ORLANDO

DATE:	7/20/17
COLUMN TYPE:	BDS RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS:	8330 HCB
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB3720
CALIB. DATE:	6/23/17
RUN BATCH: GGG	2548

ANALYST:	EM
ACETONITRILE LOT #:	3431
MEOH LOT #:	170D2
HEAD PRESSURE:	125

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 013500	6	FAU5162-B cf	8330	OP65092	1X	~~FAU5162-2~~ F AU5162-3 pii	✓
GG 01	7	op65781.MB		op65781	1X		NO
GG 02	8	FAU5162-1 cf				pii	✓
GG 03	9	-2					✓
GG 04	10	-10					✓
GG 05	11	-11					✓
GG 06	12	-12					✓
GG 07	~~3~~	CC2548-1000		CC886	1:1	✓	pass
GG 08	1	CCB					ND
GG 09	13	op65961.MB		op65961	1X		NO
GG 10	14	~~FAU5122~~ FAU5122-1 cf				pii	~~Reformnx~~ EM-7/20/17
GG 11	15	22-2					3-5 dini
GG 12	16	-3					ND
GG 13	17	FAU5159-1cf					4 Amino
GG 14	18	-21			100/400	4X	✓
GG 15	19	-32			1X		3-5 dini
GG 16	20	-2			100/400	4X	no need
GG 17	2	ccc2548-1000		CC886	1:1		pass
GG						NA EMD 7/20/17	
GG							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
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hplc3_gg_log.xls NF rev. 06/16

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	7/20/17
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB3 0720
CALIB. DATE:	6/23/17
RUN BATCH:	GGG 2548

ANALYST:	EM
ACETONITRILE LOT #:	243161
MEOH LOT #:	171002
HEAD PRESSURE:	122

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG6134801	1	blk	8330				ND
GG 81	2	CC2538-1000		LC886	1:1		CCV RA
GG 82	3	opds992-MB		opds992	1X		
GG 83	4	FA45863-1cf					
GG 84	5	FA45862-1cf					
GG 85	6	↓ -3cf		↓	↓		
GG 86	2	CC2538-1000		LC886	1:1		
GG 87	1	CCB					ND
GG 88	21	IC2548-26		LC886	50 to 50 50 to 45	PII	curve pass
GG 89	22	-50			10 to 30		
GG 90	23	-100			25 to 45		
GG 91	24	-200			30 to 50		
GG 92	25	ICC -500			100 to 300		
GG 93	26	IC -1000			200 to 300		
GG 94	27	↓ -2000		↓	1X		↓
GG 95	28	ICV -500		85936 LC886 0.25 LC886 85940 0.5 10			nitrogl & PTENT & MNX
GG 96	29	↓ -500		E5954	40X		only for 1,3 dnb; 2,4,6 & 246TNT 2nd signal
GG 97	3	opds992-MB		opds992	1X		ND
GG 98	4	FA45863-1cf					ND
GG 99	5	FA45862-1cf		↓	↓		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
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SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: Started 07/14/17 0945 (mm/dd/yy 24:00)

Date/Time: Finished 07/14/17 1700 (mm/dd/yy 24:00)

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP65961 Ext. By: MB, RM Conc. By: DC Vialed By: DC

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP65961 MB	X	1000	6	N/A	250ul		10.0	
OP65961 BS	X	1000				25+25 300+250ul		
FA45722-1	3							
-2	3							
-3	3							
-4	3							
FA45759-1	5							
-2	2							
FA45759-1 MS	7	960	6	N/A	250ul	25+25 300+250ul	10.0	
-1 MSD	7	460	"	1	"	1	"	
DUP								

Comments:

Surr.1 ID: I5951B Conc: 20 ppm Exp. Date: 01/06/18 Inj. By: MB Ver. By RM

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk.1 ID: E5936 E5954 B6654 Conc: 25 ppm 20 ppm Exp. Date: 12/30/17 Inj. By: MB Ver. By RM

Spk.2 ID: B6641B Conc: 1000 ug/ml Exp. Date: 07/10/18 Inj. By: MB Ver. By RM

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

Methanol Lot # — SPE Lot # 5314-006.9 pH Paper # 230016

Acetonitrile Lot # 170845 SPE Lot # — Reagent # —

Water Lot# DI H2O Syringe Filter Lot# — Solvent # —

Relinquished By: Date: 7/14/17

Accepted By: Date: 7/14/17

NF 02/16 extwater_spe 020116.xls

SGS ACCUTEST
Southeast

07/31/17

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e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA45759

Sampling Date: 07/11/17

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **515**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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SGS Accutest

Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA45759

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA45759-1	07/11/17	09:10	CTL	07/13/17	AQ	Ground Water	890666/54MW12
FA45759-1D	07/11/17	09:10	CTL	07/13/17	AQ	Water Dup/MSD	890666/54MW12
FA45759-1S	07/11/17	09:10	CTL	07/13/17	AQ	Water Matrix Spike	890666/54MW12
FA45759-2	07/11/17	11:20	CTL	07/13/17	AQ	Ground Water	890669/54MW13

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA45759

Site: Radford AAP; VA **Report Date:** 7/31/2017 11:33:05

2 Sample(s) were collected on 07/11/2017 and were received at SGS Accutest Southeast (SASE) on 07/13/2017 properly preserved, at 4 Deg. C and intact. These Samples received an SASE job number of FA45759. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP66151

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA45759-1MSD, FA45759-1MS were used as the QC samples indicated.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Outside control limits due to high level in sample relative to spike amount. For method performance in a clean matrix, refer to the Blank Spike.

FA45759-1 for Perchlorate: Associated MS/MSD recovery outside control limits.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP65961

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA45759-1MS, FA45759-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for DNX, m-Nitrotoluene, MNX, o-Nitrotoluene, p-Nitrotoluene, RDX are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to the Blank Spike.

Matrix Spike Duplicate Recovery(s) for DNX, m-Nitrotoluene, MNX, RDX are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to the Blank Spike.

Sample(s) OP65961-MB have surrogates outside control limits.

OP65961-MB for 3,4-Dinitrotoluene: Outside control limits.

FA45759-1 for 4-amino-2,6-Dinitrotoluene: Elevated RL due to the primary and confirmation results being greater than 40% RPD.

FA45759-1 for DNX: Associated CCV outside of DoD control limits low.

FA45759-1: All hits confirmed by reanalysis on a dissimilar column.

FA45759-1: Confirmation run.

FA45759-1: All hits confirmed by reanalysis on a dissimilar column.

FA45759-1: Confirmation run.

FA45759-2 for 3,5-Dinitroaniline: Elevated RL due to the primary and confirmation results being greater than 40% RPD.

FA45759-2 for DNX: Associated CCV outside of DoD control limits low.

FA45759-2: All hits confirmed by reanalysis on a dissimilar column.

FA45759-2: Confirmation run.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA45759
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA45759-1	**890666/54MW12**					
Perchlorate [a]		1.1	0.20	0.10	ug/l	SW846 6850
HMX [b]		21.8	0.80	0.40	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [b]		4.4	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [c]		0.10 U	1.8	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [b]		13.3	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [b]		8.7	0.20	0.10	ug/l	SW846 8330B
FA45759-2	**890669/54MW13**					
Perchlorate		0.45	0.20	0.10	ug/l	SW846 6850
HMX [b]		4.5	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [c]		0.61 U	0.61	0.61	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [b]		1.4	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [b]		1.1	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [b]		10.8	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [b]		8.2	0.20	0.10	ug/l	SW846 8330B

(a) Associated MS/MSD recovery outside control limits.
(b) All hits confirmed by reanalysis on a dissimilar column.
(c) All hits confirmed by reanalysis on a dissimilar column. Elevated RL due to the primary and confirmation results being greater than 40% RPD.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	890666/54MW12		
Lab Sample ID:	FA45759-1	**Date Sampled:**	07/11/17
Matrix:	AQ - Ground Water	**Date Received:**	07/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q37587.D	1	07/27/17 17:24	NAF	07/26/17 10:00	OP66151	SQ947
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate [a]	1.1	0.20	0.10	0.050	ug/l	

(a) Associated MS/MSD recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	890666/54MW12		
Lab Sample ID:	FA45759-1	**Date Sampled:**	07/11/17
Matrix:	AQ - Ground Water	**Date Received:**	07/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB056486.D	1	07/19/17 06:03	EM	07/14/17 09:45	OP65961	GBB1620
Run #2 [b]	GG613513.D	1	07/21/17 05:00	EM	07/14/17 09:45	OP65961	GGG2548
Run #3 [a]	BB056498.D	4	07/19/17 12:03	EM	07/14/17 09:45	OP65961	GBB1620
Run #4 [b]	GG613514.D	4	07/21/17 05:29	EM	07/14/17 09:45	OP65961	GGG2548

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml
Run #3	1000 ml	10.0 ml
Run #4	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	21.8 [c]	0.80	0.40	0.32	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX [d]	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene [e]	0.10 U	1.8	0.10	1.8	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	13.3	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	8.7	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	91%	101%	94%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	890666/54MW12		
Lab Sample ID:	FA45759-1	**Date Sampled:**	07/11/17
Matrix:	AQ - Ground Water	**Date Received:**	07/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

(d) Associated CCV outside of DoD control limits low.
(e) Elevated RL due to the primary and confirmation results being greater than 40% RPD.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	890669/54MW13		
Lab Sample ID:	FA45759-2	**Date Sampled:**	07/11/17
Matrix:	AQ - Ground Water	**Date Received:**	07/13/17
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q37593.D	1	07/27/17 17:58	NAF	07/26/17 10:00	OP66151	SQ947
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.45	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	890669/54MW13		
Lab Sample ID:	FA45759-2	**Date Sampled:**	07/11/17
Matrix:	AQ - Ground Water	**Date Received:**	07/13/17
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB056489.D	1	07/19/17 07:33	EM	07/14/17 09:45	OP65961	GBB1620
Run #2 [b]	GG613515.D	1	07/21/17 05:58	EM	07/14/17 09:45	OP65961	GGG2548

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	4.5	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.080	ug/l	
	DNX [c]	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline [d]	0.61 U	0.61	0.61	0.61	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.4	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.1	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	10.8	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	8.2	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	83%	96%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated CCV outside of DoD control limits low.
(d) Elevated RL due to the primary and confirmation results being greater than 40% RPD.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FA45759

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 128867 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

Government UPS Shipping Acct ? Y N

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: ~ 2 weeks *RUSH TURNAROUND NEEDED? Y or N (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE DOD QSM 5.0 NELAP (Circle one) OTHER

Report results as EDD? N Y (Circle one and indicate type: ERIS & Excel) Data Deliverable Package LEVEL: 4

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
890666 > 1	07/11/2017 0910	GROUND WATER	54MW12	MNX/DNX/TNX	8330B	
890666	07/11/2017 0910	GROUND WATER	54MW12	PERCHLORATE	SW6850	
890669 > 2	07/11/2017 1120	GROUND WATER	54MW13	MNX/DNX/TNX	8330B	
890669	07/11/2017 1120	GROUND WATER	54MW13	PERCHLORATE	SW6850	

Relinquished by: Date/Time: 7-12-17 / 1430h

Received by: Date/Time: 07/13/17 930 Receipt Temperature (C) 4.0

COMMENTS: ** report full-list explosives plus RDX breakdown products (MNX/DNX/TNX). Use sample description and not CT Labs ID# for reporting.

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

5.1 5

FA45759: Chain of Custody
Page 1 of 3

SGS Accutest Sample Receipt Summary

Job Number: FA45759 **Client:** CT LAB **Project:** RADFORD AAP

Date / Time Received: 7/13/2017 9:30:00 AM **Delivery Method:** FED EX **Airbill #'s:** 1Z 1A4A850141479380

Therm ID: IR 1; **Therm CF:** 0.4; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 7/13/2017 9:30:00 AM Reviewer: _____ Date: _____

Job Change Order: FA45759

Requested Date:	7/13/2017	**Received Date:**	7/13/2017
Account Name:	CT Laboratories	**Due Date:**	7/27/2017
Project Description:	Radford AAP; VA	**Deliverable:**	FULT1
CSR:	andreac	**TAT (Days):**	14

==========

Sample #: FA45759-1

Dept:

TAT: 14

890666/54MW12

Change:
Please add MS/MSD for this sample.

==========

Above Changes Per: Eric Korthals **Date/Time:** 7/13/2017 4:34:56 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

QC Evaluation: DOD QSM5 Limits

Job Number: FA45759
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP66151	SW846 6850						
OP66151-BS	14797-73-0	Perchlorate	BSP	REC	100	%	84-119
OP66151-MS	14797-73-0	Perchlorate	MS	REC	50 [a]	%	84-119
OP66151-MSD	14797-73-0	Perchlorate	MSD	REC	50 [a]	%	84-119
OP66151-MSD	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP65961	SW846 8330B						
OP65961-BS	2691-41-0	HMX	BSP	REC	110	%	65-135
OP65961-BS	121-82-4	RDX	BSP	REC	94	%	68-130
OP65961-BS		DNX	BSP	REC	88	%	66-119
OP65961-BS		MNX	BSP	REC	120	%	57-132
OP65961-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	96	%	71-117
OP65961-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	84	%	78-120
OP65961-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	90	%	77-127
OP65961-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	86	%	78-120
OP65961-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	92	%	79-120
OP65961-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	92	%	76-125
OP65961-BS	98-95-3	Nitrobenzene	BSP	REC	84	%	65-134
OP65961-BS	88-72-2	o-Nitrotoluene	BSP	REC	82	%	70-127
OP65961-BS	99-08-1	m-Nitrotoluene	BSP	REC	78	%	73-125
OP65961-BS	99-99-0	p-Nitrotoluene	BSP	REC	86	%	71-127
OP65961-BS	479-45-8	Tetryl	BSP	REC	82	%	64-128
OP65961-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	92	%	73-125
OP65961-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	74	%	71-123
OP65961-BS	55-63-0	Nitroglycerine	BSP	REC	122	%	74-127
OP65961-BS	78-11-5	PETN	BSP	REC	112	%	73-127
OP65961-MS	2691-41-0	HMX	MS	REC	114	%	65-135
OP65961-MS	121-82-4	RDX	MS	REC	147	%	68-130
OP65961-MS		DNX	MS	REC	174	%	66-119
OP65961-MS		MNX	MS	REC	150	%	57-132
OP65961-MS	618-87-1	3,5-Dinitroaniline	MS	REC	96	%	71-117
OP65961-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	85	%	78-120
OP65961-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	121	%	77-127
OP65961-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	80	%	78-120
OP65961-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	95	%	79-120
OP65961-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	92	%	76-125
OP65961-MS	98-95-3	Nitrobenzene	MS	REC	78	%	65-134
OP65961-MS	88-72-2	o-Nitrotoluene	MS	REC	73	%	70-127
OP65961-MS	99-08-1	m-Nitrotoluene	MS	REC	70	%	73-125
OP65961-MS	99-99-0	p-Nitrotoluene	MS	REC	78	%	71-127
OP65961-MS	479-45-8	Tetryl	MS	REC	74	%	64-128
OP65961-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	98	%	73-125

* Sample used for QC is not from job FA45759

QC Evaluation: DOD QSM5 Limits

Job Number: FA45759
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/17

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP65961-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	77	%	71-123
OP65961-MS	55-63-0	Nitroglycerine	MS	REC	121	%	74-127
OP65961-MS	78-11-5	PETN	MS	REC	101	%	73-127
OP65961-MSD	2691-41-0	HMX	MSD	REC	132	%	65-135
OP65961-MSD	2691-41-0	HMX	MSD	RPD	5	%	20
OP65961-MSD	121-82-4	RDX	MSD	REC	164	%	68-130
OP65961-MSD	121-82-4	RDX	MSD	RPD	11	%	20
OP65961-MSD		DNX	MSD	REC	198	%	66-119
OP65961-MSD		DNX	MSD	RPD	13	%	20
OP65961-MSD		MNX	MSD	REC	161	%	57-132
OP65961-MSD		MNX	MSD	RPD	7	%	20
OP65961-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	101	%	71-117
OP65961-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	6	%	20
OP65961-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	91	%	78-120
OP65961-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	7	%	20
OP65961-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	124	%	77-127
OP65961-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	3	%	20
OP65961-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	85	%	78-120
OP65961-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	6	%	20
OP65961-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	102	%	79-120
OP65961-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	5	%	20
OP65961-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	97	%	76-125
OP65961-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	4	%	20
OP65961-MSD	98-95-3	Nitrobenzene	MSD	REC	86	%	65-134
OP65961-MSD	98-95-3	Nitrobenzene	MSD	RPD	10	%	20
OP65961-MSD	88-72-2	o-Nitrotoluene	MSD	REC	79	%	70-127
OP65961-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	8	%	20
OP65961-MSD	99-08-1	m-Nitrotoluene	MSD	REC	76	%	73-125
OP65961-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	9	%	20
OP65961-MSD	99-99-0	p-Nitrotoluene	MSD	REC	85	%	71-127
OP65961-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	8	%	20
OP65961-MSD	479-45-8	Tetryl	MSD	REC	80	%	64-128
OP65961-MSD	479-45-8	Tetryl	MSD	RPD	8	%	20
OP65961-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	106	%	73-125
OP65961-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	3	%	20
OP65961-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	79	%	71-123
OP65961-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	1	%	20
OP65961-MSD	55-63-0	Nitroglycerine	MSD	REC	114	%	74-127
OP65961-MSD	55-63-0	Nitroglycerine	MSD	RPD	6	%	20
OP65961-MSD	78-11-5	PETN	MSD	REC	119	%	73-127
OP65961-MSD	78-11-5	PETN	MSD	RPD	16	%	20

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FA45759

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66151-MB	Q37581.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947

The QC reported here applies to the following samples: **Method:** SW846 6850

FA45759-1, FA45759-2

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66151-BS	Q37580.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947

The QC reported here applies to the following samples: **Method:** SW846 6850

FA45759-1, FA45759-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.20	100	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66151-MS	Q37588.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947
OP66151-MSD	Q37589.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947
FA45759-1	Q37587.D	1	07/27/17	NAF	07/26/17	OP66151	SQ947

The QC reported here applies to the following samples: **Method:** SW846 6850

FA45759-1, FA45759-2

CAS No.	Compound	FA45759-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	1.1		0.2	1.2	50* [a]	0.2	1.2	50* [a]	0	80-120/15

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ947-CC946	**Injection Date:**	07/27/17
Lab File ID:	Q37577.D	**Injection Time:**	16:26
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	136535	2.95
Check Std [b]	98691	3.02
Upper Limit [c]	204803	5.02
Lower Limit [d]	68268	1.02

Lab Sample ID	IS 1 AREA	RT
OP66151-BS	114035	3.03
OP66151-MB	129758	3.02
ZZZZZZ	122826	3.03
ZZZZZZ	108111	2.82
ZZZZZZ	110288	2.83
ZZZZZZ	120442	2.85
ZZZZZZ	114365	3.03
FA45759-1	126768	2.85
OP66151-MS	122534	2.85
OP66151-MSD	121536	2.84

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ946-ICC946 Q37375.D 07/26/17 14:21. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Semivolatile Internal Standard Area Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ947-CC946	**Injection Date:**	07/27/17
Lab File ID:	Q37590.D	**Injection Time:**	17:41
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	136535	2.95
Check Std [b]	107866	3.02
Upper Limit [c]	204803	5.02
Lower Limit [d]	68268	1.02

Lab Sample ID	IS 1 AREA	RT
FA45759-2	129586	2.84
ZZZZZZ	88889	2.97

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ946-ICC946 Q37375.D 07/26/17 14:21. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ946-ICC946
Lab FileID: Q37375.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0726_6850_SQ946\SQ946.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2 : D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3 : D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4 : D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5 : D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6 : D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7 : D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8 : D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) Cl18O4	----------ISTD----------										
3) Perchlorate	1.1044	0.9560	0.9056	0.9347	0.9514	1.0328	1.1744	1.1037	1.0204	9.609	0.9927

*(value) - Average RF below (value)

6.5.1

6

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ946-ICV946
Lab FileID: Q37380.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0726_6850_SQ946\SQ946.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37380
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.831	-8.4	91.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37577.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37577
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.775	-11.2	88.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37578.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
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3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37578
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.228	13.9	113.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37590.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37590
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.938	-3.1	96.9

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37591.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37591
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.200	0.2	100.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ947-CC946
Lab FileID: Q37595.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0727_6850_SQ947\SQ947.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0726_6850_SQ946\Q37372.d
2:D:\MassHunter\Data\0726_6850_SQ946\Q37373.d
3:D:\MassHunter\Data\0726_6850_SQ946\Q37374.d
4:D:\MassHunter\Data\0726_6850_SQ946\Q37375.d
5:D:\MassHunter\Data\0726_6850_SQ946\Q37376.d
6:D:\MassHunter\Data\0726_6850_SQ946\Q37377.d
7:D:\MassHunter\Data\0726_6850_SQ946\Q37378.d
8:D:\MassHunter\Data\0726_6850_SQ946\Q37379.d

Data File: Q37595
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.830	-8.5	91.5

CC Criteria: +/- 15%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37587.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:24
Sample Name	:	FA45759-1
Vial	:	Vial 67
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

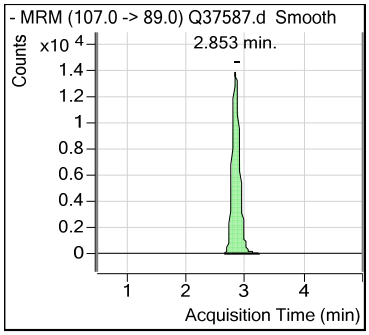
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.853	107.0 -> 89.0	126768	5.000	ng/ml	-0.372	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.856	99.0 -> 83.0	27004	1.083	ng/ml	98	3.2
		101.0 -> 85.0	8441				

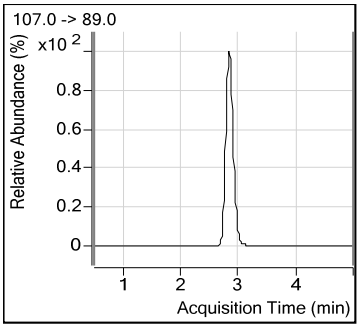
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

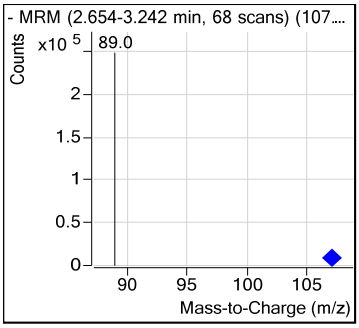
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37587.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:24
Sample Name	:	FA45759-1
Vial	:	Vial 67
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

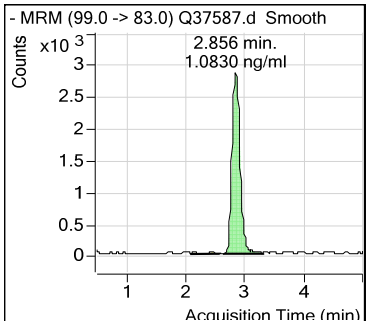
Cl18O4

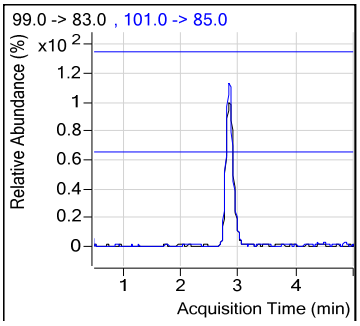


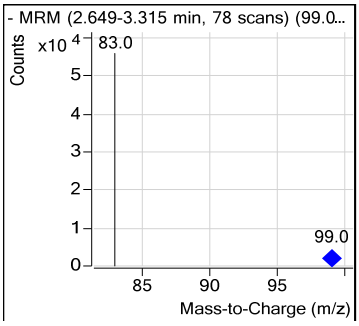




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37593.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:58
Sample Name	:	FA45759-2
Vial	:	Vial 70
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.836	107.0 -> 89.0	129586	5.000	ng/ml	-0.389	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.848	99.0 -> 83.0	11538	0.454	ng/ml	97	3.2
		101.0 -> 85.0	3627				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37593.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:58
Sample Name	:	FA45759-2
Vial	:	Vial 70
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4

Perchlorate

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:49
Sample Name	:	OP66151-MB
Vial	:	Vial 61
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	129758	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.865	99.0 -> 83.0	565	0.022	ng/ml	82	2.5
		101.0 -> 85.0	224				

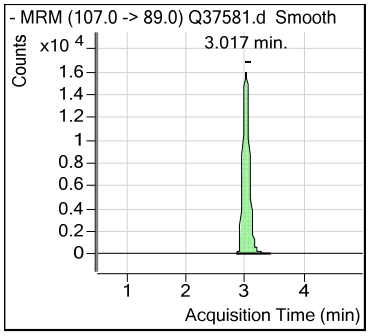
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

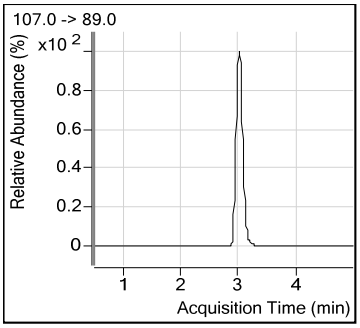
SGS ACCUTEST FA45759

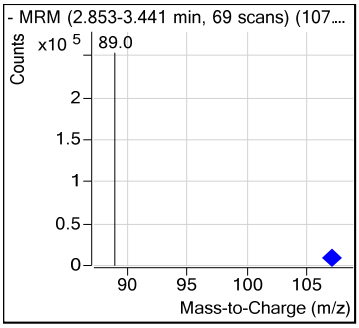
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37581.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:49
Sample Name	:	OP66151-MB
Vial	:	Vial 61
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

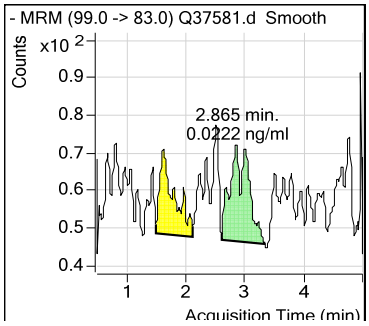
Cl18O4

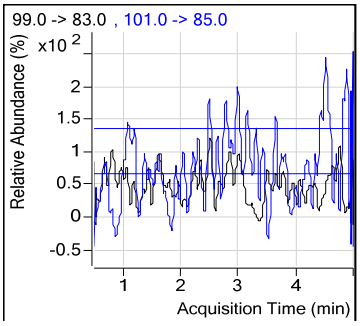


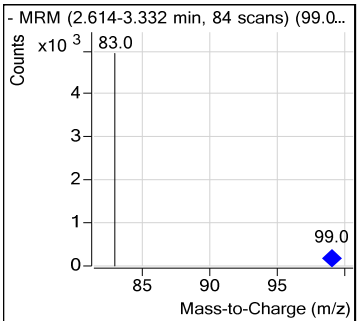




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37580.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:43
Sample Name	:	OP66151-BS
Vial	:	Vial 60
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

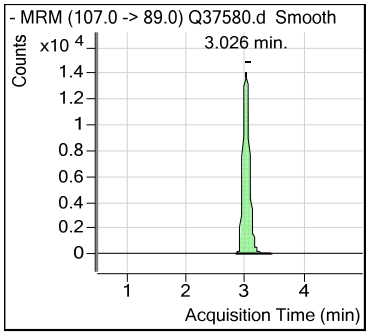
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.026	107.0 -> 89.0	114035	5.000	ng/ml	-0.199	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.012	99.0 -> 83.0	4434	0.198	ng/ml	92	2.9
		101.0 -> 85.0	1513				

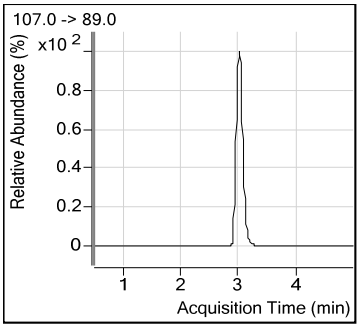
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

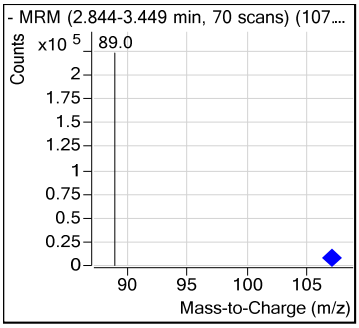
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37580.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:43
Sample Name	:	OP66151-BS
Vial	:	Vial 60
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

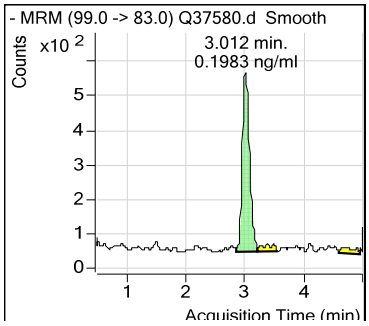
Cl18O4

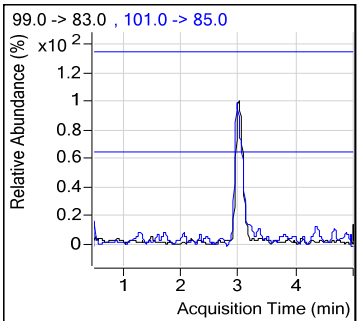


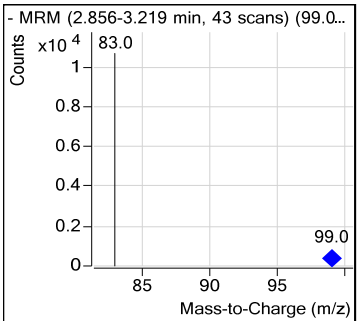




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37588.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:29
Sample Name	:	OP66151-MS
Vial	:	Vial 68
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.853	107.0 -> 89.0	122534	5.000	ng/ml	-0.372	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.848	99.0 -> 83.0	29765	1.234	ng/ml	96	3.1
		101.0 -> 85.0	9586				

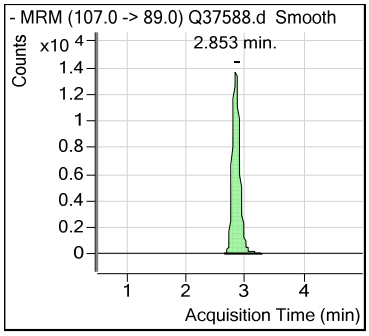
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

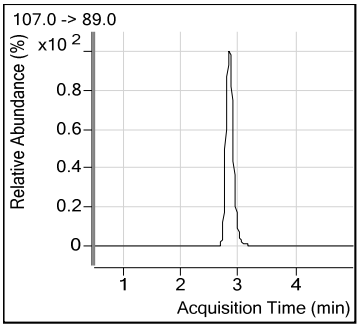
SGS ACCUTEST FA45759

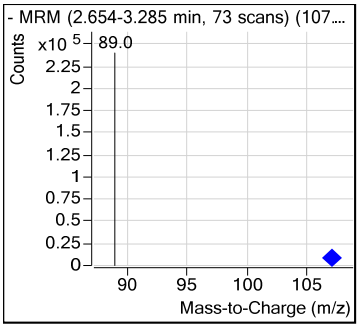
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37588.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:29
Sample Name	:	OP66151-MS
Vial	:	Vial 68
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

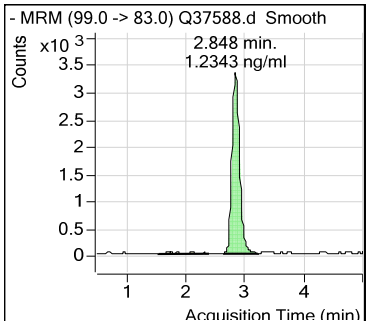
Cl18O4

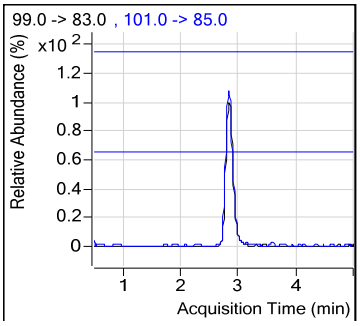


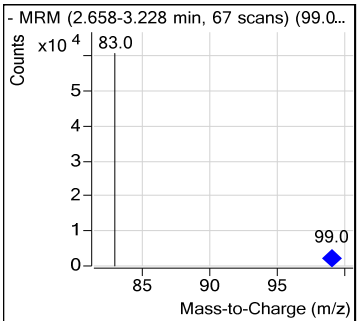




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37589.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:35
Sample Name	:	OP66151-MSD
Vial	:	Vial 69
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.844	107.0 -> 89.0	121536	5.000	ng/ml	-0.380	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.848	99.0 -> 83.0	29749	1.244	ng/ml	100	3.3
		101.0 -> 85.0	8900				

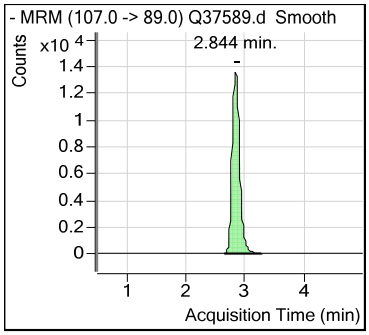
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

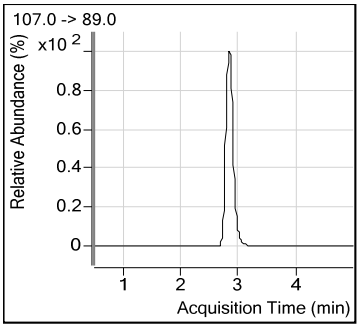
SGS ACCUTEST FA45759

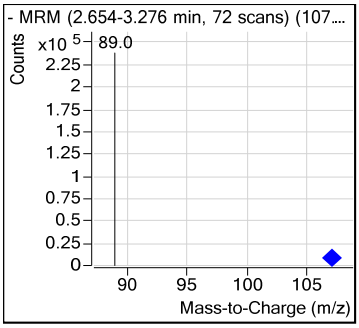
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37589.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:35
Sample Name	:	OP66151-MSD
Vial	:	Vial 69
Sample Info	:	OP66151,SQ947,10,,,10,1,WATER
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

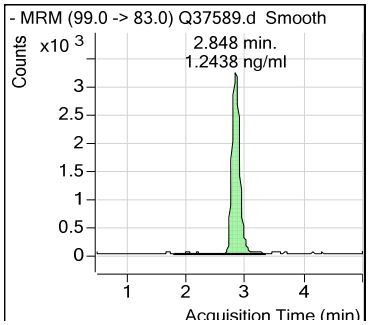
Cl18O4

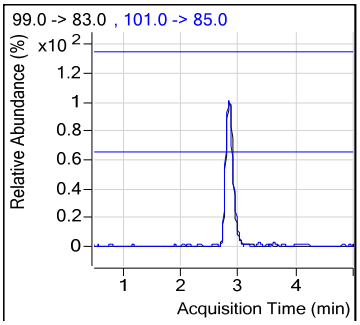


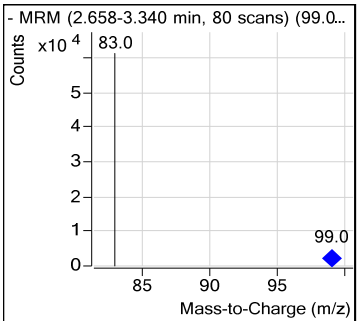




Perchlorate







SGS ACCUTEST FA45759

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37372.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:03
Sample Name	:	IC946-0.2
Vial	:	Vial 2
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

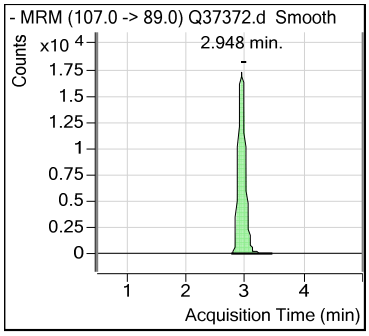
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	149769	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	6616	0.225	ng/ml	98	3.4
		101.0 -> 85.0	1922				

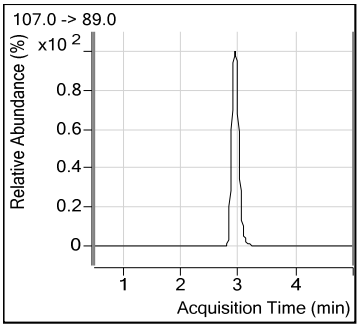
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

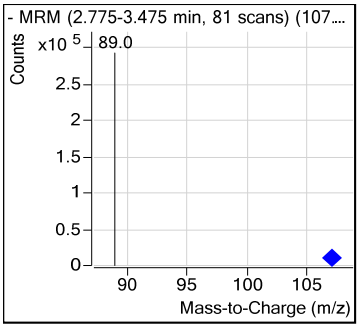
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37372.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:03
Sample Name	:	IC946-0.2
Vial	:	Vial 2
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

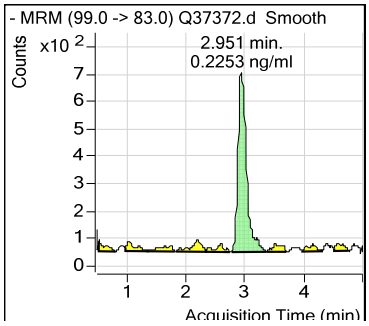
Cl18O4

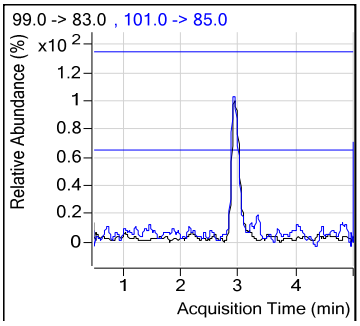


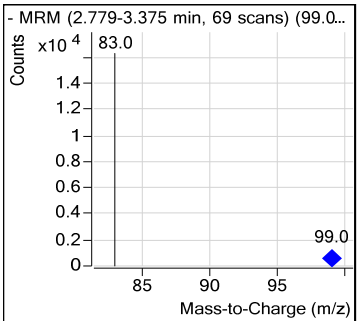




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37373.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:09
Sample Name	:	IC946-0.5
Vial	:	Vial 3
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

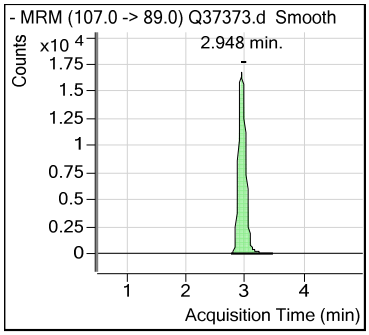
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	147948	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.960	99.0 -> 83.0	14143	0.487	ng/ml	91	2.8
		101.0 -> 85.0	4968				

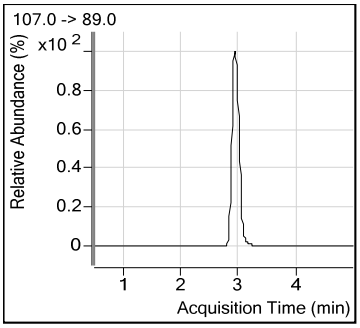
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

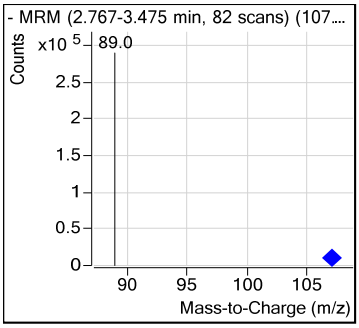
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37373.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:09
Sample Name	:	IC946-0.5
Vial	:	Vial 3
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

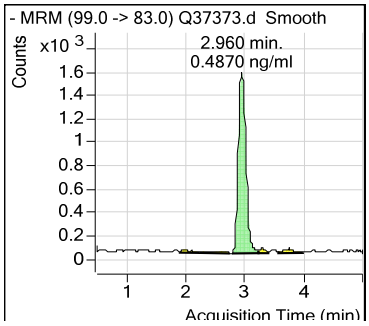
Cl18O4

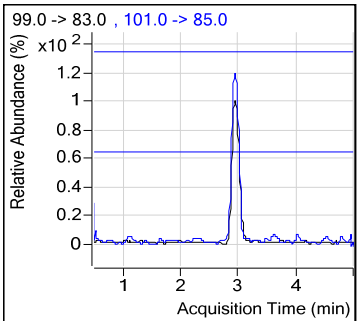


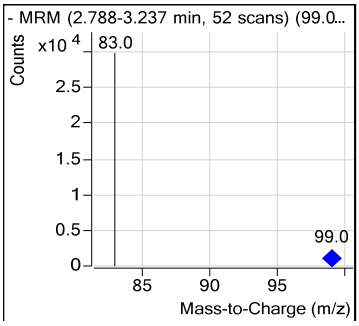




Perchlorate







Cal Report: Q37374.D

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37374.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:15
Sample Name	:	IC946-1.0
Vial	:	Vial 4
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	150772	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	27308	0.921	ng/ml	98	3.2
		101.0 -> 85.0	8432				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.3

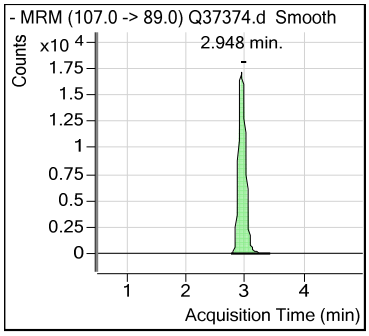
7

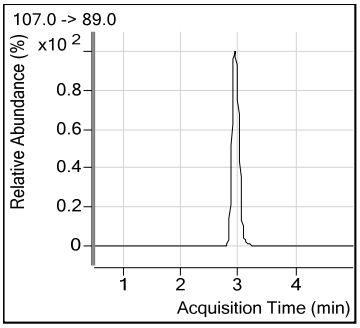
SGS ACCUTEST FA45759

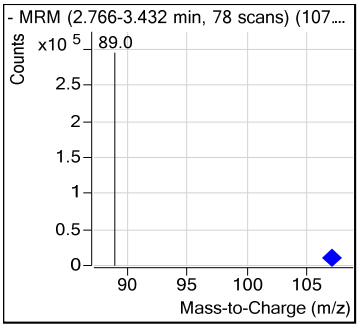
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37374.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:15
Sample Name	:	IC946-1.0
Vial	:	Vial 4
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

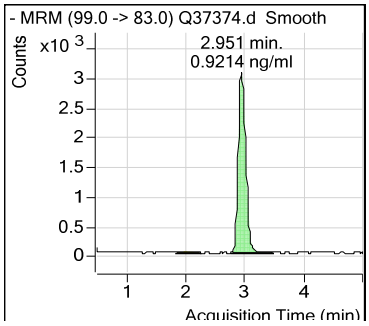
Cl18O4

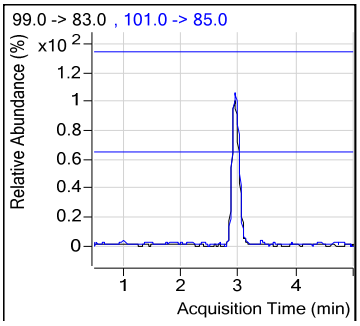


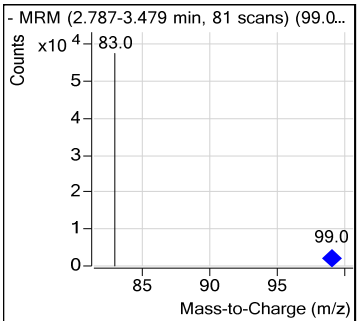




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37375.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:21
Sample Name	:	ICC946-2.0
Vial	:	Vial 5
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

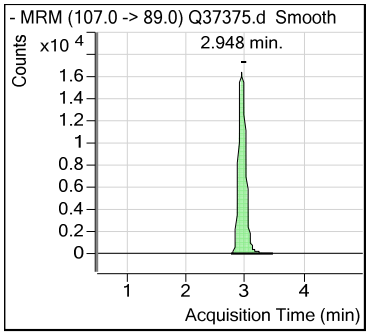
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	145542	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	54414	1.895	ng/ml	98	3.2
		101.0 -> 85.0	16961				

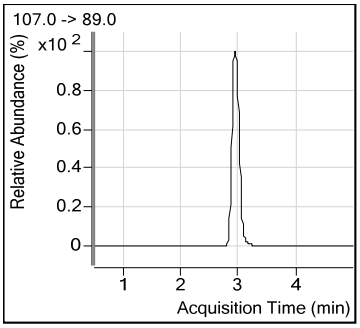
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

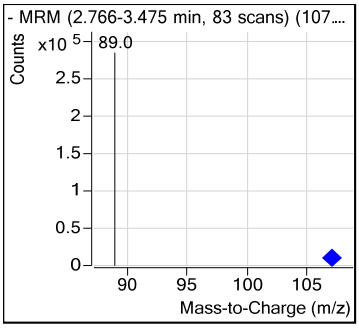
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37375.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:21
Sample Name	:	ICC946-2.0
Vial	:	Vial 5
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

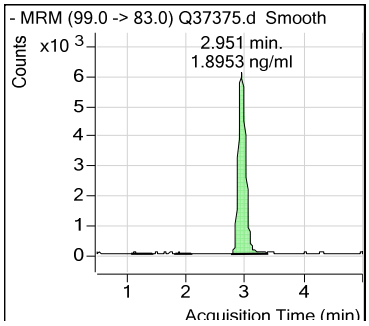
Cl18O4

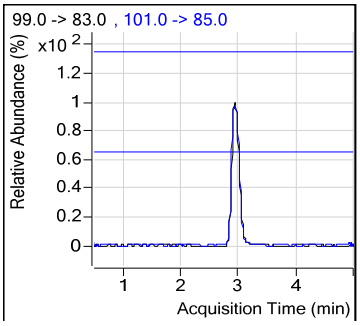


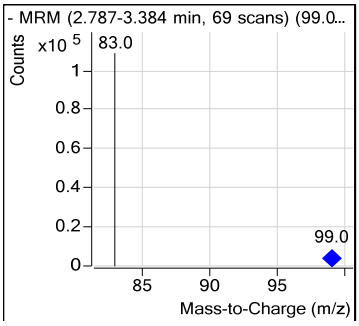




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37376.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:26
Sample Name	:	IC946-5.0
Vial	:	Vial 6
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	143187	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.960	99.0 -> 83.0	136230	4.775	ng/ml	98	3.2
		101.0 -> 85.0	42129				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

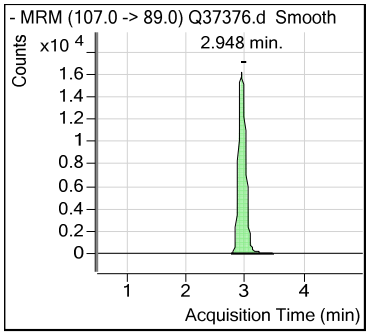
7.5.5

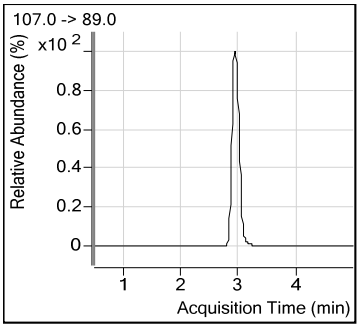
7

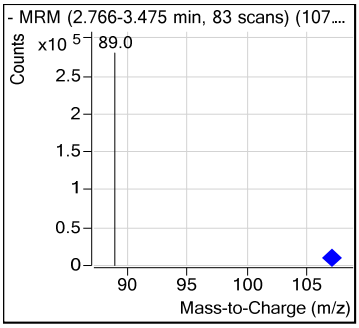
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37376.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:26
Sample Name	:	IC946-5.0
Vial	:	Vial 6
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

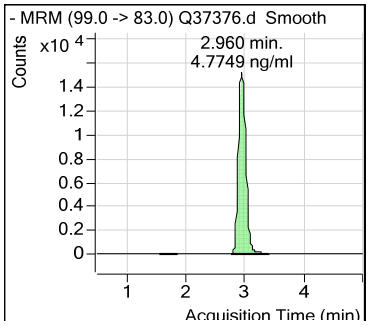
Cl18O4

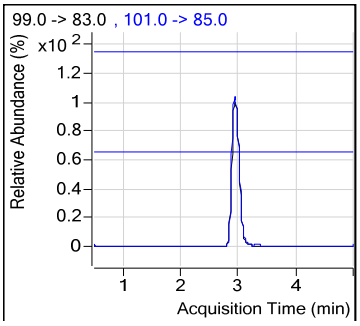


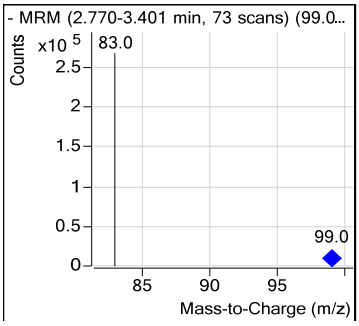




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37377.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:32
Sample Name	:	IC946-10
Vial	:	Vial 7
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.957	107.0 -> 89.0	134349	5.000	ng/ml	-0.268	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	277523	10.175	ng/ml	99	3.4
		101.0 -> 85.0	81454				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.6

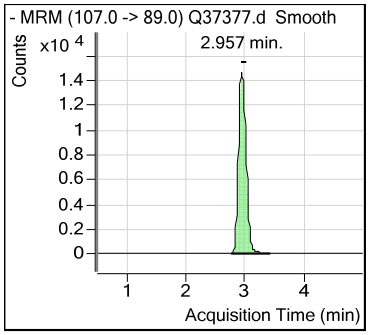
7

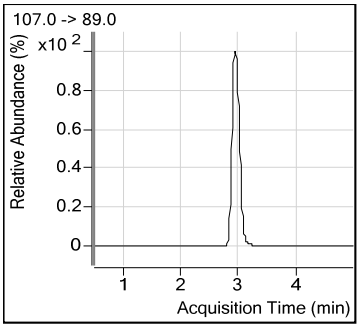
SGS ACCUTEST FA45759

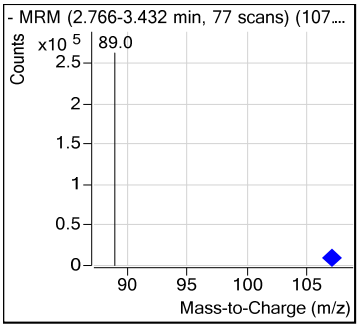
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37377.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:32
Sample Name	:	IC946-10
Vial	:	Vial 7
Sample Info	:	OP65967,SQ946,1.00,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

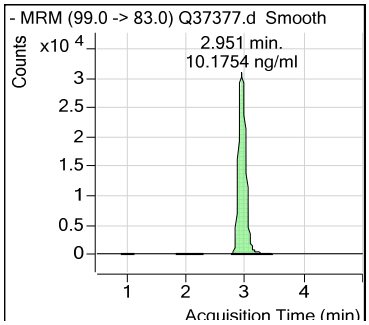
Cl18O4

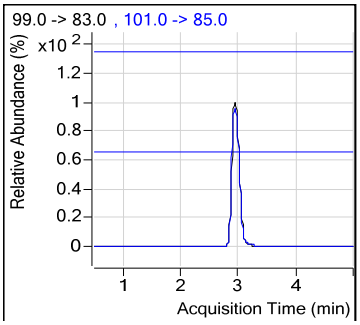


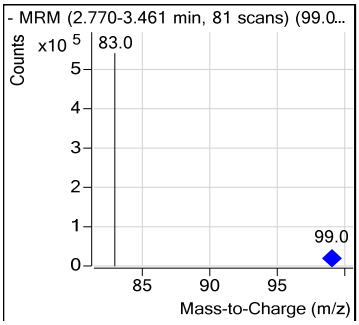




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37378.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:38
Sample Name	:	IC946-25
Vial	:	Vial 8
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	113969	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	669214	27.322	ng/ml	97	3.5
		101.0 -> 85.0	190240				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.7

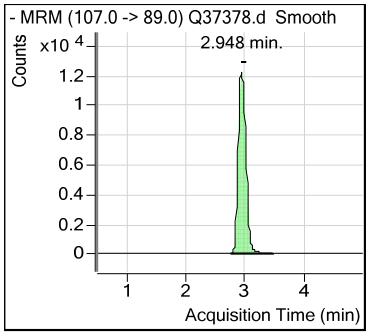
7

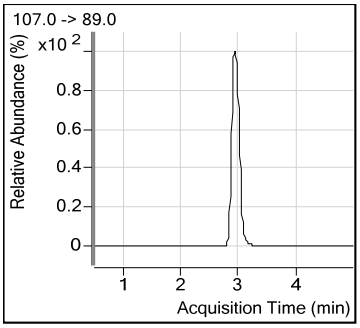
SGS ACCUTEST FA45759

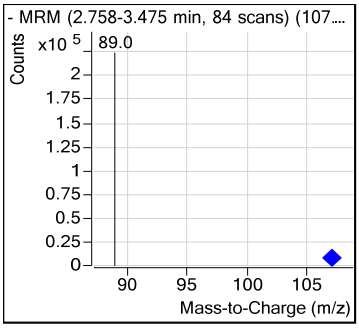
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37378.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:38
Sample Name	:	IC946-25
Vial	:	Vial 8
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

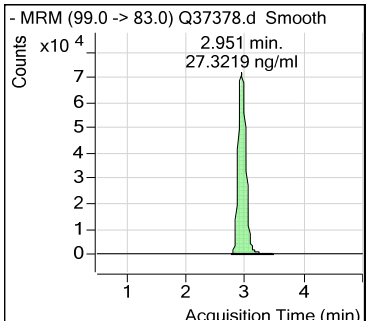
Cl18O4

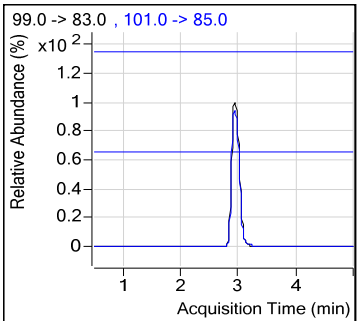


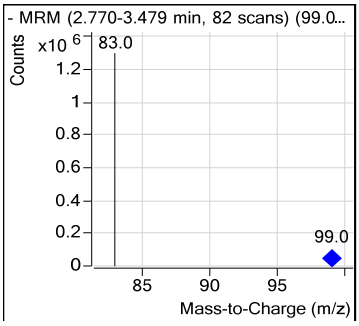




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37379.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:44
Sample Name	:	IC946-50
Vial	:	Vial 9
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.948	107.0 -> 89.0	106747	5.000	ng/ml	-0.277	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.951	99.0 -> 83.0	1178124	48.119	ng/ml	97	3.5
		101.0 -> 85.0	337201				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.8

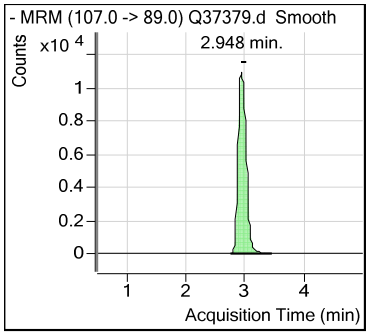
7

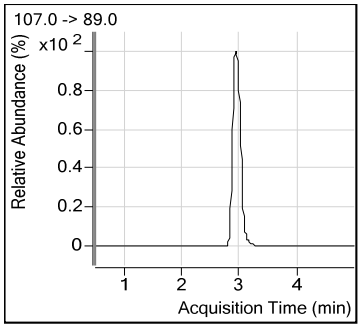
SGS ACCUTEST FA45759

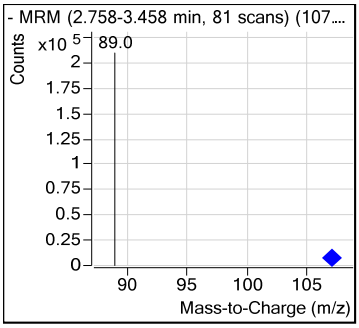
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37379.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:44
Sample Name	:	IC946-50
Vial	:	Vial 9
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

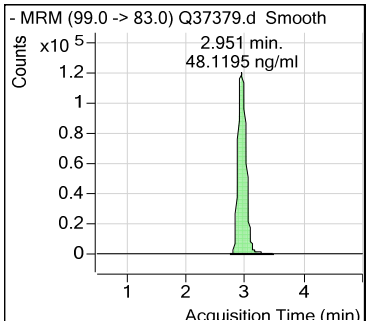
Cl18O4

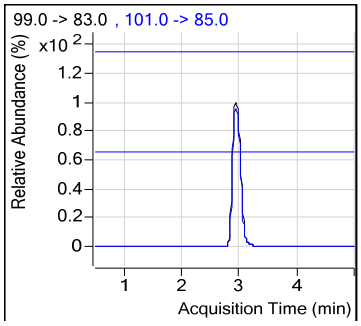


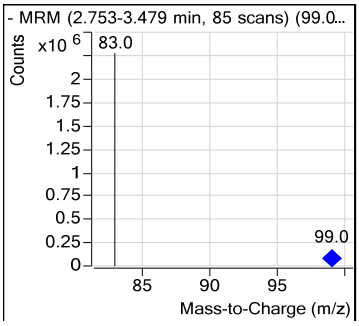




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37380.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:50
Sample Name	:	ICV946-2.0
Vial	:	Vial 10
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ946.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.957	107.0 -> 89.0	149907	5.000	ng/ml	-0.268	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.960	99.0 -> 83.0	54144	1.831	ng/ml	96	3.1
		101.0 -> 85.0	17376				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.9

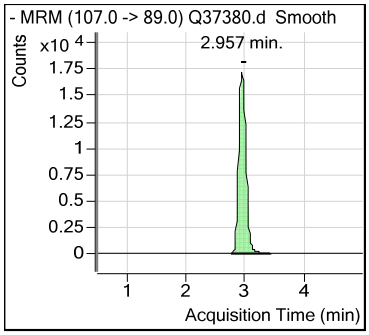
7

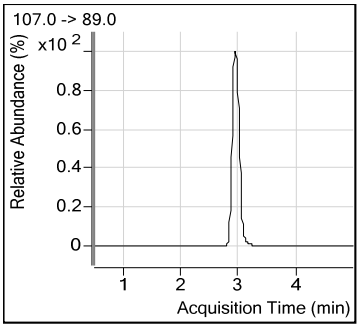
SGS ACCUTEST FA45759

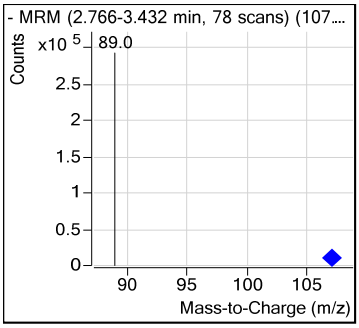
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37380.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-26 14:50
Sample Name	:	ICV946-2.0
Vial	:	Vial 10
Sample Info	:	OP65967,SQ946,10,,,10,1,SOIL
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

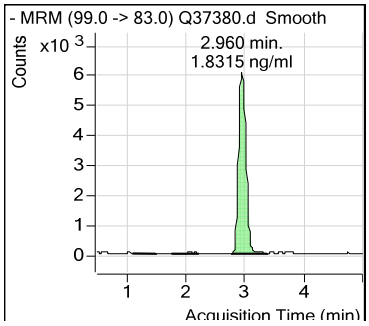
Cl18O4

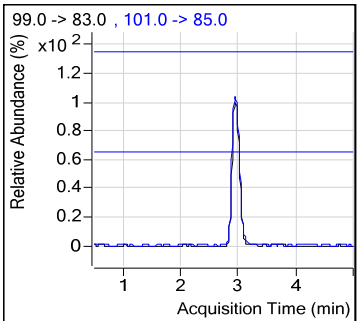


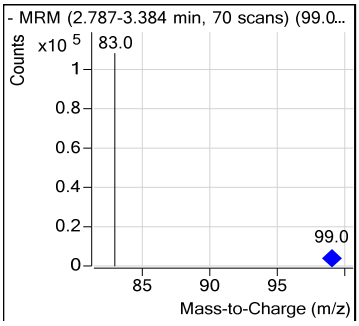




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:26
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

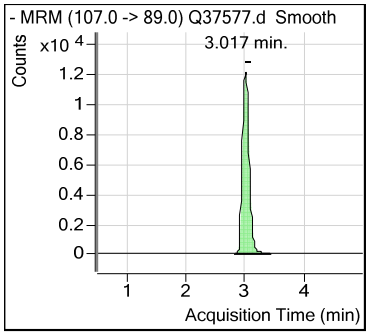
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	98691	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.012	99.0 -> 83.0	34547	1.775	ng/ml	95	3.1
		101.0 -> 85.0	11272				

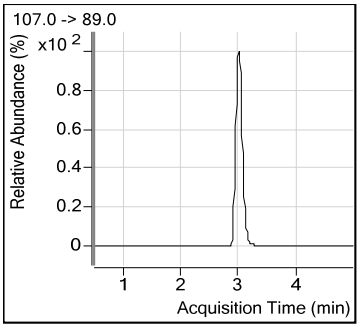
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

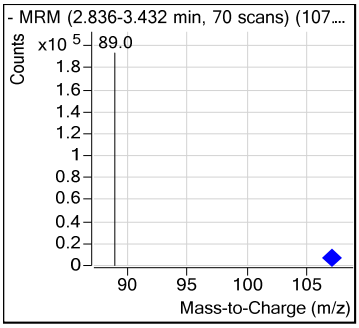
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37577.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:26
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

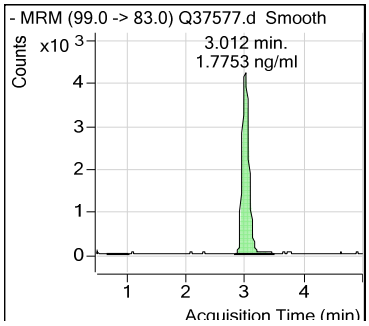
Cl18O4

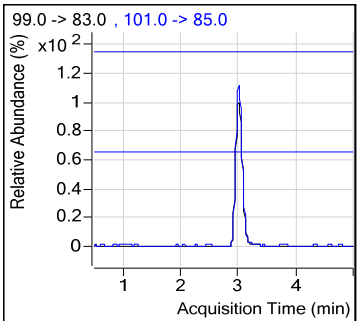


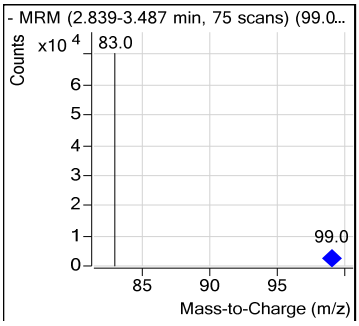




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:32
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	109737	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.021	99.0 -> 83.0	4902	0.228	ng/ml	94	3.0
		101.0 -> 85.0	1625				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.11

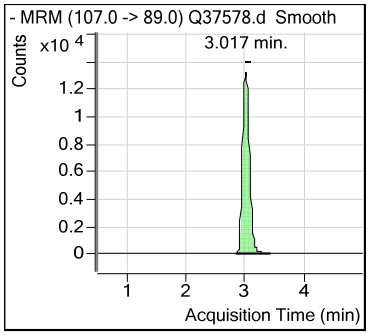
7

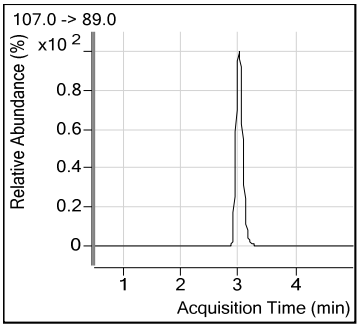
SGS ACCUTEST FA45759

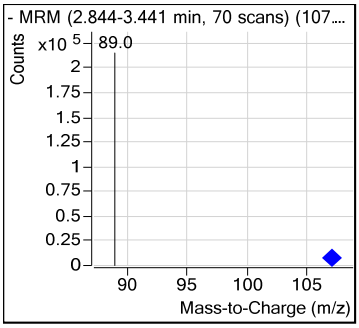
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37578.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 16:32
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

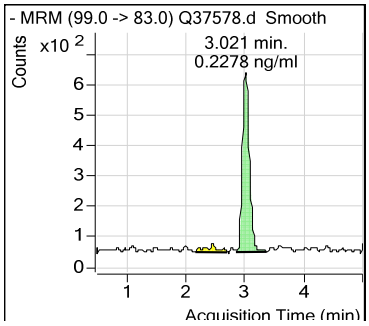
Cl18O4

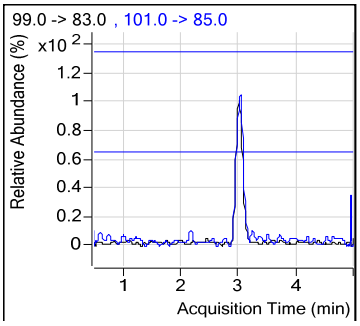


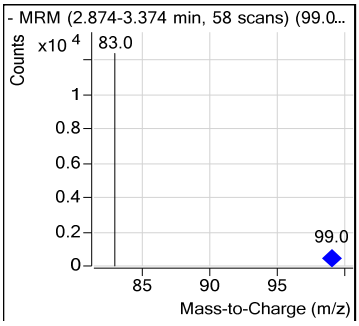




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:41
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.017	107.0 -> 89.0	107866	5.000	ng/ml	-0.207	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.021	99.0 -> 83.0	41231	1.938	ng/ml	98	3.2
		101.0 -> 85.0	12749				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.12

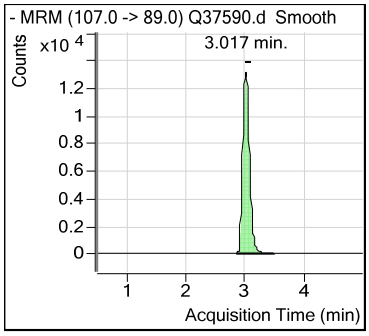
7

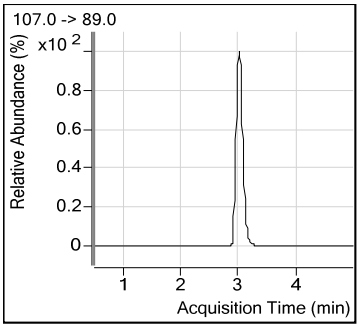
SGS ACCUTEST FA45759

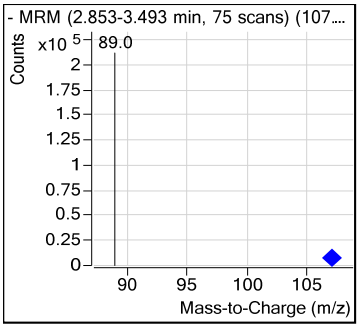
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37590.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:41
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

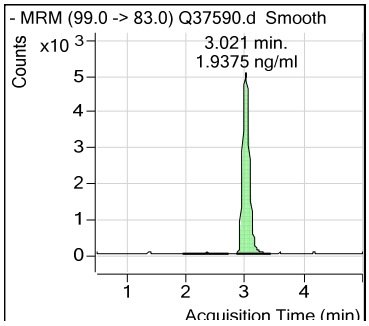
Cl18O4

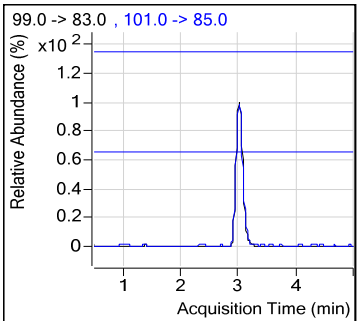


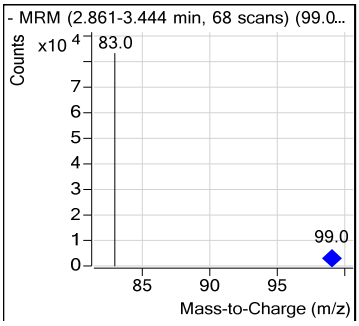




Perchlorate







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:47
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	3.017	107.0 -> 89.0	112691	5.000	ng/ml		-0.207	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	3.029	99.0 -> 83.0	4430	0.200	ng/ml	#	80	2.5
		101.0 -> 85.0	1798					

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.13

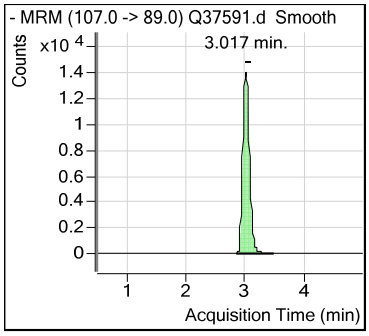
7

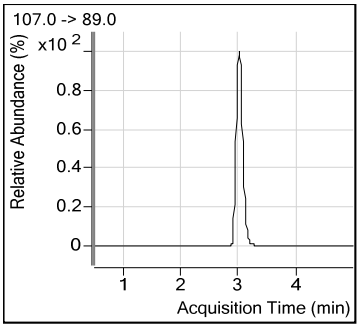
SGS ACCUTEST FA45759

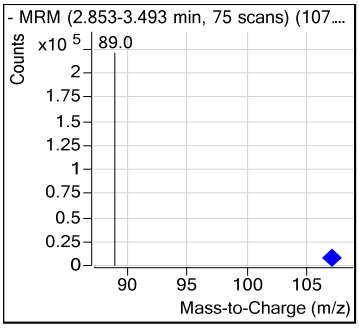
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37591.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 17:47
Sample Name	:	CC946-0.2
Vial	:	Vial 3
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

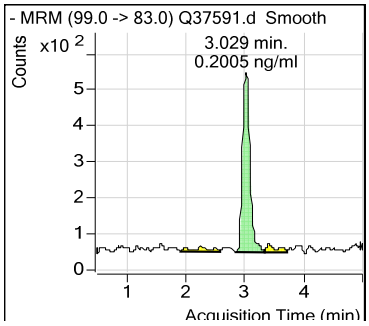
Cl18O4

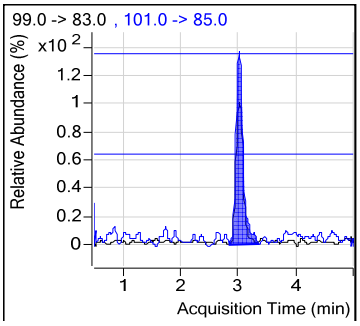


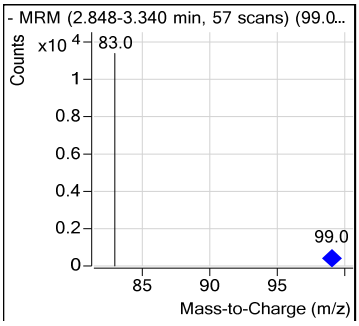




Perchlorate







SGS ACCUTEST FA45759

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37595.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 18:10
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ947.batch.bin
Last Calib Update	:	2017-07-27 07:16

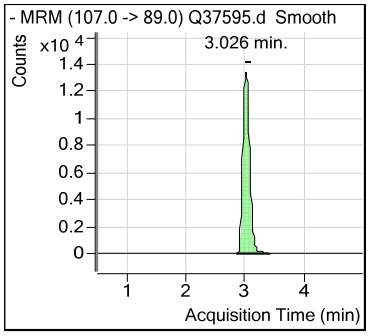
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	3.026	107.0 -> 89.0	110306	5.000	ng/ml	-0.199	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	3.029	99.0 -> 83.0	39800	1.830	ng/ml	97	3.2
		101.0 -> 85.0	12600				

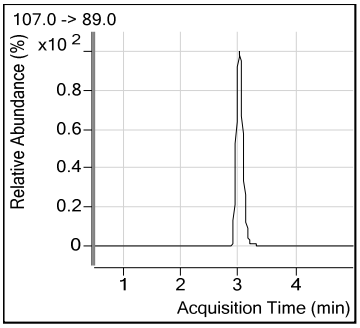
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

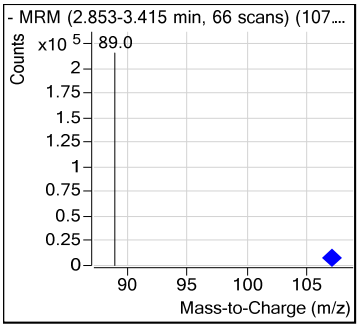
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q37595.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2017-07-27 18:10
Sample Name	:	CC946-2.0
Vial	:	Vial 2
Sample Info	:	OP65970,SQ947,1.00,,,10,1,soil
Quant Method	:	6850_0725_SQ946.quantmethod.xml
Tune File	:	
Tune Date	:	

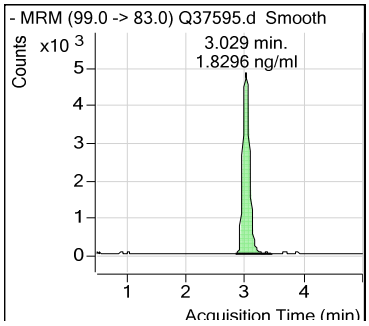
Cl18O4

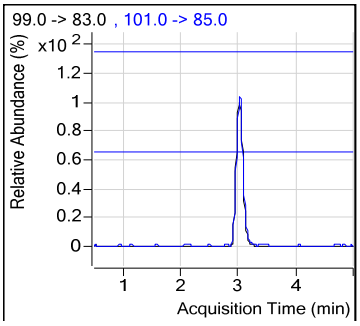


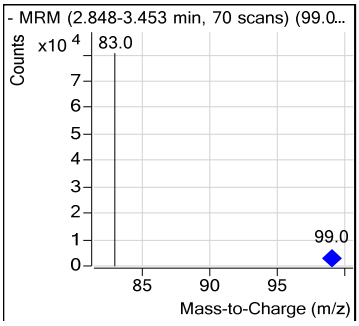




Perchlorate







SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850 & 6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MB
ELUENT A LOT #:	172620 w Acetic
ELUENT B LOT #:	171224 +
WATER LOT #:	172620
ISTD Lot #:	8631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37771	1	CCB	6850					LOW	BDL
Q 72	2	ICV946-0.2		LC857	2ml 10ml	3.4			✓
Q 73	3	-0.5			5ml 10ml	2.8			✓
Q 74	4	-1.0			10ml 10ml	3.2			✓
Q 75	5	FCC946-2.0			20ml 10ml	3.2			✓
Q 76	6	FCV946-5.0			50ml 10ml	3.2			✓
Q 77	7	-10			100ml 10ml	3.4			✓
Q 78	8	-25			25ml 10ml	3.5			✓
Q 79	9	-50			5ml 10ml	3.5			✓
Q 80	10	FCV946-2.0		LC858	200ml 10ml	3.1		+	Pass
Q 81	11	FCS946-0.2		+	100ml 10ml	3.3		>HIGH	Pass
Q 82	15	FA45118-7		OP65967	1X	3.2		LOW	✓
Q 83	16	-8			5X	3.6			✓
Q 84	17	-9			10X	3.5			✓
Q 85	18	-10			5X	3.5			✓
Q 86	19	-11			1X	3.5			✓
Q 87	20	72				3.0			✓
Q 88	21	-13				3.3			✓
Q 89	22	-14				3.0			✓
Q 90	23	-15	↓	↓	↓	3.5		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	R Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MS	
ELUENT A LOT #:	172620	MeOH
ELUENT B LOT #:	171224	H
WATER LOT #:	172620	
ISTD Lot #:	6631	

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 373491	24	FA45118-16	6850	OP65967	20x	3.0		LOW	* Run 40X
Q 92	5	CC946-2.0		LC857	200ul 10ml	3.3			Poss
Q 93	2	-0.2		"	20ml 10ml	3.0			Poss
Q 94	1	CCB							BDL
Q 95	27	FA45118-17		OP65967	5x	3.5			✓
Q 96	26	-18			1x	3.5			✓
Q 97	27	-19			"	3.1			✓
Q 98	28	-21		"	"	3.0			✓
Q 99	29	OP65968-BS		OP65968	1x	3.7			✓
Q 400	30	-MB				—			BDL
Q 01	31	FA45118-20				3.1			✓
Q 02	32	OP65968-MS				3.1			✓
Q 03	33	-MSD				2.8			✓
Q 04	34	FA45118-22				3.6			✓
Q 05	5	CC946-2.0		LC967	20ml 10ml	3.3			Poss
Q 06	2	-0.2		"	20ml 10ml	3.1			Poss
Q 07	1	CCB							BDL
Q 08	35	FA45118-23		OP65968	1x	3.3			✓
Q 09	36	-24		"	"	2.3			✓
Q 10	37	-25		"	"	3.3			* Run 50X

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	IC prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MS
ELUENT A LOT #:	172161
ELUENT B LOT #:	171824
WATER LOT #:	172161
ISTD Lot #:	0631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37411	38	FALS118-26	6850	OP65966	1X	3.4		LOW	X Run 10X
Q 12	39	-27				3.5			✓
Q 13	40	-28				3.3			✓
Q 14	41	-29				3.3			✓
Q 15	42	-30				3.0			✓
Q 16	43	-31				2.4			✓
Q 17	44	-32		↓	↓	3.5			✓
Q 18	5	CC946-2.0		LCB57	2ml/10ml	3.3			PASS
Q 19	2	-0.2		↓	2ml/10ml	2.9			PASS
Q 20	1	CCB							BOL
Q 21	45	FALS118-33		OP65966	1X	RR			✓ RR 1X1 CC
Q 22	46	-34							X Run 10X
Q 23	47	-35							X Run 10X
Q 24	48	-36							X Run 5X
Q 25	49	-37							✓ RA(Y) CC
Q 26	50	-39							✓
Q 27	51	-40							✓
Q 28	52	-41		↓	↓				✓
Q 29	5	CC946-2.0		LCB57	2ml/10ml				LOW
Q 30	2	-0.2		↓	2ml/10ml				PASS

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	R prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	1150

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	NAJ
ELUENT A LOT #:	172161
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	B631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37431	1	CCB	6850			RR		LIMIT	BDL
Q 32	53	OP65964-BS		OP65964	1x				RR 1x RR ccL
Q 33	54	-MB							
Q 34	55	FA45118-38							
Q 35	56	OP65964-MS							
Q 36	57	-MSD							
Q 37	58	FA45118-42							2x
Q 38	59	-43							RR 1x
Q 39	60	-44							
Q 40	61	FA45191-1							x 100x
Q 41	62	-2							x 500x
Q 42	5	CC946-2.0		LCB57	2ml 10ml				POS;
Q 43	2	-0.2			2ml 10ml		PIS		high
Q 44	1	CCB							hit
Q 45	63	FA45191-3		OP65969	1x				xRR20x
Q 46	64	-4							RR 1x
Q 47	65	-5							
Q 48	66	-6							
Q 49	67	-8							
Q 50	68	-9	X						

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	WAS
ELUENT A LOT #:	172161
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	0631

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	37471	83	OP65970-MS02	6850	OP65970	1X	RR		LOW	RR 1X
Q	72	5	CC946-2.0		LCB57	2 over 10ml				PASS
Q	73	2	-0.2		↓	2 over 10ml				PASS
Q	74	1	CCB							.00695
Q	75	84	FA45141-1B		OP65970	1X				✓ RR 1X CC low
Q	76	85	-19							RR 50X
Q	77	86	-20							RR 500X
Q	78	87	-21							RR 50X
Q	79	88	-22							RR 50 X
Q	80	89	-23							RR ~~100~~ 50 X 07727
Q	81	90	-24							RR 1X C.O
Q	82	91	-25							RR 1X ; CC low
Q	83	92	-26							↓
Q	84	93	-27		↓	↓				↓
Q	85	5	CC 946-2.0		LCB57	2 over 10ml				low
Q	86	2	-0.2		↓	2 over 10ml				PASS
Q	87	1	CCB 07/26/17							.00748
Q	88	94	OP~~66~~65151-BS		OP65151	1X				RR CC low
Q	89	95	OP65151-MS		↓	↓	↓			↓
Q	90	96	FA45722-1	↓	↓	↓	↓		↓	↓ ↓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-26-17
COLUMN TYPE:	K Prism
AMOUNT INJECTED:	5 ul
INSTRUMENT: LCMS1-Q	
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	946

ANALYST:	MS
ELUENT A LOT #:	172161
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	68831

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	37491	97	FA45722-2	6850	OP68151	1X	RR		LOW	RR LOW
Q	92	98	-3							
Q	93	99	-4							
Q	94	100	FA45754-1							
Q	95	11	OP68151-MS							
Q	96	12	-MSD							
Q	97	13	FA45754-2							
Q	98	14	FA40227-79		+					
Q	99	5	LCC946-2.0		LC857	200X conc				LOW
Q	500	2	ECC946-0.2		↓	20X conc				PASS
Q	01	1	CCB							BDL
Q										
Q										
Q										
Q										
Q										
Q										
Q										
Q										
Q										
Q										

MS 07-27-17

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

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LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	115

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0126 SQ446
CALIB. DATE:	07-26-17
RUN BATCH: SQ	447

ANALYST:	NAS
ELUENT A LOT #:	172620 w Acetic
ELUENT B LOT #:	171224
WATER LOT #:	172620
ISTD Lot #:	0631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37502	1	CCB	6850					LOW	BDL
Q 03	2	CC946-2.0		LC657	2uL 10ml	3.3			Pass
Q 04	3	-0.2			20uL 10ml	2.5			Pass
Q 05	4	ICS946-0.2		LC658		3.1		Low CL	Pass
Q 06	5	FA45118-16		OP65467	40x	3.5		LOW	✓
Q 07	6	-25		OP65468	50x	3.5			Run 100x
Q 08	7	-26			10x	3.5			Run 20x
Q 09	8	-34			10x	3.5			✓
Q 10	9	-35			20x	3.5			✓
Q 11	10	-36			10x	3.4			✓
Q 12	11	-33			1x	3.4			✓
Q 13	12	-37				3.5			Run 2x
Q 14	13	-39				2.9			✓
Q 15	14	-40				3.1			✓
Q 16	2	CC946-2.0		LC657	2uL 10ml	3.0			Pass
Q 17	3	-0.2			20uL 10ml	2.9			Pass
Q 18	1	CCB							BDL
Q 19	15	FA45118-41		OP65468	1x	2.4			✓
Q 20	16	-25			100x	3.5			✓
Q 21	17	-26			20x	3.6			✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	Kprime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	115

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 50-946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	NAS
ELUENT A LOT #:	172620 w/ Acetic
ELUENT B LOT #:	171224 ↓
WATER LOT #:	172620
ISTD Lot #:	8031

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37532	18	OP65464-BS	6850	OP65964	1x	2.6		LINK	✓
Q 23	19	MB				—			BDL
Q 24	20	FA45118-3B				3.3			✓
Q 25	21	OP65-464-MS				3.0			✓
Q 26	22	-MSD				3.1			✓
Q 27	23	FA45118-42			2x	3.5			✓
Q 28	24	-43			1x	3.2			✓
Q 29	2.	CL 946-1.0		LCB57	200x 10ml	3.2			Pass
Q 30	3	-0.2		1	20x 10ml	3.3			Pass
Q 31	1	CCB							BDL
Q 32	25	FA45118-44		OP65964	1x	3.4			✓
Q 33	26	FA45141-1			100x	3.4			Rpm 500x
Q 34	27	-2			500x	3.4			✓
Q 35	28	-3			20x	3.5			✓
Q 36	29	-4			1x	3.5			✓
Q 37	30	-5				3.3			✓
Q 38	31	-6				3.2			✓
Q 39	32	-8				2.7			✓
Q 40	33	-9				3.3			✓
Q 41	34	-10			100x	3.5			✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	K prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 e446
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	NAS
ELUENT A LOT #:	172161 w Aq 1.x
ELUENT B LOT #:	171224 +
WATER LOT #:	172161
ISTD Lot #:	6031

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37542	2	CC946-2.0	6850	LC847	2000 10ml	3.3		LIW	Pass
Q 43	3	-0.2		↓	200 10ml	2.9			Pass
Q 44	1	CCB							BAL
Q 45	35	FA45141-11		OP65469	50X	3.5			✓
Q 46	36	-12			20X	3.6			✓
Q 47	37	-13			20X	3.6			✓
Q 48	38	-14			1X	3.5			✓
Q 49	39	-15			2X	3.5			✓
Q 50	40	-16		↓	1X	3.0			✓
Q 51	41	FA45118-37		OP65466	2X	3.5			✓
Q 52	26	FA45141-1		OP65469	50X	3.5			✓
Q 53	2	CC946-2.0		LC847	2000 10ml	3.1			Pass
Q 54	3	-0.2		↓	200 10ml	2.8			Pass
Q 55	1	CCB							BAL
Q 56	42	OP65470-BS		OP65470	1X	2.7			✓
Q 57	43	-MS				—			BAL
Q 58	44	FA45141-7				3.0			✓
Q 59	45	OP65470-MS				3.4			✓
Q 60	46	-MSD				3.3			✓
Q 61	47	FA45141-17	↓	↓	↓	3.5		↓	✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	K prime
AMOUNT INJECTED:	5 ul
INSTRUMENT: LCMS1-Q	
HEAD PRESSURE:	112

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	MAJ
ELUENT A LOT #:	172161 w Acetic
ELUENT B LOT #:	171224
WATER LOT #:	172161
ISTD Lot #:	8631

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 37562	48	OP65970-MSL	6850	OP65970	1X	3.5		Live	✓
Q 63	49	-MSD2				3.5			✓
Q 64	50	FA45191-18				2.8			✓
Q 65	51	-19			50X	3.5			✓
Q 66	2	CCV46-2.0		LL857	200uL 10ml	2.9			Pass
Q 67	3	-0.2			200uL 10ml	2.7			Pass
Q 68	1	CCB							BAL
Q 69	52	FA45191-20		OP65970	500X	3.2			✓
Q 70	53	-21			50X	3.5			✓
Q 71	54	-22				3.5			~~Run 100~~ ✓ MJ 7/28/17
Q 72	55	-23				3.5			XRun 100X
Q 73	56	-24			1X	3.1			✓
Q 74	57	-25				3.3			✓
Q 75	58	-26				3.5			✓
Q 76	59	-27				3.4			✓
Q 77	2	CCV46-2.0		LL857	200uL 10ml	3.1			Pass
Q 78	3	-0.2			200uL 10ml	3.0			Pass
Q 79	1	CCB							BAL
Q 80	60	OP66151-BS		OP66151	1X	2.9			✓
Q 81	61	-MS				—			BAL

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST-ORLANDO

DATE:	07-27-17
COLUMN TYPE:	x prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	118

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6850 0726 SQ946
CALIB. DATE:	07-26-17
RUN BATCH: SQ	947

ANALYST:	NAS
ELUENT A LOT #:	172161 w Acetic
ELUENT B LOT #:	171224 ↓
WATER LOT #:	172161
ISTD Lot #:	5631

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q	37582	62	FA40227-7A	6850	OP66151	1x	3.0		LINK	✓
Q	83	63	FA45722-1				2.8			✓
Q	84	64	-2				3.0			✓
Q	85	65	-3				—			BDL
Q	86	66	-4				—			BDL
Q	87	67	FA45759-1				3.2			✓
Q	88	68	OP66191-ms				3.1			✓
Q	89	69	-msd		↓	↓	3.3			✓
Q	90	2	CC946-2.0		LL657	20ml (10ml)	3.2			Pass
Q	91	3	-0.2		↓	20ml (10ml)	2.5			Pass
Q	92	1	CCB							BDL
Q	93	70	FA45759-2		OP66151	1x	3.2			✓
Q	94	71	FA45191-23		OP65970	100x	3.5			✓
Q	95	2	CC946-2.0		LL657	20ml (10ml)	3.2			Pass
Q	96	3	CC946-0.2		↓	20ml (10ml)	3.1			Pass
Q	97	1	CCB	↓					↓	BDL
Q										
Q										
Q								NAS 07-28-17		
Q										

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 07-26-17 1000 {mm/dd/yy 24:00}

Date/Time Finished: 07-26-17 1400 {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP66151 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 66151- MB	1	10					10 ml	
OP - BS	1	10				20ul	10	
FA45722-1	1	10					10	
-2	1	10					10	
-3	1	10					10	
-4	1	10					10	
FA45759-1	1	10					10	MS/MSD
-2	1	10					10	
FA40227-79	1	10					10	
OP66151- MS	1	10				20ul	10	FA45759-1
- MSD	1	10				20ul	10	-1
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LL8576 Conc: 100/10 Exp. Date: 12-04-17 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

Exchange Bath/N-Evap Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

CH2CL2 Lot # — Hexane Lot # — Na2SO4 Lot# —

Acetonitrile Lot # — Methanol Lot # — Acetone Lot# —

~~Syringe Filter~~ Lot# 1057191 pH Paper # — Reagent # —

Copper Lot # _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 07-26-17

Accepted By: _____ Date: 07-26-17

NF 02/16 extwater 020116.xls

7.7.1

7

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-MB	BB056497.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45759-1, FA45759-2

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	85%	70-136%

Method Blank Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-MB	GG613509.D	1	07/21/17	EM	07/14/17	OP65961	GGG2548

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45759-1, FA45759-2

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	61%* [a]	70-136%

(a) Outside control limits.

Blank Spike Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-BS	BB056480.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45759-1, FA45759-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.5	110	77-144
121-82-4	RDX	5	4.7	94	77-125
	DNX	5	4.4	88	66-127
	MNX	5	6.0	120	71-137
	TNX	5	4.4	88	60-126
618-87-1	3,5-Dinitroaniline	5	4.8	96	77-115
99-65-0	1,3-Dinitrobenzene	5	4.2	84	79-122
606-20-2	2,6-Dinitrotoluene	5	4.5	90	81-131
121-14-2	2,4-Dinitrotoluene	5	4.3	86	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	4.6	92	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.6	92	79-119
98-95-3	Nitrobenzene	5	4.2	84	78-130
88-72-2	o-Nitrotoluene	5	4.1	82	76-131
99-08-1	m-Nitrotoluene	5	3.9	78	78-122
99-99-0	p-Nitrotoluene	5	4.3	86	79-124
479-45-8	Tetryl	5	4.1	82	65-124
99-35-4	1,3,5-Trinitrobenzene	5	4.6	92	79-128
118-96-7	2,4,6-Trinitrotoluene	5	3.7	74	72-112
55-63-0	Nitroglycerine	25	30.6	122	69-123
78-11-5	PETN	25	28.1	112	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	89%	70-136%

* = Outside of Control Limits.

Raw Data: BB056487.D BB056488.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65961-MS	BB056487.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620
OP65961-MSD	BB056488.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620
FA45759-1 [a]	BB056486.D	1	07/19/17	EM	07/14/17	OP65961	GBB1620
FA45759-1 [b]	GG613513.D	1	07/21/17	EM	07/14/17	OP65961	GGG2548

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA45759-1, FA45759-2

CAS No.	Compound	FA45759-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	21.8 [c]		10.9	34.2	114	10.9	36.1	132	5	77-144/21
121-82-4	RDX	0.20 U		10.9	16.0	147*	10.9	17.8	164*	11	77-125/19
	DNX	0.20 U		10.9	18.9	174*	10.9	21.5	198*	13	66-127/25
	MNX	0.20 U		10.9	16.3	150*	10.9	17.5	161*	7	71-137/20
	TNX	0.20 U		10.9	8.2	75	10.9	9.6	88	16	60-126/18
618-87-1	3,5-Dinitroaniline	0.20 U		10.9	10.4	96	10.9	11.0	101	6	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		10.9	9.2	85	10.9	9.9	91	7	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		10.9	13.1	121	10.9	13.5	124	3	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		10.9	8.7	80	10.9	9.2	85	6	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4		10.9	14.7	95	10.9	15.5	102	5	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	1.8		10.9	13.1	92	10.9	13.6	97	4	79-119/20
98-95-3	Nitrobenzene	0.20 U		10.9	8.5	78	10.9	9.4	86	10	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		10.9	7.9	73*	10.9	8.6	79	8	76-131/20
99-08-1	m-Nitrotoluene	0.20 U		10.9	7.6	70*	10.9	8.3	76*	9	78-122/18
99-99-0	p-Nitrotoluene	0.20 U		10.9	8.5	78*	10.9	9.2	85	8	79-124/18
479-45-8	Tetryl	0.20 U		10.9	8.0	74	10.9	8.7	80	8	65-124/20
99-35-4	1,3,5-Trinitrobenzene	13.3		10.9	24.0	98	10.9	24.8	106	3	79-128/16
118-96-7	2,4,6-Trinitrotoluene	8.7		10.9	17.1	77	10.9	17.3	79	1	72-112/16
55-63-0	Nitroglycerine	2.0 U		54.3	66.0	121	54.3	62.0	114	6	69-123/18
78-11-5	PETN	2.0 U		54.3	54.8	101	54.3	64.6	119	16	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA45759-1	FA45759-1	Limits
610-39-9	3,4-Dinitrotoluene	90%	92%	91%	101%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run #3.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA45759-1	BB056498.D	94
FA45759-1	GG613513.D	101
FA45759-1	GG613514.D	93
FA45759-1	BB056486.D	91
FA45759-2	GG613515.D	96
FA45759-2	BB056489.D	83
OP65961-BS	BB056480.D	89
OP65961-MB	BB056497.D	85
OP65961-MB	GG613509.D	61* [b]
OP65961-MS	BB056487.D	90
OP65961-MSD	BB056488.D	92

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1
(b) Outside control limits.

GC Surrogate Retention Time Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1620-CC1615	**Injection Date:**	07/19/17
Lab File ID:	BB056478.D	**Injection Time:**	02:03
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.44

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP65961-BS	BB056480.D	07/19/17	03:03	10.42
ZZZZZZ	BB056482.D	07/19/17	04:03	10.42
ZZZZZZ	BB056483.D	07/19/17	04:33	10.43
ZZZZZZ	BB056484.D	07/19/17	05:03	10.41
ZZZZZZ	BB056485.D	07/19/17	05:33	10.42
FA45759-1	BB056486.D	07/19/17	06:03	10.40
OP65961-MS	BB056487.D	07/19/17	06:33	10.39
OP65961-MSD	BB056488.D	07/19/17	07:03	10.40
FA45759-2	BB056489.D	07/19/17	07:33	10.42

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1620-CC1615	**Injection Date:**	07/19/17
Lab File ID:	BB056490.D	**Injection Time:**	08:03
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	10.42

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP65992-BS	BB056492.D	07/19/17	09:03	10.43
OP65992-MB	BB056493.D	07/19/17	09:33	10.45
ZZZZZZ	BB056494.D	07/19/17	10:03	10.45
ZZZZZZ	BB056495.D	07/19/17	10:33	10.45
FA45863-3	BB056496.D	07/19/17	11:03	10.45
OP65961-MB	BB056497.D	07/19/17	11:33	10.46
FA45759-1	BB056498.D	07/19/17	12:03	10.27
OP65992-MS	BB056500.D	07/19/17	13:03	10.45
OP65992-MSD	BB056501.D	07/19/17	13:33	10.45

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2548-CC2548	**Injection Date:**	07/21/17
Lab File ID:	GG613507.D	**Injection Time:**	02:03
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	14.39	14.39

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP65961-MB	GG613509.D	07/21/17	03:02		14.38
ZZZZZZ	GG613510.D	07/21/17	03:31		14.41
ZZZZZZ	GG613511.D	07/21/17	04:01		14.45
FA45759-1	GG613513.D	07/21/17	05:00		14.41
FA45759-1	GG613514.D	07/21/17	05:29		14.42
FA45759-2	GG613515.D	07/21/17	05:58		14.43
GGG2548-ECC2548	GG613517.D	07/21/17	06:57	14.41	14.41

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICC1615
Lab FileID: BB055900.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration

Calibration Files
20 =BB055896.D 50 =BB055897.D 100 =BB055898.D 200 =BB055899.D
500 =BB055900.D 1000=BB055901.D 2000=BB055902.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	3.279	2.922	3.197	3.113	3.106	2.997	3.115	3.104	E3	3.81
2)	HMX	1.870	1.590	1.685	1.731	1.743	1.696	1.799	1.731	E3	5.13
3)	DNX	3.487	2.688	3.090	2.802	2.775	2.672	2.812	2.904	E3	10.04
4)	MNX	2.155	2.114	2.300	2.248	2.297	2.220	2.328	2.237	E3	3.57
5)	RDX	1.945	2.040	2.224	2.060	2.004	1.936	2.037	2.035	E3	4.72
6)	1,3,5-Trinitroben	4.322	3.949	4.370	4.265	4.290	4.168	4.433	4.257	E3	3.74
7)	1,3-Dinitrobenzen	5.652	5.231	5.658	5.653	5.725	5.488	5.732	5.591	E3	3.18
8)	3,5-Dinitroanilin	5.356	4.121	3.984	3.916	3.806	3.769	3.973	4.132	E3	13.36
9)	Nitrobenzene	3.567	3.209	3.556	3.465	3.400	3.305	3.479	3.426	E3	3.83
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	2.754	2.905	3.187	3.196	3.181	3.148	3.354	3.104	E3	6.55
12)	2,4,6-Trinitrotol	3.929	3.663	3.976	3.633	3.834	3.749	4.004	3.827	E3	3.91
13)	2-Amino-4,6-Dinit	3.585	3.407	4.057	4.033	3.798	3.622	3.747	3.750	E3	6.33
14)	4-Amino-2,6-Dinit	2.808	1.878	2.408	2.575	2.629	2.532	2.672	2.500	E3	12.04
15)S	3,4-Dinitrotoluen	2.756	2.648	3.036	2.569	2.395	2.245	2.373	2.575	E3	10.43
16)	2,4-Dinitrotoluen	5.583	4.995	5.223	5.139	5.176	4.940	5.184	5.177	E3	4.00
17)	2,6-Dinitrotoluen	2.666	3.169	3.475	3.237	3.113	2.899	3.062	3.089	E3	8.30
18)	o-Nitrotoluene	2.329	2.130	2.364	2.368	2.341	2.321	2.448	2.329	E3	4.18
19)	p-Nitrotoluene	2.920	3.398	3.613	3.634	3.665	3.616	3.835	3.526	E3	8.39
20)	m-Nitrotoluene	3.700	3.335	3.728	3.614	3.560	3.532	3.746	3.602	E3	4.00
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	5.255	4.392	4.997	4.790	4.742	4.653	4.713	4.792	E3	5.68
2)	HMX	4.587	4.022	4.670	4.779	4.773	4.719	4.919	4.638	E3	6.27
3)	DNX	6.564	4.988	6.014	4.678	4.426	4.320	4.465	5.065	E3	17.34

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 4343.12099 *A + 0.05686 *A^2

4)	MNX	3.252	2.961	3.427	3.441	3.520	3.411	3.594	3.372	E3	6.22
5)	RDX	3.523	2.927	3.175	3.191	3.170	3.073	3.247	3.186	E3	5.69
6)	1,3,5-Trinitroben	7.955	7.294	8.424	8.187	8.326	8.119	8.583	8.127	E3	5.18
7)	1,3-Dinitrobenzen	3.222	3.288	3.692	3.726	3.847	3.711	3.885	3.624	E3	7.25
8)	3,5-Dinitroanilin	7.476	5.929	6.559	6.462	6.399	6.204	6.609	6.520	E3	7.39
9)	Nitrobenzene	3.777	2.914	3.095	3.234	3.249	3.171	3.363	3.258	E3	8.25
10)	Nitroglycerin	1.141	0.755	0.964	1.079	1.166	1.134	1.219	1.065	E3	14.88
11)	Tetryl	4.880	3.264	4.449	5.642	5.457	5.238	5.665	4.942	E3	17.38

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995
Response Ratio = 0.00000 + 5048.60216 *A + 0.30336 *A^2

12)	2,4,6-Trinitrotol	5.134	3.209	2.927	4.090	4.584	4.518	4.793	4.179	E3	19.74

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 4279.24649 *A + 0.25689 *A^2

13)	2-Amino-4,6-Dinit	5.218	3.261	3.166	5.702	5.587	5.405	5.711	4.864	E3	23.46

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993

Initial Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICC1615
Lab FileID: BB055900.D

```
              Response Ratio = 0.00000 + 5238.58400 *A + 0.23378 *A^2

14)  4-Amino-2,6-Dinit 3.771 4.541 3.851 4.787 5.150 5.051 5.387 4.648 E3  13.60
15)S 3,4-Dinitrotoluen 2.714 2.907 3.582 3.990 4.073 3.909 4.207 3.626 E3  16.32
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 3770.55183 *A + 0.21482 *A^2

16)  2,4-Dinitrotoluen 3.387 2.492 3.011 3.105 3.330 3.231 3.393 3.136 E3  10.15
17)  2,6-Dinitrotoluen 3.172 3.251 3.766 3.863 3.936 3.756 3.974 3.674 E3   8.89
18)  o-Nitrotoluene    1.408 2.546 2.952 2.989 3.134 3.209 3.478 2.817 E3  24.24
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  1.0000
              Response Ratio = 0.00000 + 2961.15996 *A + 0.25816 *A^2

19)  p-Nitrotoluene    1.748 1.284 1.654 2.316 2.772 2.849 3.176 2.257 E3  31.51
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 2507.99716 *A + 0.33506 *A^2

20)  m-Nitrotoluene    2.578 3.873 4.744 4.064 4.080 4.062 4.439 3.977 E3  17.16
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 3825.54667 *A + 0.30368 *A^2

21)  PETN              1.311 1.152 1.492 1.459 1.470 1.467 1.532 1.412 E3   9.45
------------------------------------------------------------------------------
(#) = Out of Range

          8330B_0629PLUS.M        Fri Jun 30 11:05:30 2017
```

8.6.1

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055903.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	567.860	-13.6	114	0.01	1.08- 1.68
2	HMX	500.000	517.269	-3.5	103	0.00	1.22- 1.82
3	DNX		----------NA----------				
4	MNX	500.000	503.327	-0.7	98	0.00	2.07- 2.67
5	RDX	500.000	451.491	9.7	92	0.00	2.60- 3.40
6	1,3,5-Trinitrobenzene	500.000	492.951	1.4	98	-0.02	4.41- 5.21
7	1,3-Dinitrobenzene	500.000	433.291	13.3	85	-0.02	5.66- 6.46
8	3,5-Dinitroaniline	500.000	496.099	0.8	108	-0.02	6.01- 6.81
9	Nitrobenzene	500.000	457.106	8.6	92	0.00	7.25- 8.05
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotol	500.000	462.625	7.5	91	-0.04	9.76-10.56
14	4-Amino-2,6-Dinitrotol	500.000	512.324	-2.5	97	-0.06	10.24-11.04
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	444.758	11.0	89	-0.06	11.34-12.14
17	2,6-Dinitrotoluene	500.000	464.050	7.2	92	-0.06	11.79-12.59
18	o-Nitrotoluene	500.000	478.675	4.3	95	-0.03	14.92-15.80
19	p-Nitrotoluene	500.000	482.087	3.6	93	-0.03	15.39-16.39
20	m-Nitrotoluene	500.000	457.830	8.4	93	-0.02	16.28-17.28
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	562.032	-12.4	114	0.01	1.08- 1.68
2	HMX	500.000	522.036	-4.4	101	0.00	1.22- 1.82
	---------- Amount	Calc.	%Drift	----------			
3	DNX		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
4	MNX	500.000	512.468	-2.5	98	0.00	2.07- 2.67
5	RDX	500.000	455.632	8.9	92	0.00	2.60- 3.40
6	1,3,5-Trinitrobenzene	500.000	494.111	1.2	96	-0.02	4.41- 5.21
7	1,3-Dinitrobenzene	500.000	454.636	9.1	86	-0.02	5.66- 6.46
8	3,5-Dinitroaniline	500.000	524.075	-4.8	107	-0.02	6.01- 6.81
9	Nitrobenzene	500.000	457.148	8.6	92	0.00	7.25- 8.05
10	Nitroglycerin	2500.000	3521.650	-40.9#	129	-0.06	8.62- 9.62
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl		----------NA----------				

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055903.D

		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotol	500.000	485.687	2.9	93	-0.04	9.76-10.56
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	500.000	542.627	-8.5	98	-0.06	10.24-11.04
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	500.000	484.860	3.0	91	-0.06	11.34-12.14
17	2,6-Dinitrotoluene	500.000	505.030	-1.0	94	-0.06	11.79-12.59
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	500.000	474.523	5.1	93	-0.03	14.80-15.80
19	p-Nitrotoluene	500.000	476.720	4.7	92	-0.03	15.39-16.39
20	m-Nitrotoluene	500.000	464.102	7.2	90	-0.02	16.29-17.29
		Amount	Calc.	%Drift			
21	PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055900.D 8330B_0629PLUS.M Fri Jun 30 11:04:29 2017

8.6.2

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055904.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1B.ch Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1A.ch
Acq On    : 29-Jun-2017, 20:57:02                    Operator: evitam
Sample    : icv1615-500                              Inst    : G1315B
Misc      : op65687,gbb1615,1050,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	565.799	-13.2	110	0.00	9.00- 9.80
12	2,4,6-Trinitrotoluene	500.000	513.861	-2.8	103	0.00	9.47-10.27
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
3	DNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
4	MNX		----------NA----------				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
11	Tetryl	500.000	537.370	-7.5	103	0.00	8.99- 9.79

8.6.3
8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055904.D

12		2,4,6-Trinitrotoluene	500.000	545.334	-9.1	105	0.00	9.47-10.27
13		2-Amino-4,6-Dinitrotoluen		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
14		4-Amino-2,6-Dinitrotoluen		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
15	S	3,4-Dinitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
16		2,4-Dinitrotoluene		----------NA----------				
17		2,6-Dinitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
18		o-Nitrotoluene		----------NA----------				
19		p-Nitrotoluene		----------NA----------				
20		m-Nitrotoluene		----------NA----------				
		---------- Amount	Calc.	%Drift	----------			
21		PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055900.D 8330B_0629PLUS.M Fri Jun 30 11:07:16 2017

8.6.3

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055930.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1A.ch
Acq On    : 30-Jun-2017, 09:59:41                    Operator: evitam
Sample    : icv1615-100                              Inst    : G1315B
Misc      : op65689,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 200%
```

		Compound	Amount	Calc.	%Drift	Area% Dev(min)	RT Window
1		TNX		----------NA----------			
2		HMX		----------NA----------			
3		DNX		----------NA----------			
4		MNX		----------NA----------			
5		RDX		----------NA----------			
6		1,3,5-Trinitrobenzene		----------NA----------			
7		1,3-Dinitrobenzene		----------NA----------			
8		3,5-Dinitroaniline		----------NA----------			
9		Nitrobenzene		----------NA----------			
10		Nitroglycerin		----------NA----------			
11		Tetryl		----------NA----------			
12		2,4,6-Trinitrotoluene		----------NA----------			
13		2-Amino-4,6-Dinitrotoluen		----------NA----------			
14		4-Amino-2,6-Dinitrotoluen		----------NA----------			
15	S	3,4-Dinitrotoluene		----------NA----------			
16		2,4-Dinitrotoluene		----------NA----------			
17		2,6-Dinitrotoluene		----------NA----------			
18		o-Nitrotoluene		----------NA----------			
19		p-Nitrotoluene		----------NA----------			
20		m-Nitrotoluene		----------NA----------			
21		PETN		----------NA----------			
*****		Signal #2 *****					
1		TNX		----------NA----------			
2		HMX		----------NA----------			
		----------	Amount	Calc.	%Drift	----------	
3		DNX		----------NA----------			
		----------	Amount	Calc.	%Drift	----------	
4		MNX		----------NA----------			
5		RDX		----------NA----------			
6		1,3,5-Trinitrobenzene		----------NA----------			
7		1,3-Dinitrobenzene		----------NA----------			
8		3,5-Dinitroaniline		----------NA----------			
9		Nitrobenzene		----------NA----------			
10		Nitroglycerin		----------NA----------			
		----------	Amount	Calc.	%Drift	----------	
11		Tetryl		----------NA----------			

8.6.4

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1615-ICV1615
Lab FileID: BB055930.D

12	2,4,6-Trinitrotoluene		----------NA----------					
13	2-Amino-4,6-Dinitrotoluen		----------NA----------					
		---------- Amount	Calc.	%Drift	----------			
14	4-Amino-2,6-Dinitrotoluen		----------NA----------					
		---------- Amount	Calc.	%Drift	----------			
15 S	3,4-Dinitrotoluene		----------NA----------					
		---------- Amount	Calc.	%Drift	----------			
16	2,4-Dinitrotoluene		----------NA----------					
17	2,6-Dinitrotoluene		----------NA----------					
		---------- Amount	Calc.	%Drift	----------			
18	o-Nitrotoluene		----------NA----------					
19	p-Nitrotoluene		----------NA----------					
20	m-Nitrotoluene		----------NA----------					
		---------- Amount	Calc.	%Drift	----------			
21	PETN	500.000	531.993	-6.4	101	-0.03	18.16-19.36	

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055898.D 8330B_0629PLUS.M Fri Jun 30 11:05:16 2017

8.6.4

8

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056478.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	1000.000	918.463	8.2	95	0.00	1.05- 1.65
2		HMX	1000.000	1003.785	-0.4	102	0.00	1.17- 1.77
3		DNX	1000.000	822.801	17.7#	89	0.00	1.42- 2.02
4		MNX	1000.000	863.732	13.6	87	-0.01	1.98- 2.58
5		RDX	1000.000	966.230	3.4	102	-0.02	2.48- 3.28
6		1,3,5-Trinitrobenzene	1000.000	982.458	1.8	100	-0.03	4.17- 4.97
7		1,3-Dinitrobenzene	1000.000	975.767	2.4	99	-0.03	5.42- 6.22
8		3,5-Dinitroaniline	1000.000	1043.142	-4.3	114	-0.04	5.74- 6.54
9		Nitrobenzene	1000.000	974.461	2.6	101	-0.03	7.03- 7.83
10		Nitroglycerin	----------NA----------					
11		Tetryl	1000.000	934.730	6.5	92	-0.07	8.53- 9.33
12		2,4,6-Trinitrotoluene	1000.000	941.486	5.9	96	-0.07	8.97- 9.77
13		2-Amino-4,6-Dinitrotol	1000.000	1011.366	-1.1	105	-0.09	9.28-10.08
14		4-Amino-2,6-Dinitrotol	1000.000	1000.249	-0.0	99	-0.08	9.75-10.55
15	S	3,4-Dinitrotoluene	1000.000	918.186	8.2	105	-0.08	10.12-10.92
16		2,4-Dinitrotoluene	1000.000	952.571	4.7	100	-0.08	10.79-11.59
17		2,6-Dinitrotoluene	1000.000	985.305	1.5	105	-0.09	11.27-12.07
18		o-Nitrotoluene	1000.000	972.950	2.7	98	-0.06	14.50-15.37
19		p-Nitrotoluene	1000.000	1047.743	-4.8	102	-0.06	14.92-15.92
20		m-Nitrotoluene	1000.000	982.807	1.7	100	-0.06	15.88-16.88
21		PETN	----------NA----------					

***** Signal #2 *****

1		TNX	1000.000	898.668	10.1	93	0.00	1.05- 1.65
2		HMX	1000.000	1017.051	-1.7	100	0.00	1.17- 1.77
		---------- Amount	Calc.	%Drift	----------			
3		DNX	1000.000	884.176	11.6	90	0.00	1.42- 2.02
		---------- Amount	Calc.	%Drift	----------			
4		MNX	1000.000	882.261	11.8	87	-0.01	1.98- 2.58
5		RDX	1000.000	983.231	1.7	102	-0.02	2.48- 3.28
6		1,3,5-Trinitrobenzene	1000.000	999.054	0.1	100	-0.03	4.17- 4.97
7		1,3-Dinitrobenzene	1000.000	1012.780	-1.3	99	-0.03	5.42- 6.22
8		3,5-Dinitroaniline	1000.000	1097.749	-9.8	115	-0.04	5.74- 6.54
9		Nitrobenzene	1000.000	994.087	0.6	102	-0.03	7.03- 7.83
10		Nitroglycerin	5000.000	4538.595	9.2	85	-0.04	8.24- 9.24
		---------- Amount	Calc.	%Drift	----------			
11		Tetryl	1000.000	1140.982	-14.1	118	-0.11	8.51- 9.31

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056478.D

12	2,4,6-Trinitrotoluene	1000.000	950.675	4.9	95	-0.07	8.97-	9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1029.840	-3.0	104	-0.09	9.28-	10.08
		Amount	Calc.	%Drift				
14	4-Amino-2,6-Dinitrotol	1000.000	1075.416	-7.5	99	-0.09	9.75-	10.55
		Amount	Calc.	%Drift				
15 S	3,4-Dinitrotoluene	1000.000	1019.173	-1.9	104	-0.08	10.12-	10.92
		Amount	Calc.	%Drift				
16	2,4-Dinitrotoluene	1000.000	957.343	4.3	93	-0.08	10.79-	11.59
17	2,6-Dinitrotoluene	1000.000	1007.745	-0.8	99	-0.08	11.27-	12.07
		Amount	Calc.	%Drift				
18	o-Nitrotoluene	1000.000	988.221	1.2	99	-0.06	14.38-	15.38
19	p-Nitrotoluene	1000.000	1104.306	-10.4	112	-0.06	14.92-	15.92
20	m-Nitrotoluene	1000.000	964.538	3.5	98	-0.05	15.88-	16.88
		Amount	Calc.	%Drift				
21	PETN	5000.000	4749.528	5.0	91	-0.06	17.77-	18.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055901.D 8330B_0629PLUS.M Wed Jul 19 10:42:15 2017

8.6.5

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Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056490.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	965.107	3.5	100	0.00	1.05- 1.65
2	HMX	1000.000	1063.152	-6.3	108	0.00	1.17- 1.77
3	DNX	1000.000	869.559	13.0	94	0.00	1.42- 2.02
4	MNX	1000.000	916.682	8.3	92	-0.01	1.98- 2.58
5	RDX	1000.000	1018.378	-1.8	107	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	1068.306	-6.8	109	-0.04	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1034.749	-3.5	105	-0.04	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1085.288	-8.5	119	-0.05	5.74- 6.54
9	Nitrobenzene	1000.000	1030.560	-3.1	107	-0.03	7.03- 7.83
10	Nitroglycerin	----------NA----------					
11	Tetryl	1000.000	1070.406	-7.0	106	-0.09	8.53- 9.33
12	2,4,6-Trinitrotoluene	1000.000	991.803	0.8	101	-0.09	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1083.289	-8.3	112	-0.11	9.28-10.08
14	4-Amino-2,6-Dinitrotol	1000.000	1047.204	-4.7	103	-0.10	9.75-10.55
15 S	3,4-Dinitrotoluene	1000.000	979.233	2.1	112	-0.10	10.12-10.92
16	2,4-Dinitrotoluene	1000.000	1000.466	-0.0	105	-0.10	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1044.824	-4.5	111	-0.11	11.27-12.07
18	o-Nitrotoluene	1000.000	1039.525	-4.0	104	-0.07	14.50-15.37
19	p-Nitrotoluene	1000.000	1131.257	-13.1	110	-0.07	14.92-15.92
20	m-Nitrotoluene	1000.000	1055.582	-5.6	108	-0.07	15.88-16.88
21	PETN	----------NA----------					

***** Signal #2 *****

1	TNX	1000.000	945.693	5.4	97	0.00	1.05- 1.65
2	HMX	1000.000	1082.146	-8.2	106	0.00	1.17- 1.77
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	929.886	7.0	95	0.00	1.42- 2.02
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	930.442	7.0	92	-0.01	1.98- 2.58
5	RDX	1000.000	1038.302	-3.8	108	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	1078.372	-7.8	108	-0.04	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1072.695	-7.3	105	-0.04	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1133.740	-13.4	119	-0.05	5.74- 6.54
9	Nitrobenzene	1000.000	1103.489	-10.3	113	-0.03	7.03- 7.83
10	Nitroglycerin	5000.000	4638.034	7.2	87	-0.07	8.24- 9.24
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	1262.839	-26.3#	131	-0.11	8.51- 9.31

8.6.6
8

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056490.D

		Amount	Calc.	%Drift			
12	2,4,6-Trinitrotoluene	1000.000	1012.232	-1.2	102	-0.09	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1095.008	-9.5	111	-0.10	9.28-10.08
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1129.582	-13.0	104	-0.10	9.75-10.55
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	1000.000	1100.838	-10.1	113	-0.10	10.12-10.92
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	1013.861	-1.4	98	-0.10	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1082.585	-8.3	106	-0.11	11.27-12.07
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	1048.488	-4.8	106	-0.07	14.38-15.38
19	p-Nitrotoluene	1000.000	1188.714	-18.9#	121	-0.07	14.92-15.92
20	m-Nitrotoluene	1000.000	1047.791	-4.8	107	-0.06	15.88-16.88
		Amount	Calc.	%Drift			
21	PETN	5000.000	4843.232	3.1	93	-0.06	17.77-18.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055901.D 8330B_0629PLUS.M Wed Jul 19 10:42:16 2017

8.6.6

8

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056502.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	961.051	3.9	100	0.00	1.05- 1.65
2	HMX	1000.000	1065.685	-6.6	109	0.00	1.17- 1.77
3	DNX	1000.000	866.020	13.4	94	0.00	1.42- 2.02
4	MNX	1000.000	912.949	8.7	92	-0.01	1.98- 2.58
5	RDX	1000.000	1024.878	-2.5	108	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	1055.218	-5.5	108	-0.03	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1018.911	-1.9	104	-0.03	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1102.094	-10.2	121	-0.04	5.74- 6.54
9	Nitrobenzene	1000.000	1038.966	-3.9	108	-0.02	7.03- 7.83
10	Nitroglycerin	----------NA----------					
11	Tetryl	1000.000	1056.208	-5.6	104	-0.07	8.53- 9.33
12	2,4,6-Trinitrotoluene	1000.000	980.085	2.0	100	-0.07	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1081.757	-8.2	112	-0.09	9.28-10.08
14	4-Amino-2,6-Dinitrotol	1000.000	1057.513	-5.8	104	-0.08	9.75-10.55
15 S	3,4-Dinitrotoluene	1000.000	984.381	1.6	113	-0.07	10.12-10.92
16	2,4-Dinitrotoluene	1000.000	984.780	1.5	103	-0.07	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1076.621	-7.7	115	-0.08	11.27-12.07
18	o-Nitrotoluene	1000.000	1019.030	-1.9	102	-0.03	14.50-15.37
19	p-Nitrotoluene	1000.000	1135.127	-13.5	111	-0.04	14.92-15.92
20	m-Nitrotoluene	1000.000	1050.665	-5.1	107	-0.03	15.88-16.88
21	PETN	----------NA----------					

***** Signal #2 *****

1	TNX	1000.000	939.713	6.0	97	0.00	1.05- 1.65
2	HMX	1000.000	1085.188	-8.5	107	0.00	1.17- 1.77
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	927.139	7.3	94	0.00	1.42- 2.02
	---------- Amount	Calc.	%Drift	----------			
4	MNX	1000.000	929.632	7.0	92	-0.01	1.98- 2.58
5	RDX	1000.000	1034.971	-3.5	107	-0.02	2.48- 3.28
6	1,3,5-Trinitrobenzene	1000.000	1072.291	-7.2	107	-0.03	4.17- 4.97
7	1,3-Dinitrobenzene	1000.000	1047.538	-4.8	102	-0.03	5.42- 6.22
8	3,5-Dinitroaniline	1000.000	1135.306	-13.5	119	-0.04	5.74- 6.54
9	Nitrobenzene	1000.000	1087.127	-8.7	112	-0.02	7.03- 7.83
10	Nitroglycerin	5000.000	4293.641	14.1	81	-0.05	8.24- 9.24
	---------- Amount	Calc.	%Drift	----------			
11	Tetryl	1000.000	1296.809	-29.7#	135	-0.09	8.51- 9.31

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1620-CC1615
Lab FileID: BB056502.D

12	2,4,6-Trinitrotoluene	1000.000	1000.352	-0.0	100	-0.07	8.97- 9.77
13	2-Amino-4,6-Dinitrotol	1000.000	1093.067	-9.3	111	-0.09	9.28-10.08
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1127.863	-12.8	104	-0.08	9.75-10.55
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	1000.000	1106.597	-10.7	113	-0.07	10.12-10.92
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	996.067	0.4	97	-0.07	10.79-11.59
17	2,6-Dinitrotoluene	1000.000	1096.613	-9.7	107	-0.07	11.27-12.07
		Amount	Calc.	%Drift			
18	o-Nitrotoluene	1000.000	1041.545	-4.2	105	-0.04	14.38-15.38
19	p-Nitrotoluene	1000.000	1182.488	-18.2#	121	-0.04	14.92-15.92
20	m-Nitrotoluene	1000.000	1036.084	-3.6	106	-0.03	15.88-16.88
		Amount	Calc.	%Drift			
21	PETN	5000.000	4781.210	4.4	92	-0.04	17.77-18.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB055901.D 8330B_0629PLUS.M Thu Jul 20 09:42:05 2017

8.9.7

8

Initial Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICC2548
Lab FileID: GG613492.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration

Calibration Files
20 =GG613488.D 50 =GG613489.D 100 =GG613490.D 200 =GG613491.D
500 =GG613492.D 1000=GG613493.D 2000=GG613494.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	7.770	8.739	8.197	8.423	8.026	8.007	8.120	8.183	E3	3.85
2)	HMX	3.404	4.014	3.724	3.519	3.817	3.726	3.709	3.702	E3	5.33
3)	DNX	7.296	7.088	6.550	6.922	6.431	6.385	6.485	6.737	E3	5.37
4)	MNX	4.098	5.268	5.014	4.924	4.691	4.801	4.927	4.818	E3	7.57
5)	1,3,5-Trinitroben	1.032	1.129	1.095	1.069	1.010	1.034	1.061	1.061	E4	3.86
6)	RDX	4.539	5.361	5.106	4.984	4.711	4.849	4.985	4.934	E3	5.43
7)	1,3-Dinitrobenzen	1.437	1.528	1.495	1.451	1.379	1.412	1.448	1.450	E4	3.42
8)	Nitrobenzene	9.476	9.633	9.617	9.402	8.974	9.283	9.428	9.402	E3	2.39
9)	2,4,6-Trinitrotol	1.068	1.083	1.031	1.012	0.961	0.983	1.010	1.021	E4	4.28
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	7.208	8.461	8.242	7.838	7.567	7.596	7.926	7.834	E3	5.44
12)S	3,4-Dinitrotoluen	5.215	6.136	5.677	5.709	5.430	5.542	5.627	5.620	E3	5.05
13)	2,6-Dinitrotoluen	6.758	7.493	7.119	6.988	6.655	6.820	7.021	6.979	E3	3.99
14)	2,4-Dinitrotoluen	1.298	1.420	1.344	1.336	1.268	1.299	1.337	1.329	E4	3.67
15)	o-Nitrotoluene	5.919	6.188	6.212	5.951	5.621	5.873	5.962	5.961	E3	3.35
16)	3,5-Dinitroanilin	1.452	2.814	1.091	1.094	1.013	1.035	1.063	1.366	E4	48.00
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983										
	Response Ratio = 0.00000 + 10234.05535 *A + 0.19025 *A^2										
17)	p-Nitrotoluene	1.287	1.273	1.260	1.224	1.158	1.192	1.222	1.231	E4	3.75
18)	4-Amino-2,6-Dinit	1.287	1.273	1.260	1.224	1.158	1.192	1.222	1.231	E4	3.75
19)	m-Nitrotoluene	6.714	6.379	6.800	6.512	6.185	6.468	6.590	6.521	E3	3.17
20)	2-Amino-4,6-Dinit	8.702	9.679	9.840	9.568	9.232	9.449	9.768	9.463	E3	4.15
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	7.823	8.826	8.081	8.423	8.026	8.007	8.120	8.187	E3	4.08
2)	HMX	3.434	3.902	3.803	3.498	3.817	3.726	3.709	3.698	E3	4.65
3)	DNX	7.461	7.443	6.694	6.922	6.431	6.385	6.485	6.831	E3	6.75
4)	MNX	4.098	5.268	5.014	4.924	4.691	4.801	4.927	4.818	E3	7.57
5)	1,3,5-Trinitroben	1.032	1.152	1.095	1.069	1.010	1.033	1.060	1.064	E4	4.48
6)	RDX	4.539	5.361	5.106	4.984	4.689	4.814	4.962	4.922	E3	5.53
7)	1,3-Dinitrobenzen	1.289	1.084	1.211	1.136	1.029	1.200	1.138	1.155	E4	7.47
8)	Nitrobenzene	0.963	0.898	1.000	0.994	0.838	0.970	0.930	0.942	E4	6.15
9)	2,4,6-Trinitrotol	2.560	1.321	1.318	1.319	1.275	1.378	1.369	1.506	E4	30.98
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996										
	Response Ratio = 0.00000 + 13325.73707 *A + 0.19230 *A^2										
10)	Nitroglycerin	3.186	2.950	3.164	3.122	3.025	3.266	3.281	3.142	E3	3.86
11)	Tetryl	0.972	1.250	1.287	1.306	1.228	1.380	1.416	1.263	E4	11.46
12)S	3,4-Dinitrotoluen	1.413	1.158	1.066	1.150	1.045	1.108	1.113	1.150	E4	10.67
13)	2,6-Dinitrotoluen	1.051	0.968	1.181	1.050	0.987	1.026	1.048	1.044	E4	6.57
14)	2,4-Dinitrotoluen	1.550	1.055	1.032	1.118	0.938	0.925	0.969	1.084	E4	19.99
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995										
	Response Ratio = 0.00000 + 9213.78486 *A + 0.22647 *A^2										

Initial Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICC2548
Lab FileID: GG613492.D

```
15)  o-Nitrotoluene    1.577 0.963 1.133 0.930 0.837 0.903 0.897 1.034 E4  24.83
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
              Response Ratio = 0.00000 + 8868.54623 *A + 0.05194 *A^2

16)  3,5-Dinitroanilin 2.470 4.692 1.868 1.774 1.654 1.694 1.766 2.274 E4  48.44
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9982
              Response Ratio = 0.00000 + 16561.77992 *A + 0.53692 *A^2

17)  p-Nitrotoluene    3.753 2.214 2.394 2.271 2.112 2.193 2.272 2.458 E4  23.48
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 21165.69699 *A + 0.77248 *A^2

18)  4-Amino-2,6-Dinit 3.753 2.214 2.394 2.271 2.112 2.193 2.272 2.458 E4  23.48
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 21165.69699 *A + 0.77248 *A^2

19)  m-Nitrotoluene    0.952 0.823 0.966 0.975 0.976 1.080 1.122 0.985 E4   9.79
20)  2-Amino-4,6-Dinit 0.749 0.989 0.964 1.142 1.244 1.289 1.369 1.106 E4  19.67
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 11923.89265 *A + 0.88660 *A^2

21)  PETN              2.296 3.039 3.313 3.117 3.256 3.258 3.428 3.101 E3  12.16
-------------------------------------------------------------------------------
(#) = Out of Range

          8330RPB.M_0720M.M        Mon Jul 24 14:00:32 2017
```

8.6.8

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613495.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	572.129	-14.4	117	0.01	4.43- 5.43
2	HMX	500.000	500.919	-0.2	97	0.01	4.80- 5.80
3	DNX	500.000	570.600	-14.1	120	0.02	4.99- 5.99
4	MNX	500.000	792.128	-58.4#	163	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	500.000	443.702	11.3	93	0.00	7.03- 8.03
6	RDX	500.000	456.122	8.8	96	0.01	7.37- 8.37
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene	500.000	446.131	10.8	93	0.00	10.60-11.60
9	2,4,6-Trinitrotoluene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	494.690	1.1	104	0.00	14.42-15.42
14	2,4-Dinitrotoluene	500.000	439.623	12.1	92	0.00	15.13-16.13
15	o-Nitrotoluene	500.000	456.724	8.7	97	-0.02	16.86-17.86
	----------	Amount	Calc.	%Drift	----------		
16	3,5-Dinitroaniline	500.000	490.305	1.9	100	0.00	16.11-17.11
	----------	Amount	Calc.	%Drift	----------		
17	p-Nitrotoluene	500.000	446.097	10.8	95	-0.02	17.94-18.94
18	4-Amino-2,6-Dinitrotol	500.000	446.097	10.8	95	-0.02	17.94-18.94
19	m-Nitrotoluene	500.000	442.932	11.4	93	-0.02	19.31-20.31
20	2-Amino-4,6-Dinitrotol	500.000	455.997	8.8	93	-0.02	20.02-21.02
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	568.675	-13.7	116	0.01	4.43- 5.43
2	HMX	500.000	501.376	-0.3	97	0.01	4.80- 5.80
3	DNX	500.000	562.695	-12.5	120	0.02	4.99- 5.99
4	MNX	500.000	792.128	-58.4#	163	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	500.000	442.225	11.6	93	0.00	7.03- 8.03
6	RDX	500.000	454.946	9.0	96	0.01	7.37- 8.37
7	1,3-Dinitrobenzene		----------NA----------				
8	Nitrobenzene	500.000	525.992	-5.2	118	0.00	10.60-11.60
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		

8.6.9

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613495.D

10		Nitroglycerin	2500.000	3169.633	-26.8#	132	0.00	12.15-13.15
11		Tetryl		----------NA----------				
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene	500.000	519.165	-3.8	110	0.00	14.42-15.42
		---------- Amount	Calc.	%Drift	----------			
14		2,4-Dinitrotoluene	500.000	452.304	9.5	90	0.00	15.13-16.13
15		o-Nitrotoluene	500.000	464.796	7.0	99	-0.01	16.86-17.86
16		3,5-Dinitroaniline	500.000	485.240	3.0	99	0.00	16.11-17.11
17		p-Nitrotoluene	500.000	478.056	4.4	97	-0.02	17.94-18.94
18		4-Amino-2,6-Dinitrotol	500.000	478.056	4.4	97	-0.02	17.94-18.94
		---------- Amount	Calc.	%Drift	----------			
19		m-Nitrotoluene	500.000	495.386	0.9	100	-0.02	19.31-20.31
		---------- Amount	Calc.	%Drift	----------			
20		2-Amino-4,6-Dinitrotol	500.000	470.213	6.0	93	-0.01	20.02-21.02
		---------- Amount	Calc.	%Drift	----------			
21		PETN	2500.000	3441.118	-37.6#	131	-0.02	21.81-22.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 14:00:15 2017

8.6.9

8

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613496.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene	500.000	486.623	2.7	102	0.01	9.54-10.54
8	Nitrobenzene		----------NA----------				
9	2,4,6-Trinitrotoluene	500.000	402.882	19.4#	86	0.00	11.40-12.40
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	466.977	6.6	97	0.00	12.70-13.70
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene		----------NA----------				
14	2,4-Dinitrotoluene		----------NA----------				
15	o-Nitrotoluene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
16	3,5-Dinitroaniline		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
17	p-Nitrotoluene		----------NA----------				
18	4-Amino-2,6-Dinitrotoluen		----------NA----------				
19	m-Nitrotoluene		----------NA----------				
20	2-Amino-4,6-Dinitrotoluen		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene		----------NA----------				
6	RDX		----------NA----------				
7	1,3-Dinitrobenzene	500.000	486.910	2.6	109	0.01	9.54-10.54
8	Nitrobenzene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	500.000	462.689	7.5	97	0.00	11.40-12.40
	----------	Amount	Calc.	%Drift	----------		

Initial Calibration Verification

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ICV2548
Lab FileID: GG613496.D

10		Nitroglycerin			----------NA----------			
11		Tetryl	500.000	542.143	-8.4	111	0.00	12.70-13.70
12	S	3,4-Dinitrotoluene			----------NA----------			
13		2,6-Dinitrotoluene			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
14		2,4-Dinitrotoluene			----------NA----------			
15		o-Nitrotoluene			----------NA----------			
16		3,5-Dinitroaniline			----------NA----------			
17		p-Nitrotoluene			----------NA----------			
18		4-Amino-2,6-Dinitrotoluen			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
19		m-Nitrotoluene			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
20		2-Amino-4,6-Dinitrotoluen			----------NA----------			
		---------- Amount	Calc.	%Drift	----------			
21		PETN			----------NA----------			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 14:00:16 2017

8.6.10

8

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-CC2548
Lab FileID: GG613507.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	993.692	0.6	102	0.00	4.43- 5.43
2	HMX	1000.000	1017.719	-1.8	101	0.00	4.80- 5.80
3	DNX	1000.000	960.782	3.9	101	0.00	4.99- 5.99
4	MNX	1000.000	1014.561	-1.5	102	0.01	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	991.520	0.8	102	0.00	7.03- 8.03
6	RDX	1000.000	1003.180	-0.3	102	0.01	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	987.791	1.2	101	-0.01	9.54-10.54
8	Nitrobenzene	1000.000	1003.023	-0.3	102	-0.02	10.60-11.60
9	2,4,6-Trinitrotoluene	1000.000	980.614	1.9	102	-0.04	11.40-12.40
10	Nitroglycerin	----------NA----------					
11	Tetryl	1000.000	998.013	0.2	103	-0.05	12.70-13.70
12 S	3,4-Dinitrotoluene	1000.000	994.421	0.6	101	-0.05	13.94-14.94
13	2,6-Dinitrotoluene	1000.000	991.543	0.8	101	-0.05	14.42-15.42
14	2,4-Dinitrotoluene	1000.000	991.871	0.8	101	-0.04	15.13-16.13
15	o-Nitrotoluene	1000.000	1000.329	-0.0	102	-0.06	16.86-17.86
	---------- Amount	Calc.	%Drift	----------			
16	3,5-Dinitroaniline	1000.000	1014.474	-1.4	102	-0.02	16.11-17.11
	---------- Amount	Calc.	%Drift	----------			
17	p-Nitrotoluene	1000.000	986.418	1.4	102	-0.04	17.94-18.94
18	4-Amino-2,6-Dinitrotol	1000.000	986.418	1.4	102	-0.04	17.94-18.94
19	m-Nitrotoluene	1000.000	1008.444	-0.8	102	-0.05	19.31-20.31
20	2-Amino-4,6-Dinitrotol	1000.000	1017.353	-1.7	102	-0.01	20.02-21.02
21	PETN	----------NA----------					
*****	Signal #2 *****						
1	TNX	1000.000	993.247	0.7	102	0.00	4.43- 5.43
2	HMX	1000.000	1018.648	-1.9	101	0.00	4.80- 5.80
3	DNX	1000.000	947.472	5.3	101	0.00	4.99- 5.99
4	MNX	1000.000	1014.561	-1.5	102	0.01	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	988.117	1.2	102	0.00	7.03- 8.03
6	RDX	1000.000	998.840	0.1	102	0.01	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	1066.143	-6.6	103	-0.01	9.54-10.54
8	Nitrobenzene	1000.000	1083.042	-8.3	105	-0.02	10.60-11.60
	---------- Amount	Calc.	%Drift	----------			
9	2,4,6-Trinitrotoluene	1000.000	1065.356	-6.5	105	-0.04	11.40-12.40
	---------- Amount	Calc.	%Drift	----------			

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-CC2548
Lab FileID: GG613507.D

10	Nitroglycerin	5000.000	5367.562	-7.4	103	-0.05	12.15-13.15
11	Tetryl	1000.000	1139.938	-14.0	104	-0.05	12.70-13.70
12 S	3,4-Dinitrotoluene	1000.000	993.093	0.7	103	-0.05	13.94-14.94
13	2,6-Dinitrotoluene	1000.000	1002.902	-0.3	102	-0.05	14.42-15.42
		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	1013.548	-1.4	103	-0.04	15.13-16.13
15	o-Nitrotoluene	1000.000	1024.799	-2.5	101	-0.06	16.86-17.86
16	3,5-Dinitroaniline	1000.000	1034.394	-3.4	105	-0.02	16.11-17.11
17	p-Nitrotoluene	1000.000	1028.420	-2.8	103	-0.04	17.94-18.94
18	4-Amino-2,6-Dinitrotol	1000.000	1028.420	-2.8	103	-0.04	17.94-18.94
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	1000.000	1141.128	-14.1	104	-0.05	19.31-20.31
		Amount	Calc.	%Drift			
20	2-Amino-4,6-Dinitrotol	1000.000	1022.855	-2.3	102	-0.01	20.02-21.02
		Amount	Calc.	%Drift			
21	PETN	5000.000	5334.844	-6.7	102	-0.06	21.81-22.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 13:59:42 2017

8.6.11

8

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ECC2548
Lab FileID: GG613517.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0720RPB3\GG613517.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613517.D\dad1A.ch
Acq On : 21-Jul-2017, 06:57:52 Operator: evitam
Sample : eCC2548-1000 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	982.189	1.8	100	0.02	4.43- 5.43
2	HMX	1000.000	1006.837	-0.7	100	0.01	4.80- 5.80
3	DNX	1000.000	949.493	5.1	100	0.02	4.99- 5.99
4	MNX	1000.000	1005.548	-0.6	101	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	986.101	1.4	101	0.00	7.03- 8.03
6	RDX	1000.000	998.439	0.2	102	0.02	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	985.943	1.4	101	0.00	9.54-10.54
8	Nitrobenzene	1000.000	998.830	0.1	101	0.00	10.60-11.60
9	2,4,6-Trinitrotoluene	1000.000	975.114	2.5	101	-0.01	11.40-12.40
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	993.581	0.6	102	-0.03	12.70-13.70
12 S	3,4-Dinitrotoluene	1000.000	988.288	1.2	100	-0.03	13.94-14.94
13	2,6-Dinitrotoluene	1000.000	990.779	0.9	101	-0.03	14.42-15.42
14	2,4-Dinitrotoluene	1000.000	990.484	1.0	101	-0.03	15.13-16.13
15	o-Nitrotoluene	1000.000	997.078	0.3	101	-0.06	16.86-17.86
	----------	Amount	Calc.	%Drift			----------
16	3,5-Dinitroaniline	1000.000	1009.633	-1.0	102	-0.03	16.11-17.11
	----------	Amount	Calc.	%Drift			----------
17	p-Nitrotoluene	1000.000	980.287	2.0	101	-0.06	17.94-18.94
18	4-Amino-2,6-Dinitrotol	1000.000	980.287	2.0	101	-0.06	17.94-18.94
19	m-Nitrotoluene	1000.000	1002.534	-0.3	101	-0.06	19.31-20.31
20	2-Amino-4,6-Dinitrotol	1000.000	1014.546	-1.5	102	-0.05	20.02-21.02
21	PETN	5000.000	0.000	100.0#	0	-0.11	21.86-22.86
*****	Signal #2 *****						
1	TNX	1000.000	981.749	1.8	100	0.02	4.43- 5.43
2	HMX	1000.000	1007.756	-0.8	100	0.01	4.80- 5.80
3	DNX	1000.000	936.339	6.4	100	0.02	4.99- 5.99
4	MNX	1000.000	1005.548	-0.6	101	0.02	5.99- 6.99
5	1,3,5-Trinitrobenzene	1000.000	982.454	1.8	101	0.00	7.03- 8.03
6	RDX	1000.000	991.826	0.8	101	0.02	7.37- 8.37
7	1,3-Dinitrobenzene	1000.000	1022.849	-2.3	98	0.00	9.54-10.54
8	Nitrobenzene	1000.000	1071.616	-7.2	104	0.00	10.60-11.60
	----------	Amount	Calc.	%Drift			----------
9	2,4,6-Trinitrotoluene	1000.000	1052.978	-5.3	103	-0.01	11.40-12.40
	----------	Amount	Calc.	%Drift			----------

Continuing Calibration Summary

Job Number: FA45759
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2548-ECC2548
Lab FileID: GG613517.D

10		Nitroglycerin	5000.000	5350.433	-7.0	103	-0.02	12.15-13.15
11		Tetryl	1000.000	1148.469	-14.8	105	-0.03	12.70-13.70
12	S	3,4-Dinitrotoluene	1000.000	971.581	2.8	101	-0.03	13.94-14.94
13		2,6-Dinitrotoluene	1000.000	987.090	1.3	100	-0.03	14.42-15.42
			Amount	Calc.	%Drift			
14		2,4-Dinitrotoluene	1000.000	1006.159	-0.6	103	-0.03	15.13-16.13
15		o-Nitrotoluene	1000.000	1038.332	-3.8	103	-0.06	16.86-17.86
16		3,5-Dinitroaniline	1000.000	1040.687	-4.1	105	-0.03	16.11-17.11
17		p-Nitrotoluene	1000.000	1017.740	-1.8	102	-0.06	17.94-18.94
18		4-Amino-2,6-Dinitrotol	1000.000	1017.740	-1.8	102	-0.06	17.94-18.94
			Amount	Calc.	%Drift			
19		m-Nitrotoluene	1000.000	1115.314	-11.5	102	-0.06	19.31-20.31
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	1019.608	-2.0	101	-0.05	20.02-21.02
			Amount	Calc.	%Drift			
21		PETN	5000.000	5321.416	-6.4	101	-0.07	21.81-22.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 13:59:43 2017

8.6.12

8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:34 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.40	10.40	1175747	2152892	456.632	553.520
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.33%	110.70%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	4520858	9188215	2612.394	1980.941
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	4.52	4.52	5649777	11035121	1327.238m	1357.854
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.26	9.26	3321131	3947297	867.846	876.327
13)	2-Amino-4,6-Dini	9.54	9.55	1634531	2549462	435.907	476.536
14)	4-Amino-2,6-Dini	10.02	10.02	768660	1542591	307.407	331.870
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

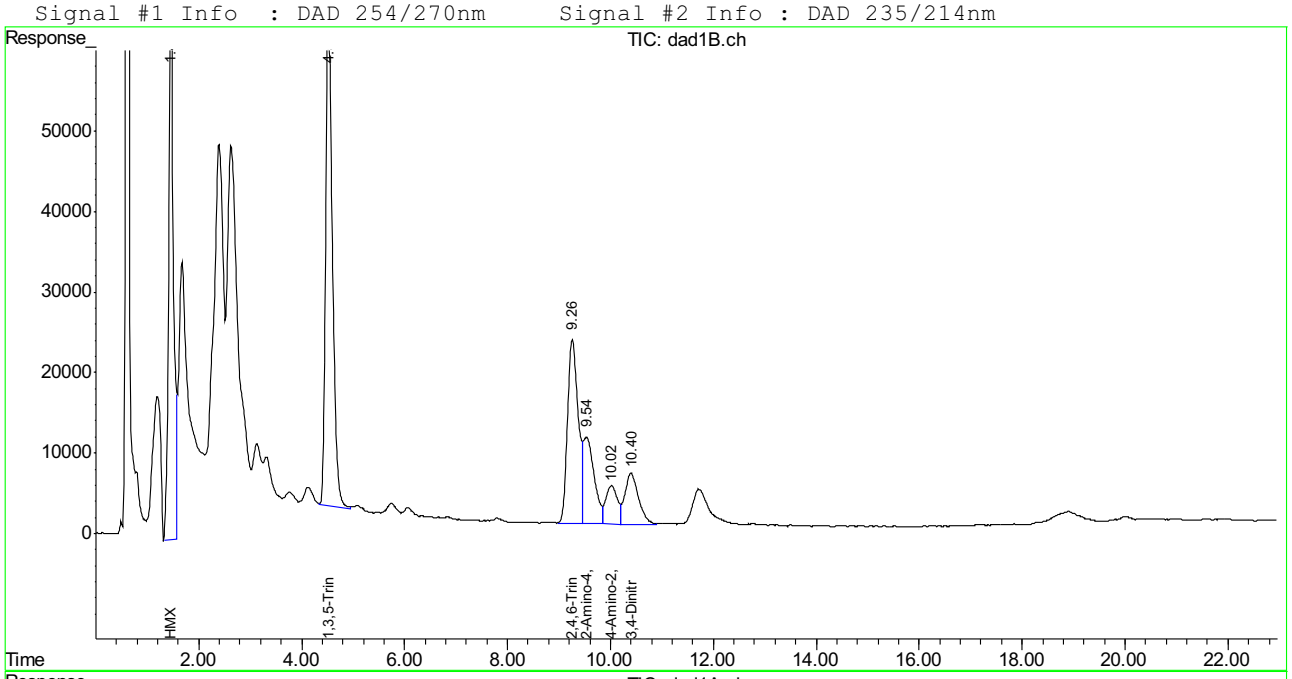
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056486.D 8330B_0720PLUS.M Mon Jul 24 13:03:34 2017 Page 1

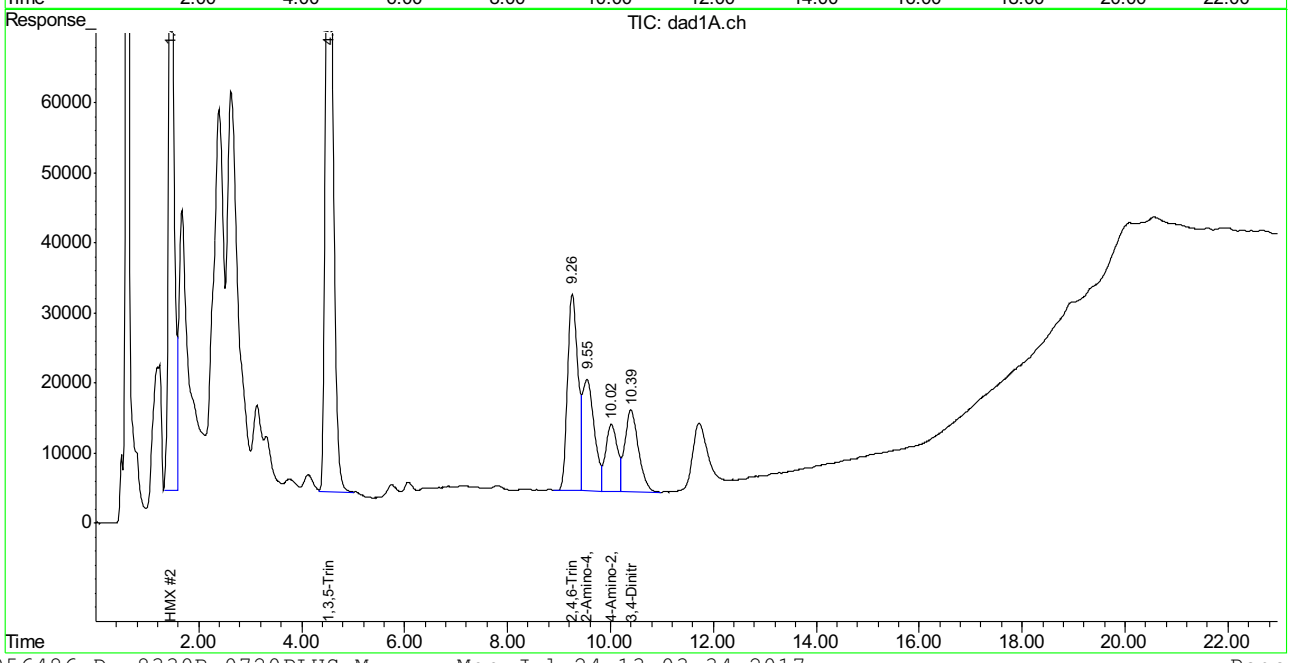
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 24 13:02 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA45759-1
Lab FileID: BB056486.D
Injection Time: 07/19/17 06:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:22 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

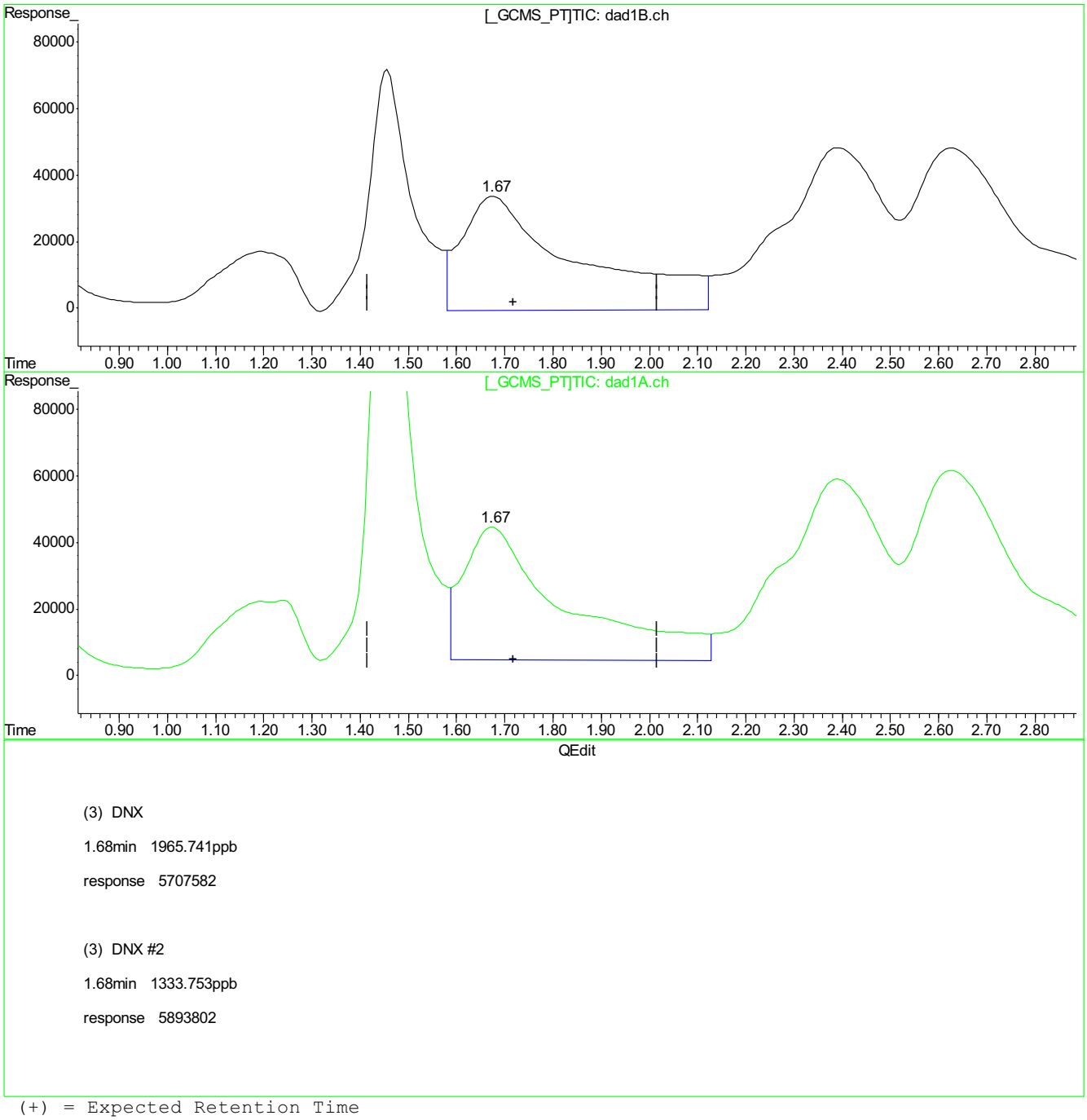
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	1	4.52	Poorly defined baseline

Sample Results: BB056486.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On    : 19-Jul-2017, 06:03:42                    Operator: evitam
Sample    : fa45759-1                                Inst    : G1315B
Misc      : op65781,gbb1620,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jul 19  6:58 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
```



(3) DNX

1.68min 1965.741ppb

response 5707582

(3) DNX #2

1.68min 1333.753ppb

response 5893802

(+) = Expected Retention Time

BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:27:38 2017

9.1.1.2

9

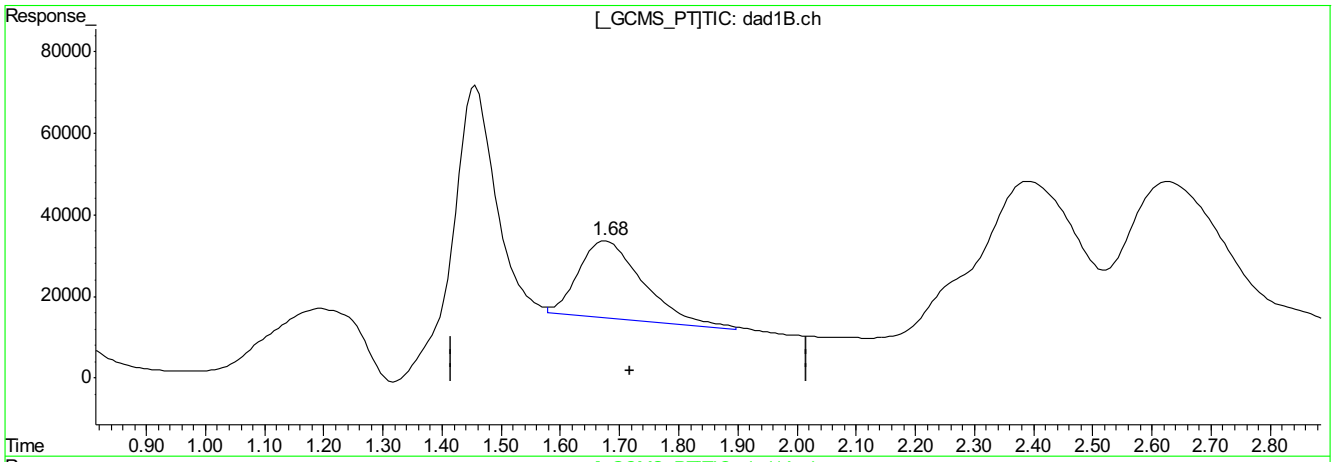
BB056486.D edits: DNX

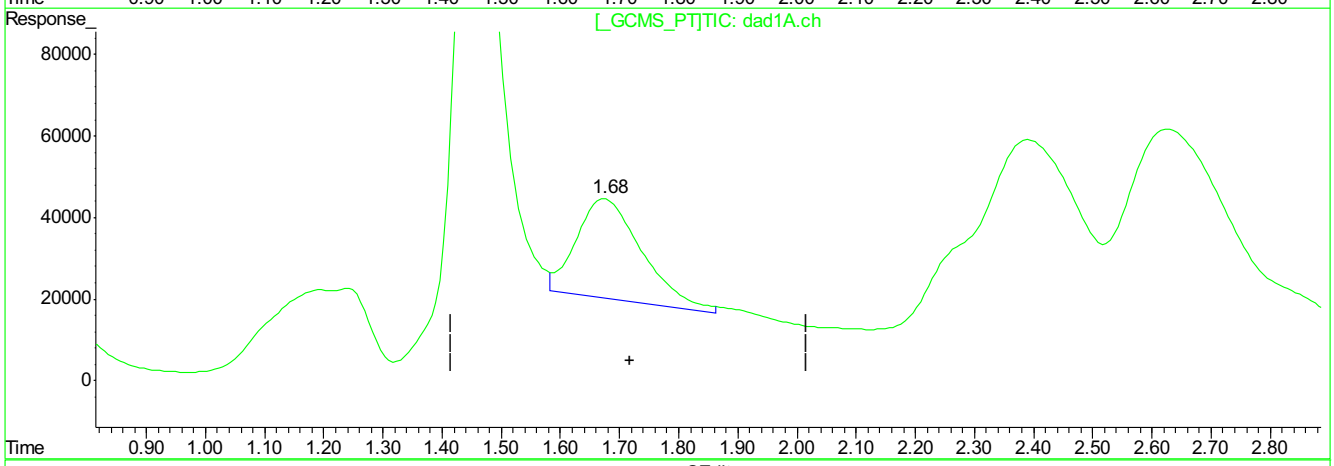
SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.68min 496.049ppb m

response 1440291

(3) DNX #2

1.68min 427.062ppb m

response 1865151

(+) = Expected Retention Time
BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:27:51 2017

9.1.1.3

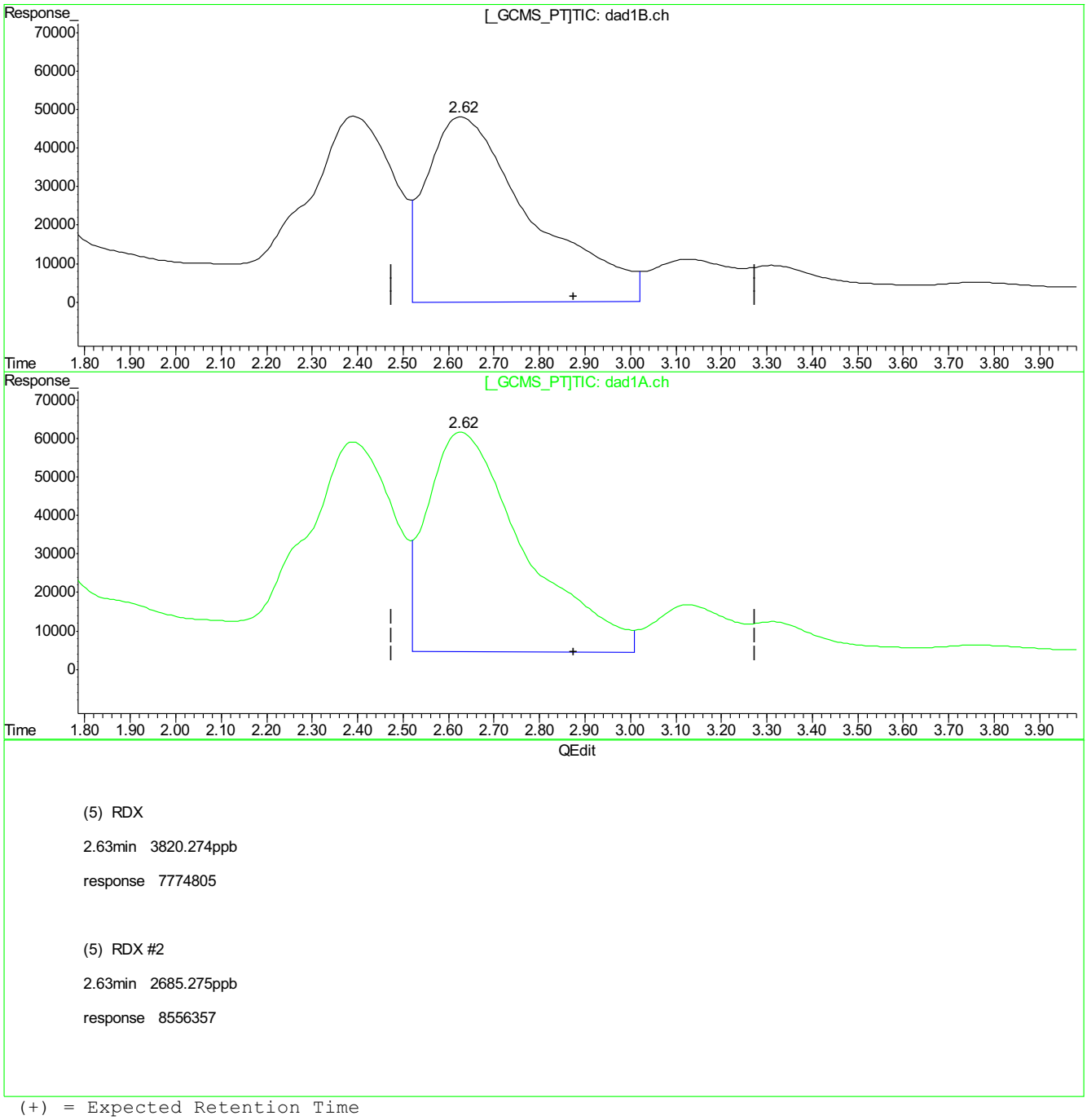
9

Sample Results: BB056486.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(5) RDX

2.63min 3820.274ppb

response 7774805

(5) RDX #2

2.63min 2685.275ppb

response 8556357

(+) = Expected Retention Time
BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:28:41 2017

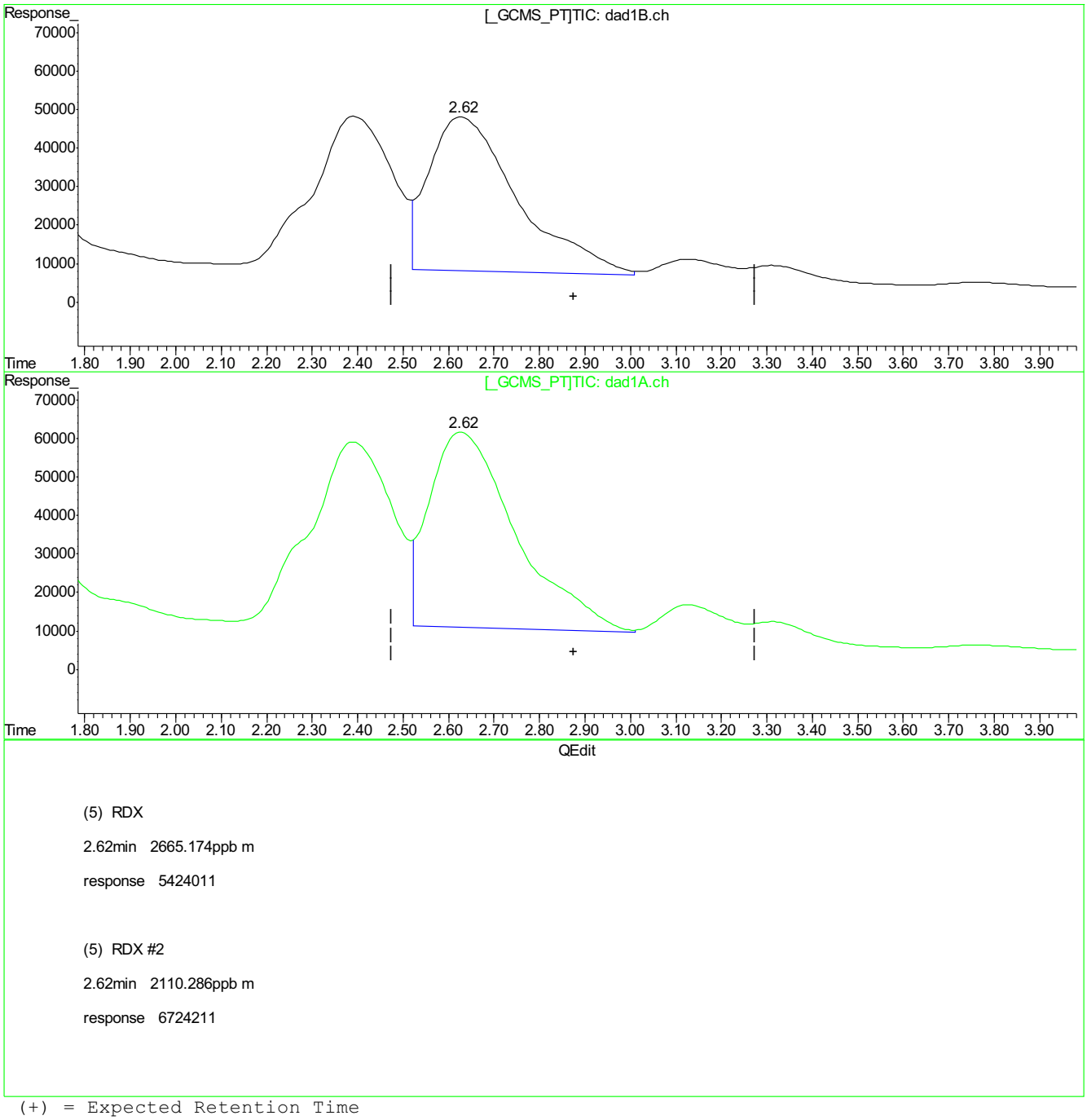
BB056486.D edits: RDX

Sample Results: BB056486.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(5) RDX

2.62min 2665.174ppb m

response 5424011

(5) RDX #2

2.62min 2110.286ppb m

response 6724211

(+) = Expected Retention Time
BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:29:10 2017

9.1.1.5

9

BB056486.D edits: RDX

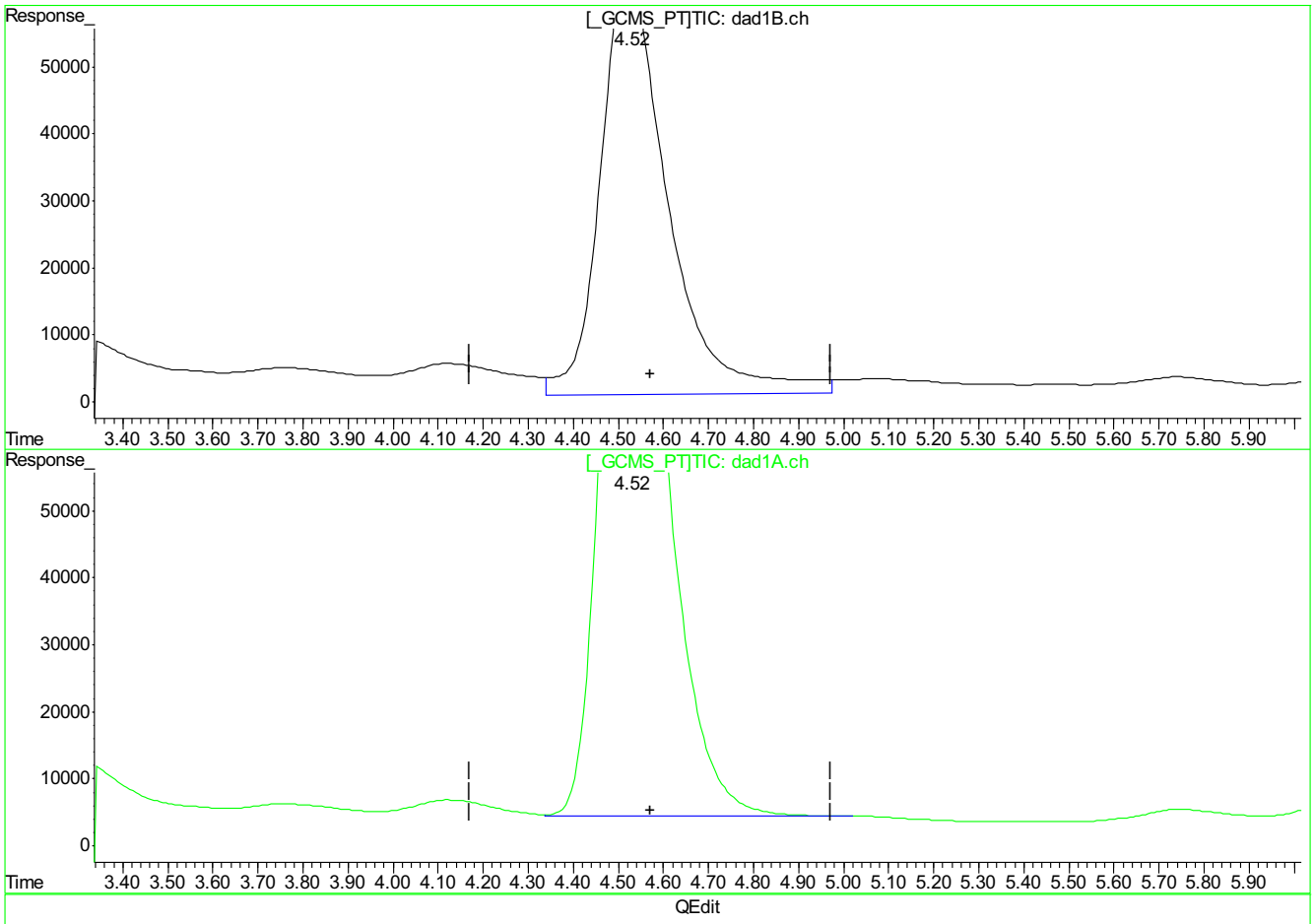
SGS ACCUTEST FA45759

Sample Results: BB056486.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.52min 1527.417ppb

response 6501897

(6) 1,3,5-Trinitrobenzene #2

4.52min 1357.854ppb

response 11035121

(+) = Expected Retention Time
BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:29:14 2017

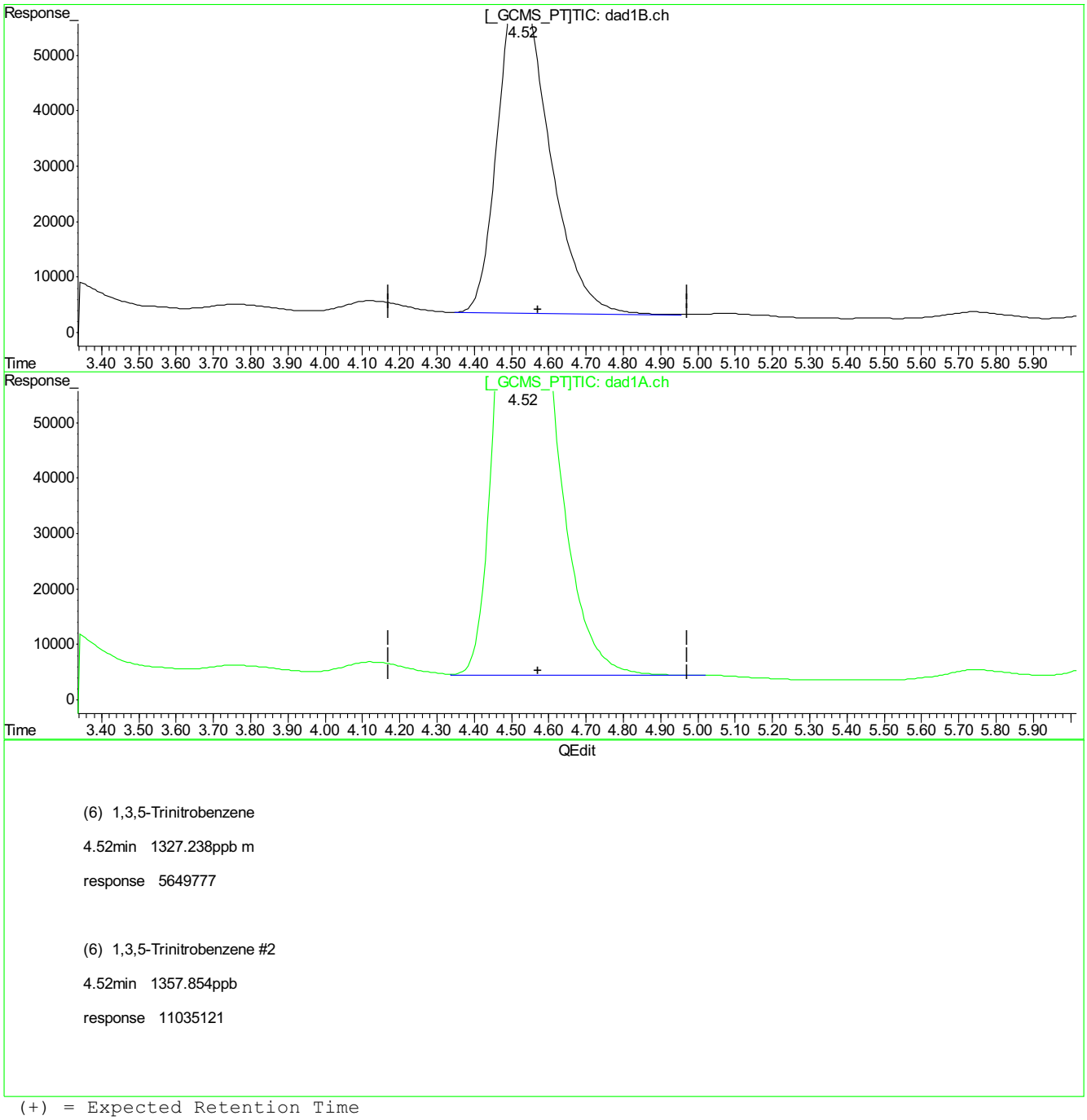
BB056486.D edits: 1,3,5-Trinitrobenzene

Sample Results: BB056486.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(6) 1,3,5-Trinitrobenzene

4.52min 1327.238ppb m

response 5649777

(6) 1,3,5-Trinitrobenzene #2

4.52min 1357.854ppb

response 11035121

(+) = Expected Retention Time
BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:29:17 2017

9.1.1.7

9

BB056486.D edits: 1,3,5-Trinitrobenzene

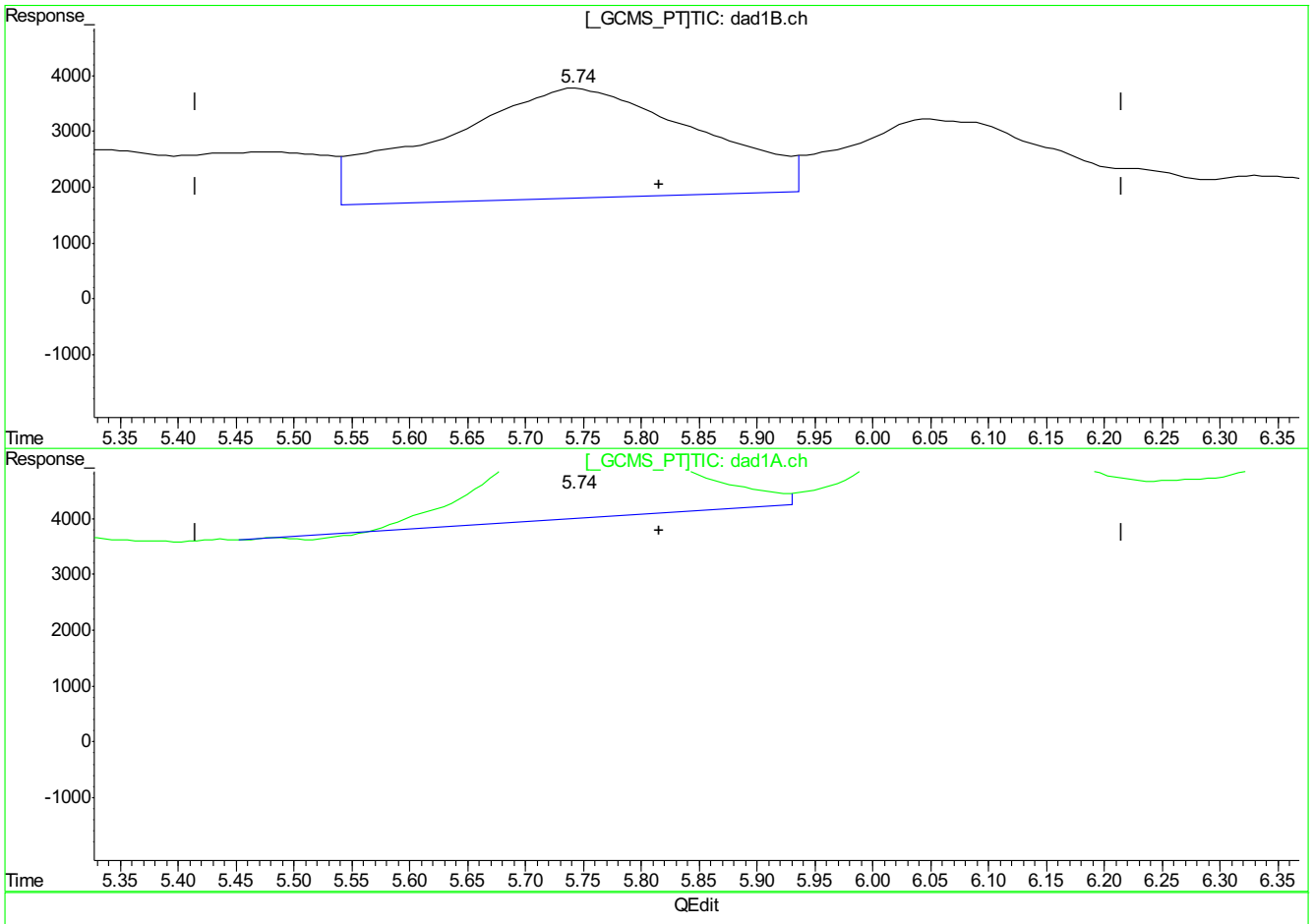
SGS ACCUTEST FA45759

Sample Results: BB056486.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On    : 19-Jul-2017, 06:03:42                    Operator: evitam
Sample    : fa45759-1                                Inst    : G1315B
Misc      : op65781,gbb1620,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jul 19  6:58 2017  Quant Results File: 8330B_0629PLUS.RES


Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

5.74min 55.035ppb

response 307721

(7) 1,3-Dinitrobenzene #2

5.75min 44.154ppb

response 160032

(+) = Expected Retention Time

BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:29:27 2017

9.1.1.8

9

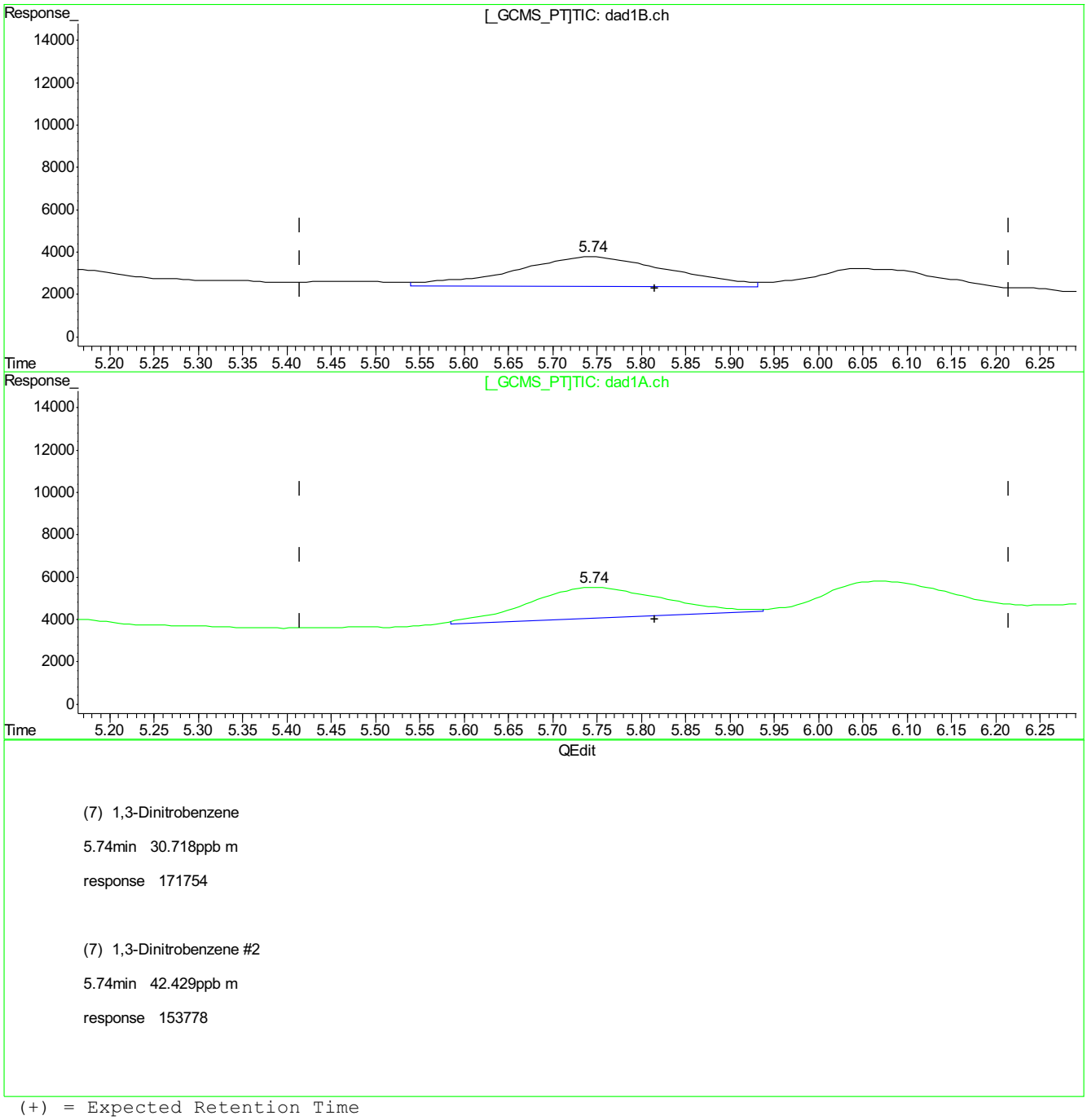
BB056486.D edits: 1,3-Dinitrobenzene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056486.D\dad1A.ch
Acq On : 19-Jul-2017, 06:03:42 Operator: evitam
Sample : fa45759-1 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.74min 30.718ppb m

response 171754

(7) 1,3-Dinitrobenzene #2

5.74min 42.429ppb m

response 153778

(+) = Expected Retention Time
BB056486.D 8330B_0629PLUS.M Wed Jul 19 10:29:34 2017

Sample Results: BB056498.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1A.ch
Acq On : 19-Jul-2017, 12:03:35 Operator: evitam
Sample : fa45759-1,4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 08:50:02 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.27f	10.27f	302949	492922	117.658	129.770m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		23.53%#	25.95%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.44	1.44	941457	2126545	544.024m	458.474m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

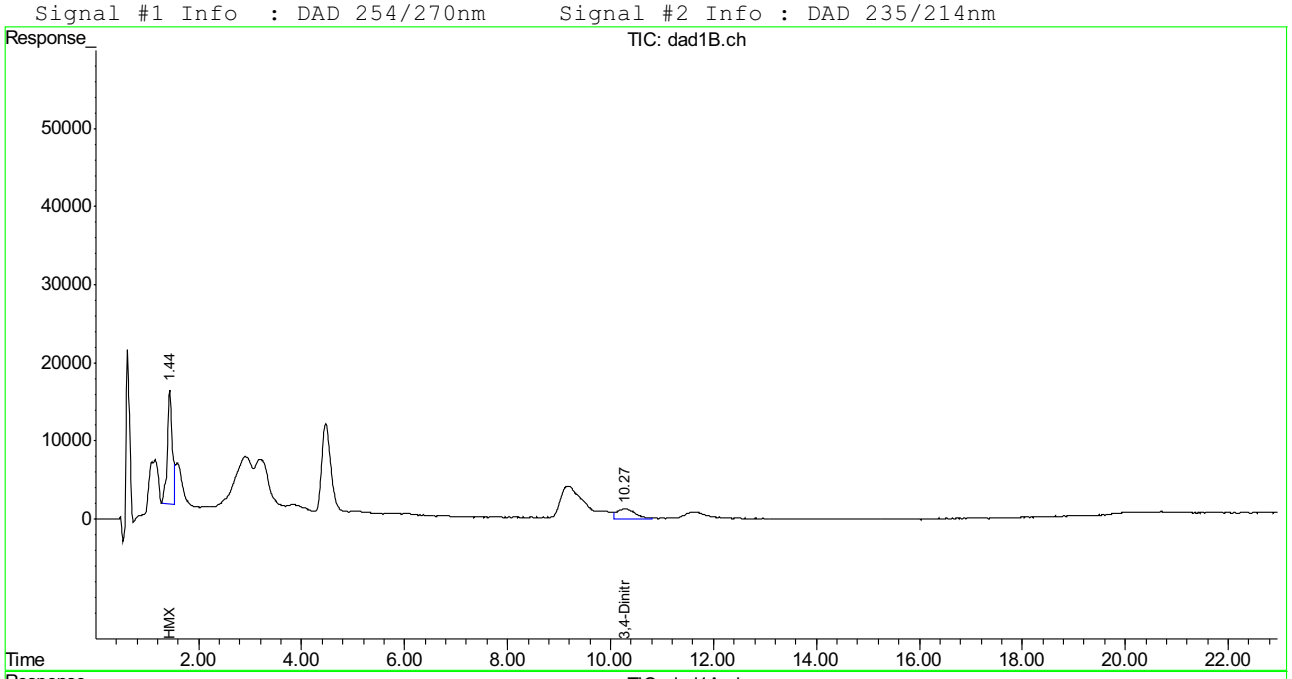
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056498.D 8330B_0629PLUS.M Thu Jul 20 09:41:24 2017 Page 1

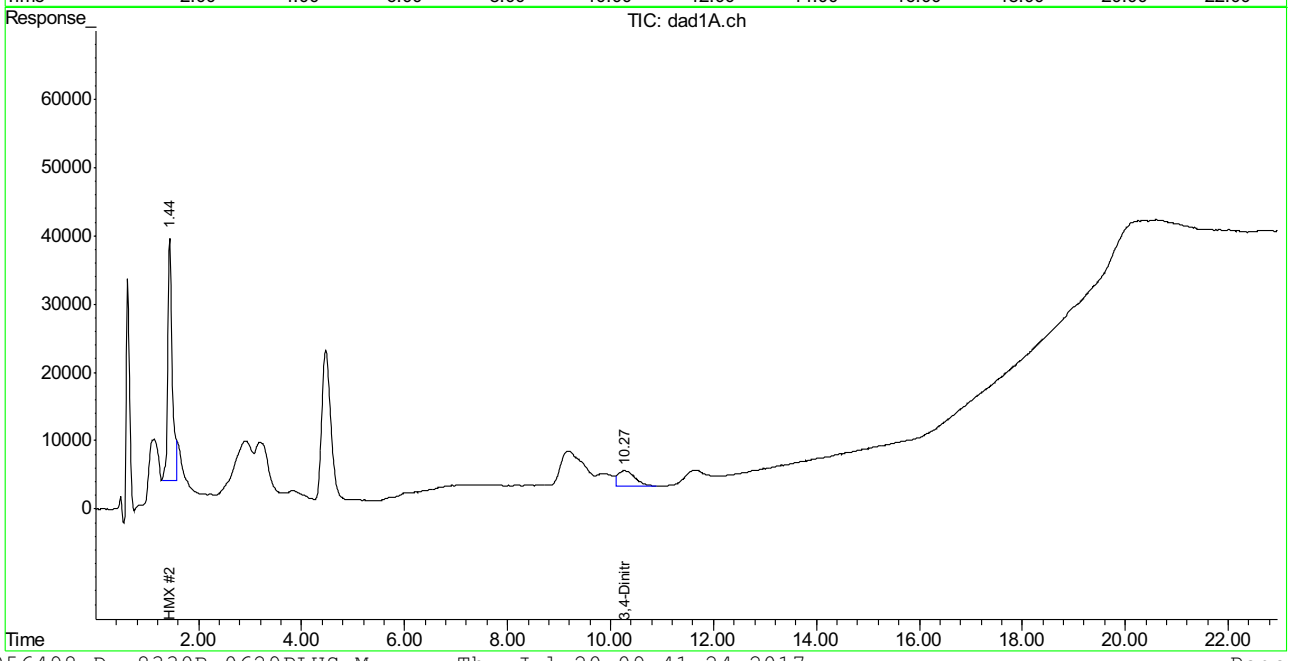
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1A.ch
Acq On : 19-Jul-2017, 12:03:35 Operator: evitam
Sample : fa45759-1,4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 9:04 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA45759-1
Lab FileID: BB056498.D
Injection Time: 07/19/17 12:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:22 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

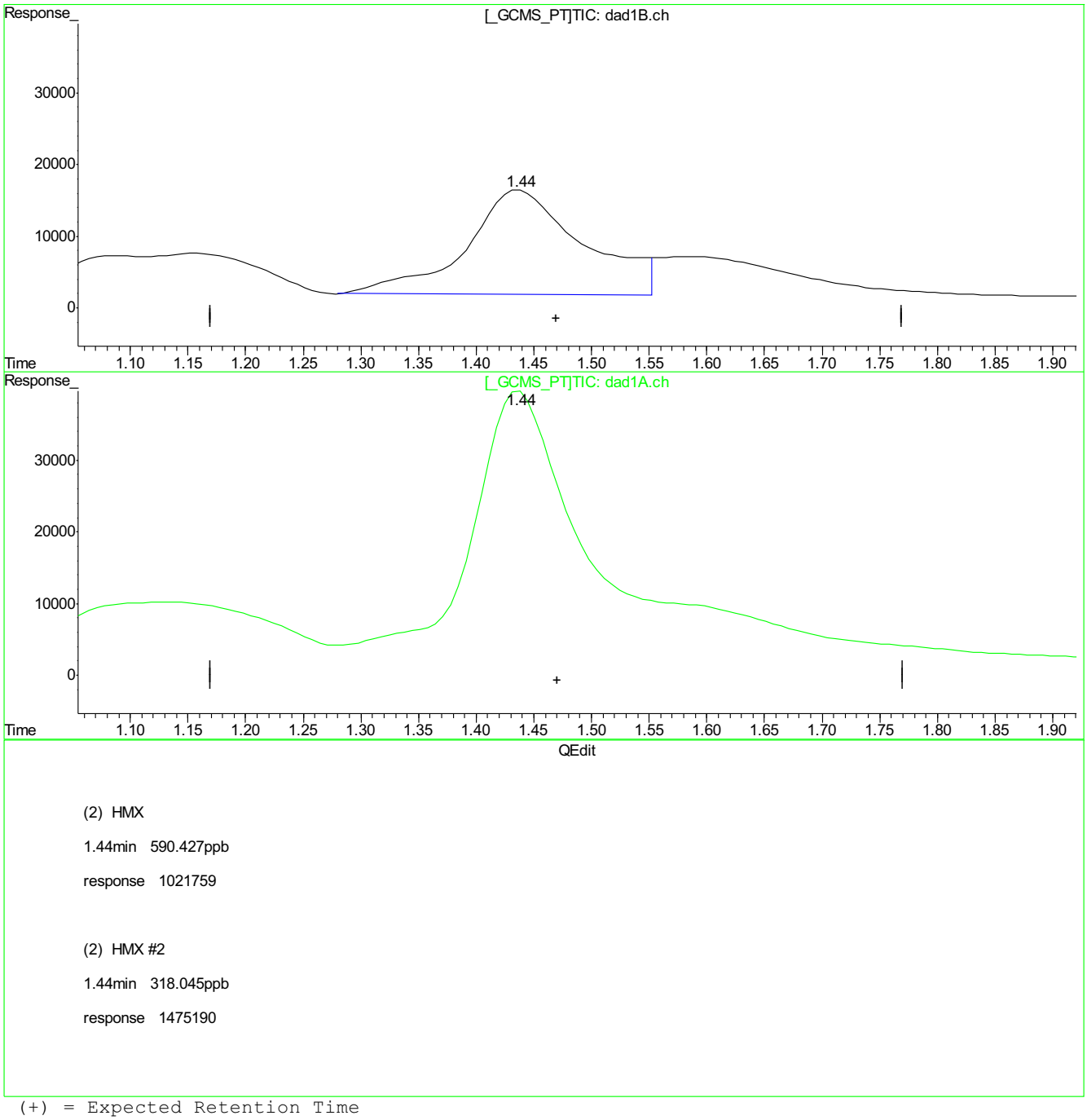
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.44	Poorly defined baseline
HMX	2691-41-0	2	1.44	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.27	Poorly defined baseline

Sample Results: **BB056498.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1A.ch
Acq On : 19-Jul-2017, 12:03:35 Operator: evitam
Sample : fa45759-1,4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(2) HMX

1.44min 590.427ppb

response 1021759

(2) HMX #2

1.44min 318.045ppb

response 1475190

(+) = Expected Retention Time
BB056498.D 8330B_0629PLUS.M Thu Jul 20 09:00:05 2017

9.1.2.2

9

BB056498.D edits: HMX

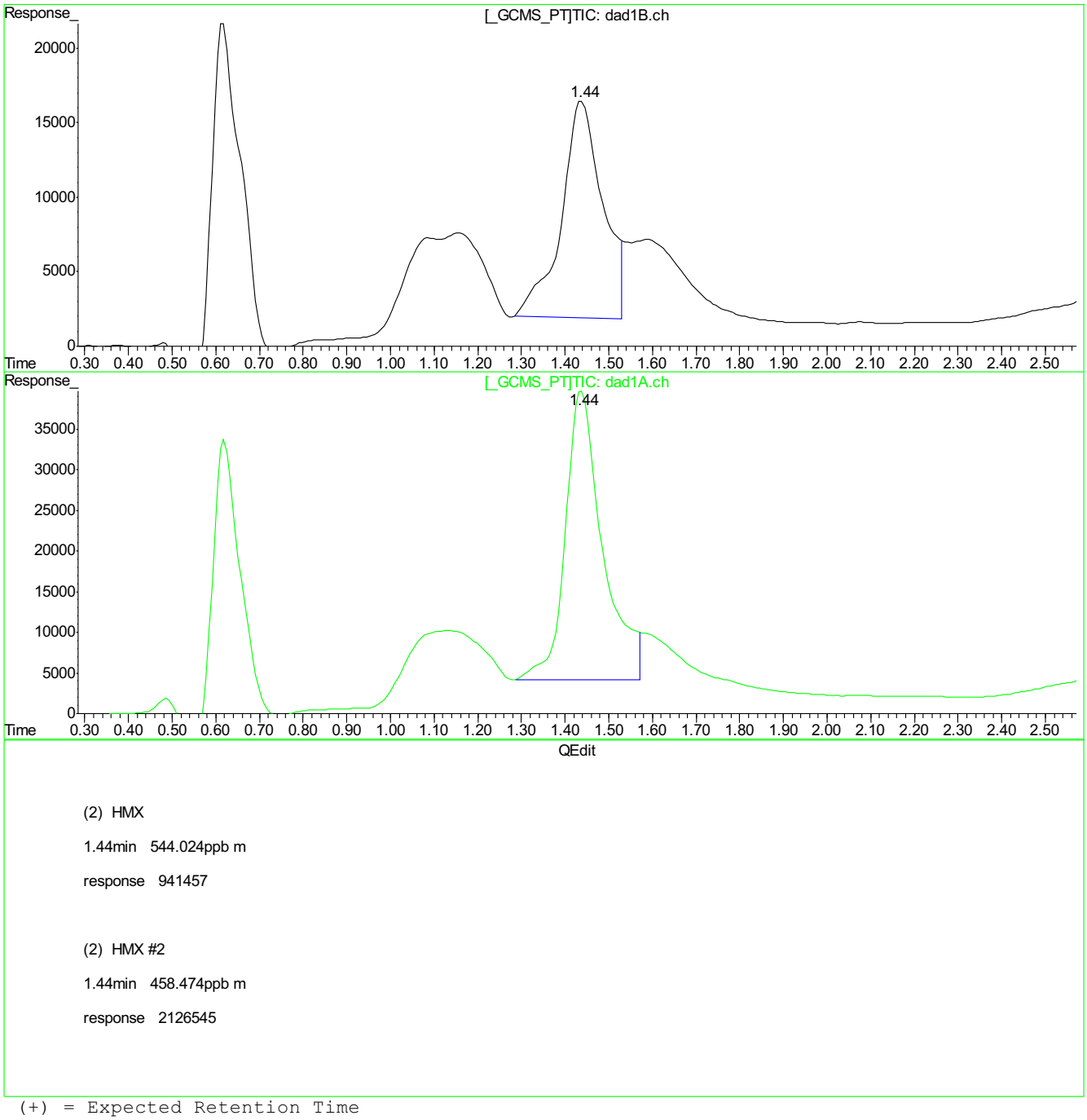
SGS ACCUTEST FA45759

Sample Results: **BB056498.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1A.ch
Acq On    : 19-Jul-2017, 12:03:35                    Operator: evitam
Sample    : fa45759-1,4                              Inst    : G1315B
Misc      : op65961,gbb1620,1000,,,10,4,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jul 20  8:50 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

BB056498.D 8330B_0629PLUS.M Thu Jul 20 09:00:36 2017

9.1.2.3 9

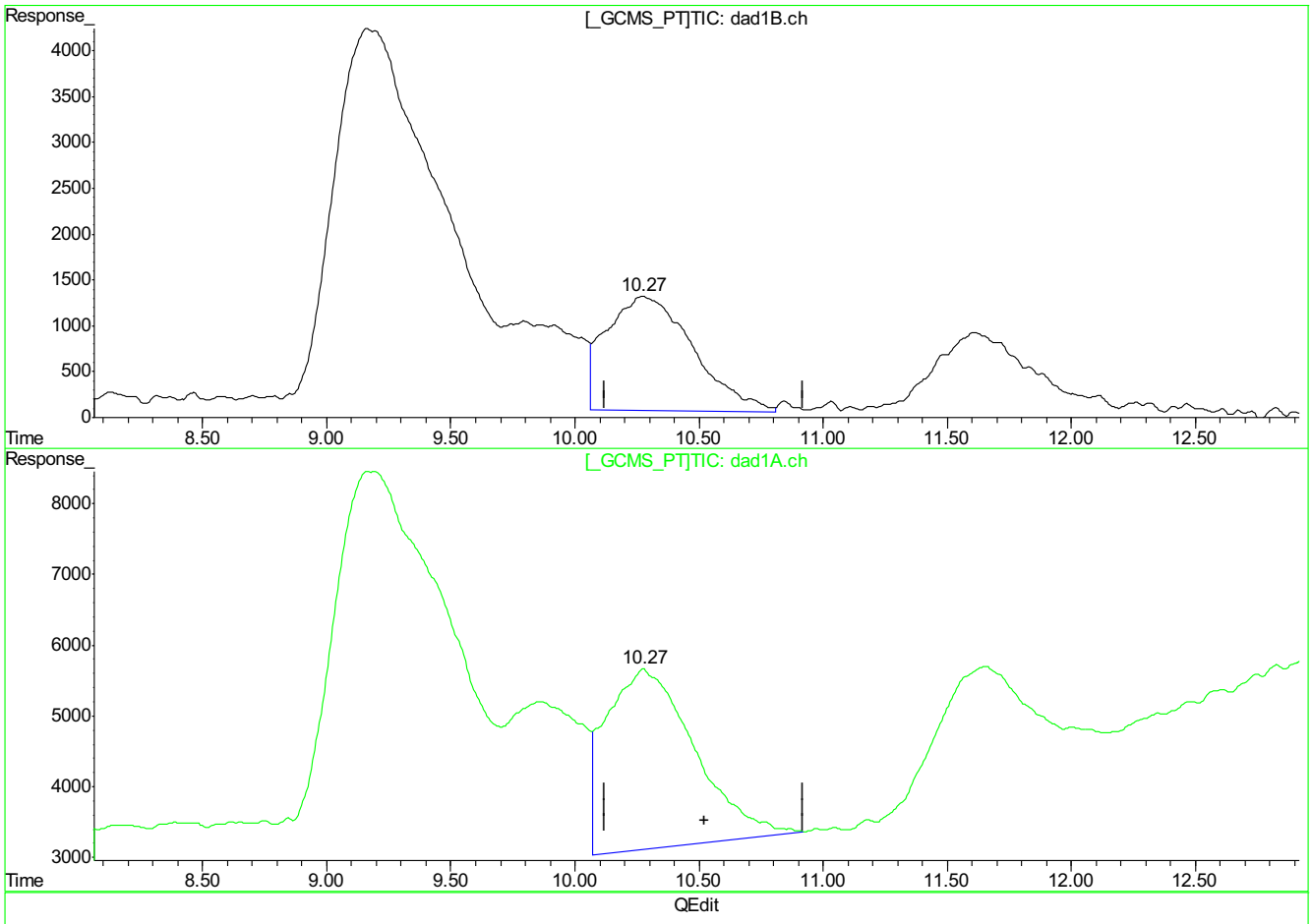
BB056498.D edits: HMX

Sample Results: **BB056498.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1A.ch
Acq On : 19-Jul-2017, 12:03:35 Operator: evitam
Sample : fa45759-1,4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 9:00 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.27min 117.658ppb

response 302949

(15) 3,4-Dinitrotoluene #2 (S)

10.28min 166.088ppb

response 632168

(+) = Expected Retention Time
BB056498.D 8330B_0629PLUS.M Thu Jul 20 09:04:19 2017

9.1.2.4

9

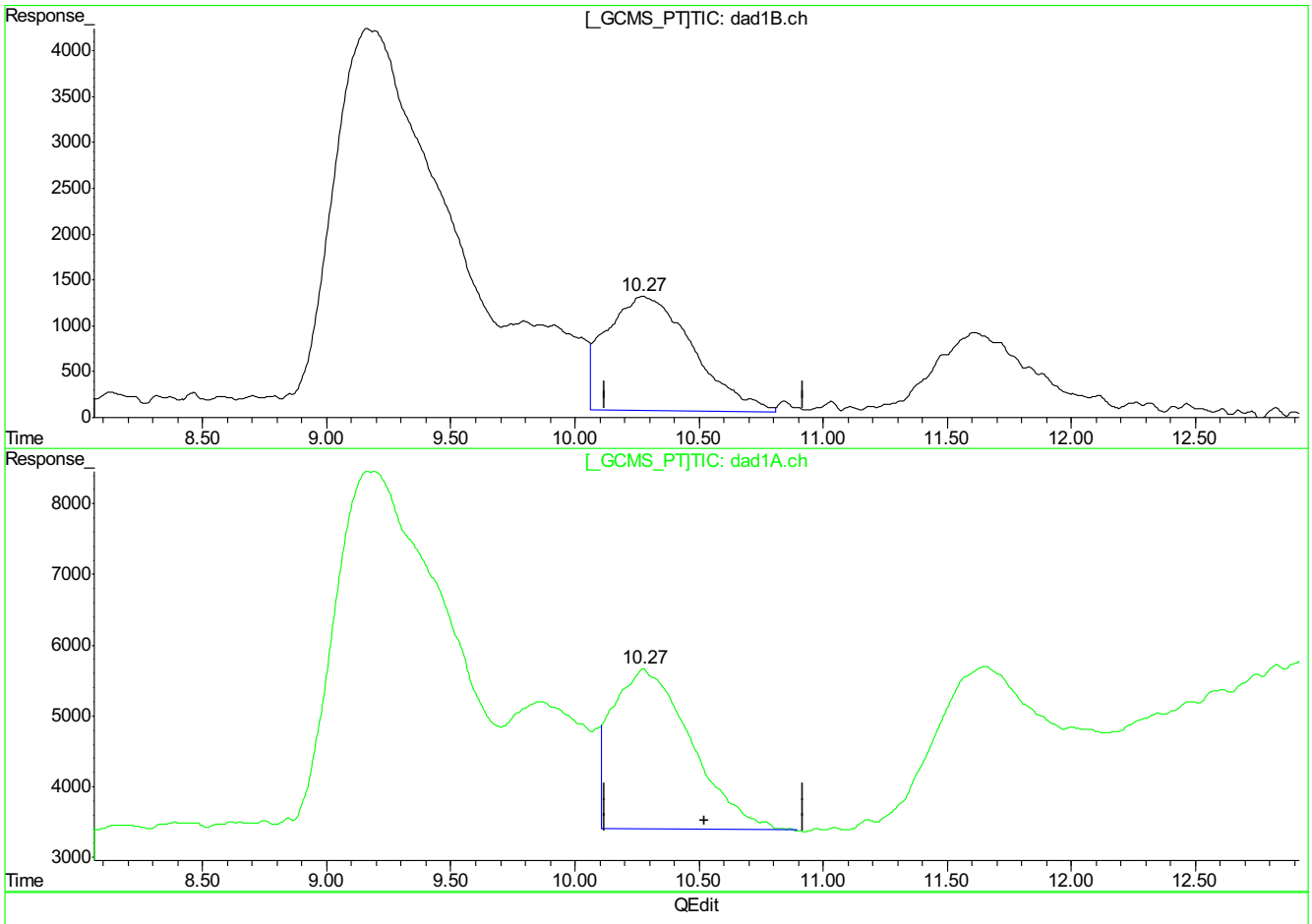
BB056498.D edits: 3,4-Dinitrotoluene

Sample Results: **BB056498.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056498.D\dad1A.ch
Acq On : 19-Jul-2017, 12:03:35 Operator: evitam
Sample : fa45759-1,4 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 9:00 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.27min 117.658ppb

response 302949

(15) 3,4-Dinitrotoluene #2 (S)

10.27min 129.770ppb m

response 492922

(+) = Expected Retention Time
BB056498.D 8330B_0629PLUS.M Thu Jul 20 09:04:24 2017

9.1.2.5 9

BB056498.D edits: 3,4-Dinitrotoluene

Sample Results: GG613513.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:15 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.41	14.41	2834280	5323607	504.365	462.791m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		100.87%	92.56%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.31	5.31	6749453	6749453	1823.280	1824.945
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.53	7.53	14788247	14766980	1393.155	1387.332
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	11.88	11.88	8649612	11527364	847.180	854.508m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	18.38	18.38	2261571	4549331	183.773	213.279m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	20.51	20.51	4096225	5538775	432.888	449.488
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:56:52 2017 Page 1

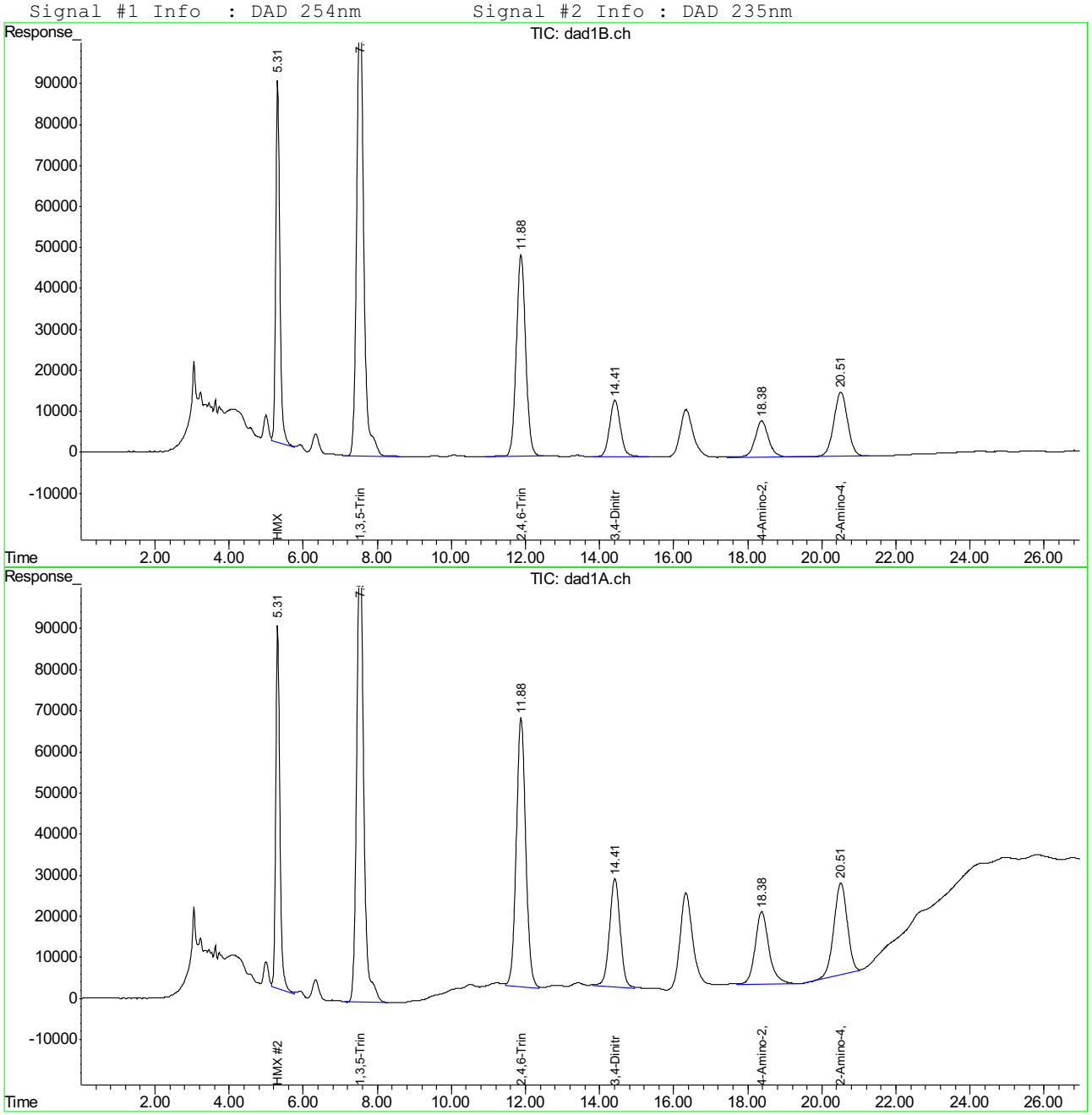
Sample Results: **GG613513.D**

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:02 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: FA45759-1
Lab FileID: GG613513.D
Injection Time: 07/21/17 05:00
Method: SW846 8330B
Analyst approved: 07/24/17 14:22 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

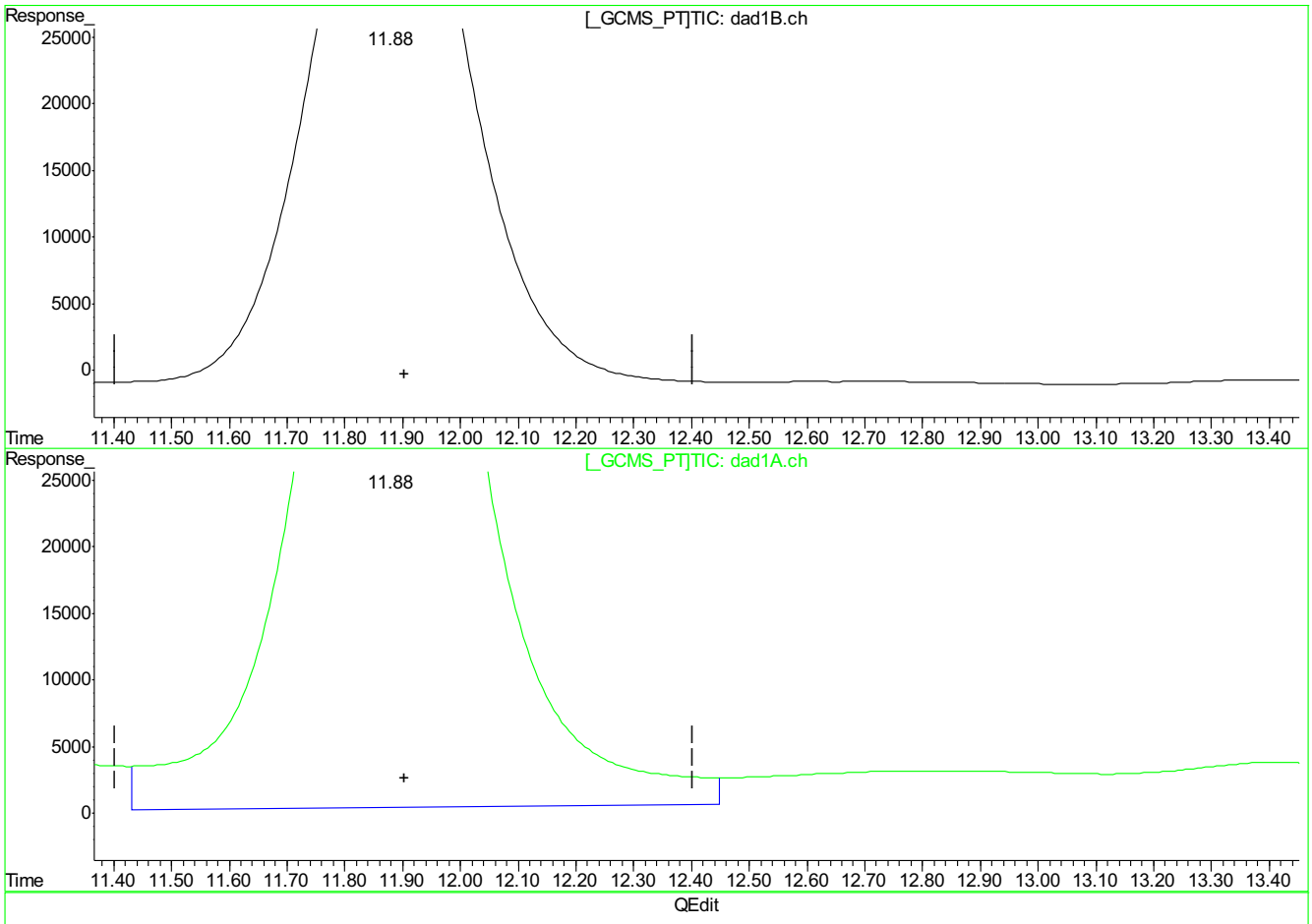
Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	11.88	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.41	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.38	Poorly defined baseline

Sample Results: **GG613513.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.88min 847.180ppb

response 8649612

(9) 2,4,6-Trinitrotoluene #2

11.88min 964.370ppb

response 13029777

(+) = Expected Retention Time
GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:01:47 2017

9.1.3.2

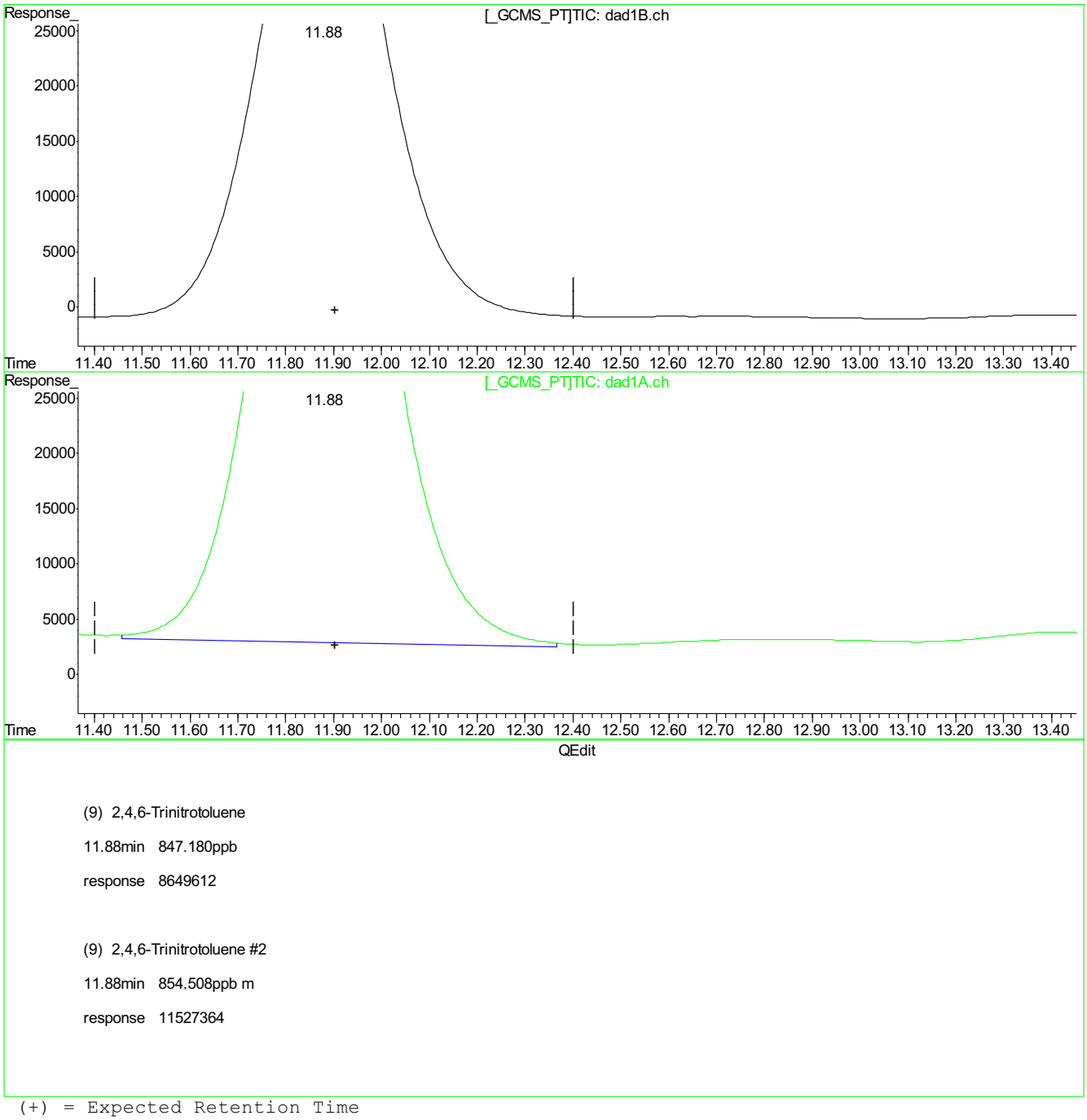
9

Sample Results: **GG613513.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.88min 847.180ppb

response 8649612

(9) 2,4,6-Trinitrotoluene #2

11.88min 854.508ppb m

response 11527364

(+) = Expected Retention Time
GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:01:50 2017

9.1.3.3

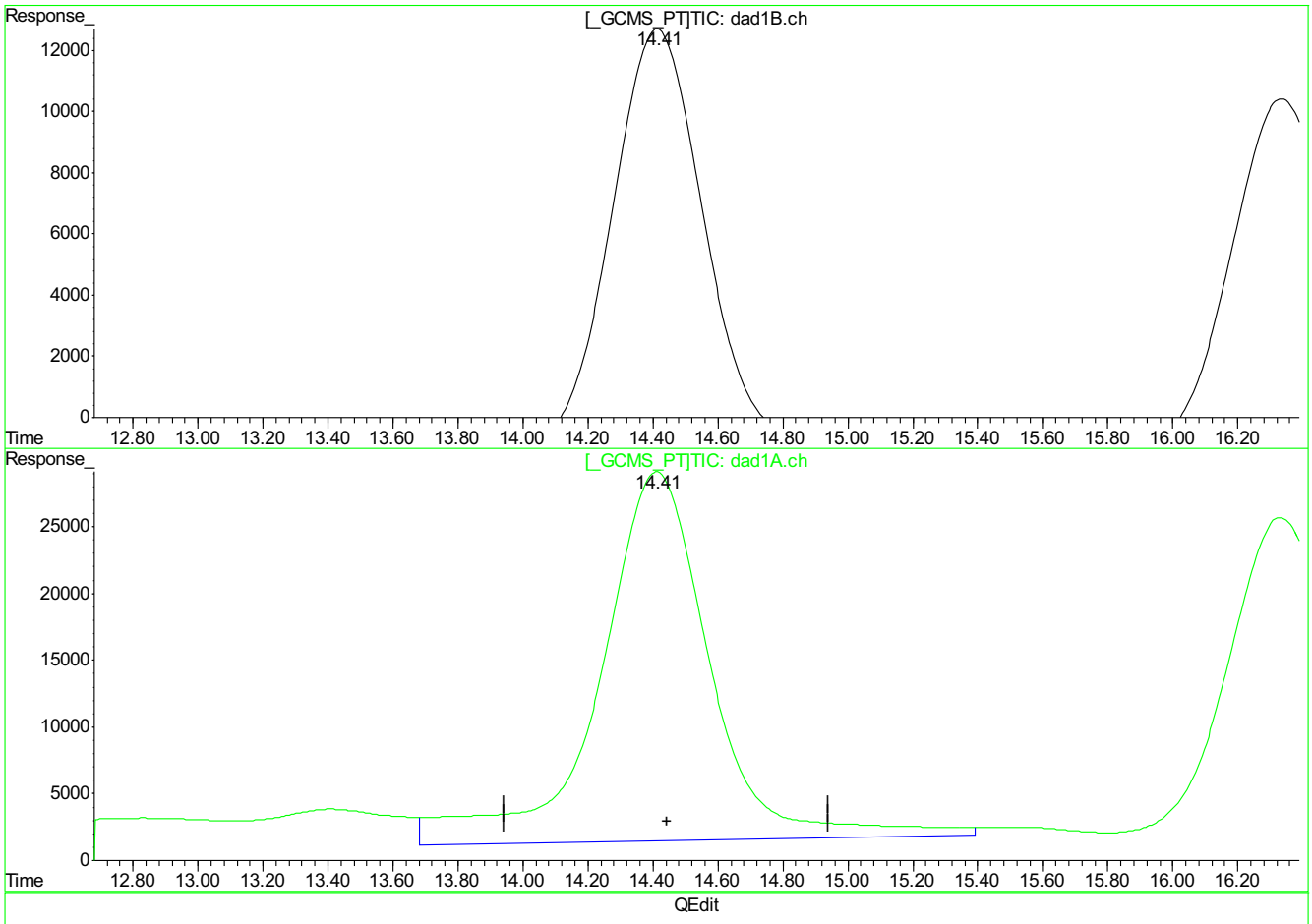
9

Sample Results: GG613513.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.41min 504.365ppb

response 2834280

(12) 3,4-Dinitrotoluene #2 (S)

14.41min 571.685ppb

response 6576247

(+) = Expected Retention Time
GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:01:53 2017

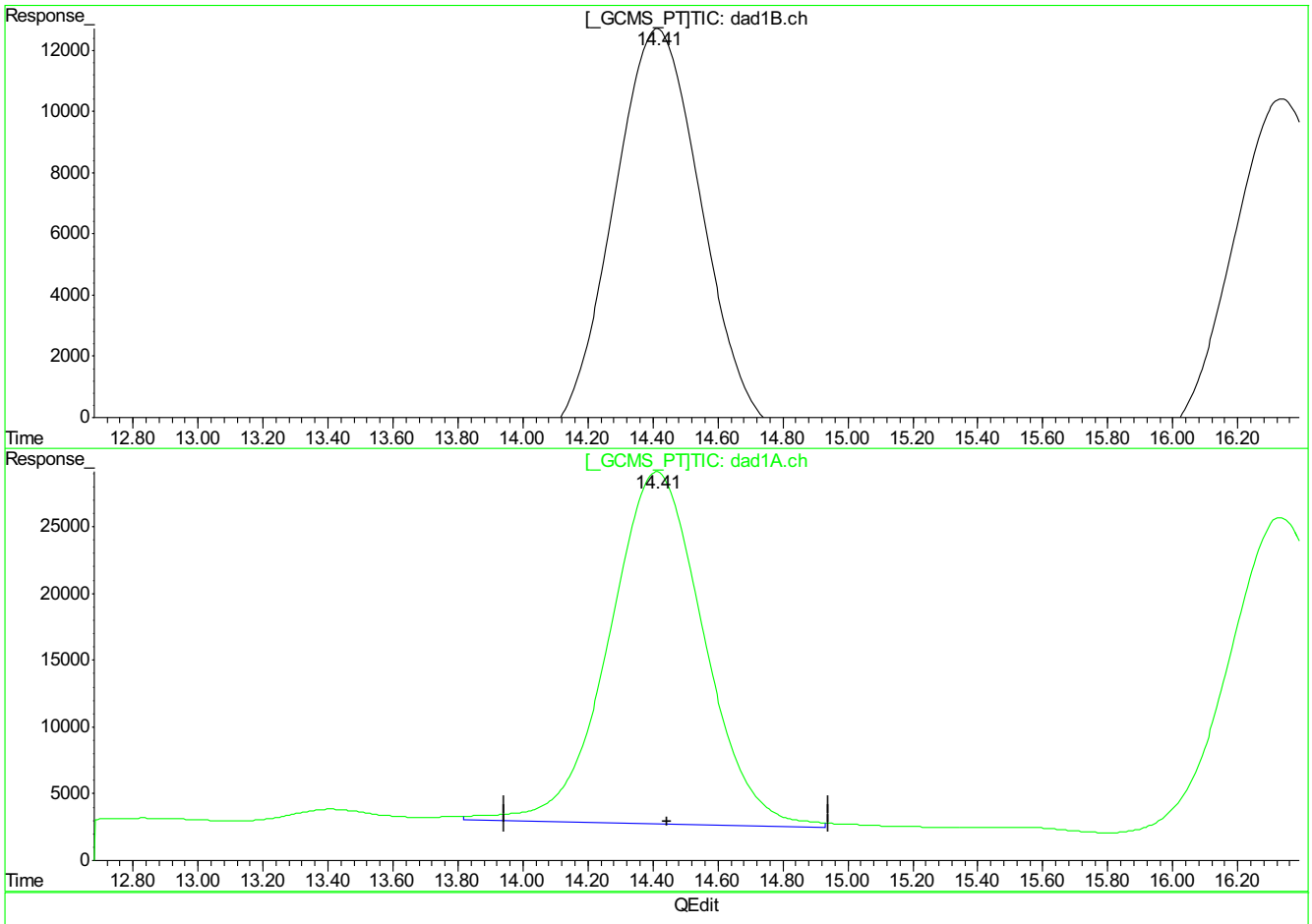
9.1.3.4 9

Sample Results: GG613513.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.41min 504.365ppb

response 2834280

(12) 3,4-Dinitrotoluene #2 (S)

14.41min 462.791ppb m

response 5323607

(+) = Expected Retention Time
GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:01:56 2017

9.1.3.5 9

GG613513.D edits: 3,4-Dinitrotoluene

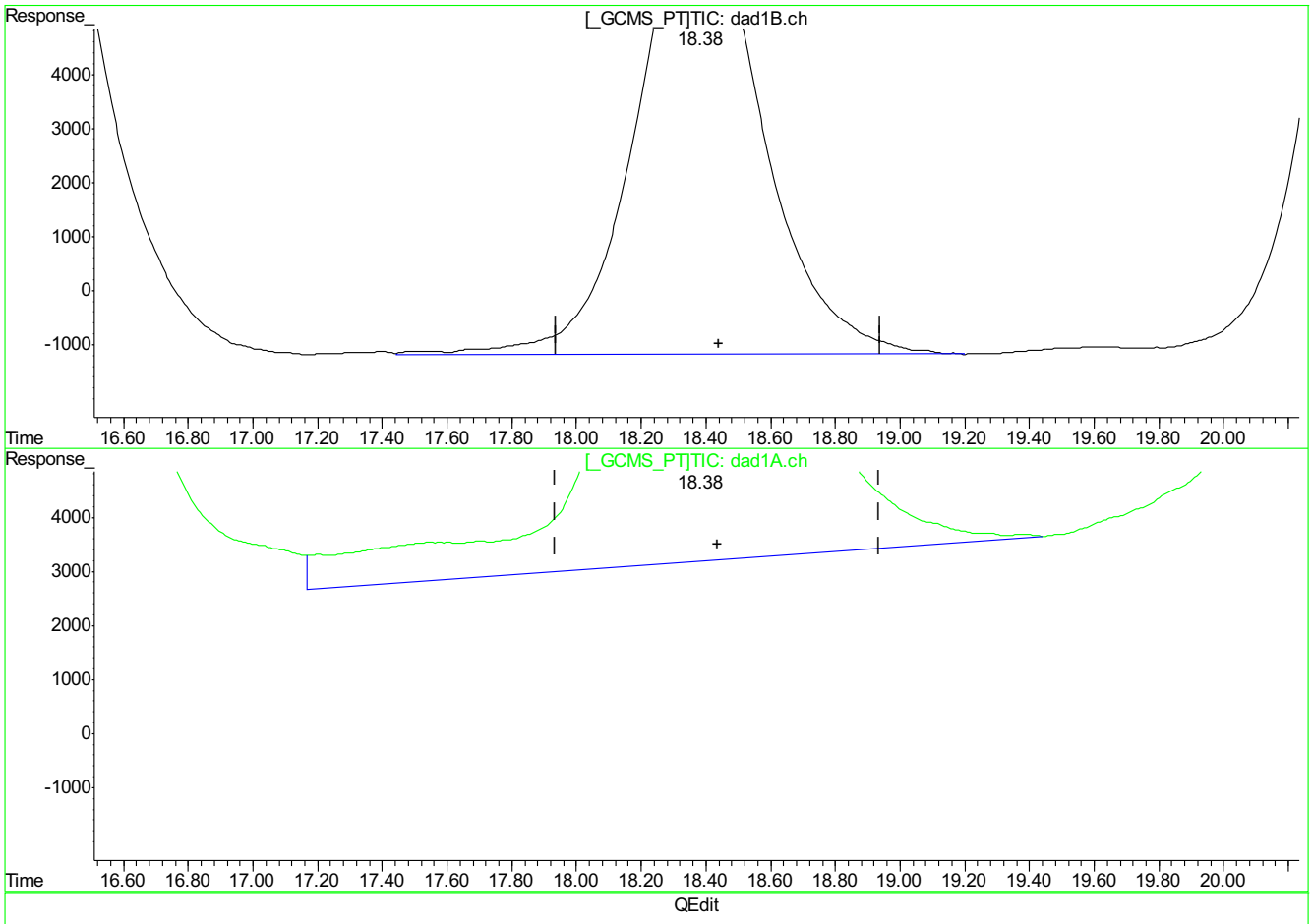
SGS ACCUTEST FA45759

Sample Results: **GG613513.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch         Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On    : 21-Jul-2017, 05:00:00                    Operator: evitam
Sample    : fa45759-1cf                              Inst    : G1315B
Misc      : Op65961,Ggg2548,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 13:00 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
```



(18) 4-Amino-2,6-Dinitrotoluene

18.38min 183.773ppb

response 2261571

(18) 4-Amino-2,6-Dinitrotoluene #2

18.38min 236.646ppb

response 5052046

(+) = Expected Retention Time

GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:02:24 2017

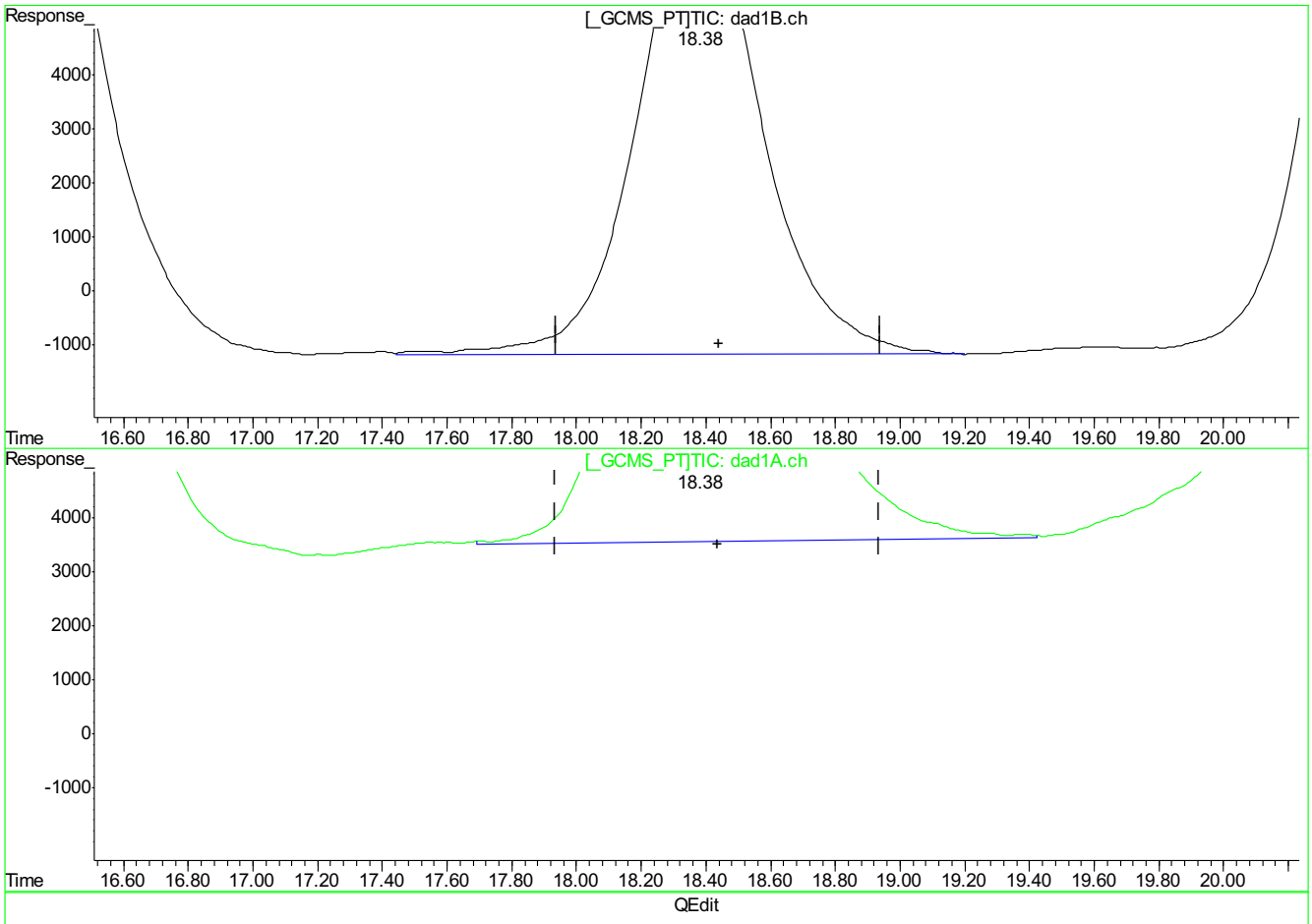
GG613513.D edits: 4-Amino-2,6-Dinitrotoluene

Sample Results: **GG613513.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613513.D\dad1B.ch Vial: 17
Signal #2 : G:\DATA\0720RPB3\GG613513.D\dad1A.ch
Acq On : 21-Jul-2017, 05:00:00 Operator: evitam
Sample : fa45759-1cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.38min 183.773ppb

response 2261571

(18) 4-Amino-2,6-Dinitrotoluene #2

18.38min 213.279ppb m

response 4549331

(+) = Expected Retention Time
GG613513.D 8330RPB.M_0720M.M Mon Jul 24 13:02:28 2017

GG613513.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613514.D\dad1B.ch Vial: 18
Signal #2 : G:\DATA\0720RPB3\GG613514.D\dad1A.ch
Acq On : 21-Jul-2017, 05:29:27 Operator: evitam
Sample : fa45759-1cf,4 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:17 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.42	14.42	653811	1256910	116.347	109.265
	Spiked Amount 500.000	Range 70 - 136		Recovery =		23.27%#	21.85%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.32	5.32	1684979	1684979	455.176	455.591
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

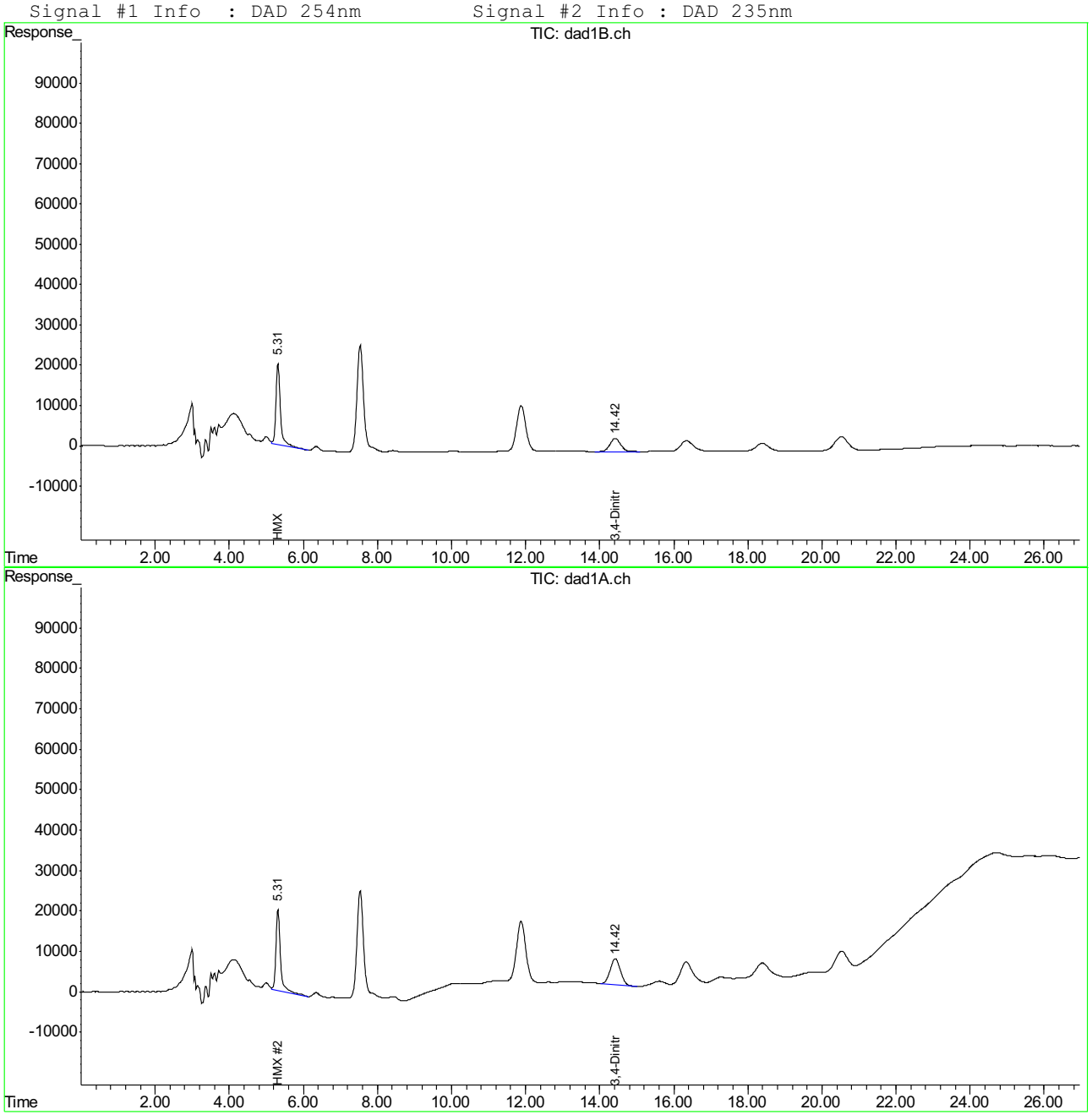
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613514.D 8330RPB.M_0720M.M Mon Jul 24 13:56:53 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613514.D\dad1B.ch Vial: 18
Signal #2 : G:\DATA\0720RPB3\GG613514.D\dad1A.ch
Acq On : 21-Jul-2017, 05:29:27 Operator: evitam
Sample : fa45759-1cf,4 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



Sample Results: BB056489.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34:43 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.42	10.42	1067912	1927843	414.751	497.205
	Spiked Amount 500.000	Range 70 - 136		Recovery =		82.95%	99.44%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.46	1.46	780718	1859437	451.141m	400.887m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	4.53	4.53	4585708	8682009	1077.269	1068.307
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.08	6.08	250173	342164	60.543	52.481
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.27	9.27	3141748	3808267	820.972m	846.884m
13)	2-Amino-4,6-Dini	9.52	9.52	519366	791405	138.508m	150.067m
14)	4-Amino-2,6-Dini	10.04	10.03	276703	530027	110.661	114.029
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

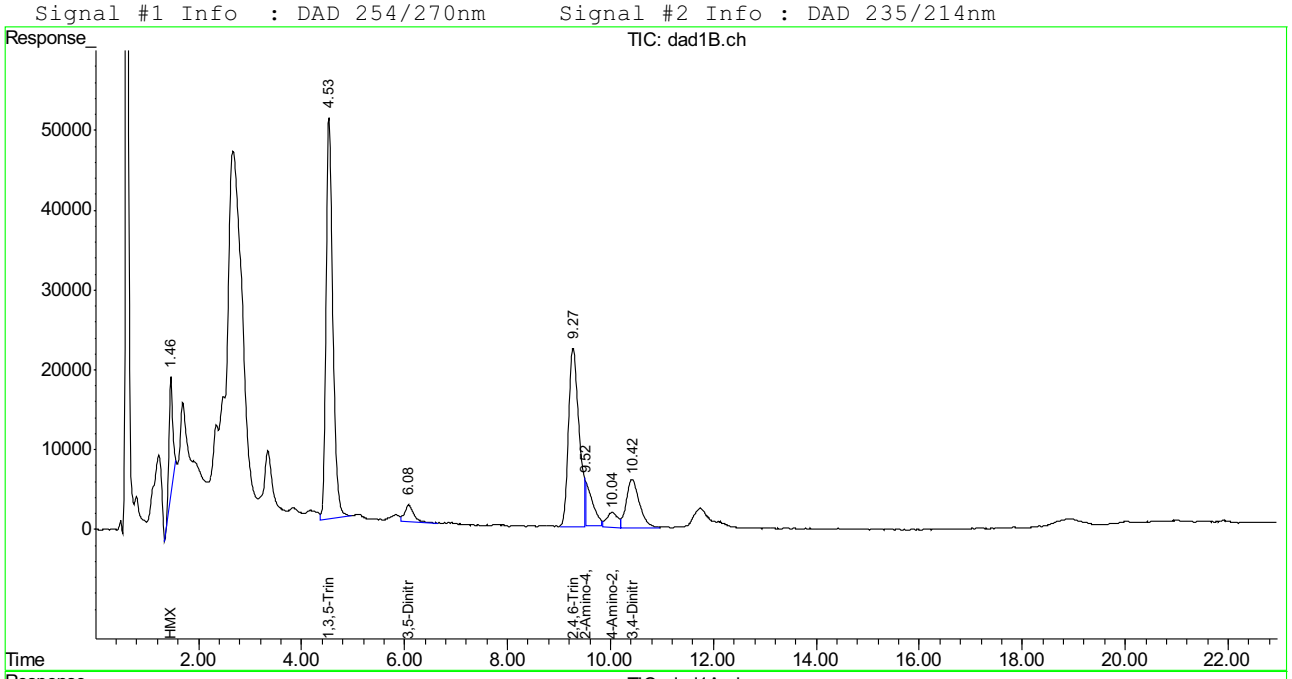
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056489.D 8330B_0720PLUS.M Mon Jul 24 13:55:32 2017 Page 1

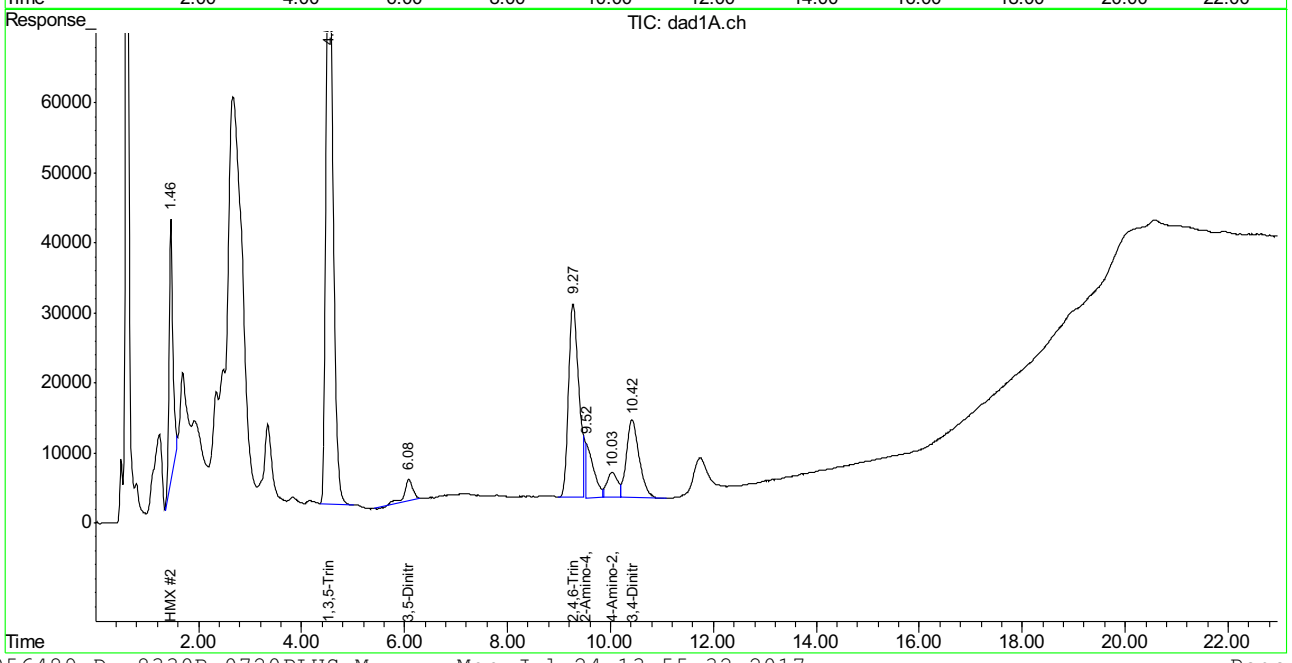
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 24 13:55 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

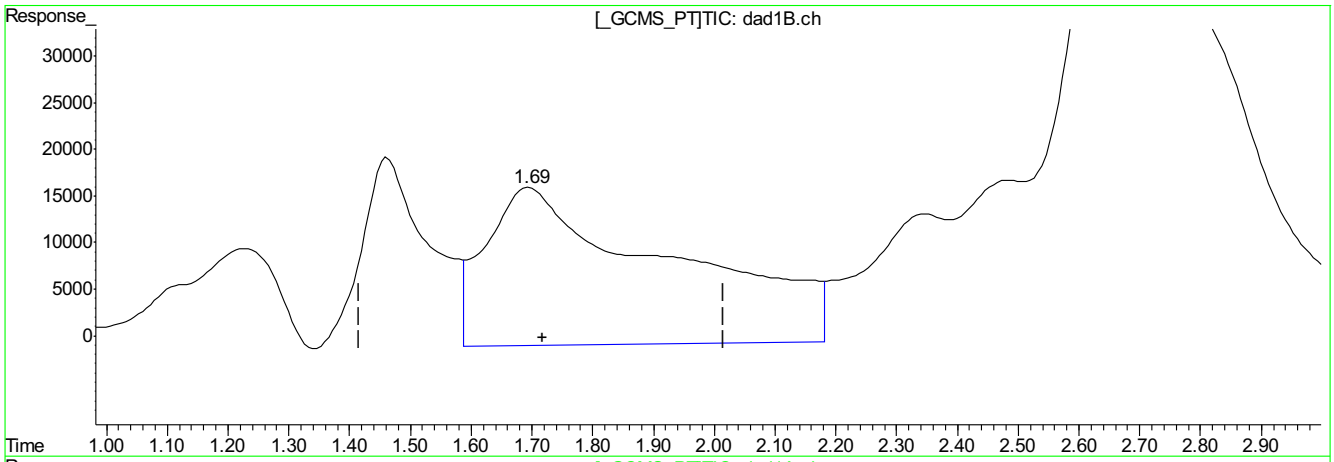
Sample Number: FA45759-2
Lab FileID: BB056489.D
Injection Time: 07/19/17 07:33
Method: SW846 8330B
Analyst approved: 07/24/17 14:23 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

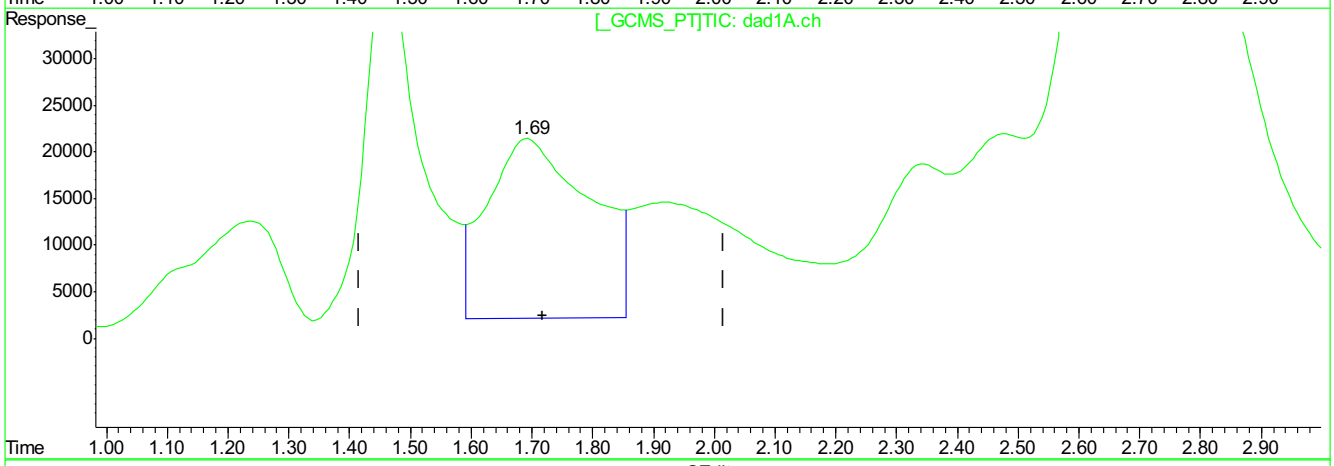
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.46	Poorly defined baseline
HMX	2691-41-0	2	1.46	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	1	9.27	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.27	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	9.52	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	9.52	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.70min 1247.254ppb

response 3621436

(3) DNX #2

1.69min 524.649ppb

response 2294266

(+) = Expected Retention Time
BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:34:59 2017

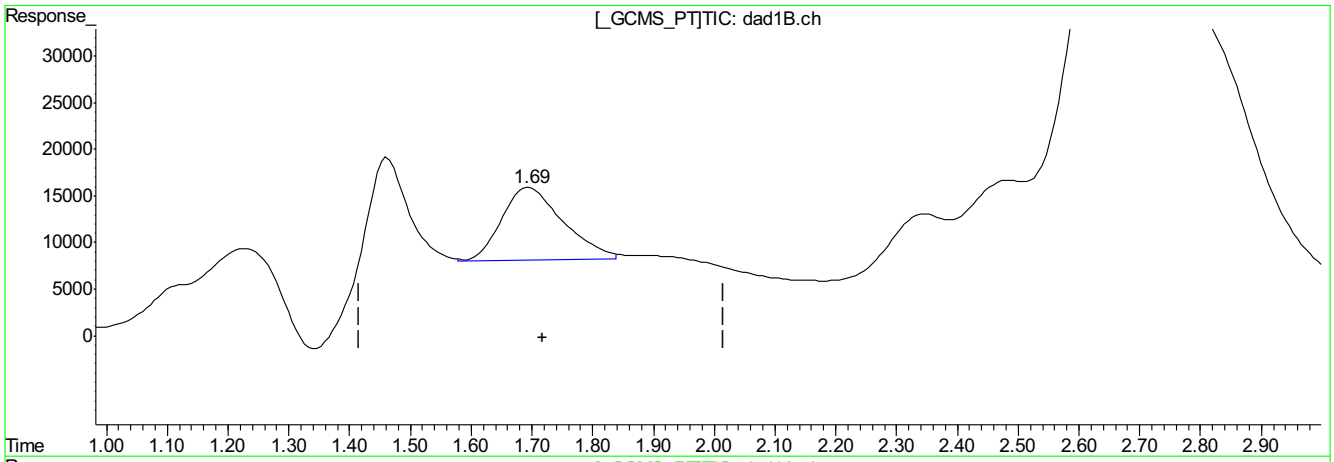
9.1.5.2

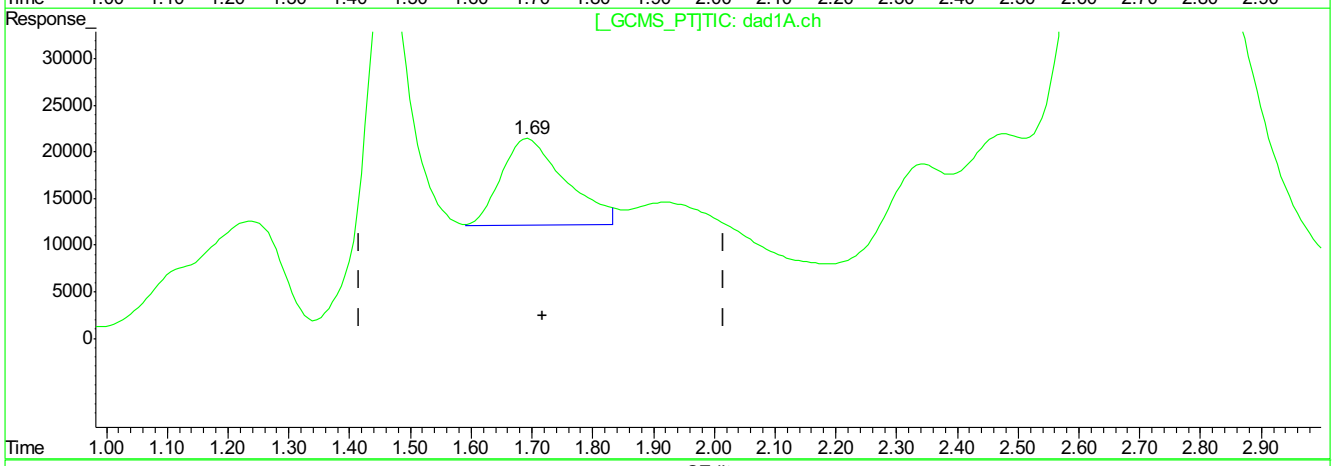
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.69min 188.010ppb m

response 545892

(3) DNX #2

1.69min 159.017ppb m

response 692070

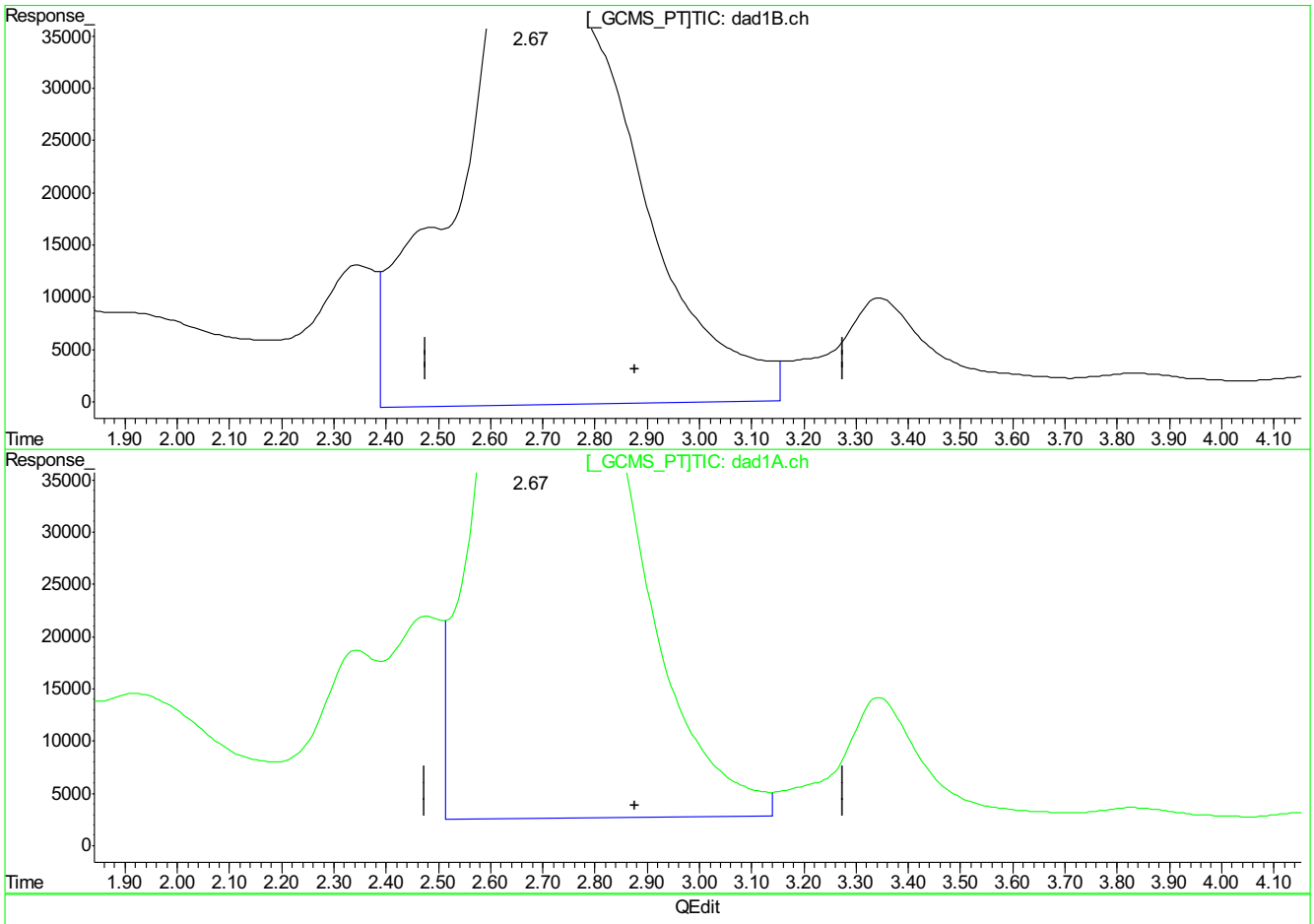
(+) = Expected Retention Time
BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:35:05 2017

9.1.5.3
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(5) RDX

2.67min 5166.796ppb

response 10515170

(5) RDX #2

2.67min 3447.983ppb

response 10986647

(+) = Expected Retention Time
BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:35:15 2017

9.1.5.4

9

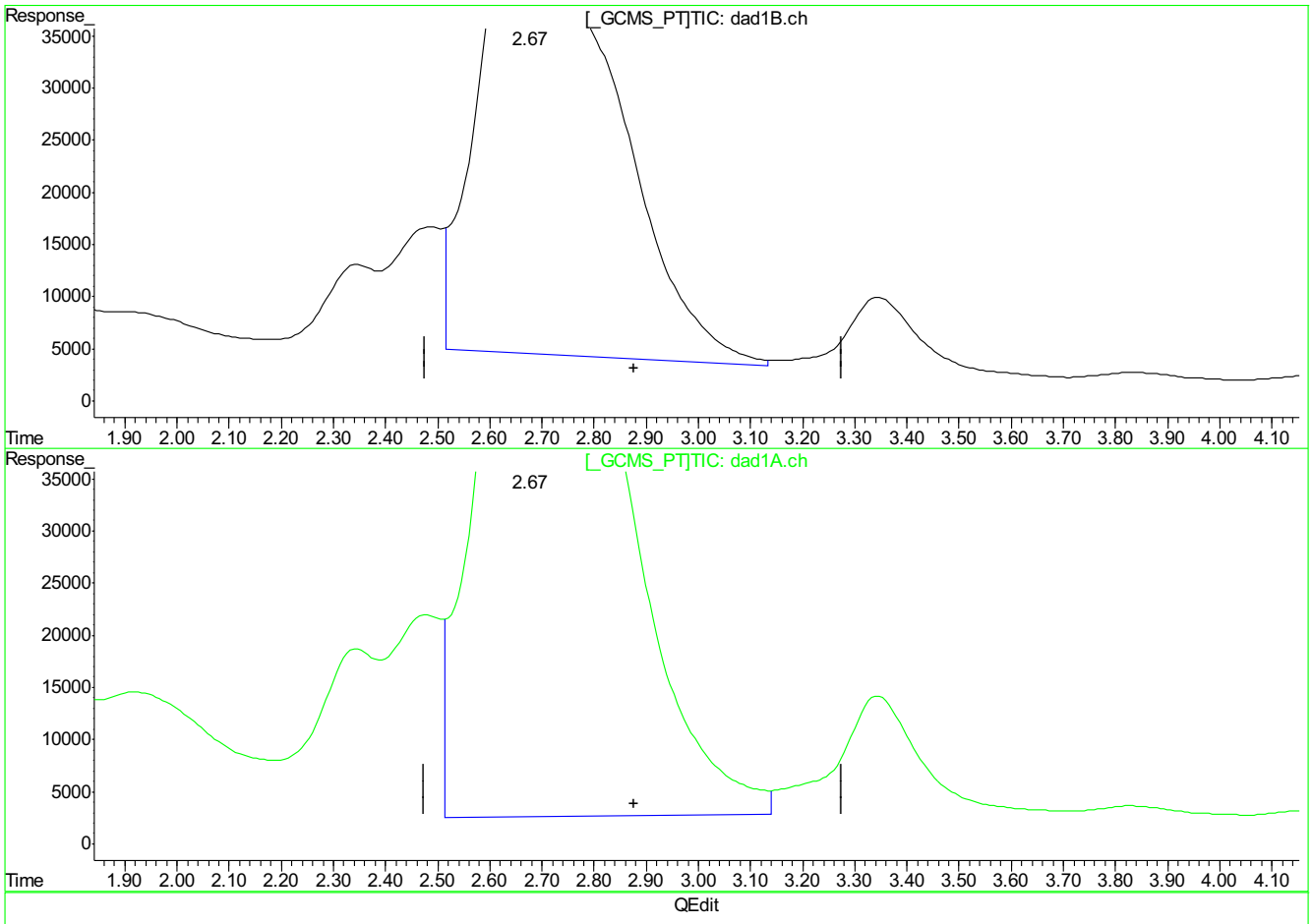
BB056489.D edits: RDX

Sample Results: BB056489.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(5) RDX

2.67min 3766.809ppb m

response 7665995

(5) RDX #2

2.67min 3447.983ppb

response 10986647

(+) = Expected Retention Time
BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:35:30 2017

9.1.5.5

9

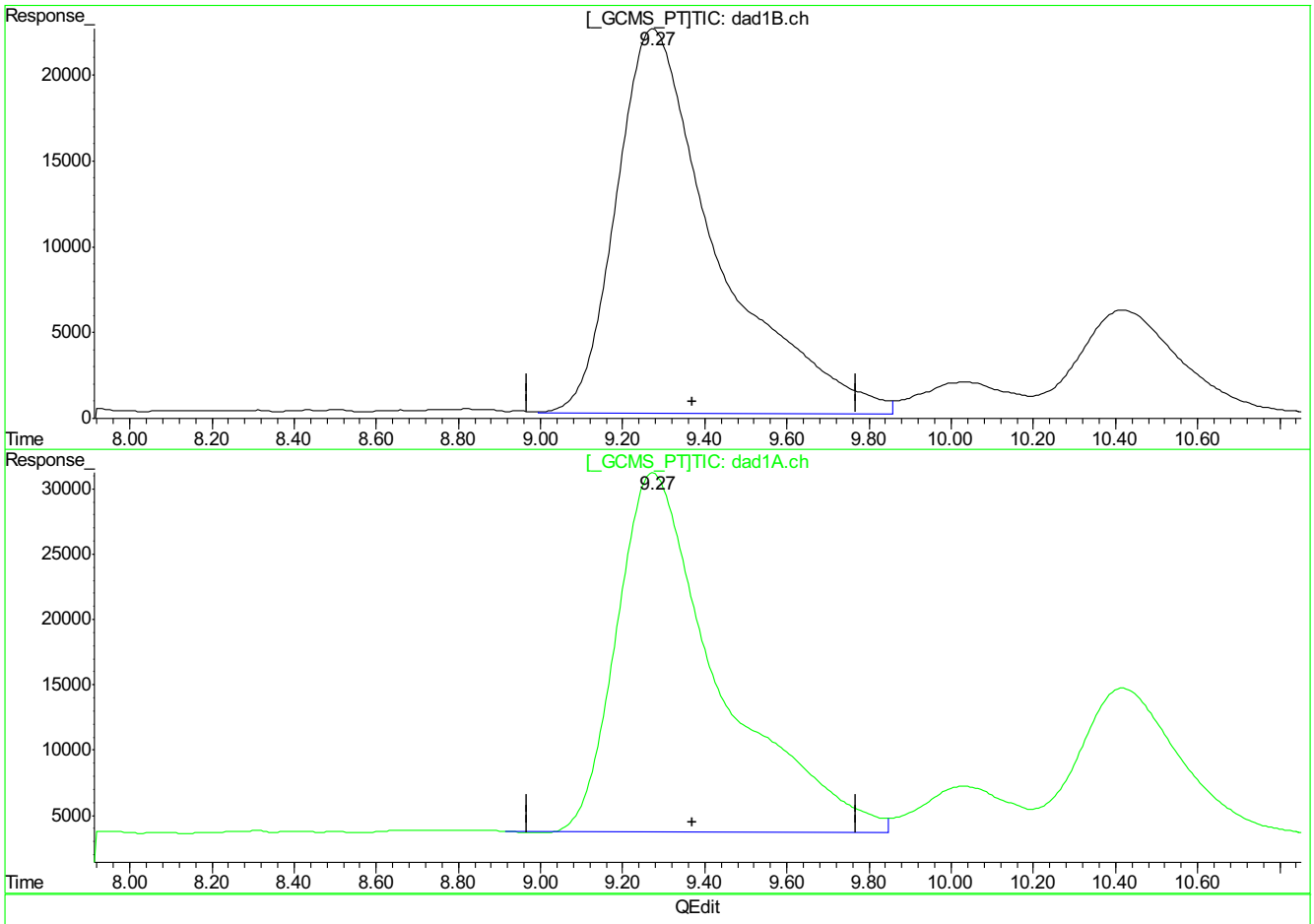
BB056489.D edits: RDX

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.28min 995.689ppb

response 3810370

(12) 2,4,6-Trinitrotoluene #2

9.28min 1051.289ppb

response 4782638

(+) = Expected Retention Time
BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:36:23 2017

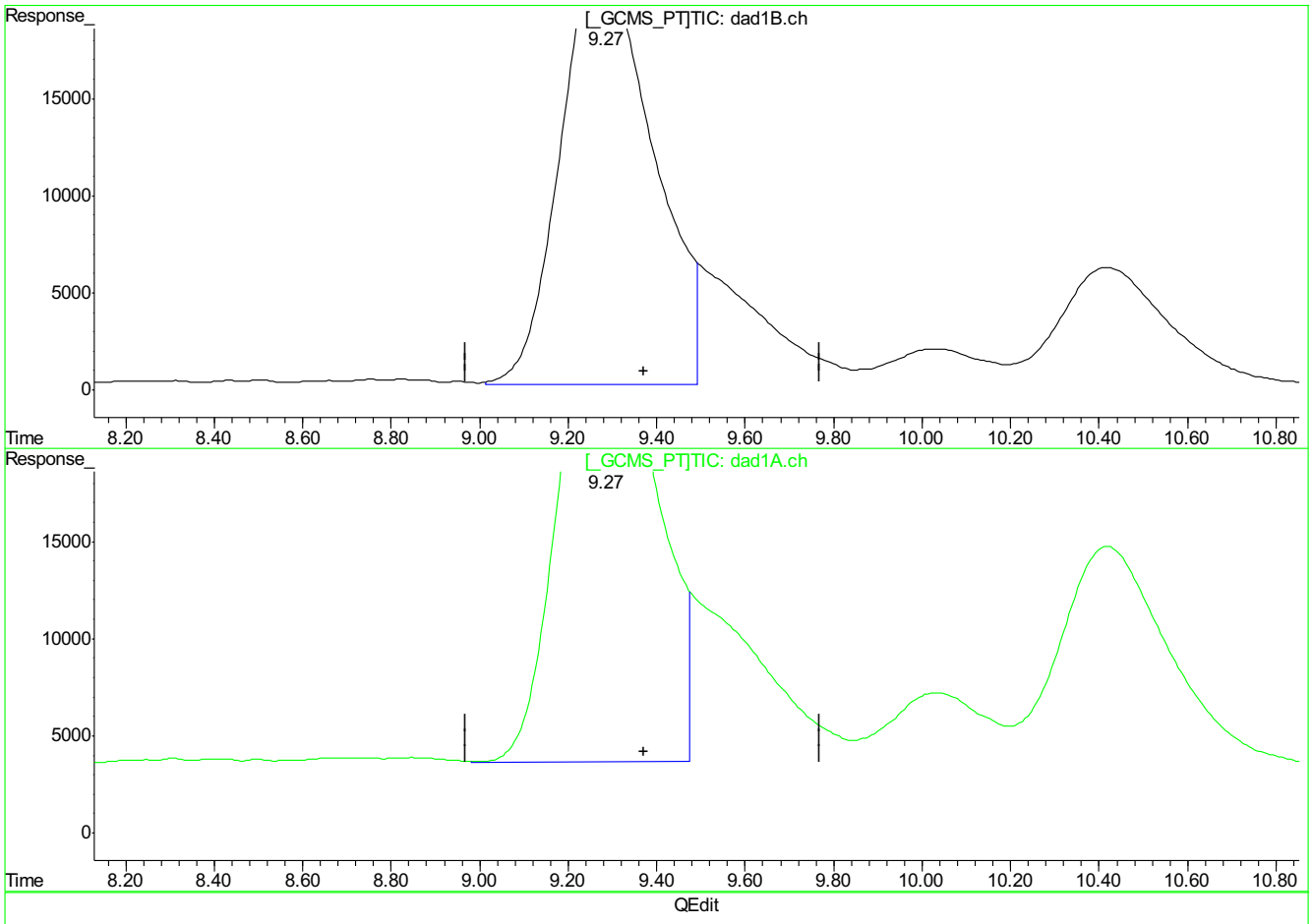
9.1.5.6
9

Sample Results: BB056489.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On : 19-Jul-2017, 07:33:37 Operator: evitam
Sample : fa45759-2 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.27min 820.972ppb m

response 3141748

(12) 2,4,6-Trinitrotoluene #2

9.27min 846.884ppb m

response 3808267

(+) = Expected Retention Time
BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:36:35 2017

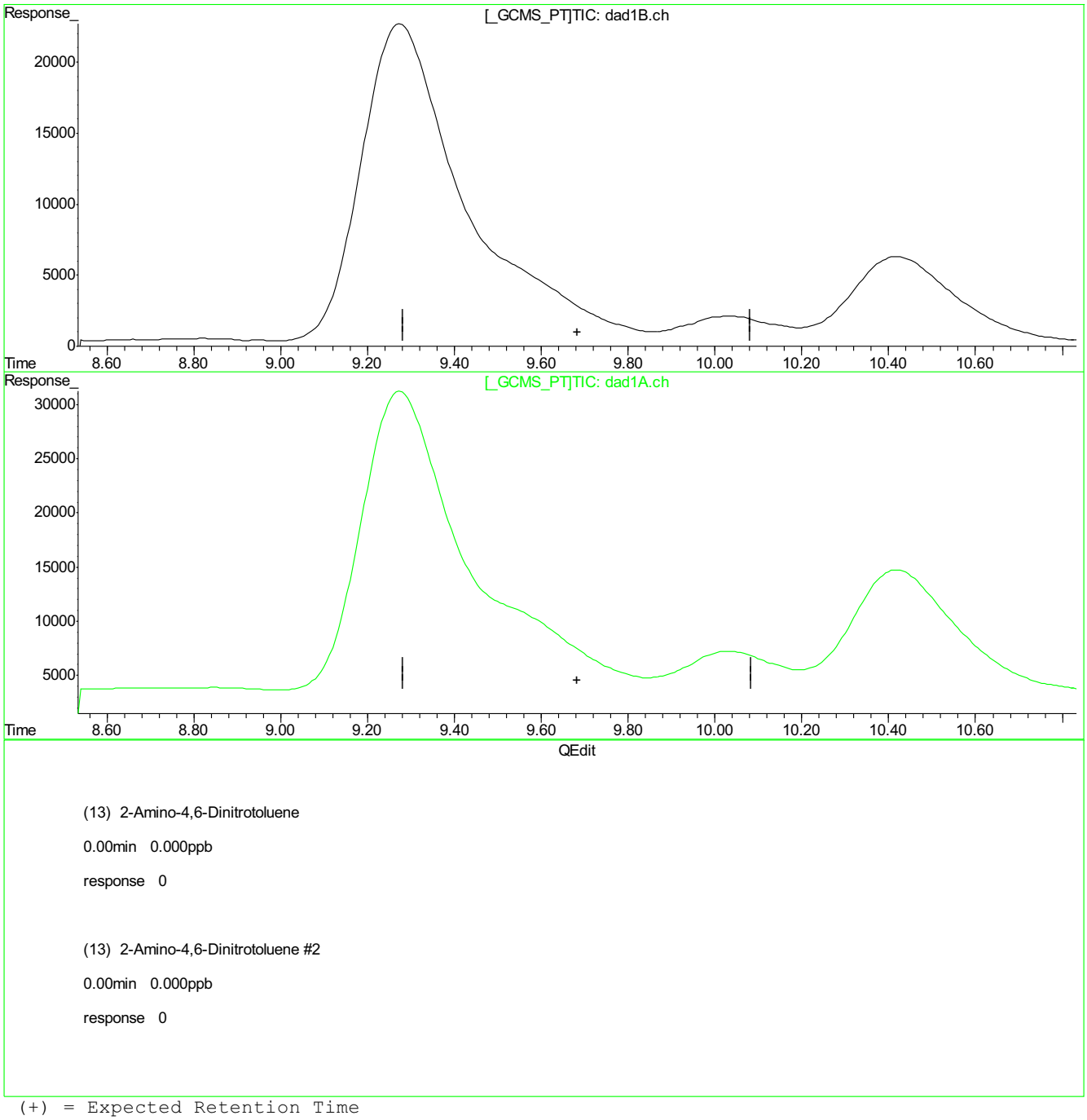
BB056489.D edits: 2,4,6-Trinitrotoluene

Sample Results: BB056489.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On    : 19-Jul-2017, 07:33:37                    Operator: evitam
Sample    : fa45759-2                                Inst    : G1315B
Misc      : op65781,gbb1620,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:36:37 2017

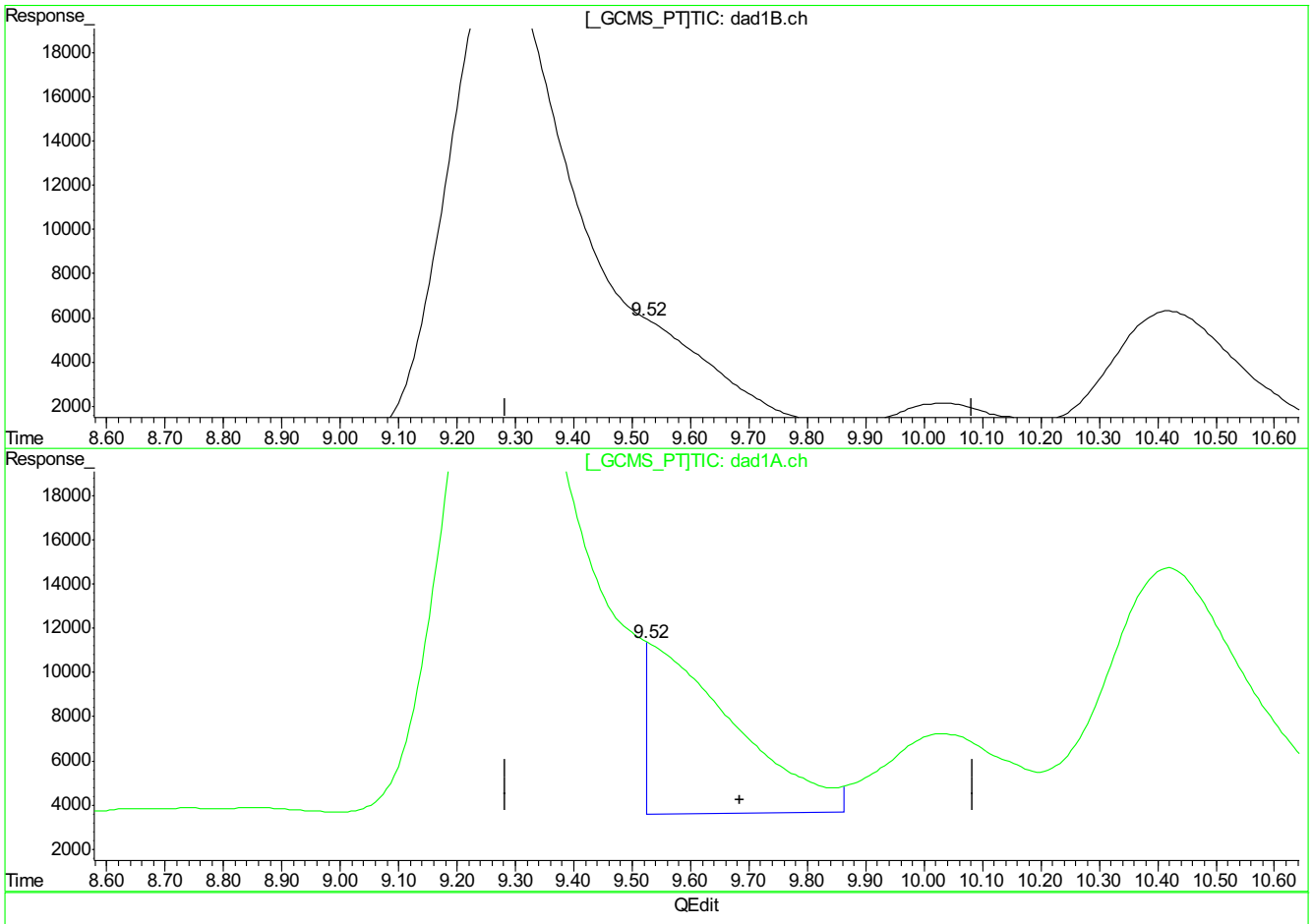
BB056489.D edits: 2-Amino-4,6-Dinitrotoluene

Sample Results: BB056489.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056489.D\dad1A.ch
Acq On    : 19-Jul-2017, 07:33:37                    Operator: evitam
Sample    : fa45759-2                                Inst    : G1315B
Misc      : op65781,gbb1620,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
```



(13) 2-Amino-4,6-Dinitrotoluene

9.52min 138.508ppb m

response 519366

(13) 2-Amino-4,6-Dinitrotoluene #2

9.52min 150.067ppb m

response 791405

(+) = Expected Retention Time

BB056489.D 8330B_0629PLUS.M Wed Jul 19 10:36:59 2017

9.1.5.9

9

BB056489.D edits: 2-Amino-4,6-Dinitrotoluene

Sample Results: GG613515.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:19 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.43	14.42	2710298	5066805	482.302	440.466m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.46%	88.09%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.31	5.31	1642464	1648647	443.691m	445.768m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	7.53	7.53	11174827	11174827	1052.746	1049.856
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	11.88	11.88	8018062	11069689	785.324	820.974m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	16.37	16.35f	1942893	3714725	189.181	222.687m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	18.41	18.41	909124	2003615	73.874	94.339
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	20.55	20.56	1493925	1784188	157.878	148.003m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

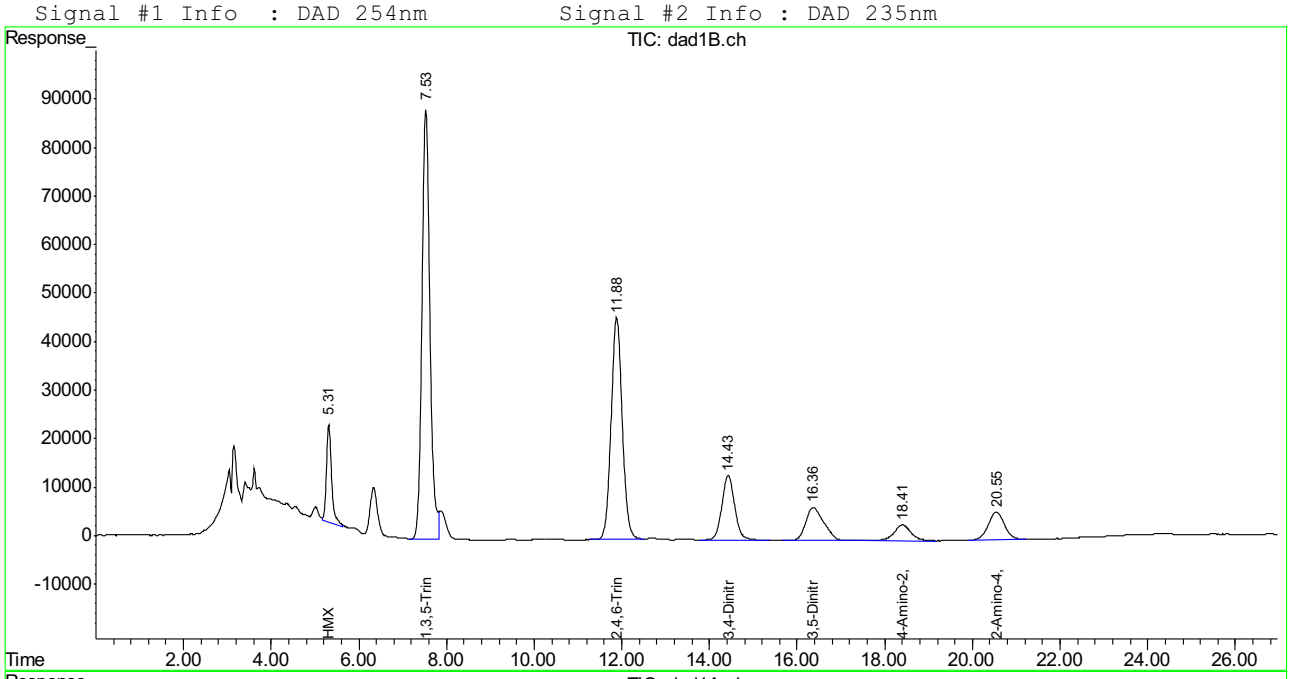
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:56:54 2017 Page 1

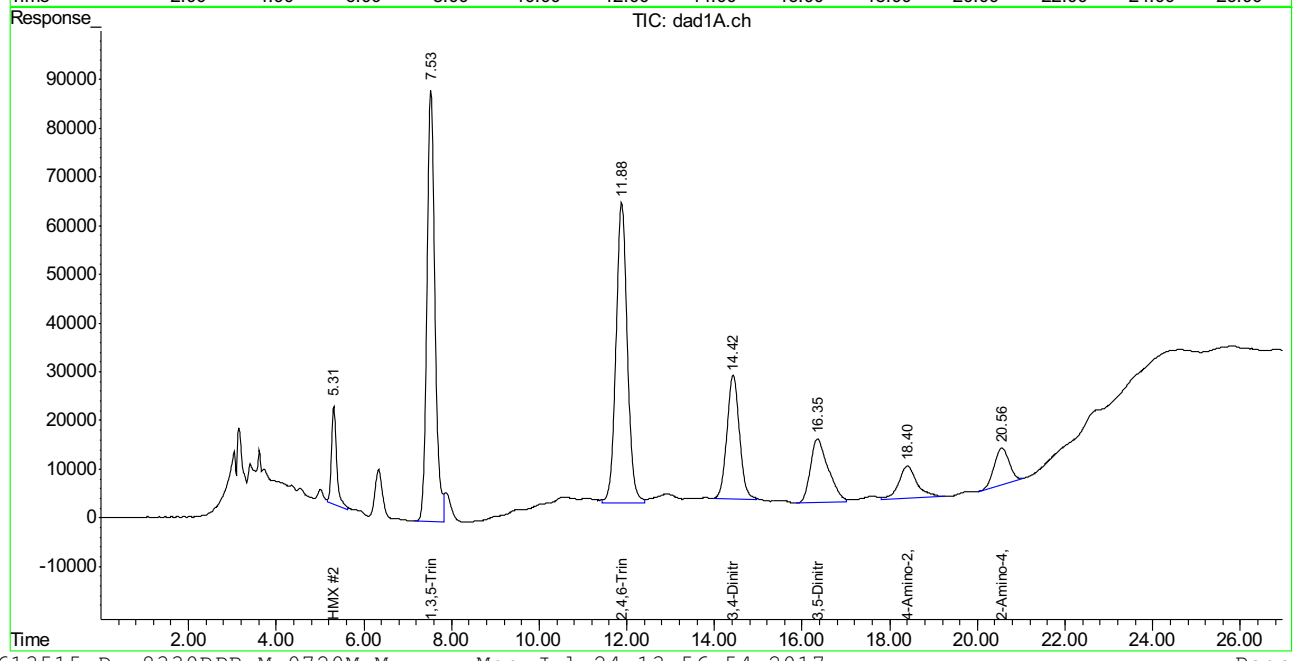
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA45759-2
Lab FileID: GG613515.D
Injection Time: 07/21/17 05:58
Method: SW846 8330B
Analyst approved: 07/24/17 14:23 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

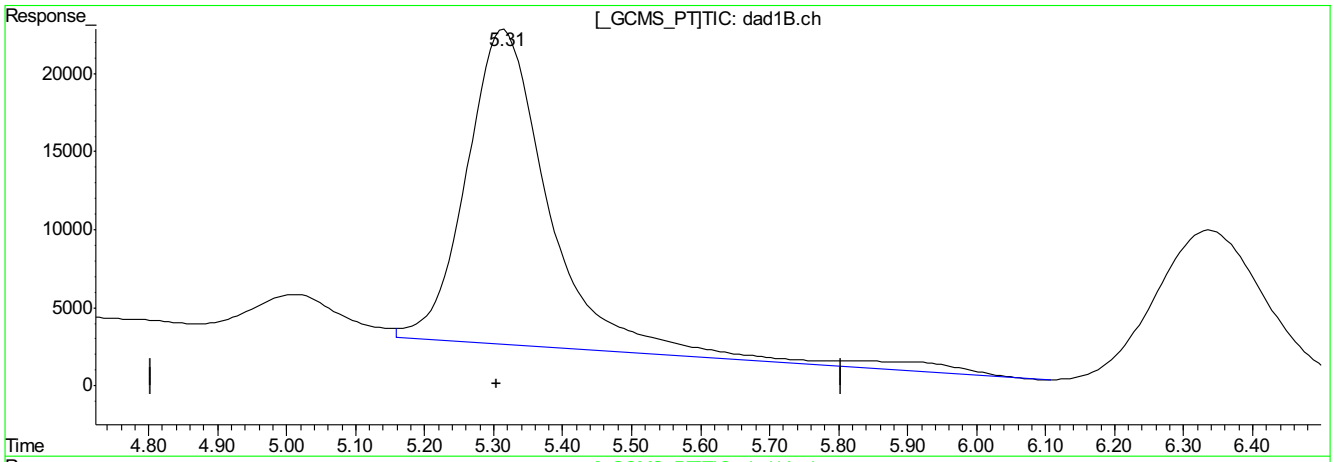
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.31	Poorly defined baseline
HMX	2691-41-0	2	5.31	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.88	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.42	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	16.35	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.56	Poorly defined baseline

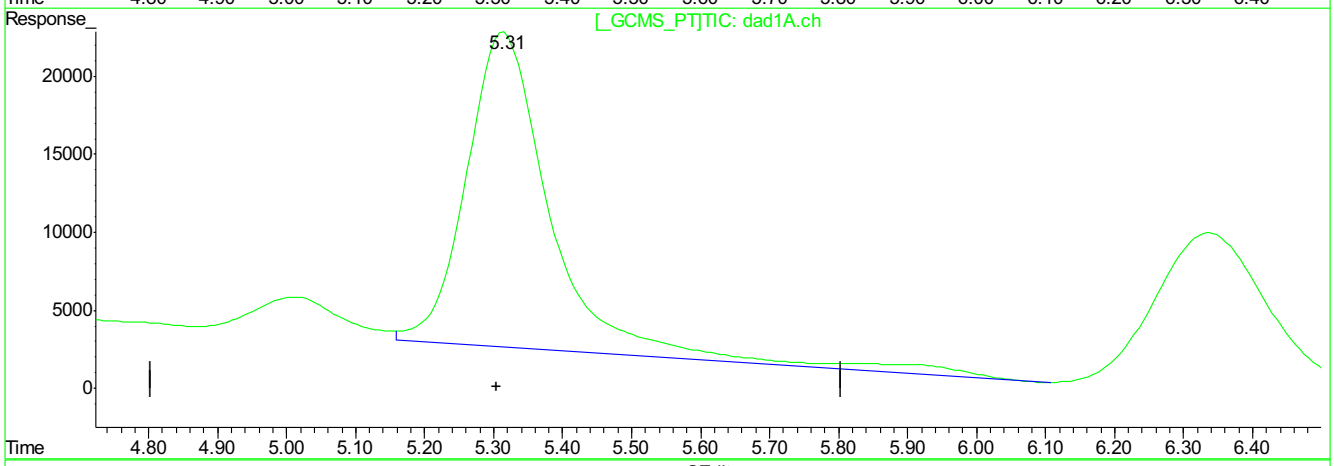
Sample Results: GG613515.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 470.895ppb

response 1743167

(2) HMX #2

5.32min 471.325ppb

response 1743167

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:52:15 2017

9.1.6.2

9

GG613515.D edits: HMX

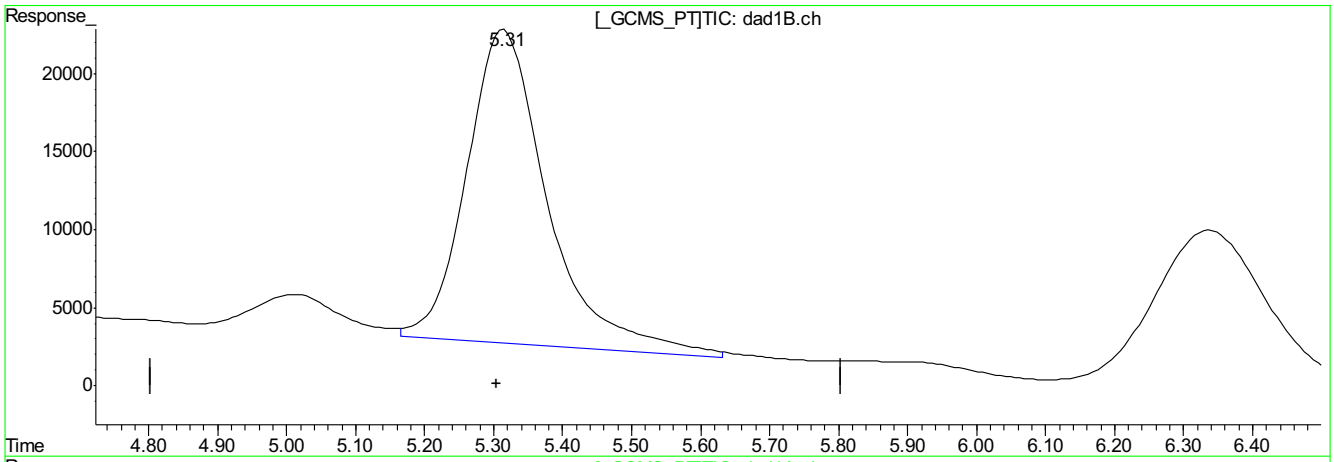
SGS ACCUTEST FA45759

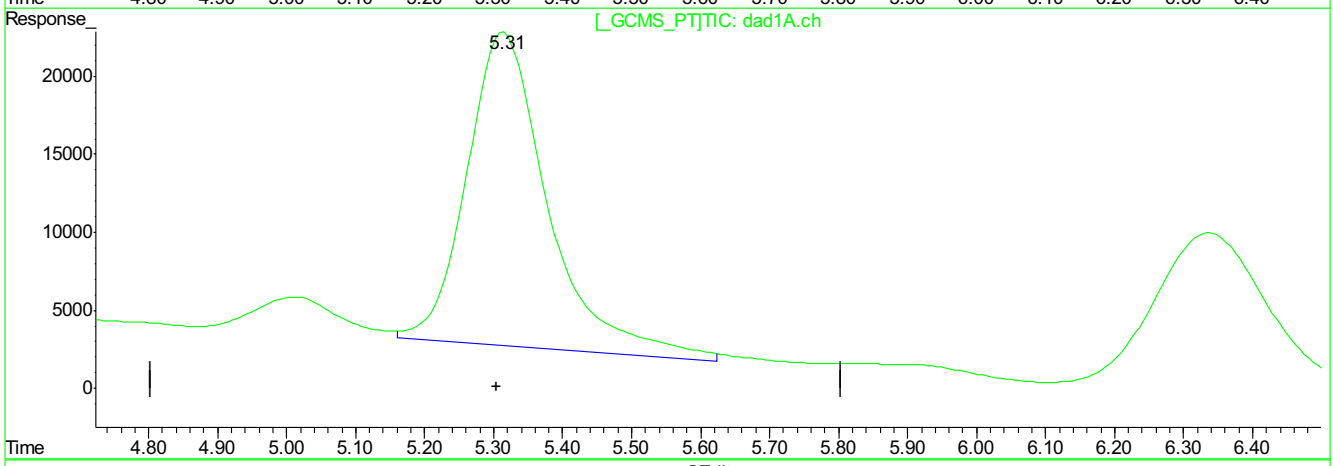
Sample Results: GG613515.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.31min 443.691ppb m

response 1642464

(2) HMX #2

5.31min 445.768ppb m

response 1648647

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:52:24 2017

9.1.6.3

9

GG613515.D edits: HMX

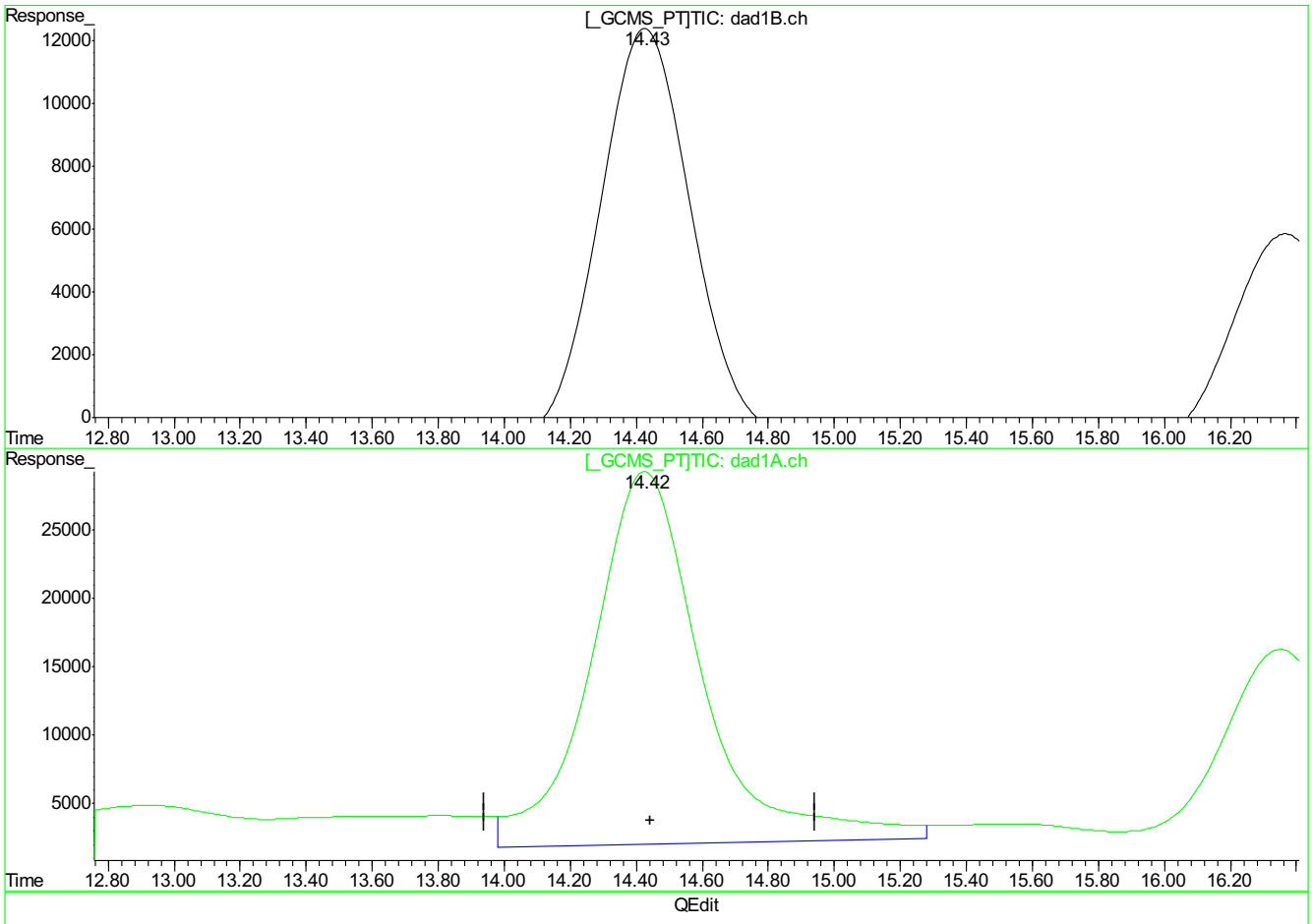
SGS ACCUTEST FA45759

Sample Results: GG613515.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.43min 482.302ppb

response 2710298

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 551.562ppb

response 6344763

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:53:07 2017

9.1.6.4

9

GG613515.D edits: 3,4-Dinitrotoluene

SGS ACCUTEST FA45759

Sample Results: GG613515.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch         Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On    : 21-Jul-2017, 05:58:54                    Operator: evitam
Sample    : fa45759-2cf                              Inst    : G1315B
Misc      : Op65961,Ggg2548,1000,,,10,1,water        Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
```


(12) 3,4-Dinitrotoluene (S)

14.43min 482.302ppb

response 2710298

(12) 3,4-Dinitrotoluene #2 (S)

14.42min 440.466ppb m

response 5066805

(+) = Expected Retention Time

GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:53:09 2017

9.1.6.5

9

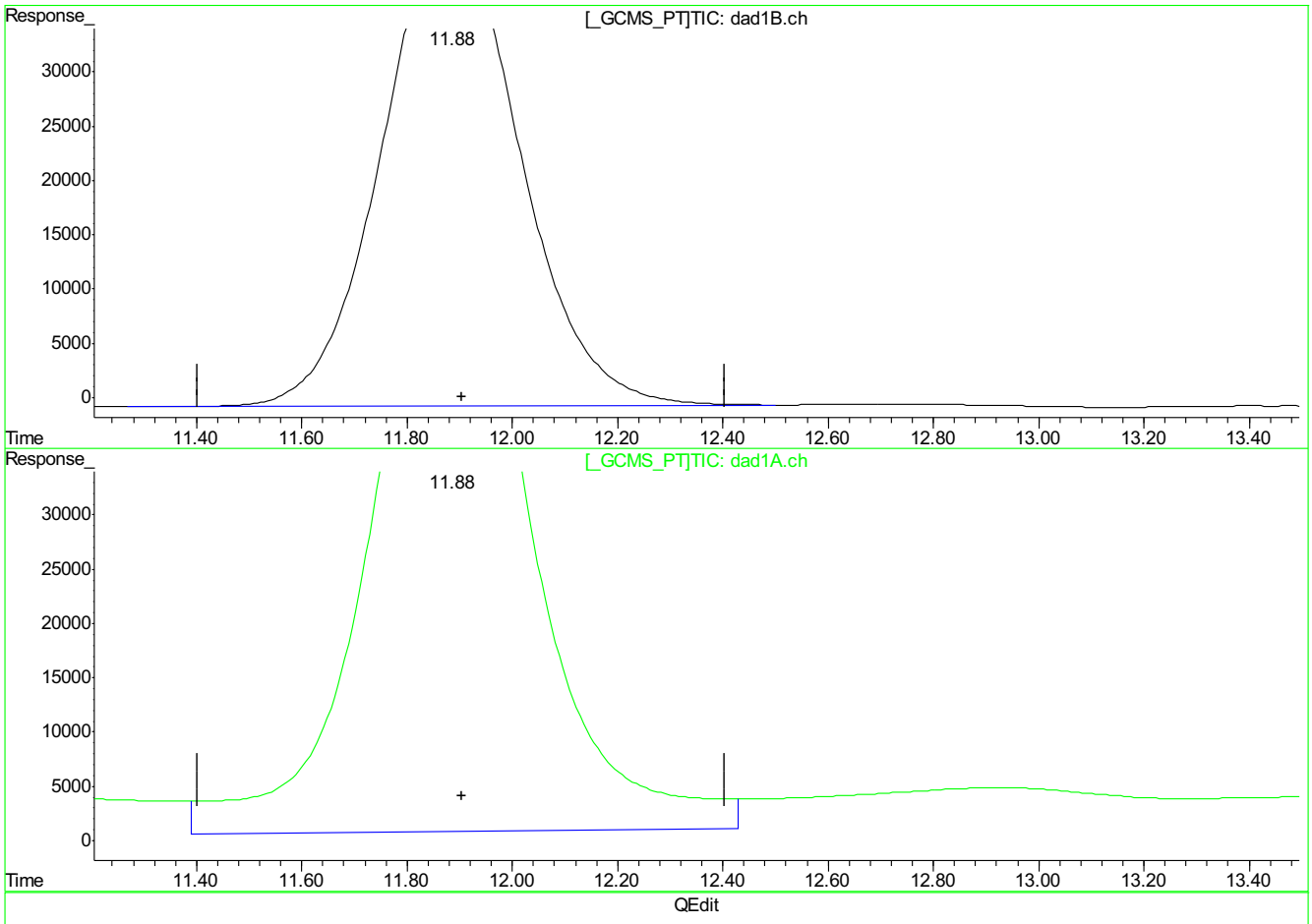
SGS ACCUTEST FA45759

Sample Results: **GG613515.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.88min 785.324ppb

response 8018062

(9) 2,4,6-Trinitrotoluene #2

11.88min 922.596ppb

response 12457951

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:54:09 2017

9.1.6.6

9

GG613515.D edits: 2,4,6-Trinitrotoluene

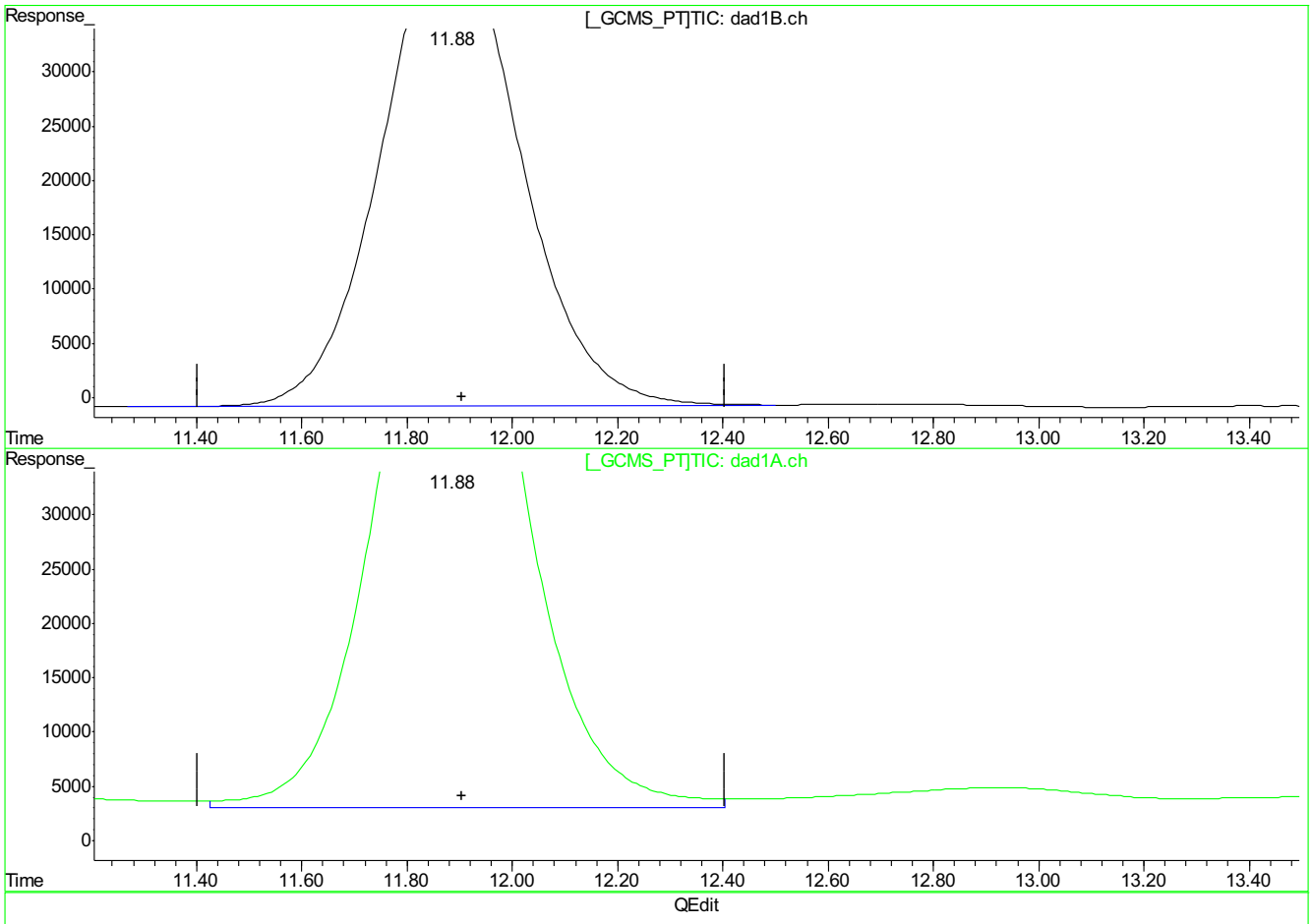
SGS ACCUTEST FA45759

Sample Results: **GG613515.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.88min 785.324ppb

response 8018062

(9) 2,4,6-Trinitrotoluene #2

11.88min 820.974ppb m

response 11069689

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:54:13 2017

9.1.6.7

9

GG613515.D edits: 2,4,6-Trinitrotoluene

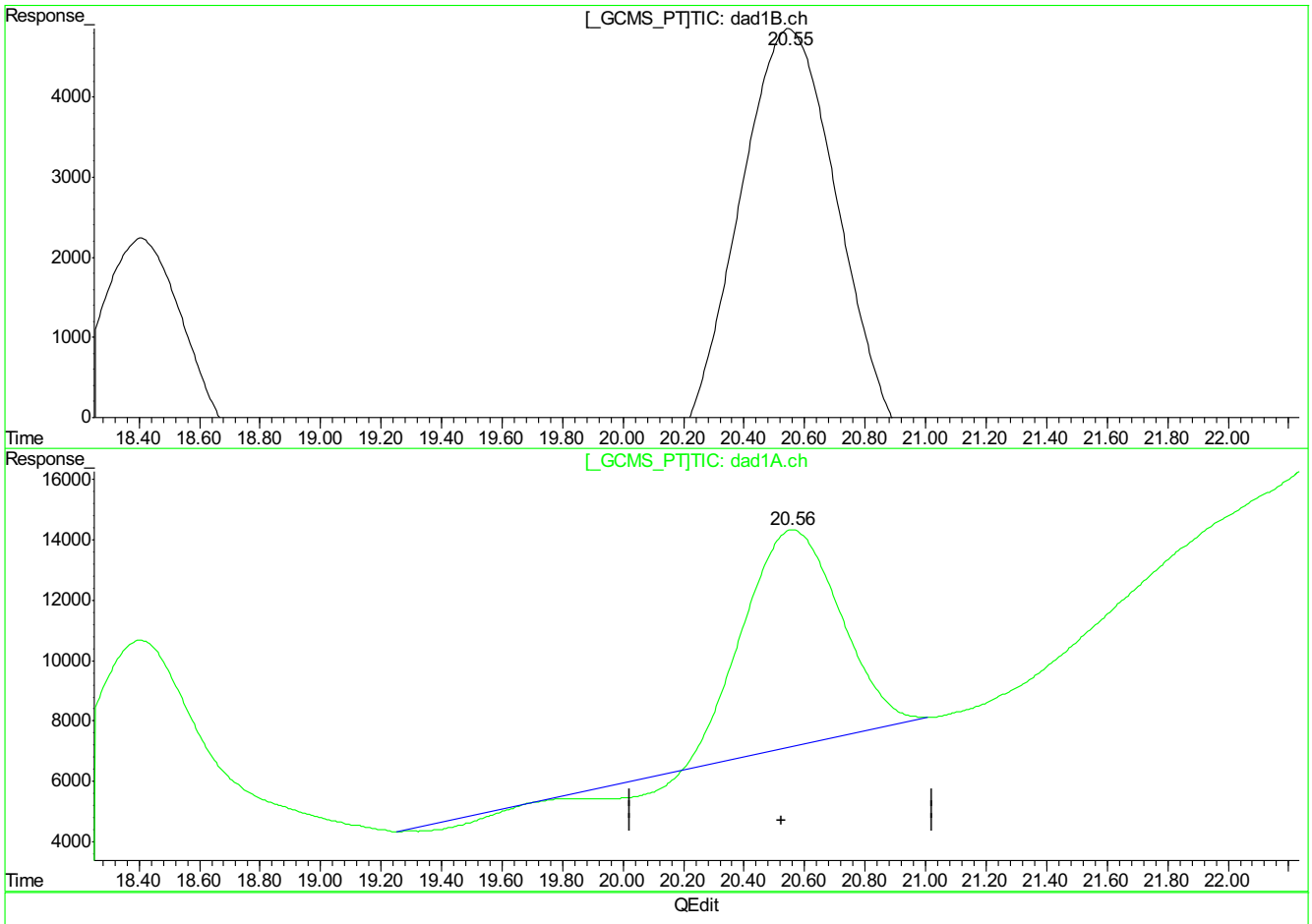
SGS ACCUTEST FA45759

Sample Results: GG613515.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.55min 157.878ppb

response 1493925

(20) 2-Amino-4,6-Dinitrotoluene #2

20.56min 123.507ppb

response 1486205

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:54:52 2017

9.1.6.8

9

GG613515.D edits: 2-Amino-4,6-Dinitrotoluene

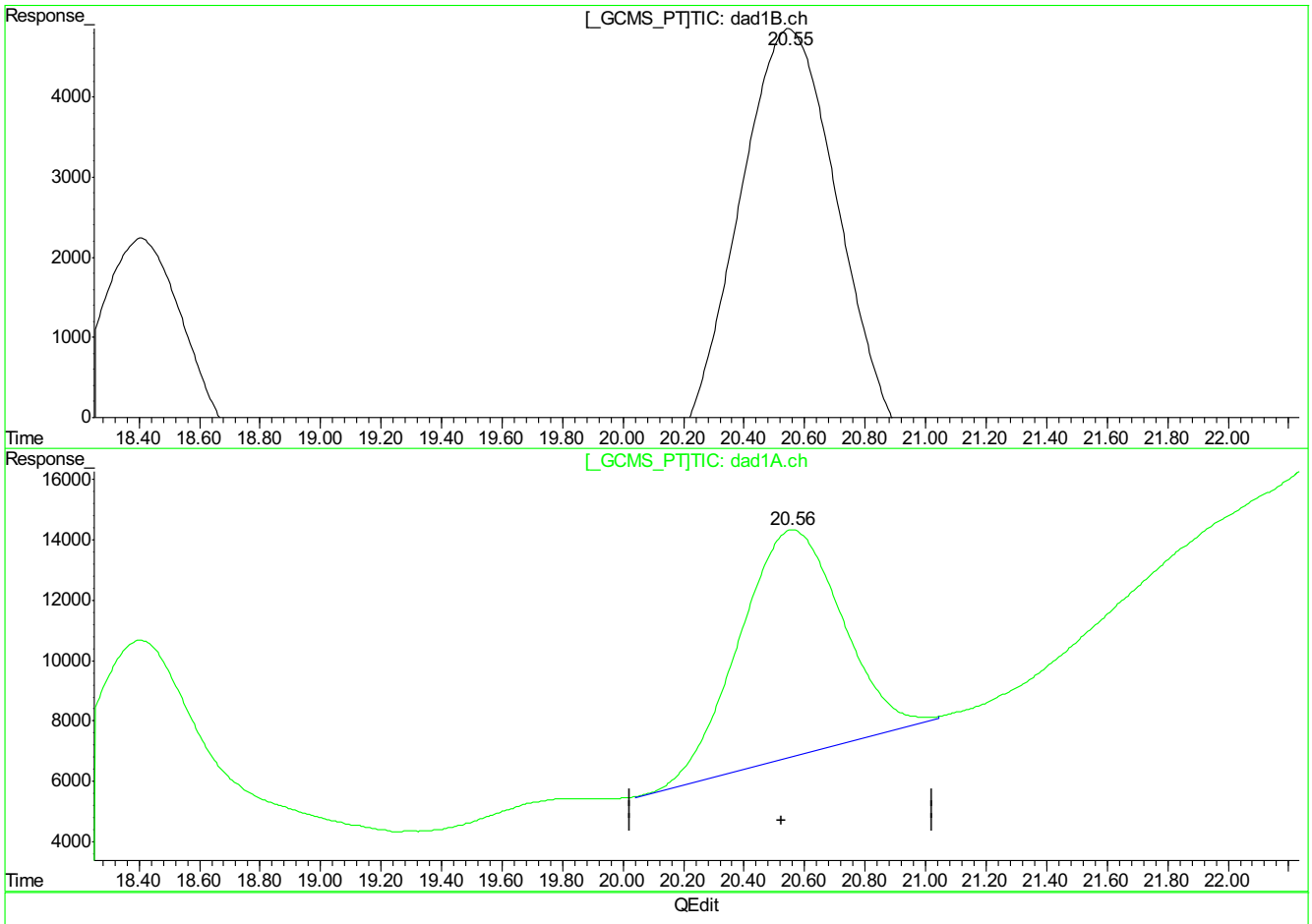
SGS ACCUTEST FA45759

Sample Results: GG613515.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613515.D\dad1B.ch Vial: 19
Signal #2 : G:\DATA\0720RPB3\GG613515.D\dad1A.ch
Acq On : 21-Jul-2017, 05:58:54 Operator: evitam
Sample : fa45759-2cf Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.55min 157.878ppb

response 1493925

(20) 2-Amino-4,6-Dinitrotoluene #2

20.56min 148.003ppb m

response 1784188

(+) = Expected Retention Time
GG613515.D 8330RPB.M_0720M.M Mon Jul 24 13:54:56 2017

9.1.6.9

9

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1A.ch
Acq On : 19-Jul-2017, 11:33:34 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 08:50:01 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.46	10.46	1098760	1932245	426.732	498.310
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.35%	99.66%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

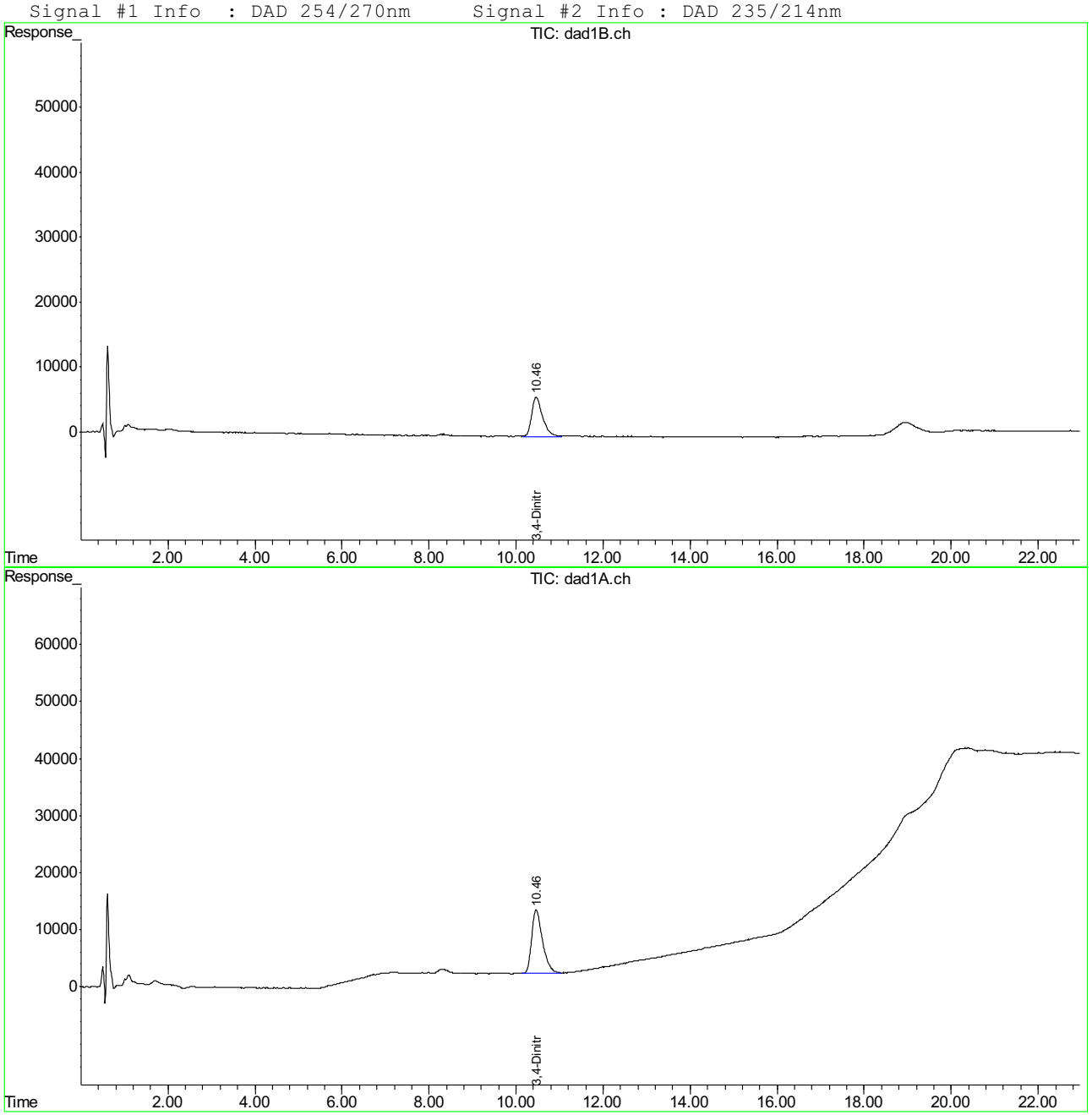
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056497.D 8330B_0629PLUS.M Thu Jul 20 09:41:23 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056497.D\dad1A.ch
Acq On : 19-Jul-2017, 11:33:34 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:58 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613509.D\dad1B.ch Vial: 13
Signal #2 : G:\DATA\0720RPB3\GG613509.D\dad1A.ch
Acq On : 21-Jul-2017, 03:02:10 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:08 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.38	14.38	1707583	3203592	303.867	278.494
	Spiked Amount 500.000	Range 70 - 136		Recovery =		60.77%#	55.70%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

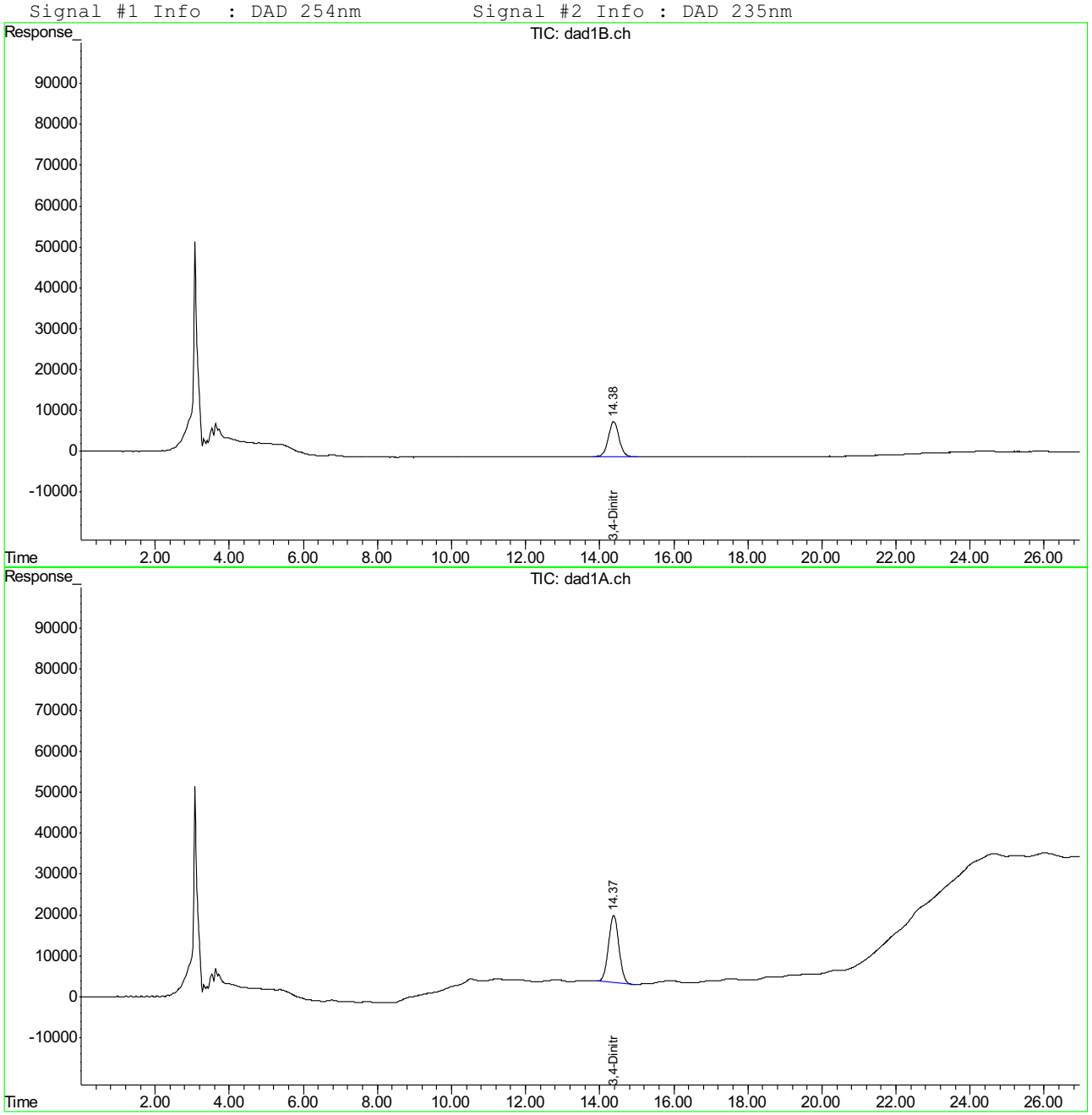
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613509.D 8330RPB.M_0720M.M Mon Jul 24 13:56:48 2017 Page 1

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613509.D\dad1B.ch Vial: 13
Signal #2 : G:\DATA\0720RPB3\GG613509.D\dad1A.ch
Acq On : 21-Jul-2017, 03:02:10 Operator: evitam
Sample : op65961-mb Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 12:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm



9.2.2
6
SGS ACCUTEST FA45759
172 of 515

QC Report: BB056480.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/19/17 21:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:28 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.42	10.42	1149300	1936203	446.360	499.303
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.27%	99.86%
	Target Compounds						
1)	TNX	1.35	1.35	1360747	2056102	438.371	429.092
2)	HMX	1.46	1.46	954362	2484169	551.481	535.577
3)	DNX	1.71	1.71	1278505	2156861	440.328	493.428
4)	MNX	2.27	2.27	1344494	2065259	600.942	612.462
5)	RDX	2.85	2.85	956643	1494347	470.062	468.977
6)	1,3,5-Trinitrobe	4.53	4.53	1969229	3794531	462.609	466.911
7)	1,3-Dinitrobenze	5.78	5.78	2356263	1594880	421.415	440.040
8)	3,5-Dinitroanili	6.08	6.08	1972139	3312592	477.266	508.085
9)	Nitrobenzene	7.40	7.40	1433457	1407472	418.453m	432.056m
10)	Nitroglycerin	0.00	8.66	0	3255239	N.D. d	3056.117m
11)	Tetryl	8.83	8.78	1272926	2017157	410.147	390.390m
12)	2,4,6-Trinitroto	9.28	9.28	1424344	1728988	372.196	394.689
13)	2-Amino-4,6-Dini	9.58	9.58	1735732	2596820	462.896	485.204
14)	4-Amino-2,6-Dini	10.04	10.04	1154827	2271787	461.846	488.748
16)	2,4-Dinitrotolue	11.09	11.09	2214185	1295122	427.678	413.019
17)	2,6-Dinitrotolue	11.56	11.57	1389134	1665751	449.736	453.383
18)	o-Nitrotoluene	14.81	14.81	953801	1278498	409.614	416.623m
19)	p-Nitrotoluene	15.35	15.36	1509818	1255875	428.188	471.099
20)	m-Nitrotoluene	16.32	16.32	1404157	1542443	389.811	391.056m
21)	PETN	0.00	18.31	0	3962979	N.D. d	2806.746m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056480.D 8330B_0629PLUS.M Wed Jul 19 11:33:47 2017 Page 1

9.3.1
9

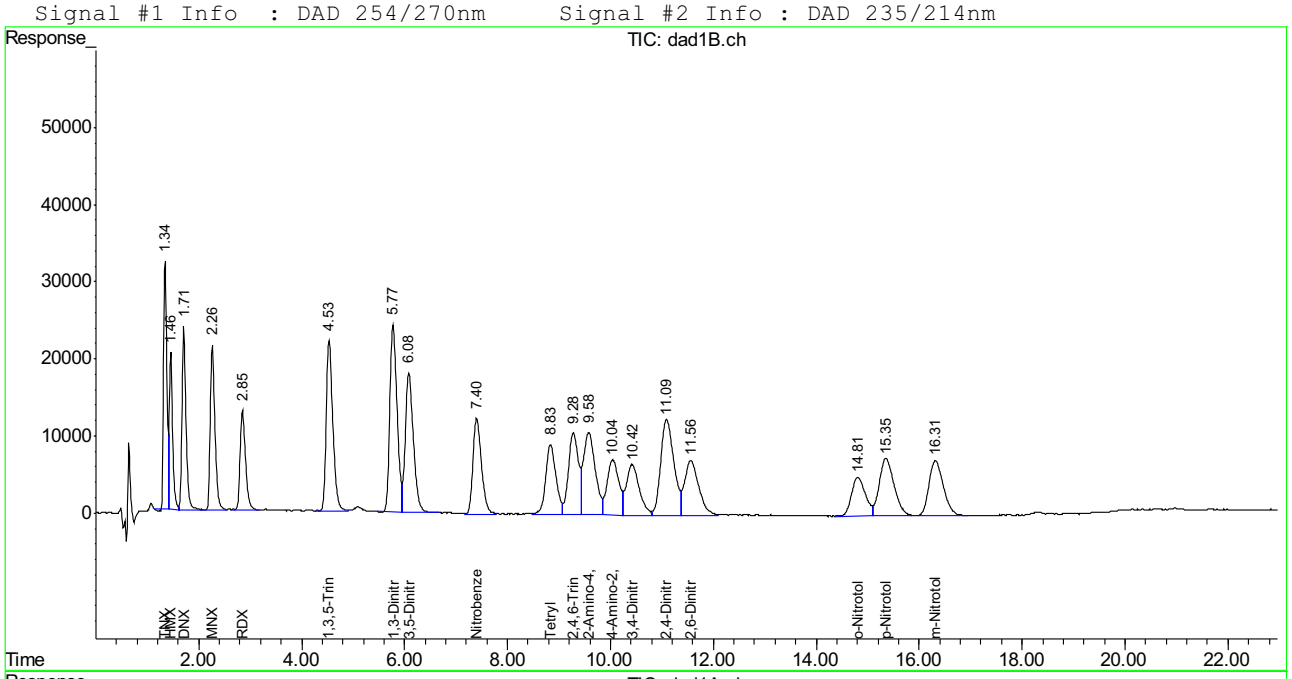
SGS ACCUTEST FA45759

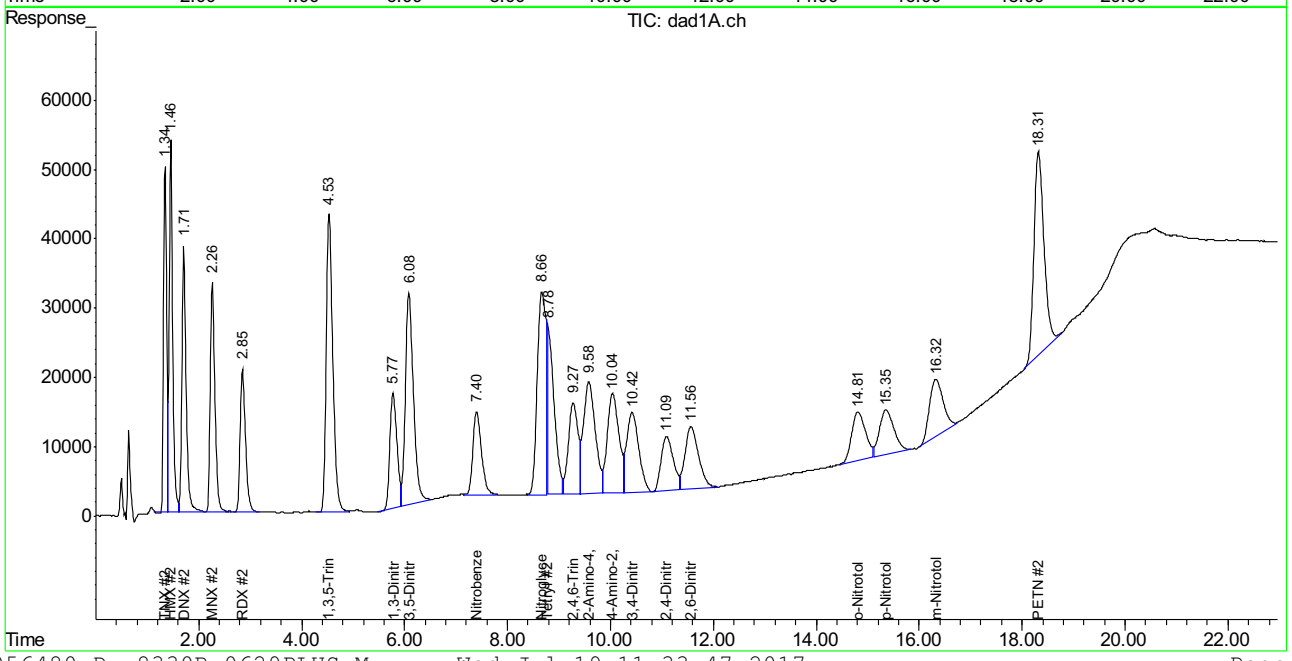
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65961,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 11:33 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

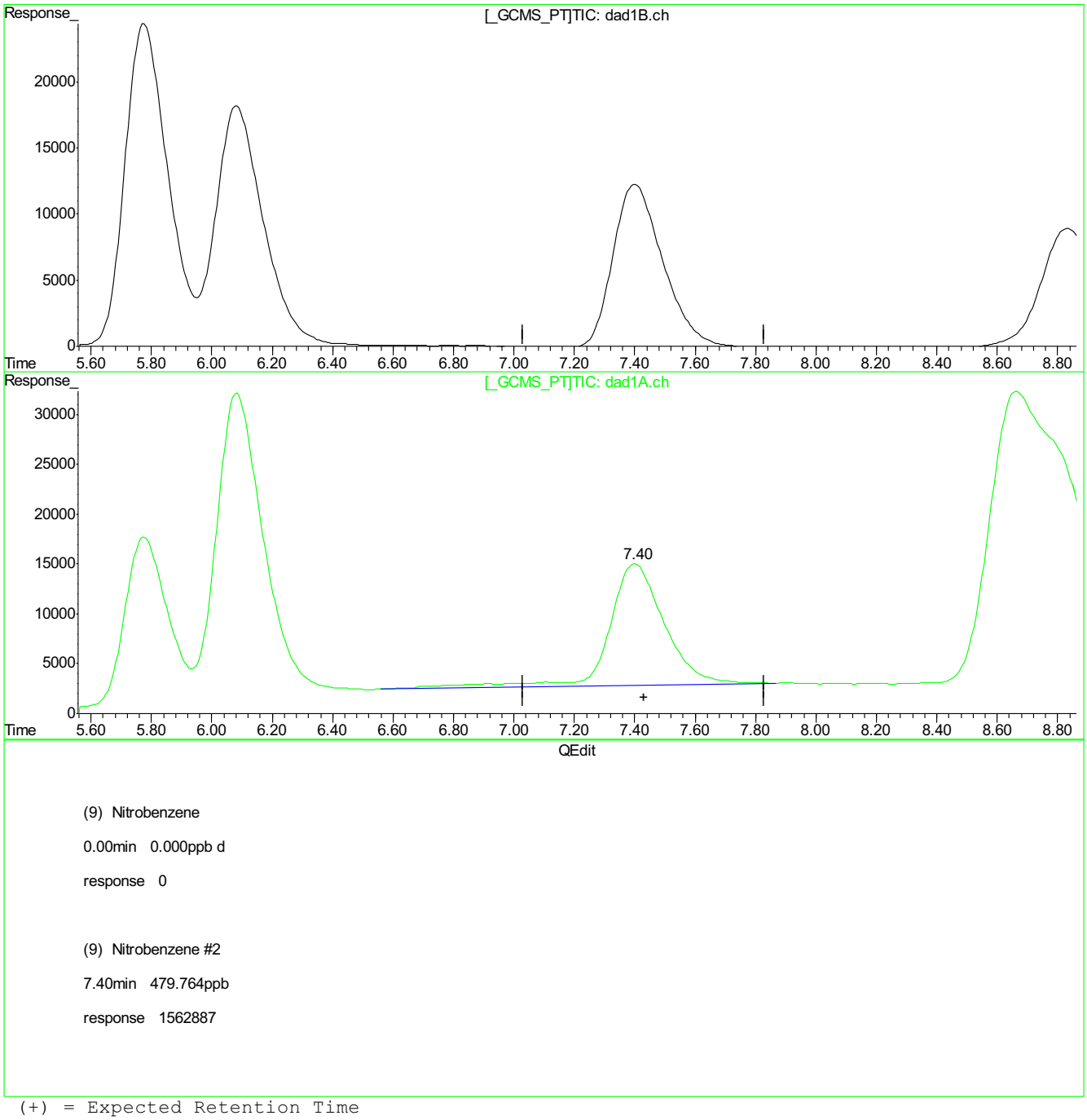
Sample Number: OP65961-BS
Lab FileID: BB056480.D
Injection Time: 07/19/17 03:03
Method: SW846 8330B
Analyst approved: 07/19/17 11:34 Evita Martinez
Supervisor approved: 07/19/17 21:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitrobenzene	98-95-3	1	7.40	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.40	Poorly defined baseline
Nitroglycerine	55-63-0	2	8.66	Poorly defined baseline
Tetryl	479-45-8	2	8.78	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.81	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.32	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

0.00min 0.000ppb d

response 0

(9) Nitrobenzene #2

7.40min 479.764ppb

response 1562887

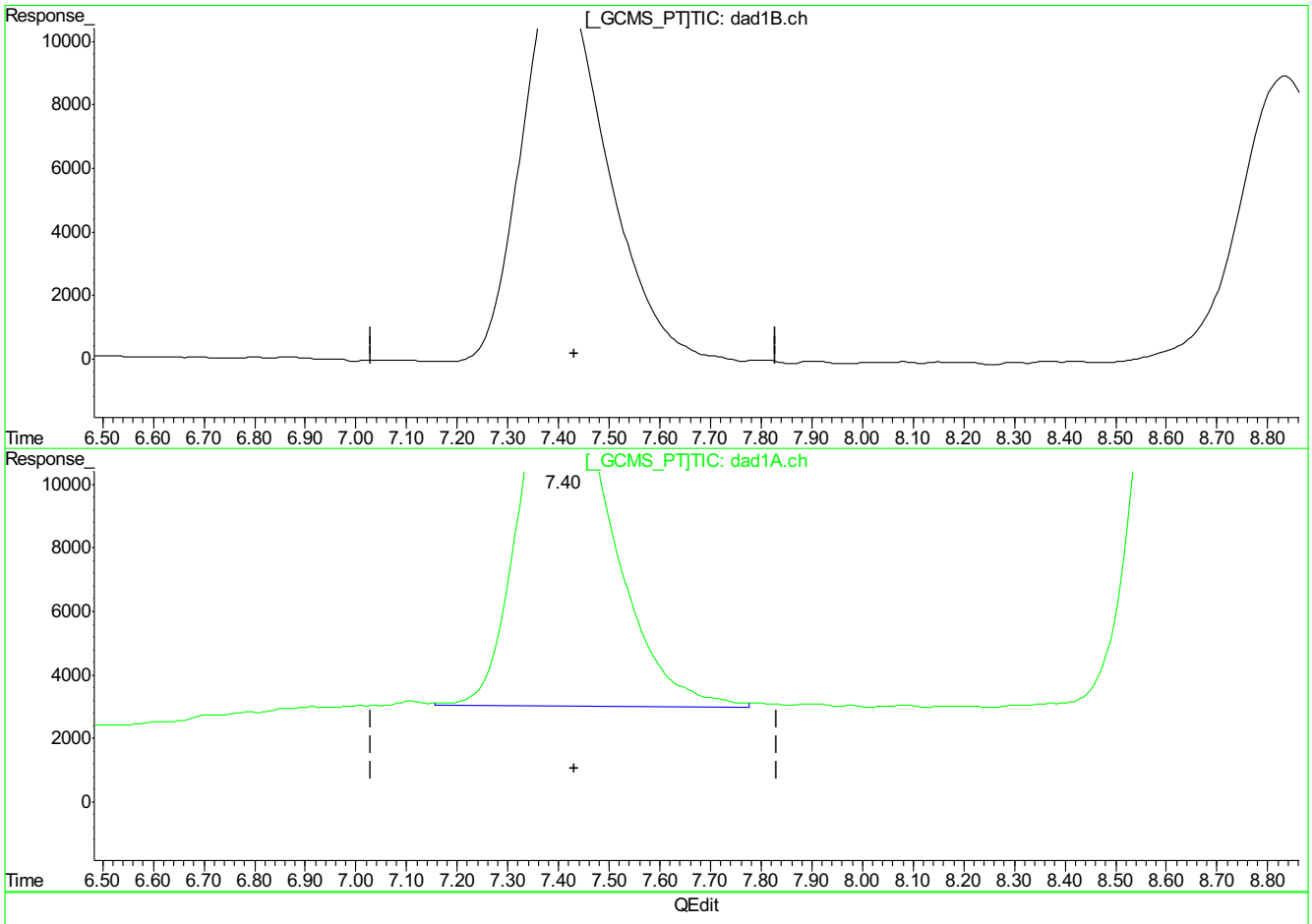
(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:16:46 2017

9.3.1.2
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

0.00min 0.000ppb d

response 0

(9) Nitrobenzene #2

7.40min 432.056ppb m

response 1407472

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:16:53 2017

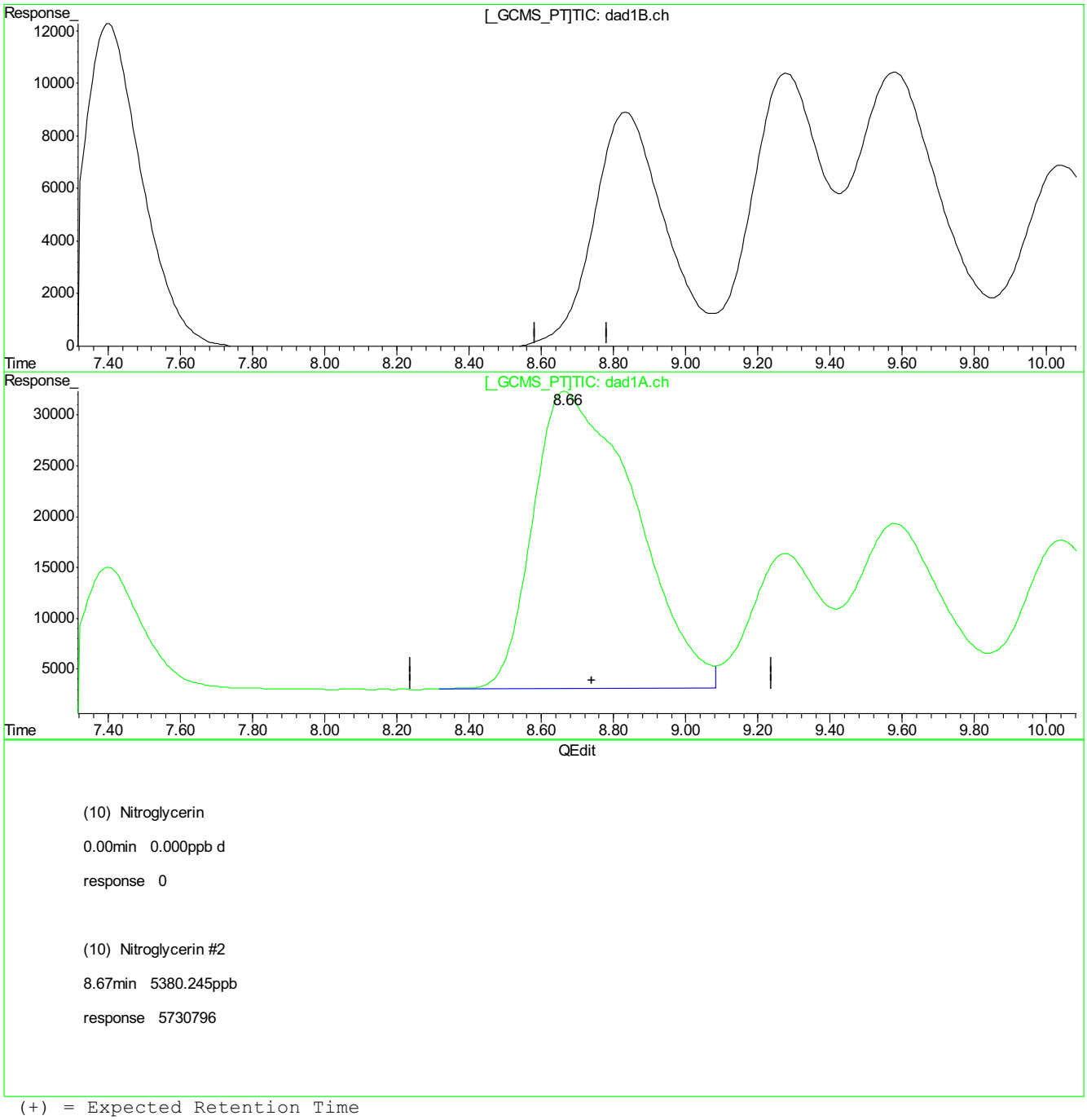
9.3.1.3

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.67min 5380.245ppb

response 5730796

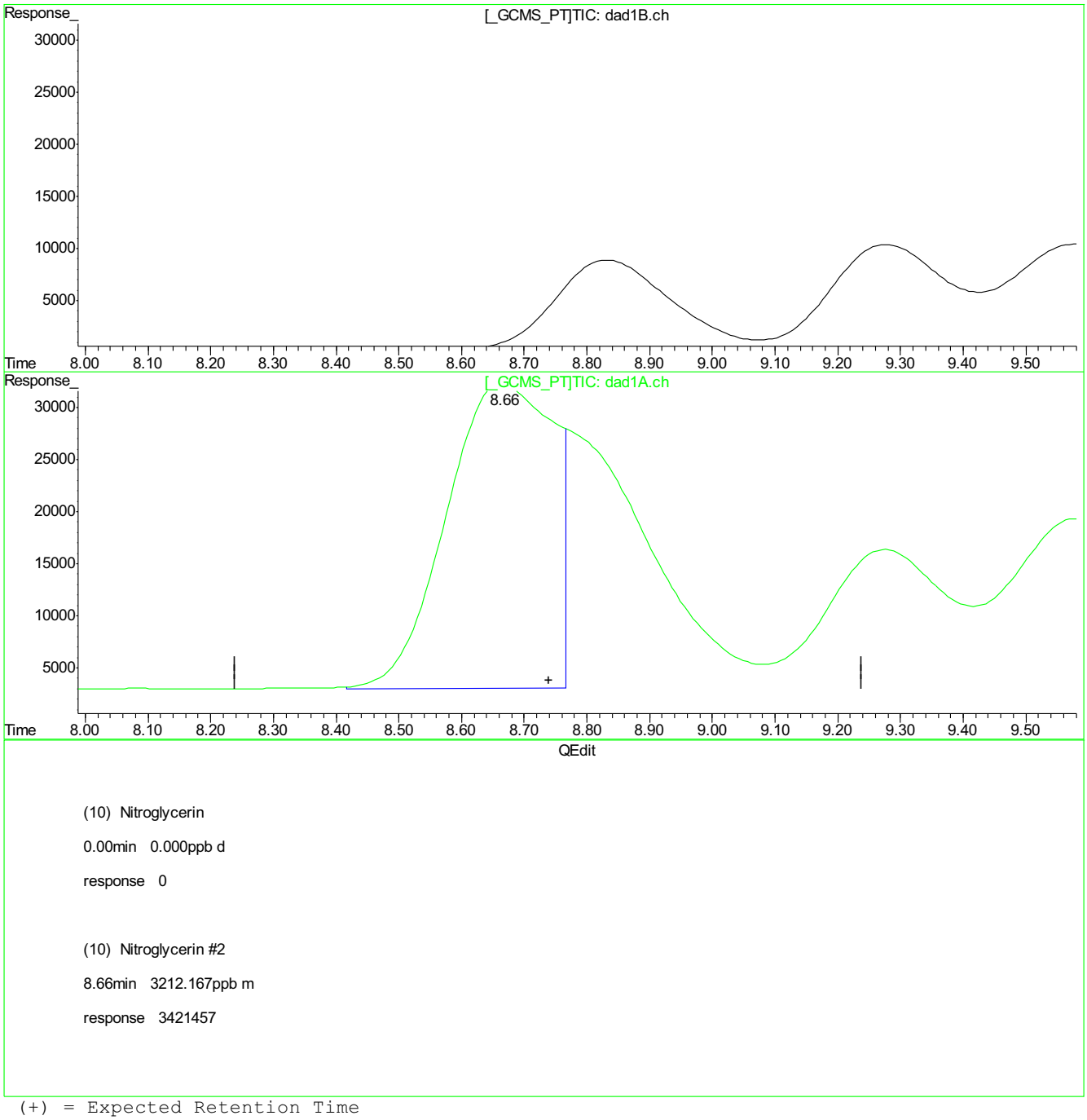
(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:03 2017

9.3.1.4
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.66min 3212.167ppb m

response 3421457

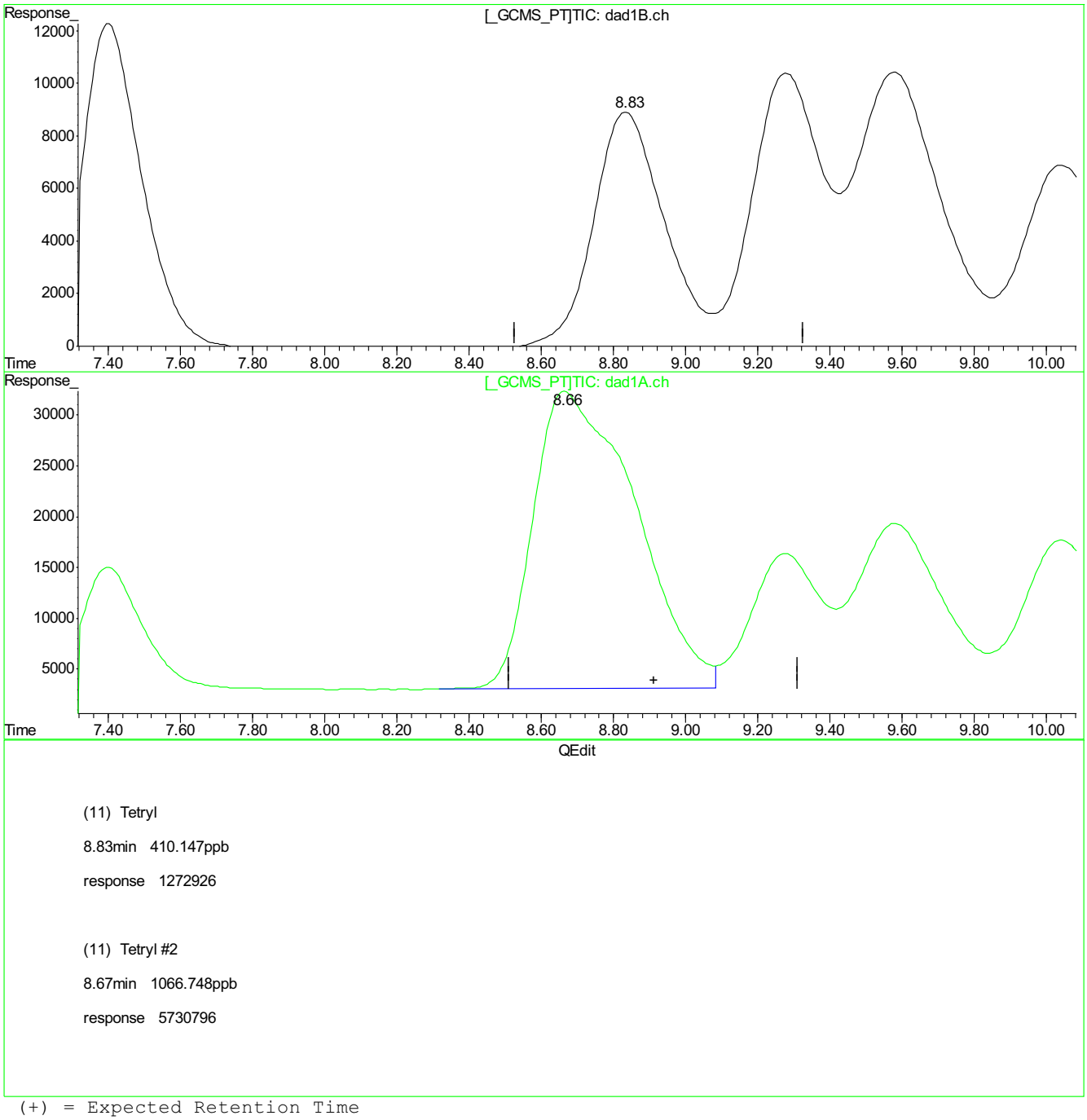
(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:09 2017

9.3.1.5
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.83min 410.147ppb

response 1272926

(11) Tetryl #2

8.67min 1066.748ppb

response 5730796

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:11 2017

9.3.1.6

9

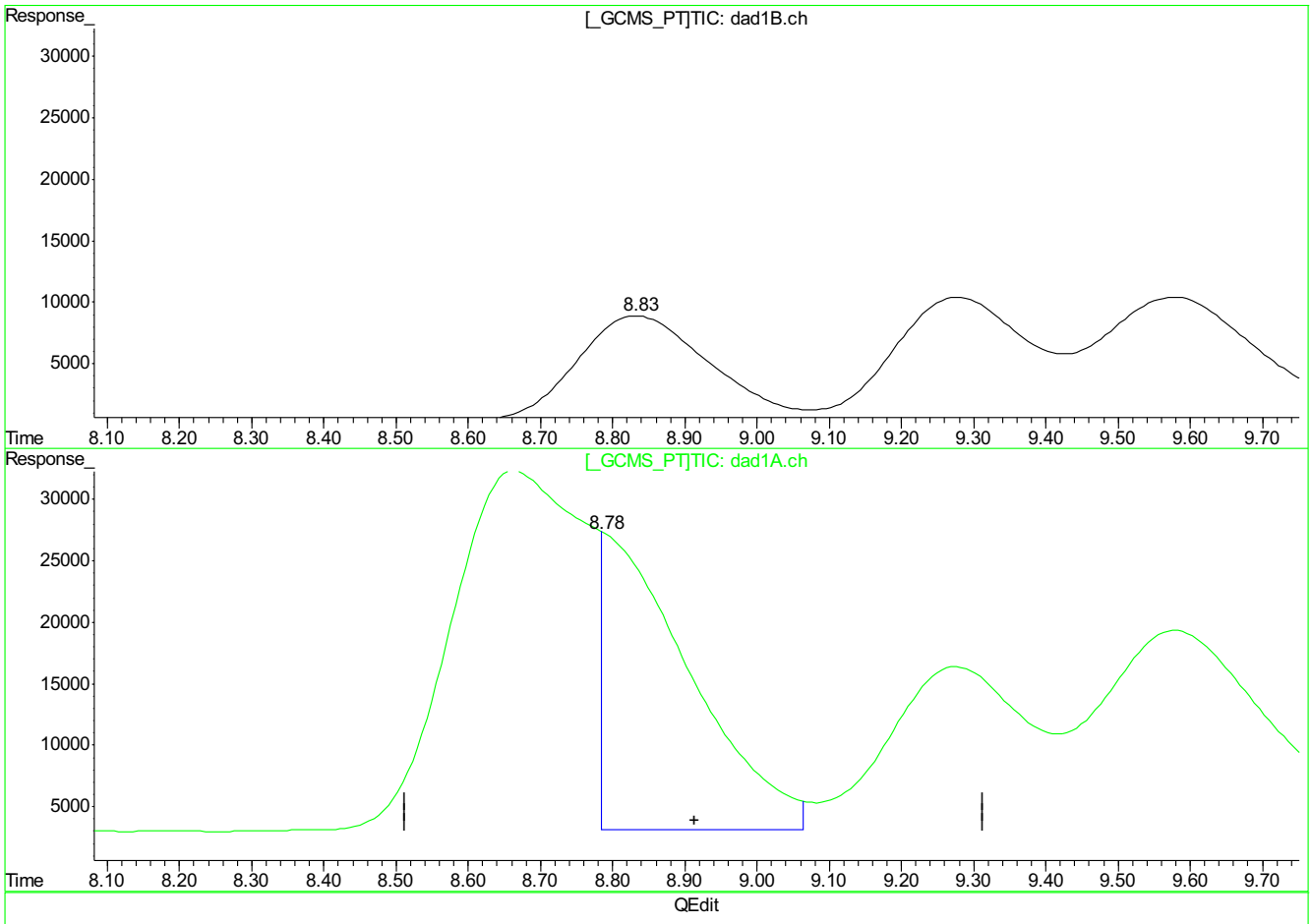
BB056480.D edits: Tetryl

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.83min 410.147ppb

response 1272926

(11) Tetryl #2

8.78min 390.390ppb m

response 2017157

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:23 2017

9.3.1.7

9

BB056480.D edits: Tetryl

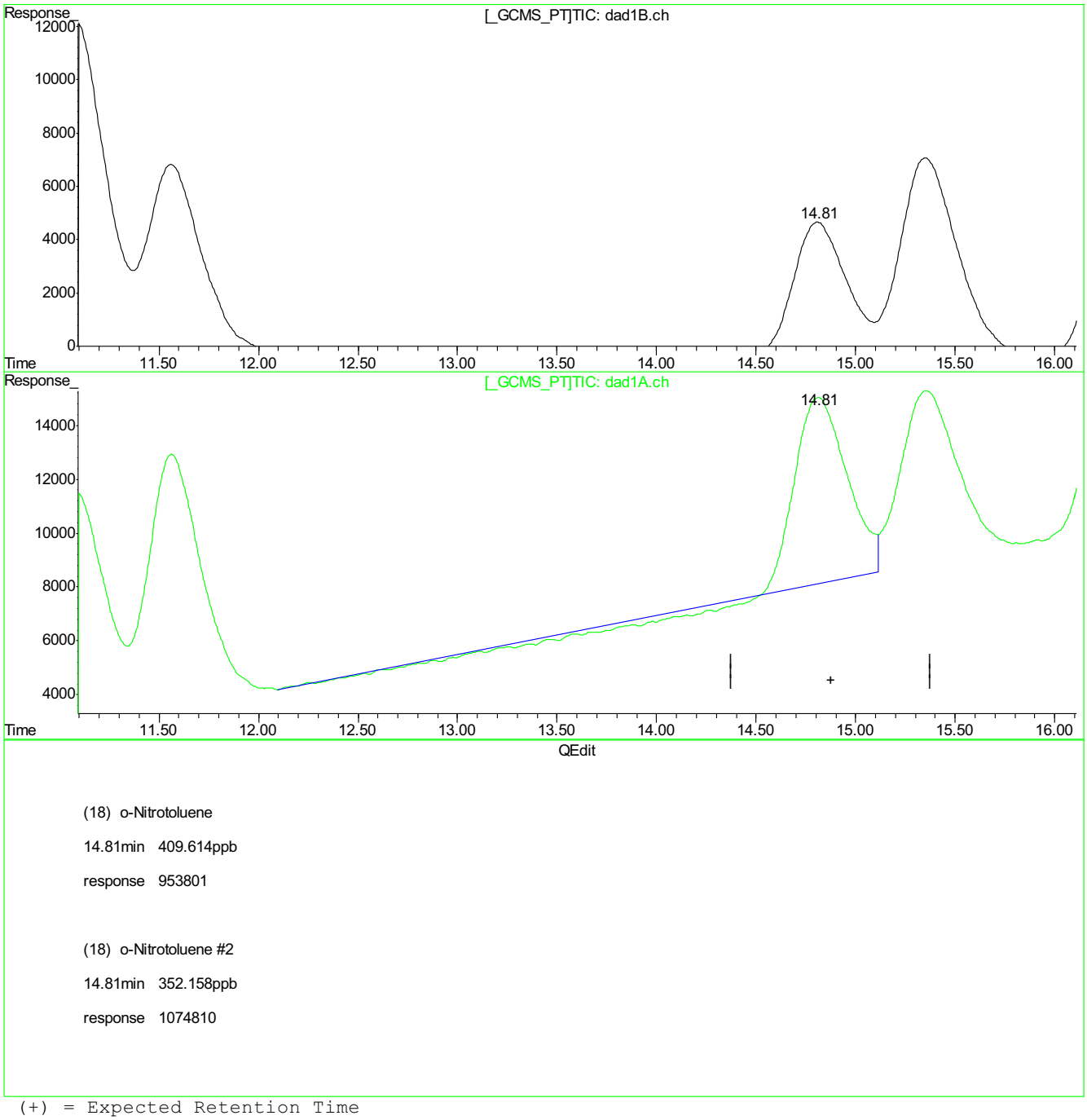
SGS ACCUTEST FA45759

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 409.614ppb

response 953801

(18) o-Nitrotoluene #2

14.81min 352.158ppb

response 1074810

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:46 2017

9.3.1.8

9

BB056480.D edits: o-Nitrotoluene

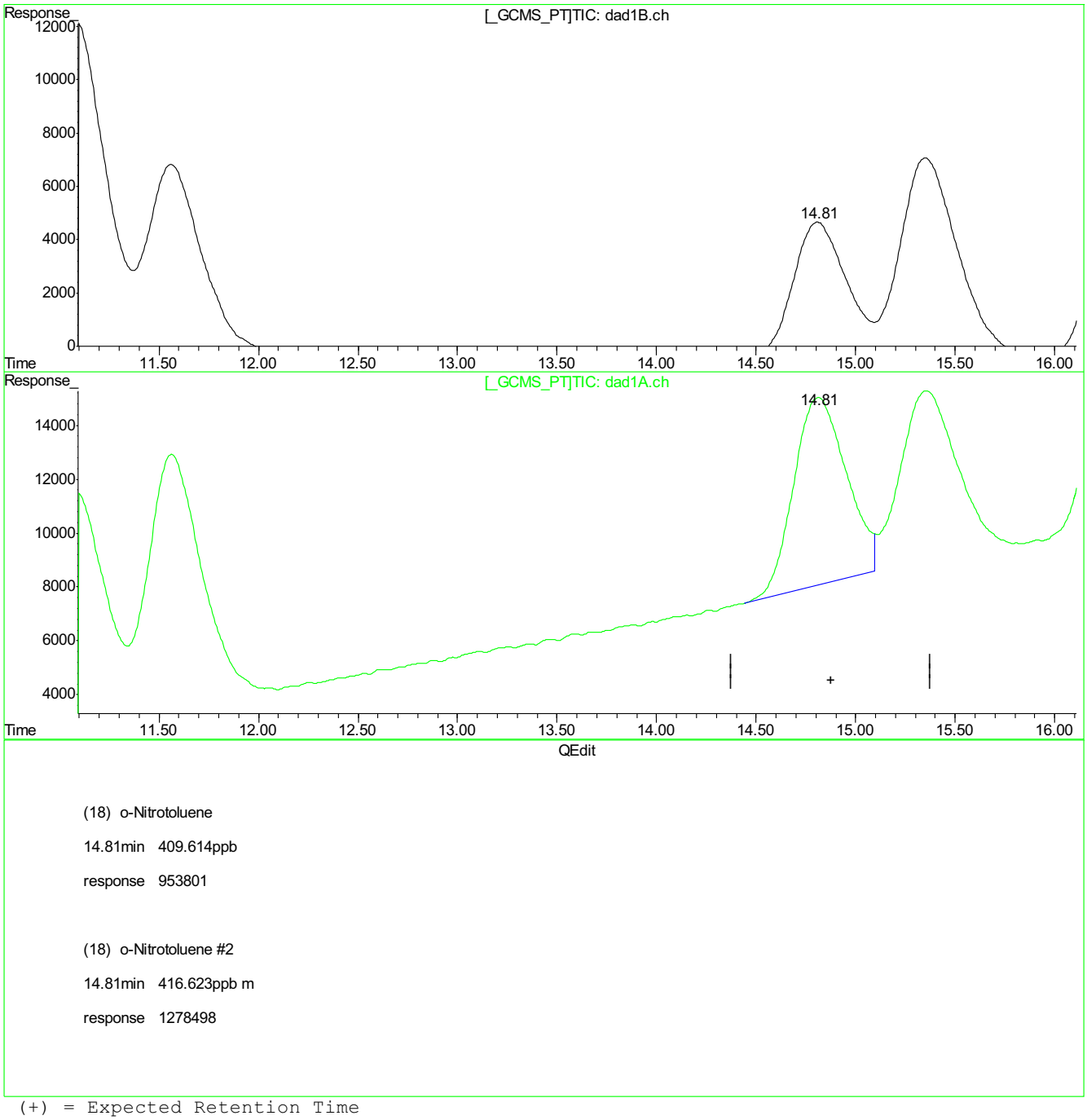
SGS ACCUTEST FA45759

QC Report: BB056480.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 409.614ppb

response 953801

(18) o-Nitrotoluene #2

14.81min 416.623ppb m

response 1278498

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:49 2017

9.3.1.9

9

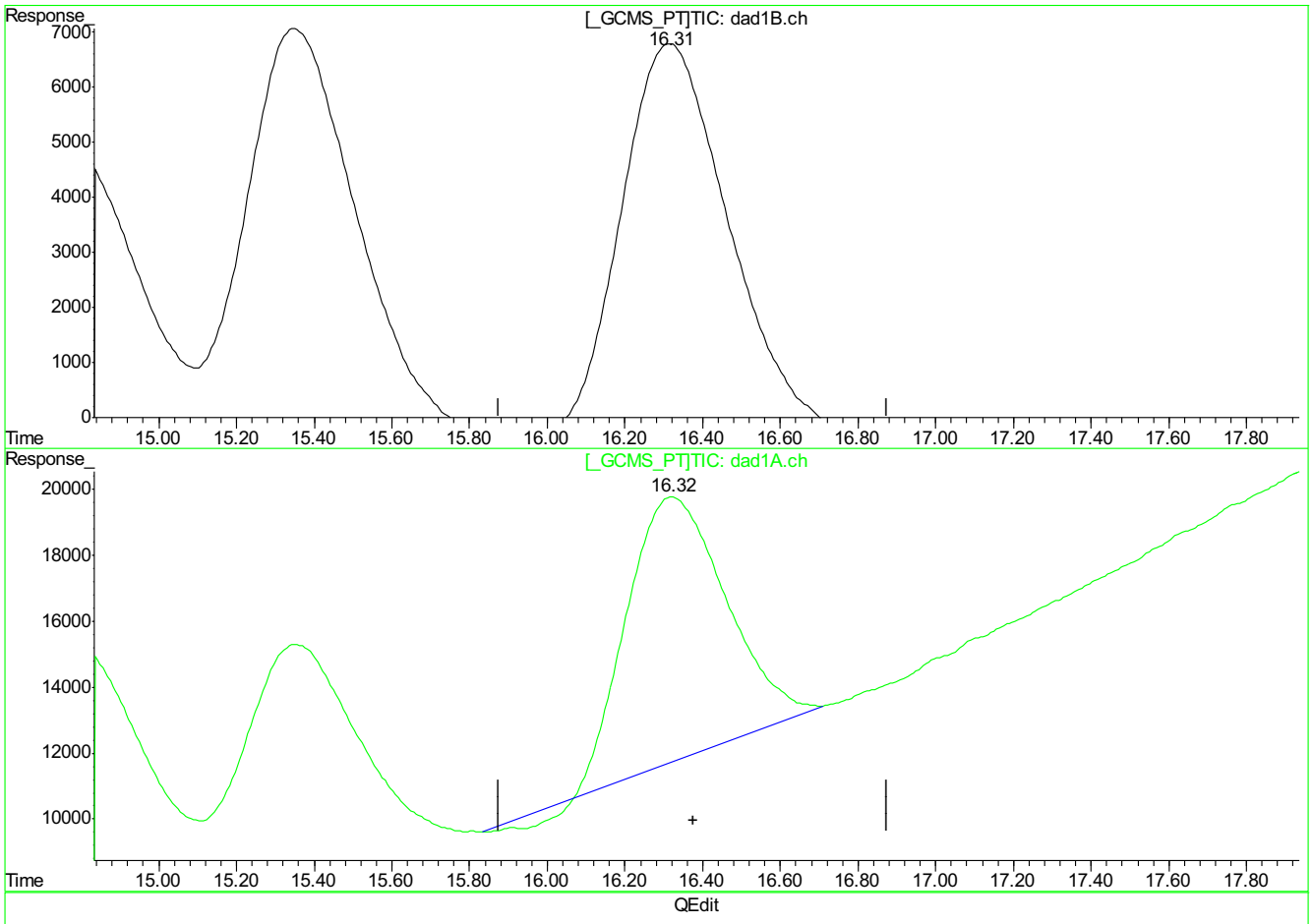
BB056480.D edits: o-Nitrotoluene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.32min 389.811ppb

response 1404157

(20) m-Nitrotoluene #2

16.32min 353.243ppb

response 1389239

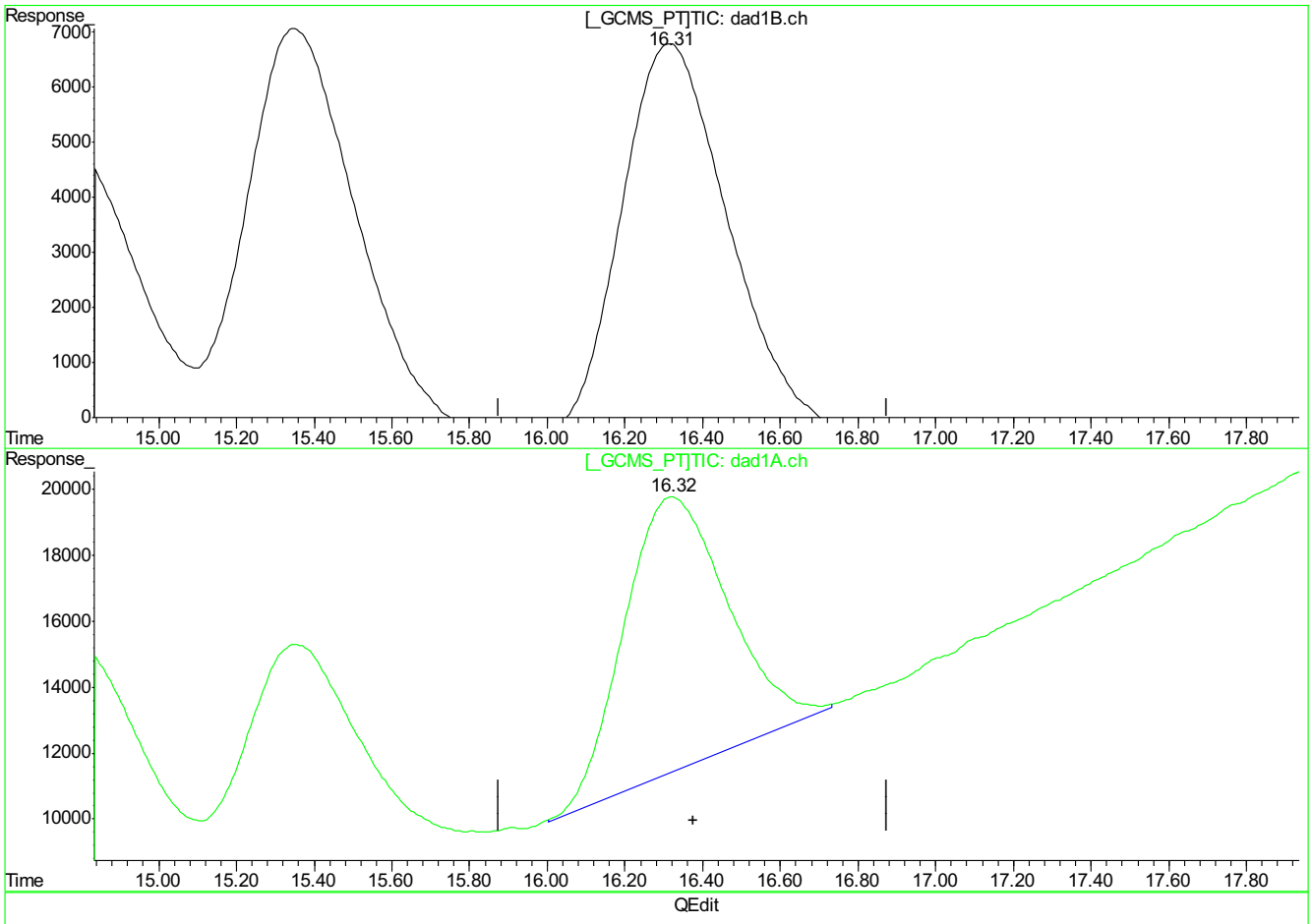
(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:52 2017

9.3.1.10
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.32min 389.811ppb

response 1404157

(20) m-Nitrotoluene #2

16.32min 391.056ppb m

response 1542443

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:55 2017

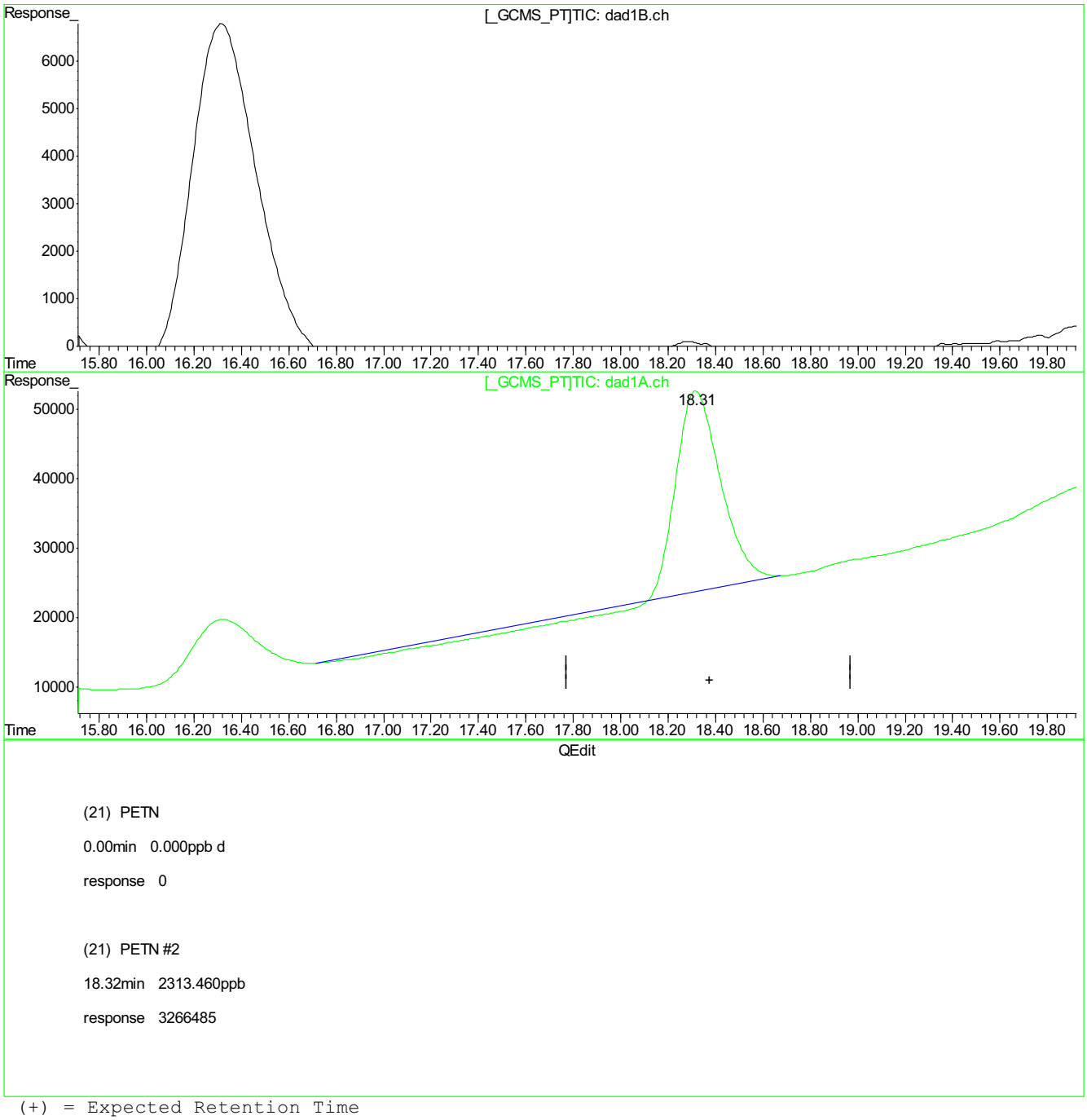
9.3.1.11

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.32min 2313.460ppb

response 3266485

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:17:57 2017

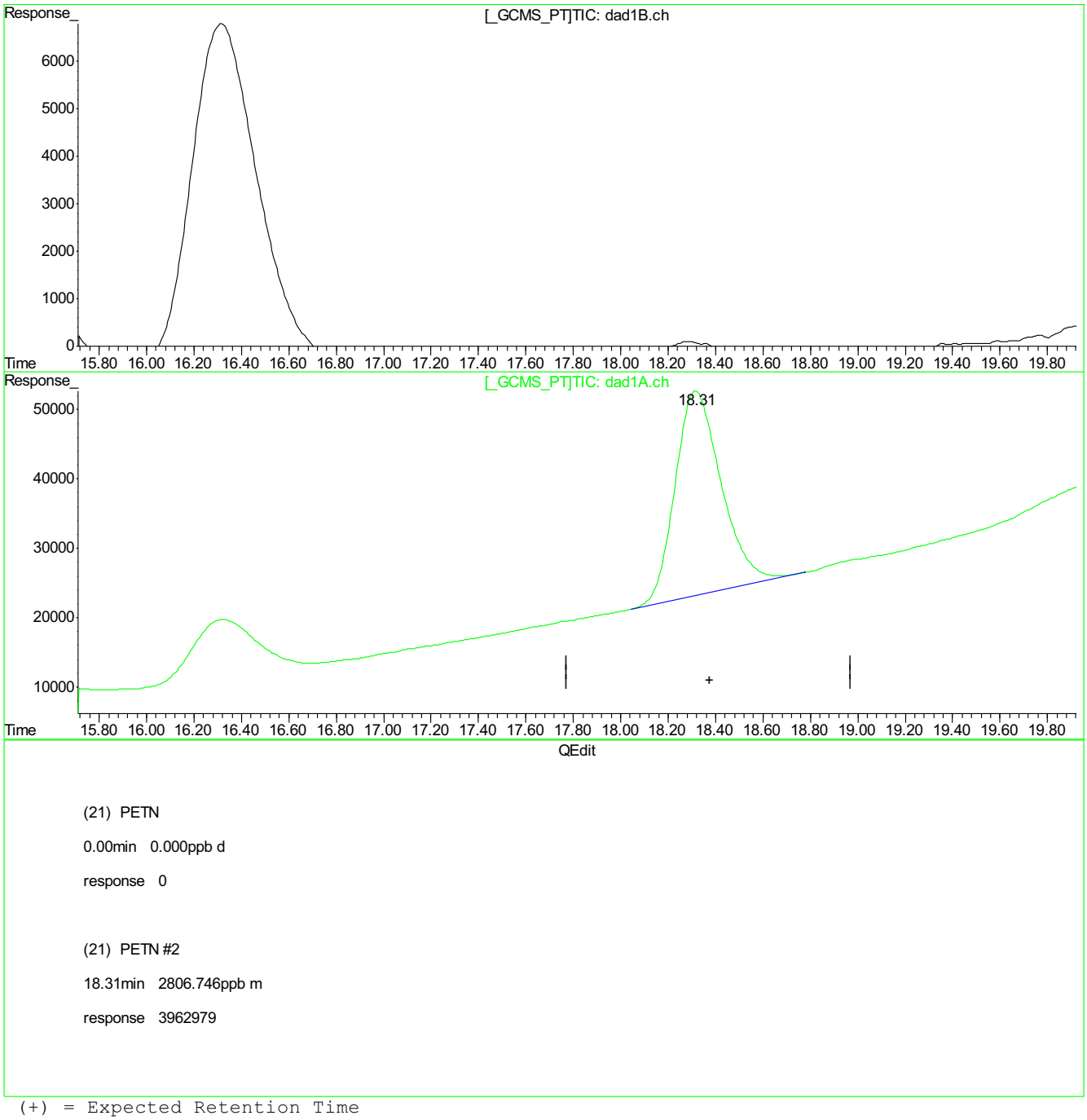
9.3.1.12
9

BB056480.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056480.D\dad1A.ch
Acq On : 19-Jul-2017, 03:03:46 Operator: evitam
Sample : op65961-bs Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:16 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 2806.746ppb m

response 3962979

(+) = Expected Retention Time
BB056480.D 8330B_0629PLUS.M Wed Jul 19 10:18:00 2017

9.3.1.13

9

BB056480.D edits: PETN

QC Report: BB056487.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:35 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.39	10.39	1153691	1936385	448.065	499.349
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.61%	99.87%
	Target Compounds						
1)	TNX	1.35	1.35	1176227	1986445	378.927	414.556
2)	HMX	1.46	1.46	2725554	6884480	1574.972	1484.265
3)	DNX	1.70	1.70	2696392	3826696	928.661	871.158
4)	MNX	2.27	2.27	1677832	2648448	749.932	785.409
5)	RDX	2.84	2.84	1501005	2163431	737.543	678.958
6)	1,3,5-Trinitrobe	4.52	4.52	4704226	9179141	1105.111	1129.479
7)	1,3-Dinitrobenze	5.77	5.77	2374731	1661886	424.718	458.527
8)	3,5-Dinitroanili	6.07	6.08	1971762	3278017	477.175	502.782
9)	Nitrobenzene	7.40	7.39	1342028	1256971	391.763	385.856
10)	Nitroglycerin	0.00	8.64	0	3234148	N.D. d	3036.317m
11)	Tetryl	8.82	8.77	1142824	1728761	368.227	335.654m
12)	2,4,6-Trinitroto	9.26	9.26	3001673	3626495	784.369	808.245
13)	2-Amino-4,6-Dini	9.55	9.56	2539861	3837640	677.347	710.071
14)	4-Amino-2,6-Dini	10.02	10.02	1501062	3004314	600.314	646.343
16)	2,4-Dinitrotolue	11.07	11.07	2072838	1143257	400.377	364.589
17)	2,6-Dinitrotolue	11.56	11.62	1865162	2402532	603.852	653.919
18)	o-Nitrotoluene	14.80	14.80	847089	1113631	363.785	364.497m
19)	p-Nitrotoluene	15.34	15.34	1383073	1179519	392.243	443.970
20)	m-Nitrotoluene	16.30	16.31	1261699	1347845	350.263	342.989m
21)	PETN	0.00	18.31	0	3562239	N.D. d	2522.925m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056487.D 8330B_0629PLUS.M Wed Jul 19 11:01:57 2017 Page 1

9.4.1
9

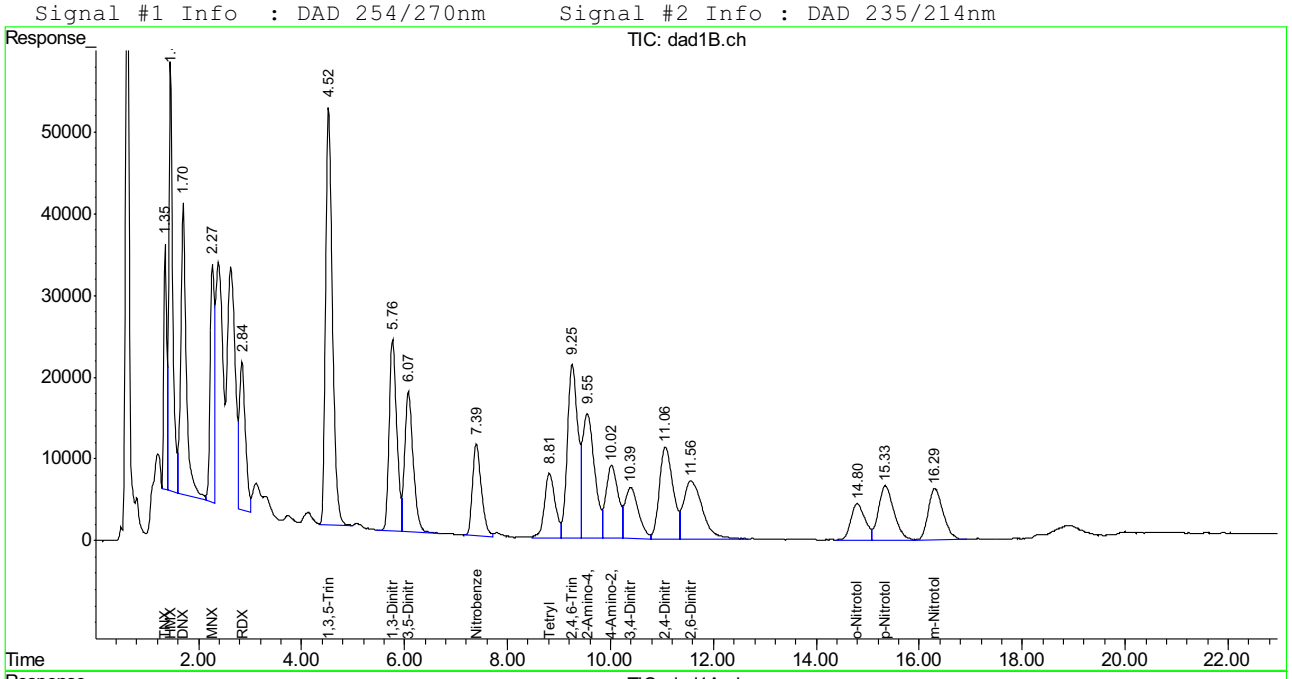
SGS ACCUTEST FA45759

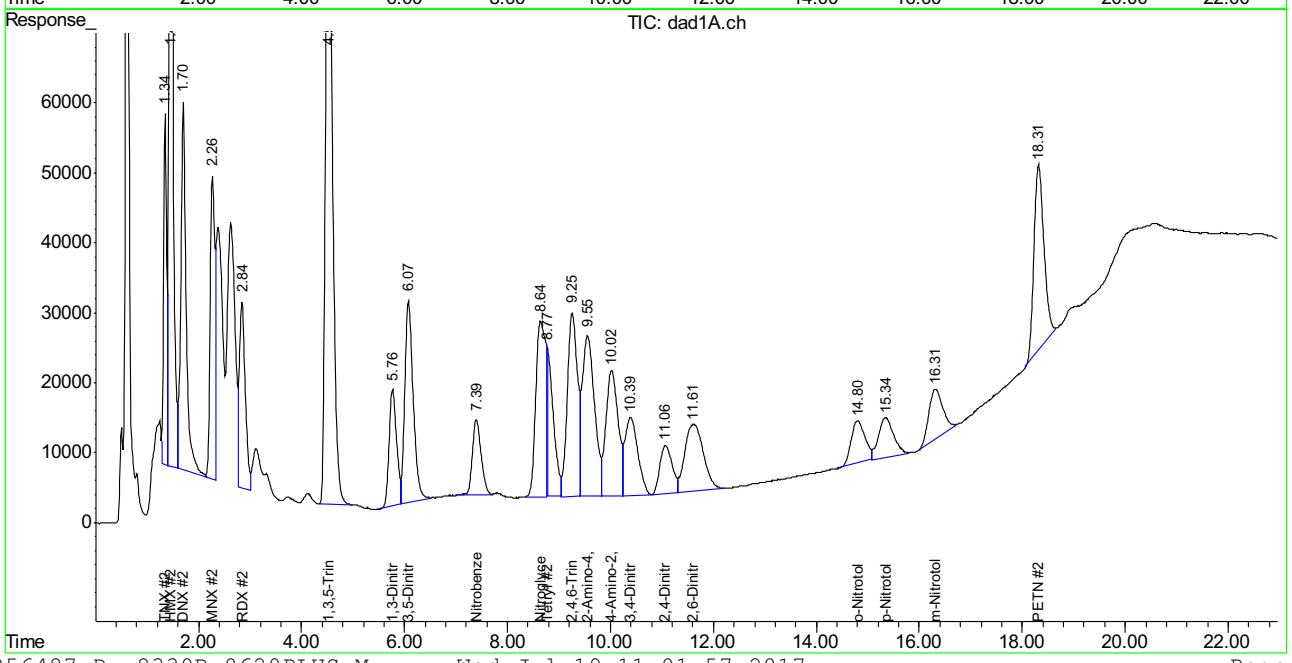
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45759

Manual Integration Approval Summary

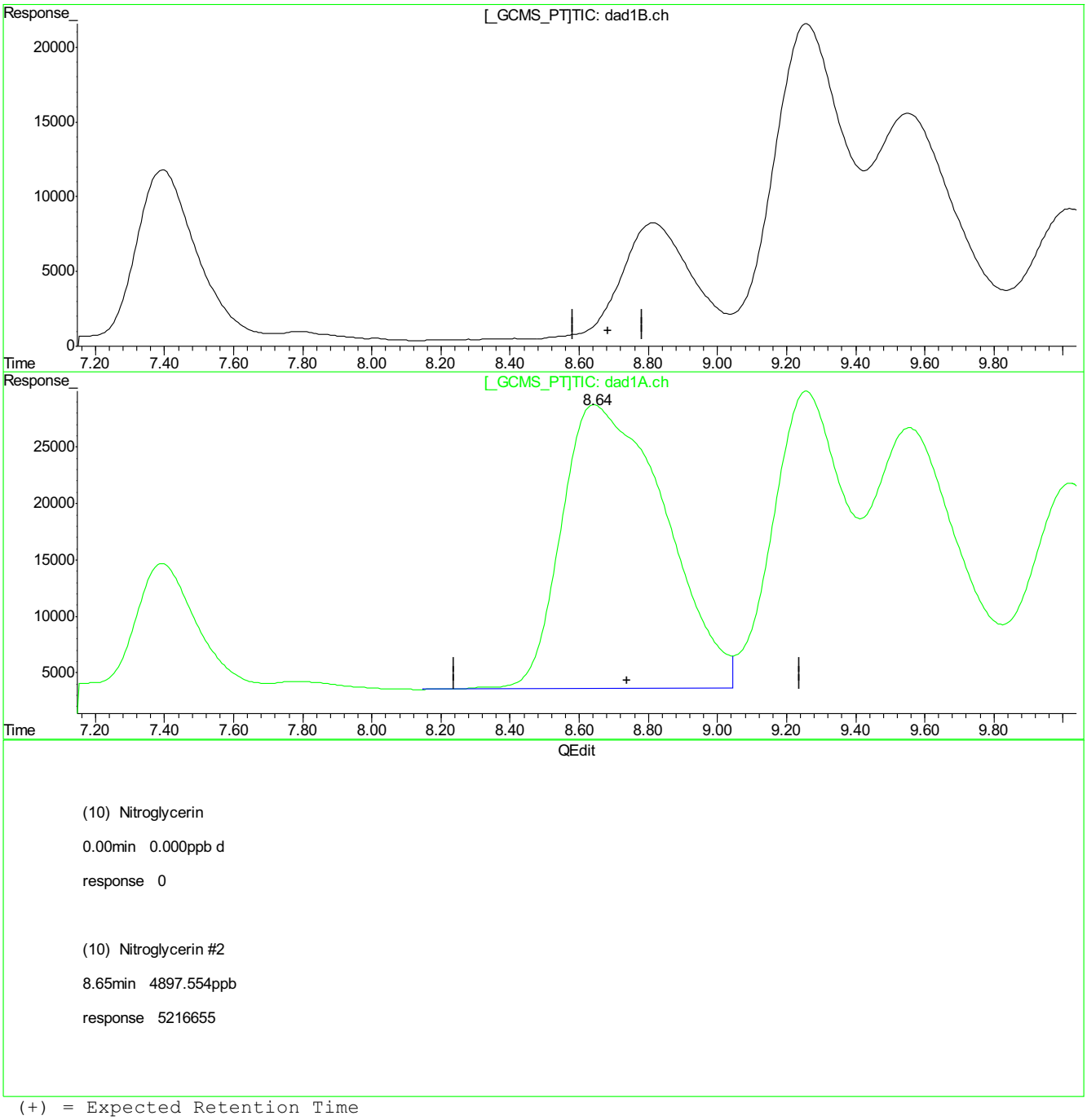
Sample Number: OP65961-MS
Lab FileID: BB056487.D
Injection Time: 07/19/17 06:33
Method: SW846 8330B
Analyst approved: 07/24/17 14:23 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.64	Poorly defined baseline
Tetryl	479-45-8	2	8.77	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.80	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.31	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.65min 4897.554ppb

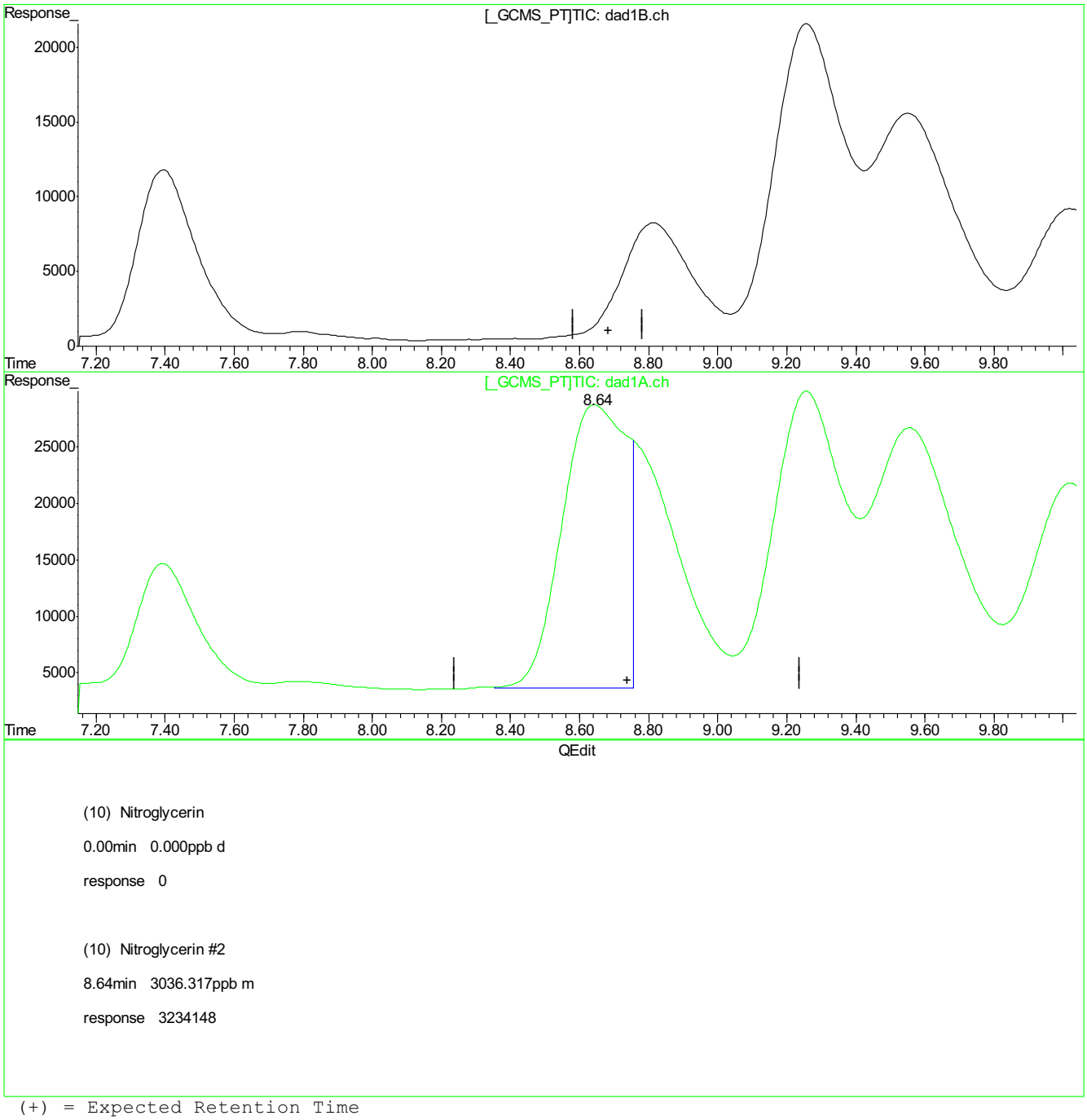
response 5216655

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:16 2017

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.64min 3036.317ppb m

response 3234148

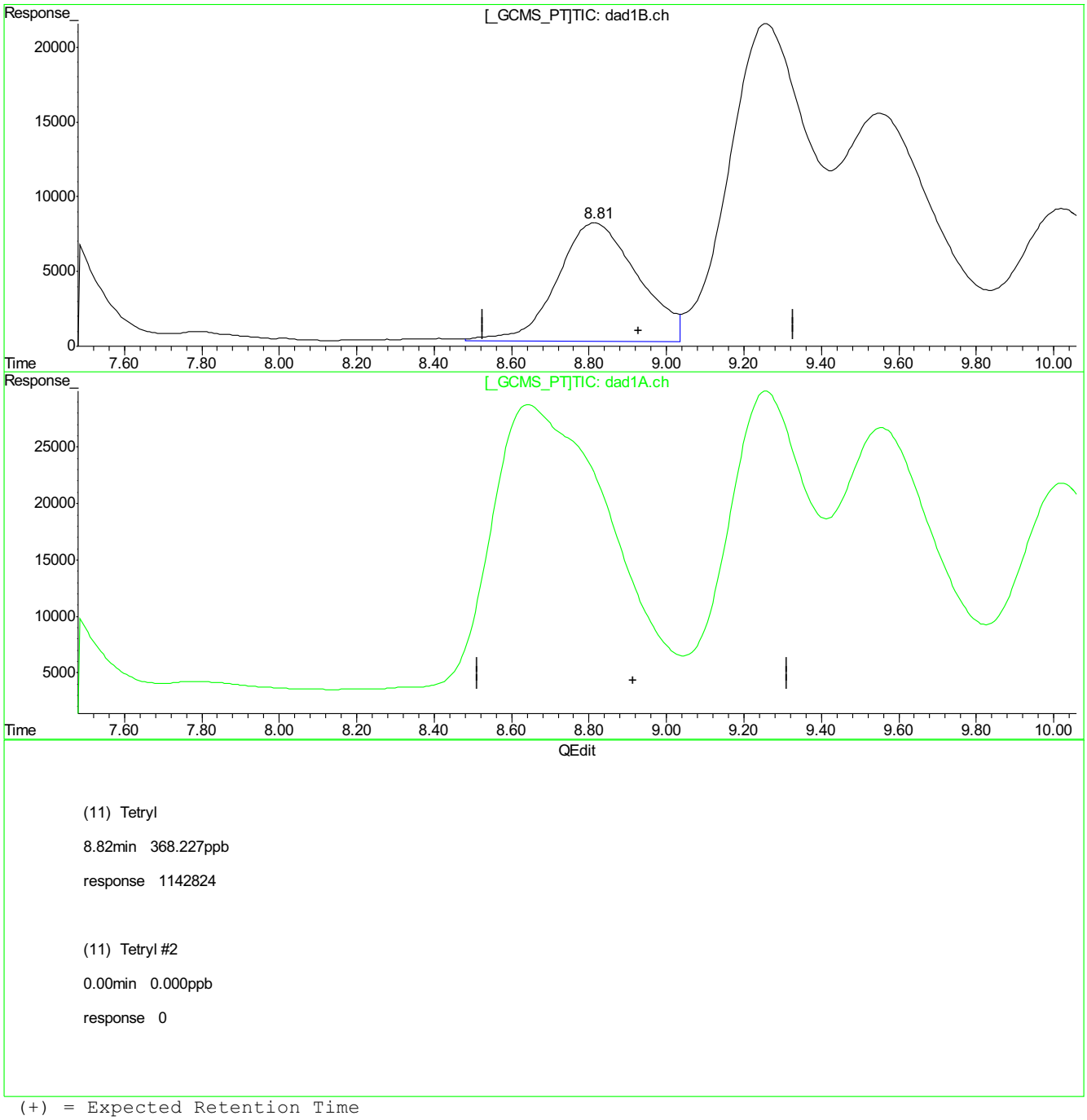
(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:32 2017

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 368.227ppb

response 1142824

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:34 2017

9.4.1.4

9

BB056487.D edits: Tetryl

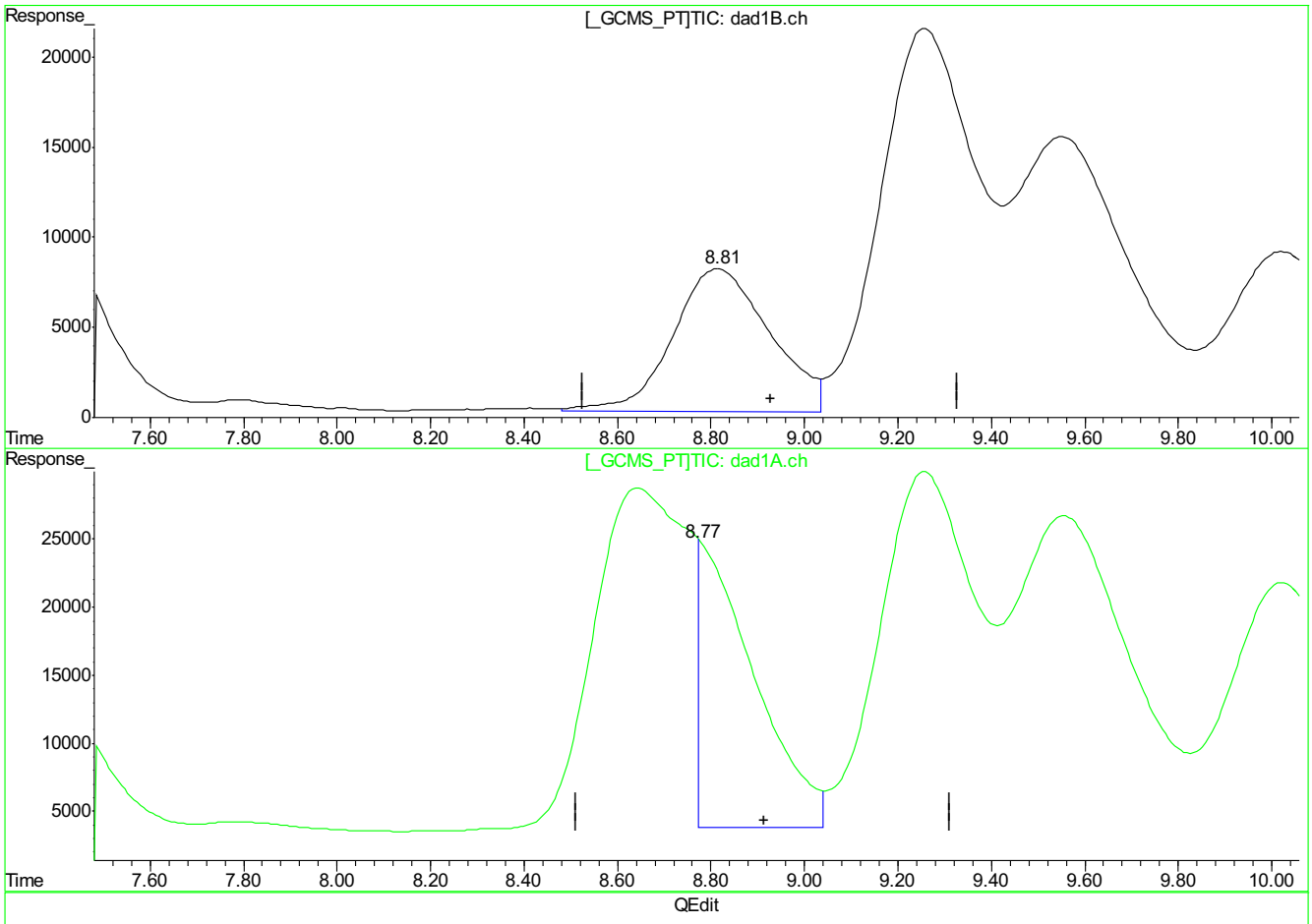
SGS ACCUTEST FA45759

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 368.227ppb

response 1142824

(11) Tetryl #2

8.77min 335.654ppb m

response 1728761

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:32:57 2017

9.4.1.5

9

BB056487.D edits: Tetryl

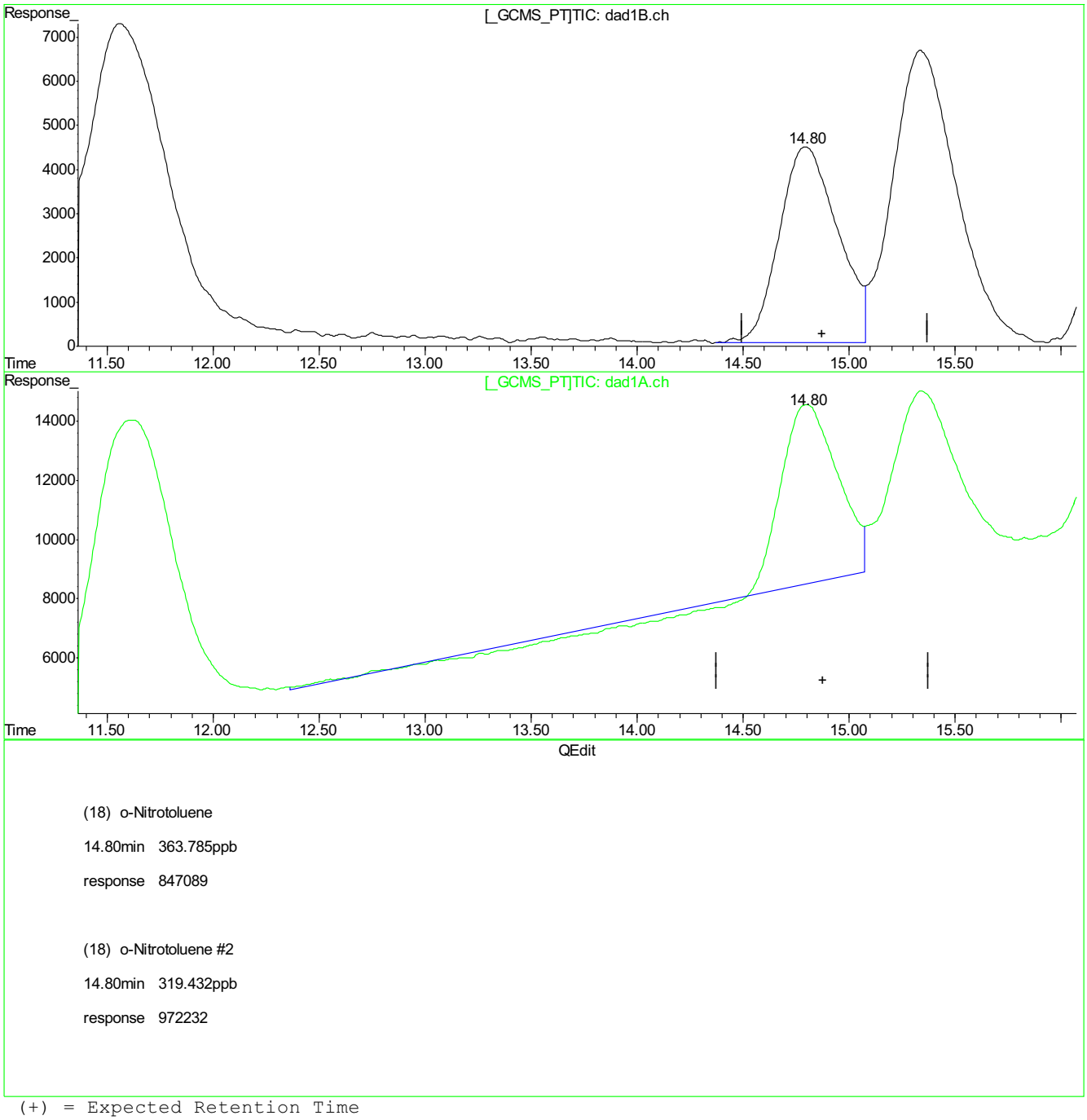
SGS ACCUTEST FA45759

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 363.785ppb

response 847089

(18) o-Nitrotoluene #2

14.80min 319.432ppb

response 972232

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:02 2017

9.4.1.6

9

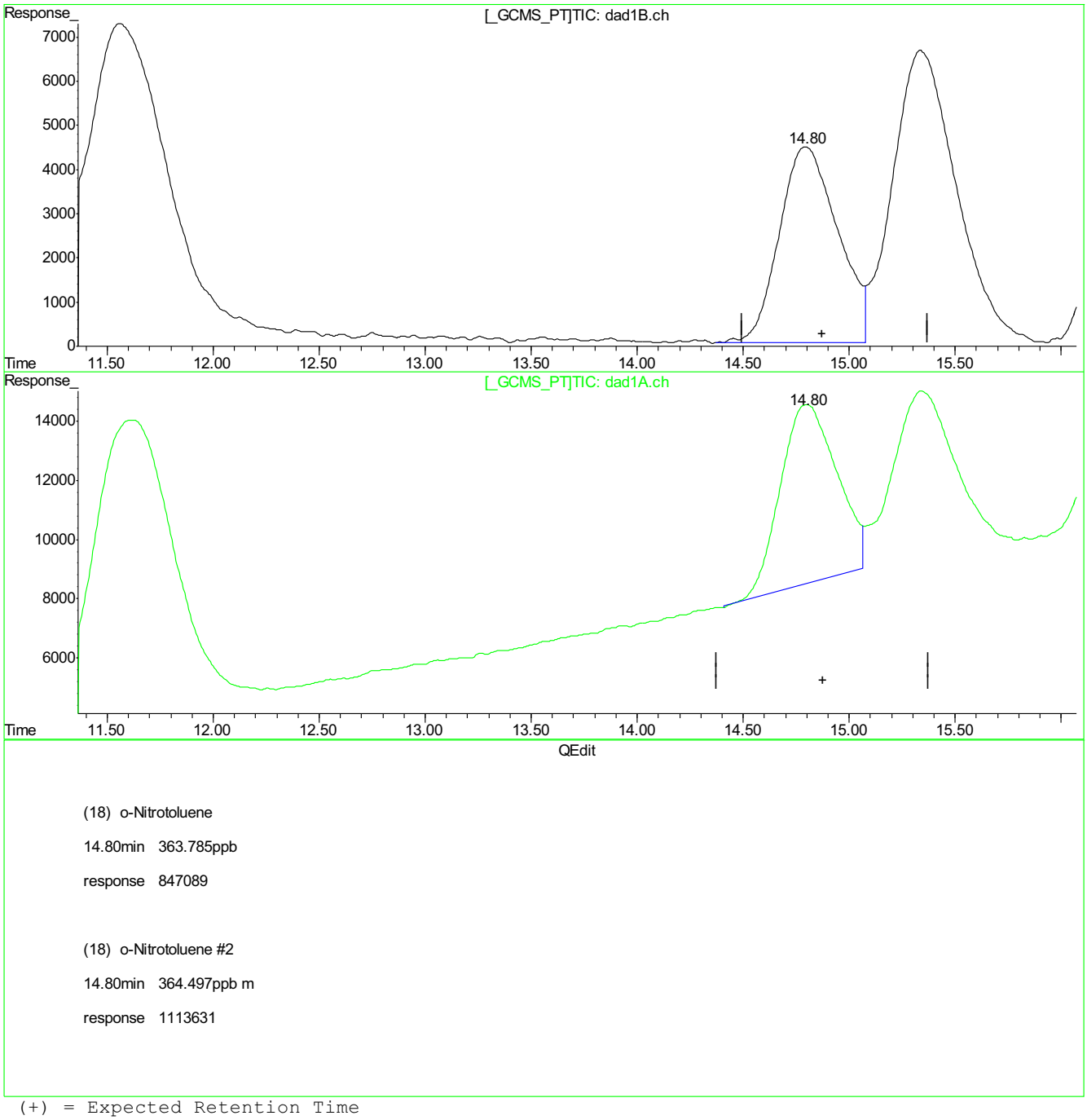
BB056487.D edits: o-Nitrotoluene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 363.785ppb

response 847089

(18) o-Nitrotoluene #2

14.80min 364.497ppb m

response 1113631

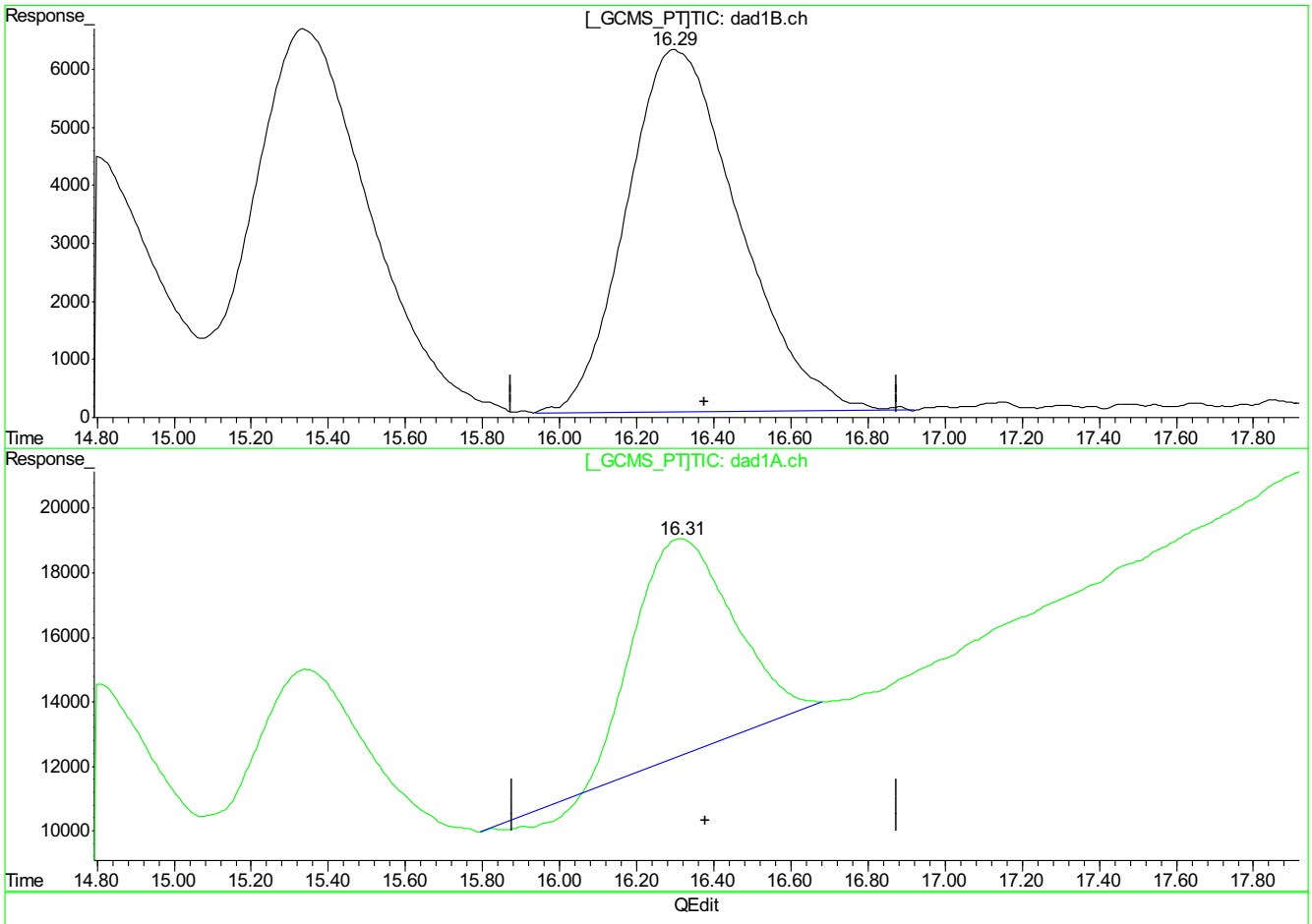
(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:05 2017

9.4.1.7
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.30min 350.263ppb

response 1261699

(20) m-Nitrotoluene #2

16.32min 294.287ppb

response 1152109

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:08 2017

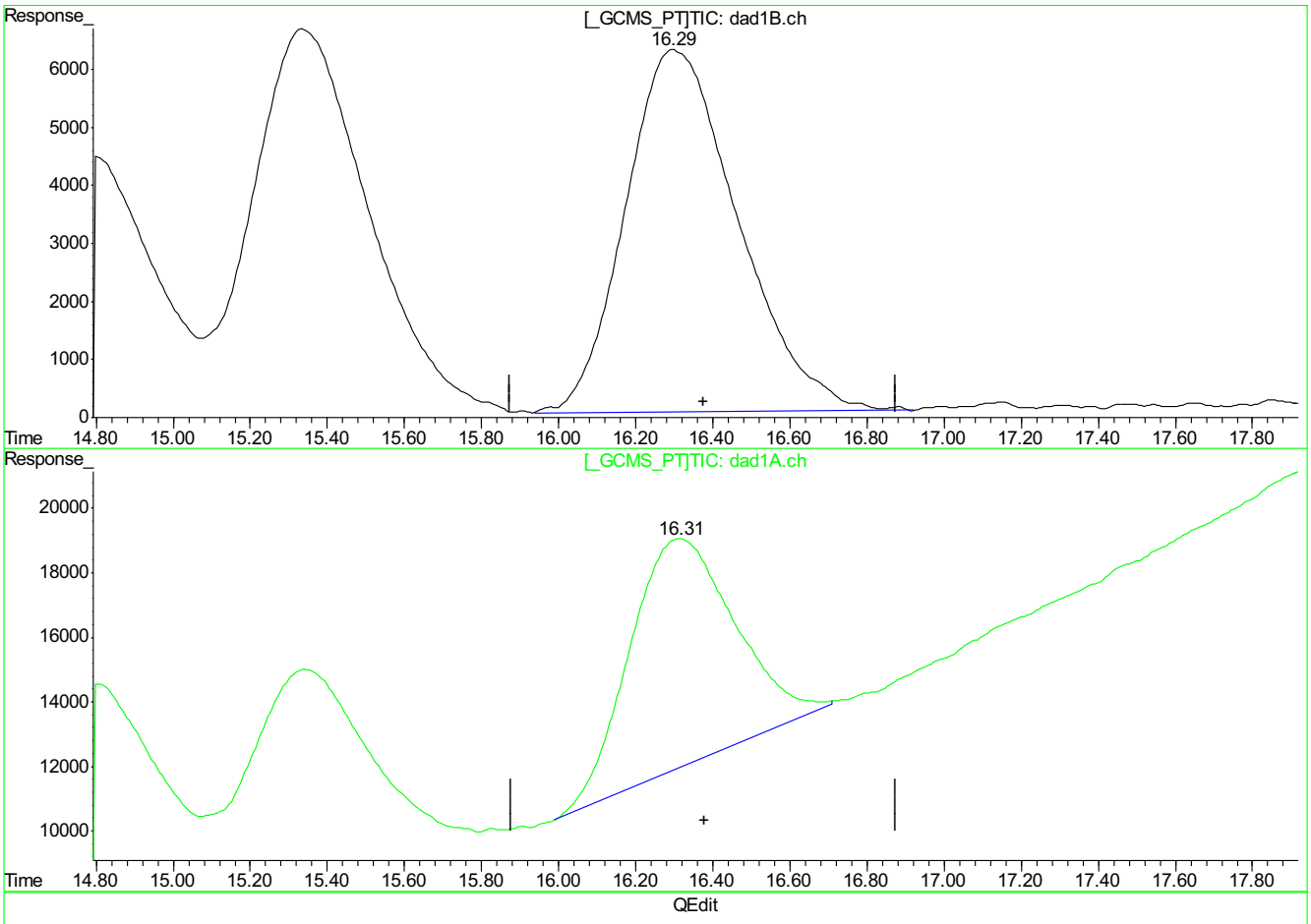
9.4.1.8 9

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.30min 350.263ppb

response 1261699

(20) m-Nitrotoluene #2

16.31min 342.989ppb m

response 1347845

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:11 2017

9.4.1.9

9

BB056487.D edits: m-Nitrotoluene

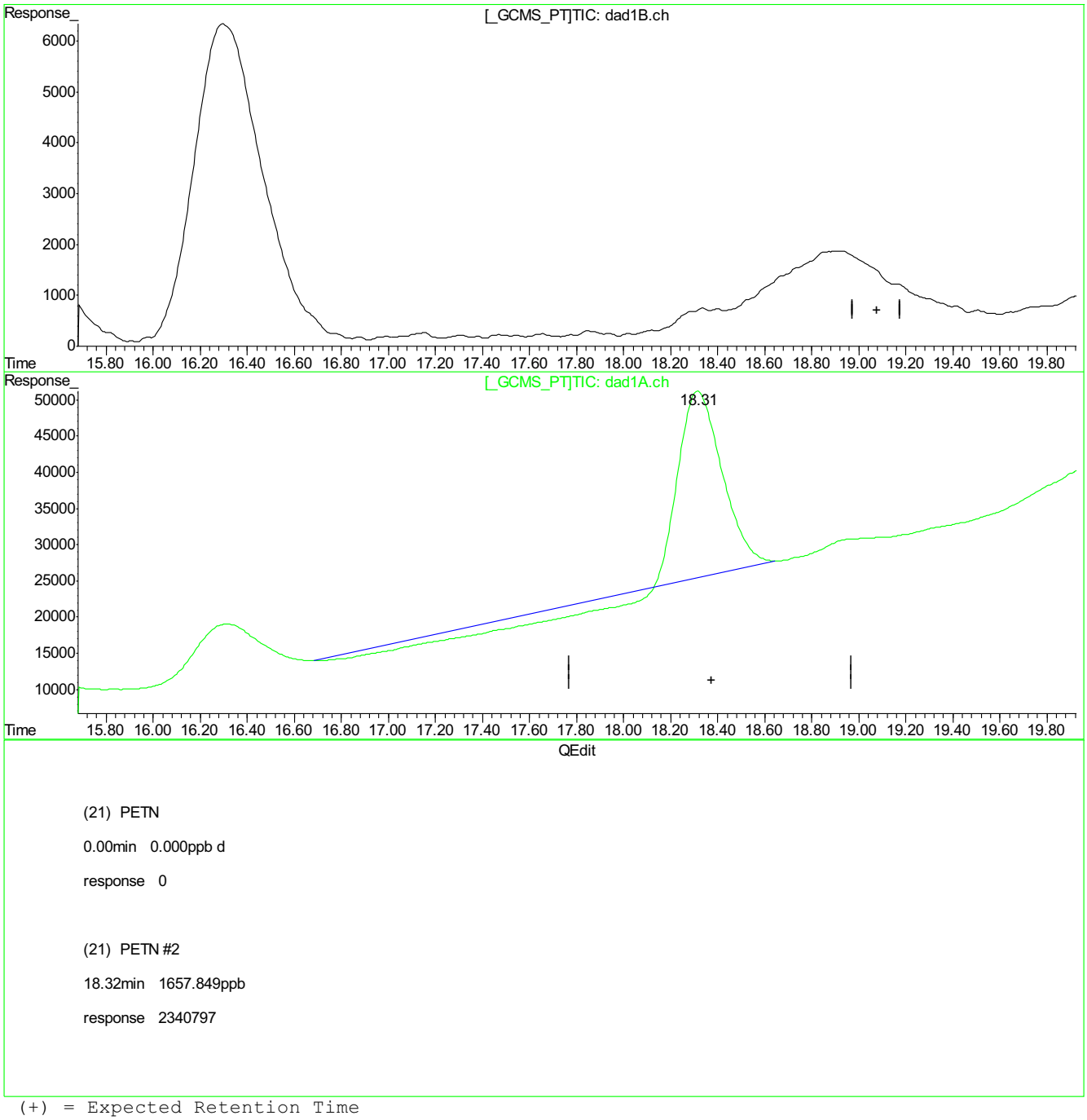
SGS ACCUTEST FA45759

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:14 2017

9.4.1.10

9

BB056487.D edits: PETN

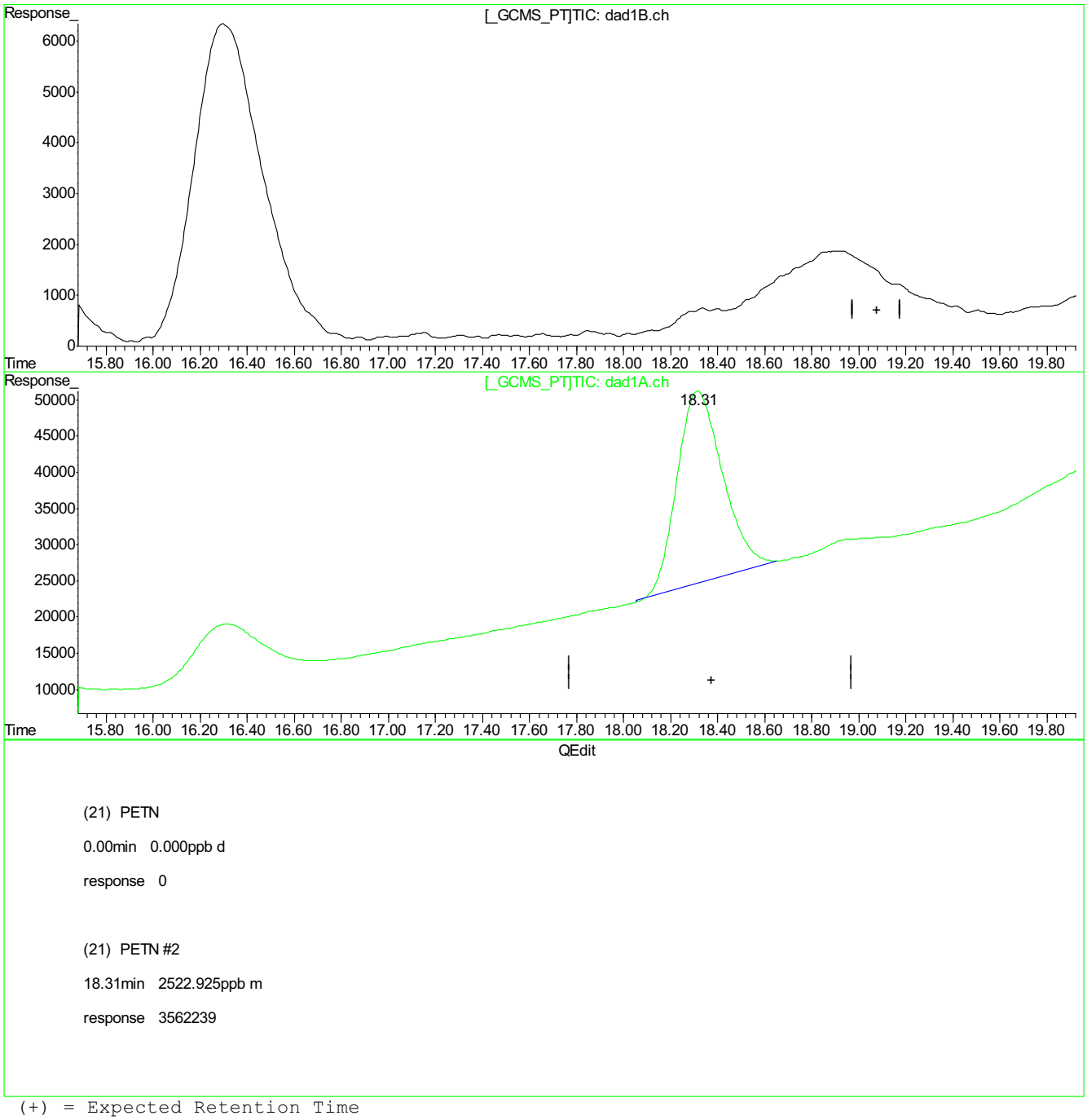
SGS ACCUTEST FA45759

QC Report: BB056487.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056487.D\dad1A.ch
Acq On : 19-Jul-2017, 06:33:41 Operator: evitam
Sample : op65961-ms Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 2522.925ppb m

response 3562239

(+) = Expected Retention Time
BB056487.D 8330B_0629PLUS.M Wed Jul 19 10:33:20 2017

9.4.1.11

9

BB056487.D edits: PETN

SGS ACCUTEST FA45759

QC Report: BB056488.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:28

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33:36 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.40	10.40	1181299	2008492	458.788	517.426
Spiked Amount	500.000	Range	70 - 136	Recovery	=	91.76%	103.49%
	Target Compounds						
1)	TNX	1.35	1.35	1365125	2272342	439.782	474.220
2)	HMX	1.46	1.46	2873350	7170765	1660.376	1545.987
3)	DNX	1.70	1.71	3005610	4348606	1035.159	988.471
4)	MNX	2.27	2.27	1799792	2862239	804.444	848.809
5)	RDX	2.85	2.84	1662280	2391252	816.788	750.456
6)	1,3,5-Trinitrobe	4.53	4.53	4851374	9470405	1139.678	1165.318
7)	1,3-Dinitrobenze	5.77	5.77	2539873	1774618	454.253	489.631
8)	3,5-Dinitroanili	6.07	6.08	2084722	3480724	504.512	533.873
9)	Nitrobenzene	7.39	7.39	1473646	1343967	430.185	412.562
10)	Nitroglycerin	0.00	8.65	0	3036672	N.D. d	2850.920m
11)	Tetryl	8.82	8.75	1242108	2215523	400.218	427.840m
12)	2,4,6-Trinitroto	9.26	9.26	3040365	3706847	794.479	825.345
13)	2-Amino-4,6-Dini	9.55	9.56	2679154	4027512	714.494	744.107
14)	4-Amino-2,6-Dini	10.02	10.02	1569362	3138944	627.629	675.307
16)	2,4-Dinitrotolue	11.07	11.07	2191660	1238355	423.328	394.916
17)	2,6-Dinitrotolue	11.56	11.60	1911254	2519999	618.774	685.891
18)	o-Nitrotoluene	14.80	14.79	922336	1266093	396.101	412.716m
19)	p-Nitrotoluene	15.35	15.35	1489042	1260164	422.296	472.617
20)	m-Nitrotoluene	16.31	16.31	1372109	1482157	380.914	376.202m
21)	PETN	0.00	18.31	0	4195246	N.D. d	2971.247m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056488.D 8330B_0629PLUS.M Wed Jul 19 11:01:58 2017 Page 1

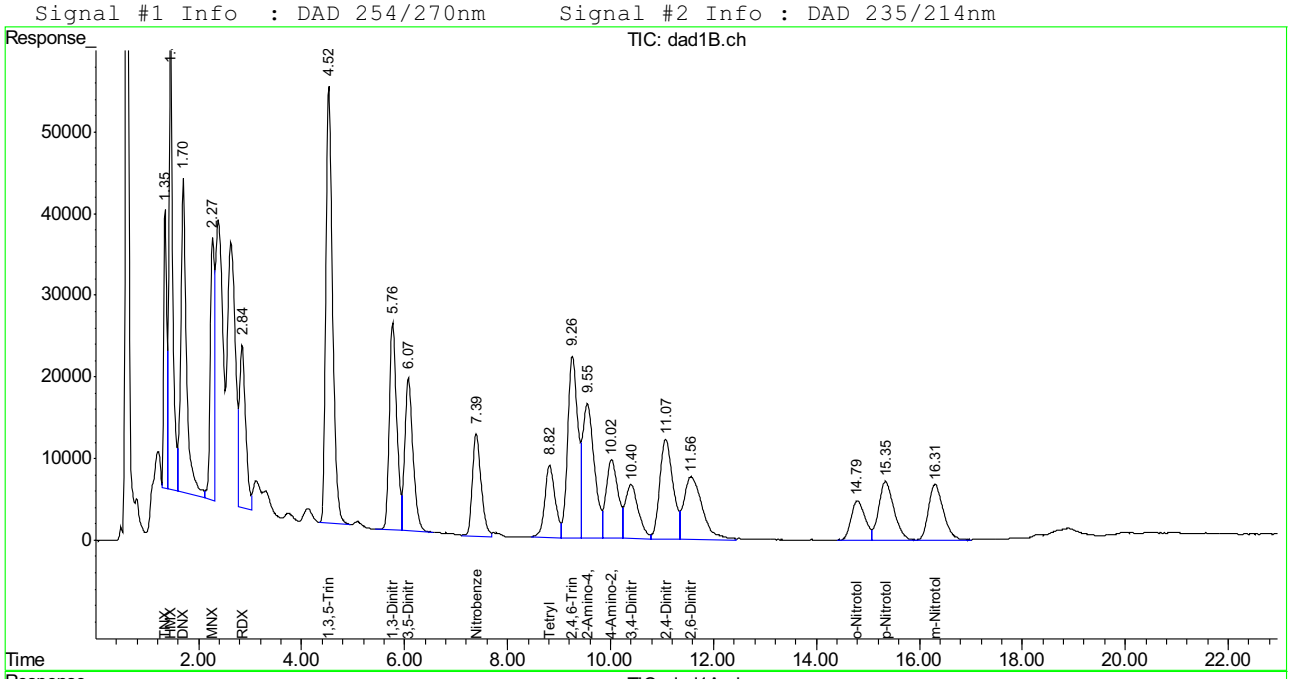
9.4.2
9

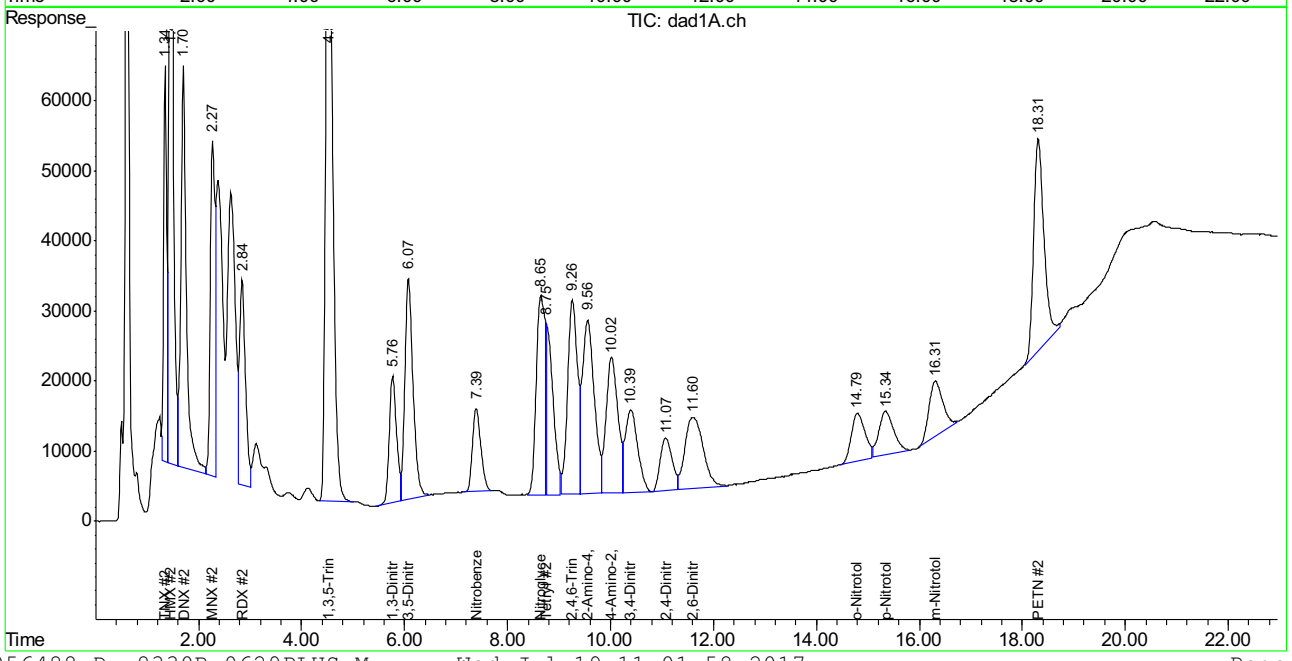
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65961,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:34 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





9.4.2
9

Manual Integration Approval Summary

Sample Number: OP65961-MSD
Lab FileID: BB056488.D
Injection Time: 07/19/17 07:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:23 Evita Martinez
Supervisor approved: 07/26/17 18:28 Mike Eger

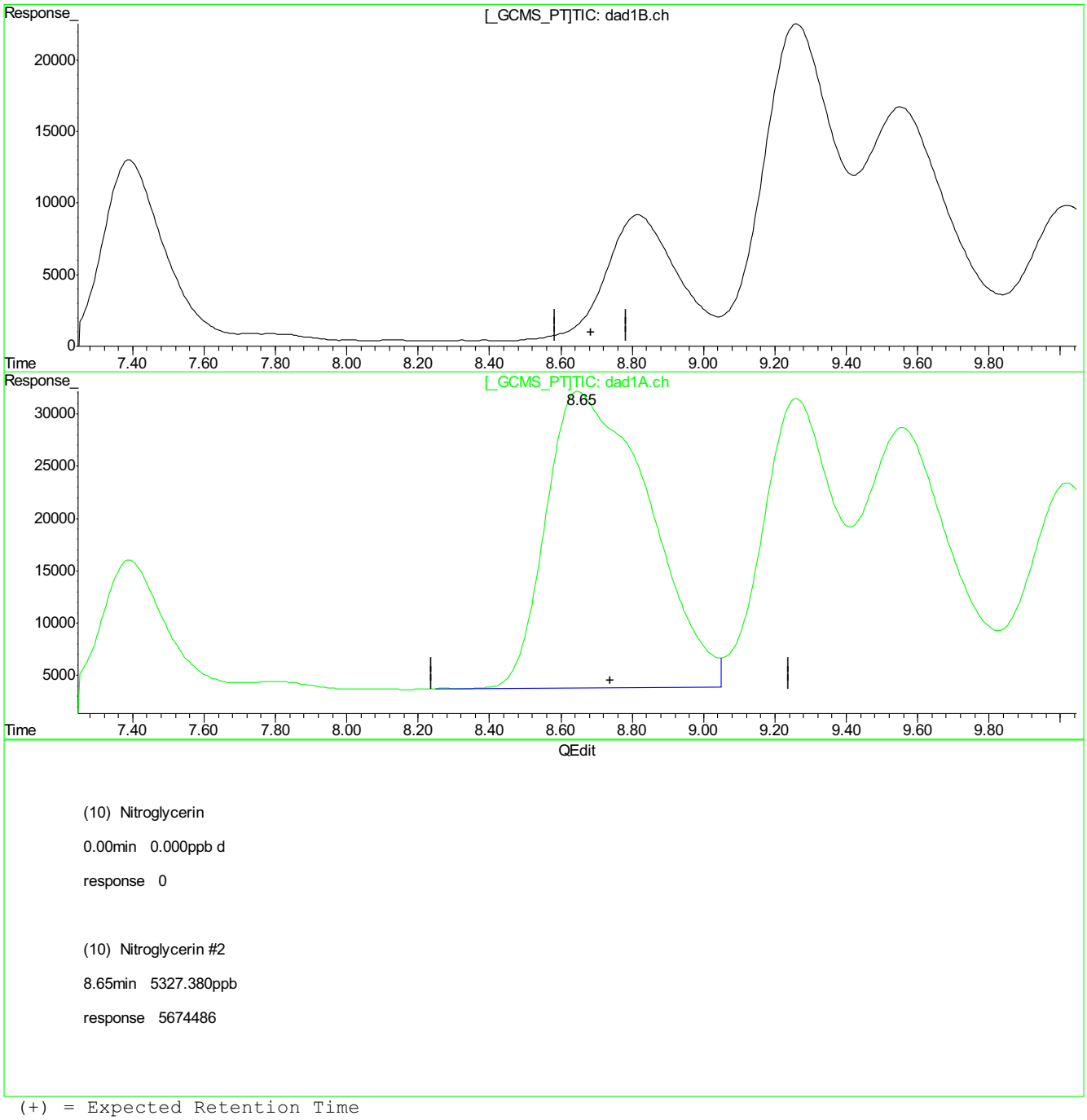
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.65	Poorly defined baseline
Tetryl	479-45-8	2	8.75	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.79	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.31	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:33:48 2017

BB056488.D edits: Nitroglycerin

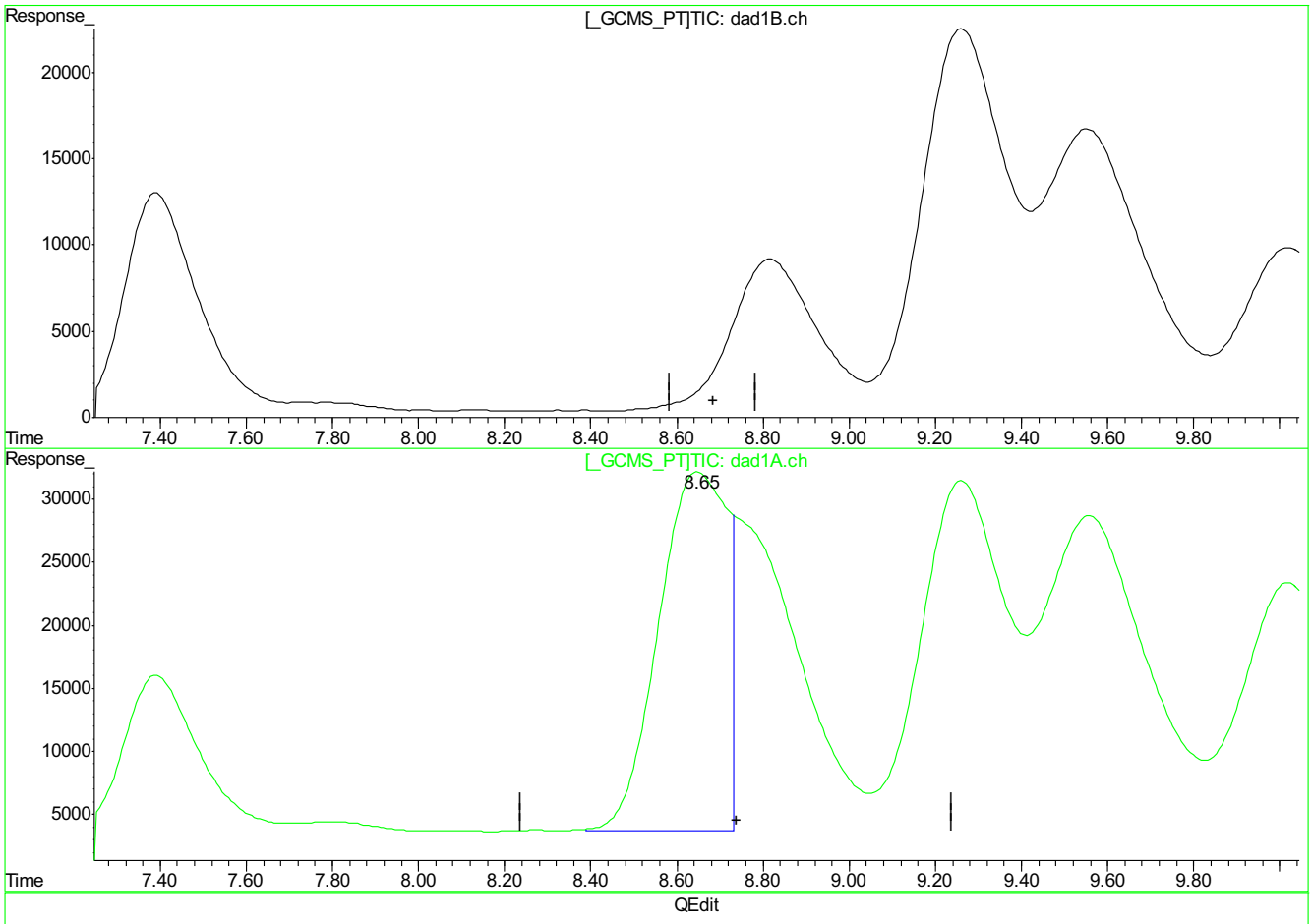
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.65min 2850.920ppb m

response 3036672

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:33:52 2017

9.4.2.3

9

BB056488.D edits: Nitroglycerin

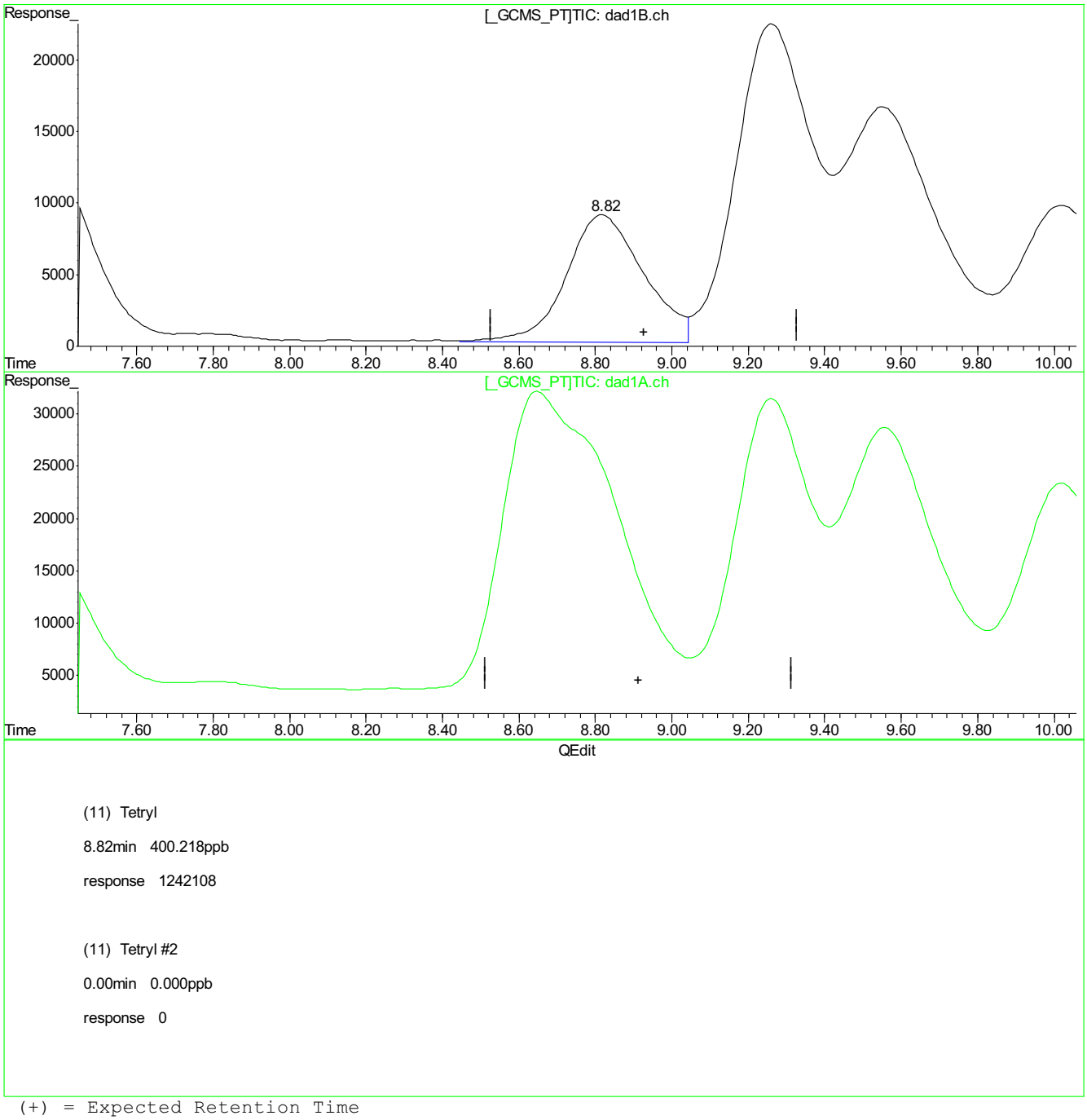
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 400.218ppb

response 1242108

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:33:55 2017

9.4.2.4

9

BB056488.D edits: Tetryl

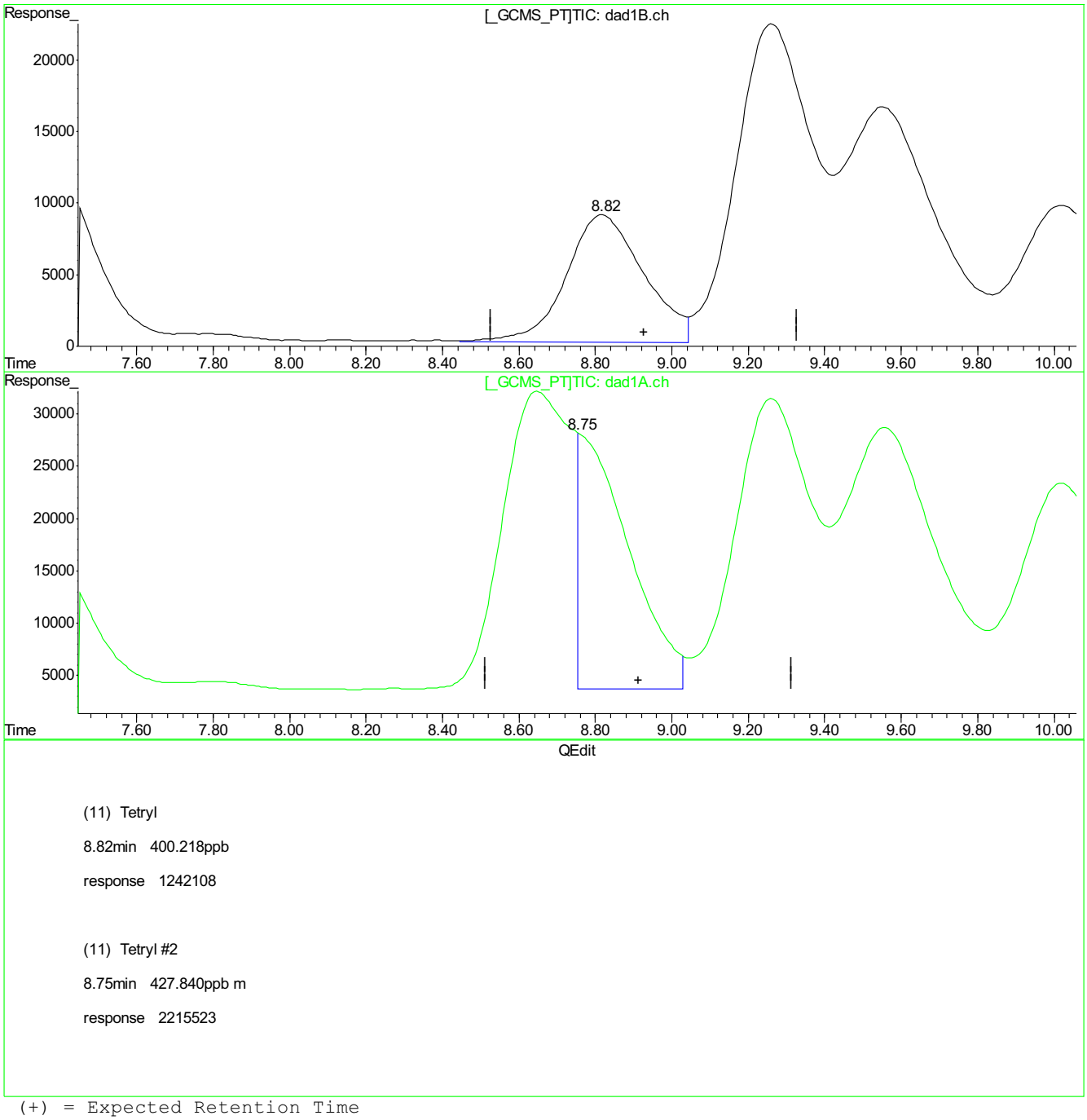
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(11) Tetryl

8.82min 400.218ppb

response 1242108

(11) Tetryl #2

8.75min 427.840ppb m

response 2215523

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:08 2017

9.4.2.5

9

BB056488.D edits: Tetryl

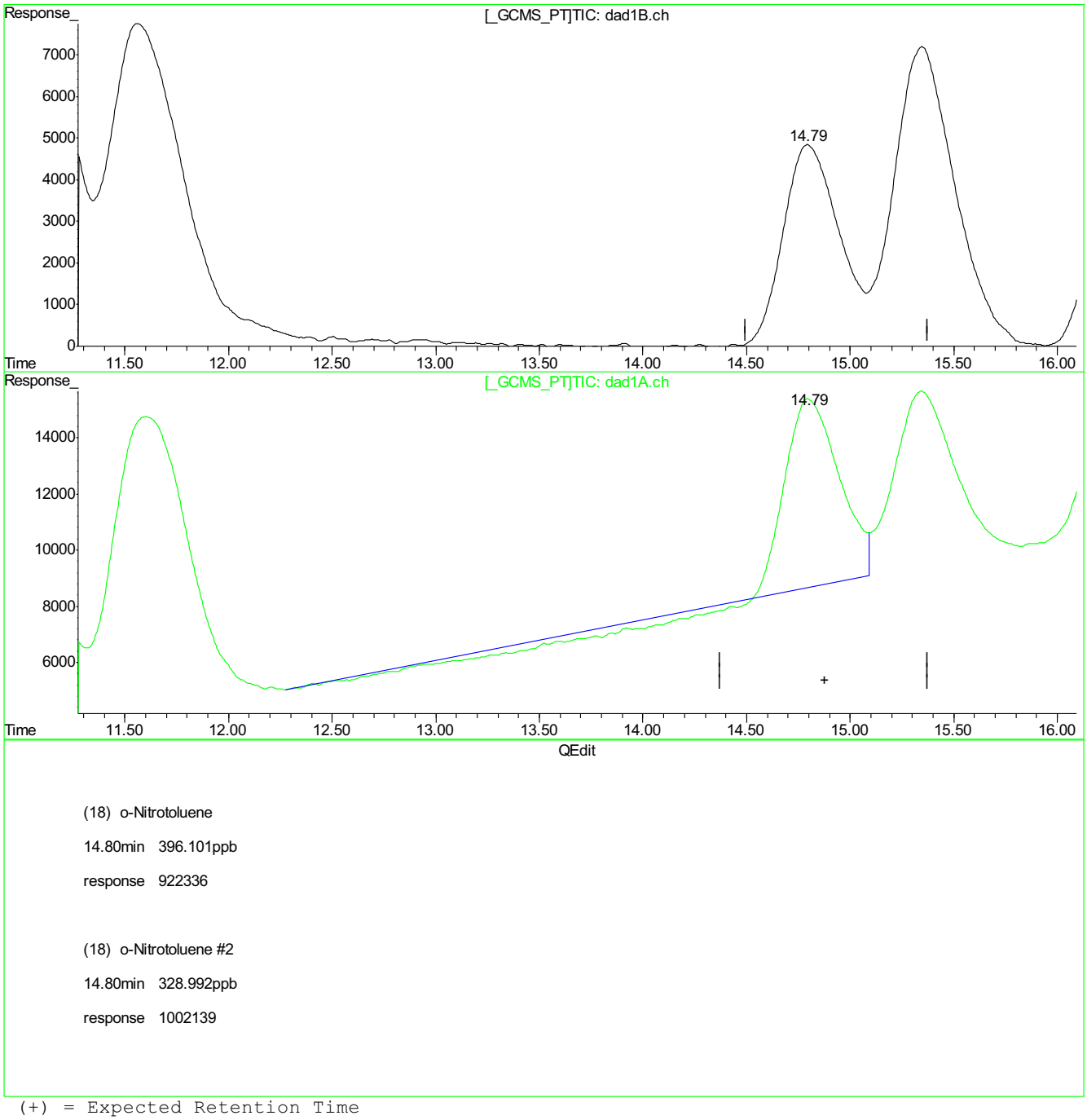
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 396.101ppb

response 922336

(18) o-Nitrotoluene #2

14.80min 328.992ppb

response 1002139

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:13 2017

9.4.2.6

9

BB056488.D edits: o-Nitrotoluene

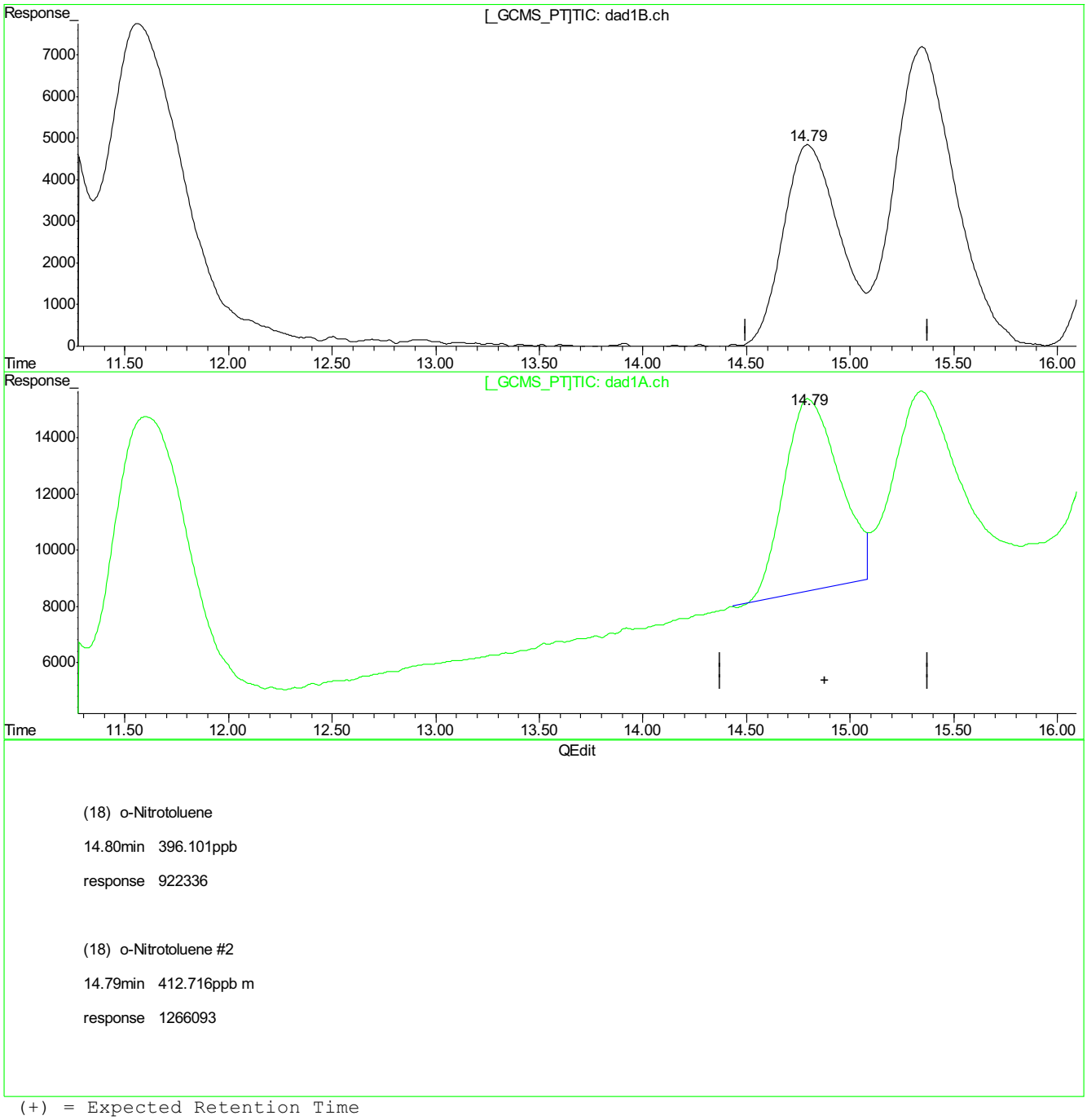
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.80min 396.101ppb

response 922336

(18) o-Nitrotoluene #2

14.79min 412.716ppb m

response 1266093

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:16 2017

9.4.2.7

9

BB056488.D edits: o-Nitrotoluene

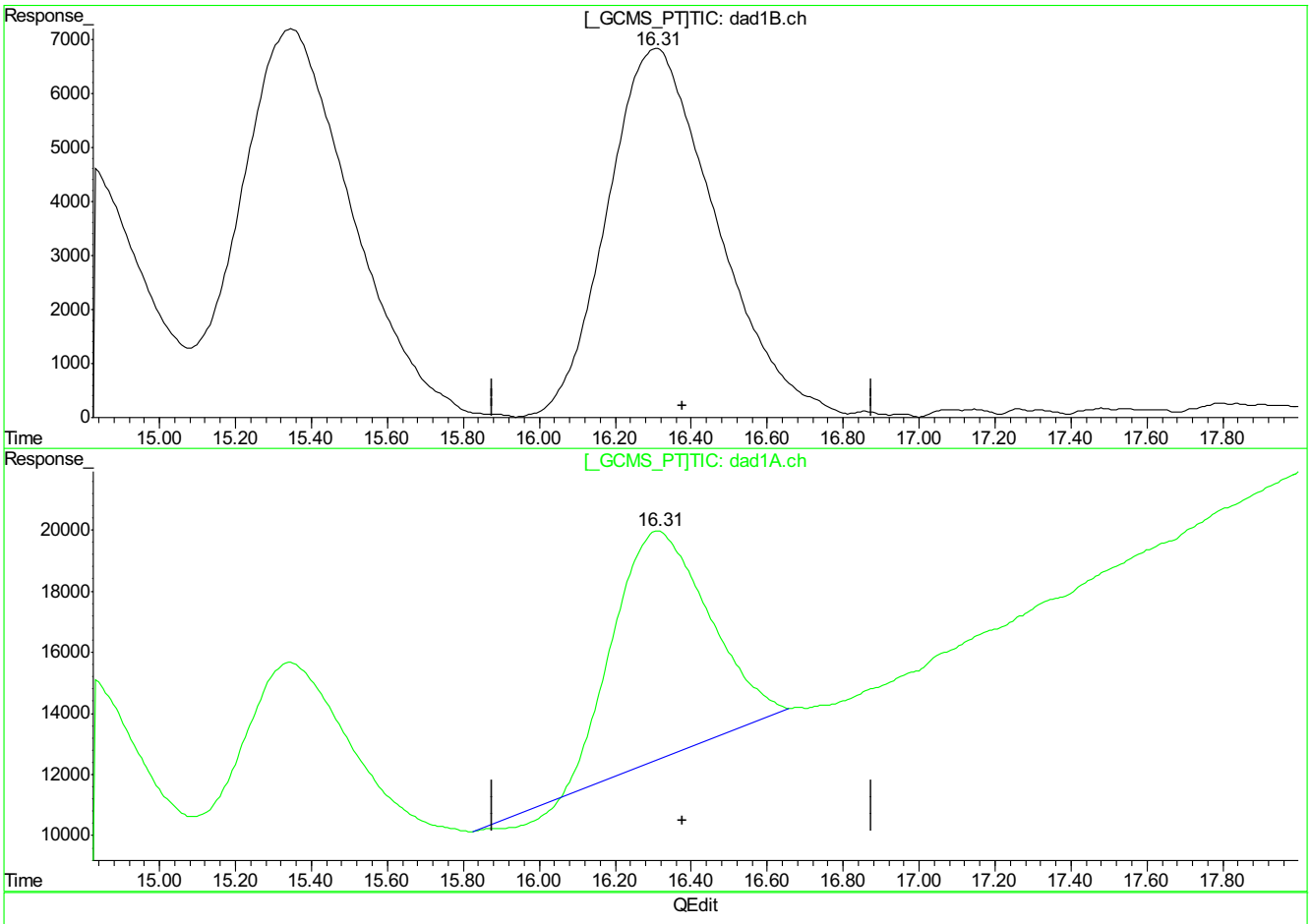
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.31min 380.914ppb

response 1372109

(20) m-Nitrotoluene #2

16.31min 323.071ppb

response 1267619

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:19 2017

9.4.2.8

9

BB056488.D edits: m-Nitrotoluene

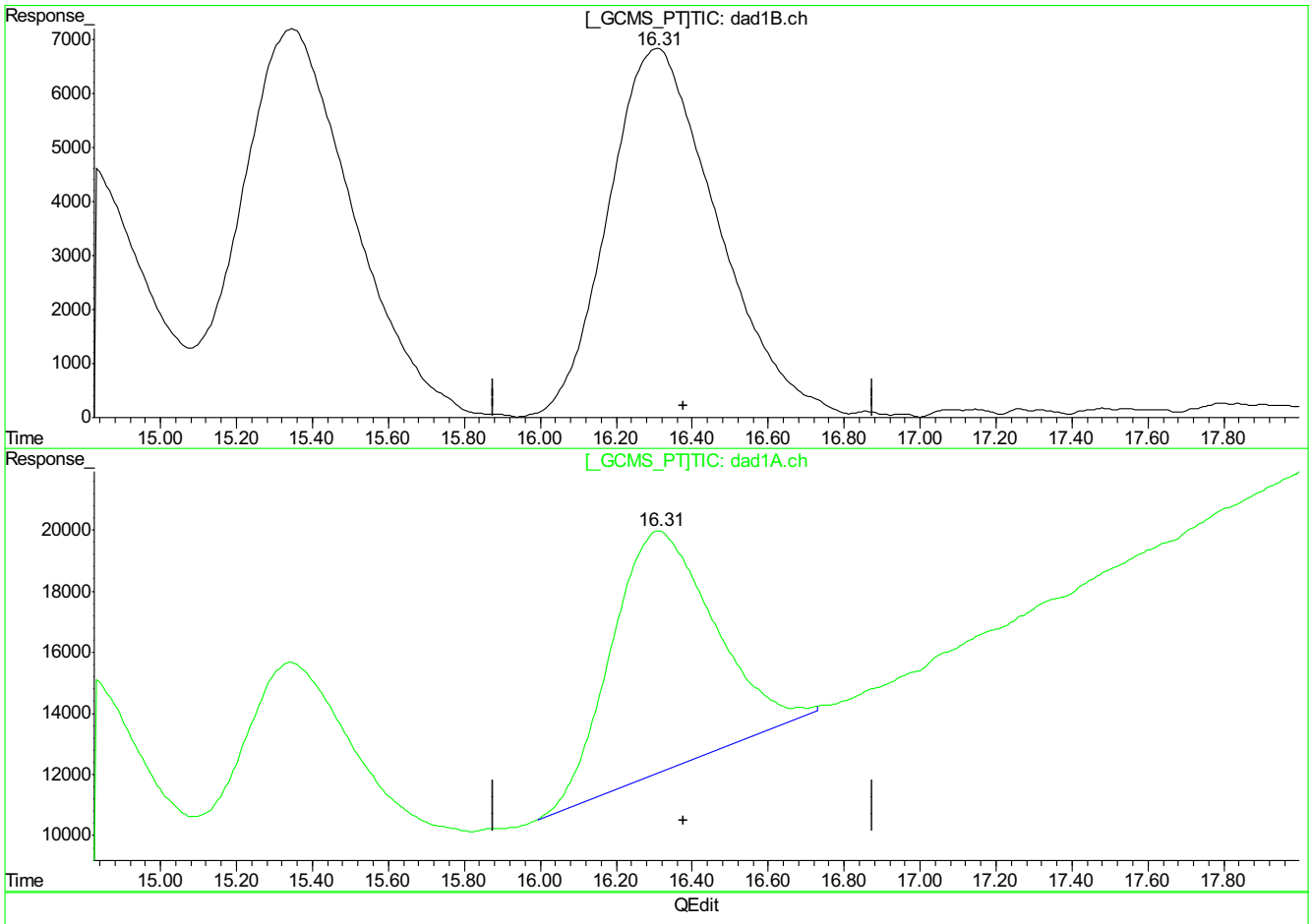
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.31min 380.914ppb

response 1372109

(20) m-Nitrotoluene #2

16.31min 376.202ppb m

response 1482157

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:22 2017

9.4.2.9

9

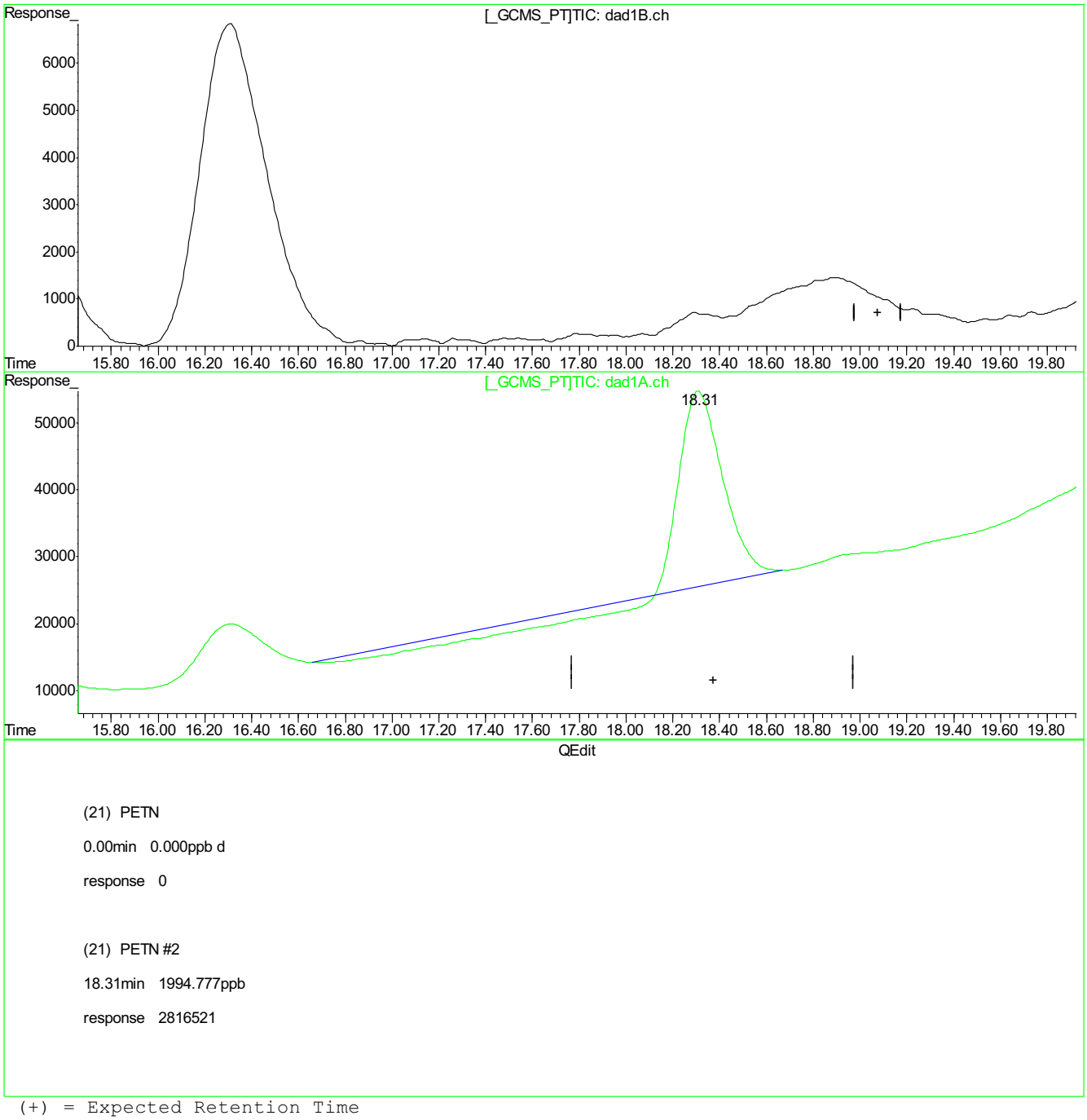
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 1994.777ppb

response 2816521

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:24 2017

9.4.2.10

9

BB056488.D edits: PETN

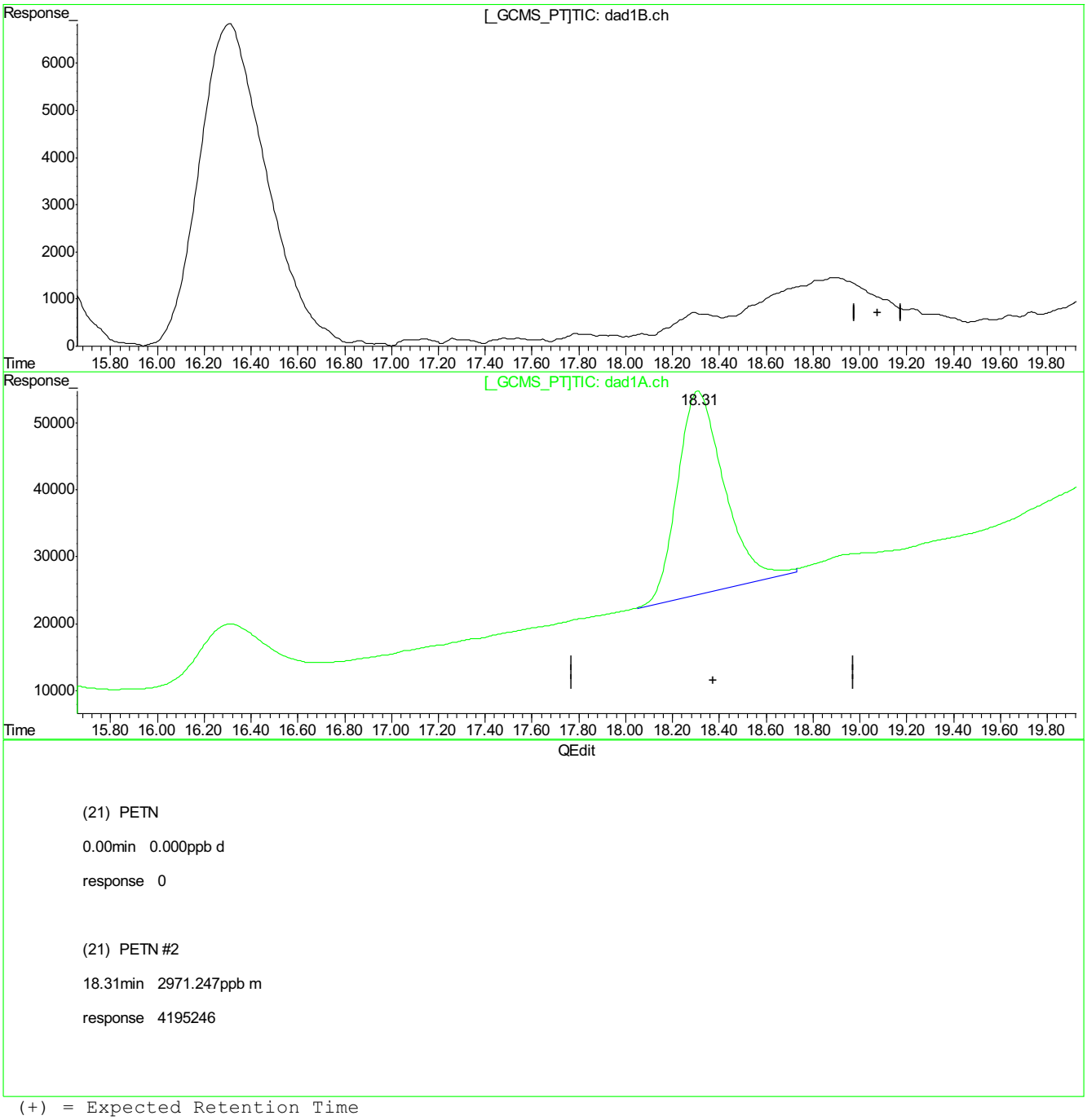
SGS ACCUTEST FA45759

QC Report: BB056488.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056488.D\dad1A.ch
Acq On : 19-Jul-2017, 07:03:40 Operator: evitam
Sample : op65961-msd Inst : G1315B
Misc : op65781,gbb1620,460,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 2971.247ppb m

response 4195246

(+) = Expected Retention Time
BB056488.D 8330B_0629PLUS.M Wed Jul 19 10:34:28 2017

9.4.2.11

9

BB056488.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055896.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:14:10 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
15) S 3,4-Dinitrotolue	11.31	11.37	55119	54283	22.682m	14.115m
Spiked Amount 500.000	Range 69 - 134		Recovery =		4.54%#	2.82%#
Target Compounds						
1) TNX	1.42	1.42	65590	105101	19.901	20.415
2) HMX	1.56	1.56	37395	91735	19.246m	17.893m
3) DNX	1.83	1.83	69735	131288	23.698	27.661
4) MNX	2.45	2.45	43094	65032	18.084	17.600m
5) RDX	3.09	3.10	38891	70454	17.527	20.664m
6) 1,3,5-Trinitrobe	4.91	4.91	86442	159099	19.405	19.080
7) 1,3-Dinitrobenze	6.20	6.20	113043	64442	18.516	15.841
8) 3,5-Dinitroanili	6.61	6.61	107118	149526	25.822	21.964
9) Nitrobenzene	7.82	7.81	71332	75531	19.639	22.791m
10) Nitroglycerin	0.00	9.27	0	114052	N.D. d	88.870m
11) Tetryl	9.65	9.67	55086	97608	19.899m	24.693m
12) 2,4,6-Trinitroto	10.07	10.09	78571	102680	17.466m	21.317m
13) 2-Amino-4,6-Dini	10.49	10.49	71691	104355	17.987m	20.994m
14) 4-Amino-2,6-Dini	11.00	11.02	56166	75411	20.121m	14.410m
16) 2,4-Dinitrotolue	12.01	12.01	111666	67744	19.371m	21.127m
17) 2,6-Dinitrotolue	12.48	12.53	53312	63443	16.215m	16.083m
18) o-Nitrotoluene	15.64	15.48	46570	28159	18.490m	8.098m#
19) p-Nitrotoluene	16.23	16.02	58408	34955	15.050	13.534m
20) m-Nitrotoluene	17.08	17.09	74002	51560	19.618	12.090m
21) PETN	0.00	18.92	0	131121	N.D. d	92.811m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055896.D 8330B_0629PLUS.M Fri Jun 30 11:02:16 2017 Page 1

9.5.1
9

SGS ACCUTEST FA45759

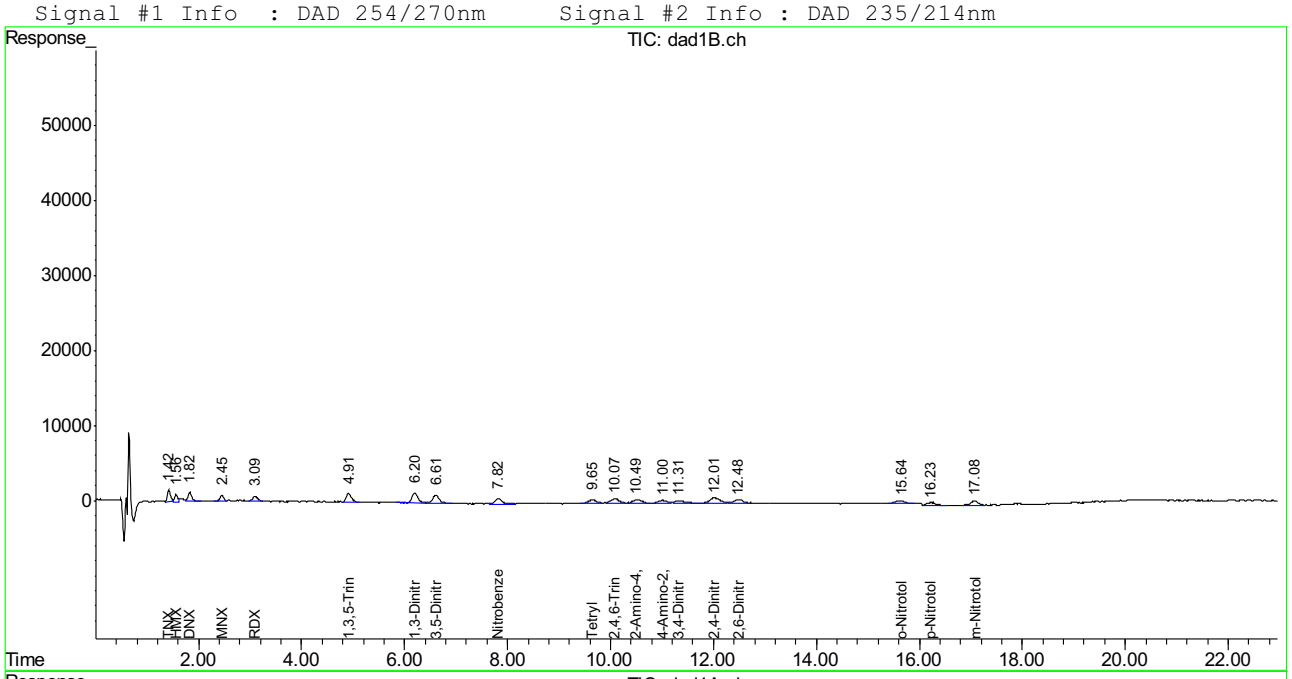
BB055896.D: GBB1615-IC1615 Initial Calibration (20) page 1 of 2

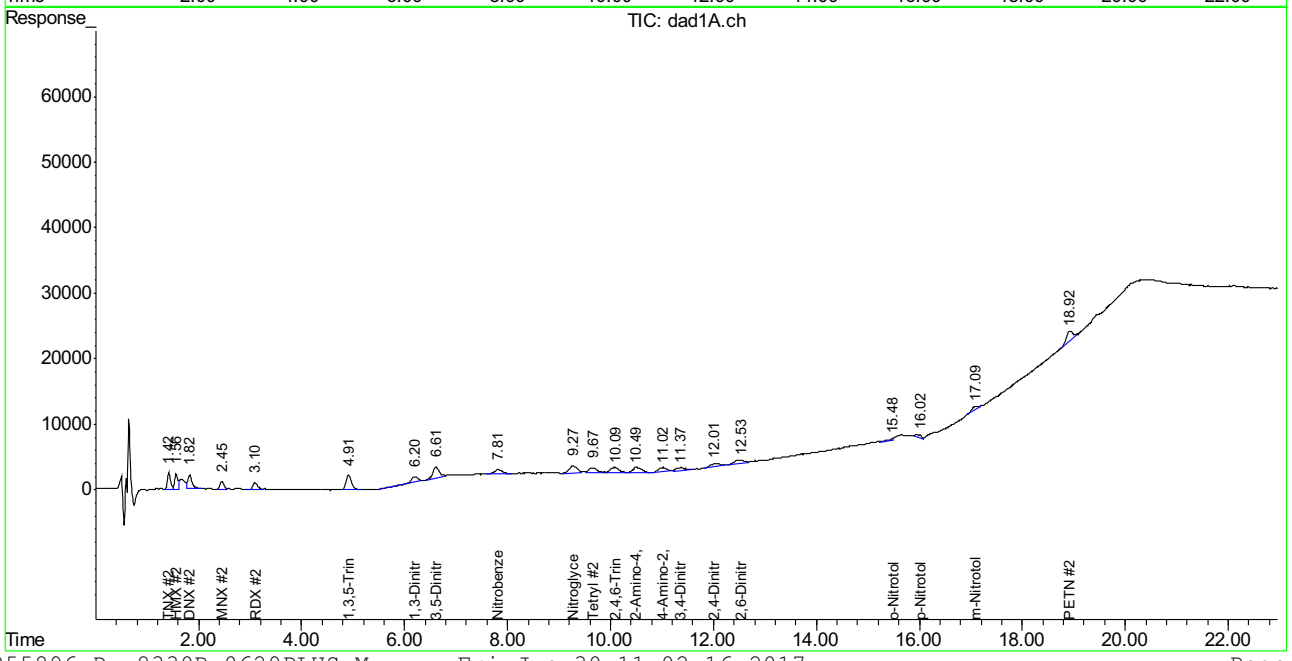
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055896.D
Injection Time: 06/29/17 16:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

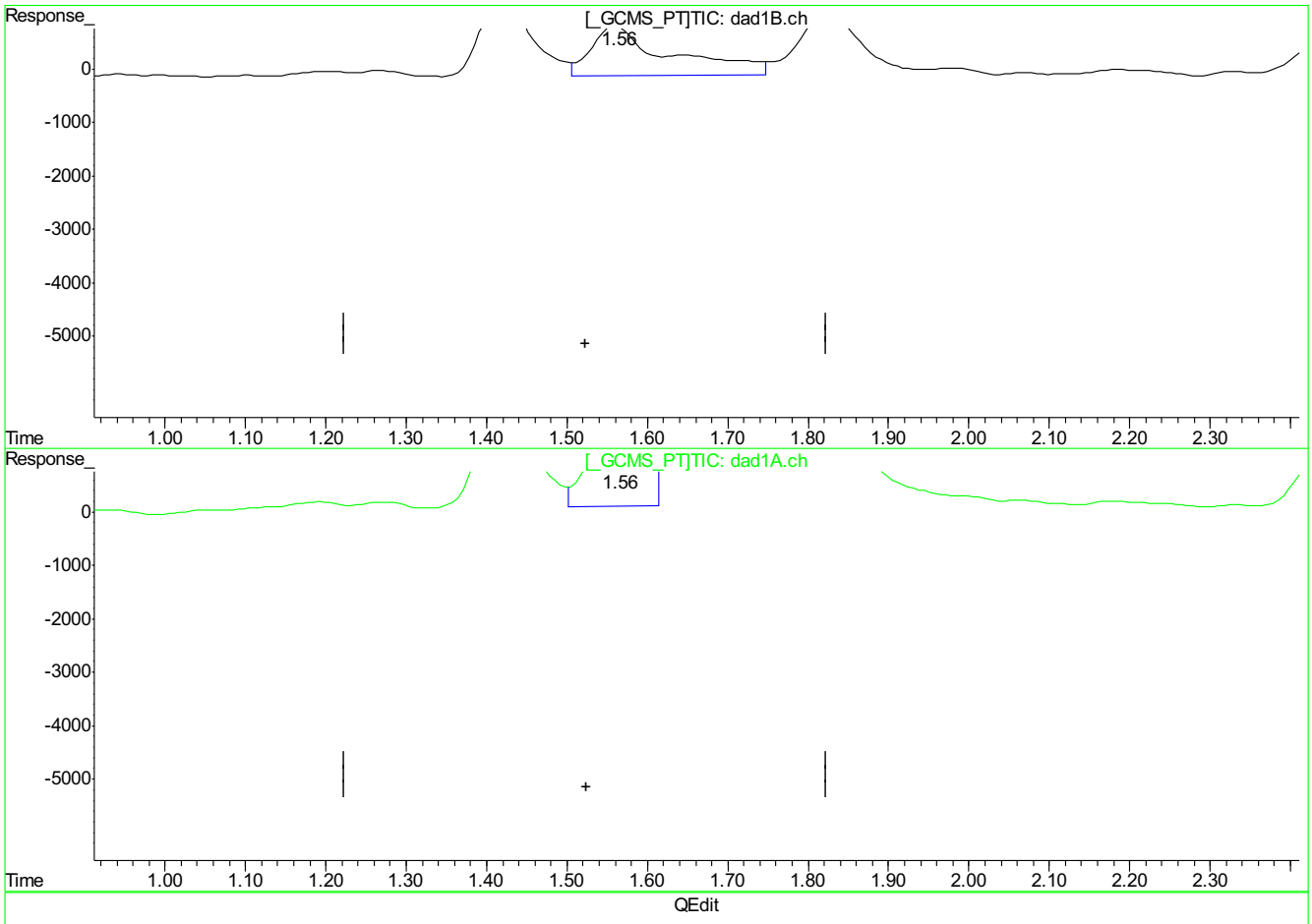
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.56	Poorly defined baseline
HMX	2691-41-0	2	1.56	Poorly defined baseline
MNX		2	2.45	Poorly defined baseline
RDX	121-82-4	2	3.10	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.81	Poorly defined baseline
Nitroglycerine	55-63-0	2	9.27	Poorly defined baseline
Tetryl	479-45-8	1	9.65	Poorly defined baseline
Tetryl	479-45-8	2	9.67	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	1	10.07	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	10.09	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	10.49	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.49	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.00	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.02	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	11.31	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.37	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	1	12.01	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	12.01	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	1	12.48	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	12.53	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.48	Poorly defined baseline
o-Nitrotoluene	88-72-2	1	15.64	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	16.02	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	17.09	Poorly defined baseline
PETN	78-11-5	2	18.92	Poorly defined baseline

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(2) HMX

1.56min 33.191ppb

response 64491

(2) HMX #2

1.56min 19.404ppb

response 99483

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:19 2017

9.5.1.2

9

BB055896.D edits: HMX

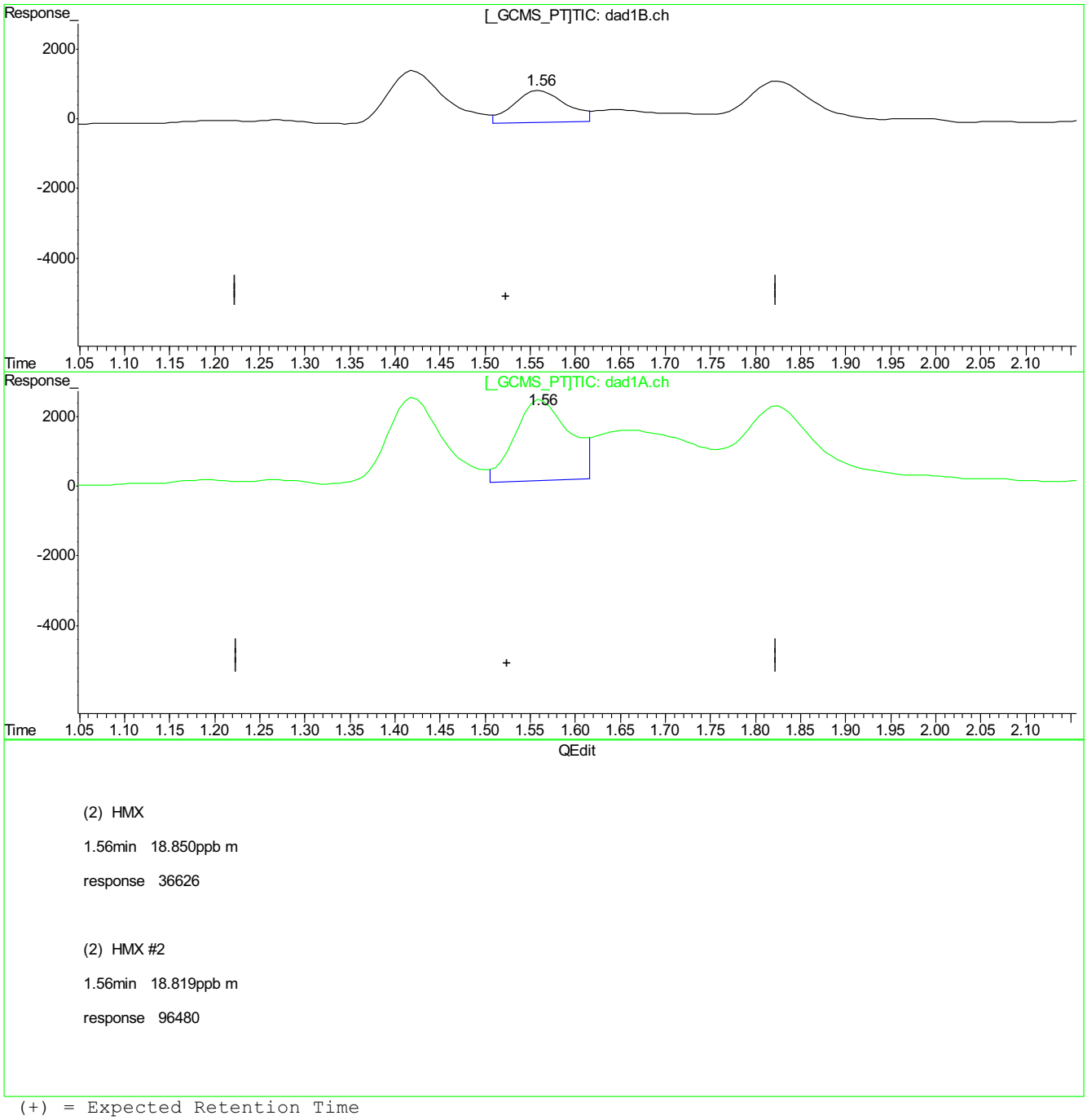
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(2) HMX

1.56min 18.850ppb m

response 36626

(2) HMX #2

1.56min 18.819ppb m

response 96480

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:43 2017

9.5.1.3

9

BB055896.D edits: HMX

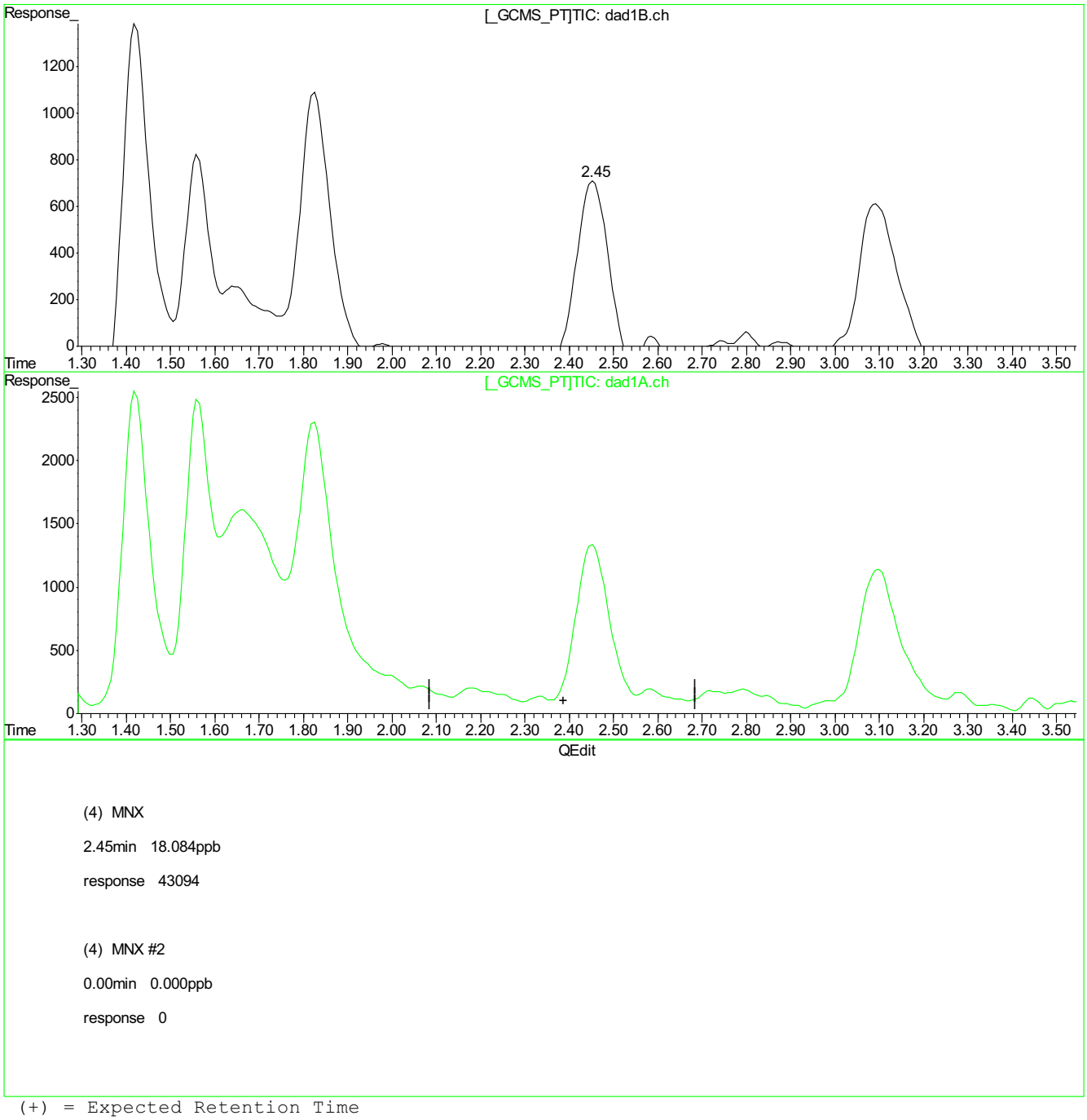
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(4) MNX

2.45min 18.084ppb

response 43094

(4) MNX #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:50 2017

9.5.1.4

9

BB055896.D edits: MNX

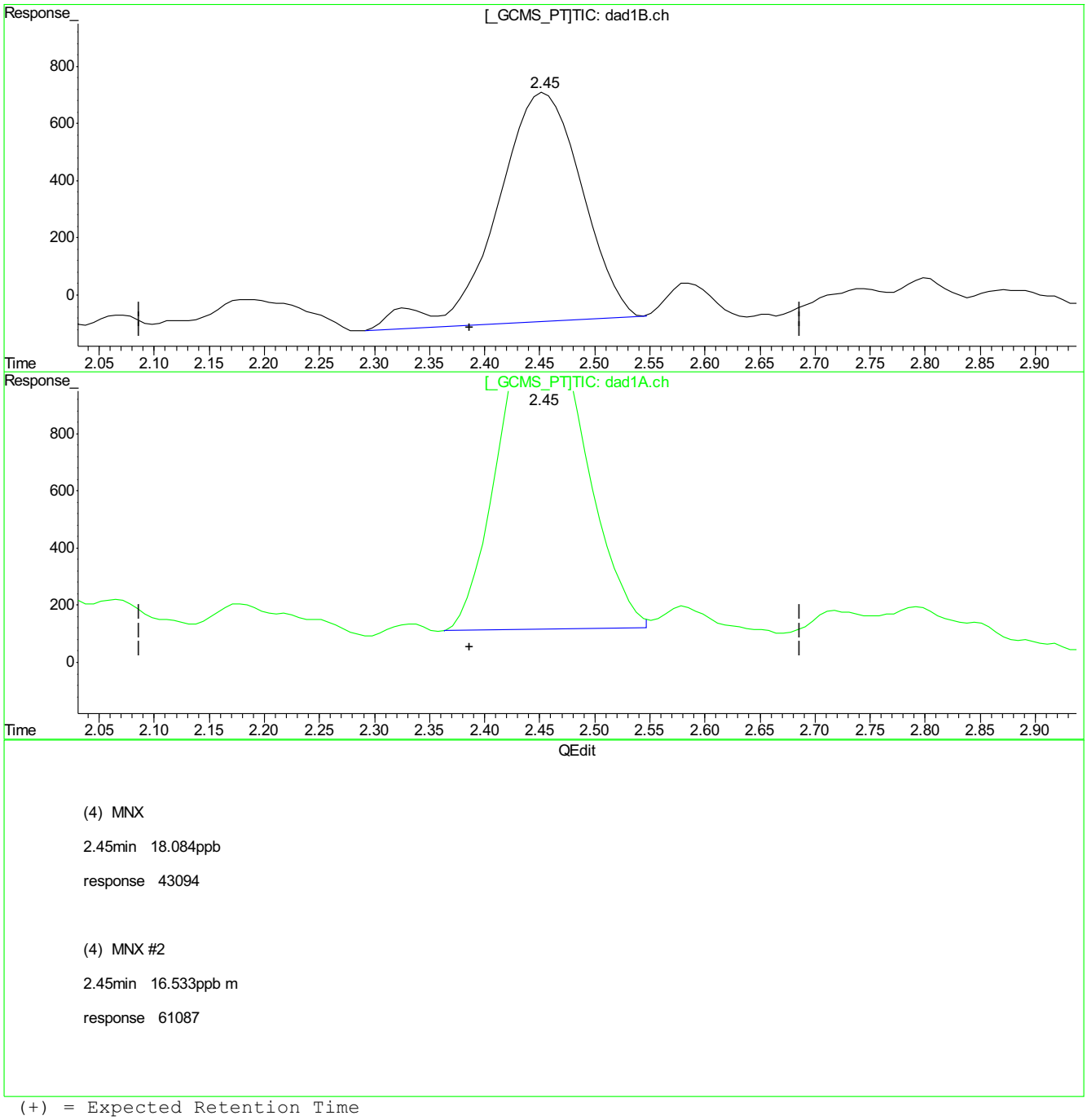
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On    : 29-Jun-2017, 16:57:18                    Operator: evitam
Sample    : ic1615-20                                Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
```



(4) MNX

2.45min 18.084ppb

response 43094

(4) MNX #2

2.45min 16.533ppb m

response 61087

(+) = Expected Retention Time

BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:55 2017

9.5.1.5

9

BB055896.D edits: MNX

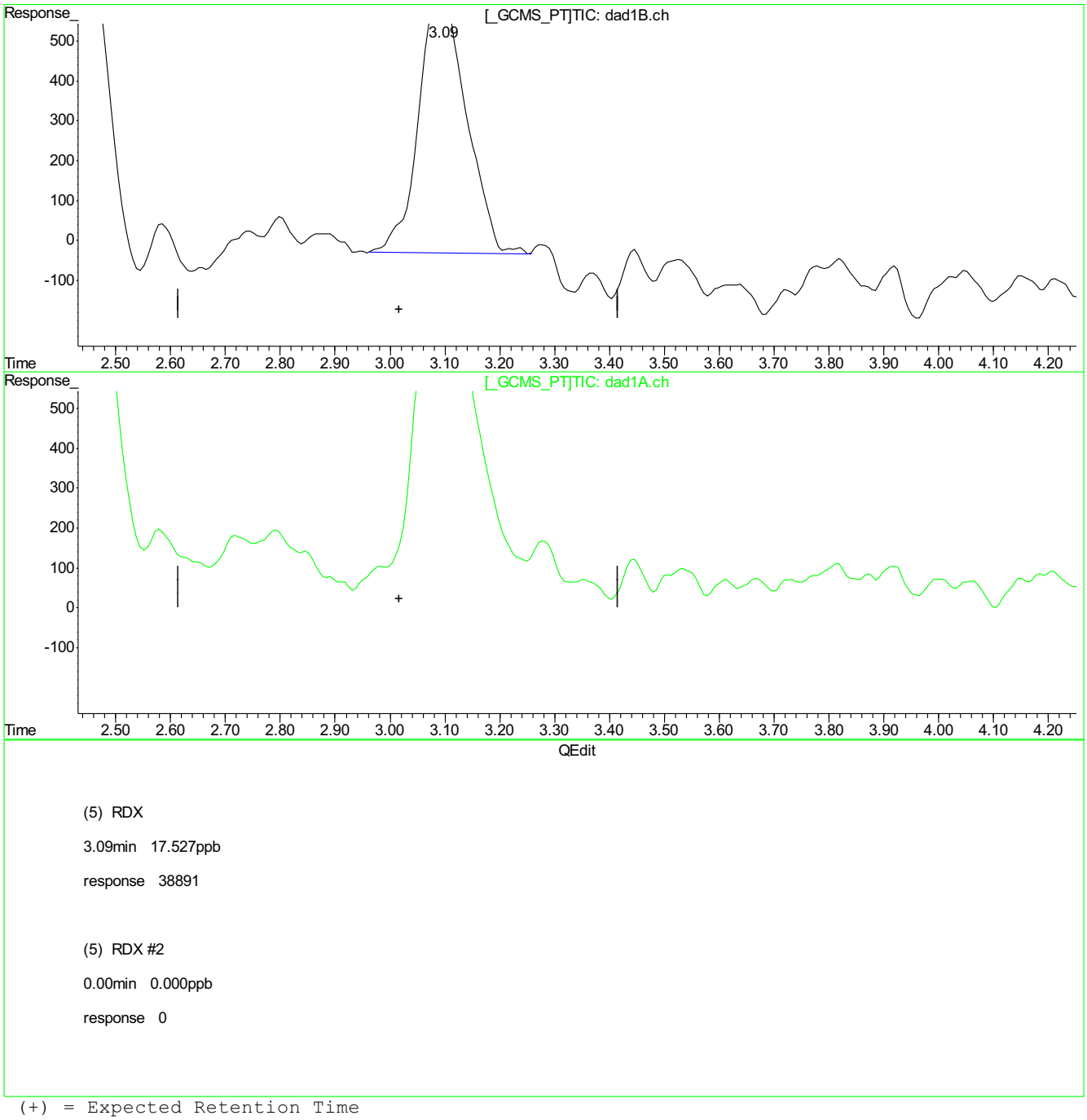
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(5) RDX

3.09min 17.527ppb

response 38891

(5) RDX #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:07:58 2017

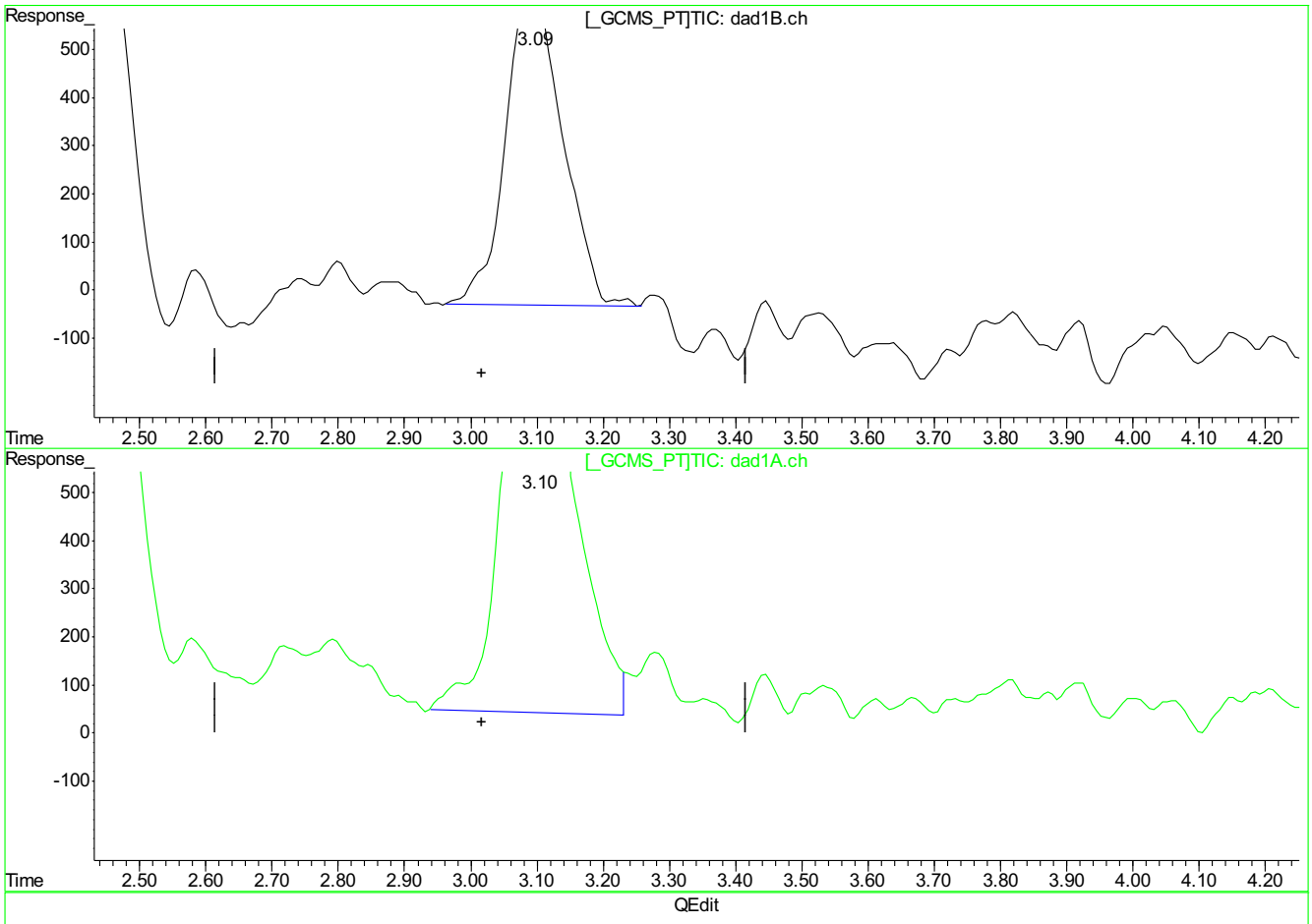
BB055896.D edits: RDX

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration



(5) RDX

3.09min 17.527ppb

response 38891

(5) RDX #2

3.10min 21.211ppb m

response 72317

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:08:00 2017

9.5.1.7

9

BB055896.D edits: RDX

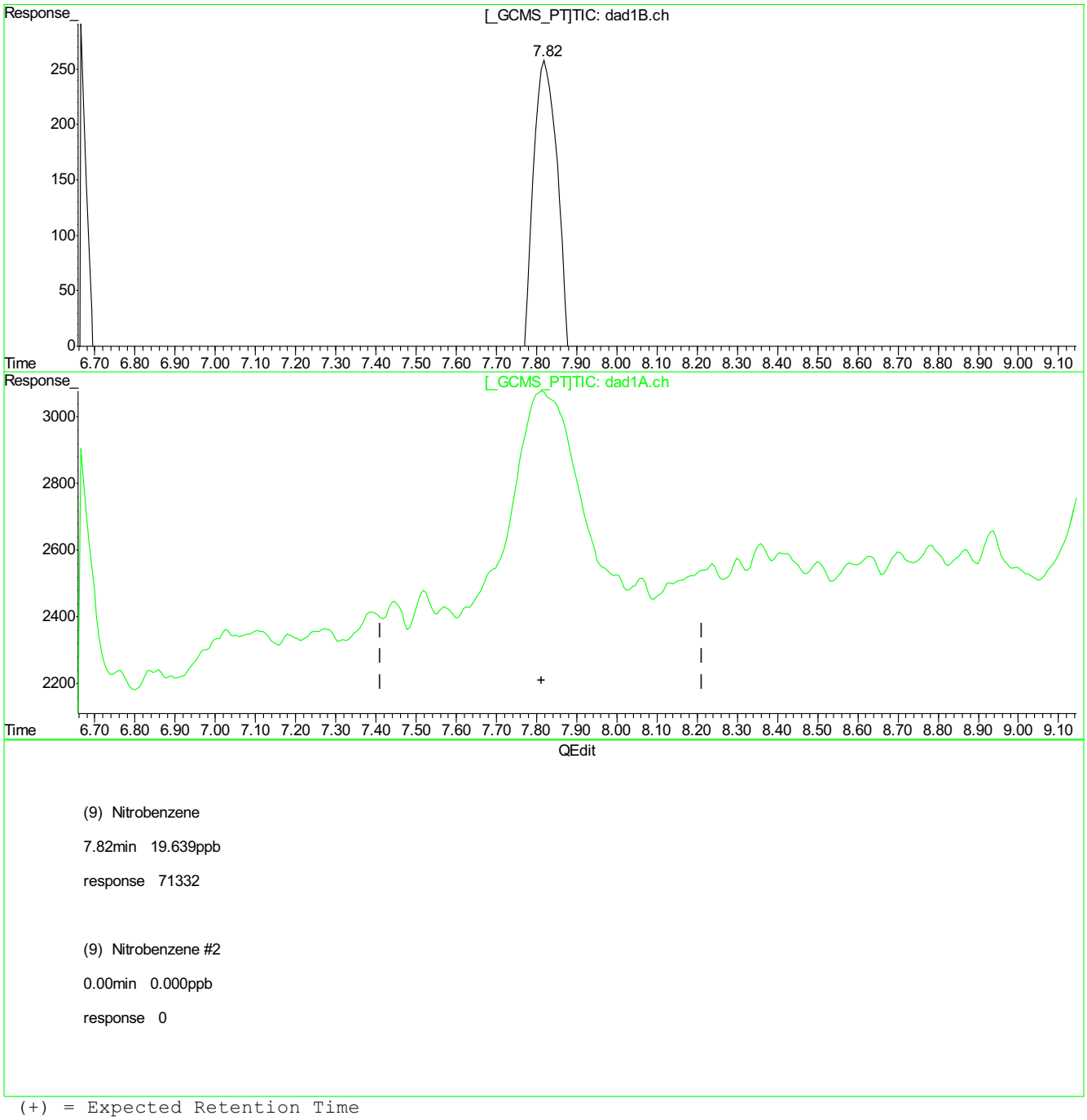
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.82min 19.639ppb

response 71332

(9) Nitrobenzene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:14:49 2017

9.5.1.8

9

BB055896.D edits: Nitrobenzene

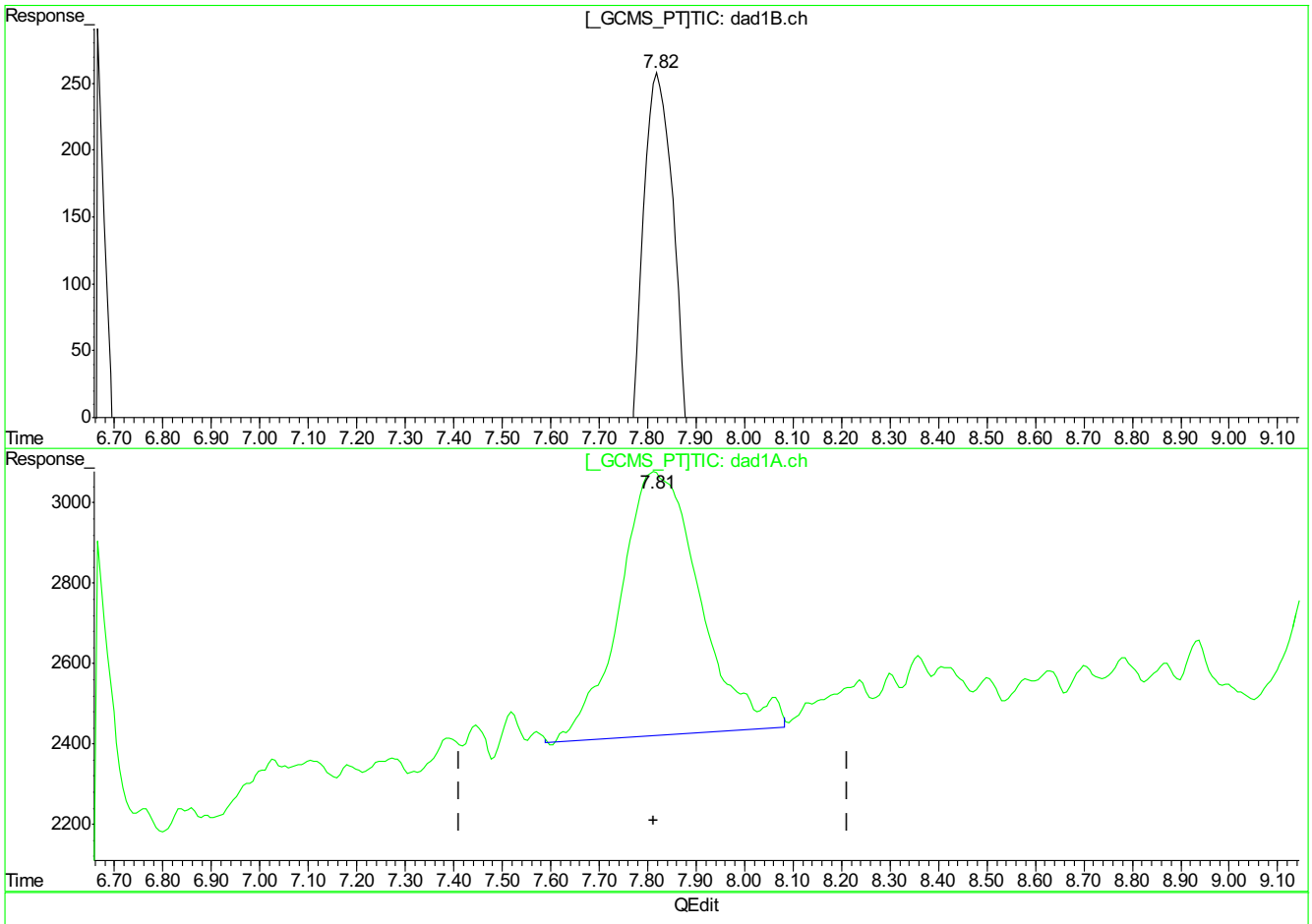
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.82min 19.639ppb

response 71332

(9) Nitrobenzene #2

7.81min 22.791ppb m

response 75531

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:14:54 2017

9.5.1.9

9

BB055896.D edits: Nitrobenzene

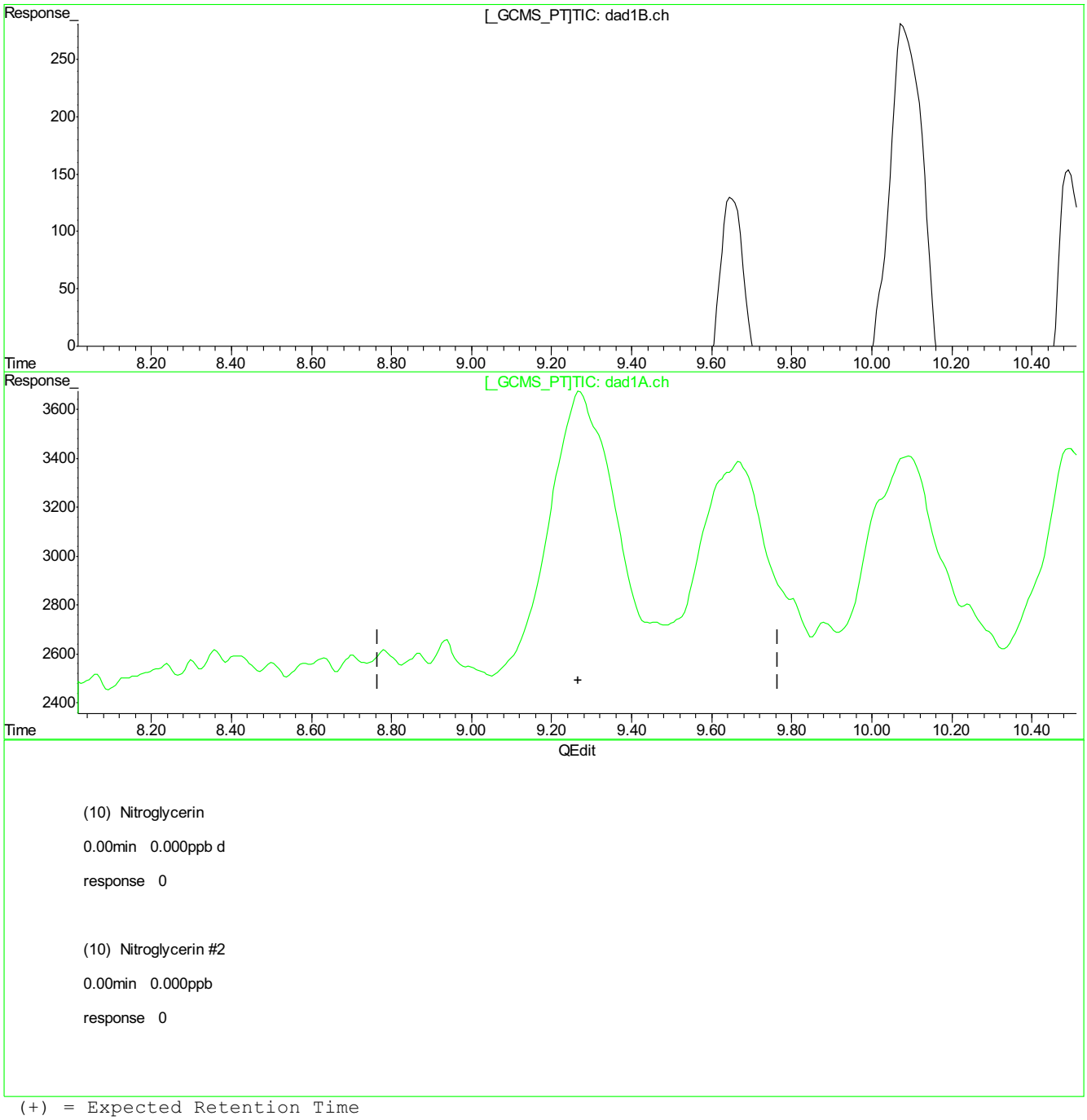
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:14:57 2017

9.5.1.10

9

BB055896.D edits: Nitroglycerin

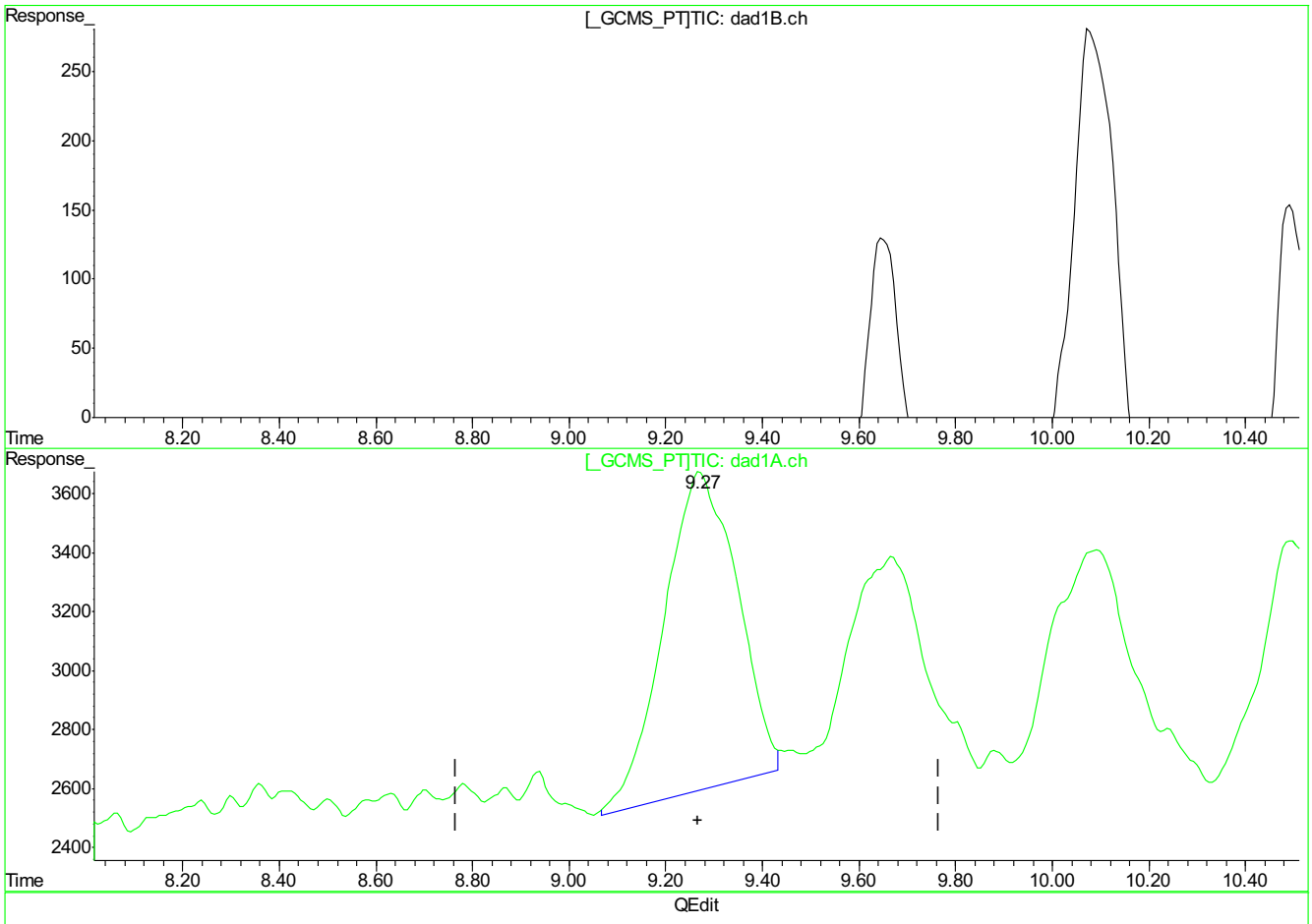
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On    : 29-Jun-2017, 16:57:18                    Operator: evitam
Sample    : ic1615-20                                Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:14 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

9.27min 88.870ppb m

response 114052

(+) = Expected Retention Time

BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:01 2017

9.5.1.11

9

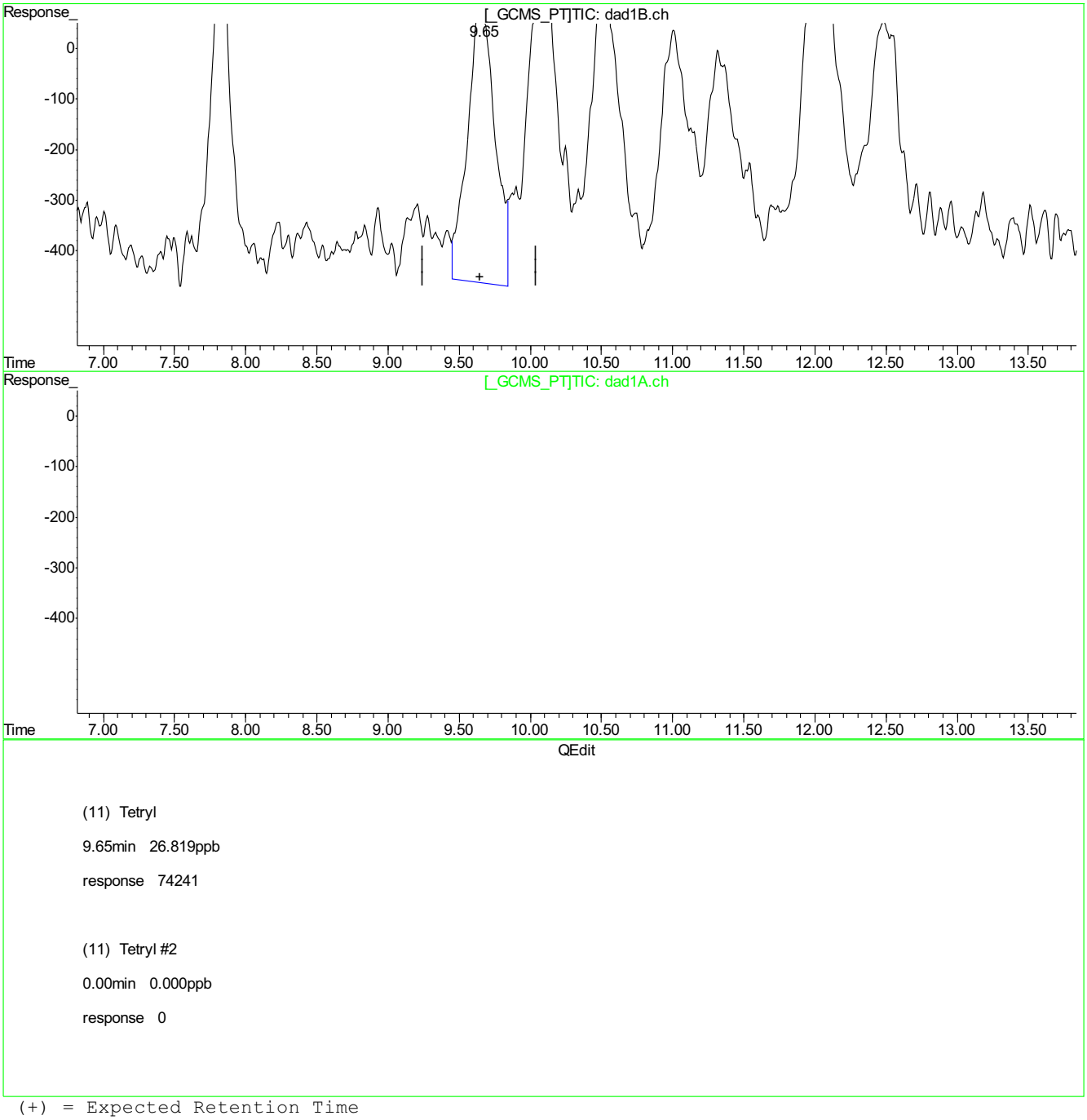
BB055896.D edits: Nitroglycerin

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:10 2017

9.5.1.12
9

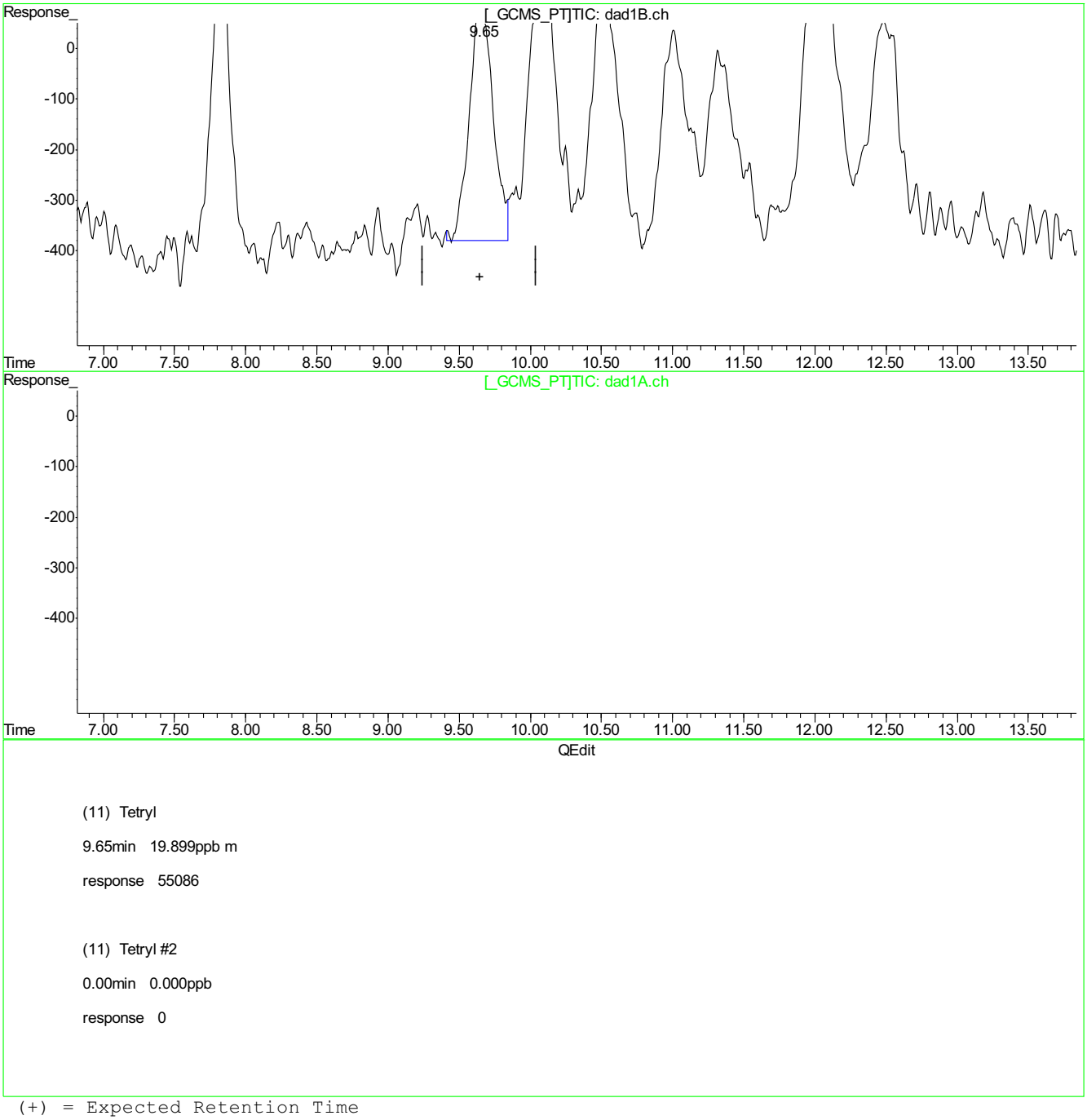
BB055896.D edits: Tetryl

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:14 2017

9.5.1.13

9

BB055896.D edits: Tetryl

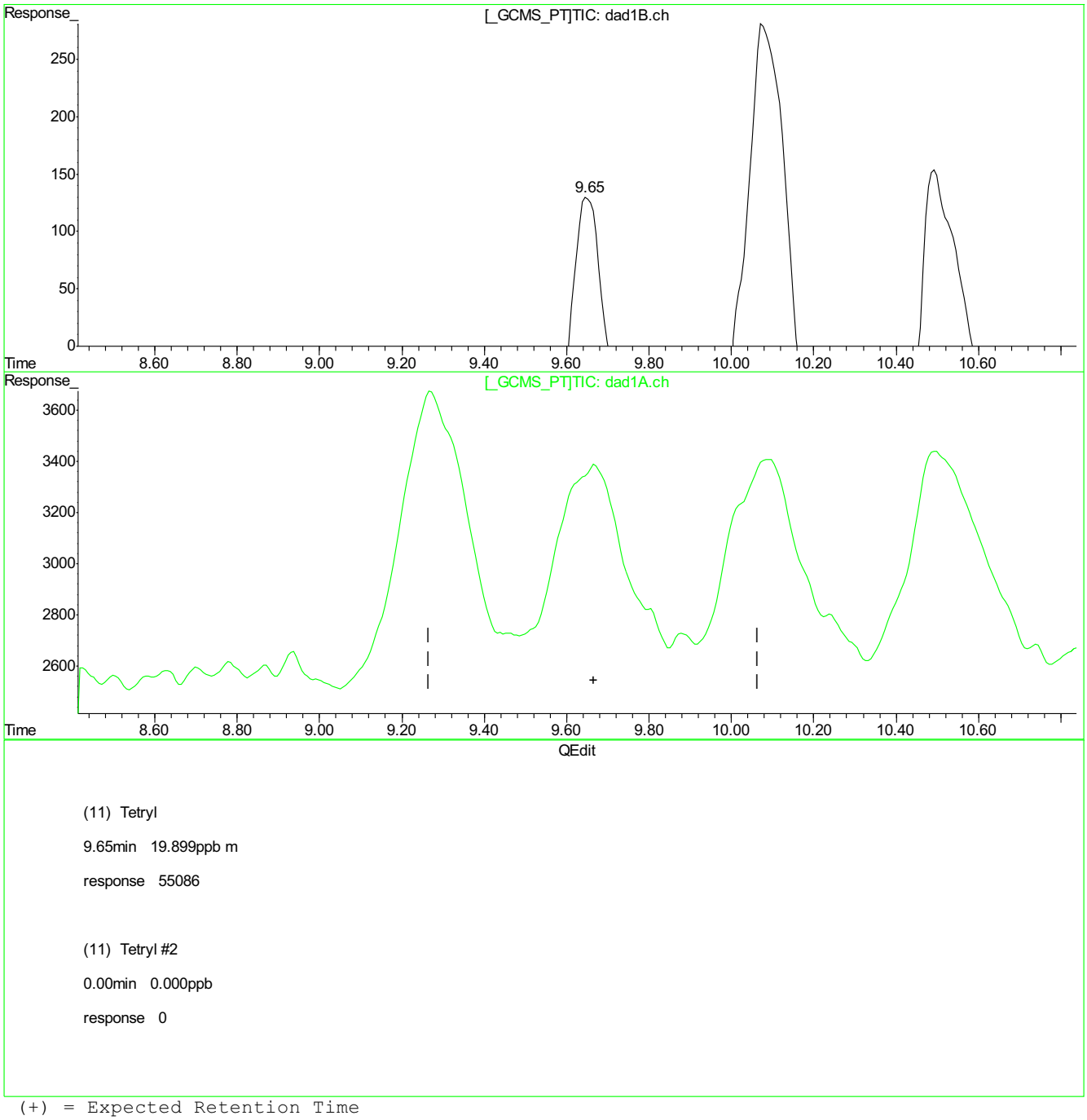
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On    : 29-Jun-2017, 16:57:18                    Operator: evitam
Sample    : ic1615-20                                Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:14 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration
```



(11) Tetryl

9.65min 19.899ppb m

response 55086

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time

BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:19 2017

9.5.1.14

9

BB055896.D edits: Tetryl

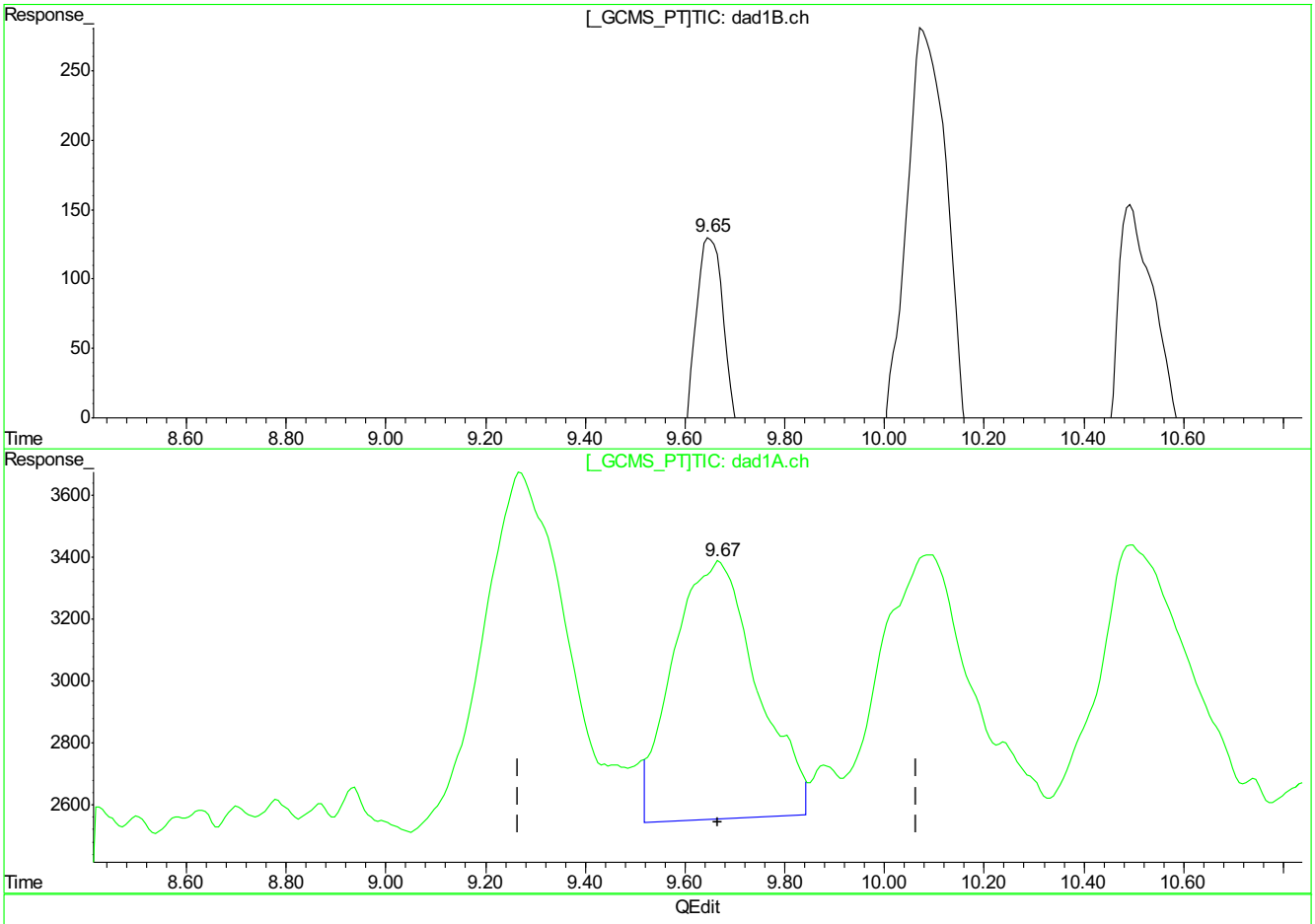
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.65min 19.899ppb m

response 55086

(11) Tetryl #2

9.67min 24.693ppb m

response 97608

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:28 2017

9.5.1.15

9

BB055896.D edits: Tetryl

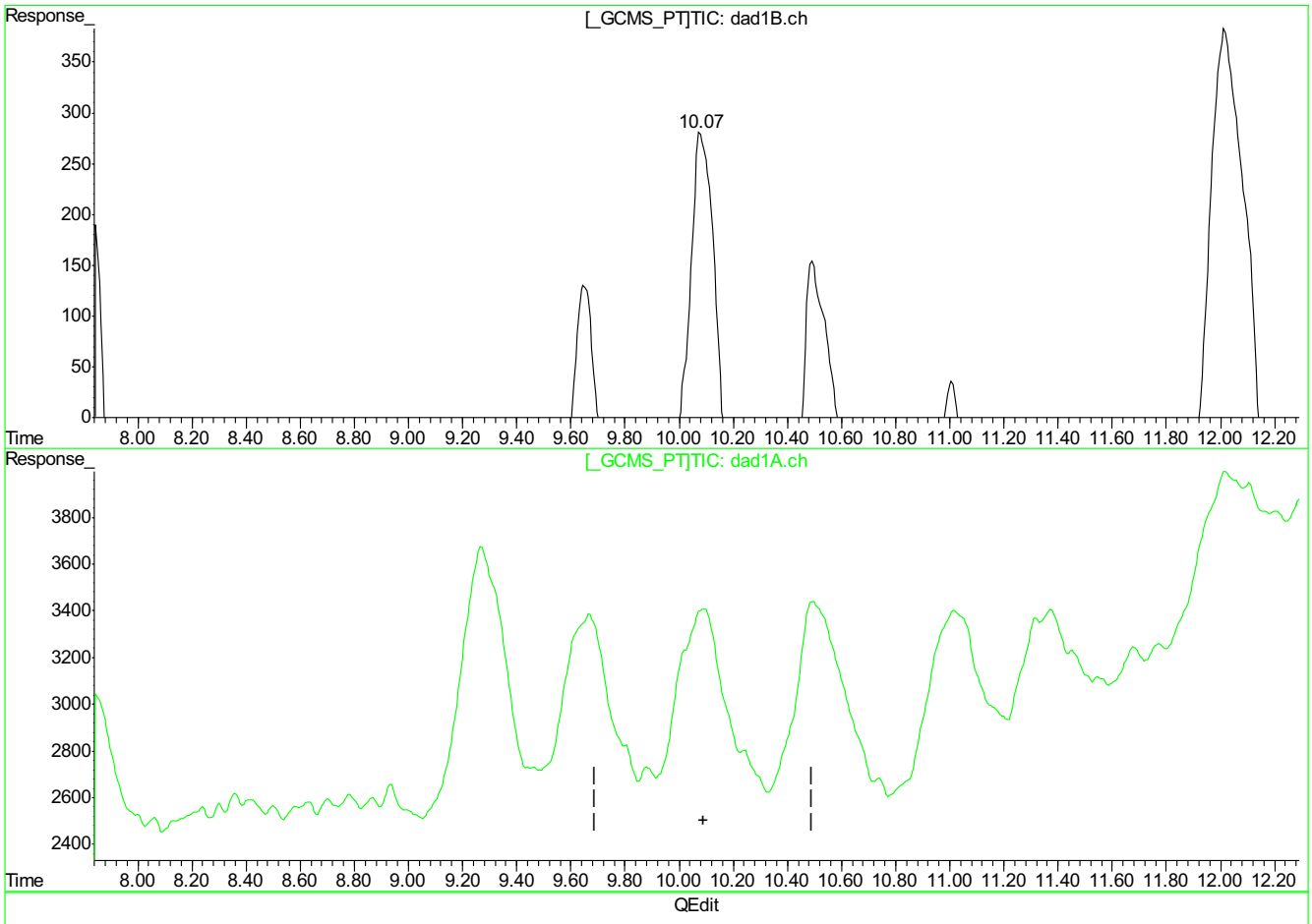
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On    : 29-Jun-2017, 16:57:18                    Operator: evitam
Sample    : ic1615-20                                Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:14 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration
```



(12) 2,4,6-Trinitrotoluene

10.08min 23.954ppb

response 107757

(12) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time

BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:15:32 2017

9.5.1.16

9

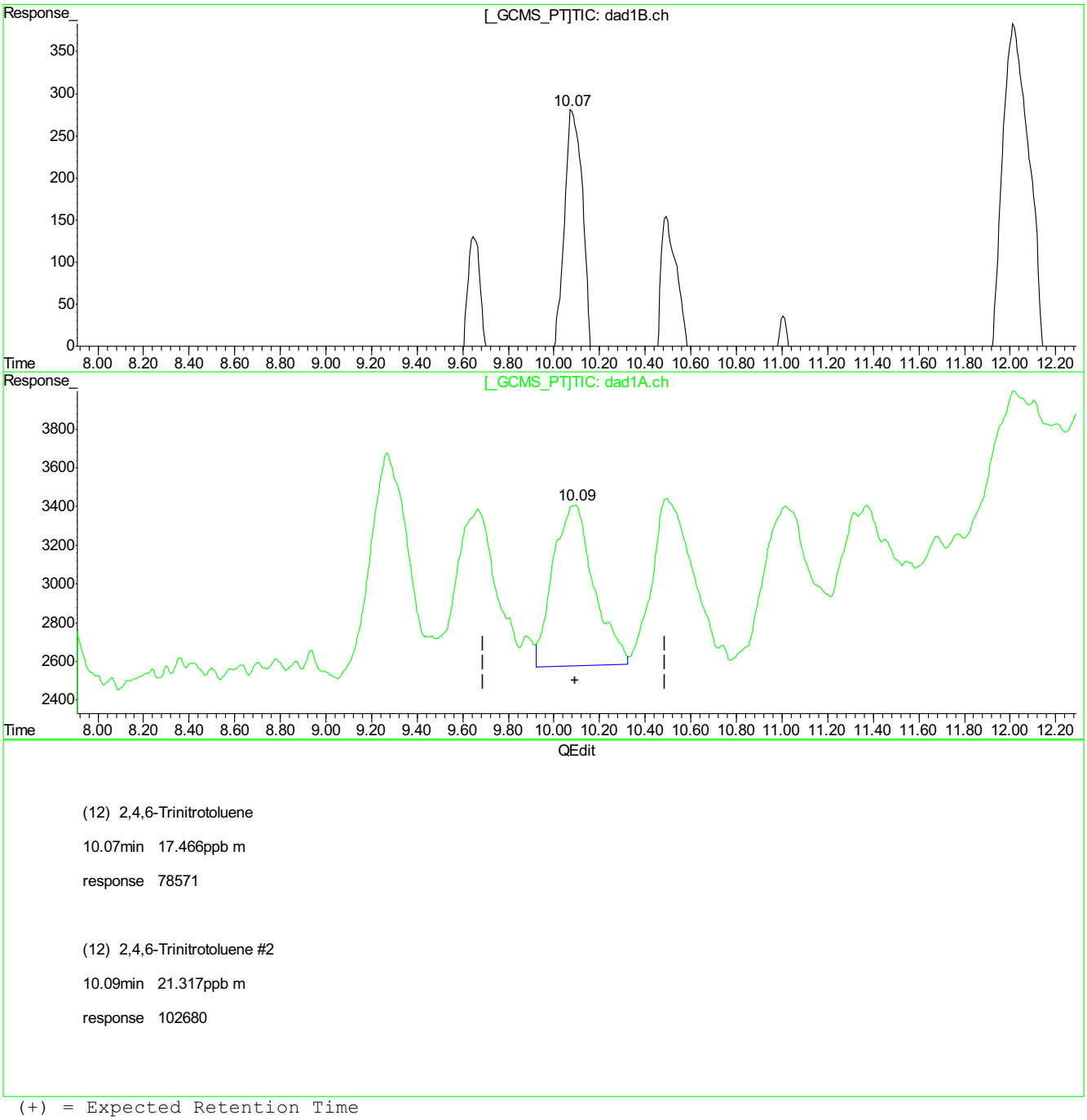
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

10.07min 17.466ppb m

response 78571

(12) 2,4,6-Trinitrotoluene #2

10.09min 21.317ppb m

response 102680

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:01 2017

9.5.1.17

9

BB055896.D edits: 2,4,6-Trinitrotoluene

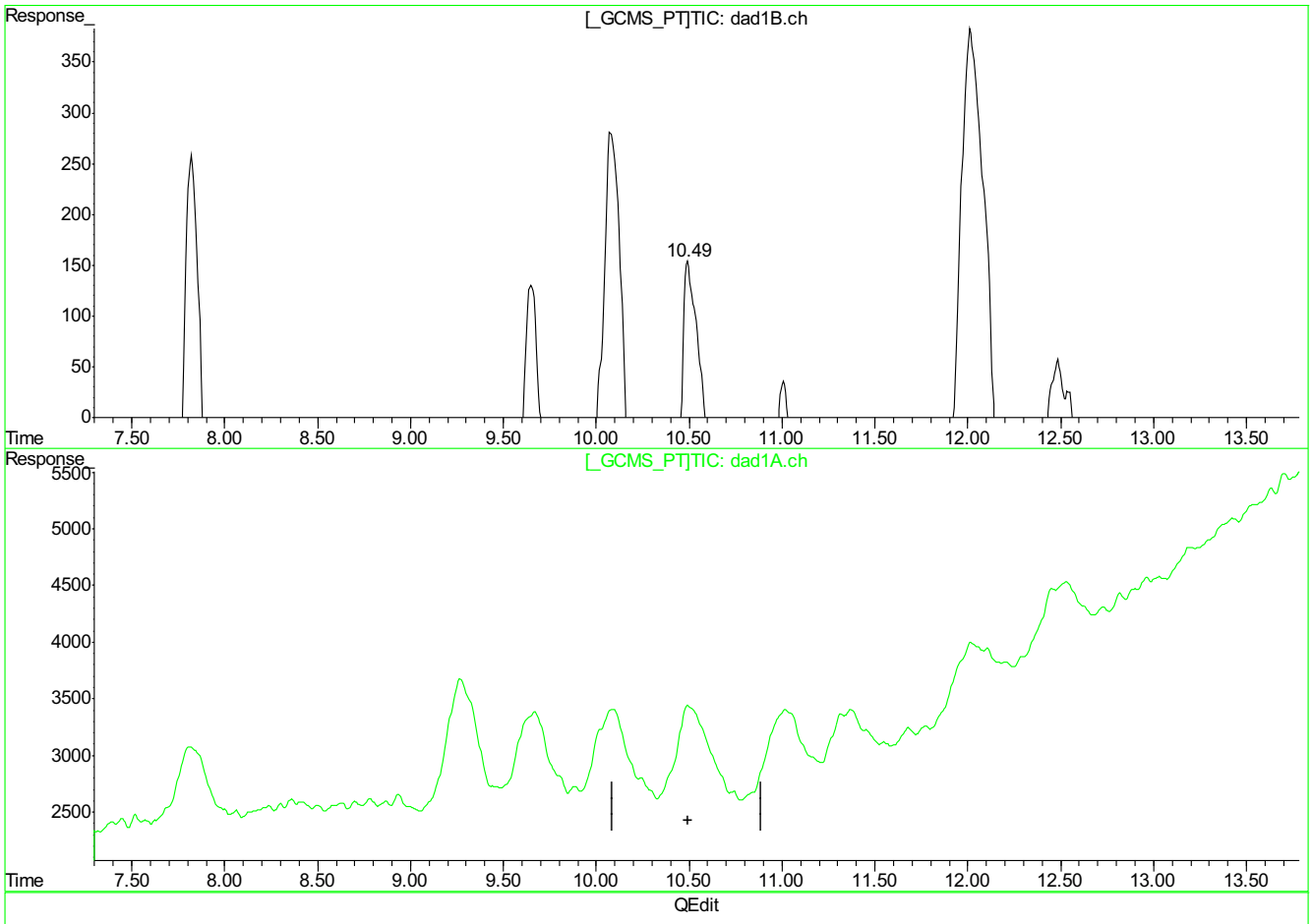
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On    : 29-Jun-2017, 16:57:18                    Operator: evitam
Sample    : ic1615-20                                Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:14 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration
```



(13) 2-Amino-4,6-Dinitrotoluene

10.49min 25.673ppb

response 102322

(13) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time

BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:17 2017

9.5.1.18

9

BB055896.D edits: 2-Amino-4,6-Dinitrotoluene

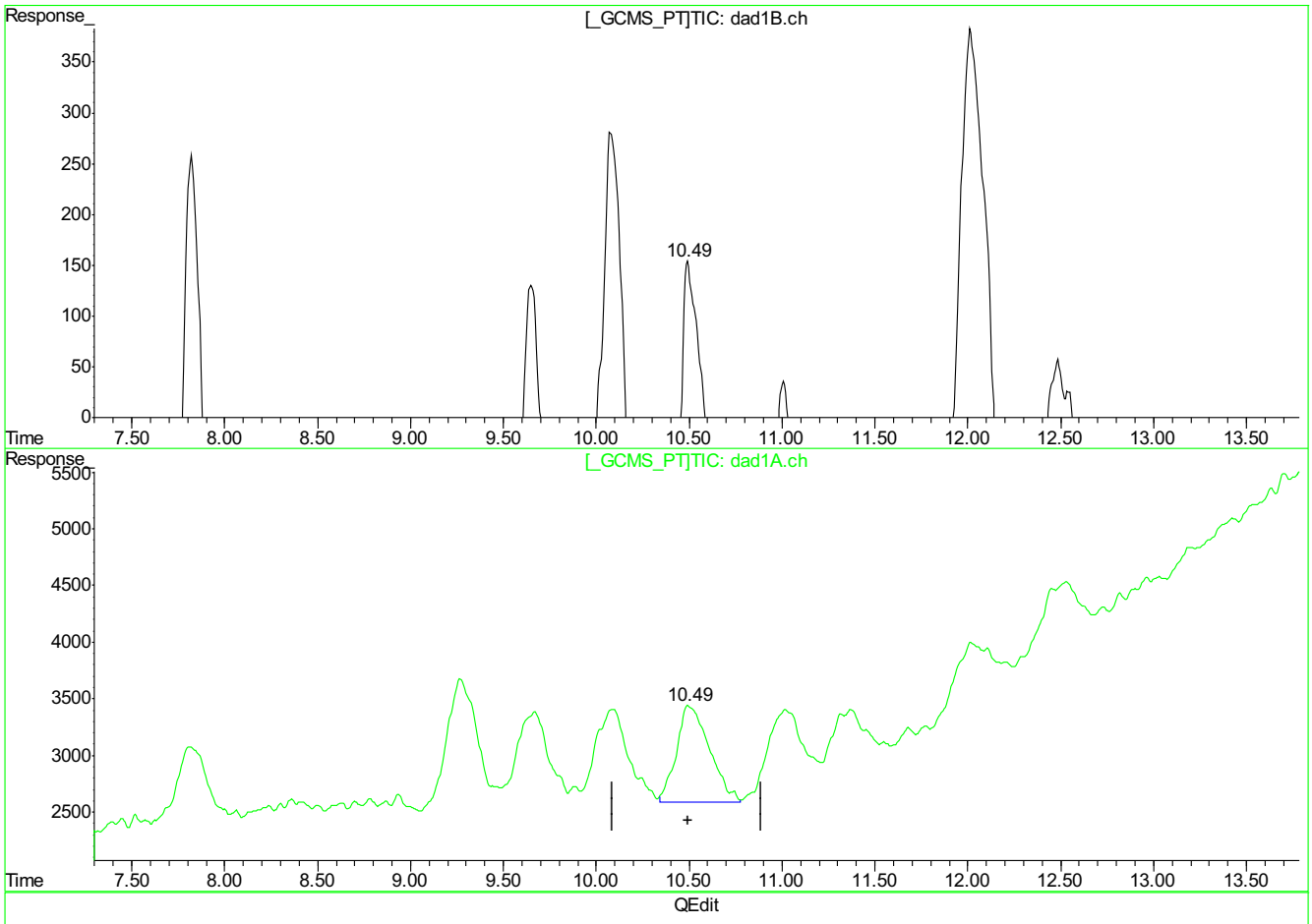
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.49min 25.673ppb

response 102322

(13) 2-Amino-4,6-Dinitrotoluene #2

10.49min 20.994ppb m

response 104355

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:23 2017

9.5.1.19

9

BB055896.D edits: 2-Amino-4,6-Dinitrotoluene

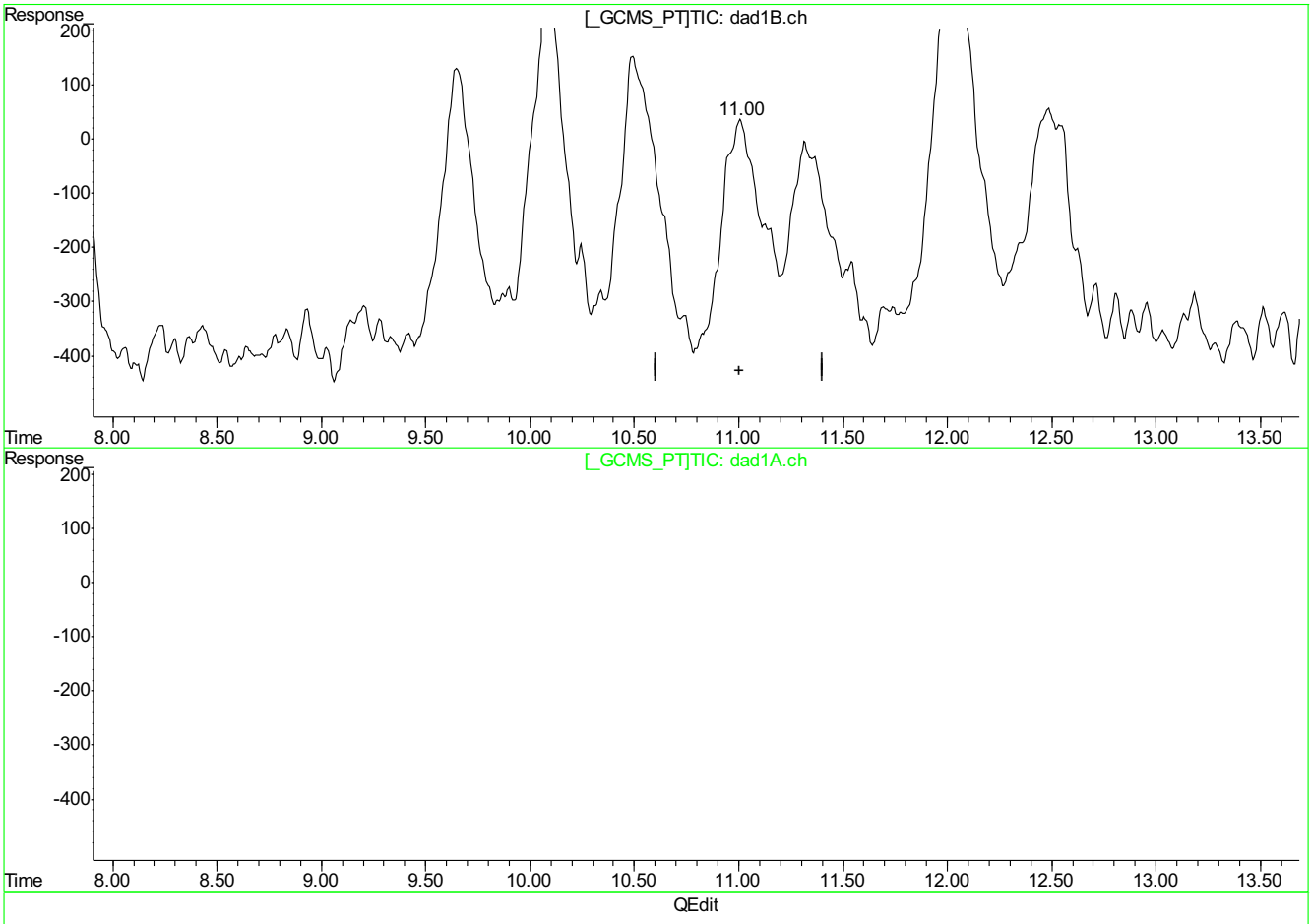
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

11.01min 30.857ppb

response 86134

(14) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:39 2017

9.5.1.20

9

BB055896.D edits: 4-Amino-2,6-Dinitrotoluene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration

(14) 4-Amino-2,6-Dinitrotoluene

11.00min 20.121ppb m

response 56166

(14) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:42 2017

9.5.1.21

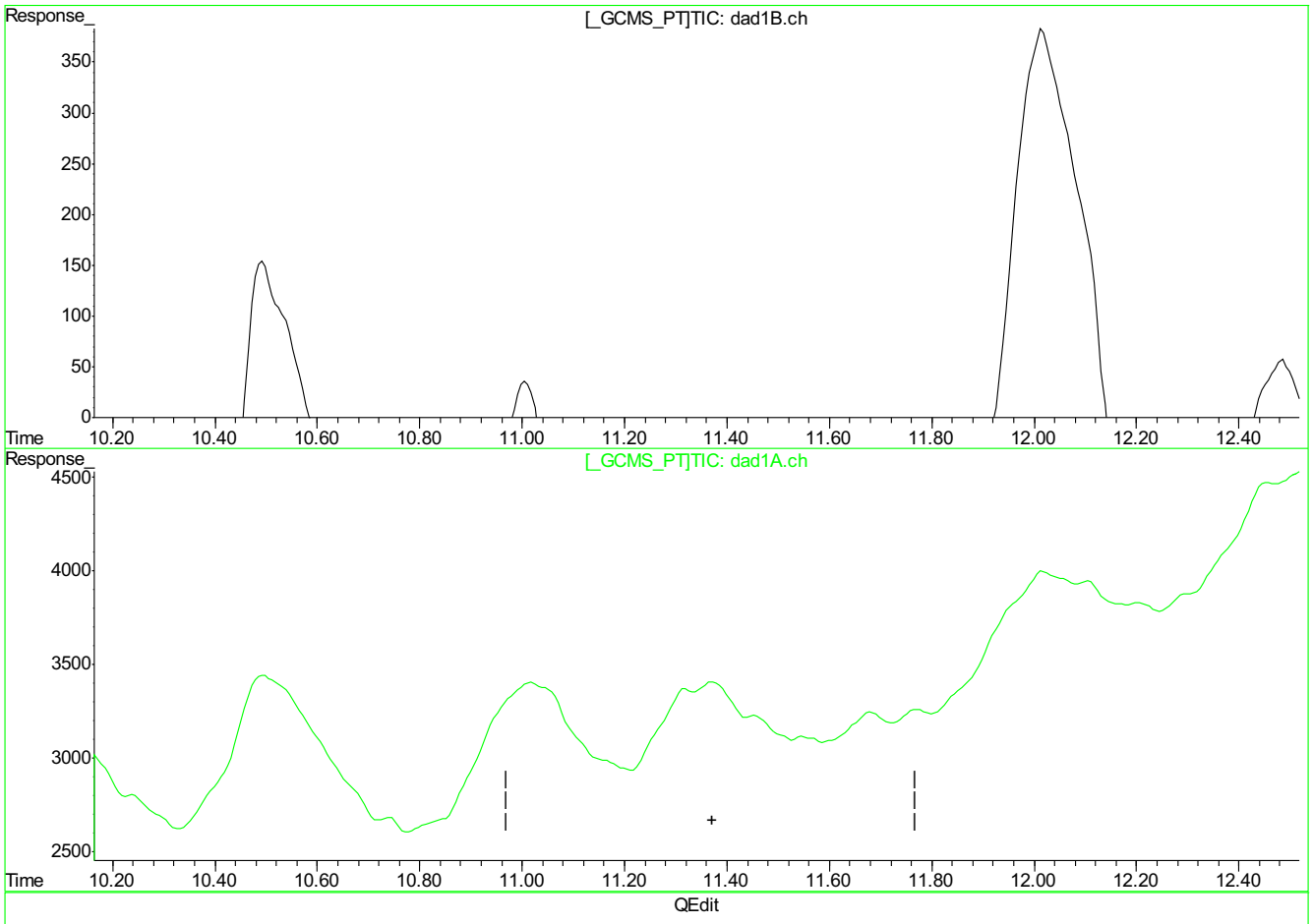
9

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

11.32min 29.254ppb

response 71090

(15) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:51 2017

9.5.1.22

9

BB055896.D edits: 3,4-Dinitrotoluene

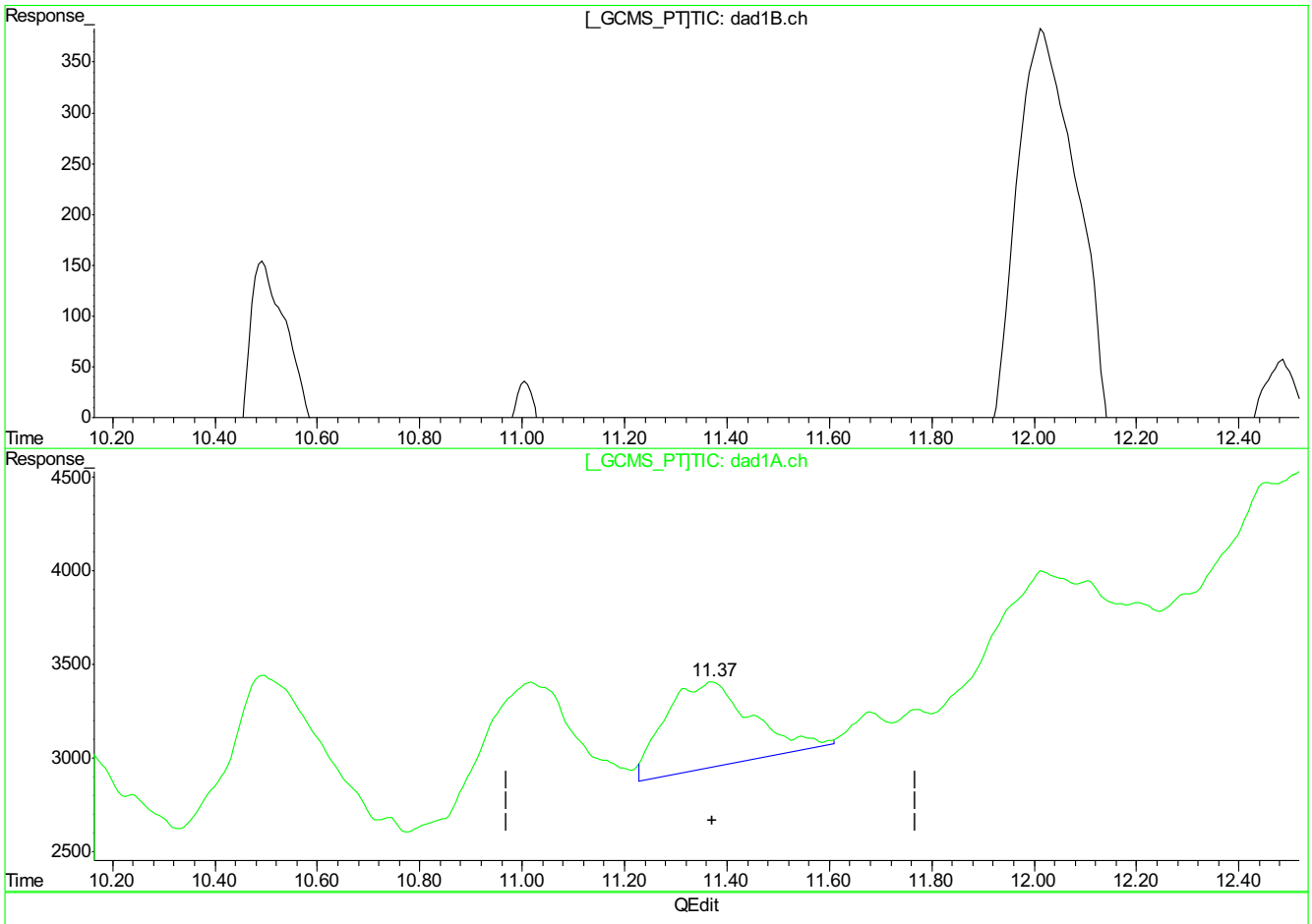
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

11.32min 29.254ppb

response 71090

(15) 3,4-Dinitrotoluene #2 (S)

11.37min 14.115ppb m

response 54283

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:16:59 2017

9.5.1.23

9

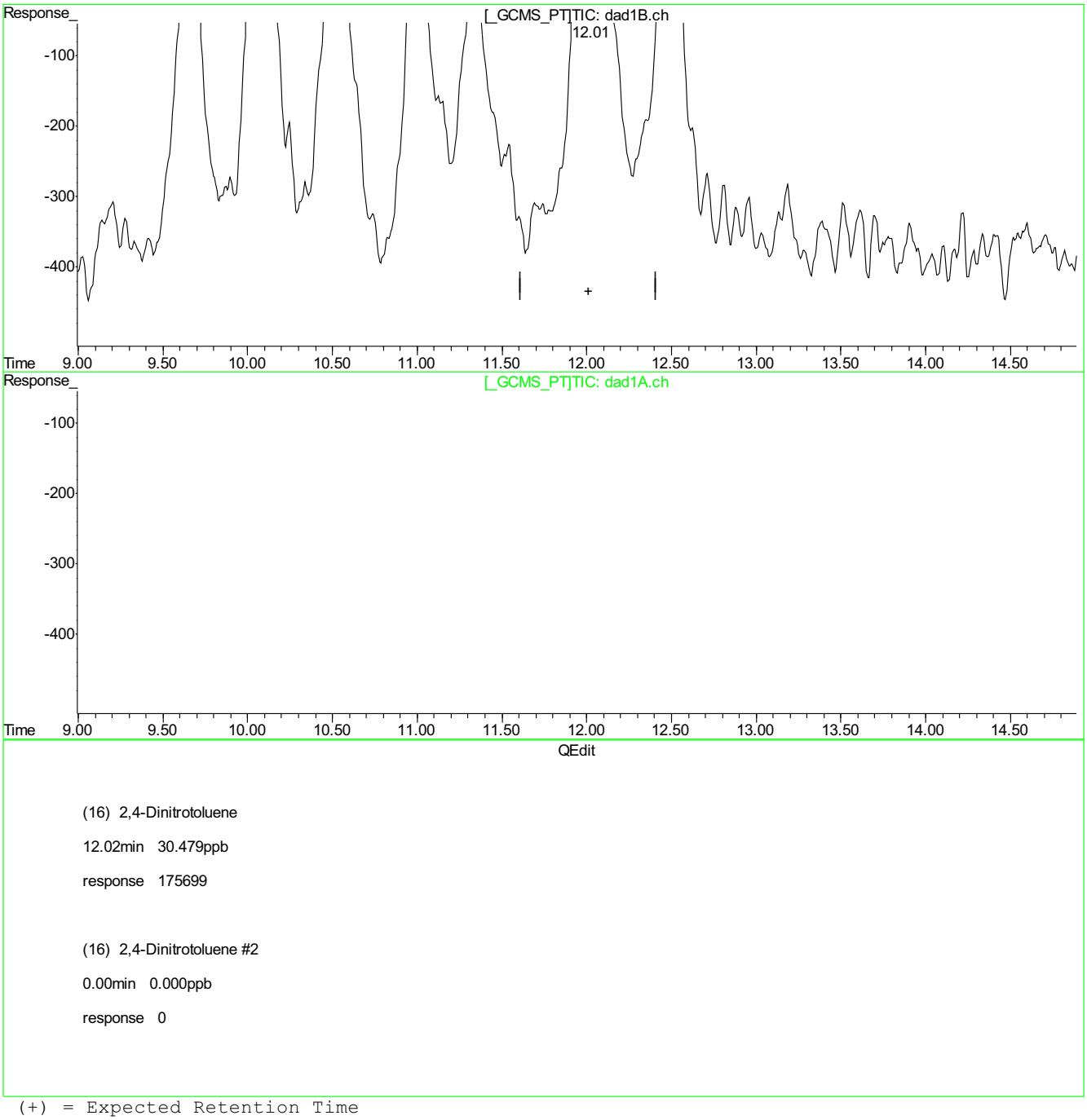
BB055896.D edits: 3,4-Dinitrotoluene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.02min 30.479ppb

response 175699

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:19 2017

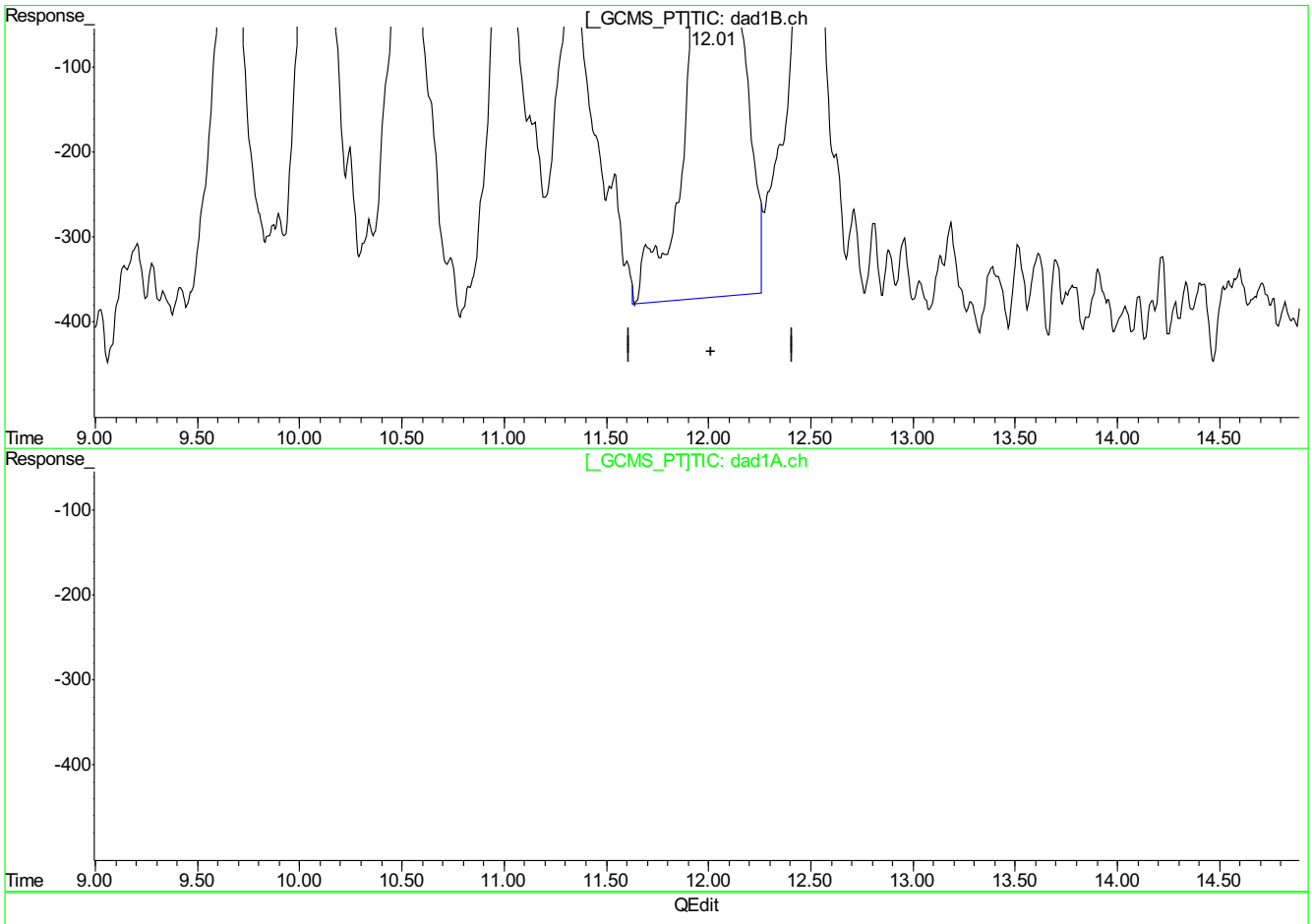
9.5.1.24

9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



QEdit

(16) 2,4-Dinitrotoluene

12.01min 19.371ppb m

response 111666

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:23 2017

9.5.1.25

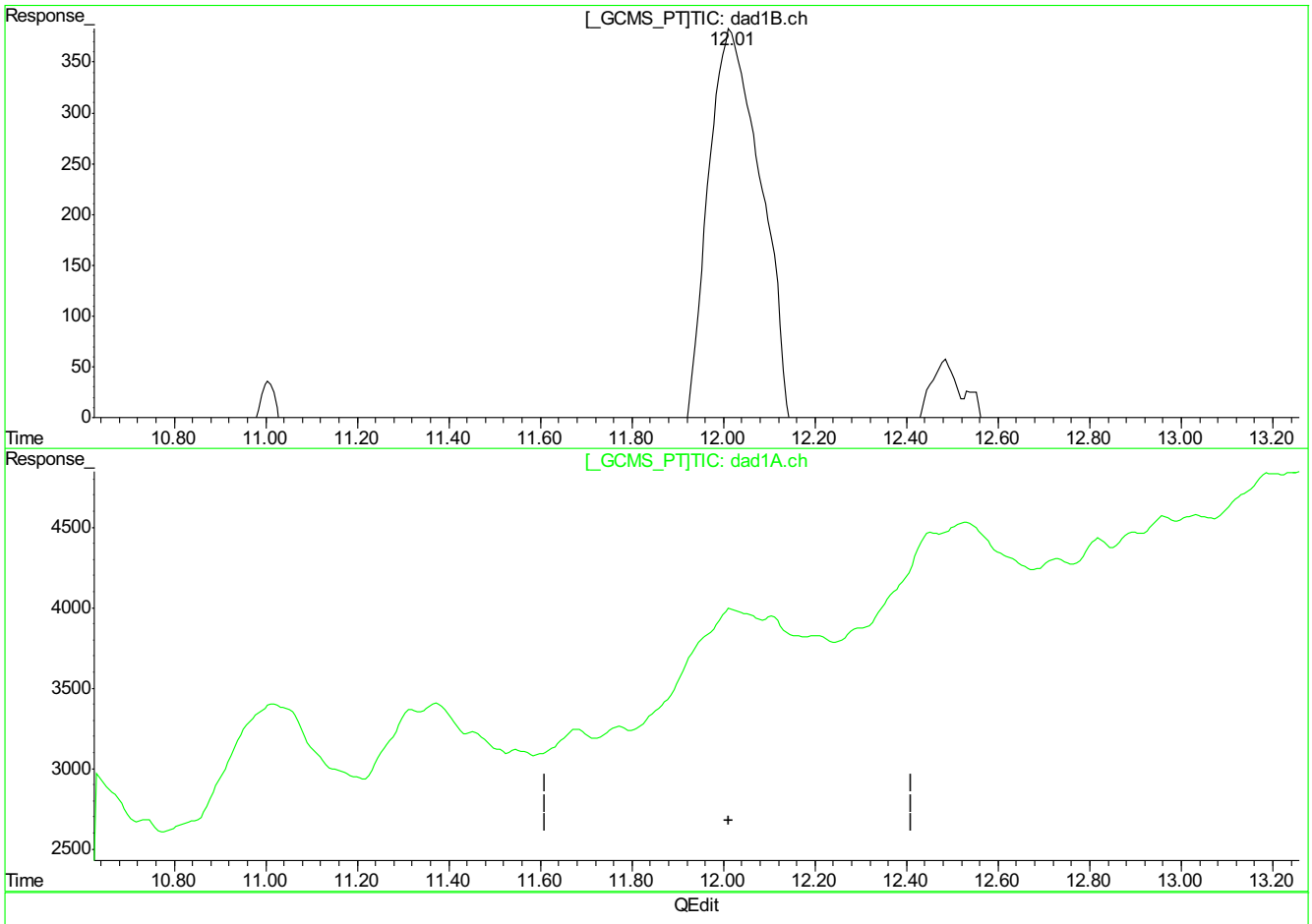
9

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.01min 19.371ppb m

response 111666

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:27 2017

9.5.1.26

9

BB055896.D edits: 2,4-Dinitrotoluene

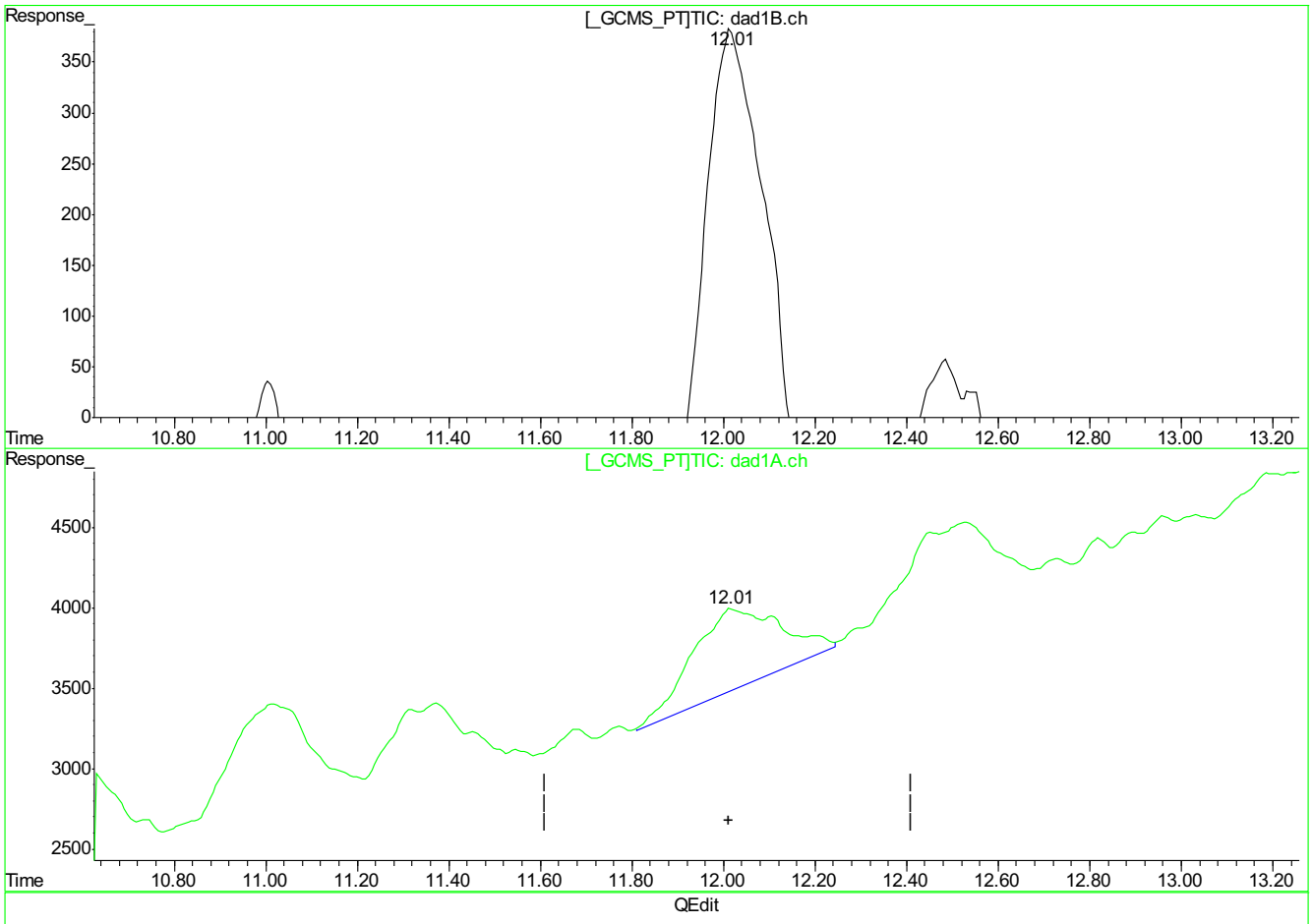
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.01min 19.371ppb m

response 111666

(16) 2,4-Dinitrotoluene #2

12.01min 21.127ppb m

response 67744

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:30 2017

9.5.1.27

9

BB055896.D edits: 2,4-Dinitrotoluene

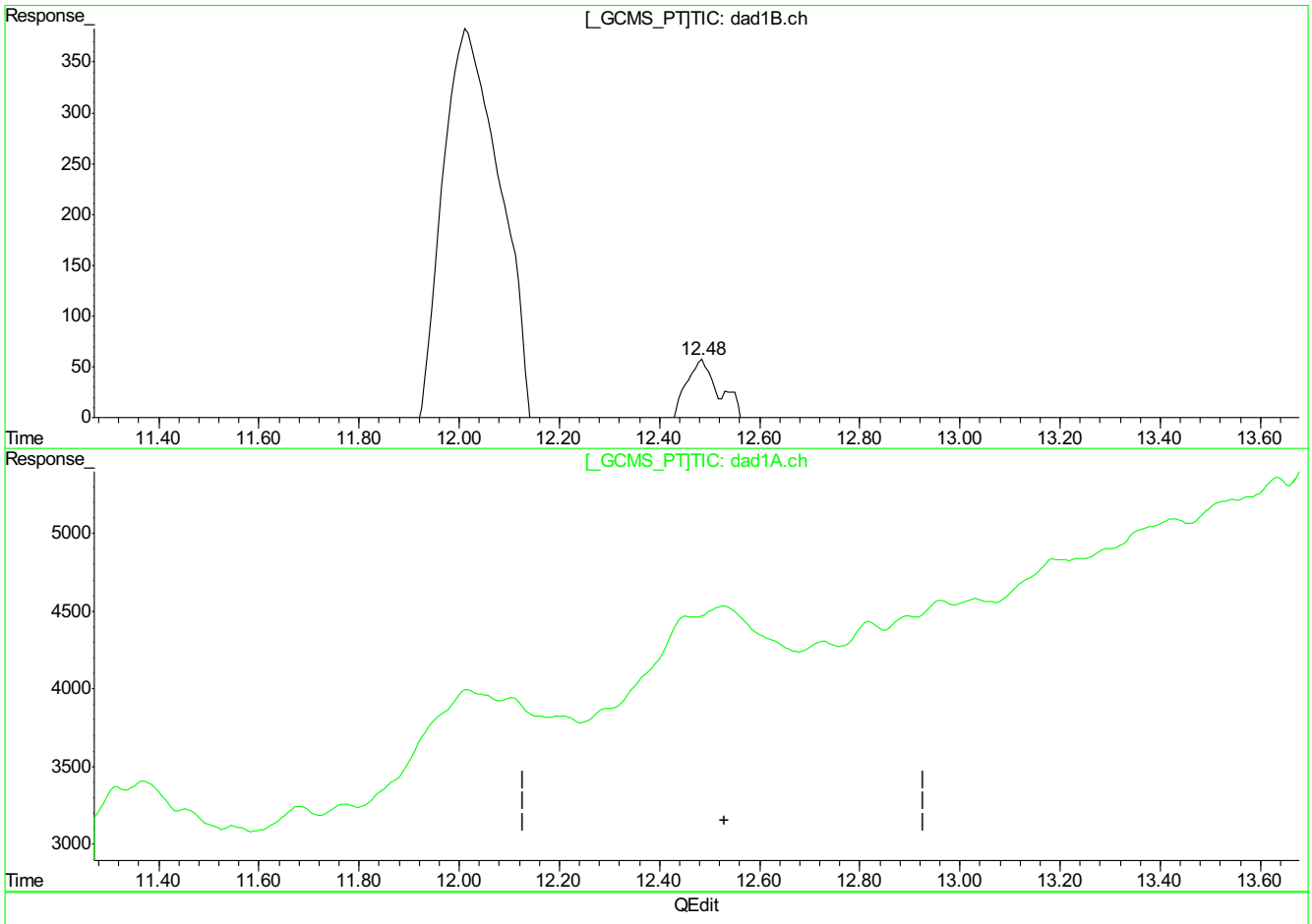
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.48min 16.215ppb m

response 53312

(17) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:40 2017

9.5.1.28

9

BB055896.D edits: 2,6-Dinitrotoluene

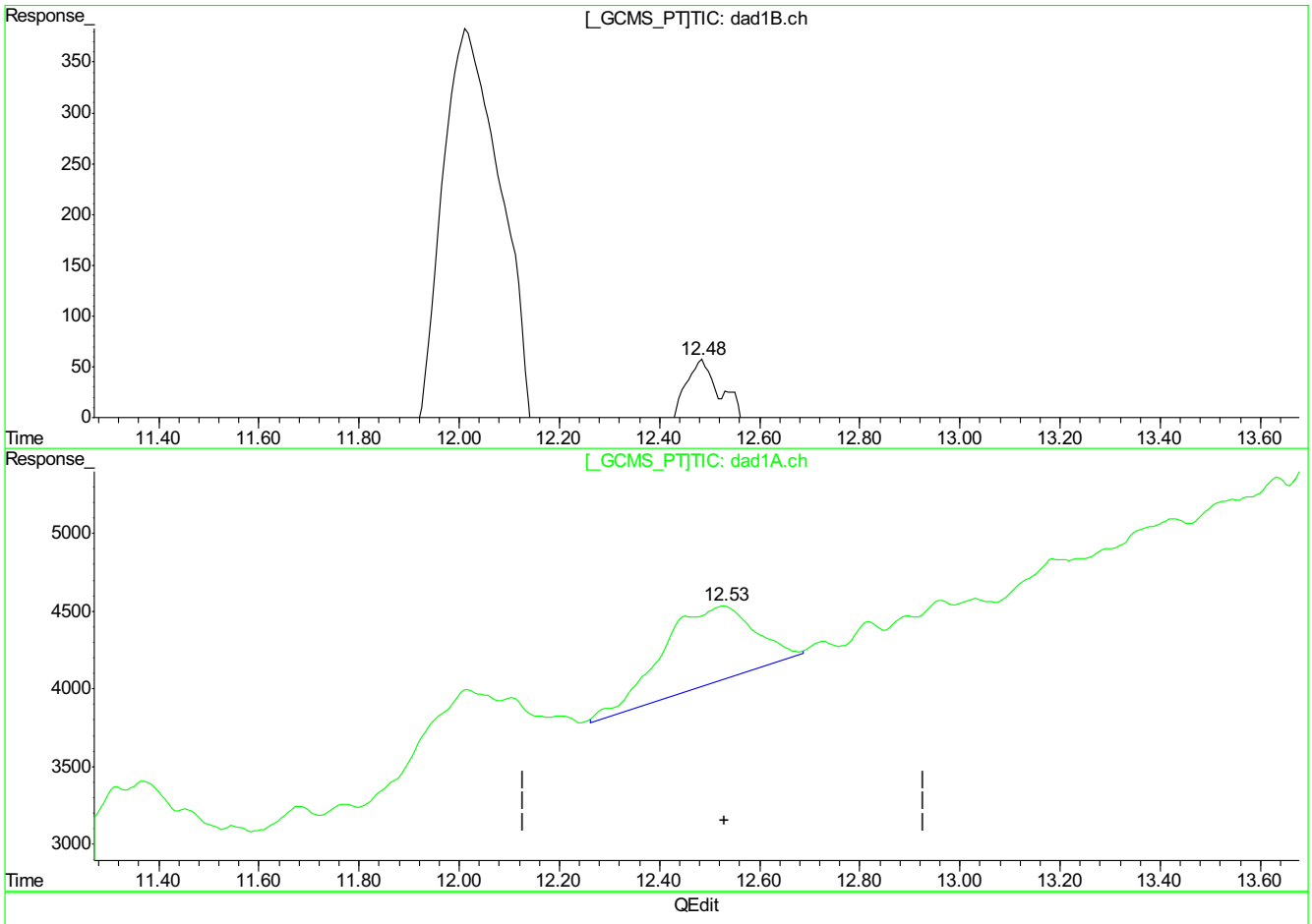
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:14 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.48min 16.215ppb m

response 53312

(17) 2,6-Dinitrotoluene #2

12.53min 16.083ppb m

response 63443

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:17:43 2017

9.5.1.29

9

BB055896.D edits: 2,6-Dinitrotoluene

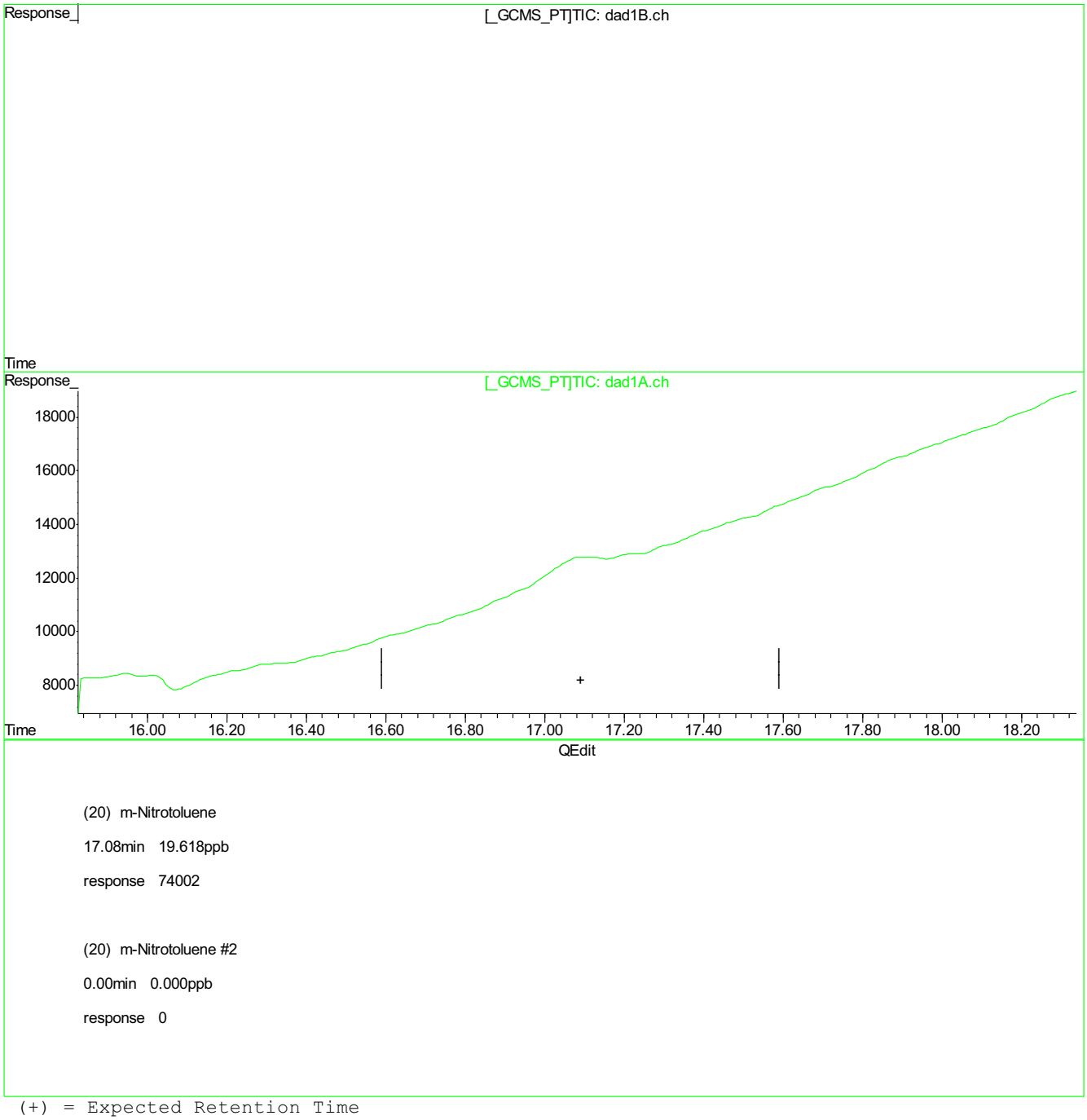
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.08min 19.618ppb

response 74002

(20) m-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:32 2017

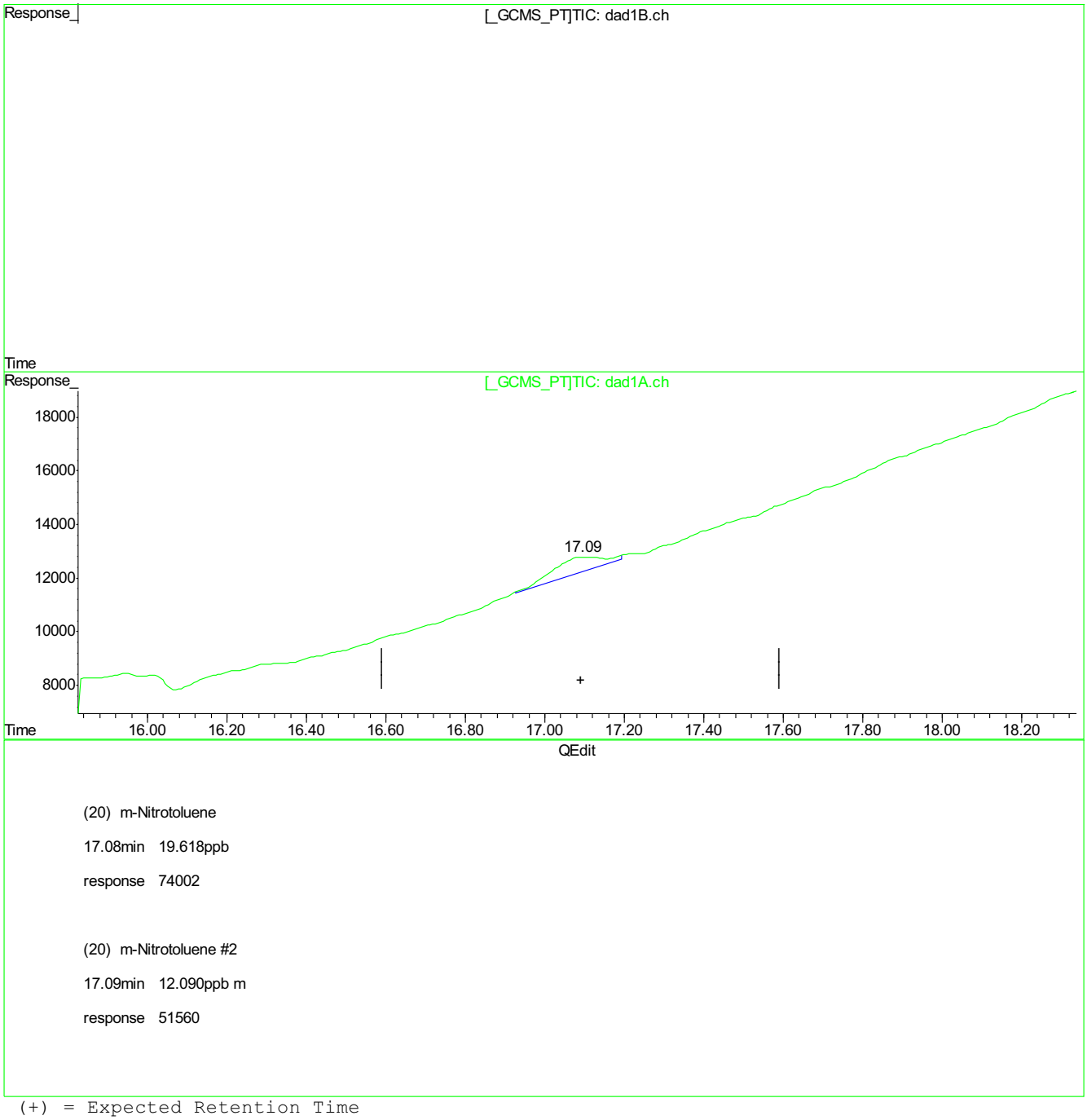
BB055896.D edits: m-Nitrotoluene

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.08min 19.618ppb

response 74002

(20) m-Nitrotoluene #2

17.09min 12.090ppb m

response 51560

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:35 2017

BB055896.D edits: m-Nitrotoluene

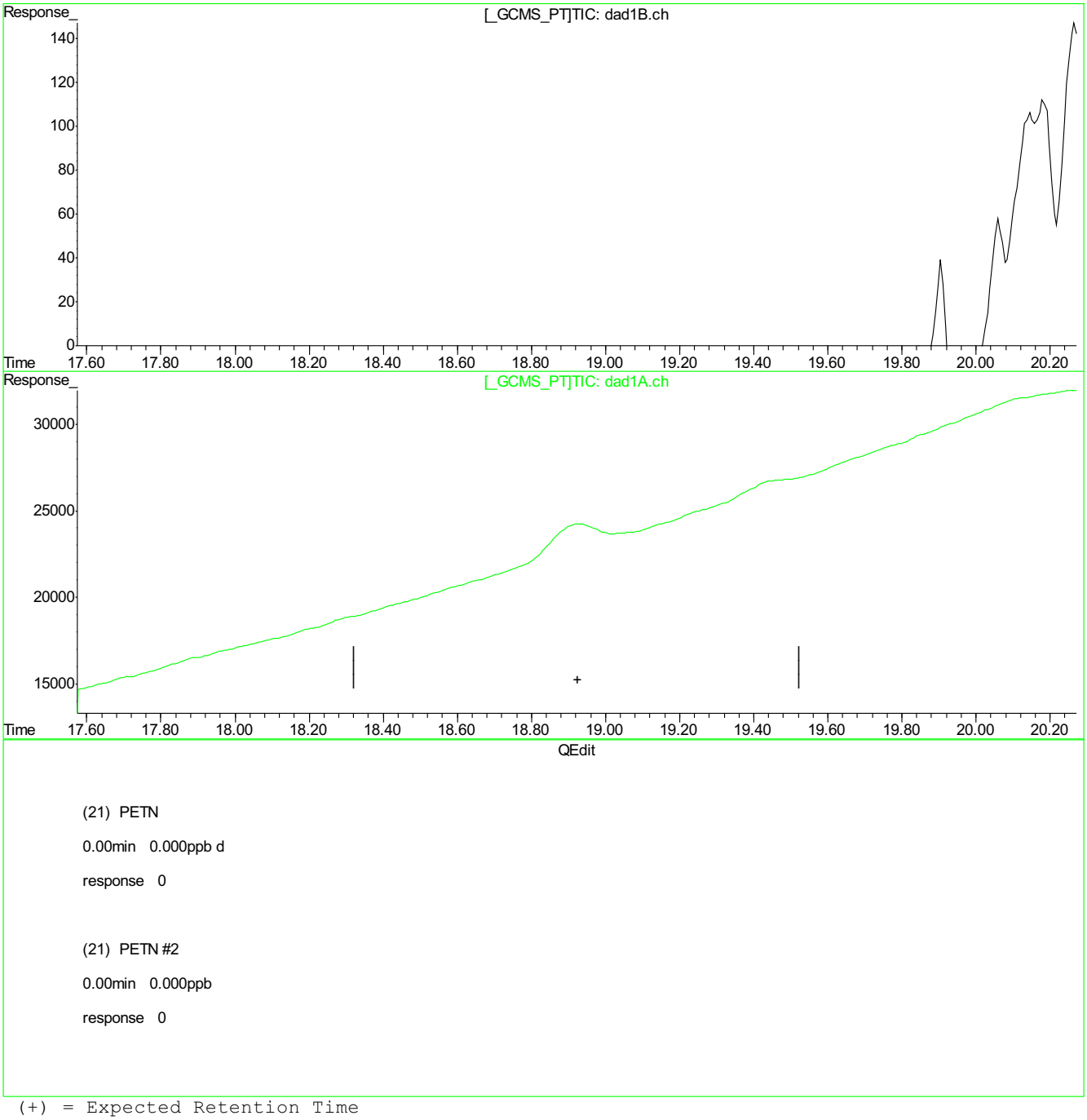
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:40 2017

9.5.1.32

9

BB055896.D edits: PETN

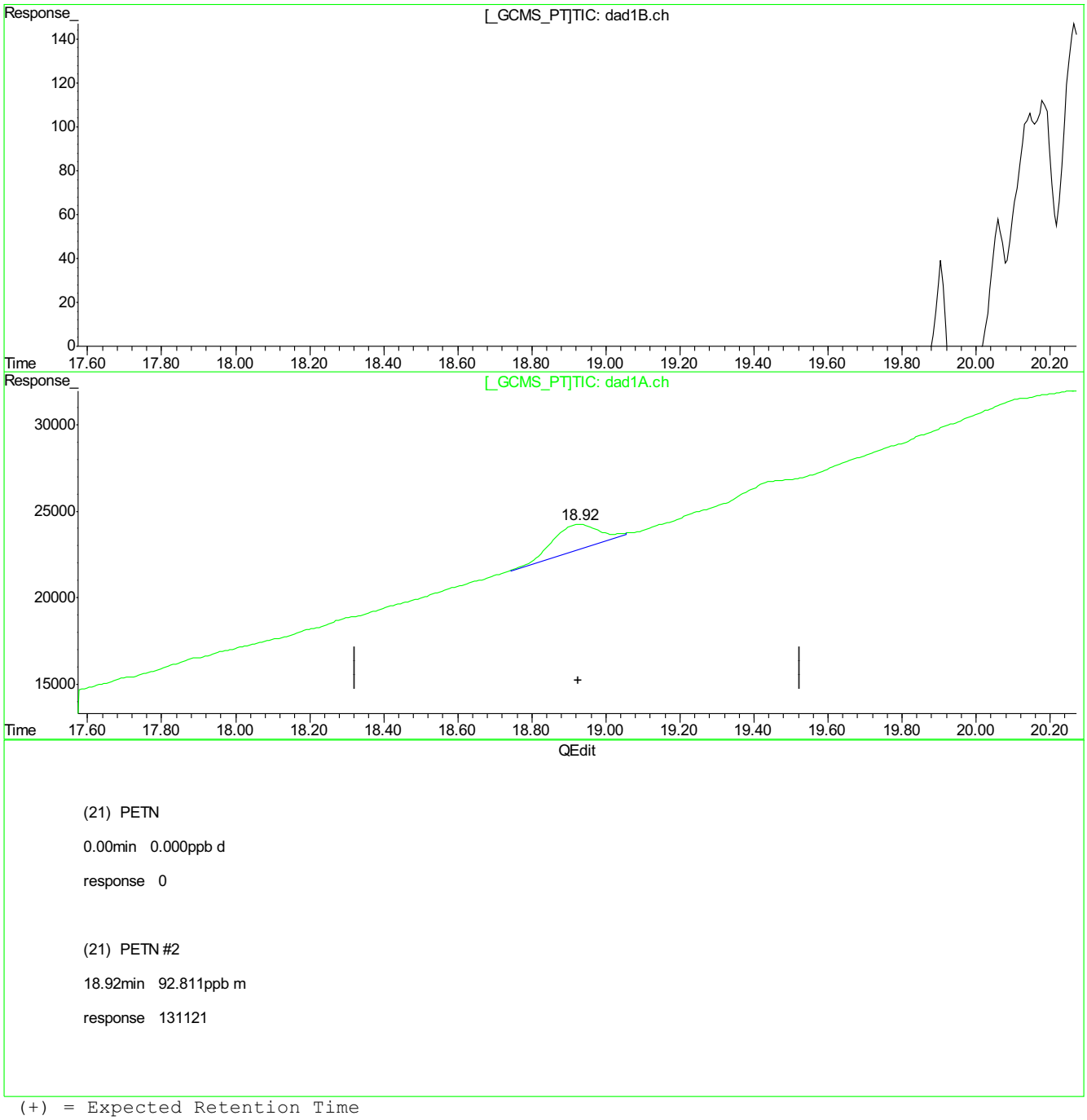
SGS ACCUTEST FA45759

Cal Report: BB055896.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1B.ch Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055896.D\dad1A.ch
Acq On : 29-Jun-2017, 16:57:18 Operator: evitam
Sample : ic1615-20 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:18 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:14:03 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.92min 92.811ppb m

response 131121

(+) = Expected Retention Time
BB055896.D 8330B_0629PLUS.M Fri Jun 30 09:18:43 2017

9.5.1.33

9

BB055896.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055897.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:19:06 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.16	11.16f	132410	145338	54.725	37.741m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		10.95%#	7.55%#
	Target Compounds						
1)	TNX	1.40	1.40	146118	219593	43.466	41.965
2)	HMX	1.53	1.53	79514	201085	41.872	39.247
3)	DNX	1.80	1.80	134378	249387	43.793	49.670
4)	MNX	2.41	2.41	105691	148041	44.254	40.556
5)	RDX	3.04	3.04	102016	146367	47.326	42.765
6)	1,3,5-Trinitrobe	4.83	4.83	197443	364693	45.070	43.331
7)	1,3-Dinitrobenze	6.11	6.12	261556	164403	43.412	40.971m
8)	3,5-Dinitroanili	6.51	6.51	206064	296451	49.121	43.869
9)	Nitrobenzene	7.76	7.76	160444	145710	44.580	42.559m
10)	Nitroglycerin	0.00	9.10	0	188751	N.D. d	142.686
11)	Tetryl	9.51	9.49	145252	163203	52.998	39.516m
12)	2,4,6-Trinitroto	9.92	9.92	183173	160448	42.079	32.134m
13)	2-Amino-4,6-Dini	10.33	10.32	170367	163052	43.878	31.462m
14)	4-Amino-2,6-Dini	10.85	0.00	93899	0	32.725m	N.D. #
16)	2,4-Dinitrotolue	11.85	11.89	249739	124601	44.352	37.443m
17)	2,6-Dinitrotolue	12.29	12.37	158440	162562	49.432	41.211m
18)	o-Nitrotoluene	15.53	15.54	106488	127323	43.116	40.658
19)	p-Nitrotoluene	16.10	16.10	169893	64190	45.155	26.064m#
20)	m-Nitrotoluene	17.01	17.06	166731	193627	43.914	48.508m
21)	PETN	0.00	18.91	0	288118	N.D. d	198.630m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055897.D 8330B_0629PLUS.M Fri Jun 30 11:02:17 2017 Page 1

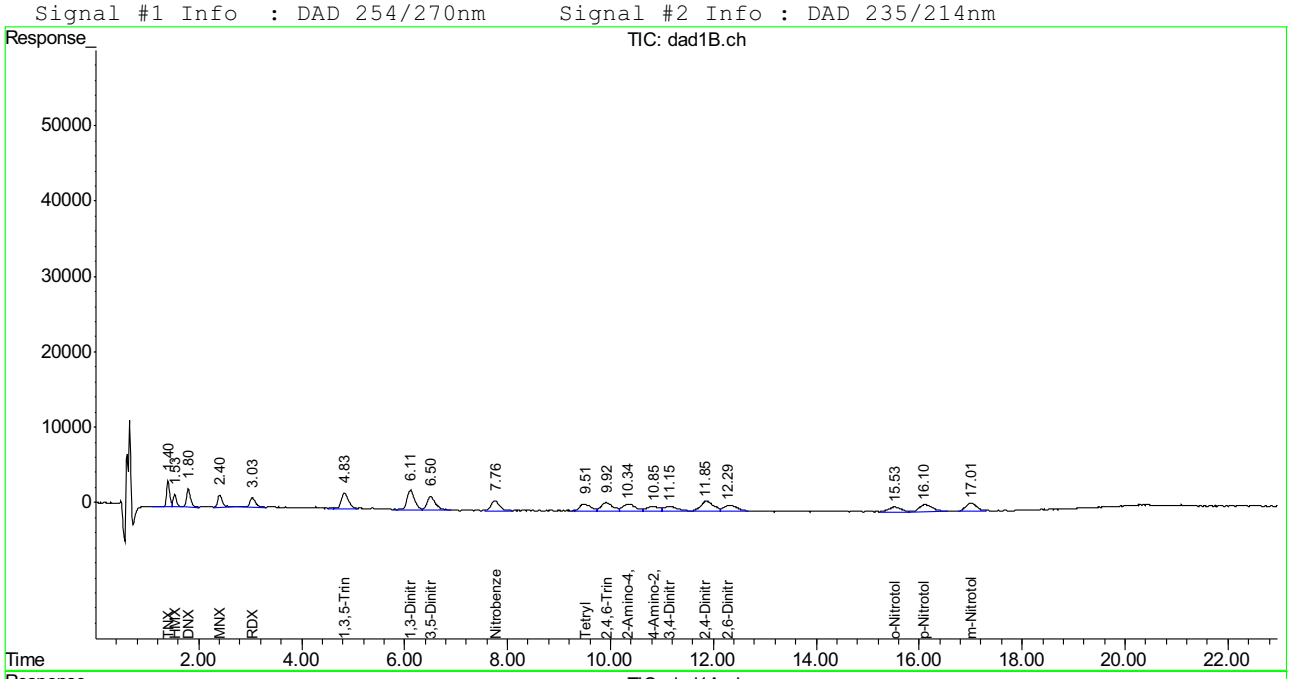
9.5.2
6

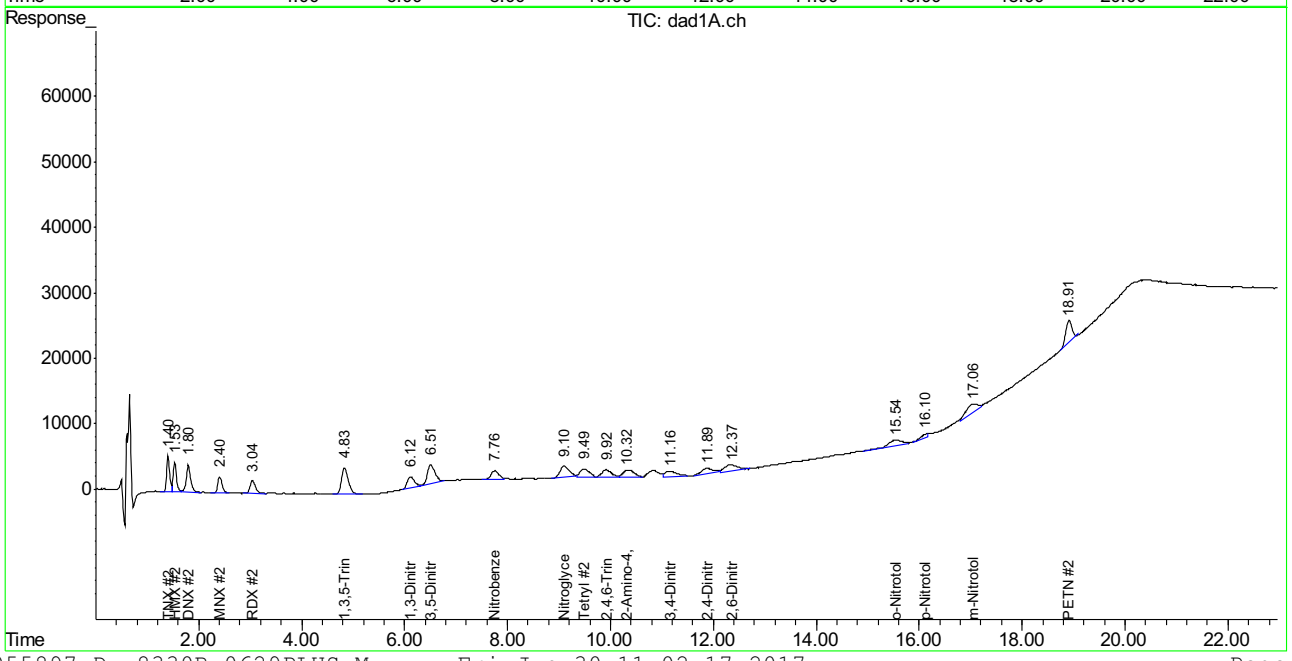
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:24 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055897.D
Injection Time: 06/29/17 17:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

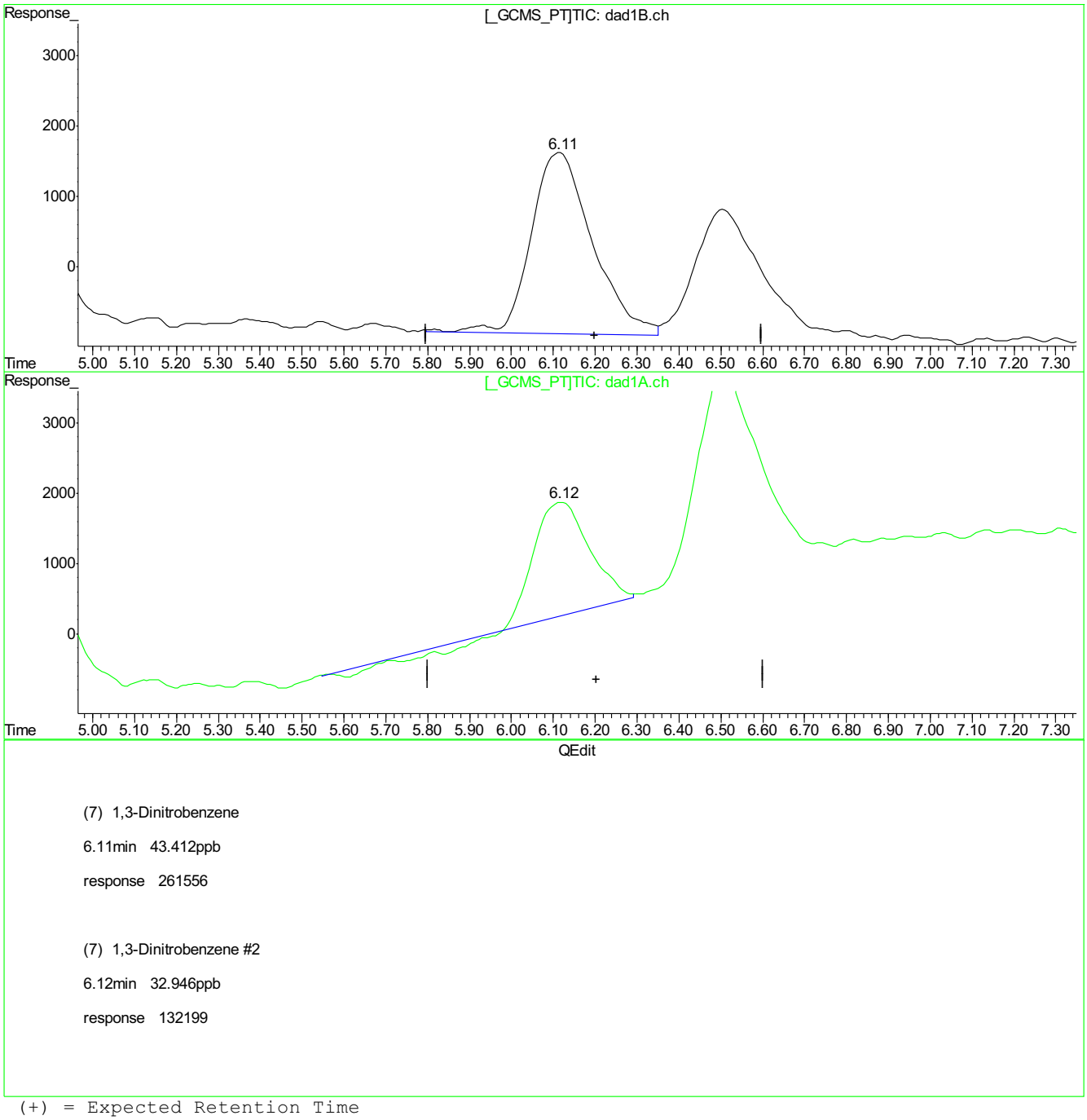
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.12	Poorly defined baseline
Nitrobenzene	98-95-3	2	7.76	Poorly defined baseline
Tetryl	479-45-8	2	9.49	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	9.92	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.32	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	10.85	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.16	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	11.89	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	12.37	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	16.10	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	17.06	Poorly defined baseline
PETN	78-11-5	2	18.91	Poorly defined baseline

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.11min 43.412ppb

response 261556

(7) 1,3-Dinitrobenzene #2

6.12min 32.946ppb

response 132199

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:27 2017

9.5.2.2

9

BB055897.D edits: 1,3-Dinitrobenzene

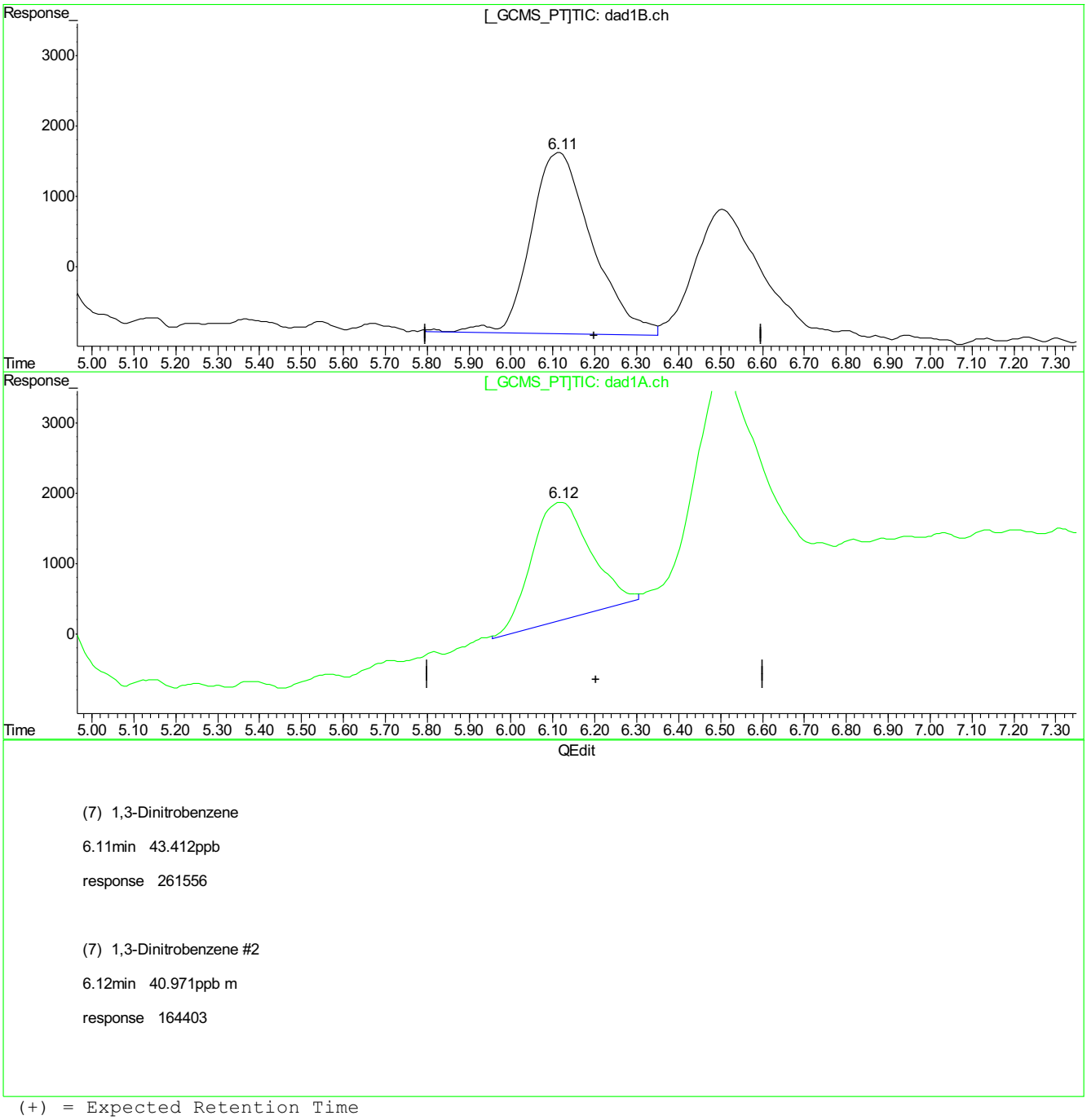
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.11min 43.412ppb

response 261556

(7) 1,3-Dinitrobenzene #2

6.12min 40.971ppb m

response 164403

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:30 2017

9.5.2.3

9

BB055897.D edits: 1,3-Dinitrobenzene

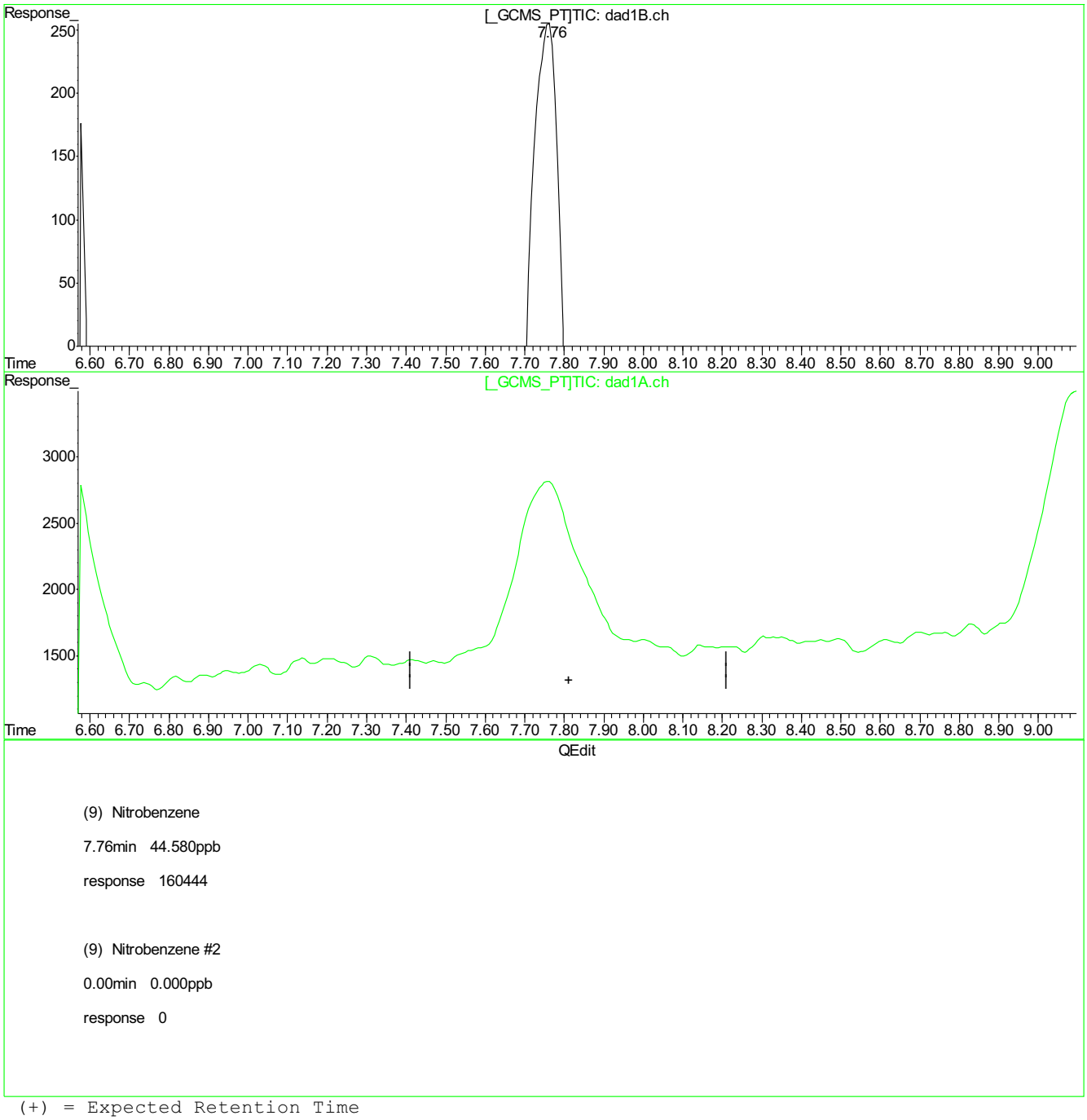
SGS ACCUTEST FA45759

Cal Report: **BB055897.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:27:19                    Operator: evitam
Sample    : ic1615-50                                Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:19 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration
```



(9) Nitrobenzene

7.76min 44.580ppb

response 160444

(9) Nitrobenzene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time

BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:34 2017

9.5.2.4

9

BB055897.D edits: Nitrobenzene

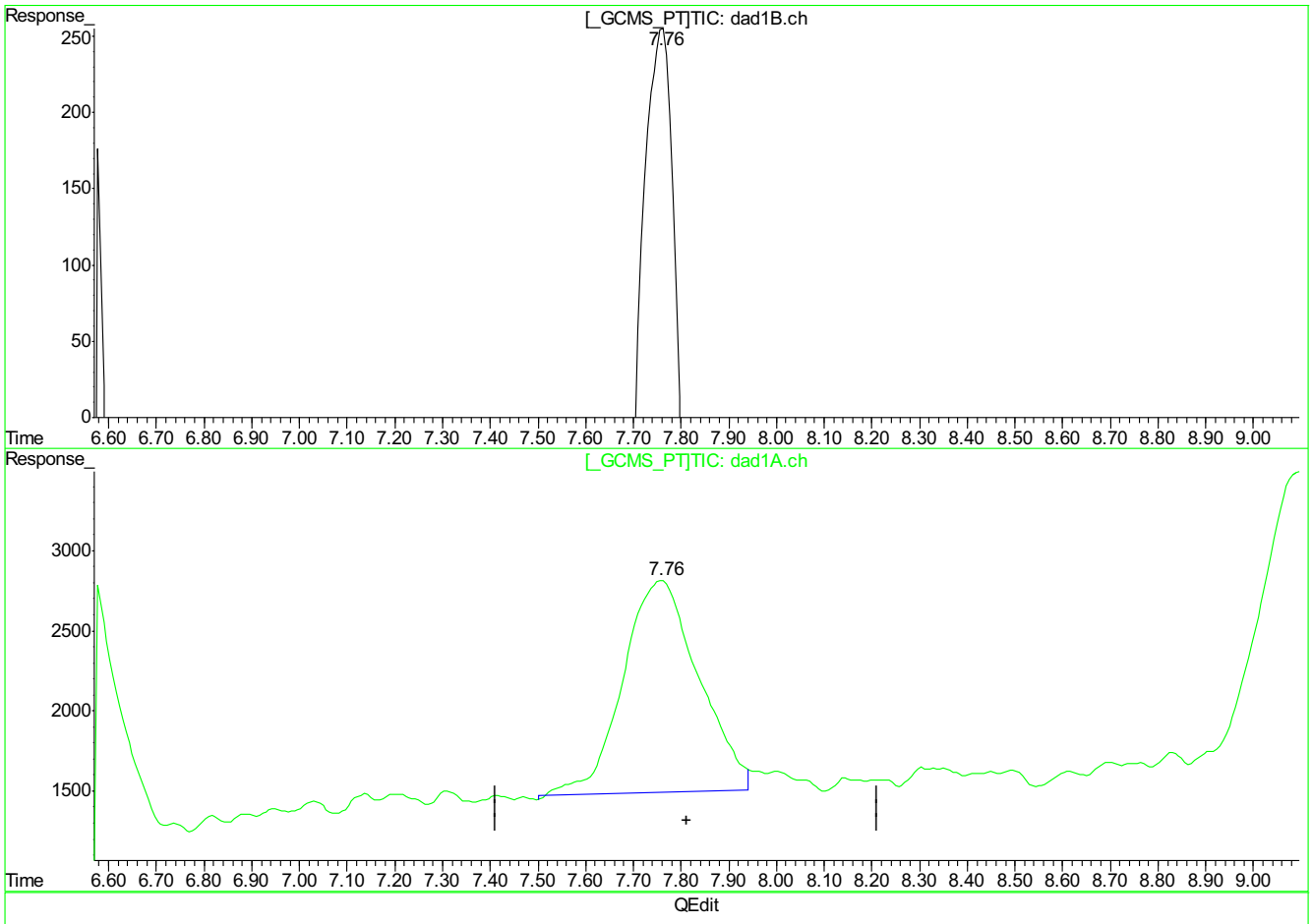
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.76min 44.580ppb

response 160444

(9) Nitrobenzene #2

7.76min 42.559ppb m

response 145710

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:19:37 2017

9.5.2.5

9

BB055897.D edits: Nitrobenzene

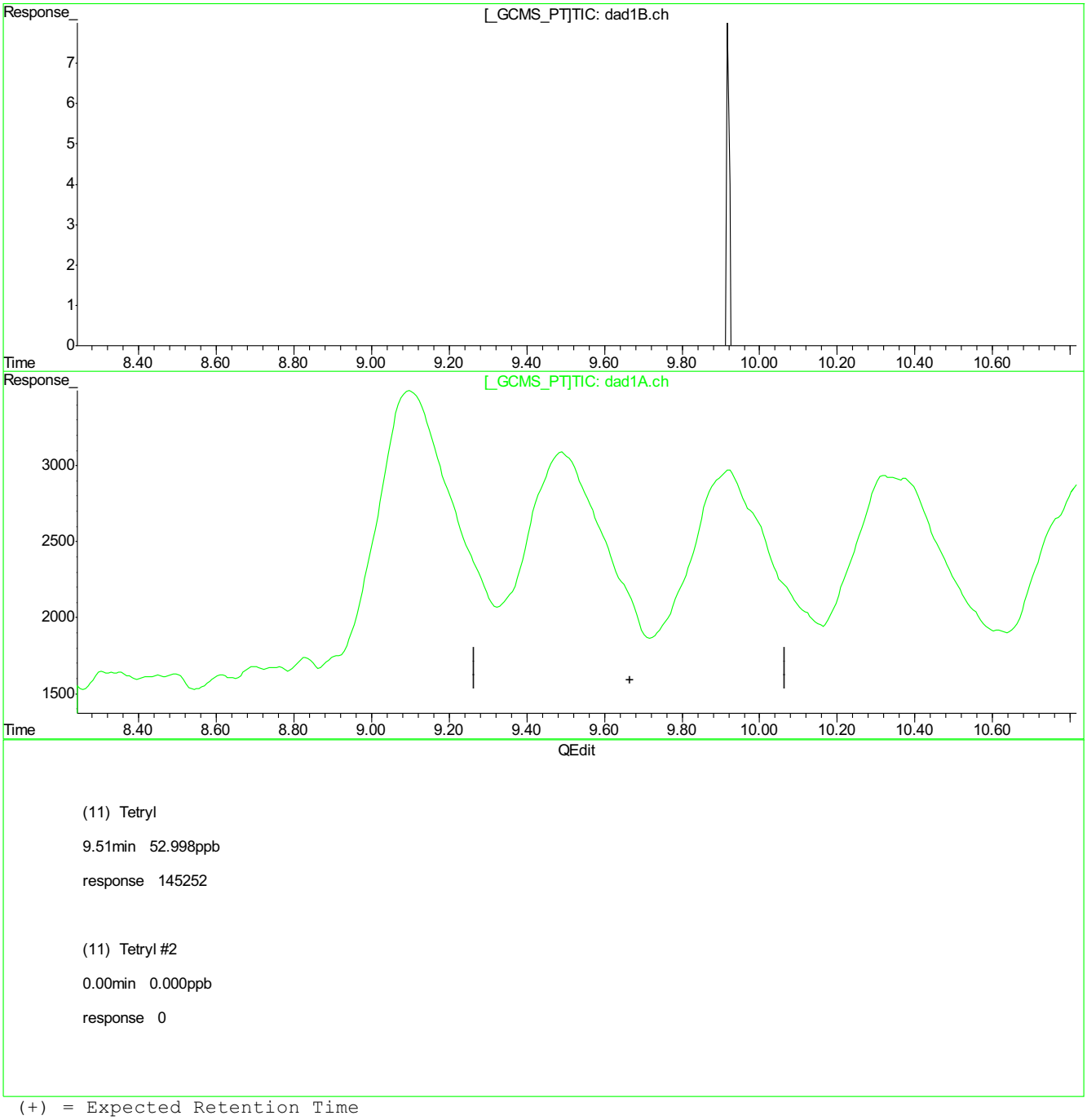
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.51min 52.998ppb

response 145252

(11) Tetryl #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:27 2017

9.5.2.6

9

BB055897.D edits: Tetryl

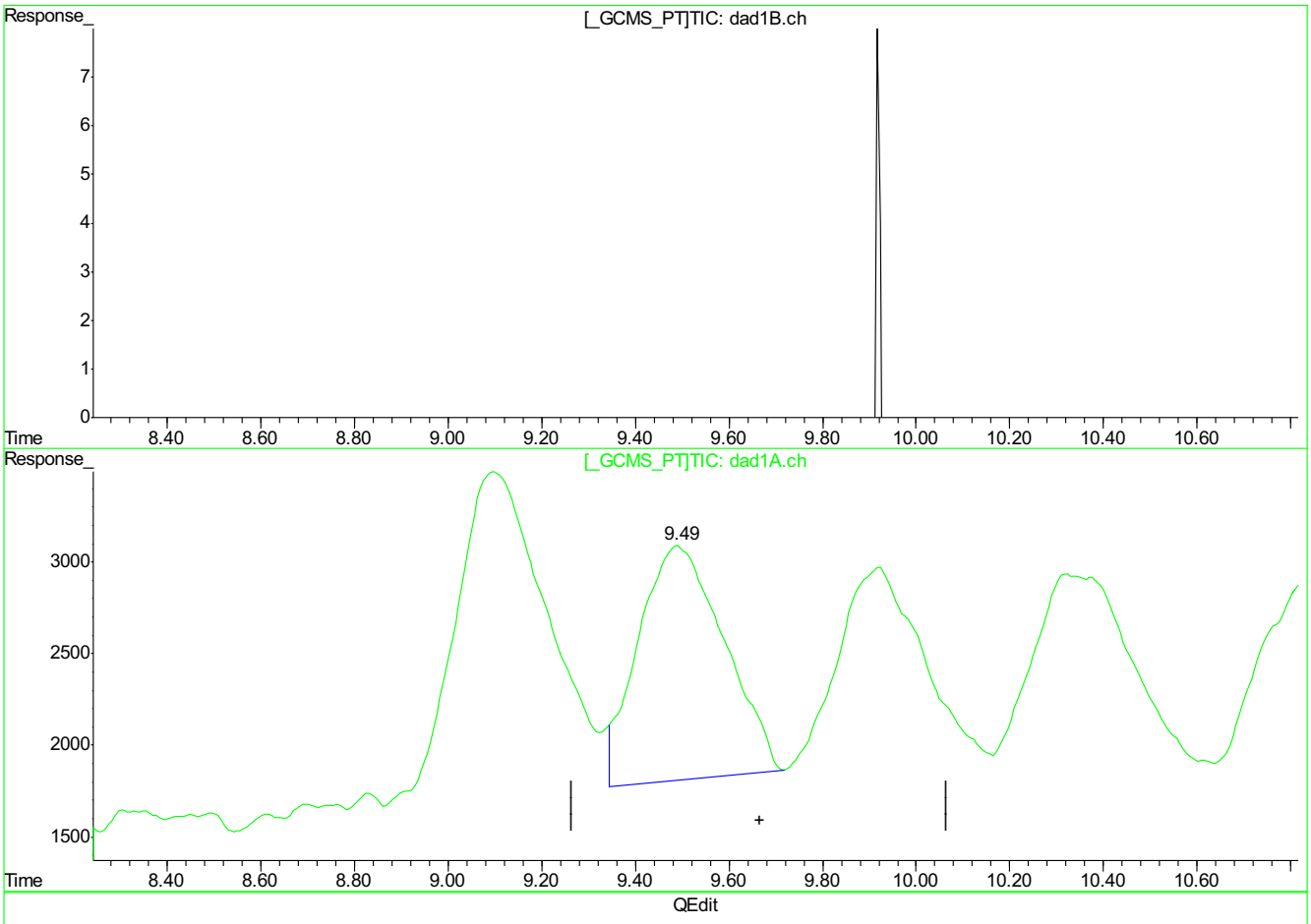
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(11) Tetryl

9.51min 52.998ppb

response 145252

(11) Tetryl #2

9.49min 39.516ppb m

response 163203

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:33 2017

9.5.2.7

9

BB055897.D edits: Tetryl

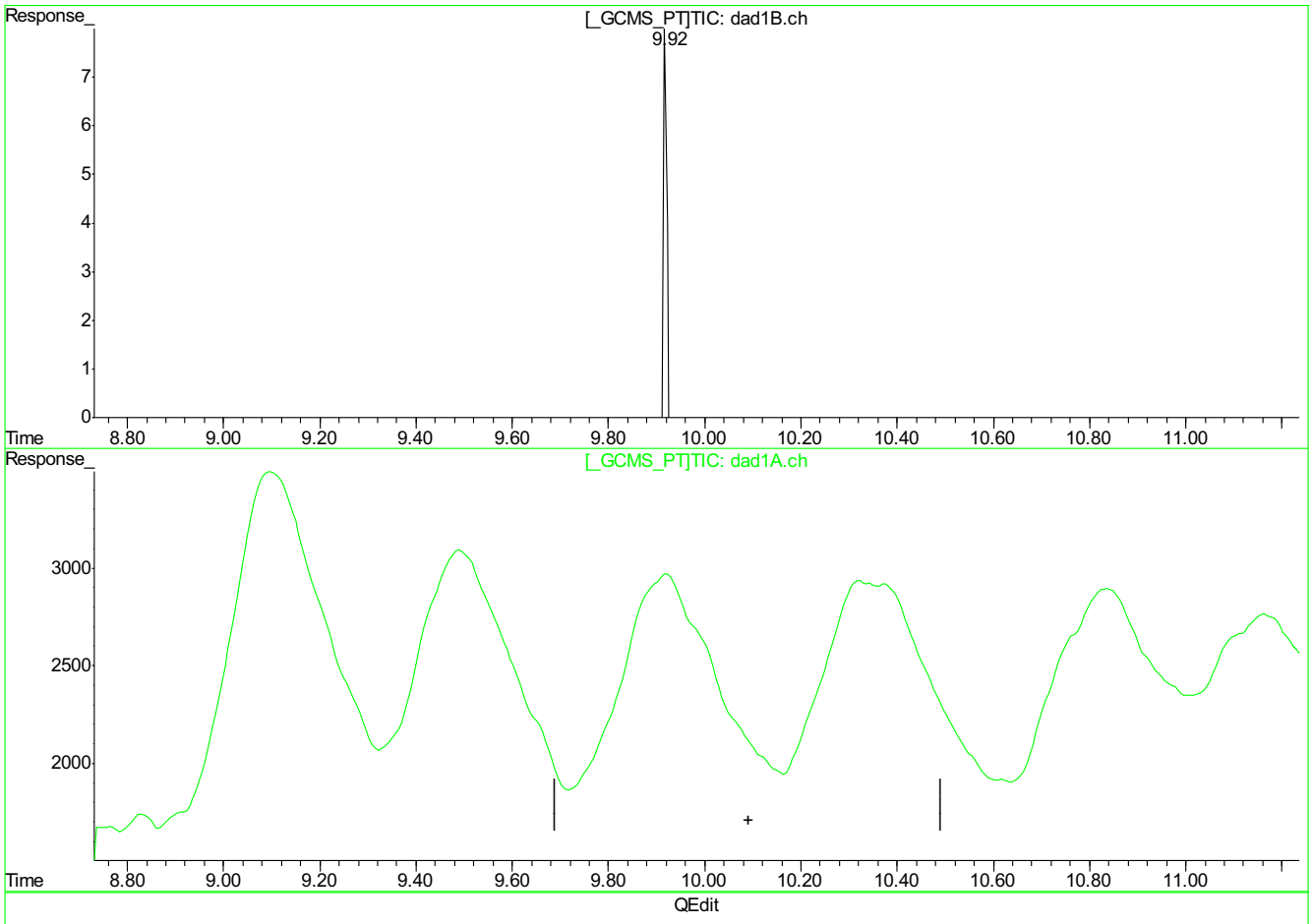
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.92min 42.079ppb

response 183173

(12) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:39 2017

9.5.2.8

9

BB055897.D edits: 2,4,6-Trinitrotoluene

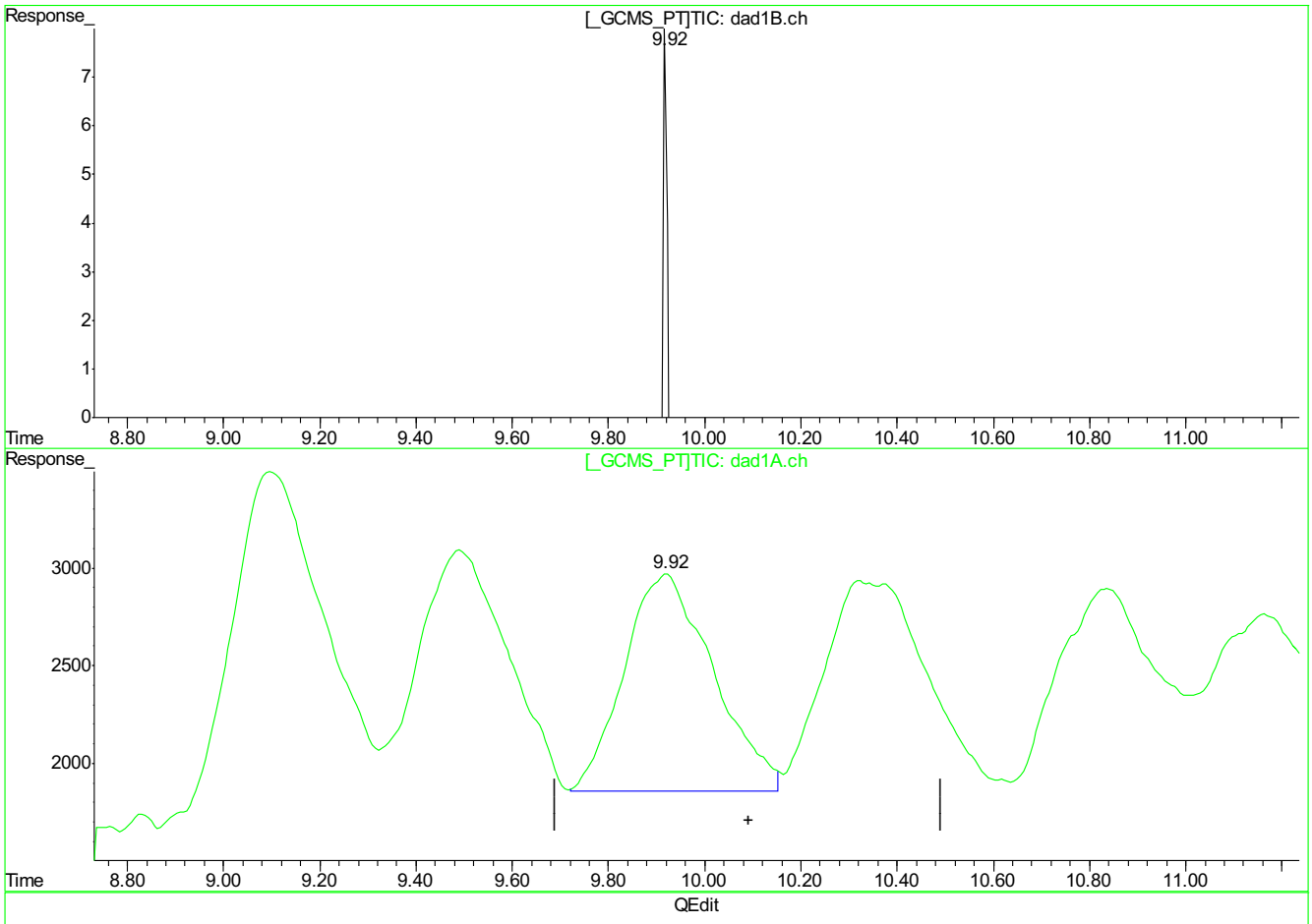
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.92min 42.079ppb

response 183173

(12) 2,4,6-Trinitrotoluene #2

9.92min 28.500ppb m

response 142302

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:42 2017

9.5.2.9

6

BB055897.D edits: 2,4,6-Trinitrotoluene

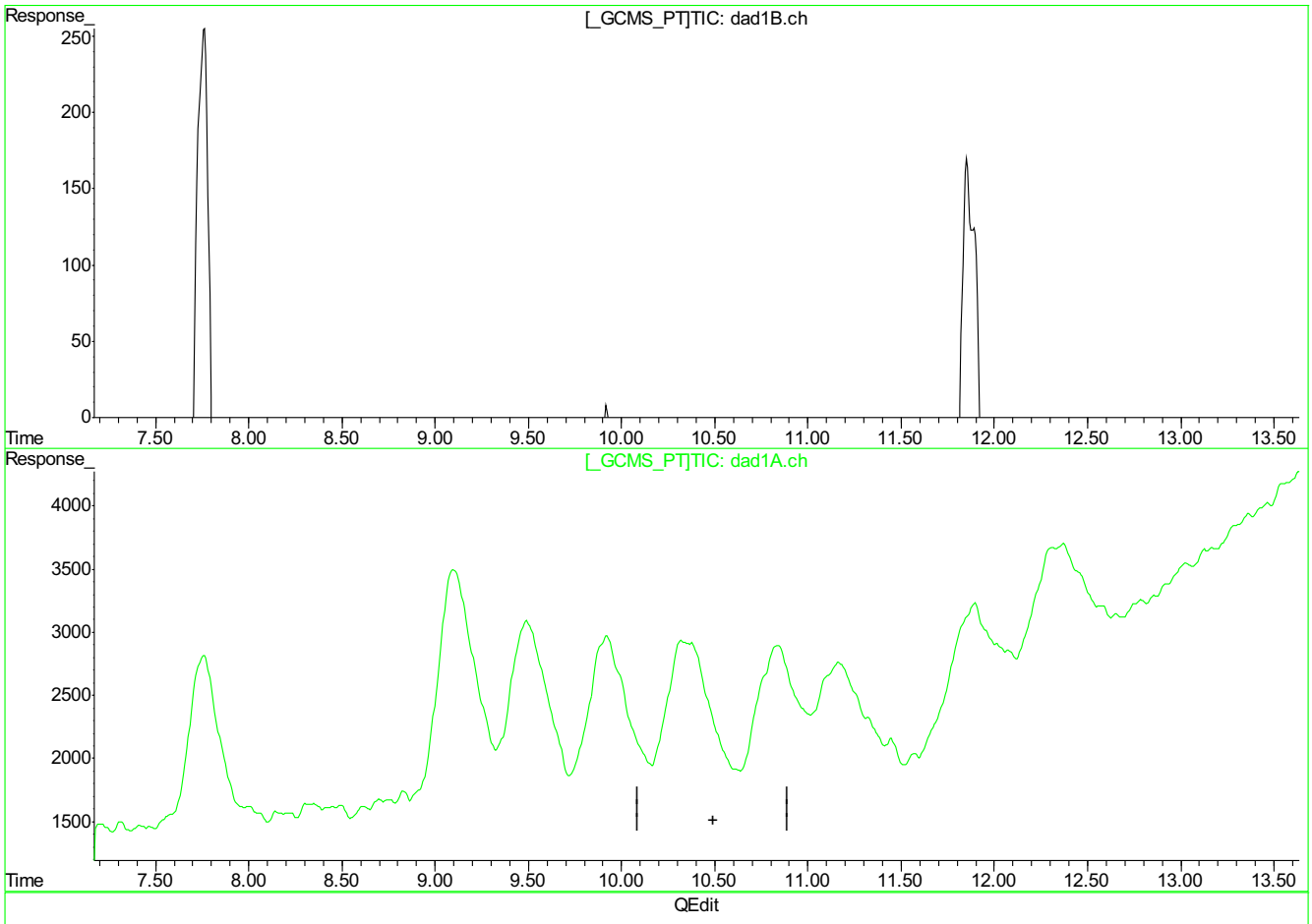
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:19 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.33min 43.878ppb

response 170367

(13) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:21:55 2017

9.5.2.10

9

BB055897.D edits: 2-Amino-4,6-Dinitrotoluene

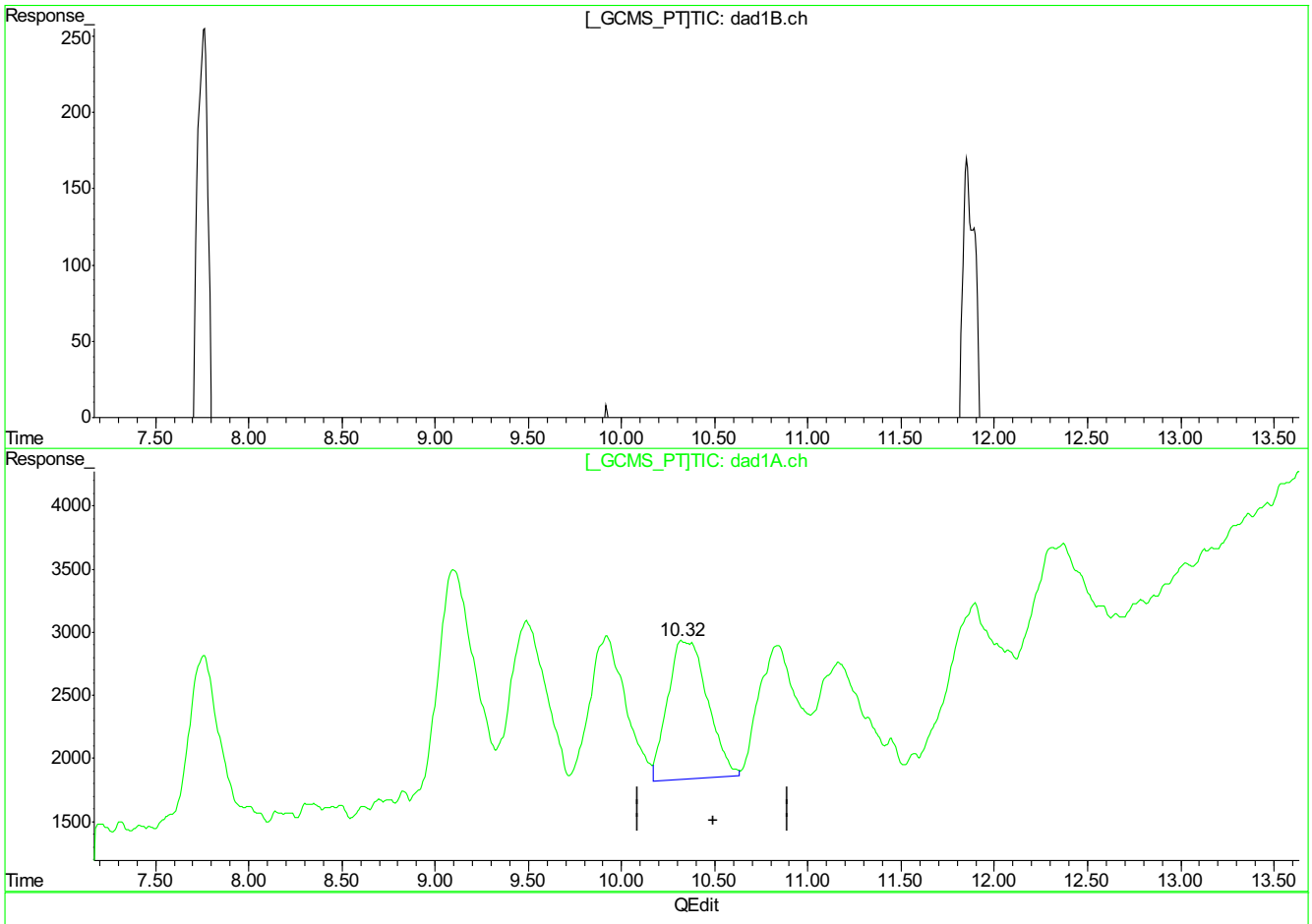
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:27:19                    Operator: evitam
Sample    : ic1615-50                                Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:19 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration
```



(13) 2-Amino-4,6-Dinitrotoluene

10.33min 43.878ppb

response 170367

(13) 2-Amino-4,6-Dinitrotoluene #2

10.32min 31.462ppb m

response 163052

(+) = Expected Retention Time

BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:22:08 2017

9.5.2.11

9

BB055897.D edits: 2-Amino-4,6-Dinitrotoluene

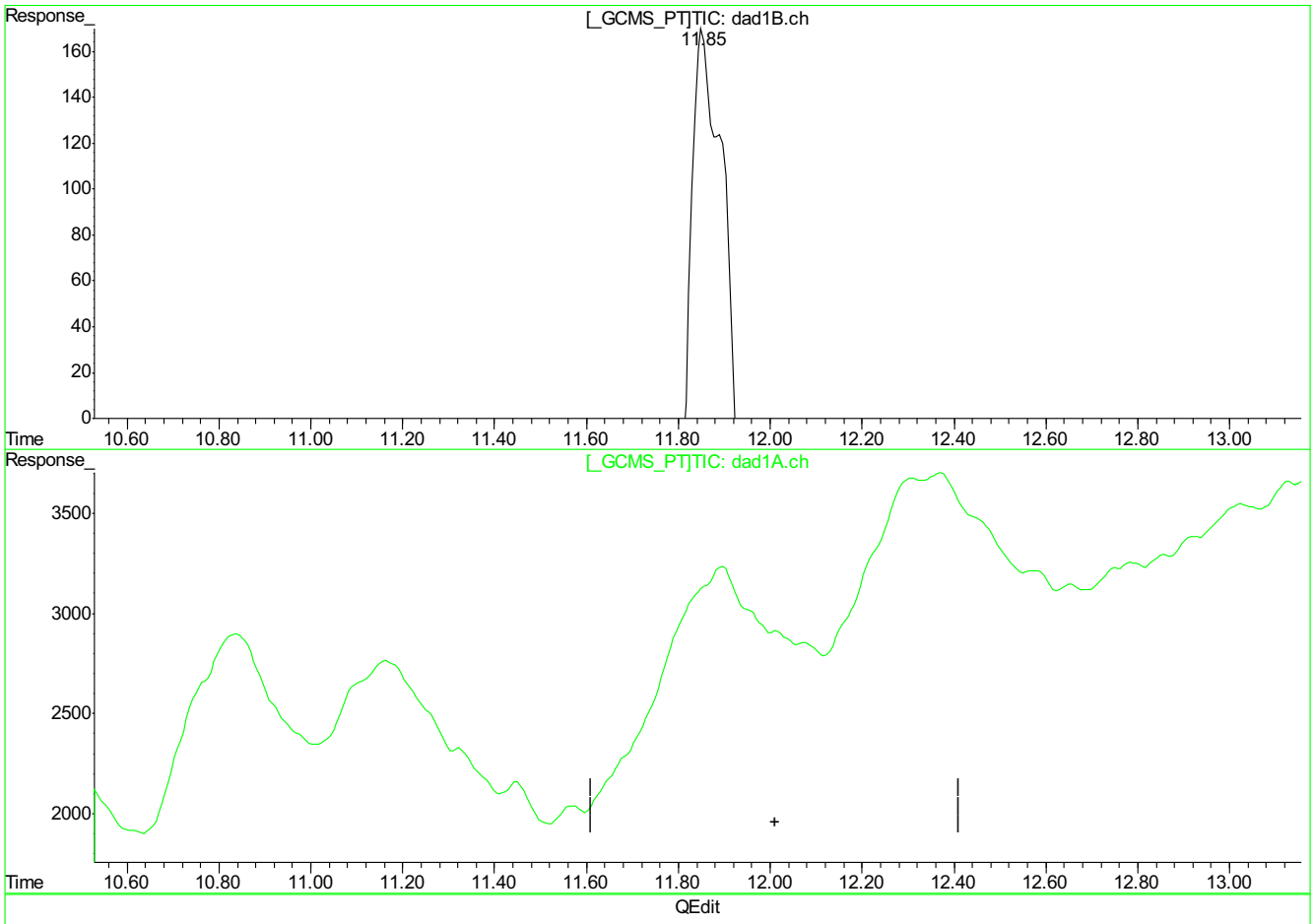
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

11.85min 44.352ppb

response 249739

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:08 2017

9.5.2.12

9

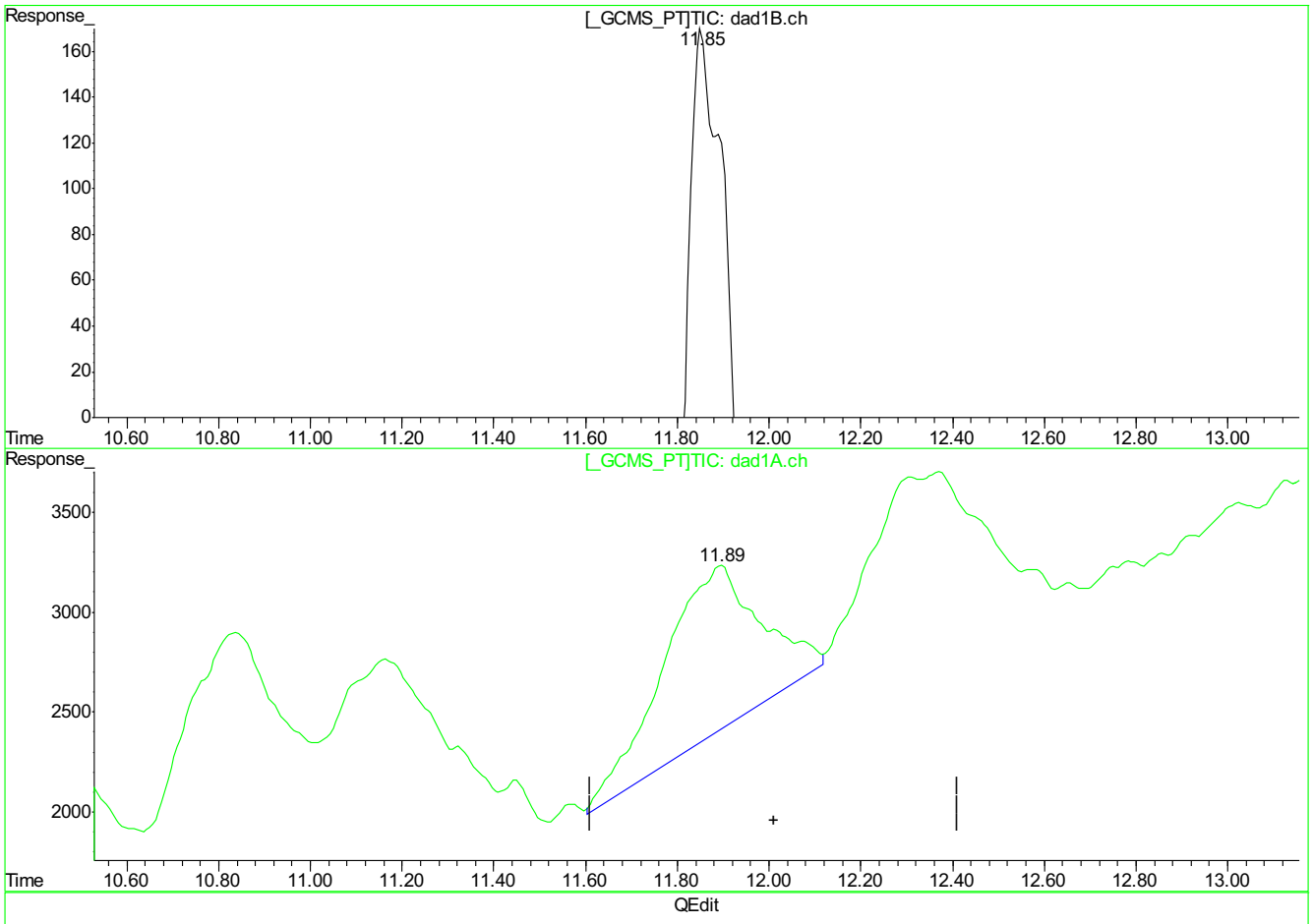
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

11.85min 44.352ppb

response 249739

(16) 2,4-Dinitrotoluene #2

11.89min 37.443ppb m

response 124601

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:11 2017

9.5.2.13

9

BB055897.D edits: 2,4-Dinitrotoluene

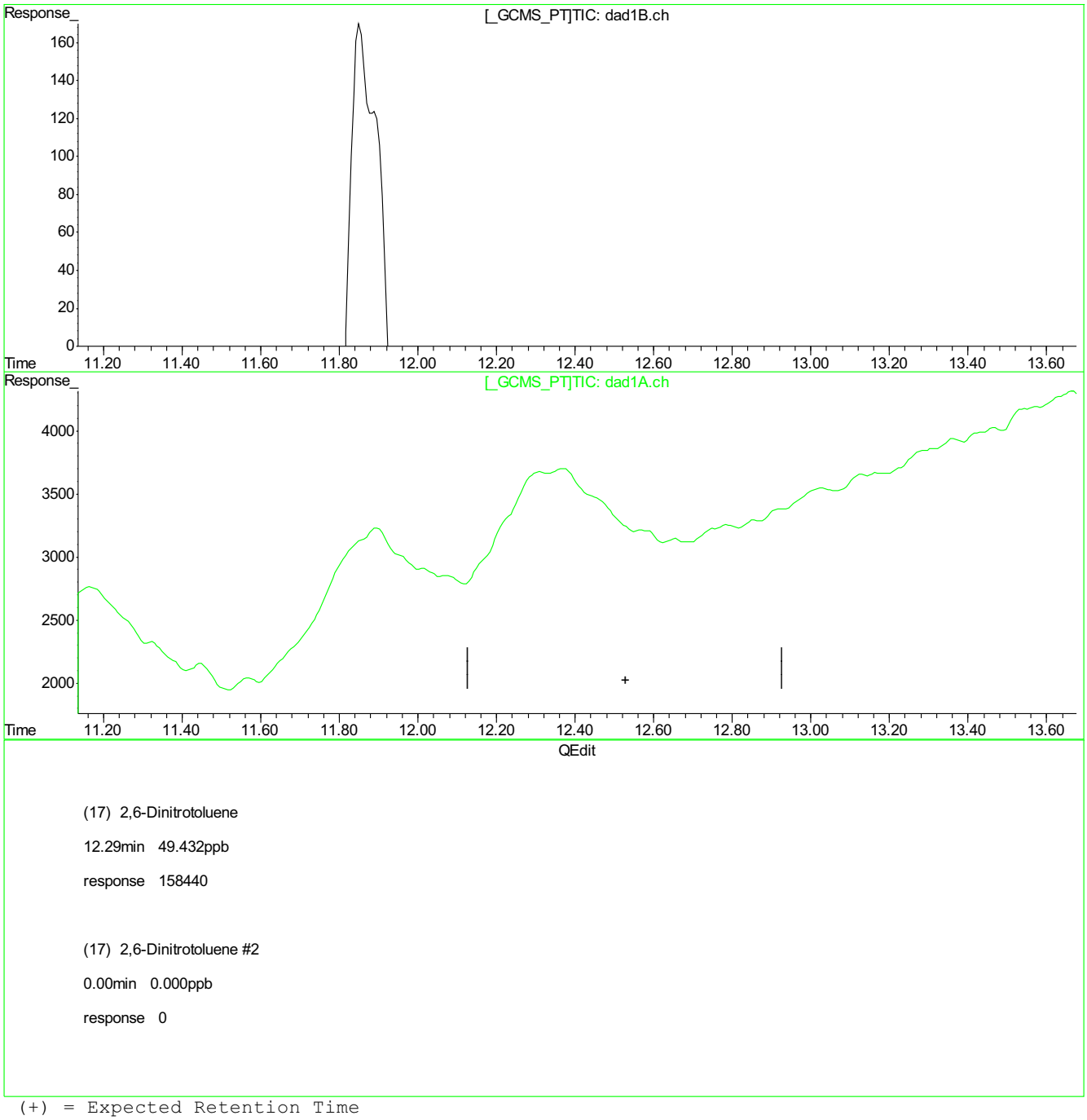
SGS ACCUTEST FA45759

Cal Report: **BB055897.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:16 2017

9.5.2.14

9

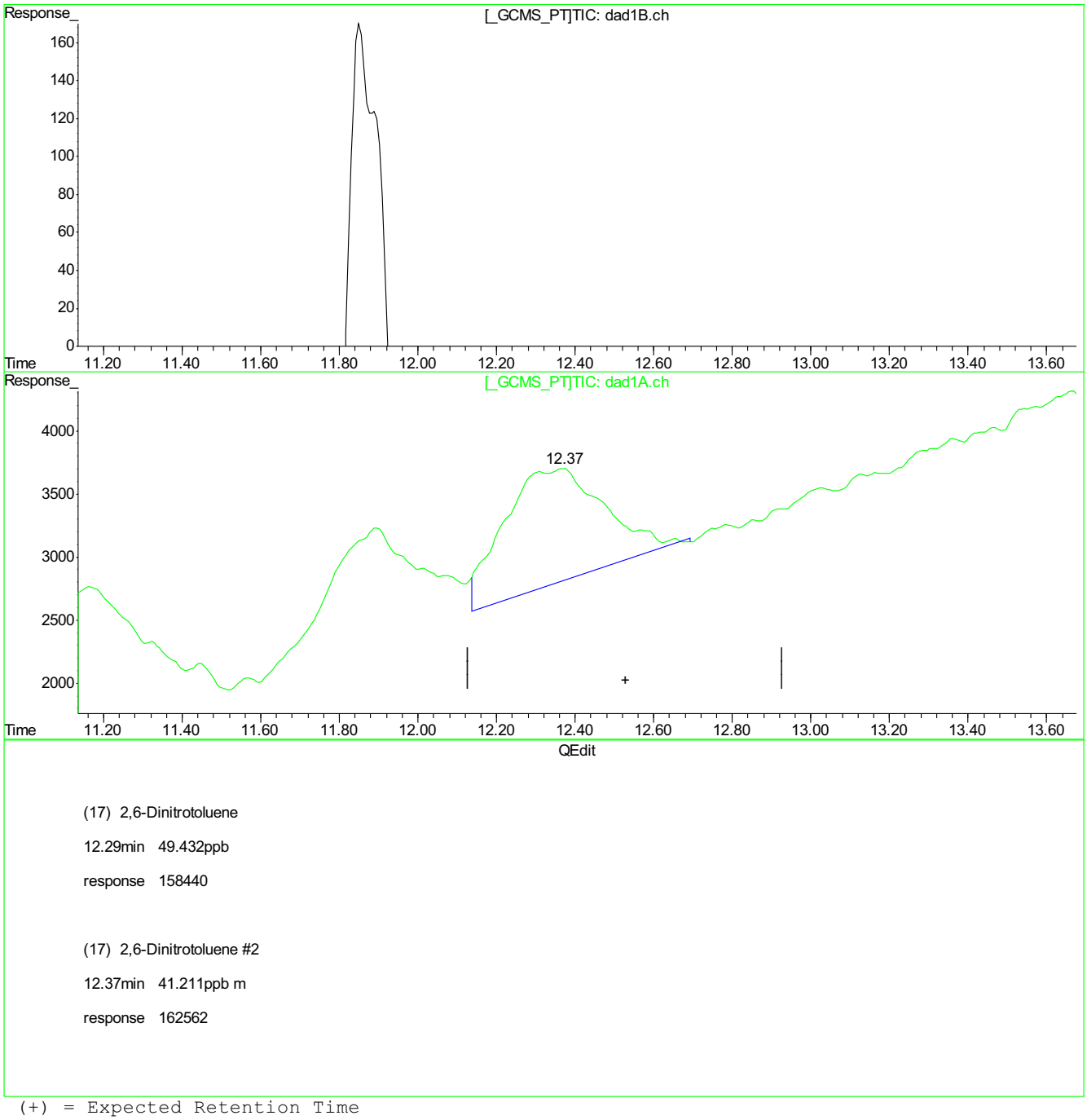
BB055897.D edits: 2,6-Dinitrotoluene

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.29min 49.432ppb

response 158440

(17) 2,6-Dinitrotoluene #2

12.37min 41.211ppb m

response 162562

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:26 2017

9.5.2.15

9

BB055897.D edits: 2,6-Dinitrotoluene

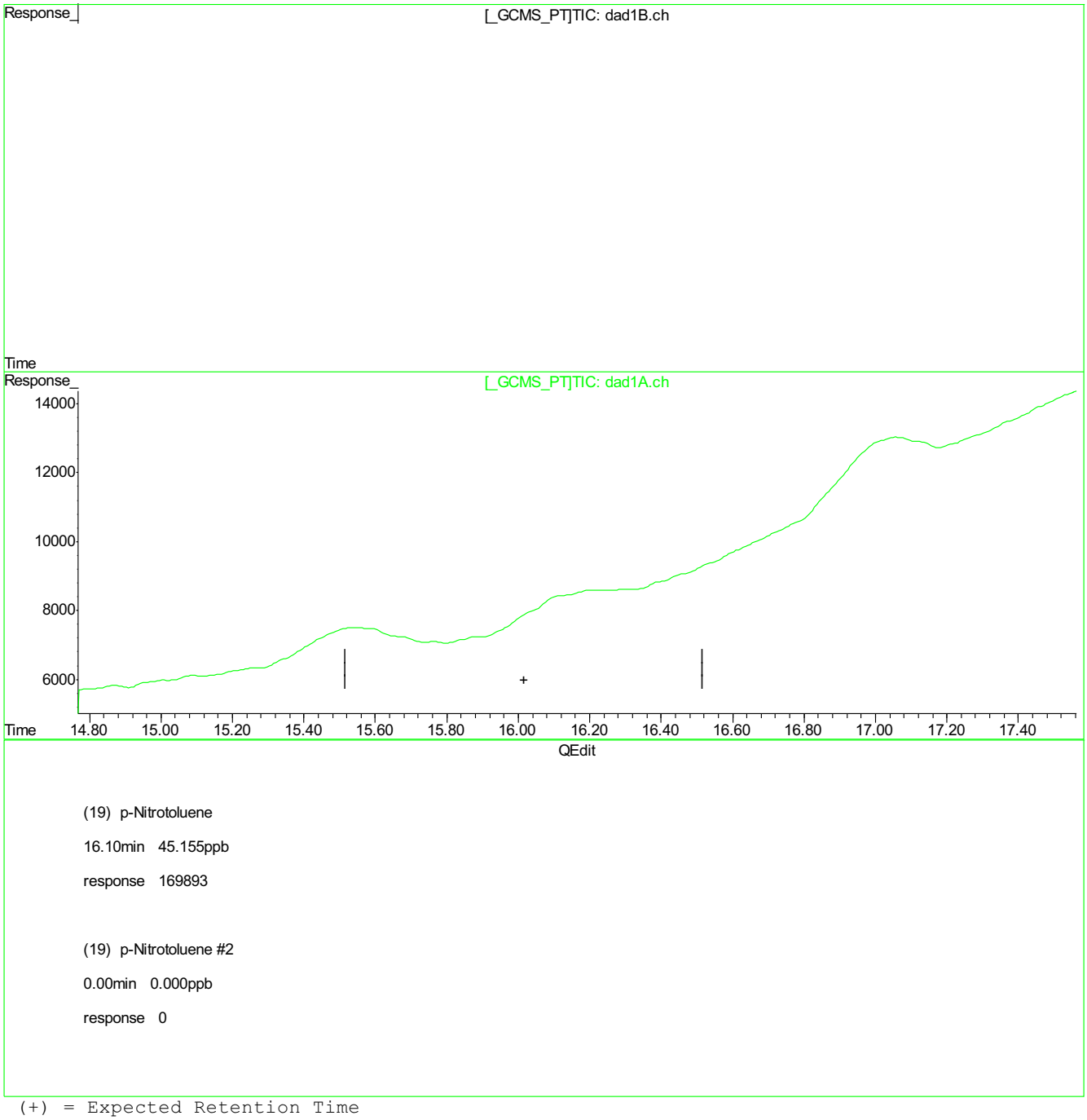
SGS ACCUTEST FA45759

Cal Report: **BB055897.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.10min 45.155ppb

response 169893

(19) p-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:34 2017

9.5.2.16

9

BB055897.D edits: p-Nitrotoluene

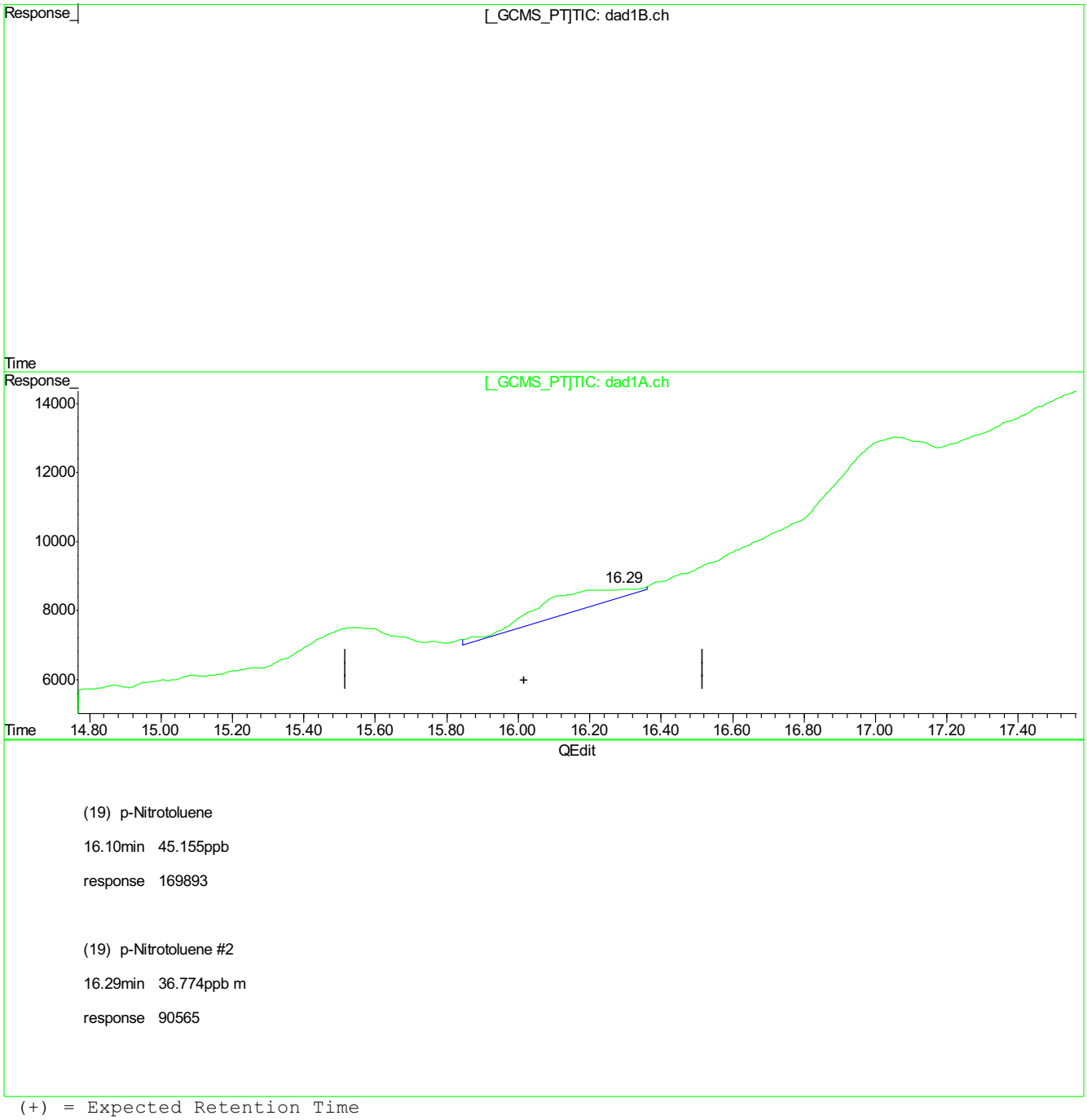
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.10min 45.155ppb

response 169893

(19) p-Nitrotoluene #2

16.29min 36.774ppb m

response 90565

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:38 2017

9.5.2.17

9

BB055897.D edits: p-Nitrotoluene

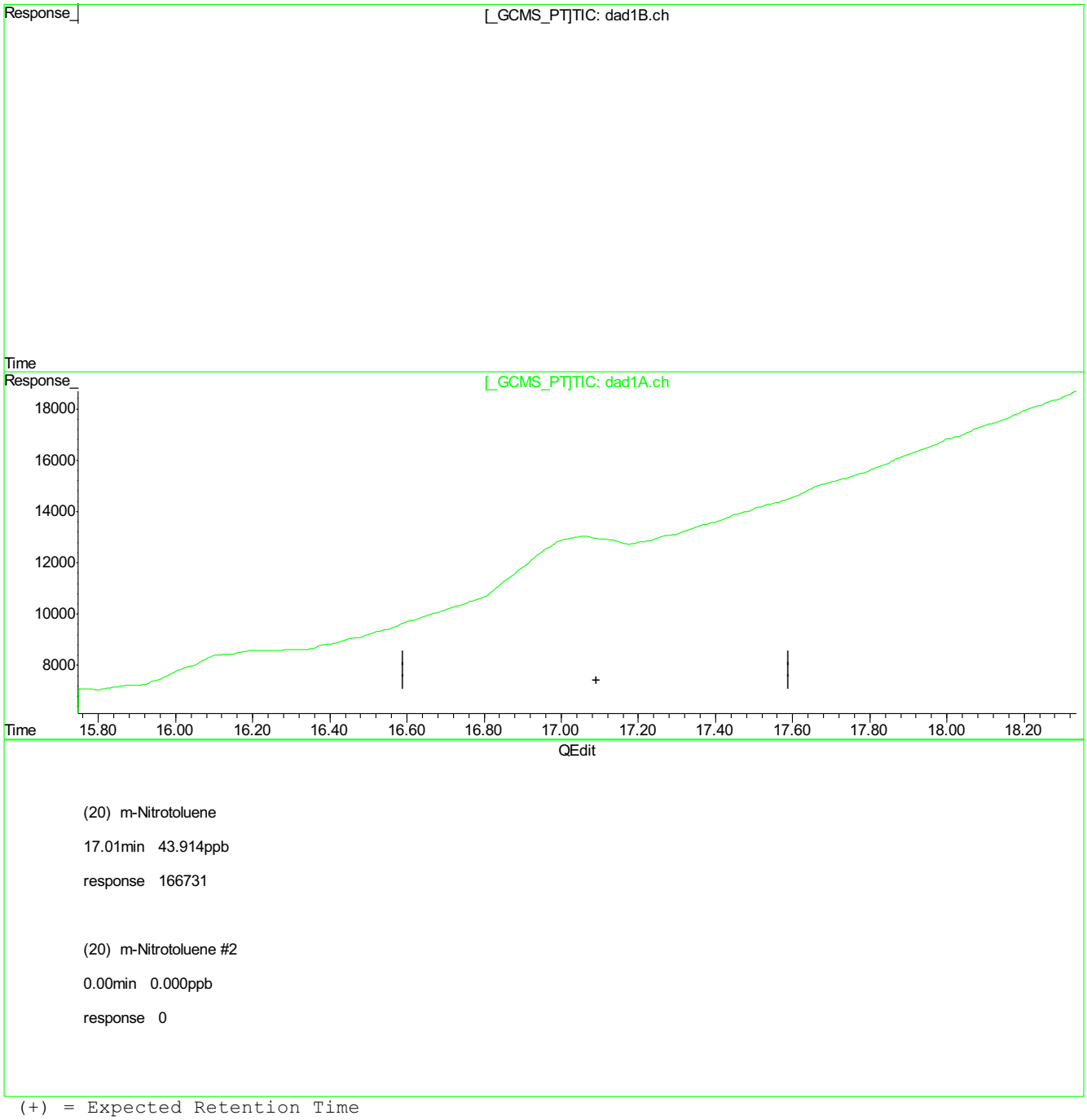
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.01min 43.914ppb

response 166731

(20) m-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:47 2017

9.5.2.18

9

BB055897.D edits: m-Nitrotoluene

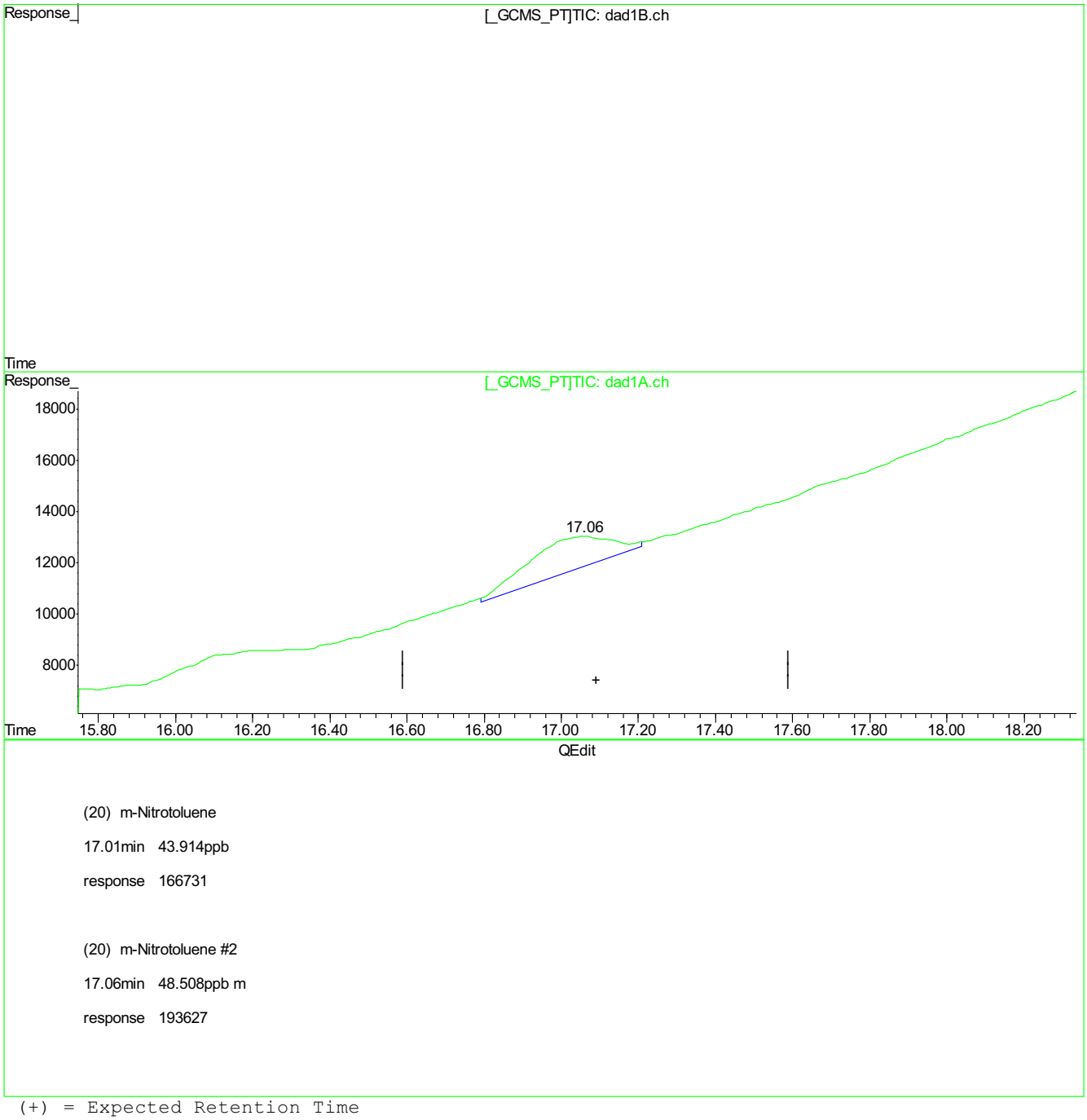
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

17.01min 43.914ppb

response 166731

(20) m-Nitrotoluene #2

17.06min 48.508ppb m

response 193627

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:51 2017

9.5.2.19

9

BB055897.D edits: m-Nitrotoluene

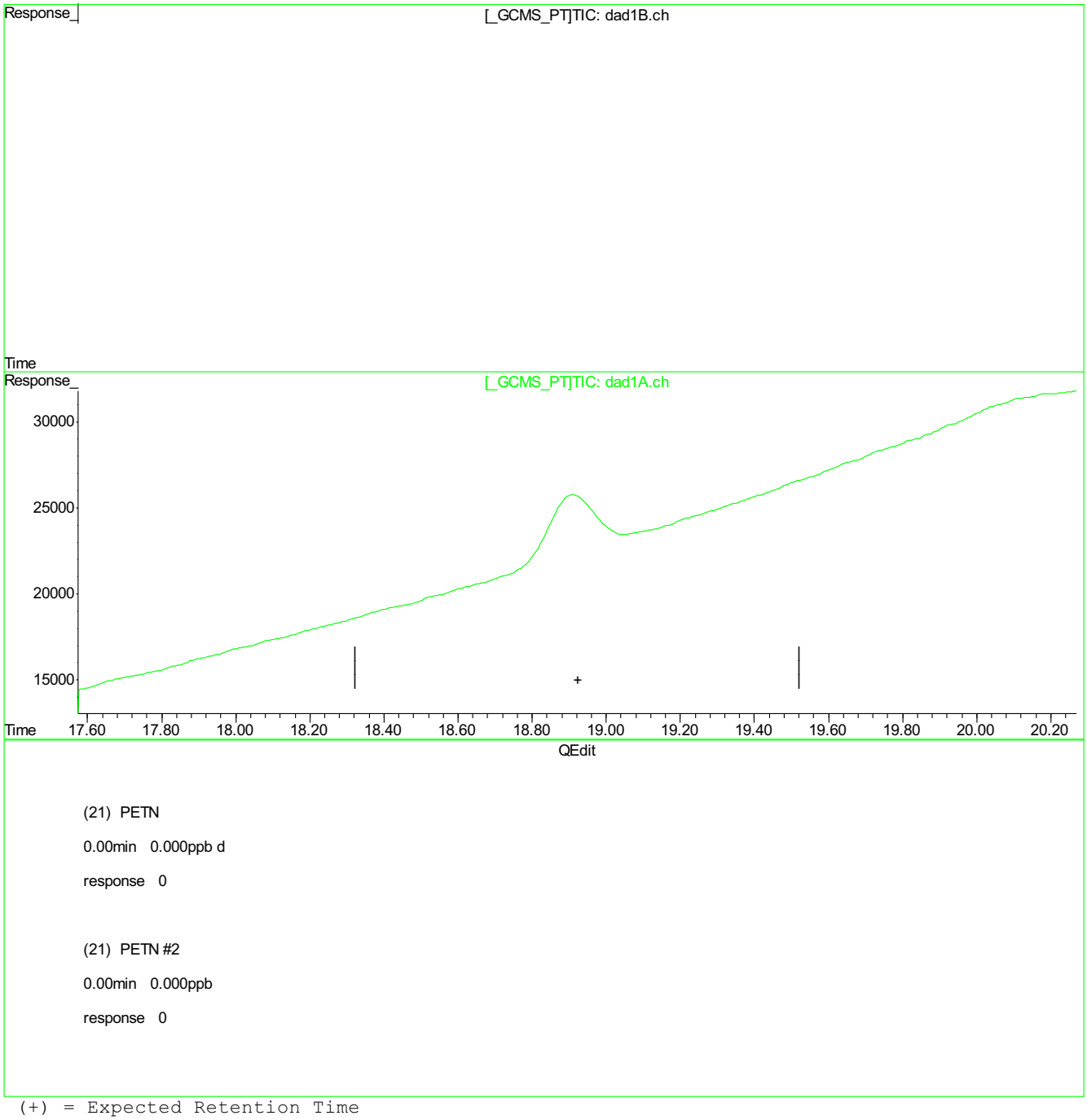
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:23:55 2017

9.5.2.20

9

BB055897.D edits: PETN

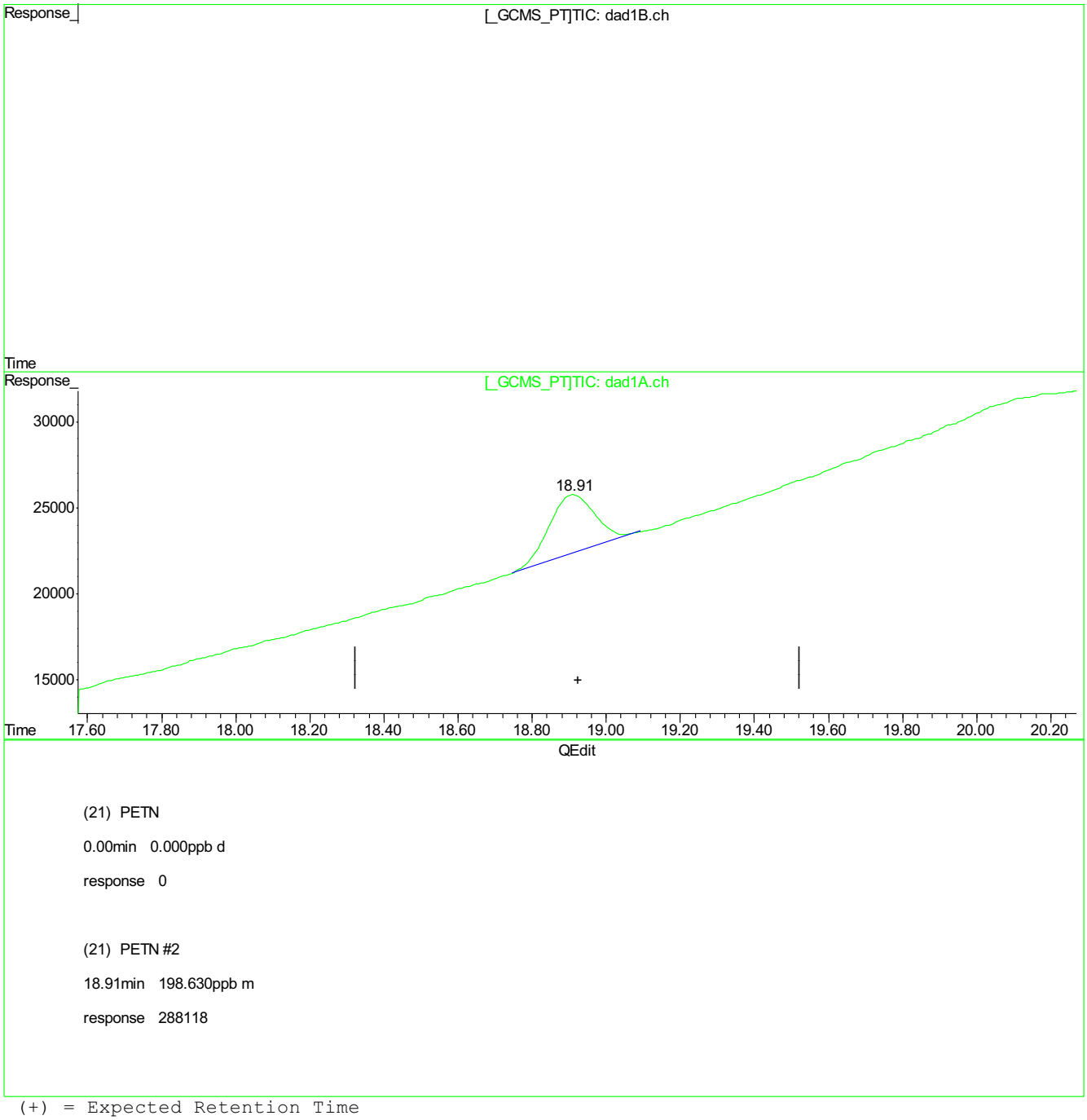
SGS ACCUTEST FA45759

Cal Report: BB055897.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1B.ch Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055897.D\dad1A.ch
Acq On : 29-Jun-2017, 17:27:19 Operator: evitam
Sample : ic1615-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:22 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:18:54 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.91min 198.630ppb m

response 288118

(+) = Expected Retention Time
BB055897.D 8330B_0629PLUS.M Fri Jun 30 09:24:00 2017

9.5.2.21

9

BB055897.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055898.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:55 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.99	10.98	303642	358192	124.952	92.783m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		24.99%#	18.56%#
	Target Compounds						
1)	TNX	1.41	1.41	319656	499710	96.990	97.065
2)	HMX	1.54	1.54	168471	467019	86.707	91.116
3)	DNX	1.81	1.81	308975	601432	104.998	126.716
4)	MNX	2.42	2.42	229984	342686	96.510	92.745
5)	RDX	3.07	3.07	222397	317477	100.230	93.117
6)	1,3,5-Trinitrobe	4.85	4.85	436966	842372	98.092	101.024
7)	1,3-Dinitrobenze	6.11	6.10	565754	369228	92.666	90.764m
8)	3,5-Dinitroanili	6.49	6.49	398376	655907	96.034	96.345
9)	Nitrobenzene	7.72	7.71	355564	309481	97.895	93.385
10)	Nitroglycerin	0.00	9.04	0	481919	N.D. d	375.515
11)	Tetryl	9.39	9.36	318674	444947	115.118	112.565
12)	2,4,6-Trinitroto	9.81	9.81	397641	292677	88.393	60.762
13)	2-Amino-4,6-Dini	10.17	10.17	405691	316571	101.789	63.688
14)	4-Amino-2,6-Dini	10.63	10.63	240788	385068	86.260	73.359m
16)	2,4-Dinitrotolue	11.70	11.71	522271	301145	90.600	93.916
17)	2,6-Dinitrotolue	12.15	12.16	347517	376619	105.699	95.473
18)	o-Nitrotoluene	15.30	15.30	236436	295219	93.872	84.905m
19)	p-Nitrotoluene	15.88	15.90	361349	165363	93.105	64.023
20)	m-Nitrotoluene	16.81	16.85	372812	474374	98.831	111.231m
21)	PETN	0.00	18.78	0	746021	N.D. d	528.051m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055898.D 8330B_0629PLUS.M Fri Jun 30 11:02:18 2017 Page 1

9.5.3
9

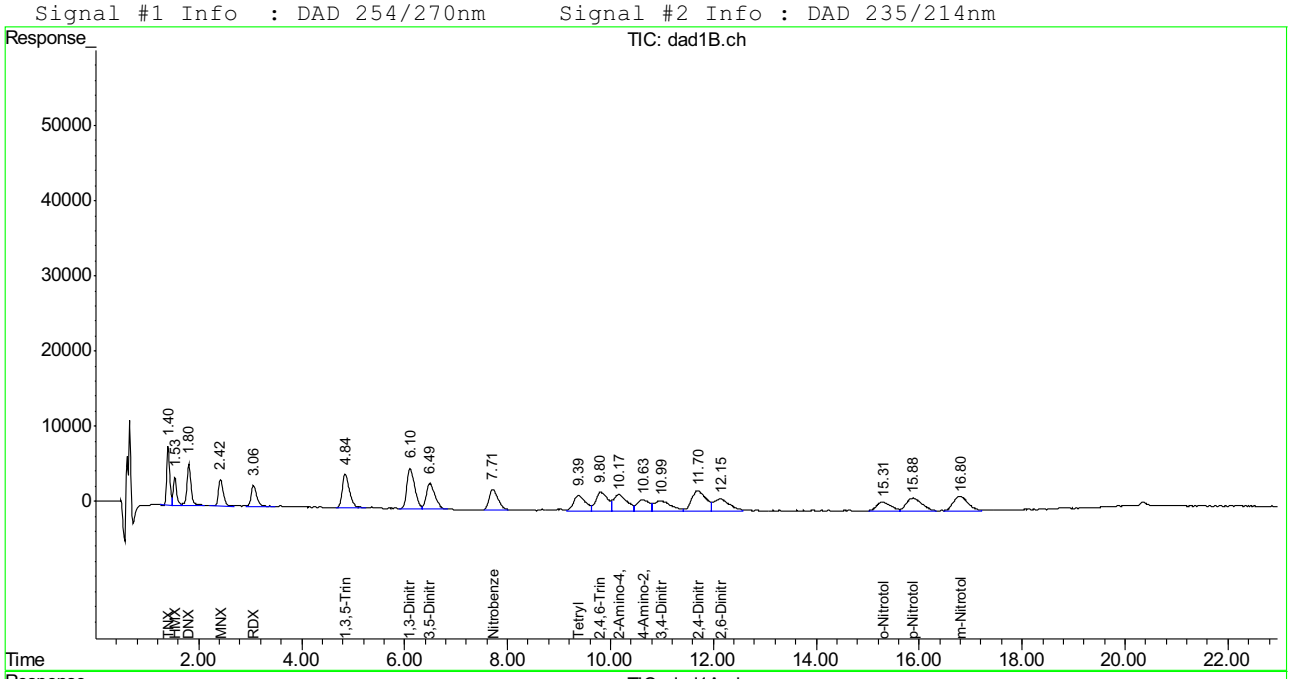
SGS ACCUTEST FA45759

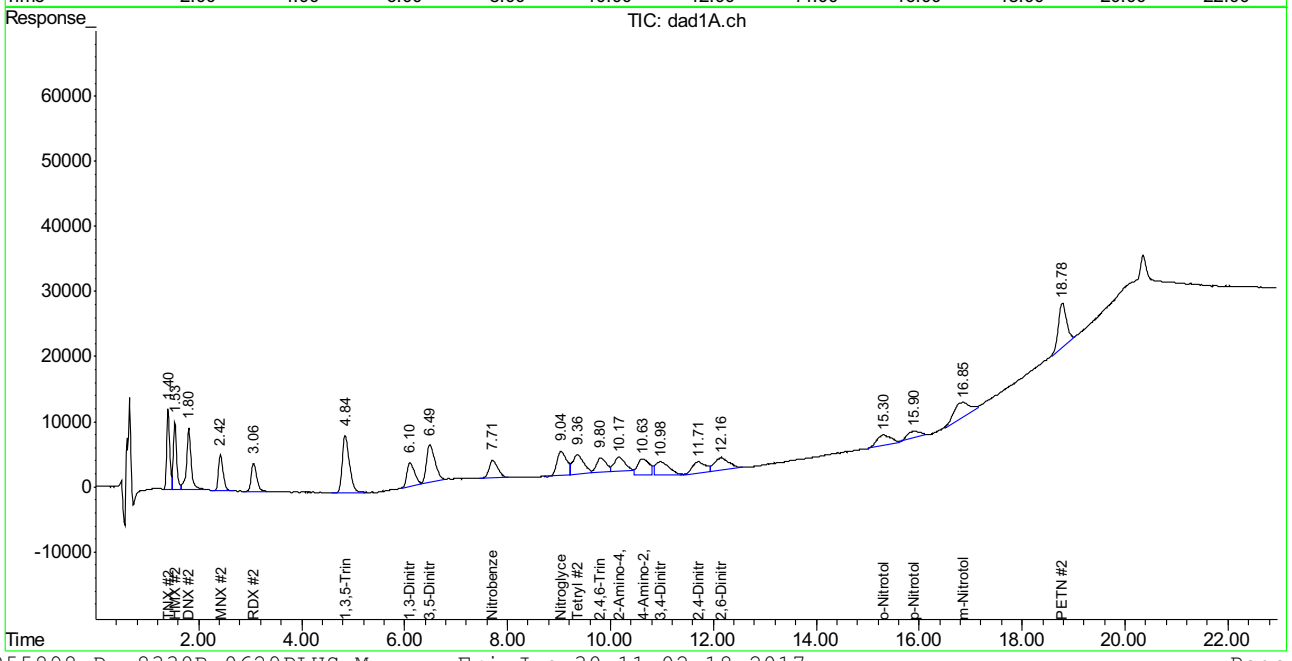
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:27 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055898.D
Injection Time: 06/29/17 17:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

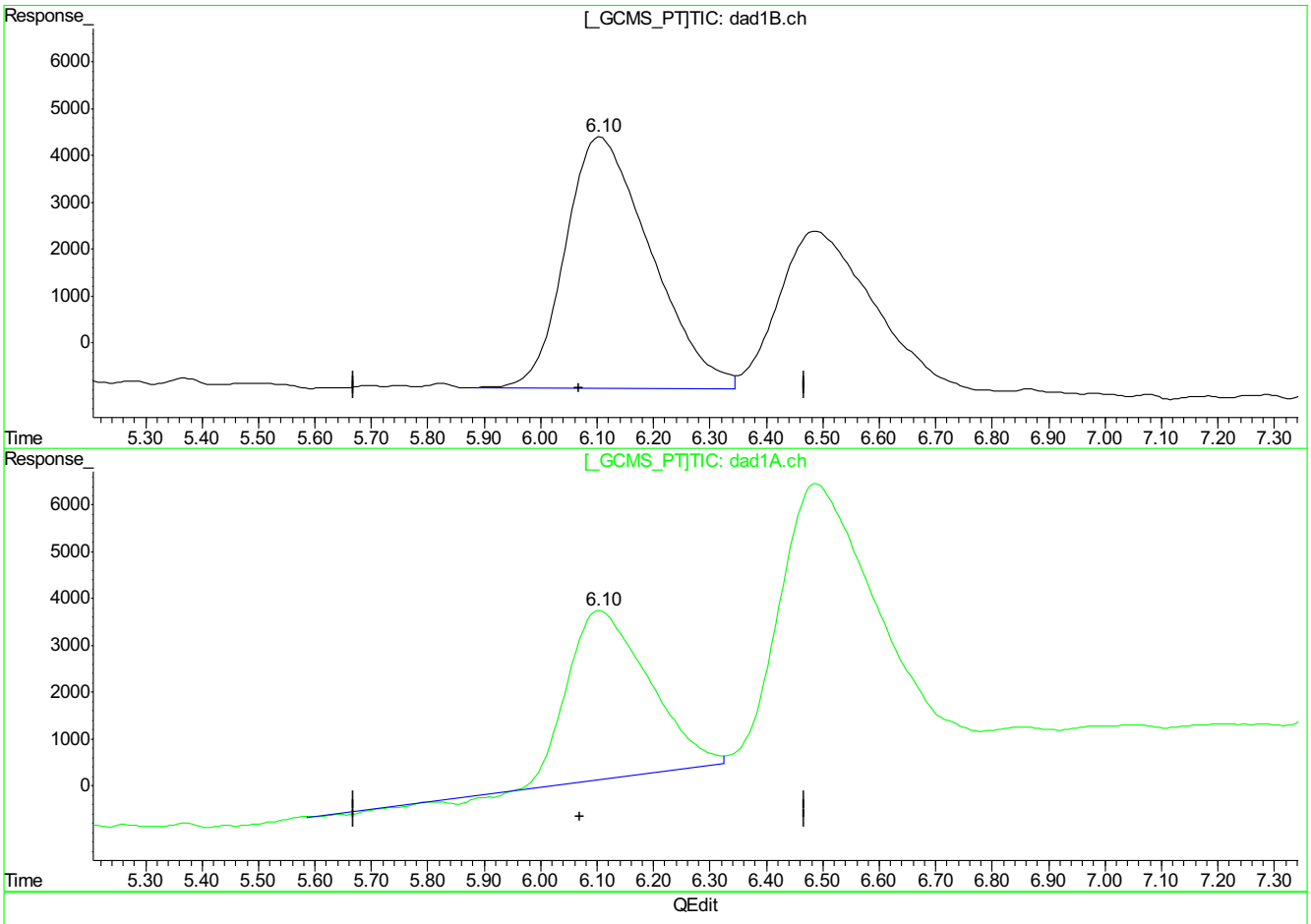
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.10	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.63	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	10.98	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.30	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.85	Poorly defined baseline
PETN	78-11-5	2	18.78	Poorly defined baseline

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.11min 92.666ppb

response 565754

(7) 1,3-Dinitrobenzene #2

6.11min 86.511ppb

response 351927

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:25:13 2017

9.5.3.2

9

BB055898.D edits: 1,3-Dinitrobenzene

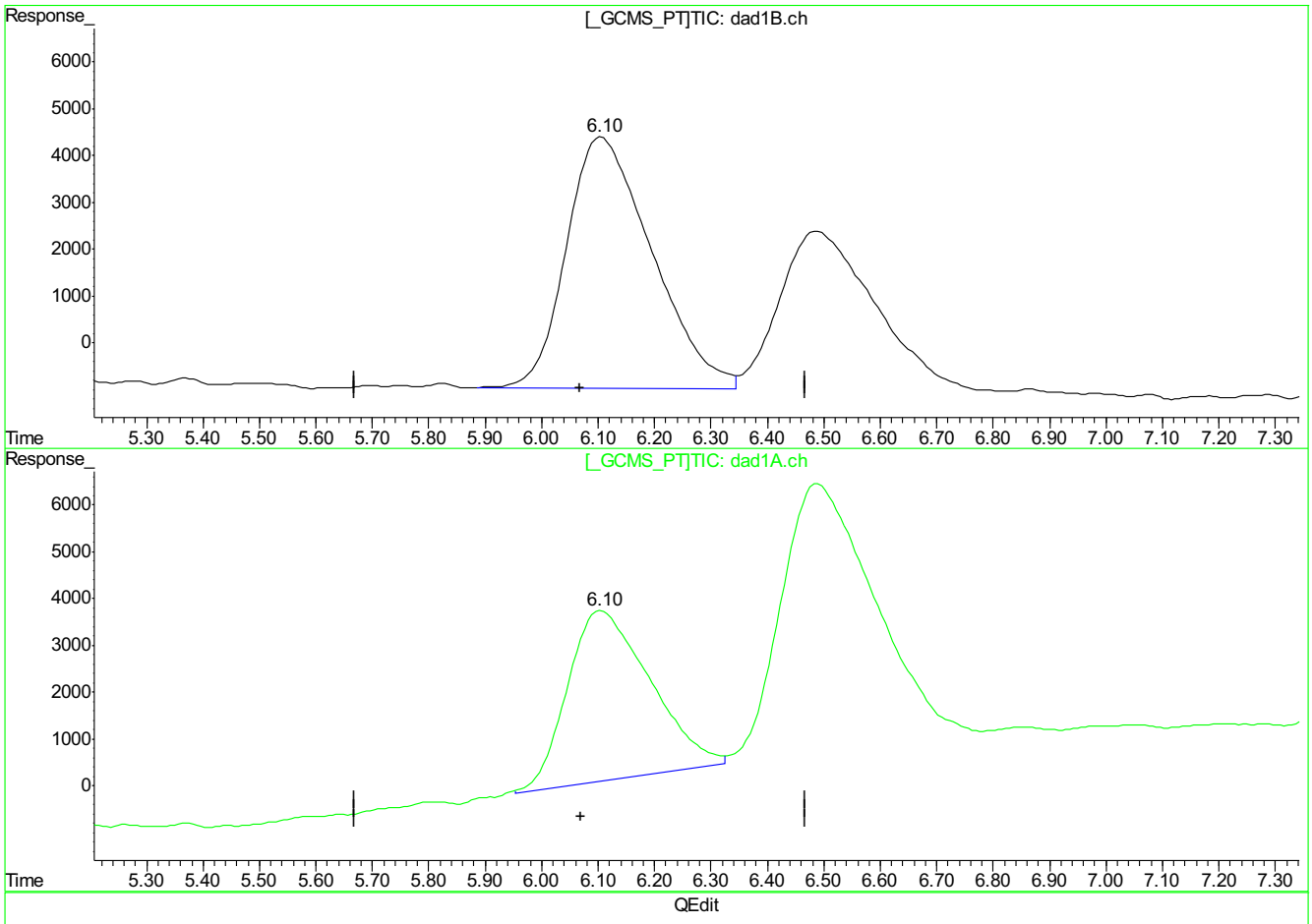
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.11min 92.666ppb

response 565754

(7) 1,3-Dinitrobenzene #2

6.10min 90.764ppb m

response 369228

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:25:16 2017

9.5.3.3

9

BB055898.D edits: 1,3-Dinitrobenzene

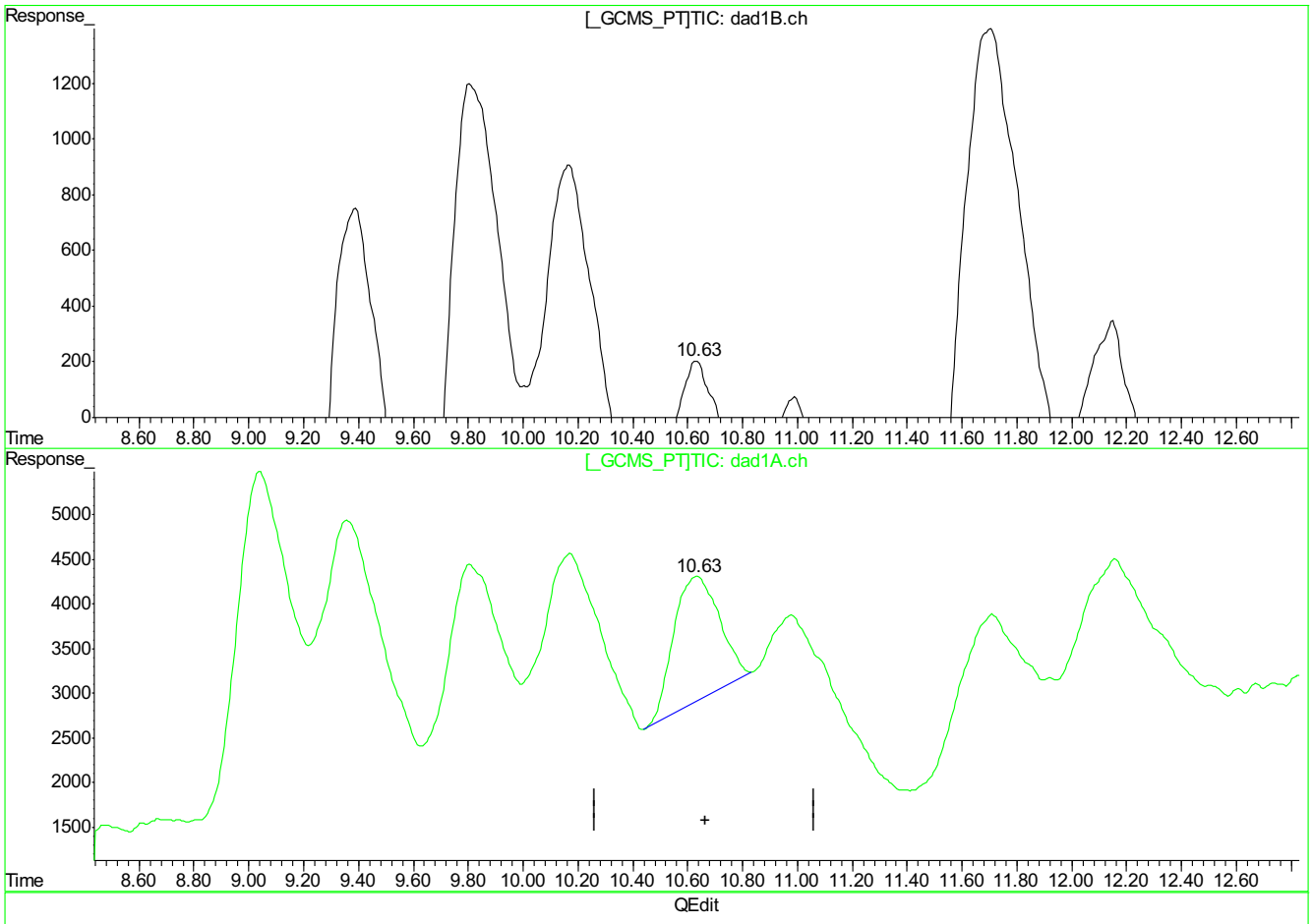
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.63min 86.260ppb

response 240788

(14) 4-Amino-2,6-Dinitrotoluene #2

10.63min 30.639ppb

response 160473

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:25:52 2017

9.5.3.4

9

BB055898.D edits: 4-Amino-2,6-Dinitrotoluene

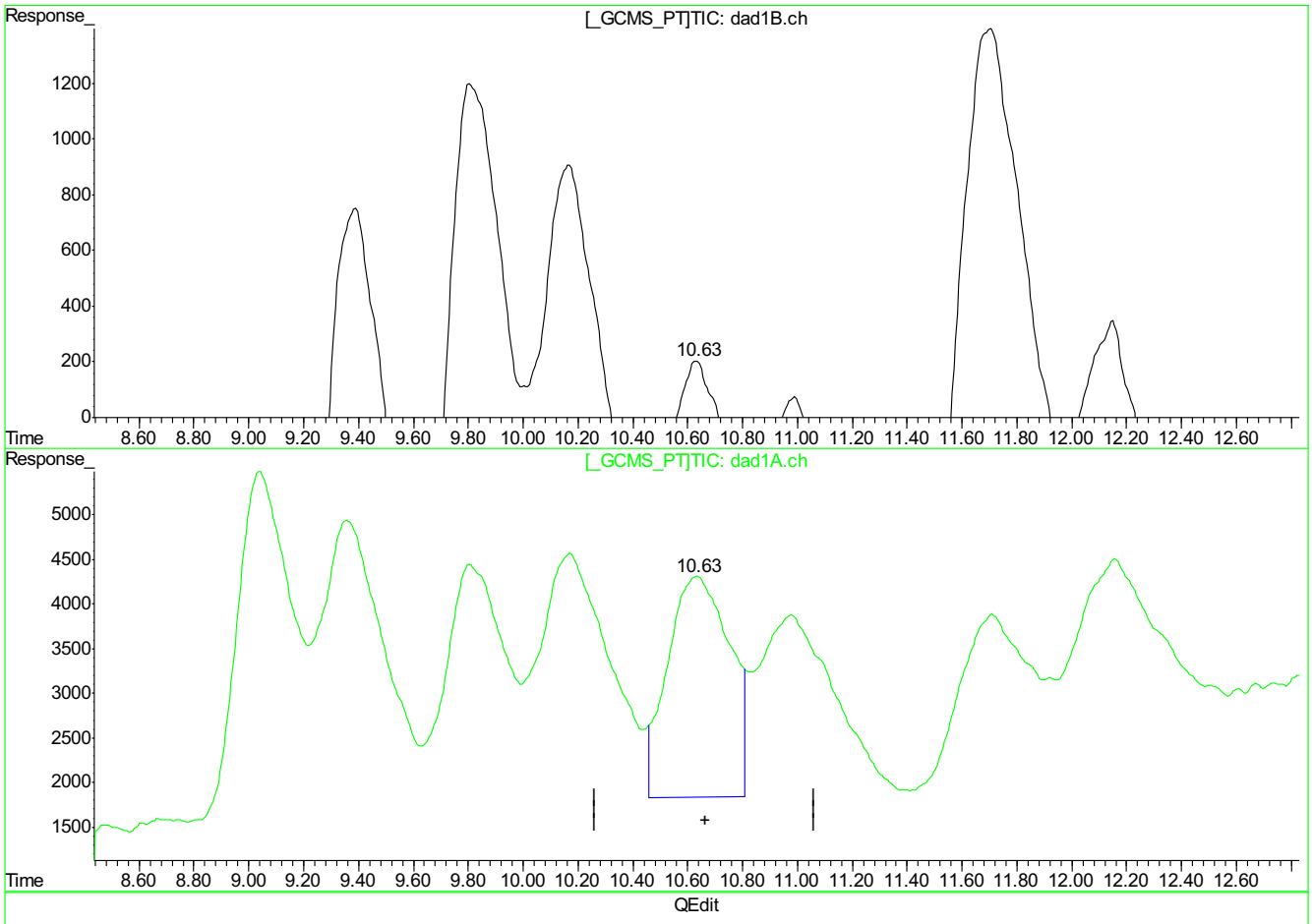
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.63min 86.260ppb

response 240788

(14) 4-Amino-2,6-Dinitrotoluene #2

10.63min 73.359ppb m

response 385068

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:04 2017

9.5.3.5

9

BB055898.D edits: 4-Amino-2,6-Dinitrotoluene

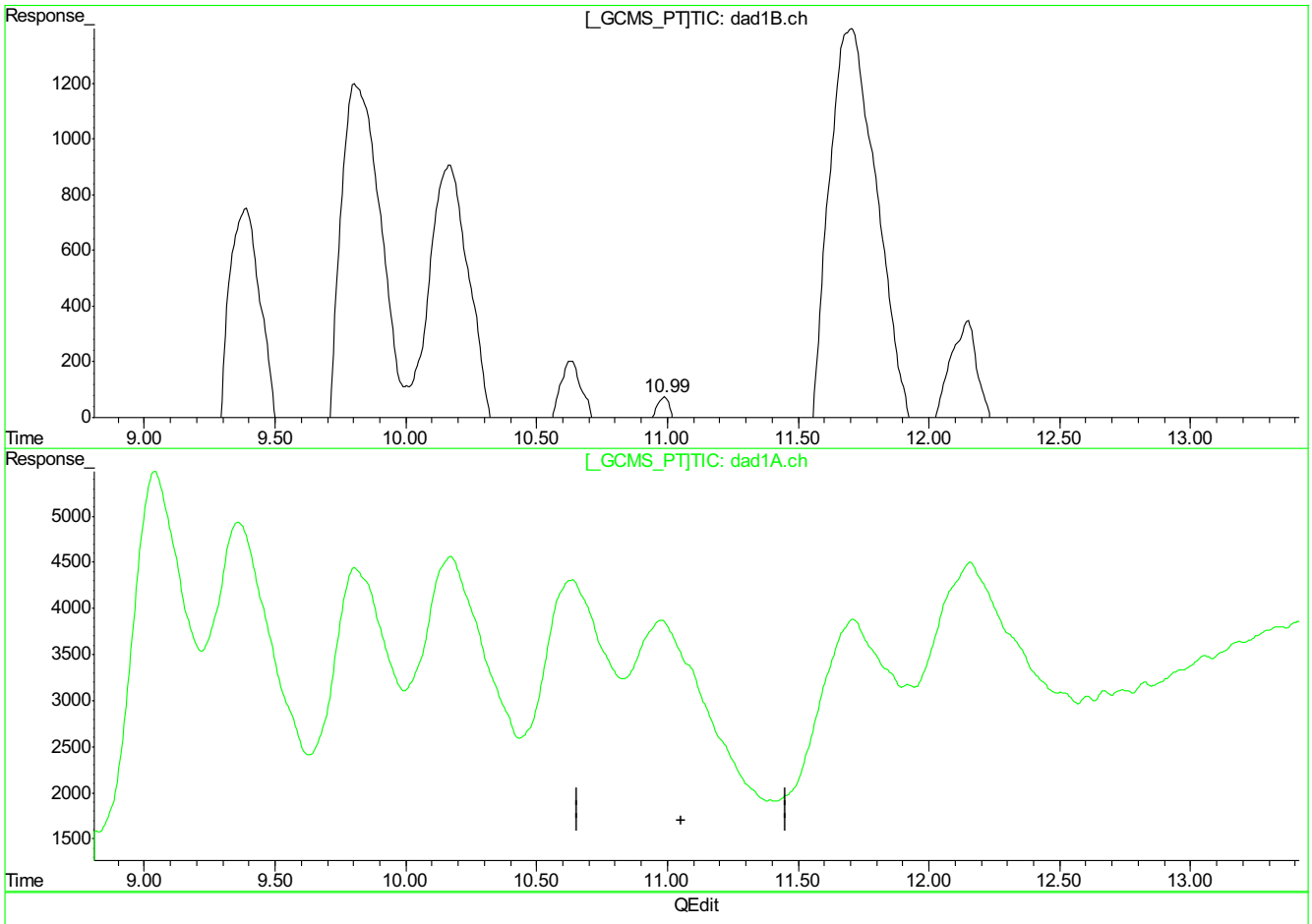
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.99min 124.952ppb

response 303642

(15) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:08 2017

9.5.3.6

9

BB055898.D edits: 3,4-Dinitrotoluene

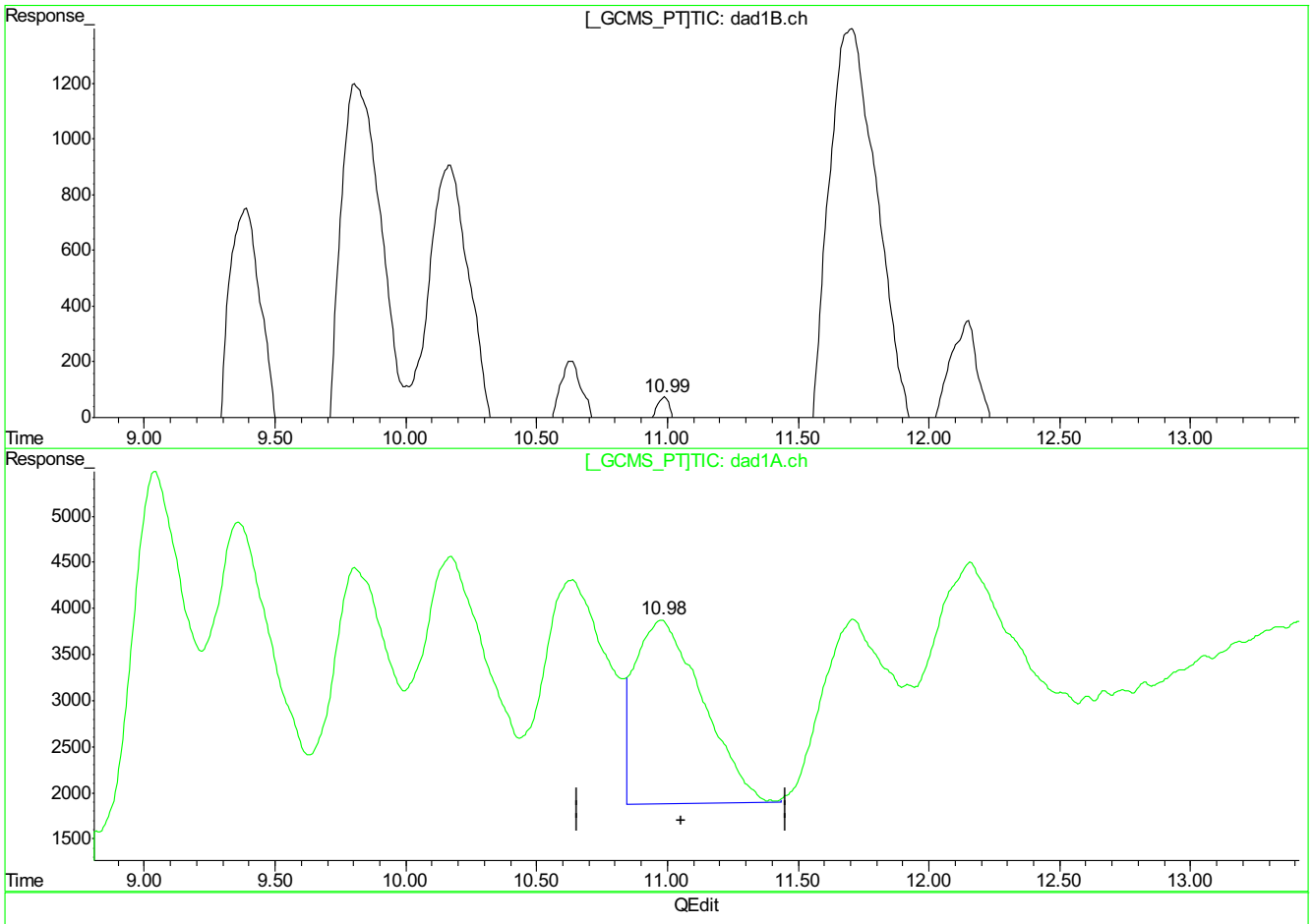
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.99min 124.952ppb

response 303642

(15) 3,4-Dinitrotoluene #2 (S)

10.98min 92.783ppb m

response 358192

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:32 2017

9.5.3.7

9

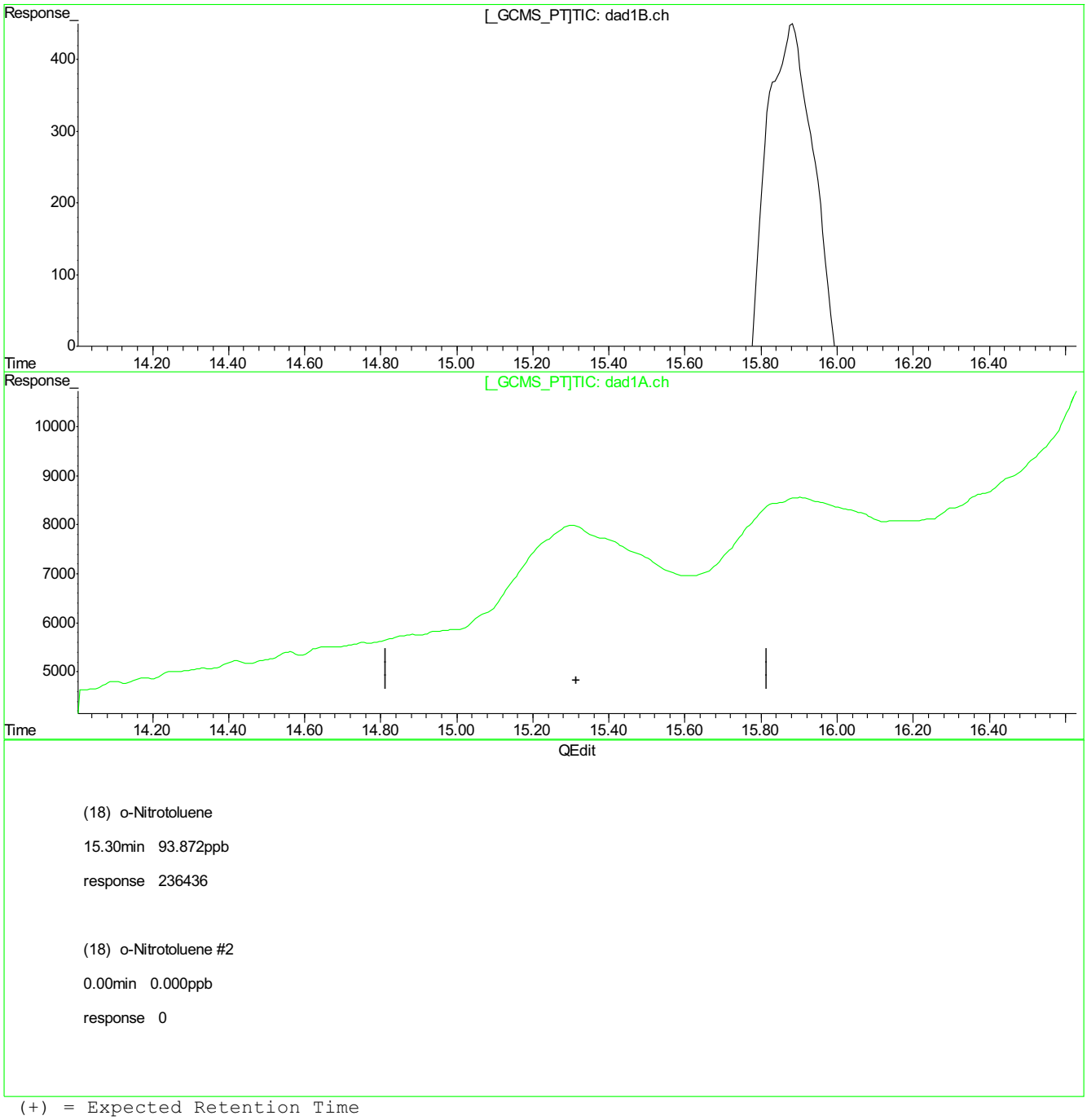
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On    : 29-Jun-2017, 17:57:17                    Operator: evitam
Sample    : ic1615-100                               Inst    : G1315B
Misc      :                                          Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration
```



(18) o-Nitrotoluene

15.30min 93.872ppb

response 236436

(18) o-Nitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time

BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:46 2017

9.5.3.8

9

BB055898.D edits: o-Nitrotoluene

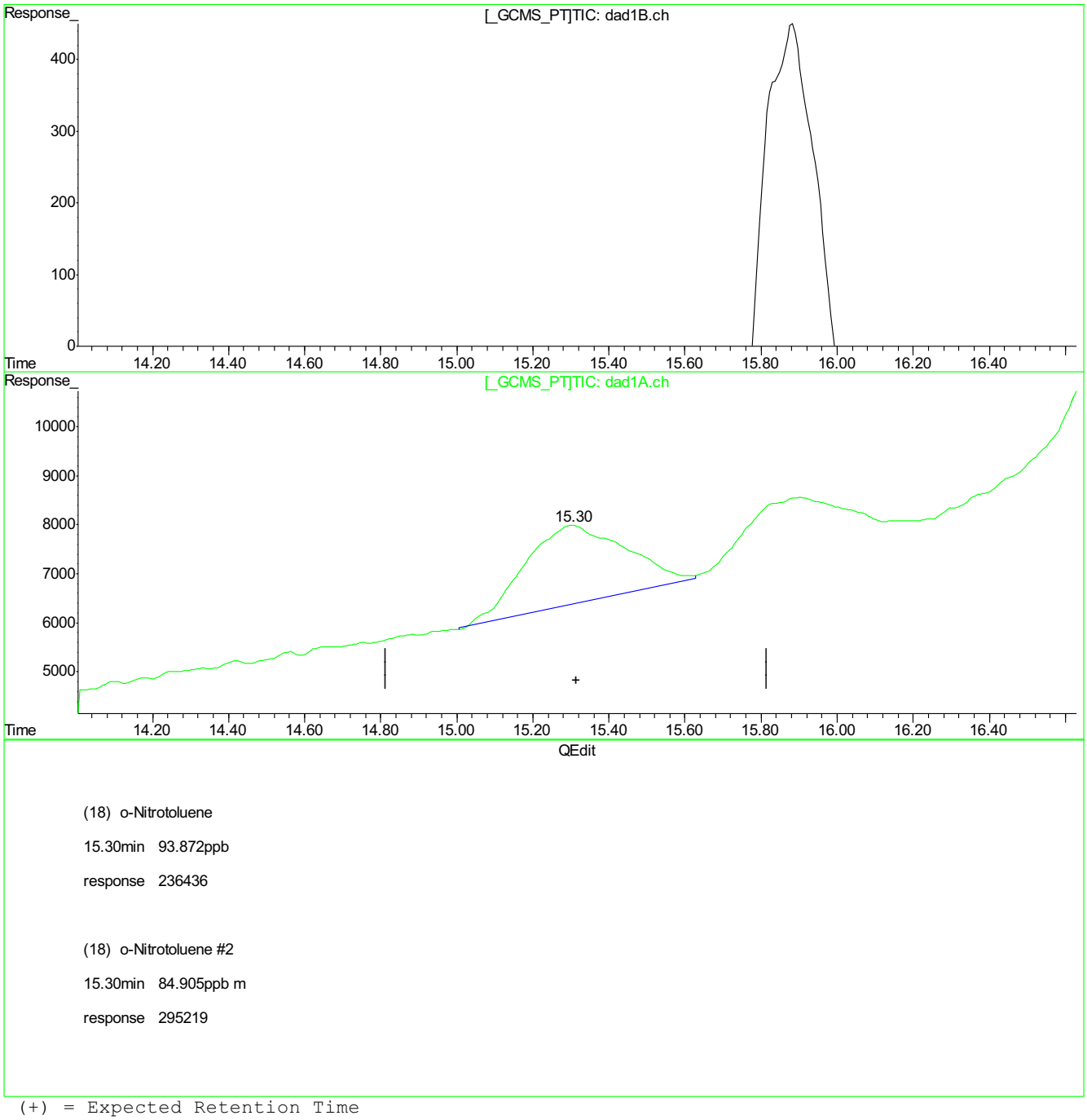
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 93.872ppb

response 236436

(18) o-Nitrotoluene #2

15.30min 84.905ppb m

response 295219

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:51 2017

9.5.3.9

9

BB055898.D edits: o-Nitrotoluene

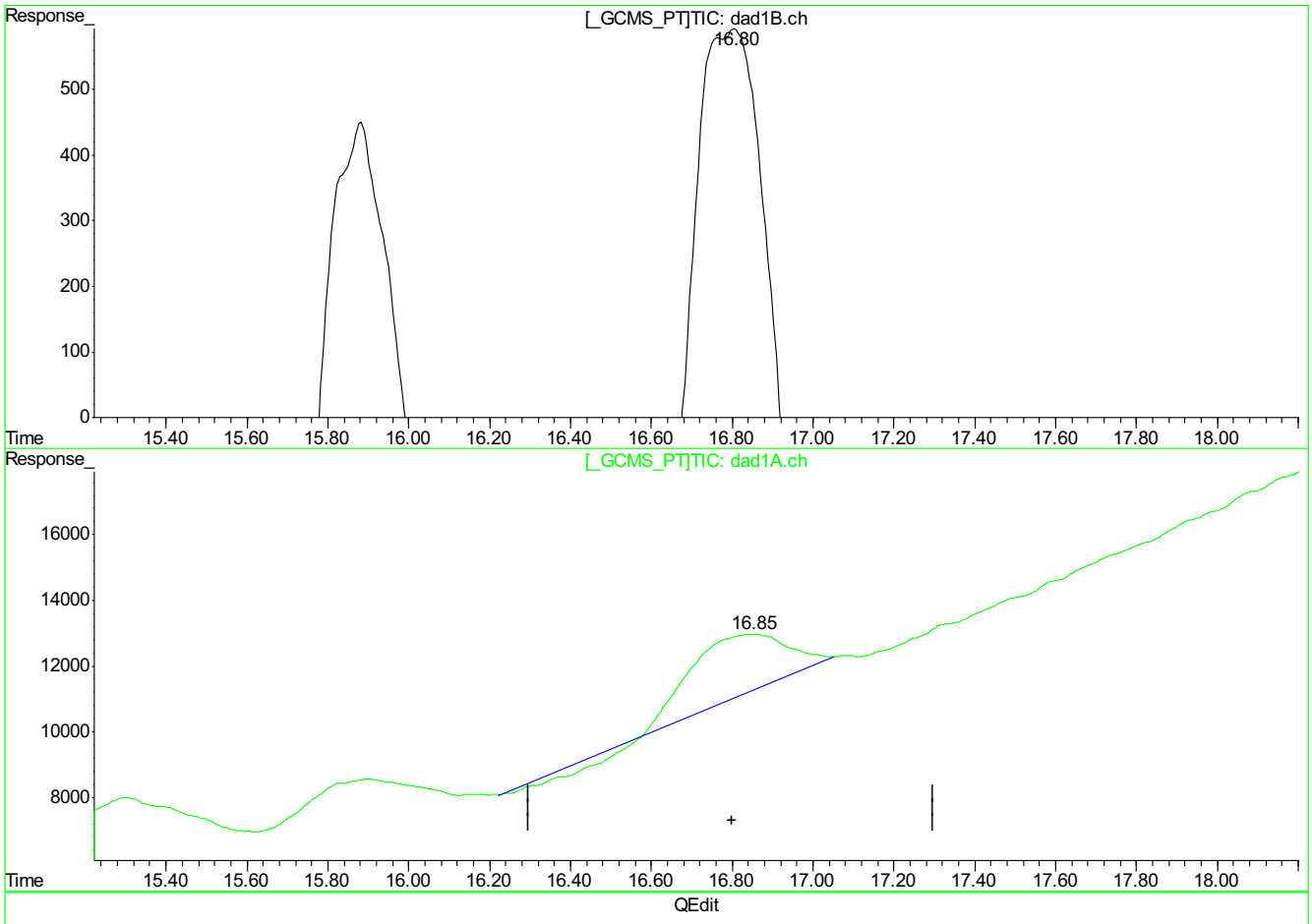
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.81min 98.831ppb

response 372812

(20) m-Nitrotoluene #2

16.85min 63.080ppb

response 269021

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:26:56 2017

9.5.3.10

9

BB055898.D edits: m-Nitrotoluene

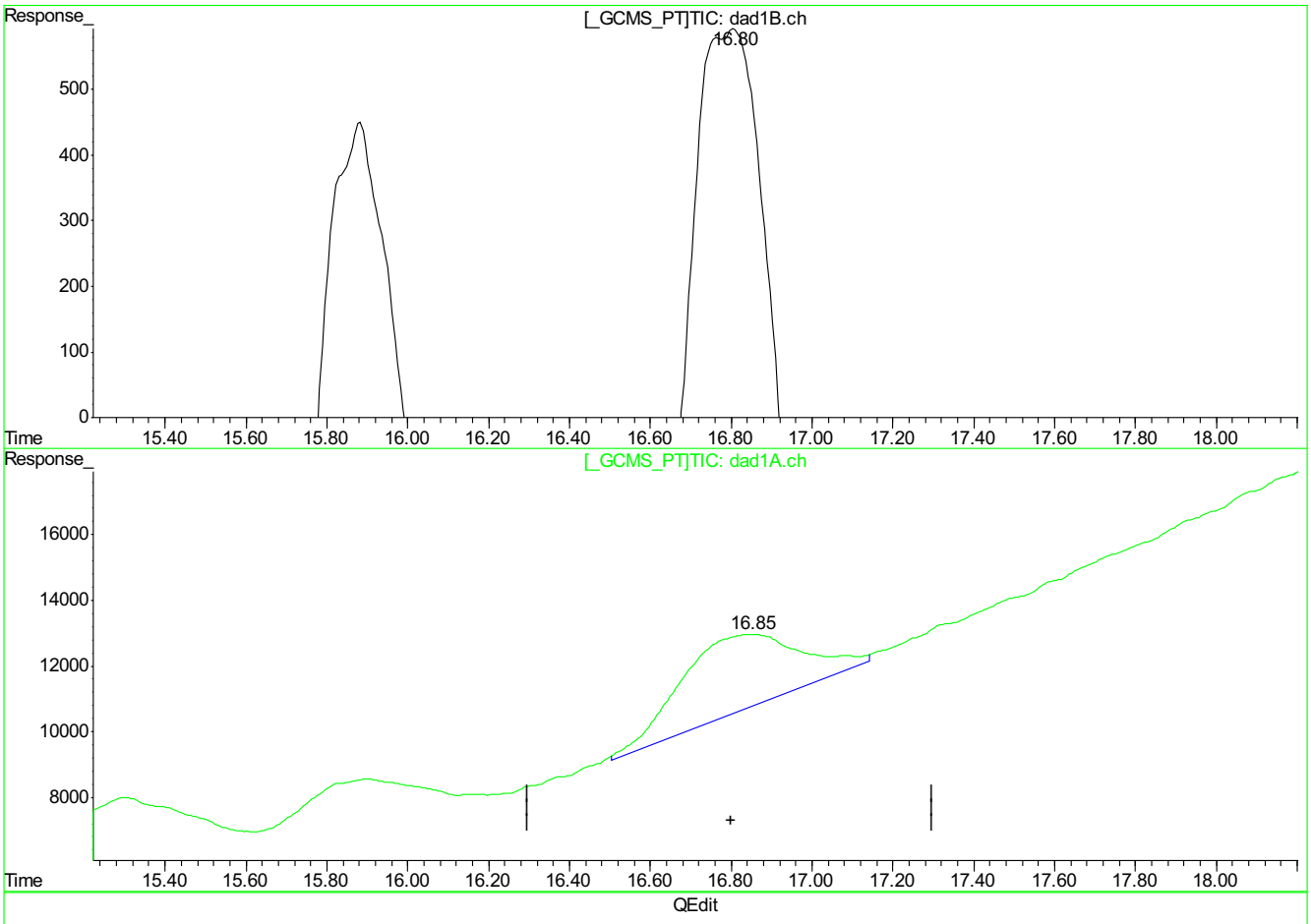
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.81min 98.831ppb

response 372812

(20) m-Nitrotoluene #2

16.85min 111.231ppb m

response 474374

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:27:00 2017

9.5.3.11

9

BB055898.D edits: m-Nitrotoluene

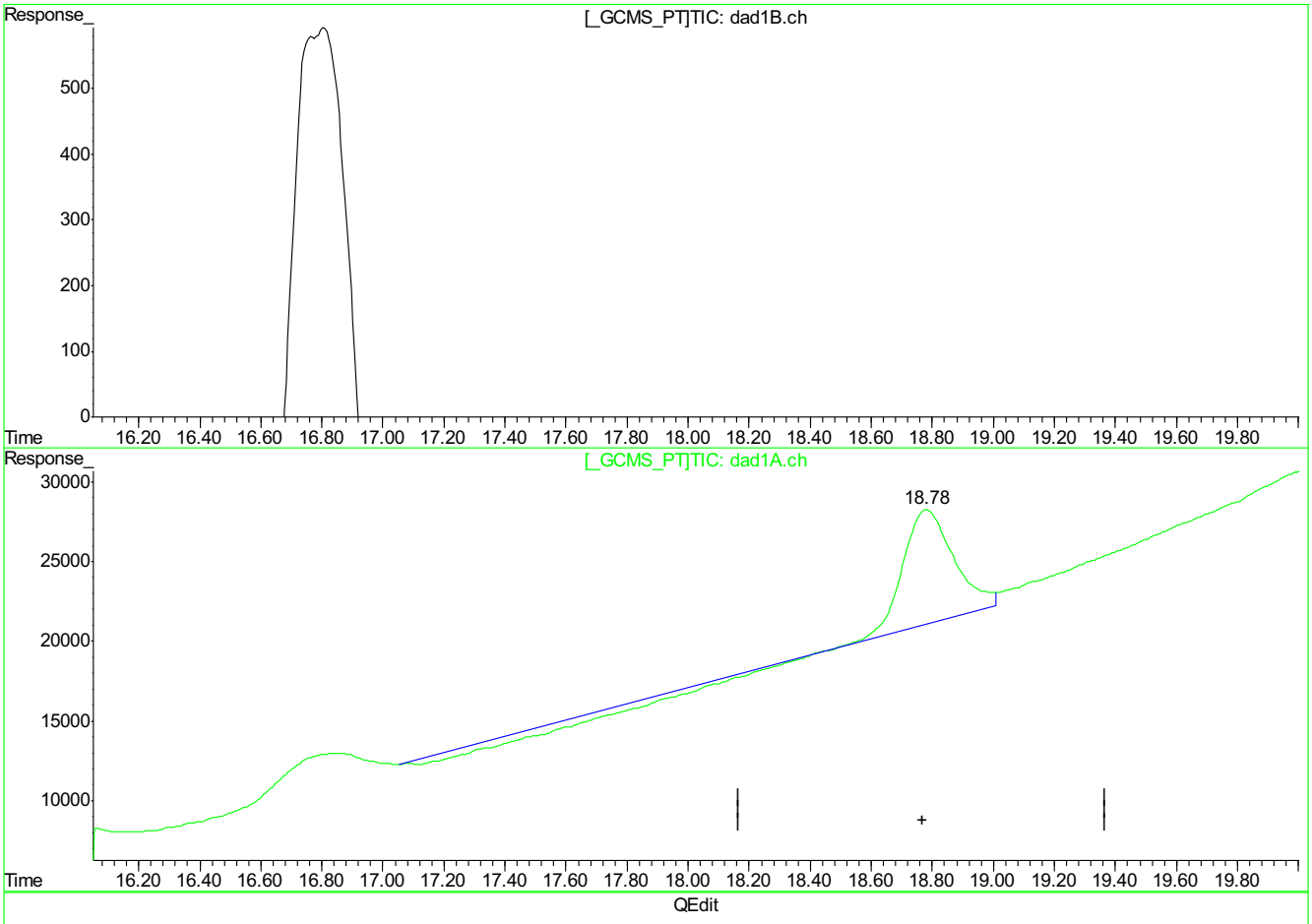
SGS ACCUTEST FA45759

Cal Report: BB055898.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.78min 403.766ppb

response 570434

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:27:02 2017

9.5.3.12

9

BB055898.D edits: PETN

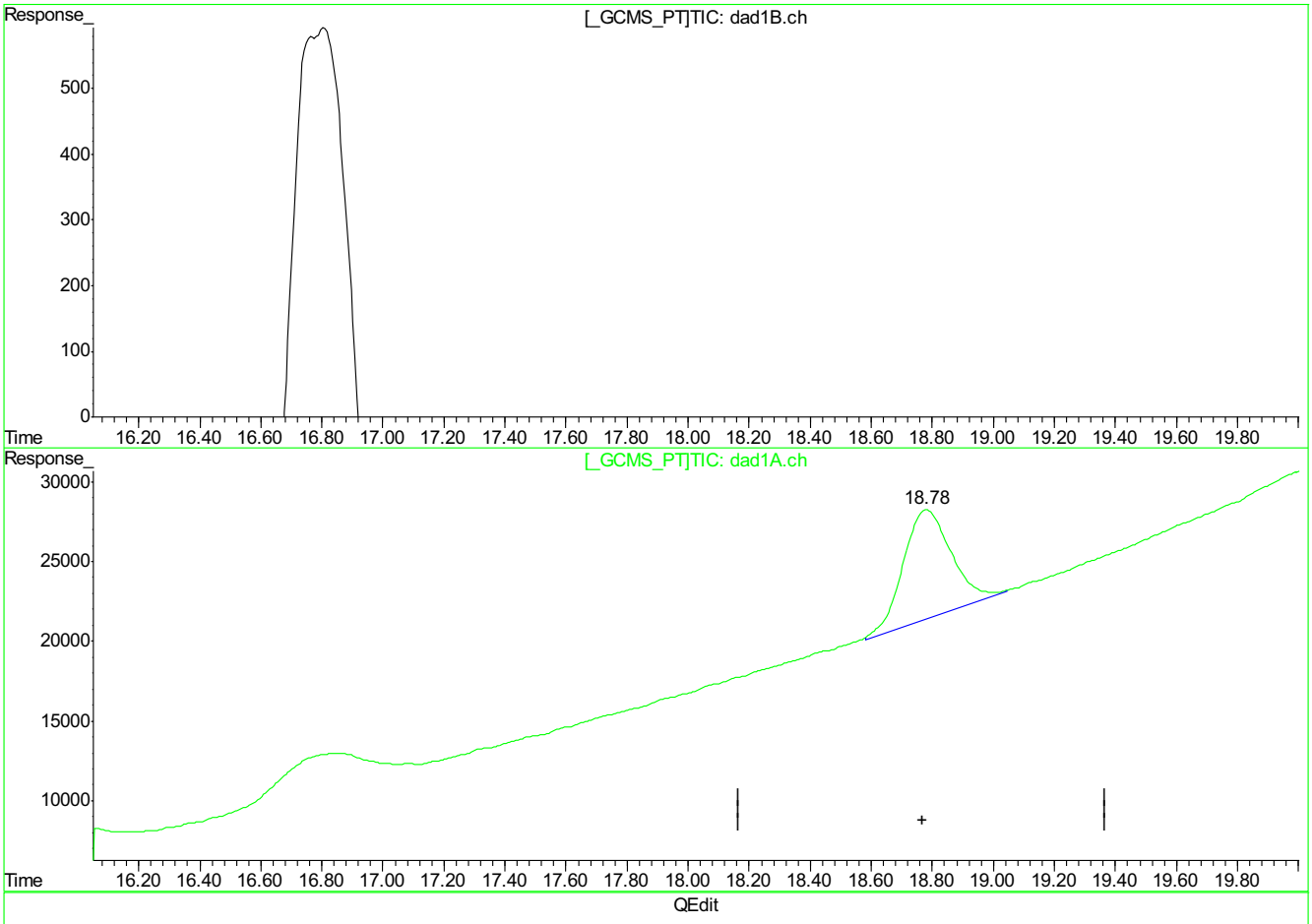
SGS ACCUTEST FA45759

Cal Report: **BB055898.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1B.ch Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055898.D\dad1A.ch
Acq On : 29-Jun-2017, 17:57:17 Operator: evitam
Sample : ic1615-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:24:32 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.78min 528.051ppb m

response 746021

(+) = Expected Retention Time
BB055898.D 8330B_0629PLUS.M Fri Jun 30 09:27:05 2017

9.5.3.13

9

BB055898.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055899.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:56 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.91	10.90	513888	797945	211.471	205.558
	Spiked Amount 500.000	Range 69 - 134		Recovery =		42.29%#	41.11%#
	Target Compounds						
1)	TNX	1.39	1.39	622570	957998	188.901	186.084
2)	HMX	1.51	1.51	346143	955700	178.149	186.522
3)	DNX	1.77	1.77	560440	935552	190.452	197.113
4)	MNX	2.36	2.36	449580	688154	188.660	186.244
5)	RDX	2.97	2.97	412081	638101	185.717	187.157
6)	1,3,5-Trinitrobe	4.76	4.76	853061	1637459	191.499	196.376
7)	1,3-Dinitrobenze	6.01	6.01	1130670	745185	185.194	183.182
8)	3,5-Dinitroanili	6.35	6.35	783175	1292315	188.796	189.826
9)	Nitrobenzene	7.62	7.62	692969	646769	190.791	195.161
10)	Nitroglycerin	0.00	8.99	0	1078821	N.D. d	840.624m
11)	Tetryl	9.27	9.26	639146	1128313	230.885	285.446
12)	2,4,6-Trinitroto	9.74	9.74	726665	818010	161.533	169.825
13)	2-Amino-4,6-Dini	10.03	10.04	806528	1140417	202.360	229.431
14)	4-Amino-2,6-Dini	10.51	10.51	515093	957443	184.527	181.391
16)	2,4-Dinitrotolue	11.62	11.62	1027841	620955	178.302	193.652
17)	2,6-Dinitrotolue	12.06	12.07	647489	772626	196.937	195.861
18)	o-Nitrotoluene	15.24	15.24	473646	597774	188.051	171.919m
19)	p-Nitrotoluene	15.82	15.83	726775	463178	187.261	179.328
20)	m-Nitrotoluene	16.75	16.75	722793	812854	191.609	190.598m
21)	PETN	0.00	18.76	0	1458795	N.D. d	1032.569m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055899.D 8330B_0629PLUS.M Fri Jun 30 11:02:19 2017 Page 1

9.5.4
6

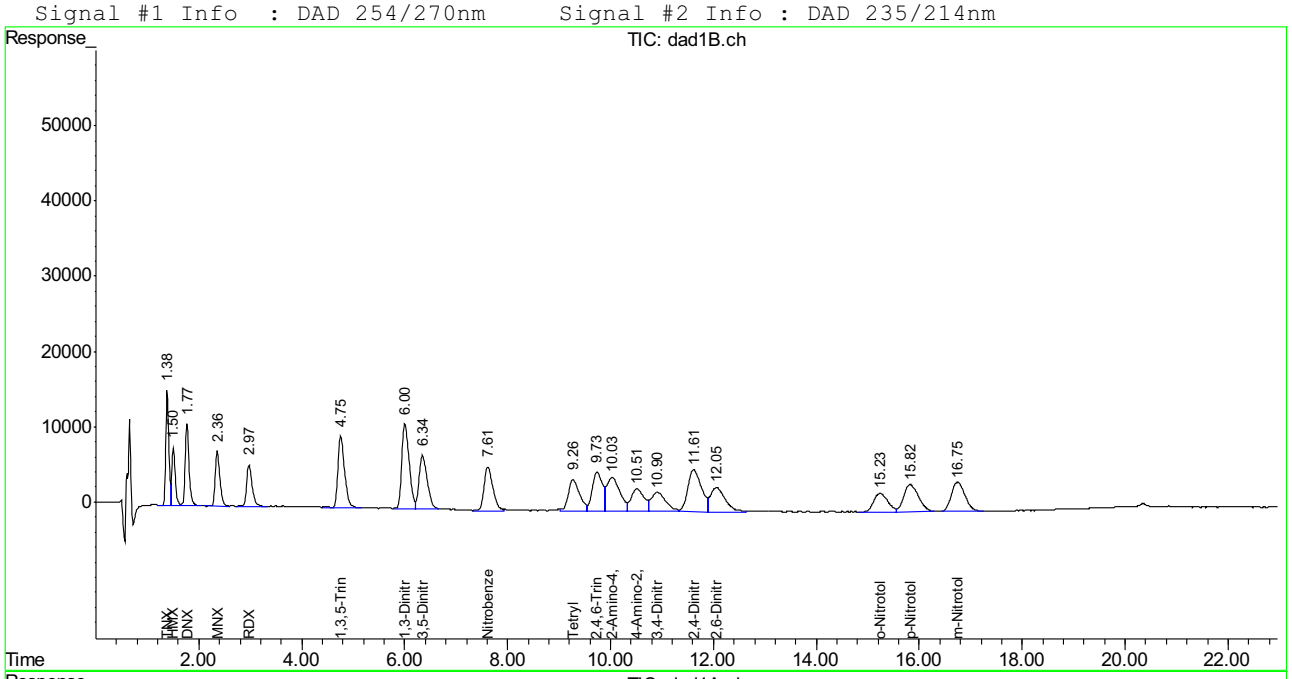
SGS ACCUTEST FA45759

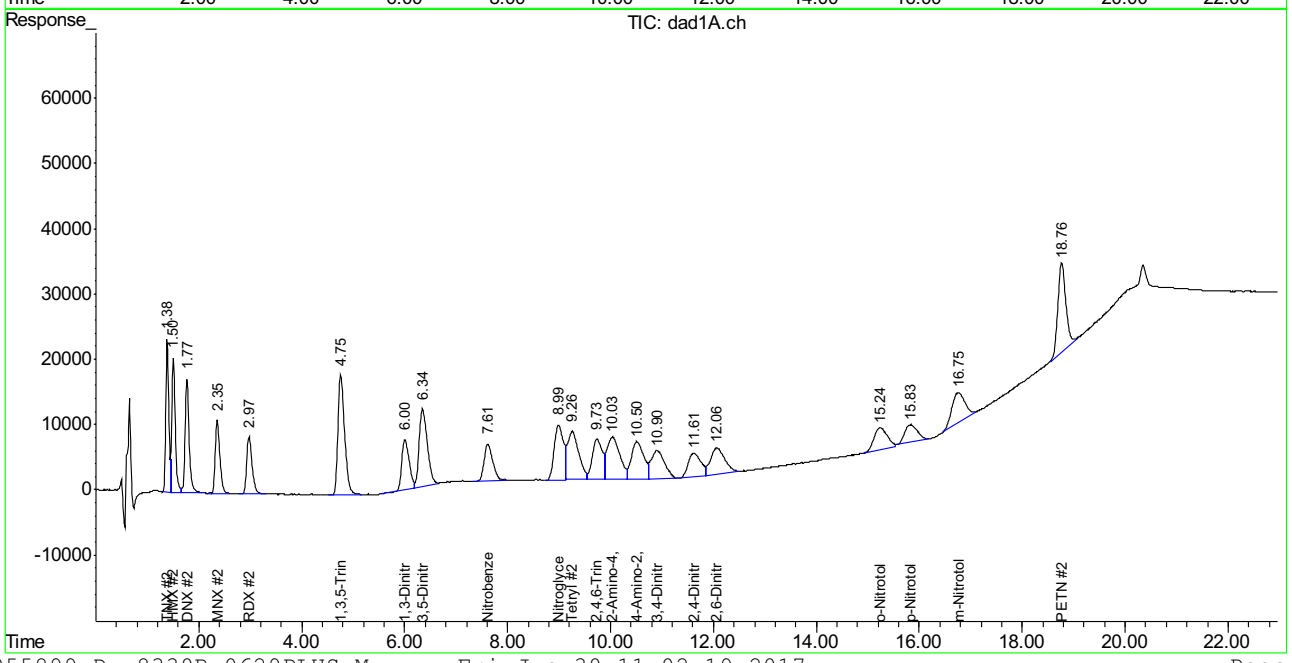
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055899.D
Injection Time: 06/29/17 18:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

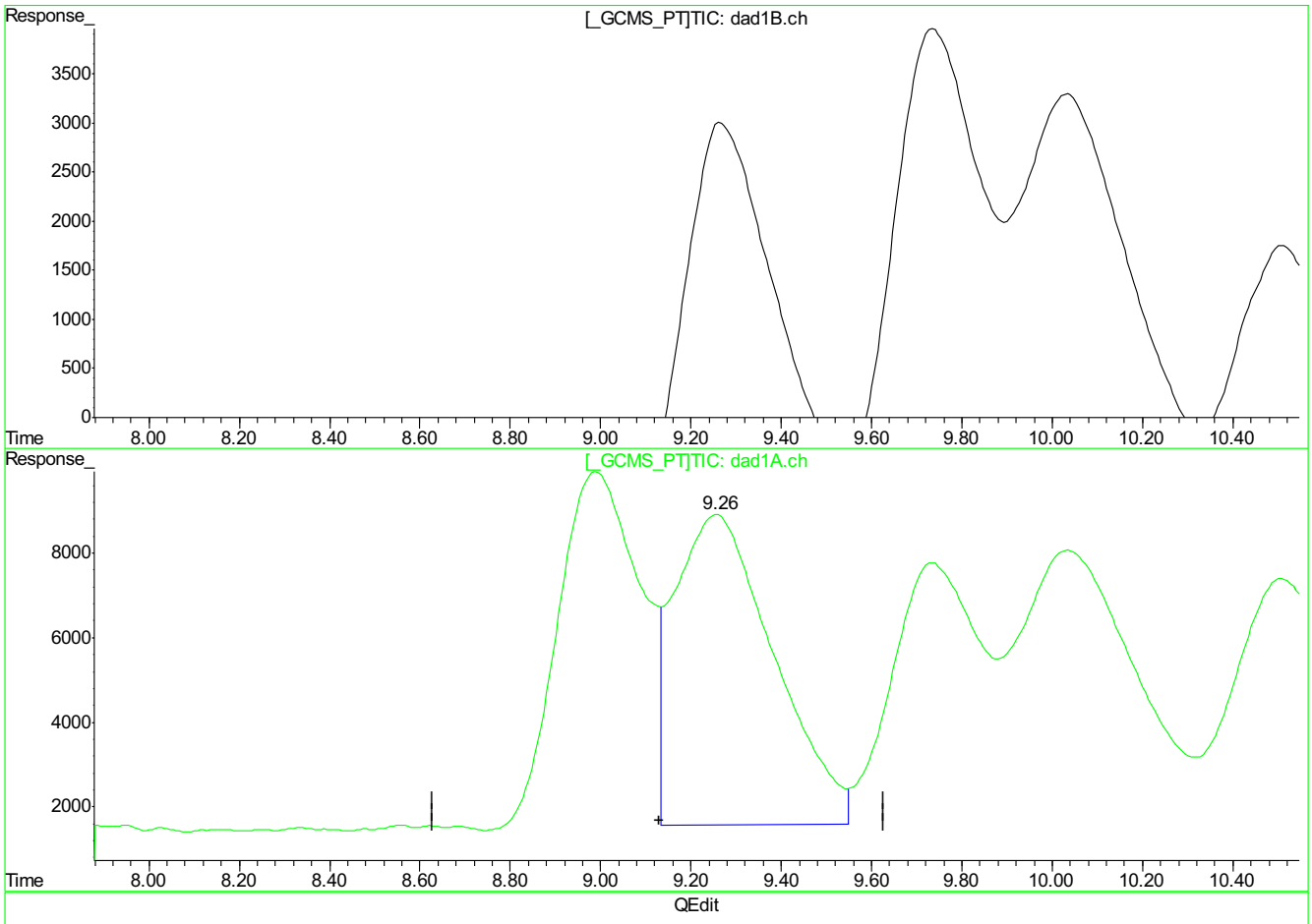
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.99	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.24	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.75	Poorly defined baseline
PETN	78-11-5	2	18.76	Poorly defined baseline

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

9.26min 879.188ppb

response 1128313

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:05 2017

9.5.4.2

9

BB055899.D edits: Nitroglycerin

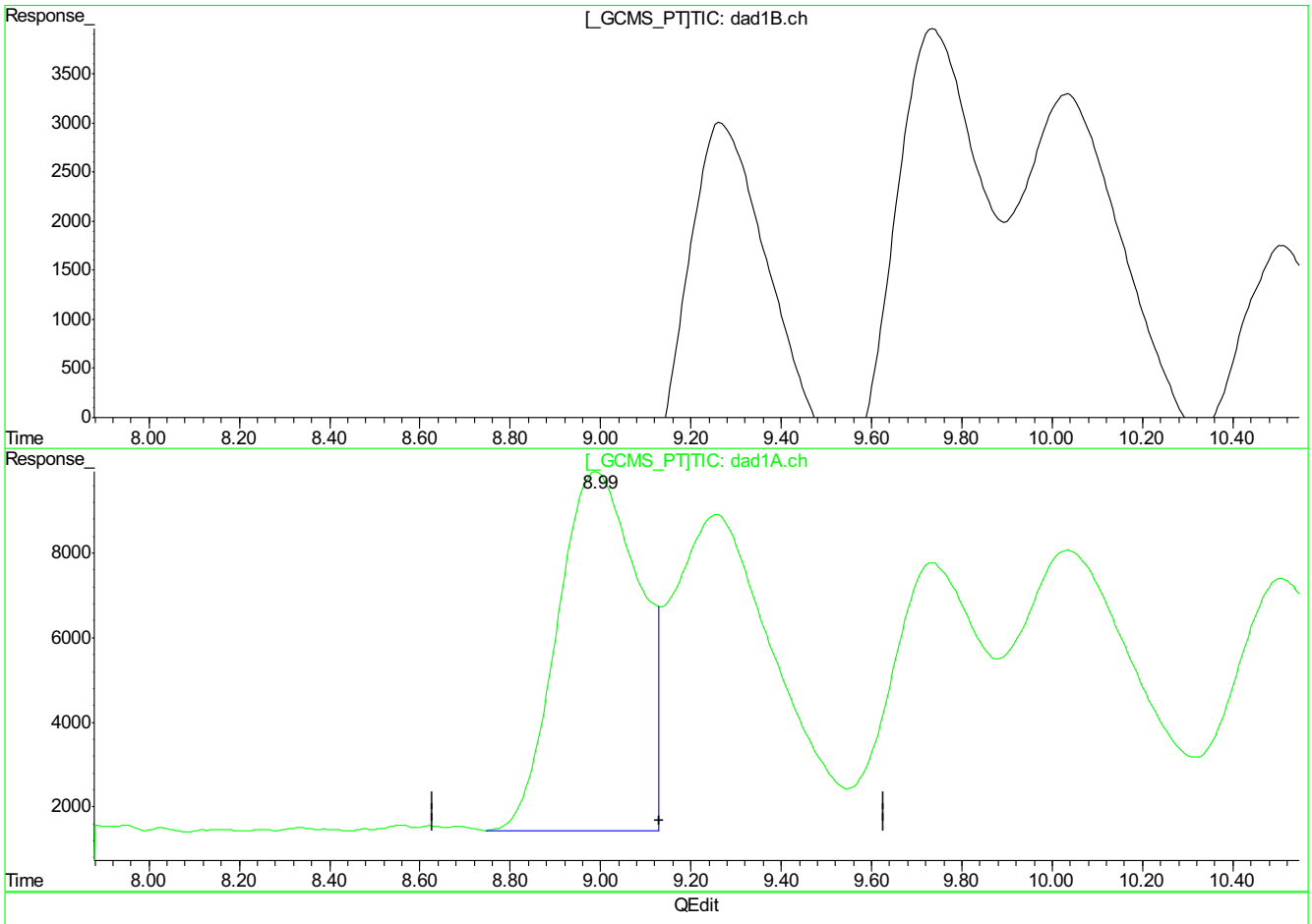
SGS ACCUTEST FA45759

Cal Report: **BB055899.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.99min 840.624ppb m

response 1078821

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:11 2017

9.5.4.3

9

BB055899.D edits: Nitroglycerin

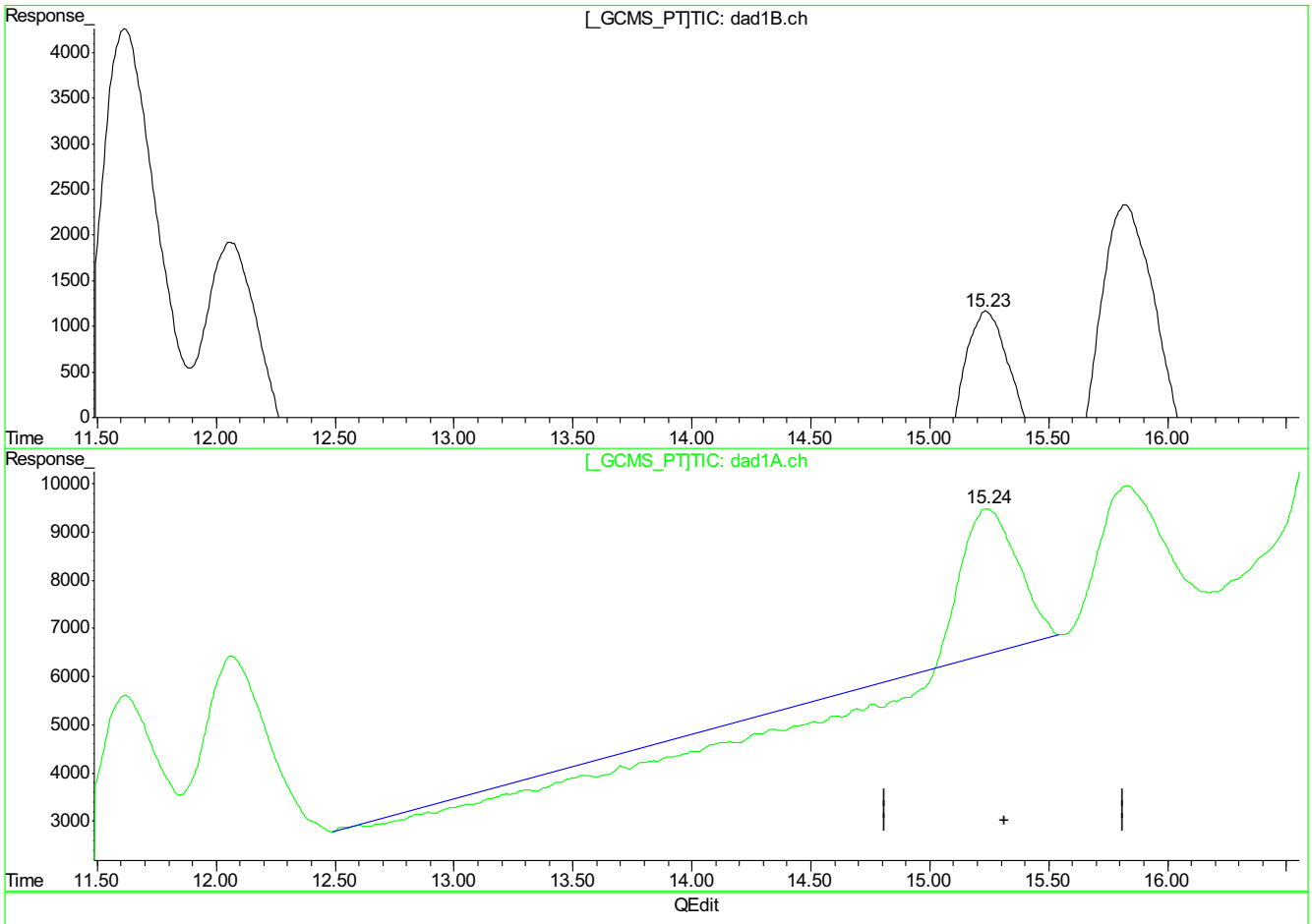
SGS ACCUTEST FA45759

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.24min 188.051ppb

response 473646

(18) o-Nitrotoluene #2

15.24min 13.786ppb

response 47933

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:33 2017

9.5.4.4

9

BB055899.D edits: o-Nitrotoluene

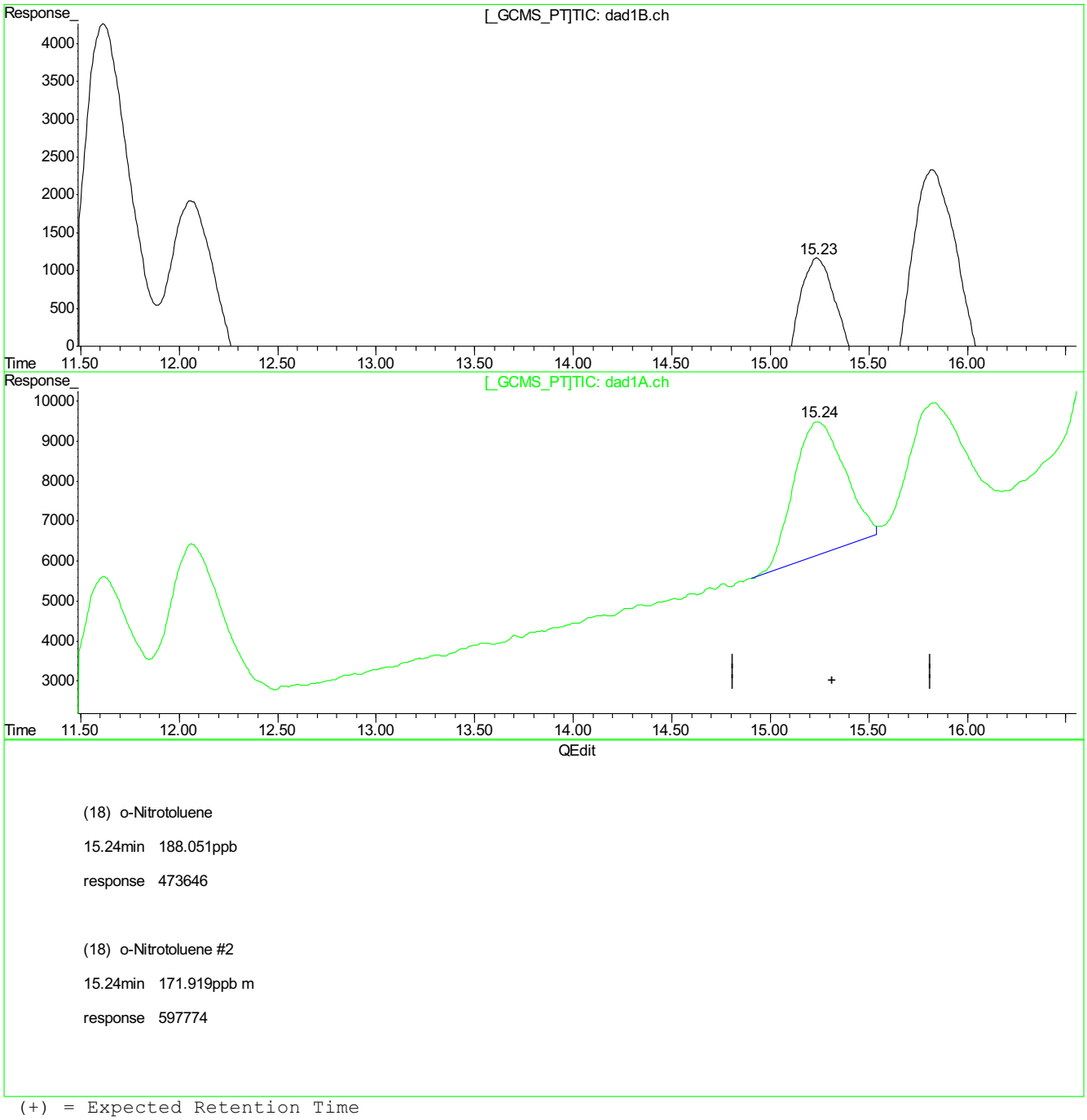
SGS ACCUTEST FA45759

Cal Report: **BB055899.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.24min 188.051ppb

response 473646

(18) o-Nitrotoluene #2

15.24min 171.919ppb m

response 597774

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:37 2017

9.5.4.5

9

BB055899.D edits: o-Nitrotoluene

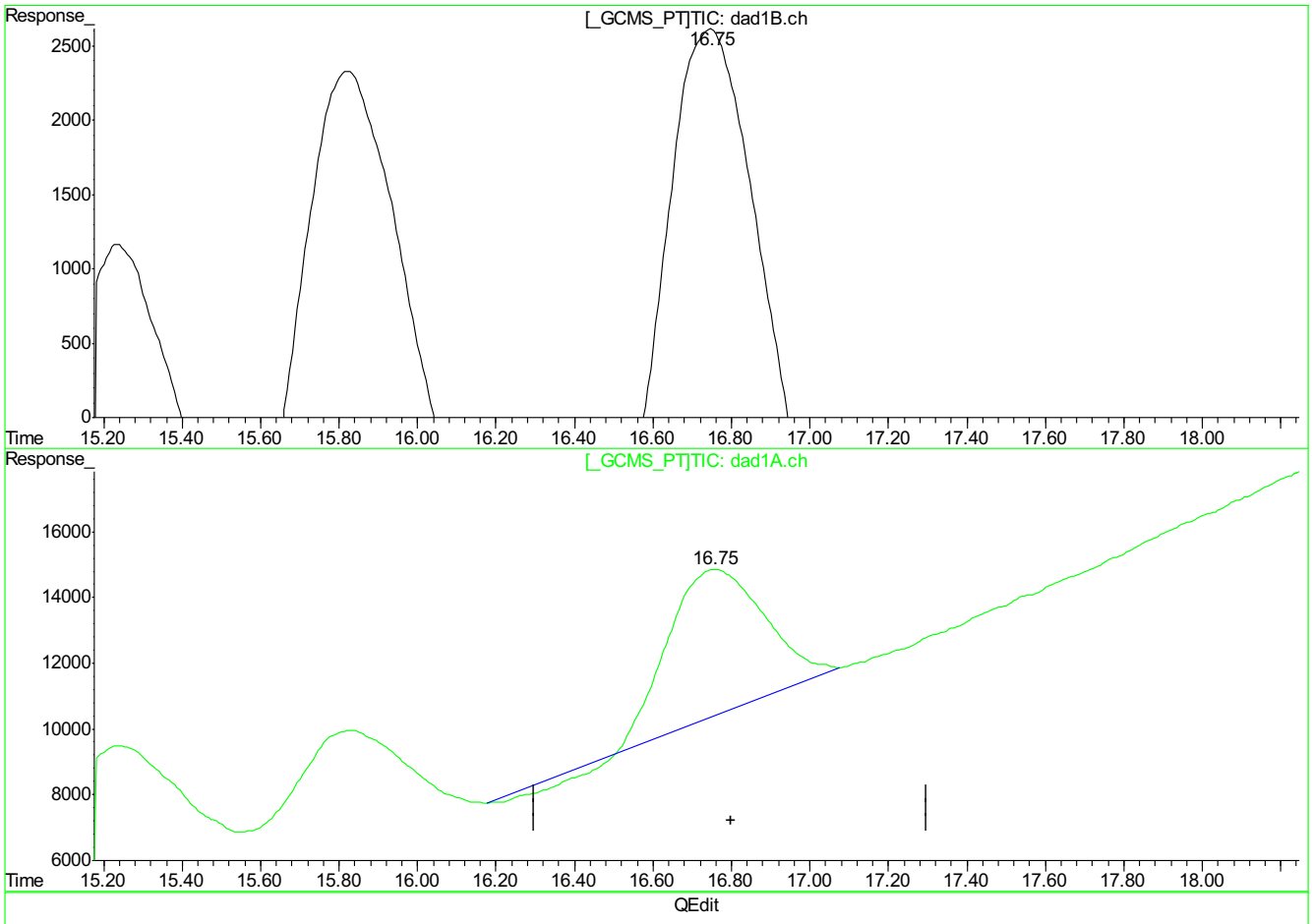
SGS ACCUTEST FA45759

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.75min 191.609ppb

response 722793

(20) m-Nitrotoluene #2

16.76min 168.531ppb

response 718742

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:42 2017

9.5.4.6

9

BB055899.D edits: m-Nitrotoluene

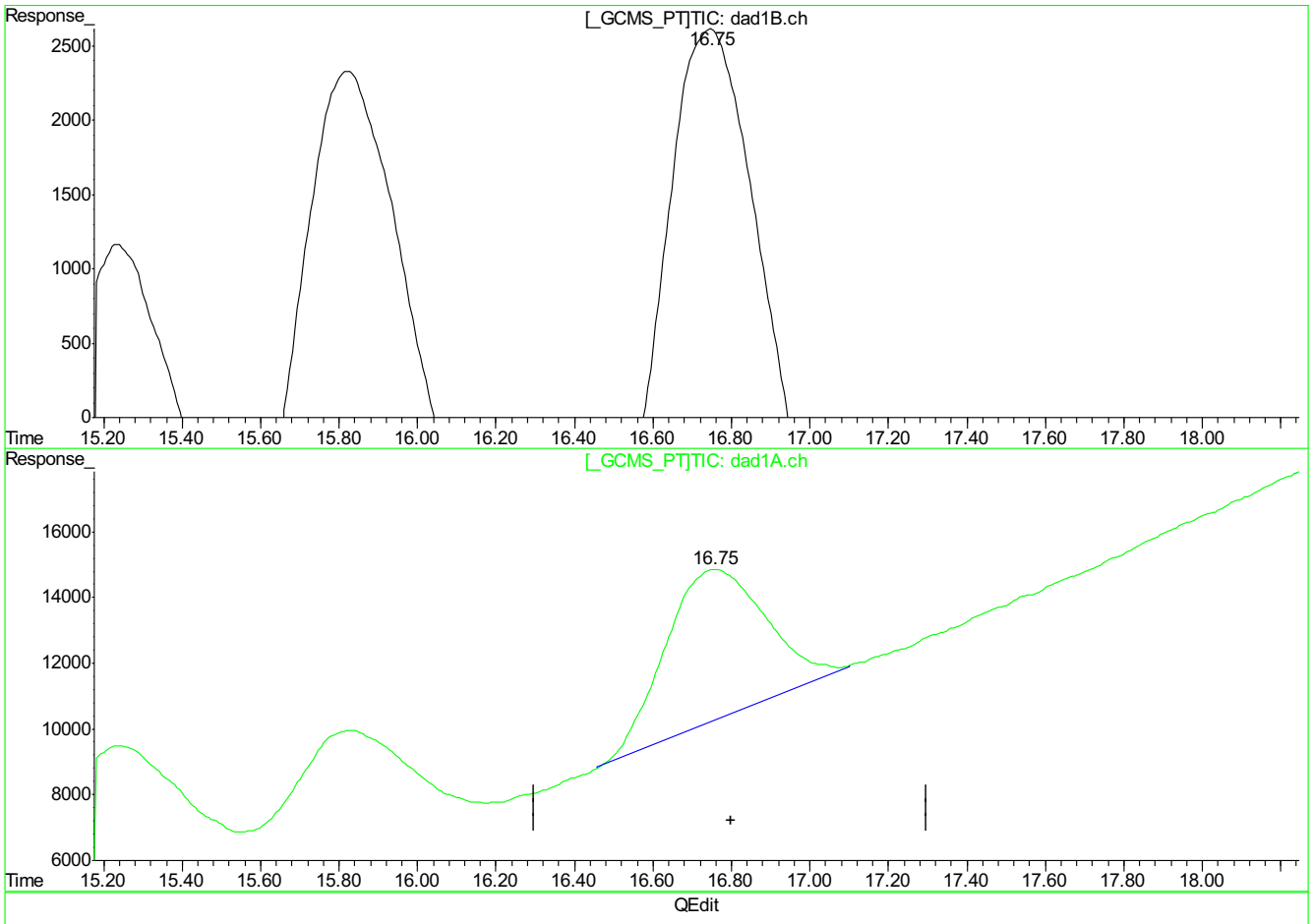
SGS ACCUTEST FA45759

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.75min 191.609ppb

response 722793

(20) m-Nitrotoluene #2

16.75min 190.598ppb m

response 812854

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:46 2017

9.5.4.7

9

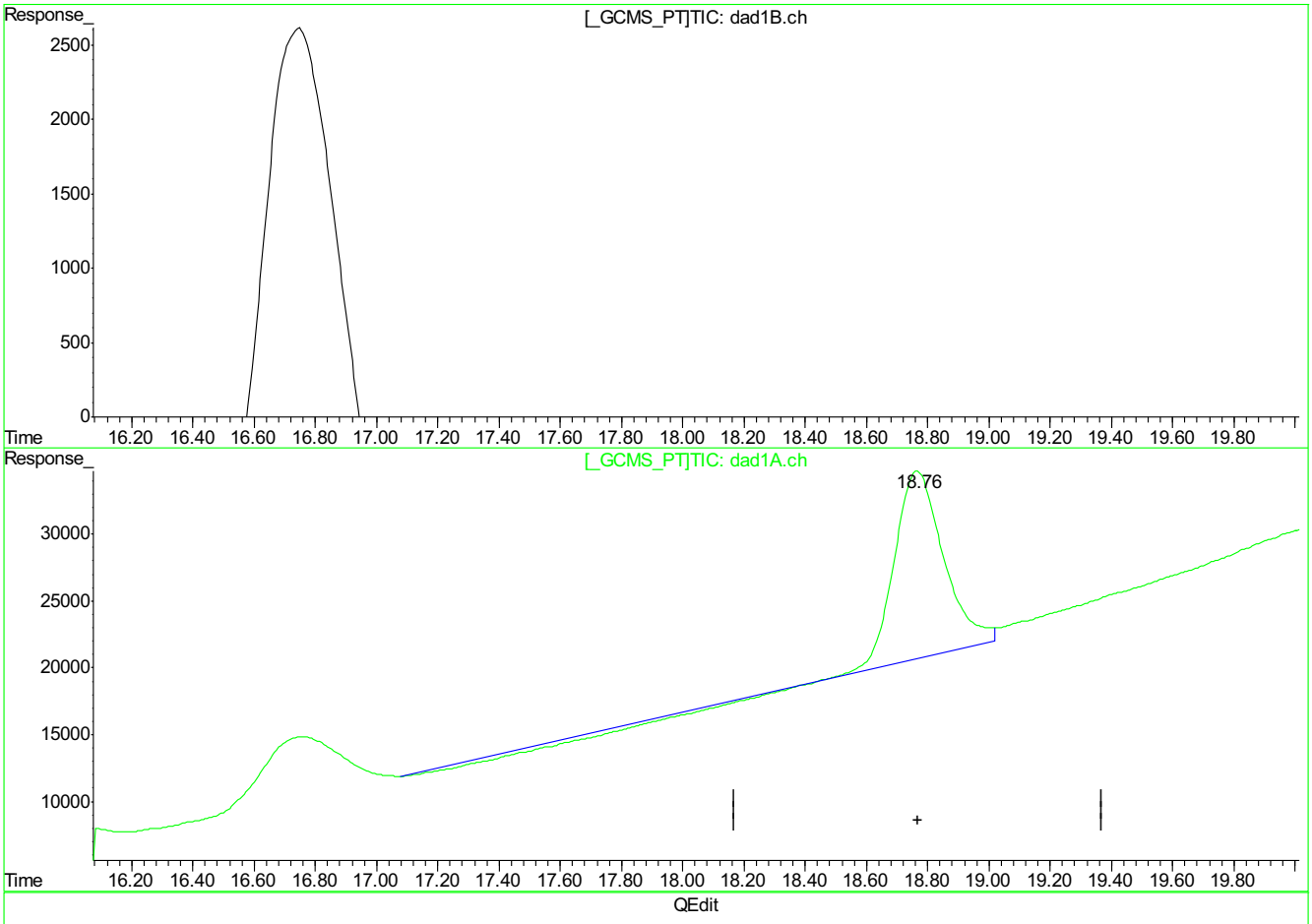
SGS ACCUTEST FA45759

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 963.024ppb

response 1360543

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:50 2017

9.5.4.8

9

BB055899.D edits: PETN

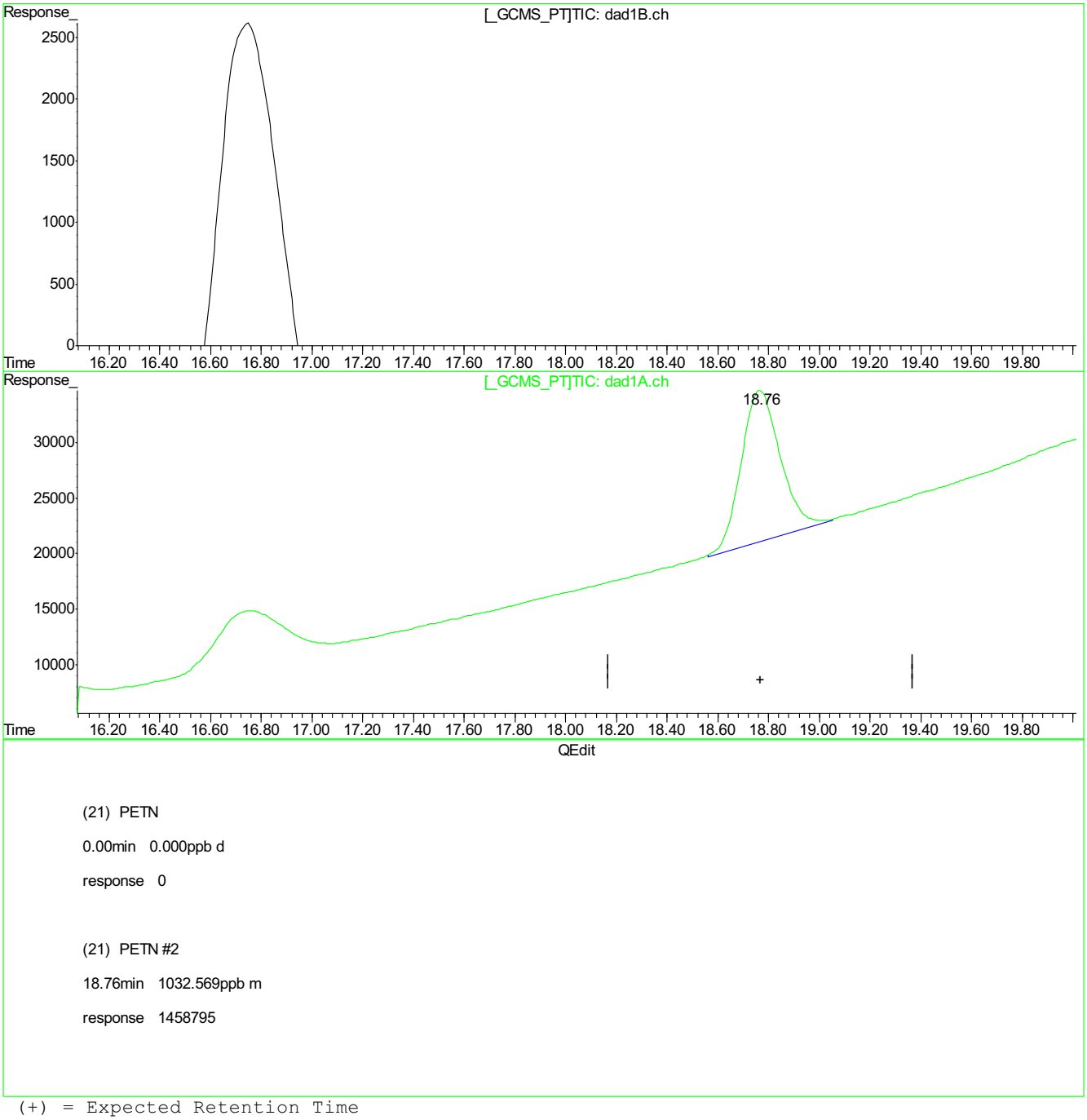
SGS ACCUTEST FA45759

Cal Report: BB055899.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1B.ch Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055899.D\dad1A.ch
Acq On : 29-Jun-2017, 18:27:14 Operator: evitam
Sample : ic1615-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:28 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.76min 1032.569ppb m

response 1458795

(+) = Expected Retention Time
BB055899.D 8330B_0629PLUS.M Fri Jun 30 09:28:53 2017

9.5.4.9

9

BB055899.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055900.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:57 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.99	10.99	1197434	2036372	492.758	516.767
	Spiked Amount 500.000	Range 69 - 134		Recovery =		98.55%	103.35%
	Target Compounds						
1)	TNX	1.39	1.39	1552796	2370812	471.150	460.513
2)	HMX	1.52	1.52	871635	2386637	448.604	466.263
3)	DNX	1.78	1.78	1387279	2212990	471.433	466.257
4)	MNX	2.38	2.38	1148733	1760143	482.051	476.370
5)	RDX	3.00	3.00	1001973	1584812	451.570	464.831
6)	1,3,5-Trinitrobe	4.80	4.80	2145126	4162971	481.547	499.255
7)	1,3-Dinitrobenze	6.05	6.05	2862270	1923294	468.816	472.787
8)	3,5-Dinitroanili	6.40	6.40	1902904	3199569	458.722	469.980
9)	Nitrobenzene	7.65	7.65	1699795	1624666	467.993	490.240
10)	Nitroglycerin	0.00	9.07	0	2913807	N.D. d	2270.457
11)	Tetryl	9.35	9.35	1590515	2728385	574.558	690.240
12)	2,4,6-Trinitroto	9.82	9.82	1916845	2291924	426.102	475.819
13)	2-Amino-4,6-Dini	10.13	10.13	1899054	2793415	476.478	561.983
14)	4-Amino-2,6-Dini	10.60	10.60	1314632	2574781	470.955	480.432
16)	2,4-Dinitrotolue	11.69	11.69	2588059	1665093	448.957	519.278
17)	2,6-Dinitrotolue	12.14	12.15	1556504	1968143	473.419	498.925
18)	o-Nitrotoluene	15.28	15.28	1170334	1567114	464.656	450.701m
19)	p-Nitrotoluene	15.87	15.87	1832572	1386103	472.182	536.656
20)	m-Nitrotoluene	16.77	16.77	1779890	2039961	471.840	478.330
21)	PETN	0.00	18.76	0	3676152	N.D. d	2602.066m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055900.D 8330B_0629PLUS.M Fri Jun 30 11:02:20 2017 Page 1

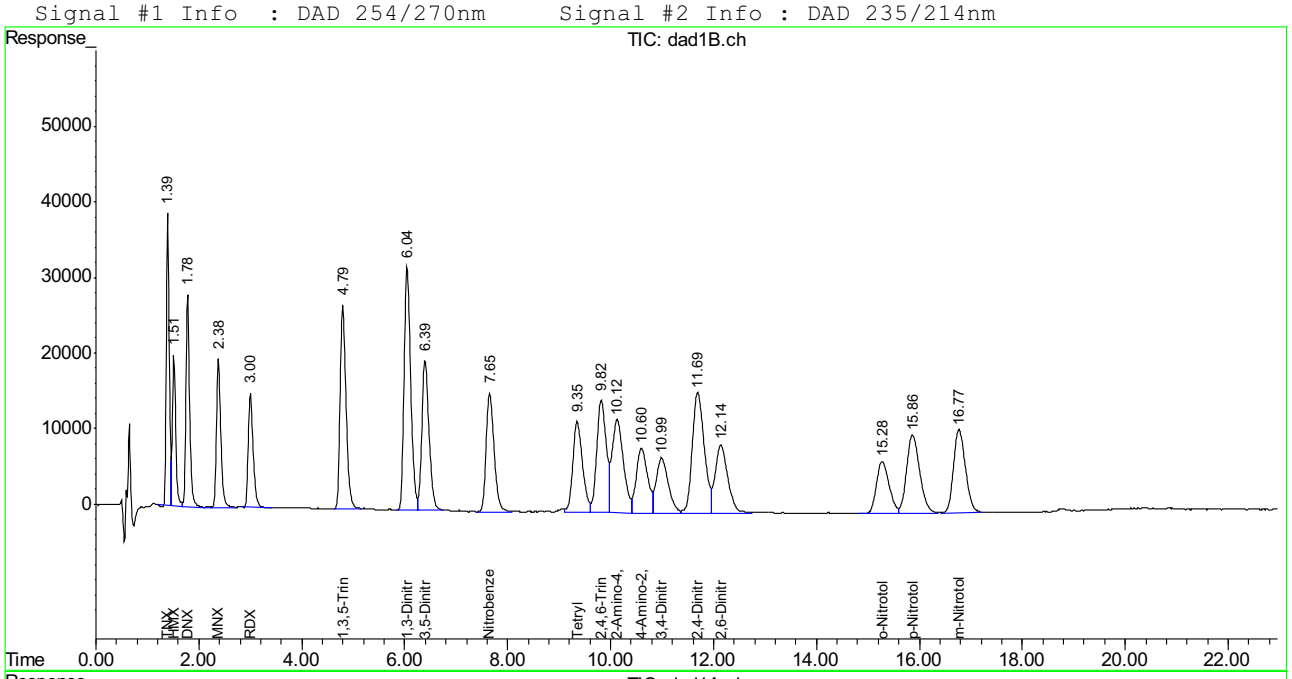
SGS ACCUTEST FA45759

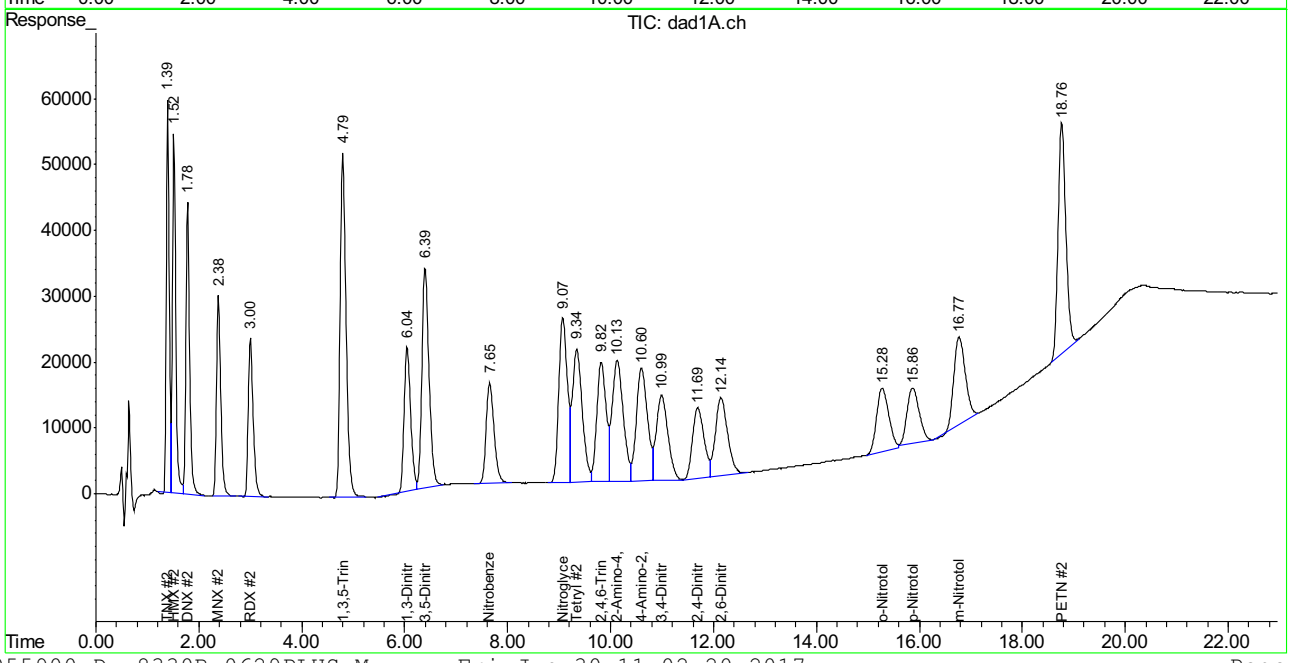
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:29 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-ICC1615
Lab FileID: BB055900.D
Injection Time: 06/29/17 18:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

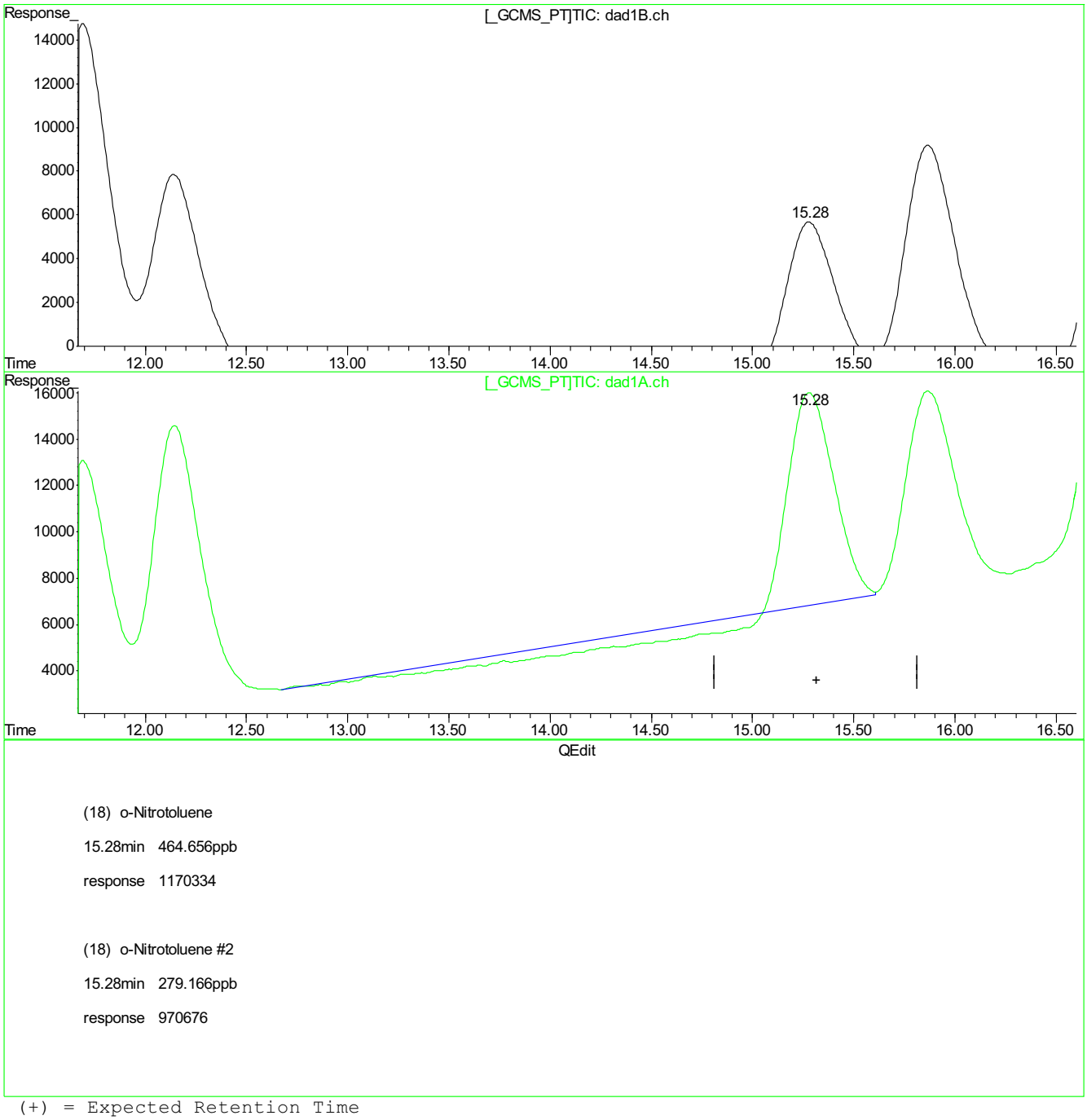
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.28	Poorly defined baseline
PETN	78-11-5	2	18.76	Poorly defined baseline

Cal Report: BB055900.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.28min 464.656ppb

response 1170334

(18) o-Nitrotoluene #2

15.28min 279.166ppb

response 970676

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:29:50 2017

9.5.5.2

9

BB055900.D edits: o-Nitrotoluene

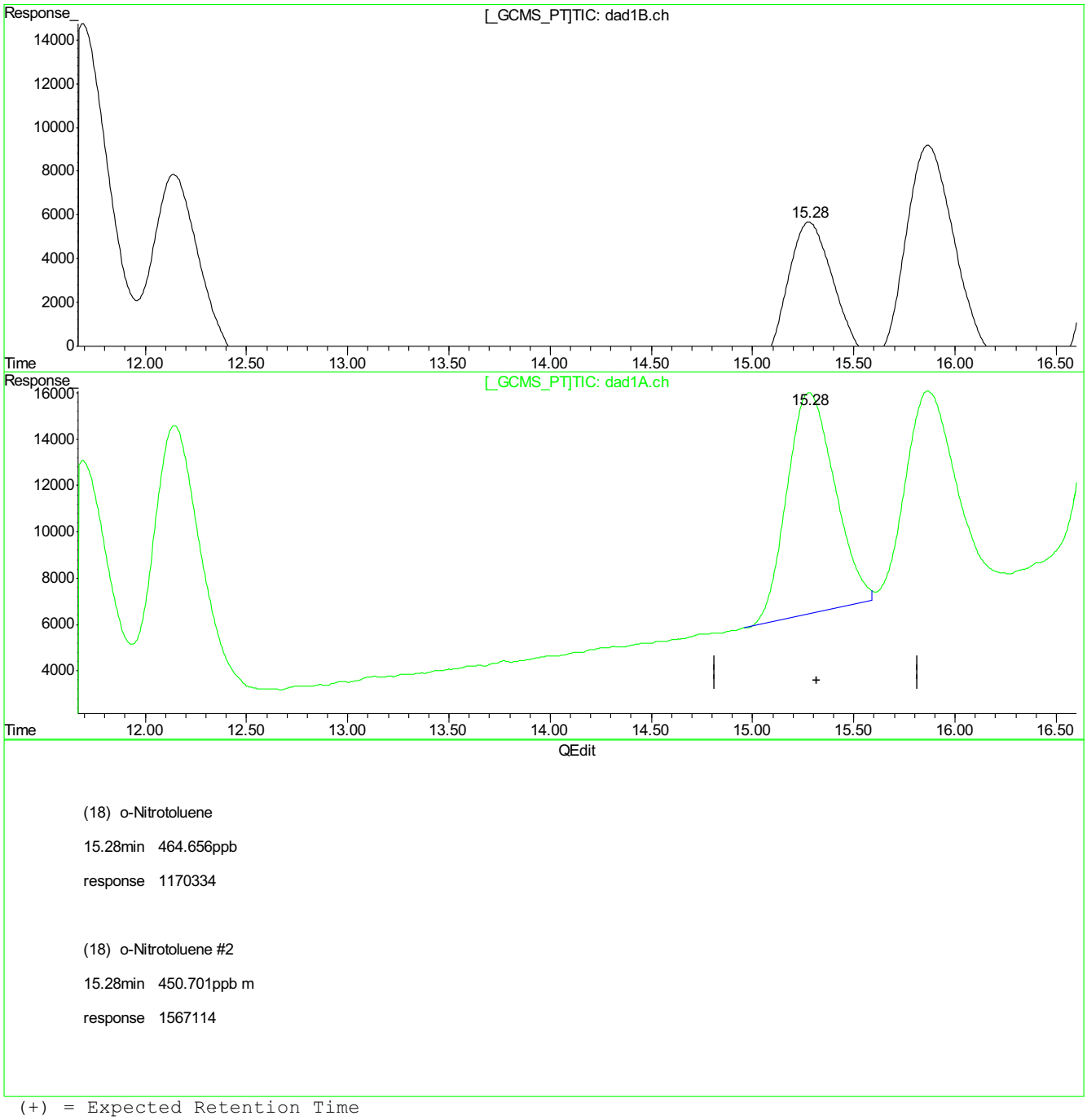
SGS ACCUTEST FA45759

Cal Report: **BB055900.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.28min 464.656ppb

response 1170334

(18) o-Nitrotoluene #2

15.28min 450.701ppb m

response 1567114

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:29:53 2017

9.5.5.3

9

BB055900.D edits: o-Nitrotoluene

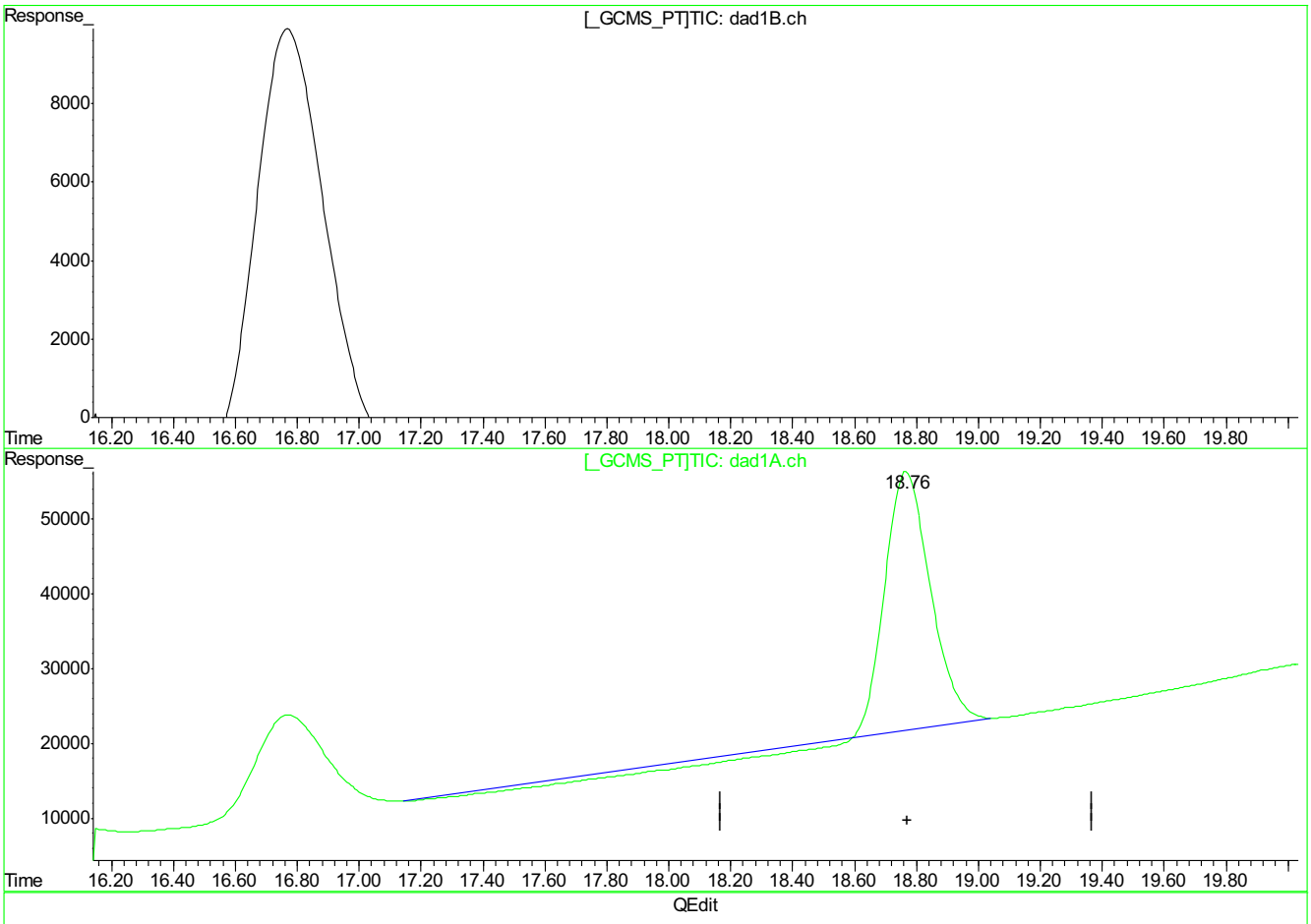
SGS ACCUTEST FA45759

Cal Report: BB055900.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 2134.569ppb

response 3015680

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:29:57 2017

9.5.5.4

9

BB055900.D edits: PETN

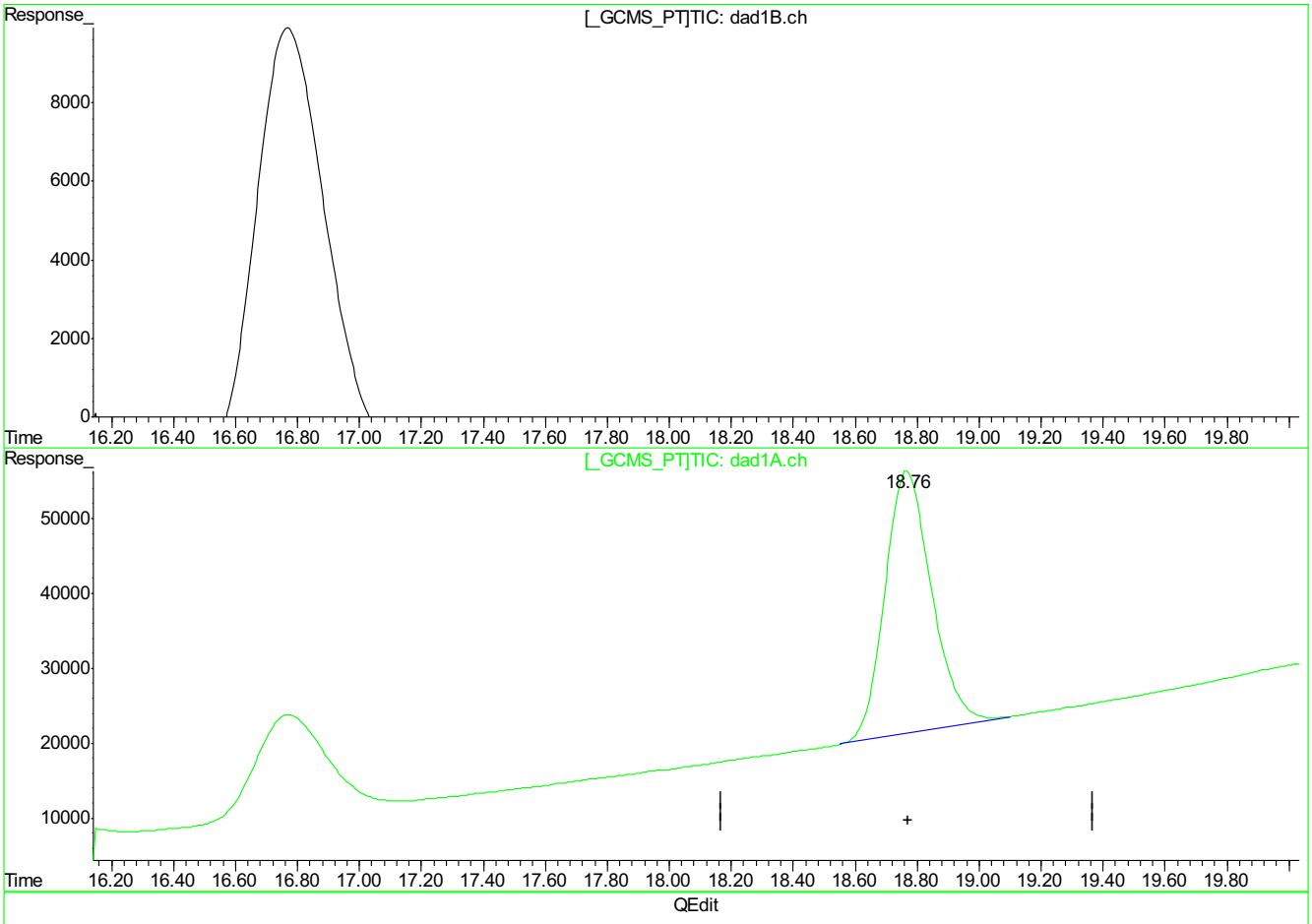
SGS ACCUTEST FA45759

Cal Report: **BB055900.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1B.ch Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055900.D\dad1A.ch
Acq On : 29-Jun-2017, 18:57:11 Operator: evitam
Sample : icc1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:27:35 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.76min 2602.066ppb m

response 3676152

(+) = Expected Retention Time
BB055900.D 8330B_0629PLUS.M Fri Jun 30 09:30:00 2017

9.5.5.5

6

BB055900.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055901.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:58 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.06	11.06	2245452	3908733	924.030	970.794
Spiked Amount	500.000	Range	69 - 134	Recovery	=	184.81%#	194.16%#
	Target Compounds						
1)	TNX	1.40	1.40	2996983	4653305	909.347	903.870
2)	HMX	1.53	1.53	1695965	4719124	872.862	923.463
3)	DNX	1.79	1.79	2672315	4319764	908.122	910.136
4)	MNX	2.39	2.39	2219623	3410590	931.436	923.052
5)	RDX	3.02	3.02	1935885	3073212	872.467	901.384
6)	1,3,5-Trinitrobe	4.82	4.82	4167968	8119394	935.642	973.739
7)	1,3-Dinitrobenze	6.07	6.07	5488039	3711056	898.895	912.257
8)	3,5-Dinitroanili	6.43	6.43	3769375	6203848	908.661	911.274
9)	Nitrobenzene	7.67	7.67	3304574	3171192	909.826	956.900
10)	Nitroglycerin	0.00	9.13	0	5668606	N.D. d	4417.014
11)	Tetryl	9.41	9.41	3148139	5238329	1137.234	1325.219
12)	2,4,6-Trinitroto	9.88	9.88	3749086	4518187	833.396	938.007
13)	2-Amino-4,6-Dini	10.19	10.19	3621921	5405153	908.750	1087.416
14)	4-Amino-2,6-Dini	10.67	10.67	2532413	5050849	907.214	921.886
16)	2,4-Dinitrotolue	11.76	11.76	4940226	3231440	856.992	1007.761
17)	2,6-Dinitrotolue	12.21	12.21	2899437	3755573	881.880	952.039
18)	o-Nitrotoluene	15.32	15.32	2320730	3208525	921.395	922.770m
19)	p-Nitrotoluene	15.91	15.91	3616279	2848982	931.773	1103.037
20)	m-Nitrotoluene	16.80	16.80	3532056	4061930	936.330	952.442
21)	PETN	0.00	18.77	0	7335364	N.D. d	5192.143m

9.5.6

6

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055901.D 8330B_0629PLUS.M Fri Jun 30 11:02:21 2017 Page 1

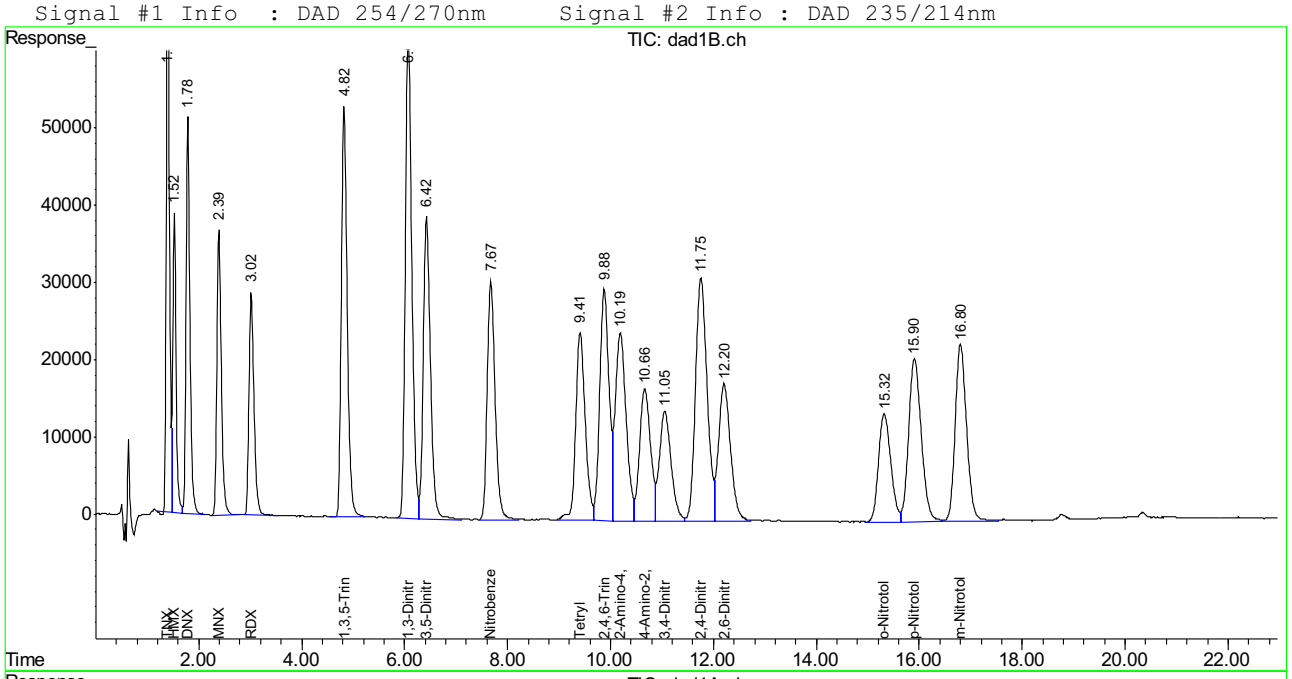
SGS ACCUTEST FA45759

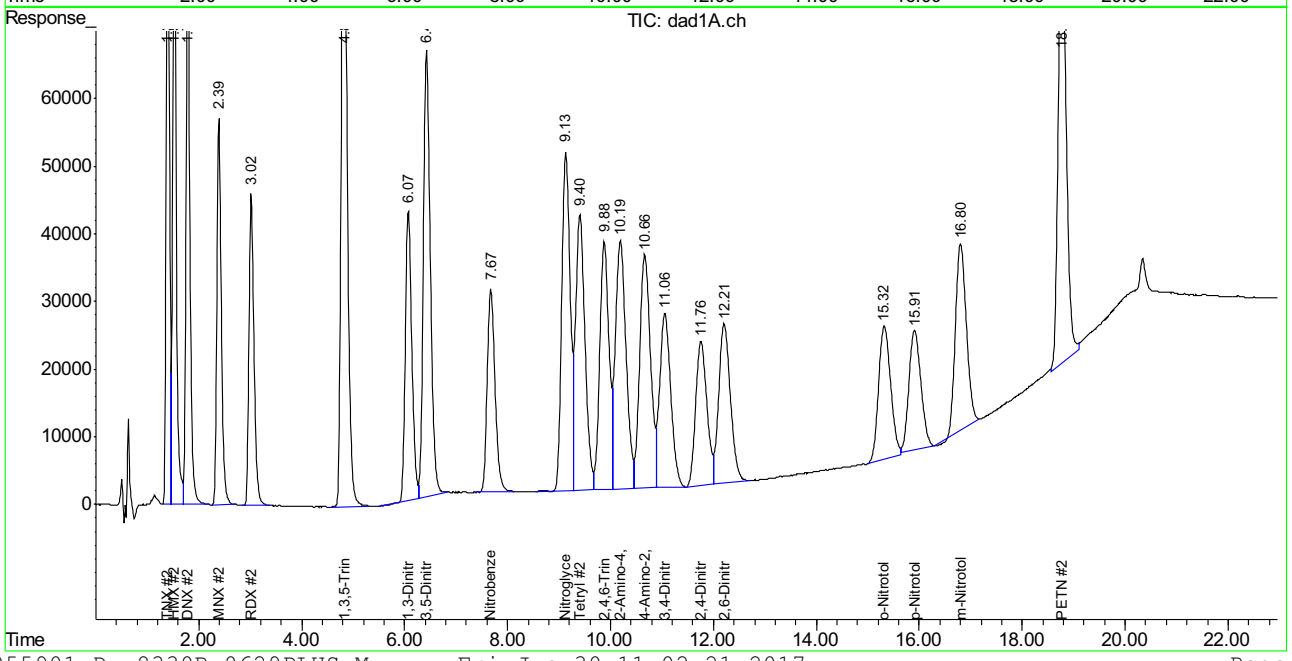
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:30 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055901.D
Injection Time: 06/29/17 19:27
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

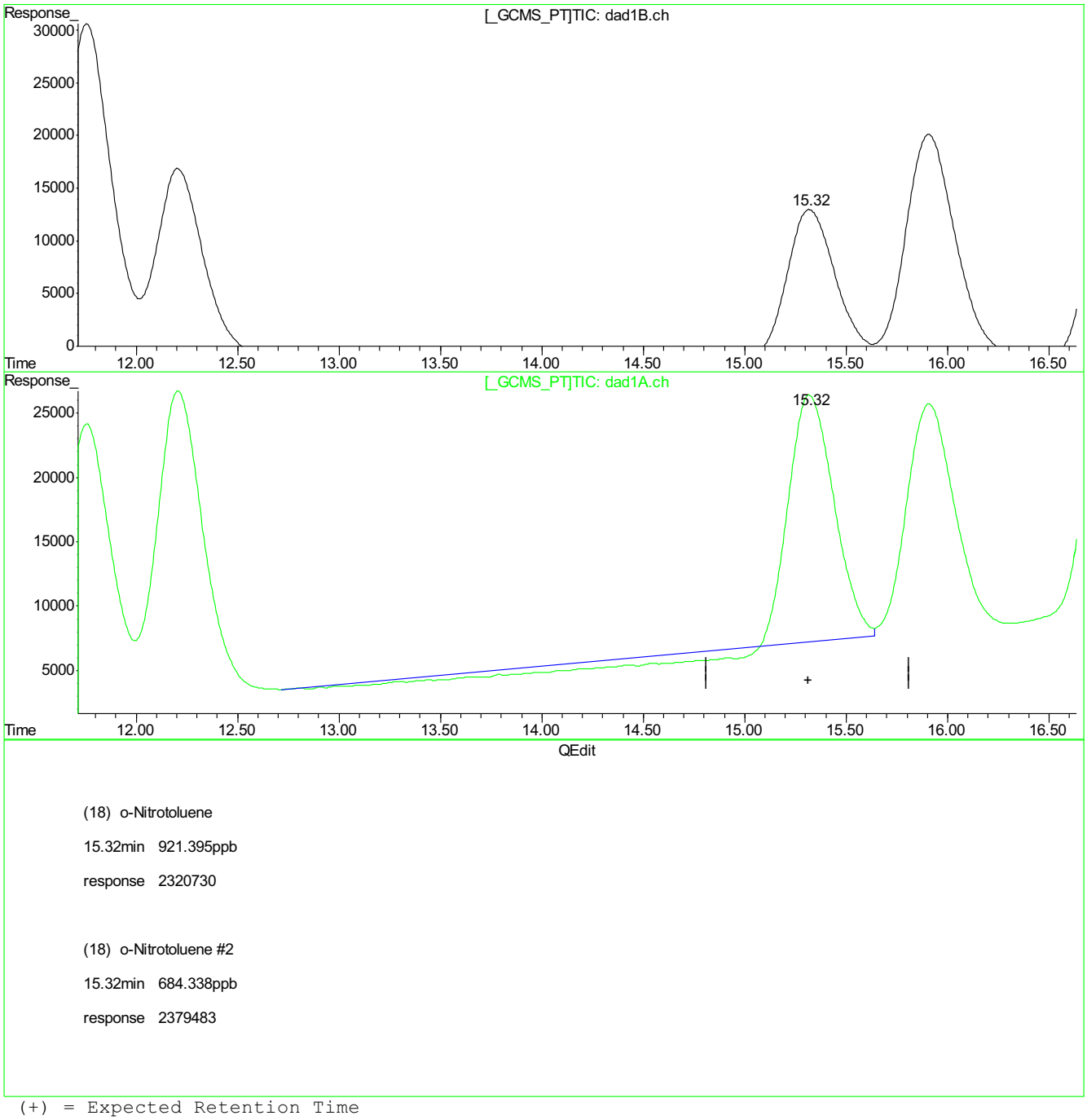
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.32	Poorly defined baseline
PETN	78-11-5	2	18.77	Poorly defined baseline

Cal Report: **BB055901.D**

Quantitation Report (Qedit)

```
Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On    : 29-Jun-2017, 19:27:11                    Operator: evitam
Sample    : ic1615-1000                              Inst    : G1315B
Misc      : op65667,gbb1615,10.0,,,50,1,soil         Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Jun 30  9:06 2017  Quant Results File: 8330B_0629PLUS.RES

Method       : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration
```



(18) o-Nitrotoluene

15.32min 921.395ppb

response 2320730

(18) o-Nitrotoluene #2

15.32min 684.338ppb

response 2379483

(+) = Expected Retention Time

BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:46 2017

9.5.9.2

9

BB055901.D edits: o-Nitrotoluene

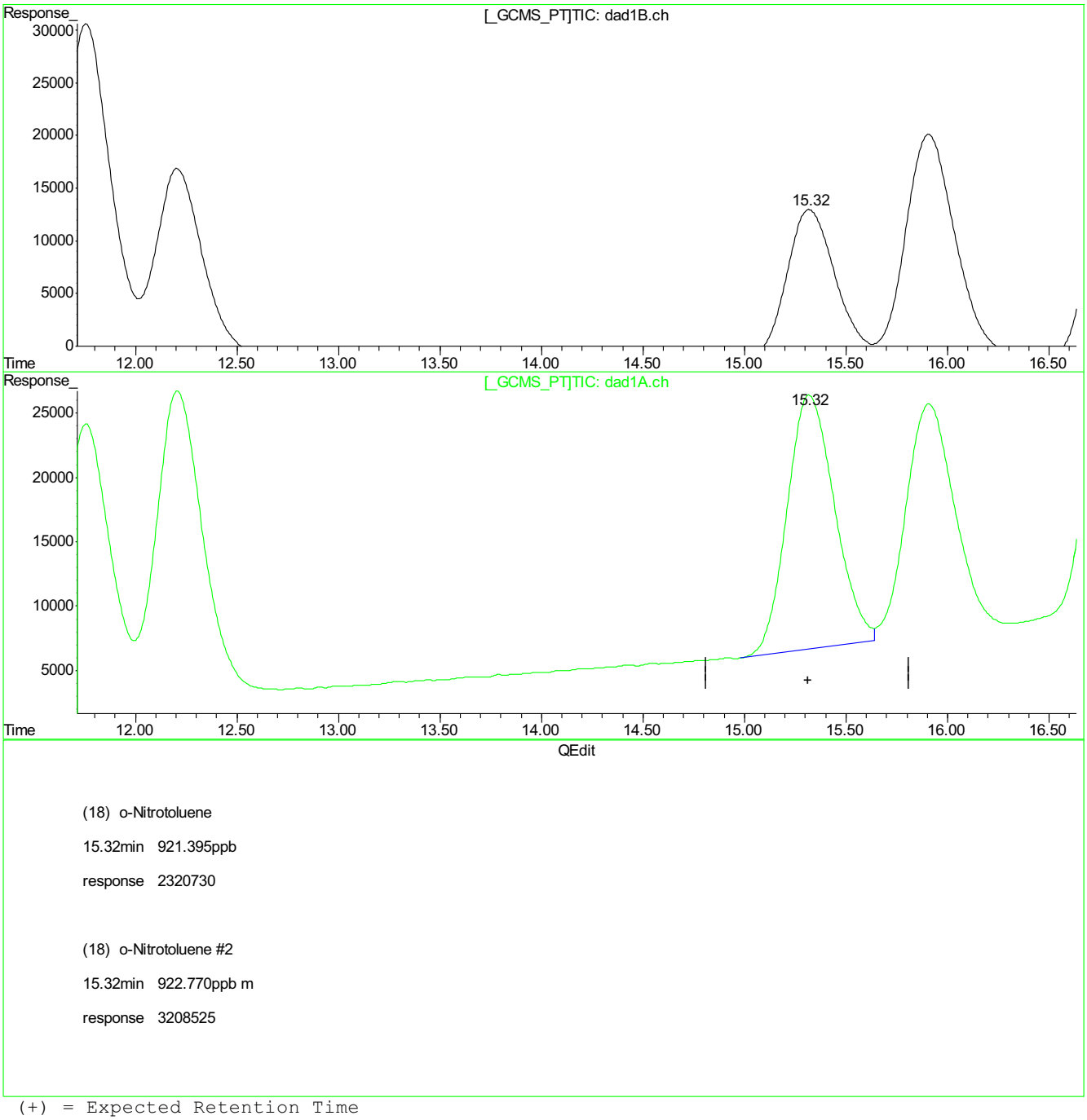
SGS ACCUTEST FA45759

Cal Report: **BB055901.D**

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.32min 921.395ppb

response 2320730

(18) o-Nitrotoluene #2

15.32min 922.770ppb m

response 3208525

(+) = Expected Retention Time
BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:49 2017

9.5.6.3

9

BB055901.D edits: o-Nitrotoluene

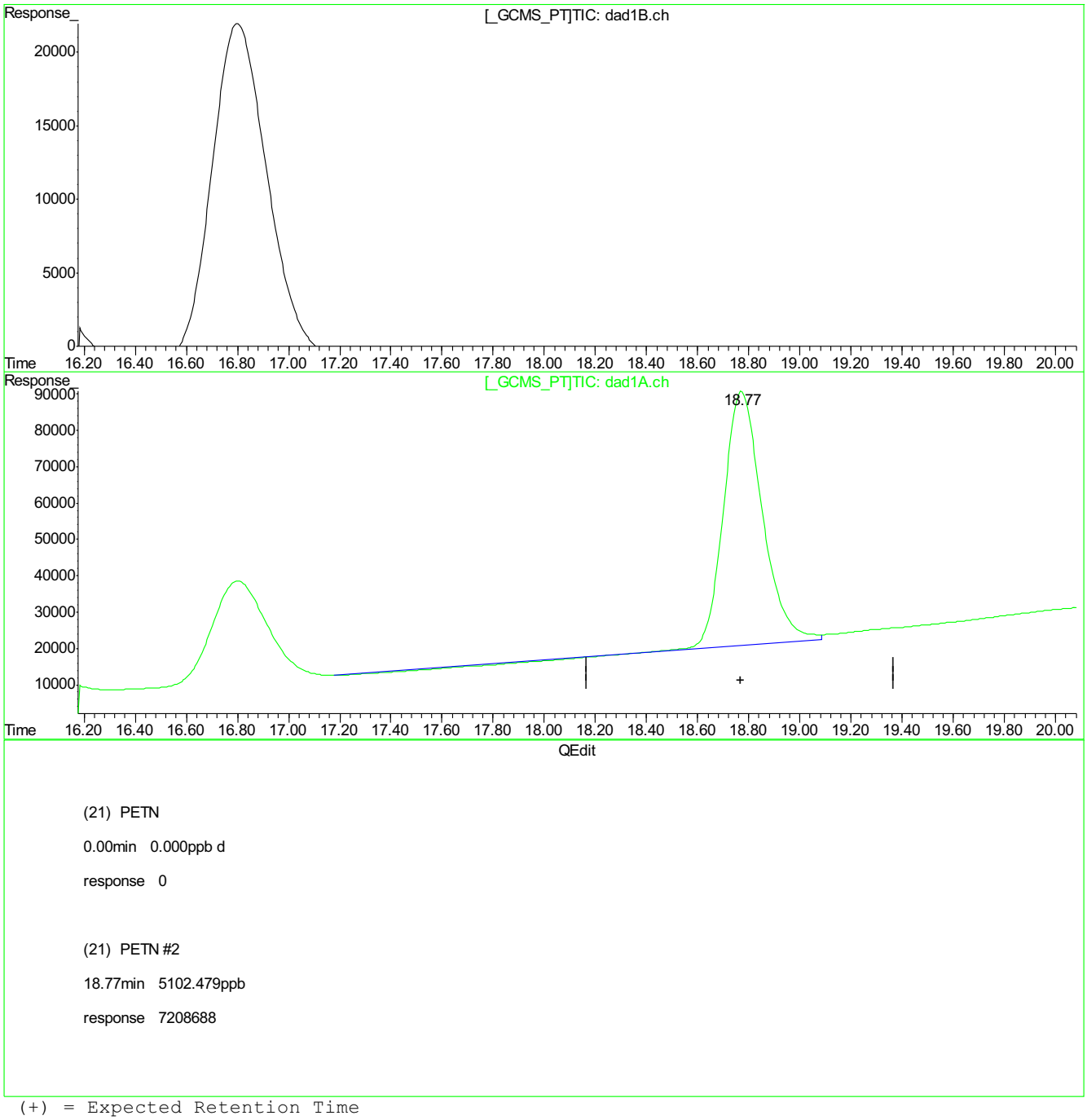
SGS ACCUTEST FA45759

Cal Report: BB055901.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 5102.479ppb

response 7208688

(+) = Expected Retention Time
BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:54 2017

9.5.9.4

6

BB055901.D edits: PETN

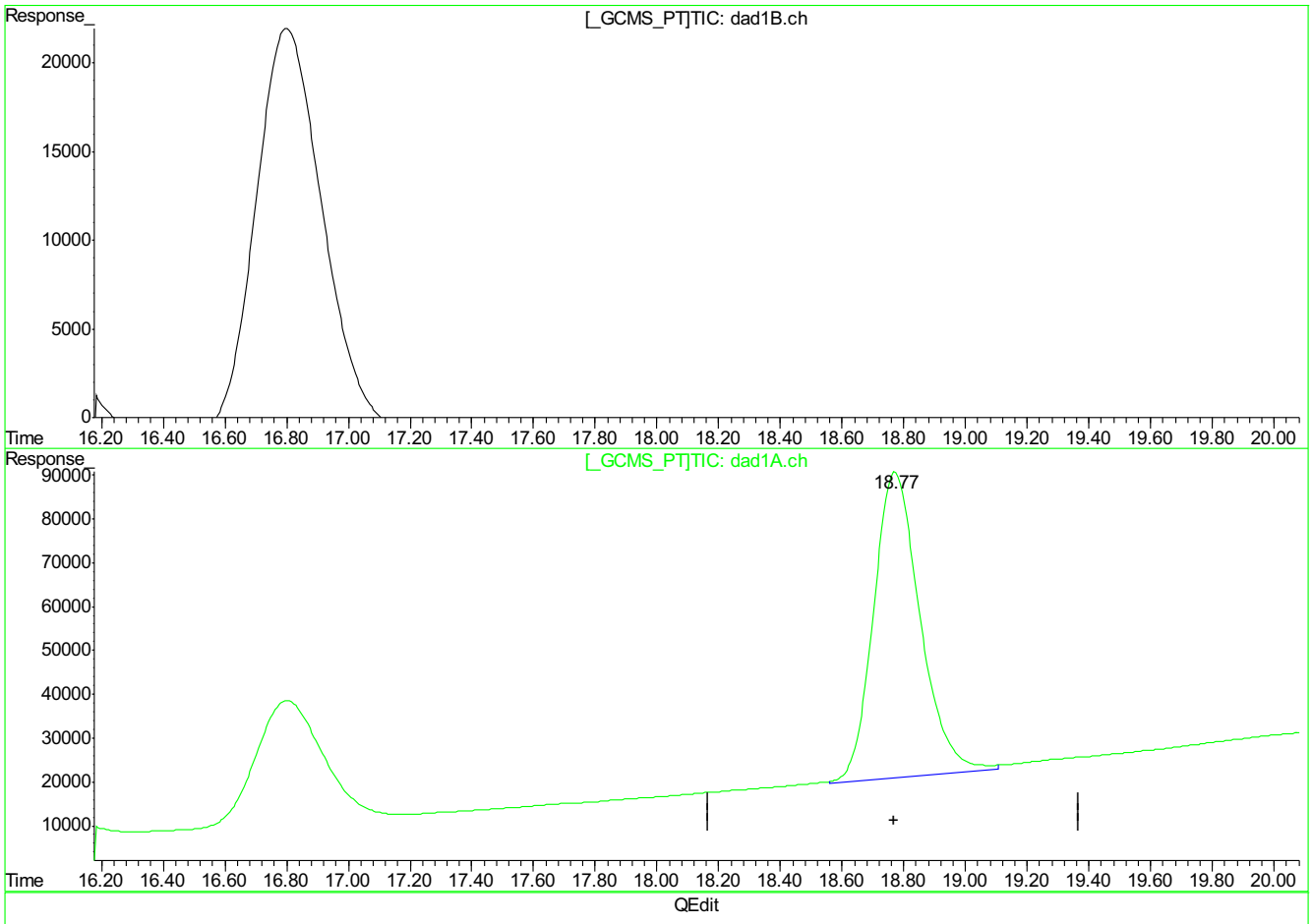
SGS ACCUTEST FA45759

Cal Report: BB055901.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1B.ch Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055901.D\dad1A.ch
Acq On : 29-Jun-2017, 19:27:11 Operator: evitam
Sample : ic1615-1000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:30:23 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 5192.143ppb m

response 7335364

(+) = Expected Retention Time
BB055901.D 8330B_0629PLUS.M Fri Jun 30 09:30:57 2017

9.5.5.5

6

BB055901.D edits: PETN

SGS ACCUTEST FA45759

Cal Report:

BB055902.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:06:59 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.04	11.04	4746883	8413171	1953.399	1993.880
	Spiked Amount 500.000	Range 69 - 134		Recovery =		390.68%#	398.78%#
	Target Compounds						
1)	TNX	1.38	1.38	6229687	9426616	1890.216	1831.050
2)	HMX	1.52	1.52	3598190	9837174	1851.879	1931.999
3)	DNX	1.77	1.77	5623147	8930950	1910.891	1881.672
4)	MNX	2.37	2.37	4655708	7187041	1953.706	1945.121
5)	RDX	3.00	3.00	4073845	6493287	1836.005	1904.504
6)	1,3,5-Trinitrobe	4.81	4.81	8866759	17166010	1990.446	2058.678
7)	1,3-Dinitrobenze	6.06	6.06	11464933	7769614	1877.860	1909.937
8)	3,5-Dinitroanili	6.41	6.41	7946244	13218787	1915.555	1941.688
9)	Nitrobenzene	7.65	7.65	6958265	6726762	1915.773	2029.786
10)	Nitroglycerin	0.00	9.12	0	12186582	N.D. d	9495.862
11)	Tetryl	9.40	9.39	6708188	11330198	2423.266	2866.370
12)	2,4,6-Trinitroto	9.87	9.87	8007127	9585878	1779.930	1990.095
13)	2-Amino-4,6-Dini	10.16	10.16	7493202	11421635	1880.065	2297.821
14)	4-Amino-2,6-Dini	10.64	10.64	5343868	10774867	1914.392	1877.922
16)	2,4-Dinitrotolue	11.74	11.74	10368346	6786297	1798.621	2116.384
17)	2,6-Dinitrotolue	12.19	12.19	6123885	7947582	1862.613	2014.714
18)	o-Nitrotoluene	15.30	15.30	4895041	6956353	1943.470	2000.642m
19)	p-Nitrotoluene	15.89	15.89	7670703	6352501	1976.438	2459.491
20)	m-Nitrotoluene	16.78	16.79	7492771	8878859	1986.296	2081.916
21)	PETN	0.00	18.76	0	15315800	N.D. d	10840.883m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055902.D 8330B_0629PLUS.M Fri Jun 30 11:02:22 2017 Page 1

9.5.7

9

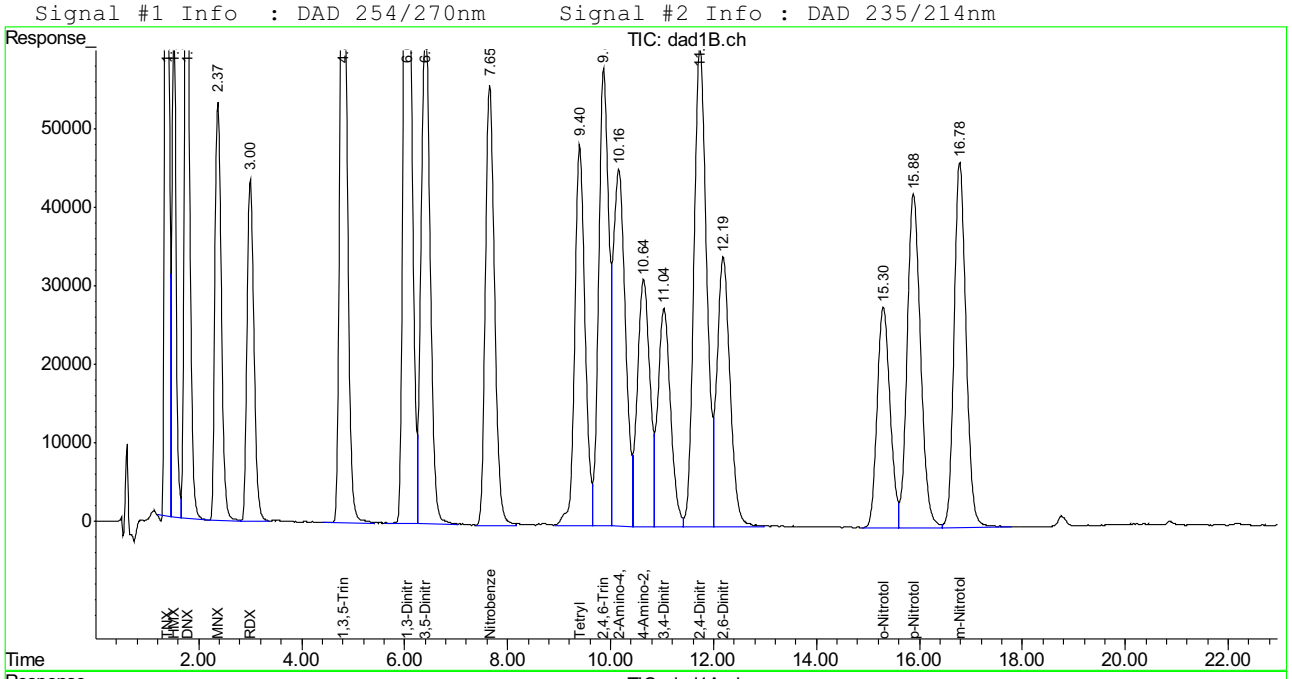
SGS ACCUTEST FA45759

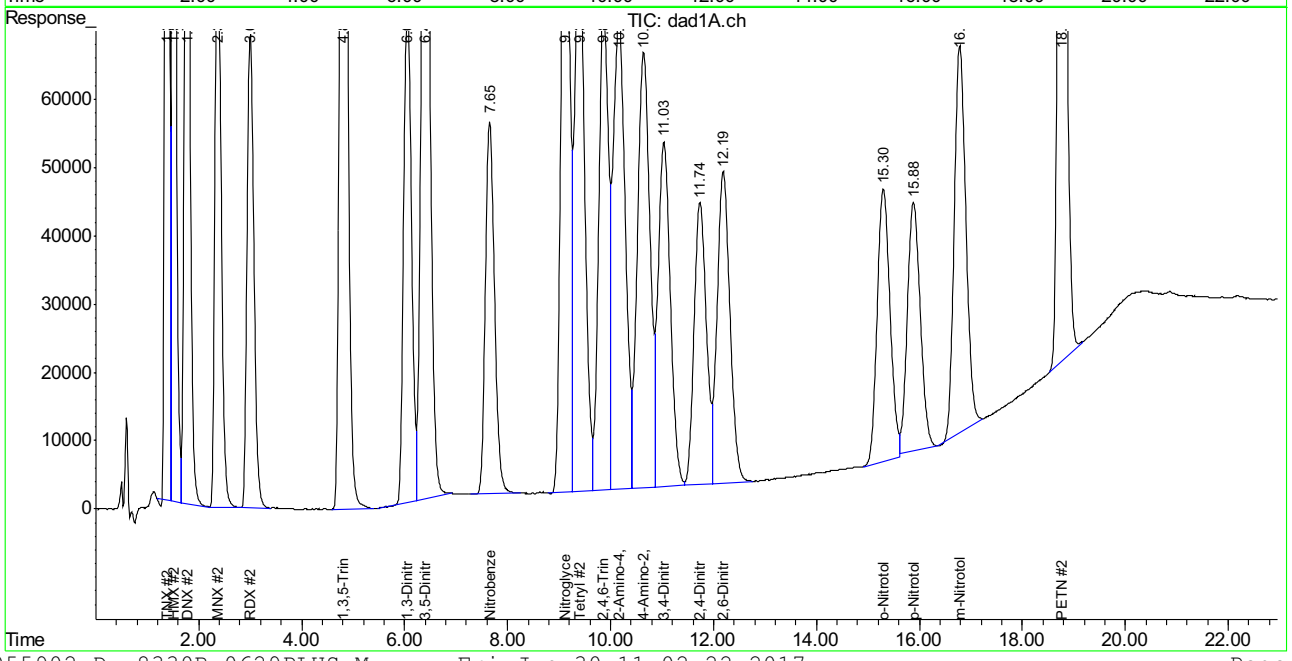
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:06:31 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-IC1615
Lab FileID: BB055902.D
Injection Time: 06/29/17 19:57
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

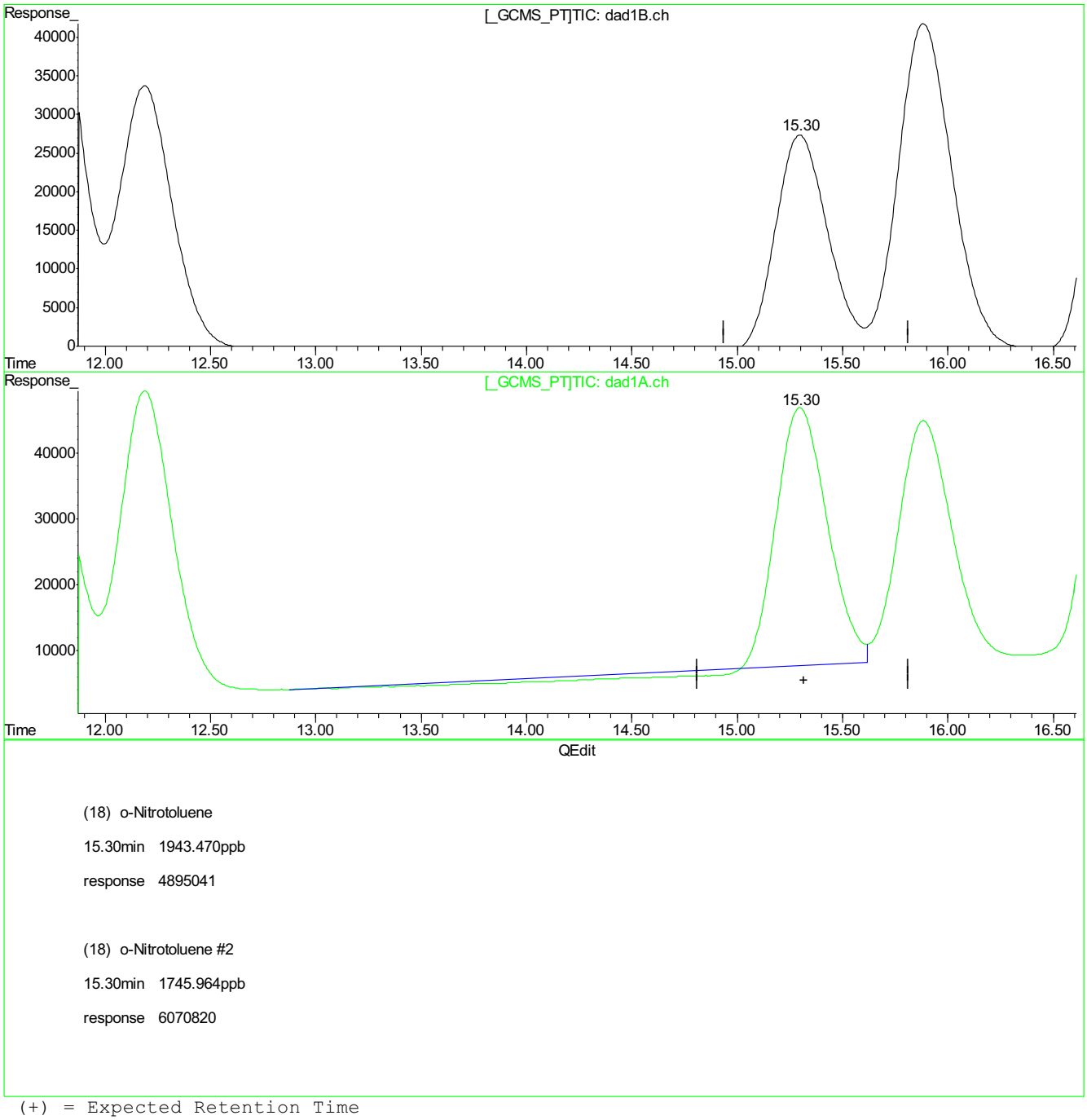
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.30	Poorly defined baseline
PETN	78-11-5	2	18.76	Poorly defined baseline

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 1943.470ppb

response 4895041

(18) o-Nitrotoluene #2

15.30min 1745.964ppb

response 6070820

(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:26 2017

9.5.7.2

9

BB055902.D edits: o-Nitrotoluene

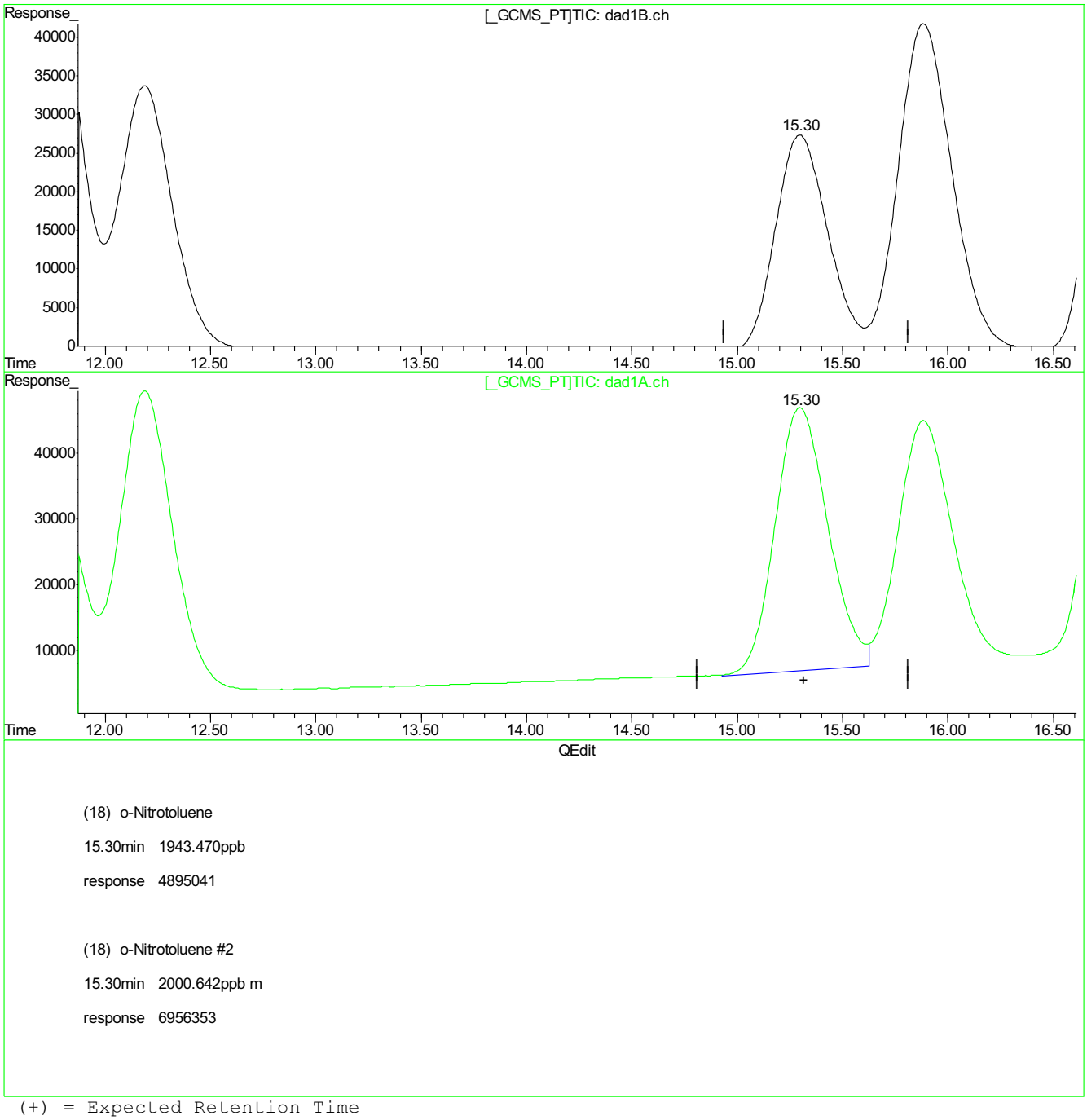
SGS ACCUTEST FA45759

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.30min 1943.470ppb

response 4895041

(18) o-Nitrotoluene #2

15.30min 2000.642ppb m

response 6956353

(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:30 2017

9.5.7.3

9

BB055902.D edits: o-Nitrotoluene

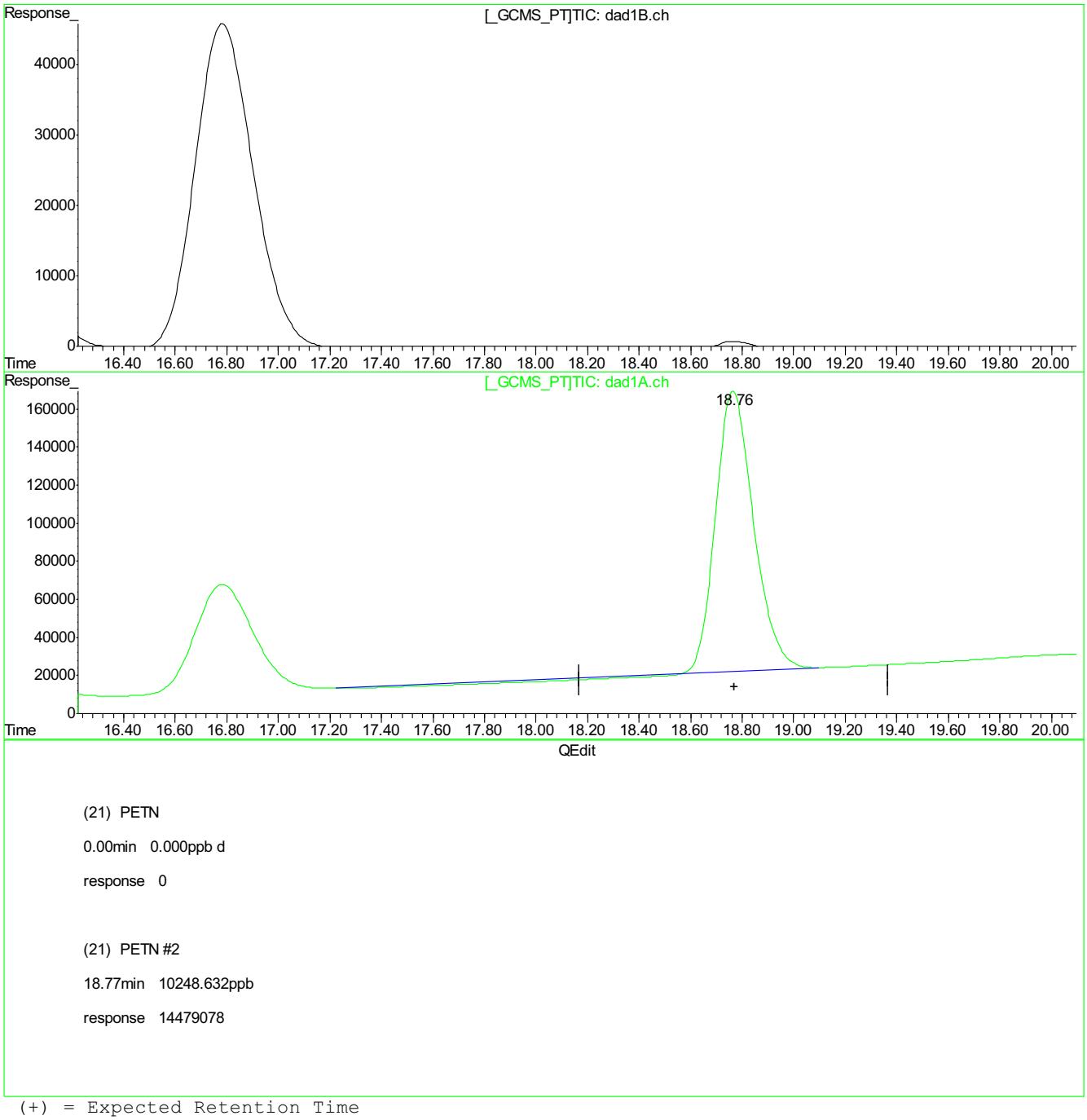
SGS ACCUTEST FA45759

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 10248.632ppb

response 14479078

(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:33 2017

9.5.7.4

9

BB055902.D edits: PETN

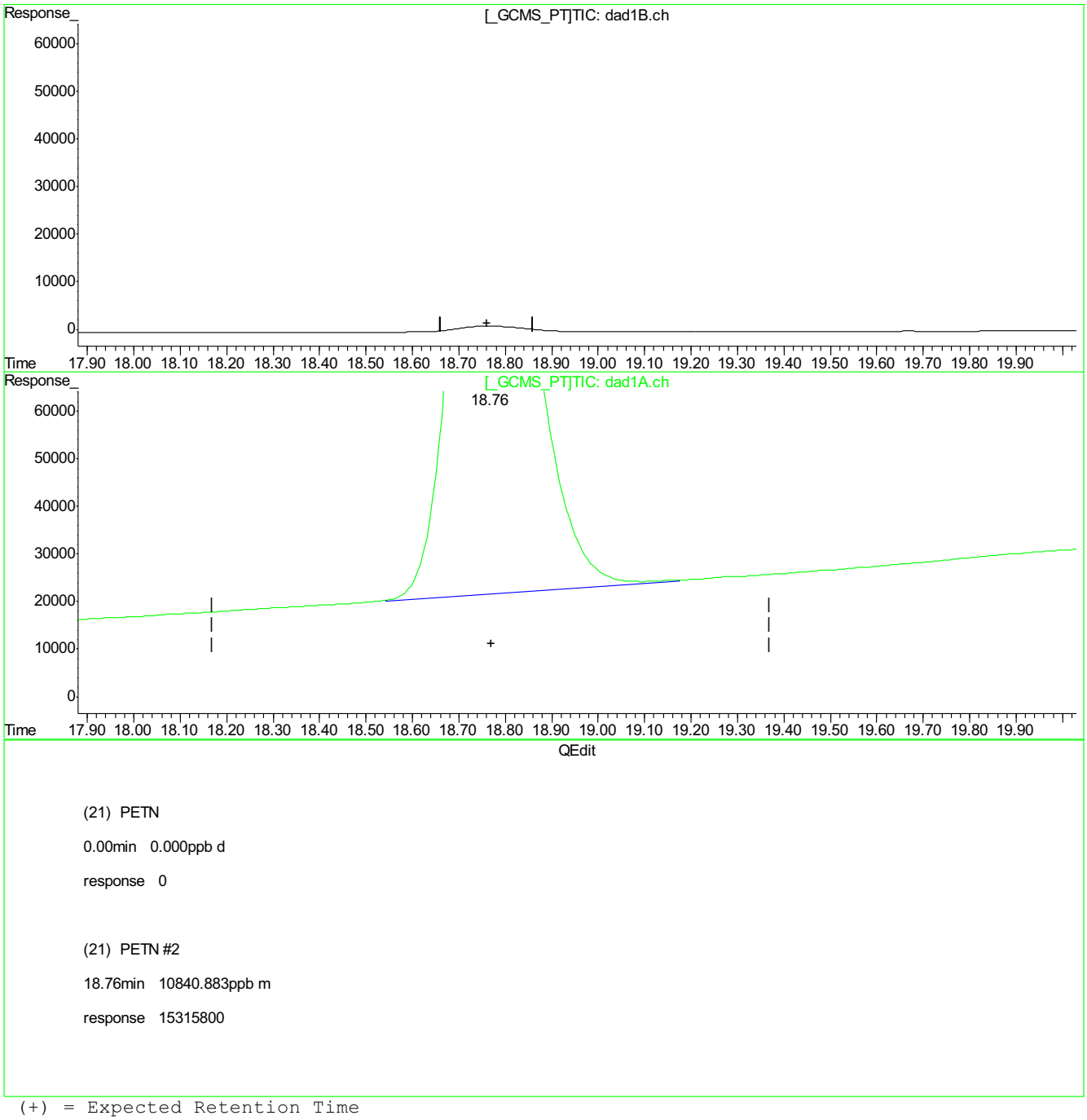
SGS ACCUTEST FA45759

Cal Report: BB055902.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1B.ch Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055902.D\dad1A.ch
Acq On : 29-Jun-2017, 19:57:11 Operator: evitam
Sample : ic1615-2000 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:06 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:31:04 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055902.D 8330B_0629PLUS.M Fri Jun 30 09:31:45 2017

9.5.7.5

6

BB055902.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB055903.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:37:56 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.39	1.39	1762692	2693113	567.860	562.032
2)	HMX	1.52	1.52	895156	2421364	517.269	522.036
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	2.38	2.38	1126099	1728075	503.327	512.468
5)	RDX	3.00	3.00	918849	1451826	451.491	455.632
6)	1,3,5-Trinitrobe	4.79	4.79	2098390	4015580	492.951	494.111
7)	1,3-Dinitrobenze	6.04	6.04	2422666	1647783	433.291	454.636
8)	3,5-Dinitroanili	6.39	6.39	2049960	3416843	496.099	524.075
9)	Nitrobenzene	7.65	7.65	1565866	1489213	457.106	457.148
10)	Nitroglycerin	0.00	9.06	0	3751103	N.D. d	3521.650
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	10.12	10.12	1734715	2599461	462.625	485.687
14)	4-Amino-2,6-Dini	10.59	10.59	1281047	2522225	512.324	542.627
16)	2,4-Dinitrotolue	11.68	11.68	2302610	1520396	444.758	484.860
17)	2,6-Dinitrotolue	12.13	12.13	1433345	1855506	464.050	505.030
18)	o-Nitrotoluene	15.27	15.27	1114614	1463267	478.675	474.523m
19)	p-Nitrotoluene	15.86	15.86	1699869	1271760	482.087	476.720
20)	m-Nitrotoluene	16.76	16.77	1649173	1840856	457.830	464.102
21)	PETN	0.00	0.00	0	0	N.D.	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055903.D 8330B_0629PLUS.M Fri Jun 30 11:02:23 2017 Page 1

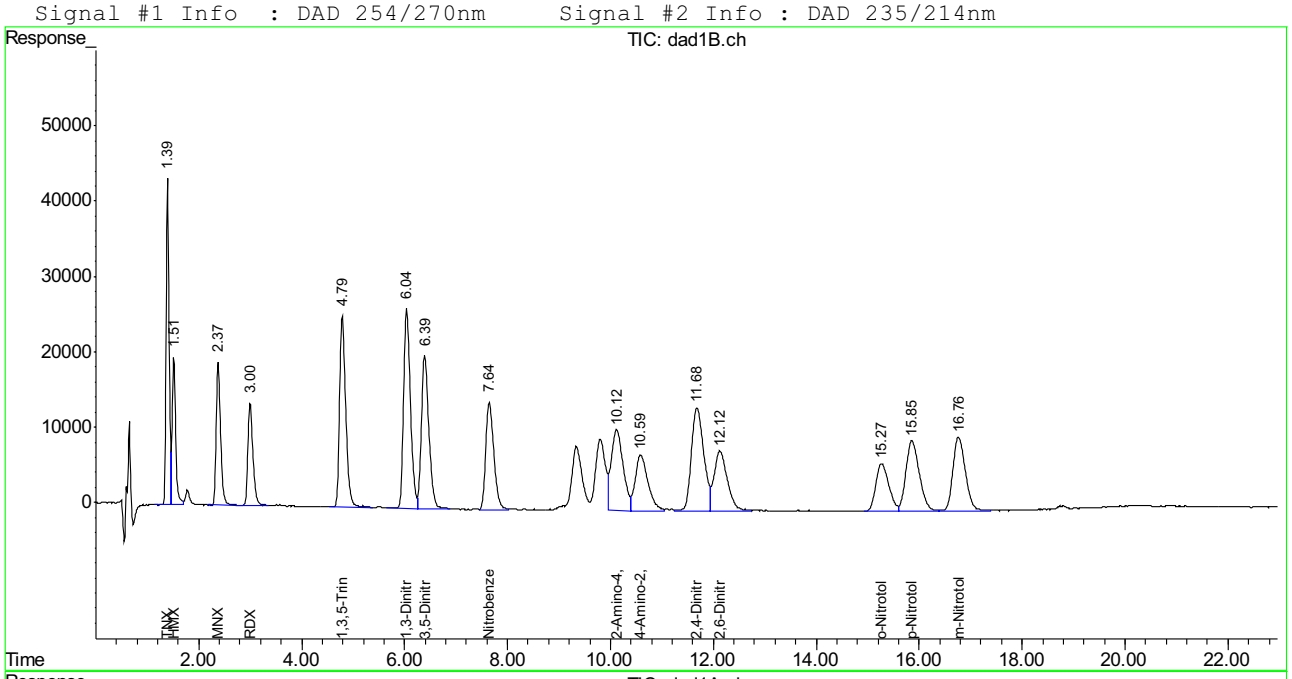
9.5.8
6

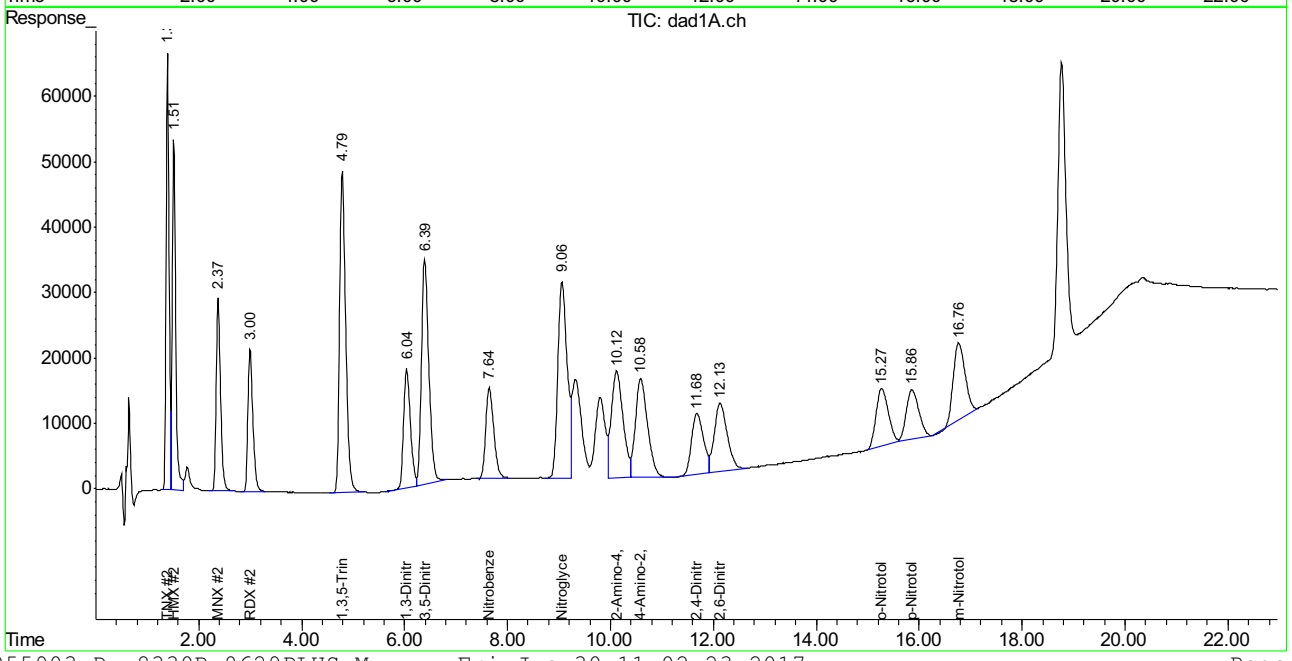
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 10:41 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-ICV1615
Lab FileID: BB055903.D
Injection Time: 06/29/17 20:27

Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

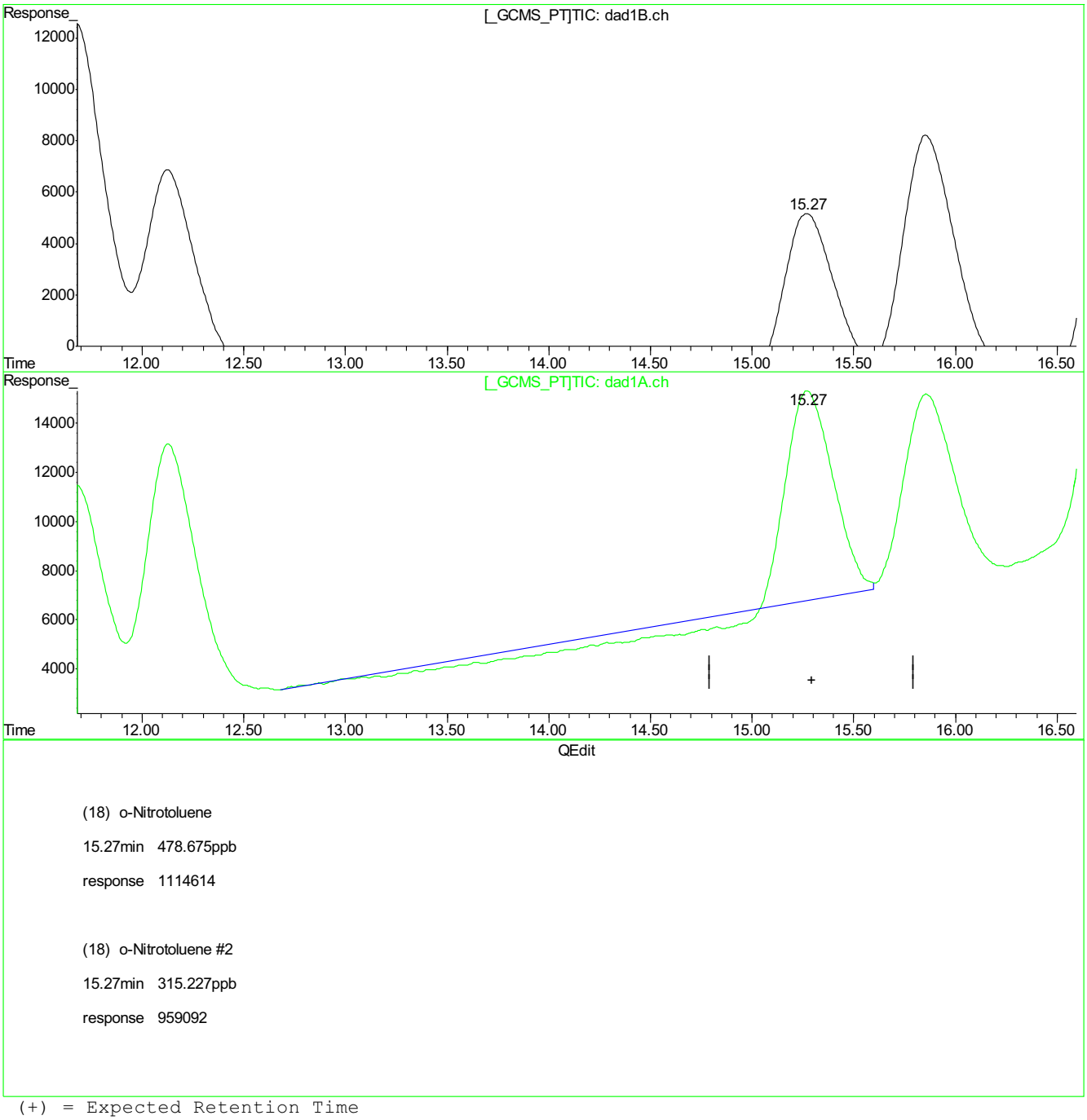
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.27	Poorly defined baseline

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.27min 478.675ppb

response 1114614

(18) o-Nitrotoluene #2

15.27min 315.227ppb

response 959092

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:31 2017

9.5.8.2

6

BB055903.D edits: o-Nitrotoluene

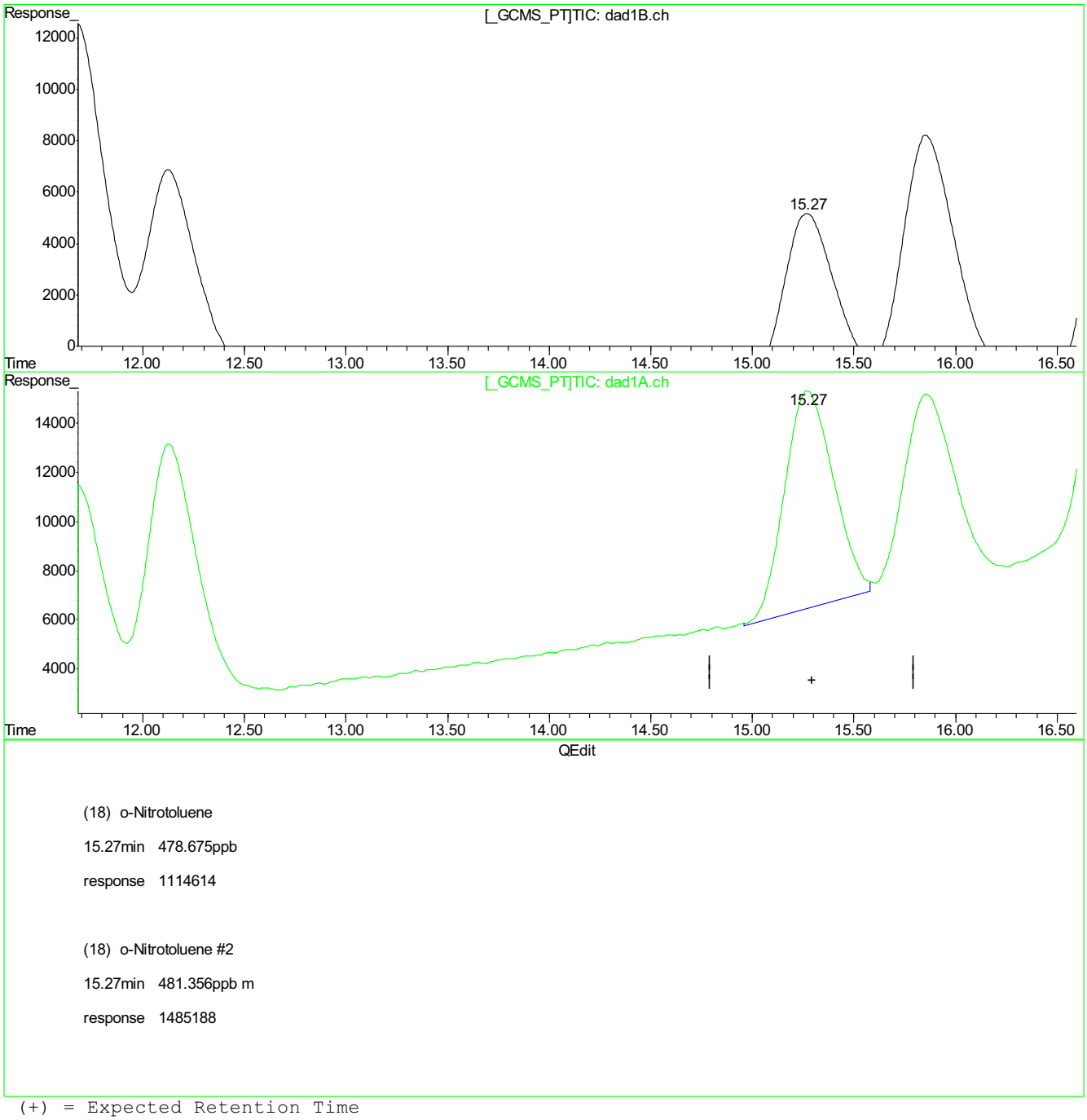
SGS ACCUTEST FA45759

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.27min 478.675ppb

response 1114614

(18) o-Nitrotoluene #2

15.27min 481.356ppb m

response 1485188

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:36 2017

9.5.8.3

9

BB055903.D edits: o-Nitrotoluene

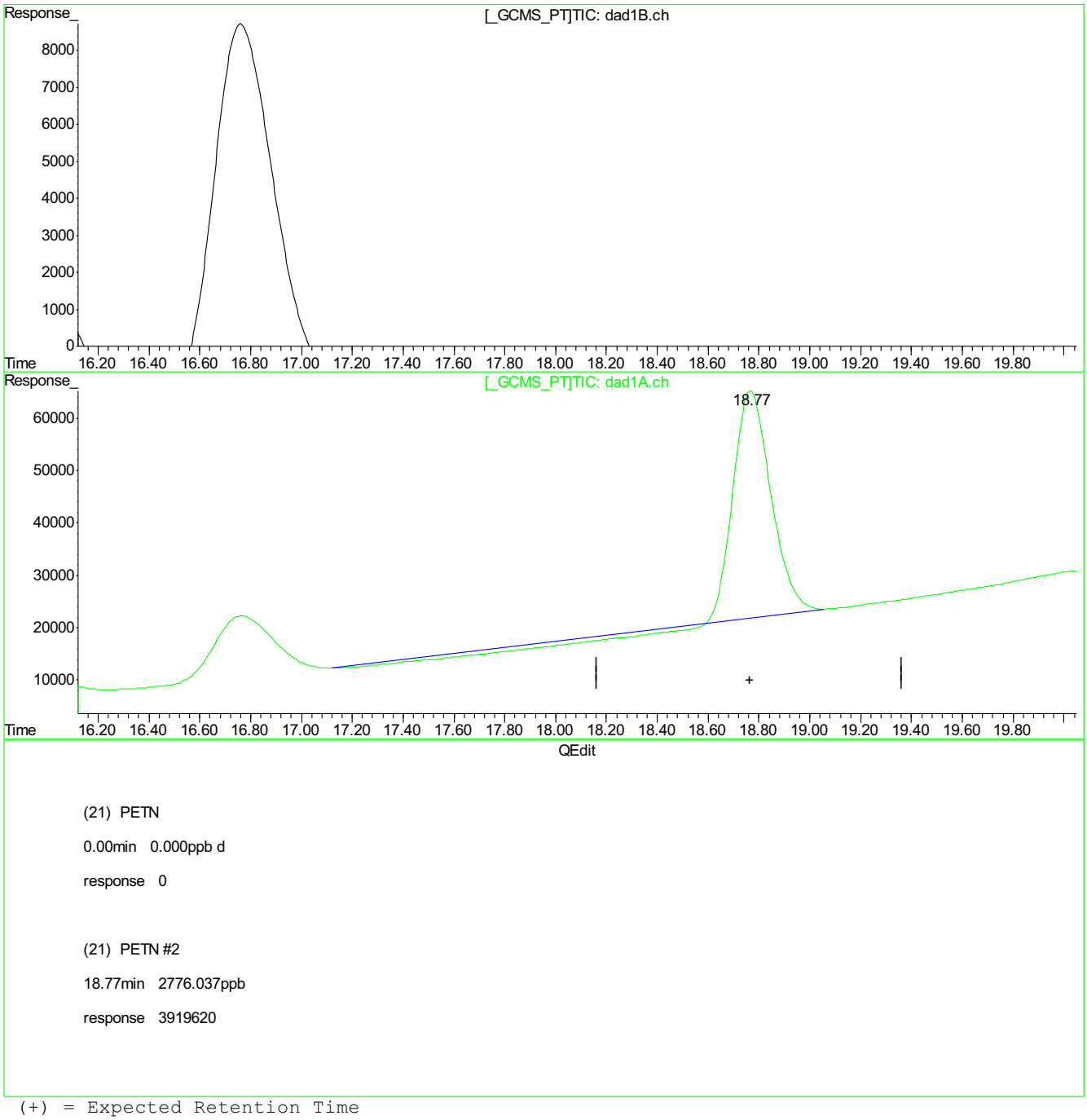
SGS ACCUTEST FA45759

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.77min 2776.037ppb

response 3919620

(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:41 2017

9.5.8.4

6

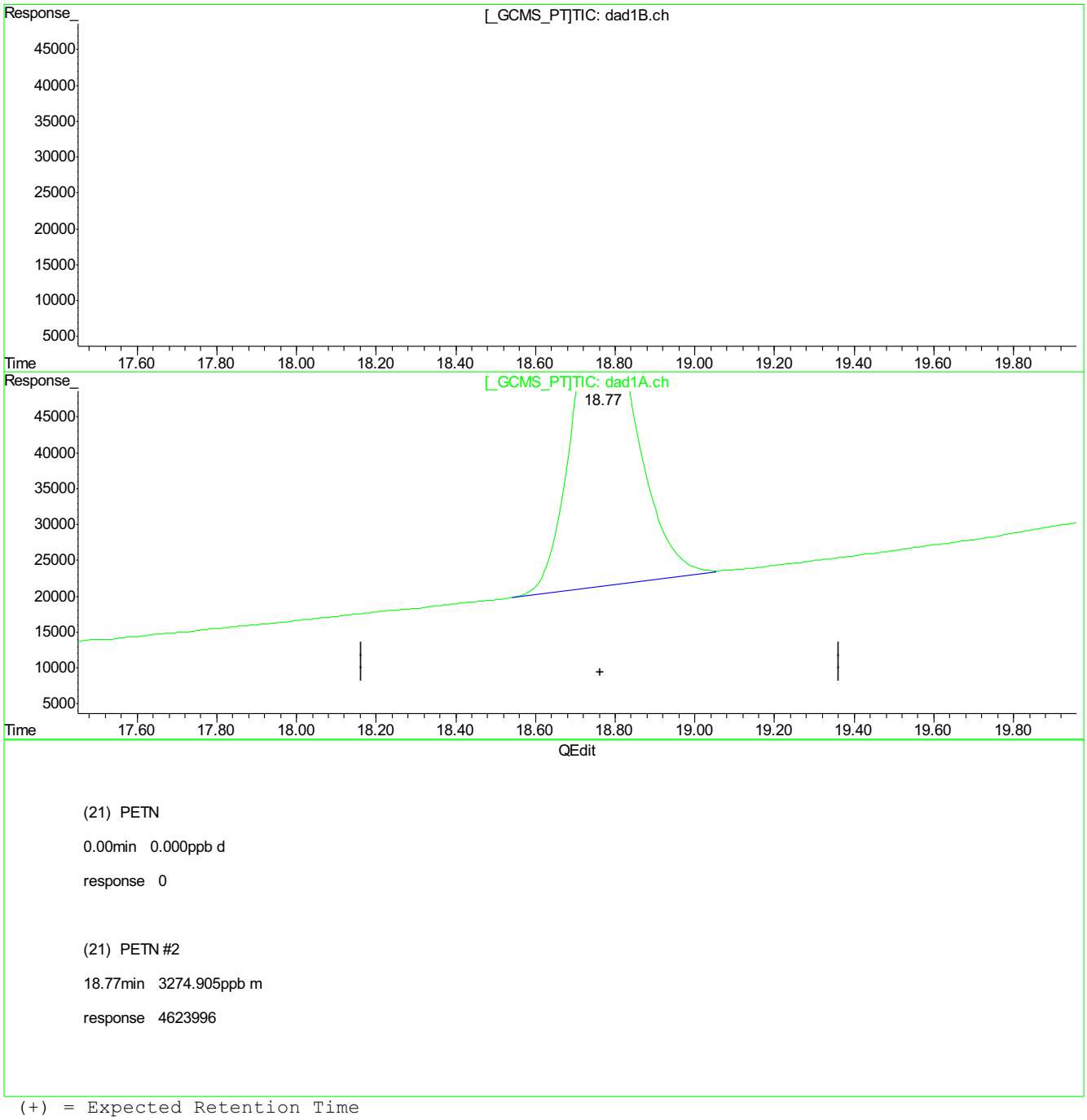
BB055903.D edits: PETN

Cal Report: BB055903.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1B.ch Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055903.D\dad1A.ch
Acq On : 29-Jun-2017, 20:27:08 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65667,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:33 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB055903.D 8330B_0629PLUS.M Fri Jun 30 09:33:47 2017

9.5.8.5

6

BB055903.D edits: PETN

SGS ACCUTEST FA45759

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1B.ch Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1A.ch
Acq On : 29-Jun-2017, 20:57:02 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65687,gbb1615,1050,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 09:37:19 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	9.40	9.40	1756004	2800569	565.799	537.370
12)	2,4,6-Trinitroto	9.87	9.87	1966476	2410013	513.861	545.334
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055904.D 8330B_0629PLUS.M Fri Jun 30 11:07:00 2017 Page 1

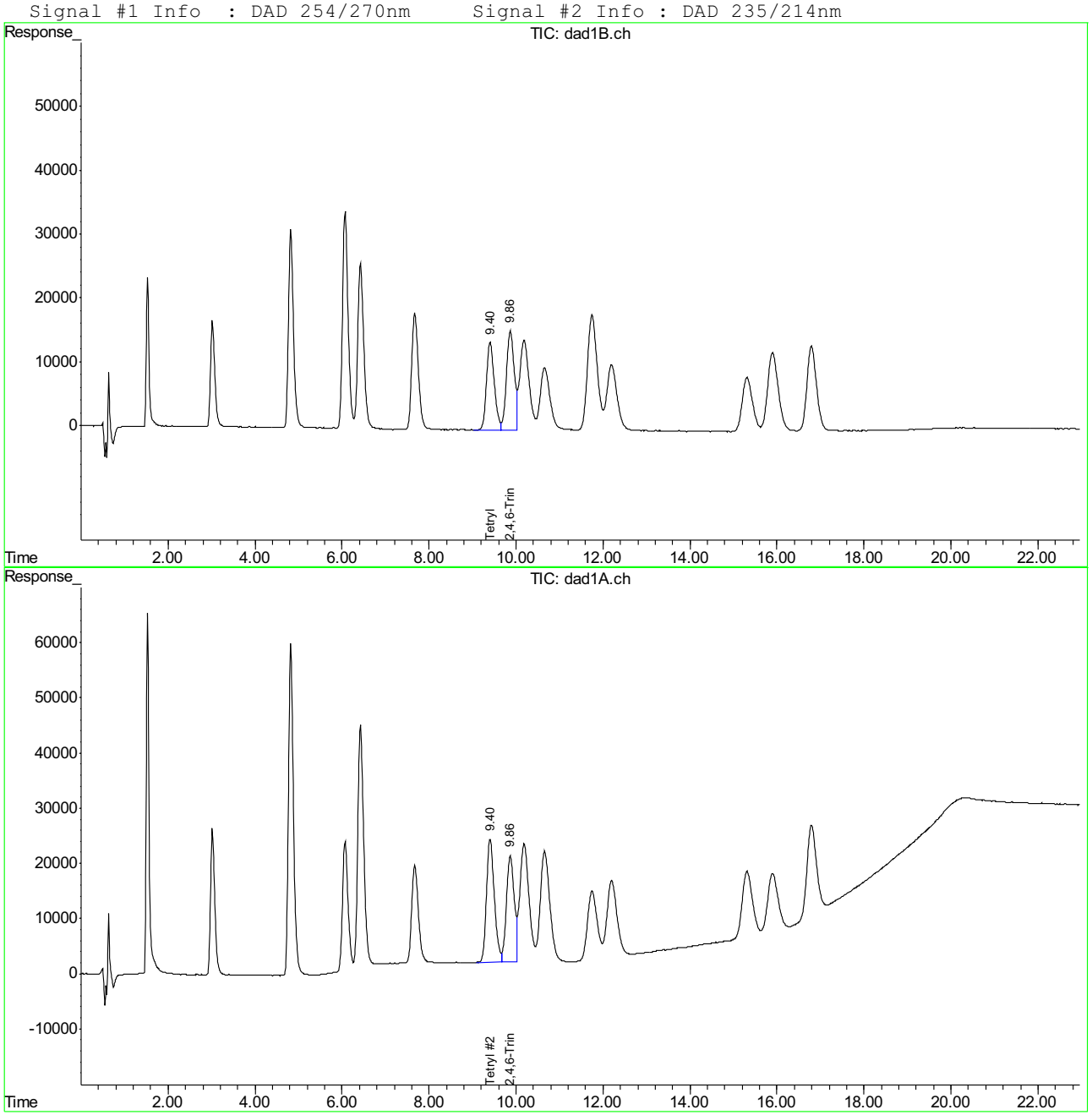
SGS ACCUTEST FA45759

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1B.ch Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055904.D\dad1A.ch
Acq On : 29-Jun-2017, 20:57:02 Operator: evitam
Sample : icv1615-500 Inst : G1315B
Misc : op65687,gbb1615,1050,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 9:37 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



Cal Report: BB055930.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
06/30/17 17:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1A.ch
Acq On : 30-Jun-2017, 09:59:41 Operator: evitam
Sample : icv1615-100 Inst : G1315B
Misc : op65689,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 10:27:43 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	18.73	0	751146	N.D. d	531.993m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB055930.D 8330B_0629PLUS.M Fri Jun 30 11:05:05 2017 Page 1

9.5.10
9

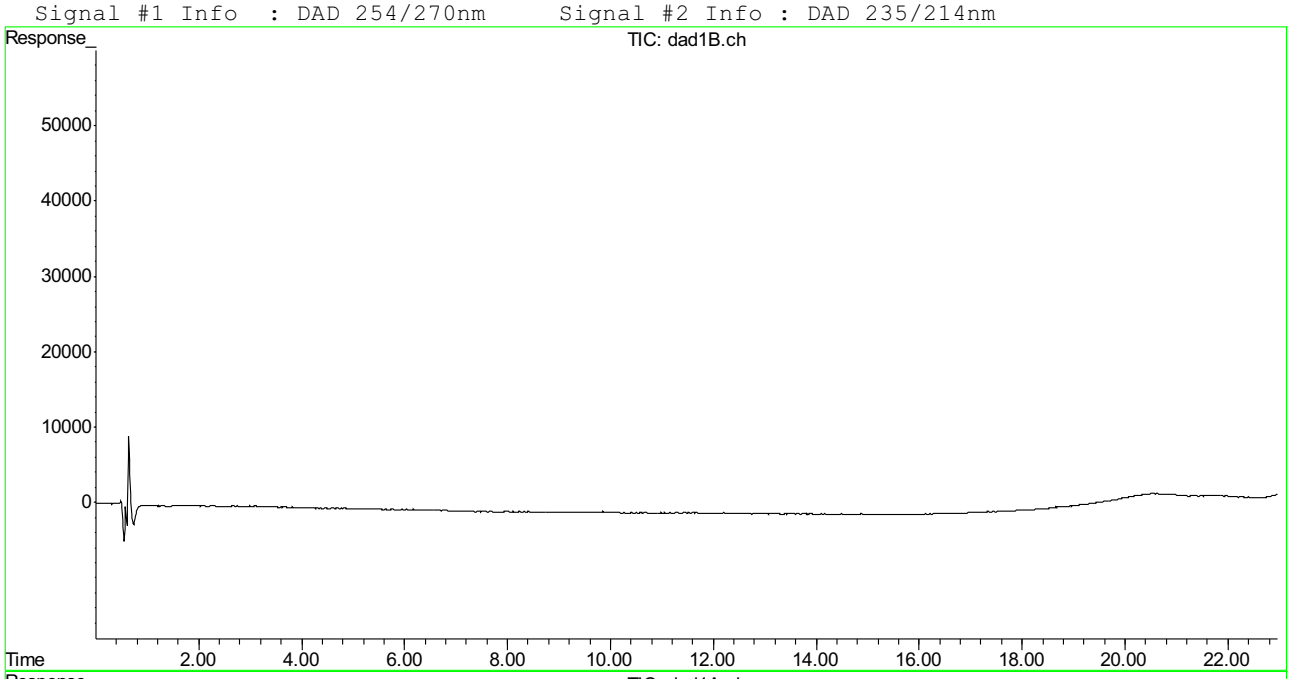
SGS ACCUTEST FA45759

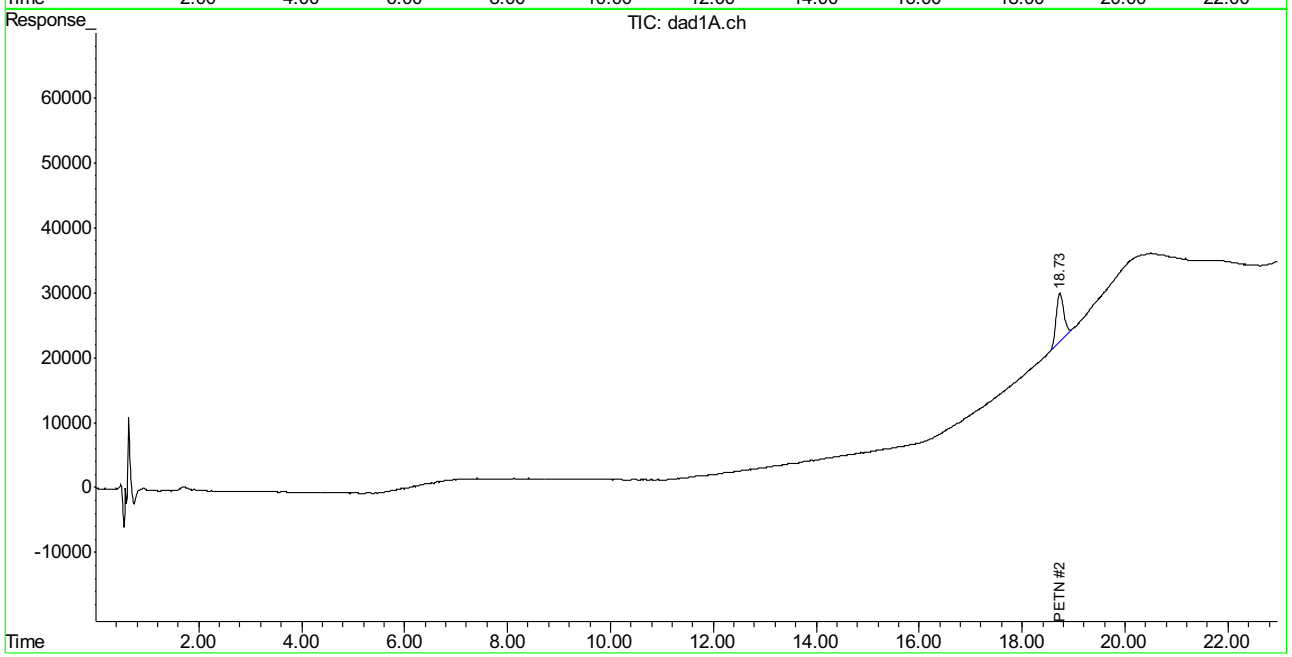
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1B.ch Vial: 91
Signal #2 : C:\HPCHEM\1\DATA\0629BPL\BB055930.D\dad1A.ch
Acq On : 30-Jun-2017, 09:59:41 Operator: evitam
Sample : icv1615-100 Inst : G1315B
Misc : op65689,gbb1615,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jun 30 11:04 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jun 30 09:32:49 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1615-ICV1615
Lab FileID: BB055930.D
Injection Time: 06/30/17 09:59
Method: SW846 8330B
Analyst approved: 06/30/17 11:46 Evita Martinez
Supervisor approved: 06/30/17 17:33 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.73	Poorly defined baseline

Cal Report: BB056478.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/19/17 21:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 06:58:26 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.44	10.44	2364169	4065977	918.186	1019.173
	Spiked Amount 500.000	Range 69 - 134		Recovery =		183.64%#	203.83%#
	Target Compounds						
1)	TNX	1.34	1.34	2850998	4306186	918.463	898.668
2)	HMX	1.46	1.46	1737092	4717397	1003.785	1017.051
3)	DNX	1.71	1.71	2389024	3884536	822.801	884.176
4)	MNX	2.27	2.27	1932438	2975040	863.732	882.261
5)	RDX	2.86	2.86	1966416	3132967	966.230	983.231
6)	1,3,5-Trinitrobe	4.54	4.54	4182120	8119195	982.458	999.054
7)	1,3-Dinitrobenze	5.78	5.79	5455820	3670718	975.767	1012.780
8)	3,5-Dinitroanili	6.09	6.09	4310428	7157062	1043.142	1097.749
9)	Nitrobenzene	7.41	7.40	3338121	3238352	974.461	994.087
10)	Nitroglycerin	0.00	8.70	0	4834308	N.D. d	4538.595m
11)	Tetryl	8.86	8.81	2901010	6155294	934.730	1140.982
12)	2,4,6-Trinitroto	9.30	9.30	3602940	4300340	941.486	950.675
13)	2-Amino-4,6-Dini	9.59	9.59	3792340	5642848	1011.366	1029.840
14)	4-Amino-2,6-Dini	10.06	10.06	2501086	4998721	1000.249	1075.416
16)	2,4-Dinitrotolue	11.11	11.11	4931668	3001985	952.571	957.343
17)	2,6-Dinitrotolue	11.58	11.58	3043388	3702505	985.305	1007.745
18)	o-Nitrotoluene	14.82	14.81	2265553	3178395	972.950	988.221m
19)	p-Nitrotoluene	15.36	15.36	3694406	3178197	1047.743	1104.306
20)	m-Nitrotoluene	16.32	16.32	3540219	3972410	982.807	964.538
21)	PETN	0.00	18.32	0	6706085	N.D. d	4749.528m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:40:43 2017 Page 1

9.5.11
9

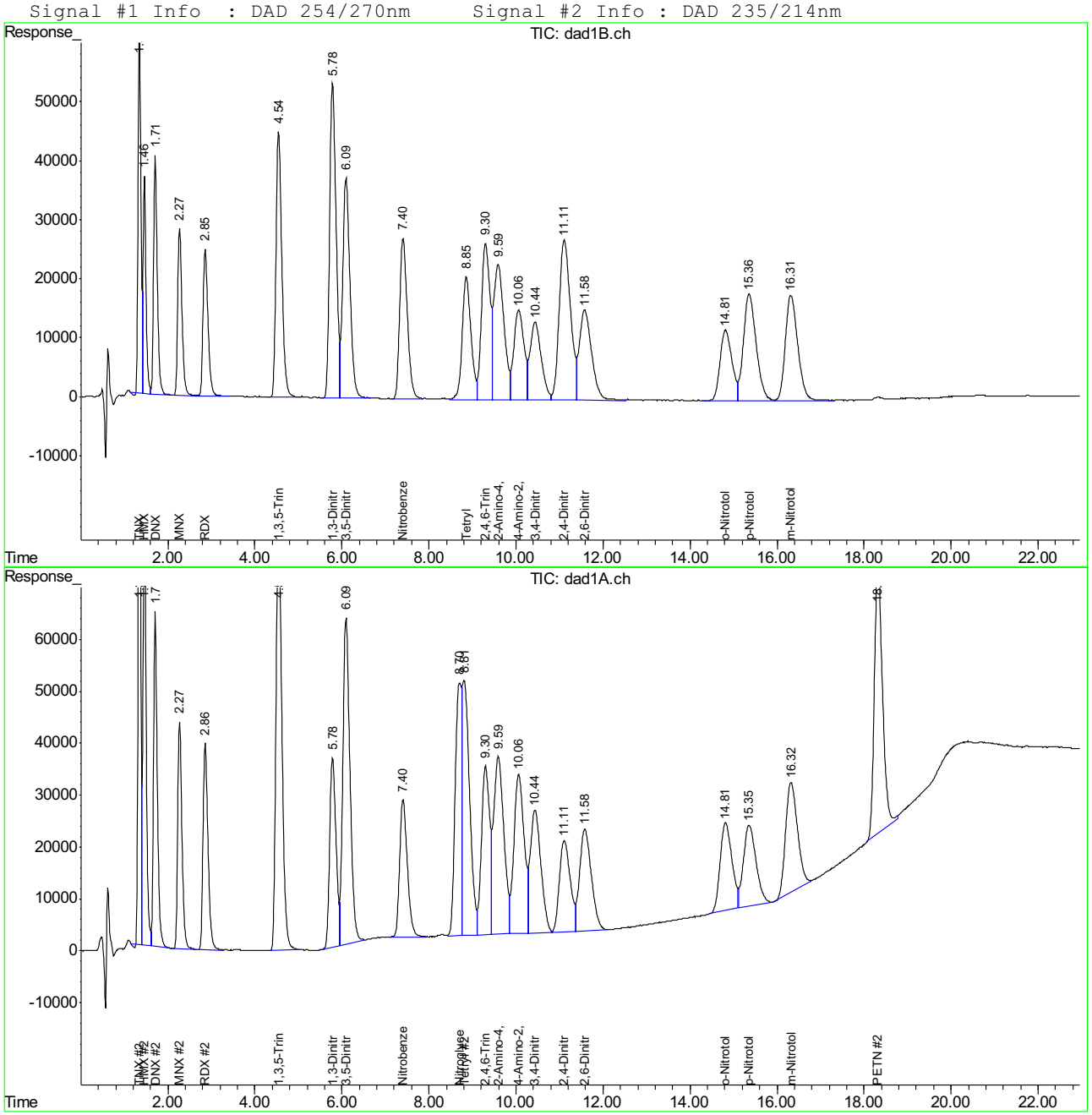
SGS ACCUTEST FA45759

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 10:15 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: GBB1620-CC1615
Lab FileID: BB056478.D
Injection Time: 07/19/17 02:03
Method: SW846 8330B
Analyst approved: 07/19/17 11:14 Evita Martinez
Supervisor approved: 07/19/17 21:27 Mike Eger

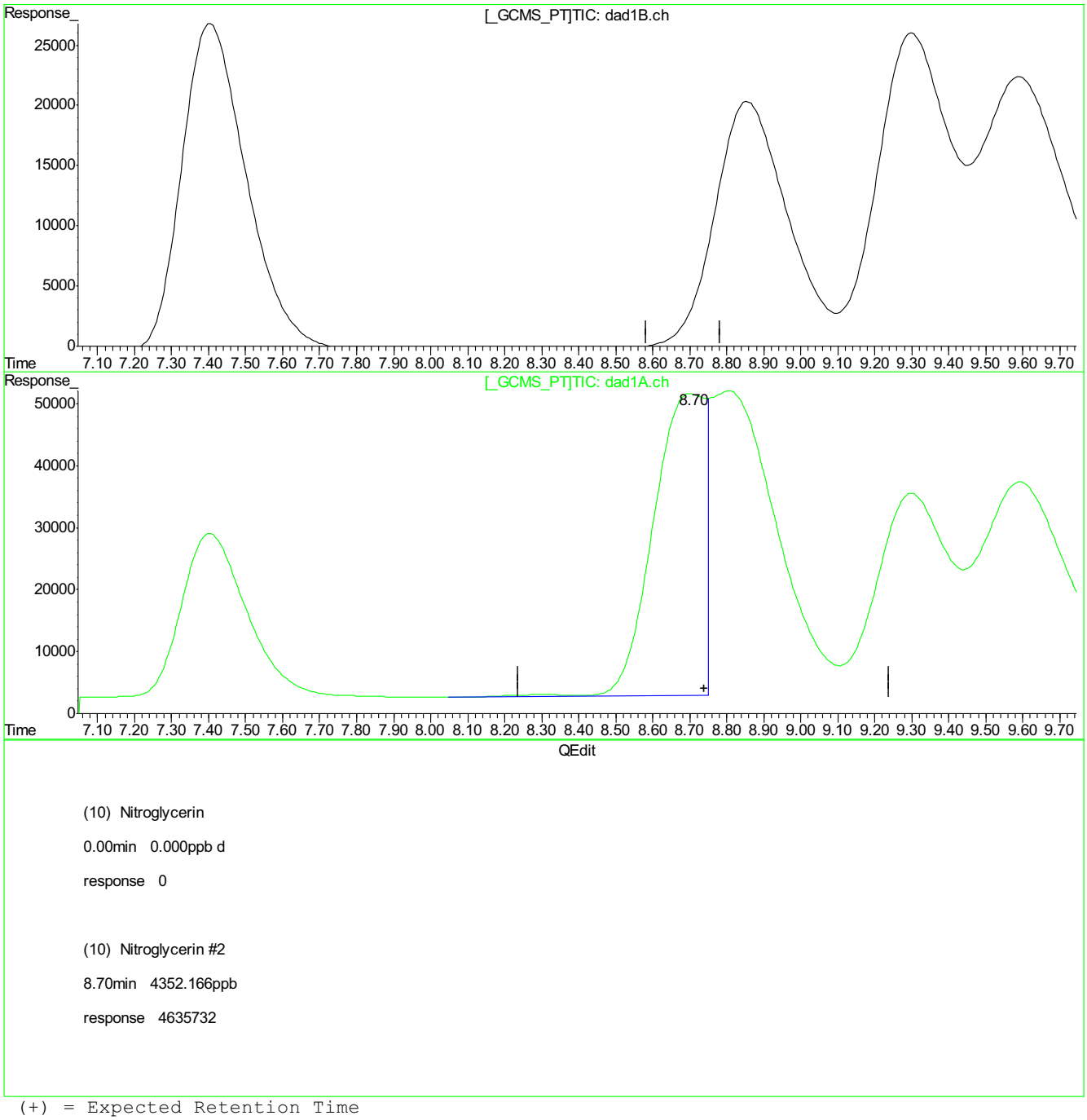
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.70	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.81	Poorly defined baseline
PETN	78-11-5	2	18.32	Poorly defined baseline

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.70min 4352.166ppb

response 4635732

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:14:26 2017

9.5.11.2

9

BB056478.D edits: Nitroglycerin

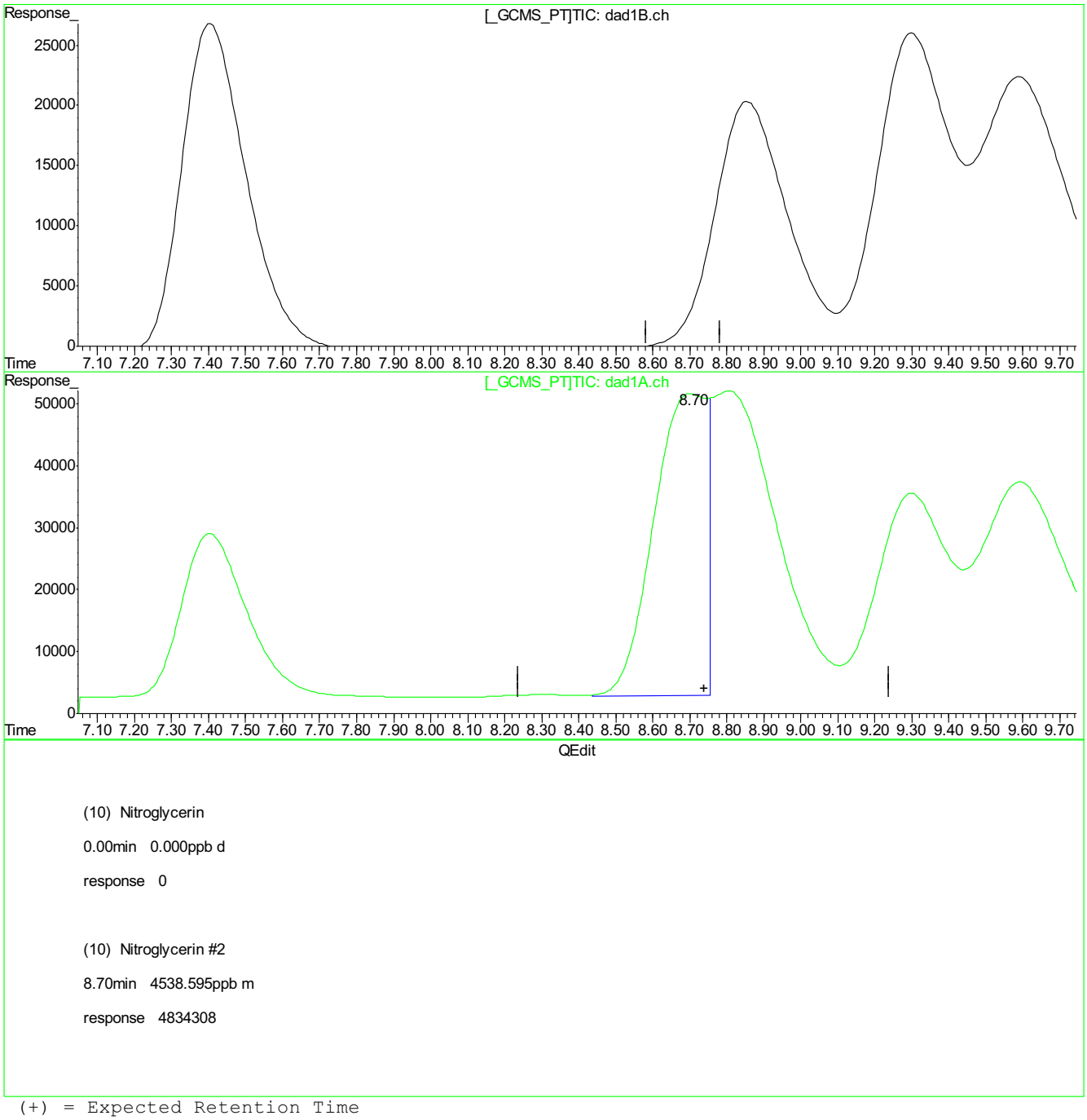
SGS ACCUTEST FA45759

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.70min 4538.595ppb m

response 4834308

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:14:38 2017

9.5.11.3

9

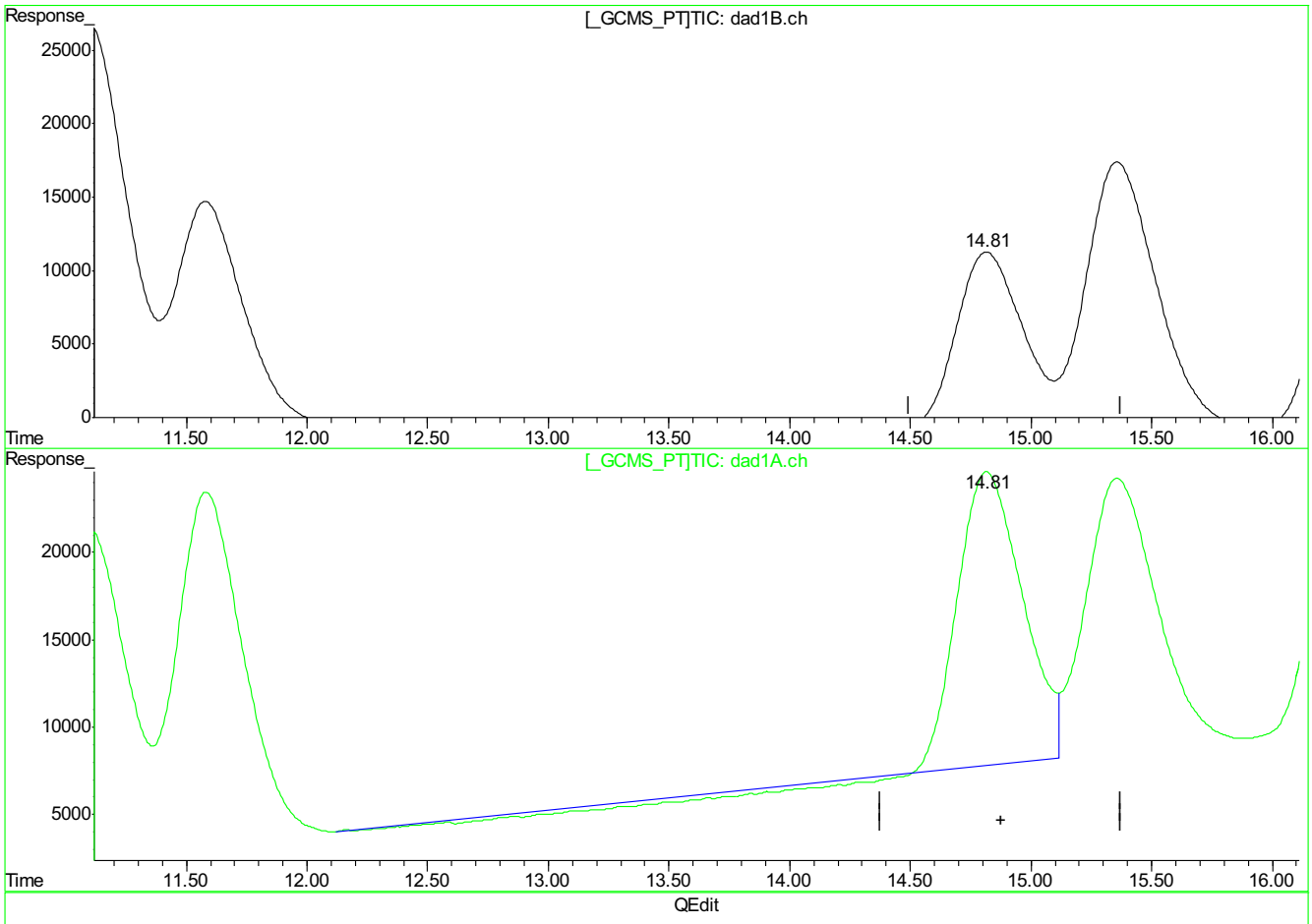
BB056478.D edits: Nitroglycerin

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.82min 972.950ppb

response 2265553

(18) o-Nitrotoluene #2

14.82min 890.216ppb

response 2840658

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:14 2017

9.5.11.4

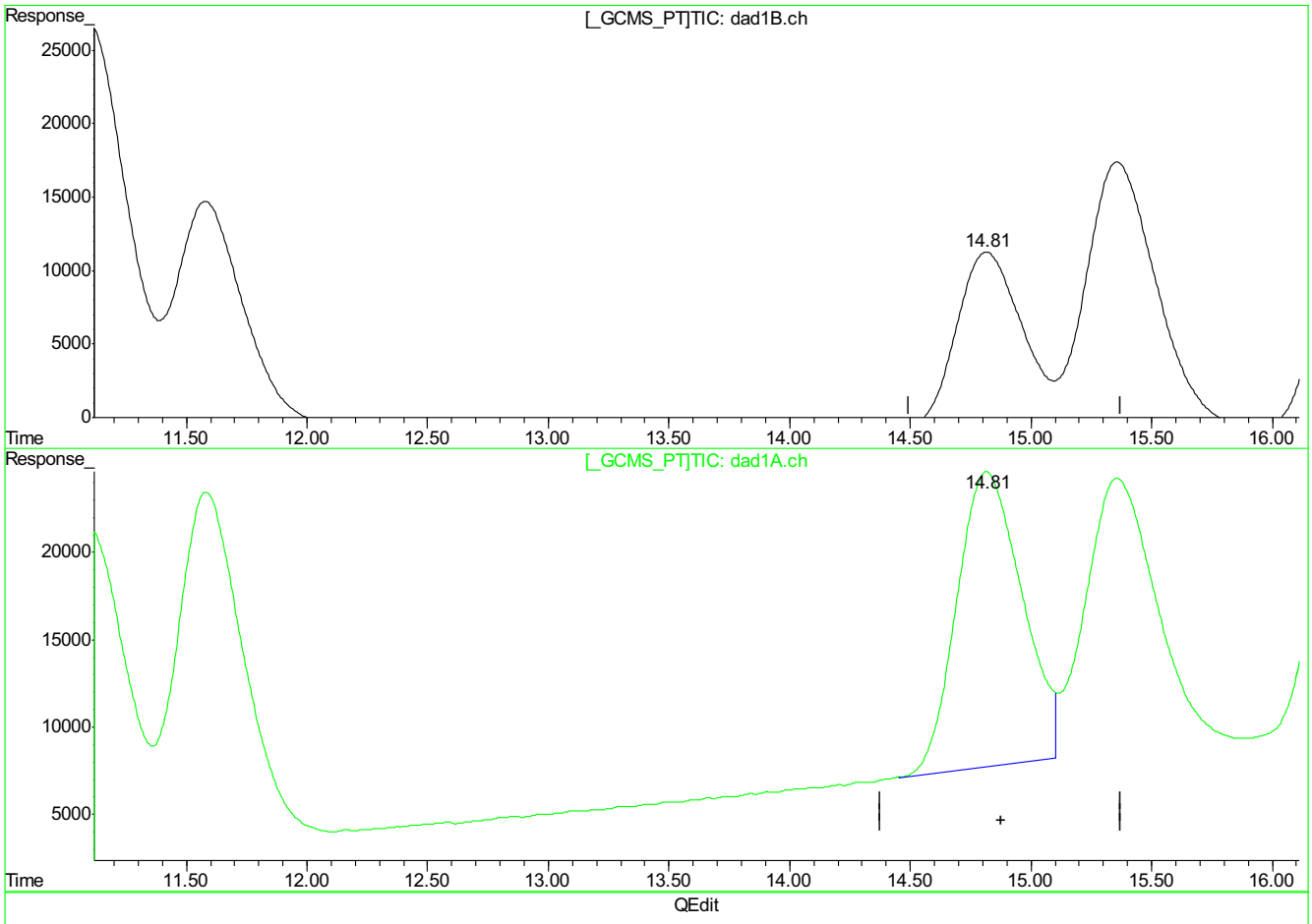
9

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.82min 972.950ppb

response 2265553

(18) o-Nitrotoluene #2

14.81min 988.221ppb m

response 3178395

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:18 2017

9.5.11.5

9

BB056478.D edits: o-Nitrotoluene

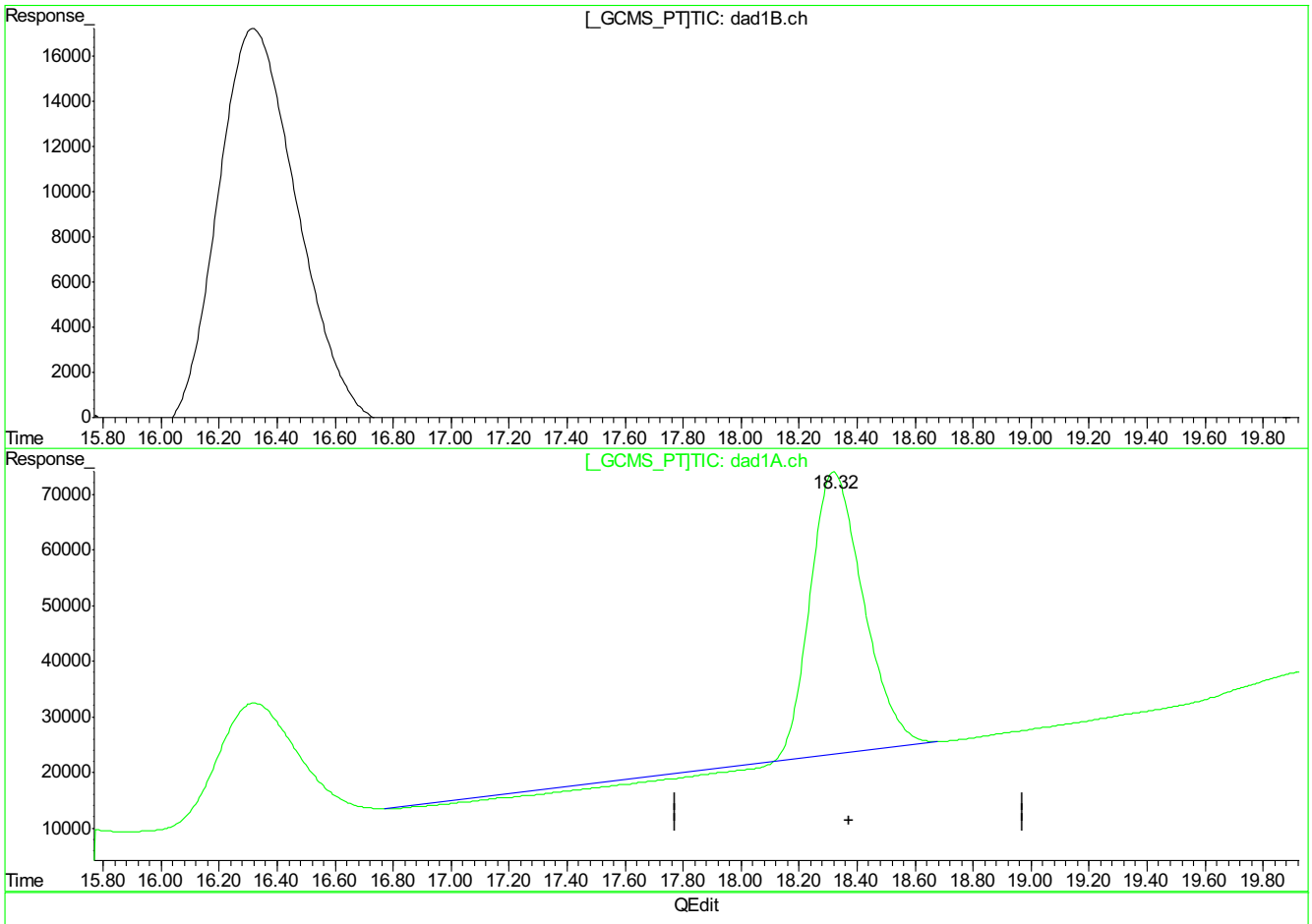
SGS ACCUTEST FA45759

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.32min 4155.119ppb

response 5866811

(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:21 2017

9.5.11.6

9

BB056478.D edits: PETN

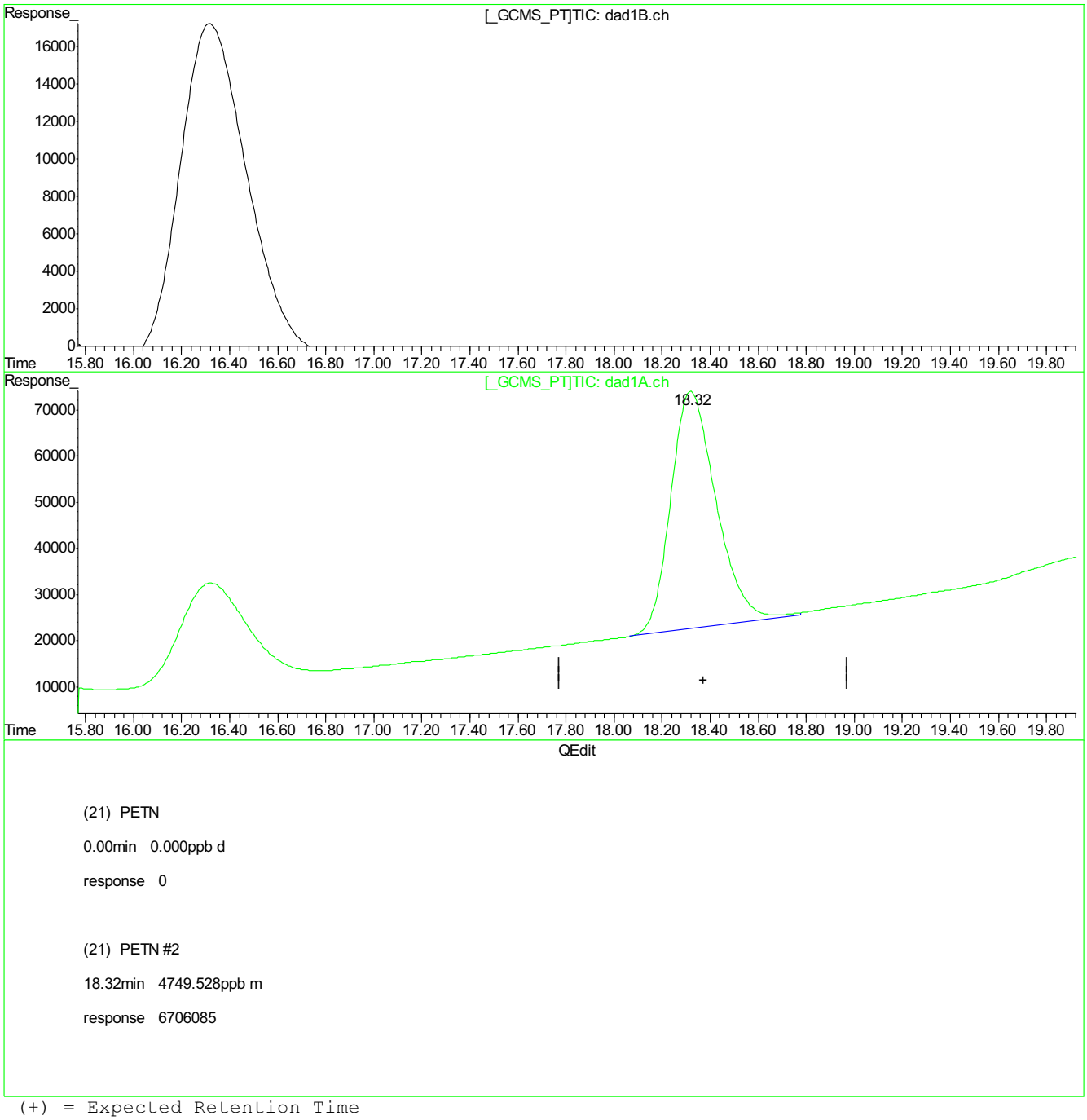
SGS ACCUTEST FA45759

Cal Report: BB056478.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056478.D\dad1A.ch
Acq On : 19-Jul-2017, 02:03:44 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 6:58 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056478.D 8330B_0629PLUS.M Wed Jul 19 10:15:25 2017

9.5.11.7

9

BB056478.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB056490.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/19/17 21:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 09:30:12 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.42	10.42	2521355	4411092	979.233	1100.838
	Spiked Amount 500.000	Range 70 - 136		Recovery =		195.85%#	220.17%#
	Target Compounds						
1)	TNX	1.35	1.35	2995785	4531521	965.107	945.693
2)	HMX	1.46	1.46	1839828	5019326	1063.152	1082.146
3)	DNX	1.71	1.71	2524788	4087774	869.559	929.886
4)	MNX	2.27	2.27	2050904	3137511	916.682	930.442
5)	RDX	2.86	2.86	2072546	3308443	1018.378	1038.302
6)	1,3,5-Trinitrobe	4.54	4.54	4547556	8763801	1068.306	1078.372
7)	1,3-Dinitrobenze	5.78	5.78	5785612	3887876	1034.749	1072.695
8)	3,5-Dinitroanili	6.08	6.09	4484584	7391721	1085.288	1133.740
9)	Nitrobenzene	7.40	7.40	3530296	3594742	1030.560	1103.489
10)	Nitroglycerin	0.00	8.67	0	4940226	N.D. d	4638.034m
11)	Tetryl	8.84	8.81	3322093	6092485	1070.406	1130.035m
12)	2,4,6-Trinitroto	9.28	9.28	3795497	4594800	991.803	1012.232
13)	2-Amino-4,6-Dini	9.58	9.58	4062033	6016607	1083.289	1095.008
14)	4-Amino-2,6-Dini	10.04	10.04	2618493	5250496	1047.204	1129.582
16)	2,4-Dinitrotolue	11.09	11.09	5179634	3179211	1000.466	1013.861
17)	2,6-Dinitrotolue	11.56	11.56	3227228	3977471	1044.824	1082.585
18)	o-Nitrotoluene	14.81	14.80	2420574	3388543	1039.525	1048.488m
19)	p-Nitrotoluene	15.35	15.35	3988879	3454740	1131.257	1188.714
20)	m-Nitrotoluene	16.31	16.31	3802363	4341774	1055.582	1047.791
21)	PETN	0.00	18.31	0	6838390	N.D. d	4843.232m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056490.D 8330B_0629PLUS.M Wed Jul 19 11:45:13 2017 Page 1

9.5.12
9

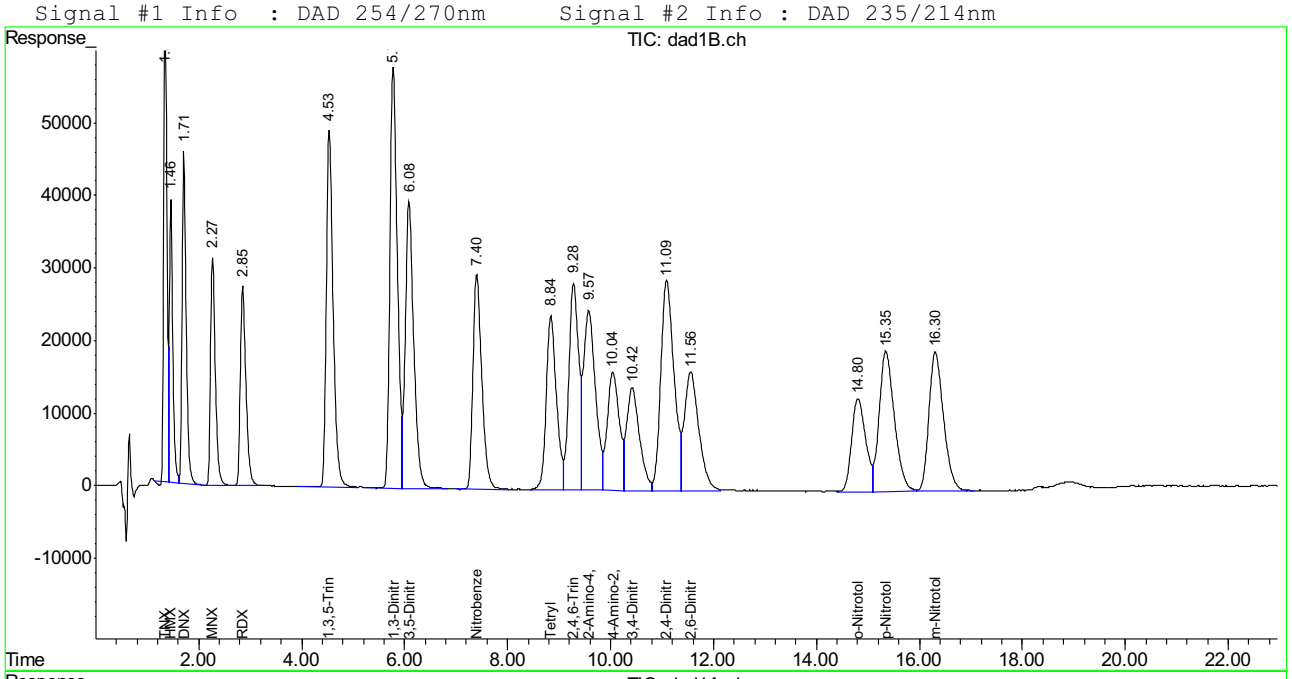
SGS ACCUTEST FA45759

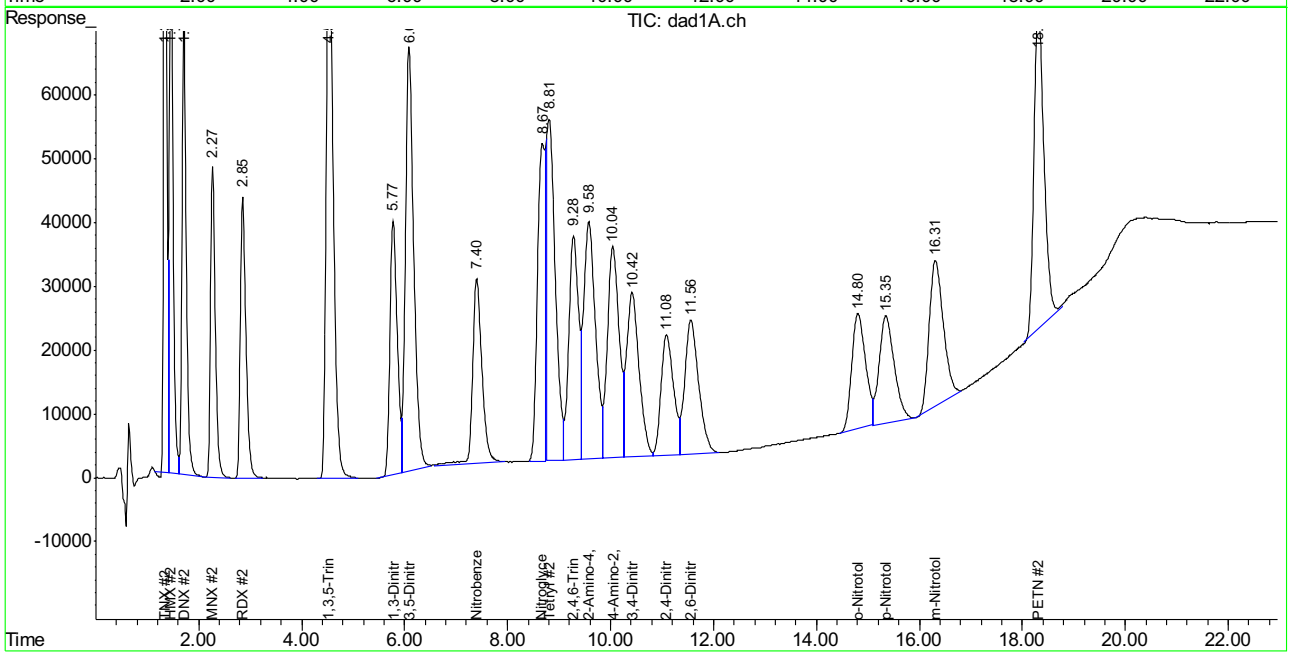
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 11:43 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1620-CC1615
Lab FileID: BB056490.D
Injection Time: 07/19/17 08:03
Method: SW846 8330B
Analyst approved: 07/19/17 11:14 Evita Martinez
Supervisor approved: 07/19/17 21:27 Mike Eger

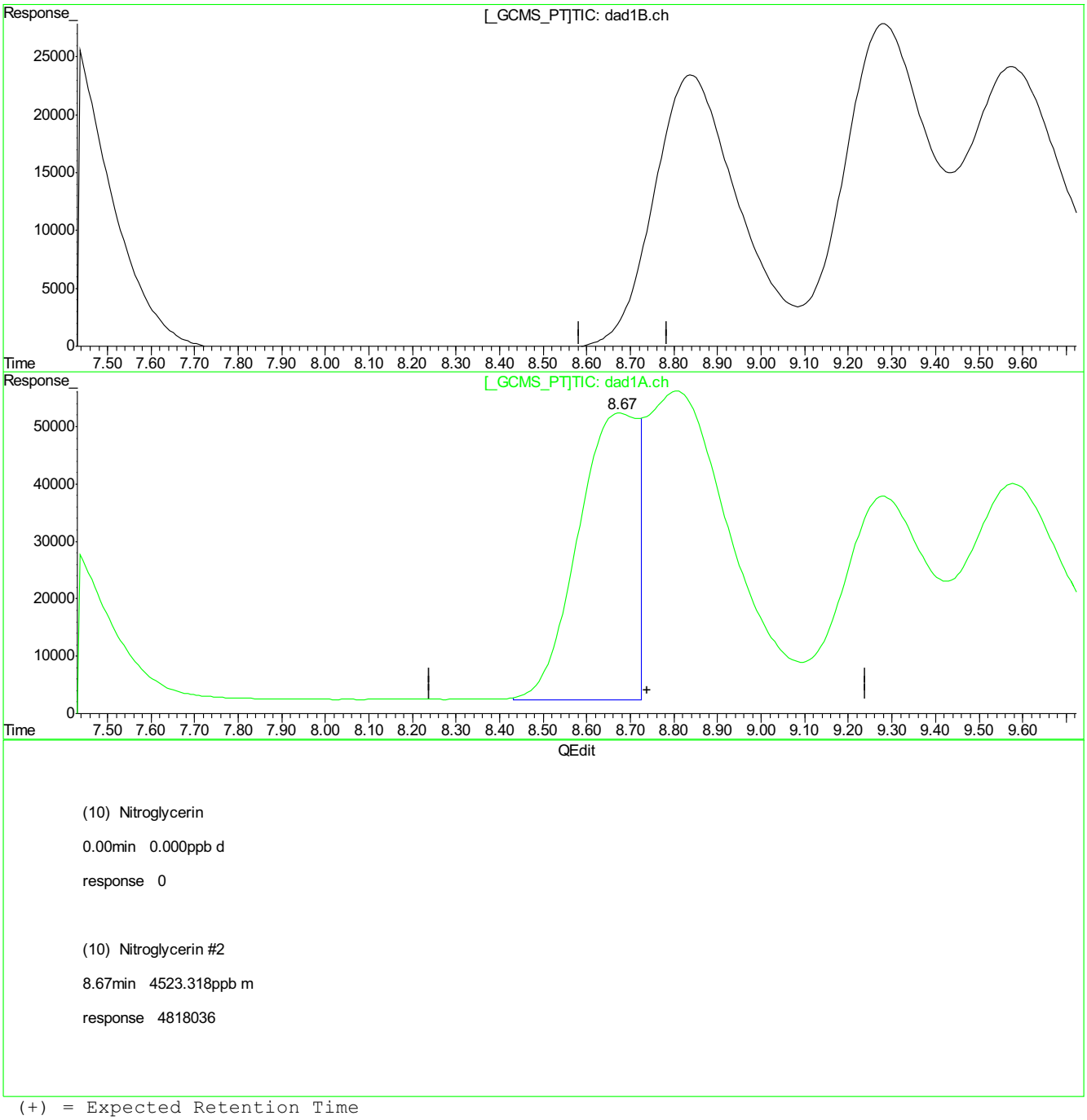
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	8.67	Poorly defined baseline
Tetryl	479-45-8	2	8.81	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	14.80	Poorly defined baseline
PETN	78-11-5	2	18.31	Poorly defined baseline

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:37:30 2017

9.5.12.2

9

BB056490.D edits: Nitroglycerin

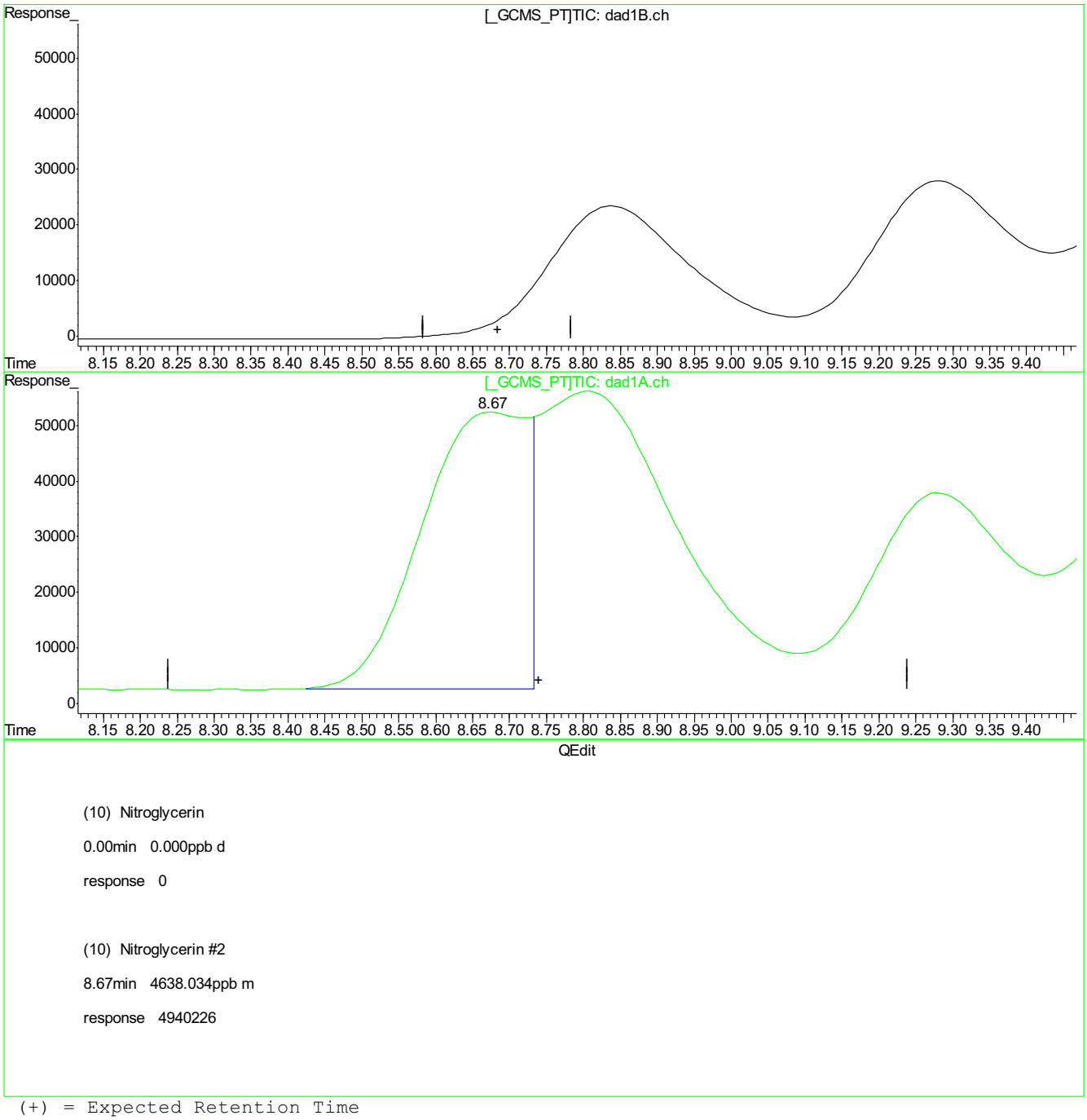
SGS ACCUTEST FA45759

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

8.67min 4638.034ppb m

response 4940226

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:37:45 2017

9.5.12.3

9

BB056490.D edits: Nitroglycerin

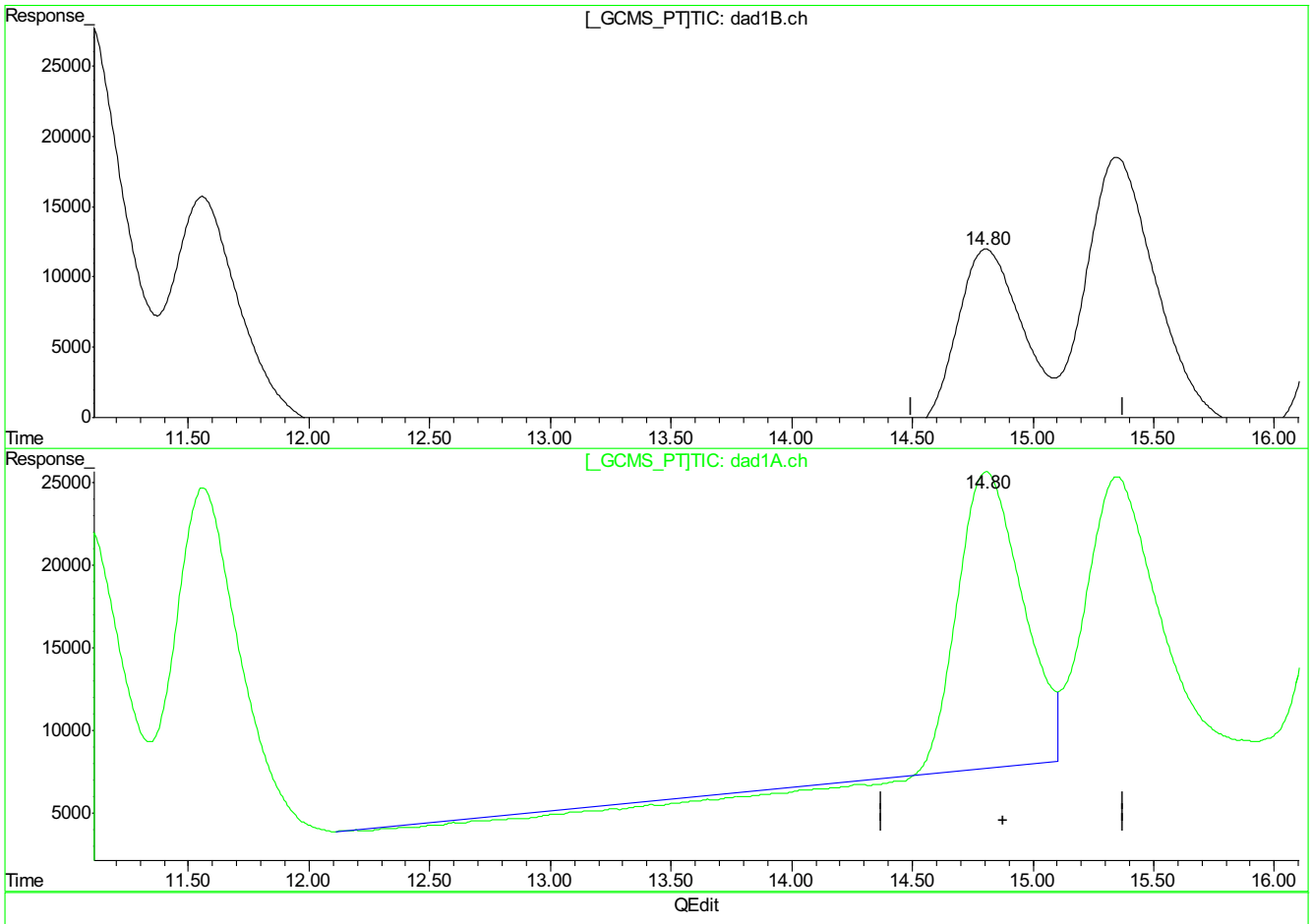
SGS ACCUTEST FA45759

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 1039.525ppb

response 2420574

(18) o-Nitrotoluene #2

14.81min 935.277ppb

response 2995326

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:29 2017

9.5.12.4

9

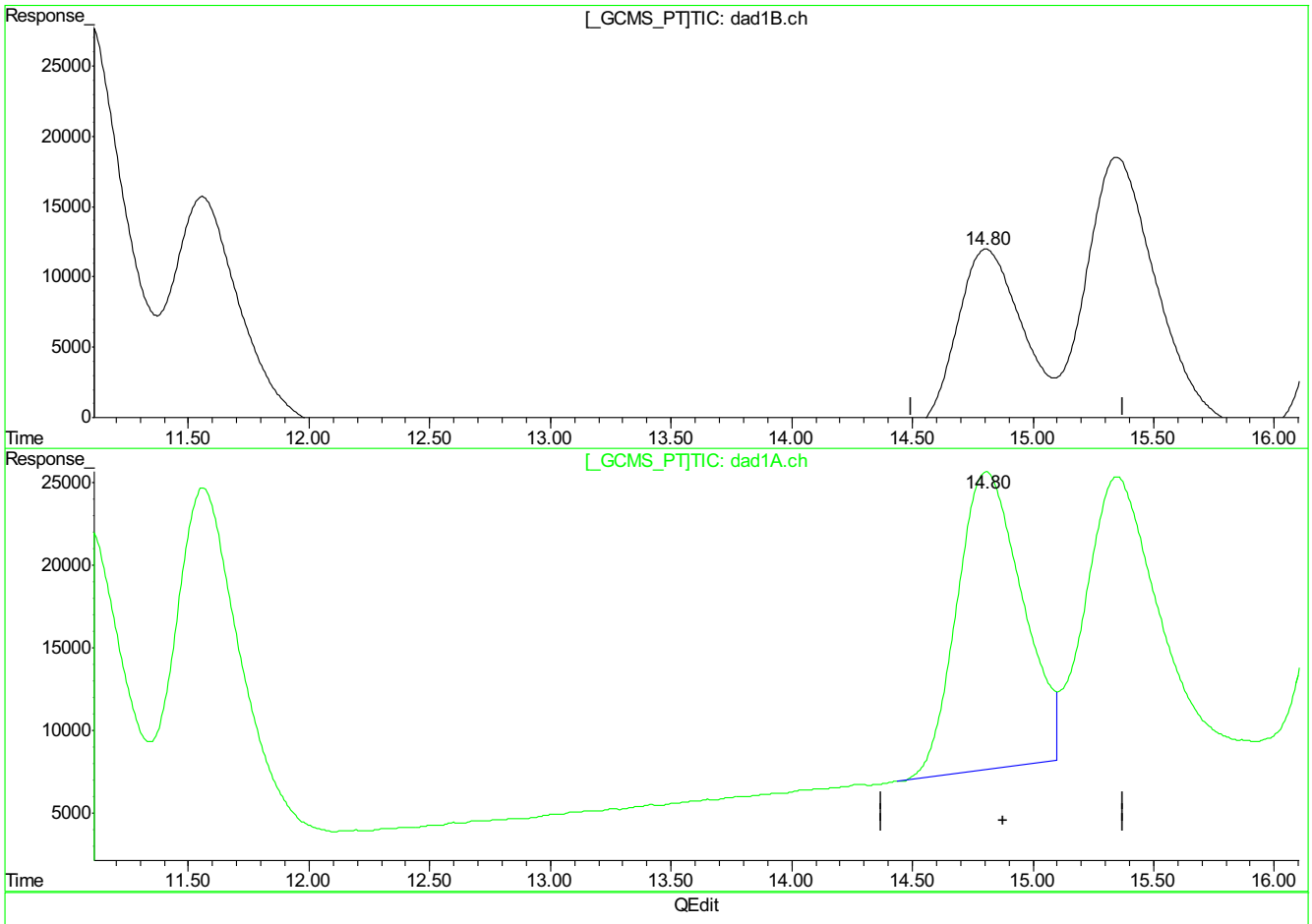
SGS ACCUTEST FA45759

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.81min 1039.525ppb

response 2420574

(18) o-Nitrotoluene #2

14.80min 1048.488ppb m

response 3388543

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:33 2017

9.5.12.5

9

BB056490.D edits: o-Nitrotoluene

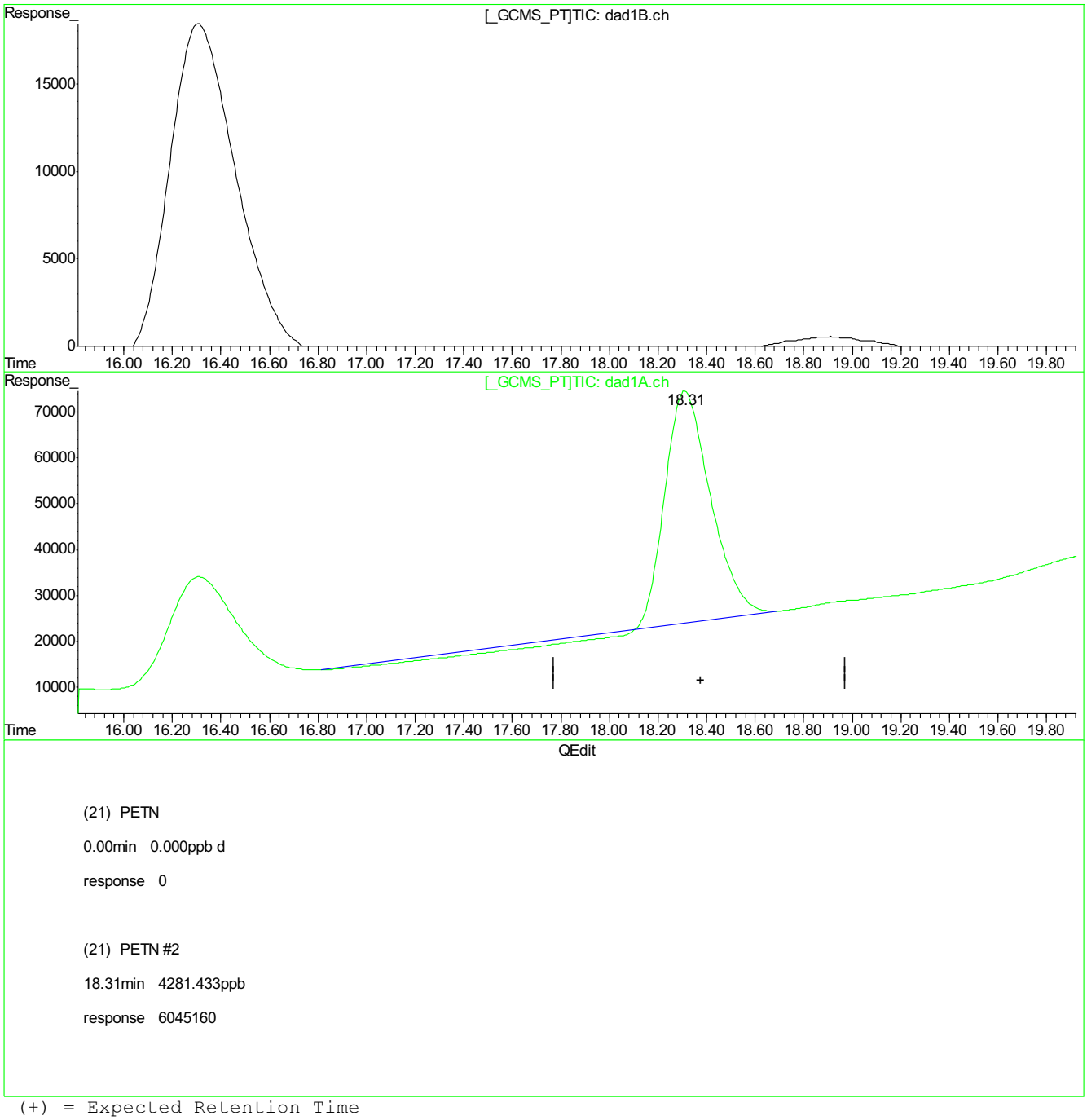
SGS ACCUTEST FA45759

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 4281.433ppb

response 6045160

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:36 2017

BB056490.D edits: PETN

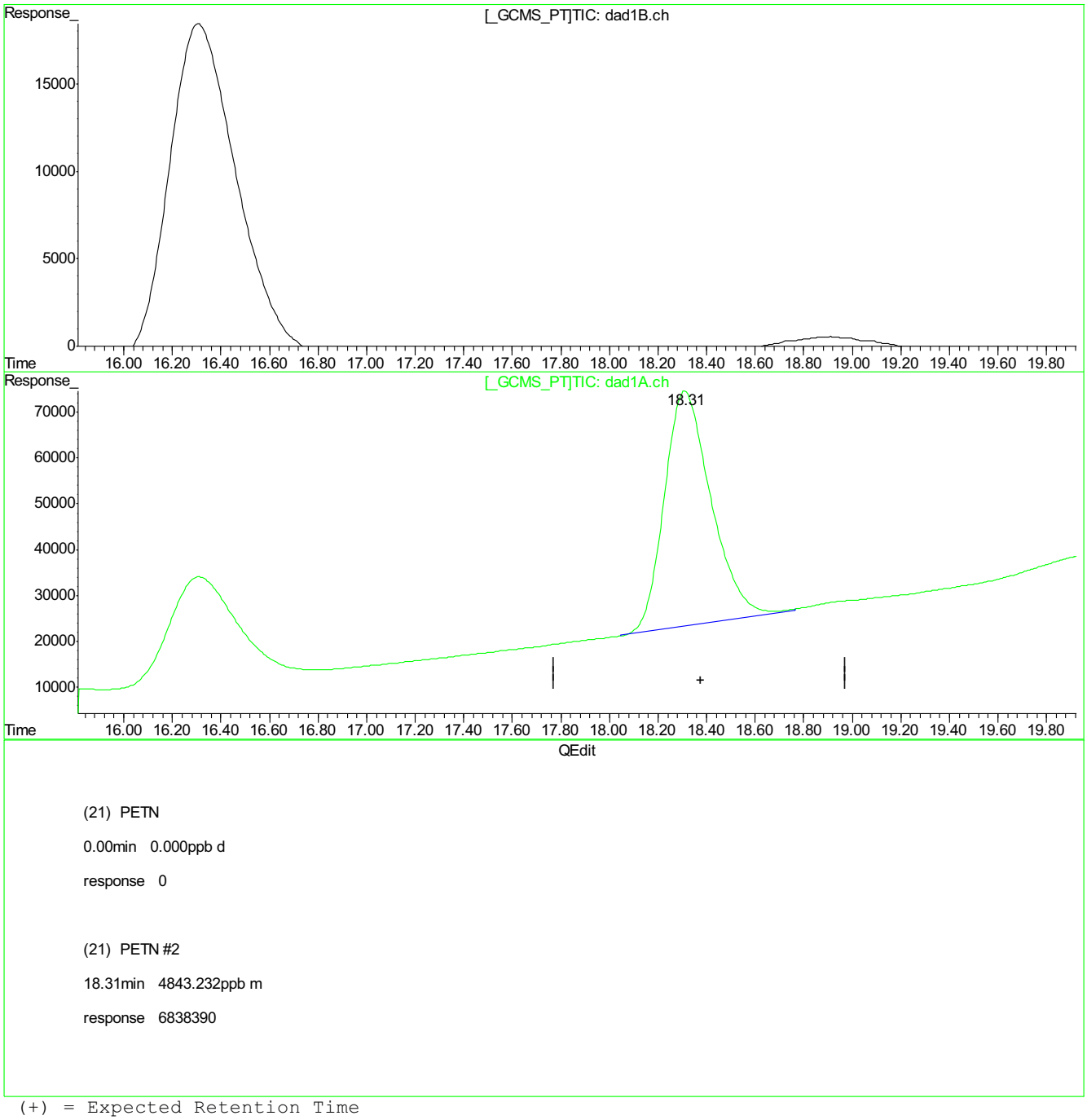
SGS ACCUTEST FA45759

Cal Report: BB056490.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056490.D\dad1A.ch
Acq On : 19-Jul-2017, 08:03:37 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65781,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 19 9:31 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.31min 4843.232ppb m

response 6838390

(+) = Expected Retention Time
BB056490.D 8330B_0629PLUS.M Wed Jul 19 10:38:40 2017

9.5.12.7

9

BB056490.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: BB056502.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/20/17 19:25

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 08:50:06 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.45	10.45	2534610	4435537	984.381	1106.597
	Spiked Amount 500.000	Range 70 - 136		Recovery =		196.88%#	221.32%#
	Target Compounds						
1)	TNX	1.35	1.35	2983196	4502867	961.051	939.713
2)	HMX	1.46	1.46	1844214	5033437	1065.685	1085.188
3)	DNX	1.71	1.71	2514511	4075551	866.020	927.139
4)	MNX	2.27	2.27	2042550	3134779	912.949	929.632
5)	RDX	2.86	2.86	2085774	3297829	1024.878	1034.971
6)	1,3,5-Trinitrobe	4.54	4.54	4491842	8714380	1055.218	1072.291
7)	1,3-Dinitrobenze	5.79	5.79	5697054	3796696	1018.911	1047.538
8)	3,5-Dinitroanili	6.09	6.09	4554029	7401930	1102.094	1135.306
9)	Nitrobenzene	7.41	7.41	3559092	3541441	1038.966	1087.127
10)	Nitroglycerin	0.00	8.69	0	4573394	N.D. d	4293.641
11)	Tetryl	8.86	8.83	3278027	7057242	1056.208	1296.809
12)	2,4,6-Trinitroto	9.30	9.30	3750654	4537818	980.085	1000.352
13)	2-Amino-4,6-Dini	9.59	9.59	4056288	6005450	1081.757	1093.067
14)	4-Amino-2,6-Dini	10.06	10.06	2644271	5242505	1057.513	1127.863
16)	2,4-Dinitrotolue	11.12	11.12	5098420	3123413	984.780	996.067
17)	2,6-Dinitrotolue	11.59	11.59	3325443	4029009	1076.621	1096.613
18)	o-Nitrotoluene	14.84	14.84	2372850	3364236	1019.030	1041.545m
19)	p-Nitrotoluene	15.39	15.39	4002525	3434181	1135.127	1182.488
20)	m-Nitrotoluene	16.35	16.35	3784651	4289579	1050.665	1036.084
21)	PETN	0.00	18.34	0	6750819	N.D. d	4781.210m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:41:28 2017 Page 1

9.5.13
9

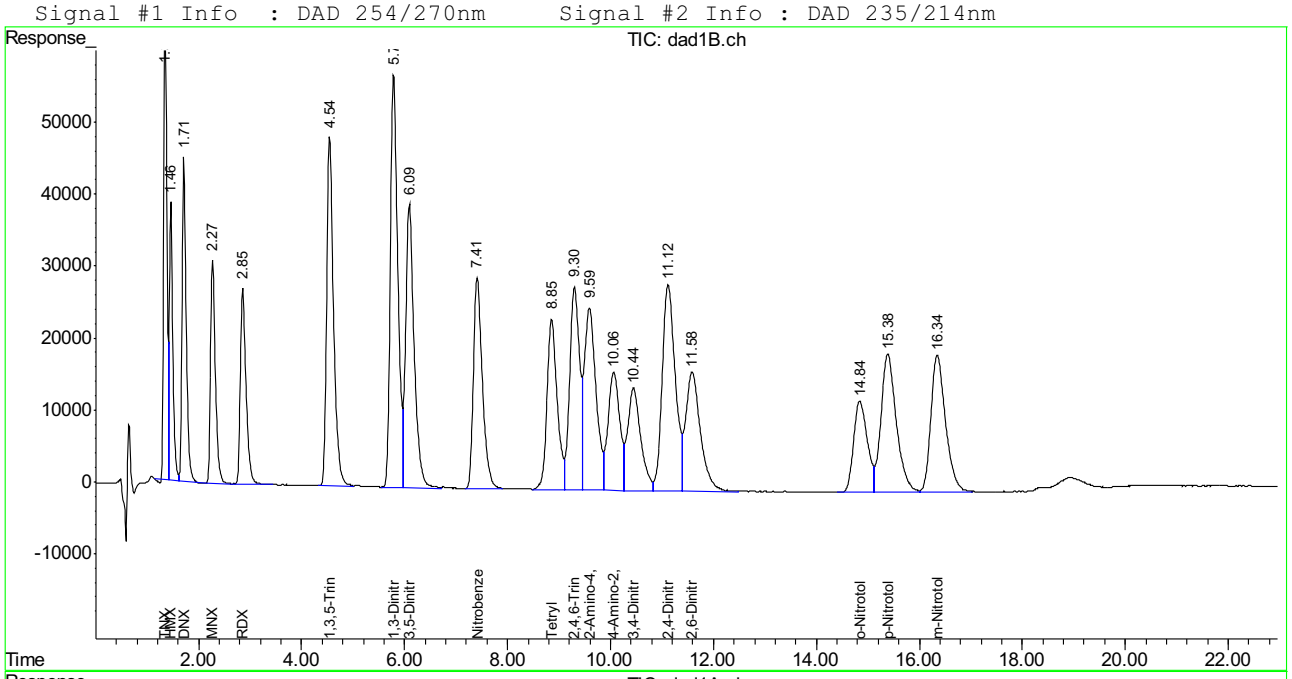
SGS ACCUTEST FA45759

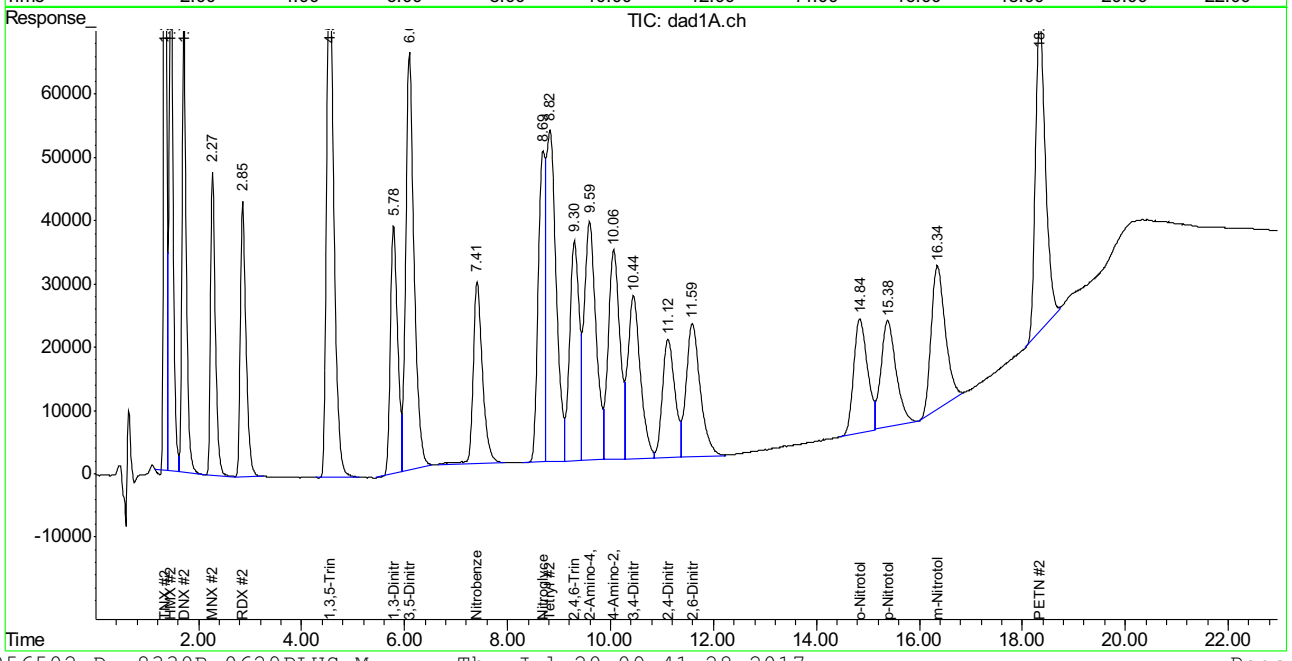
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 9:10 2017 Quant Results File: 8330B_0629PLUS.RES

Quant Method : D:\MSDCHEM\1...\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1620-CC1615
Lab FileID: BB056502.D
Injection Time: 07/19/17 14:03
Method: SW846 8330A
Analyst approved: 07/20/17 09:55 Evita Martinez
Supervisor approved: 07/20/17 19:25 Mike Eger

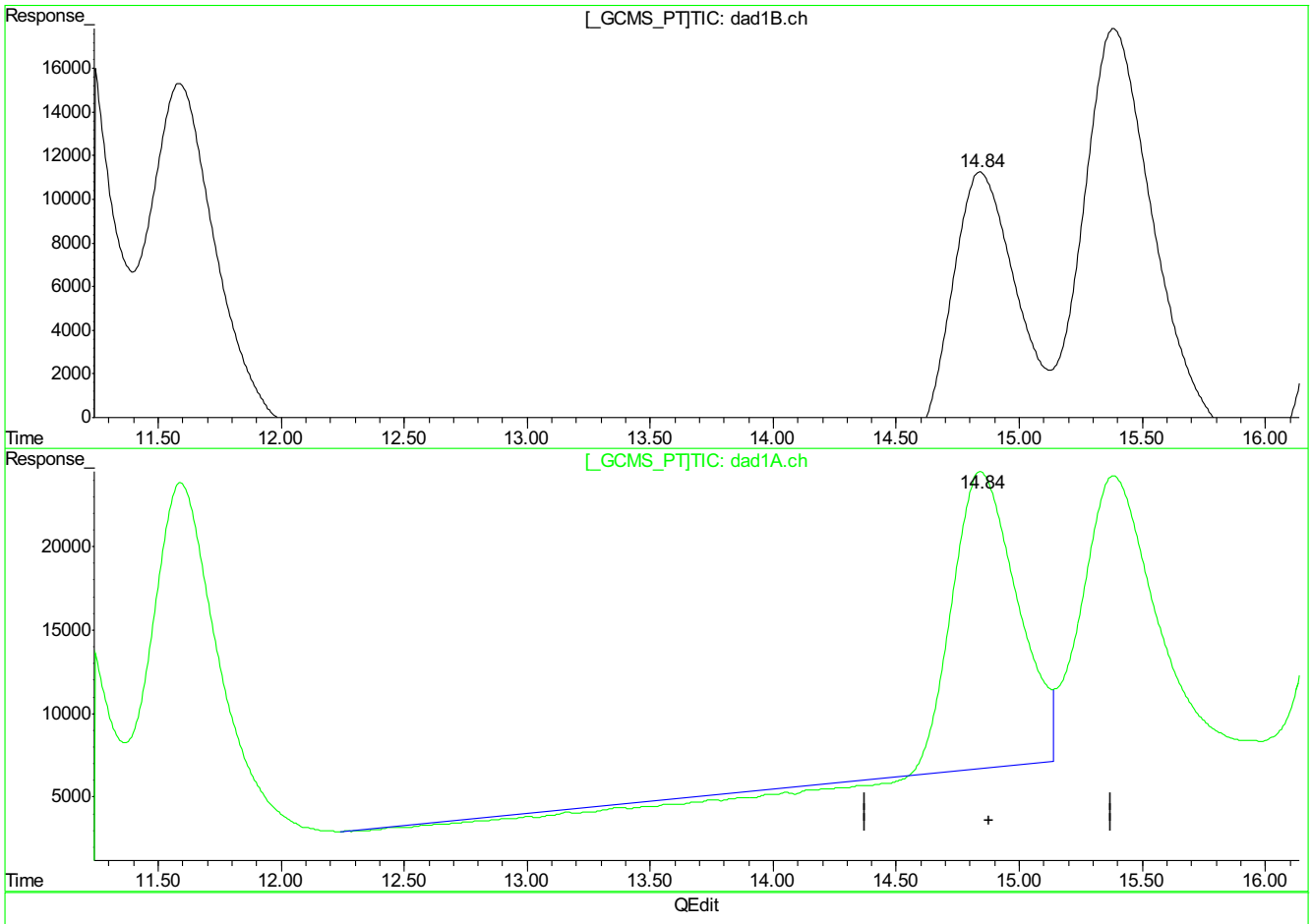
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	14.84	Poorly defined baseline
PETN	78-11-5	2	18.34	Poorly defined baseline

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.84min 1019.030ppb

response 2372850

(18) o-Nitrotoluene #2

14.85min 917.959ppb

response 2935760

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:10 2017

9.5.13.2

9

BB056502.D edits: o-Nitrotoluene

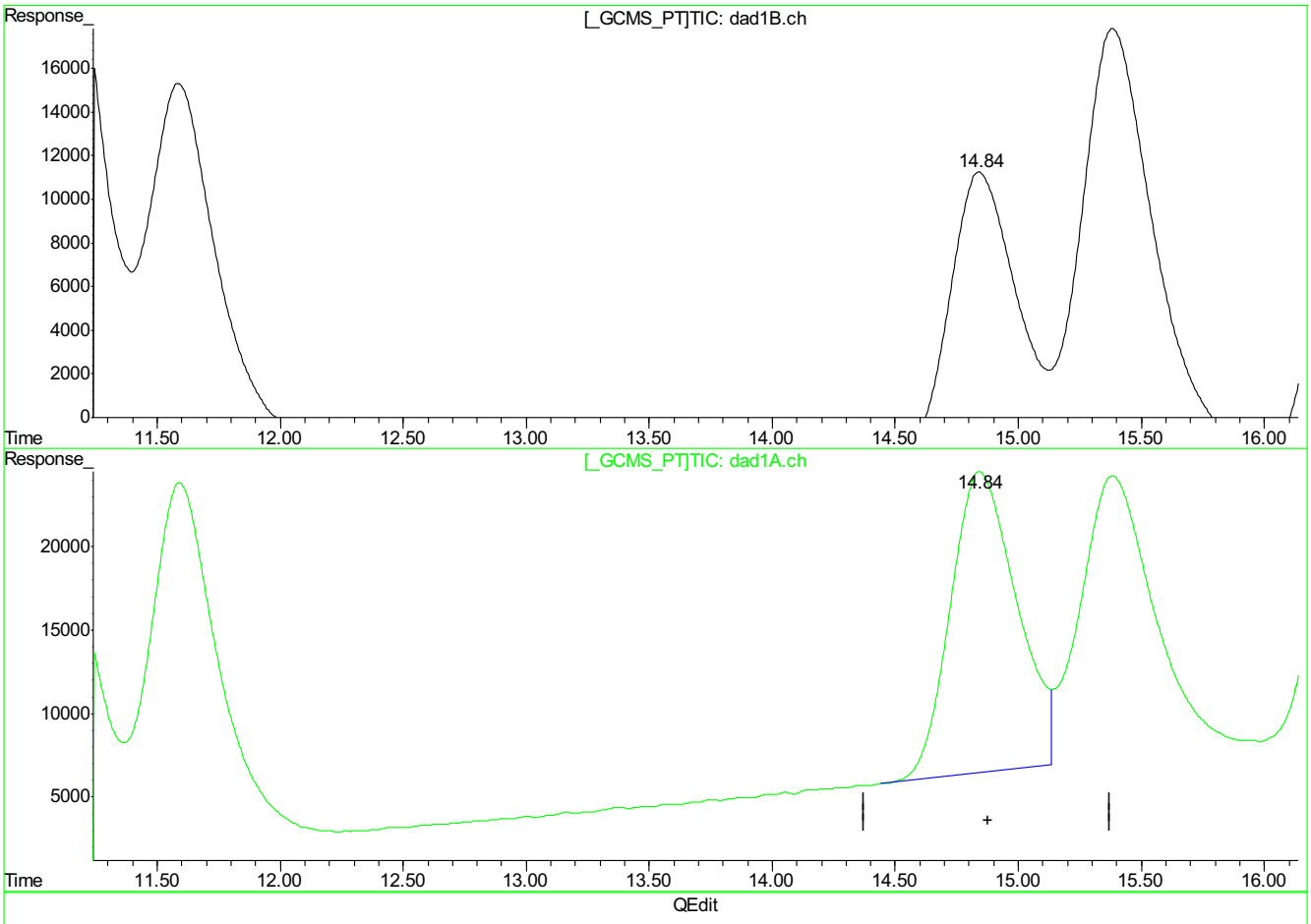
SGS ACCUTEST FA45759

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

14.84min 1019.030ppb

response 2372850

(18) o-Nitrotoluene #2

14.84min 1041.545ppb m

response 3364236

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:14 2017

9.5.13.3

9

BB056502.D edits: o-Nitrotoluene

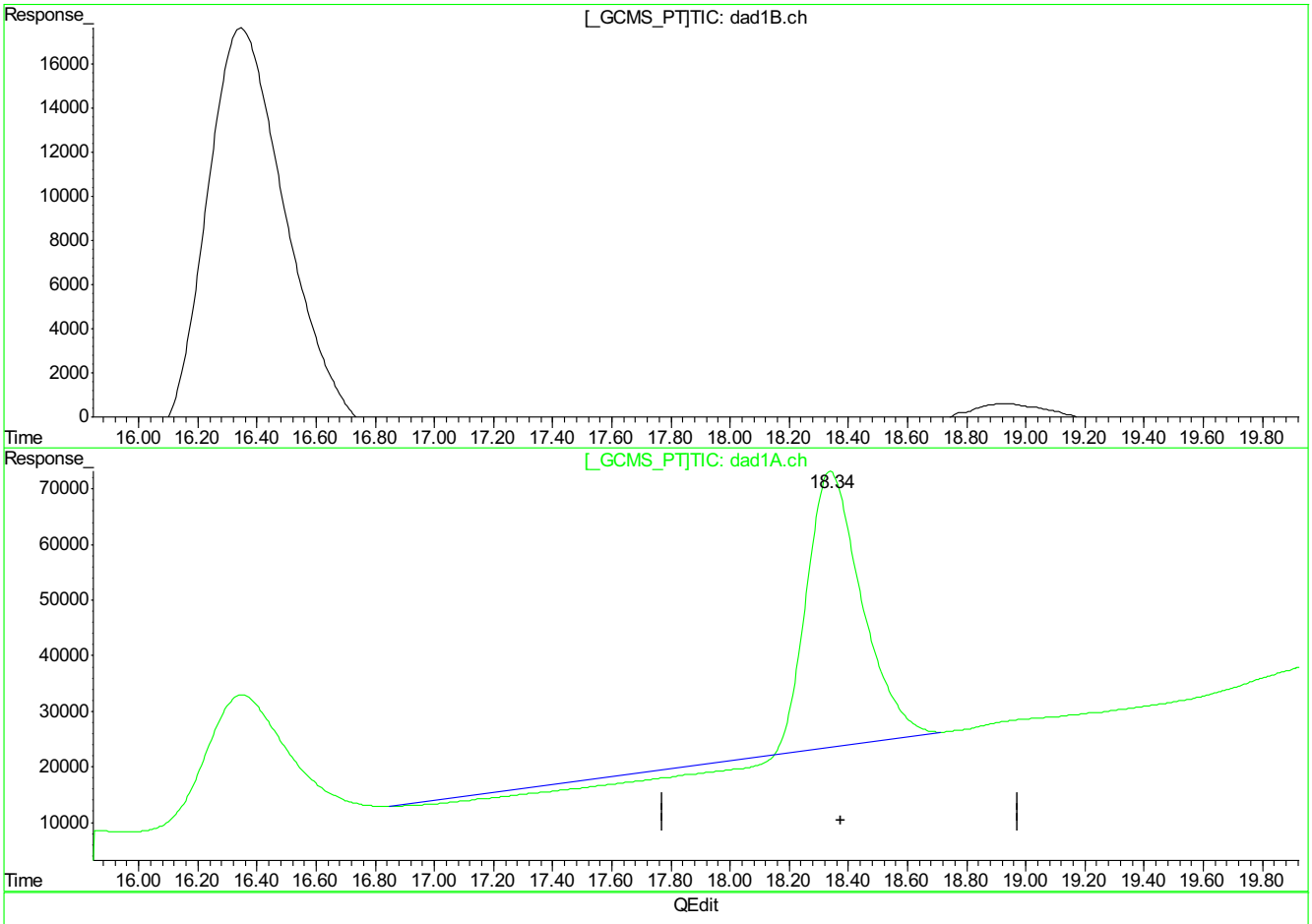
SGS ACCUTEST FA45759

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.34min 3904.708ppb

response 5513245

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:17 2017

9.5.13.4

9

BB056502.D edits: PETN

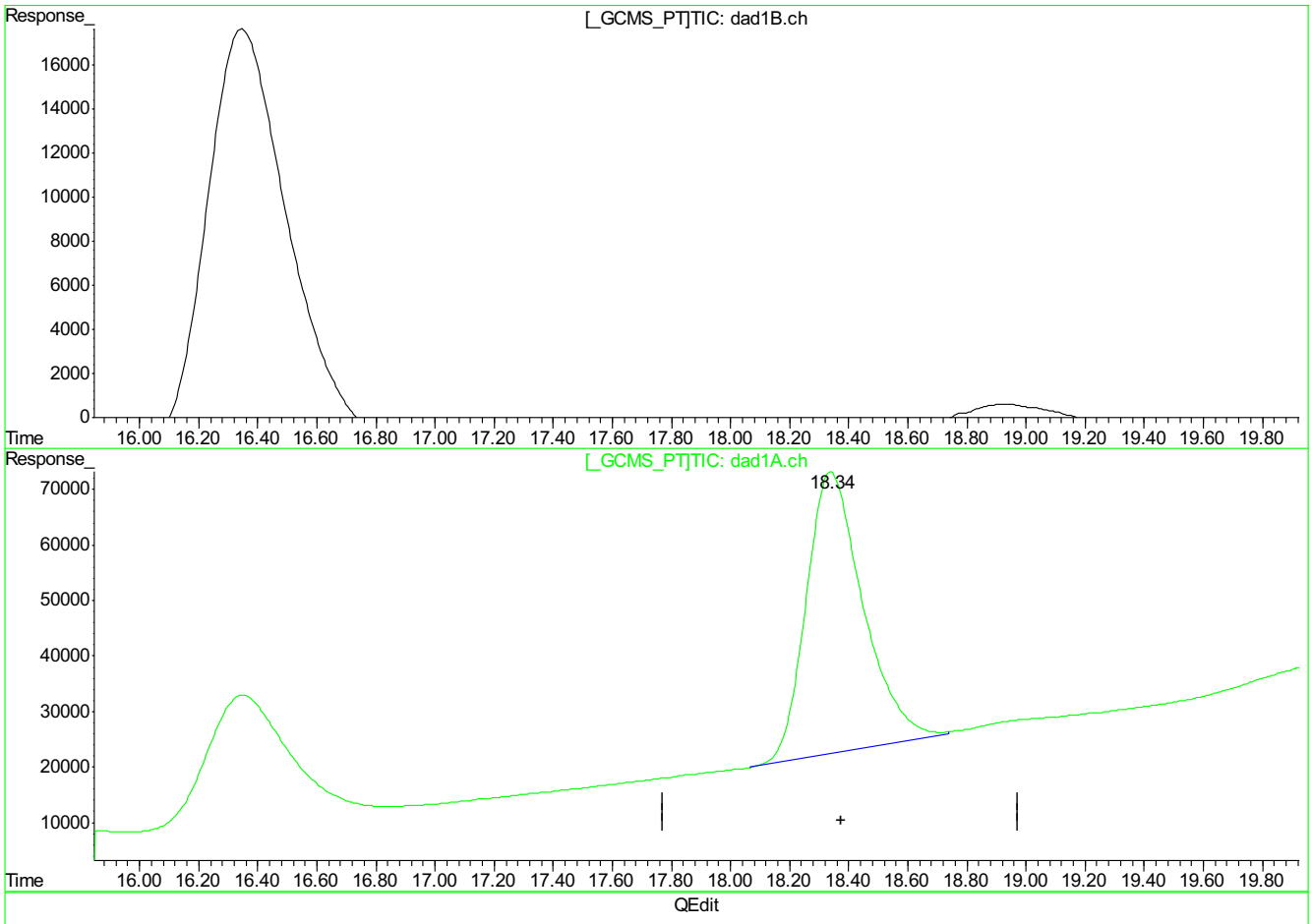
SGS ACCUTEST FA45759

Cal Report: BB056502.D

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0717BPL\BB056502.D\dad1A.ch
Acq On : 19-Jul-2017, 14:03:33 Operator: evitam
Sample : cc1615-1000 Inst : G1315B
Misc : op65992,gbb1620,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 8:50 2017 Quant Results File: 8330B_0629PLUS.RES

Method : D:\MSDCHEM\1\METHODS\8330B_0629PLUS.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 17 08:57:57 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.34min 4781.210ppb m

response 6750819

(+) = Expected Retention Time
BB056502.D 8330B_0629PLUS.M Thu Jul 20 09:10:21 2017

9.5.13.5

9

BB056502.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613488.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50:39 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.43	14.43	104300	282585	19.854	25.723
	Spiked Amount 500.000	Range 69 - 134		Recovery =		3.97%#	5.14%#
	Target Compounds						
1)	TNX	4.95	4.95	155402	156470	20.027m	20.175m
2)	HMX	5.31	5.31	68086	68676	21.721m	22.088m
3)	DNX	5.50	5.51	145919	149218	19.063m	20.145m
4)	MNX	6.51	6.51	81956	81956	17.154	17.191
5)	1,3,5-Trinitrobe	7.55	7.55	206301	206301	22.566	23.092
6)	RDX	7.88	7.88	90782	90782	21.362	21.404
7)	1,3-Dinitrobenze	10.05	10.05	287302	257753	22.397	24.216m
8)	Nitrobenzene	11.12	11.13	189522	192685	23.025	19.391m
9)	2,4,6-Trinitroto	11.90	11.89	213594	512092	23.189	39.953m#
10)	Nitroglycerin	0.00	12.65	0	318601	N.D. d	100.893m
11)	Tetryl	13.19	13.17	144159	194422	23.755	19.182m
13)	2,6-Dinitrotolue	14.89	14.90	135168	210116	22.401	23.014
14)	2,4-Dinitrotolue	15.61	15.61	259607	309956	22.133	37.358 #
15)	o-Nitrotoluene	17.32	17.32	118375	315420	23.127	41.316 #
16)	3,5-Dinitroanili	16.54	16.54	290351	493996	27.891	29.256
17)	p-Nitrotoluene	18.37	18.36	257362	750525	23.907	38.286 #
18)	4-Amino-2,6-Dini	18.37	18.36	257362	750525	23.907	38.286 #
19)	m-Nitrotoluene	19.78	19.80	134288	190349	24.956	20.903m
20)	2-Amino-4,6-Dini	20.45	20.39	174049	149792	21.516	14.374m
21)	PETN	0.00	22.32	0	229557	N.D. d	77.648m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 13:56:30 2017 Page 1

9.5.14
9

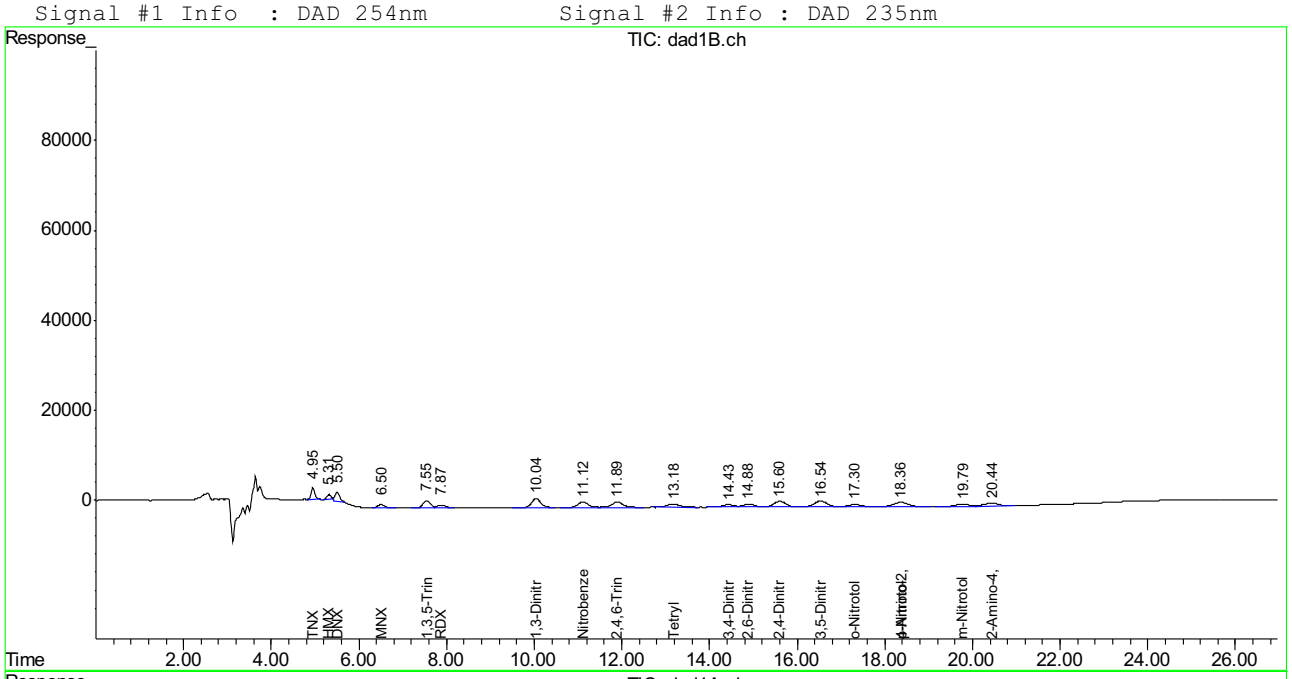
SGS ACCUTEST FA45759

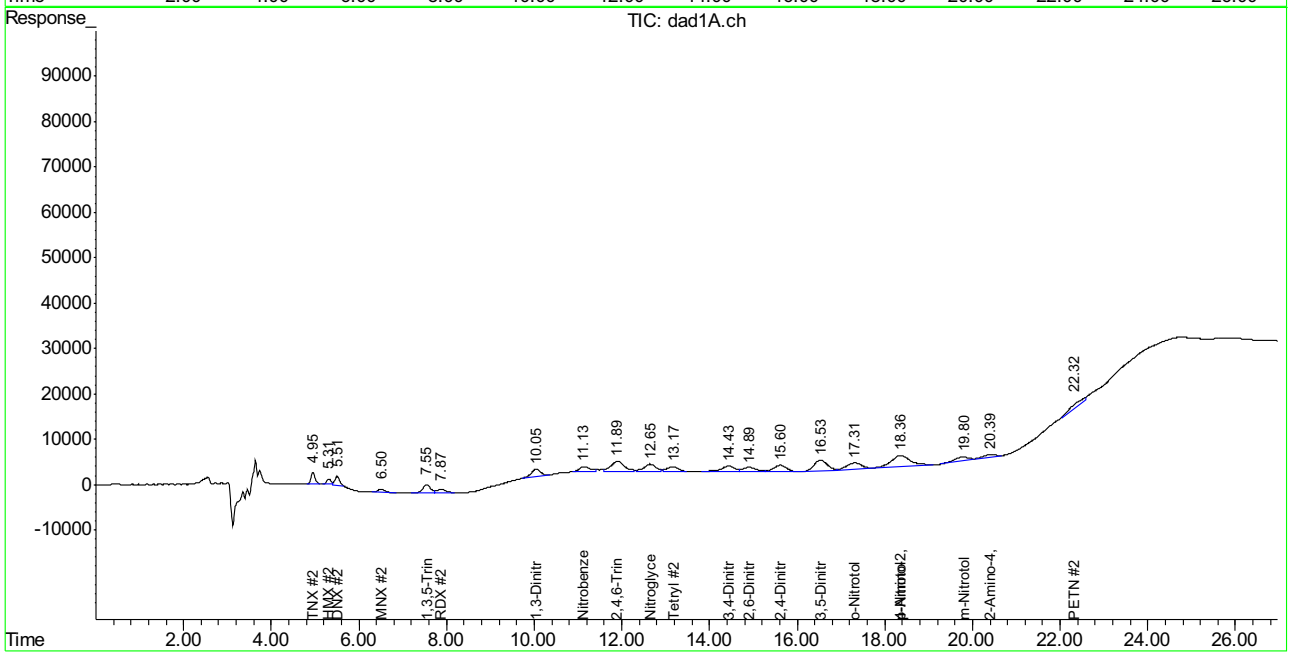
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:53 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613488.D
Injection Time: 07/20/17 16:43
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

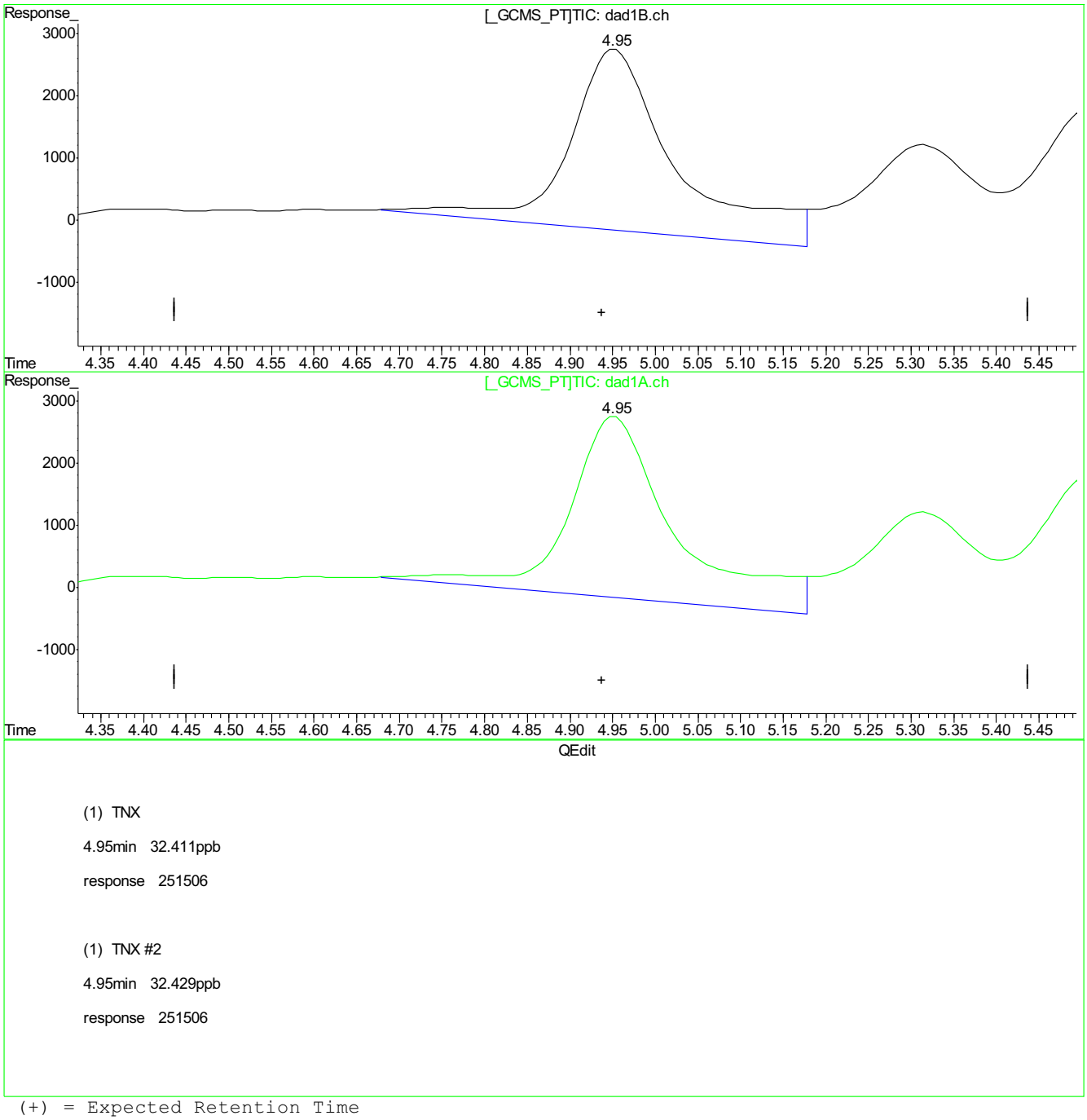
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
HMX	2691-41-0	1	5.31	Poorly defined baseline
HMX	2691-41-0	2	5.31	Poorly defined baseline
DNX		1	5.50	Poorly defined baseline
DNX		2	5.51	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.13	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.89	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.65	Poorly defined baseline
Tetryl	479-45-8	2	13.17	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	19.80	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.39	Poorly defined baseline
PETN	78-11-5	2	22.32	Poorly defined baseline

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(1) TNX

4.95min 32.411ppb

response 251506

(1) TNX #2

4.95min 32.429ppb

response 251506

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:50:45 2017

9.5.14.2

9

GG613488.D edits: TNX

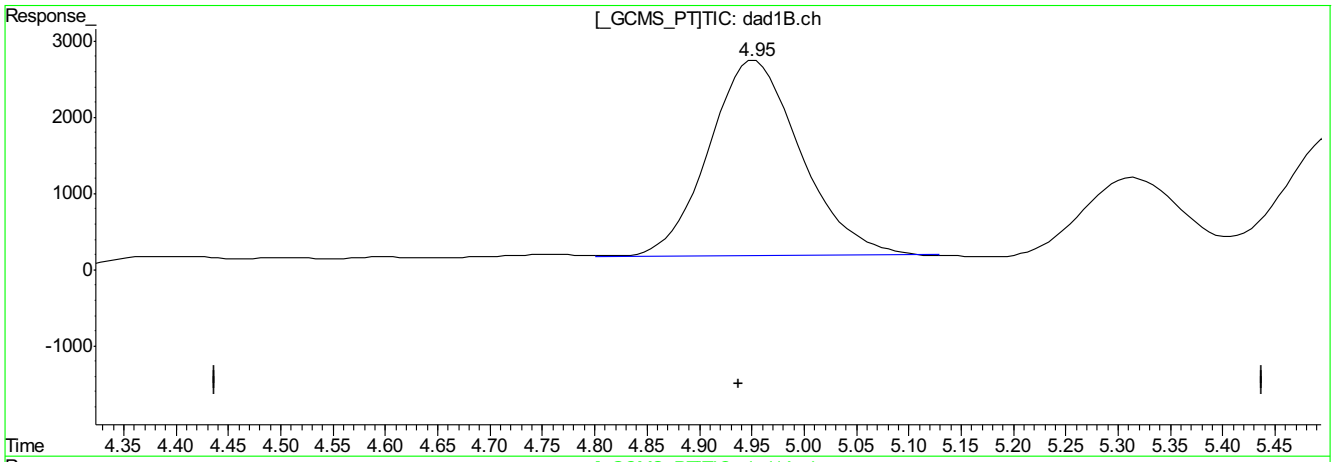
SGS ACCUTEST FA45759

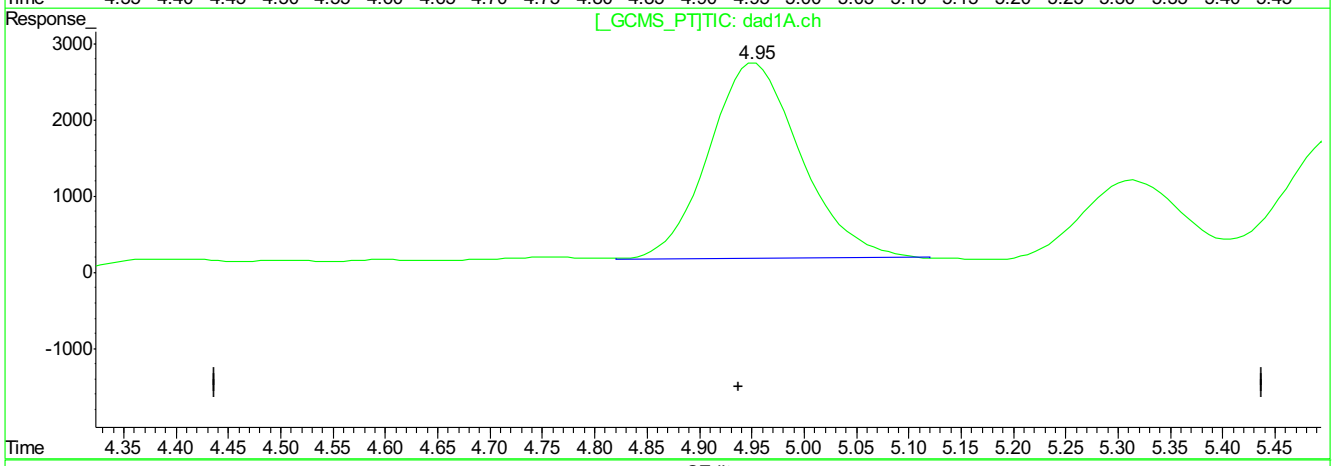
Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.95min 20.027ppb m

response 155402

(1) TNX #2

4.95min 20.175ppb m

response 156470

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:50:52 2017

9.5.14.3

9

GG613488.D edits: TNX

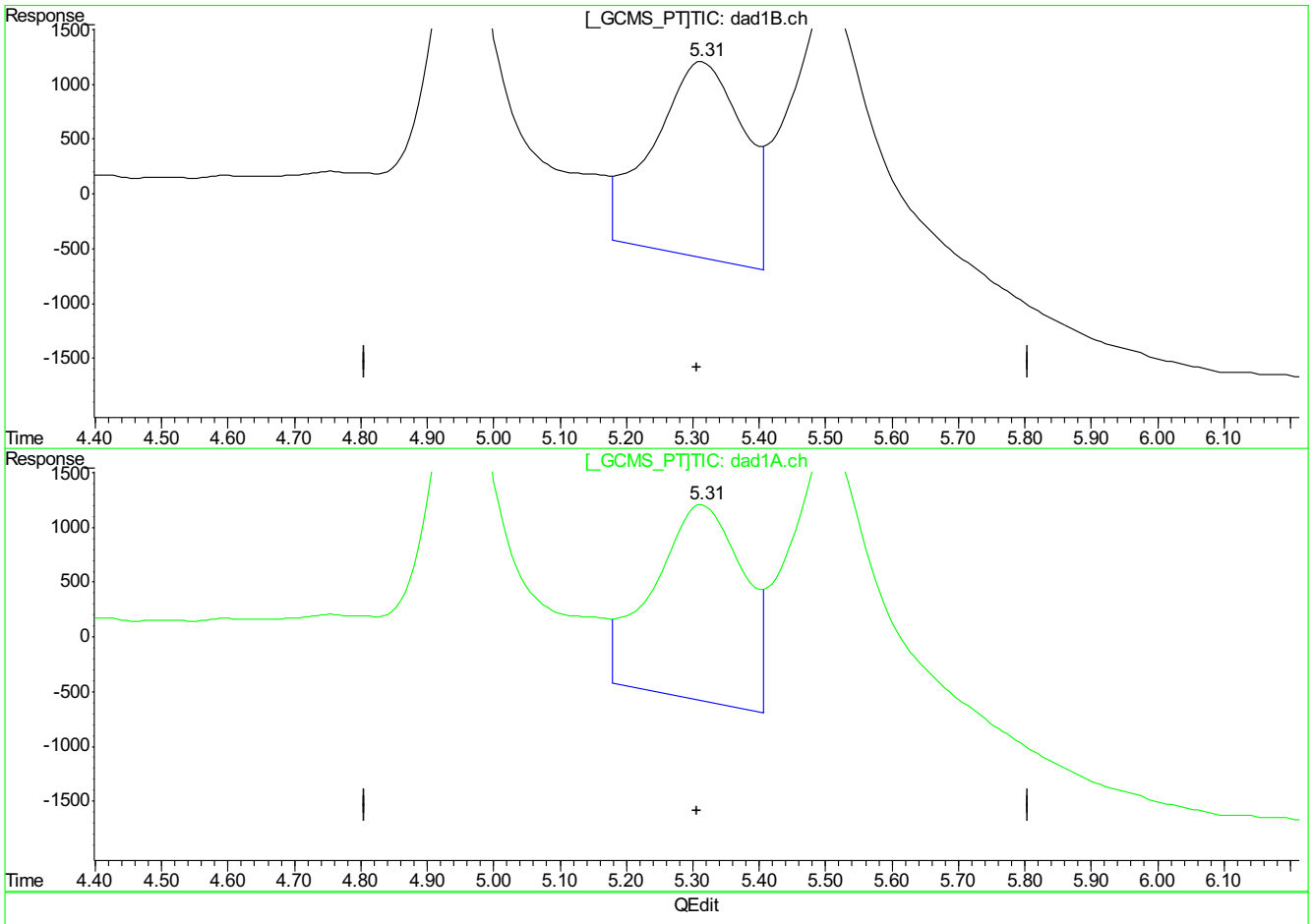
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



QEdit

(2) HMX

5.32min 54.263ppb

response 170095

(2) HMX #2

5.32min 54.707ppb

response 170095

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:50:56 2017

GG613488.D edits: HMX

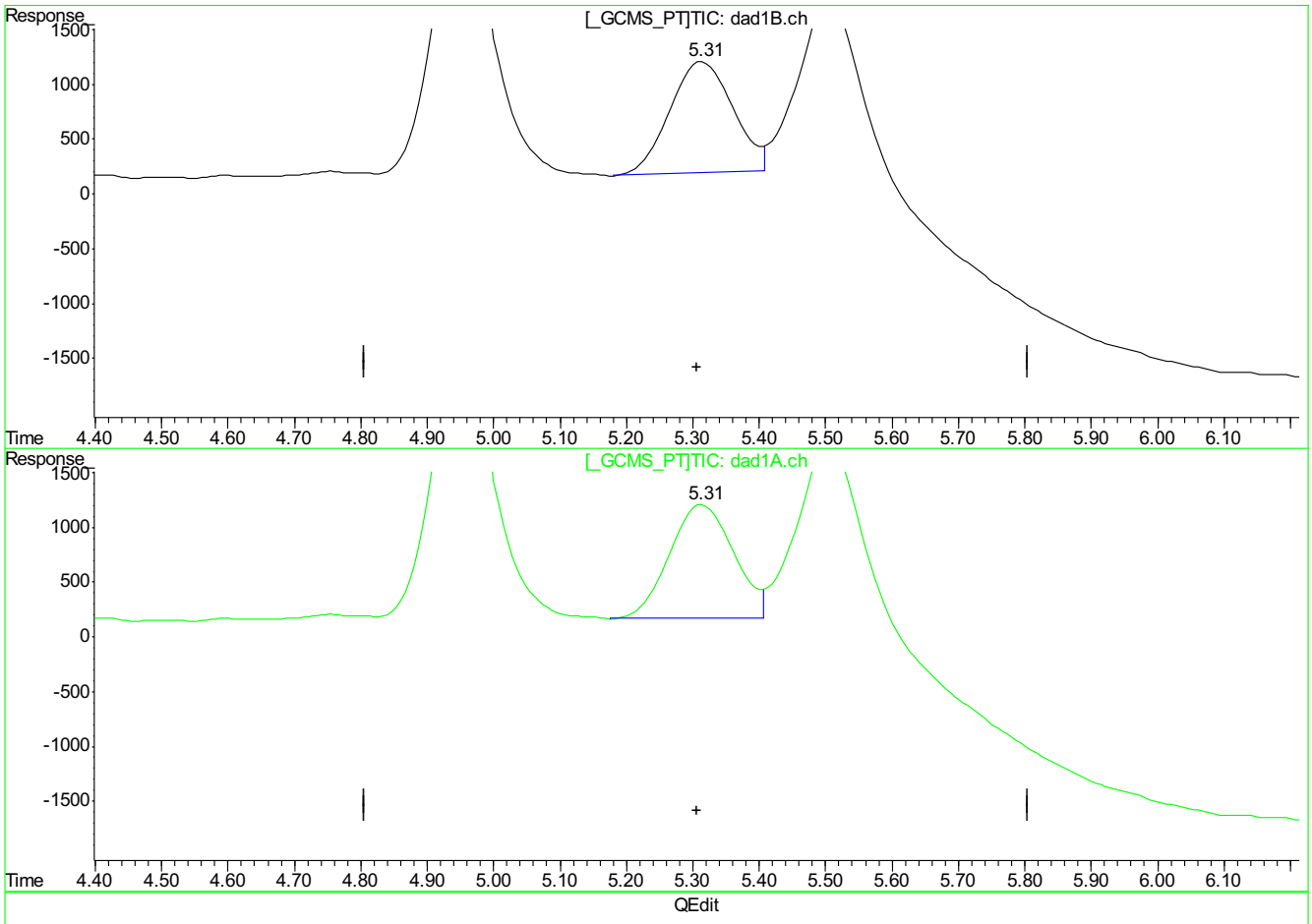
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



QEdit

(2) HMX

5.31min 21.721ppb m

response 68086

(2) HMX #2

5.31min 22.088ppb m

response 68676

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:02 2017

GG613488.D edits: HMX

9.5.14.5

9

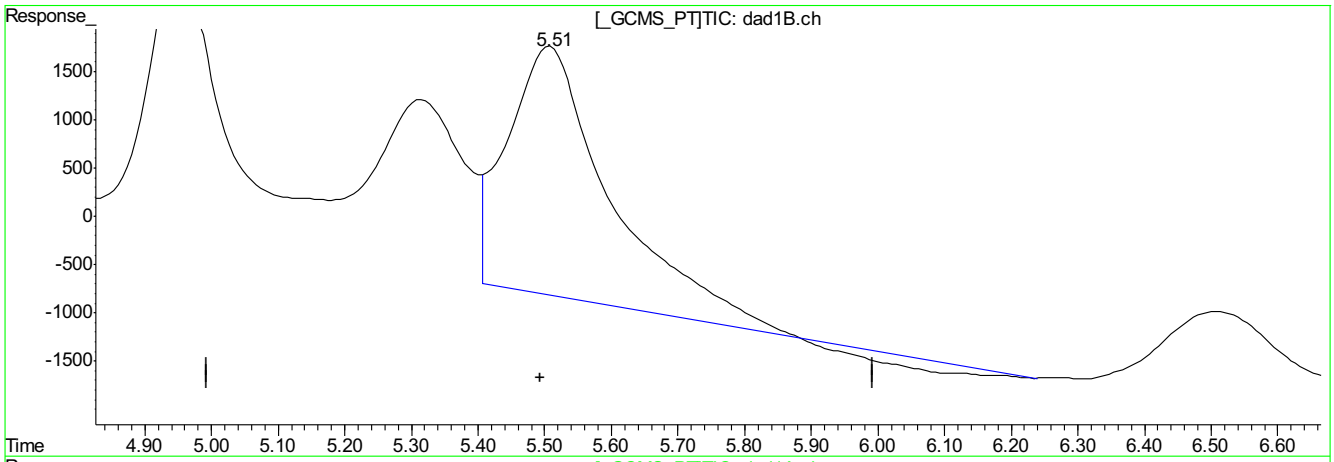
SGS ACCUTEST FA45759

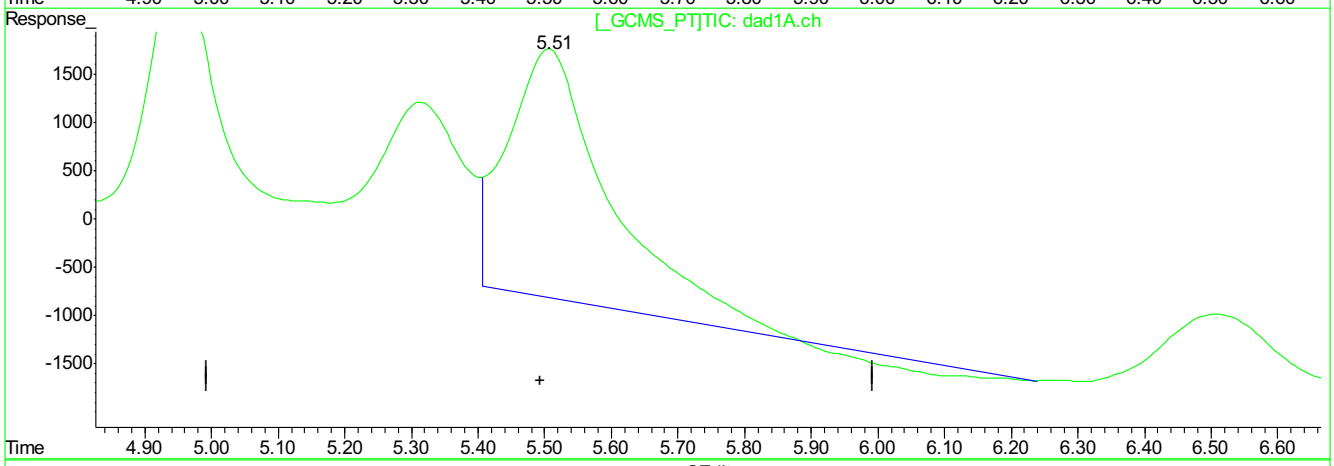
Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.51min 34.695ppb

response 265576

(3) DNX #2

5.51min 35.871ppb

response 265576

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:05 2017

9.5.14.6

9

GG613488.D edits: DNX

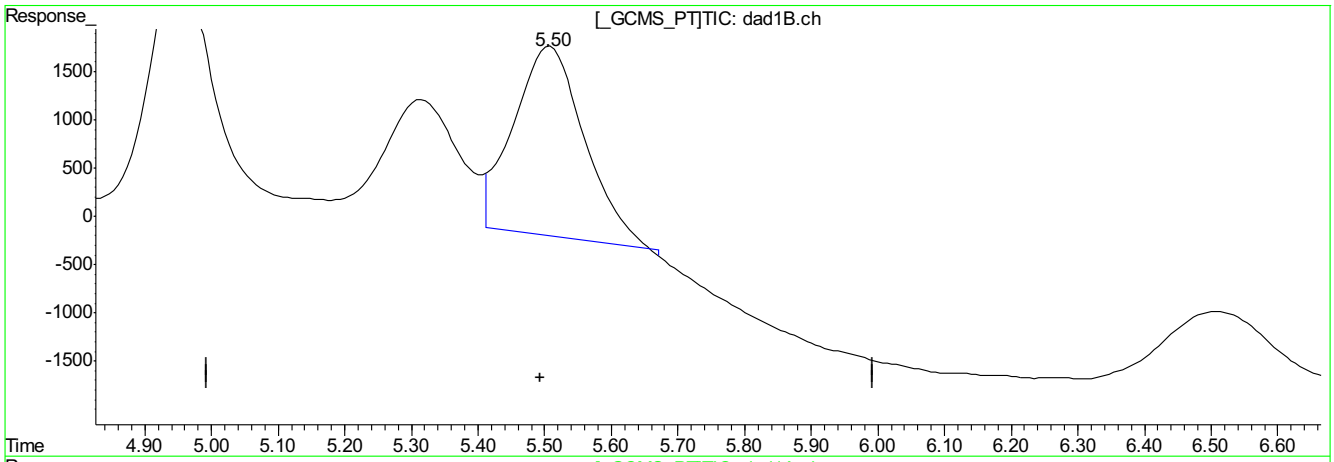
SGS ACCUTEST FA45759

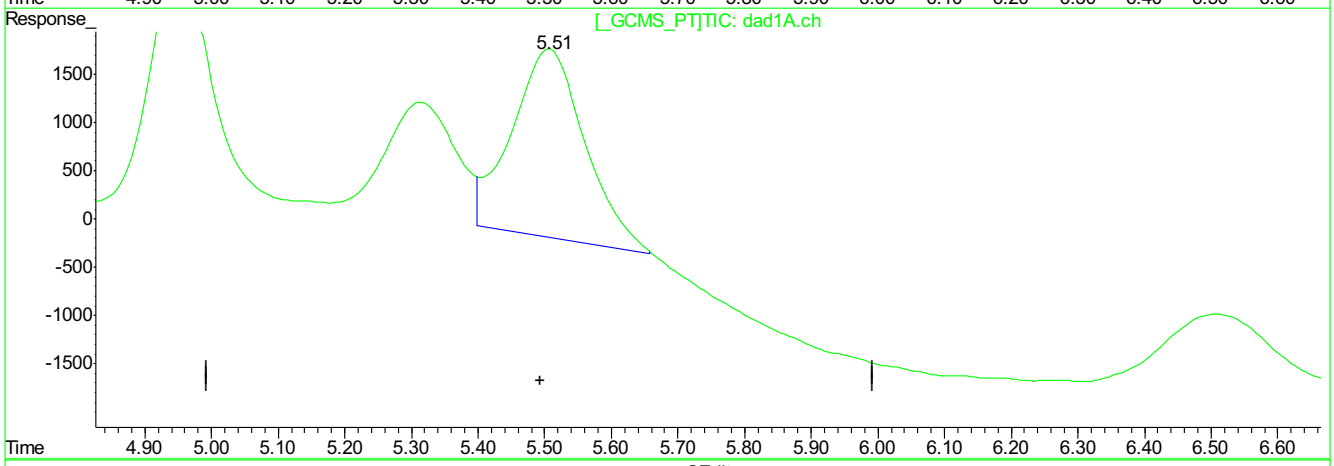
Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.50min 19.063ppb m

response 145919

(3) DNX #2

5.51min 20.145ppb m

response 149218

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:24 2017

9.5.14.7

9

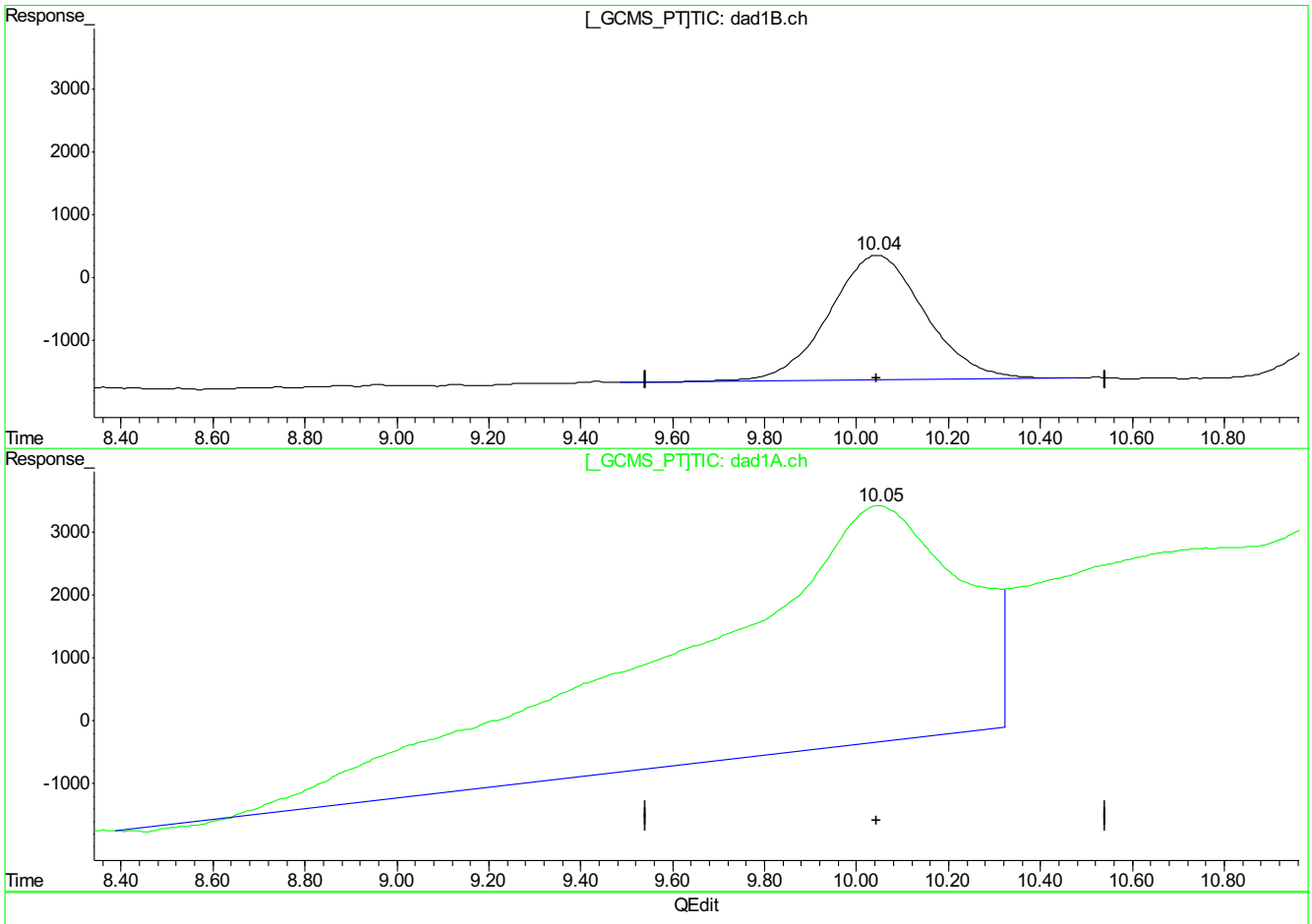
GG613488.D edits: DNX

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 22.397ppb

response 287302

(7) 1,3-Dinitrobenzene #2

10.05min 155.666ppb

response 1651405

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:39 2017

9.5.14.8

9

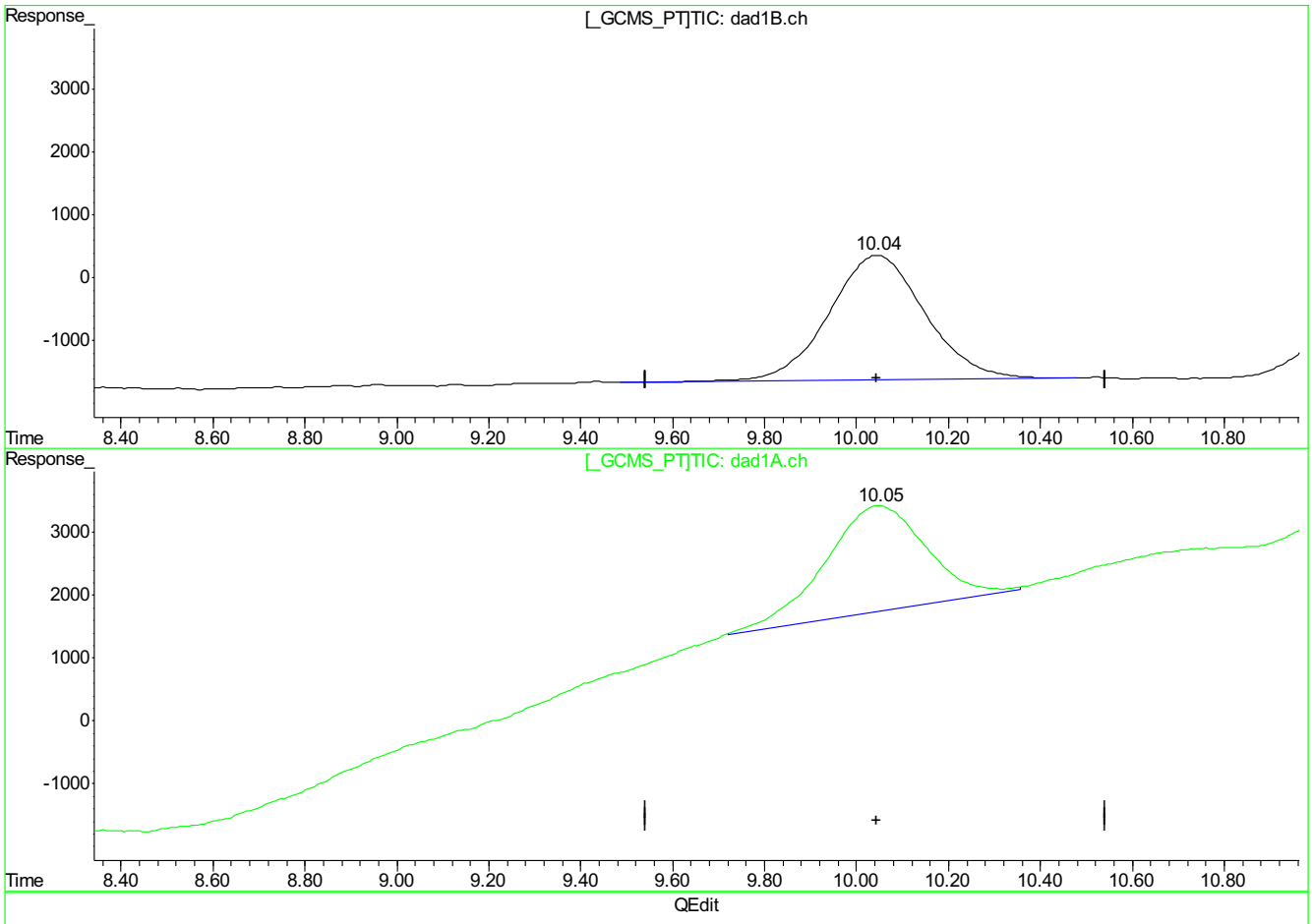
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 22.397ppb

response 287302

(7) 1,3-Dinitrobenzene #2

10.05min 24.216ppb m

response 257753

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:42 2017

9.5.14.9

9

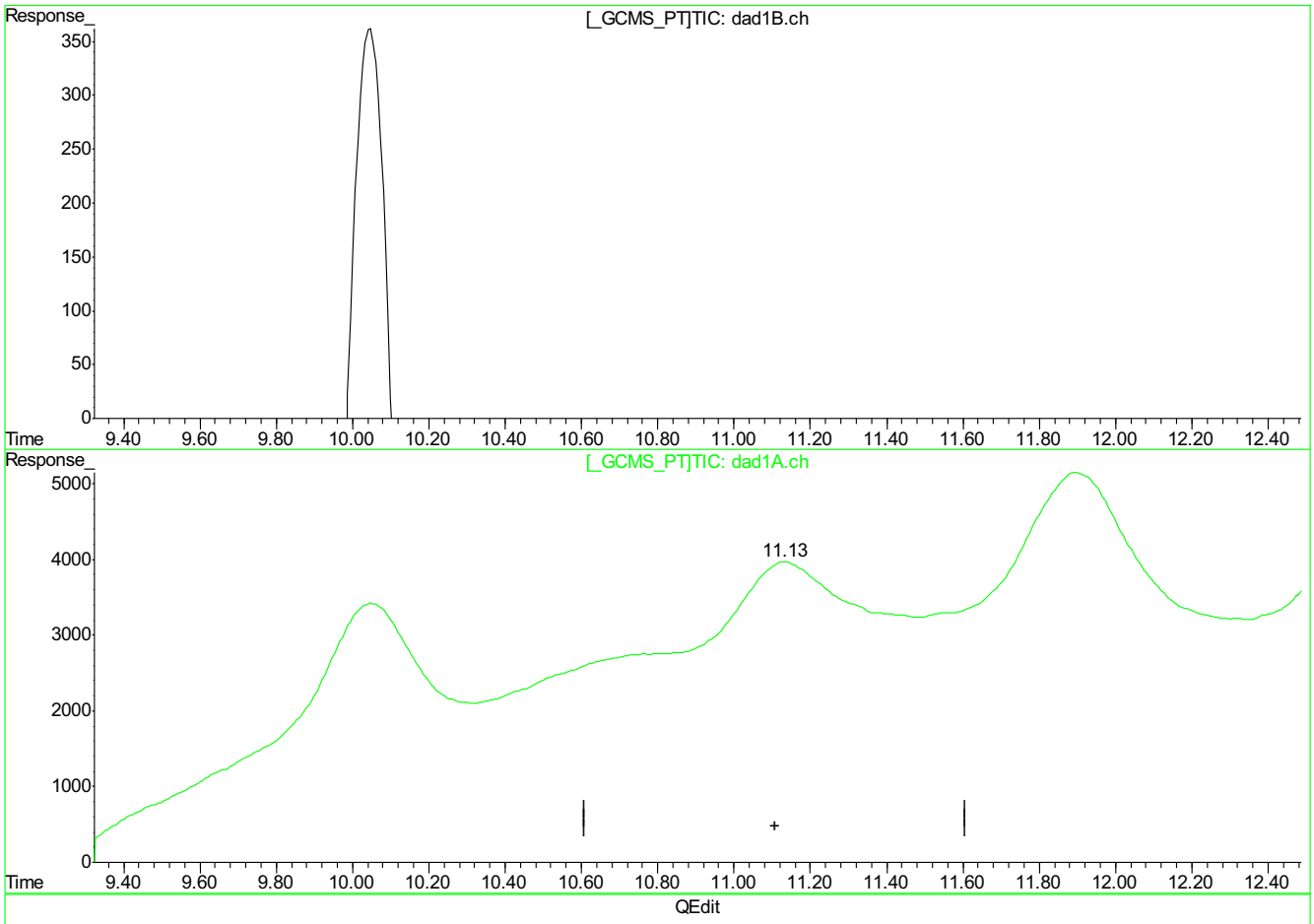
GG613488.D edits: 1,3-Dinitrobenzene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 23.025ppb

response 189522

(8) Nitrobenzene #2

11.13min 184.884ppb

response 1810229

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:50 2017

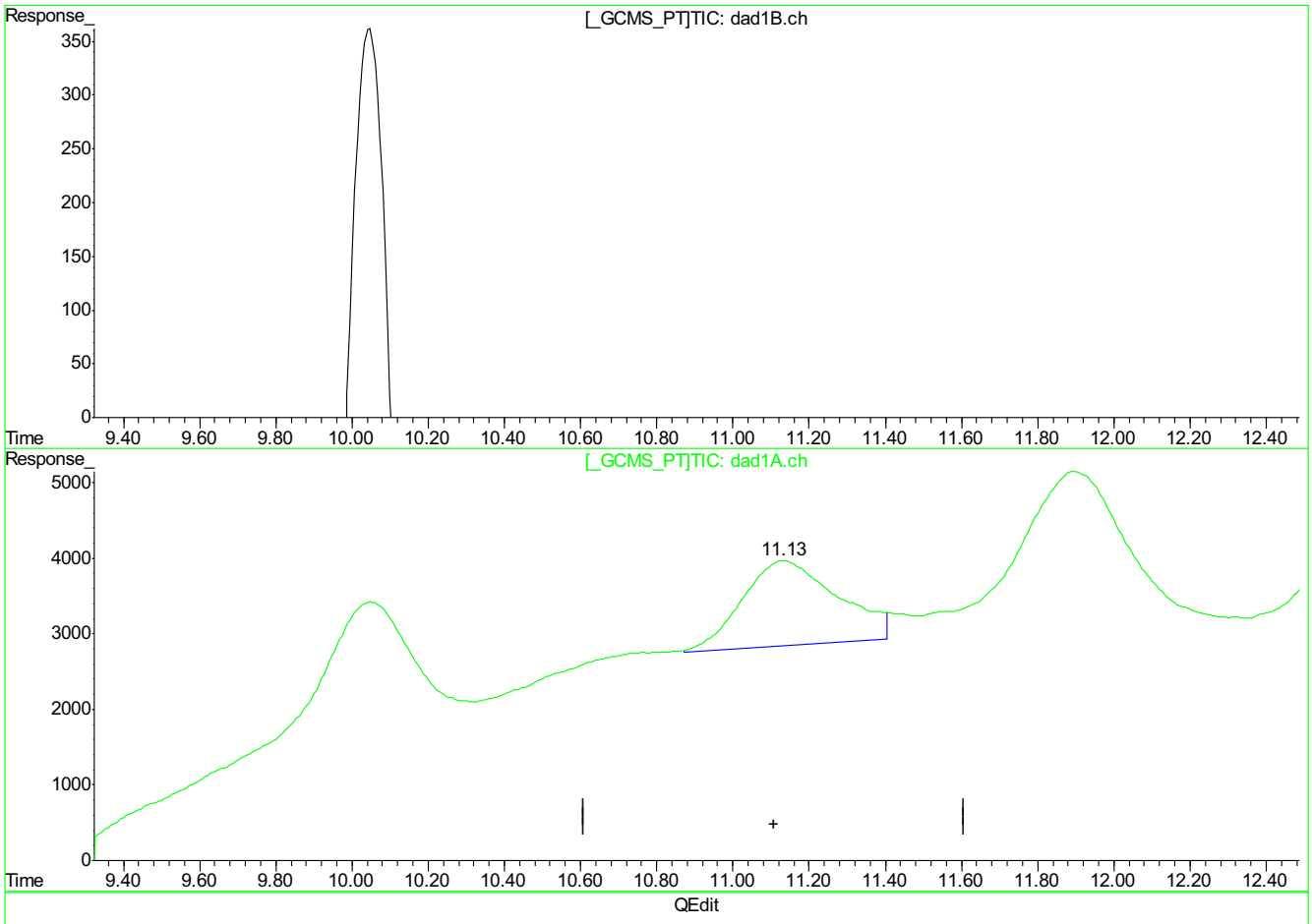
9.5.14.10
9

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 23.025ppb

response 189522

(8) Nitrobenzene #2

11.13min 19.391ppb m

response 192685

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:51:56 2017

9.5.14.11

9

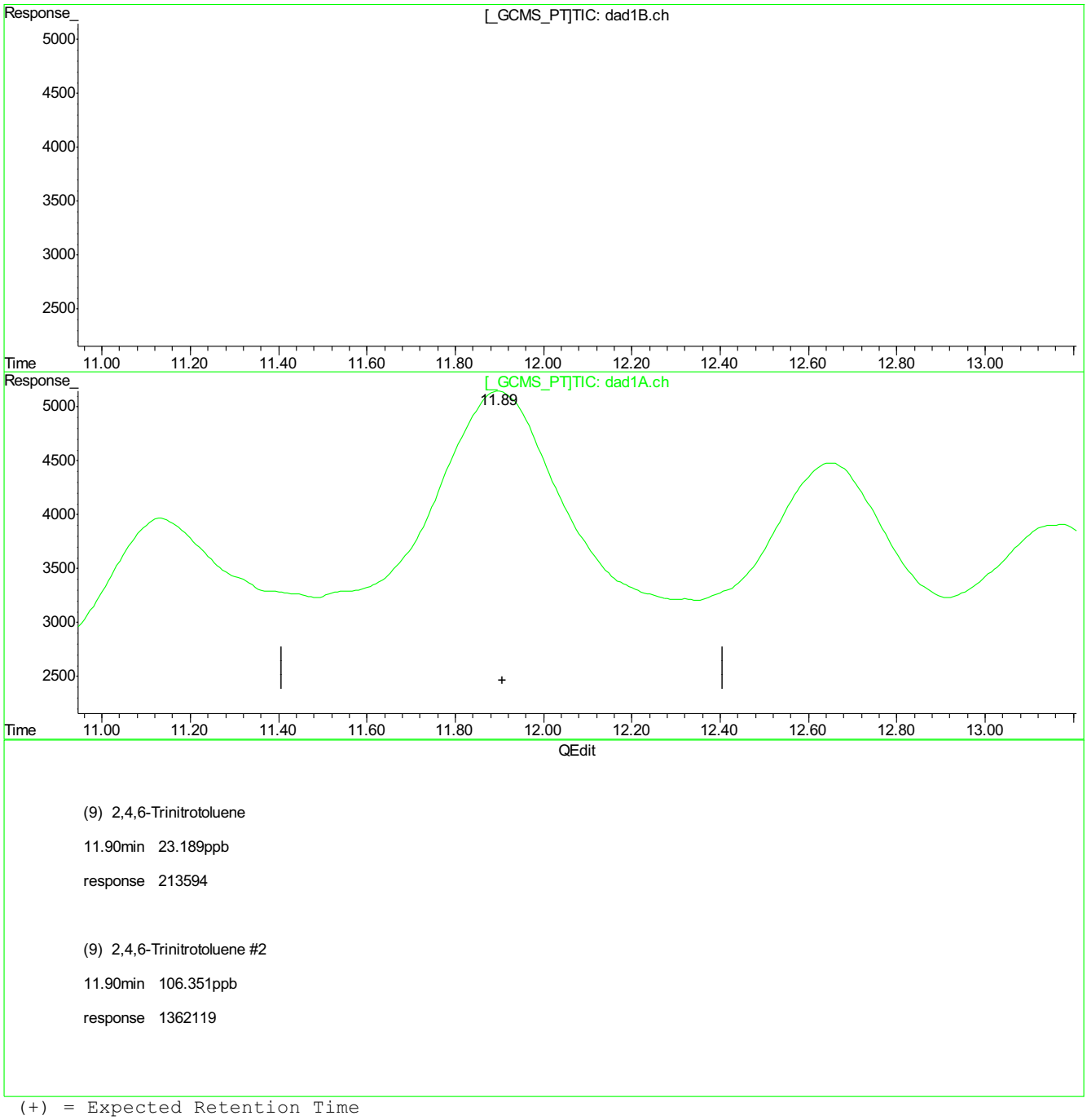
GG613488.D edits: Nitrobenzene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.90min 23.189ppb

response 213594

(9) 2,4,6-Trinitrotoluene #2

11.90min 106.351ppb

response 1362119

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:00 2017

9.5.14.12

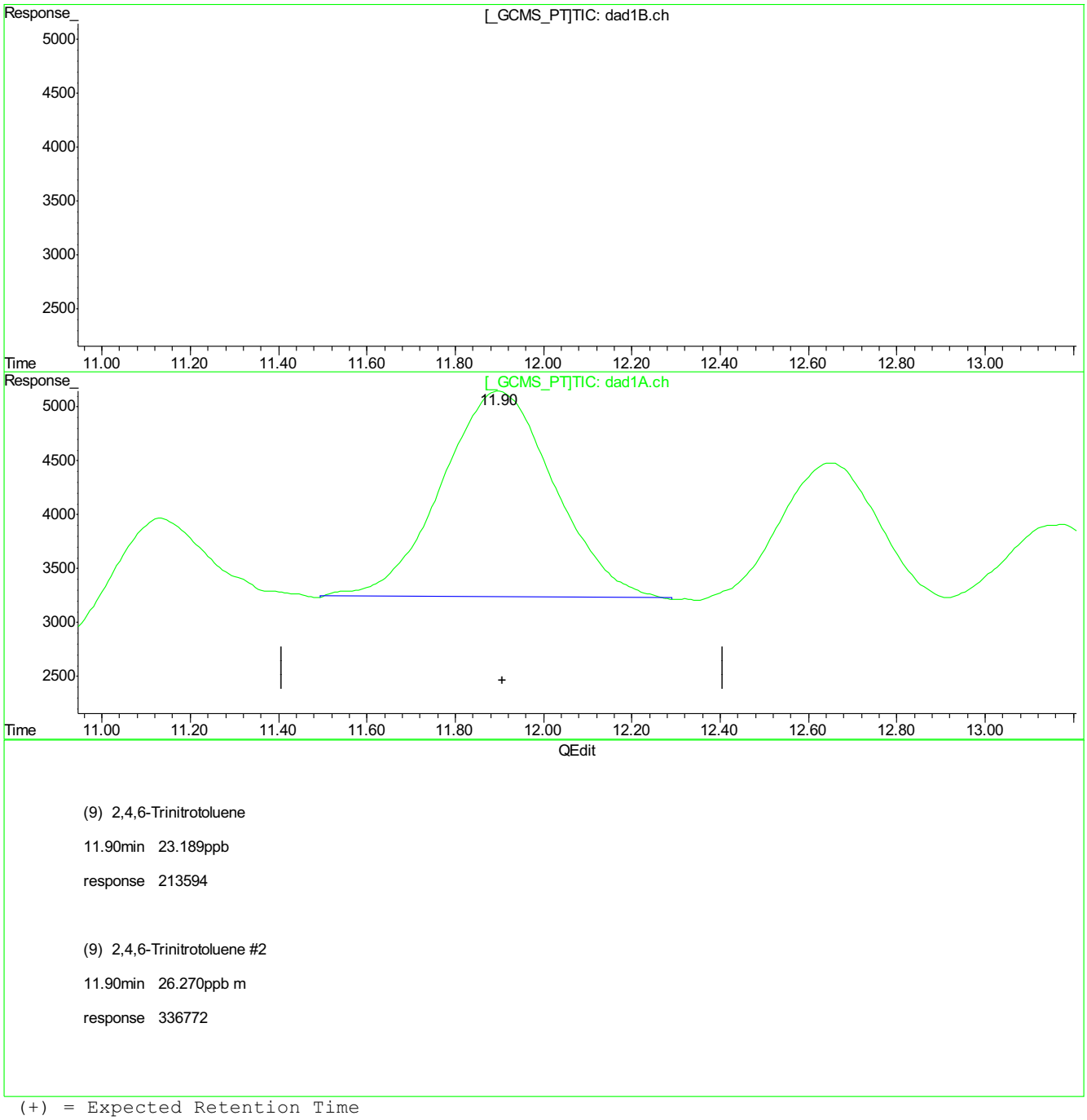
9

Cal Report: GG613488.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch         Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On    : 20-Jul-2017, 16:43:23                    Operator: evitam
Sample    : ic2548-20                                Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.90min 23.189ppb

response 213594

(9) 2,4,6-Trinitrotoluene #2

11.90min 26.270ppb m

response 336772

(+) = Expected Retention Time

GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:04 2017

9.5.14.13

9

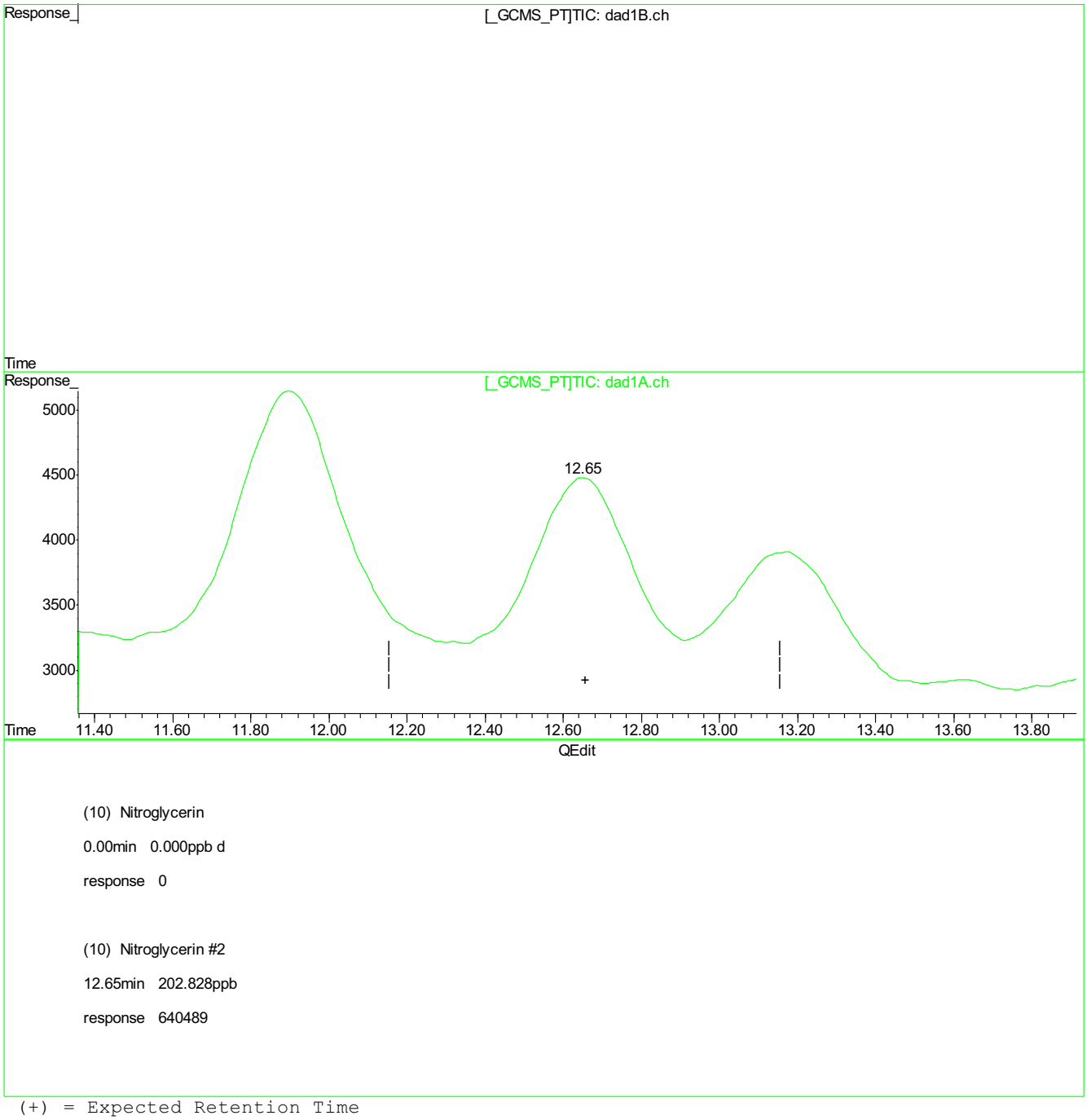
GG613488.D edits: 2,4,6-Trinitrotoluene

SGS ACCUTEST FA45759

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.65min 202.828ppb

response 640489

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:08 2017

9.5.14.14

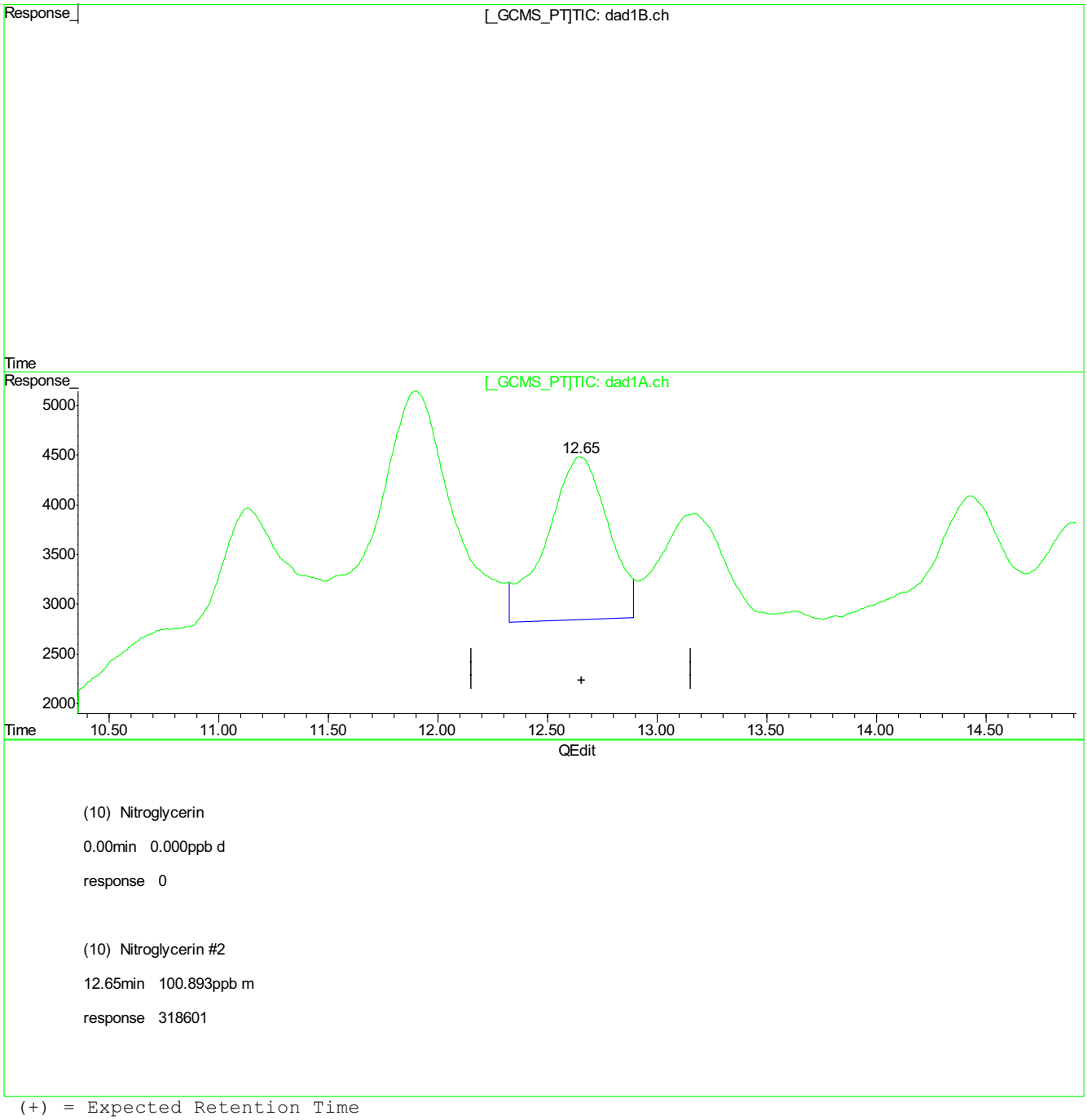
9

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.65min 100.893ppb m

response 318601

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:20 2017

9.5.14.15

9

GG613488.D edits: Nitroglycerin

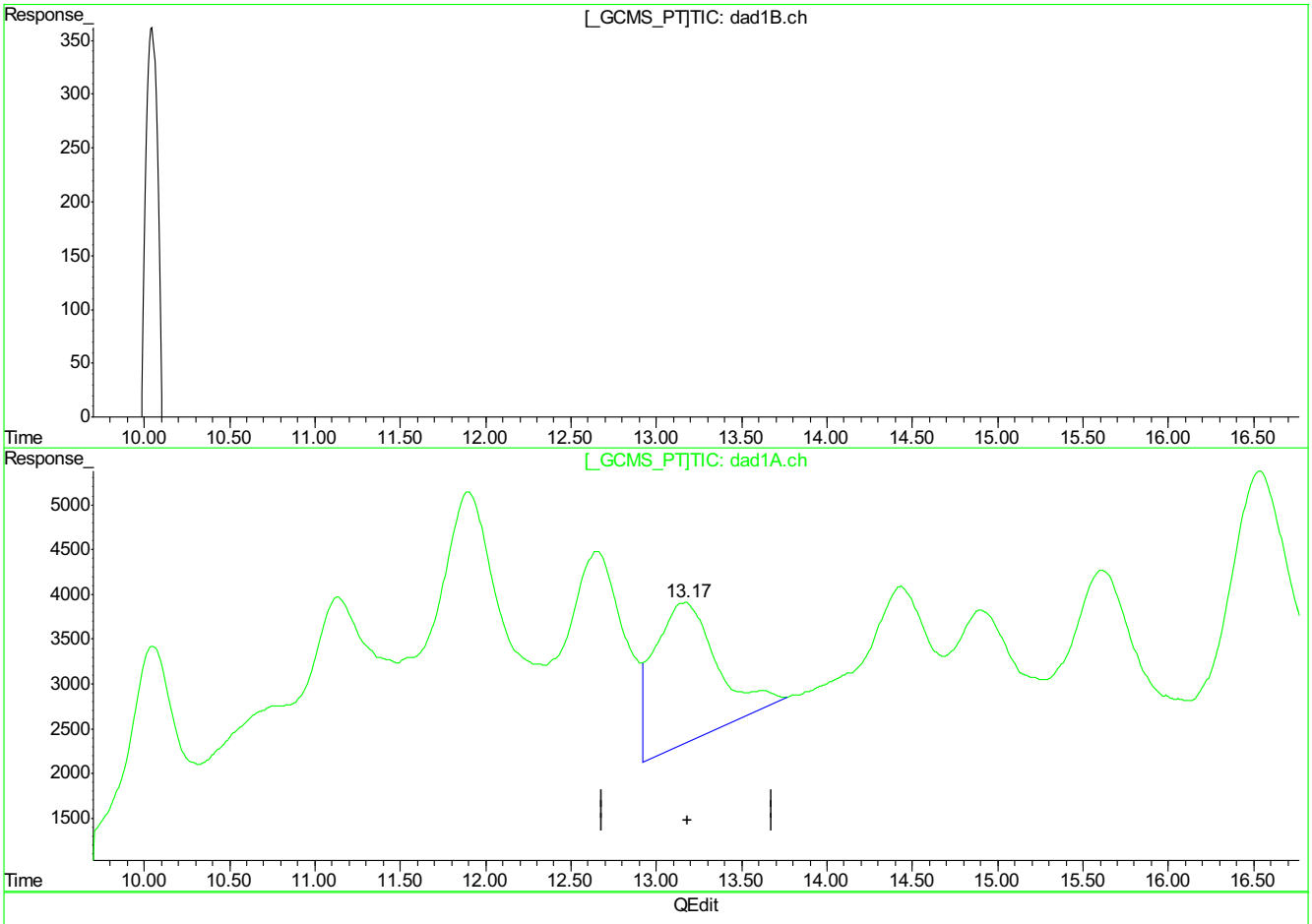
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 23.755ppb

response 144159

(11) Tetryl #2

13.17min 39.894ppb

response 404069

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:36 2017

9.5.14.16

9

GG613488.D edits: Tetryl

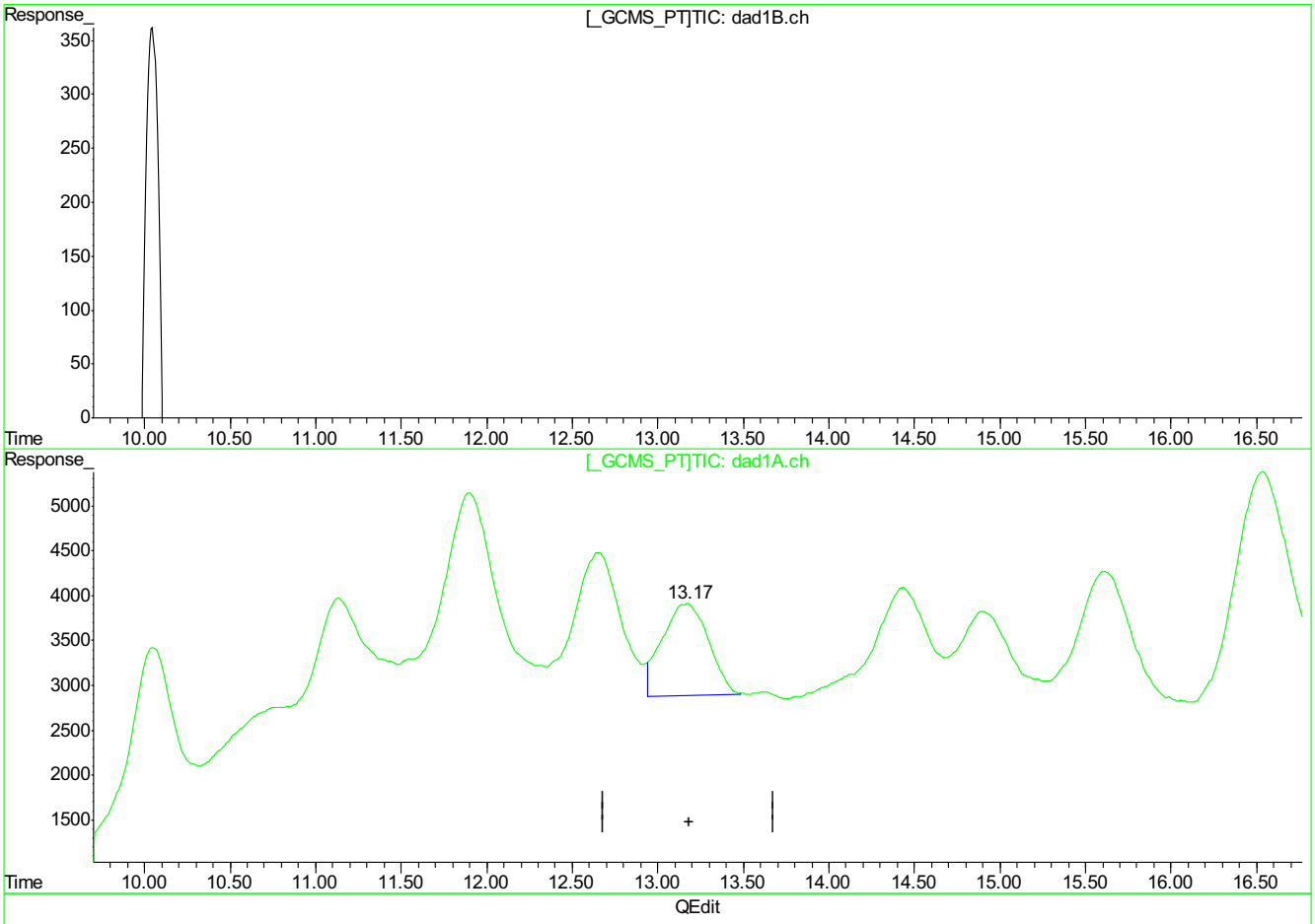
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 23.755ppb

response 144159

(11) Tetryl #2

13.17min 19.182ppb m

response 194422

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:42 2017

9.5.14.17

9

GG613488.D edits: Tetryl

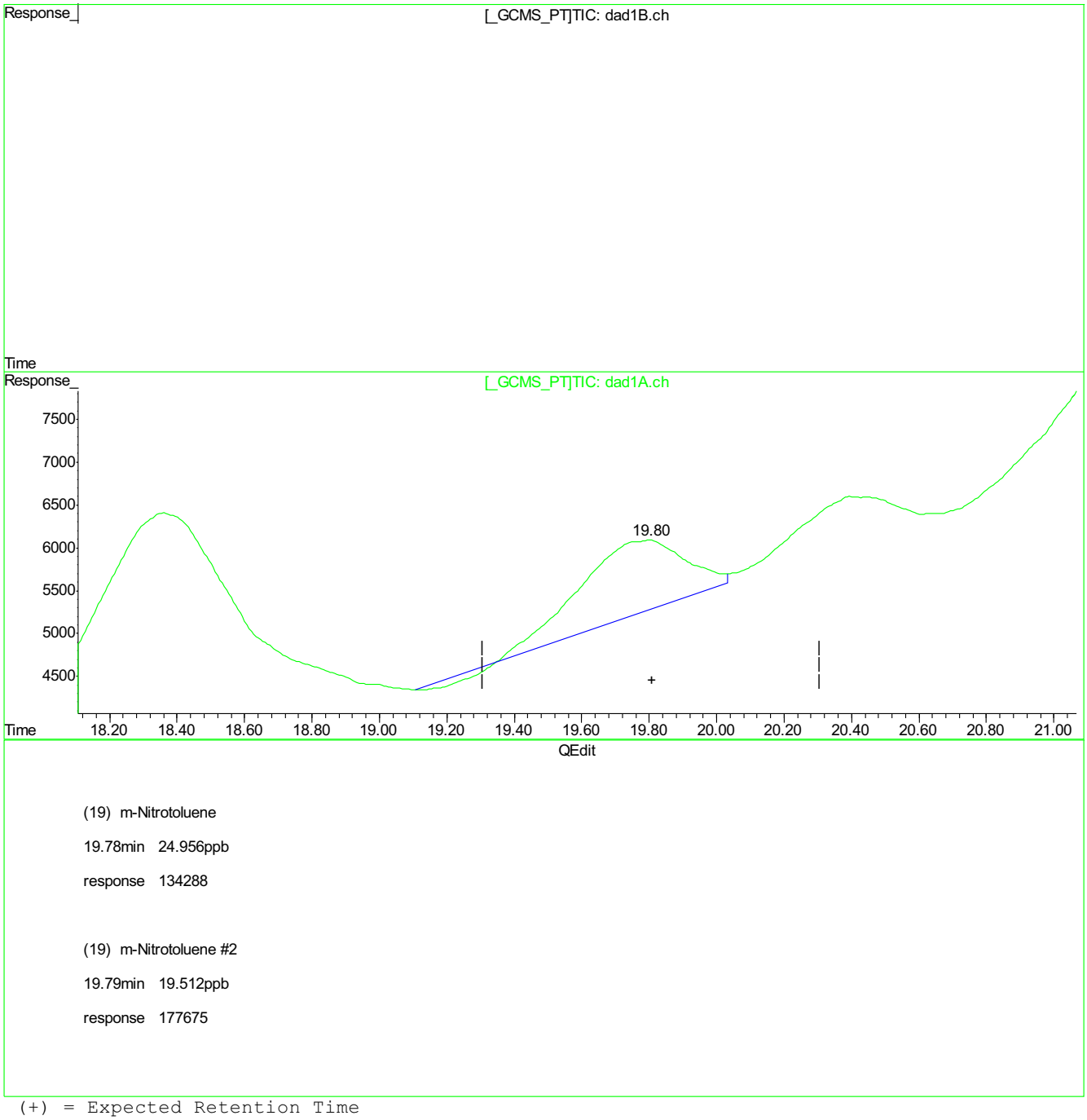
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.78min 24.956ppb

response 134288

(19) m-Nitrotoluene #2

19.79min 19.512ppb

response 177675

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:52:56 2017

9.5.14.18

9

GG613488.D edits: m-Nitrotoluene

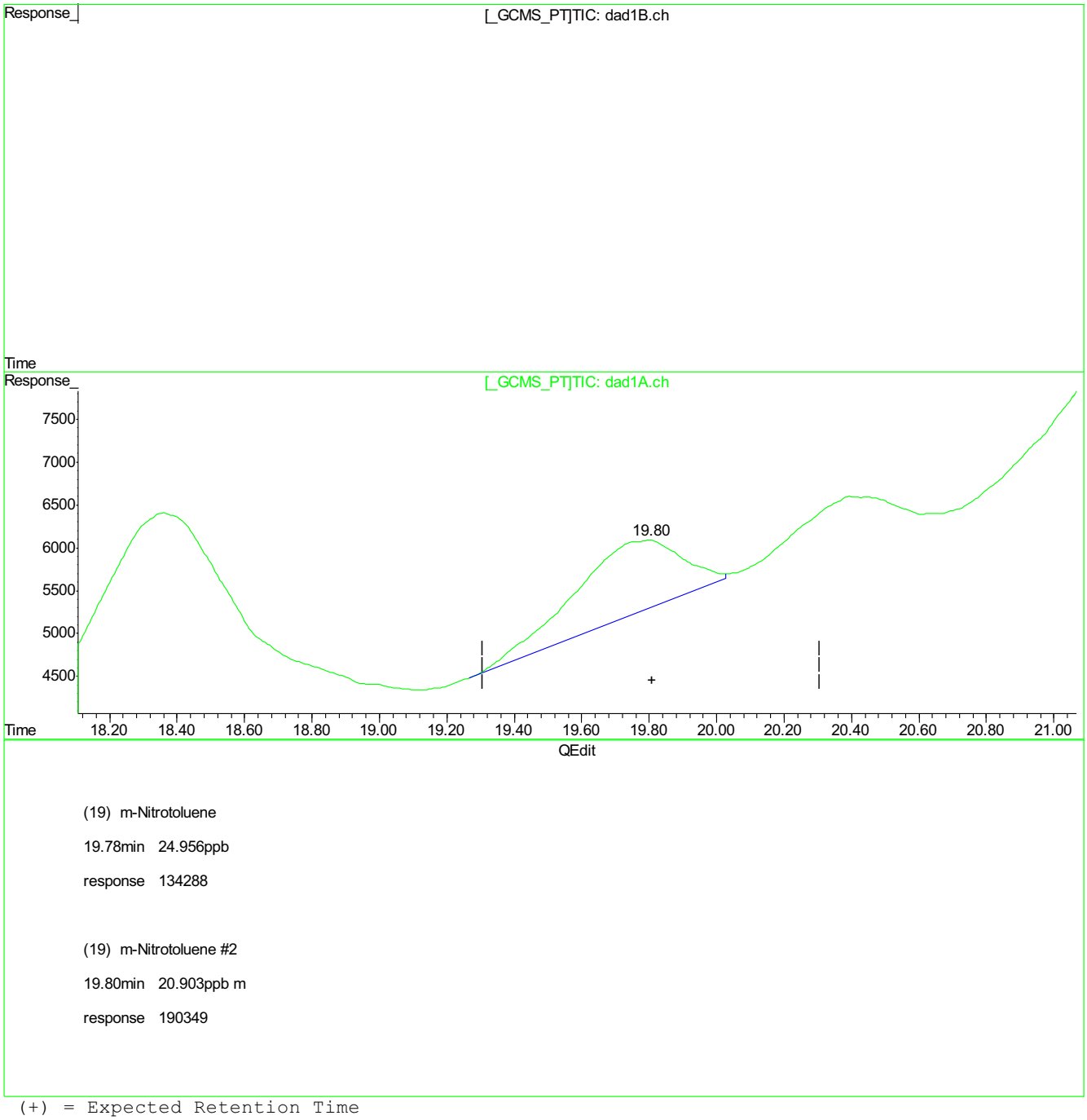
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.78min 24.956ppb

response 134288

(19) m-Nitrotoluene #2

19.80min 20.903ppb m

response 190349

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:00 2017

9.5.14.19

9

GG613488.D edits: m-Nitrotoluene

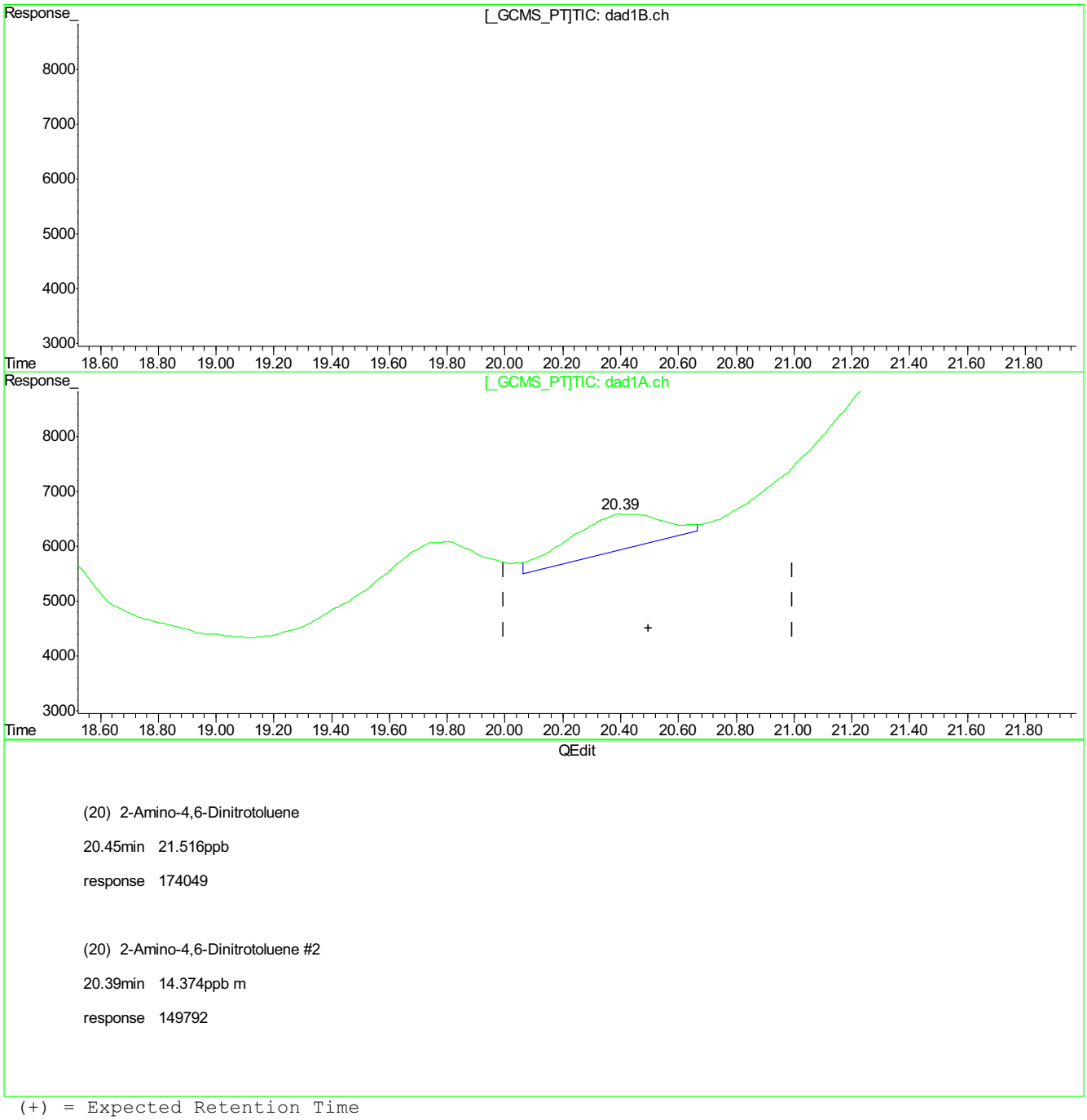
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.45min 21.516ppb

response 174049

(20) 2-Amino-4,6-Dinitrotoluene #2

20.39min 14.374ppb m

response 149792

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:10 2017

9.5.14.20

9

GG613488.D edits: 2-Amino-4,6-Dinitrotoluene

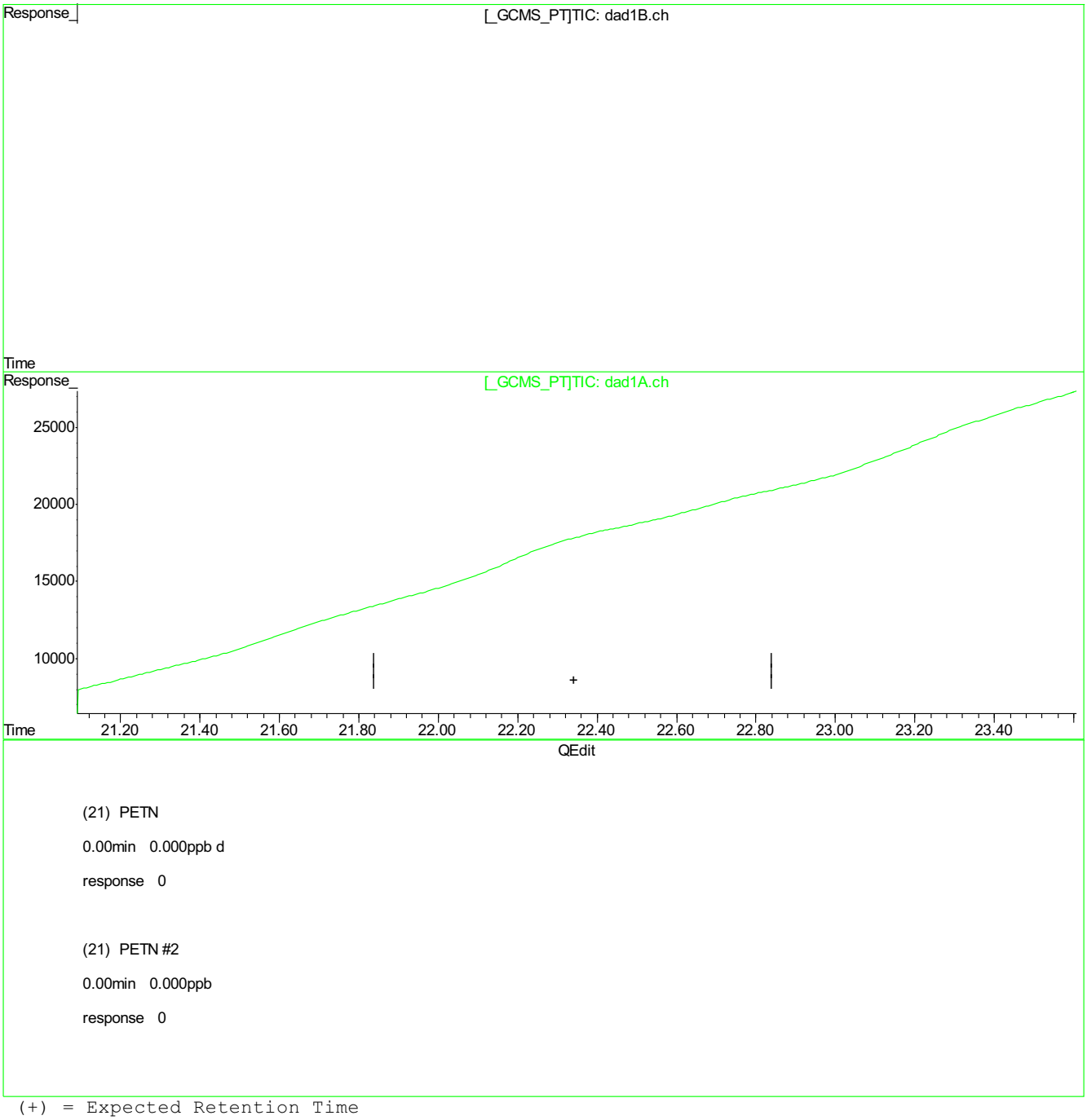
SGS ACCUTEST FA45759

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:13 2017

9.5.14.21

9

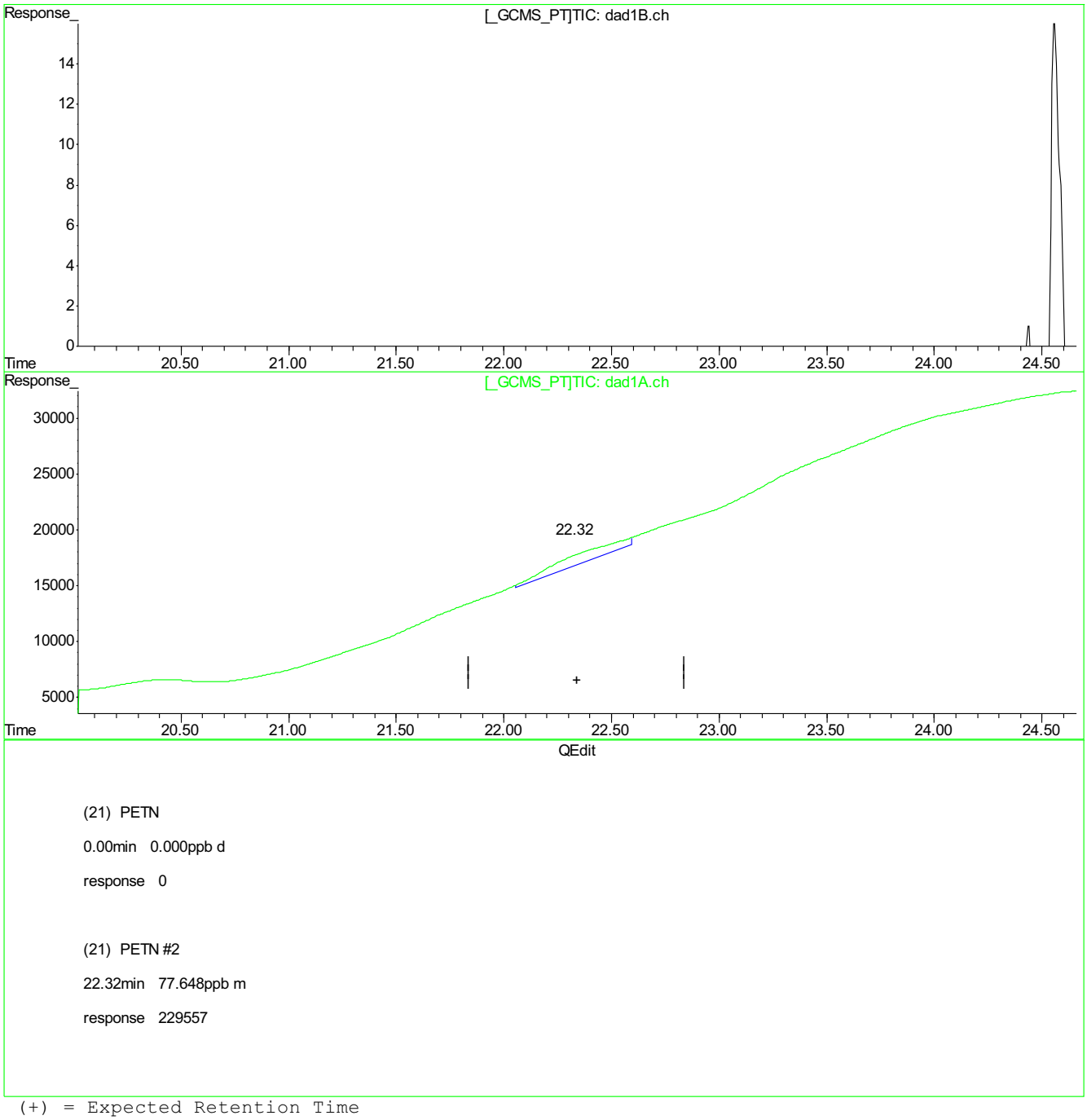
GG613488.D edits: PETN

Cal Report: GG613488.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613488.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0720RPB3\GG613488.D\dad1A.ch
Acq On : 20-Jul-2017, 16:43:23 Operator: evitam
Sample : ic2548-20 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:50 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 19 12:00:40 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
GG613488.D 8330RPB.M_0720M.M Mon Jul 24 10:53:53 2017

9.5.14.22

9

GG613488.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613489.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54:23 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.44	14.43	306777	578914	56.987	52.672m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		11.40%#	10.53%#
	Target Compounds						
1)	TNX	4.95	4.95	436932	441320	55.669m	56.238m
2)	HMX	5.32	5.32	200680	195096	62.521m	61.029m
3)	DNX	5.51	5.51	354419	372131	47.884m	50.306m
4)	MNX	6.52	6.52	263403	263403	54.278	54.225
5)	1,3,5-Trinitrobe	7.56	7.56	564728	575875	60.029m	61.214
6)	RDX	7.90	7.90	268054	268054	61.941	61.941
7)	1,3-Dinitrobenze	10.05	10.05	763882	541791	58.313	50.935m
8)	Nitrobenzene	11.12	11.11	481631	448850	54.996	45.255m
9)	2,4,6-Trinitroto	11.91	11.91	541383	660716	56.898	51.505m
10)	Nitroglycerin	0.00	12.66	0	737575	N.D. d	233.302m
11)	Tetryl	13.19	13.19	423066	625210	68.621	61.797m
13)	2,6-Dinitrotolue	14.92	14.91	374648	483905	59.718	52.935m
14)	2,4-Dinitrotolue	15.62	15.62	710232	527592	59.200	56.658m
15)	o-Nitrotoluene	17.34	17.35	309376	481554	58.374	62.975
16)	3,5-Dinitroanili	16.55	16.56	1406852	2346061	126.717	128.799
17)	p-Nitrotoluene	18.40	18.39	636474	1107130	57.822	56.453
18)	4-Amino-2,6-Dini	18.40	18.39	636474	1107130	57.822	56.453
19)	m-Nitrotoluene	19.79	19.78	318927	411425	56.593	45.159
20)	2-Amino-4,6-Dini	20.47	20.48	483926	494528	59.735	47.327
21)	PETN	0.00	22.36	0	759774	N.D. d	256.412m

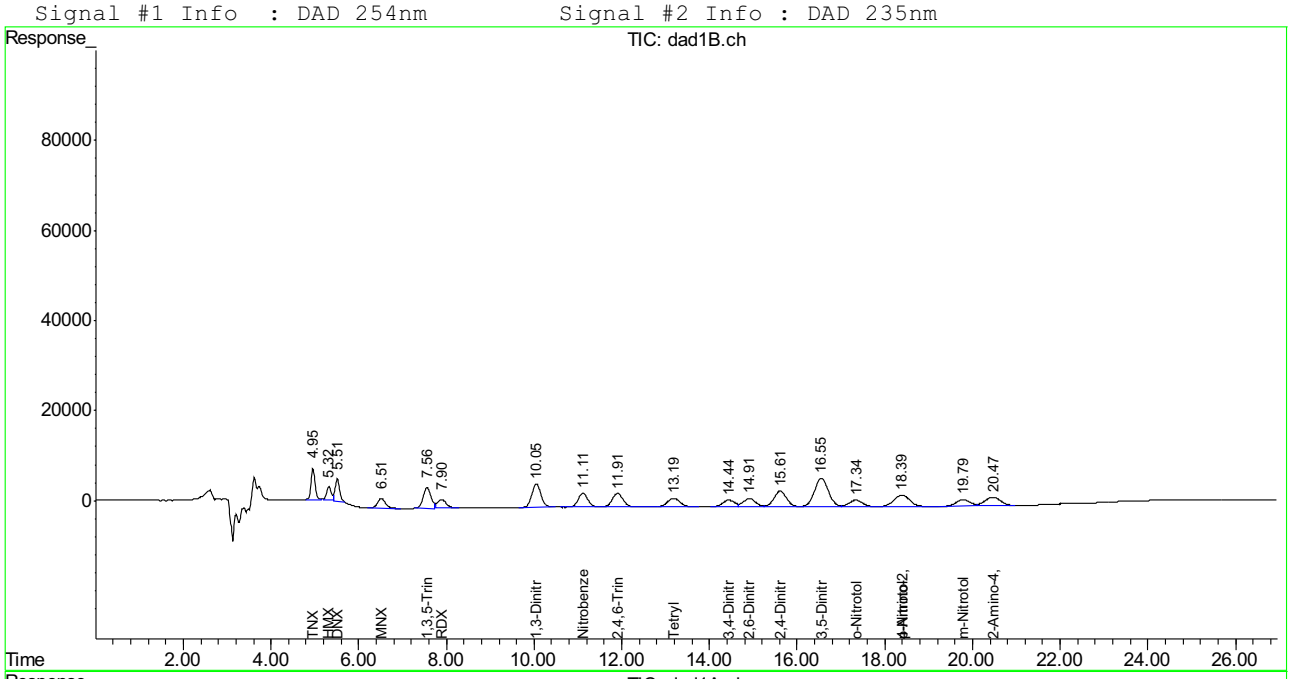
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 13:56:31 2017 Page 1

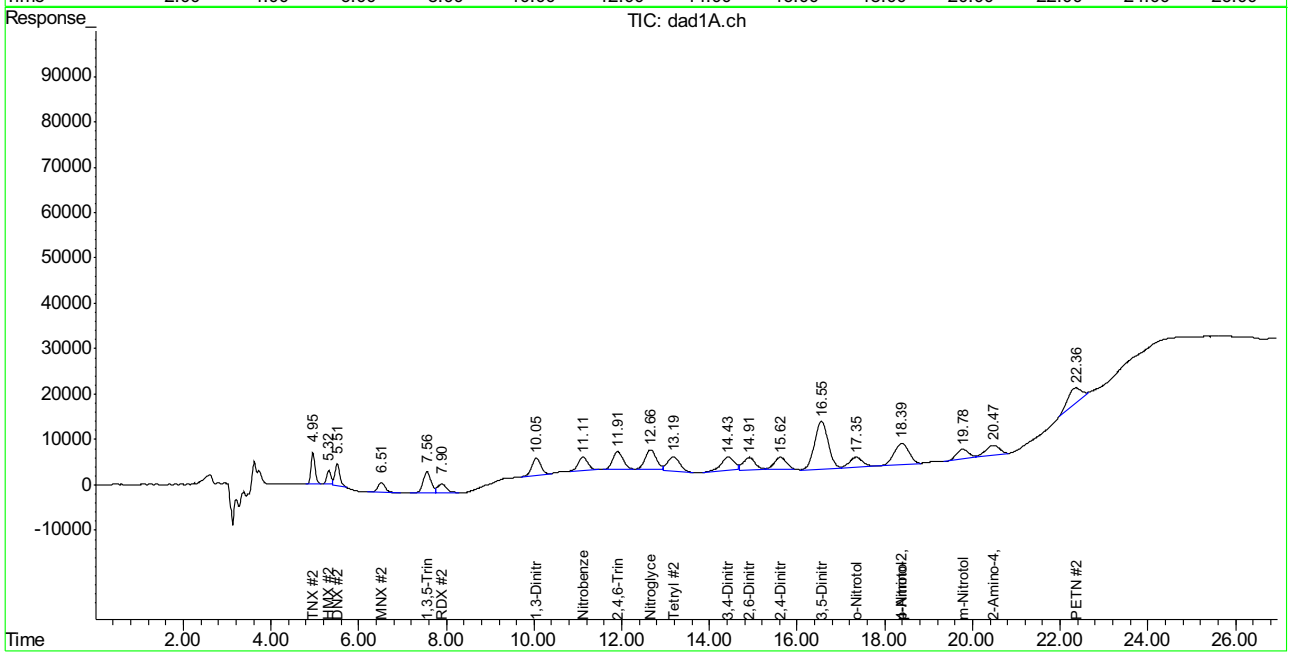
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613489.D
Injection Time: 07/20/17 17:12
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

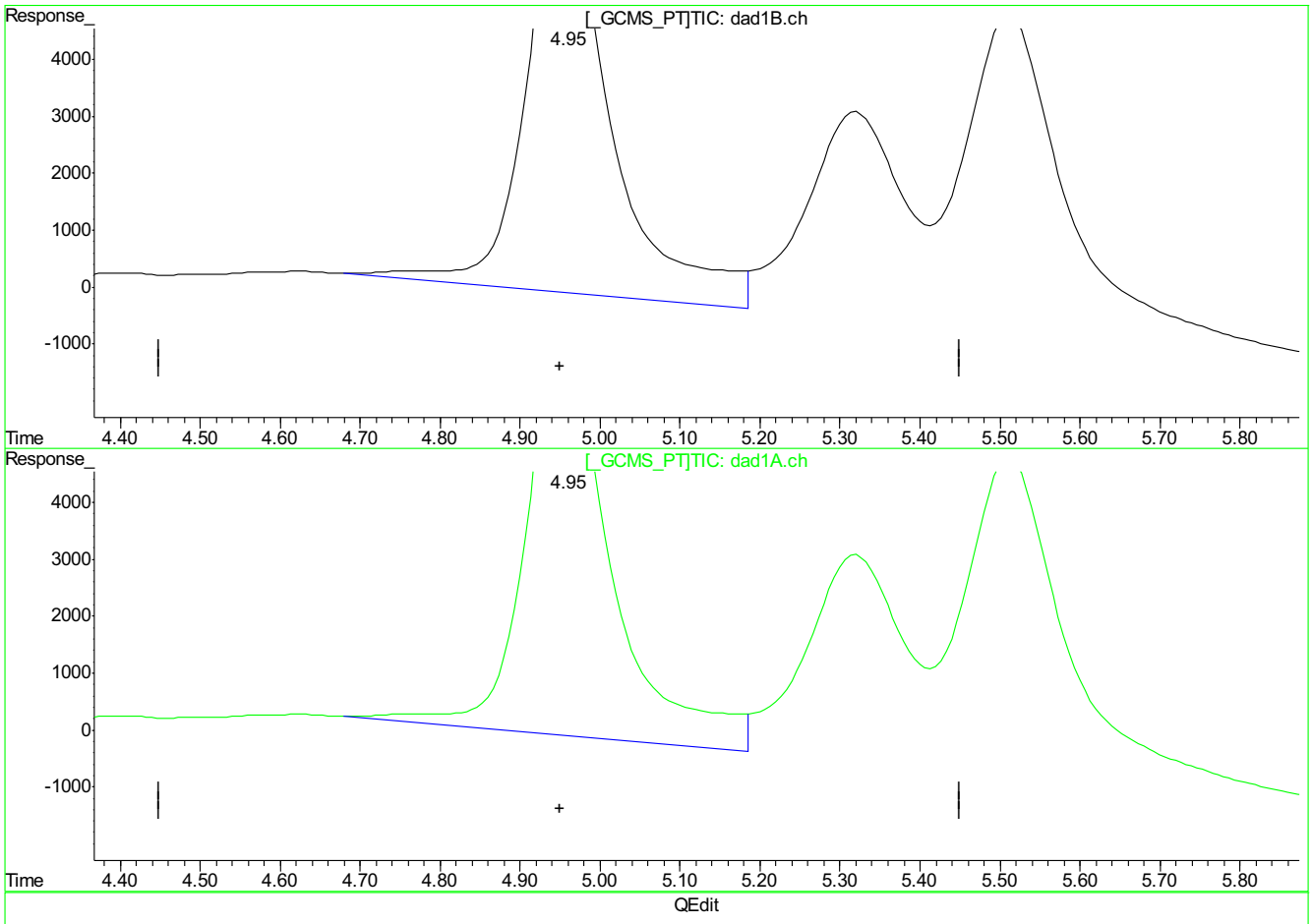
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
HMX	2691-41-0	1	5.32	Poorly defined baseline
HMX	2691-41-0	2	5.32	Poorly defined baseline
DNX		1	5.51	Poorly defined baseline
DNX		2	5.51	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	7.56	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.11	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.91	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.66	Poorly defined baseline
Tetryl	479-45-8	2	13.19	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.43	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.91	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	15.62	Poorly defined baseline
PETN	78-11-5	2	22.36	Poorly defined baseline

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(1) TNX

4.96min 67.344ppb

response 528567

(1) TNX #2

4.96min 67.356ppb

response 528567

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:29 2017

9.5.15.2

9

GG613489.D edits: TNX

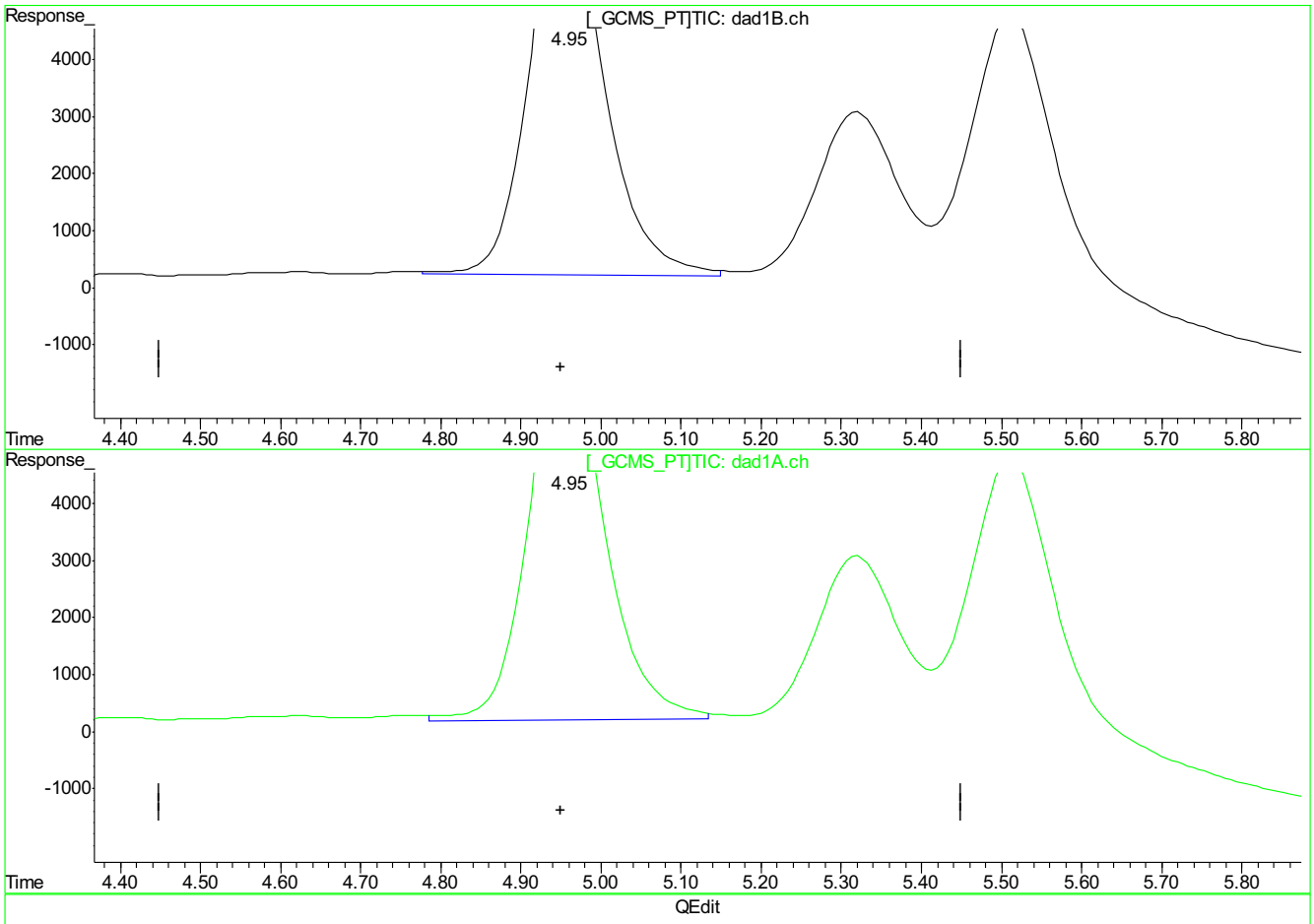
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



QEdit

(1) TNX

4.95min 55.669ppb m

response 436932

(1) TNX #2

4.95min 56.238ppb m

response 441320

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:34 2017

9.5.15.3

9

GG613489.D edits: TNX

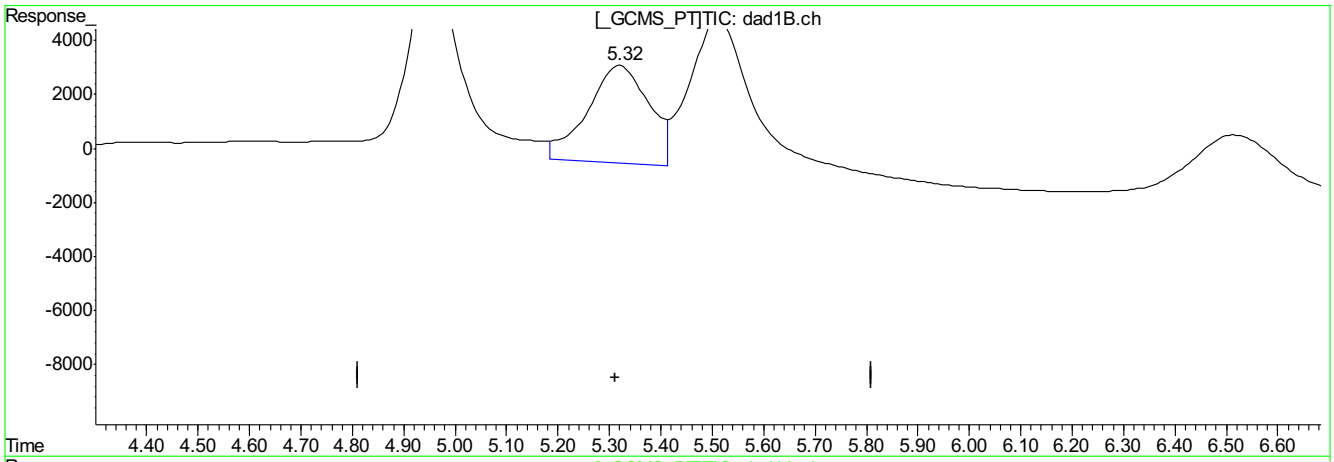
SGS ACCUTEST FA45759

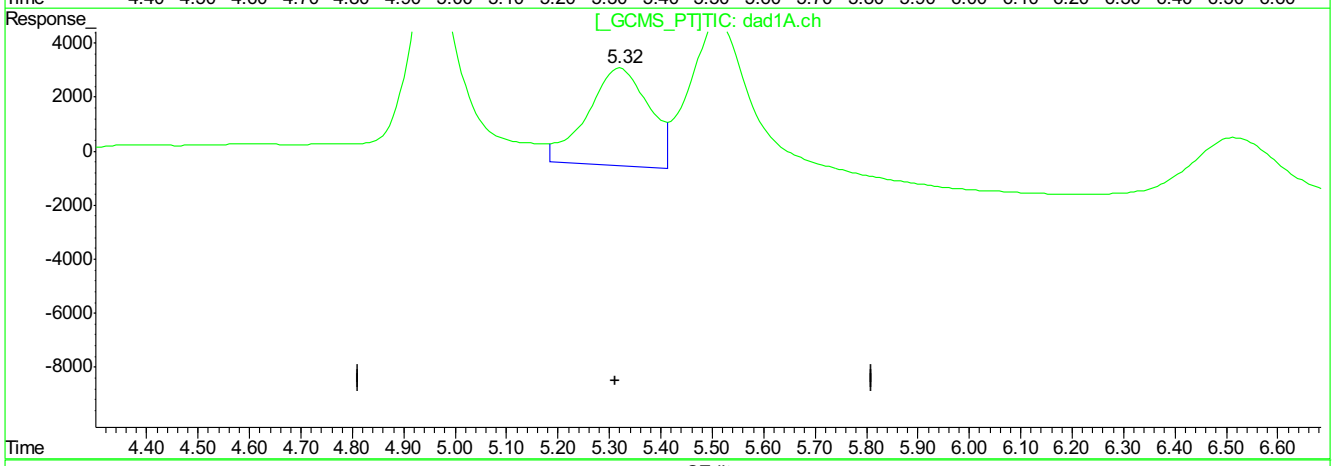
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 93.623ppb

response 300513

(2) HMX #2

5.32min 94.005ppb

response 300513

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:41 2017

9.5.15.4

9

GG613489.D edits: HMX

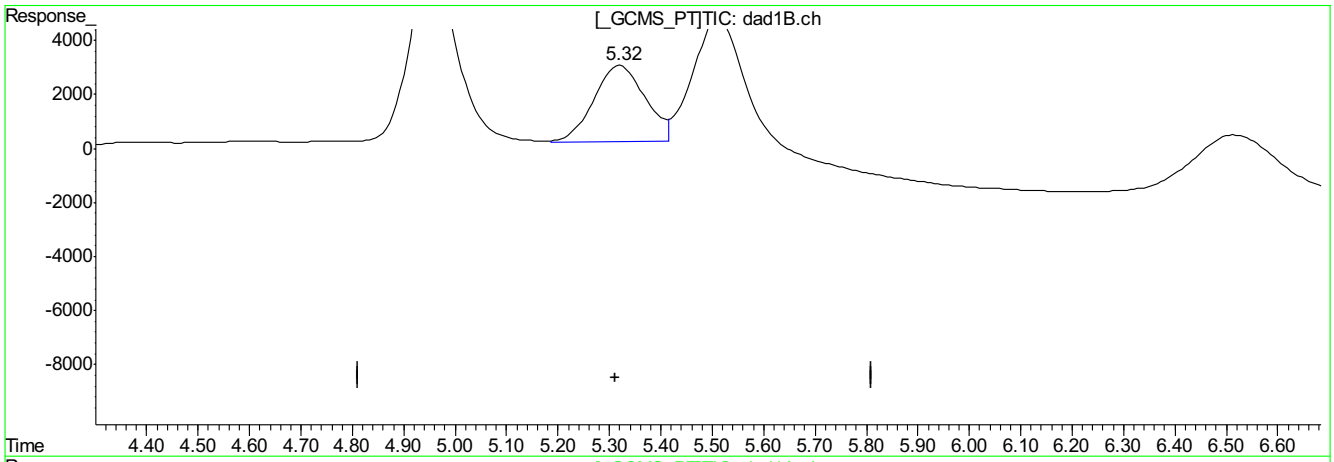
SGS ACCUTEST FA45759

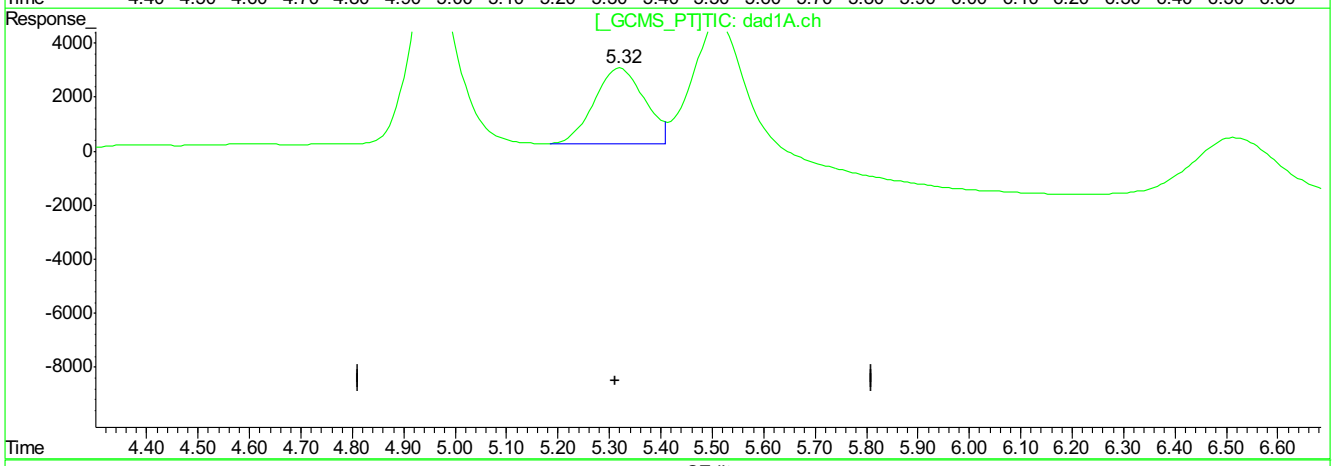
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 62.521ppb m

response 200680

(2) HMX #2

5.32min 61.029ppb m

response 195096

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:47 2017

9.5.15.5

9

GG613489.D edits: HMX

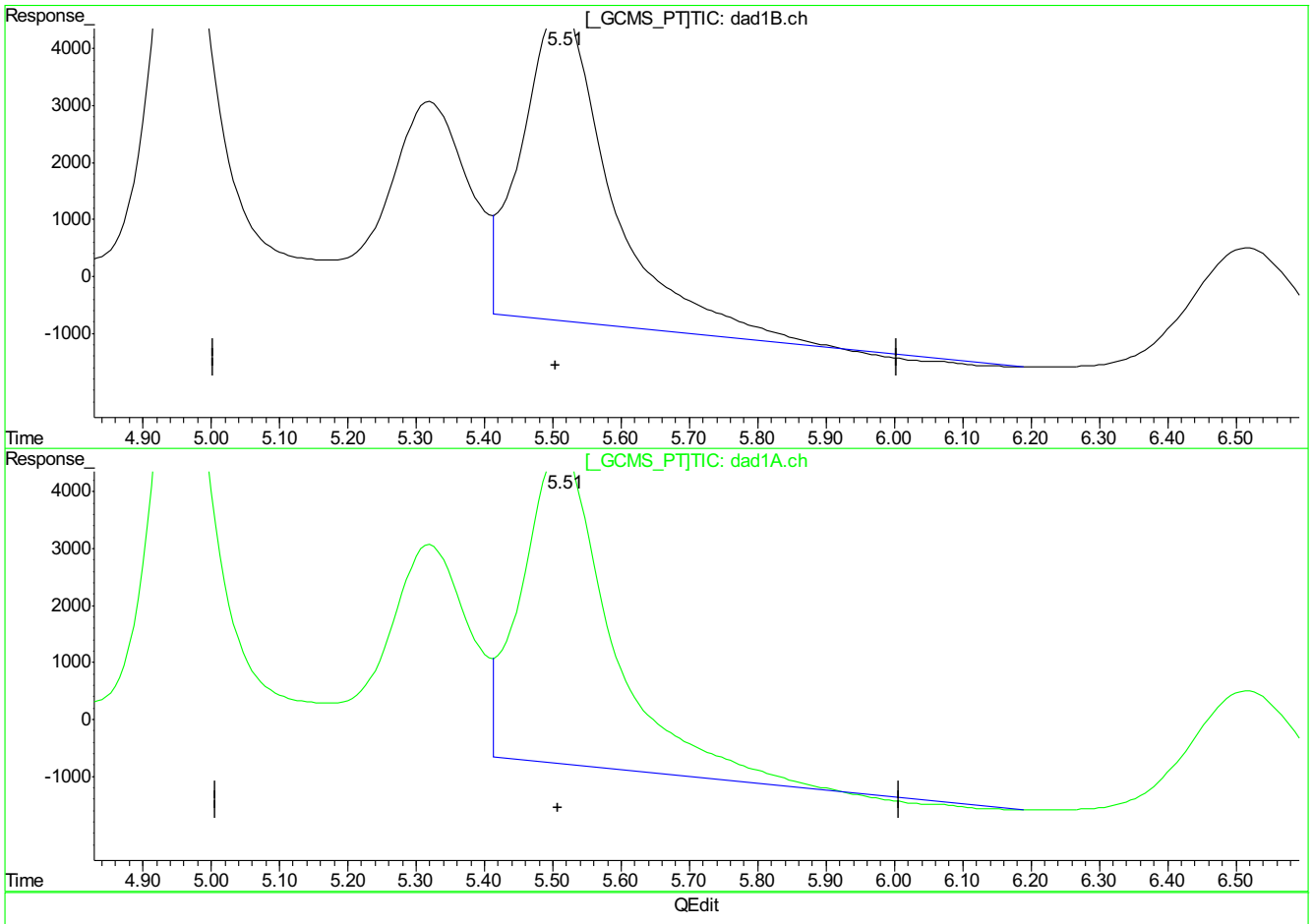
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(3) DNX

5.51min 67.287ppb

response 498033

(3) DNX #2

5.51min 67.361ppb

response 498033

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:54:51 2017

9.5.15.6

9

GG613489.D edits: DNX

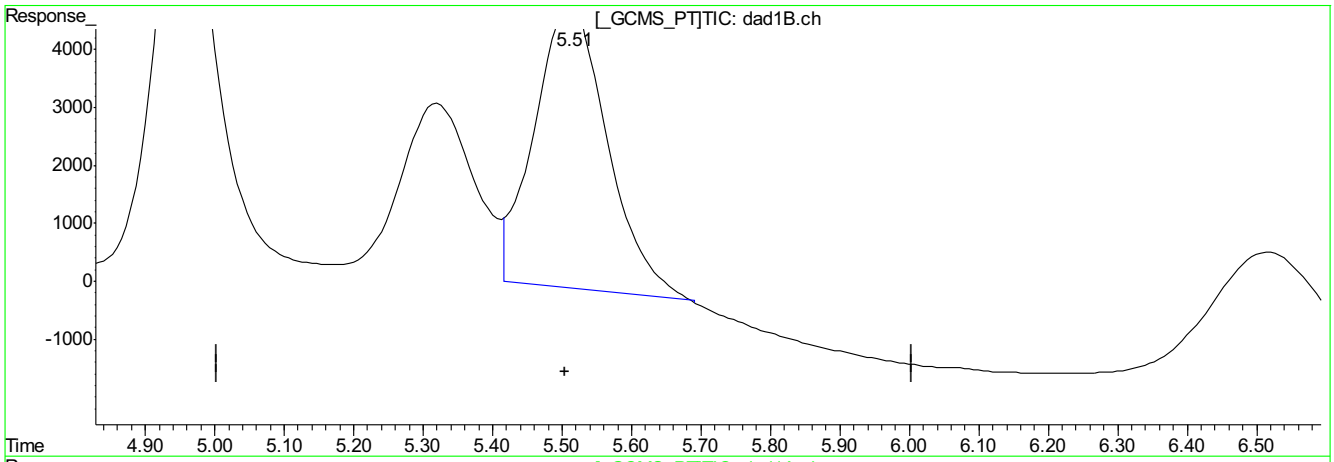
SGS ACCUTEST FA45759

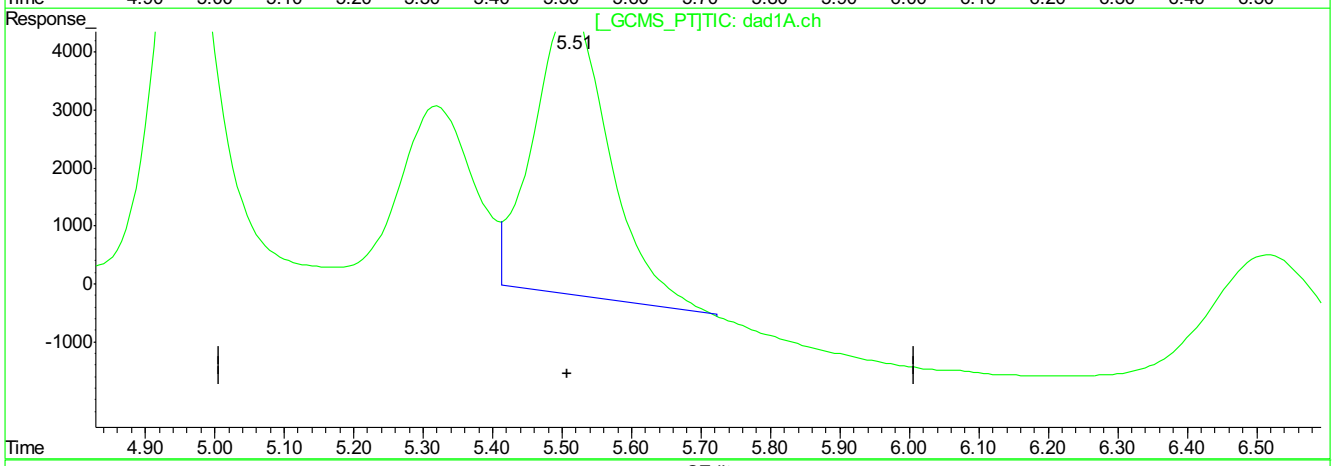
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.51min 47.884ppb m

response 354419

(3) DNX #2

5.51min 50.306ppb m

response 372131

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:05 2017

9.5.15.7

9

GG613489.D edits: DNX

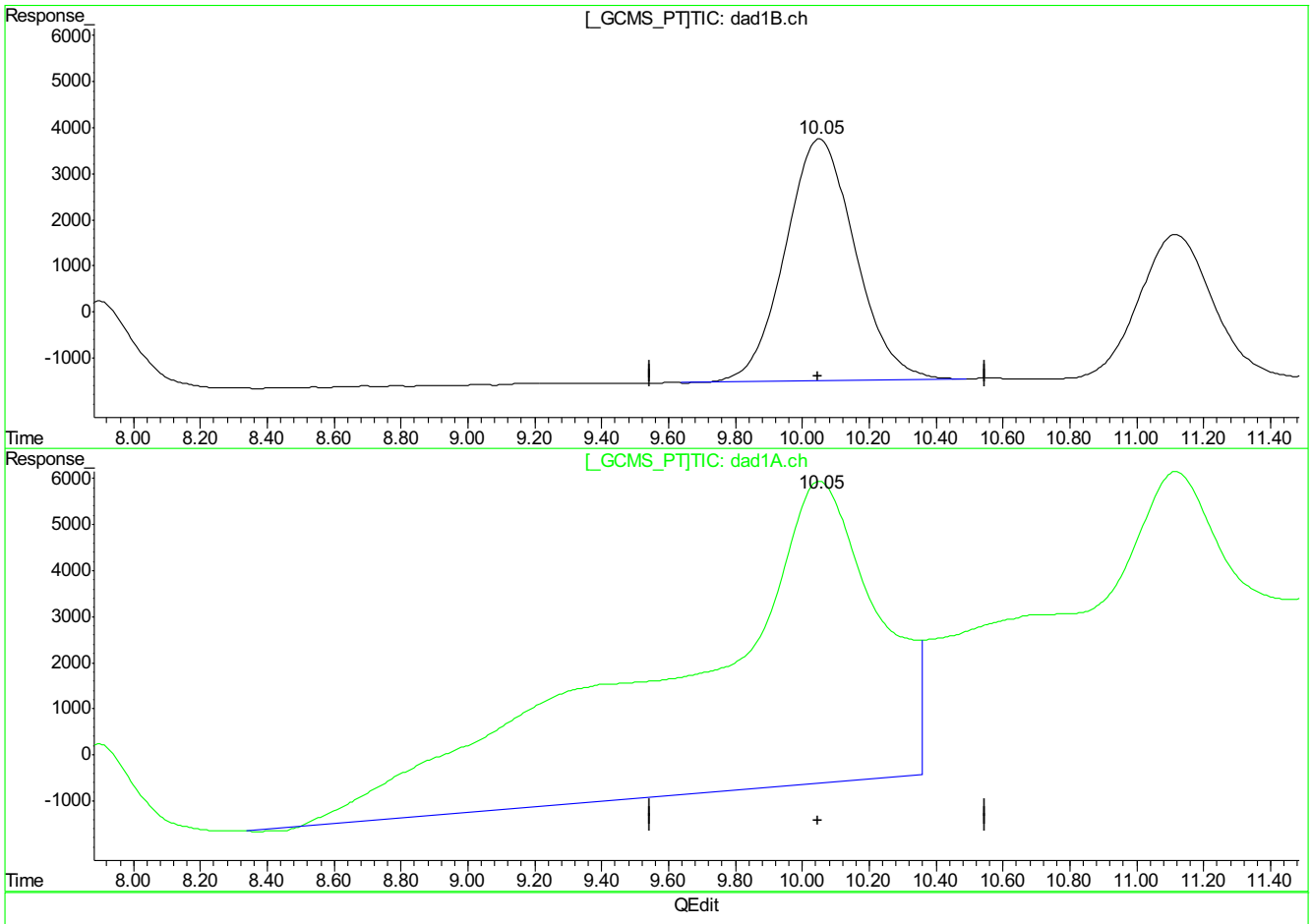
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 58.313ppb

response 763882

(7) 1,3-Dinitrobenzene #2

10.05min 264.762ppb

response 2801042

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:22 2017

9.5.15.8

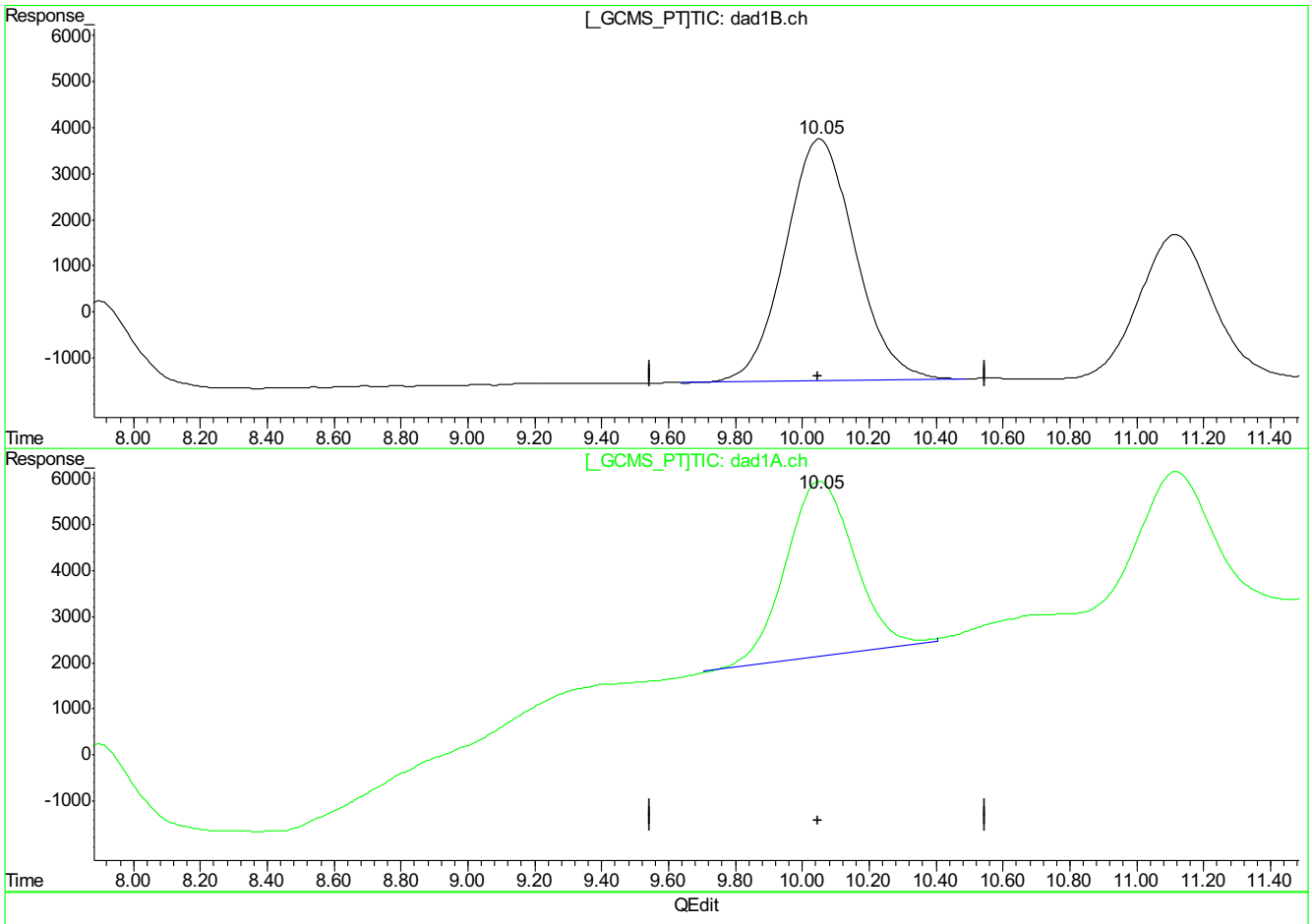
9

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 58.313ppb

response 763882

(7) 1,3-Dinitrobenzene #2

10.05min 50.935ppb m

response 541791

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:26 2017

9.5.15.9

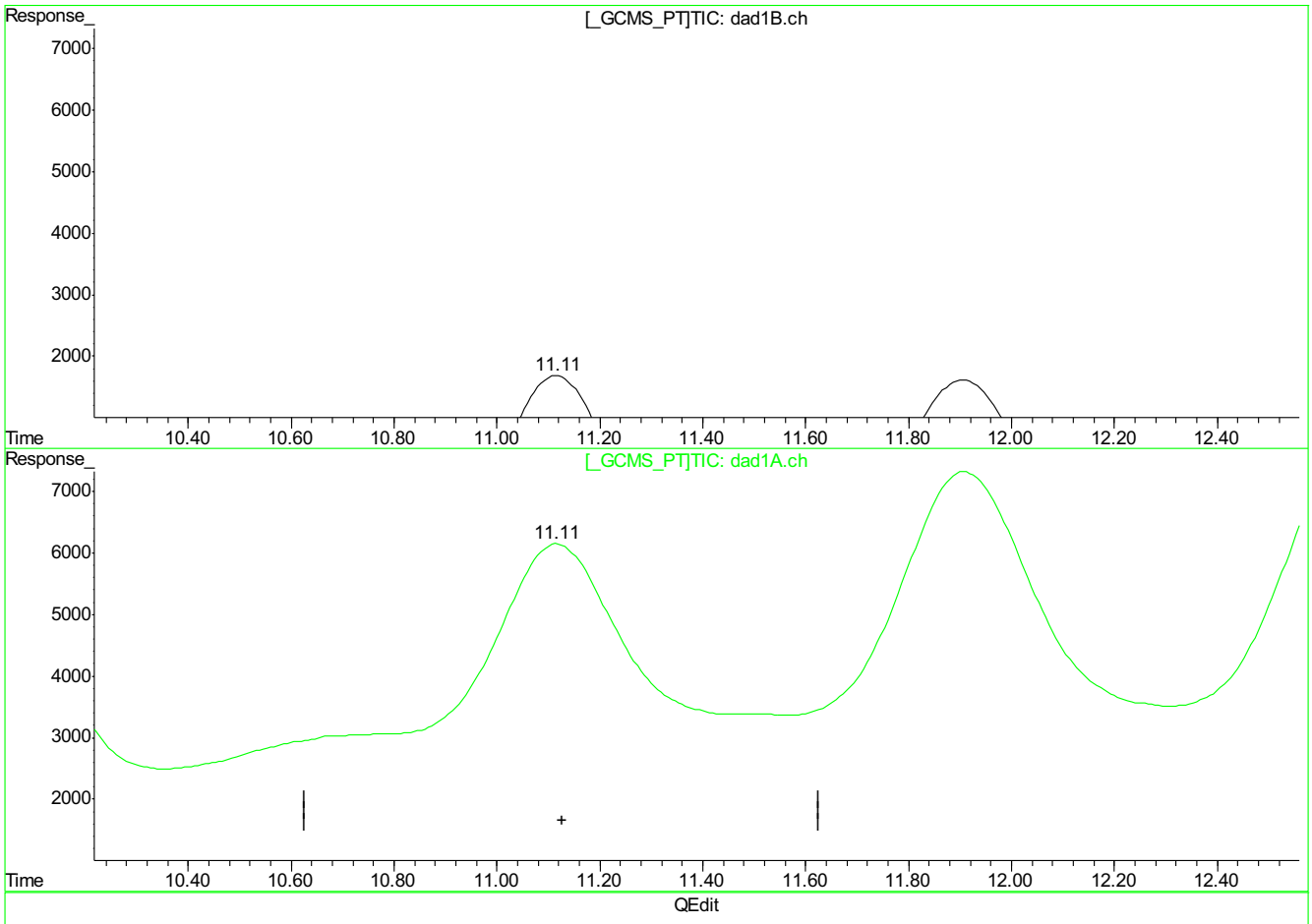
9

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 54.996ppb

response 481631

(8) Nitrobenzene #2

11.12min 279.100ppb

response 2710689

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:30 2017

9.5.15.10

9

GG613489.D edits: Nitrobenzene

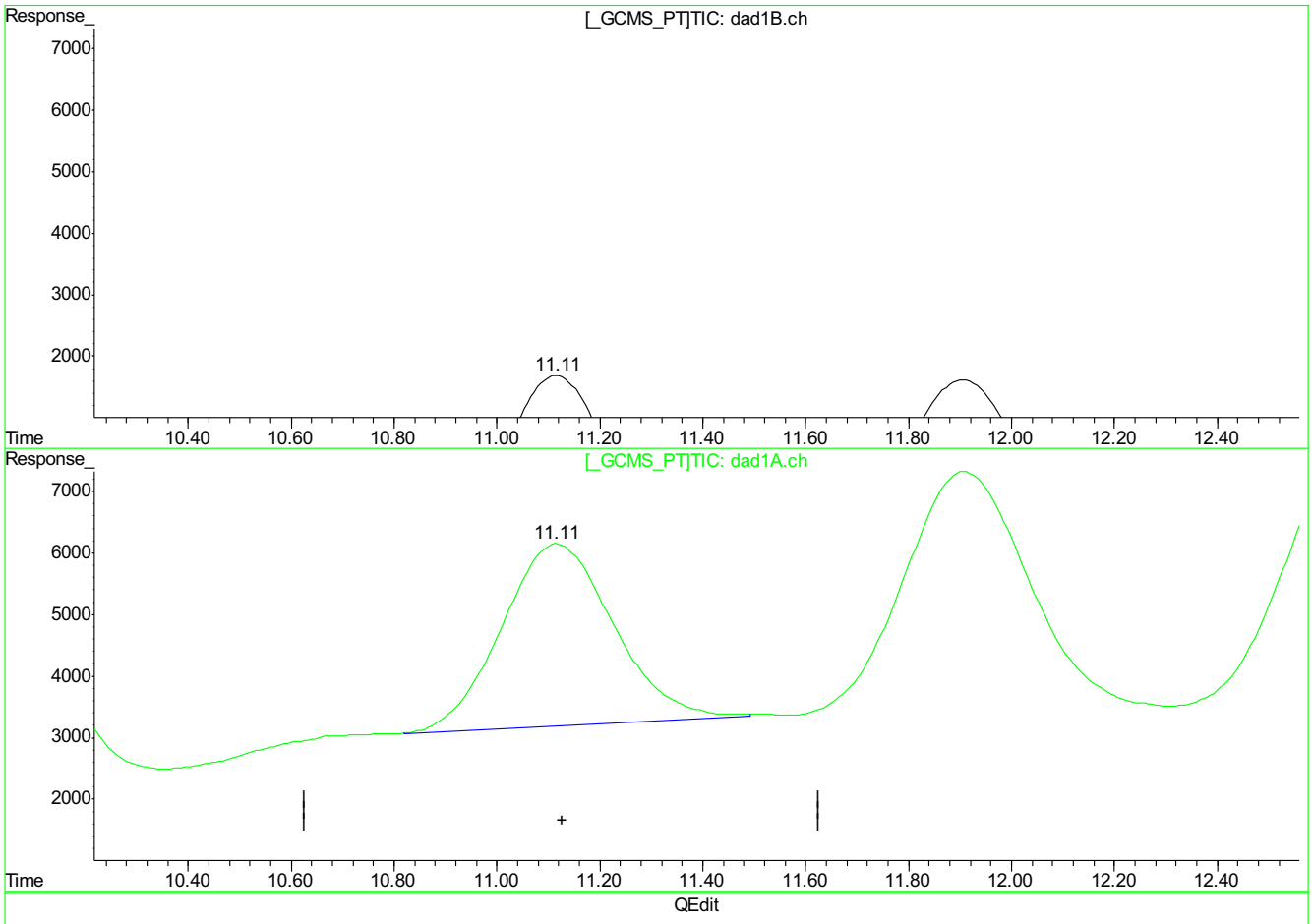
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.12min 54.996ppb

response 481631

(8) Nitrobenzene #2

11.11min 45.255ppb m

response 448850

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:33 2017

GG613489.D edits: Nitrobenzene

SGS ACCUTEST FA45759

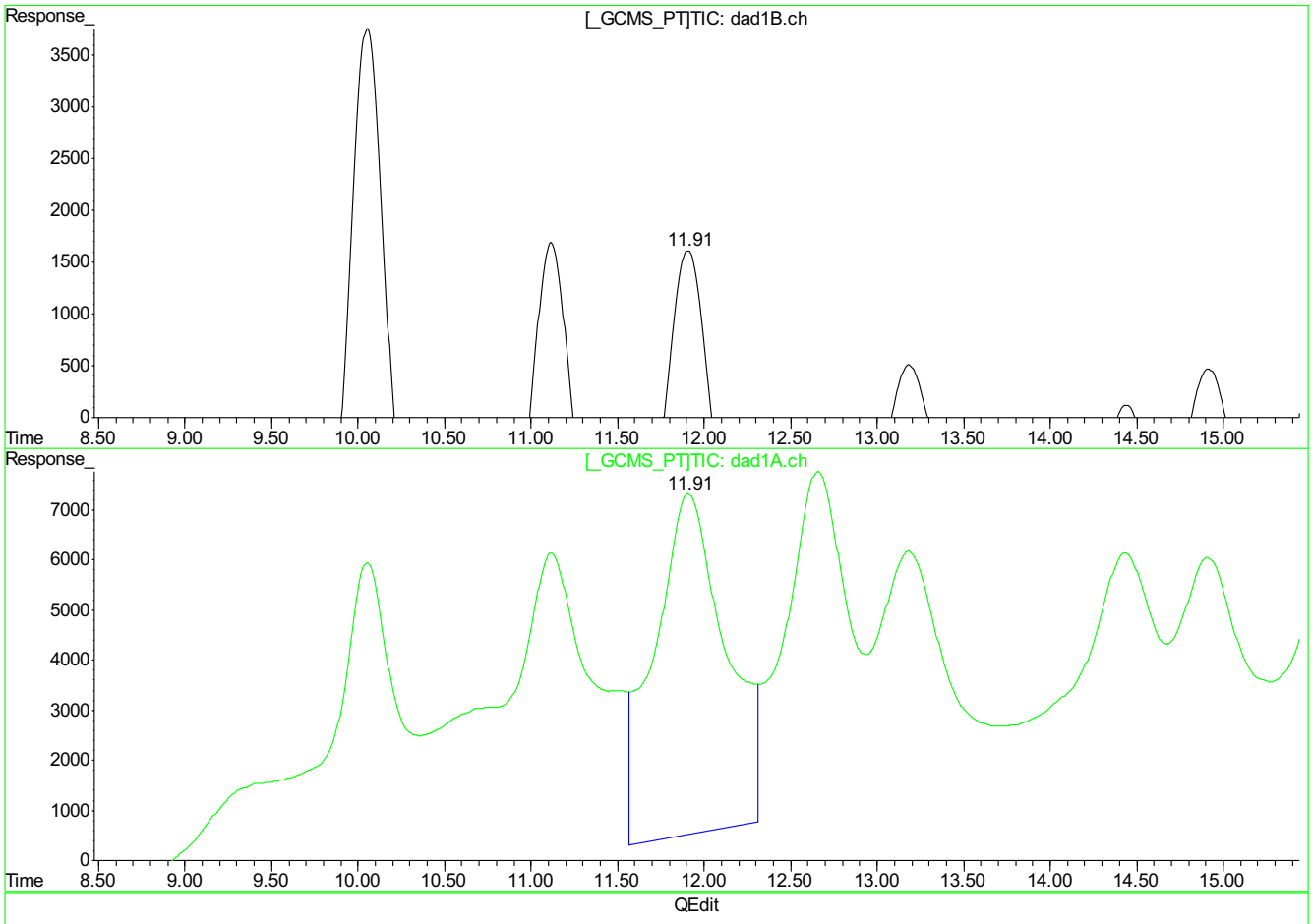
9.5.15.11
9

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.91min 56.898ppb

response 541383

(9) 2,4,6-Trinitrotoluene #2

11.91min 151.541ppb

response 1941687

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:55:43 2017

9.5.15.12

9

GG613489.D edits: 2,4,6-Trinitrotoluene

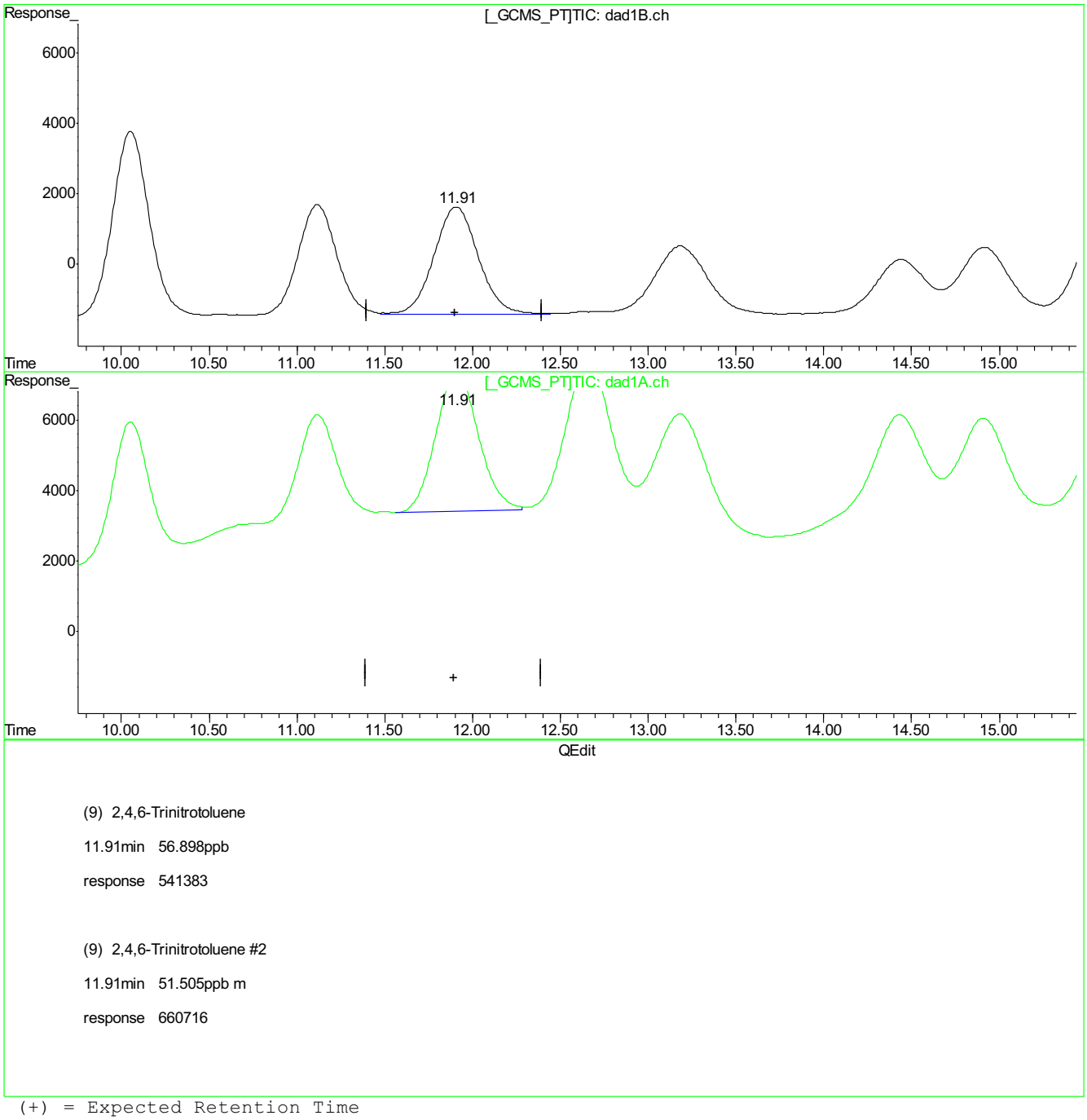
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch         Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:12:51                    Operator: evitam
Sample    : ic2548-50                                Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.91min 56.898ppb

response 541383

(9) 2,4,6-Trinitrotoluene #2

11.91min 51.505ppb m

response 660716

(+) = Expected Retention Time

GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:04 2017

9.5.15.13

9

GG613489.D edits: 2,4,6-Trinitrotoluene

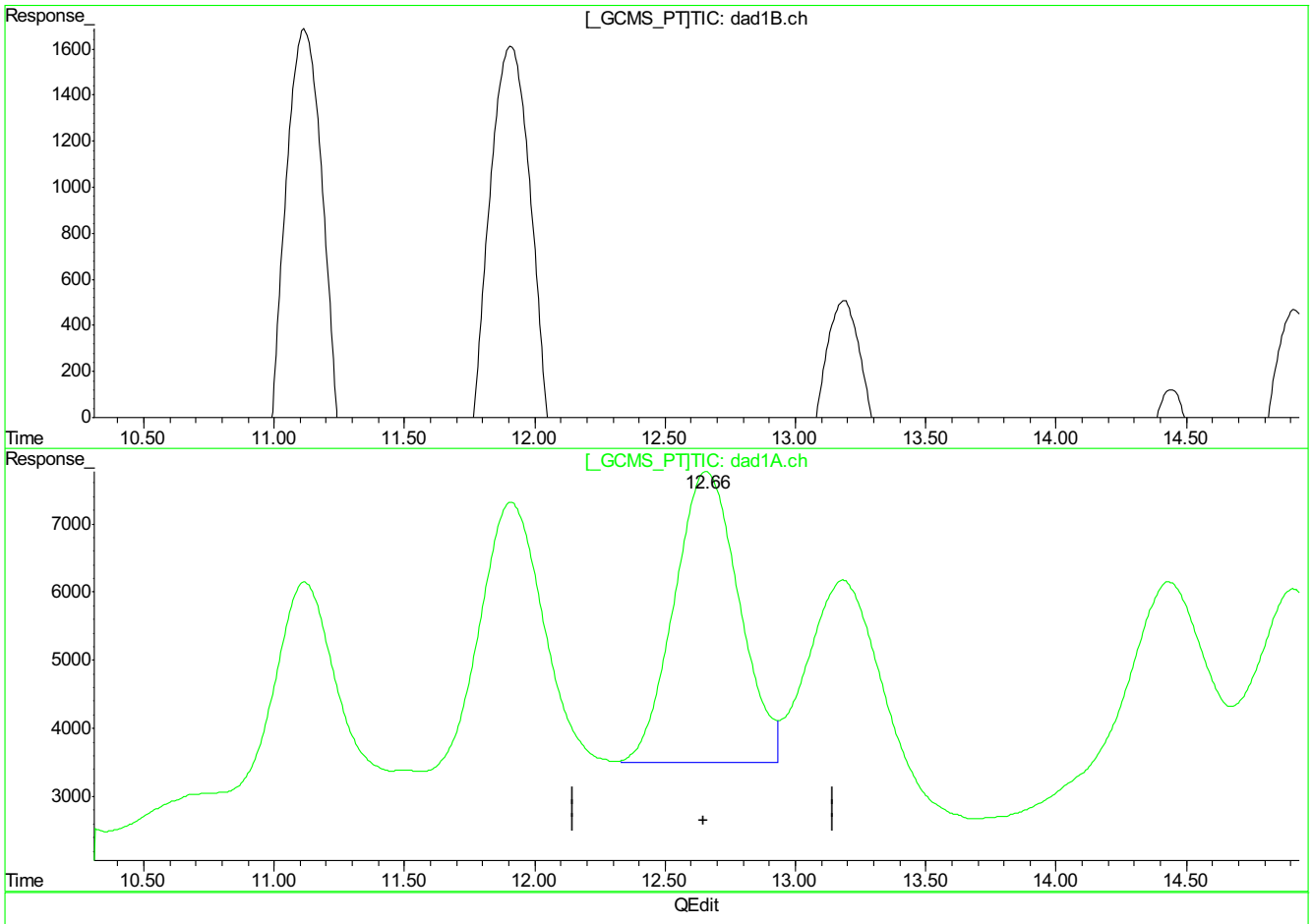
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.66min 233.302ppb m

response 737575

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:16 2017

9.5.15.14

9

GG613489.D edits: Nitroglycerin

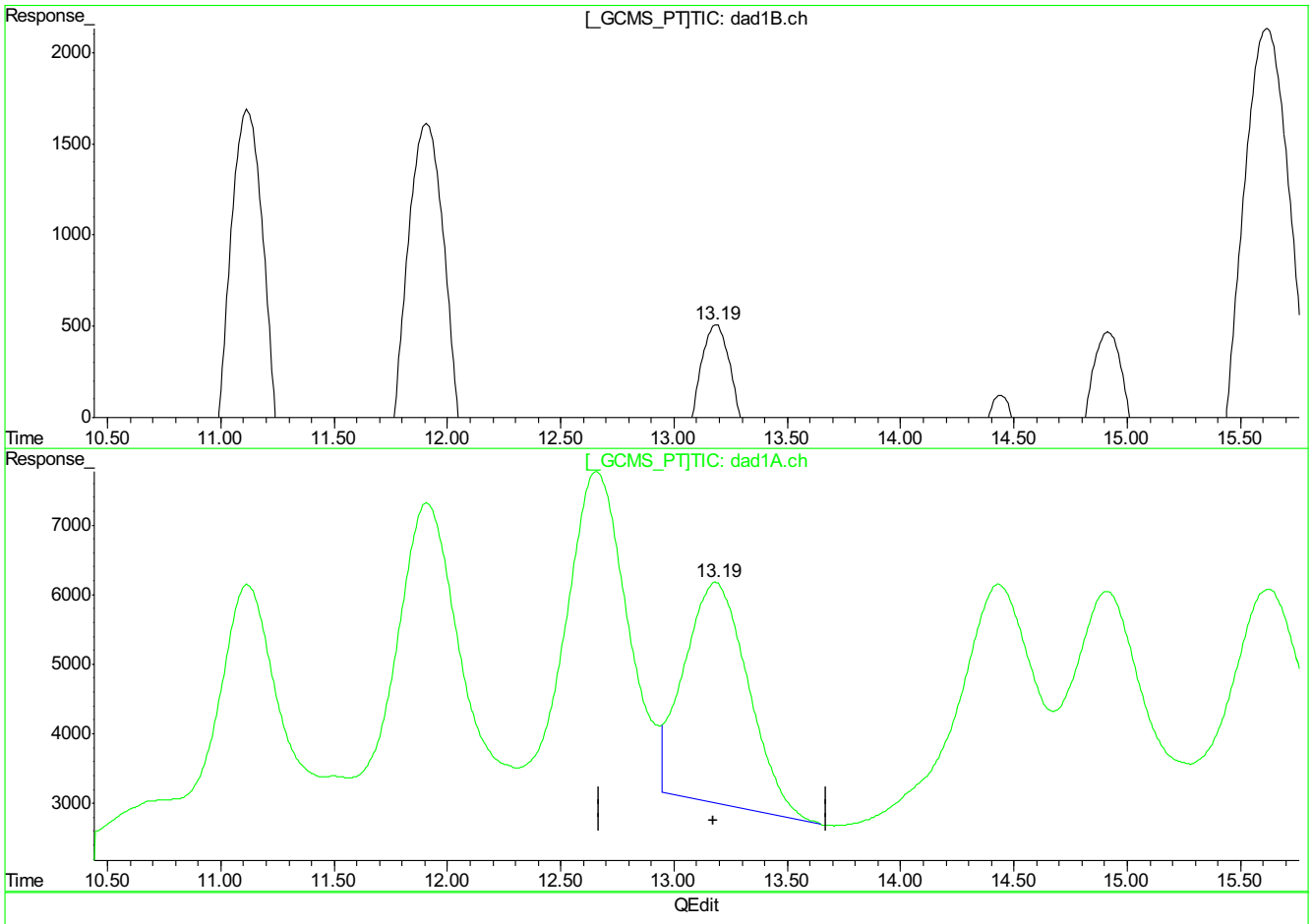
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 68.621ppb

response 423066

(11) Tetryl #2

13.19min 61.797ppb m

response 625210

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:25 2017

9.5.15.15

9

GG613489.D edits: Tetryl

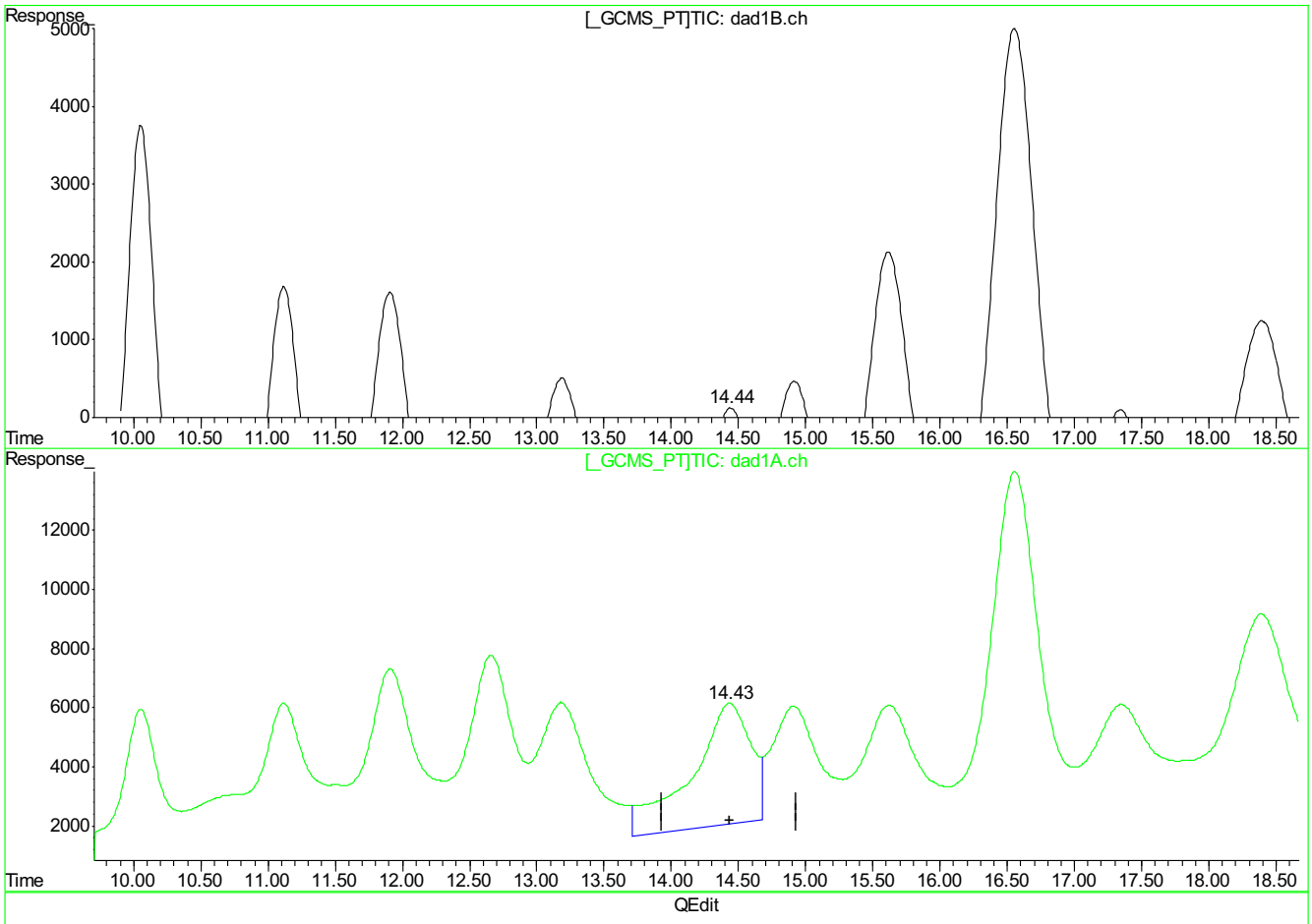
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 56.987ppb

response 306777

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 114.100ppb

response 1252979

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:36 2017

9.5.15.16

9

GG613489.D edits: 3,4-Dinitrotoluene

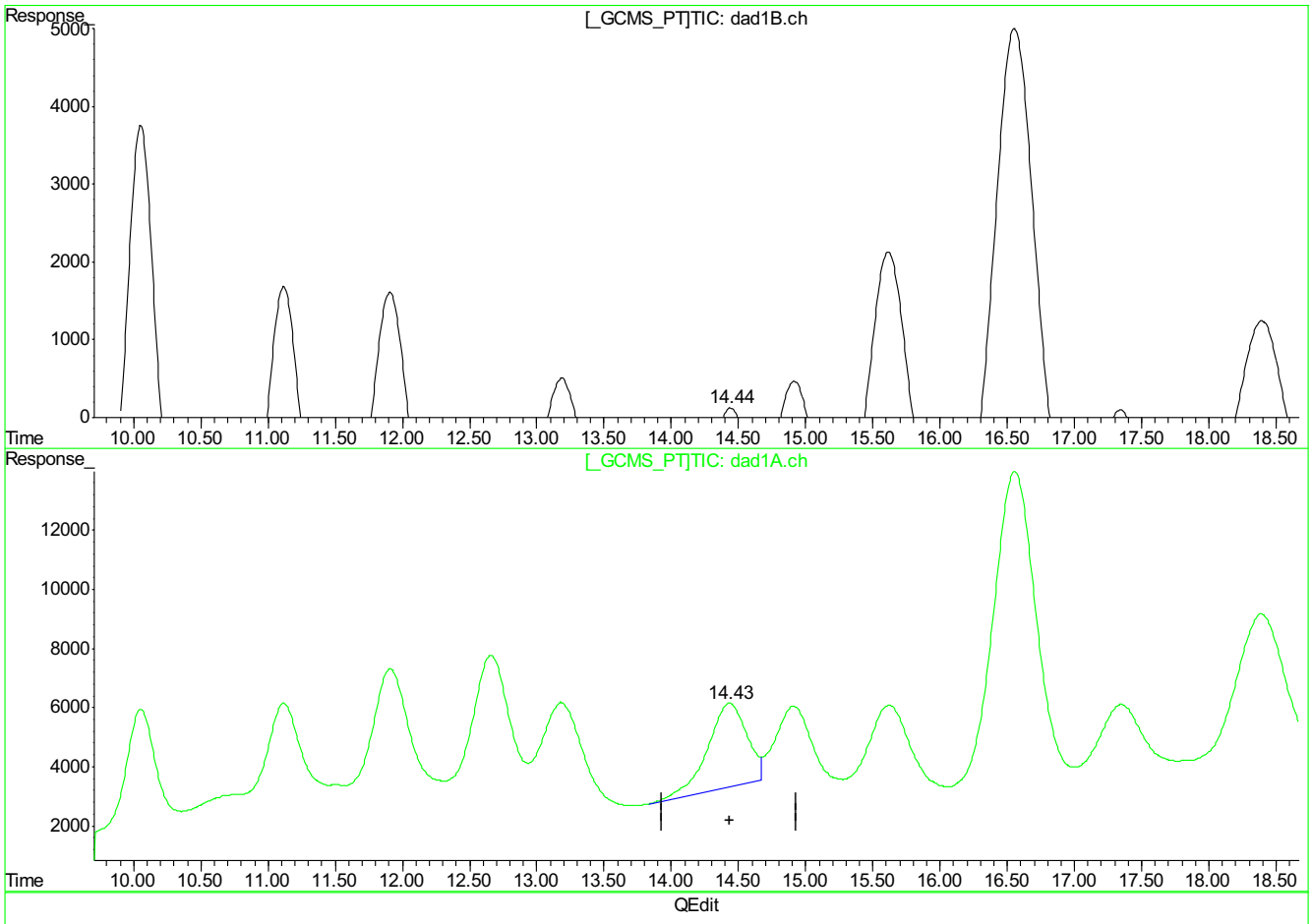
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 56.987ppb

response 306777

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 52.672ppb m

response 578914

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:41 2017

9.5.15.17

9

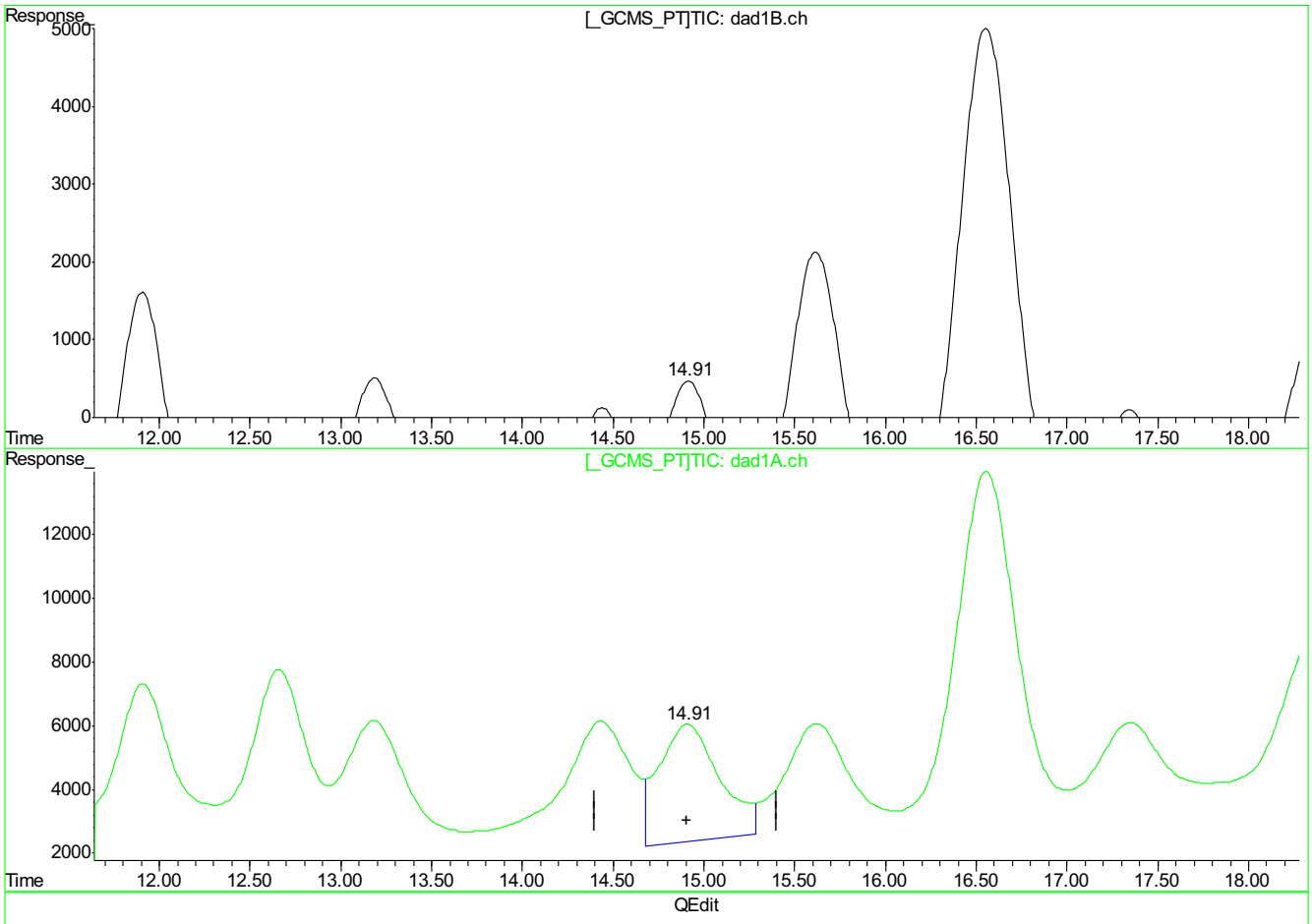
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch         Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:12:51                    Operator: evitam
Sample    : ic2548-50                                Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.92min 59.718ppb

response 374648

(13) 2,6-Dinitrotoluene #2

14.91min 94.104ppb

response 860688

(+) = Expected Retention Time

GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:46 2017

9.5.15.18

9

GG613489.D edits: 2,6-Dinitrotoluene

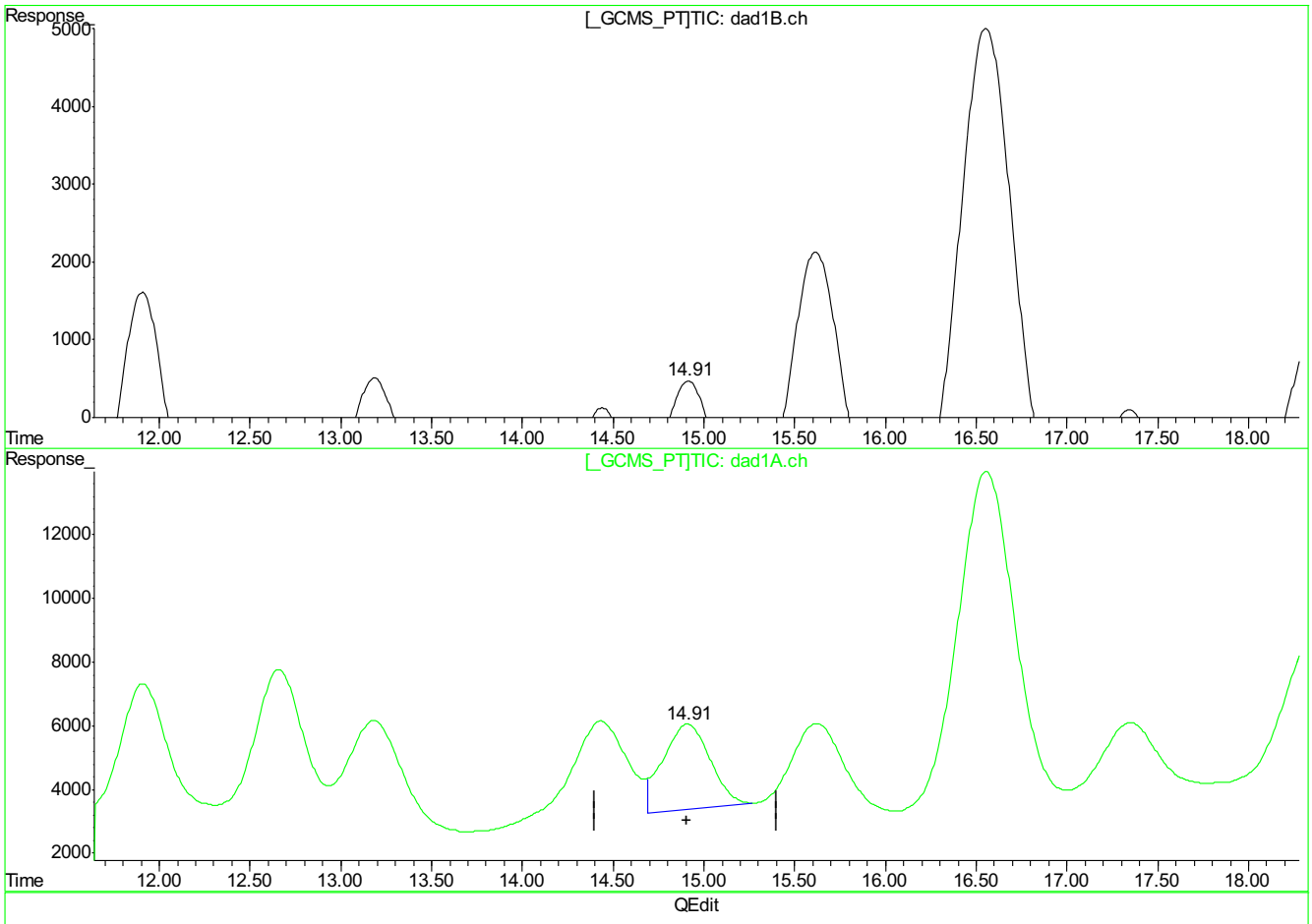
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch         Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:12:51                    Operator: evitam
Sample    : ic2548-50                                Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.92min 59.718ppb

response 374648

(13) 2,6-Dinitrotoluene #2

14.91min 52.935ppb m

response 483905

(+) = Expected Retention Time

GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:56:54 2017

9.5.15.19

9

GG613489.D edits: 2,6-Dinitrotoluene

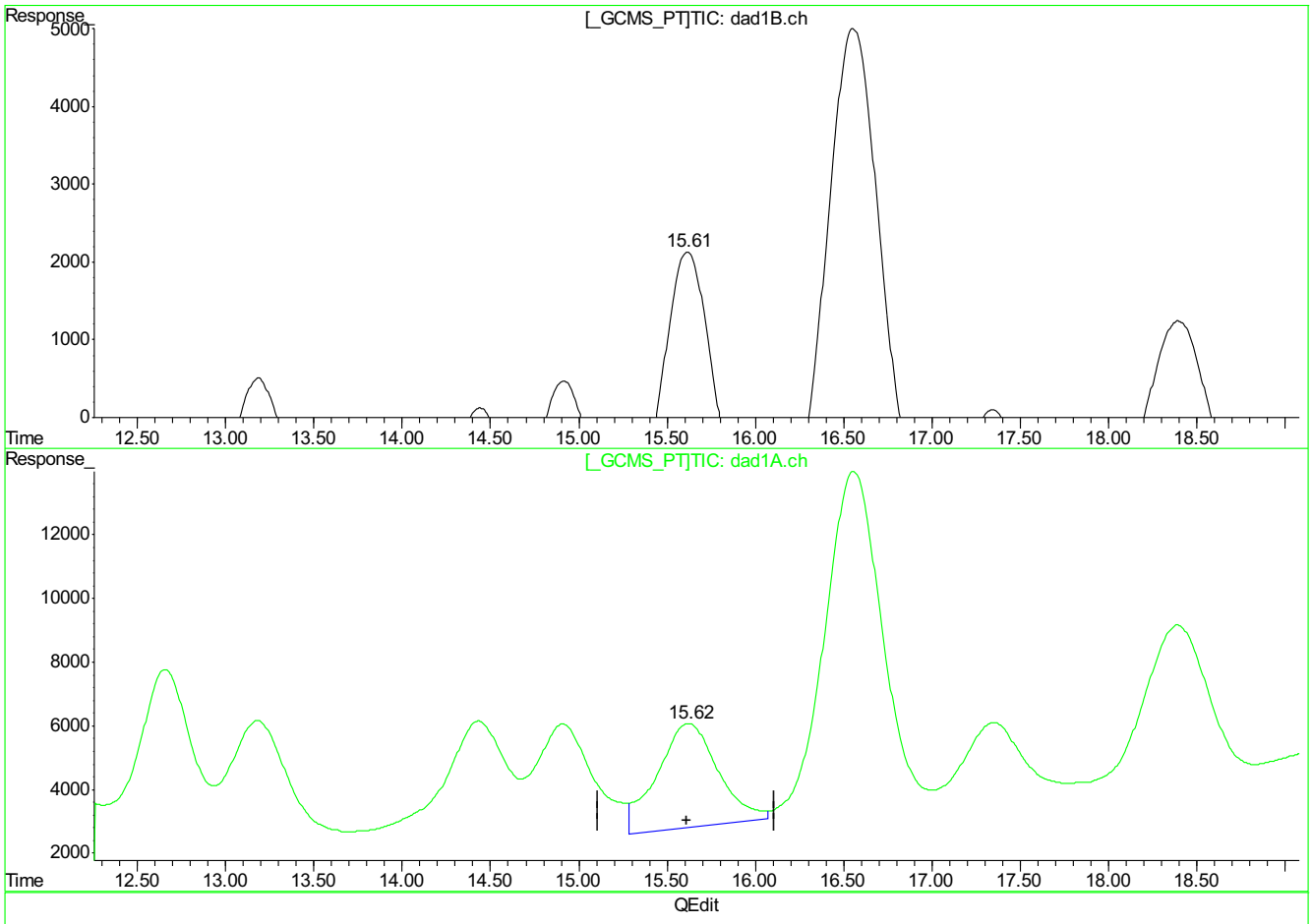
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 59.200ppb

response 710232

(14) 2,4-Dinitrotoluene #2

15.62min 84.723ppb

response 788924

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:00 2017

9.5.15.20

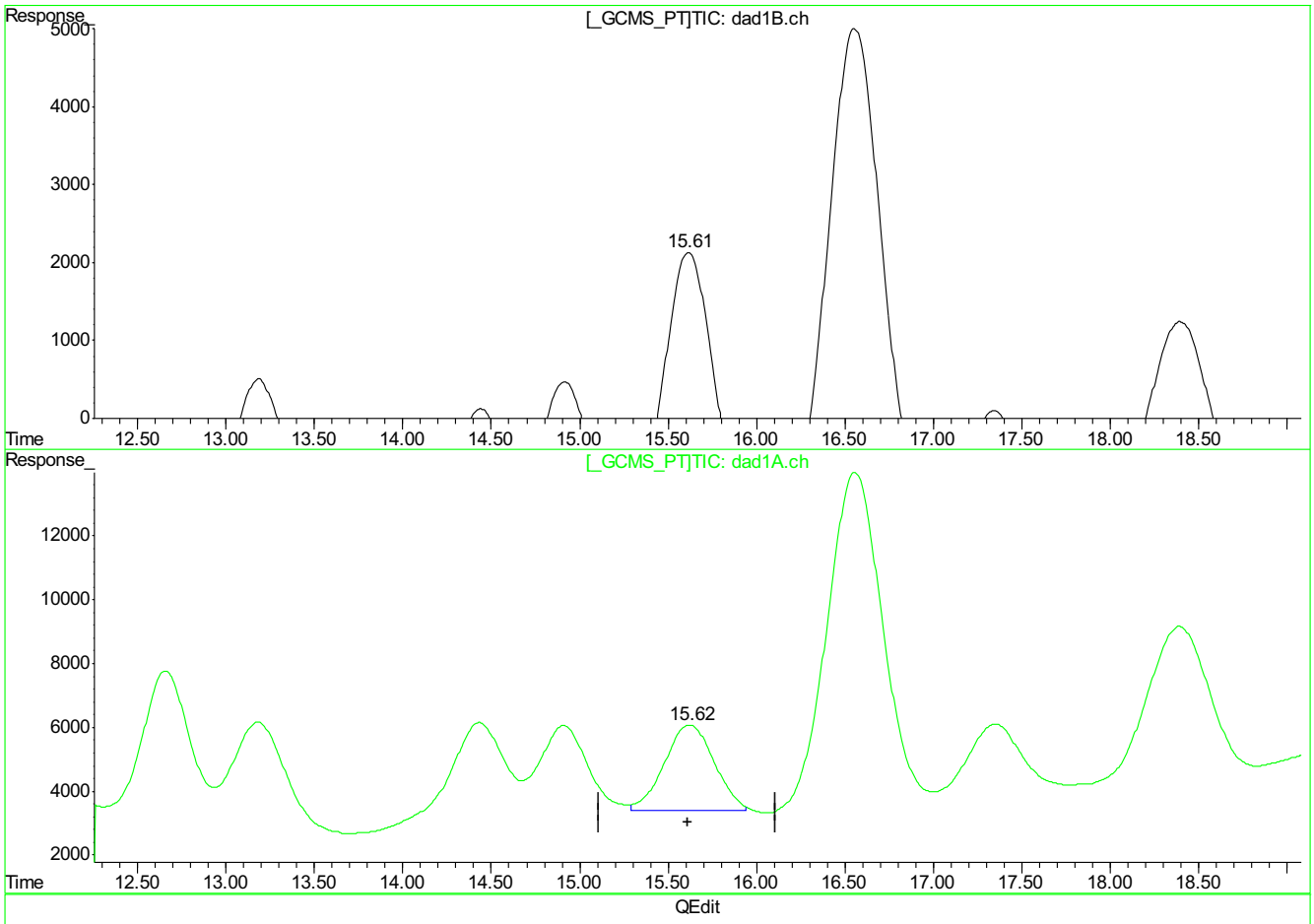
9

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 59.200ppb

response 710232

(14) 2,4-Dinitrotoluene #2

15.62min 56.658ppb m

response 527592

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:03 2017

9.5.15.21

9

GG613489.D edits: 2,4-Dinitrotoluene

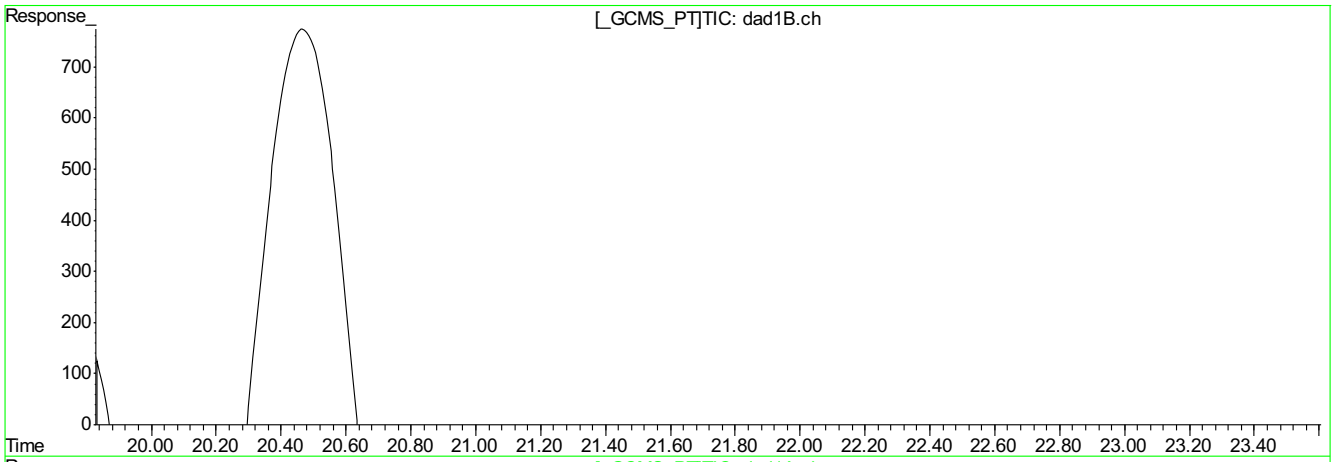
SGS ACCUTEST FA45759

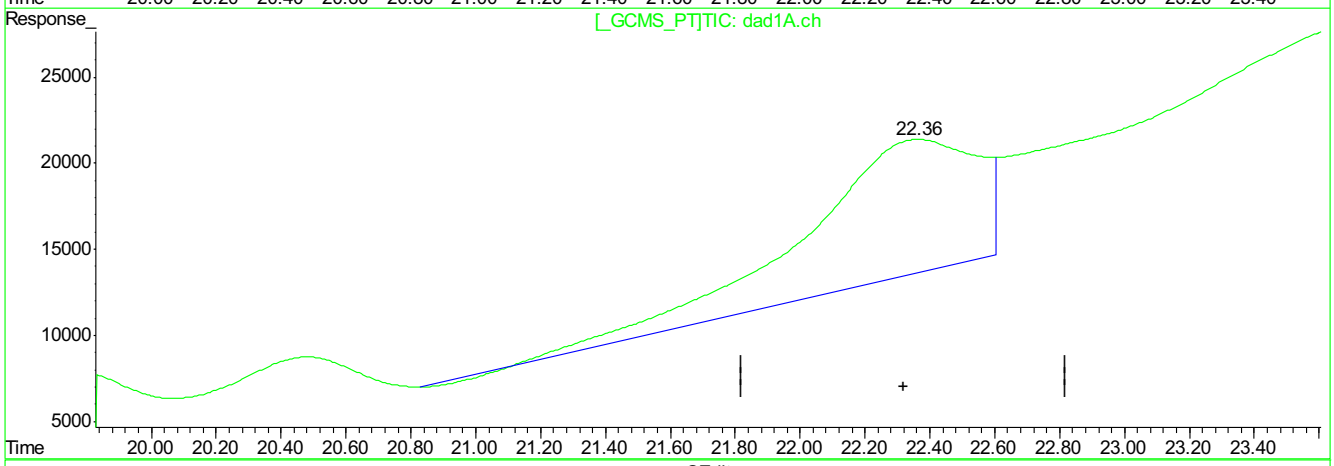
Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.37min 953.271ppb

response 2852212

(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:26 2017

9.5.15.22

9

GG613489.D edits: PETN

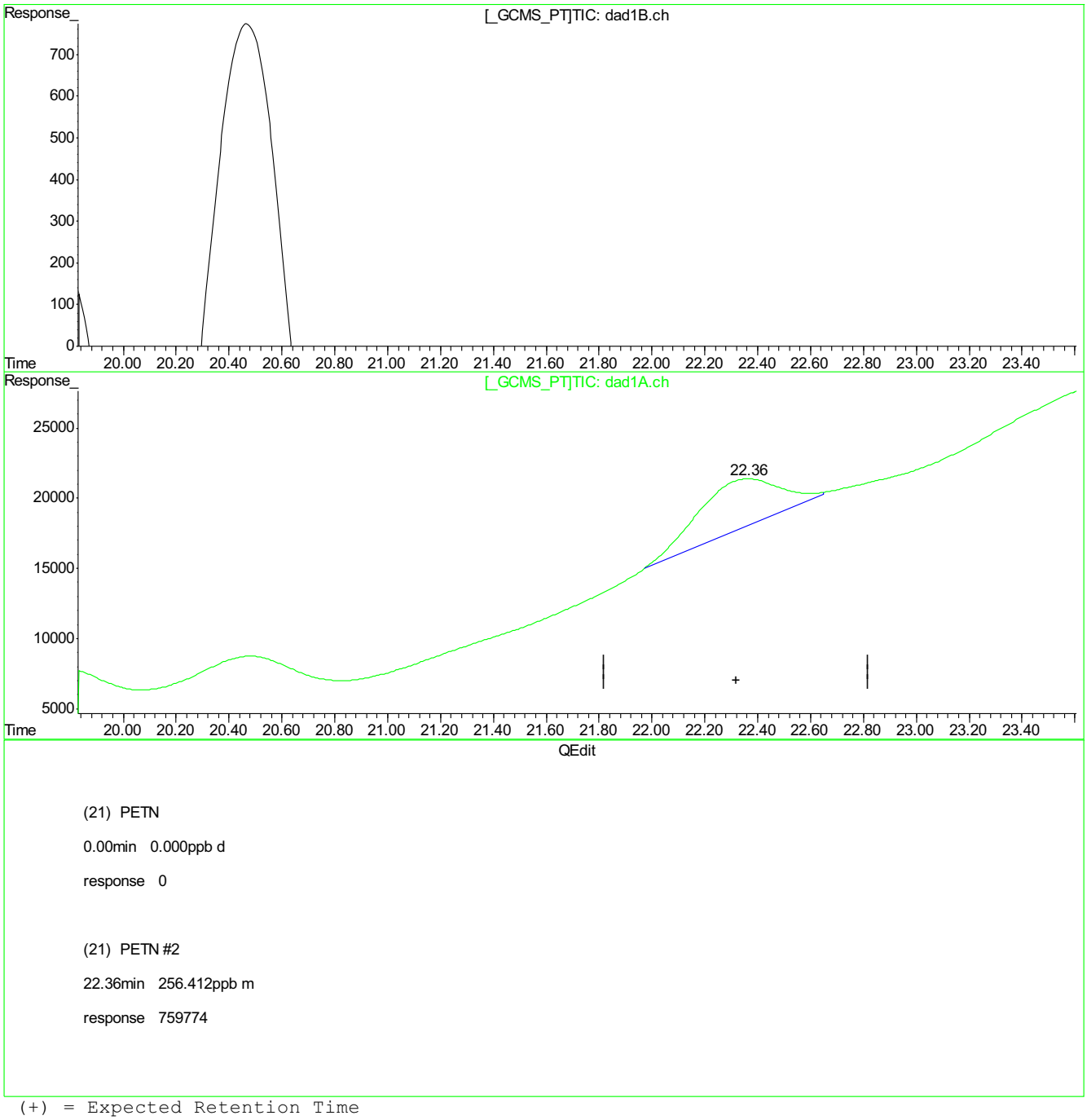
SGS ACCUTEST FA45759

Cal Report: GG613489.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613489.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0720RPB3\GG613489.D\dad1A.ch
Acq On : 20-Jul-2017, 17:12:51 Operator: evitam
Sample : ic2548-50 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:54 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:54:15 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
GG613489.D 8330RPB.M_0720M.M Mon Jul 24 10:57:37 2017

9.5.15.23

9

GG613489.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613490.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57:53 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.44	14.43	567700	1066335	102.714	96.922m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		20.54%#	19.38%#
	Target Compounds						
1)	TNX	4.95	4.95	819655	808113	102.383m	100.515m
2)	HMX	5.31	5.31	372392	380292	111.439m	114.054m
3)	DNX	5.50	5.50	655034	669364	89.050m	90.533m
4)	MNX	6.51	6.51	501359	501359	100.460	100.460
5)	1,3,5-Trinitrobe	7.54	7.54	1094726	1094726	112.261	111.895
6)	RDX	7.88	7.88	510618	510618	114.108	114.108
7)	1,3-Dinitrobenze	10.05	10.05	1494990	1210912	110.888	113.984m
8)	Nitrobenzene	11.11	11.11	961685	1000041	107.959	101.453m
9)	2,4,6-Trinitroto	11.91	11.91	1031081	1318282	106.883	102.844m
10)	Nitroglycerin	0.00	12.65	0	1581828	N.D. d	495.829m
11)	Tetryl	13.19	13.18	824247	1287123	128.143	127.123m
13)	2,6-Dinitrotolue	14.92	14.91	711860	1181375	109.663	128.846m
14)	2,4-Dinitrotolue	15.62	15.61	1343693	1031671	108.113	103.626m
15)	o-Nitrotoluene	17.36	17.36	621244	1133265	112.913	147.591
16)	3,5-Dinitroanili	16.58	16.58	1091251	1868035	79.745	82.449
17)	p-Nitrotoluene	18.41	18.41	1259798	2393515	111.324	122.018
18)	4-Amino-2,6-Dini	18.41	18.41	1259798	2393515	111.324	122.018
19)	m-Nitrotoluene	19.80	19.80	679988	966355	117.302	105.998m
20)	2-Amino-4,6-Dini	20.49	20.49	983982	963572	121.009	91.732
21)	PETN	0.00	22.35	0	1656309	N.D. d	555.870m

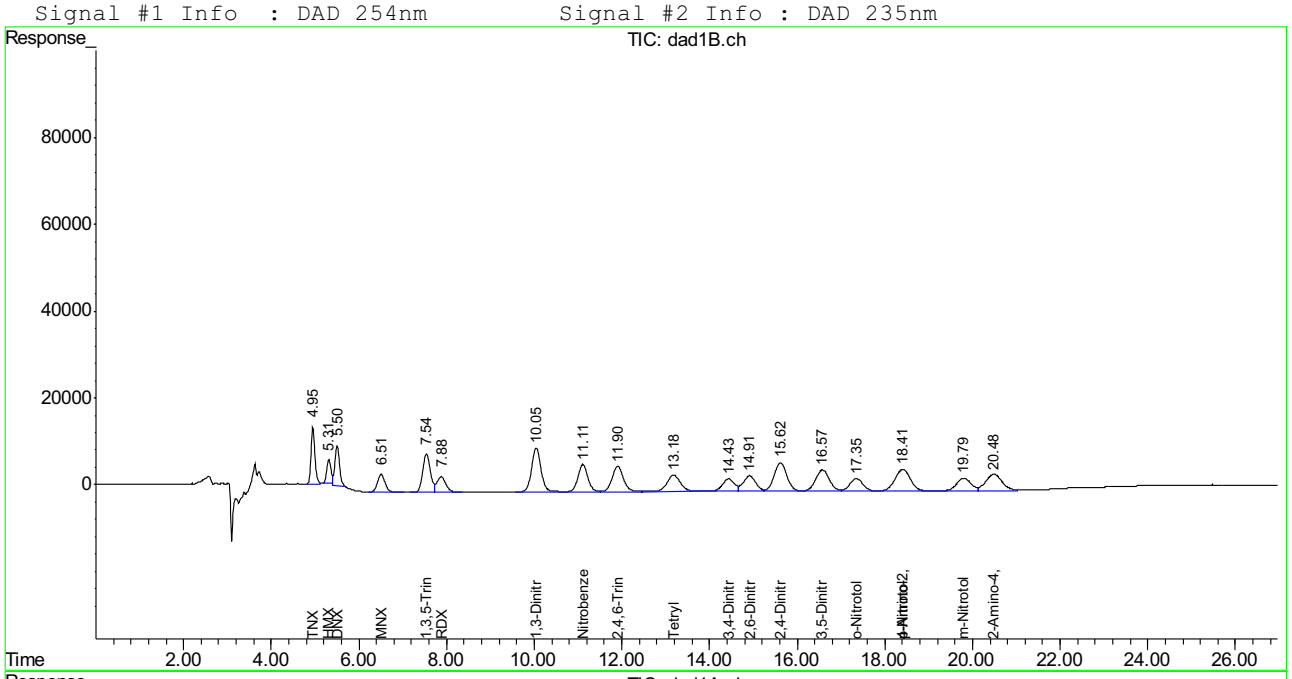
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 13:56:32 2017 Page 1

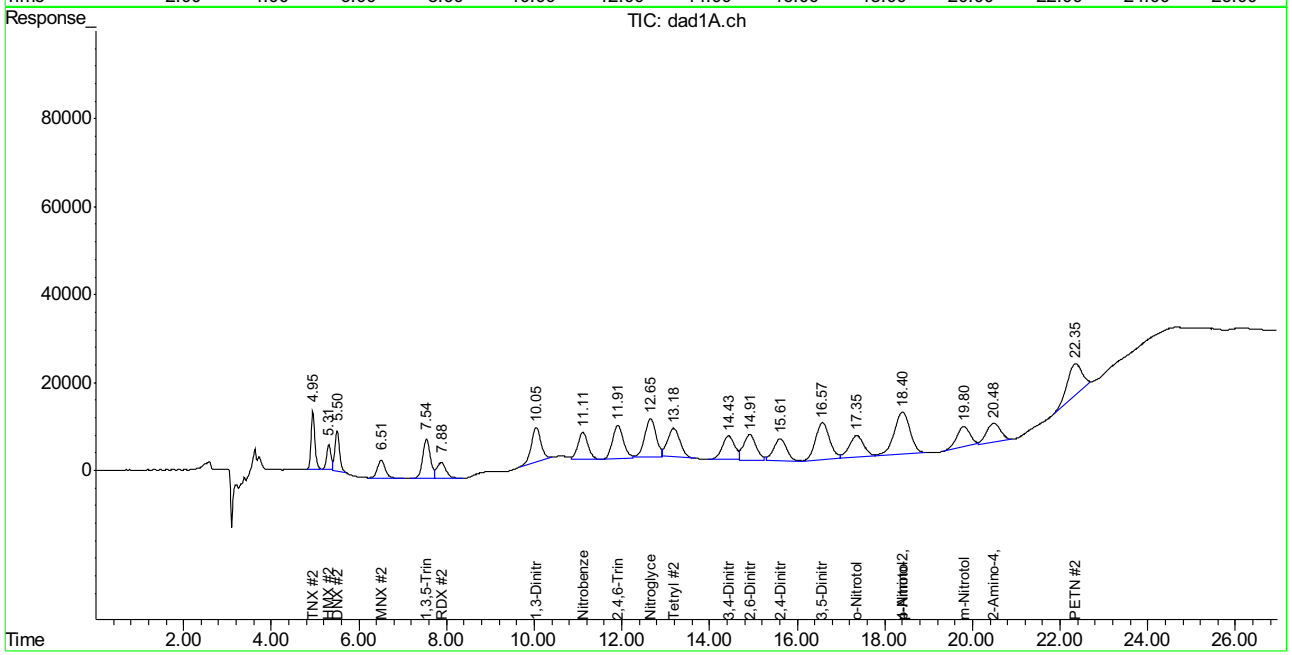
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613490.D
Injection Time: 07/20/17 17:42
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

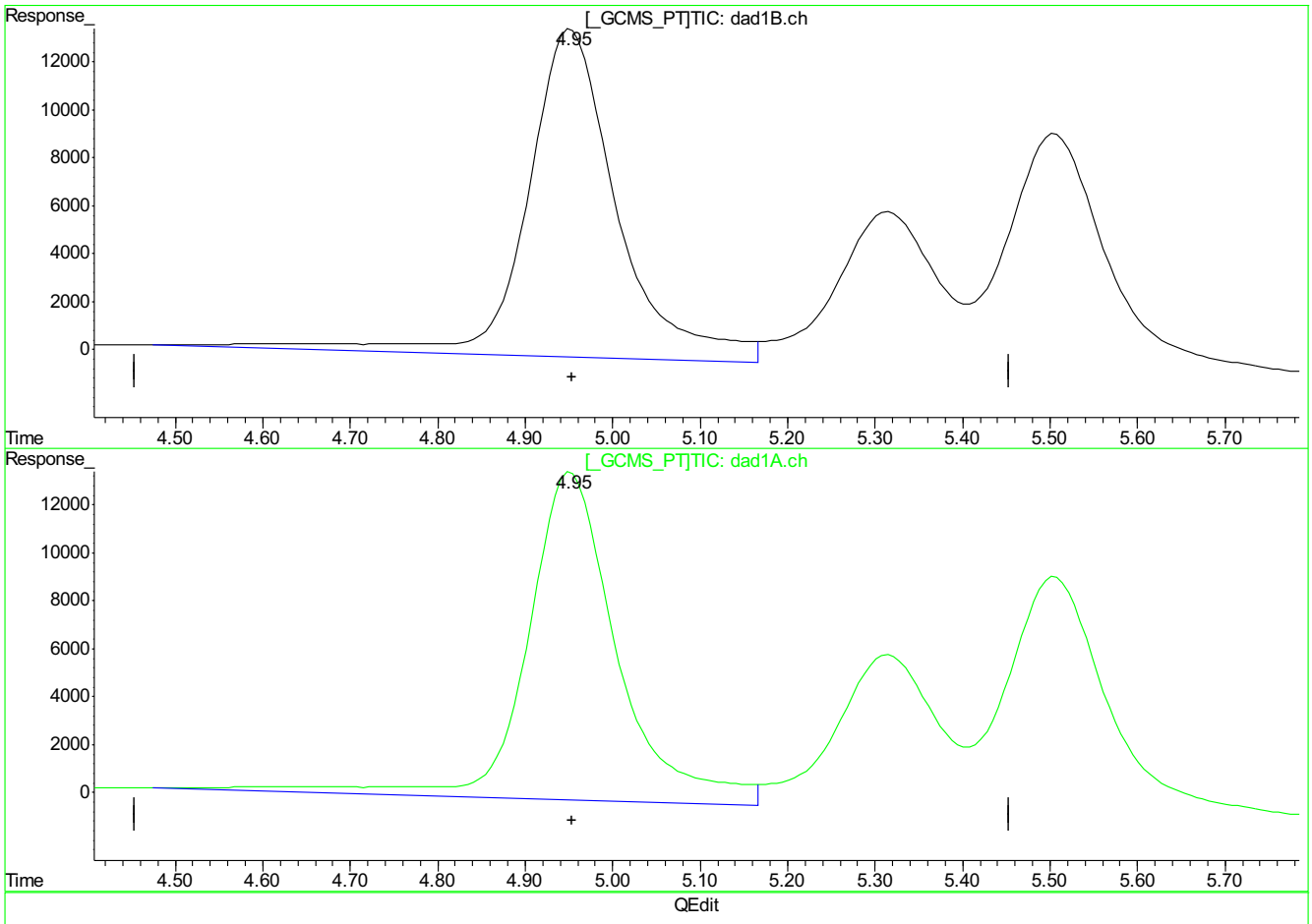
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
HMX	2691-41-0	1	5.31	Poorly defined baseline
HMX	2691-41-0	2	5.31	Poorly defined baseline
DNX		1	5.50	Poorly defined baseline
DNX		2	5.50	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.11	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.91	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.65	Poorly defined baseline
Tetryl	479-45-8	2	13.18	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.43	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.91	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	15.61	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	19.80	Poorly defined baseline
PETN	78-11-5	2	22.35	Poorly defined baseline

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(1) TNX

4.95min 123.069ppb

response 985262

(1) TNX #2

4.95min 122.550ppb

response 985262

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:03 2017

9.5.16.2

9

GG613490.D edits: TNX

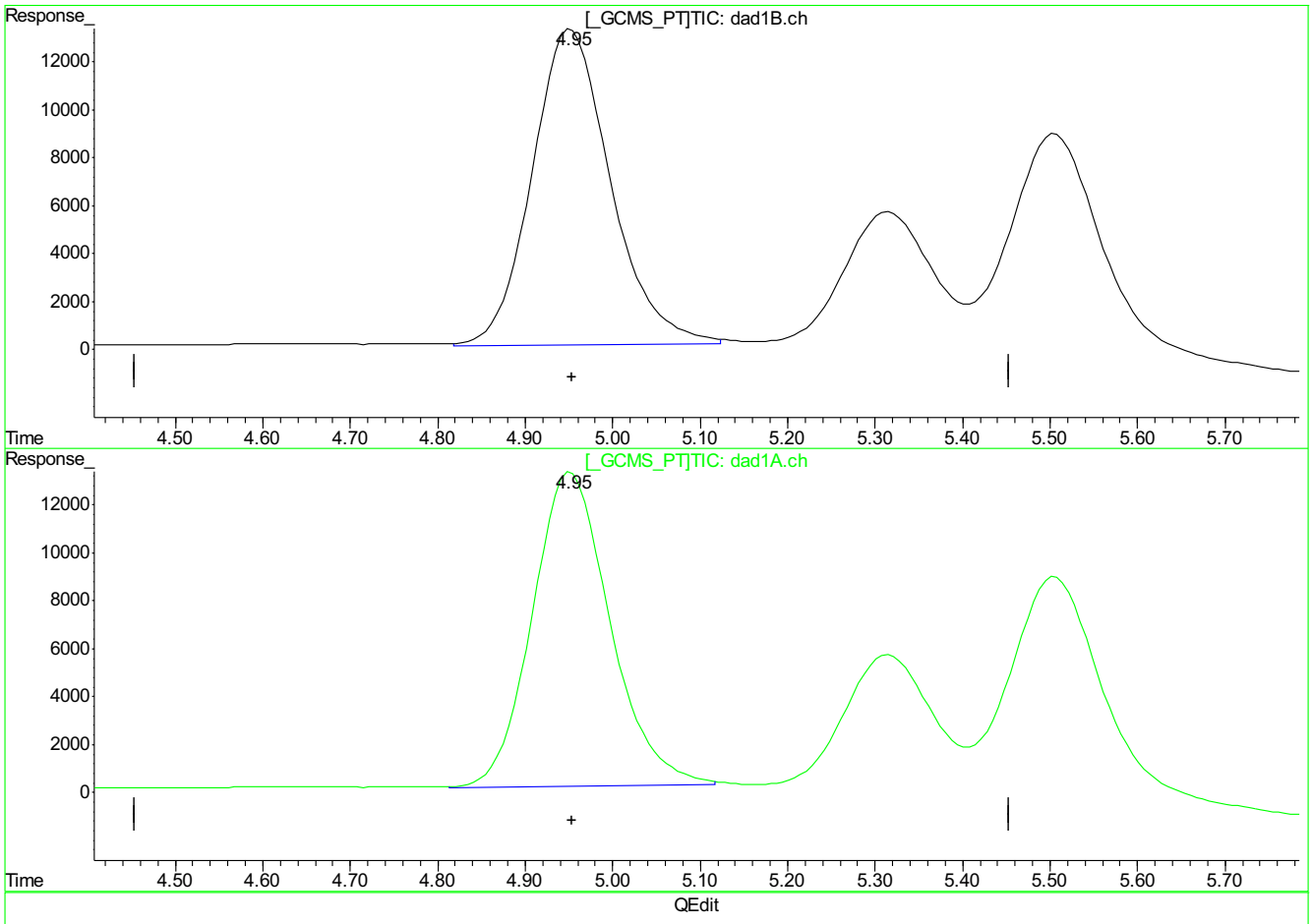
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(1) TNX

4.95min 102.383ppb m

response 819655

(1) TNX #2

4.95min 100.515ppb m

response 808113

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:07 2017

9.5.16.3

9

GG613490.D edits: TNX

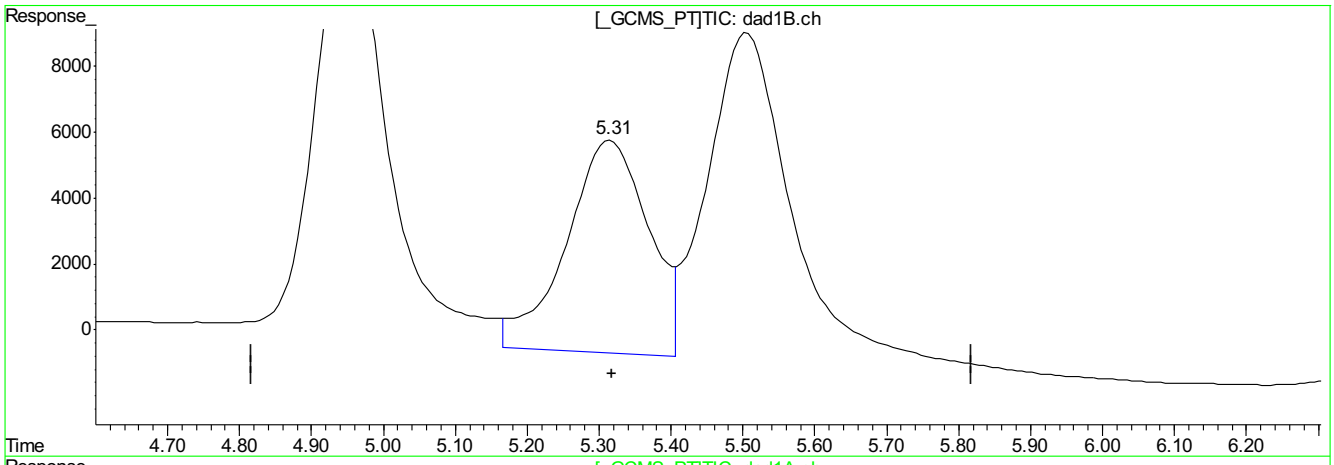
SGS ACCUTEST FA45759

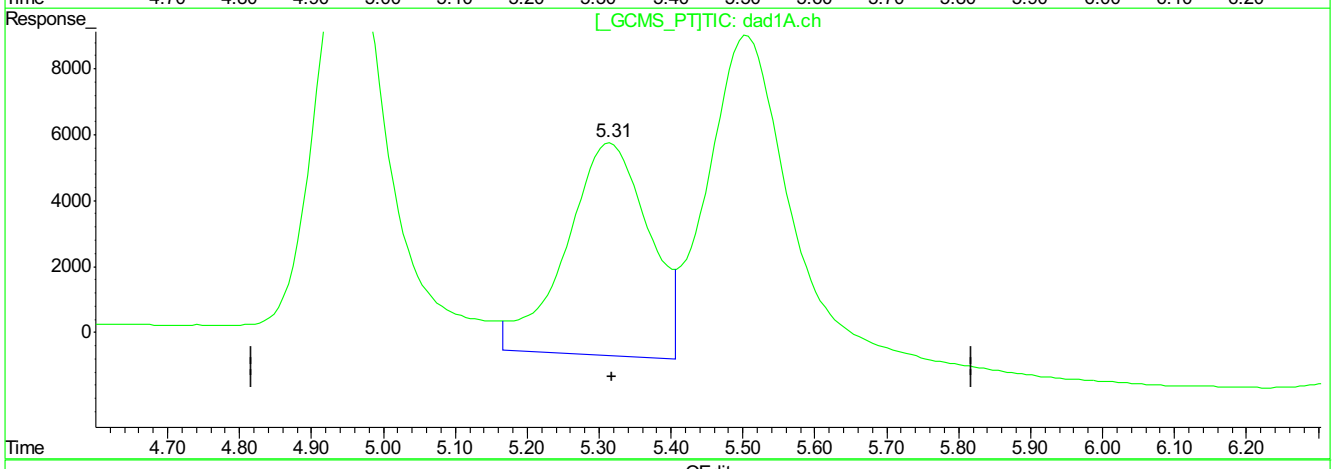
Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 153.546ppb

response 513098

(2) HMX #2

5.32min 153.884ppb

response 513098

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:10 2017

9.5.16.4

9

GG613490.D edits: HMX

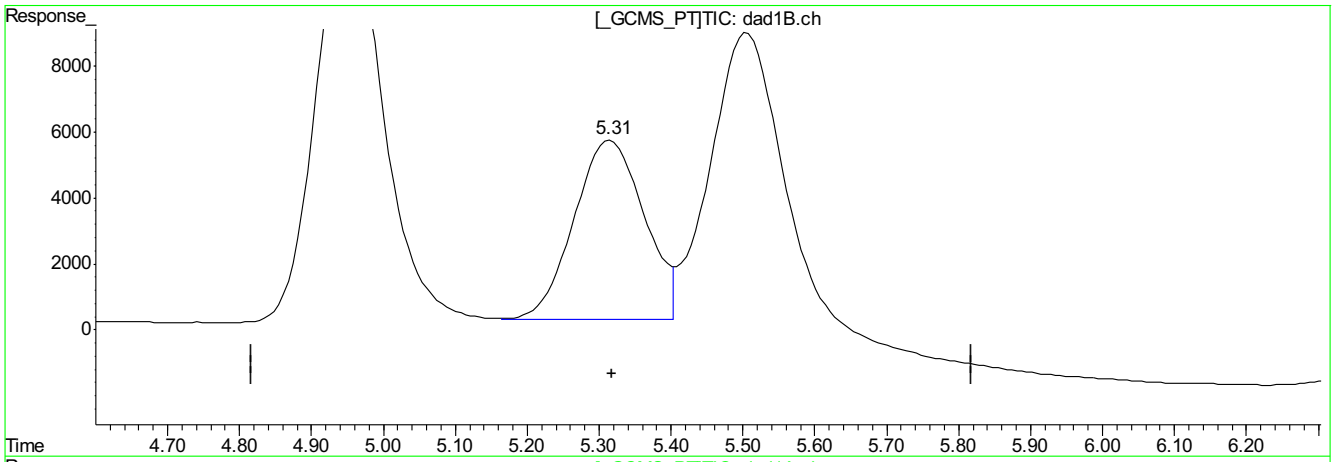
SGS ACCUTEST FA45759

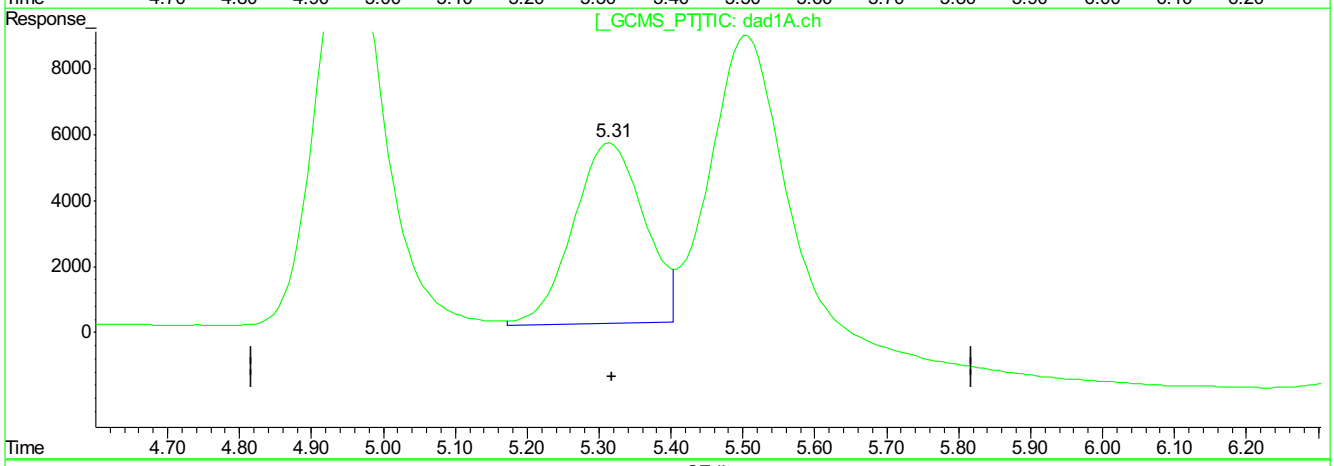
Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.31min 111.439ppb m

response 372392

(2) HMX #2

5.31min 114.054ppb m

response 380292

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:17 2017

GG613490.D edits: HMX

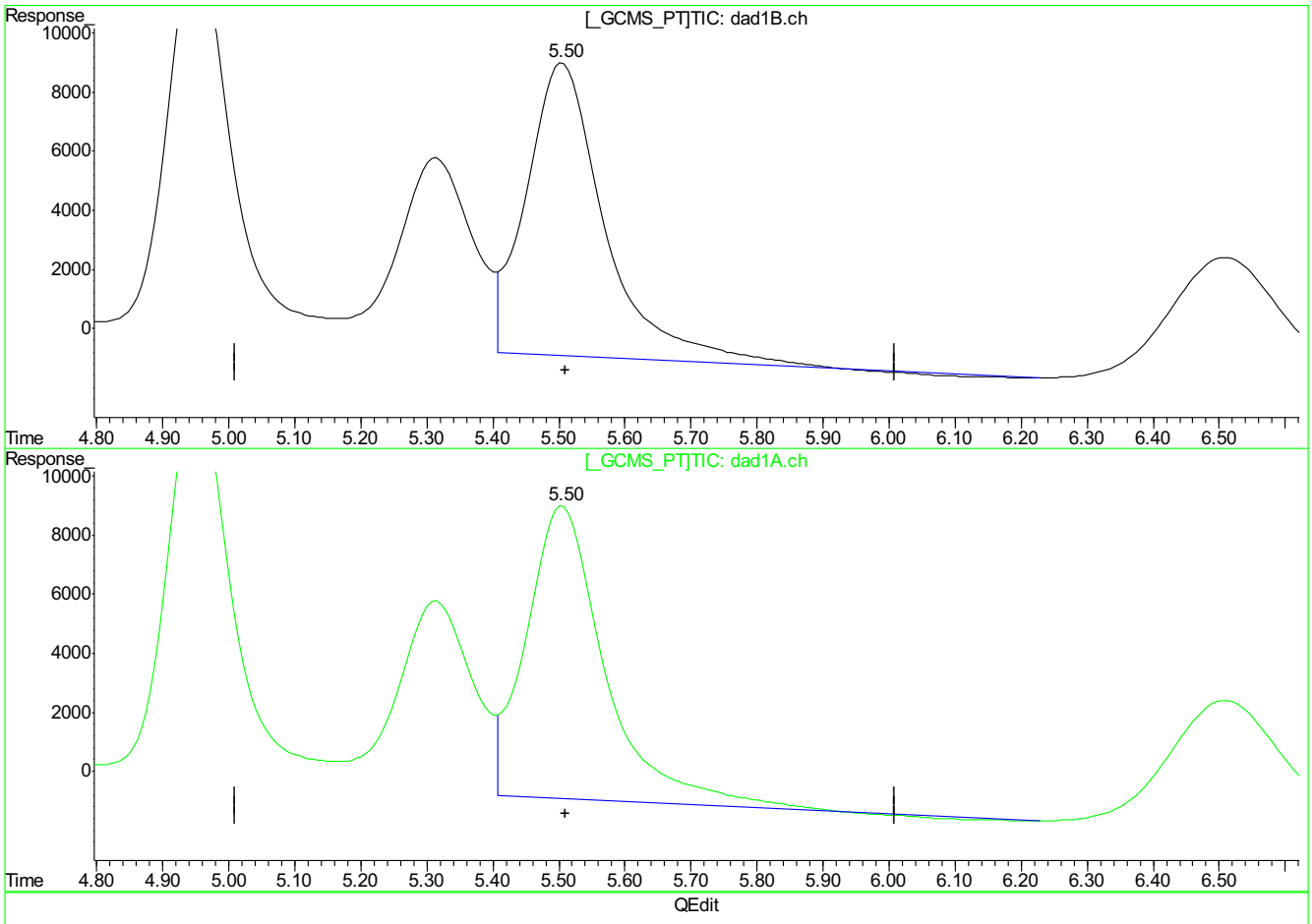
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



QEdit

(3) DNX

5.51min 111.197ppb

response 817945

(3) DNX #2

5.51min 110.699ppb

response 817945

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:20 2017

9.5.16.6

9

GG613490.D edits: DNX

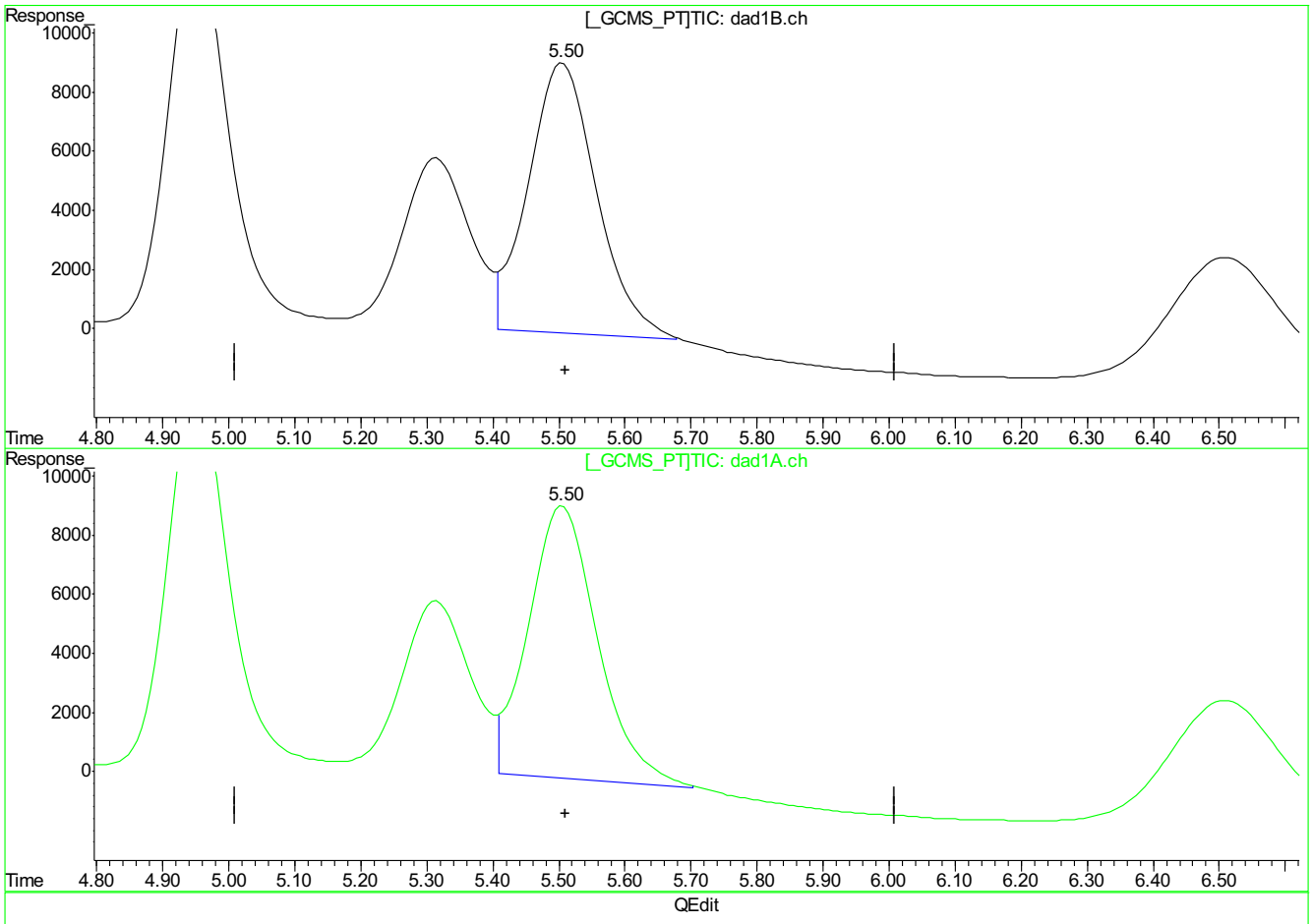
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



QEdit

(3) DNX

5.50min 89.050ppb m

response 655034

(3) DNX #2

5.50min 90.533ppb m

response 669364

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:34 2017

9.5.16.7

9

GG613490.D edits: DNX

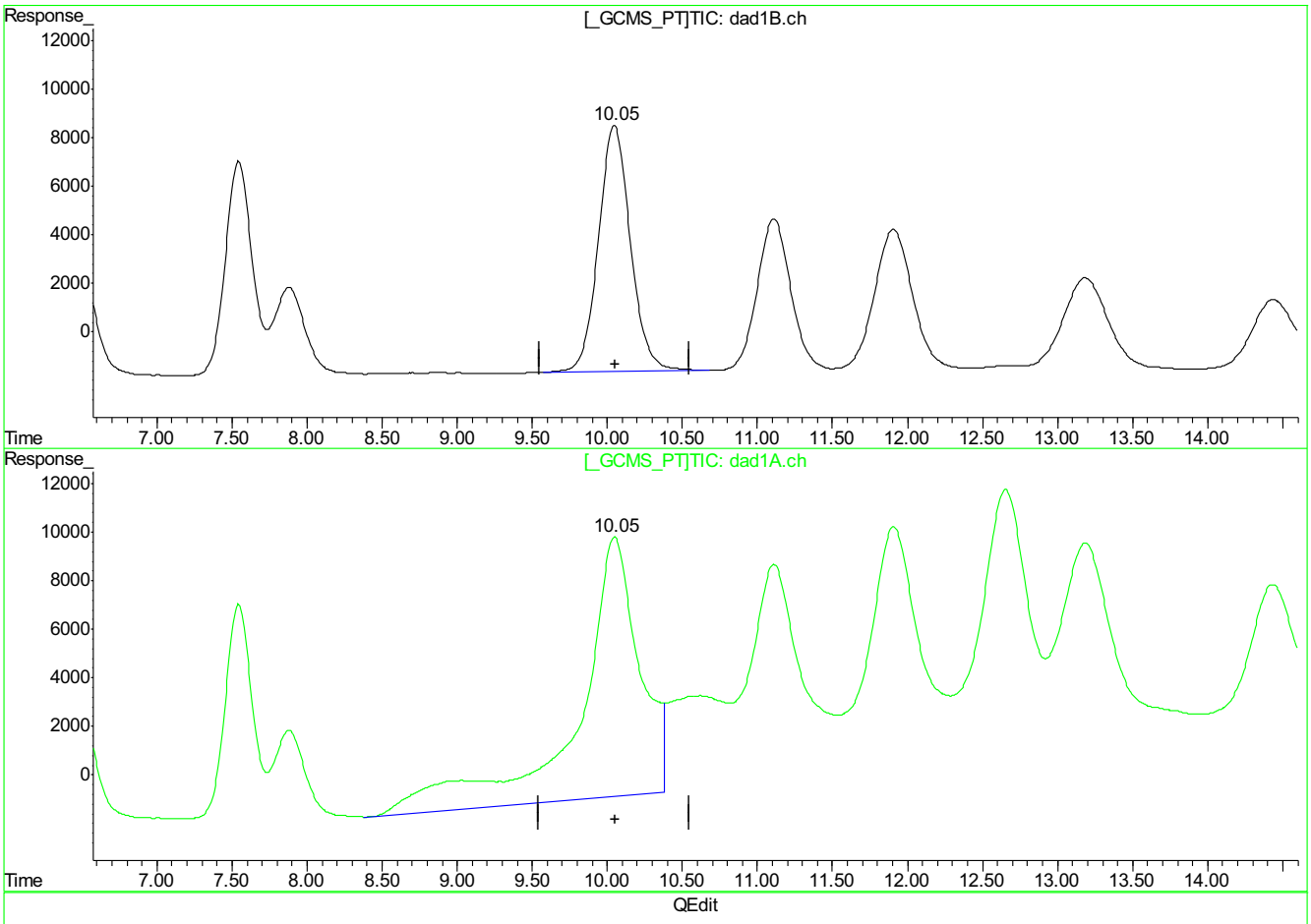
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.05min 110.888ppb

response 1494990

(7) 1,3-Dinitrobenzene #2

10.05min 292.208ppb

response 3090196

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:48 2017

9.5.16.8

9

GG613490.D edits: 1,3-Dinitrobenzene

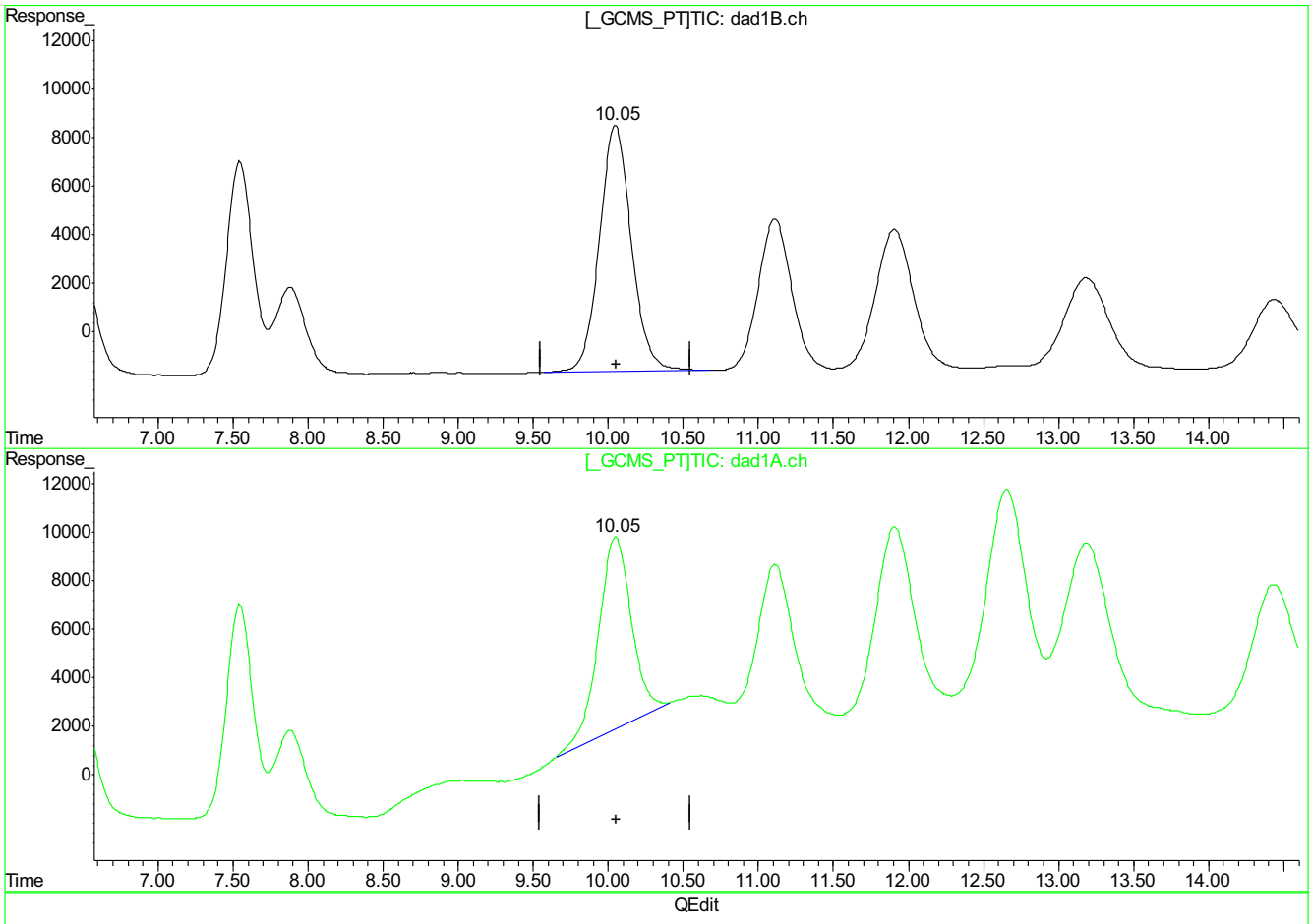
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch         Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:42:18                    Operator: evitam
Sample    : ic2548-100                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration
```



QEdit

(7) 1,3-Dinitrobenzene

10.05min 110.888ppb

response 1494990

(7) 1,3-Dinitrobenzene #2

10.05min 113.984ppb m

response 1210912

(+) = Expected Retention Time

GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:58:54 2017

9.5.16.9

9

GG613490.D edits: 1,3-Dinitrobenzene

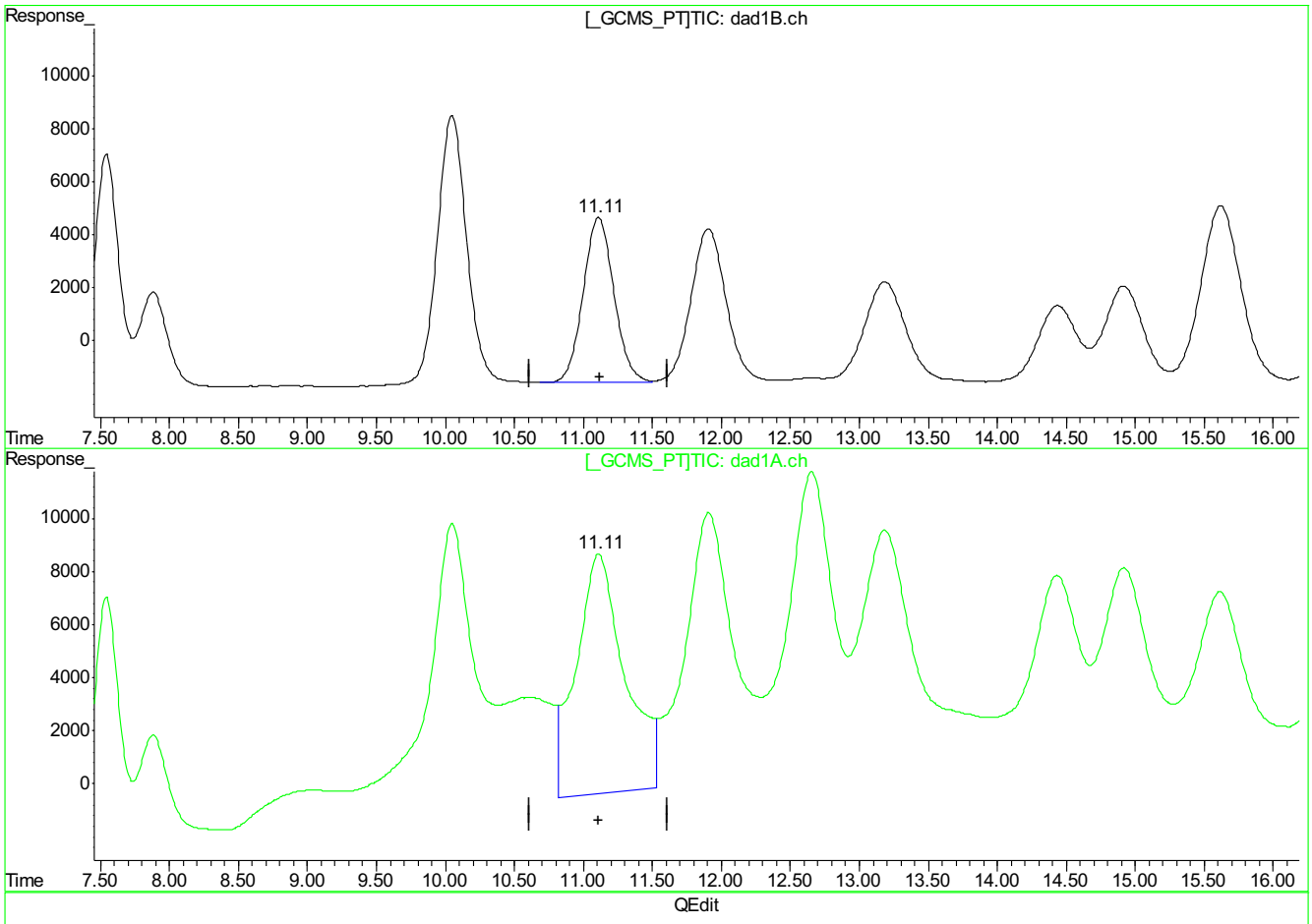
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.11min 107.959ppb

response 961685

(8) Nitrobenzene #2

11.11min 227.283ppb

response 2215350

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:02 2017

9.5.16.10

9

GG613490.D edits: Nitrobenzene

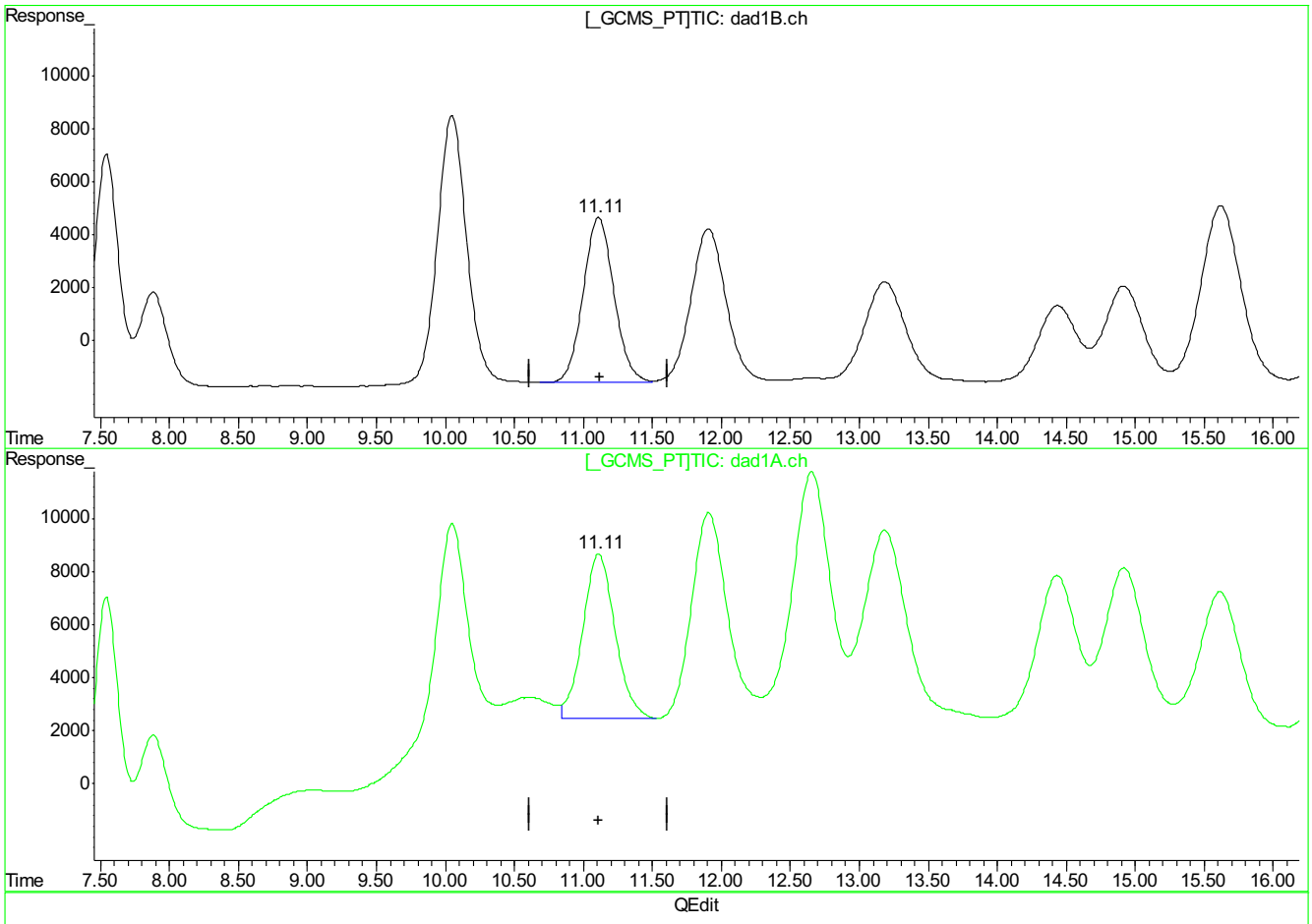
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.11min 107.959ppb

response 961685

(8) Nitrobenzene #2

11.11min 101.453ppb m

response 1000041

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:07 2017

9.5.16.11

9

GG613490.D edits: Nitrobenzene

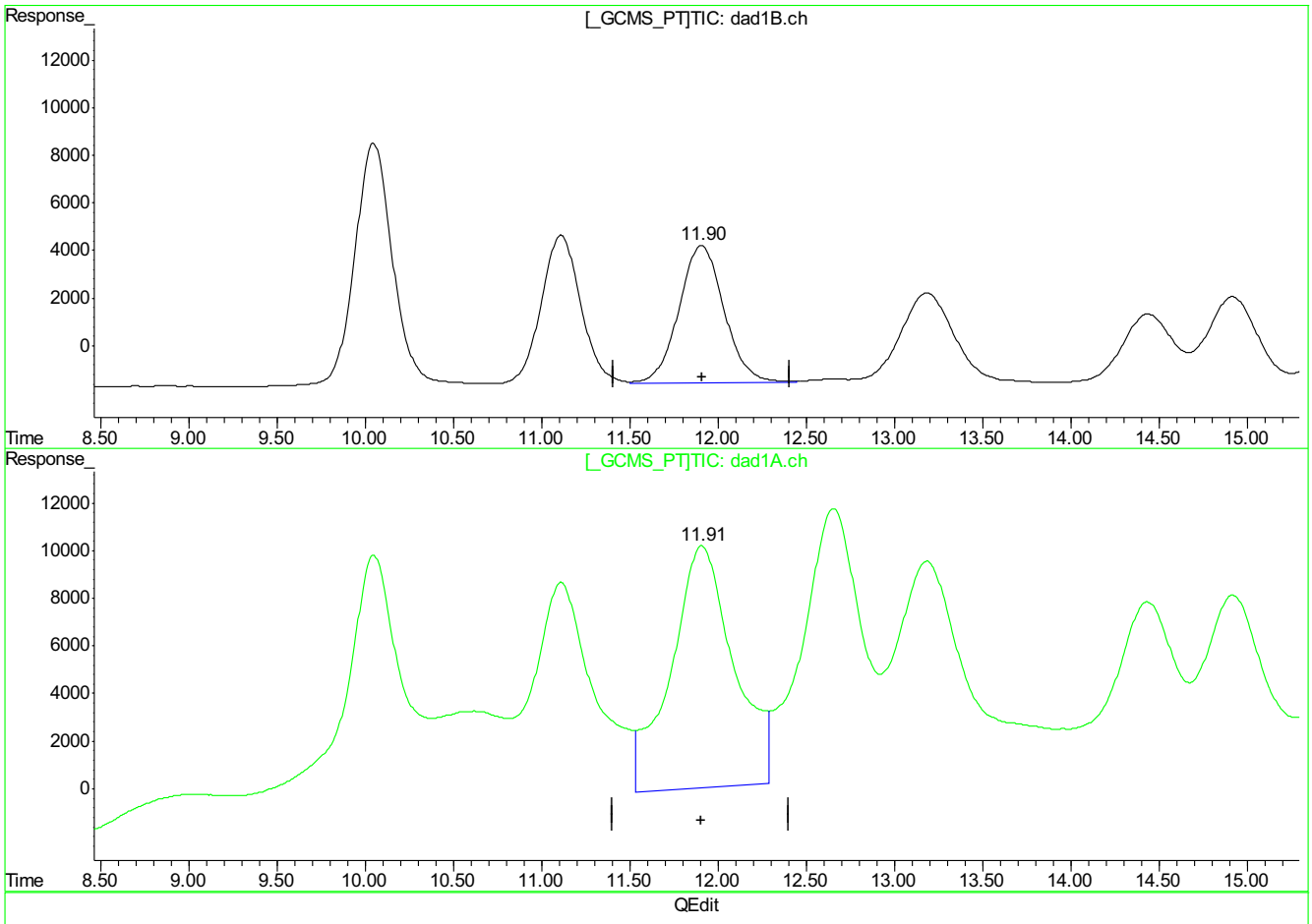
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.91min 106.883ppb

response 1031081

(9) 2,4,6-Trinitrotoluene #2

11.91min 196.885ppb

response 2520904

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:16 2017

9.5.16.12

9

GG613490.D edits: 2,4,6-Trinitrotoluene

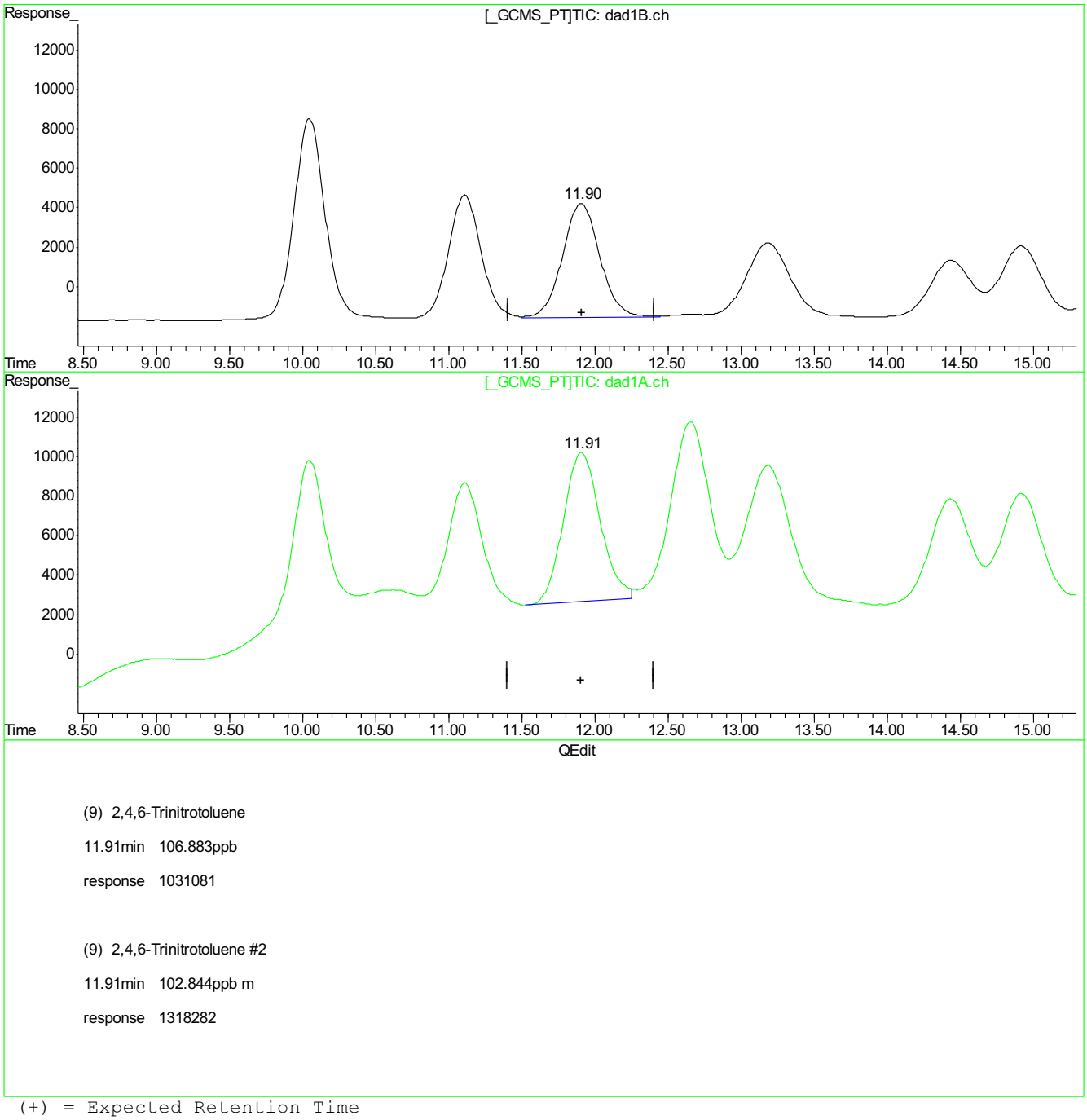
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.91min 106.883ppb

response 1031081

(9) 2,4,6-Trinitrotoluene #2

11.91min 102.844ppb m

response 1318282

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:19 2017

9.5.16.13

9

GG613490.D edits: 2,4,6-Trinitrotoluene

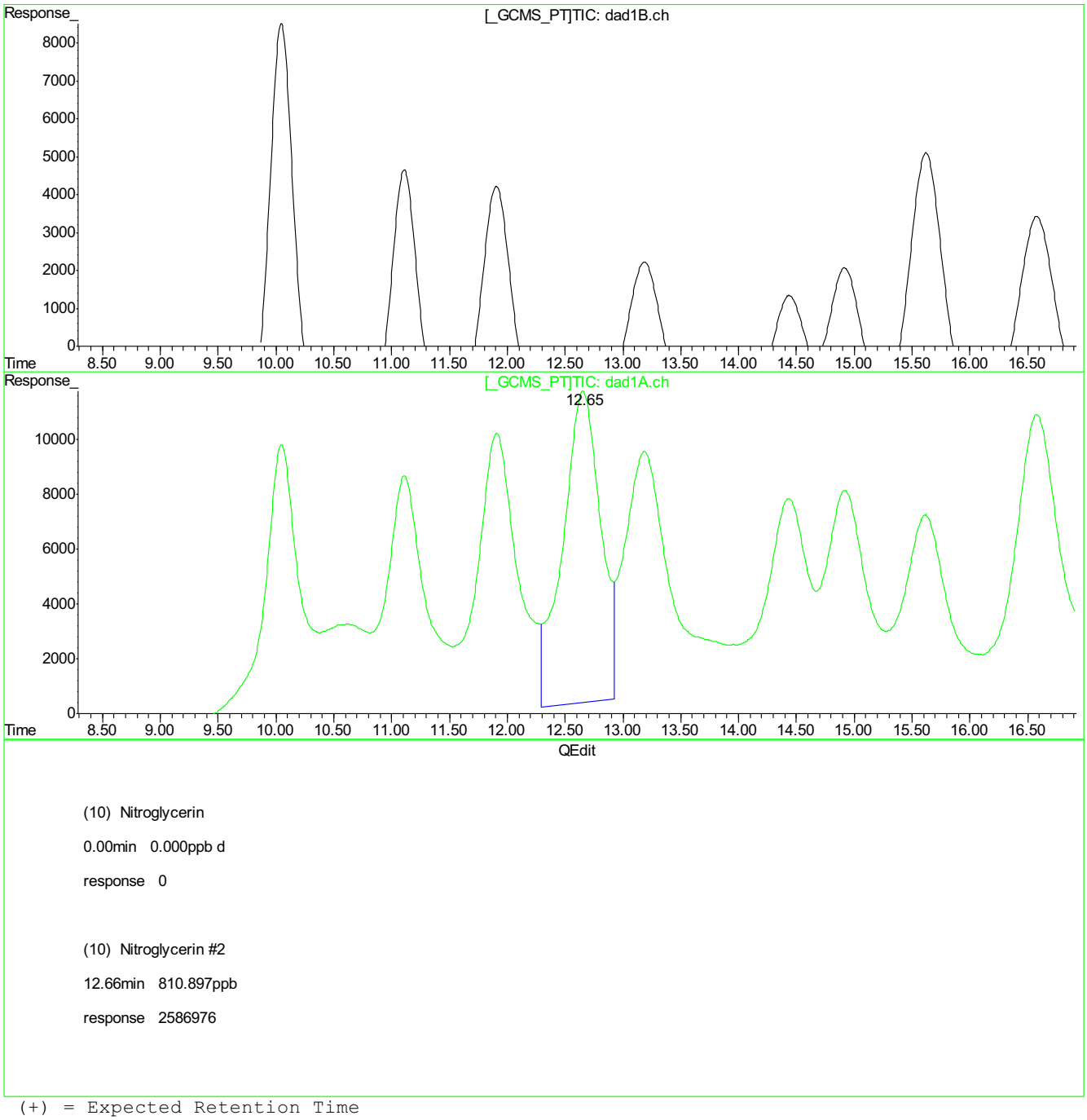
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch         Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:42:18                    Operator: evitam
Sample    : ic2548-100                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:26 2017

9.5.16.14

9

GG613490.D edits: Nitroglycerin

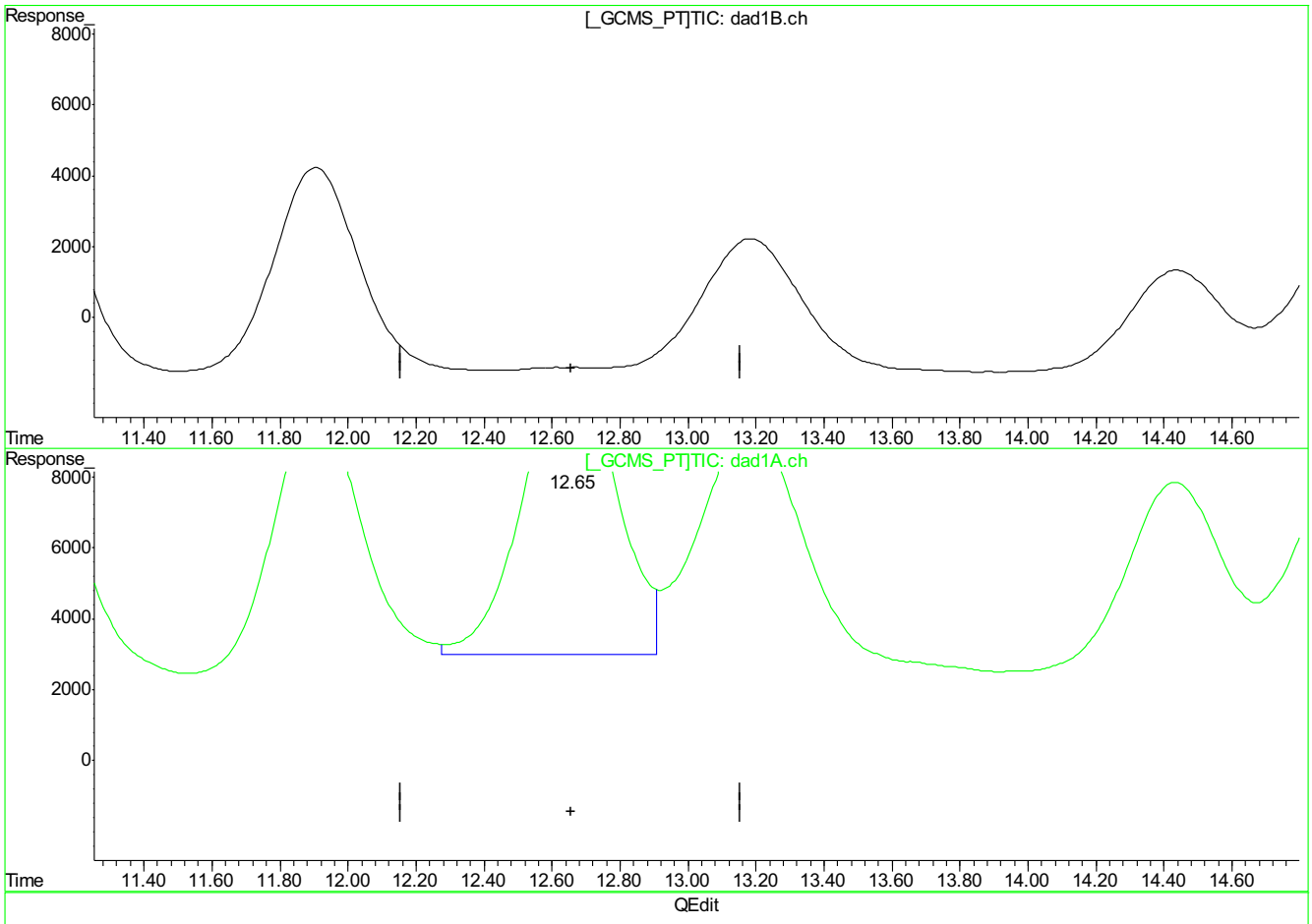
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.65min 495.829ppb m

response 1581828

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:32 2017

9.5.16.15

9

GG613490.D edits: Nitroglycerin

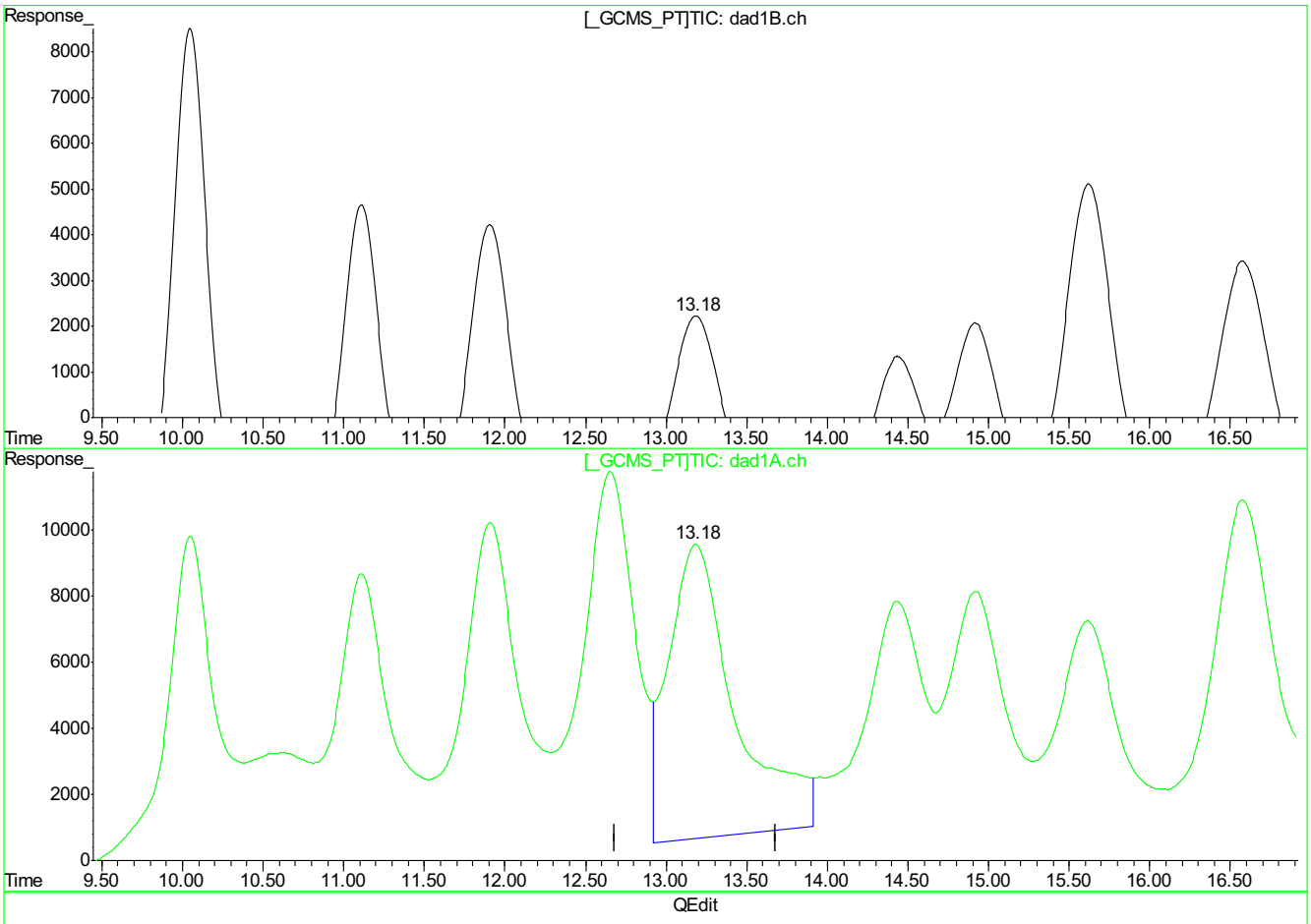
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 128.143ppb

response 824247

(11) Tetryl #2

13.19min 252.441ppb

response 2544816

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:37 2017

9.5.16.16

9

GG613490.D edits: Tetryl

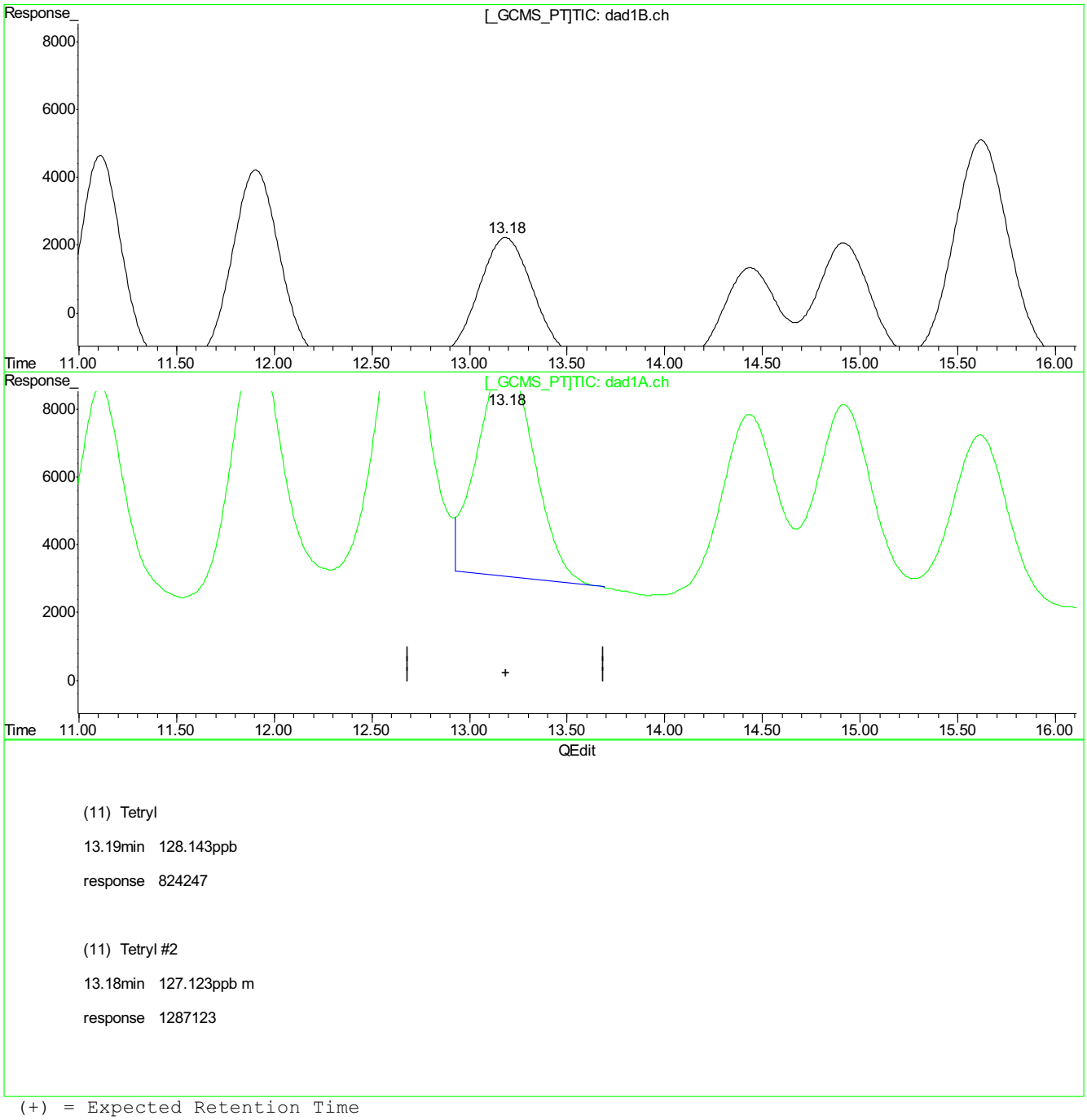
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.19min 128.143ppb

response 824247

(11) Tetryl #2

13.18min 127.123ppb m

response 1287123

(+) = Expected Retention Time

GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:44 2017

9.5.16.17

9

GG613490.D edits: Tetryl

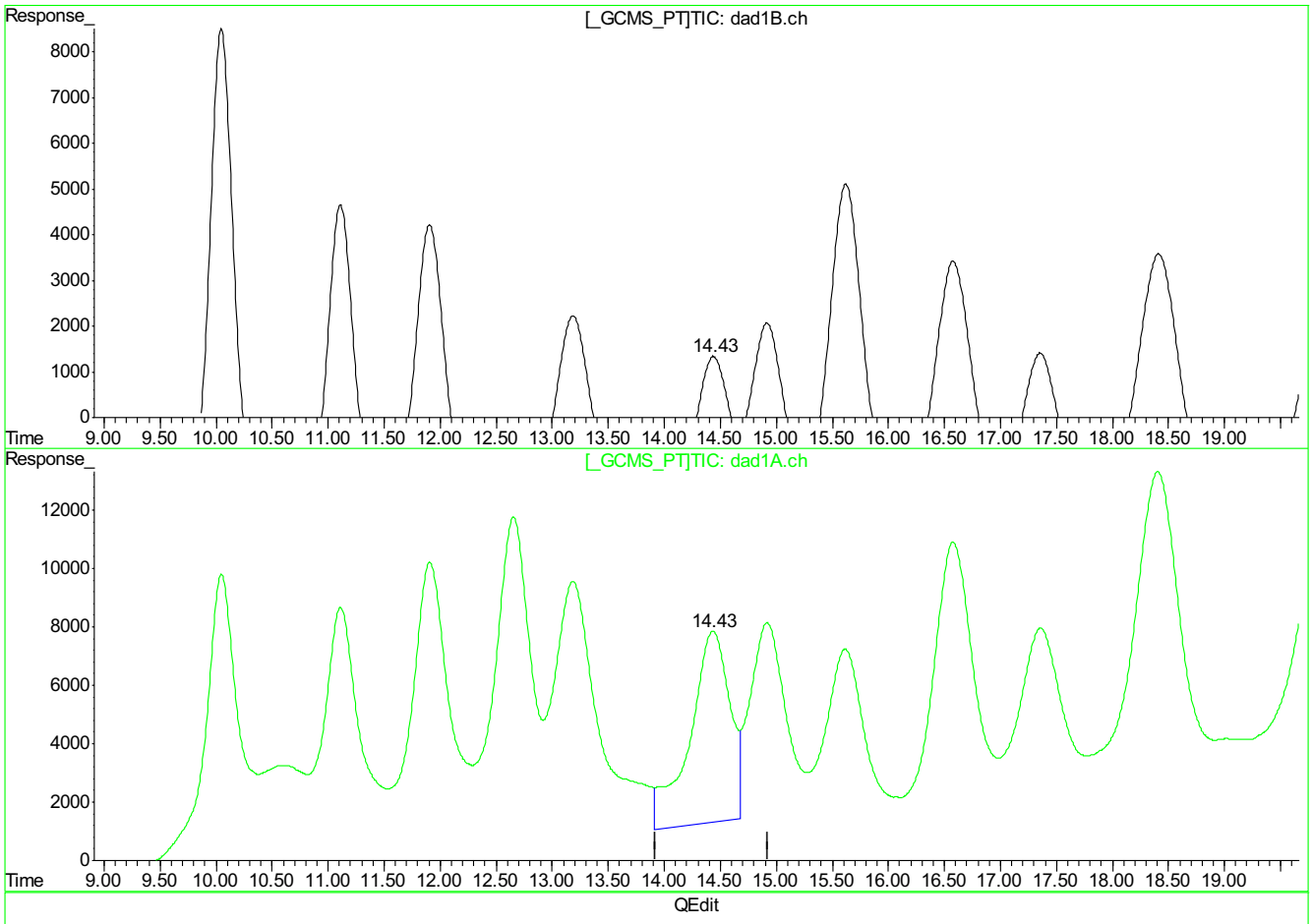
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch         Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On    : 20-Jul-2017, 17:42:18                    Operator: evitam
Sample    : ic2548-100                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration
```



(12) 3,4-Dinitrotoluene (S)

14.44min 102.714ppb

response 567700

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 147.798ppb

response 1624837

(+) = Expected Retention Time

GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:52 2017

9.5.16.18

9

GG613490.D edits: 3,4-Dinitrotoluene

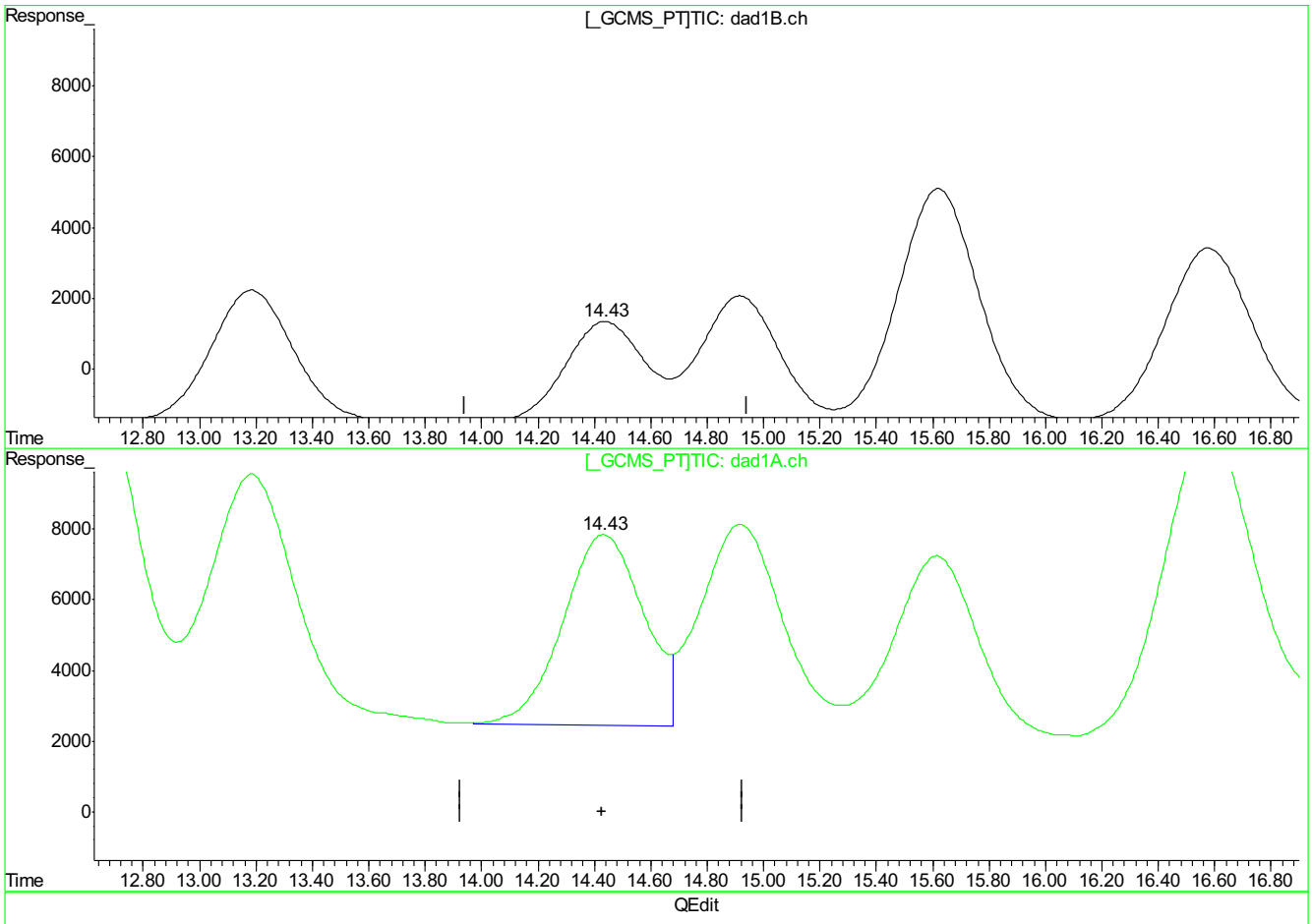
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.44min 102.714ppb

response 567700

(12) 3,4-Dinitrotoluene #2 (S)

14.43min 96.922ppb m

response 1066335

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 10:59:59 2017

9.5.16.19

9

GG613490.D edits: 3,4-Dinitrotoluene

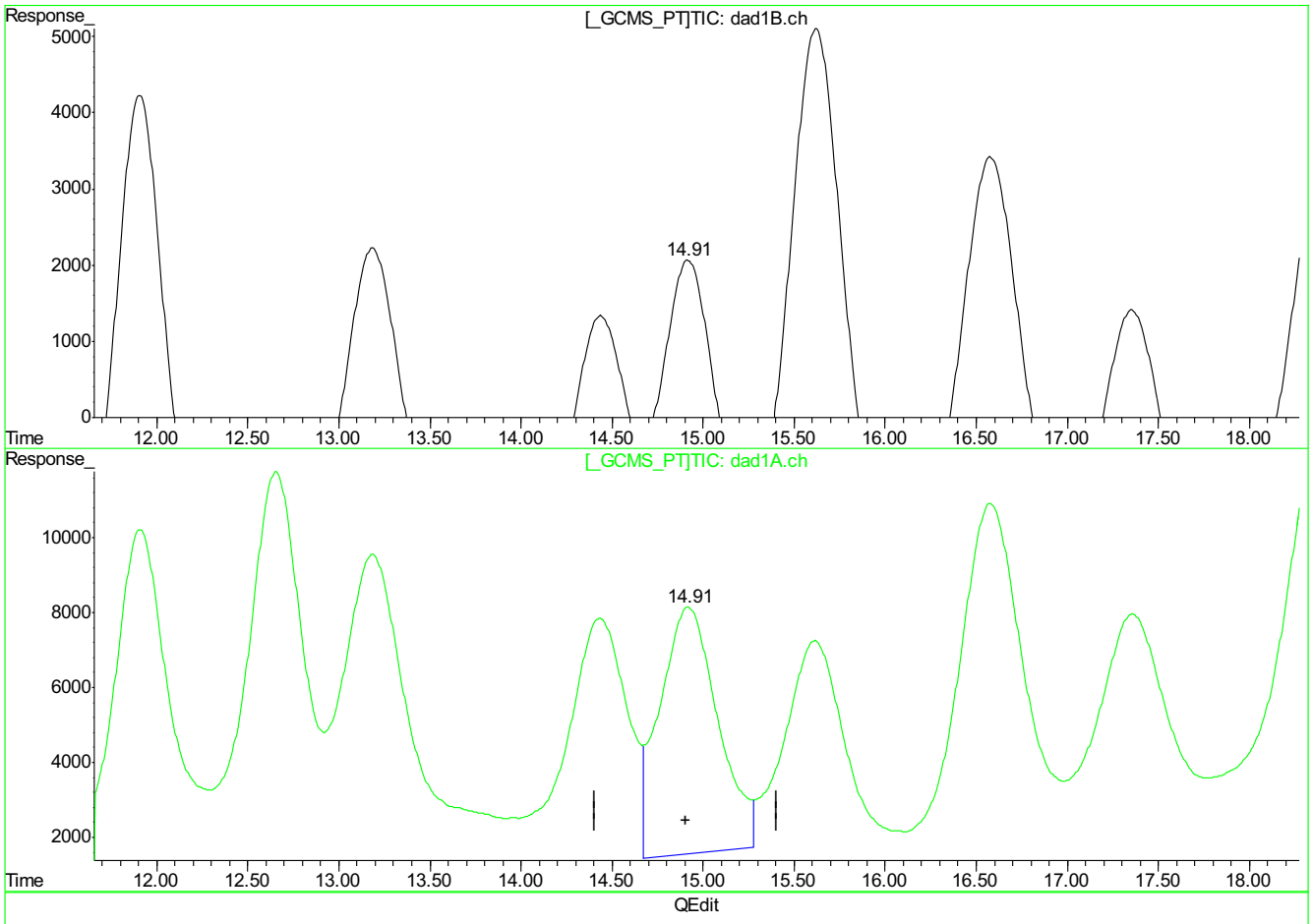
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.92min 109.663ppb

response 711860

(13) 2,6-Dinitrotoluene #2

14.92min 159.437ppb

response 1462365

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:04 2017

9.5.16.20

9

GG613490.D edits: 2,6-Dinitrotoluene

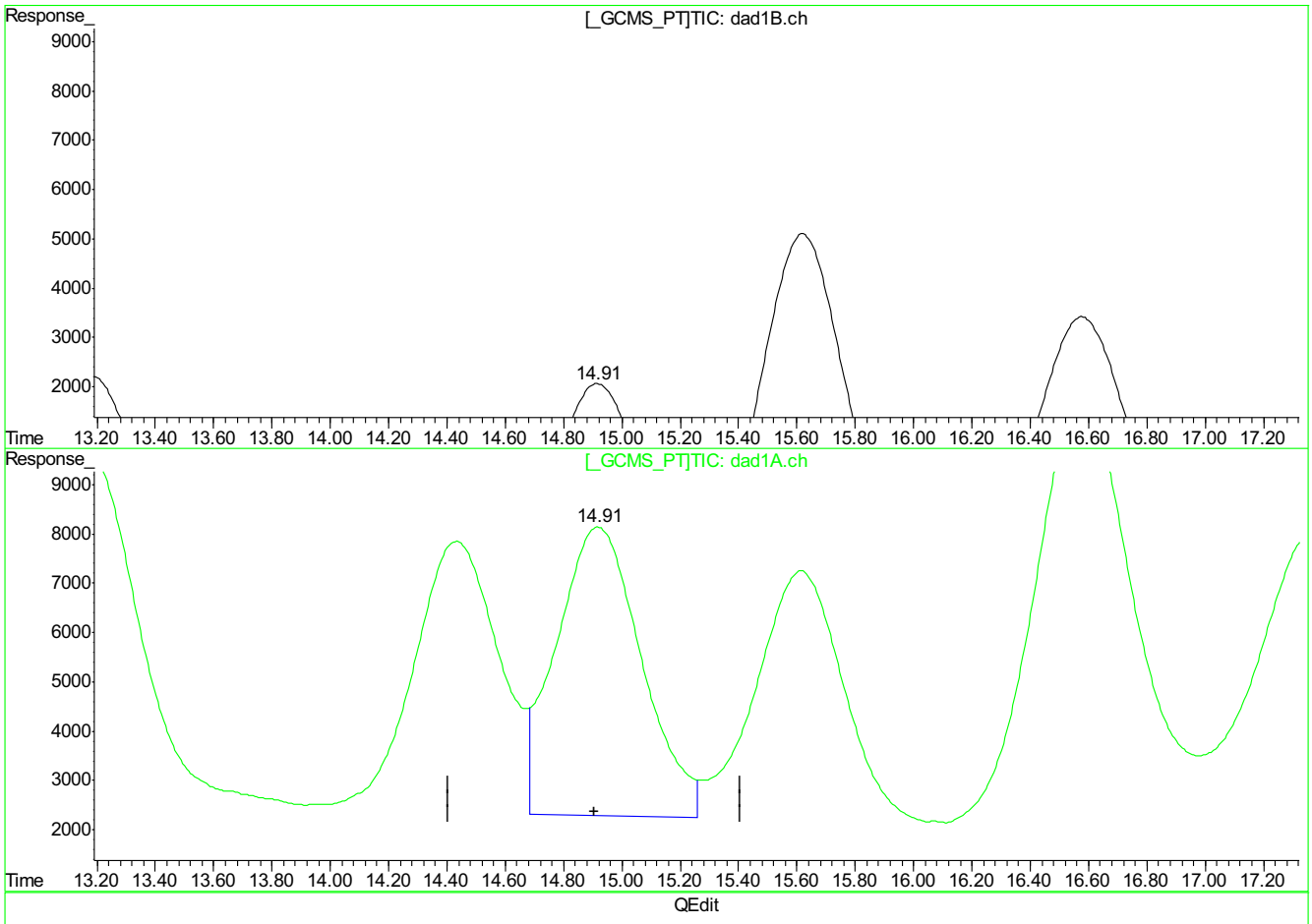
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.92min 109.663ppb

response 711860

(13) 2,6-Dinitrotoluene #2

14.91min 128.846ppb m

response 1181375

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:16 2017

9.5.16.21

9

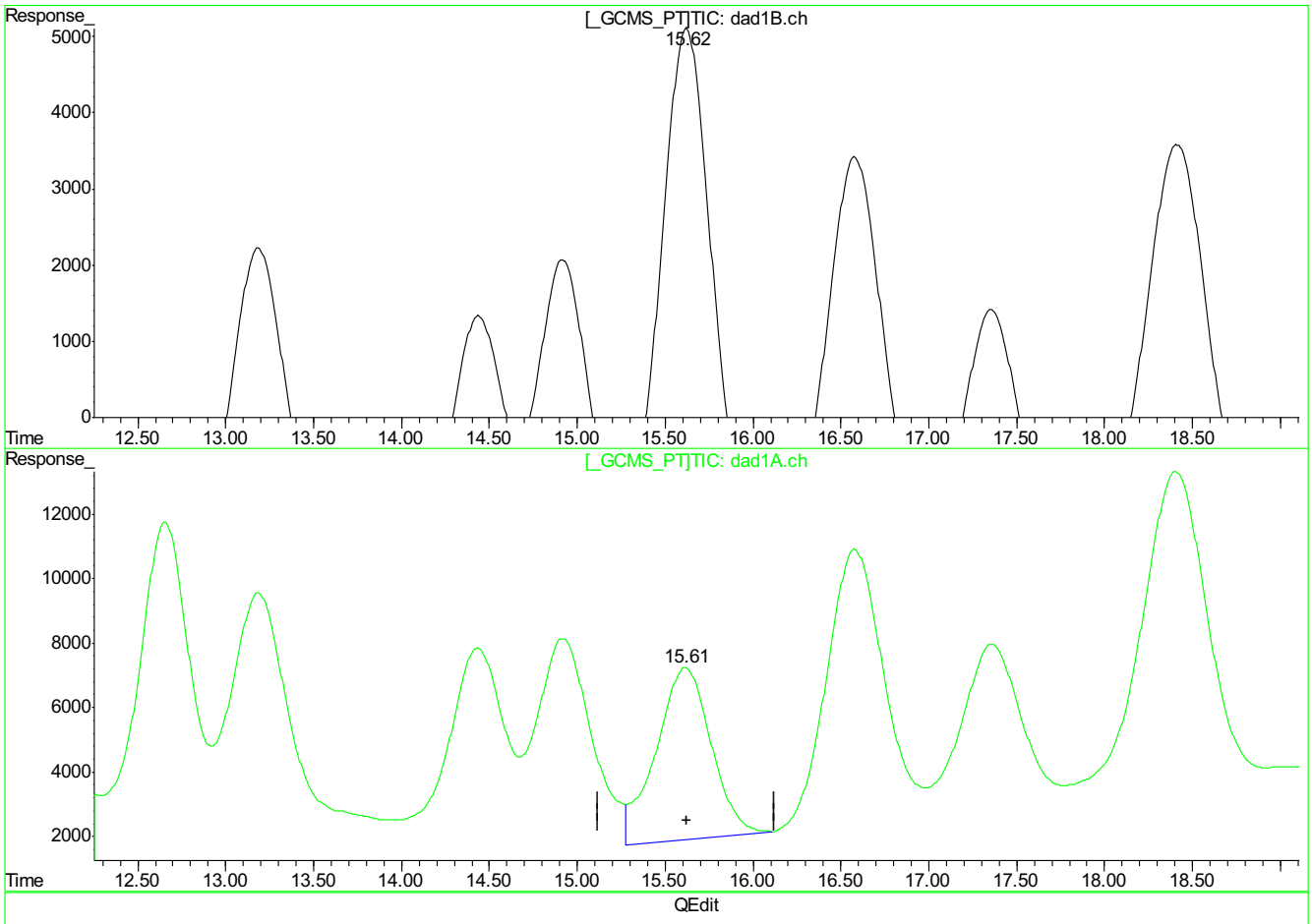
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 108.113ppb

response 1343693

(14) 2,4-Dinitrotoluene #2

15.62min 117.205ppb

response 1166857

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:21 2017

9.5.16.22

9

GG613490.D edits: 2,4-Dinitrotoluene

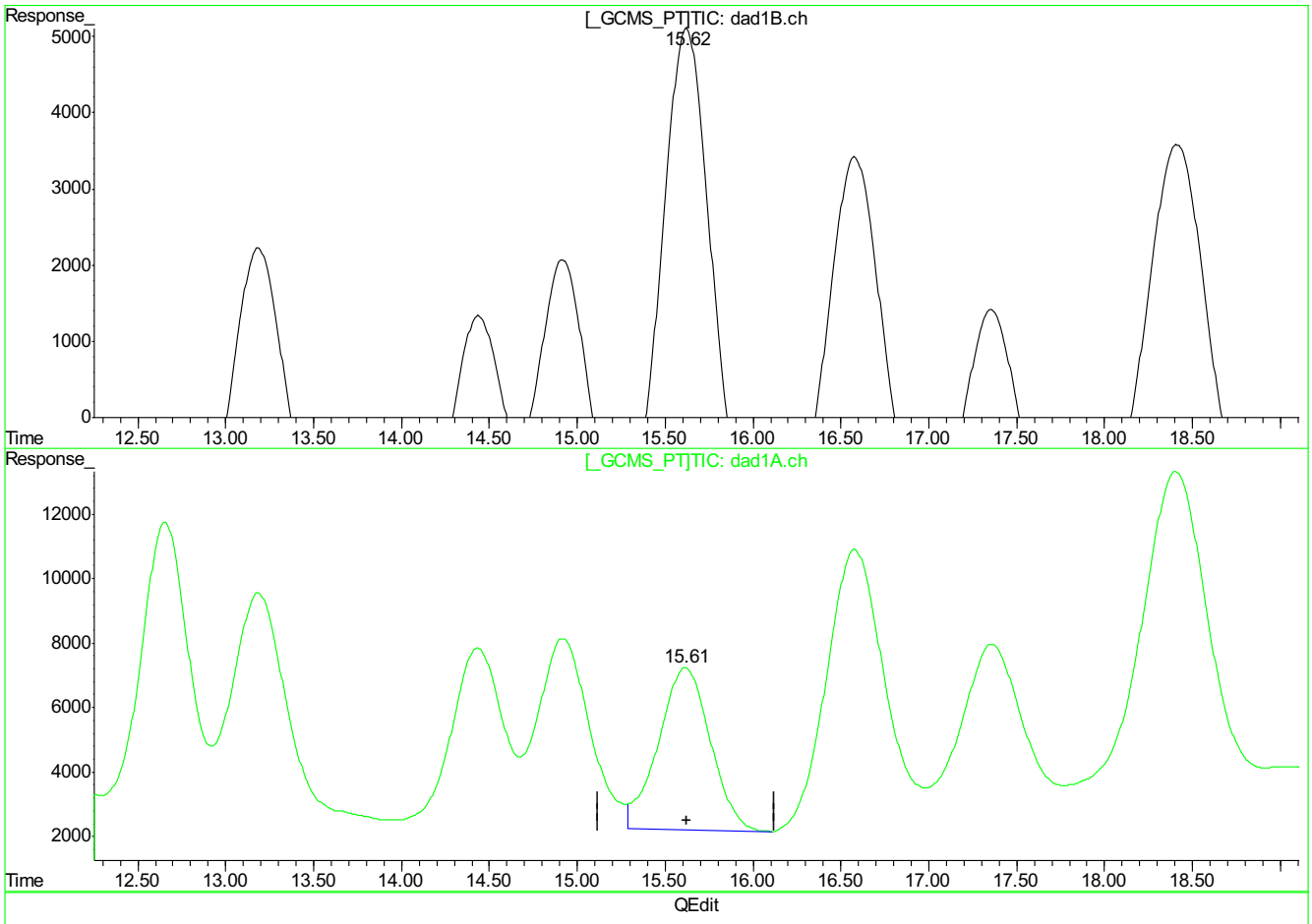
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.62min 108.113ppb

response 1343693

(14) 2,4-Dinitrotoluene #2

15.61min 103.626ppb m

response 1031671

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:26 2017

9.5.16.23

9

GG613490.D edits: 2,4-Dinitrotoluene

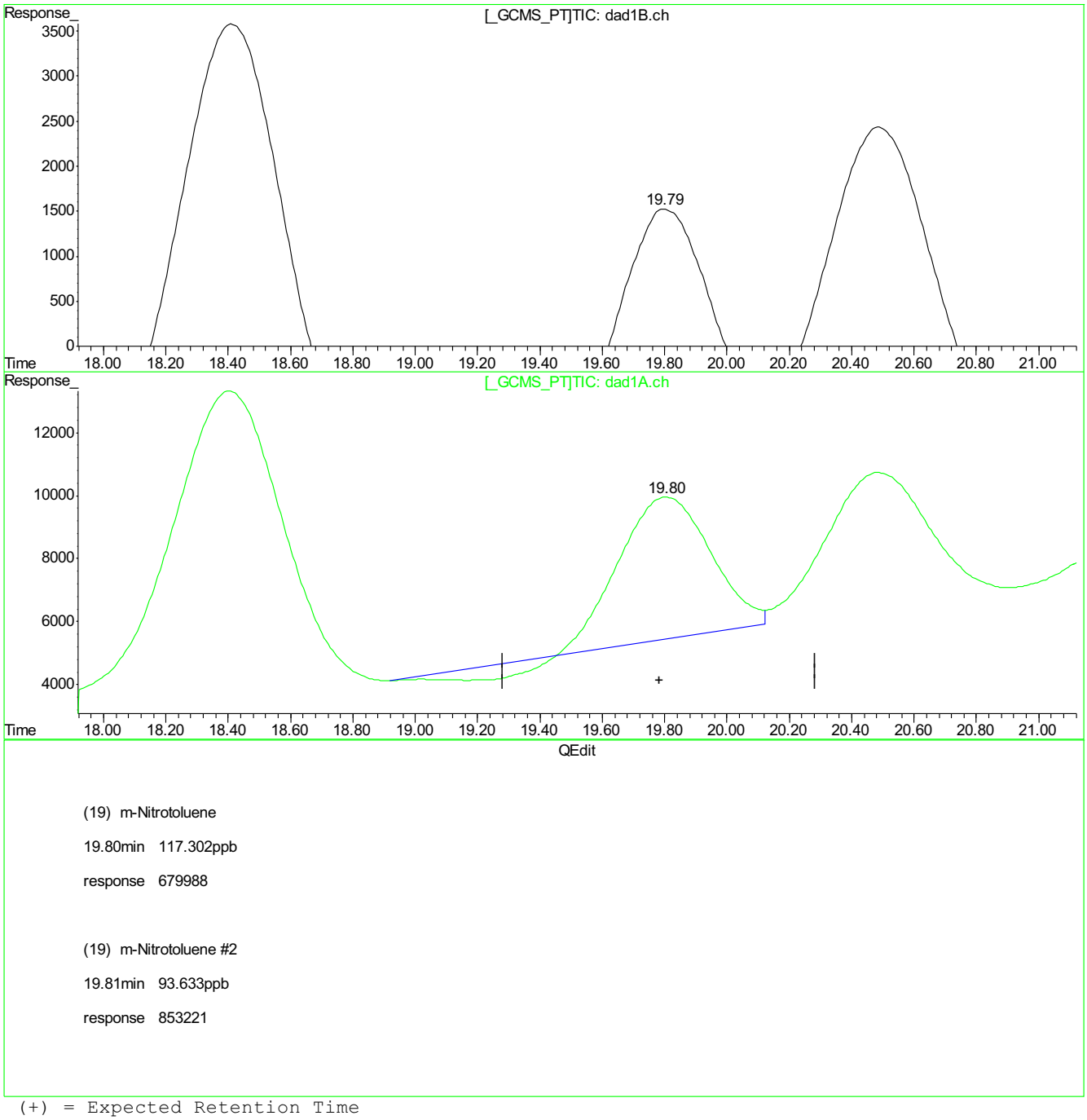
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.80min 117.302ppb

response 679988

(19) m-Nitrotoluene #2

19.81min 93.633ppb

response 853221

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:33 2017

9.5.16.24

9

GG613490.D edits: m-Nitrotoluene

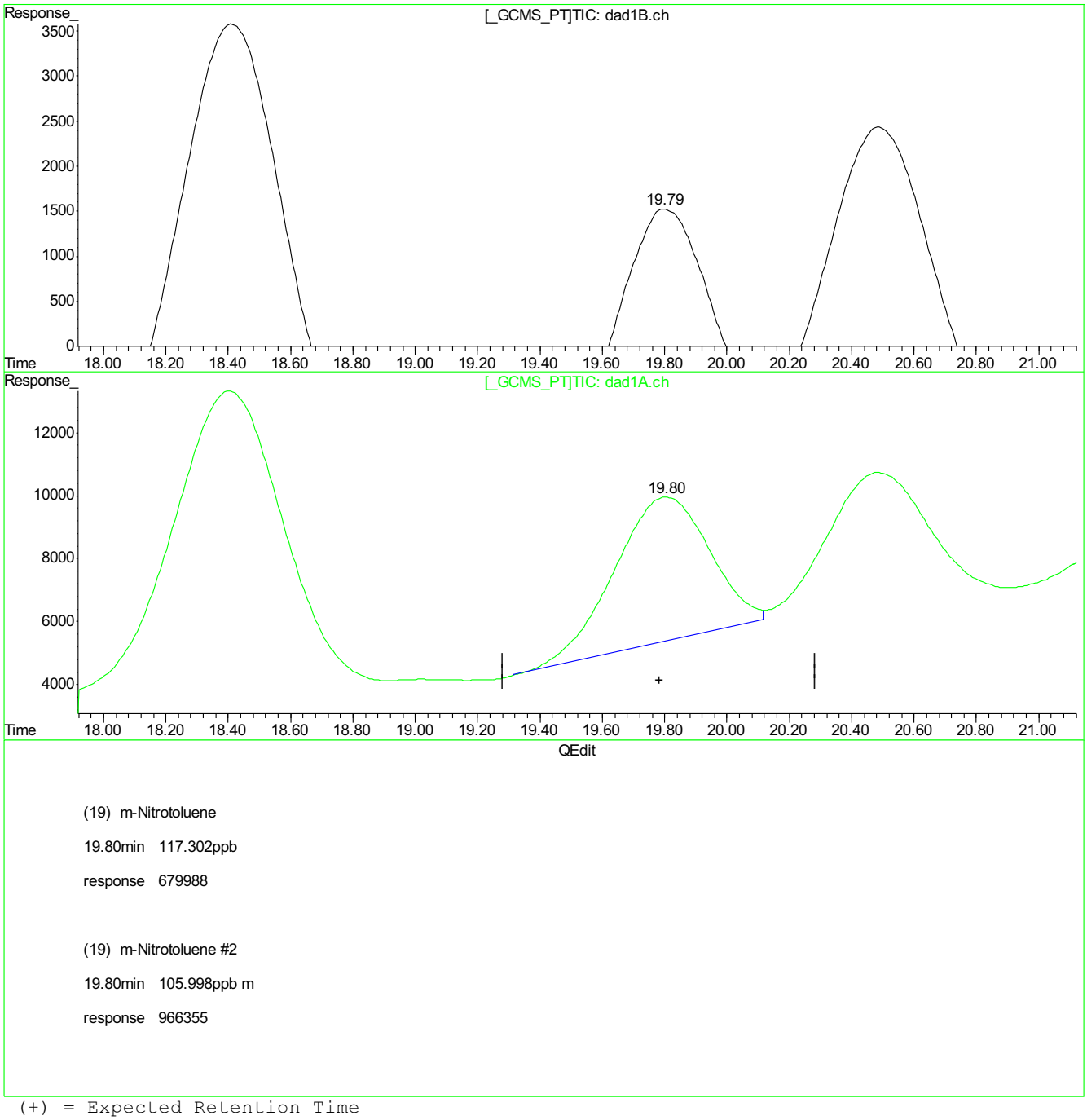
SGS ACCUTEST FA45759

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.80min 117.302ppb

response 679988

(19) m-Nitrotoluene #2

19.80min 105.998ppb m

response 966355

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:37 2017

9.5.16.25

9

GG613490.D edits: m-Nitrotoluene

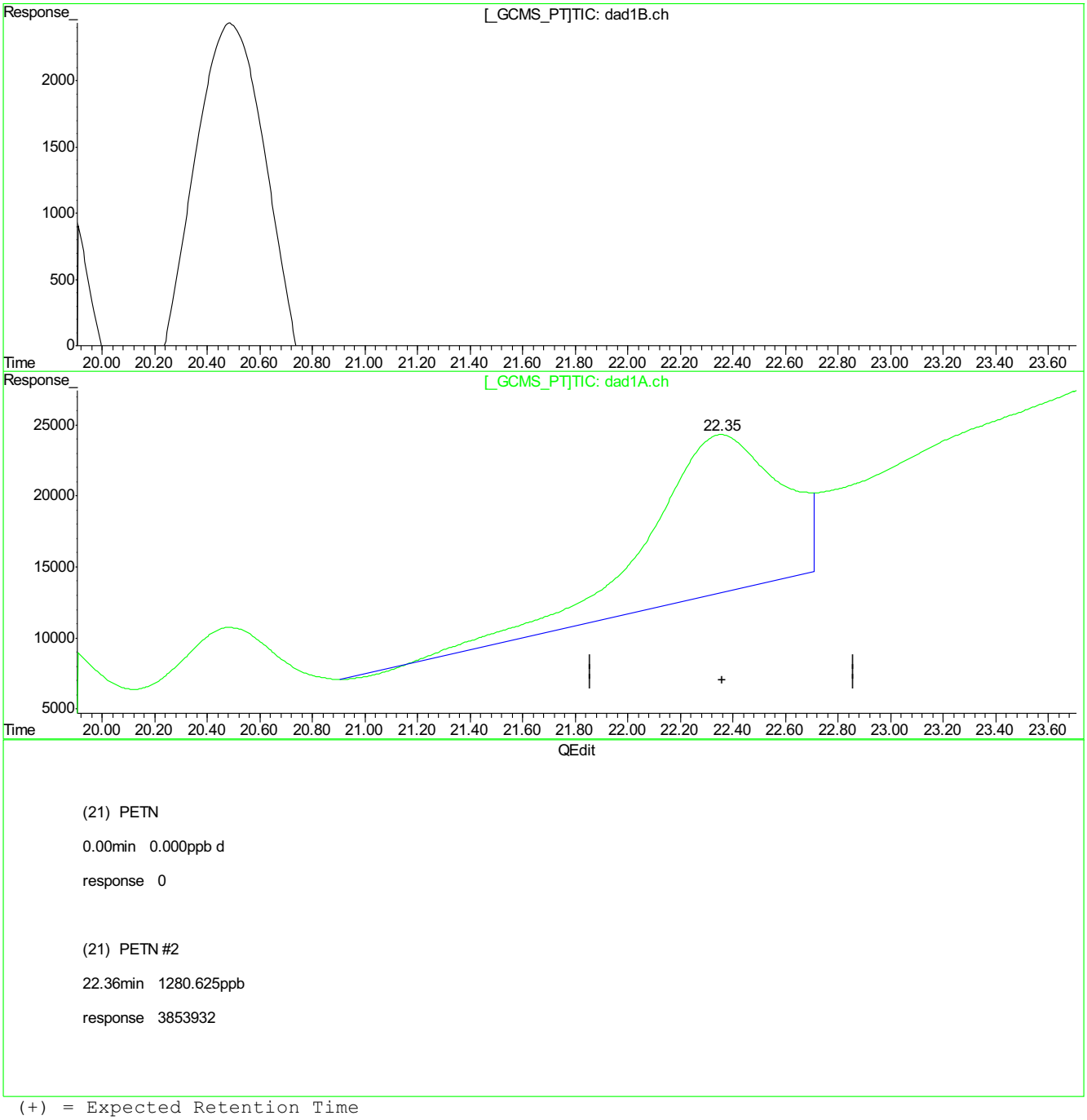
SGS ACCUTEST FA45759

Cal Report: **GG613490.D**

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 1280.625ppb

response 3853932

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:40 2017

9.5.16.26

9

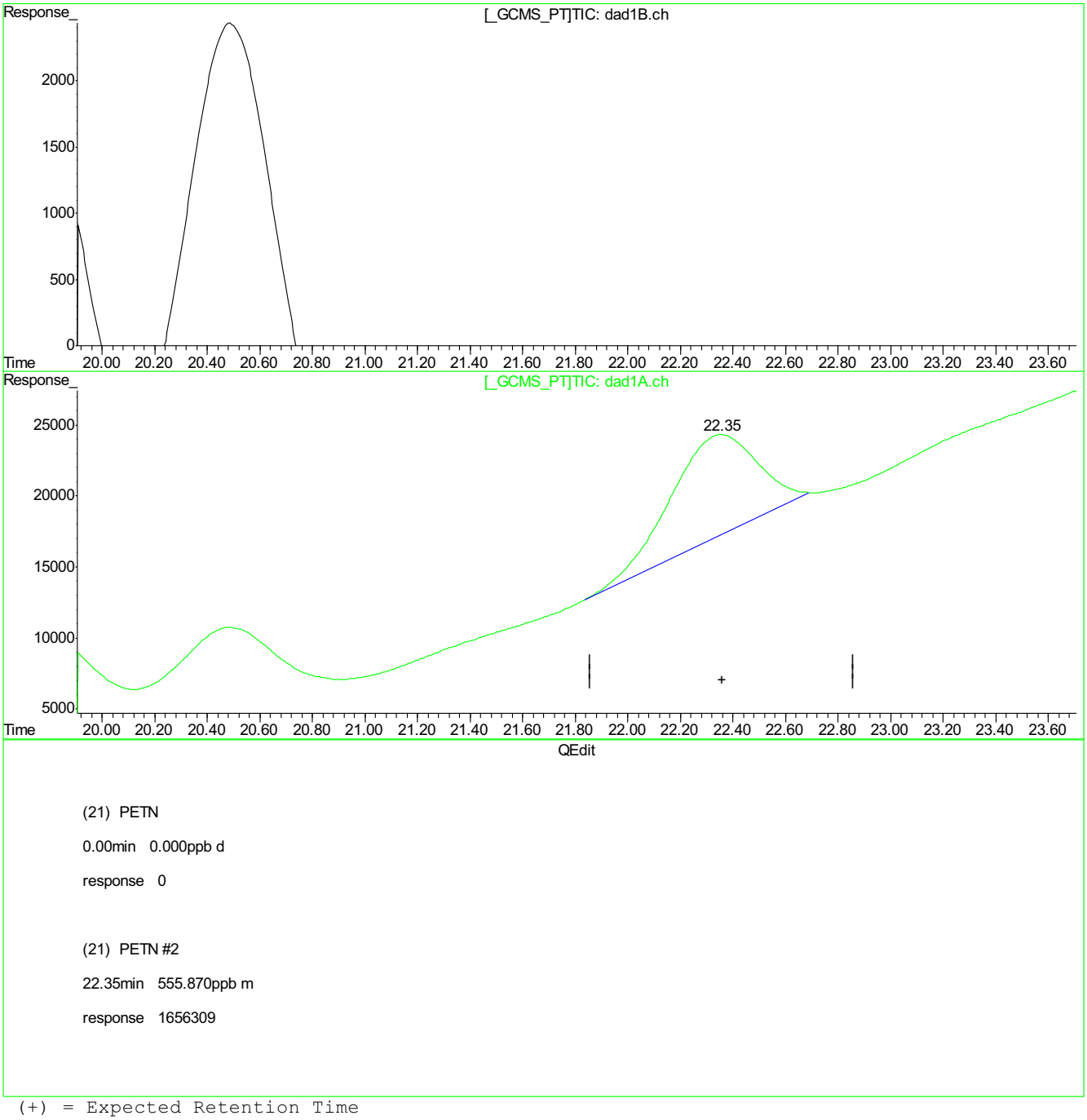
GG613490.D edits: PETN

Cal Report: GG613490.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613490.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0720RPB3\GG613490.D\dad1A.ch
Acq On : 20-Jul-2017, 17:42:18 Operator: evitam
Sample : ic2548-100 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:57 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 10:57:45 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.35min 555.870ppb m

response 1656309

(+) = Expected Retention Time
GG613490.D 8330RPB.M_0720M.M Mon Jul 24 11:00:43 2017

9.5.16.27

9

GG613490.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613491.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00:58 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.47	14.46	1141883	2299144	206.278	209.526m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		41.26%#	41.91%#
	Target Compounds						
1)	TNX	4.96	4.96	1684647	1684647	210.146	209.854
2)	HMX	5.32	5.32	703722	699632	205.871m	203.835m
3)	DNX	5.52	5.52	1384336	1384336	194.664	188.504
4)	MNX	6.53	6.53	984843	984843	196.905	196.905
5)	1,3,5-Trinitrobe	7.56	7.56	2138750	2138750	215.121	214.434
6)	RDX	7.90	7.90	996717	996717	218.403	218.403
7)	1,3-Dinitrobenze	10.07	10.07	2902553	2272859	211.416	213.321m
8)	Nitrobenzene	11.14	11.14	1880452	1987426	208.058	203.217m
9)	2,4,6-Trinitroto	11.92	11.92	2024099	2637004	207.224	205.462m
10)	Nitroglycerin	0.00	12.67	0	3122153	N.D.	985.080m#
11)	Tetryl	13.21	13.20	1567577	2611308	233.479	257.693m
13)	2,6-Dinitrotolue	14.94	14.94	1397557	2099516	212.022	227.418m
14)	2,4-Dinitrotolue	15.64	15.64	2671865	2235253	212.012	221.255
15)	o-Nitrotoluene	17.37	17.38	1190105	1860030	211.491	239.737
16)	3,5-Dinitroanili	16.60	16.60	2188344	3548170	159.844	155.661
17)	p-Nitrotoluene	18.44	18.44	2447650	4541016	212.659	231.492
18)	4-Amino-2,6-Dini	18.44	18.44	2447650	4541016	212.659	231.492
19)	m-Nitrotoluene	19.83	19.83	1302333	1949891	217.759	213.022
20)	2-Amino-4,6-Dini	20.52	20.53	1913641	2283763	233.517	215.315
21)	PETN	0.00	22.36	0	3117487	N.D. d	1039.601m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 13:56:33 2017 Page 1

9.5.17
9

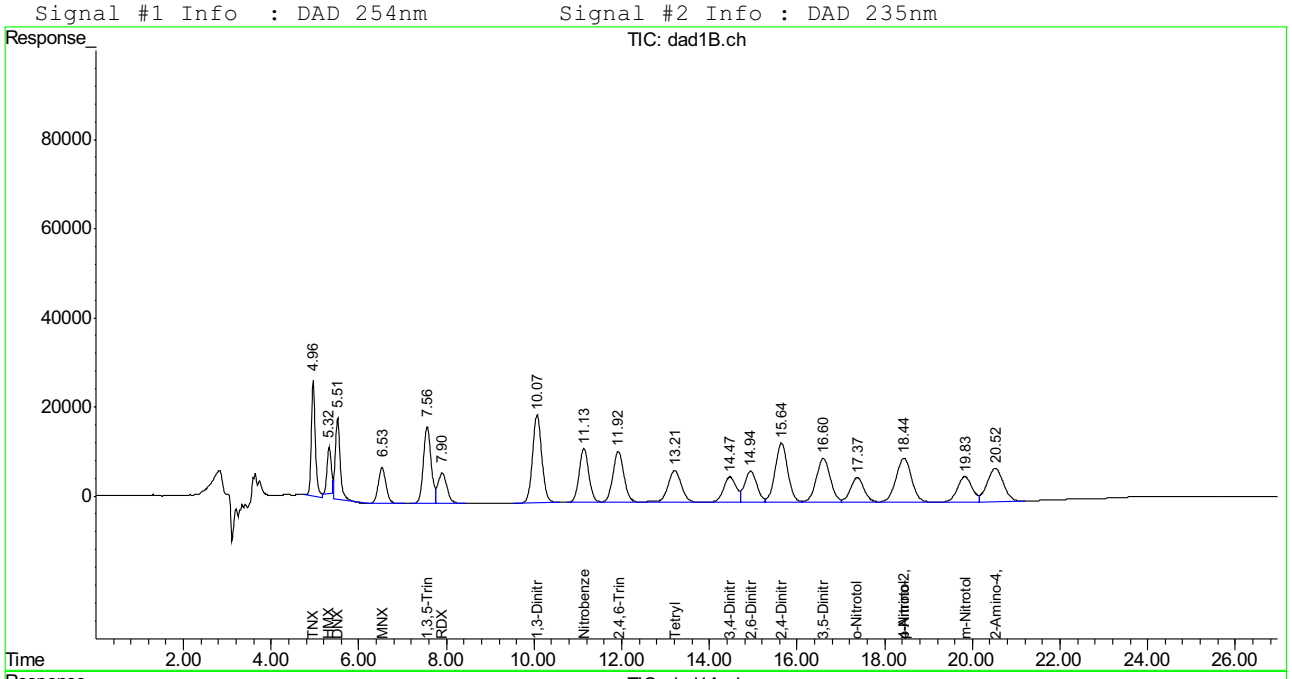
SGS ACCUTEST FA45759

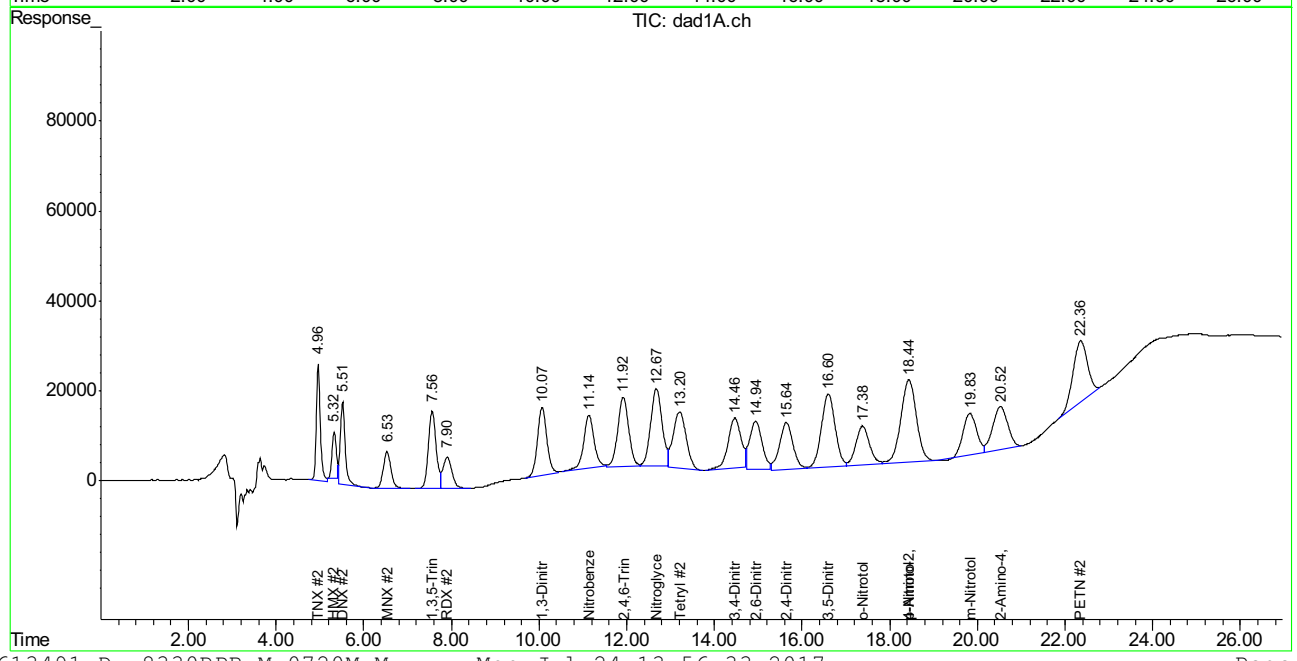
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:02 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613491.D
Injection Time: 07/20/17 18:11
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

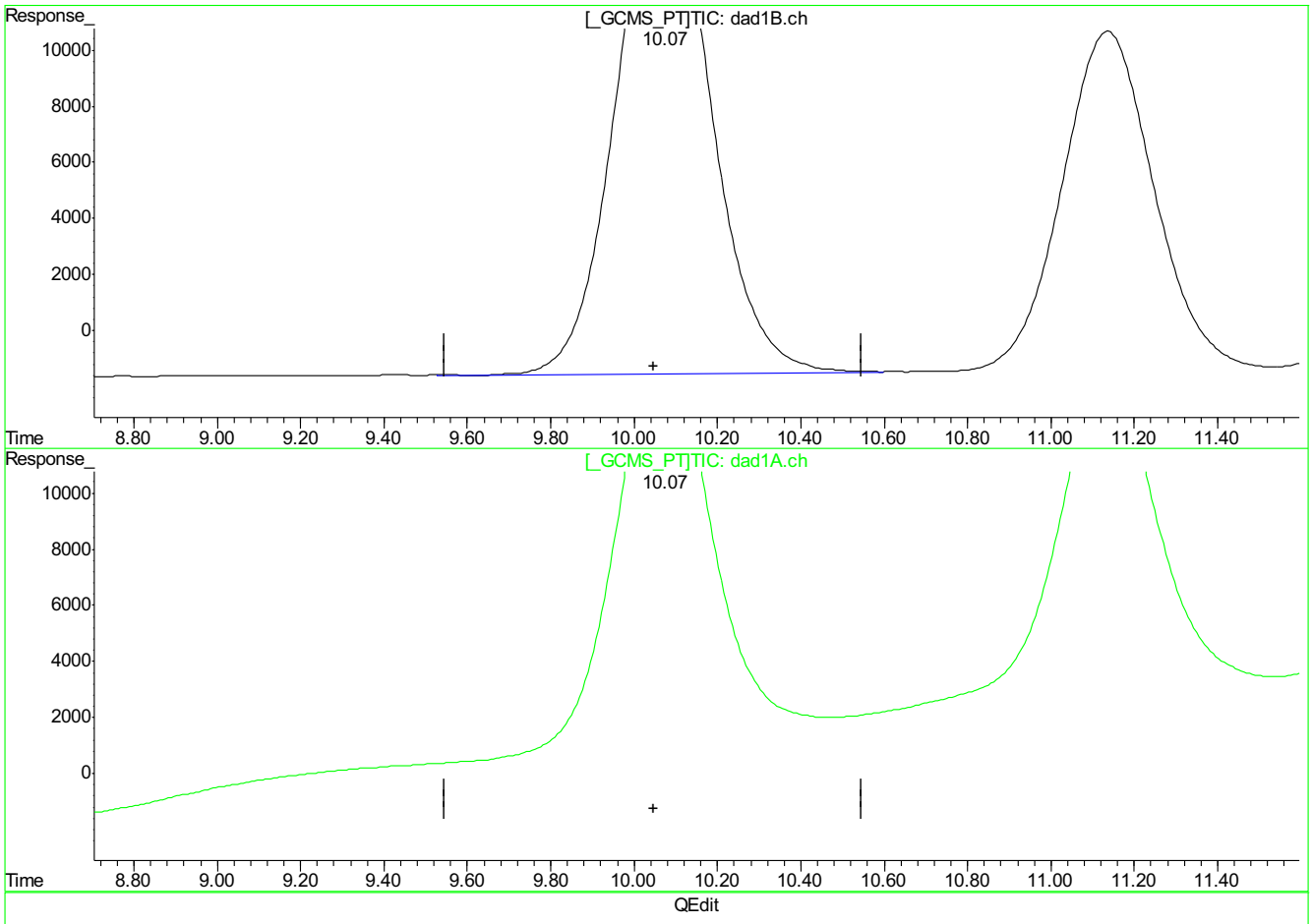
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.32	Poorly defined baseline
HMX	2691-41-0	2	5.32	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	10.07	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.14	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.92	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.67	Poorly defined baseline
Tetryl	479-45-8	2	13.20	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.46	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.94	Poorly defined baseline
PETN	78-11-5	2	22.36	Poorly defined baseline

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.07min 211.416ppb

response 2902553

(7) 1,3-Dinitrobenzene #2

10.07min 354.665ppb

response 3763530

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:21 2017

9.5.17.2

9

GG613491.D edits: 1,3-Dinitrobenzene

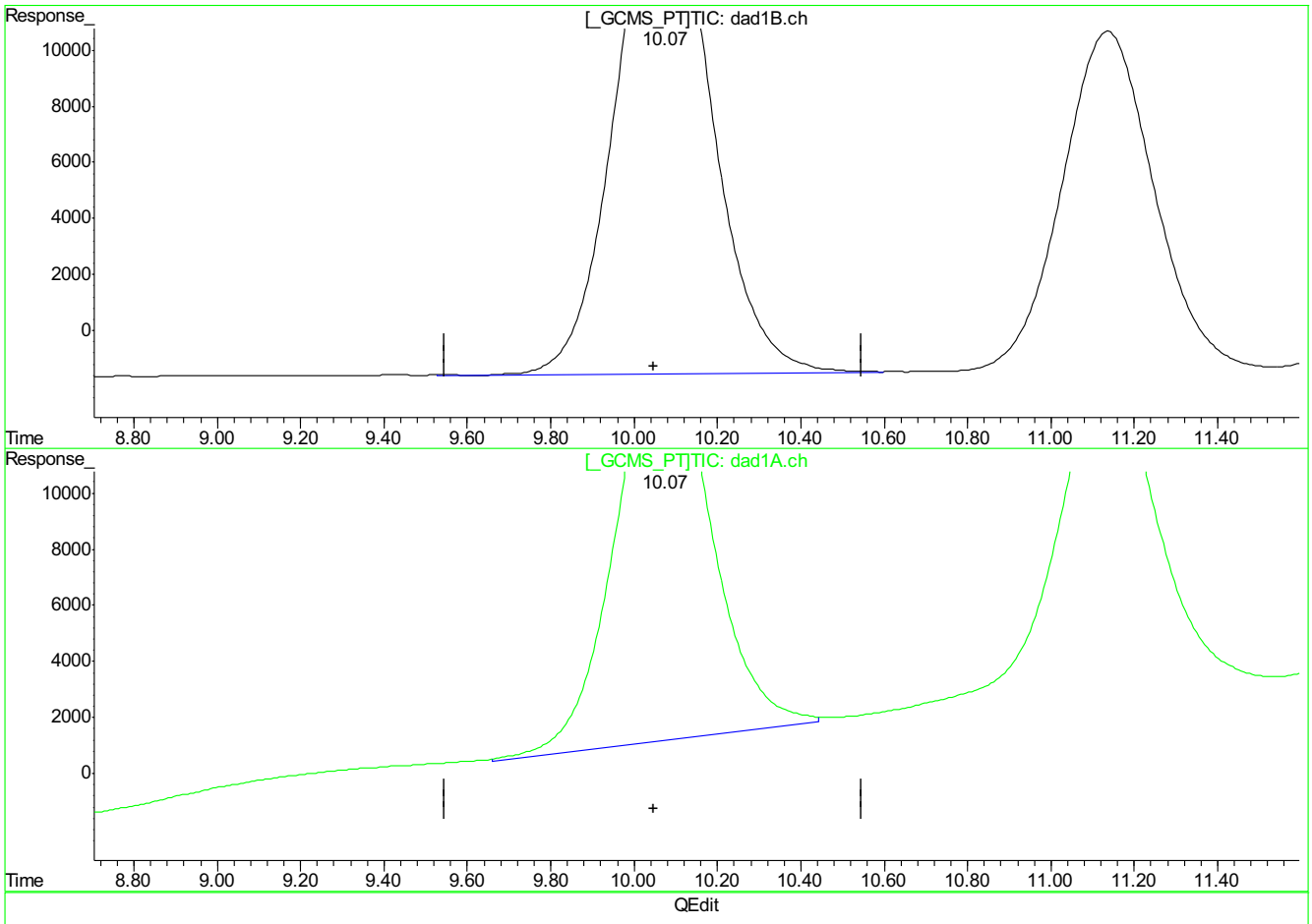
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.07min 211.416ppb

response 2902553

(7) 1,3-Dinitrobenzene #2

10.07min 213.321ppb m

response 2272859

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:26 2017

9.5.17.3

9

GG613491.D edits: 1,3-Dinitrobenzene

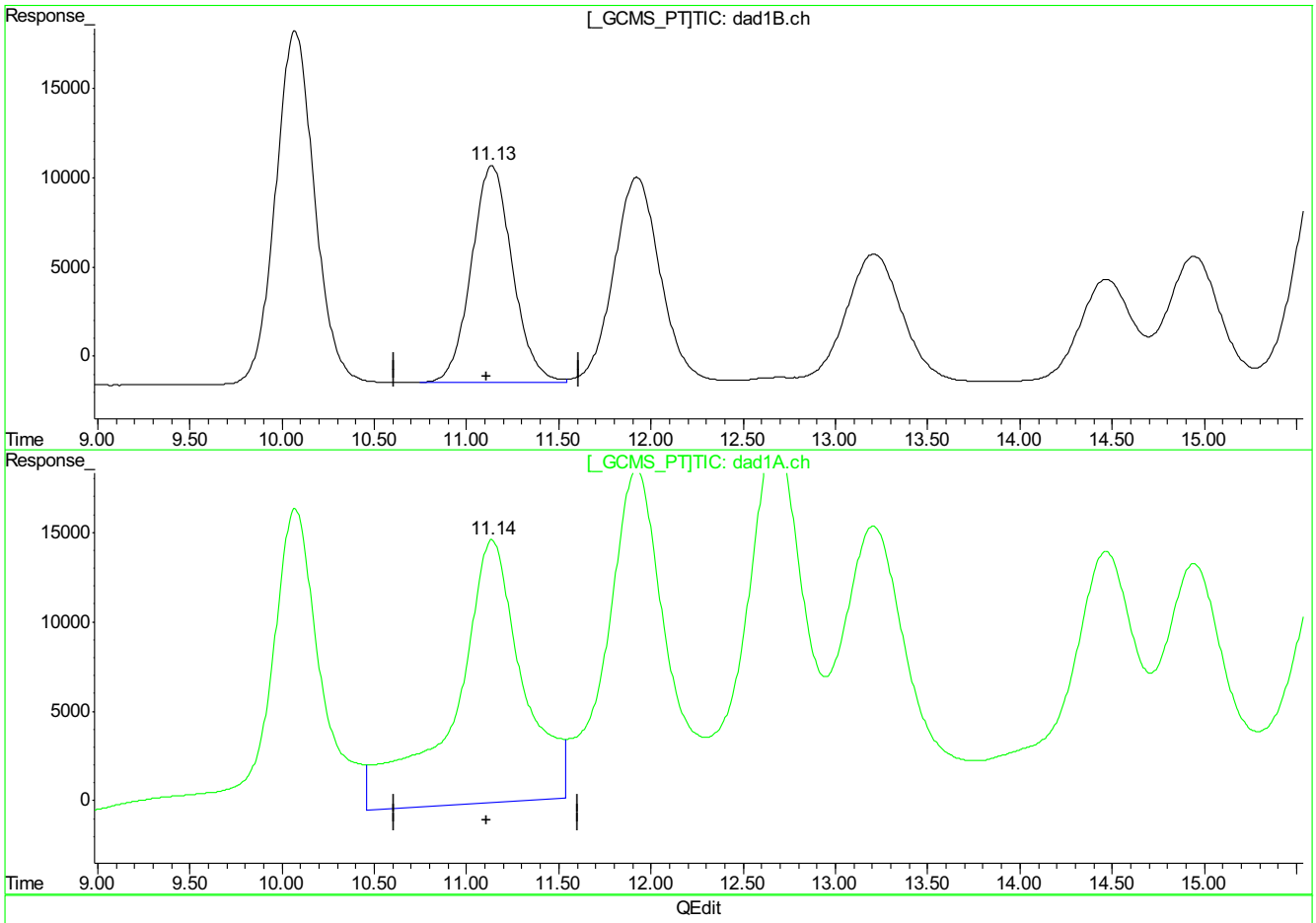
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.14min 208.058ppb

response 1880452

(8) Nitrobenzene #2

11.14min 393.807ppb

response 3785182

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:33 2017

9.5.17.4

9

GG613491.D edits: Nitrobenzene

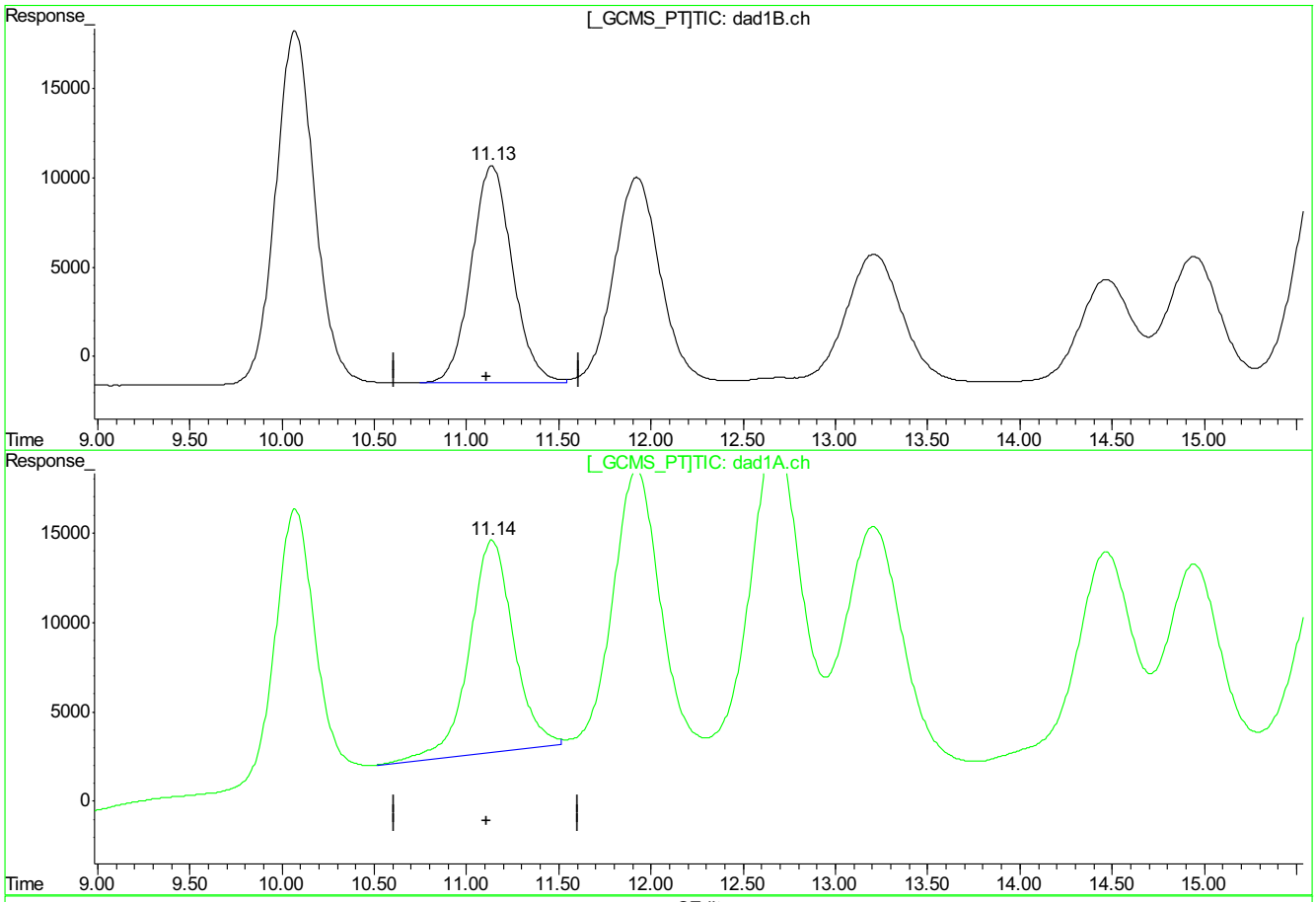
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.14min 208.058ppb

response 1880452

(8) Nitrobenzene #2

11.14min 203.217ppb m

response 1987426

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:36 2017

9.5.17.5

9

GG613491.D edits: Nitrobenzene

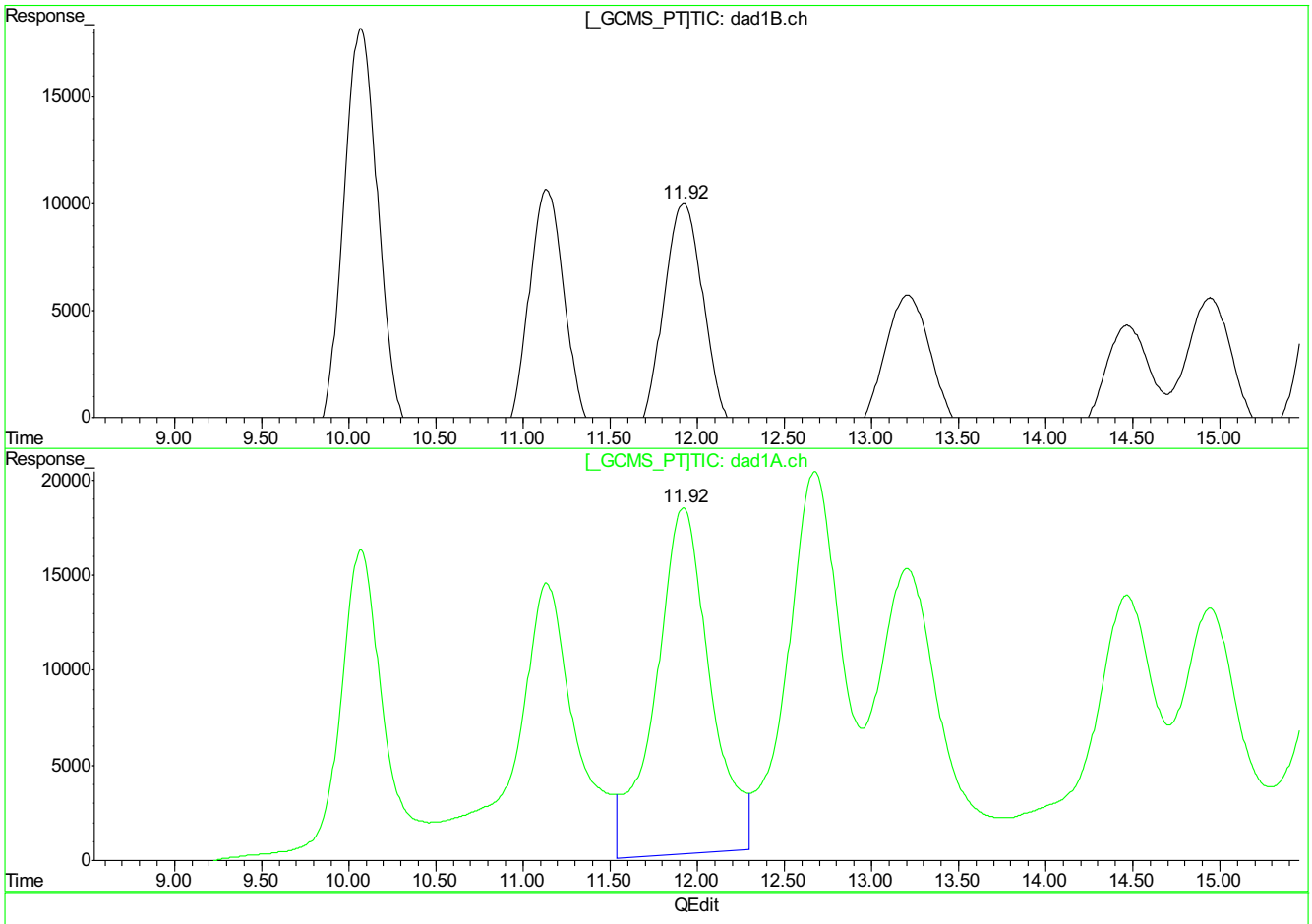
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.92min 207.224ppb

response 2024099

(9) 2,4,6-Trinitrotoluene #2

11.92min 309.515ppb

response 3966963

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:42 2017

9.5.17.6

9

GG613491.D edits: 2,4,6-Trinitrotoluene

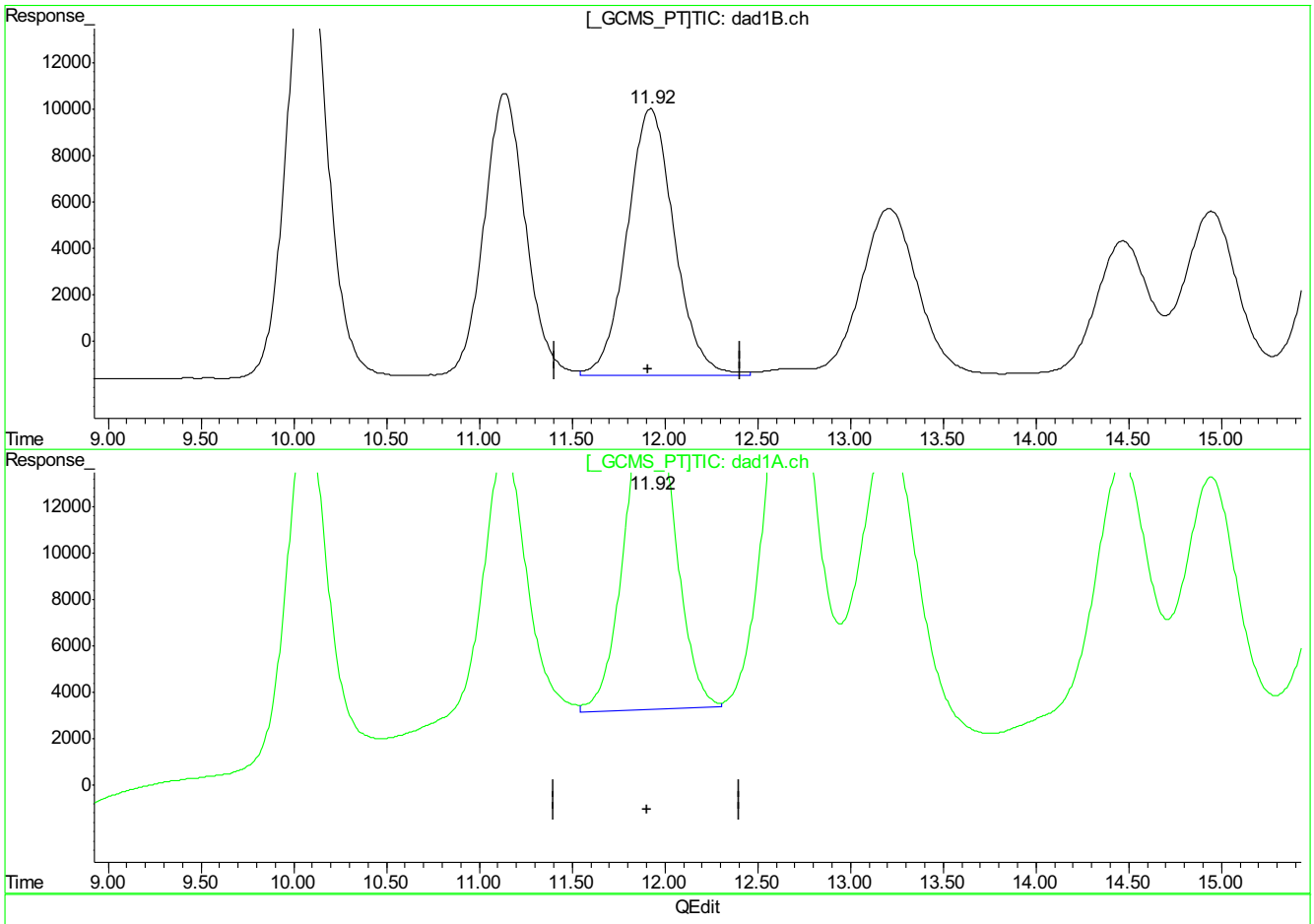
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch         Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:11:44                    Operator: evitam
Sample    : ic2548-200                               Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.92min 207.224ppb

response 2024099

(9) 2,4,6-Trinitrotoluene #2

11.92min 205.462ppb m

response 2637004

(+) = Expected Retention Time

GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:49 2017

9.5.17.7

9

GG613491.D edits: 2,4,6-Trinitrotoluene

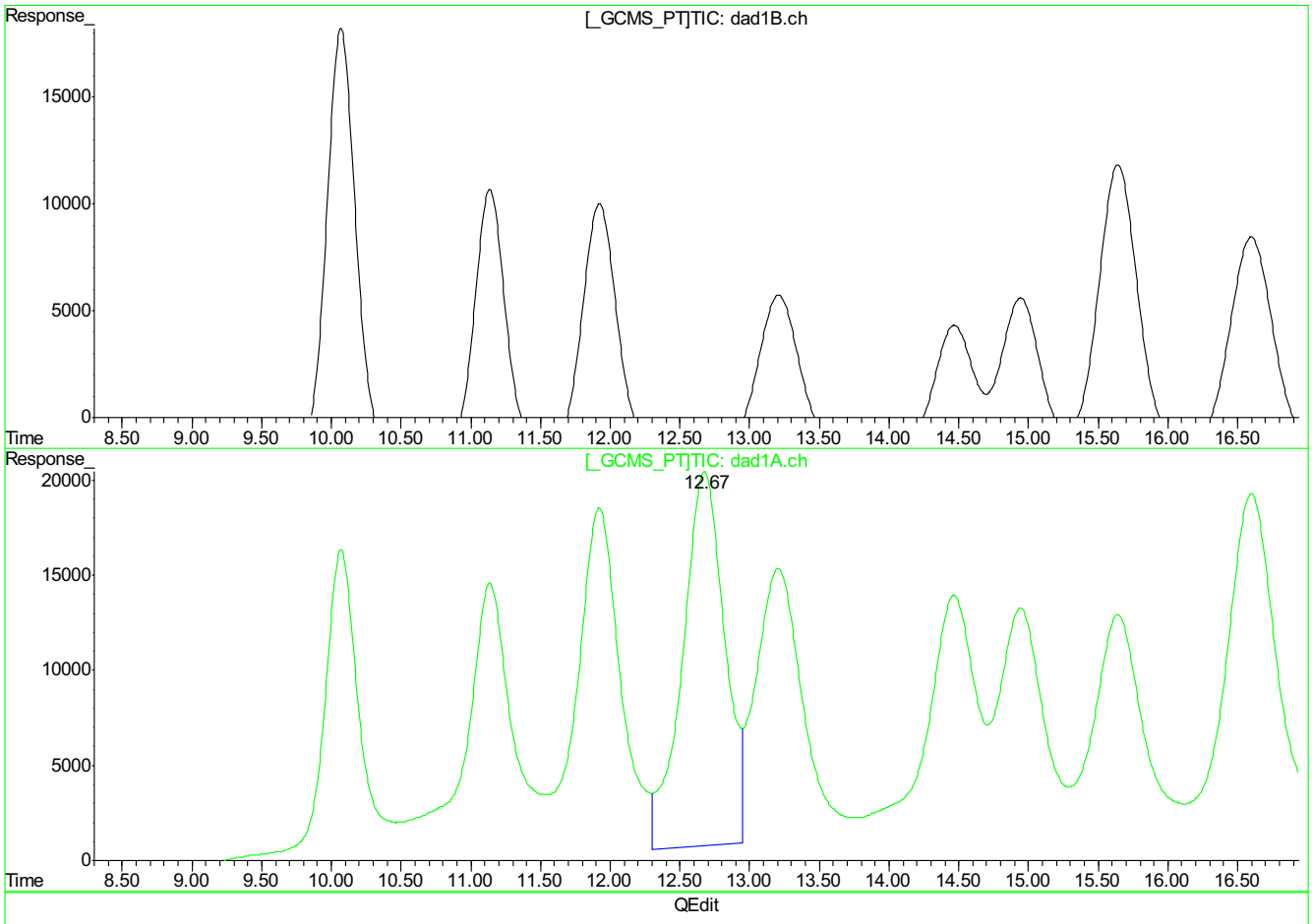
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.68min 1300.877ppb

response 4123055

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:01:55 2017

GG613491.D edits: Nitroglycerin

9.5.17.8 9

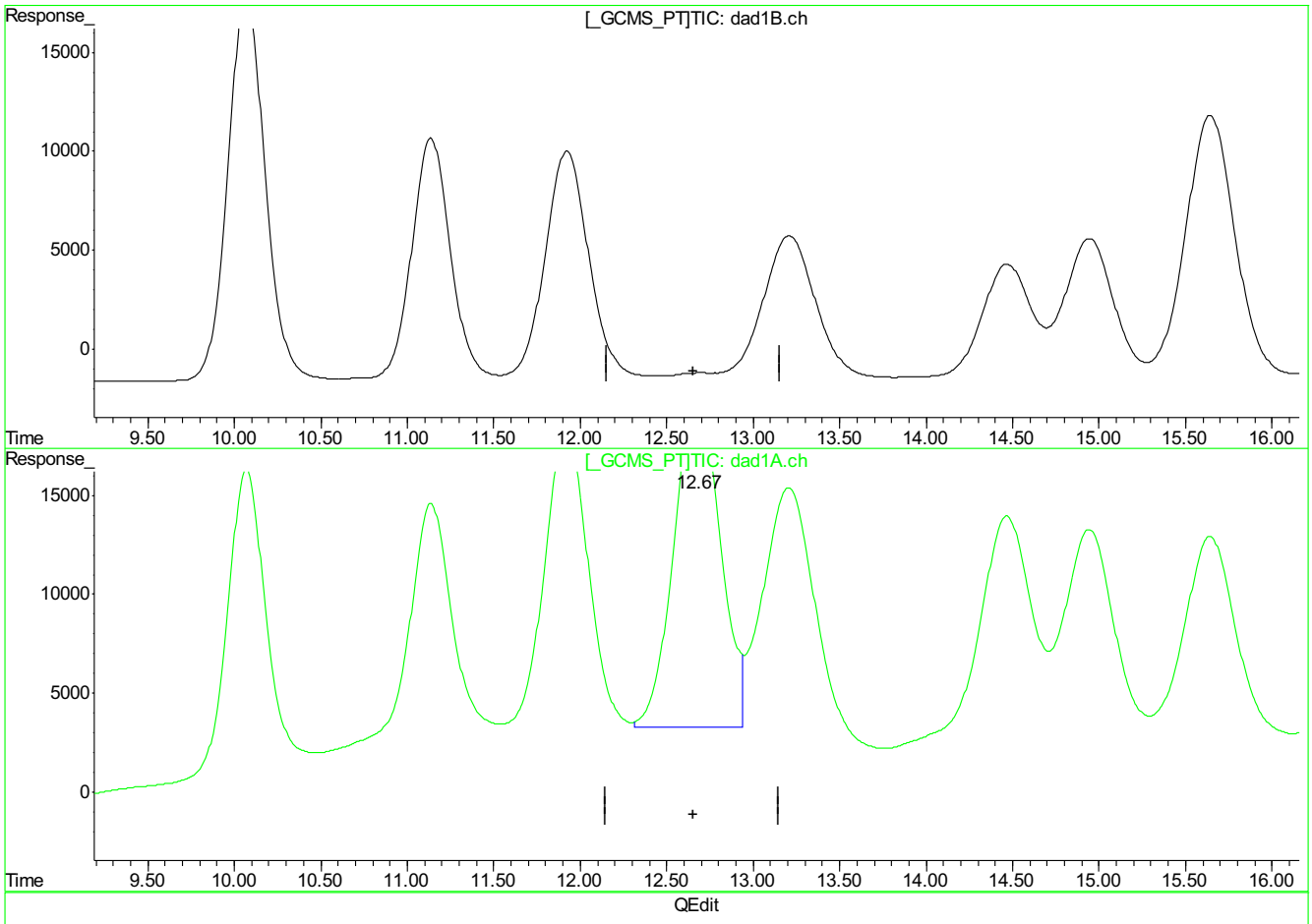
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.67min 985.080ppb m

response 3122153

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:06 2017

9.5.17.9

9

GG613491.D edits: Nitroglycerin

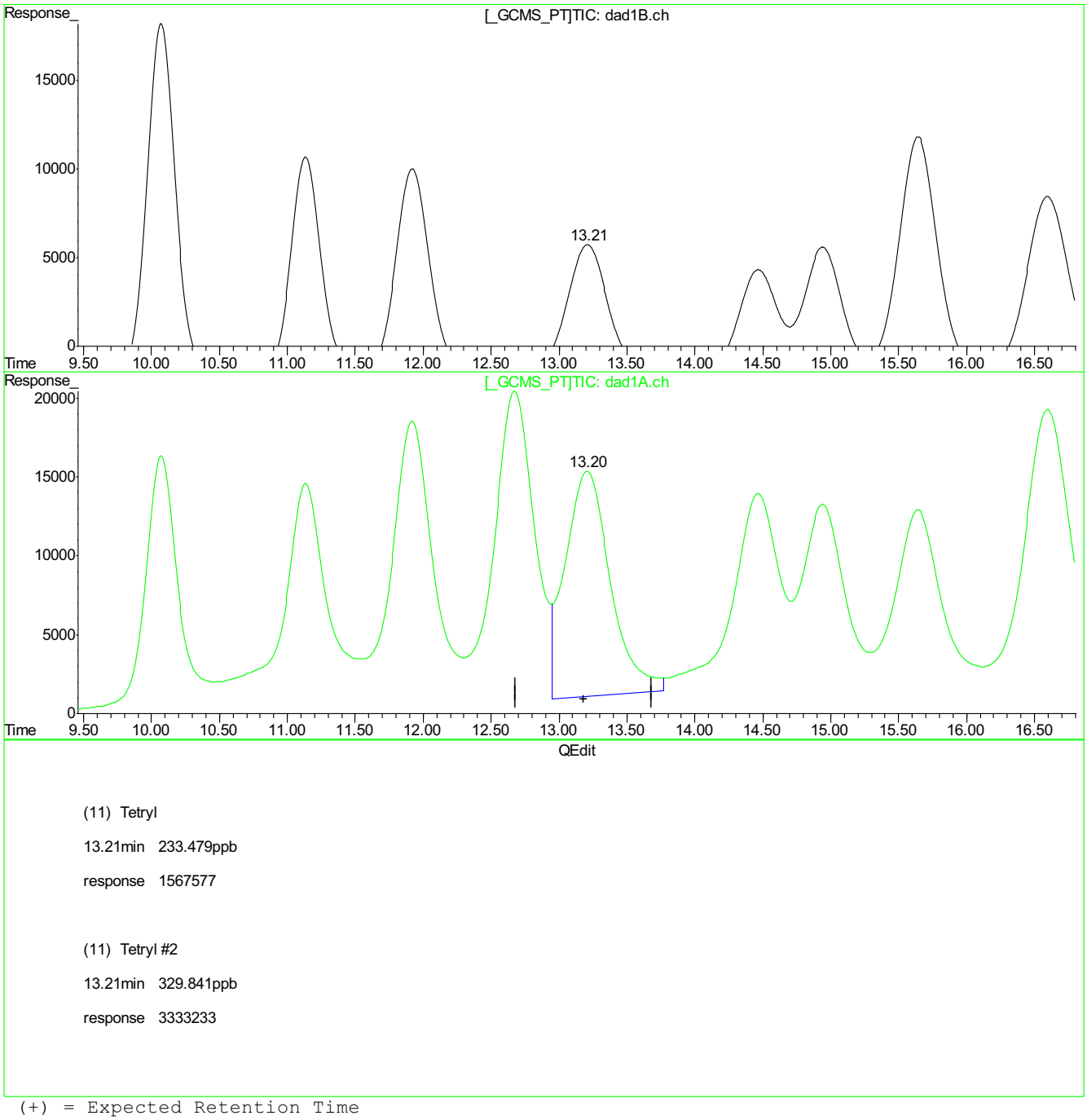
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.21min 233.479ppb

response 1567577

(11) Tetryl #2

13.21min 329.841ppb

response 3333233

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:13 2017

9.5.17.10

9

GG613491.D edits: Tetryl

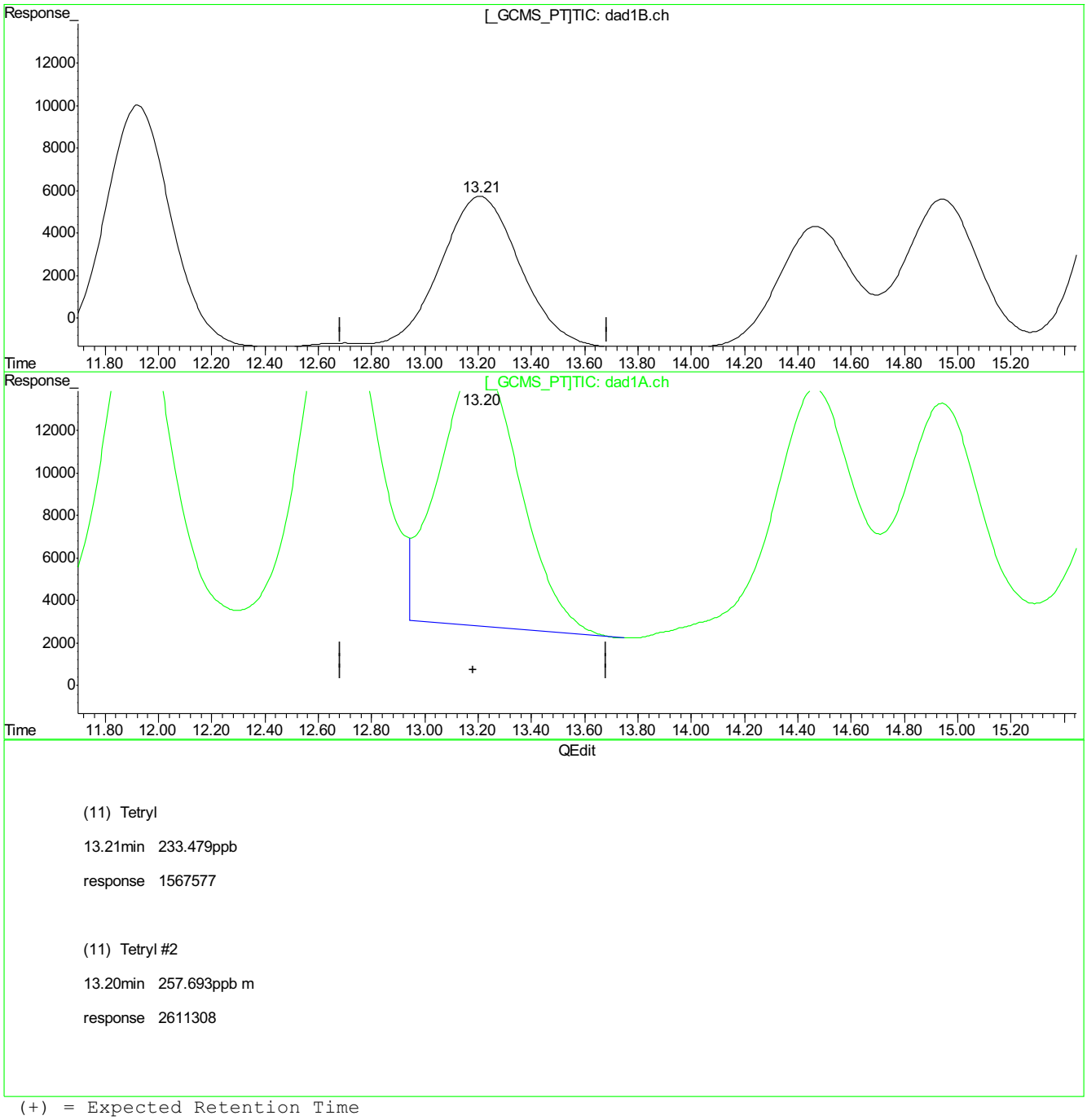
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.21min 233.479ppb

response 1567577

(11) Tetryl #2

13.20min 257.693ppb m

response 2611308

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:25 2017

9.5.17.11

9

GG613491.D edits: Tetryl

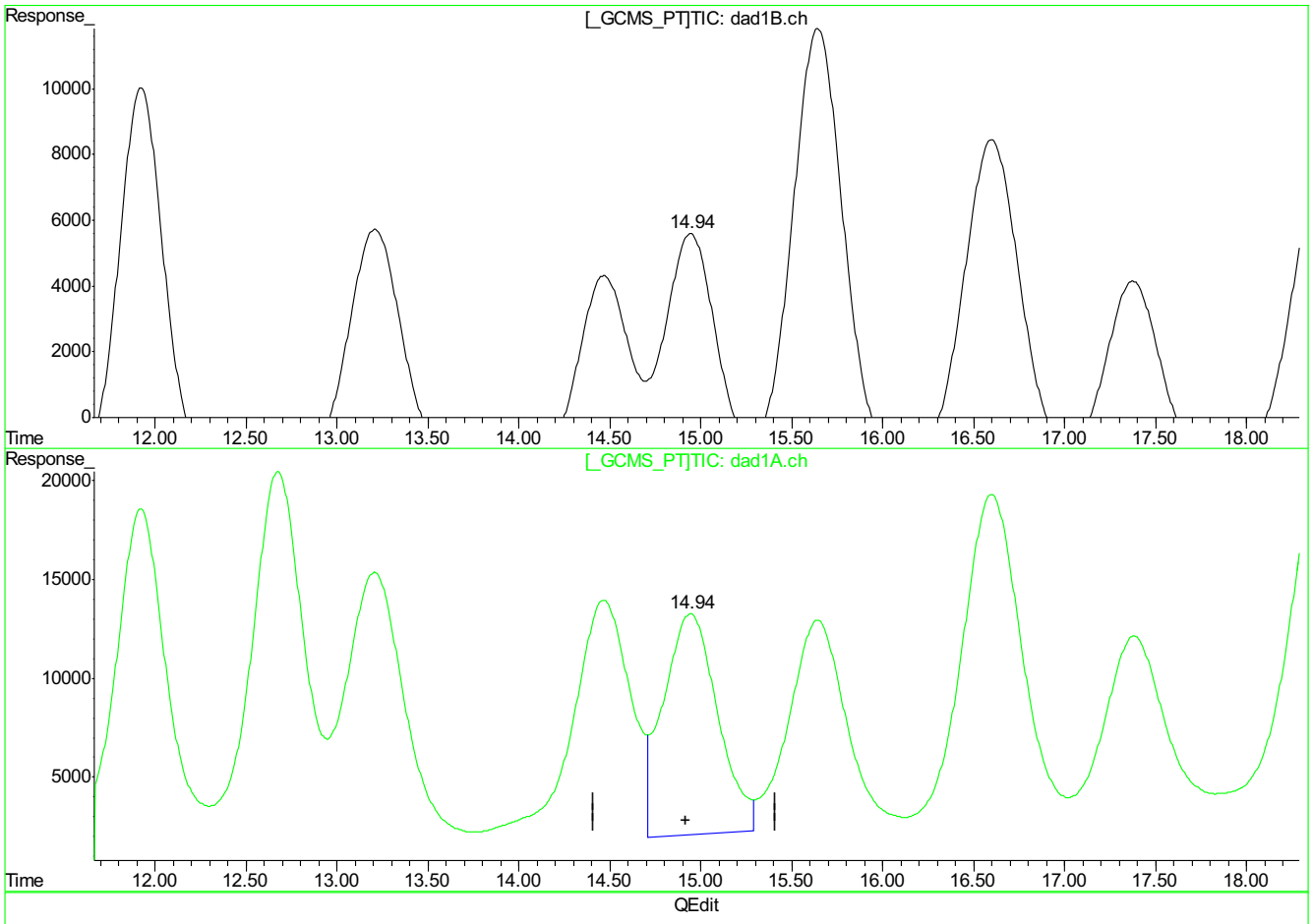
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.94min 212.022ppb

response 1397557

(13) 2,6-Dinitrotoluene #2

14.94min 251.848ppb

response 2325497

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:42 2017

9.5.17.12

9

GG613491.D edits: 2,6-Dinitrotoluene

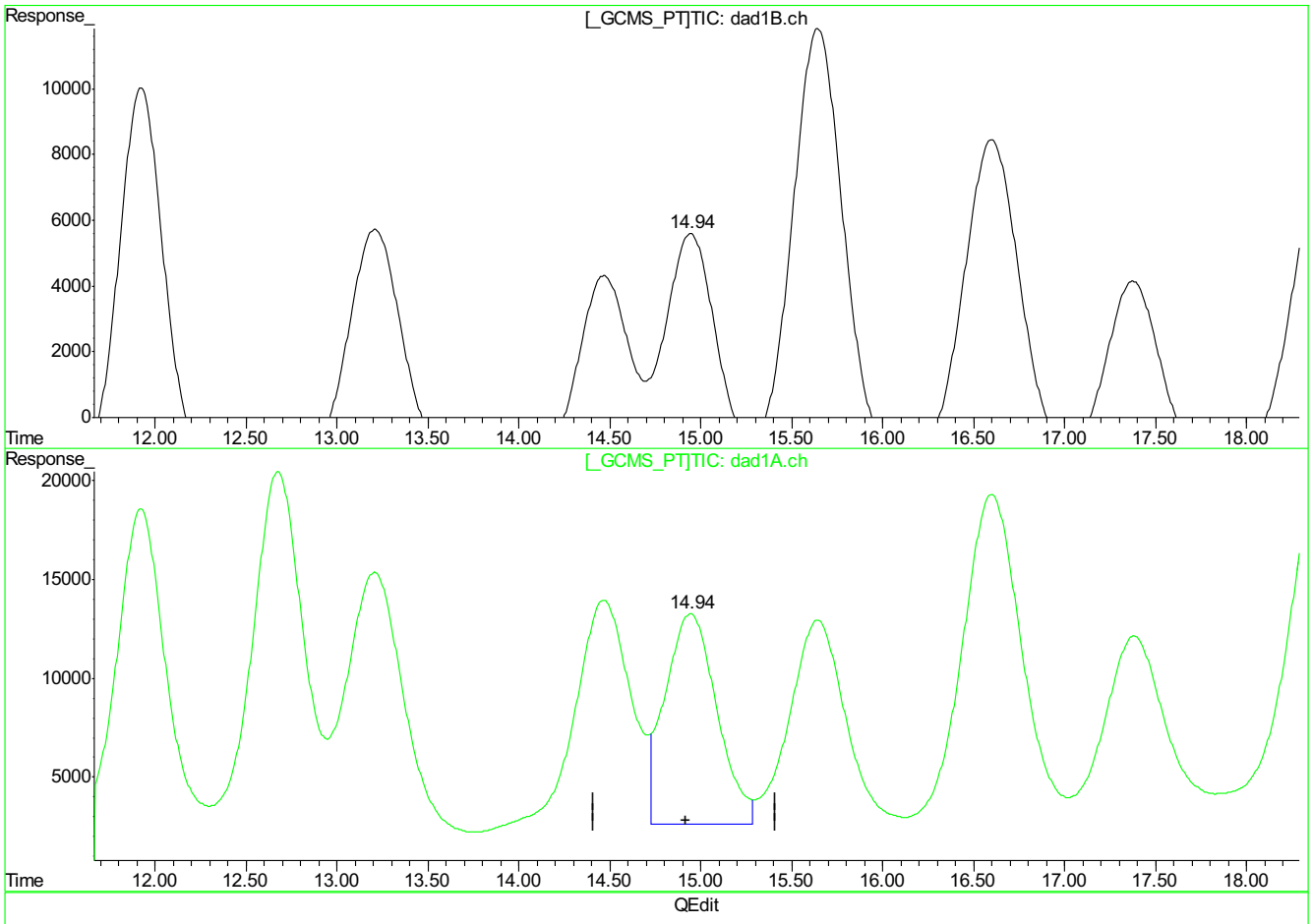
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.94min 212.022ppb

response 1397557

(13) 2,6-Dinitrotoluene #2

14.94min 227.418ppb m

response 2099516

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:48 2017

9.5.17.13

9

GG613491.D edits: 2,6-Dinitrotoluene

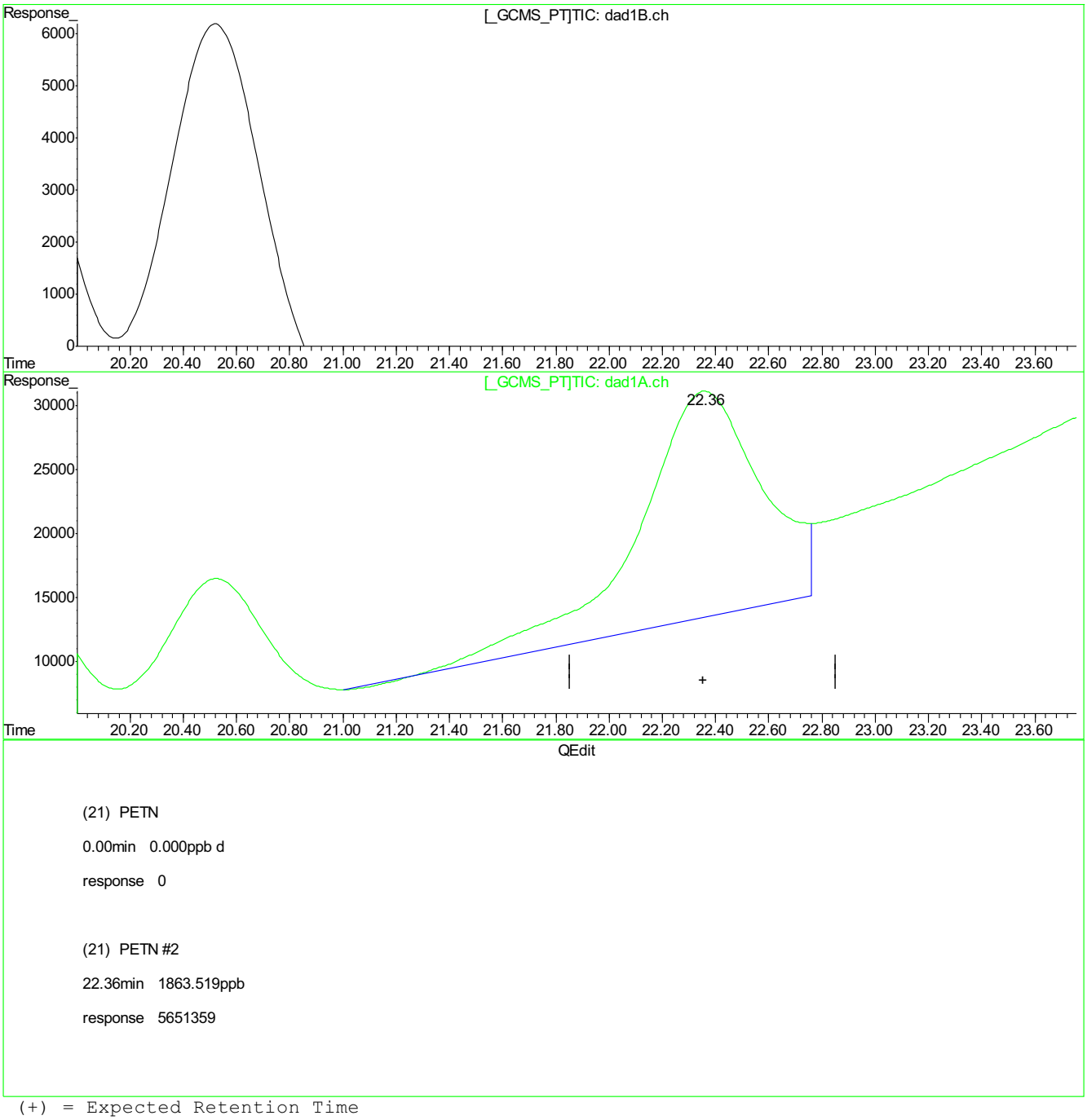
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 1863.519ppb

response 5651359

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:55 2017

9.5.17.14

9

GG613491.D edits: PETN

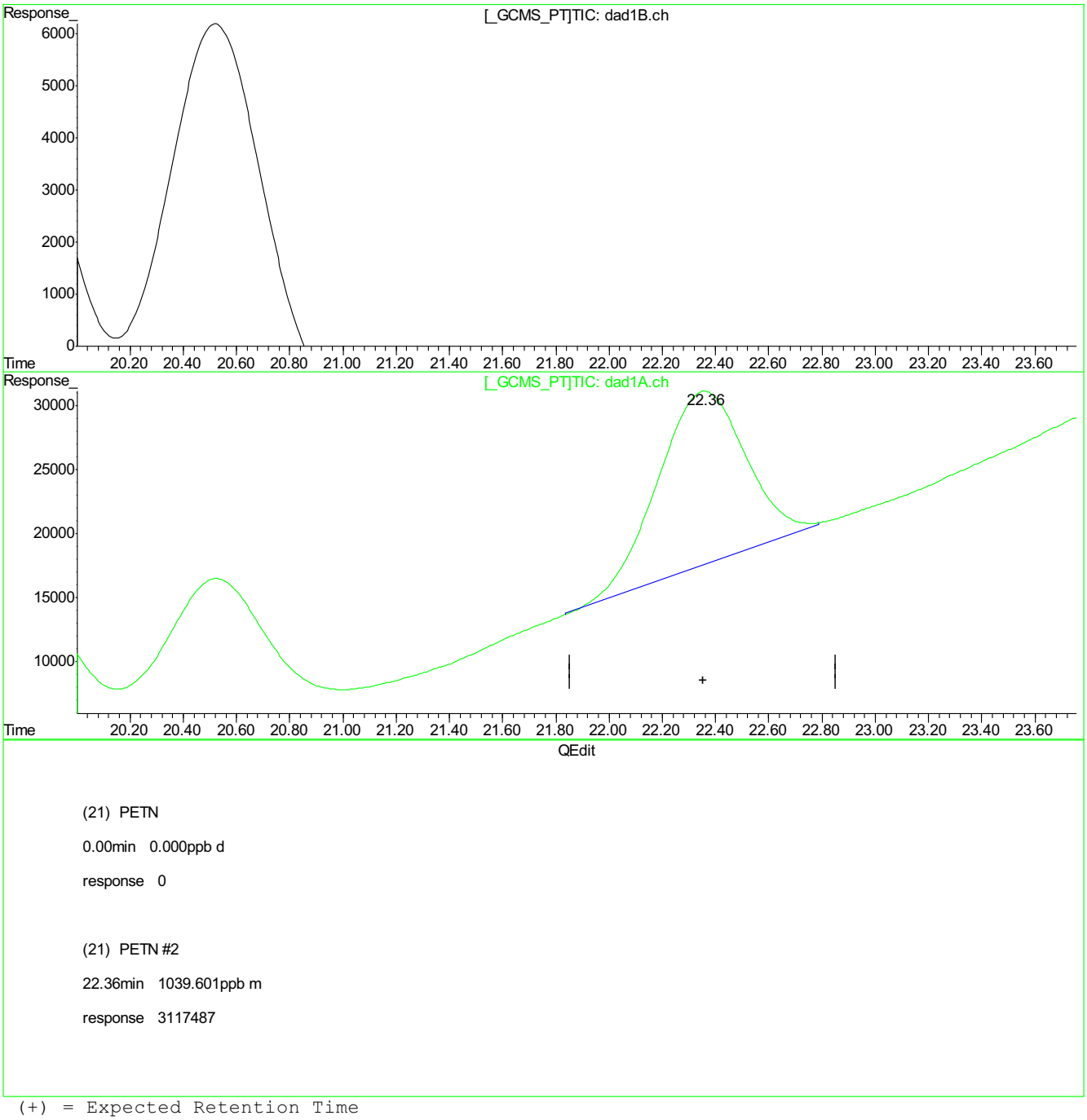
SGS ACCUTEST FA45759

Cal Report: GG613491.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613491.D\dad1B.ch Vial: 24
Signal #2 : G:\DATA\0720RPB3\GG613491.D\dad1A.ch
Acq On : 20-Jul-2017, 18:11:44 Operator: evitam
Sample : ic2548-200 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:00 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:00:50 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.36min 1039.601ppb m

response 3117487

(+) = Expected Retention Time
GG613491.D 8330RPB.M_0720M.M Mon Jul 24 11:02:58 2017

9.5.17.15

9

GG613491.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613492.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03:12 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.47	14.47	2714905	5224007	484.589	475.041m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		96.92%	95.01%
	Target Compounds						
1)	TNX	4.95	4.95	4012784	4012784	494.402	494.352
2)	HMX	5.32	5.32	1908429	1908429	546.598	546.426
3)	DNX	5.51	5.51	3215725	3215725	455.592	442.000
4)	MNX	6.53	6.53	2345735	2345735	469.216	469.216
5)	1,3,5-Trinitrobe	7.56	7.56	5051683	5048845	496.928	495.098
6)	RDX	7.91	7.91	2355665	2344592	502.344	499.983
7)	1,3-Dinitrobenze	10.07	10.06	6894673	5146077	494.522	495.715m
8)	Nitrobenzene	11.13	11.13	4487156	4191786	495.817	445.261m
9)	2,4,6-Trinitroto	11.92	11.92	4802754	6372791	487.480	506.762m
10)	Nitroglycerin	0.00	12.67	0	7562009	N.D. d	2396.481m
11)	Tetryl	13.22	13.22	3783374	6140630	535.039	603.705m
13)	2,6-Dinitrotolue	14.95	14.95	3327551	4936600	494.614	525.760m
14)	2,4-Dinitrotolue	15.65	15.65	6341485	4690555	496.860	447.163
15)	o-Nitrotoluene	17.38	17.38	2810538	4182534	492.293	527.487
16)	3,5-Dinitroanili	16.62	16.62	5062734	8271322	369.039	360.794
17)	p-Nitrotoluene	18.45	18.45	5788458	10561353	493.076	531.820
18)	4-Amino-2,6-Dini	18.45	18.45	5788458	10561353	493.076	531.820
19)	m-Nitrotoluene	19.84	19.84	3092603	4880959	502.239	519.790
20)	2-Amino-4,6-Dini	20.55	20.55	4616003	6217795	552.103	563.338
21)	PETN	0.00	22.35	0	8141021	N.D. d	2626.966m

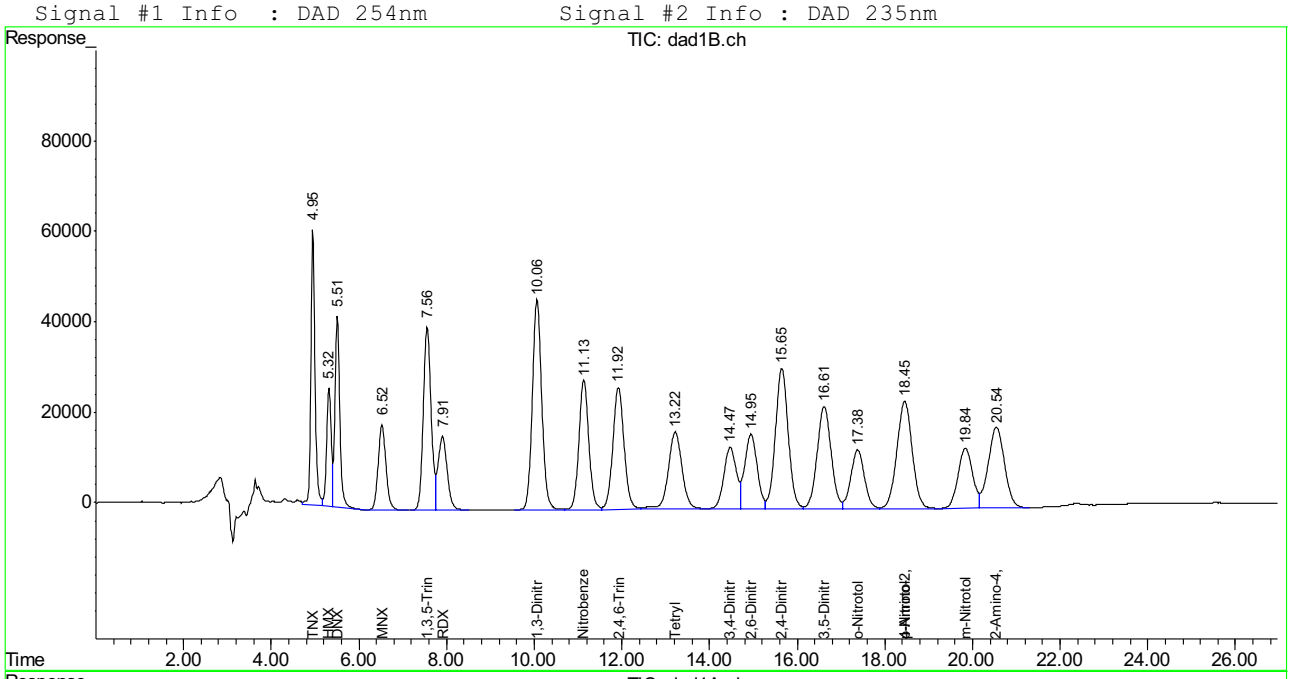
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 13:56:34 2017 Page 1

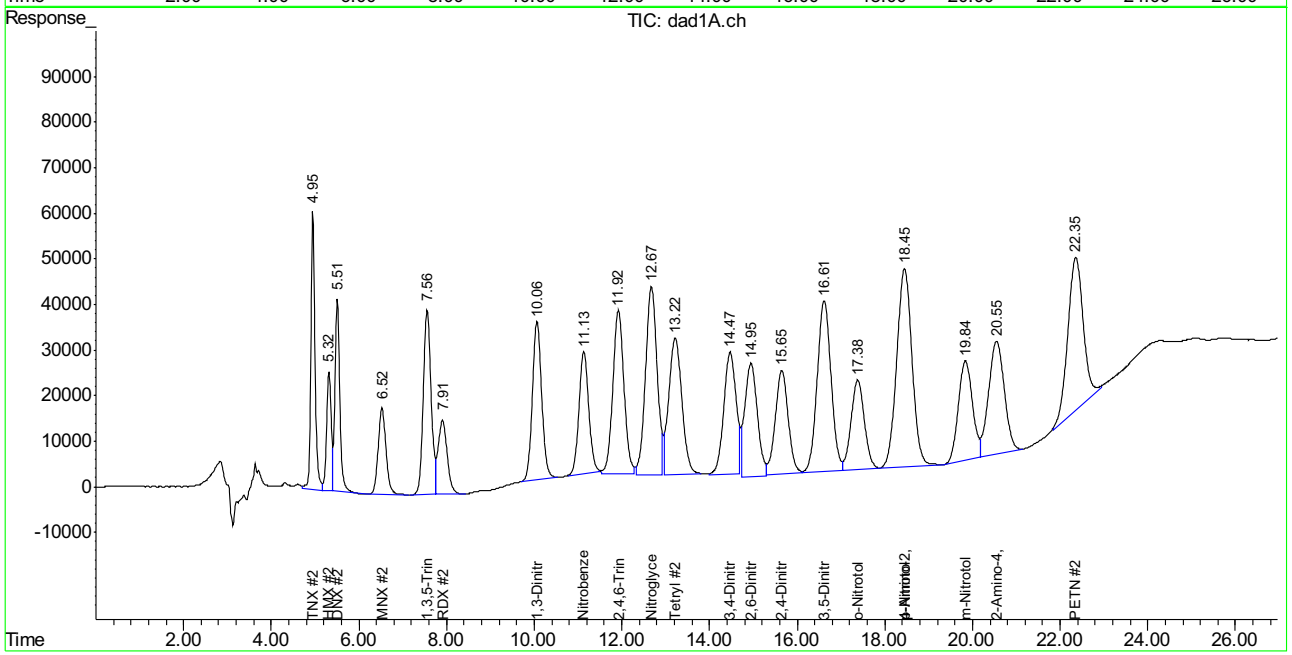
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:05 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-ICC2548
Lab FileID: GG613492.D
Injection Time: 07/20/17 18:41
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

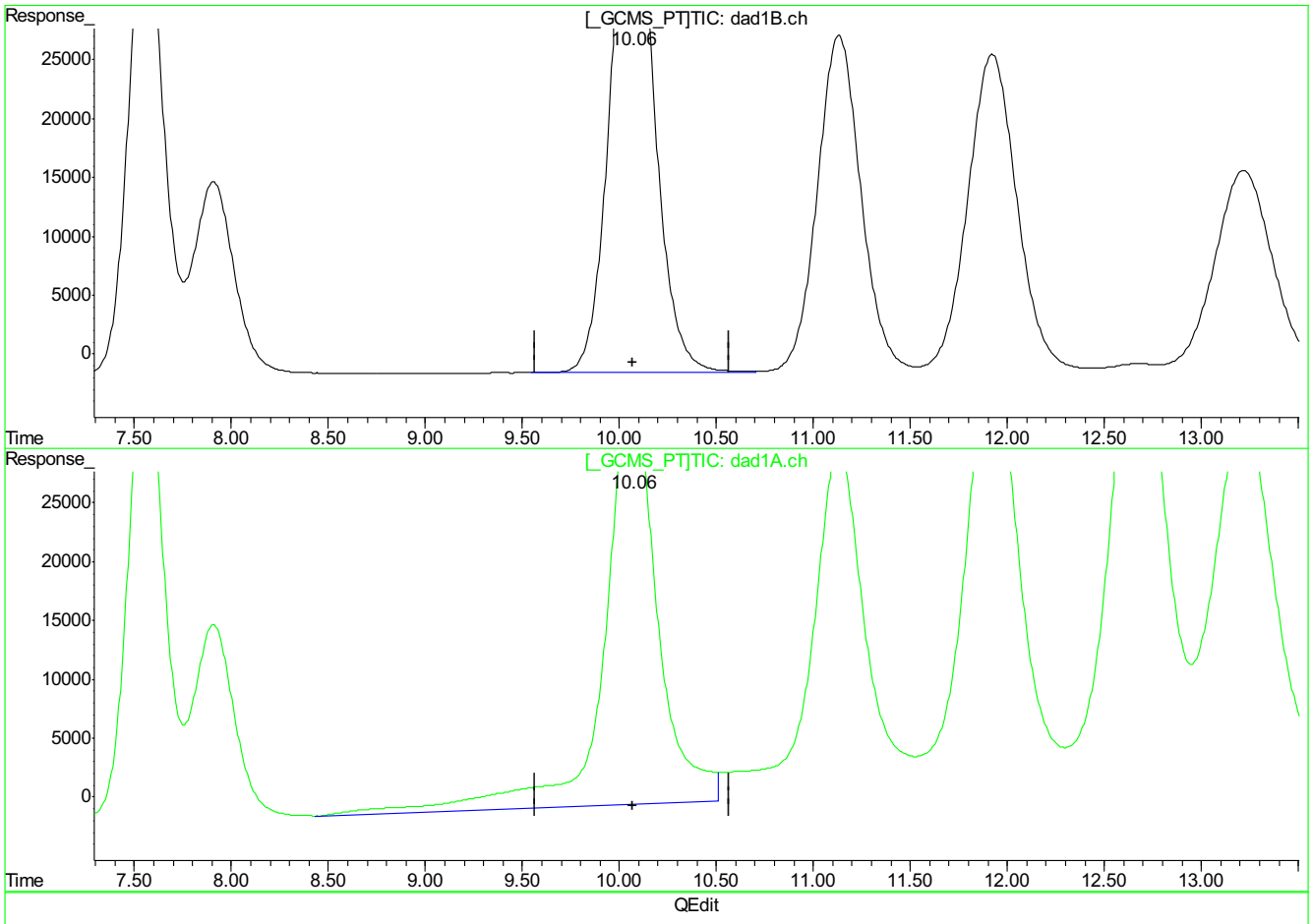
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	10.06	Poorly defined baseline
Nitrobenzene	98-95-3	2	11.13	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.92	Poorly defined baseline
Nitroglycerine	55-63-0	2	12.67	Poorly defined baseline
Tetryl	479-45-8	2	13.22	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	14.47	Poorly defined baseline
2,6-Dinitrotoluene	606-20-2	2	14.95	Poorly defined baseline
PETN	78-11-5	2	22.35	Poorly defined baseline

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

10.07min 494.522ppb

response 6894673

(7) 1,3-Dinitrobenzene #2

10.07min 657.939ppb

response 6811961

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:31 2017

9.5.18.2

9

GG613492.D edits: 1,3-Dinitrobenzene

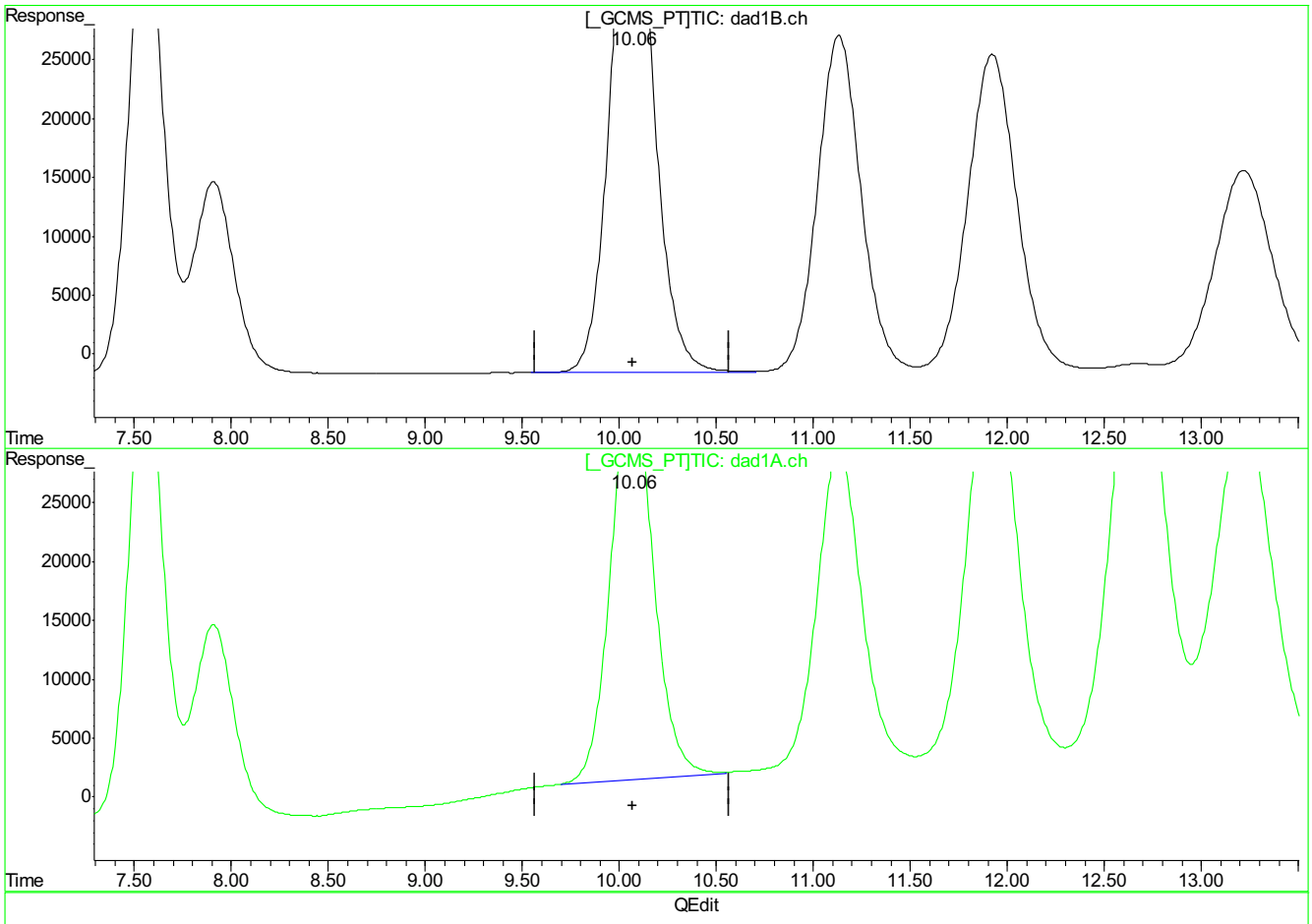
SGS ACCUTEST FA45759

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(7) 1,3-Dinitrobenzene

10.07min 494.522ppb

response 6894673

(7) 1,3-Dinitrobenzene #2

10.06min 495.715ppb m

response 5146077

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:34 2017

9.5.18.3

9

GG613492.D edits: 1,3-Dinitrobenzene

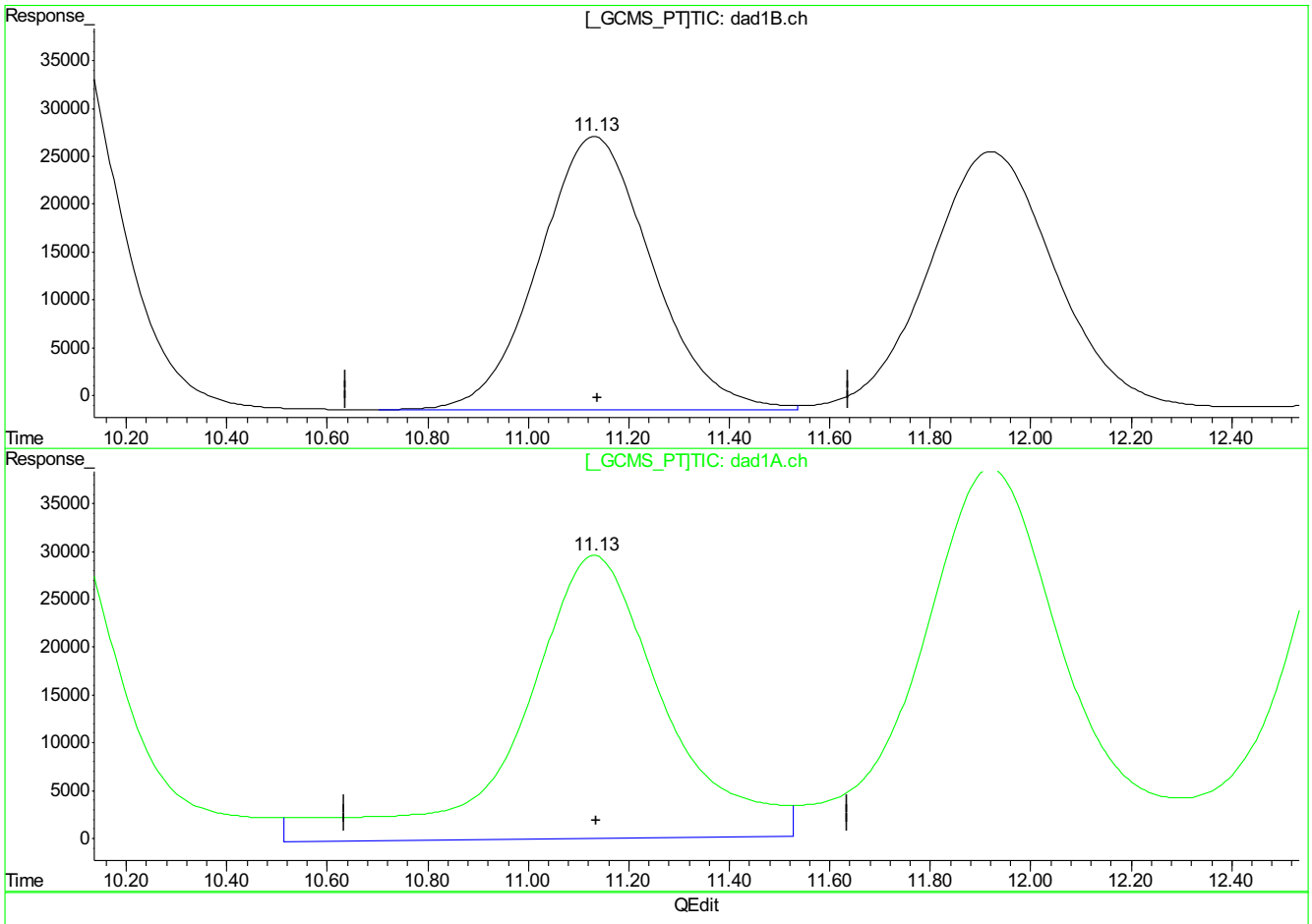
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(8) Nitrobenzene

11.13min 495.817ppb

response 4487156

(8) Nitrobenzene #2

11.13min 630.690ppb

response 5846690

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:37 2017

9.5.18.4

9

GG613492.D edits: Nitrobenzene

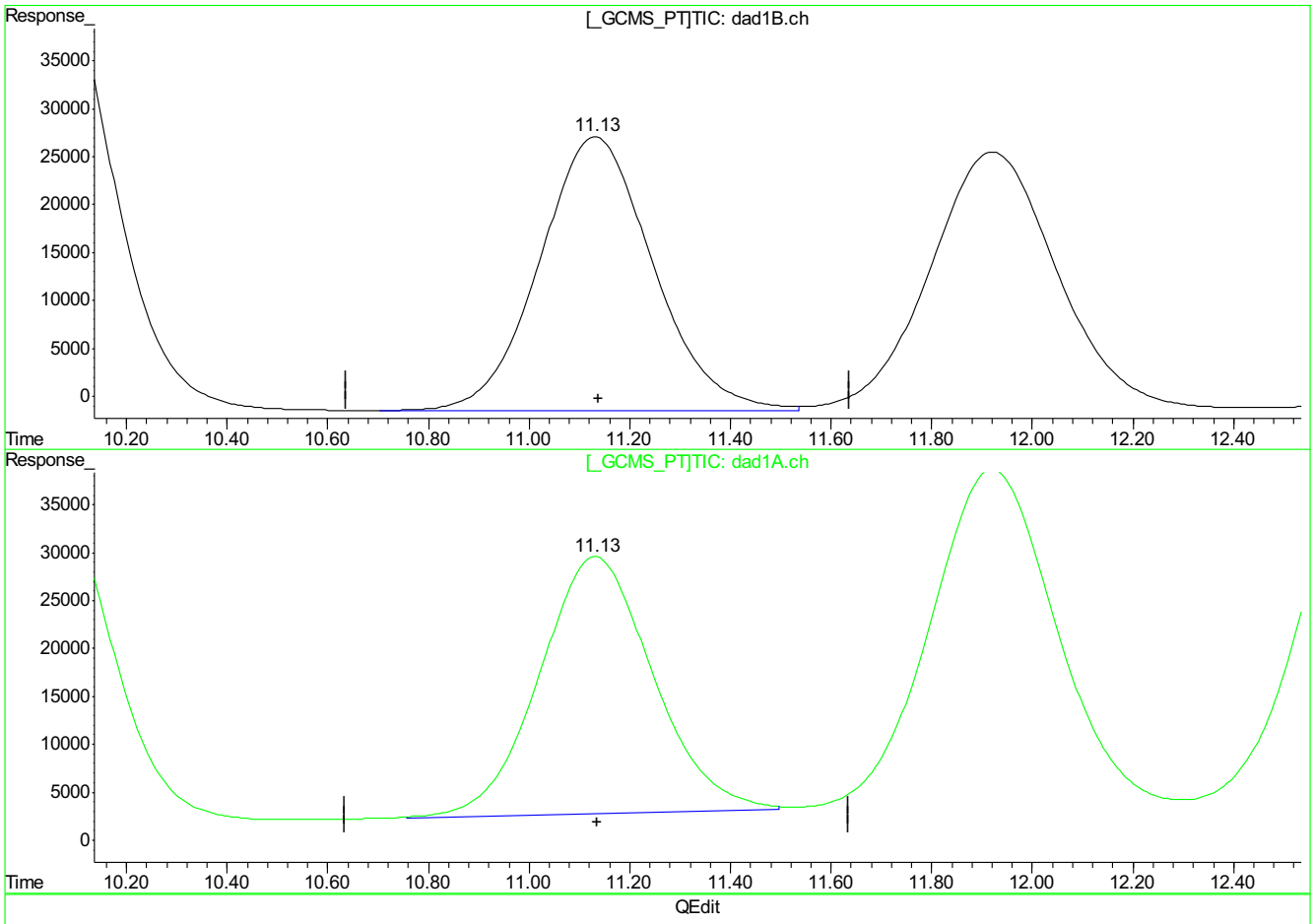
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(8) Nitrobenzene

11.13min 495.817ppb

response 4487156

(8) Nitrobenzene #2

11.13min 445.261ppb m

response 4191786

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:41 2017

9.5.18.5

9

GG613492.D edits: Nitrobenzene

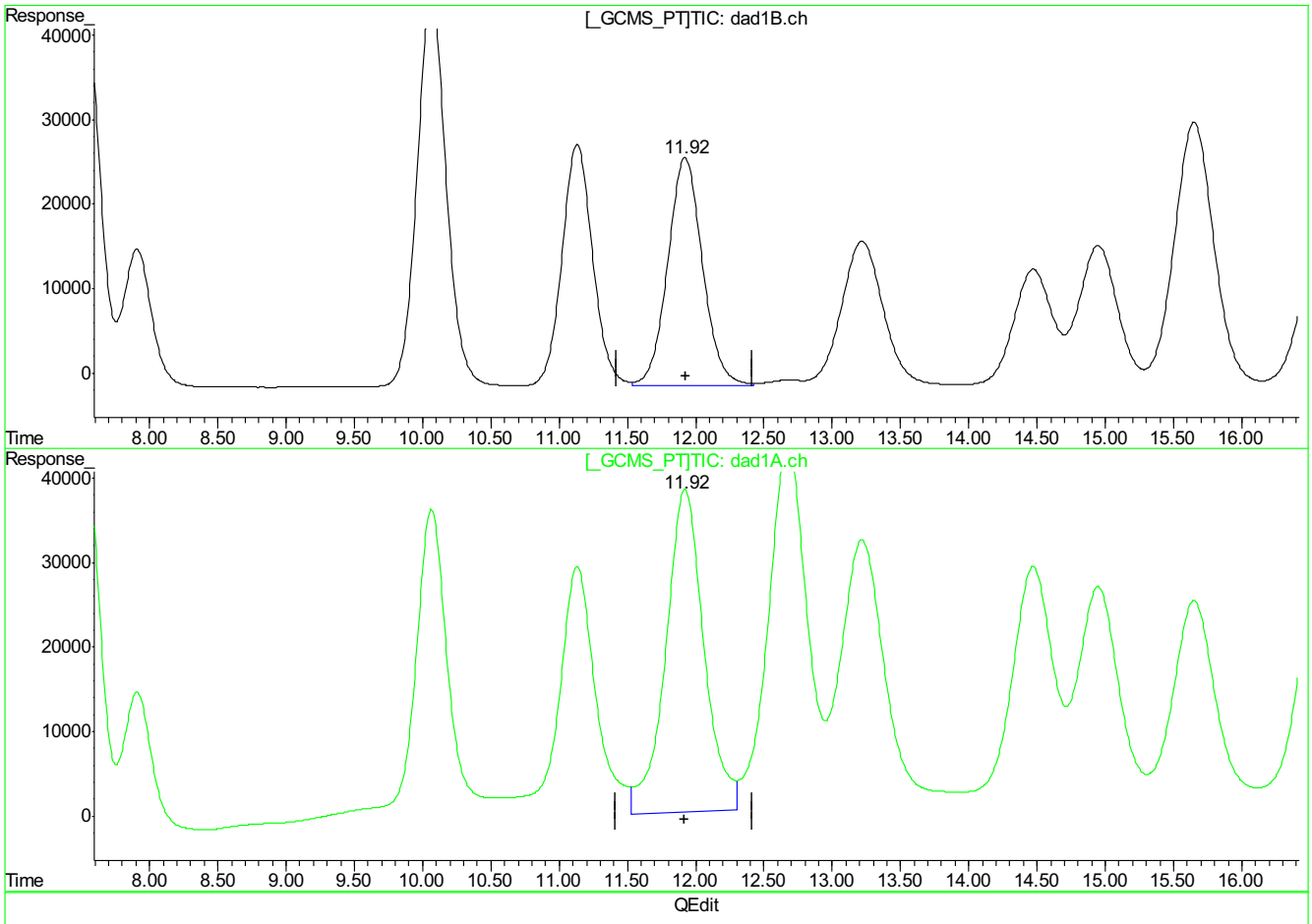
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.92min 487.480ppb

response 4802754

(9) 2,4,6-Trinitrotoluene #2

11.92min 591.508ppb

response 7437494

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:49 2017

9.5.18.6

9

GG613492.D edits: 2,4,6-Trinitrotoluene

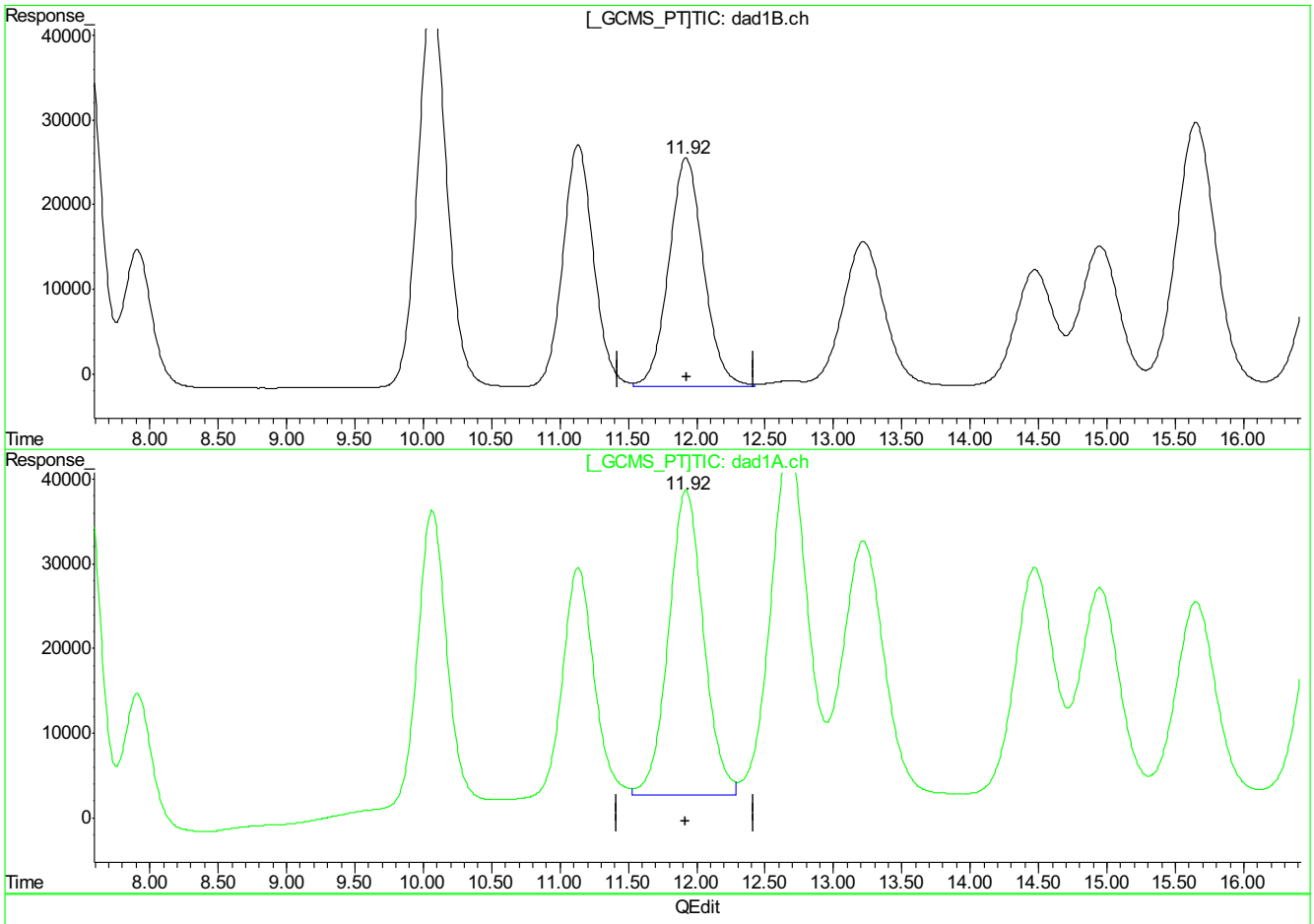
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(9) 2,4,6-Trinitrotoluene

11.92min 487.480ppb

response 4802754

(9) 2,4,6-Trinitrotoluene #2

11.92min 506.762ppb m

response 6372791

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:03:54 2017

9.5.18.7

9

GG613492.D edits: 2,4,6-Trinitrotoluene

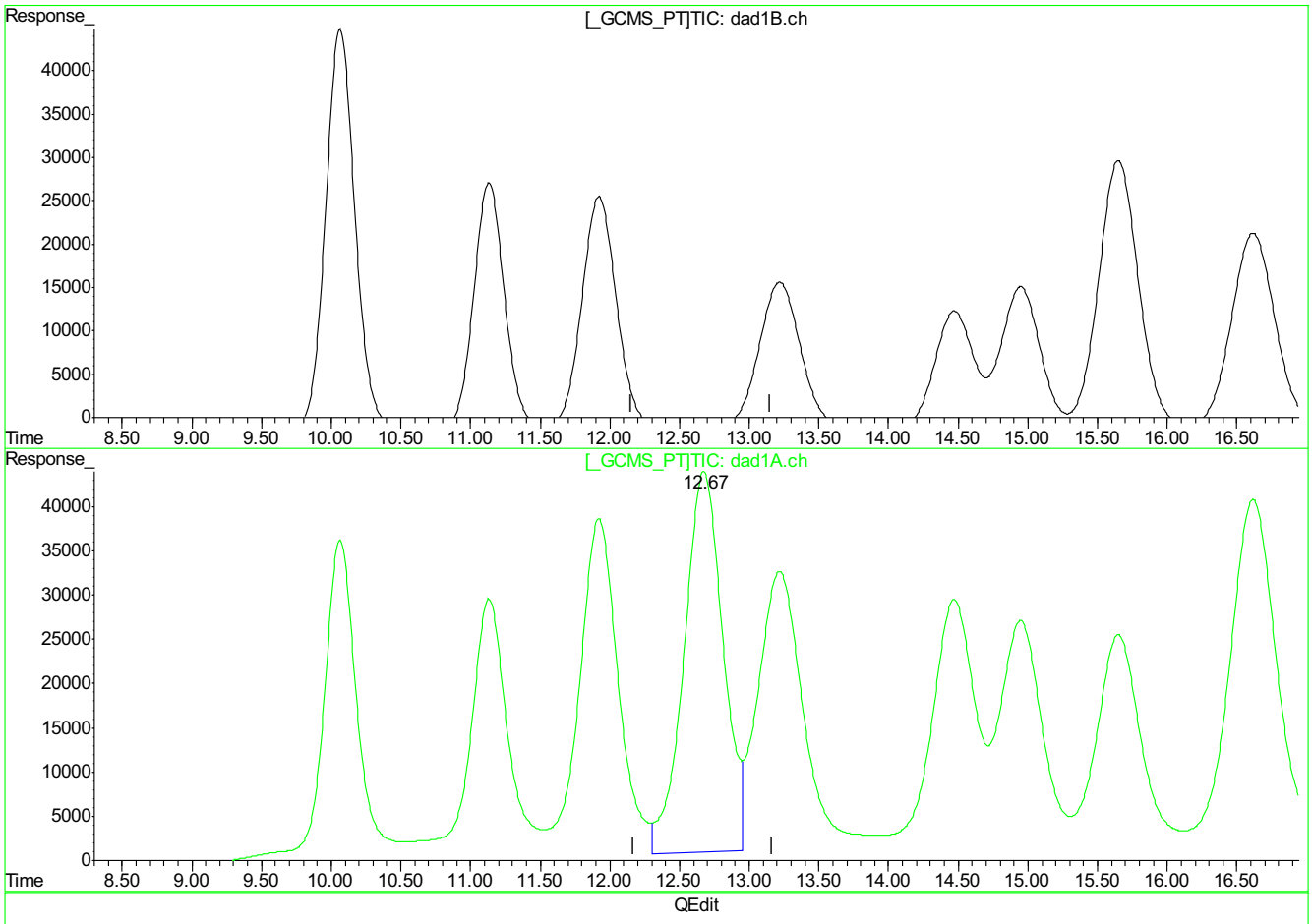
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



QEdit

(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.68min 2661.159ppb

response 8397191

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:06 2017

9.5.18.8

9

GG613492.D edits: Nitroglycerin

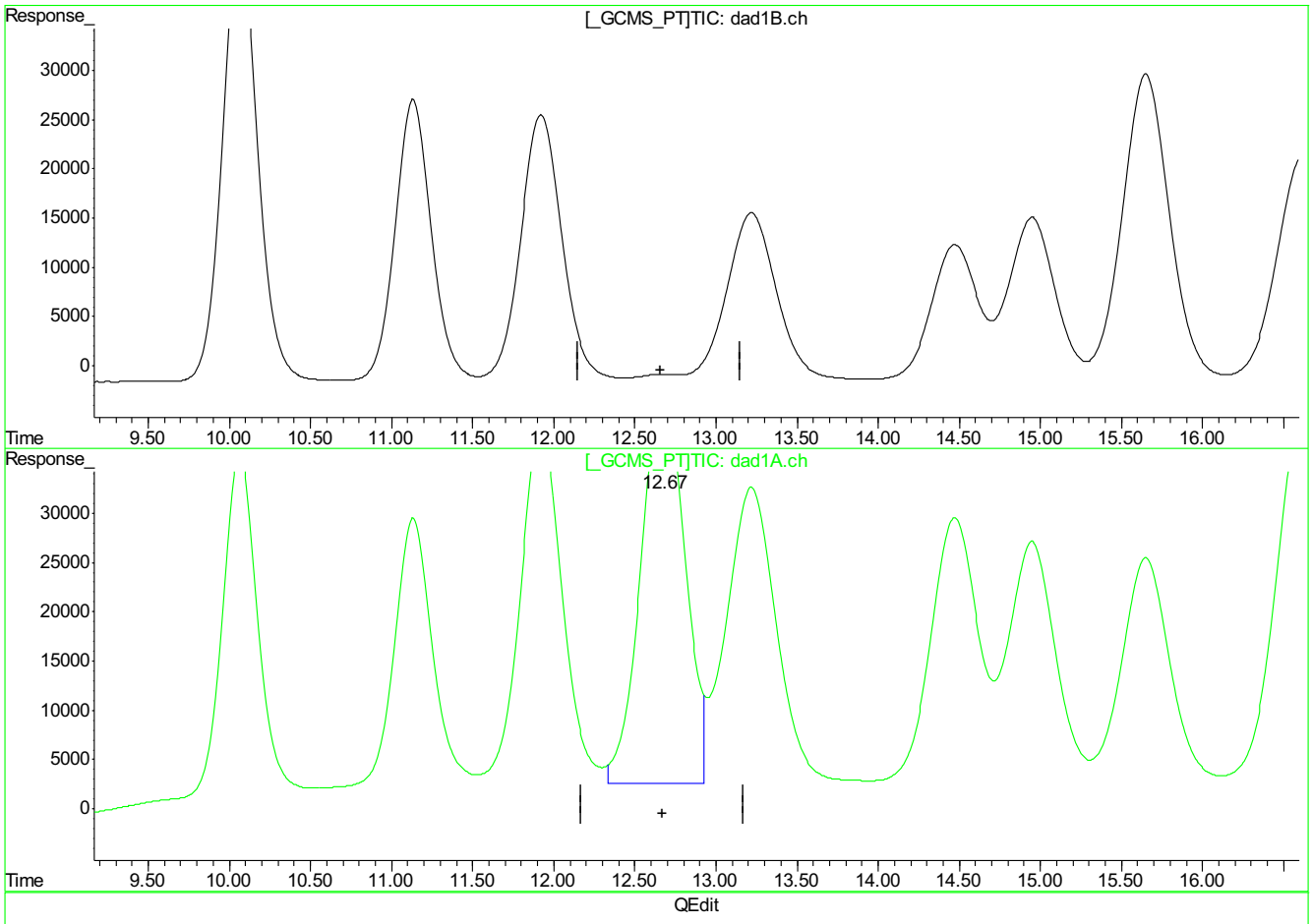
SGS ACCUTEST FA45759

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(10) Nitroglycerin

0.00min 0.000ppb d

response 0

(10) Nitroglycerin #2

12.67min 2396.481ppb m

response 7562009

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:24 2017

9.5.18.9

9

GG613492.D edits: Nitroglycerin

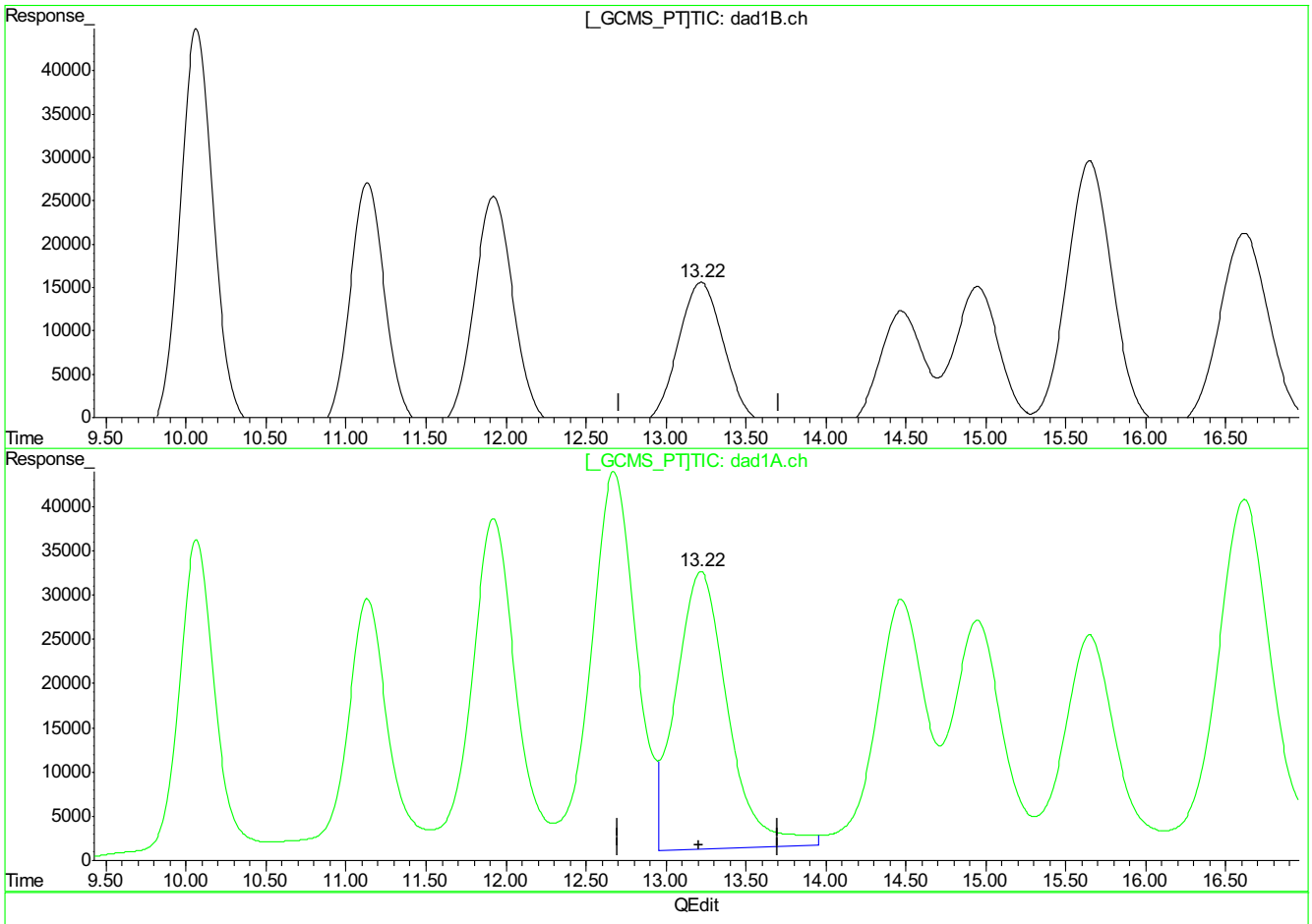
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On : 20-Jul-2017, 18:41:15 Operator: evitam
Sample : icc2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(11) Tetryl

13.22min 535.039ppb

response 3783374

(11) Tetryl #2

13.22min 703.119ppb

response 7115494

(+) = Expected Retention Time
GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:28 2017

9.5.18.10

9

GG613492.D edits: Tetryl

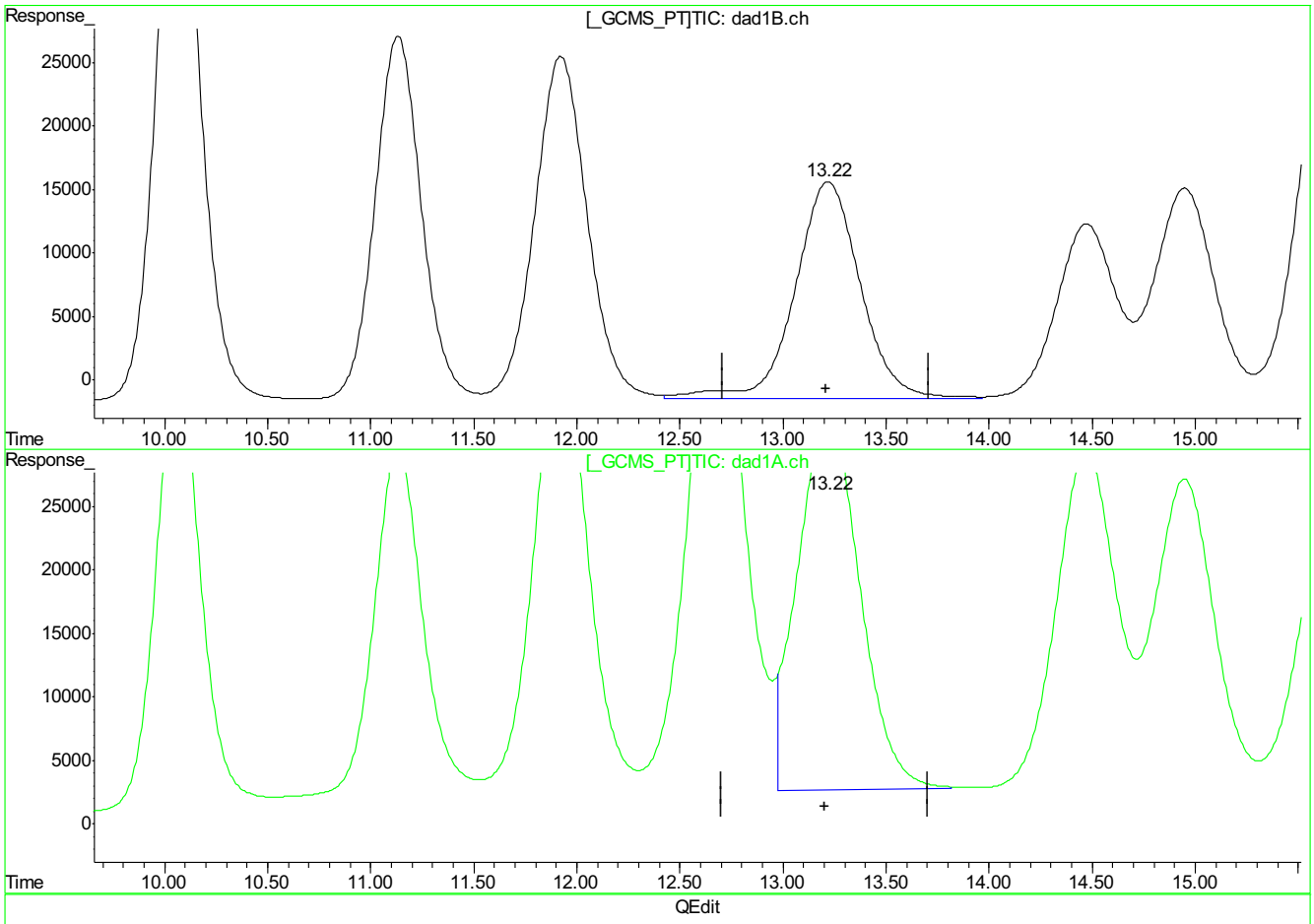
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(11) Tetryl

13.22min 535.039ppb

response 3783374

(11) Tetryl #2

13.22min 603.705ppb m

response 6140630

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:36 2017

9.5.18.11

9

GG613492.D edits: Tetryl

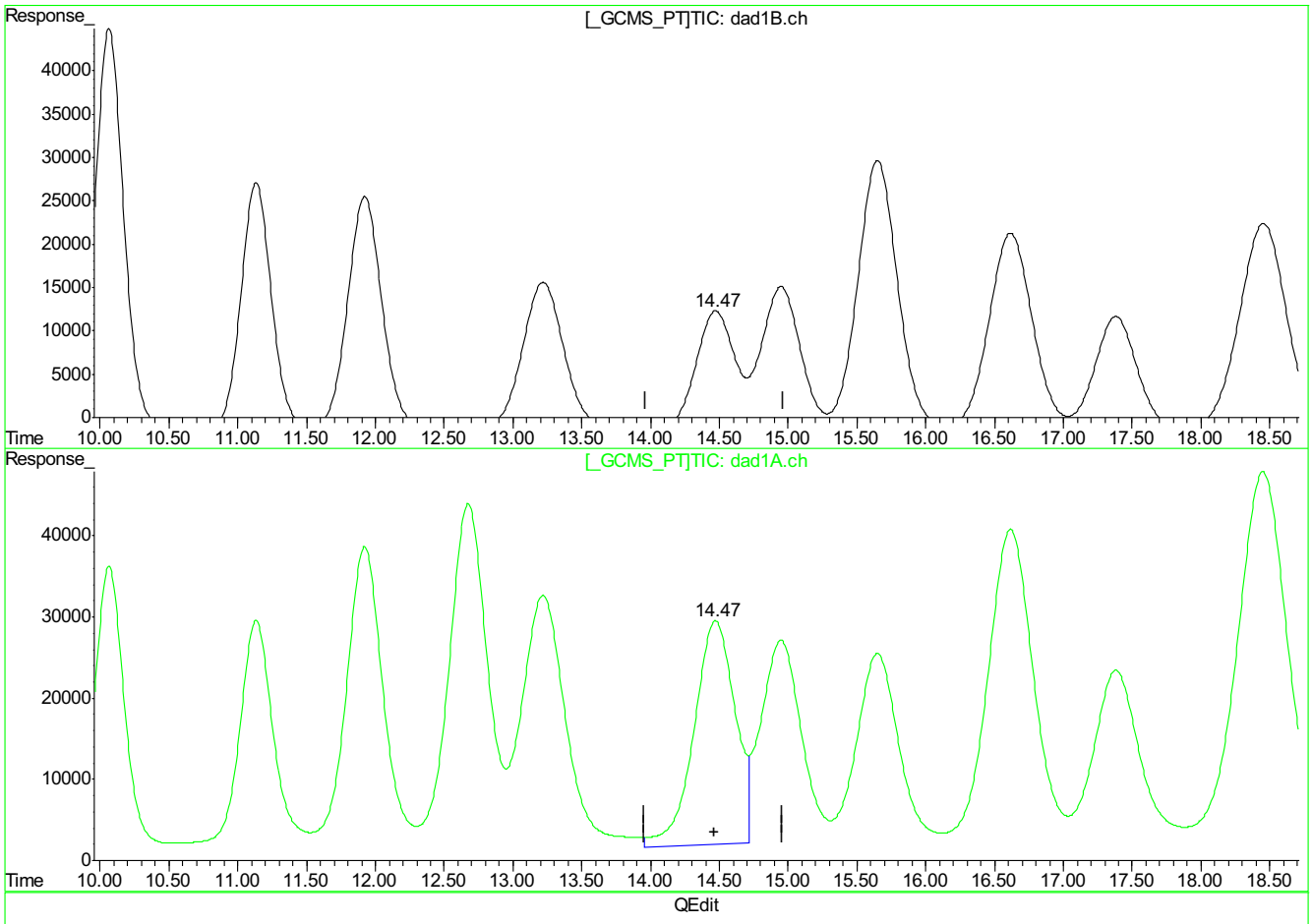
SGS ACCUTEST FA45759

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(12) 3,4-Dinitrotoluene (S)

14.47min 484.589ppb

response 2714905

(12) 3,4-Dinitrotoluene #2 (S)

14.47min 521.266ppb

response 5727414

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:44 2017

9.5.18.12

9

GG613492.D edits: 3,4-Dinitrotoluene

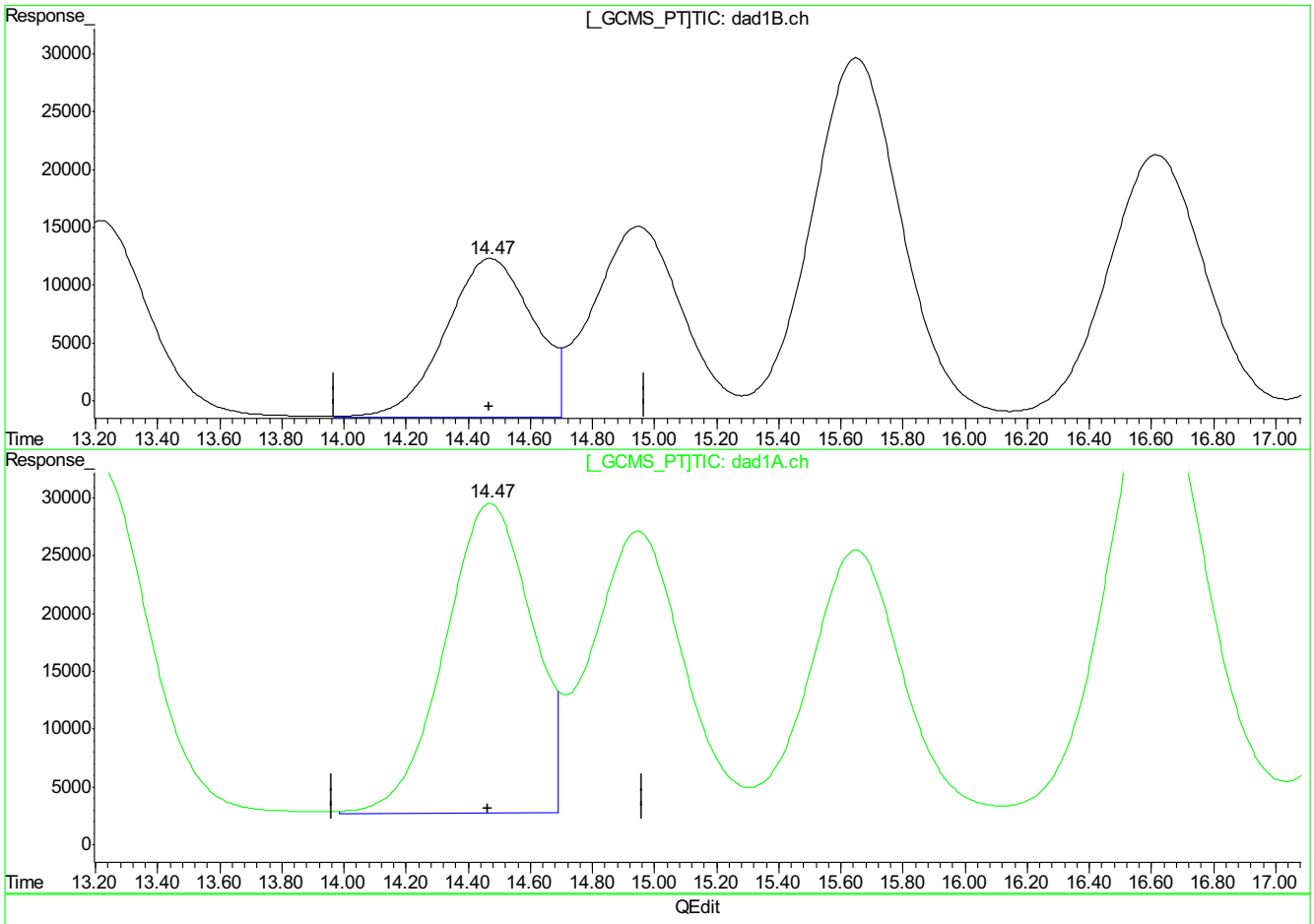
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(12) 3,4-Dinitrotoluene (S)

14.47min 484.589ppb

response 2714905

(12) 3,4-Dinitrotoluene #2 (S)

14.47min 475.041ppb m

response 5224007

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:52 2017

9.5.18.13

9

GG613492.D edits: 3,4-Dinitrotoluene

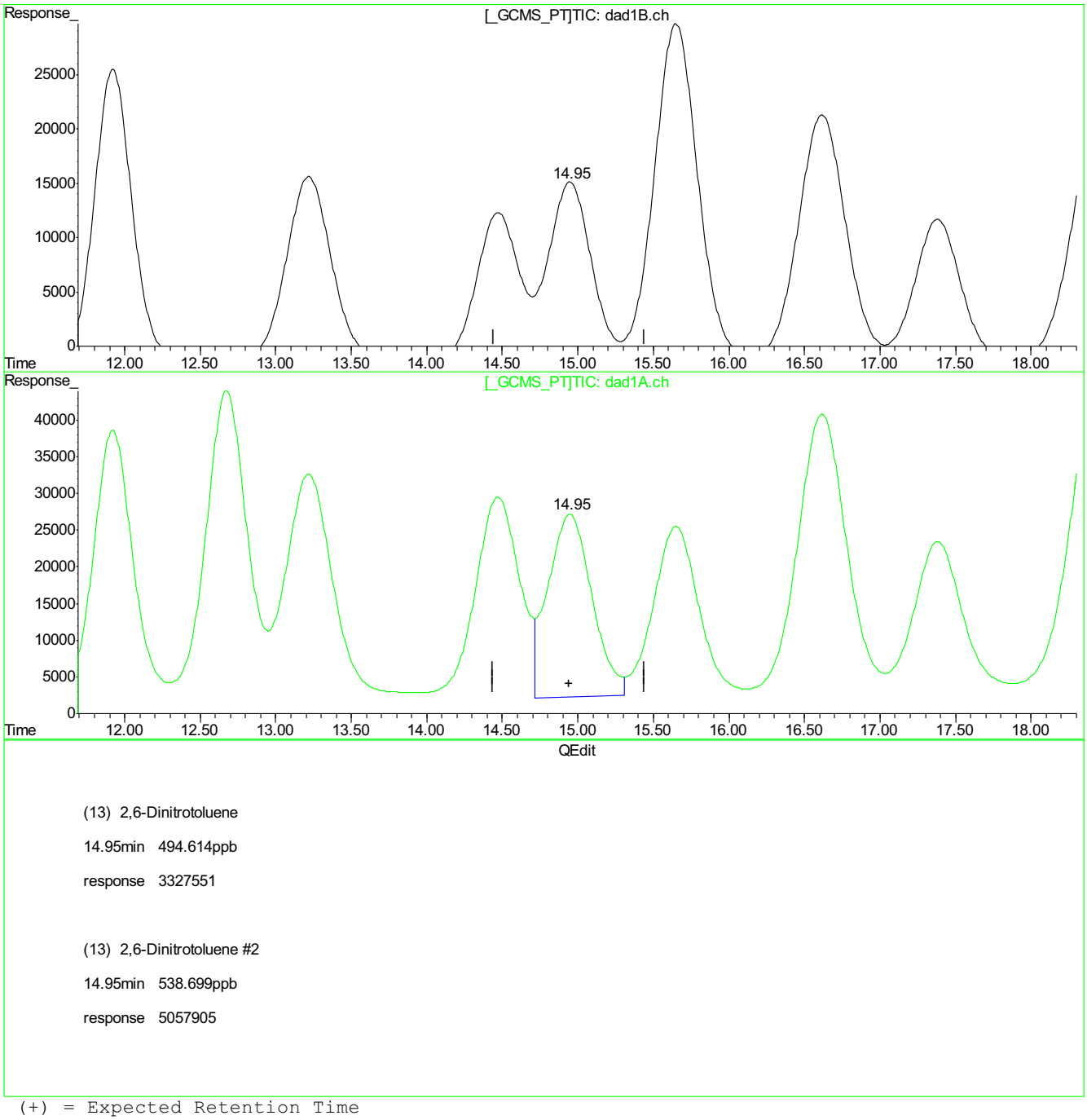
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.95min 494.614ppb

response 3327551

(13) 2,6-Dinitrotoluene #2

14.95min 538.699ppb

response 5057905

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:04:58 2017

9.5.18.14

9

GG613492.D edits: 2,6-Dinitrotoluene

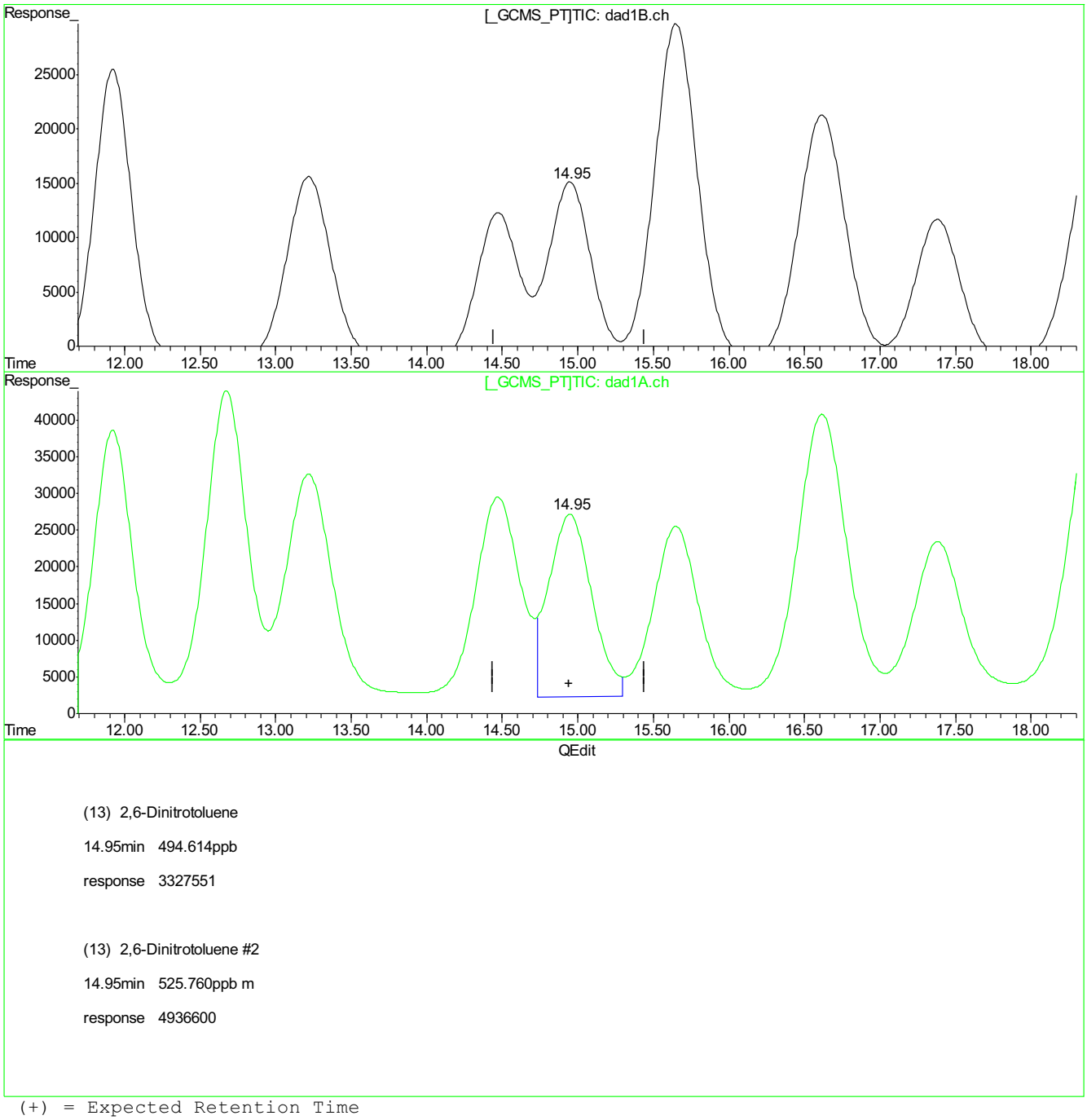
SGS ACCUTEST FA45759

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(13) 2,6-Dinitrotoluene

14.95min 494.614ppb

response 3327551

(13) 2,6-Dinitrotoluene #2

14.95min 525.760ppb m

response 4936600

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:05:09 2017

9.5.18.15

9

GG613492.D edits: 2,6-Dinitrotoluene

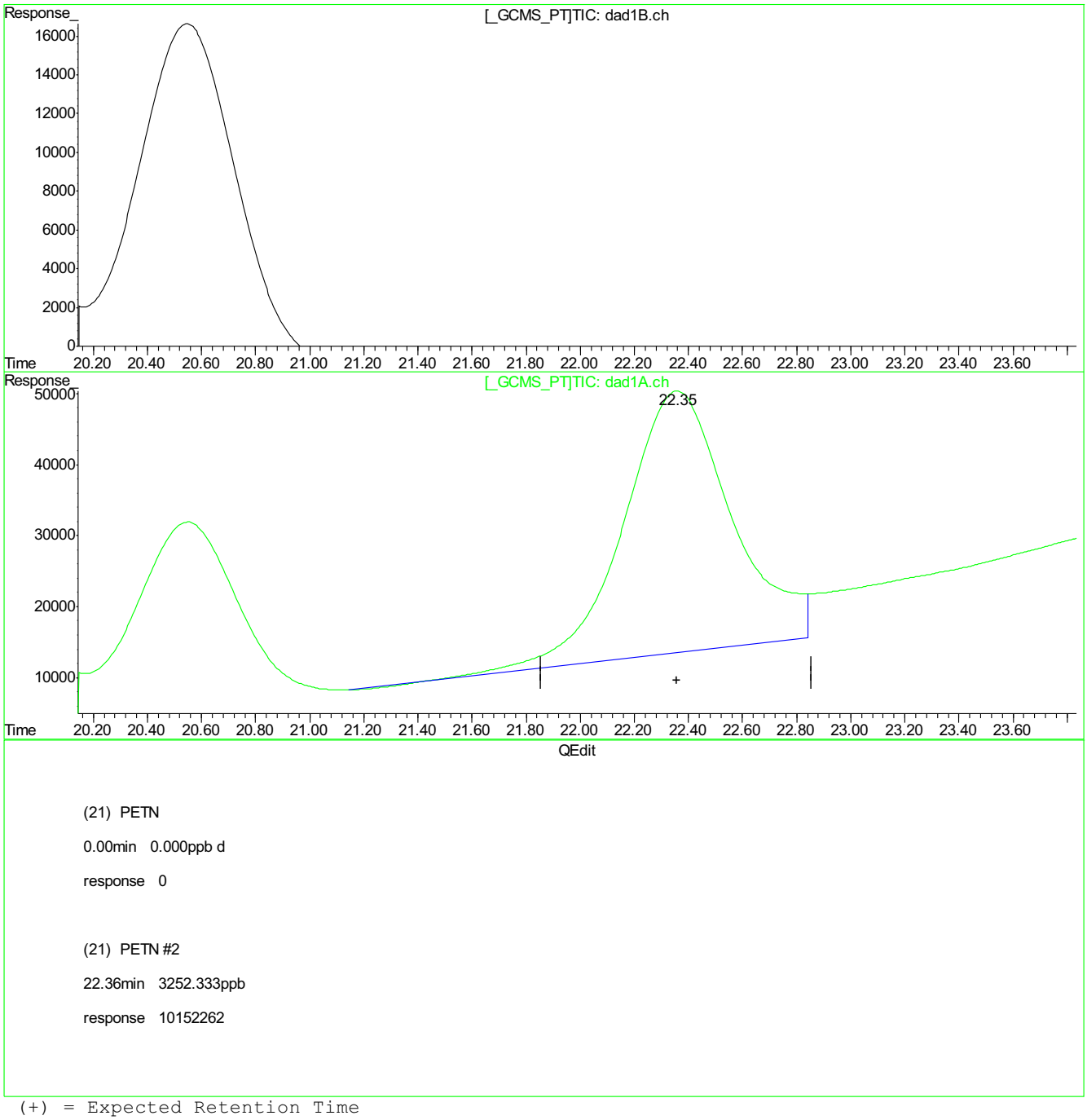
SGS ACCUTEST FA45759

Cal Report: **GG613492.D**

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:05:14 2017

9.5.18.16

9

GG613492.D edits: PETN

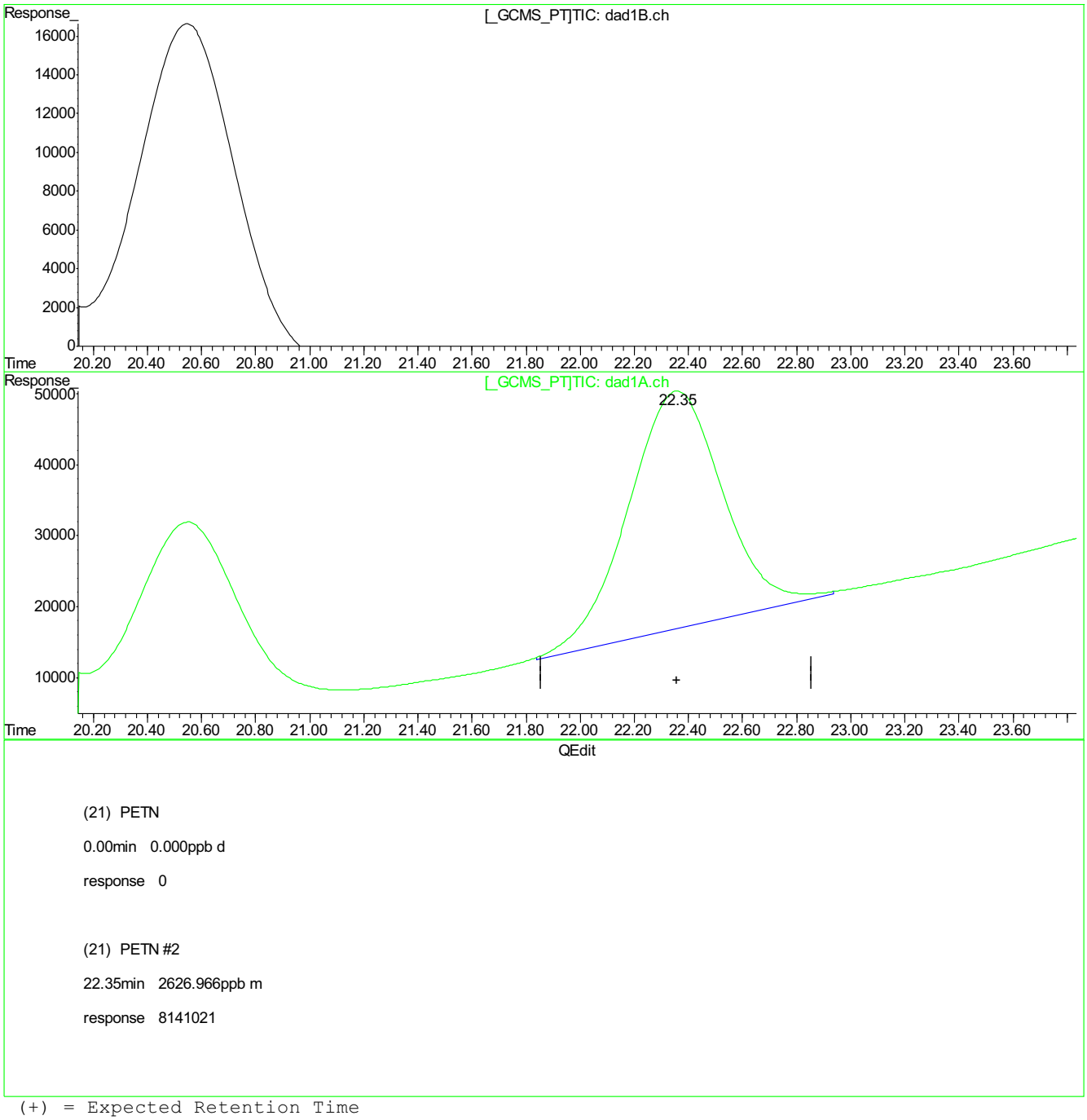
SGS ACCUTEST FA45759

Cal Report: GG613492.D

Quantitation Report (Qedit)

```
Signal #1 : G:\DATA\0720RPB3\GG613492.D\dad1B.ch         Vial: 25
Signal #2 : G:\DATA\0720RPB3\GG613492.D\dad1A.ch
Acq On    : 20-Jul-2017, 18:41:15                    Operator: evitam
Sample    : icc2548-500                              Inst    : G1315B
Misc      : Op65876,Ggg2548,10.0,,,50,1,SOIL         Multiplr: 1.00
IntFile Signal #1: EVENTS.E     IntFile Signal #2: events2.e
Quant Time: Jul 24 11:03 2017  Quant Results File: 8330RPB.M_0720M.RES

Method       : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title        : Explosives by 8330A,8330B,8332
Last Update  : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration
```



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.35min 2626.966ppb m

response 8141021

(+) = Expected Retention Time

GG613492.D 8330RPB.M_0720M.M Mon Jul 24 11:05:18 2017

9.5.18.17

9

GG613492.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613493.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:06:42 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:34 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.46	14.46	5542313	11079167	991.227	1016.923
	Spiked Amount 500.000	Range 69 - 134		Recovery =		198.25%#	203.38%#
	Target Compounds						
1)	TNX	4.95	4.95	8007452	8007452	981.212	980.770
2)	HMX	5.32	5.32	3725935	3725935	1021.137	1022.083
3)	DNX	5.51	5.51	6385226	6385226	938.392	981.956
4)	MNX	6.52	6.52	4801154	4801154	984.110	984.110
5)	1,3,5-Trinitrobe	7.55	7.55	10341660	10333739	989.920	986.338
6)	RDX	7.90	7.90	4848516	4813651	1002.326	996.797
7)	1,3-Dinitrobenze	10.06	10.06	14120253	12001936	989.696	1067.289
8)	Nitrobenzene	11.12	11.12	9282763	9698975	1005.724	1061.195
9)	2,4,6-Trinitroto	11.91	11.91	9825904	13778497	976.802	1035.107
10)	Nitroglycerin	0.00	12.67	0	16331807	N.D. d	5196.981
11)	Tetryl	13.21	13.21	7596489	13802963	1009.959	1112.803
13)	2,6-Dinitrotolue	14.94	14.94	6820198	10264571	992.849	1021.093
14)	2,4-Dinitrotolue	15.64	15.64	12989849	9249965	993.989	866.346
15)	o-Nitrotoluene	17.38	17.38	5873258	9032818	1003.574	1035.100
16)	3,5-Dinitroanili	16.63	16.63	10349336	16935845	758.263	744.383
17)	p-Nitrotoluene	18.45	18.45	11915152	21930751	986.320	1022.443
18)	4-Amino-2,6-Dini	18.45	18.45	11915152	21930751	986.320	1022.443
19)	m-Nitrotoluene	19.82	19.82	6467712	10802306	1013.316	1045.178
20)	2-Amino-4,6-Dini	20.55	20.55	9448905	12892790	1020.987	1029.005
21)	PETN	0.00	22.33	0	16292026	N.D. d	4978.484m

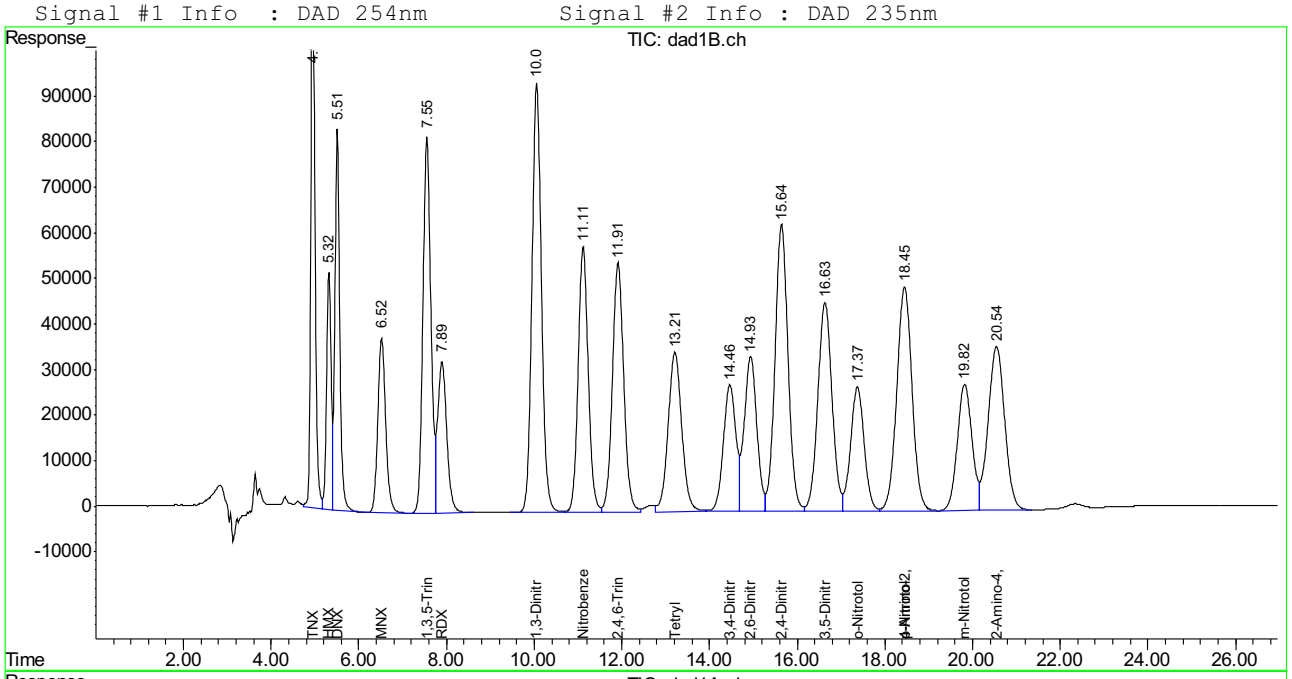
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 13:56:35 2017 Page 1

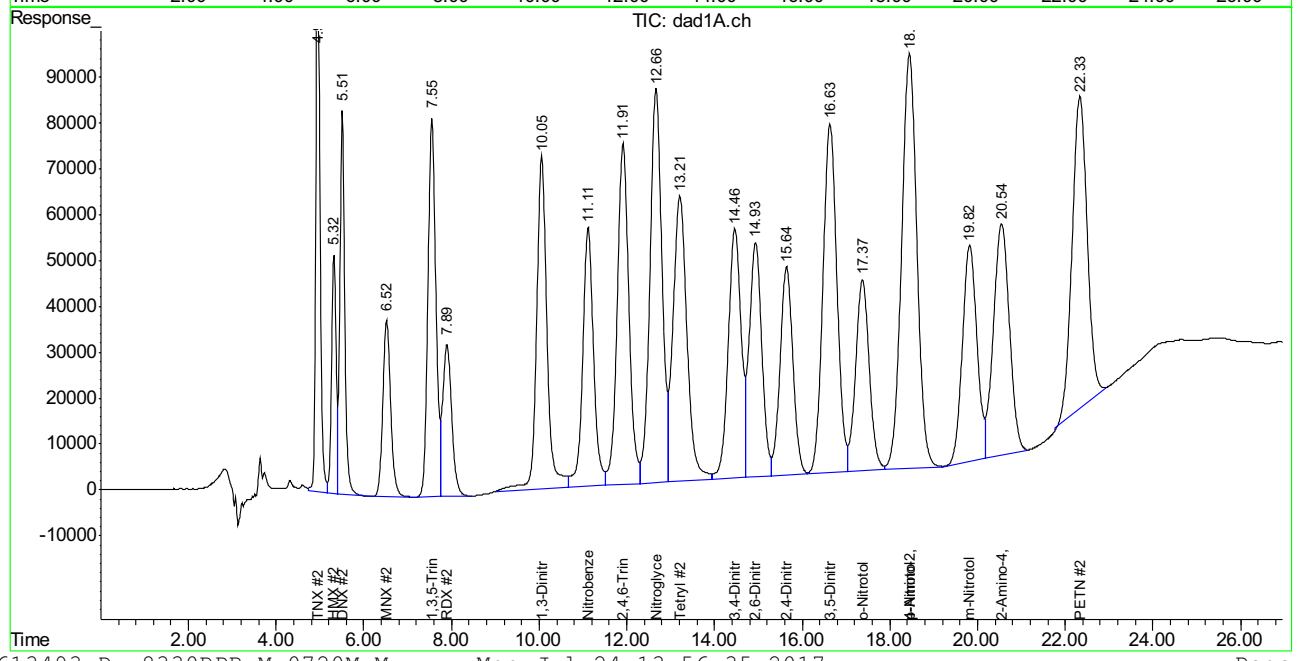
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:06 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:34 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613493.D
Injection Time: 07/20/17 19:10
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

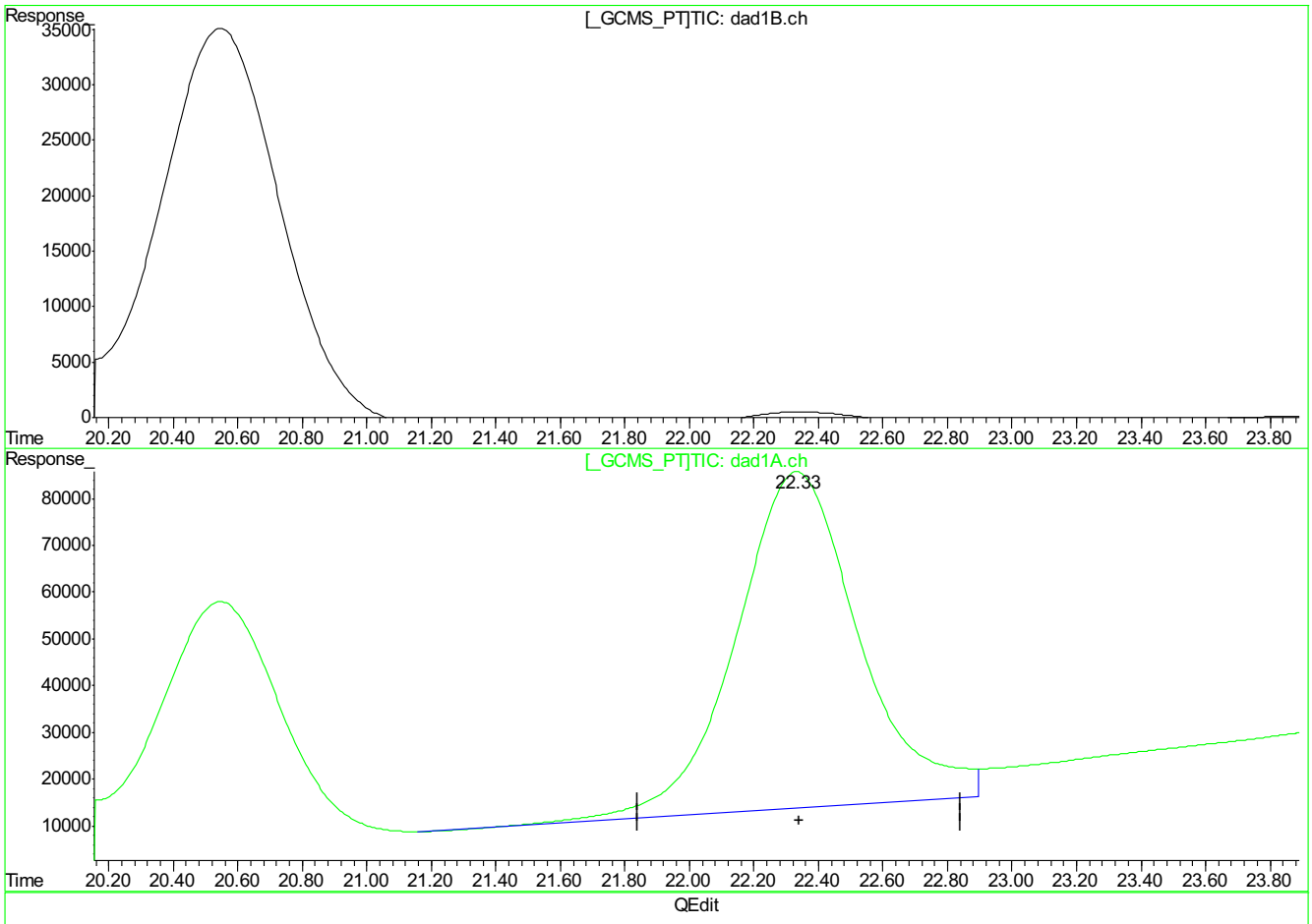
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.33	Poorly defined baseline

Cal Report: GG613493.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:30 2017 Quant Results File: 8330RPB.M_0613M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.33min 5950.019ppb

response 19038329

(+) = Expected Retention Time
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 11:05:52 2017

9.5.19.2

9

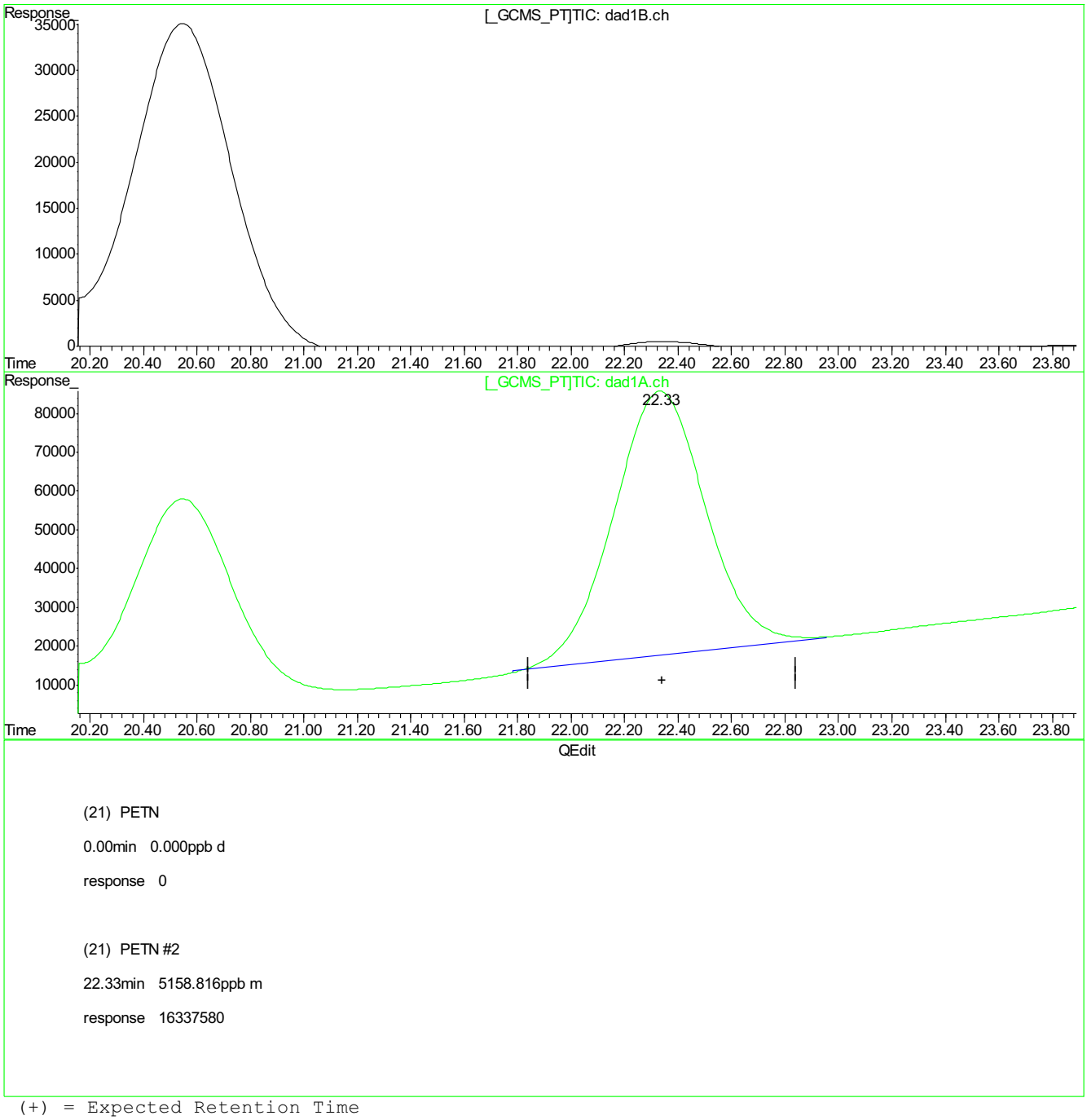
SGS ACCUTEST FA45759

Cal Report: GG613493.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613493.D\dad1B.ch Vial: 26
Signal #2 : G:\DATA\0720RPB3\GG613493.D\dad1A.ch
Acq On : 20-Jul-2017, 19:10:44 Operator: evitam
Sample : ic2548-1000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 10:30 2017 Quant Results File: 8330RPB.M_0613M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:03:04 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.33min 5158.816ppb m

response 16337580

(+) = Expected Retention Time
GG613493.D 8330RPB.M_0720M.M Mon Jul 24 11:05:56 2017

9.5.19.3

9

GG613493.D edits: PETN

SGS ACCUTEST FA45759

Cal Report:

GG613494.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07:03 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.44	14.44	11254886	22258276	2012.905	2086.129
	Spiked Amount 500.000	Range 69 - 134		Recovery = 402.58%#			417.23%#
	Target Compounds						
1)	TNX	4.93	4.93	16240761	16240761	1990.099	1989.204
2)	HMX	5.30	5.30	7418978	7418978	2033.260	2035.143
3)	DNX	5.49	5.49	12969316	12969316	1906.009	1881.313
4)	MNX	6.49	6.49	9853677	9853677	2019.745	2019.745
5)	1,3,5-Trinitrobe	7.53	7.53	21217803	21208219	2031.001	2024.289
6)	RDX	7.87	7.87	9970887	9924489	2061.266	2055.134
7)	1,3-Dinitrobenze	10.04	10.04	28956911	22754828	2029.606	2323.287
8)	Nitrobenzene	11.10	11.10	18855953	18605989	2042.914	2365.114
9)	2,4,6-Trinitroto	11.90	11.90	20198175	27377057	2007.919	2211.559
10)	Nitroglycerin	0.00	12.65	0	32814325	N.D. d	10441.920
11)	Tetryl	13.20	13.20	15852576	28320754	2107.611	BelowCal #
13)	2,6-Dinitrotolue	14.92	14.92	14042043	20954212	2044.168	2285.476
14)	2,4-Dinitrotolue	15.63	15.63	26739489	19375165	2046.118	1814.666
15)	o-Nitrotoluene	17.36	17.36	11924047	17931841	2037.483	2359.448
16)	3,5-Dinitroanili	16.61	16.61	21252148	35317313	1557.077	1552.305
17)	p-Nitrotoluene	18.44	18.44	24437008	45433065	2022.863	2372.916
18)	4-Amino-2,6-Dini	18.44	18.44	24437008	45433065	2022.863	2372.916
19)	m-Nitrotoluene	19.81	19.81	13179859	22438929	2064.928	2332.924
20)	2-Amino-4,6-Dini	20.52	20.52	19535807	27373505	2365.366	2320.809
21)	PETN	0.00	22.31	0	34276545	N.D. d	10185.488m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613494.D 8330RPB.M_0720M.M Mon Jul 24 14:02:34 2017 Page 1

9.5.20

9

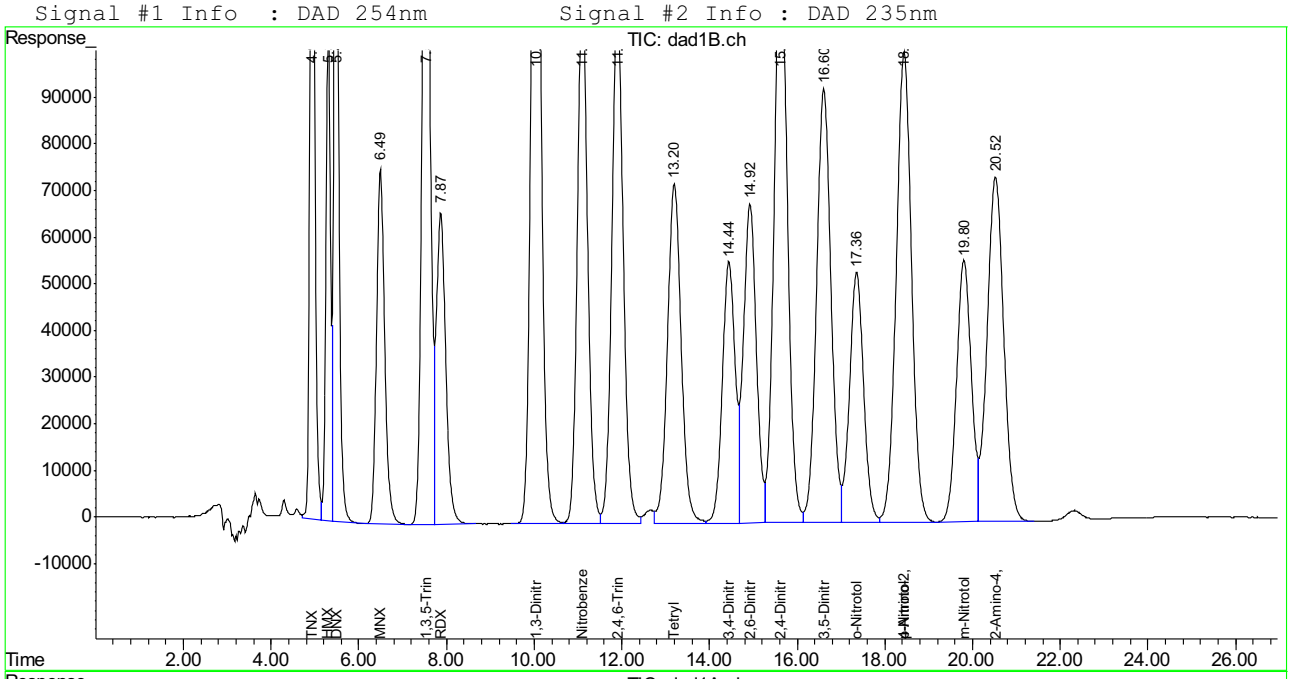
SGS ACCUTEST FA45759

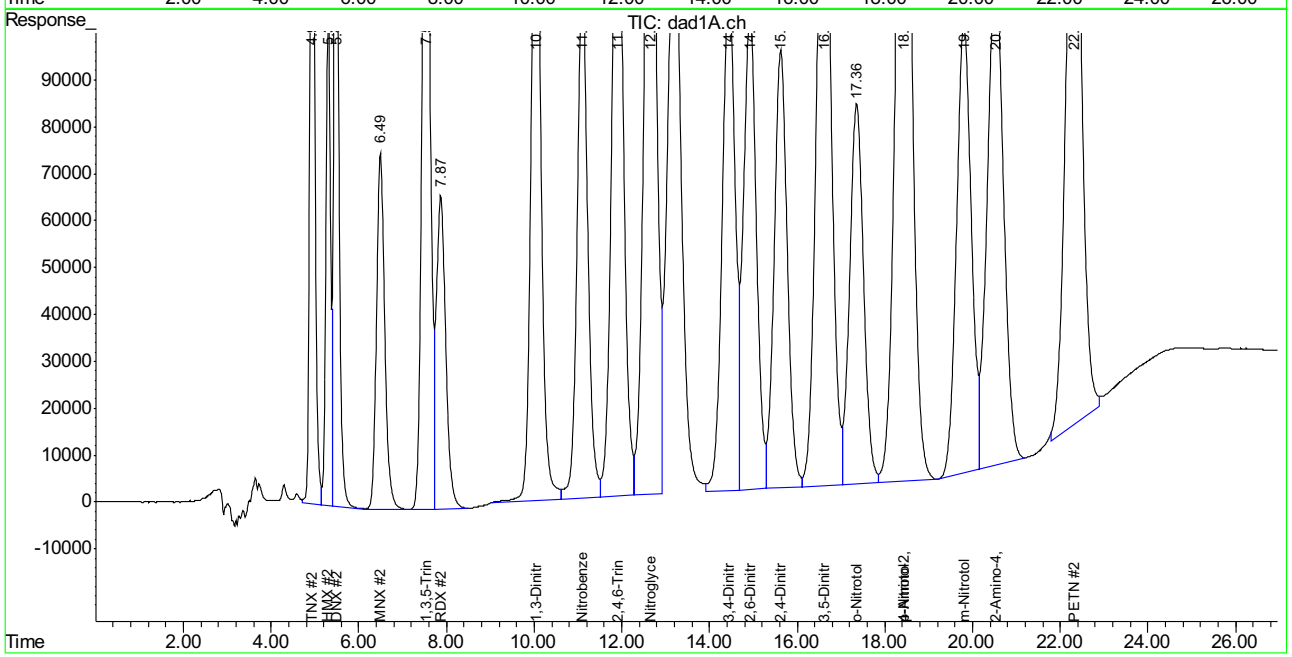
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-IC2548
Lab FileID: GG613494.D
Injection Time: 07/20/17 19:40
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

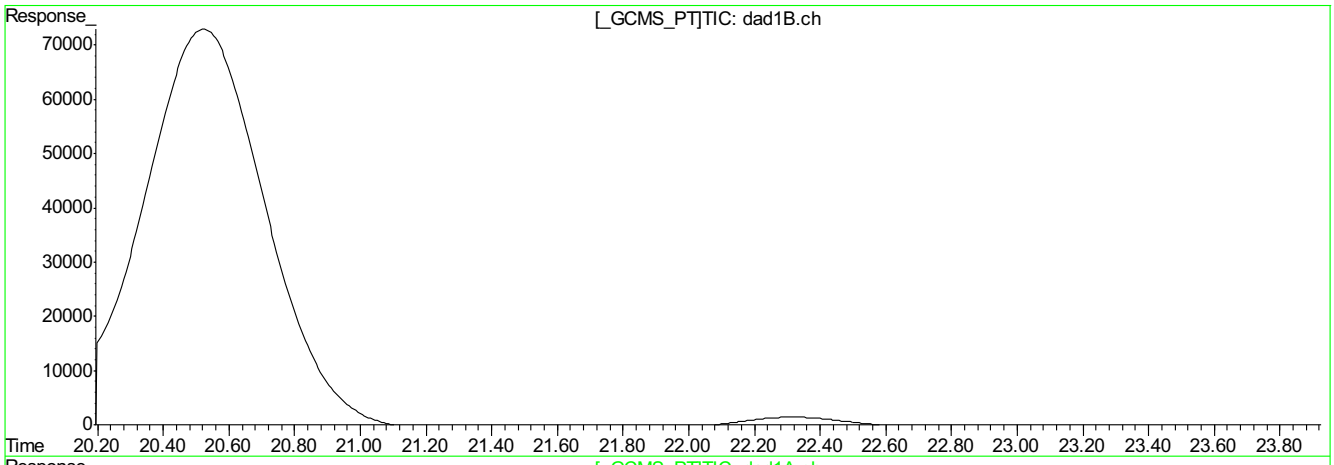
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.31	Poorly defined baseline

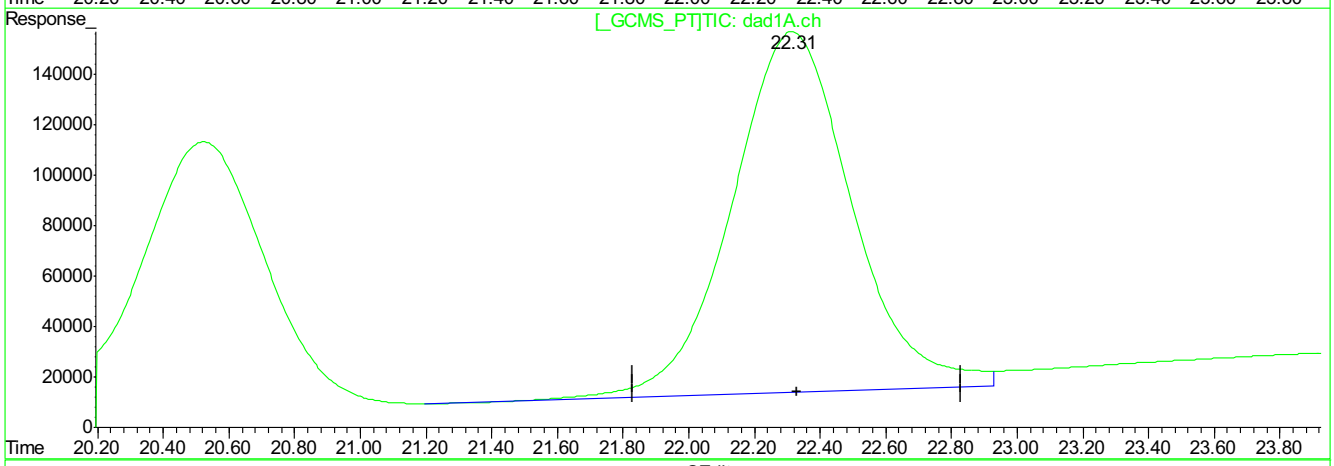
Cal Report: GG613494.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.32min 10740.165ppb

response 36255351

(+) = Expected Retention Time
GG613494.D 8330RPB.M_0720M.M Mon Jul 24 11:07:17 2017

9.5.20.2

9

GG613494.D edits: PETN

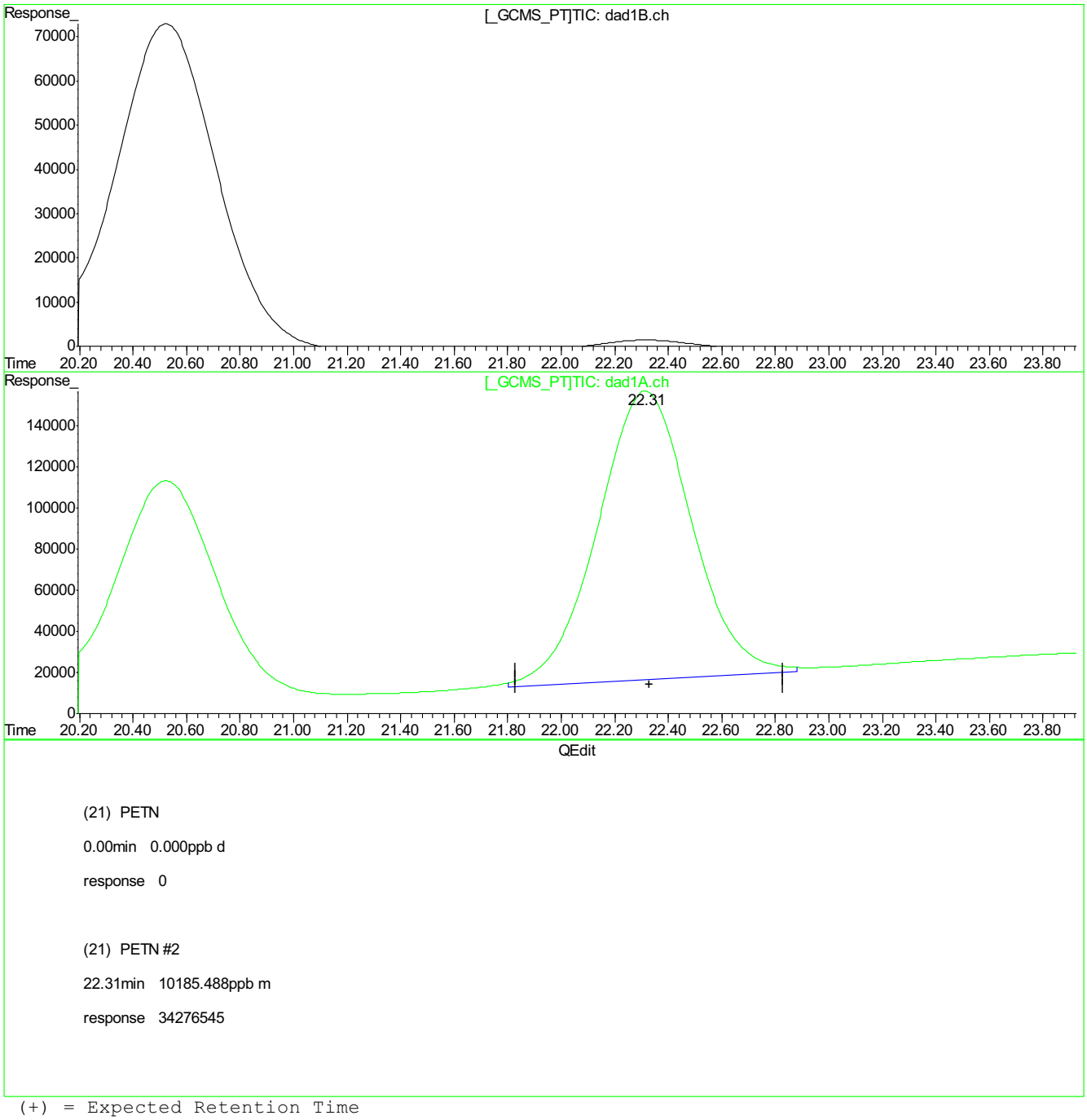
SGS ACCUTEST FA45759

Cal Report: GG613494.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613494.D\dad1B.ch Vial: 27
Signal #2 : G:\DATA\0720RPB3\GG613494.D\dad1A.ch
Acq On : 20-Jul-2017, 19:40:13 Operator: evitam
Sample : ic2548-2000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:07 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:06:57 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.31min 10185.488ppb m

response 34276545

(+) = Expected Retention Time
GG613494.D 8330RPB.M_0720M.M Mon Jul 24 11:07:20 2017

9.5.20.3

9

GG613494.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613495.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:15:32 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.95	4.95	4681813	4655631	572.129m	568.675m
2)	HMX	5.32	5.32	1854312	1854312	500.919	501.376
3)	DNX	5.51	5.51	3844025	3844025	570.600	562.695
4)	MNX	6.51	6.51	3816150	3816150	792.128	792.128
5)	1,3,5-Trinitrobe	7.54	7.54	4709867	4707109	443.702	442.225
6)	RDX	7.88	7.88	2250325	2239312	456.122	454.946
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	11.11	11.11	4194452	4954422	446.131	525.992
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	12.65	0	9959310	N.D. d	3169.633
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	14.92	14.92	3452518	5422317	494.690	519.165
14)	2,4-Dinitrotolue	15.62	15.62	5842207	4213761	439.623	452.304
15)	o-Nitrotoluene	17.34	17.35	2722442	4133283	456.724	464.796
16)	3,5-Dinitroanili	16.60	16.60	5063545	8162863	490.305	485.240
17)	p-Nitrotoluene	18.42	18.41	5489822	10294925	446.097	478.056
18)	4-Amino-2,6-Dini	18.42	18.41	5489822	10294925	446.097	478.056
19)	m-Nitrotoluene	19.79	19.78	2888385	4879032	442.932	495.386
20)	2-Amino-4,6-Dini	20.51	20.51	4314896	5802801	455.997	470.213
21)	PETN	0.00	22.29	0	10671024	N.D. d	3441.118m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 13:56:37 2017 Page 1

9.5.21
9

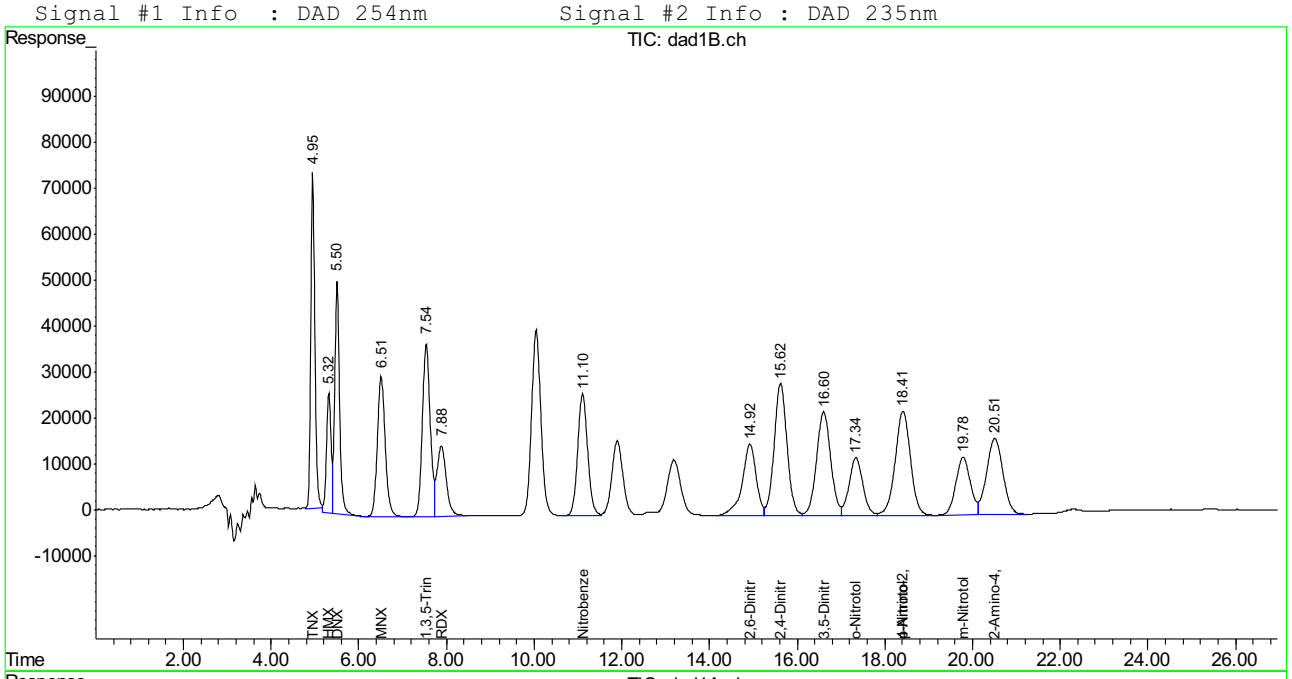
SGS ACCUTEST FA45759

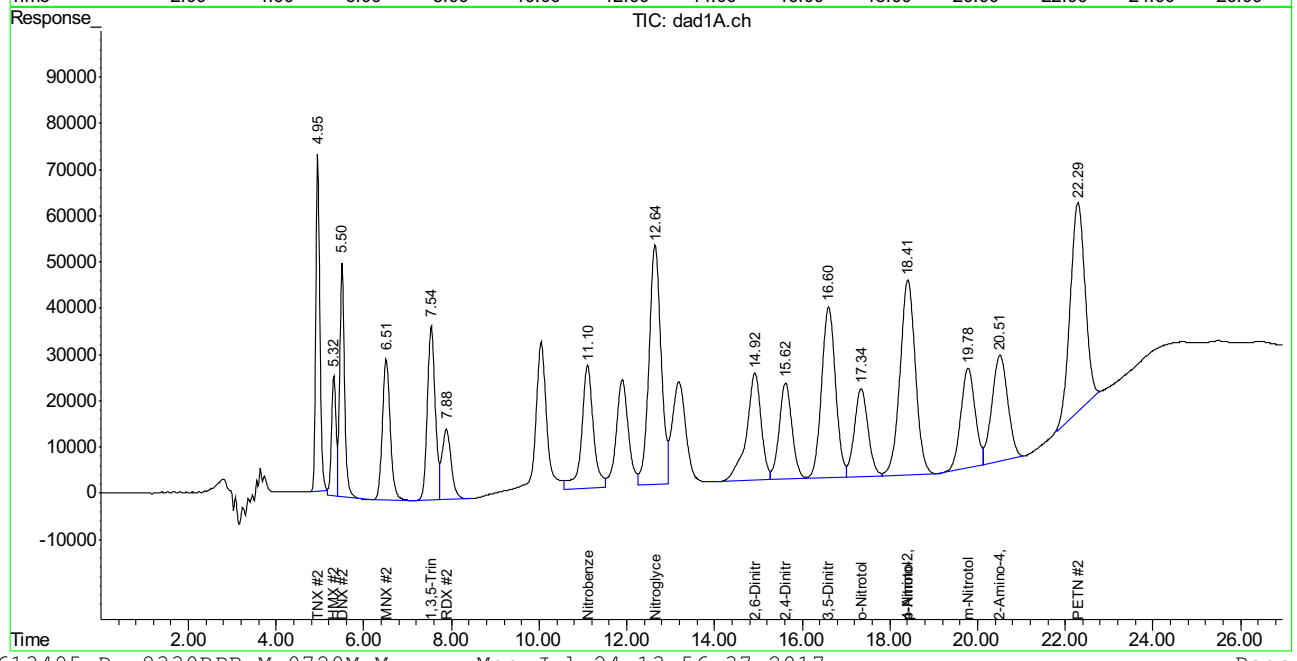
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:19 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-ICV2548 **Method:** SW846 8330B
Lab FileID: GG613495.D **Analyst approved:** 07/24/17 14:06 Evita Martinez
Injection Time: 07/20/17 20:09 **Supervisor approved:** 07/26/17 18:27 Mike Eger

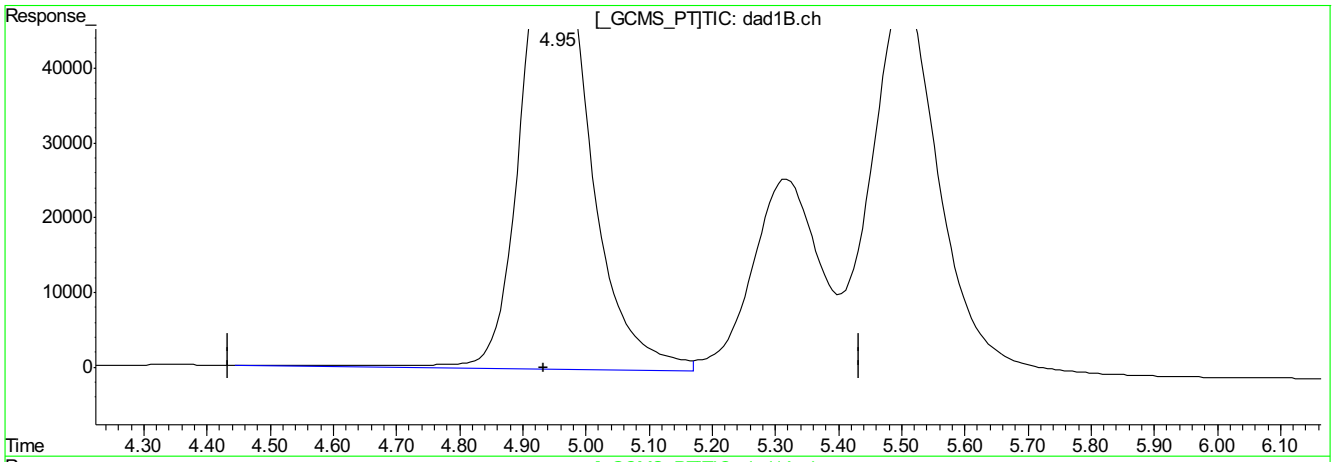
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.95	Poorly defined baseline
TNX		2	4.95	Poorly defined baseline
PETN	78-11-5	2	22.29	Poorly defined baseline

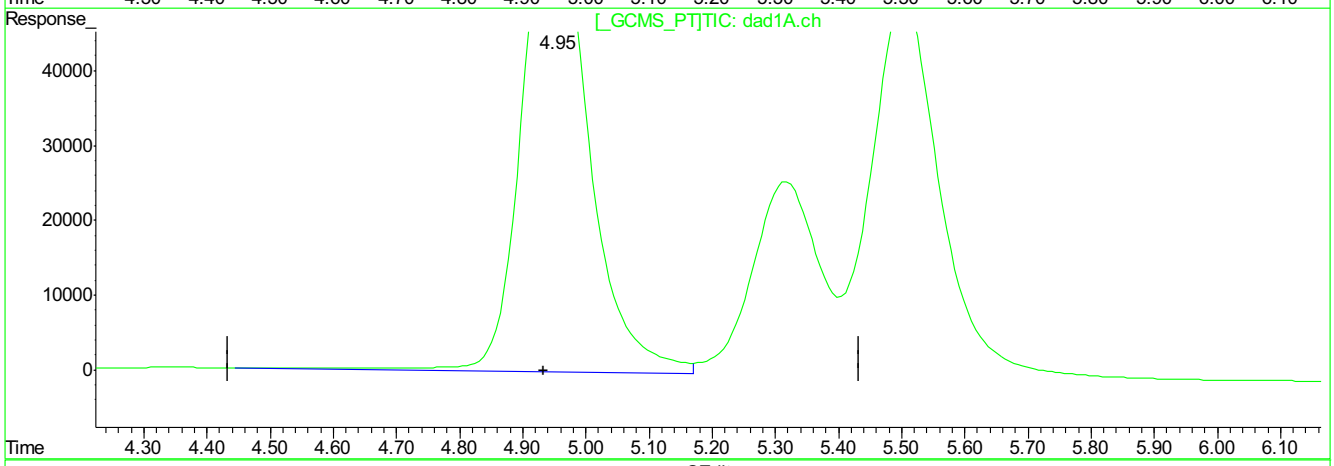
Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:09 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.95min 592.800ppb

response 4850963

(1) TNX #2

4.95min 592.534ppb

response 4850963

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:10:38 2017

9.5.21.2

9

GG613495.D edits: TNX

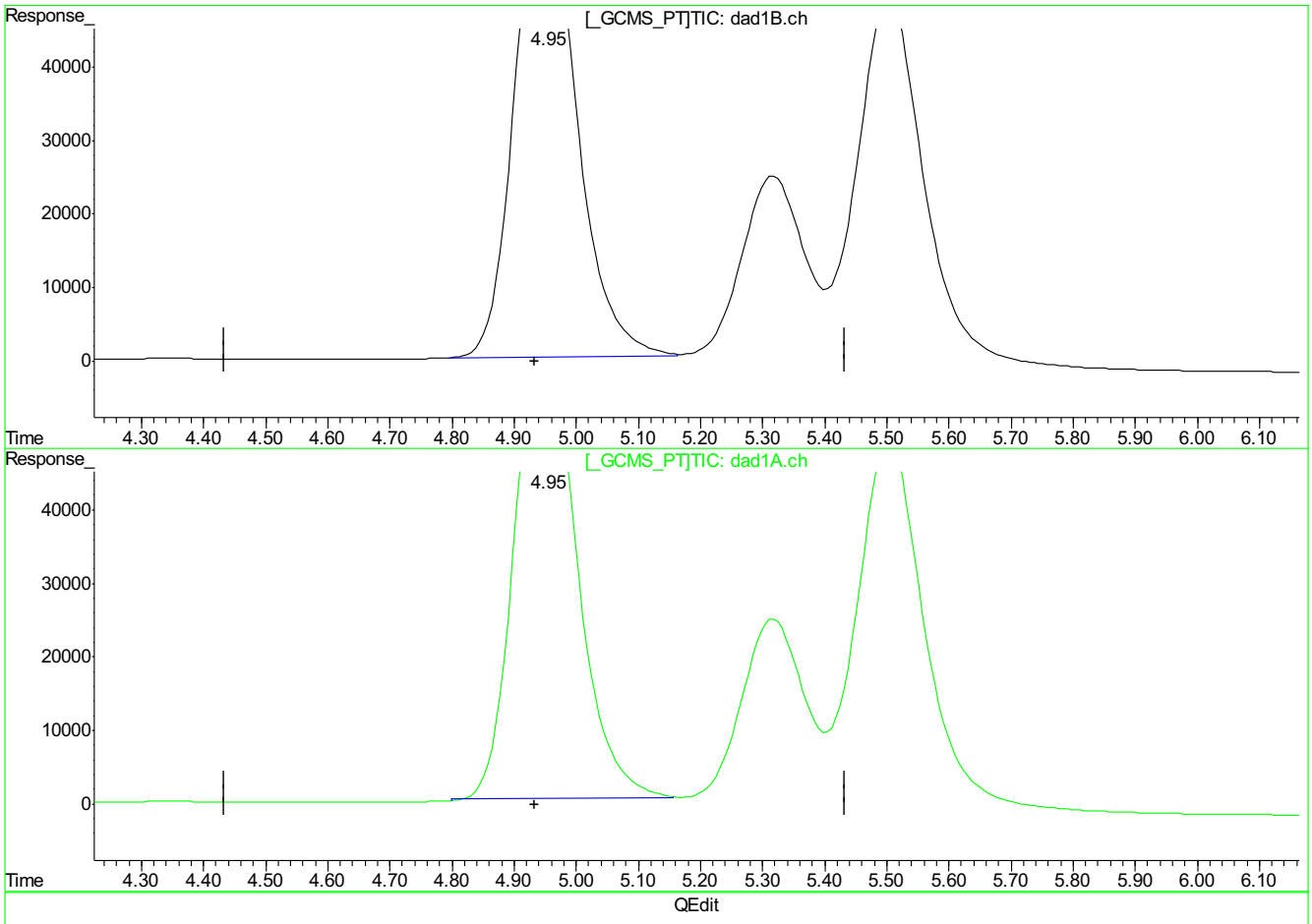
SGS ACCUTEST FA45759

Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:09 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration



(1) TNX

4.95min 565.660ppb m

response 4628872

(1) TNX #2

4.95min 558.821ppb m

response 4574964

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:10:54 2017

9.5.21.3

9

GG613495.D edits: TNX

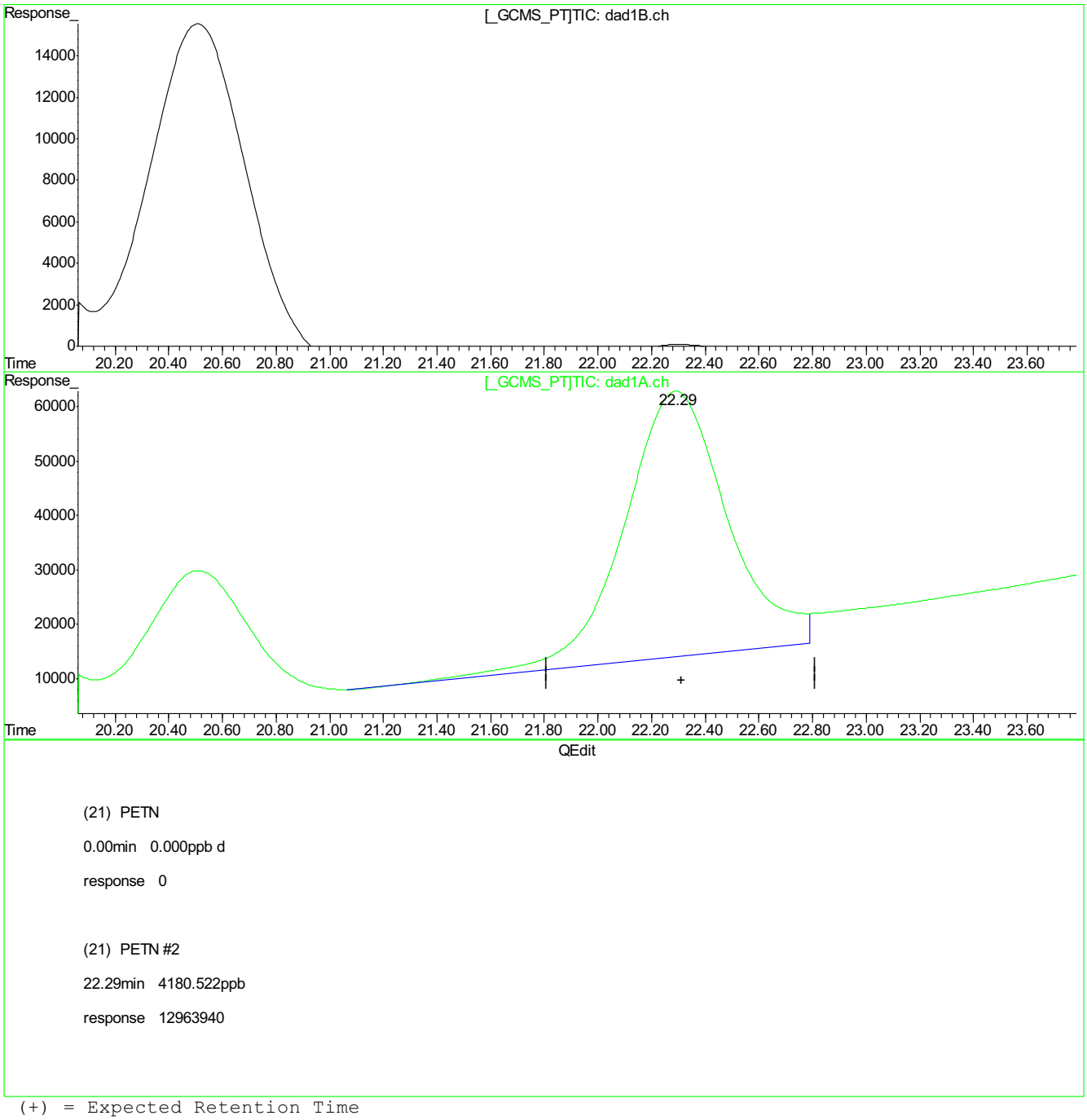
SGS ACCUTEST FA45759

Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:12 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration



(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:13:22 2017

GG613495.D edits: PETN

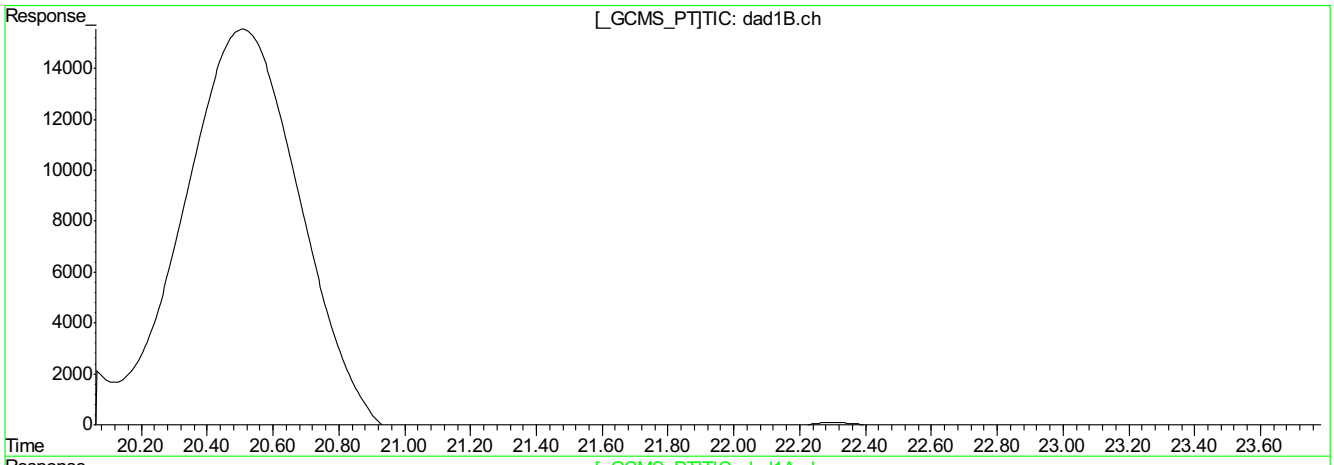
SGS ACCUTEST FA45759

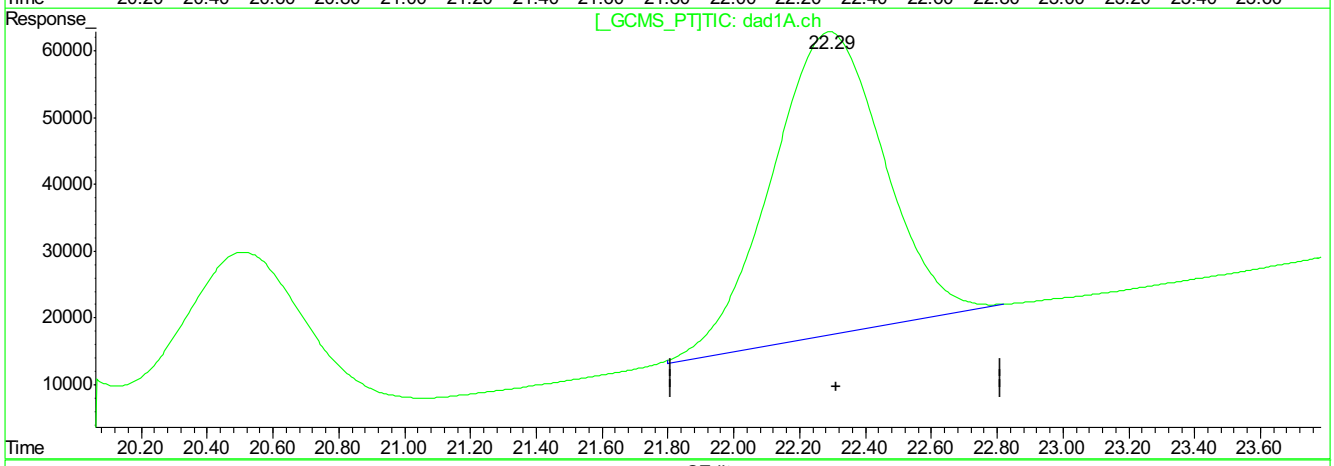
Cal Report: GG613495.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613495.D\dad1B.ch Vial: 28
Signal #2 : G:\DATA\0720RPB3\GG613495.D\dad1A.ch
Acq On : 20-Jul-2017, 20:09:40 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:12 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:08:56 2017
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.29min 3484.689ppb m

response 10806137

(+) = Expected Retention Time
GG613495.D 8330RPB.M_0720M.M Mon Jul 24 11:13:25 2017

9.5.21.5 9

GG613495.D edits: PETN

Cal Report: GG613496.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:16:19 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 69 - 134		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	10.06	10.05	7055576	5625090	486.623	486.910m
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	11.91	11.90	4113383	6206833	402.882	462.689m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	13.21	13.20	3658378	6846307	466.977	542.143m
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

9.5.22
6

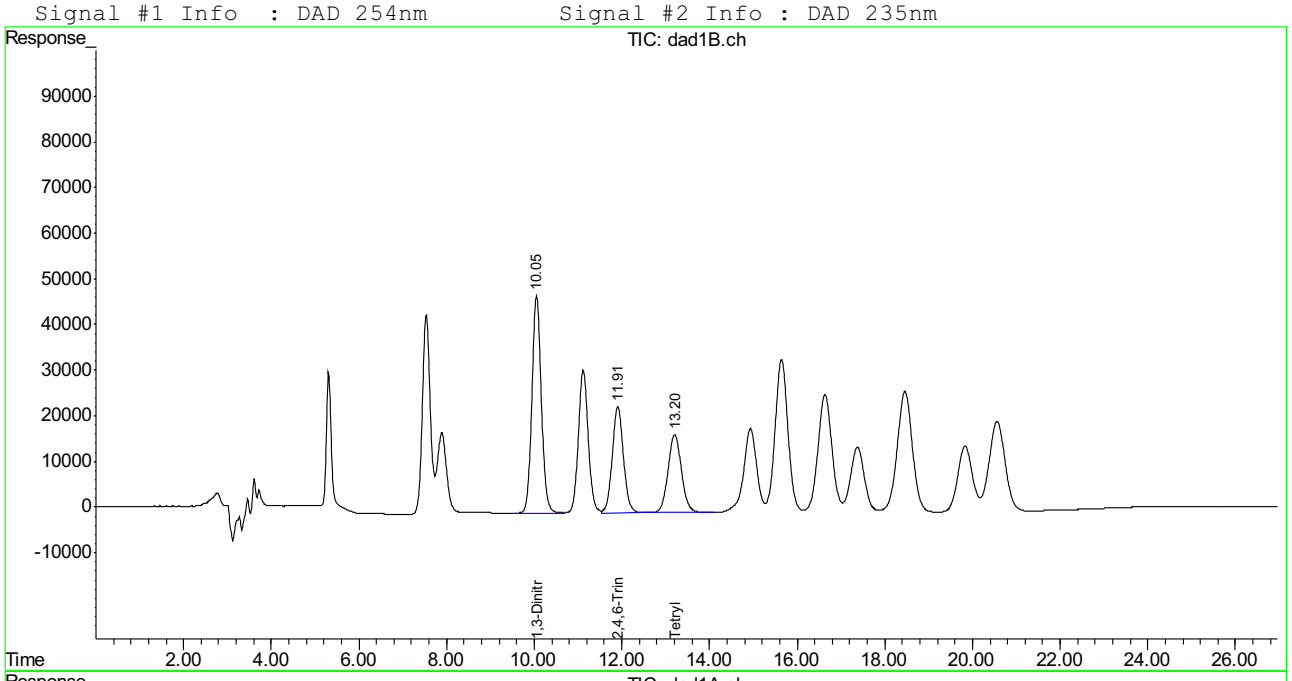
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613496.D 8330RPB.M_0720M.M Mon Jul 24 13:56:38 2017 Page 1

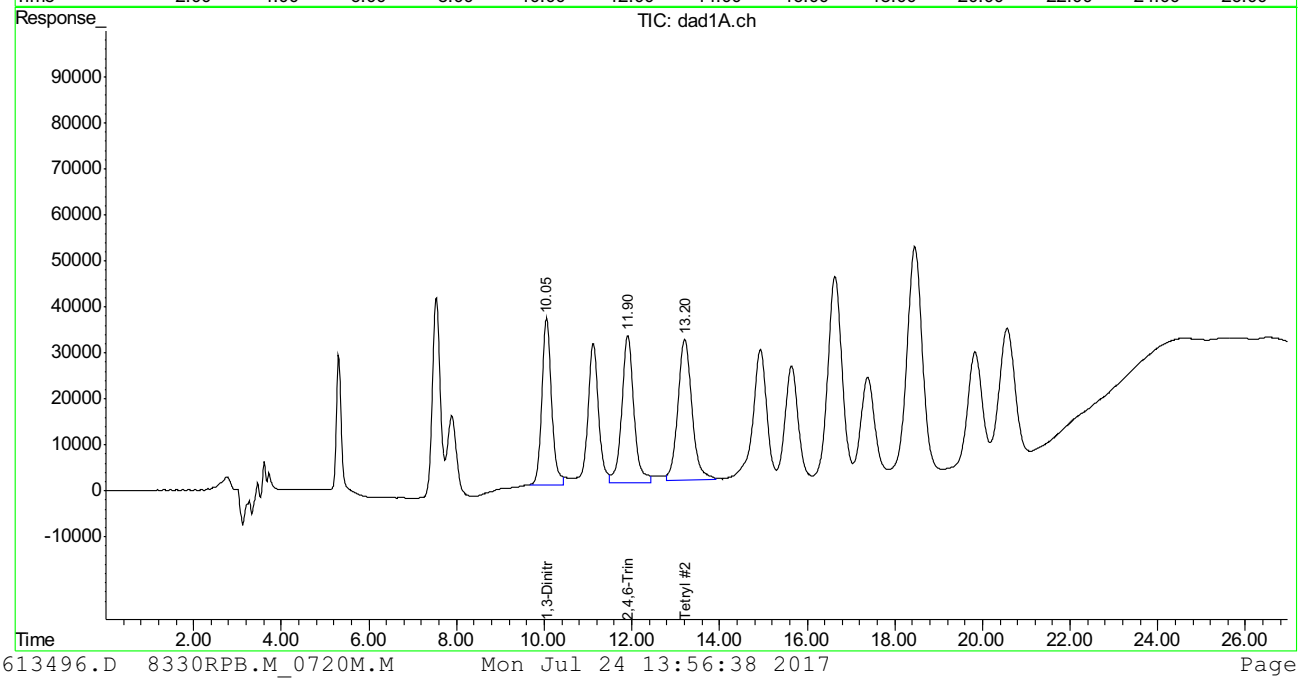
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:21 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

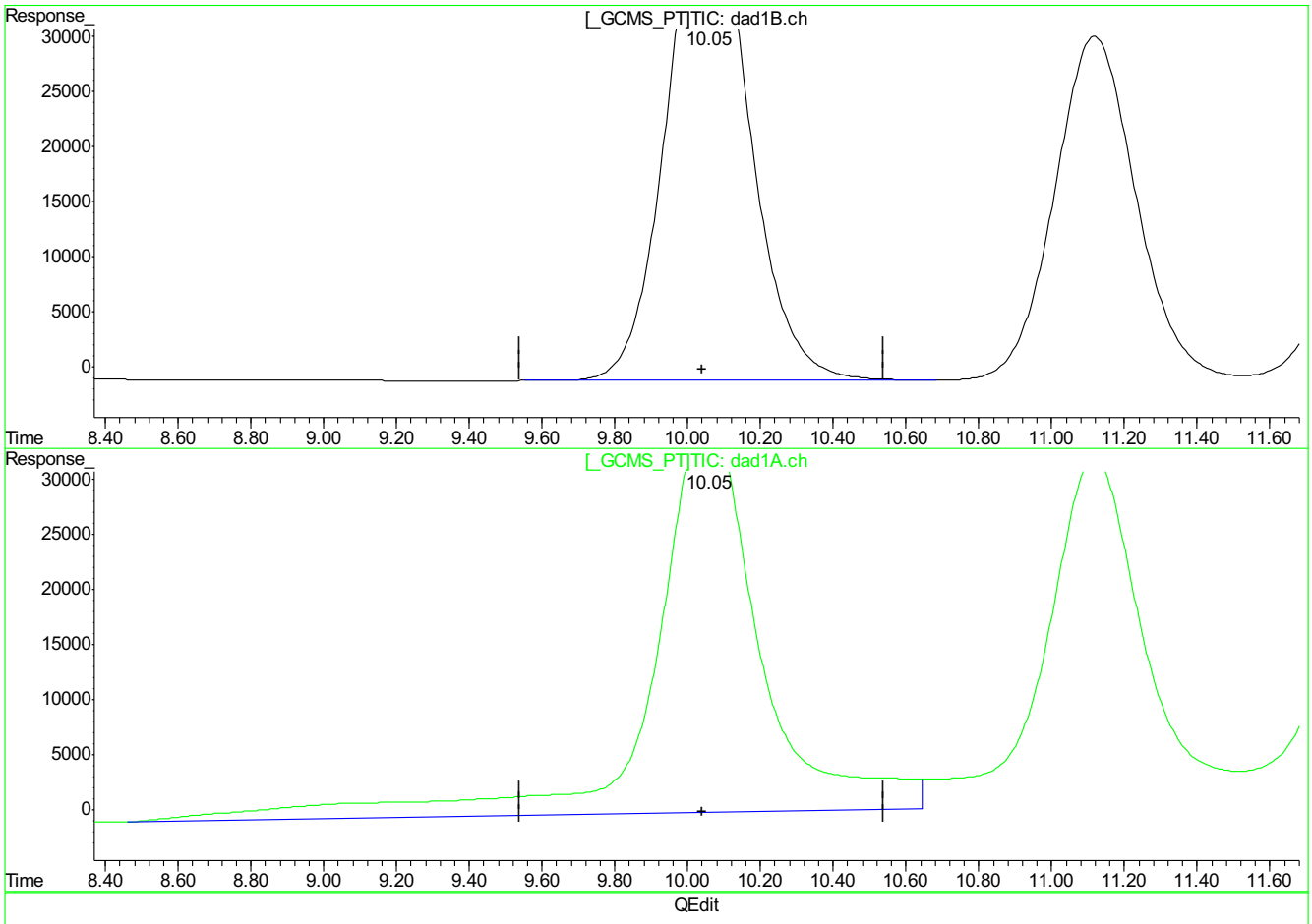
Sample Number: GGG2548-ICV2548
Lab FileID: GG613496.D
Injection Time: 07/20/17 20:39
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	10.05	Poorly defined baseline
2,4,6-Trinitrotoluene	118-96-7	2	11.90	Poorly defined baseline
Tetryl	479-45-8	2	13.20	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:16 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.06min 486.623ppb

response 7055576

(7) 1,3-Dinitrobenzene #2

10.06min 648.710ppb

response 7494303

(+) = Expected Retention Time
GG613496.D 8330RPB.M_0720M.M Mon Jul 24 11:19:44 2017

9.5.22.2

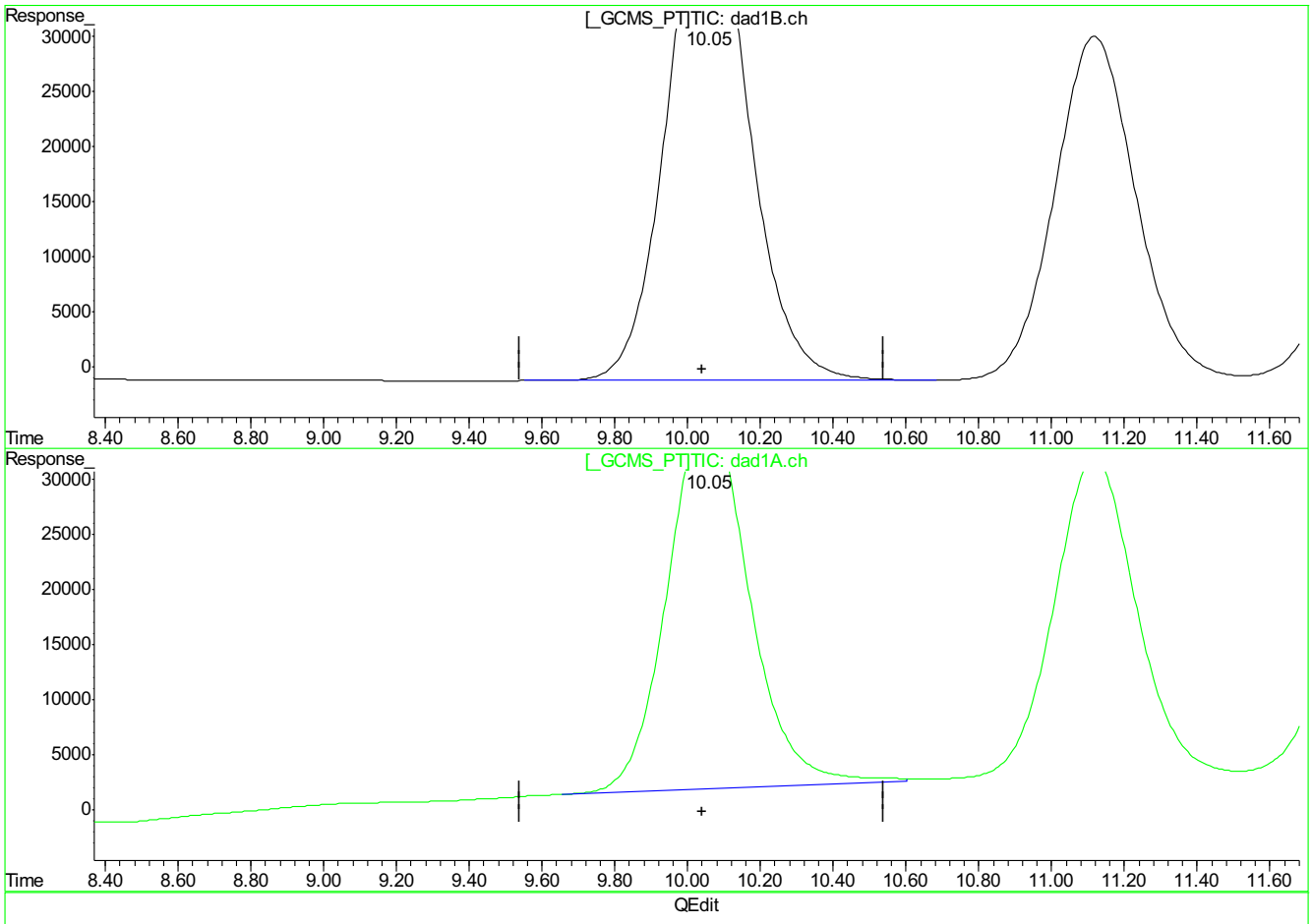
9

Cal Report: GG613496.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613496.D\dad1B.ch Vial: 29
Signal #2 : G:\DATA\0720RPB3\GG613496.D\dad1A.ch
Acq On : 20-Jul-2017, 20:39:08 Operator: evitam
Sample : icv2548-500 Inst : G1315B
Misc : Op65876,Ggg2548,10.0,,,50,1,SOIL Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:16 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

10.06min 486.623ppb

response 7055576

(7) 1,3-Dinitrobenzene #2

10.05min 462.334ppb m

response 5341172

(+) = Expected Retention Time
GG613496.D 8330RPB.M_0720M.M Mon Jul 24 11:19:47 2017

9.5.22.3

9

GG613496.D edits: 1,3-Dinitrobenzene

SGS ACCUTEST FA45759

Cal Report: GG613507.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:05 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.39	14.39	5588155	11423818	994.421	993.093
	Spiked Amount 500.000	Range 69 - 134		Recovery =		198.88%#	198.62%#
	Target Compounds						
1)	TNX	4.94	4.94	8131518	8131518	993.692	993.247
2)	HMX	5.31	5.31	3767412	3767412	1017.719	1018.648
3)	DNX	5.50	5.50	6472613	6472613	960.782	947.472
4)	MNX	6.51	6.51	4887741	4887741	1014.561	1014.561
5)	1,3,5-Trinitrobe	7.53	7.53	10524916	10517674	991.520	988.117
6)	RDX	7.88	7.88	4949296	4916439	1003.180	998.840
7)	1,3-Dinitrobenze	10.03	10.03	14322048	12316749	987.791	1066.143
8)	Nitrobenzene	11.09	11.09	9430262	10201376	1003.023	1083.042
9)	2,4,6-Trinitroto	11.87	11.87	10011955	14414914	980.614	1065.356
10)	Nitroglycerin	0.00	12.60	0	16865429	N.D. d	5367.562
11)	Tetryl	13.15	13.15	7818602	14395408	998.013	1139.938
13)	2,6-Dinitrotolue	14.88	14.88	6920131	10474612	991.543	1002.902
14)	2,4-Dinitrotolue	15.58	15.58	13181085	9571261	991.871	1013.548
15)	o-Nitrotoluene	17.30	17.30	5962762	9143033	1000.329	1024.799
16)	3,5-Dinitroanili	16.59	16.59	10577982	17705885	1014.474	1034.394
17)	p-Nitrotoluene	18.39	18.39	12139199	22584242	986.418	1028.420
18)	4-Amino-2,6-Dini	18.39	18.39	12139199	22584242	986.418	1028.420
19)	m-Nitrotoluene	19.76	19.76	6576117	11238910	1008.444	1141.128
20)	2-Amino-4,6-Dini	20.51	20.51	9626745	13124009	1017.353	1022.855
21)	PETN	0.00	22.25	0	16543532	N.D. d	5334.844m

9.5.23
9

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613507.D 8330RPB.M_0720M.M Mon Jul 24 13:56:47 2017 Page 1

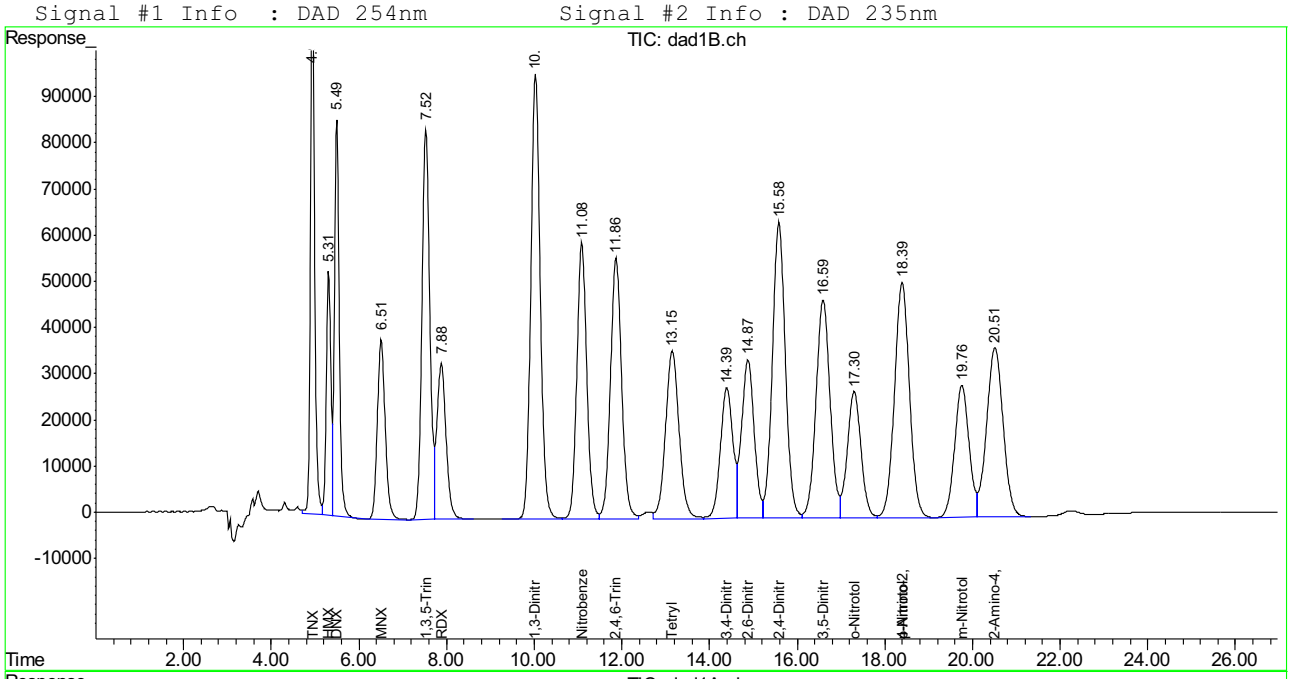
SGS ACCUTEST FA45759

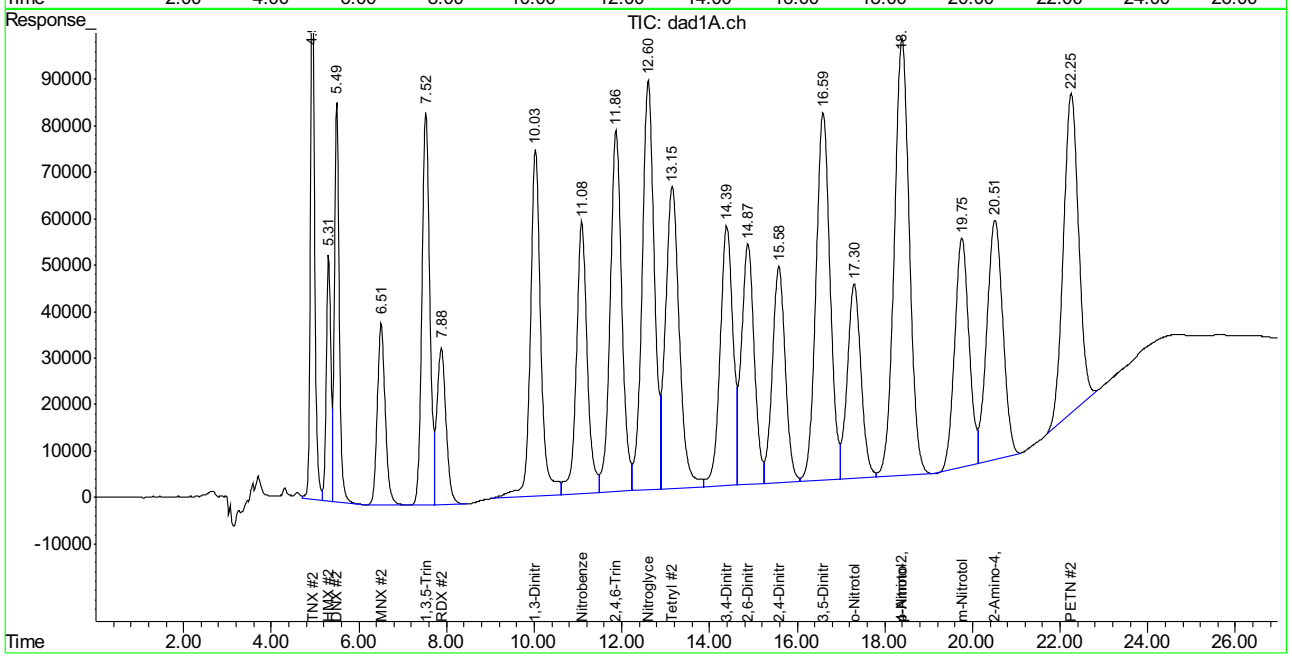
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 12:02 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG2548-CC2548
Lab FileID: GG613507.D
Injection Time: 07/21/17 02:03
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

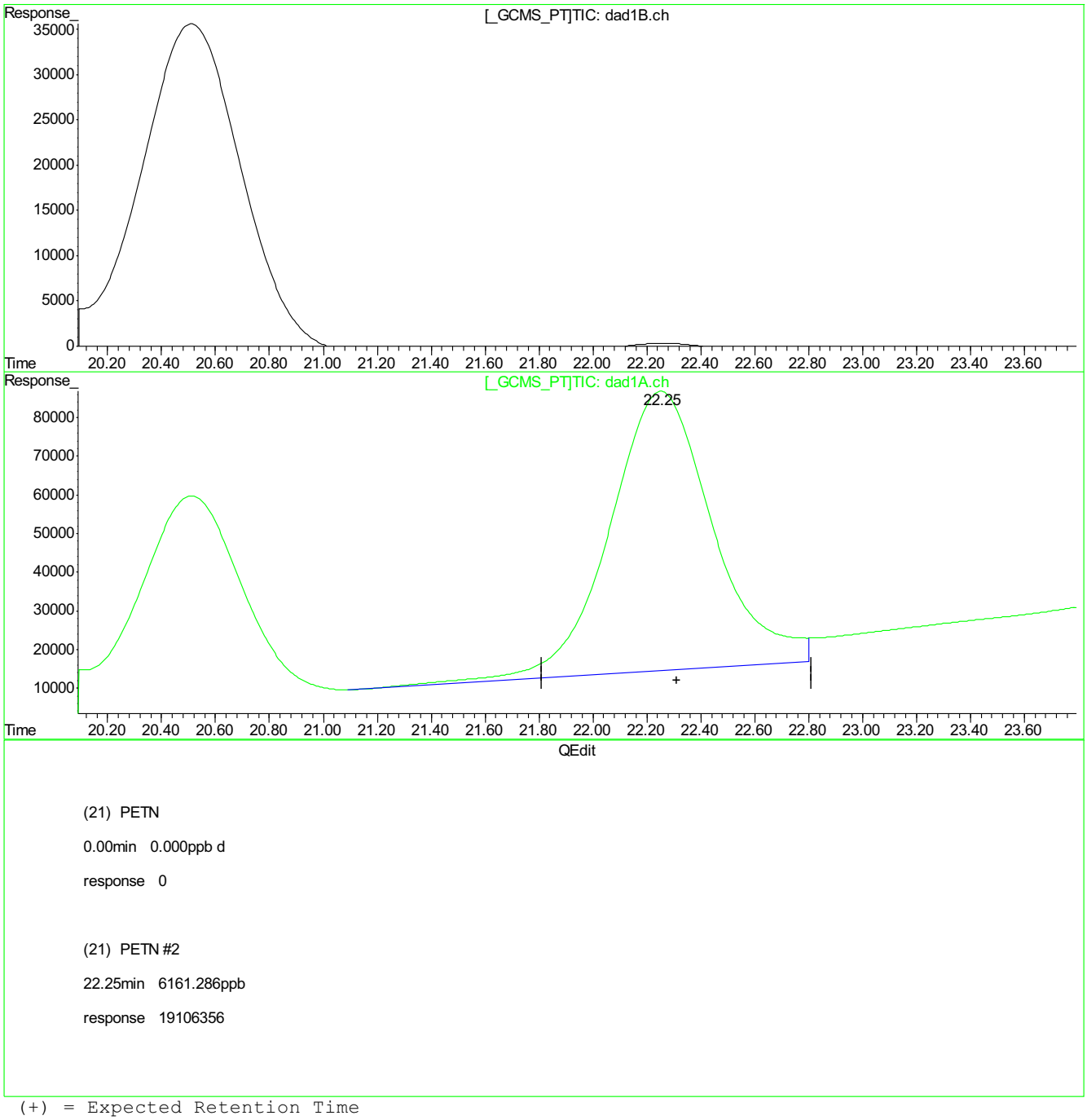
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.25	Poorly defined baseline

Cal Report: GG613507.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.25min 6161.286ppb

response 19106356

(+) = Expected Retention Time
GG613507.D 8330RPB.M_0720M.M Mon Jul 24 12:02:29 2017

9.5.23.2

9

GG613507.D edits: PETN

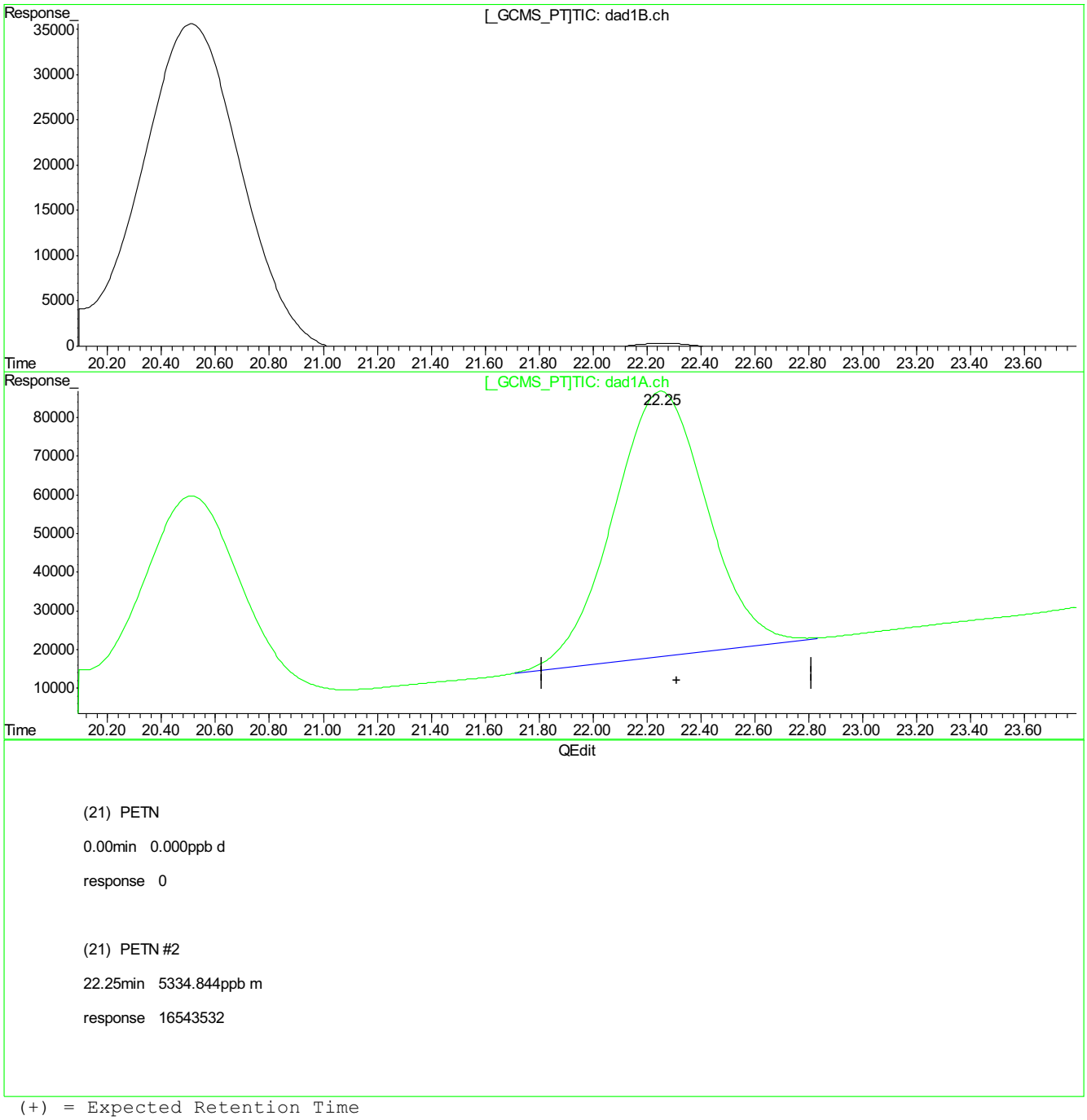
SGS ACCUTEST FA45759

Cal Report: GG613507.D

Quantitation Report (Qedit)

Signal #1 : G:\DATA\0720RPB3\GG613507.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613507.D\dad1A.ch
Acq On : 21-Jul-2017, 02:03:17 Operator: evitam
Sample : CC2548-1000 Inst : G1315B
Misc : Op65781,Ggg2548,10.0,,,50,1,soil Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28 2017 Quant Results File: 8330RPB.M_0720M.RES

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

22.25min 5334.844ppb m

response 16543532

(+) = Expected Retention Time
GG613507.D 8330RPB.M_0720M.M Mon Jul 24 12:02:33 2017

9.5.23.3

9

GG613507.D edits: PETN

SGS ACCUTEST FA45759

Cal Report: GG613517.D

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/26/17 18:27

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613517.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613517.D\dad1A.ch
Acq On : 21-Jul-2017, 06:57:52 Operator: evitam
Sample : eCC2548-1000 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 11:28:23 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.41	14.41	5553690	11176363	988.288	971.581
	Spiked Amount 500.000	Range 70 - 136		Recovery =		197.66%#	194.32%#
	Target Compounds						
1)	TNX	4.95	4.95	8037387	8037387	982.189	981.749
2)	HMX	5.32	5.32	3727129	3727129	1006.837	1007.756
3)	DNX	5.51	5.51	6396561	6396561	949.493	936.339
4)	MNX	6.51	6.51	4844319	4844319	1005.548	1005.548
5)	1,3,5-Trinitrobe	7.54	7.54	10467399	10457390	986.101	982.454
6)	RDX	7.89	7.89	4925905	4881912	998.439	991.826
7)	1,3-Dinitrobenze	10.04	10.04	14295260	11816589	985.943	1022.849
8)	Nitrobenzene	11.10	11.10	9390837	10093756	998.830	1071.616
9)	2,4,6-Trinitroto	11.89	11.89	9955796	14244921	975.114	1052.978
10)	Nitroglycerin	0.00	12.63	0	16811606	N.D. d	5350.433
11)	Tetryl	13.17	13.16	7783880	14503139	993.581	1148.469
13)	2,6-Dinitrotolue	14.89	14.89	6914799	10309466	990.779	987.090
14)	2,4-Dinitrotolue	15.60	15.60	13162651	9499804	990.484	1006.159
15)	o-Nitrotoluene	17.30	17.30	5943384	9264498	997.078	1038.332
16)	3,5-Dinitroanili	16.58	16.58	10526572	17817133	1009.633	1040.687
17)	p-Nitrotoluene	18.38	18.37	12063750	22341301	980.287	1017.740
18)	4-Amino-2,6-Dini	18.38	18.37	12063750	22341301	980.287	1017.740
19)	m-Nitrotoluene	19.75	19.75	6537576	10984676	1002.534	1115.314
20)	2-Amino-4,6-Dini	20.48	20.48	9600181	13079402	1014.546	1019.608
21)	PETN	22.25	22.24	221876	16501890	NoCal	5321.416m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG613517.D 8330RPB.M_0720M.M Mon Jul 24 13:56:56 2017 Page 1

9.5.24
9

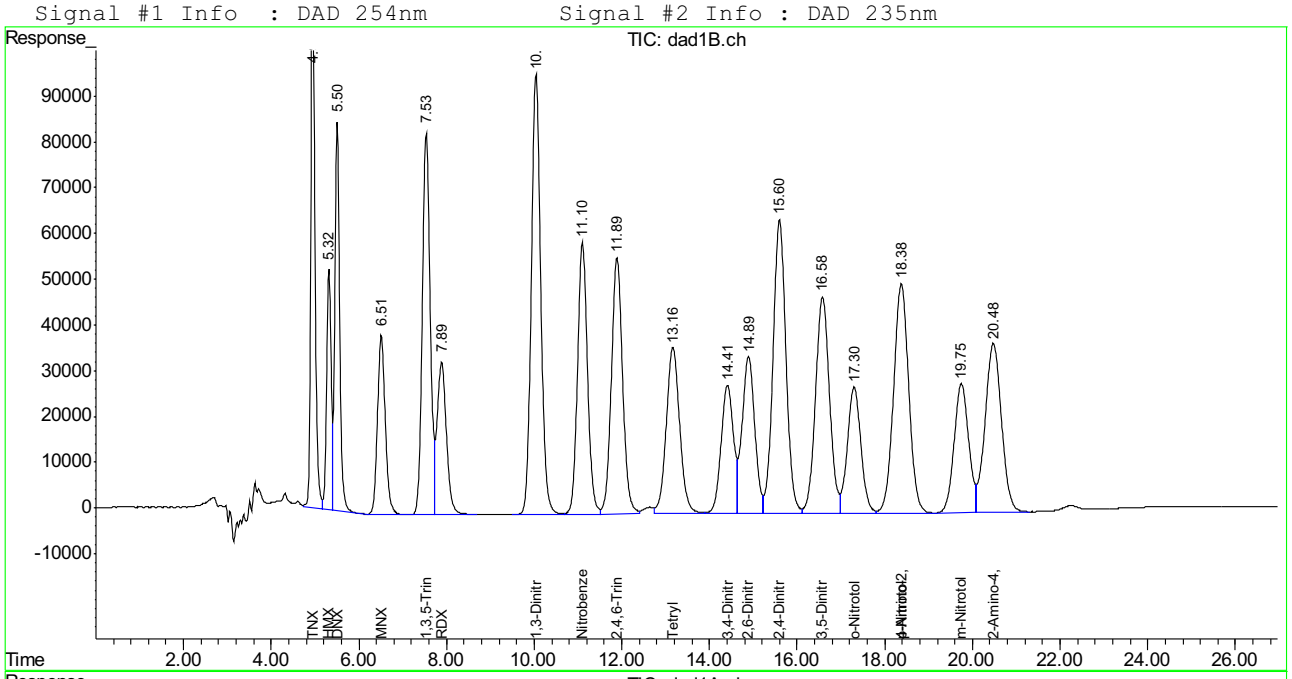
SGS ACCUTEST FA45759

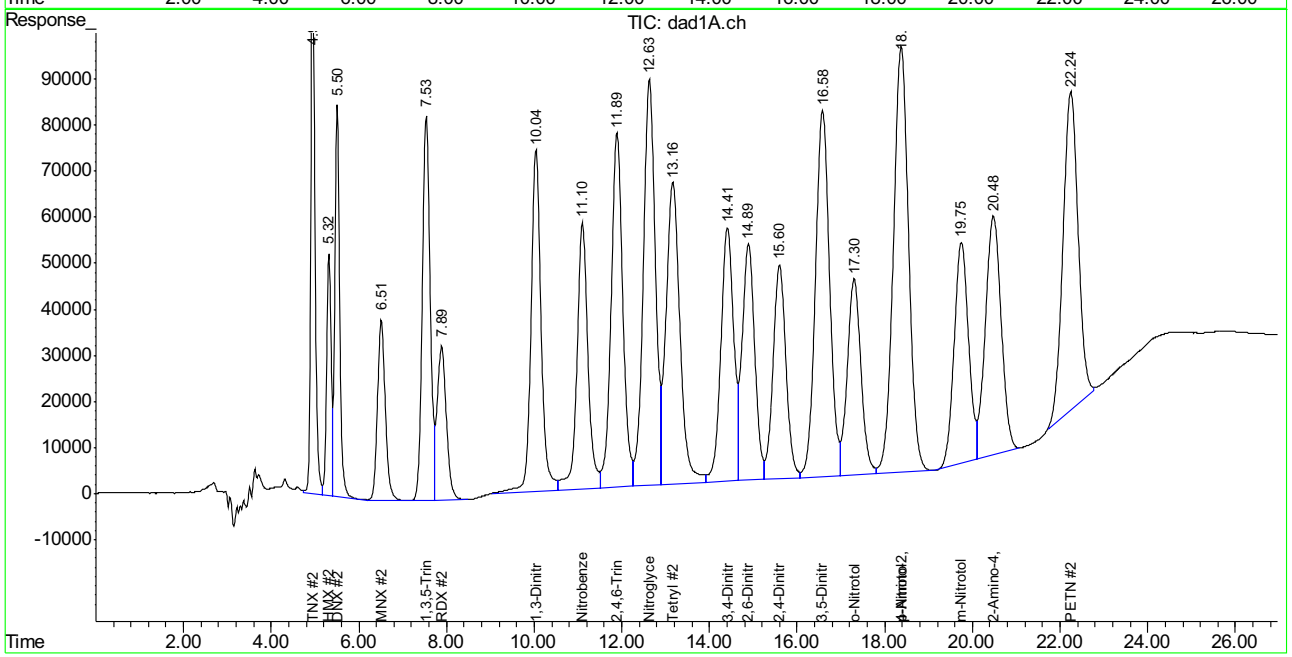
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0720RPB3\GG613517.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0720RPB3\GG613517.D\dad1A.ch
Acq On : 21-Jul-2017, 06:57:52 Operator: evitam
Sample : eCC2548-1000 Inst : G1315B
Misc : Op65961,Ggg2548,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 24 13:55 2017 Quant Results File: 8330RPB.M_0720M.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0720M.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 24 11:15:26 2017
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA45759

Manual Integration Approval Summary

Sample Number: GGG2548-ECC2548
Lab FileID: GG613517.D
Injection Time: 07/21/17 06:57
Method: SW846 8330B
Analyst approved: 07/24/17 14:06 Evita Martinez
Supervisor approved: 07/26/17 18:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.24	Poorly defined baseline

SGS ACCUTEST-ORLANDO

DATE:	6/29/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 ARB
ACQ. METHOD:	8330 b
PROC. METHOD:	8330 0629 qus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1615

ANALYST:	SM
ACETONITRILE LOT #:	341
MEOH LOT #:	166451
HEAD PRESSURE:	207 2

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS /RATIONALE, PEAK #	COMMENTS
BB 055885	1	CCB	8330				test only
BB 90	1	CC1612-1000		LC870	1:1		
BB 91	1	test					
BB 92	1						
BB 93	1						
BB 94	1						
BB 95	1						
BB 96	41	IC1615-20		LC870	50+50 50+450	PII	CCMC pass
BB 97	42	-50			10+390		
BB 98	43	-100			25+475		
BB 99	44	-200			50+450		
BB 100	45	-500			100+300		
BB 01	46	12C -1000			200/300		
BB 02	47	IC -200			1X		6/29/17
BB 03	48	ICV -500		ES725(C8)A LCS/MES911	20/25 25 10	PII	PETN ok
BB 04	49	ICV -520		ES729	40X		today 2,4T only
BB 05	50 31	FA45216-1		0/6548A	1X		RL for PETN
BB 06	32	-1			400/400	10X	✓
BB 07	33	-3			1X		RL for PETN
BB 08	34	-3			400/400	10X	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/16

Analyst's Signature: S. Klein

SGS ACCUTEST-ORLANDO

DATE:	6/29/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 0619 plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1615

ANALYST:	GM
ACETONITRILE LOT #:	311
MEOH LOT #:	166431
HEAD PRESSURE:	207

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 055909	35	FQ45216-5	8330	OP45867	1X		RL for PETN
BB 10	36	-5			40/1000	10X pii	✓
BB 11	37	-6			1X		✓
BB 12	2	CC1615-1000		LC870	1:1	pii	✓
BB 13	1	CCB					ND
BB 14	3	OP 65689-5		OP65689	1X	pii	✓
BB 15	4	-MT				pii	✓
BB 16	5	-MB					ND
BB 17	6	FQ44369-1,re					✓
BB 18	7	OP65687 MS				pii	✓
BB 19	8	-MSD				pii	✓
BB 20	9	FQ44369-2,re					✓
BB 21	10	-3					✓
BB 22	11	-4					✓
BB 23	12	-5					✓
BB 24	13	-6					✓
BB 25	2	CC1615-1000		LC870	181	pii	✓
BB 26	1	CCB					ND
BB 27	14	FQ44369-7,re		OP65568	1X	pii	✓
BB 28	15	-8,re					✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Dlen

SGS ACCUTEST-ORLANDO

DATE:	6/20/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 DoD
CALIB. DATE:	6/25/17
RUN BATCH: GBB	1615

ANALYST:	EH
ACETONITRILE LOT #:	3411
MEOH LOT #:	166217
HEAD PRESSURE:	207

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 055929	16	FA44369-9ve	8330	OP65689	1X	pii	✓
BB 30	01	ICV1615-500		8620C	2000X	pii	PETN only (DOD)
BB 31	31	FA45216-1		OP65687	1X		--
BB 32	33	-3					✓
BB 33	35	-5					✓
BB 34	37	-6					✓
BB 35	17	FA44369-10 ve		OP65689	1X		✓
BB 36	18	-11 re					✓
BB 37	2	cc 1615-100		CRS10	1:1	pii	pass
BB 38	1	CCB					ND
BB 39	19	FA44 OP65689 dup		OP65689	1X		✓
BB 40	20	-dup2					✓
BB 41	51	OP65711-BS		65711	1	pii	✓
BB 42	52	-PT1				pii	✓
BB 43	53	-MB					ND
BB 44	54	FA44411-1					✓
BB 45	55	OP65711-MS					✓
BB 46	56	-MSD					✓
BB 47	57	FA44411-2					ND
BB ✓ 48	58	-3	✓				ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	6/29/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 dp29jdes
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1615

ANALYST:	EH
ACETONITRILE LOT #:	341166751
MEOH LOT #:	207
HEAD PRESSURE:	

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051945	2	CC 1615-1000	8330	LC870	500/1000	CC1615-1000 PII	ND
BB 50	1	CCB 7/3/17		—			ND
BB 51	59	FA444411-4		65711	1		ND
BB 52	60	OP65714-Dup					ND
BB 53	61	-Dup2					
BB 54	62	FA444414-5					
BB 55	63	-6					
BB 56	64	-7					
BB 57	65	-8					
BB 58	66	FA44372-32					ND
BB 59	2	CC 1615 (1800		LC870	500/1000	CC1615-1000	ND
BB 60	1	CCB 7/3/17		—			
BB 61	67	OP65712-BS		65712	1	PII	
BB 62	68	-MB					ND
BB 63	69	FA44977-2					
BB 64	70	OP65712-MS					
BB 65	71	-MSD					
BB 66	72	FA44977-3					ND
BB 67	73	OP65712-Dup					ND
BB 68	74	-Dup2					ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	6/20/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 de29plus
CALIB. DATE:	6/20/17
RUN BATCH: GBB	1615

ANALYST:	EM
ACETONITRILE LOT #:	3411
MEOH LOT #:	166457
HEAD PRESSURE:	207

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 055969	75	FAM9724A	8330	opb5712	1X		ND
BB 70	76	-5A					ND
BB 71	2	CCV 1615 -1000		ICB10	1:1	PII	PASS
BB 72	1	CCB					ND
BB 73	77	FAM9726A		opb5712	1X		ND
BB 74	78	-7A					
BB 75	79	-8A					
BB 76	80	-9A					
BB 77	81	-10A					
BB 78	2	CCV 1615 -1000		ICB10	1:1	PII	PASS
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

MA 7/5/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	7/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EM
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	2165

EM 7/7/17

1/7/17 M

DATA FILE 0629B34	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB ~~65637~~	2	test	8330	———			test only
BB 9495	1	CCB		———			ND
BB 9596	2	CCV15-1000		LC882	1:1	pii	dNX low 1er signal
BB 9697	3	FA45162-22		0629B82	1X	pii	✓
BB 9798	4	-23					ND
BB 9899	5	-24					ND
BB 99100	6	-25					ND
BB 100 01	7	-26					ND
BB 01 02	8	-27		↓			ND
BB 02 03	9	0629B76-65		0629A4		pii	✓
BB 03 04	10	-PII				pii	✓
BB 04 05	11	-MB					ND
BB 05 06	12	FA45175-1		↓	↓		ND
BB 06 07	2	CCV15-1000		LC882	1:1	pii	dNX low 1er signal
BB 07 08	1	CCB		———			ND
BB 08 09	59	FA45175-2		0629B76	1X		ND
BB 09 10	60	-3					ND
BB 10 11	61	-4					ND
BB 11 12	62	-5					ND
BB 12 13	63	-6	↓	↓	↓		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	7/10/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629 D/S
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0564.M	64	FA45475-7	8330	OP45876	1X		ND
BB 15	65	-8					ND
BB 16	66	-9					ND
BB 17	67	-10					ND
BB 18	68	-11					dNX low IS signal
BB 19	2	CC 1615-1000		LC882	1:1	PII	ND
BB 20	1	CCB					ND
BB 21	69	FA45475-12		OP45876	1X		ND
BB 22	70	-13					ND
BB 23	71	-14					ND
BB 24	72	OP45876-dup					ND
BB 25	73	-dup2					ND
BB 26	74	FA45475-15					ND
BB 27	75	-16					ND
BB 28	76	-17					ND
BB 29	77	-18					ND
BB 30	78	-9					dNX low IS signal
BB 31	2	CC 1615-1000		LC882	1:1	PII	ND
BB 32	1	CCB					ND
BB 33	14	OP45876-LCS		OP45876	1X	PII	

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Harris

SGS ACCUTEST-ORLANDO

DATE:	6/21/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629 plus
CALIB. DATE:	6/24/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0564 N	64	FA45675-7	8330	OP45876	1X		ND
BB 15	65	-8					ND
BB 16	66	-9					ND
BB 17	67	-10					ND
BB 18	68	-11					dNx low ICV signal
BB 19	2	CC 1615-1000		LC882	1:1	PII	ND
BB 20	1	CCB					ND
BB 21	69	FA45675-12		OP45876	1X		ND
BB 22	70	-13					ND
BB 23	71	-14					ND
BB 24	72	OP45876-dup					ND
BB 25	73	-dup2					ND
BB 26	74	FA45675-15					ND
BB 4	75	-16					ND
BB 28	76	-17					ND
BB 29	77	-18					ND
BB 30	78	-9					dNx low ICV signal
BB 31	2	CC 1615-1000		LC882	1:1	PII	ND
BB 32	1	CCB					ND
BB 33	79	OP45876-MS		OP45876	1X	PII	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Harris

SGS ACCUTEST-ORLANDO

DATE:	7/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 0629 PKS
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	343
MEOH LOT #:	171002
HEAD PRESSURE:	765

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 0545[illegible]	80	opls876a.lsd	8330	opls876	1X	pii	✓
BB 35	81	F4J4975-20				EH 7/11/17	ND ✓
BB 36	82	BGnk A					ND
BB 37	83	B					ND
BB 38	84	C		↓	↓		ND
BB 39	3	opls175.lcs		opls175	1X	pii	✓
BB 40	4	↓ -mb					ND
BB 41	5	F4J5117-36					ND
BB 42	6	-37					ND
BB 43	2	cc1415.cow		10882	1:1	pii	CNX low response
BB 44	1	ccb					ND
BB 45	7	F4J5117-38		opls175	1X		ND
BB 46	8	-39					ND
BB 47	9	-41		↓			ND
BB 48	10	opls781-lcs		opls781		pii	✓
BB 49	11	↓ -mb					ND
BB 50	12	F4J5117-40					ND
BB 51	13	opls781-ms				pii	✓
BB 52	14	↓ -msd				pii	✓
BB 53	15	F4J5117-42	↓	↓	↓		ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: [signature]

SGS ACCUTEST-ORLANDO

DATE:	7/27/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 dad9 plus
CALIB. DATE:	6/29/17
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	5431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB056454	16	FA45117-43	8330	OP6518	1X		ND
BB SS	2	CC1615-1000		LCS82	1:1	PII	CNX low recovered
BB	1	CCB					ND
BB 56	17	FA45117-44		OP6518	1X		ND
BB 57	18	FA45162-1					✓
BB 58	19	-2					✓
BB 59	20	-3					ND
BB 60	21	-4					ND
BB 61	22	-5					ND
BB 62	23	-6					ND
BB 63	24	-7					ND
BB 64	25	OP 6518-dup					ND
BB 65	26	L dupL					ND
BB 66	2	CC 1615-1000		LCS82	1:1	PII	CNX low recovery
BB 67	1	CCB					ND
BB 68	27	FA45162-8		OP6518	1X		ND
BB 69	28	-9					ND
BB 70	29	-10				PII	✓
BB 71	30	-11				PII	✓
BB 72	31	-12				PII	✓
BB 73							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: E. Hernandez

SGS ACCUTEST-ORLANDO

DATE:	1/7/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 de29plus
CALIB. DATE:	12/9/17
RUN BATCH:	GBB 1620

ANALYST:	ERL
ACETONITRILE LOT #:	3491
MEOH LOT #:	17 1002
HEAD PRESSURE:	2105

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB056475[illegible]	32	FA 45162-13	8330	OP65781	1X		ND
BB 75	33	-14					ND
BB 76	34	-15					ND
BB 77	35	-16					ND
BB 78	2	CC1615-1000		LC882	1:1	pii	dNX low pii signal
BB 79	1	CCB					ND
BB 80	36	OP65961-BS		OP65941	1X		✓
BB 81	37	-NB					low surrog LCR for conf.
BB 82	38	FA45722-1					✓
BB 83	39	-2					✓
BB 84	40	-3					✓
BB 85	41	-4					ND
BB 86	42	FA 45759-1				pii	RL e 4X
BB 87	43	OP65961-MS				pii	✓
BB 88	44	-MSD				pii	✓
BB 89	45	FA 45759-2					RL e 4X
BB 90	2	CC1615-1000		LC882	1:1	pii	dnitro 2nd surr
BB 91	1	CCB					ND
BB 92	46	OP65962-BS		OP65962	1X	pii	✓
BB 93	47	-MS					ND

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: J. Nieves

SGS ACCUTEST-ORLANDO

DATE:	7/17/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 2009 plus
CALIB. DATE:	6/29/A
RUN BATCH: GBB	1620

ANALYST:	EH
ACETONITRILE LOT #:	5431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 036494	48	FA45863-1	8330	OP65992	1X		✓
BB 95	49	-2					ND
BB 96	50	-3					ND
BB 97	37	OP65961-MB,1X		OP65961	1X		ND
BB 98	91	FA40759-1			100/40	4X pii	MLX only
BB 99	92	↓ -2			↓	↓	confirmed
BB 300	51	OP65992-LCS		OP65992	1X	pii	✓
BB 01	52	↓ MSD		↓	↓	pii	✓
BB 02	2	CC1615-1000		LC882	1:1	pii	2nd signal tetryl & p-nitro PA
BB 03	1	CCB					ND
BB 04	53	FA45863-4		OP65992	1X		ND
BB 05	54	-5					ND
BB 06	55	-6					ND
BB 07	56	-7					ND
BB 08	57	-15					ND
BB 09	58	FA45862-1				pii	✓
BB 10	59	-2					ND
BB 11	60	-3				pii	✓
BB 12	261	-4			↓		ND
BB 13	62	CC1615-1000		LC882	1:1	pii	2nd signal tetryl & p-nitro PA

EH 7/19/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
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Analyst's Signature: E. Hollis

SGS ACCUTEST-ORLANDO

DATE:	1/17/17
COLUMN TYPE:	Extend C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8390 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 0629 pDB
CALIB. DATE:	12/29/16
RUN BATCH: GBB	1620

ANALYST:	EM
ACETONITRILE LOT #:	3431
MEOH LOT #:	171002
HEAD PRESSURE:	265

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 056514	1	CCB	8330	—	—		ND
BB 15	62	QA0610.BS		QA0610	1X	PII	✓
BB 16	63	↓ MB		↓	↓		ND
BB 17	64	FA44571-3[illegible]		↓	↓		ND
BB 18	2	CCC 1615.1000		LC582	1:1	PII	2nd signal in the low retry @ R=2100 ↑
BB 19	2	test	↓	—	—		testonly
BB ~~20~~							
BB 21							
BB 22							
BB 23				NA Que		1/9/17	
BB 2							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
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Analyst's Signature: E. Mains

SGS ACCUTEST-ORLANDO

DATE:	7/20/17
COLUMN TYPE:	BDS RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS:	8330 HCB
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB3720
CALIB. DATE:	6/23/17
RUN BATCH: GGG	2548

ANALYST:	EM
ACETONITRILE LOT #:	3431
MEOH LOT #:	170023
HEAD PRESSURE:	125

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 013500	6	FAN5162-B cf	8330	OP65092	1X	~~FAN5162-2~~ F AN5162-3 pii	✓
GG 01	7	op65781.MB		op65781	1X		NO
GG 02	8	FAN5162-1 cf				pii	✓
GG 03	9	-2					✓
GG 04	10	-10					✓
GG 05	11	-11					✓
GG 06	12	-12					✓
GG 07	~~3~~	CC2548-1000		CC886	1:1	✓	pass
GG 08	1	CCB					ND
GG 09	13	op65961.MB		op65961	1X		NO
GG 10	14	~~FAN5122~~ FAN5122-1 cf					~~RE form~~ EM-7/20/17
GG 11	15	22-2				pii	3-5 dini
GG 12	16	-3					ND
GG 13	17	FAN5159-1 cf					4 AmiND
GG 14	18	-11			10/400	4X	✓
GG 15	19	-12			1X		3-5 dini
GG 16	20	-2			100/400	4X	ADDED
GG 17	2	ccc2548-1000		CC886	1:1		pass
GG						NA EM 7/20/17	
GG							

7/24/17 — 7/24/17

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 06/16

Analyst's Signature: _____

SGS ACCUTEST-ORLANDO

DATE:	7/20/17
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS:	8330 A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB3 0720
CALIB. DATE:	6/23/17
RUN BATCH:	GGG 2548

ANALYST:	EM
ACETONITRILE LOT #:	243161
MEOH LOT #:	171002
HEAD PRESSURE:	122

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG6134801	1	blk	8330	———			ND
GG 81	2	CC2538-1000		LC886	1:1		CCV ↑ RL
GG 82	3	opds992-MB		opds992	1X		
GG 83	4	FA45863-1cf					
GG 84	5	FA45862-1cf					
GG 85	6	↓ -2cf		↓	↓		
GG 86	2	CC2538-1000		LC886	1:1		
GG 87	1	CCB		———			ND
GG 88	21	IC2548-26		LC886	50 to 450 50 to 450	PII	curve poor
GG 89	22	-50			10 to 300		
GG 90	23	-100			25 to 475		
GG 91	24	-200			30 to 450		
GG 92	25	ICC -500			100 to 300		
GG 93	26	IC -1000			200 to 300		
GG 94	27	↓ -2000		↓	1X		↓
GG 95	28	ICV -500		85936 LC886 85940	20:25 5:10		nitrogl & PTEN ↑ & MNX
GG 96	29	↓ -500		E5954	40X		only for 1,3 dnb; 2,4,6 & 24,6 for 2nd shot
GG 97	3	opds992-MB		opds992	1X		ND
GG 98	4	FA45863-1cf					NO
GG 99	5	FA45862-1cf		↓	↓		NO

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
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SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: Started 07/14/17 0945 (mm/dd/yy 24:00)

Date/Time: Finished 07/14/17 1700 (mm/dd/yy 24:00)

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP65961 Ext. By: MB, RM Conc. By: DC Vialed By: DC

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP65961 MB	X	1000	6	N/A	250ul		10.0	
OP65961 BS	X	1000				25+25 300+250ul		
FA45722-1	3							
-2	3							
-3	3							
-4	3							
FA45759-1	5							
-2	2							
FA45759-1 MS	7	960	6	N/A	250ul	25+25 300+250ul	10.0	
-1 MSD	7	460	"	1	"	1	"	
DUP								

Comments:

Surr.1 ID: I5951B Conc: 20 ppm Exp. Date: 01/06/18 Inj. By: MB Ver. By RM

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk.1 ID: E5936 E5954 B6654 Conc: 25 ppm 20 ppm Exp. Date: 12/30/17 Inj. By: MB Ver. By RM

Spk.2 ID: B6641B Conc: 1000 ug/ml Exp. Date: 07/10/18 Inj. By: MB Ver. By RM

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

Methanol Lot # — SPE Lot # 5314-006.9 pH Paper # 230016

Acetonitrile Lot # 170845 SPE Lot # — Reagent # —

Water Lot# DI H2O Syringe Filter Lot# — Solvent # —

Relinquished By: Date: 7/14/17

Accepted By: Date: 7/14/17

NF 02/16 extwater_spe 020116.xls

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 392672

Priority: Standard

Status: Final

Project: #128820 EEA-IN / RADFORD AAP

Samples Submitted: Four groundwater samples

Copies to: None

Collected: 07/10/17 By: Client Received: 07/12/17

REPORT SUMMARY

Four groundwater samples were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sosz Reporter — 08/02/2017

Reviewed By Title Date

Jim Vernon ASM — 08-02-2017

Finalized By Title Date

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 392672
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3730565	54MW10	300.0	07/10/17 11:20	Client	07/12/17 09:00
3730566	54TM10	300.0	07/10/17 11:25	Client	07/12/17 09:00
3730567	54MW1	300.0	07/10/17 13:40	Client	07/12/17 09:00
3730568	071017R1	300.0	07/10/17 14:40	Client	07/12/17 09:00

Report Summary

Note: See attached page for additional comments.

PO # 128820 EEA-IN / Radford AAP

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | Date: 08/02/2017

Client Name: CT Laboratories
Report #: 392672

Client Name: CT Laboratories Report #: 392672

Sampling Point: 54MW10 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/18/17 07:36	3730565
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/18/17 07:36	3730565

Sampling Point: 54TM10 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/18/17 08:31	3730566
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/18/17 08:31	3730566

Sampling Point: 54MW1 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/18/17 09:25	3730567
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/18/17 09:25	3730567

Sampling Point: 071017R1 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/18/17 10:20	3730568
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/18/17 10:20	3730568

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Client Name: CT Laboratories Report #: 392672

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

3727/2

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392672

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

~~372718~~
7-12-2017 KD

PURCHASE ORDER # 128820 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Eurofins Eaton Analytical - IN
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: bszymanski@ctlaboratories.com

Government UPS Shipping Acct ? Y N

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: ~ 2 weeks *RUSH TURNAROUND NEEDED? Y or N (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE DOD QSM NELAP (Circle one) OTHER

Report results as EDD? N Y (Circle one and indicate type: Excel w/ QC) Data Deliverable Package LEVEL: 4 (report w/ QC)

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
889901	07/10/2017 1120	GROUND WATER	54MW10 3730565	CHLORATE/CHLORITE	300.1	
889903	07/10/2017 1125	GROUND WATER	54TM10 566	CHLORATE/CHLORITE	300.1	
889905	07/10/2017 1340	GROUND WATER	54MW1 567	CHLORATE/CHLORITE	300.1	
889907	07/10/2017 1440	GROUND WATER	071017R1 568	CHLORATE/CHLORITE	300.1	

Relinquished by: Date/Time: 7-11-17 / 1330h

Received by: Date/Time: 7-12-17 0900 Receipt Temperature (C) 3.8

wet

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

Eurofins Eaton Analytical

Run Log

Run ID: **231771** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3734311		RW	ES	07/17/2017 15:04	
IPC	3728283		RW	ES	07/17/2017 20:37	
LRB	3734318		RW	ES	07/17/2017 22:27	
LFB	3734319		RW	ES	07/17/2017 23:21	
FS	3730565	54MW10	GW	ES	07/18/2017 07:36	
FS	3730566	54TM10	GW	ES	07/18/2017 08:31	
FS	3730567	54MW1	GW	ES	07/18/2017 09:25	
FS	3730568	071017R1	GW	ES	07/18/2017 10:20	
IPC	3734320		RW	ES	07/18/2017 11:18	
CCB	3728195		RW	ES	07/18/2017 12:13	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/17/2017 15:04	3734311
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/17/2017 15:04	3734311
IPC	Chlorate	300.0	10	---		236.7030	250	ug/L	95	90 - 110	---	---	1.0	---	07/17/2017 20:37	3728283
IPC	Chlorite	300.0	10	---		242.7110	250	ug/L	97	90 - 110	---	---	1.0	---	07/17/2017 20:37	3728283
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/17/2017 22:27	3734318
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/17/2017 22:27	3734318
LFB	Chlorate	300.0	10	---		238.3110	250	ug/L	95	90 - 110	---	---	1.0	---	07/17/2017 23:21	3734319
LFB	Chlorite	300.0	10	---		244.8510	250	ug/L	98	90 - 110	---	---	1.0	---	07/17/2017 23:21	3734319
FS	Chlorate	300.0	10	54MW10	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 07:36	3730565
FS	Chlorite	300.0	10	54MW10	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 07:36	3730565
FS	Chlorate	300.0	10	54TM10	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 08:31	3730566
FS	Chlorite	300.0	10	54TM10	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 08:31	3730566
FS	Chlorate	300.0	10	54MW1	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 09:25	3730567
FS	Chlorite	300.0	10	54MW1	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 09:25	3730567
FS	Chlorate	300.0	10	071017R1	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 10:20	3730568
FS	Chlorite	300.0	10	071017R1	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 10:20	3730568
IPC	Chlorate	300.0	10	---		239.9160	250	ug/L	96	90 - 110	---	---	1.0	---	07/18/2017 11:18	3734320
IPC	Chlorite	300.0	10	---		245.2940	250	ug/L	98	90 - 110	---	---	1.0	---	07/18/2017 11:18	3734320
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 12:13	3728195
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/18/2017 12:13	3728195

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 231771 **Instrument#** ES

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	160208	3/13/2017	3/16/2017	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC49-20a(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC49-20a(4-6)

Analyst: S. Lovick **Prep Date:** 5/9/2017 **Exp. Date:** 8/9/2017

Cal Standard	Br-, ClO3- & ClO2- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100		1000	100	100

Analyst: S. Lovick **Prep Date:** 7/17/2017 **Exp. Date:** 7/24/2017

LFB/MS/MSD	250	100		10	10

Analyst: S. Lovick **Prep Date:** 7/17/2017 **Exp. Date:** 7/24/2017

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL	Prep ID	IOC49-37a

Analyst: S. Lovick **Prep Date:** 6/29/2017 **Exp. Date:** 7/29/2017

Comments: Dionex IonPac AS19 4mm s/n 170117167 lot#01617190 installed 02/07/2017
EGC 500-KOH Eluent Cartridge s/n 161002519319 installed 02/07/2017

Analyst: [signature] **Date:** 7 18 2017

Technician Review: [signature] **Date:** 07/19/2017

(signature)

Summary

Sequence Details		
Name:	**071717A**	**14/Jan/15 15:09:59**
Directory:	**Instrument Data\ES\300B\2017**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	**18/Jul/17 12:53:09**
No. of Injections:	**24**	**us25_usr_sbnlabpcs**

By Component **Chlorite**

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount ppb CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount ppb CD_1 Bromide
1	\ICB\RW\1\	07/17/17 15:04	0.000	6.348	0.000	7.933	0.000	7.692
2	\ICS\RW\1\10	07/17/17 16:03	0.006	13.816	0.005	15.057	0.006	15.805
3	\ICS\RW\1\20	07/17/17 16:58	0.010	19.908	0.009	21.474	0.009	21.246
4	\ICS\RW\1\100	07/17/17 17:53	0.067	93.912	0.055	92.390	0.058	92.204
5	\ICS\RW\1\250	07/17/17 18:48	0.179	240.581	0.147	235.277	0.155	235.084
6	\ICS\RW\1\500	07/17/17 19:42	0.381	505.434	0.322	507.869	0.342	507.969
7	\IPC\RW\1\250	07/17/17 20:37	0.181	242.711	0.148	236.703	0.156	235.545
8	\RLC\RW\1\10	07/17/17 21:32	0.006	13.726	0.005	14.941	0.005	14.982
9	\LRB\RW\1\	07/17/17 22:27	0.000	6.281	0.000	7.770	0.000	7.502
10	\LFB\RW\1\250	07/17/17 23:21	0.182	244.851	0.149	238.311	0.156	236.693
11	3728814\FS\DW\5\	07/18/17 00:16	0.081	112.088	0.014	29.507	0.000	8.114
12	3728822\FS\DW\5\	07/18/17 01:11	0.068	94.928	0.015	31.482	0.002	10.128
13	3729482\FS\DW\5\	07/18/17 02:06	0.068	95.507	0.091	149.000	0.002	9.977
14	3729483\FS\DW\5\	07/18/17 03:00	0.069	97.217	0.084	137.889	0.001	9.276
15	3729484\FS\DW\5\	07/18/17 03:55	0.070	97.424	0.092	150.242	0.000	7.937
16	3729980\FS\SW\1\	07/18/17 04:49	0.000	6.279	0.005	15.219	0.026	44.932
17	3729980\MS\SW\1\250	07/18/17 05:44	0.181	243.502	0.156	250.091	0.194	291.200
18	3729980\MSD\SW\1\250	07/18/17 06:42	0.187	250.965	0.162	258.951	0.197	296.402
19	3730565\FS\DW\1\	07/18/17 07:36	n.a.	n.a.	0.000	7.764	0.009	20.907
20	3730566\FS\DW\1\	07/18/17 08:31	n.a.	n.a.	0.000	7.765	0.009	21.061
21	3730567\FS\DW\1\	07/18/17 09:25	n.a.	n.a.	0.000	7.768	0.008	18.558
22	3730568\FS\DW\1\	07/18/17 10:20	0.001	7.932	0.000	7.766	0.003	11.529
23	\IPC\RW\1\250	07/18/17 11:18	0.182	245.294	0.150	239.916	0.158	239.261
24	\CCB\RW\1\	07/18/17 12:13	0.000	6.296	0.000	7.763	0.000	7.506

Processing Method: as19 4mm
Last Update Operator: us25_usr_sbnlabpcs

Detection Settings

Algorithm: **Chromeleon 6**

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0010 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	0.50 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
7.300 [min]	Inhibit Integration	Off	Any	All Channels
8.100 [min]	Inhibit Integration	On	Any	All Channels
14.100 [min]	Inhibit Integration	Off	Any	All Channels
16.850 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	7.600	2.500 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	14.650	5.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	15.970	2.500 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	5.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Total**
Curve Fitting	**Inverted**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Ok	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G1	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G2	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G3	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G4	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G5	150.0 [µl]		as19 4mm	as19 4mm
1.0000		G6	150.0 [µl]		as19 4mm	as19 4mm

Processing Method: as19 4mm
Last Update Operator: us25_usr_sbnlabpcs

Calibration

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	7/17/2017		4AB97749-3C90-	0	0.00
Finished	7/17/2017		9E20D16F-	0	0.00
Finished	7/17/2017		5CDBCAF4-	0	0.00
Finished	7/17/2017		47DAE877-	0	0.00
Finished	7/17/2017		65AE9D30-948A-	0	0.00
Finished	7/17/2017		0F7007FE-243F-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**as19 4mm**
Comment	
Description	**Instrument: ICS5000** **Creation Time: 1/14/2015 12:38:02 PM** **Created by EurofinsEatonAnaly**
Run time	**50.000 [min]**
Instrument	**ES on us25ins87994**

Instrument Method: as19 4mm
Last Update Operator: us25_usr_sbnlabpcs

Script

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		DC.Compartment_TC.AcquireExclusiveAccess		
		DC.Column_TC.AcquireExclusiveAccess		
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_1	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Pump_1.Pressure.UpperLimit	3500 [psi]	
		Pump_1.%A.Equate	"%A"	
		Pump_1.Pressure.LowerLimit	200 [psi]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	2.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		CDet1.Rise_Time	0.50 [s]	
		CDet1.Data_Collection_Rate	5.0 [Hz]	
		CDet1.CellHeater.Mode	On	
		CDet1.CellHeater.TemperatureSet	35.00 [°C]	
		CDet1.Temperature_Compensation	1.7 [%/°C]	
		DC.Column_TC.Mode	On	
		DC.Column_TC.TemperatureSet	30.00 [°C]	
		DC.Compartment_TC.Mode	On	
		DC.Compartment_TC.TemperatureSet	30.00 [°C]	
		DC.Suppressor1.Type	AERS_4mm	
		DC.Suppressor1.Carbonate	0.0 [mM]	
		DC.Suppressor1.Bicarbonate	0.0 [mM]	
		DC.Suppressor1.Hydroxide	10.0 [mM]	
		DC.Suppressor1.Tetraborate	0.0 [mM]	

		DC.Suppressor1.OtherEluent	0.0 [mN]
		DC.Suppressor1.RecommendedCurrent	25 [mA]
		DC.Suppressor1.CurrentSet	25 [mA]
		Pump_1.Flow	1
		EluentGenerator.EGC_1.CR_TC	On
		Pump_1.Curve	5
		Sampler.PunctureOffset	0 [mm]
		Sampler.InjectWash	BeforeInj
		EluentGenerator.EGC_1.Curve	5
		EluentGenerator.EGC_1.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_1.Pump_1_Pressure.AcqOn	
		CDet1.Autozero	
		CDet1.CD_1.AcqOn	
		CDet1.CD_1_Total.AcqOn	
Run			Duration = 50.000 [min]
	0.000		
Stop Run			
	50.000		
		Pump_1.Pump_1_Pressure.AcqOff	
		CDet1.CD_1.AcqOff	
		CDet1.CD_1_Total.AcqOff	
Post Run			
	50.000		
		DC.Column_TC.ReleaseExclusiveAccess	
		DC.Compartment_TC.ReleaseExclusiveAc	
End			

Chromatogram and Results

Injection Details

Injection Name:	**\ICB\RW\1**	*Run Time (min):*	**50.00**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 15:04**	*Sample Weight:*	**1.0000**

Chromatogram

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.437	0.000	0.001	5.71	5.87	6.3481
9	Chlorate	14.343	0.000	0.001	12.10	9.45	7.9332
17	Bromide	15.787	0.000	0.001	14.10	11.55	7.6923
Total:			**0.000**	**0.003**	**31.92**	**26.86**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\10**	*Run Time (min):*	**50.00**
Vial Number:	**G2**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 16:03**	*Sample Weight:*	**1.0000**

Chromatogram

Integration Results

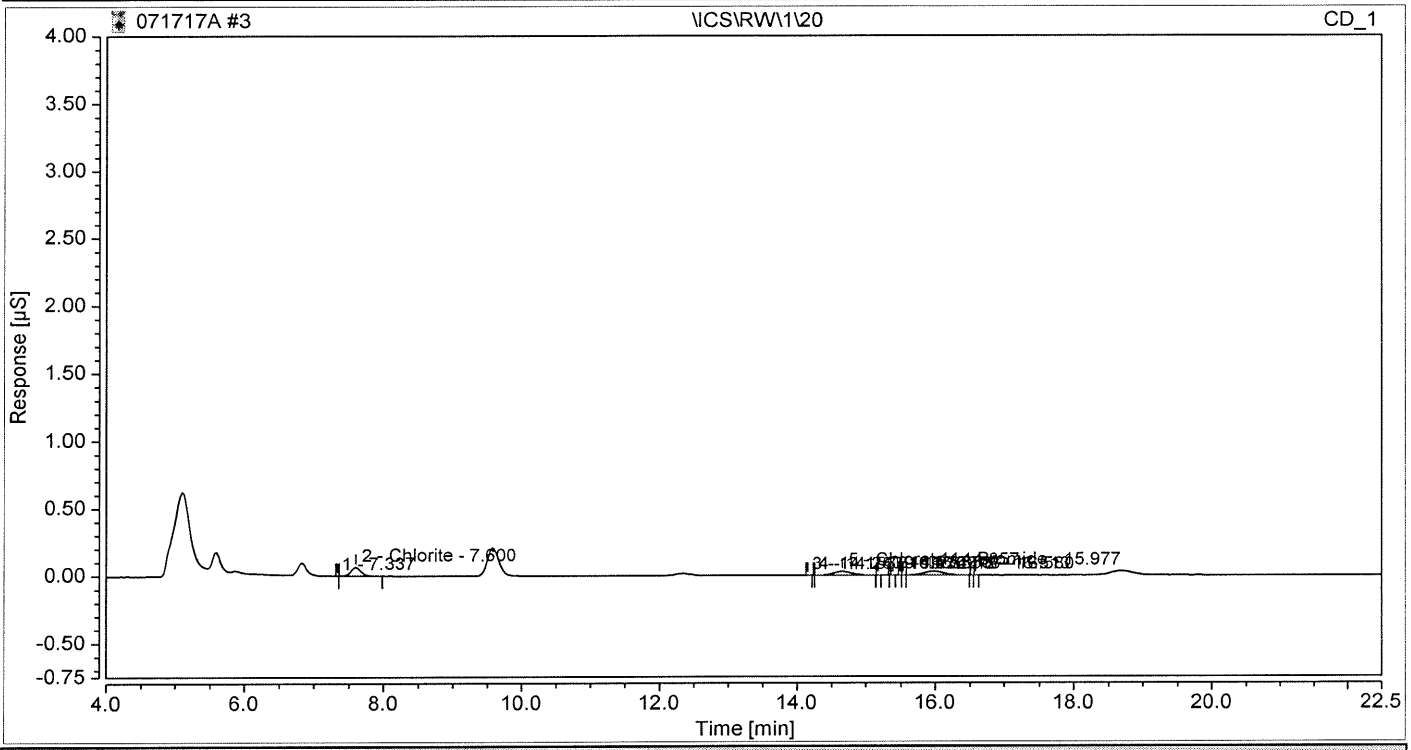
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.597	0.006	0.034	35.54	50.54	13.8162
5	Chlorate	14.660	0.005	0.016	29.06	23.11	15.0572
10	Bromide	15.970	0.006	0.017	34.99	24.40	15.8049
Total:			**0.016**	**0.066**	**99.59**	**98.05**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\20**	*Run Time (min):*	**50.00**
Vial Number:	**G3**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 16:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

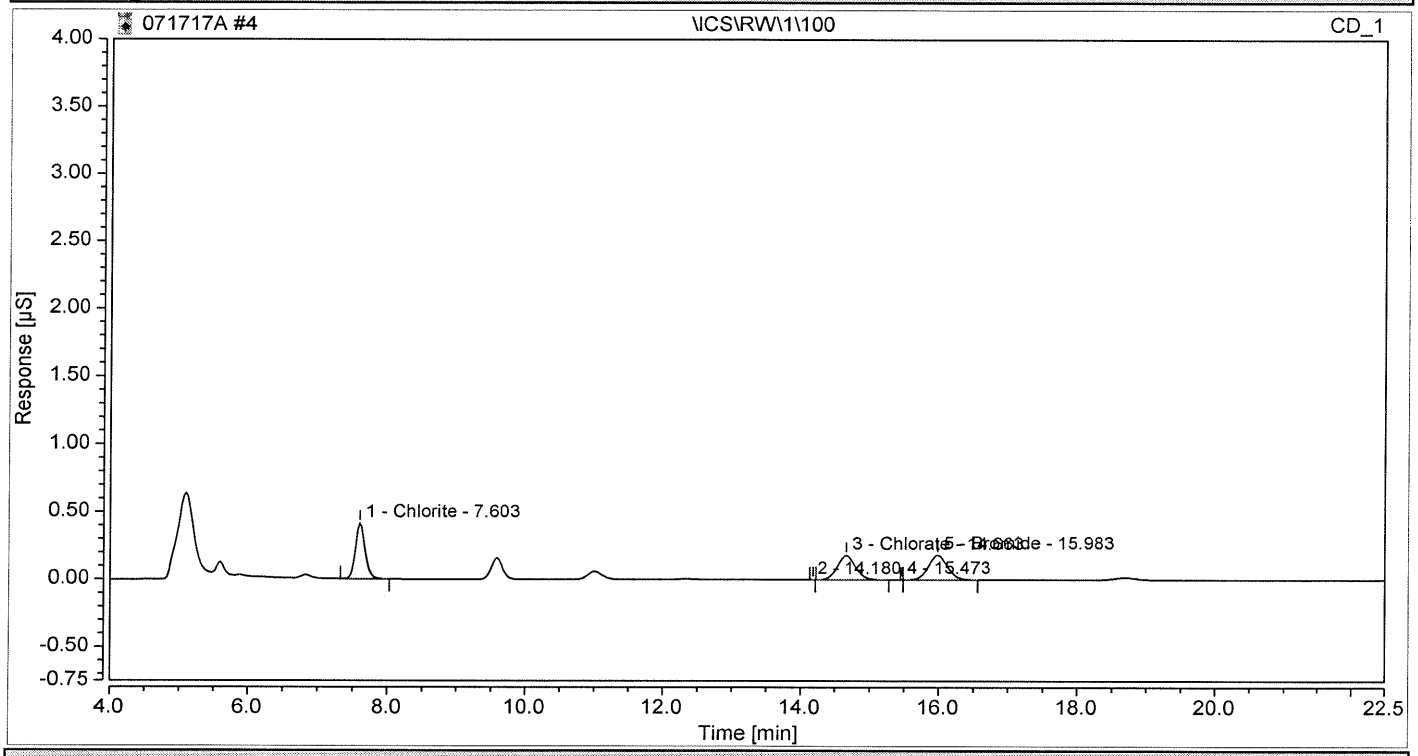
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
2	Chlorite	7.600	0.010	0.063	36.31	51.64	19.9085
5	Chlorate	14.657	0.009	0.029	30.85	23.51	21.4739
11	Bromide	15.977	0.009	0.029	32.72	24.06	21.2461
Total:			**0.029**	**0.121**	**99.88**	**99.21**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**50.00**
Vial Number:	**G4**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 17:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

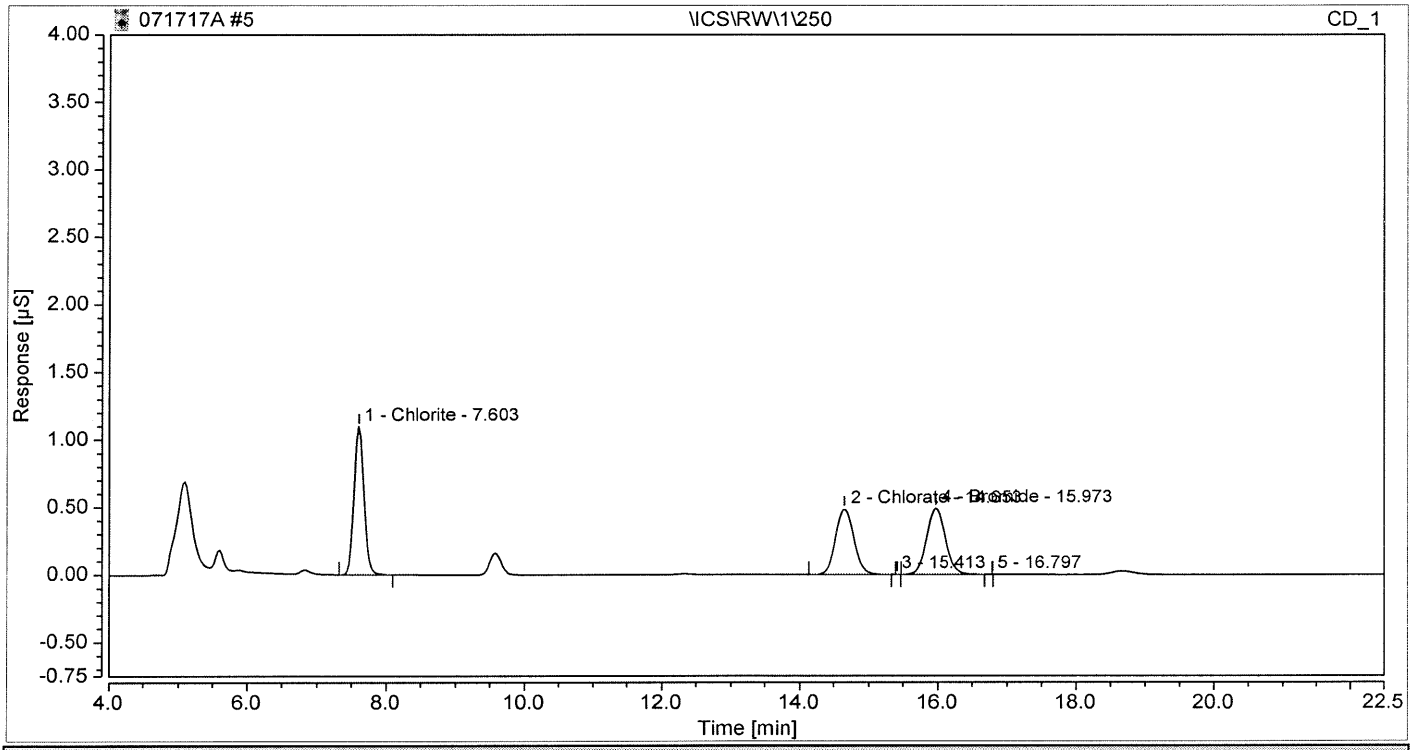
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.603	0.067	0.412	37.32	53.29	93.9121
3	Chlorate	14.663	0.055	0.180	30.44	23.22	92.3902
5	Bromide	15.983	0.058	0.182	32.24	23.47	92.2039
Total:			**0.179**	**0.773**	**100.00**	**99.98**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**50.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 18:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

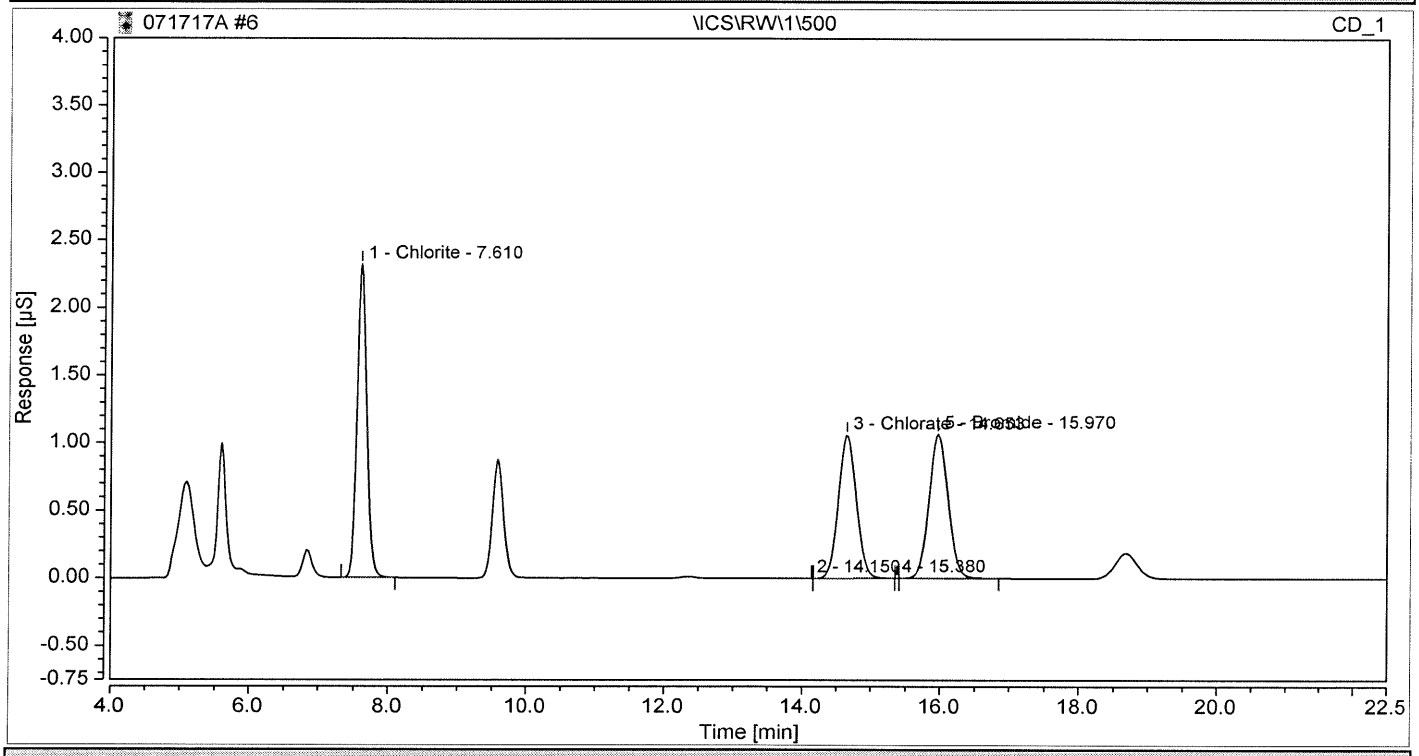
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.603	0.179	1.095	37.20	52.93	240.5811
2	Chlorate	14.653	0.147	0.484	30.50	23.41	235.2766
4	Bromide	15.973	0.155	0.489	32.30	23.65	235.0839
Total:			**0.481**	**2.069**	**100.00**	**99.99**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**50.00**
Vial Number:	**G6**	*Injection Volume:*	**150.00**
Injection Type:	**Calibration Standard**	*Channel:*	**CD_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 19:42**	*Sample Weight:*	**1.0000**

Chromatogram



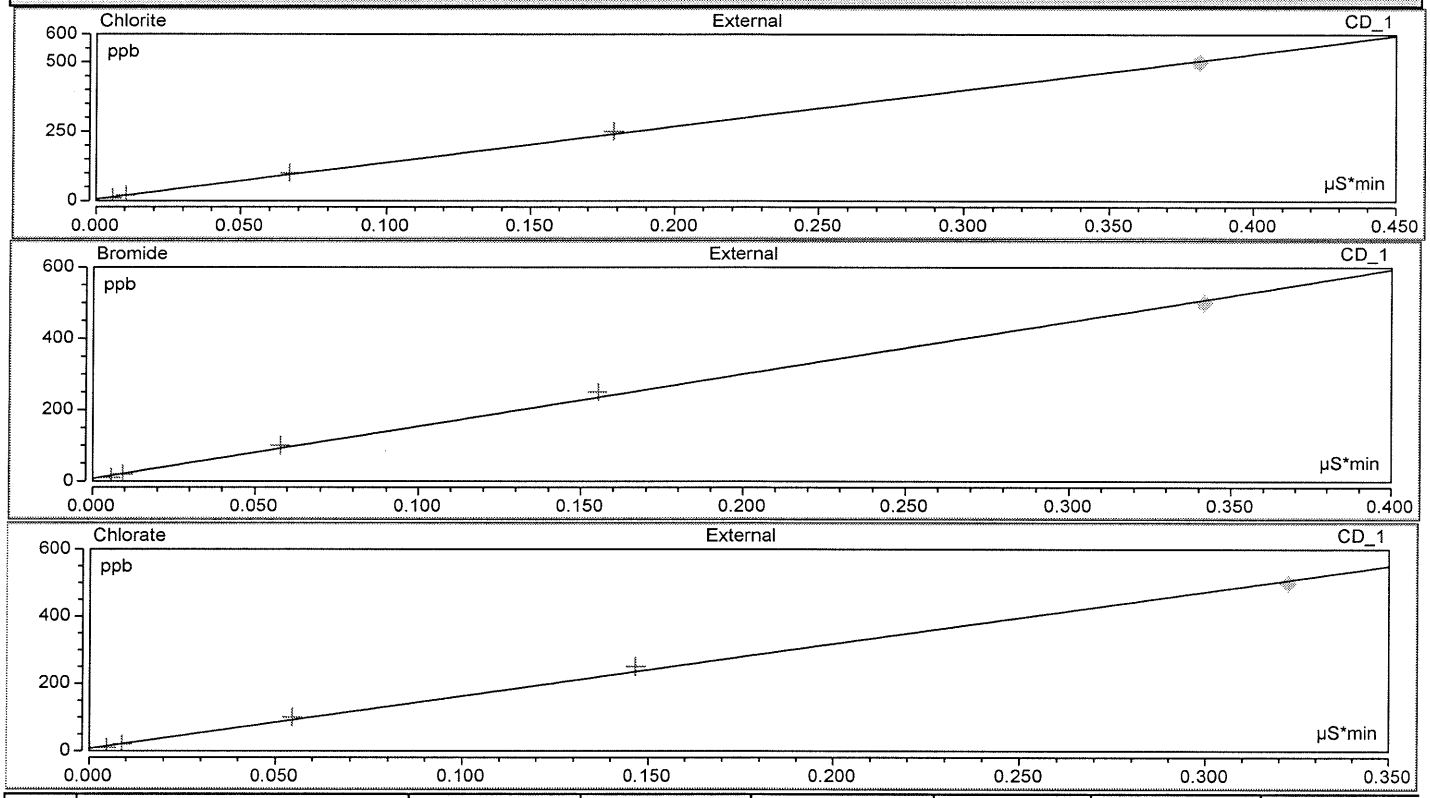
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.610	0.381	2.315	36.47	52.11	505.4340
3	Chlorate	14.653	0.322	1.060	30.85	23.86	507.8690
5	Bromide	15.970	0.342	1.067	32.68	24.02	507.9690
Total:			**1.045**	**4.443**	**100.00**	**100.00**	

Calibration

Calibration Details	Chlorite		
Calibration Type	Lin, WithOffset	*Offset (C0)*	6.2793
Evaluation Type	Area	*Slope (C1)*	1309.7289
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9989

Calibration Plot **Chlorite**



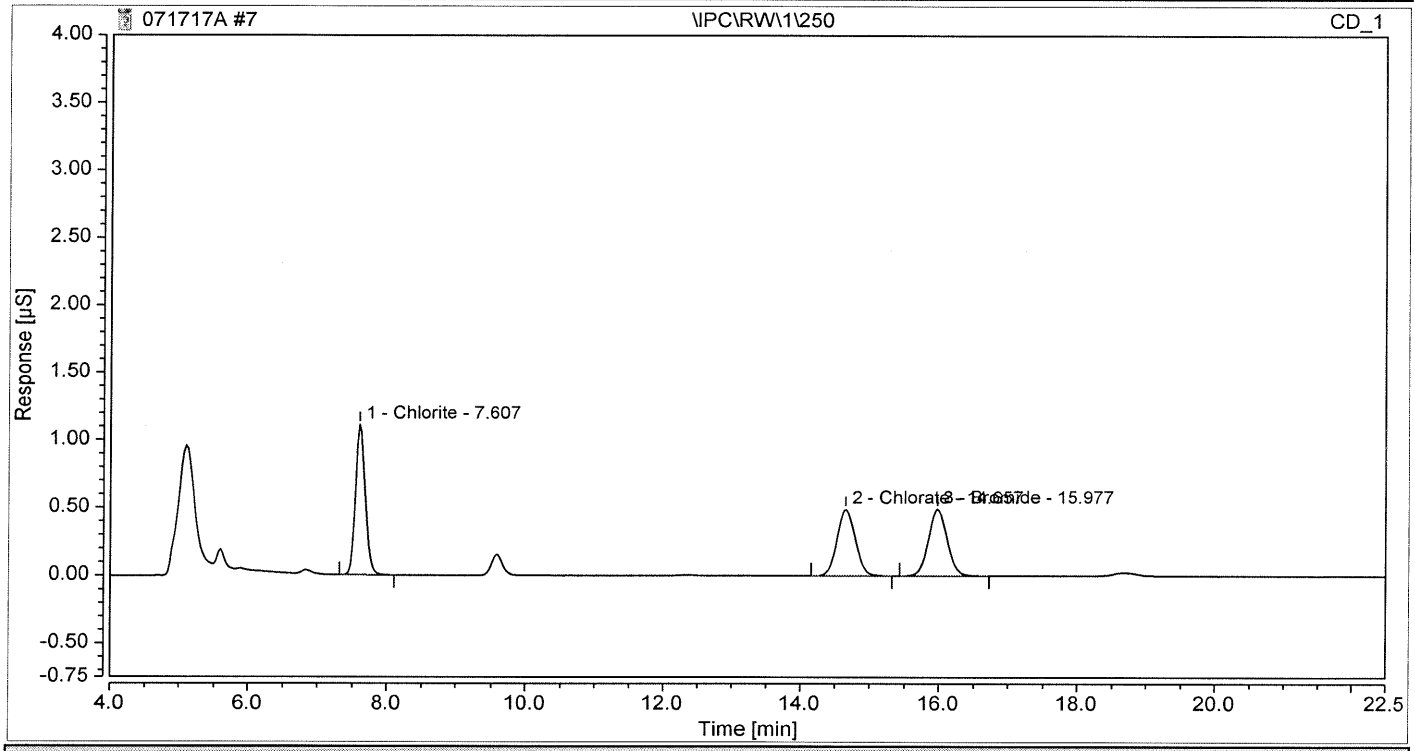
No.	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.946	1309.73	6.279	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.890	1550.98	7.761	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.886	1465.31	7.502	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**50.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 20:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

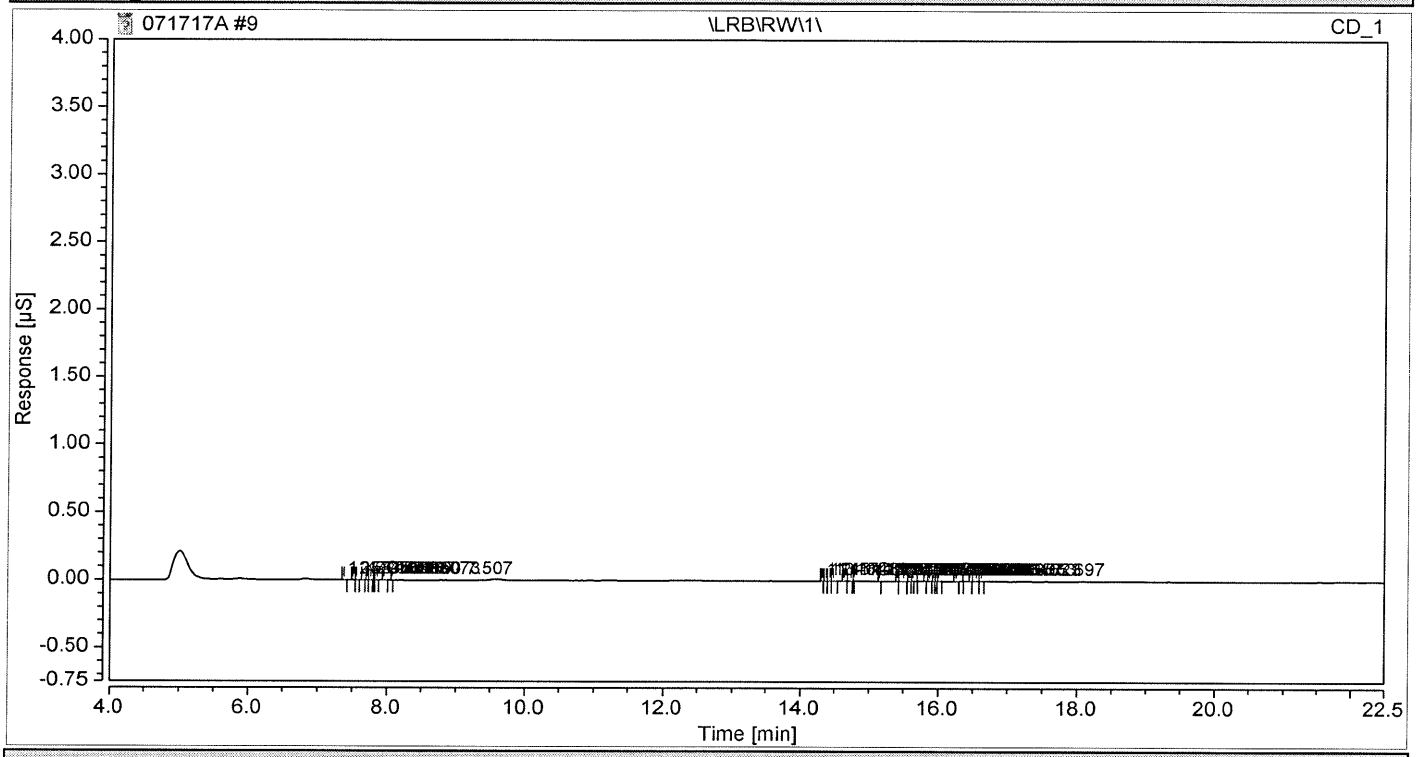
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.607	0.181	1.107	37.32	53.07	242.7108
2	Chlorate	14.657	0.148	0.488	30.51	23.40	236.7035
3	Bromide	15.977	0.156	0.491	32.17	23.53	235.5452
Total:			**0.484**	**2.086**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**50.00**
Vial Number:	**GA2**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 22:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

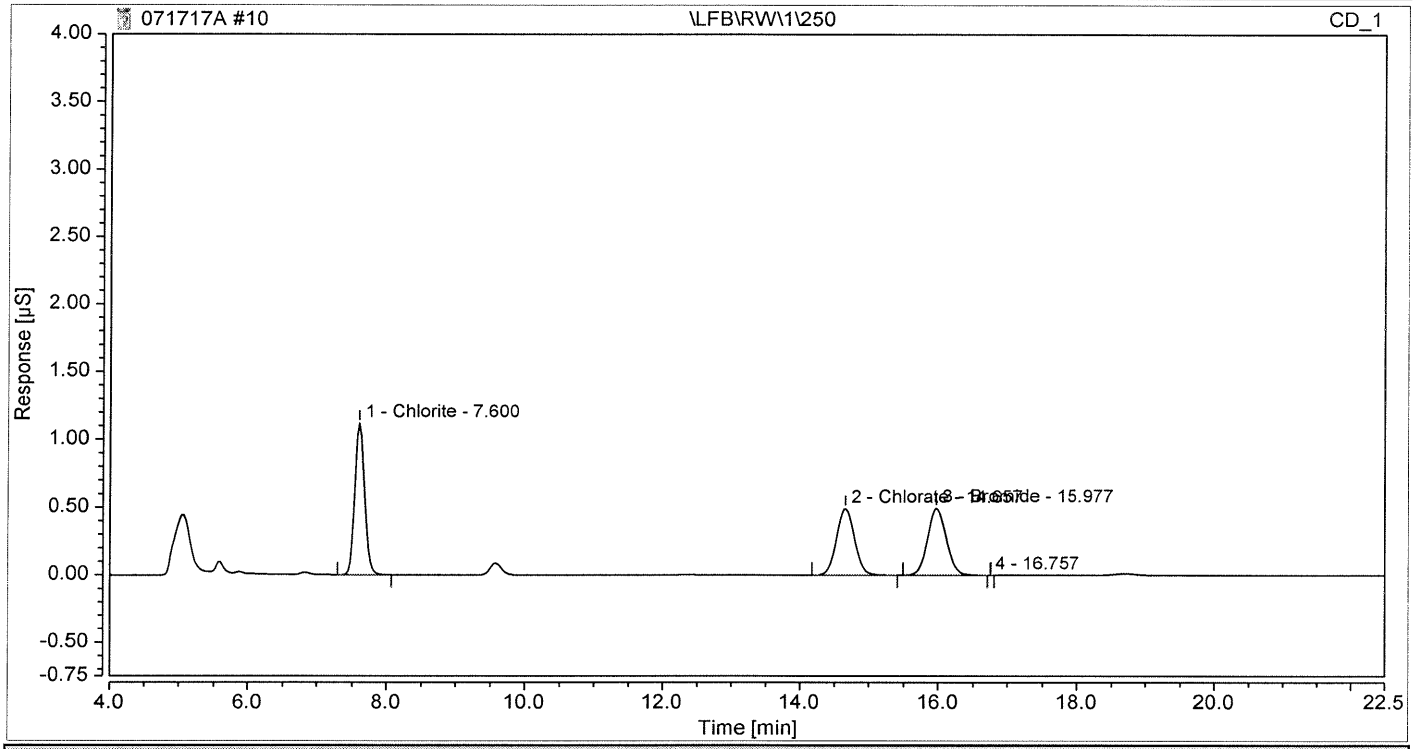
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
2	Chlorite	7.507	0.000	0.000	1.40	2.13	6.2808
14	Chlorate	14.483	0.000	0.000	7.24	6.51	7.7701
23	Bromide	15.697	0.000	0.000	0.04	0.41	7.5023
Total:			**0.000**	**0.000**	**8.68**	**9.05**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**50.00**
Vial Number:	**GA3**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Jul/17 23:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

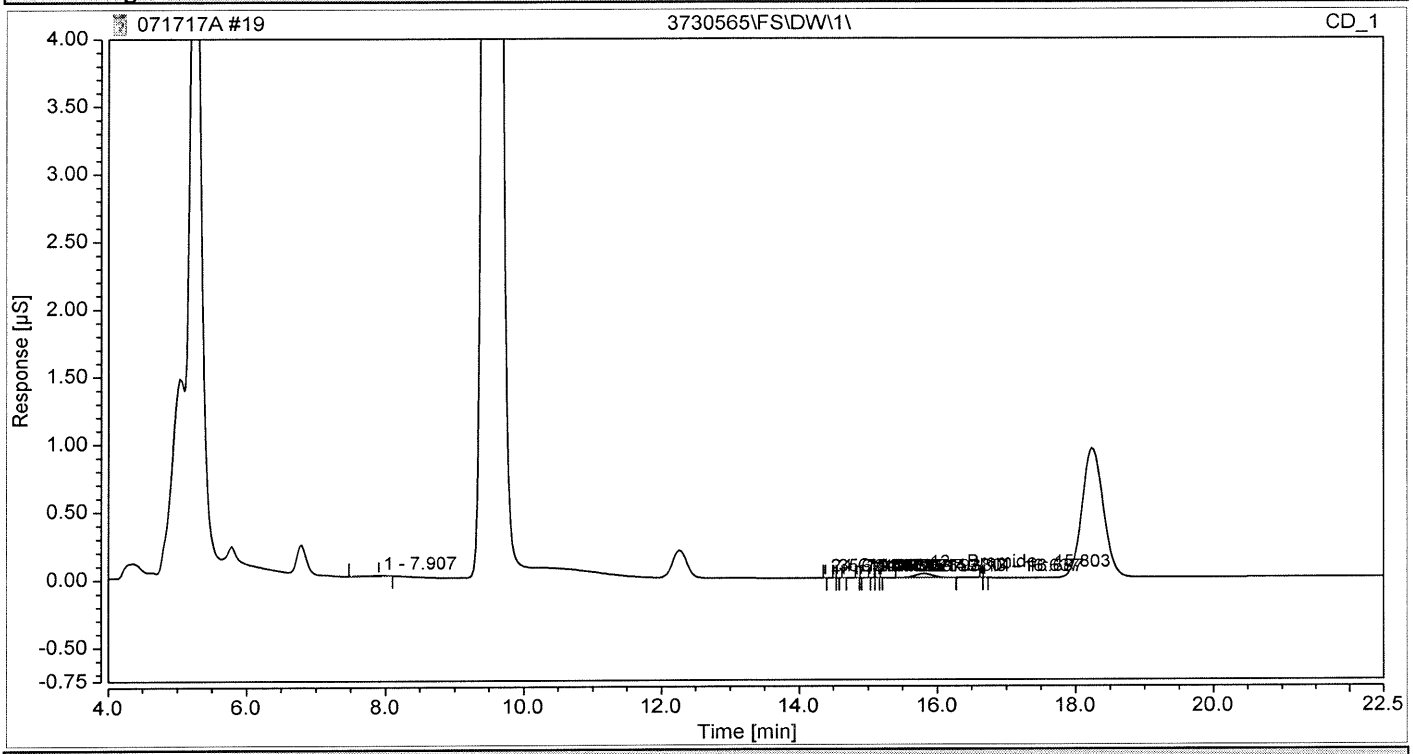
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.600	0.182	1.116	37.39	53.13	244.8514
2	Chlorate	14.657	0.149	0.491	30.51	23.37	238.3113
3	Bromide	15.977	0.156	0.494	32.10	23.50	236.6932
Total:			**0.487**	**2.101**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3730565\FS\DW\1**	*Run Time (min):*	**50.00**
Vial Number:	**GB4**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Jul/17 07:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

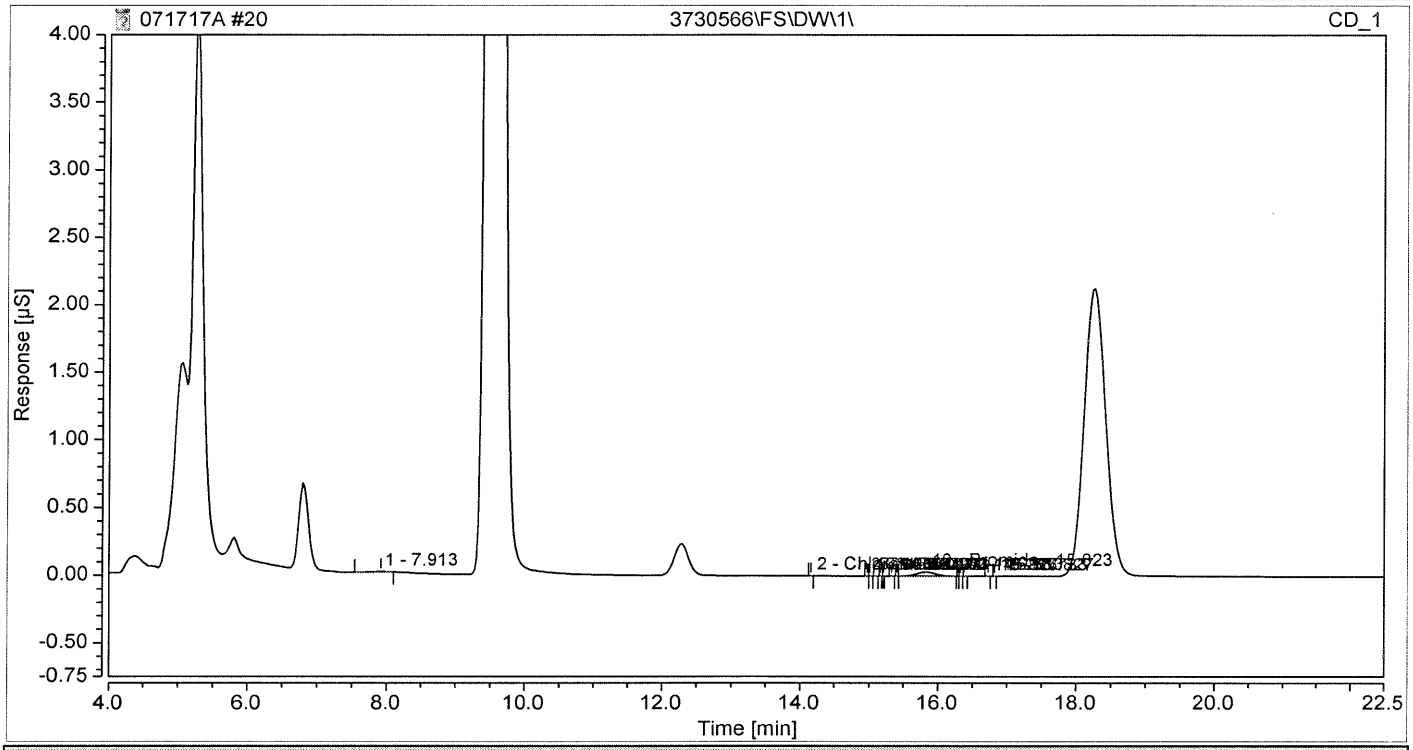
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
2	Chlorate	14.380	0.000	0.000	0.02	0.26	7.7643
12	Bromide	15.803	0.009	0.031	87.49	87.20	20.9068
Total:			**0.009**	**0.031**	**87.52**	**87.46**	

Chromatogram and Results

Injection Details

Injection Name:	**3730566\FS\DW\1**	*Run Time (min):*	**50.00**
Vial Number:	**GB5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Jul/17 08:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

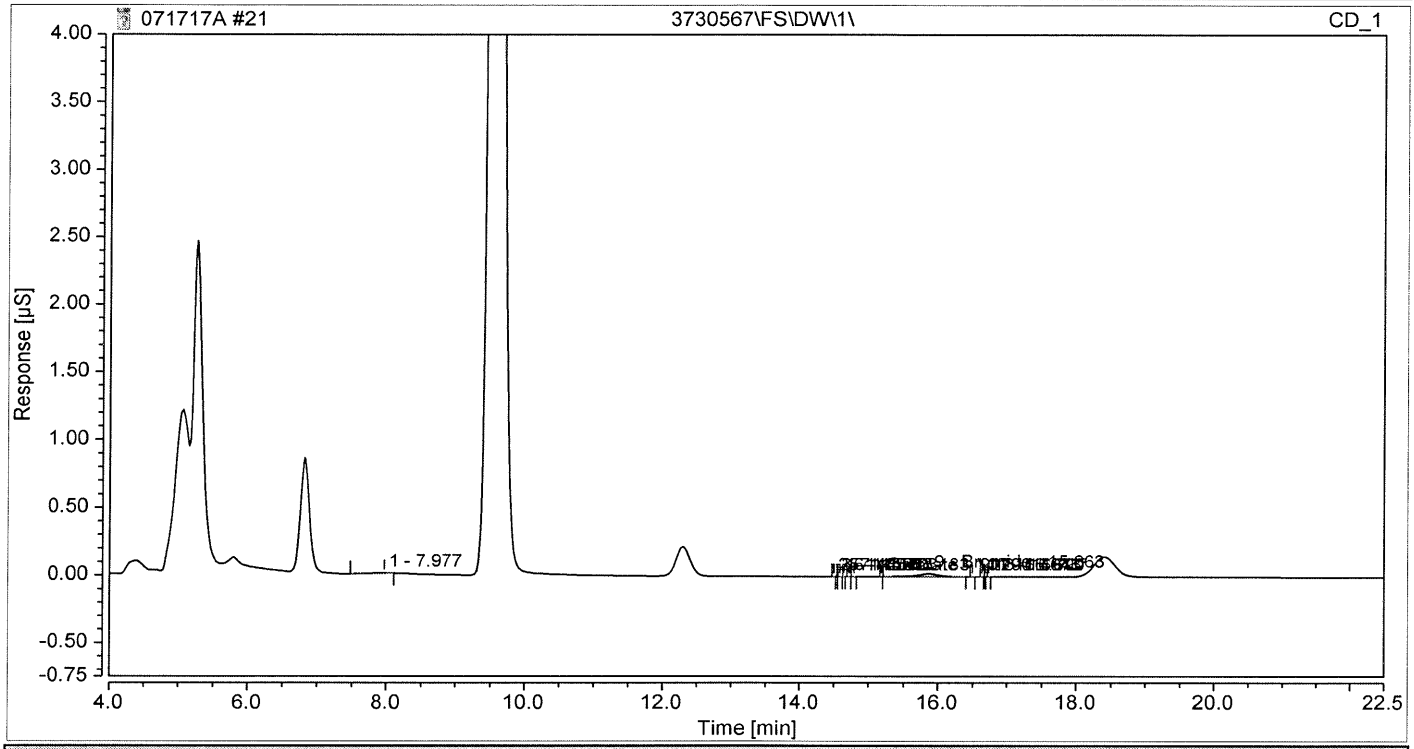
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
2	Chlorate	14.163	0.000	0.000	0.03	0.28	7.7645
10	Bromide	15.823	0.009	0.030	91.03	88.82	21.0607
Total:			**0.009**	**0.031**	**91.06**	**89.10**	

Chromatogram and Results

Injection Details

Injection Name:	**3730567\FS\DW\1**	*Run Time (min):*	**50.00**
Vial Number:	**GB6**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Jul/17 09:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

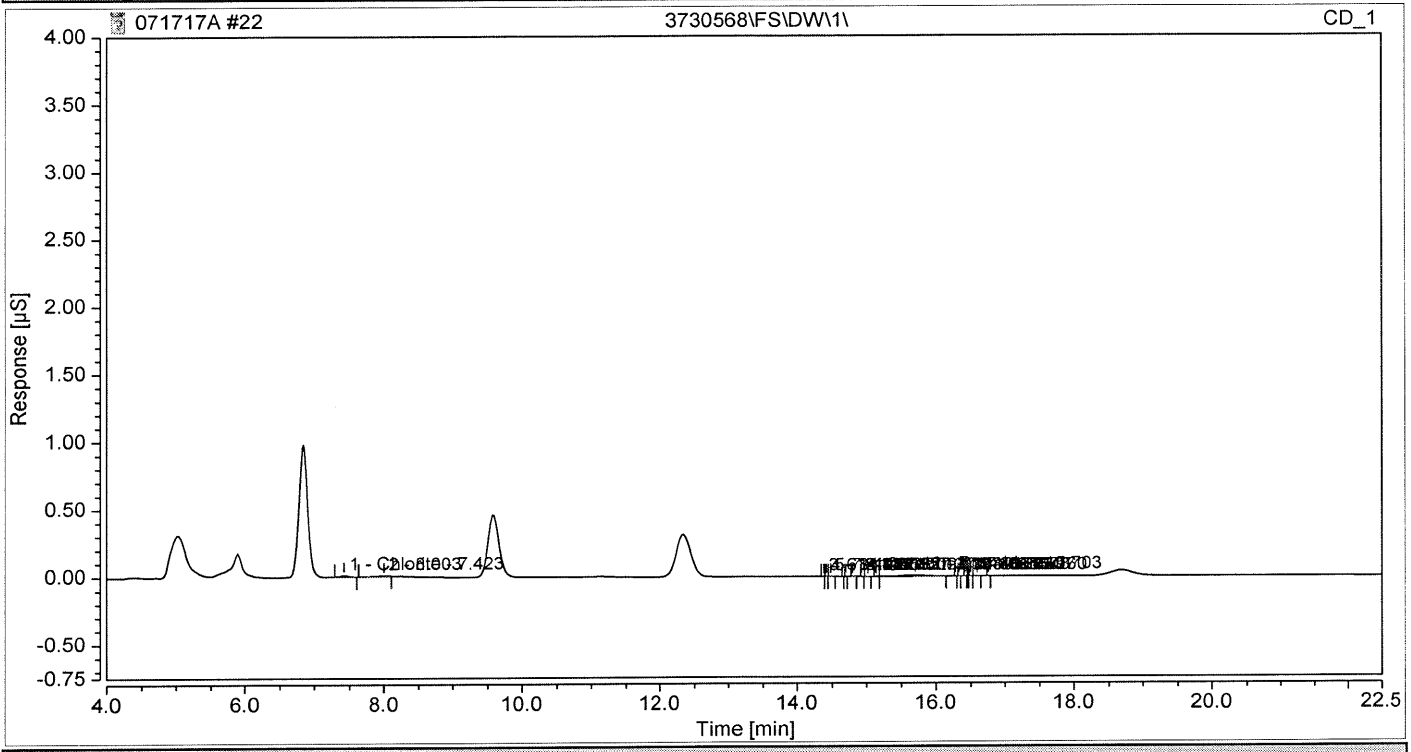
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
7	Chlorate	14.790	0.000	0.000	0.06	0.61	7.7683
9	Bromide	15.863	0.008	0.021	88.10	86.55	18.5585
Total:			**0.008**	**0.021**	**88.16**	**87.16**	

Chromatogram and Results

Injection Details

Injection Name:	**3730568\FS\DW\1**	*Run Time (min):*	**50.00**
Vial Number:	**GB7**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Jul/17 10:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.423	0.001	0.009	27.55	47.05	7.9324
8	Chlorate	14.800	0.000	0.000	0.08	0.46	7.7664
12	Bromide	15.703	0.003	0.007	59.97	37.95	11.5286
Total:			**0.004**	**0.015**	**87.60**	**85.46**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**50.00**
Vial Number:	**G5**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Jul/17 11:18**	*Sample Weight:*	**1.0000**

Chromatogram

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.600	0.182	1.120	37.22	52.79	245.2937
2	Chlorate	14.653	0.150	0.498	30.53	23.47	239.9161
3	Bromide	15.973	0.158	0.504	32.26	23.74	239.2609
Total:			**0.490**	**2.122**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\CCB\RW\1**	*Run Time (min):*	**39.02**
Vial Number:	**G1**	*Injection Volume:*	**150.00**
Injection Type:	**Unknown**	*Channel:*	**CD_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**as19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**as19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**18/Jul/17 12:13**	*Sample Weight:*	**1.0000**

Chromatogram

Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.530	0.000	0.000	15.44	8.93	6.2962
16	Chlorate	15.120	0.000	0.000	1.72	2.77	7.7627
24	Bromide	15.700	0.000	0.000	3.39	5.12	7.5064
Total:			**0.000**	**0.000**	**20.55**	**16.82**	

QA - Method Detection Limit Study

Method:	300	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	7/26/2017
Instrument:	ES	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC's. LODs updated from this MDL Study.*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
4/5/2017	Bromide	10	8.902	12.338	12.096	14.34	14.427	15.15	11.966	12.7456	2.12601	6.6820495
4/5/2017	Chlorite	10	12.075	12.014	12.356	14.459	14.69	14.038	11.784	13.0594	1.275325	4.008345
4/5/2017	Chlorate	10	12.642	12.99	12.028	15.036	14.884	15.024	10.014	13.2311	1.888853	5.9366634

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 392791

Priority: Standard

Status: Final

Project: #128867 EEA-IN / RADFORD AAP

Samples Submitted: Two groundwater samples

Copies to: None

Collected: 07/11/17 By: Client Received: 07/13/17

REPORT SUMMARY

Two groundwater samples were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

There were no deviations from method requirements in this run.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sipe Reporter — 08/02/2017

Reviewed By Title Date

Jim Vernon ASM — 08-02-2017

Finalized By Title Date

eurofins | Eaton Analytical

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 392791
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3731419	54MW12	300.0	07/11/17 09:10	Client	07/13/17 09:30
3731420	54MW13	300.0	07/11/17 11:20	Client	07/13/17 09:30

Report Summary

Note: See attached page for additional comments.

PO # 128867 EEA-IN / Radford AAP

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature | Title | 08/02/2017 Date

Client Name: CT Laboratories
Report #: 392791

Client Name: CT Laboratories Report #: 392791

Sampling Point: 54MW12 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/21/17 12:10	3731419
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/21/17 12:10	3731419

Sampling Point: 54MW13 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/21/17 12:36	3731420
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/21/17 12:36	3731420

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Client Name: CT Laboratories Report #: 392791

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

322766

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

392791

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 128867 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Government UPS Shipping Acct ? **Y** **N**

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒ Use pre-printed label

Date Due: ~2 weeks *RUSH TURNAROUND NEEDED? Y or N (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE DOD QSM NELAP (Circle one) OTHER_____

Report results as EDD? N Y (Circle one and indicate type: Excel w/ QC) Data Deliverable Package LEVEL: w/ QC summary

CTLabs ID#	Sample Date/Time	Matrix	Sample Description		Analyses / Method		Cost
890666 (3)	07/11/2017 0910	GROUND WATER	54MW12	3731,419	CHLORATE/CHLORITE	300.1	
890669 (1)	07/11/2017 1120	GROUND WATER	54MW13	↓ 420	CHLORATE/CHLORITE	300.1	

Relinquished by: _____ Date/Time: 7-12-17 / 1430h

Received by: dmartz Date/Time: 7/13/17 0930 Receipt Temperature (C) 0.4

COMMENTS: Use sample description and not CT Labs ID# for reporting.

~~Samples are not preserved please preserve if possible~~ jls

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

Eurofins Eaton Analytical

Run Log

Run ID: **231975** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3738005		RW	DT	07/20/2017 14:05	
IPC	3738012		RW	DT	07/21/2017 07:20	
LRB	3738013		RW	DT	07/21/2017 07:46	
LFB	3738014		RW	DT	07/21/2017 08:12	
FS	3731419	54MW12	GW	DT	07/21/2017 12:10	
FS	3731420	54MW13	GW	DT	07/21/2017 12:36	
IPC	3738017		RW	DT	07/21/2017 13:53	
CCB	3738018		RW	DT	07/21/2017 14:19	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2017 14:05	3738005
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2017 14:05	3738005
IPC	Chlorate	300.0	10	---		250.9560	250	ug/L	100	90 - 110	---	---	1.0	---	07/21/2017 07:20	3738012
IPC	Chlorite	300.0	10	---		252.8770	250	ug/L	101	90 - 110	---	---	1.0	---	07/21/2017 07:20	3738012
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 07:46	3738013
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 07:46	3738013
LFB	Chlorate	300.0	10	---		250.3510	250	ug/L	100	90 - 110	---	---	1.0	---	07/21/2017 08:12	3738014
LFB	Chlorite	300.0	10	---		252.0670	250	ug/L	101	90 - 110	---	---	1.0	---	07/21/2017 08:12	3738014
FS	Chlorate	300.0	10	54MW12	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 12:10	3731419
FS	Chlorite	300.0	10	54MW12	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 12:10	3731419
FS	Chlorate	300.0	10	54MW13	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 12:36	3731420
FS	Chlorite	300.0	10	54MW13	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 12:36	3731420
IPC	Chlorate	300.0	10	---		249.5210	250	ug/L	100	90 - 110	---	---	1.0	---	07/21/2017 13:53	3738017
IPC	Chlorite	300.0	10	---		249.7340	250	ug/L	100	90 - 110	---	---	1.0	---	07/21/2017 13:53	3738017
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 14:19	3738018
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/21/2017 14:19	3738018

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 231975 **Instrument#** DT

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Venures	J2-CLOX01108	8/16/2016	8/16/2016	8/16/2017
Bromide Cal Stock / ICBR1	Inorganic Venures	J2-BR01106	8/16/2016	8/16/2016	8/16/2017
Chlorate Cal Stock / ICCLO31	Inorganic Venures	K2-CLOX01111	8/16/2016	8/16/2016	8/16/2017
ChloriteQC Stock / ICCLO21	Inorganic Venures	K2-CLOX01113	8/16/2016	8/16/2016	8/16/2017
Bromide QC Stock / ICC-001	Ultra Scientific	CP-3274	8/16/2016	8/16/2016	8/31/2020
Chlorate QC Stock / ICC-011	Ultra Scientific	CM-5663	8/16/2016	8/16/2016	11/30/2019
EDA / E479-500	Fisher	160208	3/13/2017	3/13/2017	na
Na2CO3	Acros	A0366523	3/29/2016	4/1/2016	na

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC49-38b(1-3)
QC Substock- 25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC49-38b(4-6)

Analyst: S. Lovick **Prep Date:** 7/6/2017 **Exp. Date:** 10/7/2017

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100		1000	100	100

Analyst: S. Lovick **Prep Date:** 7/17/2017 **Exp. Date:** 7/24/2017

LFB/LFM	250	100		10	10

Analyst: S. Lovick **Prep Date:** 7/20/2017 **Exp. Date:** 7/24/2017

EDA solution: 5.6 mL EDA to 100 mL volume RW = 50 mg/mL Prep ID IOC49-37a

Analyst: S. Lovick **Prep Date:** 6/29/2017 **Exp. Date:** 7/29/2017

Eluent: 3.82 g Na2CO3 in 4 L volume RW = 9.0 mM Prep ID: IOC49-35b

Analyst: S. Lovick **Prep Date:** 6/23/2017 **Exp. Date:** 7/23/2017

Comments: Dionex IonPac AG9-HC 2mm s/n 161027137 lot#01411168 installed 2/7/2017
Dionex AERS 500 2mm s/n 140520000 installed 07/22/2014

Analyst: [signature] **Date:** JUL 21 2017

Technician Review: [signature] **Date:** 07/21/2017

(signature)

Sample No.	Sample Name	Time	Amount Chlorite CD_1	Amount Bromide CD_1	Amount Chlorate CD_1
1	\ICB\RW\1\	07.20.17 14:05	n.a.	n.a.	n.a.
2	\ICS\RW\1\10	07.20.17 14:31	12.63	13.21	12.74
3	\ICS\RW\1\20	07.20.17 14:57	20.47	22.09	22.88
4	\ICS\RW\1\100	07.20.17 15:22	100.28	99.07	99.60
5	\ICS\RW\1\500	07.20.17 15:48	493.35	491.22	489.67
6	\ICS\RW\1\1000	07.20.17 16:14	1003.26	1004.41	1005.12
7	\RLC\RW\1\10	07.21.17 06:54	13.90	13.59	12.33
8	\IPC\RW\1\250	07.21.17 07:20	252.88	250.92	250.96
9	\LRB\RW\1\	07.21.17 07:46	n.a.	n.a.	n.a.
10	\LFB\RW\1\250	07.21.17 08:12	252.07	250.50	250.35
11	3731052\FS\DW\1\	07.21.17 08:38	40.23	46.45	282.58
12	3731052\MS\DW\1\250	07.21.17 09:04	281.57	290.24	516.78
13	3731052\MSD\DW\1\250	07.21.17 09:30	283.13	289.49	517.21
14	3731053\FS\DW\1\	07.21.17 09:56	n.a.	11.90	314.88
15	3731054\FS\DW\1\	07.21.17 10:22	n.a.	9.25	282.22
16	3731055\FS\DW\1\	07.21.17 10:48	n.a.	36.91	279.25
17	3731056\FS\DW\1\	07.21.17 11:14	n.a.	17.70	278.65
18	3731057\FS\DW\1\	07.21.17 11:39	n.a.	n.a.	295.60
19	3731419\FS\GW\1\	07.21.17 12:10	n.a.	24.21	n.a.
20	3731420\FS\GW\1\	07.21.17 12:36	n.a.	21.83	n.a.
21	3731431\FS\DW\1\	07.21.17 13:01	86.62	5.98	64.50
22	3731432\FS\DW\1\	07.21.17 13:27	n.a.	n.a.	523.19
23	\IPC\RW\1\250	07.21.17 13:53	249.73	248.55	249.52
24	\CCB\RW\1\	07.21.17 14:19	n.a.	n.a.	n.a.
	Average:	**42937.240**			**303**
	Rel.Std.Dev:	**0.001 %**			**78.837 %**

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR10 Build 2818 (166959)

Sequence: 072117A
Operator: SBNLab003

Printed: 7/21/2017 2:47:14 PM

Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017
Timebase: ICS_5000_DT
#Samples: 24

Created: 7/21/2017 12:09:35 PM by SBNLab003
Last Update: 7/21/2017 2:21:13 PM by SBNLab003

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
1	\ICB\RW\1\	Standard	1	50.0	Met300B	Met300B	Finished
2	\ICS\RW\1\10	Standard	2	50.0	Met300B	Met300B	Finished
3	\ICS\RW\1\20	Standard	3	50.0	Met300B	Met300B	Finished
4	\ICS\RW\1\100	Standard	4	50.0	Met300B	Met300B	Finished
5	\ICS\RW\1\500	Standard	5	50.0	Met300B	Met300B	Finished
6	\ICS\RW\1\1000	Standard	6	50.0	Met300B	Met300B	Finished
7	\RLC\RW\1\10	Unknown	40	50.0	Met300B	Met300B	Finished
8	\IPC\RW\1\250	Unknown	41	50.0	Met300B	Met300B	Finished
9	\LRB\RW\1\	Unknown	42	50.0	Met300B	Met300B	Finished
10	\LFB\RW\1\250	Unknown	43	50.0	Met300B	Met300B	Finished
11	3731052\FS\DW\1\	Unknown	44	50.0	Met300B	Met300B	Finished
12	3731052\MS\DW\1\250	Unknown	45	50.0	Met300B	Met300B	Finished
13	3731052\MSD\DW\1\250	Unknown	46	50.0	Met300B	Met300B	Finished
14	3731053\FS\DW\1\	Unknown	47	50.0	Met300B	Met300B	Finished
15	3731054\FS\DW\1\	Unknown	48	50.0	Met300B	Met300B	Finished
16	3731055\FS\DW\1\	Unknown	49	50.0	Met300B	Met300B	Finished
17	3731056\FS\DW\1\	Unknown	50	50.0	Met300B	Met300B	Finished
18	3731057\FS\DW\1\	Unknown	1	50.0	Met300B	Met300B	Finished
19	3731419\FS\GW\1\	Unknown	2	50.0	Met300B	Met300B	Finished
20	3731420\FS\GW\1\	Unknown	3	50.0	Met300B	Met300B	Finished
21	3731431\FS\DW\1\	Unknown	4	50.0	Met300B	Met300B	Finished
22	3731432\FS\DW\1\	Unknown	5	50.0	Met300B	Met300B	Finished
23	\IPC\RW\1\250	Unknown	6	50.0	Met300B	Met300B	Finished
24	\CCB\RW\1\	Unknown	7	50.0	Met300B	Met300B	Finished

Sequence: 072117A
Operator: SBNLab003

Printed: 7/21/2017 2:47:14 PM

Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017
Timebase: ICS_5000_DT
#Samples: 24

Created: 7/21/2017 12:09:35 PM by SBNLab003
Last Update: 7/21/2017 2:21:13 PM by SBNLab003

No.	Name	Inj. Date/Time	Weight	Dil. Factor	ISTD Amount	Sample ID
1	\ICB\RW\1\	7/20/2017 2:05:11 PM	1.0000	1.0000	1.0000	
2	\ICS\RW\1\10	7/20/2017 2:31:06 PM	1.0000	1.0000	1.0000	
3	\ICS\RW\1\20	7/20/2017 2:57:01 PM	1.0000	1.0000	1.0000	
4	\ICS\RW\1\100	7/20/2017 3:22:56 PM	1.0000	1.0000	1.0000	
5	\ICS\RW\1\500	7/20/2017 3:48:50 PM	1.0000	1.0000	1.0000	
6	\ICS\RW\1\1000	7/20/2017 4:14:45 PM	1.0000	1.0000	1.0000	
7	\RLC\RW\1\10	7/21/2017 6:54:55 AM	1.0000	1.0000	1.0000	
8	\IPC\RW\1\250	7/21/2017 7:20:50 AM	1.0000	1.0000	1.0000	
9	\LRB\RW\1\	7/21/2017 7:46:44 AM	1.0000	1.0000	1.0000	
10	\LFB\RW\1\250	7/21/2017 8:12:39 AM	1.0000	1.0000	1.0000	
11	3731052\FS\DW\1\	7/21/2017 8:38:34 AM	1.0000	1.0000	1.0000	
12	3731052\MS\DW\1\250	7/21/2017 9:04:28 AM	1.0000	1.0000	1.0000	
13	3731052\MSD\DW\1\250	7/21/2017 9:30:22 AM	1.0000	1.0000	1.0000	
14	3731053\FS\DW\1\	7/21/2017 9:56:17 AM	1.0000	1.0000	1.0000	
15	3731054\FS\DW\1\	7/21/2017 10:22:12 AM	1.0000	1.0000	1.0000	
16	3731055\FS\DW\1\	7/21/2017 10:48:06 AM	1.0000	1.0000	1.0000	
17	3731056\FS\DW\1\	7/21/2017 11:14:00 AM	1.0000	1.0000	1.0000	
18	3731057\FS\DW\1\	7/21/2017 11:39:55 AM	1.0000	1.0000	1.0000	
19	3731419\FS\GW\1\	7/21/2017 12:10:42 PM	1.0000	1.0000	1.0000	
20	3731420\FS\GW\1\	7/21/2017 12:36:09 PM	1.0000	1.0000	1.0000	
21	3731431\FS\DW\1\	7/21/2017 1:01:40 PM	1.0000	1.0000	1.0000	
22	3731432\FS\DW\1\	7/21/2017 1:27:34 PM	1.0000	1.0000	1.0000	
23	\IPC\RW\1\250	7/21/2017 1:53:29 PM	1.0000	1.0000	1.0000	
24	\CCB\RW\1\	7/21/2017 2:19:24 PM	1.0000	1.0000	1.0000	

Sequence: 072117A
Operator: SBNLab003

Printed: 7/21/2017 2:47:14 PM

Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017
Timebase: ICS_5000_DT
#Samples: 24

Created: 7/21/2017 12:09:35 PM by SBNLab003
Last Update: 7/21/2017 2:21:13 PM by SBNLab003

No.	Name	Replicate ID	Comment
1	\ICB\RW\1\	10	
2	\ICS\RW\1\10	10	
3	\ICS\RW\1\20	10	
4	\ICS\RW\1\100	10	
5	\ICS\RW\1\500	10	
6	\ICS\RW\1\1000	10	
7	\RLC\RW\1\10	10	
8	\IPC\RW\1\250	10	
9	\LRB\RW\1\	10	
10	\LFB\RW\1\250	10	
11	3731052\FS\DW\1\	10	
12	3731052\MS\DW\1\250	10	
13	3731052\MSD\DW\1\250	10	
14	3731053\FS\DW\1\	10	
15	3731054\FS\DW\1\	10	
16	3731055\FS\DW\1\	10	
17	3731056\FS\DW\1\	10	
18	3731057\FS\DW\1\	10	
19	3731419\FS\GW\1\	10	
20	3731420\FS\GW\1\	10	
21	3731431\FS\DW\1\	10	
22	3731432\FS\DW\1\	10	
23	\IPC\RW\1\250	10	
24	\CCB\RW\1\	10	

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Timebase: ICS_5000_DT
Created: 3/6/2013 4:00:11 PM by SBNLab003
Changed: 5/11/2017 9:35:09 AM by SBNLab003

```
          Column_TC.AcquireExclusiveAccess
          Compartment_TC.AcquireExclusiveAccess
          Pressure.LowerLimit =              100 [psi]
          Pressure.UpperLimit =              3500 [psi]
          MaximumFlowRamp =                  6.00 [ml/min²]
          %A.Equate =                        "%A"
          Pump_1_Pressure.Step =             0.20 [s]
          Pump_1_Pressure.Average =          Off
          DeliverSpeed =                     4.0 [ml/min]
          DelayVolume =                      125 [µl]
          FlushFactor =                      10
          Sampler.LoadPosition
          DeliverSample                      Volume=5000
          EndSamplePrep
          CDet1.Data_Collection_Rate =       5.0 [Hz]
          Temperature_Compensation =         1.7 [%/°C]
          CellHeater.Mode                    = ON
          CellHeater.TemperatureSet =        30.00 [°C]
          Column_TC.Mode =                   On
          Column_TC.TemperatureSet =         30.00 [°C]
          Compartment_TC.Mode =              On
          Compartment_TC.TemperatureSet =    30.00 [°C]
          Suppressor1.Type =                 ASRS_2mm
          Carbonate =                        9.0 [mM]
          CurrentSet =                       0 [mA]
          ; Suppressor1.Carbonate =         9.0
          ; Suppressor1.Bicarbonate =       0.0
          ; Suppressor1.Hydroxide =         0.0
          ; Suppressor1.Tetraborate =       0.0
          ; Suppressor1.Other eluent =      0.0
          ; Suppressor1.Recommended Current =                12
          ; ASRS300.Carbonate =             9.0
          ; ASRS300.Bicarbonate =           0.0
          ; ASRS300.Hydroxide =             0.0
          ; ASRS300.Tetraborate =           0.0
          ; ASRS300.Other eluent =          0.0
          ; ASRS300.Recommended Current =   16
          Flow =                             0.300 [ml/min]
          Curve =                            5

 0.000    CDet1.Autozero
          Wait                               Ready
          Wait                               CycleTimeState
          Inject
```

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Timebase: ICS_5000_DT
Changed: 5/11/2017 9:35:09 AM by SBNLab003

```
            Pump_1_Pressure.AcqOn
            CD_1.AcqOn
            CD_1_Total.AcqOn

 0.500      BeginOverlap

23.000      Pump_1_Pressure.AcqOff
            CD_1.AcqOff
            CD_1_Total.AcqOff
            Compartment_TC.ReleaseExclusiveAccess
            Column_TC.ReleaseExclusiveAccess
            End
```

Program File:	Met300B	Post-acquisition steps, Page 1 of 1
Operator:	SBNLab003	Printed: 7/21/2017 2:47:14 PM
Title:	300B	
Datasource:	SBNLAB003-PC_local	
Location:	ICS_5000_DT\300B\2017\072117A.SEQ	Created: 3/6/2013 4:00:11 PM by SBNLab003
Timebase:	ICS_5000_DT	Changed: 5/11/2017 9:35:09 AM by SBNLab003

No.	Channel	Operation	Parameters

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Blank Run Subtraction: No Blank Run Subtraction

Detection Table:

No.	Ret. Time [min]	Param. Name	Param. Value	Channel
1	0.000	Minimum Area	0.001 "[Signal]*min"	All Channels
2	0.000	Inhibit Integration	On	All Channels
3	0.000	Valley to Valley	On	All Channels
4	0.000	Peak Slice	1.00 s	All Channels
5	0.000	Sensitivity	0.01 "[Signal]"	All Channels
6	4.600	Inhibit Integration	Off	All Channels
7	5.500	Inhibit Integration	On	All Channels
8	8.950	Inhibit Integration	Off	All Channels
9	10.850	Inhibit Integration	On	All Channels

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Peak Table:

Use Recently Detected Retention Times: Off
Peak Retention Time Determination: Absolute
Dead time:
Delay Time of 2'nd Detector: <None>
Delay Time of 3'rd Detector: <None>

No.	Peak Name	Ret.Time	Window	Standard	Int.Type	Cal.Type	Peak Type	Group	Amount \ICB\RW\1\
1	Chlorite	4.840 min	5.000 RG	External	Area	LOff	Auto		0.000000
2	Bromide	9.400 min	5.000 RN	External	Area	LOff	Auto		0.000000
3	Chlorate	10.100 min	2.500 RN	External	Area	LOff	Auto		0.000000

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Peak Table:

Use Recently Detected Retention Times: Off
Peak Retention Time Determination: Absolute
Dead time:
Delay Time of 2'nd Detector: <None>
Delay Time of 3'rd Detector: <None>

No.	Peak Name	Ret.Time	Amount \ICS\RW\1\10	Amount \ICS\RW\1\20	Amount \ICS\RW\1\100	Amount \ICS\RW\1\500	Amount \ICS\RW\1\1000
1	Chlorite	4.840 min	10.000000	20.000000	100.000000	500.000000	1000.000000
2	Bromide	9.400 min	10.000000	20.000000	100.000000	500.000000	1000.000000
3	Chlorate	10.100 min	10.000000	20.000000	100.000000	500.000000	1000.000000

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Peak Table:

Use Recently Detected Retention Times: Off
Peak Retention Time Determination: Absolute
Dead time:
Delay Time of 2'nd Detector: <None>
Delay Time of 3'rd Detector: <None>

No.	Peak Name	Ret.Time	Comment
1	Chlorite	4.840 min	Autogenerated
2	Bromide	9.400 min	Autogenerated
3	Chlorate	10.100 min	Autogenerated

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Amount Table:

Dimension of Amounts:
Reference volume for amounts: Use inject volume of first standard
Number of Amount Columns: 6
Sample column used for amount column assignment: Sample Name

No.	Peak Name	Ret.Time	Resp.Fact.	Amount \ICB\RW\1\	Amount \ICS\RW\1\10	Amount \ICS\RW\1\20	Amount \ICS\RW\1\100	Amount \ICS\RW\1\500
1	Chlorite	4.840 min	1.000000	0.000000	10.000000	20.000000	100.000000	500.000000
2	Bromide	9.400 min	1.000000	0.000000	10.000000	20.000000	100.000000	500.000000
3	Chlorate	10.100 min	1.000000	0.000000	10.000000	20.000000	100.000000	500.000000

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Amount Table:

Dimension of Amounts:
Reference volume for amounts: Use inject volume of first standard
Number of Amount Columns: 6
Sample column used for amount column assignment: Sample Name

No.	Peak Name	Ret.Time	Amount \ICS\RW\1\1000	Comment
1	Chlorite	4.840 min	1000.000000	Autogenerated
2	Bromide	9.400 min	1000.000000	Autogenerated
3	Chlorate	10.100 min	1000.000000	Autogenerated

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Calibration:

Calibration Mode: Total
Auto Recalibrate: On
Curve Fitting Model: Normal
Dual-Column Separate Calibration: Off

No.	Enabled	Name	Smp.No.	Pos.	Inj. Vol.	Weight	ISTD Amount	Dil. Factor
1	☒	*\VCB\RW\1*	*1*	*1*	*50.0*	*1.0000*	*1.0000*	*1.0000*
2	☒	\ICS\RW\1\10	2	2	50.0	1.0000	1.0000	1.0000
3	☒	\ICS\RW\1\20	3	3	50.0	1.0000	1.0000	1.0000
4	☒	\ICS\RW\1\100	4	4	50.0	1.0000	1.0000	1.0000
5	☒	\ICS\RW\1\500	5	5	50.0	1.0000	1.0000	1.0000
6	☒	\ICS\RW\1\1000	6	6	50.0	1.0000	1.0000	1.0000

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Calibration:

Calibration Mode: Total
Auto Recalibrate: On
Curve Fitting Model: Normal
Dual-Column Separate Calibration: Off

No.	Enabled	Name	Inj. Date/Time	Sample Comment
1	☒	*\CB\RW\1*	*7/20/2017 2:05:11 PM*	
2	☒	\ICS\RW\1\10	7/20/2017 2:31:06 PM	
3	☒	\ICS\RW\1\20	7/20/2017 2:57:01 PM	
4	☒	\ICS\RW\1\100	7/20/2017 3:22:56 PM	
5	☒	\ICS\RW\1\500	7/20/2017 3:48:50 PM	
6	☒	\ICS\RW\1\1000	7/20/2017 4:14:45 PM	

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

Calibration:

Calibration Mode: Total
Auto Recalibrate: On
Curve Fitting Model: Normal
Dual-Column Separate Calibration: Off

No.	Enabled	Name	Calib. Comment
1	☒	*\ICB\RW\1*	*Couldn't find the peak in the chromatogram.*
2	☒	\ICS\RW\1\10	Ok
3	☒	\ICS\RW\1\20	Ok
4	☒	\ICS\RW\1\100	Ok
5	☒	\ICS\RW\1\500	Ok
6	☒	\ICS\RW\1\1000	Ok

Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

System Suitability Test:

No.	Name	Sample Condition	Test Condition	Aggregate	Operator	Value	Rounding
1							

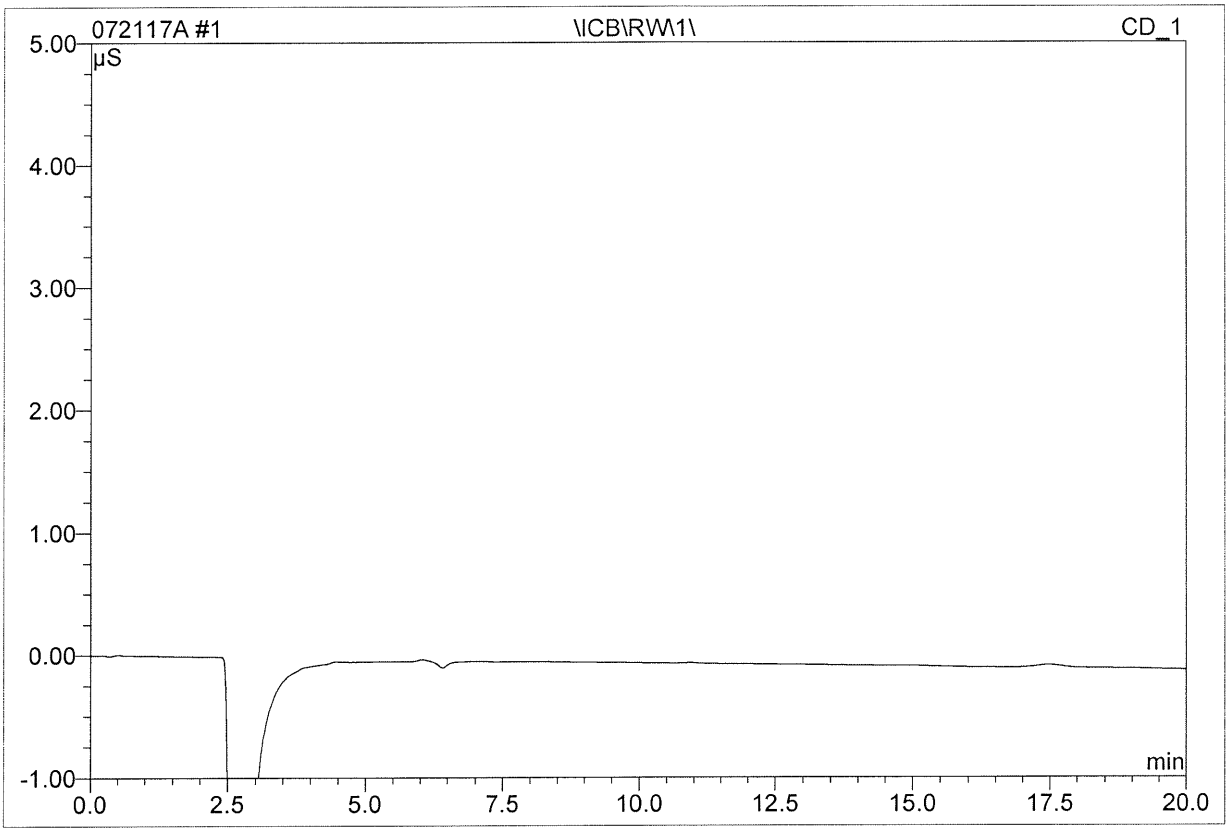
Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2017\072117A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 7/21/2017 12:09:19 PM by SBNLab003

System Suitability Test:

No.	Name	Channel	Peak	N.A.	Fail-Action	Result	SST Message
1							

1 \ICB\RW\1\

Sample Name:	**\ICB\RW\1**	*Injection Volume:*	**50.0**
Vial Number:	**1**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 14:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

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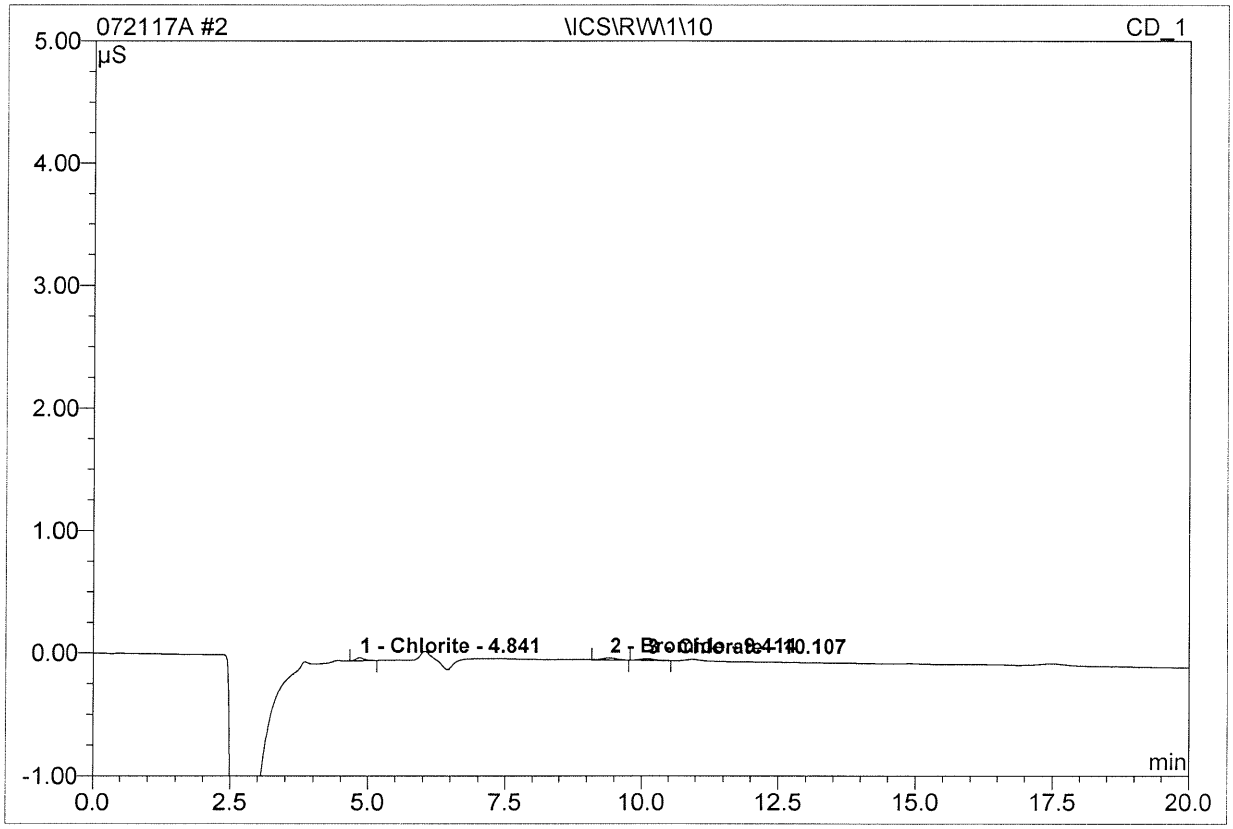
2 \ICS\RW\1\10

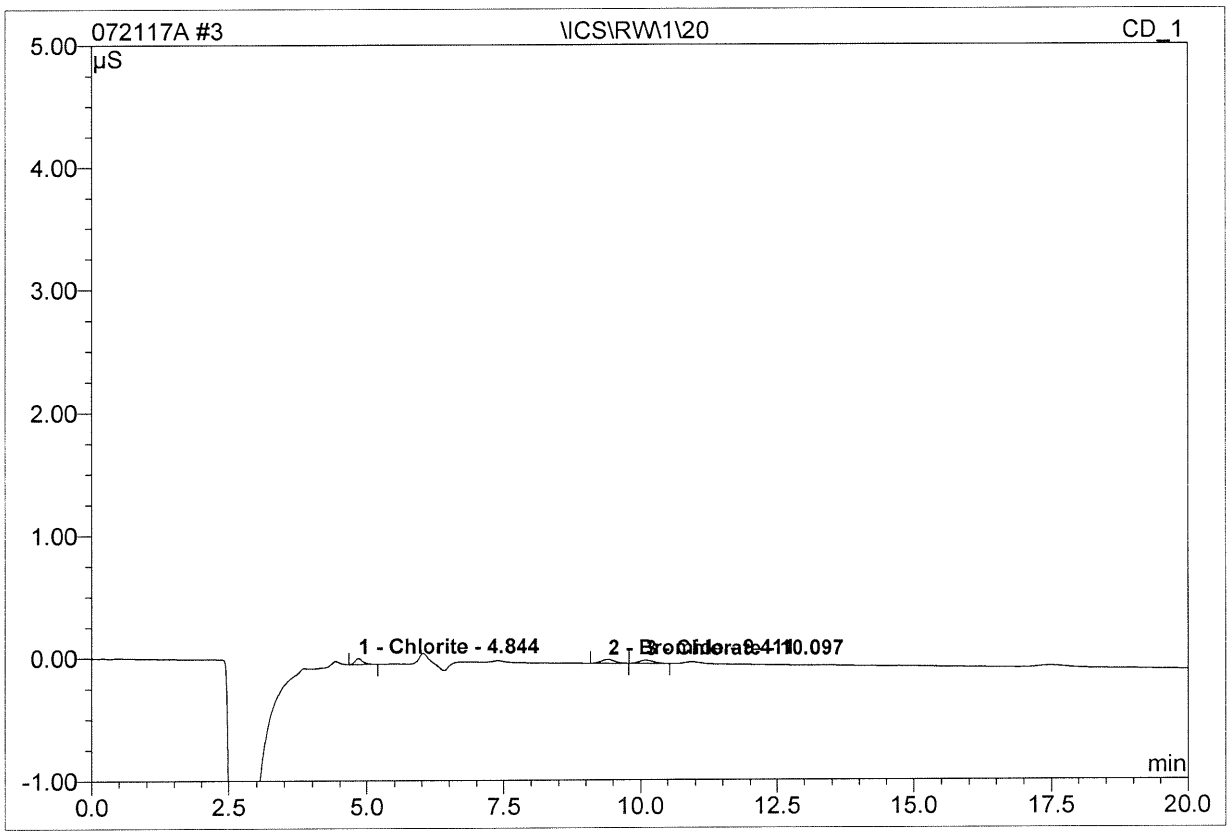
Sample Name:	**\ICS\RW\1\10**	*Injection Volume:*	**50.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 14:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.84	Chlorite	2257.0	0.024	0.004	12.633	BMB
2	9.41	Bromide	2257.0	0.017	0.005	13.210	BMB
3	10.11	Chlorate	2257.0	0.013	0.004	12.736	BMB
Total:			6770.907	0.054	0.01	38.579	

3 \ICS\RW\1\20

Sample Name:	**\ICS\RW\1\20**	*Injection Volume:*	**50.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 14:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.84	Chlorite	2256.8	0.048	0.008	20.473	BMB
2	9.41	Bromide	2256.8	0.032	0.009	22.088	BMB
3	10.10	Chlorate	2256.8	0.026	0.008	22.880	BMB
Total:			6770.325	0.107	0.03	65.440	

4 \ICS\RW\1\100

Sample Name:	**\ICS\RW\1\100**	*Injection Volume:*	**50.0**
Vial Number:	**4**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 15:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.85	Chlorite	2267.7	0.257	0.052	100.283	BMB
2	9.41	Bromide	2267.7	0.159	0.044	99.074	BMb
3	10.11	Chlorate	2267.7	0.132	0.040	99.597	bMB
Total:			6803.161	0.547	0.14	298.954	

5 \ICS\RW\1\500

Sample Name:	**\ICS\RW\1\500**	*Injection Volume:*	**50.0**
Vial Number:	**5**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 15:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.84	Chlorite	2292.2	1.321	0.264	493.350	BMB
2	9.40	Bromide	2292.2	0.811	0.224	491.220	BMB
3	10.09	Chlorate	2292.2	0.665	0.204	489.665	bMB
Total:			6876.621	2.797	0.69	1474.235	

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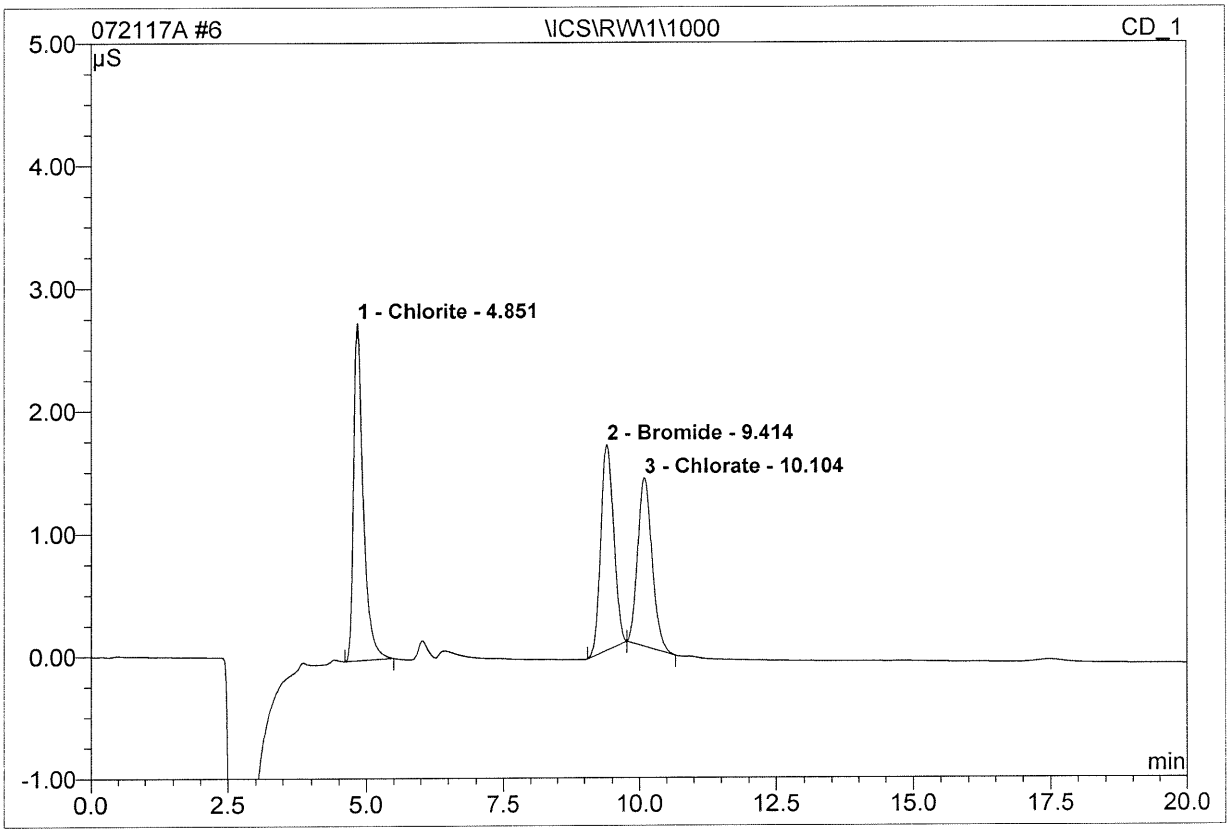
6 \ICS\RW\1\1000

Sample Name:	**\ICS\RW\1\1000**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 16:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.85	Chlorite	2267.4	2.746	0.540	1003.261	BMB
2	9.41	Bromide	2267.4	1.673	0.459	1004.409	BMB
3	10.10	Chlorate	2267.4	1.371	0.420	1005.123	bMB
Total:			6802.078	5.791	1.42	3012.793	

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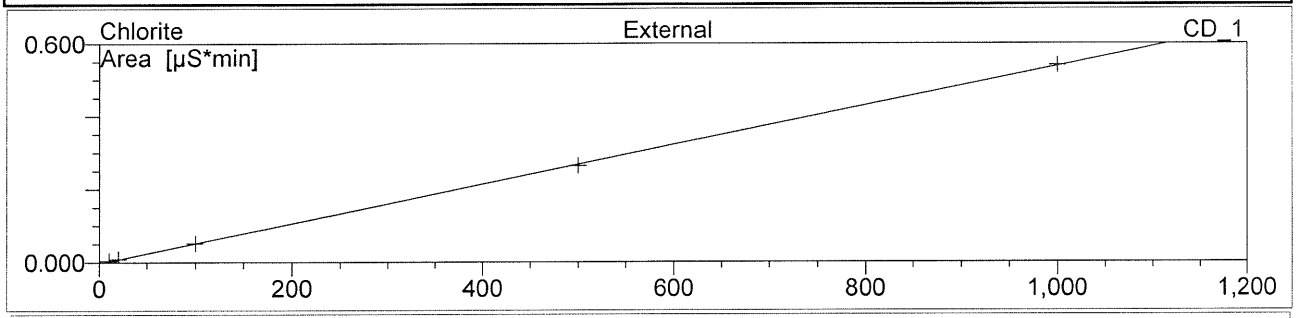
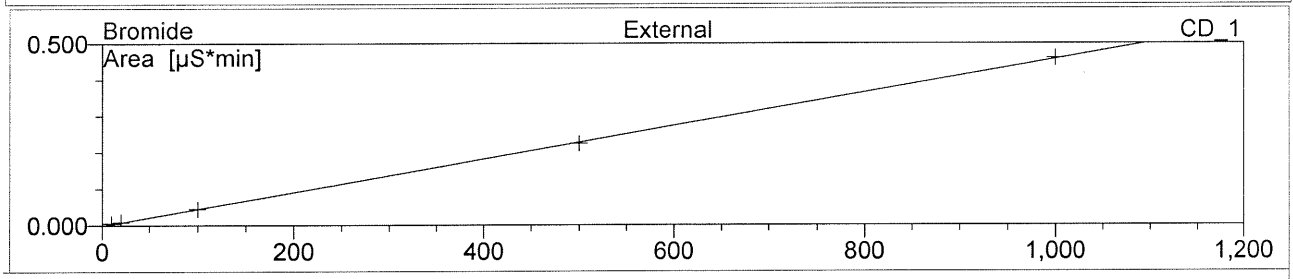
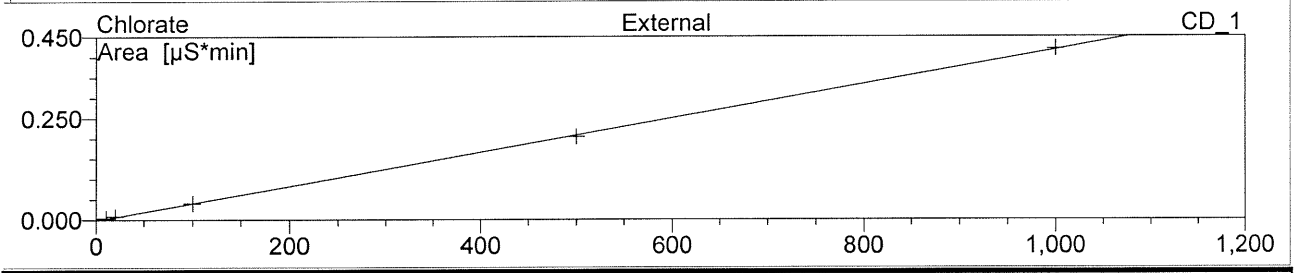
6 \ICS\RW\1\1000

Sample Name:	**\ICS\RW\1\1000**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/20/2017 16:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**







No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	4.85	Chlorite	LOff	5	99.996	-0.0026	0.0005	0.0000
2	9.41	Bromide	LOff	5	99.992	-0.0014	0.0005	0.0000
3	10.10	Chlorate	LOff	5	99.990	-0.0015	0.0004	0.0000
Average:					99.9926	-0.0018	0.0005	0.0000

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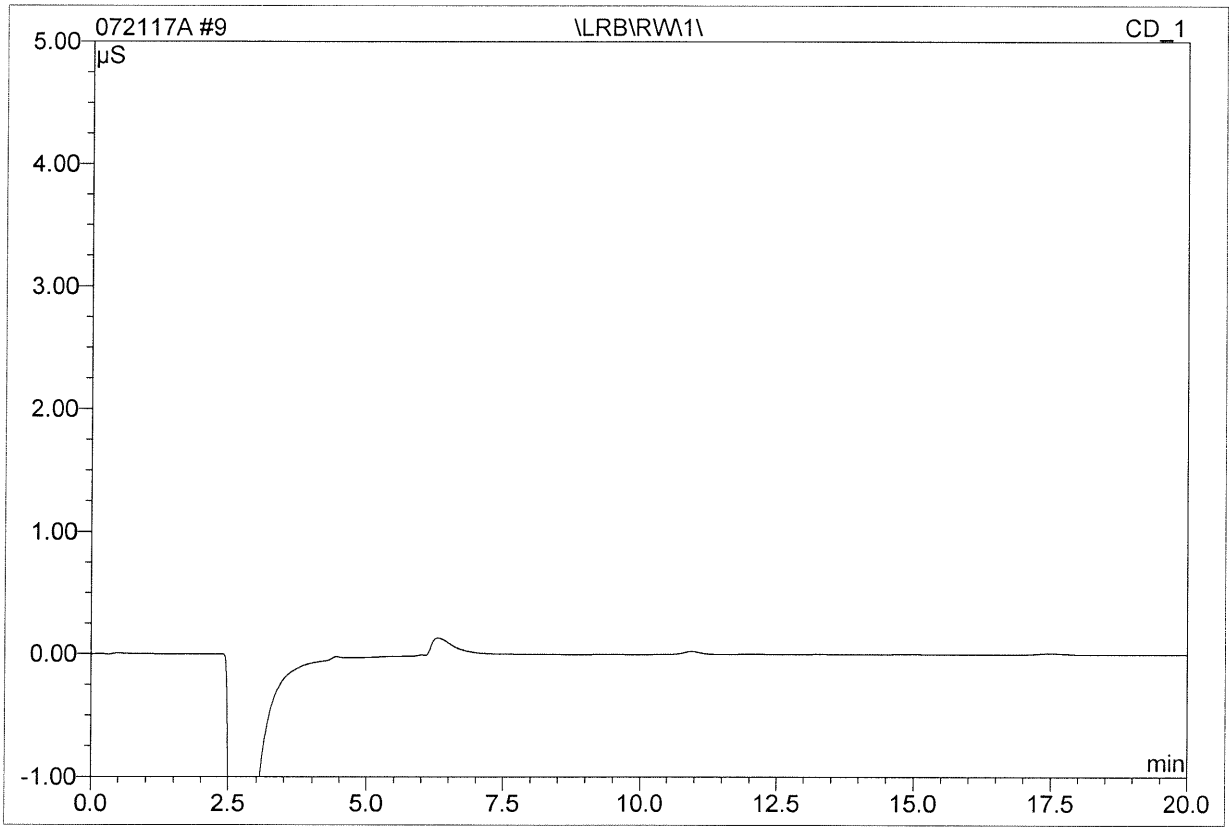
8 \IPC\RW\1\250

Sample Name:	**\IPC\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**41**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 7:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.85	Chlorite	2265.9	0.662	0.134	252.877	BMB
2	9.41	Bromide	2265.9	0.410	0.114	250.923	BMB
3	10.10	Chlorate	2265.9	0.336	0.104	250.956	bMB
Total:			6797.715	1.407	0.35	754.756	

9 \LRB\RW\1\

Sample Name:	**\LRB\RW\1**	*Injection Volume:*	**50.0**
Vial Number:	**42**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 7:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

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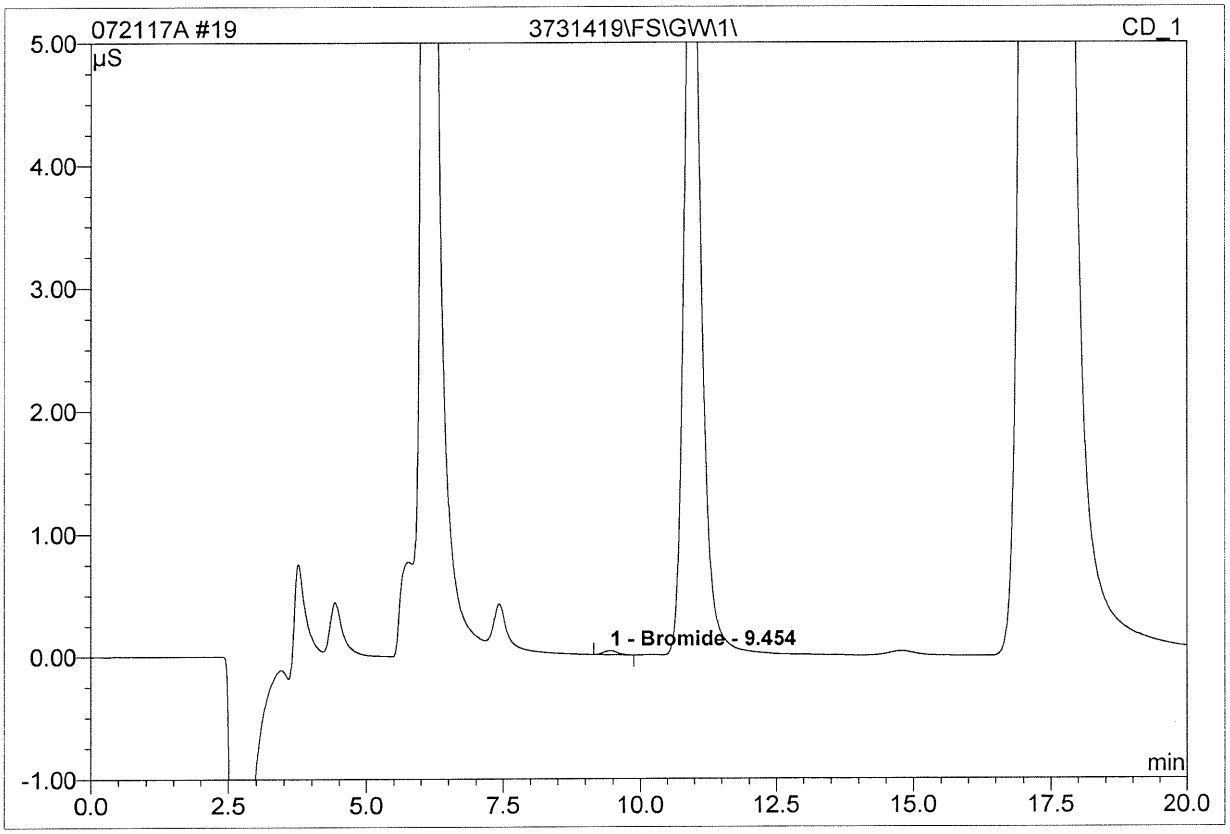
10 \LFB\RW\1\250

Sample Name:	**\LFB\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**43**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 8:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.85	Chlorite	2263.8	0.662	0.134	252.067	BMB
2	9.41	Bromide	2263.8	0.410	0.113	250.500	BMB
3	10.10	Chlorate	2263.8	0.336	0.104	250.351	bMB
Total:			6791.442	1.408	0.35	752.918	

19 3731419\FS\GW\1\

Sample Name:	**3731419\FS\GW\1**	*Injection Volume:*	**50.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 12:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

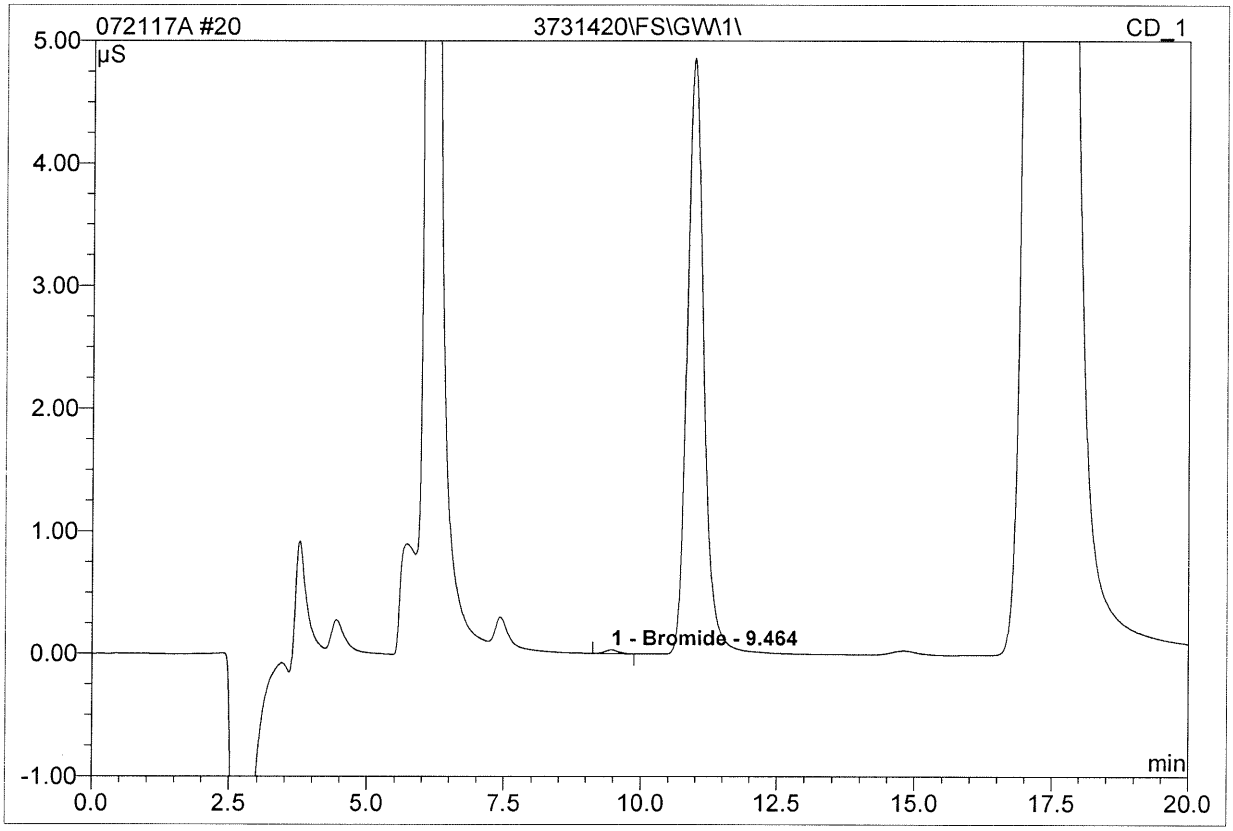


No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	9.45	Bromide	2266.4	0.034	0.010	24.209	BMB
Total:			2266.424	0.034	0.01	24.209	

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR10 Build 2818 (166959)

20 3731420\FS\GW\1\

Sample Name:	**3731420\FS\GW\1**	*Injection Volume:*	**50.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 12:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	9.46	Bromide	2240.5	0.031	0.009	21.830	BMB
Total:			2240.459	0.031	0.01	21.830	

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR10 Build 2818 (166959)

23 \IPC\RW\1\250

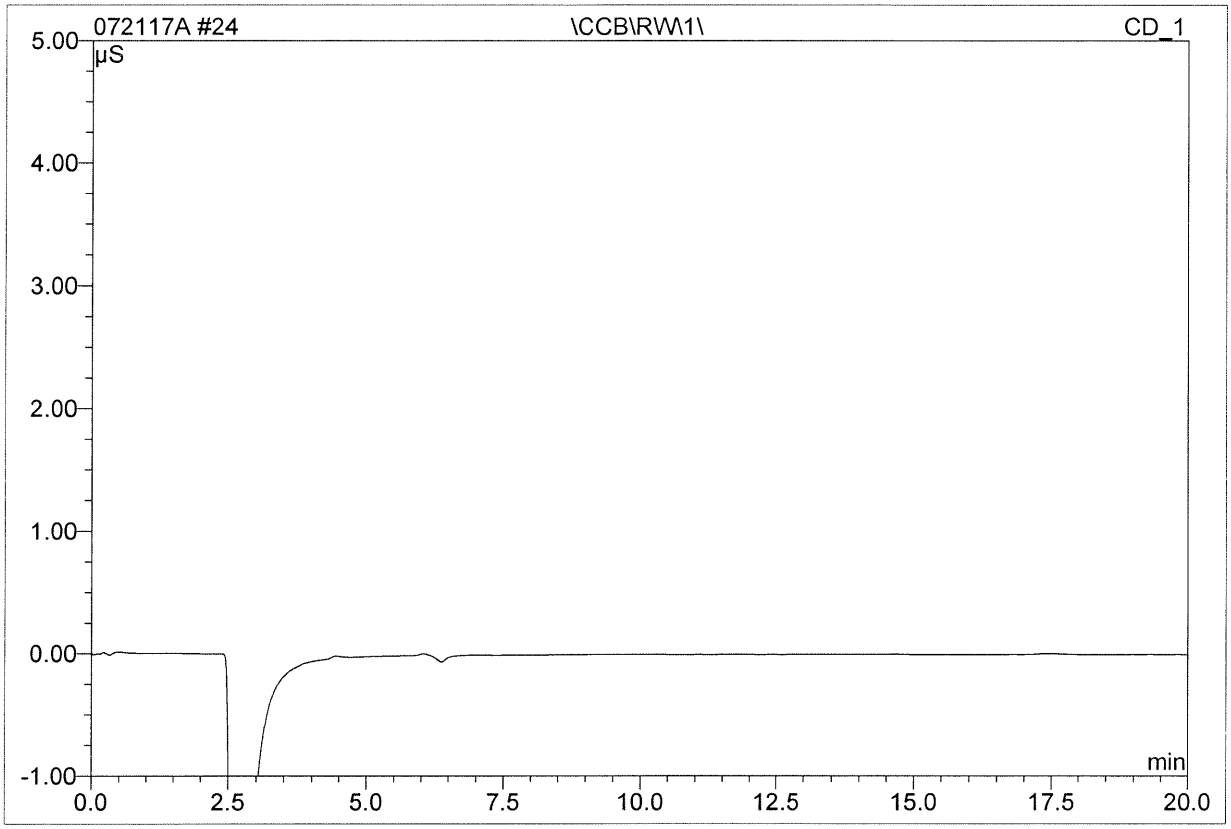
Sample Name:	**\IPC\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 13:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**

No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	4.85	Chlorite	2259.7	0.657	0.132	249.734	BMB
2	9.41	Bromide	2259.7	0.407	0.113	248.552	BMB
3	10.10	Chlorate	2259.7	0.335	0.103	249.521	bMB
Total:			6779.005	1.399	0.35	747.806	

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR10 Build 2818 (166959)

24 \CCB\RW\1\

Sample Name:	**\CCB\RW\1**	*Injection Volume:*	**50.0**
Vial Number:	**7**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**7/21/2017 14:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR10 Build 2818 (166959)

QA - Method Detection Limit Study

Method:	300	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj
Instrument:	DT	Prepped by:	Shep Lovick	Date:	7/26/2017
Units:	ug/L			Comments:	*data taken from 7 consecutive RLC's. LOD will be determined on the Instrument ES MDL sheet.*
Matrix Type:	RW	**Number of months next study due:**	**6**		

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
6/13/2017	Bromide	10	9.613	12.517	12.746	11.156	9.652	8.947	10.823	10.7791	1.473075	4.629876
6/13/2017	Chlorite	10	9.578	13.583	13.201	12.393	13.295	14.544	13.144	12.8197	1.566472	4.9234202
6/13/2017	Chlorate	10	10.389	14.071	11.982	11.919	12.367	10.184	11.001	11.7019	1.335388	4.1971249

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Folder #: 128820

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1364 **Invoice #:** 129373

Project Manager: *BMS* **Date Received:** 07/11/17 **Log Date:** 07/11/2017

Report To: S. JULIA LIU CC:
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 2.1 oC

SAMPLE #: 889901 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/10/2017 Time: 1120**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/24/2017	07/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				08/07/2017	07/23/2017		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/07/2017	07/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/23/2017		Logged

SAMPLE #: 889902 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/10/2017 Time: 1120**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/23/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/12/2017	07/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 128820 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 889902 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 889903 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1125

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/24/2017	07/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				08/07/2017	07/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/07/2017	07/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/23/2017		Logged

SAMPLE #: 889904 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1125

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/23/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/12/2017	07/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 889905 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1340

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/24/2017	07/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				08/07/2017	07/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/07/2017	07/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/23/2017		Logged

Folder #: 128820 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 889905 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1340

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1291	SUB MNX/DNX/TNX	(8330B)					07/23/2017		Logged

SAMPLE #: 889906 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1340

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/23/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/12/2017	07/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 889907 **DESCR:** 071017R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/24/2017	07/23/2017		Logged
878	SUB PERCHLORATE	(SW6850)				08/07/2017	07/23/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/07/2017	07/23/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/23/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/23/2017		Logged

SAMPLE #: 889908 **DESCR:** 071017R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/23/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/12/2017	07/23/2017		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 128820 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 889908 **DESCR:** 071017R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/10/2017 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

Invoice Number: 129373 **Preliminary Invoice Estimate:** $ 1,836.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
8330B EXPLOSIVES QSM 5	GROUND WATER	4	$ 85.00	0.00	$ 340.00
ANIONS IC QSM 5.0 Chloride	GROUND WATER	4	$ 10.00	0.00	$ 40.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	4	$ 10.00	0.00	$ 40.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	4	$ 10.00	0.00	$ 40.00
CARBON, INORG & ORG	GROUND WATER	4	$ 25.00	0.00	$ 100.00
FILTRATION, SAMPLE	GROUND WATER	4	$ 10.00	0.00	$ 40.00
ORGAN CARBON T QSM 5.0	GROUND WATER	4	$ 25.00	0.00	$ 100.00
SUB CHLORATE/CHLORITE	GROUND WATER	4	$ 90.00	0.00	$ 360.00
SUB MNX/DNX/TNX	GROUND WATER	4	$ 90.00	0.00	$ 360.00
SUB PERCHLORATE	GROUND WATER	4	$ 104.00	0.00	$ 416.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**8**	SUB MNX DNX TNX
H2SO4 PL	**4**	TOC
LABEL ONLY	**4**	SAMPLE FILTRATION
MISC	**4**	SUB CHLORATE/CHLORITE
UNPRES PL	**8**	Anions

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 128820
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/11/2017 11:14
Received Date / Time / By: 07/11/2017 10:30 bna

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/11/2017 11:03 BNA
Project #: 313010-001 PM: BMS

Coolers: 6000 5971
Custody Seals Present : **Y**

Temperature: 2.1, 1.4 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FED EX
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 787140790612
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED IN GOOD CONDITION INTACT ON ICE WITH TWO CUSTODY SEALS PER COOLER SIGNED AND DATED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
889901 54MW10	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
889901 54MW10	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
889901 54MW10	MISC	1	/	SUB CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 1**		
889901 54MW10	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
889901 54MW10	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
889902 54MW10	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
889902 54MW10	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

889903 54TM10

AMBER GL 1 / EXPL
Total # of Containers of Type (*AMBER GL*) = 1

889903 54TM10

UNPRES PL 1 / Perchlorate
Total # of Containers of Type (*UNPRES PL*) = 1

889903 54TM10

MISC 1 / SUB CHLORATE/CHLORITE
Total # of Containers of Type (*MISC*) = 1

889903 54TM10

AMBER GL 1 / SUB MNX DNX TNX
Total # of Containers of Type (*AMBER GL*) = 1

889903 54TM10

H2SO4 PL 1 / TOC
Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

889904 54TM10

UNPRES PL 1 / Anions
Total # of Containers of Type (*UNPRES PL*) = 1

889904 54TM10

LABEL ONLY 1 / SAMPLE FILTRATION
Total # of Containers of Type (*LABEL ONLY*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

889905 54MW1

AMBER GL 1 / EXPL
Total # of Containers of Type (*AMBER GL*) = 1

889905 54MW1

UNPRES PL 1 / Perchlorate
Total # of Containers of Type (*UNPRES PL*) = 1

889905 54MW1

MISC 1 / SUB CHLORATE/CHLORITE
Total # of Containers of Type (*MISC*) = 1

889905 54MW1

AMBER GL 1 / SUB MNX DNX TNX
Total # of Containers of Type (*AMBER GL*) = 1

889905 54MW1

H2SO4 PL 1 / TOC
Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
889906 54MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
889906 54MW1				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
889907 071017R1				
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
889907 071017R1				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
889907 071017R1				
	MISC	1	/	SUB CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 1**		
889907 071017R1				
	AMBER GL	1	/	SUB MNX DNX TNX
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
889907 071017R1				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
889908 071017R1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
889908 071017R1				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Condition Code *Condition Description*

1 Sample Received OK

128820

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RFAAP
Project #: 313910-001
Location: RADFORD VA
Sampled By: SJL/PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 128820
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

ogram:
SM RCRA SDWA NPDES
lid Waste Other

) # BSN-1364

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 3601 C STREET #1000 ANCHORAGE AK 99503
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	EXPLOSIVES	MUX/TNX/TNX	TOC	PERCHLORATE	CHLORATE/ CHLORIDE/ NITRATE/ NITRITE/ SULFATE/ CHLORIDE										Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																	
7/10/17	1120	GW	GRAB	1	SAMW10	N	1	1	1	1	1	1										6		889901/889902
7/10/17	1125	GW	GRAB	2	SATM10	N	1	1	1	1	1	1										6		889903/889904

Turnaround Time
Normal RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	7/10/17 1630		7-11-17 1030
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7-11-17 1103

Lab Use Only
Ice Present Yes No
Temp 12.1 IR Gun 15
Cooler # 6000 5971

Page 2702

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL/PTP

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
128820

Program:
QSM RCRA SDWA NPDES
Solid Waste Other

PO # BSN-1364

Report To: S. JULIA LIU
EMAIL: JSEP → SLIU@BSEN.COM
Company: BSEN
Address: 3601 C STREET #1050 ANCHORAGE AK 99503

Invoice To:*
EMAIL:
Company: SAME
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES MIX/DNT/TNT	TOC	PERCHLORATE/CHLORATE/CHLORITE	TCL/SULFATE/NITRATE/CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
07/10/17	1340	GW	GRAB	1	54MW1	N	1	1	1	1	4		889905/889906
07/10/17	1440	GW	GRAB	2	071017 R1	N	1	1	1	1	4		889907/889908

Turnaround Time: (Normal) RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	7/10/17 1630		7-11-17 1036
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7-11-17 1103

Lab Use Only
Ice Present (Yes) No
Temp 4.2 IR Gun 15
Cooler # 1000 5971

Cooler Receipt Form

Ice Present ~~YES~~ NO

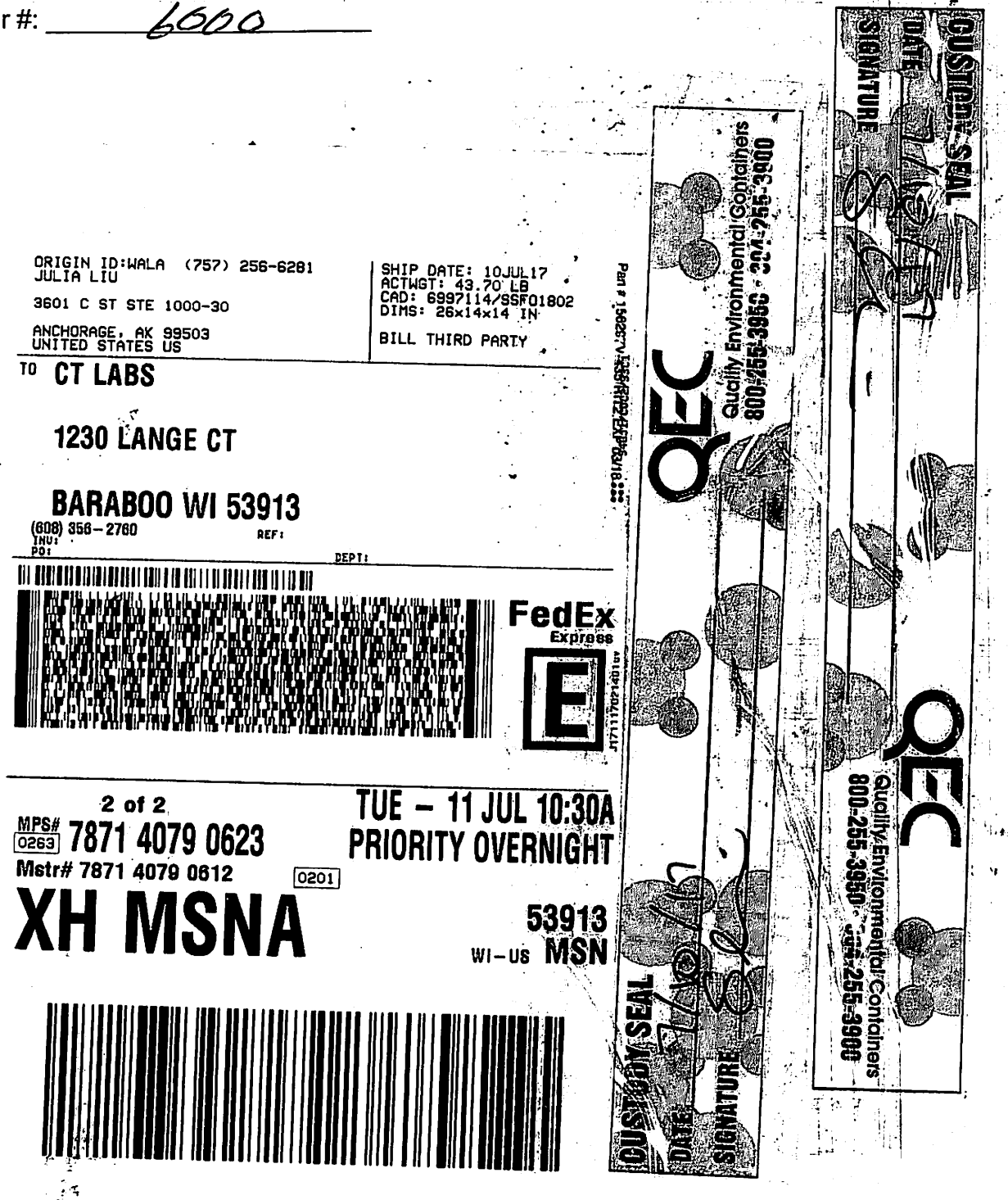
Temperature 2.1

IR Gun # 15

Initials BA

Date 7-11-17 Time 1030

Cooler #: 6000



Cooler Receipt Form

Ice Present ~~YES~~ NO

Temperature 1.4

IR Gun # 15

Initials RJA

Date 7-11-17 Time 1030

Cooler #: 5977

Folder #: 128867

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1364 **Invoice #:** 129420

Project Manager: *BMS* **Date Received:** 07/12/17 **Log Date:** 07/12/2017

Report To: S. JULIA LIU CC:
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 3.0 oC

SAMPLE #: 890666 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/11/2017 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	07/25/2017	07/24/2017		Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	08/08/2017	07/24/2017		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	08/08/2017	07/24/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		07/24/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)			***DESIGNATED MATRIX SPIKE***		07/24/2017		Logged

SAMPLE #: 890667 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/11/2017 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)			***DESIGNATED MATRIX SPIKE***		07/24/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	07/13/2017	07/24/2017		Logged
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 128867 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 890667 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2017 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 890669 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2017 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/25/2017	07/24/2017		Logged
878	SUB PERCHLORATE	(SW6850)				08/08/2017	07/24/2017		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/08/2017	07/24/2017		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/24/2017		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/24/2017		Logged

SAMPLE #: 890670 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2017 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/24/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/13/2017	07/24/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 890671 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2017 **Time:** 1150

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					07/24/2017		Logged
989	COD QSM	(EPA 410.4)				08/08/2017	07/24/2017		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				01/07/2018	07/24/2017		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				01/07/2018	07/24/2017		NeedPrep

Folder #: 128867 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 890671 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2017 **Time:** 1150

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				01/07/2018	07/24/2017		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				08/08/2017	07/24/2017		NeedPrep

Folder #: 128867 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 129420 **Preliminary Invoice Estimate:** $ 871.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	2	$ 10.00	0.00	$ 20.00
CARBON, INORG & ORG	GROUND WATER	2	$ 25.00	0.00	$ 50.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50

ORGAN CARBON T QSM 5.0	GROUND WATER	2	$ 25.00	0.00	$ 50.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
SUB CHLORATE/CHLORITE	GROUND WATER	2	$ 90.00	0.00	$ 180.00
SUB MNX/DNX/TNX	GROUND WATER	2	$ 90.00	0.00	$ 180.00
SUB PERCHLORATE	GROUND WATER	2	$ 104.00	0.00	$ 208.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**8**	SUB EXPL
H2SO4 PL	**5**	TOC
HNO3	**1**	HG,ICP,K,NA
LABEL ONLY	**4**	ANIONS
UNPRES PL	**17**	CHLORATE.CHLORITE

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 128867
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/12/2017 12:24
Received Date / Time / By: 07/12/2017 11:30 JLS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/12/2017 11:50 JLS
Project #: 313010-001 PM: BMS

Coolers: 5949, 5717
Custody Seals Present : **Y**

Temperature: 3.0, 2.5 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 787156785689
Temp Blank Enclosed? **Y**

Notes: SAMPLES REC'D IN GOOD CONDITION ON ICE
2 CUSTODY SEALS PRESENT AND INTACT ON EACH COOLER. ALL DATED 7/11/17 AND SIGNED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
890666 54MW12				
	UNPRES PL	1	/	CHLORATE/CHLORITE
	UNPRES PL	1	/	CHLORATE/CHLORITE
	UNPRES PL	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type		**(*UNPRES PL*) = 3**	
890666 54MW12				
	UNPRES PL	1	/	Perchlorate
	UNPRES PL	1	/	Perchlorate
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type		**(*UNPRES PL*) = 3**	
890666 54MW12				
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	Total # of Containers of Type		**(*AMBER GL*) = 6**	
890666 54MW12				
	UNPRES PL	1	/	TIC
	UNPRES PL	1	/	TIC
	UNPRES PL	1	/	TIC
	Total # of Containers of Type		**(*UNPRES PL*) = 3**	
890666 54MW12				
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type		**(*H2SO4 PL*) = 3**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
890667 54MW12				
	LABEL ONLY	1	/	ANIONS
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type		**(*LABEL ONLY*) = 3**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
890667 54MW12				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		
890669 54MW13				
	UNPRES PL	1	/	CHLORATE.CHLORITE
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
890669 54MW13				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
890669 54MW13				
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 2**		
890669 54MW13				
	UNPRES PL	1	/	TIC
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
890669 54MW13				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
890670 54MW13				
	LABEL ONLY	1	/	ANIONS
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
890670 54MW13				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
890671 54ADW01				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
890671 54ADW01				
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type	**(*HNO3*) = 1**		
890671 54ADW01				
	UNPRES PL	1	/	pH
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Condition Code *Condition Description*

1 Sample Received OK

128867

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6291
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: PTP / SJL

CT LABORATORIES
Folder #: 128867
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

ogram:
M RCRA SDWA NPDES
lid Waste Other
)#
BSN-1364

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 3601 C STREET #1000 ANCHORAGE AK 99503
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	EXPLOSIVES MEOX/DNX/ TNX	PERCHLORATE CHLORATE/ CHLORITE	TOC	TIC/NITRATE/ SULFATE/CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
7/11/17	0910	GW	GRAB	1	SAMW12	N	3	3	3	3	18	X	590666/667

Relinquished By:	Date/Time	Received By:	Date/Time
S. Liu	7/11/17 1730		7/12/17 1130
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7/12/17 1150

Lab Use Only
Ice Present (Yes) No
Temp 3.0 IR Gun 14
Cooler # 5949

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: PTP / SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
12886

Program:
QSM RCRA SDWA NPDES
Solid Waste Other

PO # BSN-1364

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 300 I STREET #100 ANCHORAGE AK 99503
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	EXPLOSIVES	MNX/DNX/TNX	PERCHLORATE	CHLORATE/CHLORITE	TOC	TIC/NITRATE/SULFATE/CHLORIDE	PH	COD	TAL METALS	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
						Fill in Spaces with Bottles per Test												
7/11/17	1120	GW	GRAB	1	54MW03	N	1	1	1	1	1	1				6		590669/670
7/11/17	1150	GW	GRAB	2	54ADW01	N							1	1	1	3		590671

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	7/11/17 1730		7/12/17 1130
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7/12/17 1150

Lab Use Only
Ice Present Yes No
Temp 2.5 IR Gun 14
Cooler # 5717

Ice Present (YES) NO

Cooler Receipt Form

Temperature 3.0

IR Gun # 14

Initials 14

Date 7/12/17 Time 1130

Cooler #: 5949

ORIGIN ID:WALA (757) 256-6281
JULIA LIU
3601 C ST STE 1000-30
ANCHORAGE, AK 99503
UNITED STATES US

SHIP DATE: 11JUL17
ACTWGT: 52.70 LB
CAD: 6992832/SSF01802
DIMS: 24x15x15 IN
BILL THIRD PARTY

TO CT LABS
CT LABS
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760
INV:
PO: REF:
DEPT:

FedEx Express

1 of 2
TRK# 0201 7871 5678 5689
MASTER

WED - 12 JUL 10:30A
PRIORITY OVERNIGHT

XH MSNA

53913
WI-US MSN

CUSTODY SEAL
DATE 7/12/17
SIGNATURE

CUSTODY SEAL
DATE 7/12/17
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.5

IR Gun # 14

Initials yb

Date 7/12/17 Time 1130

Cooler #: 5712

ORIGIN ID:WALA (757) 256-6281
JULIA LIU
3601 C ST STE 1000-30
ANCHORAGE, AK 99503
UNITED STATES US

SHIP DATE: 11JUL17
ACTWGT: 27.60 LB
CAD: 6992832/SSF01802
DIMS: 19x11x13 IN
BILL THIRD PARTY

TO CT LABS
CT LABS
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760
INV:
PO: REF:
DEPT:

TRK# 5690 0742 1030 327 B97

EX press

E

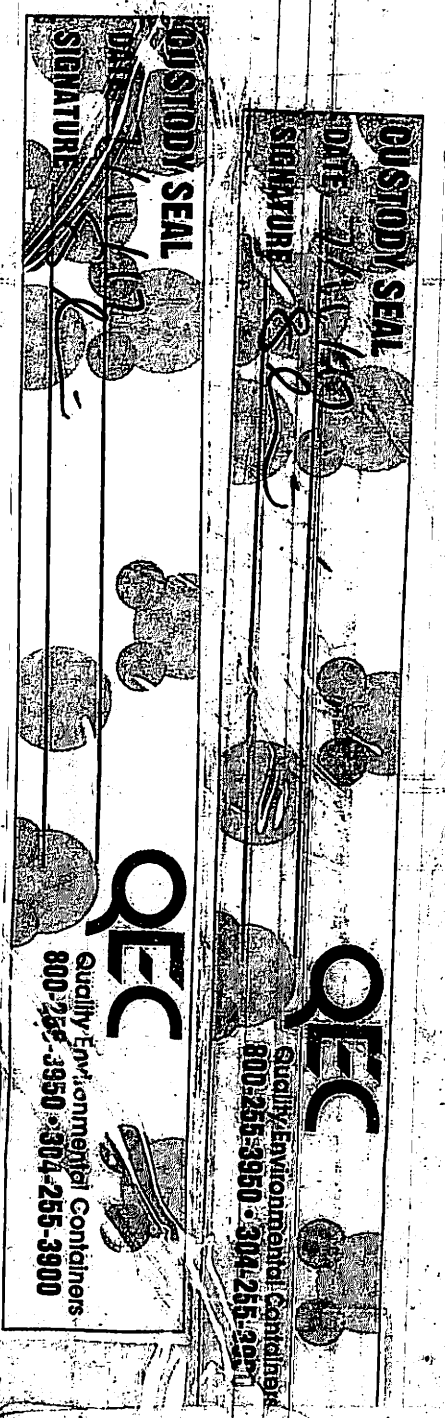
2 of 2
MPS# 0263 7871 5678 5690
Mstr# 7871 5678 5689

WED – 12 JUL 10:30A
PRIORITY OVERNIGHT

0201

XH MSNA

53913
WI-US MSN



Folder #: 128923

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1364 **Invoice #:** 129475

Project Manager: *BMS* **Date Received:** 07/13/17 **Log Date:** 07/13/2017

Report To: S. JULIA LIU CC:
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC: SLIU@BSENV.COM
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 3.7 oC

SAMPLE #: 891323 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/12/2017 Time: 0840**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2017		Logged

SAMPLE #: 891324 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/12/2017 Time: 0840**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						

Folder #: 128923 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891324 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 0840

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891325 **DESCR:** 49TM1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 0845

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2017		Logged

SAMPLE #: 891326 **DESCR:** 49TM1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 0845

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891327 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1030

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged

Folder #: 128923 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891327 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1030

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2017		Logged

SAMPLE #: 891328 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1030

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891329 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1220

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2017		Logged

Folder #: 128923 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891330 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1220

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891331 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1400

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2017		Logged

SAMPLE #: 891332 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1400

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 128923 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891333 **DESCR:** 49TM2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1405

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2017		Logged

SAMPLE #: 891334 **DESCR:** 49TM2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1405

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891335 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2017		Logged

Folder #: 128923 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891336 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891337 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2017		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2017		Logged

SAMPLE #: 891338 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2017 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/25/2017		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2017	07/25/2017		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 128923 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891339 **DESCR:** 071217T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/12/2017 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/26/2017	07/25/2017		Logged

Invoice Number: 129475 **Preliminary Invoice Estimate:** $ 1,335.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	8	$ 10.00	0.00	$ 80.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	8	$ 10.00	0.00	$ 80.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	8	$ 10.00	0.00	$ 80.00
FILTRATION, SAMPLE	GROUND WATER	8	$ 10.00	0.00	$ 80.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	8	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	8	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	8	$ 40.00	0.00	$ 320.00
ORGAN CARBON T QSM 5.0	GROUND WATER	8	$ 25.00	0.00	$ 200.00
VOC 8260 QSM 5.0	GROUND WATER	8	$ 55.00	0.00	$ 440.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**8**	TOC
LABEL ONLY	**8**	SAMPLE FILTRATION
UNPRES PL	**8**	Anions
VOA HCL	**34**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 128923
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/14/2017 10:33
Received Date / Time / By: 07/13/2017 11:30 DRT

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/13/2017 13:03 BNA
Project #: 313010-001 PM: BMS

Coolers: 5860
Custody Seals Present : **Y**

Temperature: 3.7 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX
Adequate Packaging: **Y**

Numbers: SIGNED & DATED
Tracking Number: 787170963157
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED INTACT AND IN GOOD CONDITION

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891323 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
891323 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
891324 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
891324 48MW06				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
891325 49TM1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
891325 49TM1				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891326 49TM1	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
891326 49TM1	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type (*LABEL ONLY*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891327 48MW1	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
891327 48MW1	H2SO4 PL	1	/	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891328 48MW1	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
891328 48MW1	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type (*LABEL ONLY*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891329 49MW01	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
891329 49MW01	H2SO4 PL	1	/	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891330 49MW01	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
891330 49MW01	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type (*LABEL ONLY*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891331 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
891331 49MW02				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891332 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
891332 49MW02				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891333 49TM2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
891333 49TM2				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891334 49TM2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
891334 49TM2				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891335 13MW4				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC

		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 4**		

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891335	13MW4				
		H2SO4 PL	1	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
891336	13MW4				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
891336	13MW4				
		LABEL ONLY	1	/	SAMPLE FILTRATION
		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
891337	13MW2				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 4**		
891337	13MW2				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
891338	13MW2				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
891338	13MW2				
		LABEL ONLY	1	/	SAMPLE FILTRATION
		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
891339	071217T1				
		VOA HCL	1	/	VOC
		VOA HCL	1	/	VOC
		Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code	*Condition Description*
1	Sample Received OK

128923

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S JULIA LIU
Telephone: 757-256-6281
Project Name: RFAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: PTP/SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 128923
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

m:
RCRA SDWA NPDES
'aste Other _____

35N-1364

Report To: S. JULIA LIU
EMAIL: BSEN SLIU@BSENN.COM
Company: BSEN
Address: 3901 C STREET # 1000 ANCHORAGE AK 99503
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	METHANE/ETHANE/ETHENE	TOC	SULFATE/NITRATE/CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
7/12/17	0840	GW	GRAB	1	48MW06	N	2	2	1	1	6		891323/891324
	0845			2	49TM1	N	2	2	1	1	6		891325/891326
	1030			3	48MW1	N	2	2	1	1	6		891327/891328
	1220			4	49MW01	N	2	2	1	1	6		891329/891330
	1400			5	49MW02	N	2	2	1	1	6		891331/891332
	1405			6	49TM2	N	2	2	1	1	6		891333/891334
	1510			7	13MW4	N	2	2	1	1	6		891335/891336
	1620			8	13MW2	N	2	2	1	1	6		891337/891338
	1630			9	071217T1	N	2				2		891339

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/12/17 1730		7/13/17 1130
Received by:	Date/Time	Received for Laboratory by:	Date/Time
		[signature]	7.13.17 1303

Lab Use Only
Ice Present (Yes) No
Temp 3.7 IR Gun 16
Cooler # 5560

Cooler Receipt Form

Ice Present (YES) NO

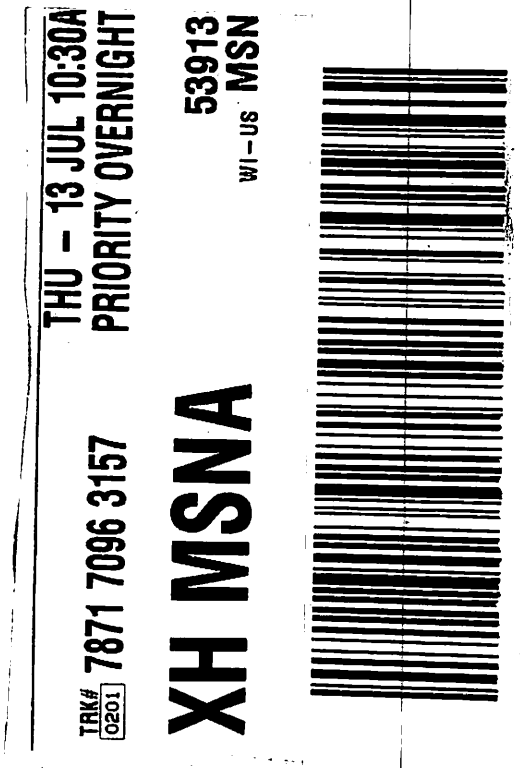
Temperature 3.7

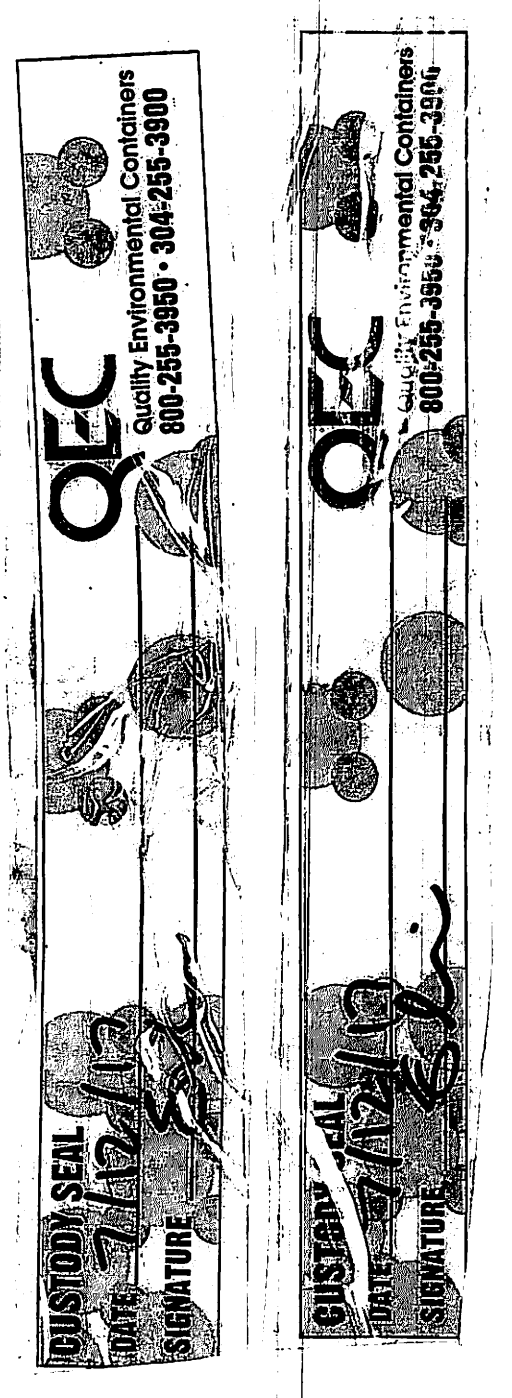
IR Gun # 16

Initials BP

Date 7/13/17 Time 1130

Cooler #: 5860





Folder #: 128935

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: RADFORD, VA **PO Number:** BSN-1364 **Invoice #:** 129488

Project Manager: *BMS* **Date Received:** 07/14/17 **Log Date:** 07/14/2017

Report To: S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

CC:

Invoice To :S. JULIA LIU
3601 C STREET
SUITE 1000-31
ANCHORAGE, AK 99503
Phone: Fax:
EMail:

CC: SLIU@BSENV.COM

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 1.3 oC

SAMPLE #: 891494 **DESCR: 49ADW1** **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/13/2017** **Time: 1635**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					07/26/2017		Logged
989	COD QSM	(EPA 410.4)					07/26/2017		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)					07/26/2017		Logged
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)					07/26/2017		Logged
1200	ICP TOTAL QSM 5.0	(EPA 6010C)					07/26/2017		Logged
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						

Folder #: 128935 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891494 **DESCR:** 49ADW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1635

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)					07/26/2017		NeedPrep

SAMPLE #: 891495 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 0935

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***		07/26/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/26/2017		Entered
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)					07/26/2017		Logged

SAMPLE #: 891496 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 0935

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS

Folder #: 128935 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891496 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 0935

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/26/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2017	07/26/2017		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891497 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1115

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y*** ***DESIGNATED MATRIX SPIKE***		07/26/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***		07/26/2017		Entered
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***		07/26/2017		Logged

SAMPLE #: 891498 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1115

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)			***DESIGNATED MATRIX SPIKE***		07/26/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	07/15/2017	07/26/2017		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 128935 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891502 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1345

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/26/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/26/2017		Entered
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/26/2017		Logged

SAMPLE #: 891504 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1345

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/26/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2017	07/26/2017		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891506 **DESCR:** 071317R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1310

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/26/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/26/2017		Entered
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/26/2017		Logged

Folder #: 128935 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891507 **DESCR:** 071317R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1310

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/26/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2017	07/26/2017		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891508 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1520

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/26/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/26/2017		Entered
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/26/2017		Logged

SAMPLE #: 891509 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1520

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/26/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2017	07/26/2017		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 128935 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 891510 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/26/2017		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/26/2017		Entered
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/26/2017		Logged

SAMPLE #: 891511 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2017 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #PR007)					07/26/2017		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2017	07/26/2017		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 891512 **DESCR:** 071317T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/13/2017 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/27/2017	07/26/2017		Logged

Folder #: 128935 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 129488 **Preliminary Invoice Estimate:** $ 1,138.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 10.00	0.00	$ 60.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 0.00	0.00	$ 0.00

METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 40.00	0.00	$ 240.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 25.00	0.00	$ 150.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 55.00	0.00	$ 330.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**9**	TOC
HNO3	**1**	HG,ICP,K,NA
LABEL ONLY	**8**	SAMPLE FILTRATION
UNPRES GL	**2**	Anions
UNPRES PL	**7**	Anions
VOA HCL	**34**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 128935
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/17/2017 15:50
Received Date / Time / By: 07/14/2017 10:16 BNA

Project Name: RADFORD AAP
Project Phase: RADFORD, VA

Log-In Date / Time / By: 07/14/2017 10:38 BNA
Project #: 313010-001 PM: BMS

Coolers: 5854,5566
Custody Seals Present : **Y**

Temperature: 1.3 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 787184114896;787184114885
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - ALL WERE DATED 7/13/17 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891494 49ADW1				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
891494 49ADW1				
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type	**(*HNO3*) = 1**		
891494 49ADW1				
	UNPRES PL	1	/	pH
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891495 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
891495 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891496 50MW02				
	UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

891496 50MW02

LABEL ONLY	1		/	SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

891497 48MW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1	Y	/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 12

891497 48MW3

H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 3

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

891498 48MW3

UNPRES GL	1		/	Anions
UNPRES GL	1		/	Anions

Total # of Containers of Type (*UNPRES GL*) = 2

891498 48MW3

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

891498 48MW3

LABEL ONLY	1		/	SAMPLE FILTRATION
LABEL ONLY	1		/	SAMPLE FILTRATION
LABEL ONLY	1		/	SAMPLE FILTRATION

Total # of Containers of Type (*LABEL ONLY*) = 3

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

891502 48MW2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

891502 48MW2

		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891504 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
891504 48MW2				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891506 071317R1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) =**	**4**	
891506 071317R1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891507 071317R1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
891507 071317R1				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891508 13MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) =**	**4**	
891508 13MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891509 13MW3				

		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

891509	13MW3				
		LABEL ONLY	1	/	SAMPLE FILTRATION
		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891510 49MW04				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
891510 49MW04				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891511 49MW04				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
891511 49MW04				
	LABEL ONLY	1	/	SAMPLE FILTRATION
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
891512 071317T1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RFAAP
Project #: 313910-021
Location: RADFORD, VA
Sampled By: PTP / SJL

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 128935
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other

PO # BSN-1364

Report To: S. JULIA LIU
EMAIL: SLIU@BSEN.COM
Company: BSEN
Address: 3001 C STREET #1000 ANCHORAGE AK 99503

Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC	VOC: METHANE/ETHANE/ETHENE	TOC	TOC: SULFATE/NITRATE/CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
7/13/17	0935	GW	GRAB	1	50MW02	N	2	2	1	1	6		891495/891496
	1115			2	48MW3	N	6	6	3	3	18	X	891497/891498
	1345			3	48MW2	N	2	2	1	1	6		891502/891504
	1310			4	071317 R1	N	2	2	1	1	6		891506/891507
	1520			5	13MW3	N	2	2	1	1	6		891508/891509
	1625			6	49MW04	N	2	2	1	1	6		891510/891511
	1630			7	071317 T1	N	2				2		891512

Relinquished By: [signature]
Date/Time: 7/13/17 1730
Received by:
Date/Time

Received By: [signature]
Date/Time: 7-14-17 1016
Received for Laboratory by: [signature]
Date/Time: 7-14-17 1035

Lab Use Only
Ice Present (Yes) No
Temp 21.5 IR Gun 16
Cooler # 5854 5566

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LEE
Telephone: 757-256-6281
Project Name: READY
Project #: 31340-001
Location: RADFORD VA
Sampled By: SJL/PTP

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

128935

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # BSN-1364

Report To: S. JULIA LEE
EMAIL: SLEE@BSEN.COM
Company: BSEN
Address: 3601 C STREET # 1000 ANCHORAGE, AK 99503

Invoice To:*
EMAIL:
Company: SAME
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: TAL METALS	PH	COD	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test					
7/13/17	1635	GW	GRAB	1	49AOW01	N	1	1	1	3		391444

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13/17 1730		7-14-17 1016
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7-14-17 1035

Lab Use Only
Ice Present (Yes) No
Temp 2.1, 3 IR Gun 16
Cooler # 5854 5526

Cooler Receipt Form

Ice Present (YES) NO

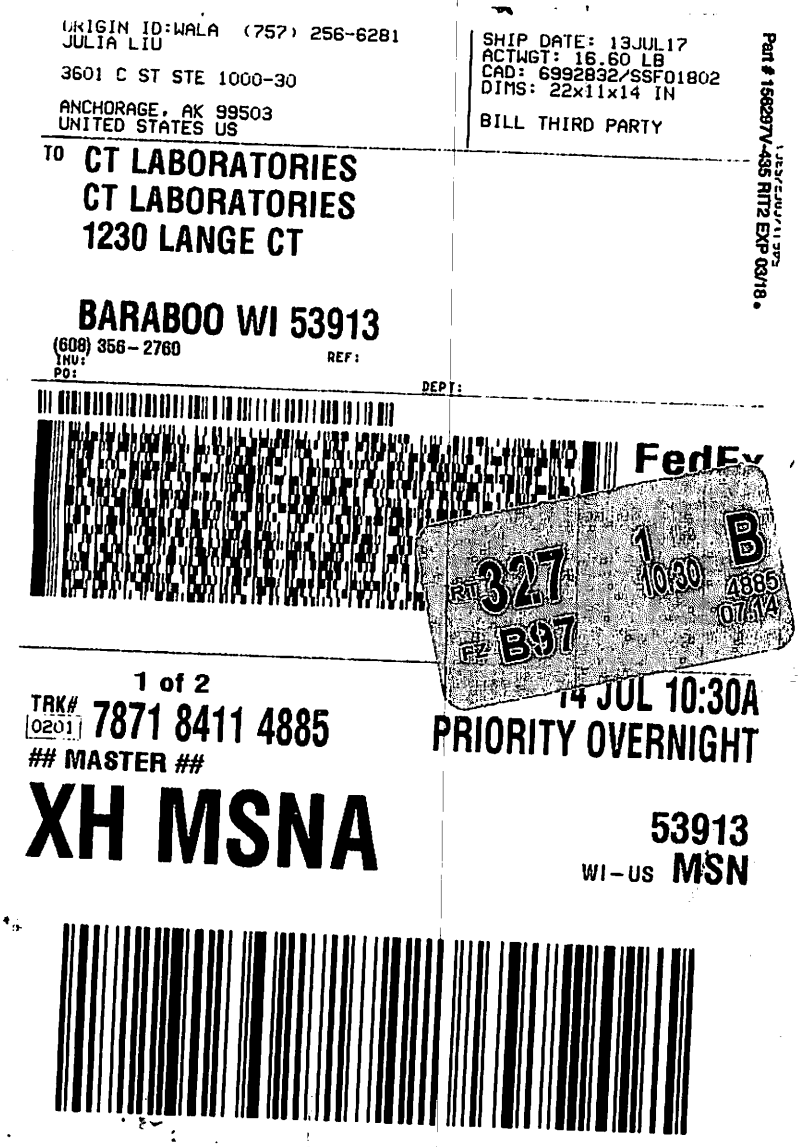
Temperature 0.8

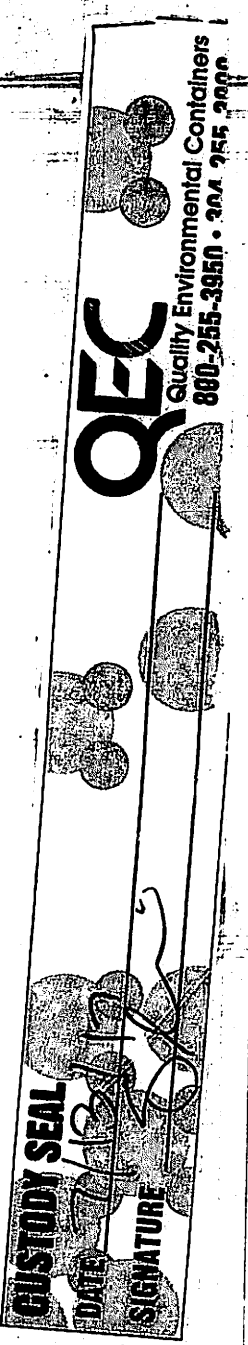
IR Gun # 16

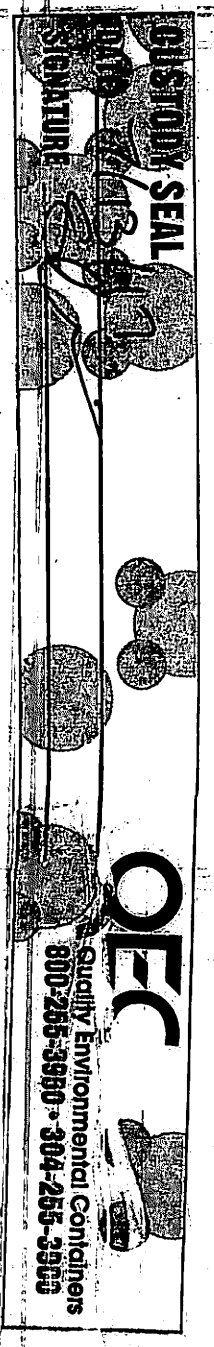
Initials BA

Date 7-14-17 Time 1016

Cooler #: 5566







Cooler Receipt Form

Ice Present (YES) NO

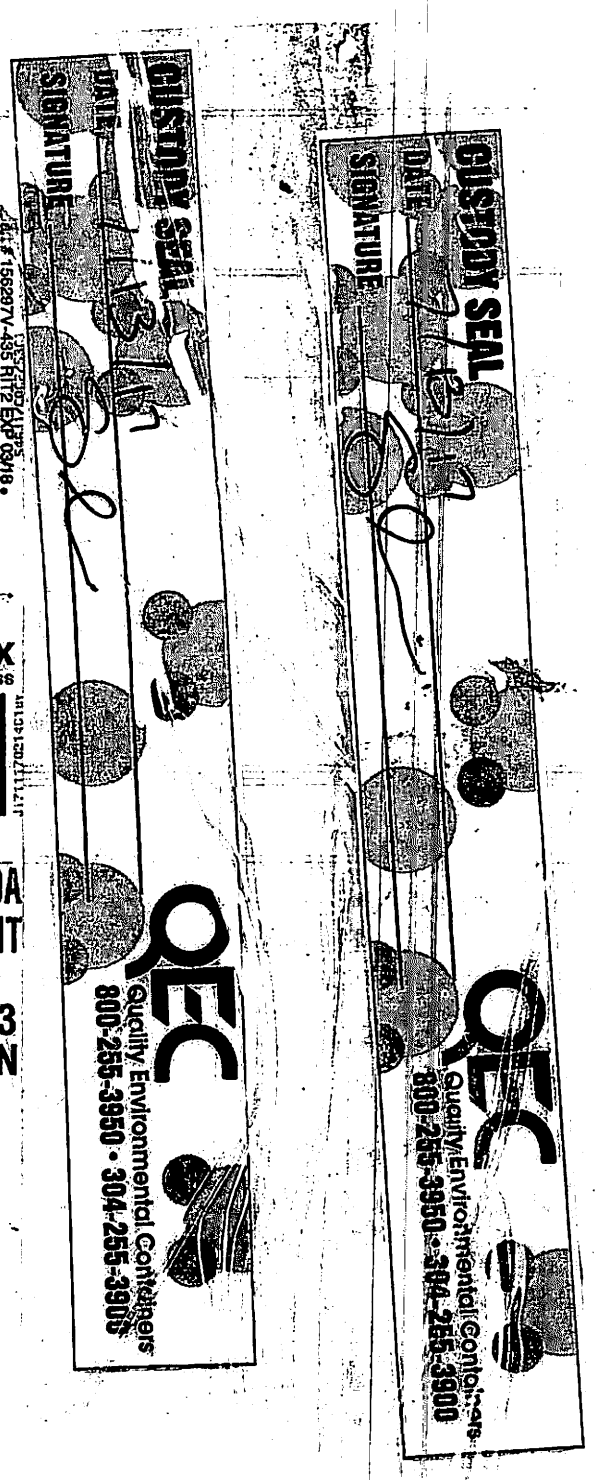
Temperature 1.3

IR Gun # 16

Initials BA

Date 7-14-17 Time 1016

Cooler #: 5854



) 256-6281

SHIP DATE: 13JUL17
ACTWGT: 35.30 LB
CAD: 6992832/SSF01802
DIMS: 26x13x14 IN

BILL THIRD PARTY

)-30

503

URATORIES
.BORATORIES
J LANGE CT

BARABOO WI 53913
(608) 356-2760 REF:
INV:
PO: DEPT:

FedEx Express

2 of 2
MPS# 0263 7871 8411 4896
Mstr# 7871 8411 4885 0201

FRI - 14 JUL 10:30A
PRIORITY OVERNIGHT

XH MSNA

53913
WI-US MSN